rotork®

Keeping the World Flowing
for Future Generations

Solenoid Valves

Reliability in critical flow control applications

Reliable operation when it matters

Assured reliability for critical applications and environments.

Whether used infrequently or continuously, Rotork products will operate reliably and efficiently.

Quality-driven global manufacturing

We offer products that have been designed with over 60 years of industry and application knowledge.

Our research and development ensures cutting edge products are available for multiple applications across multiple industries.

Customer focused service and worldwide support

Rotork solve customer challenges and develop new solutions that are tailored to the needs of our clients.

We offer dedicated, expert service and support from initial inquiry, to product installation, to long-term after sales care.

Low cost of ownership

Long-term reliability prolongs service life.

Rotork helps to reduce long-term cost of ownership and provides greater efficiency to process and plant.

Solenoid Valves

Section	Page
Introduction	5
Selection Chart	6
Selection Chart (USA)	10
Solenoid Valve Datasheets	14
Automatic Drain Valve Systems with Solenoid Valves	158
Strainer for Condensate Drain Valve Systems	159
Analog Electronic Timer	160
Solenoid Enclosures	161
Solenoid Valve Datasheets (USA)	166
Automatic Drain Valve Systems with Solenoid Valves (USA)	302
Analog Electronic Timer (USA)	304
Solenoid Enclosures (USA)	305

Section	Page
Customised Products	309
Technical Information	310
Sealing Solutions	312
Metals	313
Modes of Operation	314
Scheme of Components of Solenoid Valves	316
Din Plug Connectors	317
Copper Winding Temperature Classification	318
Protection Class, IP Ratings & Hazardous Areas	319
Conversions	320
Corrosion Reference Guide	321
Viscosity Reference Guide	323
Quality Standards	324

Comprehensive product range serving multiple industries

Rotork products offer improved efficiency, assured safety and environmental protection across sectors such as the Power, Oil & Gas, Water & Wastewater, HVAC, Marine, Mining, Pulp & Paper, Food & Beverage, Pharmaceutical and Chemical sectors.

Market leaders and technical innovators

We have been the recognised market leader in flow control for over 60 years.

Our customers rely upon Rotork for innovative solutions to safely manage the flow of liquids, gases and powders.

Global presence, local service

We are a global company with local support.

Manufacturing sites, service centres and sales offices throughout the world provide unrivalled customer services, fast delivery and ongoing, accessible support.

Corporate Social Responsibility (CSR) is at the heart of our business

We are socially, ethically and environmentally responsible and committed to embedding CSR across all our processes and ways of working.

Instrumentation and control

Rotork is a specialist manufacturer of products for flow control, pressure control, flow measurement and pressure measurement.

Our solutions are trusted wherever there is a need for high precision and reliability, including pharmaceutical, oil and gas, biomedical and manufacturing industries.

We have production facilities throughout the world, complemented by a large network of distribution and support centres.

A full listing of our worldwide sales and service network is available on our website at **www.rotork.com**

Bifold® A rotork Brand

A rotork Brand FAIRCHILD precision pneumatic & motion control

MIDLAND-ACS™ A rotork Brand

m&m international A rotork Brand

SOLDO® CONTROLS A rotork Brand

Worldwide Industry and Application Experience

With over 60 years of extensive knowledge and experience, Rotork has provided products and services worldwide for virtually every industrial actuator application.

Rotork offer a range of precision control and valve accessory products in partnership with our prestigious brands, including Fairchild, Soldo®, Midland-ACS™, Bifold®, M&M and Alcon:

Instrument Valves

- Valve actuation accessories
- Solenoid valves
- Piston valves
- Instrument valves
- Medium pressure valves
- Subsea valves and connectors

Controllers

- Valve positioners
- Rail systems
- I/P and E/P converters

Measurement

- Valve position sensors
- Transmitters and switches

Instrument Pumps

- Pumps
- Intensifiers and accumulators

Rotork is proud to offer a diverse range of products which serve many different duties in a wide variety of applications. We also offer a factory customisation service to create one-off units to meet specific needs.

Introduction

Part of the Rotork Group, Alcon Solenoid Valves and M&M International are leading manufacturers of combustion, industrial, medical and laboratory gas control solenoid valves. Whether designing solutions for stand-alone valves or a customised OEM installation we have developed an enviable reputation for quality products, reliability and innovation.

With facilities based in the UK, Italy and the USA, and sales offices worldwide, we can provide solenoid valves to function in the most arduous of conditions and extreme temperatures, anywhere in the world.

Our product line covers a full range of valves for general and special-purpose including:

- Air
- Water
- Steam
- Automation
- Cryogenics
- Gases
- Oil & Fuel
- Actuation
- High Pressure
- Hazardous Area
- Aggressive Media
- Vacuum

Our solenoid valves can be manufactured with increased safety electrical coils and enclosures covered by ATEX, UL, IECEx or CSA approvals, to meet application demands.

The advantages of solenoid valves manufactured by Alcon and M&M include:

- Robust construction for industrial applications featuring stainless steel orifice on most models
- Stainless steel operators with low residual magnetism according to 1.4105 EN 10088 (AISI 430F)
- High quality seal materials
  NBR, FKM, EPDM, PTFE, Sigodur (filled PTFE), Ruby, Kalrez®
- Fully interchangeable coils* with a wide range of AC and DC voltages. Coil orientation possible through 360°
- Coils tested 100% in compliance with the current EC directives compliance to RoHS directive and to relevant international standards upon request
- Development and realisation of special projects

*where applicable

Solenoid Valve Selection

Series	Function	Body Material	Pipe Size	OPD[1]	Kv (m^3/hr)	Type[2]	
B298	2/2 N/C compact	Stainless Steel	1/8"	0 to 22	0.08 to 0.21	DA	
D298/299	2/2 N/C	Stainless Steel	1/8" & 1/4"	0 to 24	0.07 to 0.45	DA	
D262/263	2/2 N/C	Brass	1/8" & 1/4"	0 to 30	0.03 to 0.48	DA	
D248/249	2/2 N/C	Brass	1/8" & 1/4"	0 to 25	0.09 to 0.27	DA	
D237/238/239	2/2 N/C	Brass	1/4" to 1/2"	0 to 17	0.51 to 1.50	DA	
D884/885/886	2/2 N/C	Brass	1/4" to 1/2"	0 to 16	1.26 to 1.50	assisted lift	
D264/265/266	2/2 N/C	Brass	1/4" to 1/2"	0.1 to 16	1.26 to 1.50	PO	
B203 TO 222	2/2 N/C	Brass	1/4" to 1"	0.3 to 16	1.56 to 9.60	PO	
D223/224/225	2/2 N/C	Brass	1 1/4" to 2"	0.5 to 16	22.20 to 32.40	PO	
RSV01	2/2 N/C	Brass	1/4" to 1"	0 to 20	1.5 to 7.4	assisted lift	
ACD	2/2 N/C	See datasheet for options	3/8" to 2"	0 to 14	3 to 26	assisted lift	
ACP	2/2 N/C	See datasheet for options	1/2" to 2"	0.3 to 10.3	4.2 to 21	PO	
D201	2/2 N/C	Brass	Flanged	0 to 24	0.08 to 0.27	DA	
B397	3/2 N/C	Brass	1/8"	0 to 18	0.03 to 0.21	DA	
B398	3/2 N/C	Stainless Steel	1/8"	0 to 15	0.04 to 0.16	DA	
D398/399	3/2 N/C	Stainless Steel	1/8" & 1/4"	0 to 18	0.08 to 0.27	DA	
D362/363	3/2 N/C	Brass	1/8" & 1/4"	0 to 18	0.08 to 0.48	DA	
LC203/204/205	2/2 N/C Latching	Brass	1/4" to 1/2"	0.3 to 5	1.56 to 3.78	PO	
RD298/299	2/2 N/O	Stainless Steel	1/8" & 1/4"	0 to 100	0.04 to 0.27	DA	
RD262/263	2/2 N/O	Brass	1/8" & 1/4"	0 to 30	0.03 to 0.27	DA	
RD236	2/2 N/O	Brass	1/4"	0 to 25	0.03 to 0.51	DA	
RB203 TO 222	2/2 N/O	Brass	1/4" to 1"	0.3 to 16	1.56 to 9.60	PO	
ACDN	2/2 N/O	See datasheet for options	3/8" to 2"	0 to 10	3 to 26	-	
RD223/224/225	2/2 N/O	Brass	1 1/4" to 2"	0.5 to 16	22.20 to 32.40	PO	
RD398/399	3/2 N/O	Stainless Steel	1/8" & 1/4"	0 to 15	0.08 to 0.27	DA	
RD362/363	3/2 N/O	Brass	1/8" & 1/4"	0 to 16	0.08 to 0.27	DA	
B297	2/2 N/C compact	Brass	1/8"	0 to 30	0.03 to 0.18	DA	
D301	3/2 N/C	Brass	Flanged	0 to 18	0.08 to 0.27	DA	
RB297	2/2 N/O compact	Brass	1/8"	0 to 25	0.03 to 0.18	DA	
RD301	3/2 N/O	Brass	Flanged	0 to 15	0.08 to 0.27	DA	
SB397	2nd Service 3/2 N/O compact	Brass	1/8"	0 to 6	0.04 to 0.06	DA	
RB397	3/2 N/O compact	Brass	1/8"	0 to 15	0.03 to 0.21	DA	
GD362/363	Universal 3/2 (N/O)	Brass	1/8" to 1/4"	0 to 8	0 to 0.13	DA	
SD362/363	2nd Service 3/2 (N/O)	Brass	1/8" to 1/4"	0 to 15	0.08 to 0.20	DA	
DD362/363	Diverting 3/2 (N/O	Brass	1/8" to 1/4"	0 to 20	0.08 to 0.13	DA	
D298/299DR-1	2/2 N/C	Stainless Steel	1/8" & 1/4"	0 to 200	0.04 to 0.27	DA	
D262/263DR-1	2/2 N/C	Brass	1/8" & 1/4"	0 to 200	0.04 to 0.27	DA	
D634/635/636DTT1	2/2 N/C	Brass	1/4" to 1/2"	0.3 to 140	1.26 to 1.50	PO	
D232/233/234	2/2 N/C	Brass	3/8" to 3/4"	1 to 50	2.52 to 2.88	PO	
RD232/233/234	2/2 N/O	Brass	3/8" to 3/4"	1 to 50	2.52 to 2.88	PO	
RD236DR-1	2/2 N/O	Brass	1/4"	0 to 180	0.03 to 0.21	DA	
RD201	2/2 N/O	Brass	Flanged	0 to 55	0.08 to 0.27	DA	
RB214	2/2 N/O	Brass	1/8"	0 to 14	0 to 0.07	DA	

Solenoid Valve Selection (cont'd)

	General Purpose	Automation	High Pressure	Compressed Air	Chemical Indyustry/ Aggressive Fluids	Steam	Vacuum	Combustion	Cryogenice	Actuation	Dry Armature	MOCA	WRAS	Atex	Page
	●				●										14
	●				●										16
	●														18
	●			●											20
	●	●													22
	●														24
	●			●											26
	●														28
	●														30
	●												●		32
	●													●	34
	●													●	36
	●	●													38
	●											●			40
	●														42
	●														44
	●											●			46
	●														48
	●		●												50
	●														52
	●														54
	●														56
	●													●	58
	●														60
	●	●													62
	●	●										●			64
	●	●										●			66
	●	●													68
	●	●										●			70
	●	●													72
	●	●													74
	●	●										●			76
	●	●													78
	●	●													80
	●	●													82
			●												84
			●												86
			●												88
			●	●											90
			●												92
			●												94
			●												96
	●			●								●			98

Solenoid Valve Selection (cont'd)

Series	Function	Body Material	Pipe Size	OPD[1]	Kv (m^3/hr)	Type[2]	
RD213	2/2 N/O	Brass	1/8"	0 to 16	0 to 0.14	DA	
D204/205/206/222	2/2 N/C	Stainless Steel	3/8" to 1"	0.3 to 16	3.3. to 9.60	PO	
RD204/205/206/222	2/2 N/O	Stainless Steel	3/8" to 1"	0.03 to 16	3.3. to 9.60	PO	
D262/263DL	2/2 N/C	Brass	1/8" to 1/4"	0 to 9	0.03 to 0.27	DA	
D398/399CL	3/2 N/C	Stainless Steel	1/8" to 1/4"	0 to 9	0.08 to 0.27	DA	
D238/239DL	2/2 N/C	Brass	3/8" to 1/2"	0 to 9	0.27 to 0.30	DA	
D634/635/636	2/2 N/C	Brass	1/4" to 1/2"	0.3 to 9	1.26 to 1.50	PO	
ACPX	2/2 N/C	See datasheet for options	1/2" to 2"	0.3 to 8.6	4.2 to 21	PO	
RD236DL	2/2 N/O	Brass	1/4"	0 to 9	0.03 to 0.21	DA	
D606/622 & RD606/622	2/2 N/O	Brass	3/4" to 1"	1 to 9	to 7.20	DA	
D211	2/2 N/C	Brass	3/8"	0 to 0.2	See flow chart	DA	
D262/263	2/2 N/C	Brass	1/8" to 1/4"	-0.9 to 1	0.03 to 0.48	DA	
D362/363	3/2 N/C	Brass	1/8" to 1/4"	0 to -0.95	0.13 to 0.36	DA	
D203/204/205	2/2 N/C	Brass	1/4" to 1/2"	-0.2 to -0.95	1.56 to 3.78	PO	
D237/238/239 & CD237/238/239	2/2 N/C	Brass	1/4" to 1/2"	0 to -0.95	1.27 to 1.50	DA	
D223/224/225	2/2 N/C	Brass	1 1/4" to 2"	-0.5 to -0.95	22.20 to 32.40	PO	
GB	2/2 N/C	Aluminium	1/4" to 1"	0 to 140 mBar	3.6 to 13.6	DA	
GB	2/2 N/C	Aluminium	1 1/4" to 2"	0 to 50 mBar	0 to 33	PO c/w assisted lift	
HWA	2/2 N/C	Aluminium	1 1/4" to 6"	0 to 345 mBar	46.5 to 365	EH	
FACHL	2/2 N/C	See datasheet for options	1/2" to 6"	0 to 2	3 to 331	MR	
68 Series	2/2 N/C	See datasheet for options	1/4" to 2"	0 to 8.0	0.43 to 18	PO	
67 Series	3/2 Univ	Stainless Steel	1/4" to 1/2"	0 to 10 bar	0.73	DA	
NAMUR	3/2, 5/2	Aluminium	1/4"	2.5 to 10	0 to 1.2	-	
21 Series Ex	2/2 N/C	See datasheet for options	1/4"	0 to 40	0.10 to 0.60	DA	
ACD Ex	2/2 N/C	See datasheet for options	3/8" to 2"	0 to 14	3 to 26	assisted lift	
ACDN Ex	2/2 N/O	See datasheet for options	3/8" to 2"	0 to 10	3 to 26	assisted lift	
ACP Ex	2/2 N/C	See datasheet for options	1/2" to 2"	0.3 to 10.3	4.2 to 21	PO	
31/33 Series Ex	3/2 N/C / Univ	See datasheet for options	1/4"	0 to 10.6	0.10 to 0.30	-	
NAMUR Ex	3/2, 5/2	Aluminium	1/4"	2.5 to 10	0 to 1.2	-	

1 Operating pressure differential is in 'bar' unless stated otherwise
2 **DA** Direct Acting **PO** Pilot Operated **MR** Manual Reset **EH** Electro-hydraulic

Solenoid Valve Selection (cont'd)

	General Purpose	Automation	High Pressure	Compressed Air	Chemical Indyustry/ Aggressive Fluids	Steam	Vacuum	Combustion	Cryogenice	Actuation	Dry Armature	MOCA	WRAS	Atex	Page
	●			●											100
					●										102
					●										104
						●									106
						●									108
						●									110
						●									112
						●									114
						●									116
						●									118
											●				120
							●					●			122
							●								124
							●								126
							●								128
							●								130
								●							132
								●							134
								●							136
								●							138
									●						140
	●			●						●					142
										●					144
														●	146
														●	148
														●	150
														●	152
														●	154
														●	156

Solenoid Valve Selection (USA)

Series	Function	Body Material	Pipe Size	Type[1]	
B298	2/2 N/C compact	Stainless Steel	1/8"	DA	
D298/299	2/2 N/C	Stainless Steel	1/8" & 1/4"	DA	
D262/263	2/2 N/C	Brass	1/8" & 1/4"	DA	
D248/249	2/2 N/C	Brass	1/8" & 1/4"	DA	
D237/238/239	2/2 N/C	Brass	1/4" to 1/2"	DA	
D884/885/886	2/2 N/C	Brass	1/4" to 1/2"	assisted lift	
D264/265/266	2/2 N/C	Brass	1/4" to 1/2"	PO	
D187 TO 293 & CD187 TO 293	2/2 N/C	Brass	1/4" to 1"	linked diaphragm	
B203 TO 222	2/2 N/C	Brass	1/4" to 1"	PO	
D223/224/225	2/2 N/C	Brass	1 1/4" to 2"	PO	
UACD	2/2 N/C	See datasheet for options	3/8" to 2"	assisted lift	
UACP	2/2 N/C	See datasheet for options	1/2" to 2"	PO	
D201	2/2 N/C	Brass	Flanged	DA	
B397	3/2 N/C	Brass	1/8"	DA	
B398	3/2 N/C	Stainless Steel	1/8"	DA	
D398/399	3/2 N/C	Stainless Steel	1/8" & 1/4"	DA	
D362/363	3/2 N/C	Brass	1/8" & 1/4"	DA	
LC203/204/205	2/2 N/C Latching	Brass	1/4" to 1/2"	PO	
RD298/299	2/2 N/O	Stainless Steel	1/8" & 1/4"	DA	
RD262/263	2/2 N/O	Brass	1/8" & 1/4"	DA	
RD236	2/2 N/O	Brass	1/4"	DA	
RB203 TO 222	2/2 N/O	Brass	1/4" to 1"	PO	
ACDN	2/2 N/O	See datasheet for options	3/8" to 2"	-	
RD223/224/225	2/2 N/O	Brass	1 1/4" to 2"	PO	
RD398/399	3/2 N/O	Stainless Steel	1/8" & 1/4"	DA	
RD362/363	3/2 N/O	Brass	1/8" & 1/4"	DA	
B297	2/2 N/C compact	Brass	1/8"	DA	
D301	3/2 N/C	Brass	Flanged	DA	
RB297	2/2 N/O compact	Brass	1/8"	DA	
RD301	3/2 N/O	Brass	Flanged	DA	
SB397	2nd Service 3/2 N/O compact	Brass	1/8"	DA	
RB397	3/2 N/O compact	Brass	1/8"	DA	
GD362/363	Universal 3/2 (N/O)	Brass	1/8" to 1/4"	DA	
SD362/363	2nd Service 3/2 (N/O)	Brass	1/8" to 1/4"	DA	
DD362/363	Diverting 3/2 (N/O	Brass	1/8" to 1/4"	DA	
D298/299DR-1	2/2 N/C	Stainless Steel	1/8" & 1/4"	DA	
D262/263DR-1	2/2 N/C	Brass	1/8" & 1/4"	DA	
D634/635/636DTT1	2/2 N/C	Brass	1/4" to 1/2"	PO	
D232/233/234	2/2 N/C	Brass	3/8" to 3/4"	PO	
RD232/233/234	2/2 N/O	Brass	3/8" to 3/4"	PO	

Solenoid Valve Selection (USA) (cont'd)

	General Purpose	Automation	High Pressure	Compressed Air	Chemical Indyustry/ Aggressive Fluids	Steam	Vacuum	Combustion	Cryogenice	Actuation	Dry Armature	Atex	Page
	●				●								166
	●				●								168
	●												170
	●			●									172
	●	●											174
	●												176
	●			●									178
	●												180
	●												182
	●												184
	●											●	186
	●											●	188
	●	●											190
	●												192
	●												194
	●												196
	●												198
	●												200
	●		●										202
	●												204
	●												206
	●												208
	●											●	210
	●												212
	●	●											214
	●	●											216
	●	●											218
	●	●											220
	●	●											222
	●	●											224
	●	●											226
	●	●											228
	●	●											230
	●	●											232
	●	●											234
			●										236
			●										238
			●										240
			●	●									242
			●										244

Solenoid Valve Selection (USA) (cont'd)

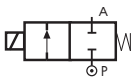
Series	Function	Body Material	Pipe Size	Type[1]	
RD236DR-1	2/2 N/O	Brass	1/4"	DA	
RD201	2/2 N/O	Brass	Flanged	DA	
RB214	2/2 N/O	Brass	1/8"	DA	
RD213	2/2 N/O	Brass	1/8"	DA	
D204/205/206/222	2/2 N/C	Stainless Steel	3/8" to 1"	PO	
RD204/205/206/222	2/2 N/O	Stainless Steel	3/8" to 1"	PO	
D262/263DL	2/2 N/C	Brass	1/8" to 1/4"	DA	
D398/399CL	3/2 N/C	Stainless Steel	1/8" to 1/4"	DA	
D238/239DL	2/2 N/C	Brass	3/8" to 1/2"	DA	
D634/635/636	2/2 N/C	Brass	1/4" to 1/2"	PO	
UACPX	2/2 N/C	See datasheet for options	1/2" to 2"	PO	
RD236DL	2/2 N/O	Brass	1/4"	DA	
D606/622 & RD606/622	2/2 N/O	Brass	3/4" to 1"	DA	
D211	2/2 N/C	Brass	3/8"	DA	
D262/263	2/2 N/C	Brass	1/8" to 1/4"	DA	
D362/363	3/2 N/C	Brass	1/8" to 1/4"	DA	
D203/204/205	2/2 N/C	Brass	1/4" to 1/2"	PO	
D237/238/239 & CD237/238/239	2/2 N/C	Brass	1/4" to 1/2"	DA	
D223/224/225	2/2 N/C	Brass	1 1/4" to 2"	PO	
UGB	2/2 N/C	Aluminium	1/4" to 1"	DA	
68 Series	2/2 N/C	See datasheet for options	1/4" to 2"	PO	
NAMUR	3/2, 5/2	Aluminium	1/4"	-	
U21 Series Ex	2/2 N/C	See datasheet for options	1/4"	DA	
U31/U33 Series Ex	3/2 N/C or Univ	See datasheet for options	1/4"	-	
UACD Ex	2/2 N/C	See datasheet for options	3/8" to 2"	assisted lift	
ACDN Ex	2/2 N/O	See datasheet for options	3/8" to 2"	assisted lift	
UACP Ex	2/2 N/C	See datasheet for options	1/2" to 2"	PO	
NAMUR Ex	3/2, 5/2	Aluminium	1/4"	-	

1 **DA** Direct Acting **PO** Pilot Operated **MR** Manual Reset **EH** Electro-hydraulic

Solenoid Valve Selection (USA) (cont'd)

	General Purpose	Automation	High Pressure	Compressed Air	Chemical Indyustry/ Aggressive Fluids	Steam	Vacuum	Combustion	Cryogenice	Actuation	Dry Armature	Atex	Page
			●										246
			●										248
	●			●									250
	●			●									252
					●								254
					●								256
						●							258
						●							260
						●							262
						●							264
						●							266
						●							268
						●							270
											●		272
							●						274
							●						276
							●						278
							●						280
							●						282
								●					284
									●				286
										●			288
												●	290
												●	292
												●	294
												●	296
												●	298
												●	300

B298 Series, General Purpose & Chemical Industry – 2/2 Normally Closed

Specifications	
Function	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Stainless Steel 1.4305 EN 10088 (AISI 303)
Orifice Material	Stainless Steel 1.4305 EN 10088 (AISI 303)
Flange Tube[1]	Stainless Steel (AISI 303)
Plunger and Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F) or equivalent
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	AC +10% to -15%
	DC +10% to -5%
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to industrial form B
Coil Insulation	Class F 155 °C
Power Rating (Standard)	AC 10 VA (holding) AC 16 VA (inrush) DC 7W

[1] With special nut, different from Standard.

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- Manufactured in compliance to RoHS directive and to relevant international standards
- High quality seal materials
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
1/8"	0.09	0.08	0 - 22	0 - 18	1.5	FKM	B298DVC
1/8"	0.13	0.11	0 - 18	0 - 8	2.0	FKM	B298DVE
1/8"	0.19	0.16	0 - 13	0 - 2.5	2.5	FKM	B298DVG
1/8"	0.25	0.21	0 - 8	0 - 1	3.0	FKM	B298DVH
1/8"	0.09	0.08	0 - 24	0 - 24	1.5	KALREZ®	B298DKC
1/8"	0.13	0.11	0 - 18	0 - 15	2.0	KALREZ®	B298DKE
1/8"	0.19	0.16	0 - 15	0 - 3	2.5	KALREZ®	B298DKG

Options Available

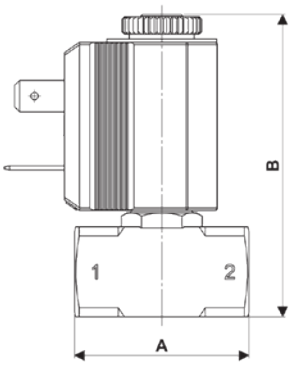
Valve Options (see coding chart)
Anticorrosion treatment recommended with aggressive fluids

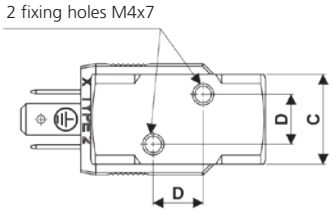
Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM (-10 °C to +130 °C)	Water, oil, air, aggressive fluids	-10 °C	+50 °C
Kalrez® Spectrum™ (-10 °C to 130 °C)	Chemicals	-10 °C	+50 °C

[1] See corrosion reference guide and sealing solutions for material compatability.

B298 Series, General Purpose & Chemical Industry – 2/2 Normally Closed

Coil Rotation





Preferred Valve Mounting Options

Pipe Size	A	B	C	D	Weight (kg)
1/8"	35	60.6	18	10	0.1

Dimensions (mm)

Solenoid enclosures

2--0 Type Coil - Insulation class F

External material: PBT (reinforced fiberglass 30%)
Electrical connection: Industrial form B
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 001- Plug

Rated Voltage (max.): 250 VAC / 300 VDC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable Entry: PG9 (6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Seals	
V	FKM
K	KALREZ®

Orifice	
C	1.5
E	2.0
G	2.5
H	3.0

Option	
F	Anticorrosion treatment[1]
	w/o option

Coil options

Voltage / Frequency - Class F	
2250	24 VDC
2200	24 V / 50/60 Hz
2400	110 V / 50 Hz - 120 V / 60 Hz
2600	200 V / 50 Hz - 220 V / 60 Hz
2700	230 V / 50 Hz - 240 V / 60 Hz

Plug

Plug	
	w/o plug
0B1	c/w plug

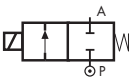
B	2	9	8	D	•	•	•	•	•	•	•	•	•	•	•

[1] Recommended with aggressive fluids.

Product coding example:

B298DKC 2250
1/8" G, auto operation, stainless steel body, Kalrez® seals, 24 VDC, without plug.

D298/299 Series, General Purpose & Chemical Industry – 2/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Stainless Steel 1.4305 EN 10088 (AISI 303)
Orifice Material	Stainless Steel 1.4305 EN 10088 (AISI 303)
Tube	Stainless Steel AISI 304
Flange	Stainless Steel 1.4305 EN 10088 (AISI 303)
Plunger	Stainless Steel 1.4106 EN 10088 (AISI 430F)
Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation	Class F 155 °C
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- Manufactured in compliance to RoHS directive and to relevant international standards
- Choice of high quality seal materials
- Wide range of available orifices
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
¼"	0.08	0.07	0 - 24	0 - 24	1.5	FKM EPDM	D299DVC D299DEC
¼"	0.23	0.20	0 - 18	0 - 18	2.5	FKM EPDM	D299DVG D299DEG
¼"	0.32	0.27	0 -15	0 - 10	3.0	FKM EPDM	D299DVH D299DEH
¼"	0.42	0.36	0 - 10	0 - 5.5	4.0	FKM EPDM	D299DVL D299DEL
¼"	0.53	0.45	0 - 5	0 - 2.5	5.0	FKM EPDM	D299DVN D299DEN
¼"	0.16	0.14	0 - 20	0 - 20	2.0	KALREZ®	D299DKE
¼"	0.23	0.20	0 - 18	0 - 16	2.5	KALREZ®	D299DKG
¼"	0.32	0.27	0 - 15	0 - 8	3.0	KALREZ®	D299DKH

Options Available

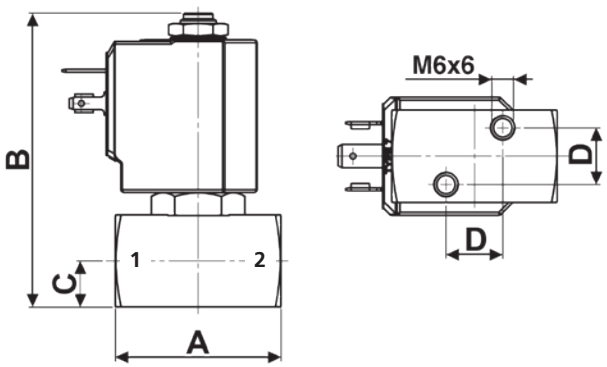
Valve Options (see coding chart)
Body threaded connection G ⅛"
NPT threads (minimum batch may be required)
Anticorrosion treatment recommended with aggressive fluids
Silver shading ring

Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM (-10 °C to +130 °C)	Water, oil, air, aggressive fluids	-10 °C	+50 °C
EPDM (-10 °C to +120 °C)	Water, hot water	-10 °C	+50 °C
Kalrez® Spectrum™ (-10 °C to +130 °C)	Chemicals	-10 °C	+50 °C

[1] See corrosion reference guide and sealing solutions for material compatability.

D298/299 Series, General Purpose & Chemical Industry – 2/2 Normally Closed

Coil Rotation



Preferred Valve Mounting Options

Pipe Size	A	B	C	D	Weight (kg)
1/8" - 1/4"	45	80	12.5	15.4	0.36

Dimensions (mm)

Solenoid enclosures

7--0 Type Coil - Insulation class F

External material: PBT (reinforced fiberglass 30%)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 VDC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable Entry: PG9 (6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E538

Coding chart

Main Valve Assembly

Pipe Size	
8	1/8"
9	1/4"

Seals	
V	FKM
E	EPDM
K	KALREZ®

Orifice	
C	1.5
E	2.0
G	2.5
H	3.0
L	4.0[1]
N	5.0[1]

Option	
A	Silver shading ring
F	Anticorrosion treatment[2]
N	NPT
	w/o option

Coil options

Voltage / Frequency - Class F	
7250	24 VDC
7200	24 V / 50/60 Hz
7400	110 V / 50 Hz - 120 V / 60 Hz
7600	200 V / 50 Hz - 220 V / 60 Hz
7700	230 V / 50 Hz - 240 V / 60 Hz

Plug

Plug	
	w/o plug
0A1	c/w plug

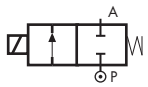
D	2	9	•	D	•	•	•	•	•	•	•	•	•	•	•

[1] Not available with Kalrez® seals.
[2] Recommended with aggressive fluids.

Product coding example:

D298DVC 7250 0A1
1/8" G, auto operation, stainless steel body, FKM seals, 1.5 mm orifice, 24 VDC, with plug.

D262/263 Series, General Purpose – 2/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass CW617N (EN 12165)
Orifice Material	Stainless Steel 1.4305 EN 10088 (AISI 303)
Flange	Stainless Steel 1.4305 EN 10088 (AISI 303)
Tube	Stainless Steel AISI 304
Plunger	Stainless Steel 1.4106 EN 10088 (AISI 430F)
Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation	Class F 155 °C
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- Manufactured in compliance to RoHS directive and to relevant international standards
- Choice of high quality seal materials
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
¼"	0.04	0.03	0 - 30	0 - 30	1.0	FKM EPDM	D263DVA D263DEA
¼"	0.09	0.08	0 - 24	0 - 24	1.5	FKM EPDM	D263DVC D263DEC
¼"	0.24	0.20	0 - 18	0 - 16	2.5	FKM EPDM	D263DVG D263DEG
¼"	0.32	0.27	0 - 15	0 - 10	3.0	FKM EPDM	D263DVH D263DEH
¼"	0.42	0.36	0 - 10	0 - 5	4.0	FKM EPDM	D263DVL[1] D263DEL[1]
¼"	0.53	0.45	0 - 5	0 - 2.5	5.0	FKM EPDM	D263DVN[1] D263DEN[1]
¼"	0.56	0.48	0 - 3	0 - 1	6.0	FKM EPDM	D263DVP[1] D263DEP[1]

[1] Manual override not available for orifice > Ø 3mm.

Options Available

Valve Options (see coding chart)
Body threaded connection G 1/8"
NPT threads (minimum batch may be required)
Manual override
Electroless nickel plating

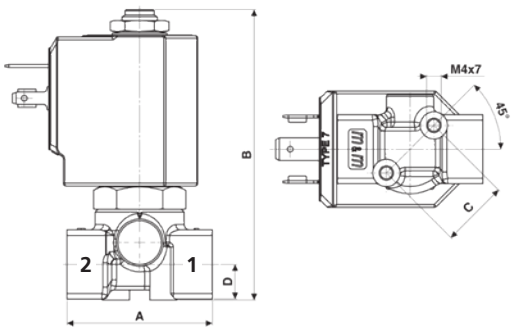
Vacuum Version
See pages 122-123

Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM (-10 °C to +130 °C)	Water, oil, air	-10 °C	+50 °C
EPDM (-10 °C to +120 °C)	Water, hot water	-10 °C	+50 °C

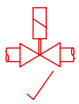
[1] See corrosion reference guide and sealing solutions for material compatability.

D262/263 Series, General Purpose – 2/2 Normally Closed

Coil Rotation



Preferred Valve Mounting Options



Pipe Size	A	B	C	D	Weight (kg)
1/8" - 1/4"	40	77.5	18.5	9.5	0.26

Dimensions (mm)

Solenoid enclosures

7--0 Type Coil - Insulation class F

External material: PBT (reinforced fiberglass 30%)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 VDC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable Entry: PG9 (6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E538

Coding chart

Main Valve Assembly

Pipe Size	
2	1/8"
3	1/4"

Seals	
V	FKM
E	EPDM

Orifice	
A	1.0
C	1.5
G	2.5
H	3.0
L	4.0
N	5.0
P	6.0

Option	
N	NPT
M	Manual Overide[1]
K	Electroless nickel plating
	w/o option

Coil options

Voltage / Frequency - Class F	
7250	24 VDC
7200	24 V / 50/60 Hz
7400	110 V / 50 Hz - 120 V / 60 Hz
7600	200 V / 50 Hz - 220 V / 60 Hz
7700	230 V / 50 Hz - 240 V / 60 Hz

Plug

Plug	
	w/o plug
0A1	c/w plug

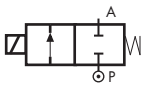
D	2	6	•	D	•	•	•	•	•	•	•	•	•	•	•

[1] Manual override not available for orifice > 3.0mm.

Product coding example:

D263DVA 7250
1/4" G, auto operation, brass body, FKM seals, 1.0 mm orifice, 24 VDC, without plug.

D248/249 Series, Compressed Air – 2/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass CW617N (EN 12165)
Plunger	Stainless Steel 1.4106 EN 10088 (AISI 430F)
Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation	Class F 155 °C
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Zero pressure rated
- Manufactured in compliance to RoHS directive and to relevant international standards
- Choice of high quality seal materials
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
¼"	0.11	0.09	0 - 25	0 - 24	1.7	FKM EPDM	D249DVD D249DED
¼"	0.17	0.14	0 - 18	0 - 16	2.2	FKM EPDM	D249DVF D249DEF
¼"	0.32	0.27	0 - 15	0 - 10	3.0	FKM EPDM	D249DVH[1] D249DEH[1]

[1] Minimum batch may be required.

Options Available

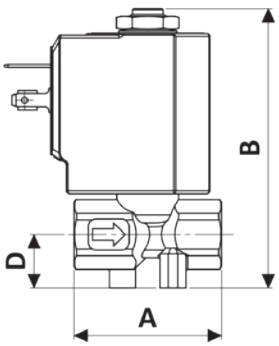
Valve Options (see coding chart)
Body threaded connection G 1/8"
NPT threads (minimum batch may be required)

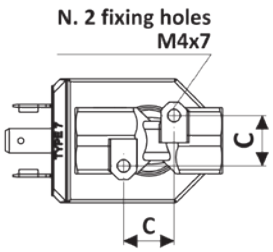
Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM (-10 °C to +130 °C)	Water, oil, air	-10 °C	+50 °C
EPDM (-10 °C to +120 °C)	Water, hot water	-10 °C	+50 °C

[1] See corrosion reference guide and sealing solutions for material compatability.

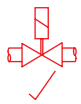
D248/249 Series, Compressed Air – 2/2 Normally Closed

Coil Rotation





Preferred Valve Mounting Options



Pipe Size	A	B	C	D	Weight (kg)
1/8" - 1/4"	38	72.1	13	13.8	0.18

Dimensions (mm)

Solenoid enclosures

7--0 Type Coil - Insulation class F

External material: PBT (reinforced fiberglass 30%)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 VDC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable Entry: PG9 (6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E538

Coding chart

Main Valve Assembly

Pipe Size	
8	1/8"
9	1/4"

Seals	
V	FKM
E	EPDM

Orifice	
D	1.7
F	2.2
H	3.0[1]

Option	
N	NPT
	w/o option

Coil options

Voltage / Frequency - Class F	
7250	24 VDC
7200	24 V / 50/60 Hz
7400	110 V / 50 Hz - 120 V / 60 Hz
7600	200 V / 50 Hz - 220 V / 60 Hz
7700	230 V / 50 Hz - 240 V / 60 Hz

Plug

Plug	
0A1	c/w plug
	w/o plug

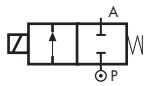
D	2	4	•	D	•	•	•	•	•	•	•	•	•	•	•

[1] Minimum batch may be required.

Product coding example:

D249DVF 7700 0A1
¼" G, auto operation, brass body, FKM seals, 2.2 mm orifice, 230 V / 50 Hz - 240 V / 60 Hz AC, with plug.

D237/238/239 Series, Automation – 2/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)[1]	Brass CW617N (EN 12165)
Orifice Material[2]	Stainless Steel 1.4305 EN 10088 (AISI 303)
Flange[3]	Stainless Steel 1.4305 EN 10088 (AISI 303)
Tube	Stainless Steel AISI 304
Plunger	Stainless Steel 1.4106 EN 10088 (AISI 430F)
Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation	Class F 155 °C
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W

[1] Body as D264/265/266 (on pages 16 - 17).

[2] Not for D237D-U, D238D-U and D239D-U.

[3] D237D-U, D238D-U and D239D-U carries an additional flange HEX 30 in Brass CW614N (EN 12164) between body and flange tube, see dimensional drawing on the right.

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- Manufactured in compliance to RoHS directive and to relevant international standards
- Choice of high quality seal materials
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
¼"	1.47	1.26	0 - 0.4	0 - 0.2	10.5	FKM EPDM NBR	D237DVU D237DEU D237DBU
⅜"	1.76	1.50	0 - 0.4	0 - 0.2	10.5	FKM EPDM NBR	D238DVU D238DEU D238DBU
½"	1.76	1.50	0 - 0.4	0 - 0.2	10.5	FKM EPDM NBR	D239DVU D239DEU D239DBU
⅜"	0.42	0.36	0 - 8	0 - 5	4.0	FKM EPDM NBR	D238DVL[4] D238DEL[4] D238DBL[4]
⅜"	0.53	0.45	0 - 5	0 - 2	5.0	FKM EPDM NBR	D238DVN[4] D238DEN[4] D238DBN[4]
⅜"	0.60	0.51	0 - 3.5	0 - 1.1	6.0	FKM EPDM NBR	D238DVP[4] D238DEP[4] D238DBP[4]
½"	0.32	0.27	0 - 17	0 - 12	3.0	FKM EPDM NBR	D239DVH[4] D239DEH[4] D239DBH[4]
½"	0.42	0.36	0 - 8	0 - 5	4.0	FKM EPDM NBR	D239DVL[4] D239DEL[4] D239DBL[4]
½"	0.53	0.45	0 - 5	0 - 2	5.0	FKM EPDM NBR	D239DVN[4] D239DEN[4] D239DBN[4]
½"	0.60	0.51	0 - 3.5	0 - 1.1	6.0	FKM EPDM NBR	D239DVP[4] D239DEP[4] D239DBP[4]

[4] Same flange tube as D262/263 (on pages 12 - 13) see dimensional drawing on the right.

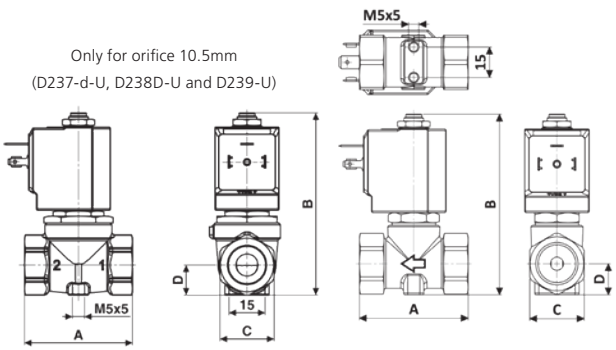
Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM (-10 °C to +130 °C)	Water, oil, air	-10 °C	+50 °C
EPDM (-10 °C to +120 °C)	Water, hot water	-10 °C	+50 °C
NBR (-10 °C to +90 °C)	Water, oil, air	-10 °C	+50 °C

[1] See corrosion reference guide and sealing solutions for material compatability.

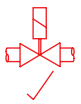
D237/238/239 Series, Automation – 2/2 Normally Closed

Coil Rotation

Only for orifice 10.5mm
(D237-d-U, D238D-U and D239-U)



Preferred Valve Mounting Options



Pipe Size	Orifice (mm)	A	B	C	D	Weight (kg)
¼" - ⅜" - ½"	10.5	54	89	HEX 27	15	0.45
¼" - ⅜" - ½"	from 3 to 6	54	89.35	HEX 27	15	0.45

Dimensions (mm)

Solenoid enclosures

7--0 Type Coil - Insulation class F

External material: PBT (reinforced fiberglass 30%)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 VDC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable Entry: PG9 (6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E538

Coding chart

Main Valve Assembly

Pipe Size	
7	¼"
8	⅜"
9	½"

Seals	
V	FKM
E	EPDM
B	NBR

Orifice	
U	10.5
H	3.0
L	4.0
N	5.0
P	6.0

Option	
	w/o option

Coil options

Voltage / Frequency - Class F	
7250	24 VDC
7200	24 V / 50/60 Hz
7400	110 V / 50 Hz - 120 V / 60 Hz
7600	200 V / 50 Hz - 220 V / 60 Hz
7700	230 V / 50 Hz - 240 V / 60 Hz

Plug

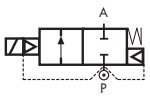
Plug	
	w/o plug
0A1	c/w plug

D	2	3	•	D	•	•	•	•	•	•	•	•	•	•	•

Product coding example:

D237DVU 7250
¼" G, auto operation, brass body, FKM seals, 10.5 mm orifice, 24 VDC, without plug.

D884/885/886 Series, General Purpose – 2/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass CW617N (EN 12165)
Flange[1]	Stainless Steel 1.4305 EN 10088 (AISI 303)
Tube	Stainless Steel AISI 304
Plunger	Stainless Steel 1.4106 EN 10088 (AISI 430F)
Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F)
Springs	Stainless Steel AISI 302
Seal Material (Std)	FKM
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation	Class F 155 °C
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W

[1] This valve carries an additional flange HEX 30 in Brass CW614N (EN 12164) between body and flange tube.

Features and Benefits

- Pilot operated with assisted lift
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- Manufactured in compliance to RoHS directive and to relevant international standards
- High quality seal materials
- Response time 50 to 500 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
¼"	1.47	1.26	0 - 16	0 - 6	10.5	FKM	D884DVU
⅜"	1.68	1.44				FKM	D885DVU
½"	1.76	1.50				FKM	D886DVU

Options Available

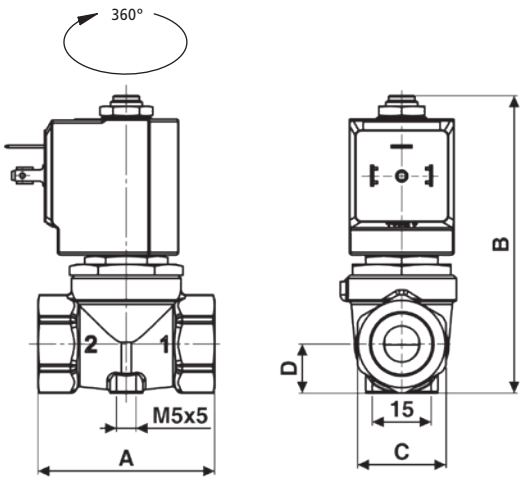
Valve Options (see coding chart)
NPT threads (minimum batch may be required)
Silver shading ring

Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM (-10 °C to +130 °C)	Water, oil, air	-10 °C	+50 °C

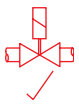
[1] See corrosion reference guide and sealing solutions for material compatability.

D884/885/886 Series, General Purpose – 2/2 Normally Closed

Coil Rotation



Preferred Valve Mounting Options



Pipe Size	A	B	C	D	Weight (kg)
¼"	54	89	HEX 27	15	0.45
⅜" - 1½"	54	89	HEX 27	15	0.4

Dimensions (mm)

Solenoid enclosures

7--0 Type Coil - Insulation class F

External material: PBT (reinforced fiberglass 30%)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 VDC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable Entry: PG9 (6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
4	¼"
5	⅜"
6	½"

Option	
N	NPT
A	Silver shading ring
	w/o option

Coil options

Voltage / Frequency - Class F	
7250	24 VDC
7200	24 V / 50/60 Hz
7400	110 V / 50 Hz - 120 V / 60 Hz
7600	200 V / 50 Hz - 220 V / 60 Hz
7700	230 V / 50 Hz - 240 V / 60 Hz

Plug

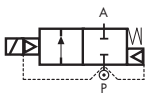
Plug	
	w/o plug
0A1	c/w plug

D	8	8	•	D	V	U	•	•	•	•	•	•	•	•	•

Product coding example:

D884DVU 7250
¼" G, auto operation, brass body, FKM seals, 10.5 mm orifice, 24 VDC, without plug.

D264/265/266 Series, General Purpose and Compressed Air
2/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass CW617N (EN 12165)
Flange[1]	Stainless Steel 1.4305 EN 10088 (AISI 303)
Tube	Stainless Steel AISI 304
Plunger	Stainless Steel 1.4106 EN 10088 (AISI 430F)
Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F)
Springs	Stainless Steel AISI 302
Seal Material (Std)	NBR
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation	Class F 155 °C
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W

[1] This valve carries an additional flange HEX 30 in Brass CW614N (EN 12164) between body and flange tube.

Features and Benefits

- Pilot operated
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- Manufactured in compliance to RoHS directive and to relevant international standards
- Choice of high quality seal materials
- Response time 50 to 500 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
¼"	1.47	1.26	0.1- 16	0.1- 7	10.5	NBR	D264DBU
						FKM	D264DVU
						EPDM	D264DEU
⅜"	1.68	1.44				NBR	D265DBU
						FKM	D265DVU
						EPDM	D265DEU
½"	1.76	1.50				NBR	D266DBU
						FKM	D266DVU
						EPDM	D266DEU

Options Available

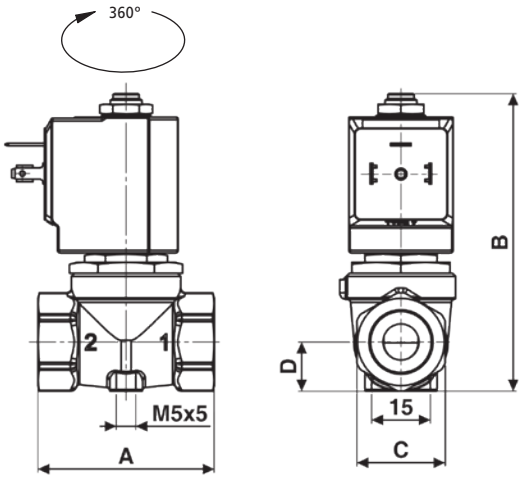
Valve Options (see coding chart)
NPT threads (minimum batch may be required)

Seal Material[2] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
NBR (-10 °C to +90 °C)	Water, oil, air	-10 °C	+50 °C
FKM (-10 °C to +130 °C)	Water, oil, air	-10 °C	+50 °C
EPDM (-10 °C to +120 °C)	Water, hot water	-10 °C	+50 °C

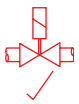
[2] See corrosion reference guide and sealing solutions for material compatability.

D264/265/266 Series, General Purpose and Compressed Air
2/2 Normally Closed

Coil Rotation



Preferred Valve Mounting Options



Pipe Size	A	B	C	D	Weight (kg)
¼"	54	89	HEX 27	15	0.45
⅜" - ½"	54	89	HEX 27	15	0.4

Dimensions (mm)

Solenoid enclosures

7--0 Type Coil - Insulation class F

External material: PBT (reinforced fiberglass 30%)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 VDC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable Entry: PG9 (6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
4	¼"
5	⅜"
6	½"

Seals	
B	NBR
V	FKM
E	EPDM

Option	
N	NPT
	w/o option

Coil options

Voltage / Frequency - Class F	
7250	24 VDC
7200	24 V / 50/60 Hz
7400	110 V / 50 Hz - 120 V / 60 Hz
7600	200 V / 50 Hz - 220 V / 60 Hz
7700	230 V / 50 Hz - 240 V / 60 Hz

Plug

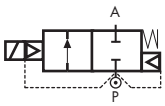
Plug	
	w/o plug
0A1	c/w plug

D	2	6	•	D	•	U	•	•	•	•	•	•	•	•	•

Product coding example:

D264DBU 7250
¼" G, auto operation, brass body, NBR seals, 10.5 mm orifice, 24 VDC, without plug.

B203/204/205/206/222 Series, General Purpose – 2/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass CW617N (EN 12165)
Flange	Stainless Steel 1.4305 EN 10088 (AISI 303)
Tube	Stainless Steel AISI 304
Plunger and Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F) or equivalent
Springs	Stainless Steel AISI 302
Seal Material (Std)	NBR
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to industrial form B
Coil Insulation	Class F 155 °C
Power Rating (Standard)	AC 10 VA (holding) AC 16 VA (inrush) DC 7 W

Features and Benefits

- Pilot operated
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- Manufactured in compliance to RoHS directive and to relevant international standards
- Choice of high quality seal materials
- Response time 50 to 500 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
¼"	1.83	1.56	0.3 - 16	0.3 - 16	13	NBR	B203DBZ
						FKM	B203DVZ
						EPDM	B203DEZ
⅜"	3.86	3.30				NBR	B204DBZ
						FKM	B204DVZ
						EPDM	B204DEZ
½"	4.42	3.78				NBR	B205DBZ
						FKM	B205DVZ
						EPDM	B205DEZ
¾" compact	7.02	6.00			21	NBR	B206DBX
						FKM	B206DVX
						EPDM	B206DEX
¾"	9.83	8.40			25	FNBR	B206DBY[1]
						FKM	B206DVY[1]
						EPDM	B206DEY[1]
1"	11.23	9.60				NBR	B222DBY
						FKM	B222DVY
						EPDM	B222DEY

[1] Non standard, MOQ required.

Options Available

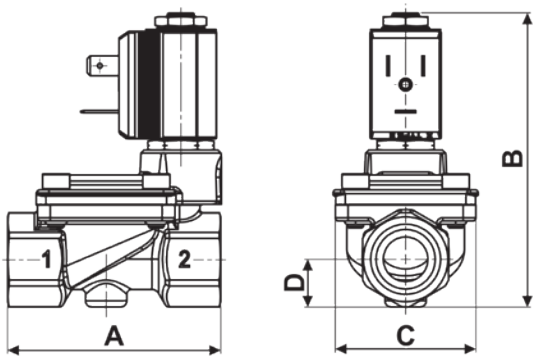
Valve Options (see coding chart)
NPT threads (minimum batch may be required)
Manual override
Electroless nickel plating treatment
Speed control screw (on DN25 only)

Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
NBR (-10 °C to +90 °C)	Water, oil, air	-10 °C	+50 °C
FKM (-10 °C to +130 °C)	Water, oil, air	-10 °C	+50 °C
EPDM (-10 °C to +120 °C)	Water, hot water	-10 °C	+50 °C

[1] See corrosion reference guide and sealing solutions for material compatability.

B203/204/205/206/222 Series, General Purpose – 2/2 Normally Closed

Coil Rotation



Preferred Valve Mounting Options

Pipe Size	A	B	C	D	Weight (kg)
¼" - ⅜" - ½"	67	90	45.6	15	0.4
¾" compact	82	105	51.6	20.25	0.6
¾" to 1"	96	115	72	23	1.2

Dimensions (mm)

Solenoid enclosures

2--0 Type Coil - Insulation class F

External material: PBT (reinforced fiberglass 30%)
Electrical connection: Industrial form B
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 001- Plug

Rated Voltage (max.): 250 VAC / 300 VDC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable Entry: PG9 (6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
03	¼"
04	⅜"
05	½"
06	¾" (compact)
06	¾" [1]
22	1"

Seals	
B	NBR
V	FKM
E	EPDM

Orifice[2]	
Z	13
X	21
Y	25

Option	
N	NPT
M	Manual Override
K	Electroless nickel plating
V	Speed control screw[3]
	w/o option

Coil options

Voltage / Frequency - Class F	
2250	24 VDC
2200	24 V / 50/60 Hz
2400	110 V / 50 Hz - 120 V / 60 Hz
2600	200 V / 50 Hz - 220 V / 60 Hz
2700	230 V / 50 Hz - 240 V / 60 Hz

Plug

Plug	
	w/o plug
0B1	c/w plug

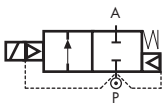
B	2	•	•	D	•	•	•	•	•	•	•	•	•	•	•

1 Non standard, MOQ required.
2 DN13 only for B203/204/205, DN21 only for B206 compact, DN25 only for B206 and B222.
3 Speed control screw available on B206D-Y and B222D-Y.

Product coding example:

B203DBZ 2250
¼" G, auto operation, brass body, NBR seals, 13 mm orifice, 24 VDC, without plug.

D223/224/225 Series, General Purpose – 2/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass CW617N (EN 12165)
Flange	Stainless Steel 1.4305 EN 10088 (AISI 303)
Tube	Stainless Steel AISI 304
Plunger	Stainless Steel 1.4106 EN 10088 (AISI 430F)
Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F)
Springs	Stainless Steel AISI 302
Seal Material (Std)	NBR
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation	Class F 155 °C
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W

Features and Benefits

- Pilot operated
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- Manufactured in compliance to RoHS directive and to relevant international standards
- Choice of high quality seal materials
- Speed control screw as standard
- Response time 50 to 500 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
1 ¼"	25.97	22.20	0.5 - 16	0.5 - 16	40	NBR	D223DBK
						FKM	D223DVK
						EPDM	D223DEK
1 ½"	28.08	24.00			40	NBR	D224DBK
						FKM	D224DVK
						EPDM	D224DEK
2"	37.91	32.40			50	NBR	D225DBJ
						FKM	D225DVJ
						EPDM	D225DEJ

Options Available

Valve Options (see coding chart)
NPT threads (minimum batch may be required)
Manual override
Electroless nickel plating

Vacuum Version
See page 130-131

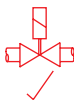
Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
NBR (-10 °C to +90 °C)	Water, oil, air	-10 °C	+50 °C
FKM (-10 °C to +130 °C)	Water, oil, air	-10 °C	+50 °C
EPDM (-10 °C to +120 °C)	Water, hot water	-10 °C	+50 °C

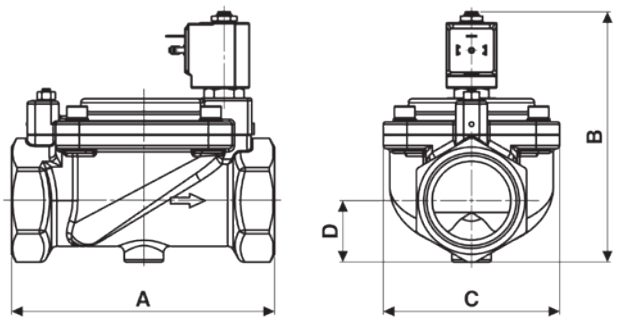
[1] See corrosion reference guide and sealing solutions for material compatability.

D223/224/225 Series, General Purpose – 2/2 Normally Closed

Coil Rotation

Preferred Valve Mounting Options





Pipe Size	A	B	C	D	Weight (kg)
1 ¼" - 1 ½"	140	140	96	31.5	2.8
2"	167	158	112	39	3.9

Dimensions (mm)

Solenoid enclosures

7--0 Type Coil - Insulation class F

External material: PBT (reinforced fiberglass 30%)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 VDC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable Entry: PG9 (6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
23	1 ¼"
24	1 ½"
25	2"

Seals	
B	NBR
V	VKM
E	EPDM

Orifice[1]	
K	40
J	50

Option	
N	NPT
K	Electroless nickel plating
	w/o option

Coil options

Voltage / Frequency - Class F	
7250	24 VDC
7200	24 V / 50/60 Hz
7400	110 V / 50 Hz - 120 V / 60 Hz
7600	200 V / 50 Hz - 220 V / 60 Hz
7700	230 V / 50 Hz - 240 V / 60 Hz

Plug

Plug	
	w/o plug
0A1	c/w plug

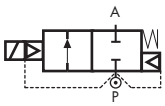
D	2	•	•	D	•	•	•	•	•	•	•	•	•	•	•

[1] DN40 only for D223 and D224, DN50 only for D225.

Product coding example:

D223DBK 7250
1 ¼" G, auto operation, brass body, NBR seals, 40 mm orifice, 24 VDC, without plug.

RSV01 Series, General Purpose – 2/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction underseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass CW617N (EN 12165)
Tube Flange	Stainless Steel 1.4305 EN 10088 (AISI 303)
Tube	Stainless Steel AISI 304
Plunger	Stainless Steel 1.4106 EN 10088 (AISI 430F)
Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F)
Springs	Stainless Steel AISI 302
Seal Material (Std)	NBR
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics	
Standard Coil Voltage DC (=)	12 V , 24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Standard Coil Insulation	Class F 155 °C
High Power Coil Insulation	Class H 180 °C
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W
Power Rating[1] (High Power)	DC 22 W

[1] Only for 72Z1 coil.

- Two way shut-off valves for the control of gaseous and liquid media compatible with max viscosity and materials
- Robust construction for industrial applications
- Zero pressure rated
- AC and DC versions
- Diaphragm operation
- Fully ported orifices for high flow
- Suitable for vacuum up to -950 mbar
- Response time 50 to 500 mS
- Tested in accordance with EN 12266-1
- Meets all relevant EC directives (LVD, PED, Art. 4.3)
- WRAS approved configuration for drinking water (see coding chart)

Options available

Main Valve Body Options (see coding chart)
Stainless Steel body (AISI 316L)
NPT threads (minimum batch may be required)

Seal Material[3] and Media Temperature Range	Media	Amb. Temp. Range	
		Min	Max
NBR (-10 to +90 °C)	Water, oil, air	-10 °C	+50 °C
FKM (-10 to +130 °C)	Water, oil, air	-10 °C	+50 °C
EPDM (WRAS approved up to 1") -10 to +85 °C	Water, hot water	-10 °C	+50 °C
EPDM (-10 to +120 °C)	Water, hot water	-10 °C	+50 °C

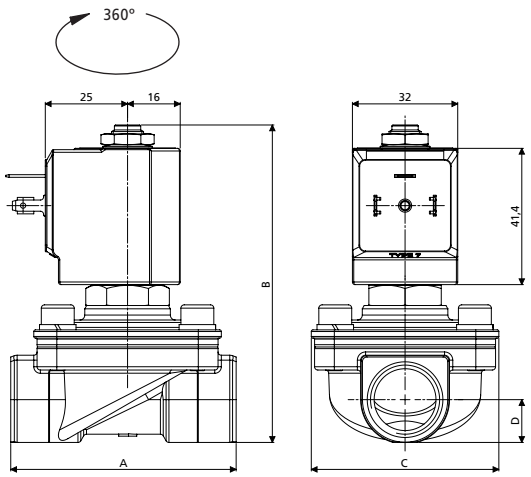
[3] See corrosion reference guide and sealing solutions for material compatability.

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
¼"	1.8	1.5	0 - 16	-	16	NBR FKM EPDM[2]	RSV01BG20A0WB- RSV01BG20A0WV- RSV01BG20A0WE-
⅜"	3.9	3.3				NBR FKM EPDM[2]	RSV01CG20A0WB- RSV01CG20A0WV- RSV01CG20A0WE-
½"	4.9	4.2				NBR FKM EPDM[2]	RSV01DG20A0WB- RSV01DG20A0WV- RSV01DG20A0WE-
¾"	6.3	5.4			20	NBR FKM EPDM[2]	RSV01EG20A0XB- RSV01EG20A0XV- RSV01EG20A0XE-
1"	8.7	7.4				NBR FKM EPDM[2]	RSV01FG20A0XB- RSV01FG20A0XV- RSV01FG20A0XE-
¼"	1.8	1.5	-	0 - 12[1]	16	NBR FKM EPDM[2]	RSV01BG20C0WB- RSV01BG20C0WV- RSV01BG20C0WE-
⅜"	3.9	3.3				NBR FKM EPDM[2]	RSV01CG20C0WB- RSV01CG20C0WV- RSV01CG20C0WE-
½"	4.9	4.2				NBR FKM EPDM[2]	RSV01DG20C0WB- RSV01DG20C0WV- RSV01DG20C0WE-
¾"	6.3	5.4	-	0 - 9[1]	20	NBR FKM EPDM[2]	RSV01EG20C0XB- RSV01EG20C0XV- RSV01EG20C0XE-
1"	8.7	7.4				NBR FKM EPDM[2]	RSV01FG20C0XB- RSV01FG20C0XV- RSV01FG20C0XE-

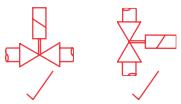
[1] 0-14 bar with 72Z1 coil (22W).
[2] EPDM with WRAS approval can be ordered replacing the seal material ref 'E' in the coding with 'Y', example p/n RSV01FG20A0XY.

RSV01 Series, General Purpose – 2/2 Normally Closed

Coil Rotation



Preferred Valve Mounting Options



Pipe Size	A	B	C	D	Weight (kg)
1/4"	68.5	96.5	57	13	0.5
3/8"	68.5	96.5	57	13	0.5
1/2"	68.5	96.5	57	13	0.5
3/4"	81.5	110.5	57	20	0.8
1"	81.5	110.5	57	20	0.7

Dimensions (mm)

Solenoid enclosures

7--0 Type Coil - Insulation class F

External material: PBT (reinforced glass fibre 30%)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class F (E155)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

72Z1 Type Coil - Insulation class H

External material: PPS (glass fibre and mineral filled)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 VDC
Nominal current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable entry: PG9 (6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: Group C - VDE 0110
Housing colour: Black
UL approved, file No: E205538

Coding chart

Main valve assembly

Size		Process Connection		Function	Operation		Valve Material		Orifice		Seal Material		Valve Options		Material Options		Approvals	
B	1/4"	G	GAS ISO 228-1	20	2/2 Way	A	AC NC	0	Brass	W	16[2]	B	NBR	0	None	K	Nickel Plating	0	CE
C	3/8"	N	NPT			C	DC NC	5	AISI 316L stainless	X	20[3]	E	EPDM			0	None	W	WRAS
D	1/2"											Y	EPDM (WRAS)			A	Silver Shading Ring		
E	3/4"											V	FKM						
F	1"																		

RSV01	•	•	20	•	•	•	•	0	•	•

Coil options

Voltage / Power Class F[4]			Electrical Connection	
7	w/o coil	–	0	DIN, no plug fitted
7700	230 V / 50 Hz 240 V / 60 Hz	18VA	A	DIN weatherproof IP65 / NEMA 4X with plug 600 011-
7200	24 V / 50/60 Hz	18VA		
7400	110 V / 50 Hz 120 V / 60 Hz	18VA		
7100	12V / 50/60 Hz	18VA		
7600	200 V / 50 Hz 220 V / 60 Hz	18VA		
7300	48 V / 50/60 Hz	18VA		
7250	24 VDC	14W		
7150	12 VDC	14W		
Class H, High Power				
72Z1	24 VDC	22W		

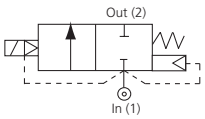
• • • •	•

Notes: 1. See separate datasheet 2. 3/8" & 1/2" only 3. 3/4" & 1" only 4. For use with UL approved coils contact Sales Department

Product coding example:

RSV01 C G 20 A 0 W B 0 K 0 7700 0 = 3/8" BSP G, 2/2, AC NC, brass body, 16 mm orifice, NBR seals, nickel plating, DIN coil, 230 V 50 Hz, without plug.

ACD Series – 2/2 Normally Closed

Specifications	
Function	Normally Closed, energise to open 
Maximum Viscosity	115 SSU
3/8" - 1" Body Material (Std)	Brass CZ122
1 1/4" - 2" Body Material (Std)	Bronze
Flange Tube	Stainless Steel 303
Plunger and Top Stop	Stainless Steel 430FR
Springs	Stainless Steel 302
Seal Material (Std)	NBR
Connection Type (Std)	BS21
Shading Ring	Copper (std), Silver (stainless steel option)
Electrical Characteristics	
Coil Voltage DC (=)	12 V, 24 V, 110 V
Coil Voltage AC 50 Hz (~)	24 V, 110 V, 120 V, 230 V
Coil Voltage AC 60 Hz (~)	24 V, 110 V, 120 V, 220 V
Voltage Tolerance	+10% or -10%
Duty Cycle	100% ED
Protection Class (Std)	IP65 (BS EN 60529) (plug supplied as standard)
Electrical Connection (Std)	PG9 Din Connector DIN 43650/ISO 4400 (EN 175301-803) Form 'A'
Coil Insulation	Class H (BS EN 60085) 180 °C (E5 Type)
Power Rating	14.5 Watts, 19 VA

Features and Benefits

- Two way shut-off valves for the control of gases and liquids compatible with max viscosity and materials
- Zero bar minimum operating pressure
- Satisfy all relevant EC directives
- Suitable for vacuum applications when fitted with FKM seals (10-3 TORR) 0 rated options only
- Robust Valve Design
- Diaphragm Operation
- Fully Ported Orifices for high flow
- Choice of valve body material and seals
- Response time 1" 15-60 ms
- Response time 2" 60-120 ms
- EN264 for fuel oils

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (Bar)		P. Max[3] Bar	Orifice (mm)	Weight (kg)
			AC Voltages	DC Voltages			
3/8"	3.5	3.0	0-14	0-10.3	50	16.00	0.90
½"	4.9	4.2	0-14	0-10.3		16.00	0.90
¾"	5.4	4.7	0-14	0-10.3		16.00	0.90
1"	8.2	7.0	0-14	0-10.3		20.00	1.20
1¼"	26.7	23	0-4	-		40.00	3.00-3.20
1½"	26.7	23	0-4	-		40.00	3.00-3.20
2"	30.16	26	0-4	-		40.00	3.00-3.20
1¼"[2]	26.7	23	0.3-10	0.3-10		40.00	3.00-3.20
1½"[2]	26.7	23	0.3-10	0.3-10		40.00	3.00-3.20
2"[2]	30.2	26	0.3-10	0.3-10		40.00	3.00-3.20

[2] Pressure assisted to achieve a greater OPD. e.g. code :19G11Z1A1-1A21.
[3] P. Max is limited to 46.5 Bar when valve is fitted with an Exd solenoid operator, see separate datasheet.

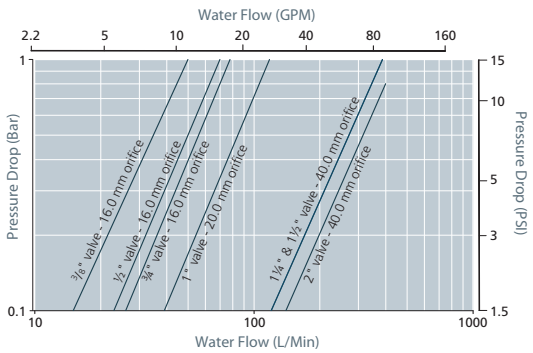
Options Available

Exd & Exm Solenoid Enclosure	
Protection Class	See separate datasheet
Exd T6 (IP67)	
Exd T4 (IP67)	
Exm T5 (IP65)	

Main Valve Body Options
Stainless Steel 316 (available up to and including 1")
NPT threads
Flanged Option (PN16 Std) for alternative flange options consult Rotork Midland
Manual Override
Oxygen cleaning (consult Rotork Midland for product code)

Seal Material[1] and Media Temp. Range	Ambient Temperature Range °C	
	Min	Max
NBR (-10 °C to +80 °C)	-10	50
EPDM (-50 °C to +120 °C)	-10	50
FKM (-20 °C to +150 °C)	-10	50

[1] See corrosion reference guide and sealing solutions for material compatability.

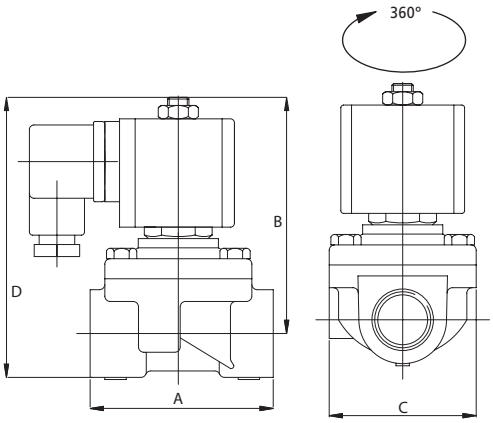


How to use the flow chart

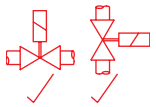
1. Select the required flow.
2. Note the corresponding pressure drop.
3. Based on where the two points intersect select the most appropriate model.

ACD Series – 2/2 Normally Closed

Coil Rotation



Preferred Valve Mounting Options



Dimensions

Pipe Size	A	B	C	D
3/8" - 3/4"	69.5	88	55	104
1"	85	90	55	112
1¼" - 2"	137	103	120	152

Stainless Steel Option

Pipe Size	A	B	C	D
3/8" - 1"	88	92	55	104
1¼" - 2"	137	114	120	155

Dimensions given in mm

Solenoid enclosures

E5 Type enclosure protection class IP65

External material: Glass reinforced nylon
Electrical connection: DIN Plug to ISO 4400
Winding insulation: Class H
Enclosure: Conforms to IP65 when correct plug gasket is fitted as supplied

Coding chart

Main Valve Assembly

Model	
17	ACD AC VOLTAGE
18	ACD DC[3] VOLTAGE
19	Pressure assisted option 1¼" to 2"

Valve Body Conn. Size	
C	3/8"
D	½"
E	¾"
F	1"
G	1¼"
H	1½"
J	2"

Connection Type	
1	BS21
2	BSP G (1 ¼" and above)
3	NPT
4	FLANGED (PN16 STD)

Operation	
1	AUTO
2	MANUAL OVERRIDE

Body Material	
1	Brass (standard on valves up to and including 1")
2	Bronze (standard on valves above 1")
5	316 Stainless Steel (option available up to and inc 1")

Seals	
A	NBR
B	EPDM
C	FKM

Style	
1	Standard

Coil options

Enclosure	
1	Weather proof IP65

Voltage / Frequency	
A1	230 V / 50 Hz
A2	110 V / 50 Hz & 120 V / 60 Hz
A3	24 V / 50 Hz
A7	220 V / 50 Hz
B2	24 VDC
B3	12 VDC
B5	110 VDC

Electrical Connection	
1	DIN plug 9 mm

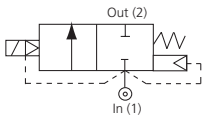
•	•	•	•	Z	•	•	1	-	1	••	1

[3] '0' pressure rated options are not available in DC voltage above 1".

Product coding example:

17G21Z2A1-1A11 - ACD Series
1¼" BSPG, auto operation, bronze body, NBR seals, 230 V / 50 Hz DIN Plug 9 mm.

ACP Series – 2/2 Normally Closed

Specifications	
Function	Normally closed, energise to open 
Maximum Viscosity	115 SSU
3/8" - 1" Body Material (Std)	Brass CZ122
1 1/4" - 2" Body Material (Std)	Bronze
Flange Tube	Stainless Steel 303
Plunger and Top Stop	Stainless Steel 430FR
Springs	Stainless Steel 302
Seal Material (Std)	NBR
Connection Type (Std)	BS21
Shading Ring	Copper (std), Silver (stainless steel option)
Electrical Characteristics	
Coil Voltage DC (=)	12 V, 24 V, 110 V
Coil Voltage AC 50 Hz (~)	24 V, 110 V, 120 V, 230 V
Coil Voltage AC 60 Hz (~)	24 V, 110 V, 120 V, 220 V
Voltage Tolerance	+10% or -10%
Duty Cycle	100% ED
Protection Class (Std)	IP65 (BS EN 60529) (plug supplied as standard)
Electrical Connection (Std)	PG9 Din Connector DIN 43650/ISO 4400 (EN 175301-803) Form 'A'
Coil Insulation	Class H (BS EN 60085) 180 °C
Power Rating	14.5 Watts, 19 VA

Features and Benefits

- Heavy duty valve design
- Piston operation
- Choice of valve body material and seals
- Wide temperature range capabilities
- Response time up to 1" 40 - 100 ms
- Response time up to 2" 60 - 1000 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (Bar)	P. Max[2] Bar	Orifice mm)	Weight (kg)
½"	4.9	4.2	0.3-10.3	50	16.00	1.4
¾"	6.3	5.4	0.3-10.3		16.00	1.4
1"	14.5	12.5	0.3-10.3		25.00	2.3
1¼"	20.9	18	0.3-10.3		30.00	3.0
1½"	20.9	18	0.3-10.3		30.00	3.0
2"	24.4	21	0.3-10.3		32.00	5.2

[2] P. Max is limited to 46.5 Bar when valve is fitted with an Exd solenoid operator, see separate datasheet.

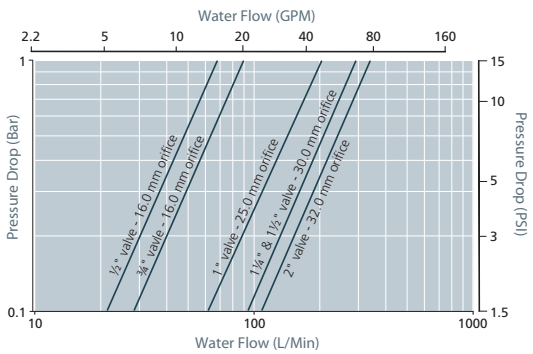
Options Available

Exd & Exm Solenoid Enclosure	
Protection Class	
Exd T6 (IP67)	See separate datasheet
Exd T4 (IP67)	
Exm T5 (IP65)	

Seal Material[1] and Media Temp. Range	Ambient Temperature Range °C	
	Min	**Max**
NBR (-10 °C to +80 °C)	-10	50
EPDM (-50 °C to +120 °C)	-10	50
FKM (-20 °C to +150 °C)	-10	50

Main Valve Body Options
Stainless steel body 316 (available up to 1")
Oxygen Cleaning (Consult Rotork Midland for product code)
NPT Threads
Stainless steel tagging

[1] See corrosion reference guide and sealing solutions for material compatability.

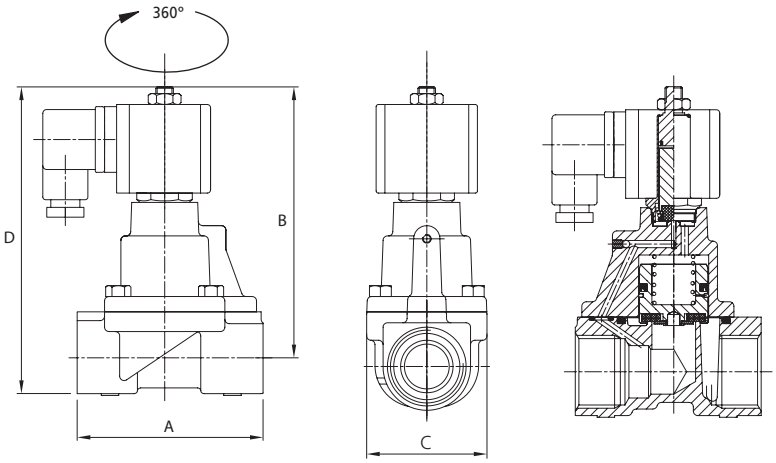


How to use the flow chart

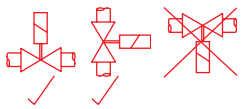
1. Select the required flow.
2. Note the corresponding pressure drop.
3. Based on where the two points intersect select the most appropriate model.

ACP Series – 2/2 Normally Closed

Coil Rotation



Preferred Valve Mounting Options



Dimensions

Pipe Size	A	B	C	D
½"	85	126	75*	150
¾" - 1"	85	135	75 inc. plug	155
1¼" - 1½"	117	133	82	209
2"	146	145	103	209

Dimensions given in mm

Solenoid enclosures

E5 Type enclosure protection class IP65

External material: Glass reinforced nylon
Electrical connection: DIN Plug to ISO 4400
Winding insulation: Class H
Enclosure: Conforms to IP65 when correct plug gasket is fitted as supplied

Coding chart

Main Valve Assembly

Model	
22	ACP

Valve Body Conn. Size	
D	½"
E	¾"
F	1"
G	1¼"
H	1½"
J	2"

Connection Type	
1	BS21
2	BSP G (1¼" and above)
3	NPT
4	FLANGED (PN16 STD)

Operation	
1	AUTO
2	MANUAL OVERRIDE

Body Material	
1	Brass (standard on valves up to and including 1")
2	Bronze (standard on valves above 1")
5	316 Stainless Steel (option available up to and inc 1")

Seals	
A	NBR
B	EPDM
C	FKM

Style	
1	Standard

Coil options

Enclosure	
1	Weather proof IP65

Voltage / Frequency	
A1	230 V / 50 Hz
A2	110 V / 50 Hz & 120 V / 50 Hz
A3	24 V / 50 Hz
A7	220 V / 50 Hz
B2	24 VDC
B3	12 VDC
B5	110 VDC

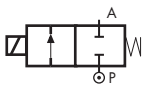
Electrical Connection	
1	Din plug 9 mm

22	•	•	•	Z	•	•	1	-	1	••	1

Product coding example:

22D11Z1A1-1A11 - ACP Series
½" BS21, auto operation, brass body, NBR seals, 230 V / 50 Hz DIN Plug 9 mm.

D201 Series, General Purpose – 2/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass CW617N (EN 12165)
Orifice Material	Stainless Steel 1.4305 EN 10088 (AISI 303)
Flange	Stainless Steel 1.4305 EN 10088 (AISI 303)
Tube	Stainless Steel AISI 304
Plunger	Stainless Steel 1.4106 EN 10088 (AISI 430F)
Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type (Std)	Flanged 32x32mm
Shading Ring	Copper
Electrical Characteristics	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation	Class F 155 °C
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- Manufactured in compliance to RoHS directive and to relevant international standards
- Choice of high quality seal materials
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
Flanged	0.09	0.08	0 - 24	0 - 24	1.5	FKM EPDM	D201DVC D201DEC
Flanged	0.15	0.13	0 - 20	0 - 20	2.0	FKM EPDM	D201DVE D201DEE
Flanged	0.24	0.20	0 - 18	0 - 18	2.5	FKM EPDM	D201DVG D201DEG
Flanged	0.32	0.27	0 - 15	0 - 10	3.0	FKM EPDM	D201DVH D201DEH

Options Available

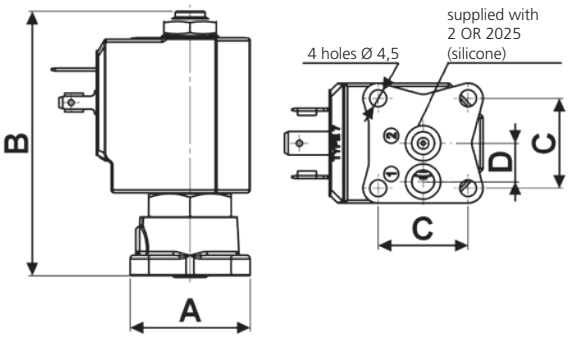
Valve Options (see coding chart)
Manual override

Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM (-10 °C to +130 °C)	Water, oil, air,	-10 °C	+50 °C
EPDM (-10 °C to +120 °C)	Water, hot water	-10 °C	+50 °C

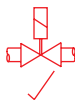
[1] See corrosion reference guide and sealing solutions for material compatability.

D201 Series, General Purpose – 2/2 Normally Closed

Coil Rotation



Preferred Valve Mounting Options



Pipe Size	A	B	C	D	Weight (kg)
Flanged	32	70.6	24	10.25	0.25

Dimensions (mm)

Solenoid enclosures

7--0 Type Coil - Insulation class F

External material: PBT (reinforced fiberglass 30%)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 VDC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable Entry: PG9 (6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Seals	
V	FKM
E	EPDM

Orifice	
C	1.5
E	2.0
G	2.5
H	3.0

Option	
M	Manual Overide
	w/o option

Coil options

Voltage / Frequency - Class F	
7250	24 VDC
7200	24 V / 50/60 Hz
7400	110 V / 50 Hz - 120 V / 60 Hz
7600	200 V / 50 Hz - 220 V / 60 Hz
7700	230 V / 50 Hz - 240 V / 60 Hz

Plug

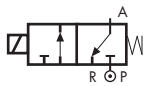
Plug	
	w/o plug
0A1	c/w plug

D	2	0	1	D	•	•	•	•	•	•	•	•	•	•	•

Product coding example:

D201DVC 7700
G, auto operation, brass body, FKM seals, 1.5 mm orifice, 230 V / 50 Hz - 240 V / 60 Hz, without plug.

B397 Series, General Purpose – 3/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction underseat 2 → 1
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Low lead content Brass CW719R (EN 12165)
Orifice Material	Stainless Steel 1.4305 EN 10088 (AISI 303)
Tube	Stainless Steel AISI 304
Flange	Stainless Steel 1.4305 EN 10088 (AISI 303)
Plunger	Stainless Steel 1.4105 EN 10088 (AISI 430F) or equivalent
Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to industrial form B
Coil Insulation	Class F 155 °C
Power Rating (Standard)	AC 10 VA (holding) AC 16 VA (inrush) DC 7 W

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Zero pressure rated
- Stainless steel AISI 430F operators with low residual magnetism
- Manufactured in compliance to RoHS directive and to relevant international standards
- Choice of high quality seal materials
- Valve suitable for contact with food media as per the EEC Directives and Regulations. Please consult supplier for more details
- Response time 5 to 25 ms

Valve manufactured in conformity of all regulation and law CE:

- EC 1935/2004
- EC 2023/2006
- EC 10/2011 and all subsequent amended and integration
- For metal alloy different from stainless steel included superficial treatment in absence of specific national or international rule the conformity is evaluated following clause 3 of regulation EC 1935/2004 using resolution of European council as guide: Metal and Alloys used in food contact 1st edition 2013.
- Italian law: D.M. 174 06/04/2004 drinkable water
- Italian law: D.M. 21/03/1973 and all subsequent amended and integration.

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
1/8"	0.04	0.03	0 - 18	0 - 18	1.0	FKM EPDM	B397CVA B397CEA
1/8"	0.05	0.04	0 - 15	0 - 15	1.2	FKM EPDM	B397CVB B397CEB
1/8"	0.07	0.06	0 - 10	0 - 10	1.5	FKM EPDM	B397CVC B397CEC
1/8"	0.13	0.11	0 - 5	0 - 5	2.0	FKM EPDM	B397CVE B397CEE
1/8"	0.25	0.21	0 - 2	0 - 2	3.0	FKM EPDM	B397CVH B397CEH

Options Available

Valve Options (see coding chart)
NPT threads (minimum batch may be required)
Manual Override
Electroless nickel plating treatment
Top port connection with hose tail Ø 6mm

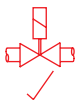
Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM (-10 °C to +130 °C)	Water, oil, air	-10 °C	+50 °C
EPDM (-10 °C to +120 °C)	Water, hot water	-10 °C	+50 °C

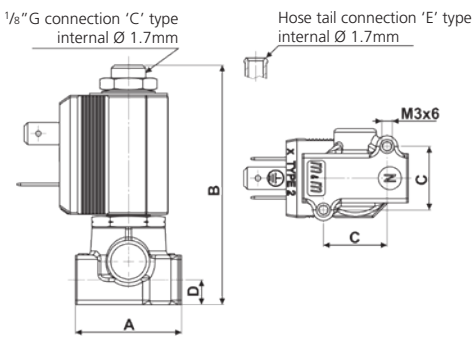
[1] See corrosion reference guide and sealing solutions for material compatability.

B397 Series, General Purpose – 3/2 Normally Closed

Coil Rotation

Preferred Valve Mounting Options





Pipe Size	A	B	C	D	Weight (kg)
1/8"	30	67.8	18	7	0.15

Dimensions (mm)

Solenoid enclosures

2--0 Type Coil - Insulation class F

External material: PBT (reinforced fiberglass 30%)
Electrical connection: Industrial form B
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 001- Plug

Rated Voltage (max.): 250 VAC / 300 VDC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable Entry: PG9 (6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Top Port Connection	
C	1/8" G
E	Hose tail Ø 6mm

Seals	
V	FKM
E	EPDM

Orifice	
A	1.0
B	1.2
C	1.5
E	2.0
H	3.0

Option	
N	NPT
M	Manual Override
K	Electroless nickel plating
	w/o option

Coil options

Voltage / Frequency - Class F	
2250	24 VDC
2200	24 V / 50/60 Hz
2400	110 V / 50 Hz - 120 V / 60 Hz
2600	200 V / 50 Hz - 220 V / 60 Hz
2700	230 V / 50 Hz - 240 V / 60 Hz

Plug

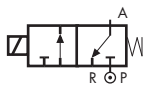
Plug	
0B1	c/w plug
	w/o plug

B	3	9	7	•	•	•	•	•	•	•	•	•	•	•	•

Product coding example:

B397CVAM 2250
1/8" G, auto operation, brass body, FKM seals, 1.0 mm orifice, with manual override, 24 VDC, without plug.

B398 Series, General Purpose – 3/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction underseat 2 → 1
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Stainless Steel 1.4305 EN 10088 (AISI 303)
Orifice Material	Stainless Steel 1.4305 EN 10088 (AISI 303)
Flange Tube[1]	Stainless Steel (AISI 303)
Plunger and Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F) or equivalent
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to industrial form B
Coil Insulation	Class F 155 °C
Power Rating (Standard)	AC 10 VA (holding) AC 16 VA (inrush) DC 7 W

[1] With special nut, different from Standard.

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Zero pressure rated
- Stainless steel AISI 430F operators with low residual magnetism
- Manufactured in compliance to RoHS directive and to relevant international standards
- High quality seal materials
- Response time 5 to 25 ms

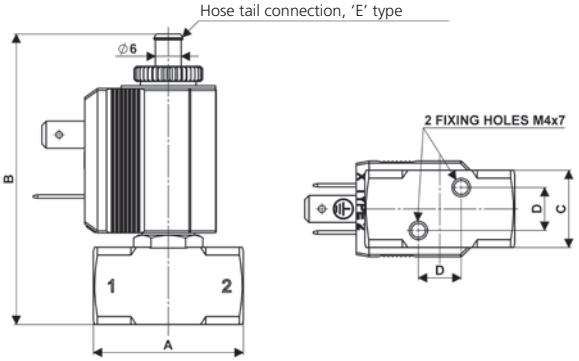
Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
1/8"	0.05	0.04	0 - 15	0 - 15	1.2	FKM	B398EVB
1/8"	0.07	0.06	0 - 10	0 - 10	1.5	FKM	B398EVC
1/8"	0.13	0.11	0 - 5	0 - 5	2.0	FKM	B398EVE
1/8"	0.19	0.16	0 - 3	0 - 3	2.5	FKM	B398EVG

Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM (-10 °C to +130 °C)	Water, oil, air, aggressive fluids	-10 °C	+50 °C

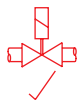
[1] See corrosion reference guide and sealing solutions for material compatability.

B398 Series, General Purpose – 3/2 Normally Closed

Coil Rotation



Preferred Valve Mounting Options



Pipe Size	A	B	C	D	Weight (kg)
1/8"	35	68	18	10	0.1

Dimensions (mm)

Solenoid enclosures

2--0 Type Coil - Insulation class F

External material: PBT (reinforced fiberglass 30%)
Electrical connection: Industrial form B
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 001- Plug

Rated Voltage (max.): 250 VAC / 300 VDC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable Entry: PG9 (6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Orifice	
B	1.2
C	1.5
E	2.0
G	2.5

Option	
	w/o option

Coil options

Voltage / Frequency - Class F	
2250	24 VDC
2200	24 V / 50/60 Hz
2400	110 V / 50 Hz - 120 V / 60 Hz
2600	200 V / 50 Hz - 220 V / 60 Hz
2700	230 V / 50 Hz - 240 V / 60 Hz

Plug

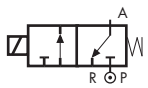
Plug	
0B1	c/w plug
	w/o plug

B	3	9	8	E	V	•	•	•	•	•	•	•	•	•	•

Product coding example:

B398EVB 2250
1/8" G, auto operation, stainless steel body, FKM seals, 1.2 mm orifice, 24 VDC, without plug.

D398/399 Series, General Purpose – 3/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction underseat 2 → 1
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Stainless Steel 1.4305 EN 10088 (AISI 303)
Orifice Material	Stainless Steel 1.4305 EN 10088 (AISI 303)
Tube	Stainless Steel AISI 304
Flange	Stainless Steel 1.4305 EN 10088 (AISI 303)
Plunger	Stainless Steel 1.4106 EN 10088 (AISI 430F)
Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation	Class F 155 °C
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Zero pressure rated
- Stainless steel AISI 430F operators with low residual magnetism
- Manufactured in compliance to RoHS directive and to relevant international standards
- Choice of high quality seal materials
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
¼"	0.09	0.08	0 - 18	0 - 18	1.5	FKM EPDM	D399CVC D399CEC
¼"	0.15	0.13	0 - 10	0 - 10	2.0	FKM EPDM	D399CVE D399CEE
¼"	0.24	0.20	0 - 7	0 - 7	2.5	FKM EPDM	D399CVG D399CEG
¼"	0.32	0.27	0 - 5	0 - 5	3.0	FKM EPDM	D399CVH D399CEH

Options Available

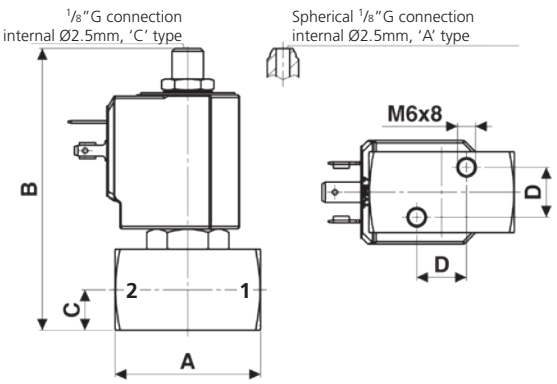
Valve Options (see coding chart)
Body threaded connection G ⅛"
NPT threads (minimum batch may be required)
Silver shading ring
Top port connection with spherical ⅛" G

Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM (-10 °C to +130 °C)	Water, oil, air, aggressive fluids	-10 °C	+50 °C
EPDM (-10 °C to +120 °C)	Water, hot water	-10 °C	+50 °C

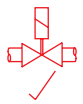
[1] See corrosion reference guide and sealing solutions for material compatability.

D398/399 Series, General Purpose – 3/2 Normally Closed

Coil Rotation



Preferred Valve Mounting Options



Pipe Size	A	B	C	D	Weight (kg)
1/8" - 1/4"	45	87	12.5	15.4	0.35

Dimensions (mm)

Solenoid enclosures

7--0 Type Coil - Insulation class F

External material: PBT (reinforced fiberglass 30%)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 VDC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable Entry: PG9 (6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
8	1/8"
9	1/4"

Top Port Connection	
C	1/8" G
A	Spherical 1/8" G

Seals	
V	FKM
E	EPDM

Orifice	
C	1.5
E	2.0
G	2.5
H	3.0

Option	
A	Silver shading ring
N	NPT
	w/o option

Coil options

Voltage / Frequency - Class F	
7250	24 VDC
7200	24 V / 50/60 Hz
7400	110 V / 50 Hz - 120 V / 60 Hz
7600	200 V / 50 Hz - 220 V / 60 Hz
7700	230 V / 50 Hz - 240 V / 60 Hz

Plug

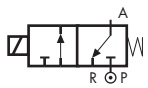
Plug	
0A1	c/w plug
	w/o plug

D	3	9	•	•	•	•	•	•	•	•	•	•	•	•	•

Product coding example:

D399CECA 7700
¼" G, auto operation, stainless steel body, EPDM seals, 1.5 mm orifice, with silver shading ring, 230 V / 50 Hz - 240 V / 60 Hz AC, without plug.

D362/363 Series, General Purpose – 3/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction underseat 2 → 1
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass CW617N (EN 12165)
Orifice Material	Stainless Steel 1.4305 EN 10088 (AISI 303)
Flange	Stainless Steel 1.4305 EN 10088 (AISI 303)
Tube	Stainless Steel AISI 304
Plunger	Stainless Steel 1.4106 EN 10088 (AISI 430F)
Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
c UL us Coil Voltage DC (=)	24 V
c UL us Coil Voltage AC 50 Hz (~)	24 V, 110 V, 230 V
c UL us Coil Voltage AC 60 Hz (~)	120 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation	Class F 155 °C
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W
Power Rating (c UL us)	AC 15 VA (holding) AC 30 VA (inrush) DC 10 W

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Zero pressure rated
- Stainless steel AISI 430F operators with low residual magnetism
- Manufactured in compliance to RoHS directive and to relevant international standards
- Choice of high quality seal materials
- Response time 5 to 25 ms

Valve manufactured in conformity of all regulation and law CE:

- EC 1935/2004
- EC 2023/2006
- EC 10/2011 and all subsequent amended and integration
- For metal alloy different from stainless steel included superficial treatment in absence of specific national or international rule the conformity is evaluated following clause 3 of regulation EC 1935/2004 using resolution of European council as guide: Metal and Alloys used in food contact 1st edition 2013.
- Italian law: D.M. 174 06/04/2004 drinkable water
- Italian law: D.M. 21/03/1973 and all subsequent amended and integration.

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
¼"	0.09	0.08	0 - 18	0 - 18	1.5	FKM EPDM	D363CVC D363CEC
¼"	0.15	0.13	0 - 10	0 - 10	2.0	FKM EPDM	D363CVE D363CEE
¼"	0.24	0.20	0 - 7	0 - 7	2.5	FKM EPDM	D363CVG D363CEG
¼"	0.32	0.27	0 - 5	0 - 5	3.0	FKM EPDM	D363CVH D363CEH
¼"	0.42	0.36	0 - 3.5	0 - 3.5	4.0	FKM EPDM	D363CVL[1] D363CEL[1]
¼"	0.53	0.45	0 - 2.5	0 - 2.5	5.0	FKM EPDM	D363CVN[1] D363CEN[1]
¼"	0.56	0.48	0 - 1.5	0 -1.5	6.0	FKM EPDM	D363CVP[1] D363CEP[1]

[1] Manual override not available for orifice > Ø3mm.

Options Available

Valve Options (see coding chart)
Body threaded connection G ⅛"
NPT threads (minimum batch may be required)
Manual override

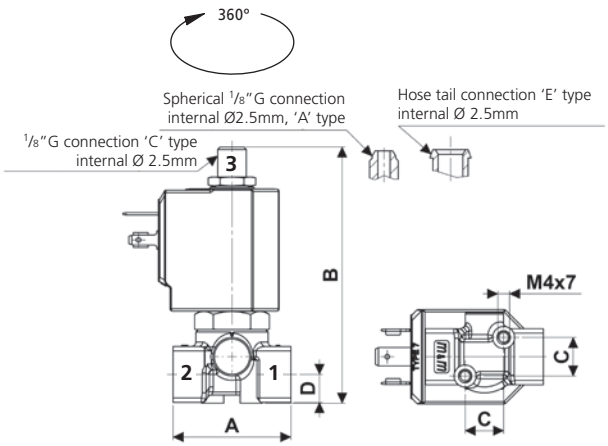
Vacuum Version
See page 124-125

Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM (-10 °C to +130 °C)	Water, oil, air	-10 °C	+50 °C
EPDM (-10 °C to +120 °C)	Water, hot water	-10 °C	+50 °C

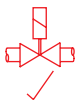
[1] See corrosion reference guide and sealing solutions for material compatability.

D362/363 Series, General Purpose – 3/2 Normally Closed

Coil Rotation



Preferred Valve Mounting Options



Pipe Size	A	B	C	D	Weight (kg)
1/8" - 1/4"	40	87	13	9.5	0.26

Dimensions (mm)

Solenoid enclosures

7--0 Type Coil - Insulation class F

External material: PBT (reinforced fiberglass 30%)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

7--R c UL us Type Coil - Insulation class F

Encapsulation material: PET 815ER Rynite®
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (P180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*
UL approved, file No: E193928

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 VDC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable Entry: PG9 (6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

* Plug and gasket not supplied as standard, must be ordered separately.

Coding chart

Main Valve Assembly

Pipe Size	
2	1/8"
3	1/4"

Top Port Connection	
C	1/8" G
A	spherical 1/8" G
E	Hose tail Ø 6mm

Seals	
V	FKM
E	EPDM

Orifice	
C	1.5
E	2.0
G	2.5
H	3.0
L	4.0
N	5.0
P	6.0

Option	
N	NPT
M	Manual Override[1]
	w/o option

Coil options

Voltage / Frequency - Class F	
7250	24 VDC
7200	24 V / 50/60 Hz
7400	110 V / 50 Hz - 120 V / 60 Hz
7600	200 V / 50 Hz - 220 V / 60 Hz
7700	230 V / 50 Hz - 240 V / 60 Hz

Voltage / Frequency - Class F - c UL us approved	
725R	24 VDC
720R	24 V / 50 Hz
740R	110 V / 50 Hz - 120 V / 60 Hz
770R	230 V / 50 Hz - 240 V / 60 Hz

Plug

Plug	
	w/o plug
0A1	c/w plug

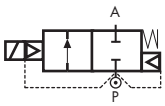
D	3	6	•	•	•	•	•	•	•	•	•	•	•	•	•

[1] Manual override not available for orifice > Ø3mm.

Product coding example:

D363AVC 7250
1/4" G, auto operation, brass body, FKM seals, 1.5 mm orifice, with top port connection spherical 1/8"G, 24 VDC, without plug.

LC203/204/205 Series, General Purpose – 2/2 Normally Closed, Latching

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass CW617N (EN 12165)
Flange	Stainless Steel 1.4305 EN 10088 (AISI 303)
Tube	Stainless Steel AISI 304
Plunger	Brass CW614N (EN 12164)
Magnet	Neodym-Iron-Boron
Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F) or equivalent
Springs	Stainless Steel AISI 302
Seal Material (Std)	NBR
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics	
Low Power Coil Voltage DC (=)	24 V
Voltage Tolerance	+10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to industrial form B
Coil Insulation	Class F 155 °C
Power Rating (Low Power)	DC 3 W[1]
Coil Absorbition (20 °C)	500mA for 20Q0 250mA for 21Q0 125mA for 22Q0

Features and Benefits

- Pilot operated, latching
- Special operator with reduced stroke for low power coils
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- Manufactured in compliance to RoHS directive and to relevant international standards
- Choice of high quality seal materials
- Response time 50 to 500 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)	Seal Material	Valve Code[1]
			AC Voltages	DC Voltages			
¼"	1.83	1.56	-	0.3 - 5	13	NBR	LC203DBZ
						FKM	LC203DVZ
						EPDM	LC203DEZ
⅜"	3.86	3.30				NBR	LC204DBZ
						FKM	LC204DVZ
						EPDM	LC204DEZ
½"	4.42	3.78				NBR	LC205DBZ
						FKM	LC205DVZ
						EPDM	LC205DEZ

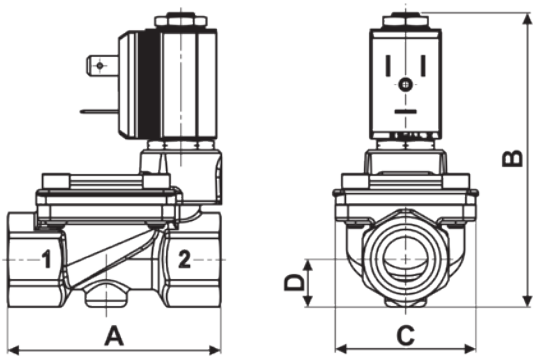
[1] Non standard, MOQ required.

Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
NBR (-10 °C to +90 °C)	Water, oil, air	-10 °C	+50 °C
FKM (-10 °C to +130 °C)	Water, oil, air	-10 °C	+50 °C
EPDM (-10 °C to +120 °C)	Water, hot water	-10 °C	+50 °C

[1] See corrosion reference guide and sealing solutions for material compatability.

LC203/204/205 Series, General Purpose – 2/2 Normally Closed, Latching

Coil Rotation



Preferred Valve Mounting Options

Pipe Size	A	B	C	D	Weight (kg)
¼" - ⅜" - ½"	67	90	45.6	15	0.4

Dimensions (mm)

Solenoid enclosures

2-Q0 Type Coil - Insulation class F

External material: PBT (reinforced fiberglass 30%)
Electrical connection: Industrial form B
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 001- Plug

Rated Voltage (max.): 250 VAC / 300 VDC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable Entry: PG9 (6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
03	¼"
04	⅜"
05	½"

Seals	
B	NBR
V	FKM
E	EPDM

Option	
	w/o option

Coil options

Voltage / Frequency - Class F, Low Power	
20Q0	6 VDC
21Q0	12 VDC
22Q0	24 VDC

Plug

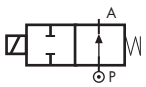
Plug	
	w/o plug
0B1	c/w plug

LC	2	•	•	D	•	Z	•	•	•	•	•	•	•	•	•

Product coding example:

LC205DBZ 20Q0
½" G, auto operation, brass body, NBR seals, 13 mm orifice, 6 VDC, without plug.

RD298/299 Series, General Purpose & High Pressure – 2/2 Normally Open

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Stainless Steel 1.4305 EN 10088 (AISI 303)
Orifice Material	Stainless Steel 1.4305 EN 10088 (AISI 303)
Flange Tube	Stainless Steel 1.4305 EN 10088 (AISI 303)
Plunger	Stainless Steel 1.4106 EN 10088 (AISI 430F)
Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation	Class H 180 °C
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- Manufactured in compliance to RoHS directive and to relevant international standards
- Choice of high quality seal materials
- Troublefree operation with coils class H
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
¼"	0.04	0.04	0 - 30	0 - 30	1.0	FKM EPDM	RD299DVA RD299DEA
¼"	0.16	0.14	0 - 20	0 - 20	2.0	FKM EPDM	RD299DVE RD299DEE
¼"	0.23	0.20	0 - 14	0 - 14	2.5	FKM EPDM	RD299DVG RD299DEG
¼"	0.32	0.27	0 - 9	0 - 9	3.0	FKM EPDM	RD299DVH RD299DEH
¼"	0.04	0.04	0 - 100	0 - 100	1.0	RUBY	RD299DRA**
¼"	0.05	0.04	0 - 85	0 - 85	1.2	RUBY	RD299DRB**
¼"	0.08	0.07	0 - 55	0 - 55	1.5	RUBY	RD299DRC**
¼"	0.16	0.14	0 - 25	0 - 25	2.0	RUBY	RD299DRE**
¼"	0.23	0.20	0 - 19	0 - 19	2.5	RUBY	RD299DRG**
¼"	0.32	0.27	0 - 10	0 - 10	3.0	RUBY	RD299DRH**

** Not 100% leak-proof when used with air/gases. Approx leak rate is 1.5ml/min at max OPD.

Options Available

Valve Options (see coding chart)
Body threaded connection G 1/8"
NPT threads (minimum batch may be required)
Anticorrosion treatment recommended with aggressive fluids
Silver shading ring

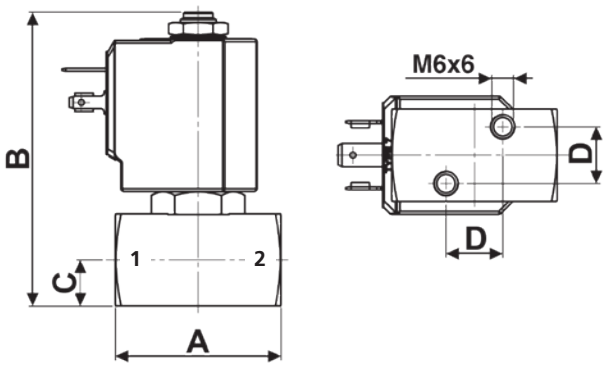
Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM (-10 °C to +130 °C)	Water, oil, air, aggressive fluids	-10 °C	+50 °C
EPDM (-10 °C to +120 °C)	Water, hot water	-10 °C	+50 °C
RUBY (-10 °C to +130 °C)	Water, liquids	-10 °C	+50 °C

[1] See corrosion reference guide and sealing solutions for material compatability.

RD298/299 Series, General Purpose & High Pressure – 2/2 Normally Open

Coil Rotation

Preferred Valve Mounting Options



Pipe Size	A	B	C	D	Weight (kg)
1/8" - 1/4"	45	80	12.5	15.4	0.36

Dimensions (mm)

Solenoid enclosures

7--1 Type Coil - Insulation class H

External material:	PPS (glass fiber & mineral filled)
Electrical connection:	DIN EN 175301-803 form A
Winding insulation:	Class H (E180)
Enclosure classification:	Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.):	250 VAC / 300 VDC
Nominal Current:	10A (rated) / 16A (max)
Wire cross-section:	1.5 mm² max
Cable Entry:	PG9 (6 to 8 mm)
Enclosure classification:	Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class:	group C- VDE 0110
Housing colour:	black
UL approved, file No:	E205538

Coding chart

Main Valve Assembly

Pipe Size	
8	1/8"
9	1/4"

Seals	
V	FKM
E	EPDM
R	RUBY

Orifice[1]	
A	1.0
B	1.2
C	1.5
E	2.0
G	2.5
H	3.0

Option	
A	Silver shading ring
F	Anticorrosion treatment[2]
N	NPT
	w/o option

Coil options

Voltage / Frequency - Class H	
7251	24 VDC
7201	24 V / 50/60 Hz
7401	110 V / 50 Hz - 120 V / 60 Hz
7601	200 V / 50 Hz - 220 V / 60 Hz
7701	230 V / 50 Hz - 240 V / 60 Hz

Plug

Plug	
	w/o plug
0A1	c/w plug

RD	2	9	•	D	•	•	•	•	•	•	•	•	•	•	•

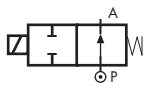
[1] See characteristics table for availability.

[2] Recommended with aggressive fluids.

Product coding example:

RD299DVA 7251
¼" G, auto operation, stainless steel body, FKM seals, 1.0 mm orifice, 24 VDC, without plug.

RD262/263 Series, General Purpose – 2/2 Normally Open

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass (CW617N EN 12165)
Orifice Material	Stainless Steel 1.4305 EN 10088 (AISI 303)
Flange Tube	Stainless Steel 1.4305 EN 10088 (AISI 303)
Plunger	Stainless Steel 1.4106 EN 10088 (AISI 430F)
Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC) +10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation	Class H 180 °C
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- Manufactured in compliance to RoHS directive and to relevant international standards
- Choice of high quality seal materials
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
¼"	0.04	0.03	0 - 30	0 - 30	1.0	FKM EPDM	RD263DVA RD263DEA
¼"	0.09	0.08	0 - 24	0 - 24	1.5	FKM EPDM	RD263DVC RD263DEC
¼"	0.24	0.20	0 - 16	0 - 16	2.5	FKM EPDM	RD263DVG RD263DEG
¼"	0.32	0.27	0 - 10	0 - 10	3.0	FKM EPDM	RD263DVH RD263DEH

Options Available

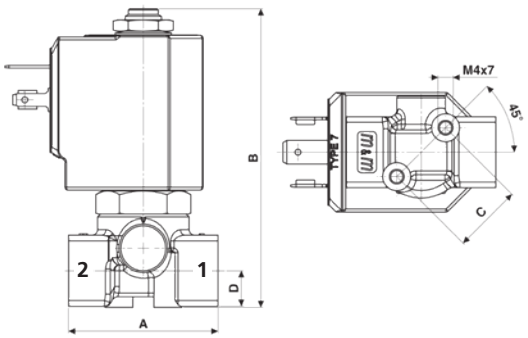
Valve Options (see coding chart)
Body threaded connection G ⅛"
Electroless nickel plating
For steam version with filled PTFE seal see valve model RD236DL, see page 106-107
For high pressure version with RUBY seals see valve model RD236DR-1, see page 94-95

Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM (-10 °C to +130 °C)	Water, oil, air	-10 °C	+50 °C
EPDM (-10 °C to +120 °C)	Water, hot water	-10 °C	+50 °C

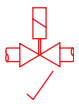
[1] See corrosion reference guide and sealing solutions for material compatability.

RD262/263 Series, General Purpose – 2/2 Normally Open

Coil Rotation



Preferred Valve Mounting Options



Pipe Size	A	B	C	D	Weight (kg)
1/8" - 1/4"	40	77.7	18.5	9.5	0.26

Dimensions (mm)

Solenoid enclosures

7--1 Type Coil - Insulation class H

External material: PPS (glass fiber & mineral filled)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 VDC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable Entry: PG9 (6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
2	1/8"
3	1/4"

Seals	
V	FKM
E	EPDM

Orifice	
A	1.0
C	1.5
E	2.0
G	2.5
H	3.0

Option	
N	NPT
K	Electroless nickel plating
	w/o option

Coil options

Voltage / Frequency - Class H	
7251	24 VDC
7201	24 V / 50/60 Hz
7401	110 V / 50 Hz - 120 V / 60 Hz
7601	200 V / 50 Hz - 220 V / 60 Hz
7701	230 V / 50 Hz - 240 V / 60 Hz

Plug

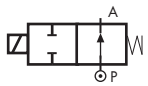
Plug	
	w/o plug
0A1	c/w plug

RD	2	6	•	D	•	•	•	•	•	•	•	•	•	•	•

Product coding example:

RD263DVHK 7251 0A1
1/4" G, auto operation, brass body, FKM seals, 3.0 mm orifice, with electroless nickel plating treatment, 24 VDC, with plug.

RD236 Series, General Purpose – 2/2 Normally Open

Specifications	
Function (single acting)	 Flow direction 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass CW617N (EN 12165)
Orifice Material	Stainless Steel 1.4305 EN 10088 (AISI 303)
Tube	Stainless Steel AISI 304
Flange	Stainless Steel 1.4305 EN 10088 (AISI 303)
Plunger	Stainless Steel 1.4106 EN 10088 (AISI 430F)
Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation	Class F 155 °C
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Zero pressure rated
- Stainless steel AISI 430F operators with low residual magnetism
- Manufactured in compliance to RoHS directive and to relevant international standards
- Choice of high quality seal materials
- Response time 5 to 25 ms

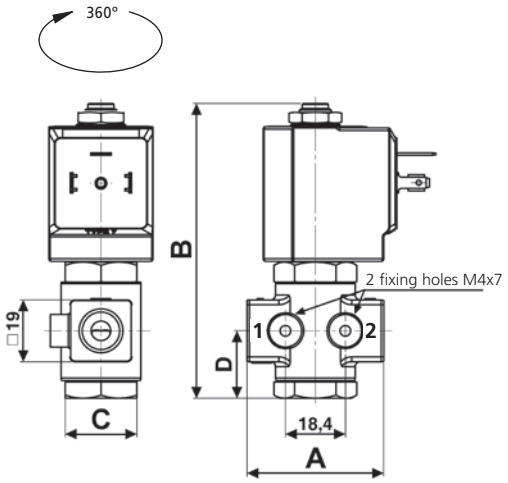
Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
¼"	0.04	0.03	0 - 25	0 - 25	1.0	FKM EPDM	RD236DVA RD236DEA
¼"	0.09	0.08	0 - 20	0 - 20	1.5	FKM EPDM	RD236DVC RD236DEC
¼"	0.14	0.12	0 - 18	0 - 18	2.0	FKM EPDM	RD236DVE RD236DEE
¼"	0.20	0.17	0 - 15	0 - 15	2.5	FKM EPDM	RD236DVG RD236DEG
¼"	0.25	0.21	0 - 12	0 - 12	3.0	FKM EPDM	RD236DVH RD236DEH
¼"	0.39	0.33	0 - 5	0 - 5	4.5	FKM EPDM	RD236DVM RD236DEM
¼"	0.60	0.51	0 - 2	0 - 2	6.0	FKM EPDM	RD236DVP RD236DEP

Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM (-10 °C to +130 °C)	Water, oil, air	-10 °C	+50 °C
EPDM (-10 °C to +120 °C)	Water, hot water	-10 °C	+50 °C

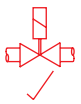
[1] See corrosion reference guide and sealing solutions for material compatability.

RD236 Series, General Purpose – 2/2 Normally Open

Coil Rotation



Preferred Valve Mounting Options



Pipe Size	A	B	C	D	Weight (kg)
¼"	47	91	Hex 22	20.75	0.25

Dimensions (mm)

Solenoid enclosures

7--0 Type Coil - Insulation class F

External material: PBT (reinforced fiberglass 30%)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 VDC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable Entry: PG9 (6 to 8mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Seals		Orifice	
V	FKM	A	1.0
E	EPDM	C	1.5
		E	2.0
		G	2.5
		H	3.0
		M	4.5
		P	6.0

Option	
	w/o option

Coil options

Voltage / Frequency - Class F	
7250	24 VDC
7200	24 V / 50/60 Hz
7400	110 V / 50 Hz - 120 V / 60 Hz
7600	200 V / 50 Hz - 220 V / 60 Hz
7700	230 V / 50 Hz - 240 V / 60 Hz

Plug

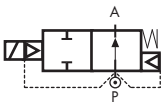
Plug	
0A1	c/w plug
	w/o plug

RD	2	3	6	D	•	•	•	•	•	•	•	•	•	•	•

Product coding example:

RD236DVC 7200 0A1
¼" G, auto operation, brass body, FKM seals, 1.5 mm orifice, 24 V / 50 Hz/60 Hz AC, with plug.

RB203/204/205/206/222 Series, General Purpose – 2/2 Normally Open

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass CW617N (EN 12165)
Flange Tube[1]	Brass CW614N (EN 12164)
Plunger and Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F) or equivalent
Springs	Stainless Steel AISI 302
Seal Material (Std)	NBR
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to industrial form B
Coil Insulation	Class F 155 °C
Power Rating (Standard)	AC 10 VA (holding) AC 16 VA (inrush) DC 7 W

[1] With special brass nut for NO operator (different from Standard).

Features and Benefits

- Pilot operated
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- Manufactured in compliance to RoHS directive and to relevant international standards
- Choice of high quality seal materials
- Response time 50 to 500 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)	Seal Material	Valve Code
			AC Voltages	DC[3] Voltages			
¼"	1.83	1.56	0.3 - 16	0.3 - 16	13	NBR	RB203DBZ
						FKM	RB203DVZ
						EPDM	RB203DEZ
⅜"	3.86	3.30				NBR	RB204DBZ
						FKM	RB204DVZ
						EPDM	RB204DEZ
½"	4.42	3.78				NBR	RB205DBZ
						FKM	RB205DVZ
						EPDM	RB205DEZ
¾" compact	7.02	6.00			21	NBR	RB206DBX
						FKM	RB206DVX
						EPDM	RB206DEX
¾"	9.83	8.40			25	FNBR	RB206DBY[2]
						FKM	RB206DVY[2]
						EPDM	RB206DEY[2]
1"	11.23	9.60				NBR	RB222DBY
						FKM	RB222DVY
						EPDM	RB222DEY

[2] Non standard, MOQ required.
[3] For continuous service in DC we recommend the use of M&M coils 10 Watt, class H (example 24 VDC 10W class H code 22V1, see options on page 163).

Options Available

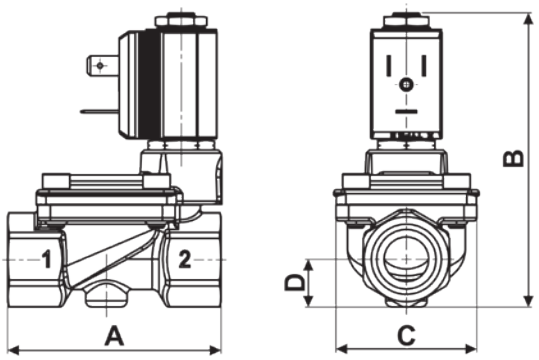
Valve Options (see coding chart)
NPT threads (minimum batch may be required)
Electroless nickel plating treatment
Speed control screw

Seal Material[3] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
NBR (-10 °C to +90 °C)	Water, oil, air	-10 °C	+50 °C
FKM (-10 °C to +130 °C)	Water, oil, air	-10 °C	+50 °C
EPDM (-10 °C to +120 °C)	Water, hot water	-10 °C	+50 °C

[3] See corrosion reference guide and sealing solutions for material compatability.

RB203/204/205/206/222 Series, General Purpose – 2/2 Normally Open

Coil Rotation



Preferred Valve Mounting Options

Pipe Size	A	B	C	D	Weight (kg)
¼" - ⅜" - ½"	67	92.5	45.6	15	0.4
¾" compact	82	107.5	51.6	20.25	0.6
¾" to 1"	96	117.5	72	23	1.2

Dimensions (mm)

Solenoid enclosures

2--0 Type Coil - Insulation class F

External material: PBT (reinforced fiberglass 30%)
Electrical connection: Industrial form B
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 001- Plug

Rated Voltage (max.): 250 VAC / 300 VDC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable Entry: PG9 (6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
03	¼"
04	⅜"
05	½"
06	¾" (compact)
06	¾" [1]
22	1"

Seals	
B	NBR
V	FKM
E	EPDM

Orifice[2]	
Z	13
X	21
Y	25

Option	
N	NPT
K	Electroless nickel plating
V	Speed control screw[3]
	w/o option

Coil options

Voltage / Frequency - Class F	
2250	24 VDC
2200	24 V / 50/60 Hz
2400	110 V / 50 Hz - 120 V / 60 Hz
2600	200 V / 50 Hz - 220 V / 60 Hz
2700	230 V / 50 Hz - 240 V / 60 Hz

Plug

Plug	
	w/o plug
0B1	c/w plug

RB	2	•	•	D	•	•	•	•	•	•	•	•	•	•	•

[1] Non standard, MOQ required.

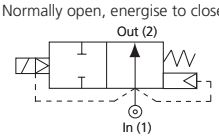
[2] DN13 only for RB203/204/205, DN21 only for RB206 compact, DN25 only for RB206 and RB222.

[3] Speed control screw available on RB206D-Y and RB222D-Y.

Product coding example:

RB203DBZ 2250
¼" G, auto operation, brass body, NBR seals, 13 mm orifice, 24 VDC, without plug.

ACDN Series – 2/2 Normally Open

Specifications	
Function	Normally open, energise to close 
Maximum Viscosity	115 SSU
3/8" - 1" Body Material (Std)	Brass CZ122
1 1/4" - 2" Body Material (Std)	Bronze DIN1705
Flange Tube	Stainless Steel 303
Plunger and Top Stop	Stainless Steel 430FR
Springs	Stainless Steel 302
Seal Material (Std)	NBR
Connection Type (Std)	BS21
Shading Ring	Copper (std), Silver (stainless steel option)
Electrical Characteristics	
Coil Voltage DC (=)	12 V, 24 V, 110 V
Coil Voltage AC 50 Hz (~)	24 V, 110 V, 120 V, 230 V
Coil Voltage AC 60 Hz (~)	24 V, 110 V, 120 V, 220 V
Voltage Tolerance	+10% or -10%
Duty Cycle	100% ED
Protection Class	IP65 (BS EN 60529) (plug supplied as standard)
Electrical Connection	PG9 Din Connector DIN 43650/ISO 4400 (EN 175301-803) Form 'A'
Coil Insulation	Class H (BS EN 60085) 180 °C (E5 Type)
Power Rating	14.5 Watts, 19 VA

Features and Benefits

- Robust Valve Design
- Diaphragm Operation
- Fully Ported Orifices for high Kv
- Choice of valve body material and seals
- Response time 1" 15-60 ms
- Response time 2" 60-120 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (Bar)		P. Max[2] Bar	Orifice (mm)	Weight (kg)
			AC Voltages	DC Voltages			
3/8"	3.5	3.0	0-10	0-10	50	16.00	0.9
1/2"	4.9	4.2	0-10	0-10		16.00	0.9
3/4"	5.4	4.7	0-10	0-10		16.00	0.9
1"	8.2	7.0	0-10	0-10		20.00	1.2
1 1/4"	26.7	23	0.3-10	0.3-10		40.00	3.0
1 1/2"	26.7	23	0.3-10	0.3-10		40.00	3.0
2"	30.2	26	0.3-10	0.3-10		40.00	3.0

[2] P. Max is limited to 46.5 Bar when valve is fitted with an Exd solenoid operator, see separate datasheet.

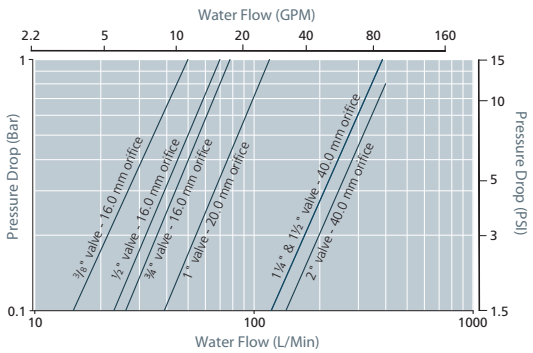
Options Available

Exd & Exm Solenoid Enclosure	
Protection Class	
Exd T6 (IP67)	See separate datasheet
Exd T4 (IP67)	
Exm T5 (IP65)	

Seal Material[1] and Media Temp. Range	Ambient Temperature Range °C	
	Min	Max
NBR (-10 °C to +80 °C)	-10	50
EPDM (-50 °C to +120 °C)	-10	50
FKM (-20 °C to +150 °C)	-10	50

Main Valve Body Options
Stainless Steel 316 (available up to and including 1")
NPT threads
Flanged Option (PN16 Std) for alternative options consult Rotork Midland
Oxygen cleaning (consult Rotork Midland for product code)

[1] See corrosion reference guide and sealing solutions for material compatability.

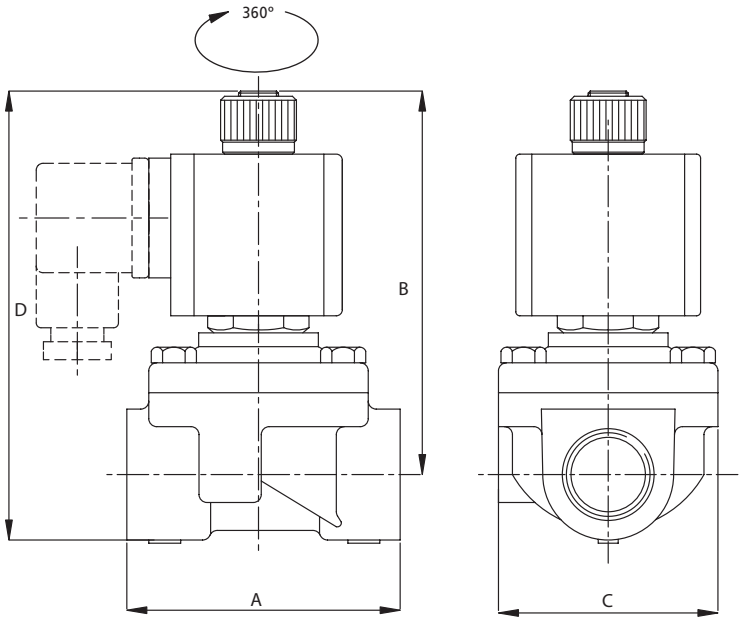


How to use the flow chart

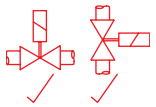
1. Select the required flow.
2. Note the corresponding pressure drop.
3. Based on where the two points intersect select the most appropriate model.

ACDN Series – 2/2 Normally Open

Coil Rotation



Preferred Valve Mounting Options



Dimensions

Pipe Size	A	B	C	D
3/8" - 3/4"	69.5	80	75	97
1"	85	80	75	126
1¼" - 2"	137	103	120	136

Dimensions given in mm

Solenoid enclosures

E5 Type enclosure protection class IP65

External material: Glass reinforced nylon
Electrical connection: DIN Plug to ISO 4400
Winding insulation: Class H
Enclosure: Conforms to IP65 when correct plug gasket is fitted as supplied

Coding chart

Main Valve Assembly

Model	
27	ACDN (1¼ and above)
56	ACDN (3/8"-1")

Valve Body Conn. Size	
C	3/8"
D	½"
E	¾"
F	1"
G	1¼"
H	1½"
J	2"

Connection Type	
1	BS21
2	BSP G (1 1/4" and above)
3	NPT
4	FLANGED (PN16 STD)

Operation	
1	AUTO

Body Material	
1	Brass (standard on valves up to and including 1")
2	Bronze (standard on valves above 1")
5	316 Stainless Steel (option available up to and inc 1")

Seals	
A	NBR
B	EPDM
C	FKM

Style	
1	Standard

Coil options

Enclosure	
1	Weather proof IP65

Voltage / Frequency	
A1	230 V / 50 Hz
A2	110 V / 50 Hz & 120 V / 60 Hz
A3	24 V / 50 Hz
A7	220 V / 50 Hz
B2	24 VDC
B3	12 VDC
B5	110 VDC

Electrical Connection	
1	DIN plug 9 mm

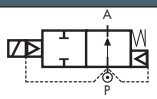
Label	
48	N/O Module

•	•	•	1	Z	•	•	1	-	1	••	1	•

Product coding example:

27G21Z2A1-1A1148 - ACDN Series
N/O 1 ¼" BSPG, auto operation, bronze body, NBR seals, 230 V / 50 Hz DIN Plug 9 mm.

RD223/224/225 Series, General Purpose – 2/2 Normally Open

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass CW617N (EN 12165)
Flange Tube	Stainless Steel 1.4305 EN 10088 (AISI 303)
Plunger	Stainless Steel 1.4106 EN 10088 (AISI 430F)
Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F)
Springs	Stainless Steel AISI 302
Seal Material (Std)	NBR
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation	Class H 180 °C
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W

Features and Benefits

- Pilot operated
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- Manufactured in compliance to RoHS directive and to relevant international standards
- Choice of high quality seal materials
- Troublefree operation with coils class H
- Speed control screw as standard
- Response time 50 to 500 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
1 ¼"	25.97	22.20	0.5 - 16	0.5 - 16	40	NBR FKM EPDM	RD223DBK RD223DVK RD223DEK
1 ½"	28.08	24.00			40	NBR FKM EPDM	RD224DBK RD224DVK RD224DEK
2"	37.91	32.40			50	NBR FKM EPDM	RD225DBJ RD225DVJ RD225DEJ

Options Available

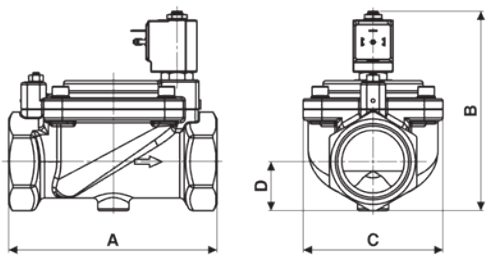
Valve Options (see coding chart)
NPT threads (minimum batch may be required)
Electroless nickel plating

Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
NBR (-10 °C to +90 °C)	Water, oil, air	-10 °C	+50 °C
FKM (-10 °C to +130 °C)	Water, oil, air	-10 °C	+50 °C
EPDM (-10 °C to +120 °C)	Water, hot water	-10 °C	+50 °C

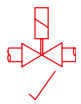
[1] See corrosion reference guide and sealing solutions for material compatability.

RD223/224/225 Series, General Purpose – 2/2 Normally Open

Coil Rotation



Preferred Valve Mounting Options



Pipe Size	A	B	C	D	Weight (kg)
1 ¼" - 1 ½"	140	140	96	31.5	2.8
2"	167	158	112	39	3.9

Dimensions (mm)

Solenoid enclosures

7--1 Type Coil - Insulation class H

External material: PPS (glass fiber & mineral filled)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 VDC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable Entry: PG9 (6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
23	1 ¼"
24	1 ½"
25	2"

Seals	
B	NBR
V	VKM
E	EPDM

Orifice[1]	
K	40
J	50

Option	
N	NPT
K	Electroless nickel plating
	w/o option

Coil options

Voltage / Frequency - Class H	
7251	24 VDC
7201	24 V / 50/60 Hz
7401	110 V / 50 Hz - 120 V / 60 Hz
7601	200 V / 50 Hz - 220 V / 60 Hz
7701	230 V / 50 Hz - 240 V / 60 Hz

Plug

Plug	
	w/o plug
0A1	c/w plug

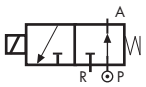
RD	2	•	•	D	•	•	•	•	•	•	•	•	•	•	•

[1] DN40 only for RD223 and RD224 only, DN50 only for RD225.

Product coding example:

RD223DBK 7251
1 ¼" G, auto operation, brass body, NBR seals, 40 mm orifice, 24 VDC, without plug.

RD398/399 Series, General Purpose – 3/2 Normally Open

Specifications	
Function (single acting)	 Flow direction underseat 2 → 1
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Stainless Steel 1.4305 EN 10088 (AISI 303)
Orifice Material	Stainless Steel 1.4305 EN 10088 (AISI 303)
Flange Tube (Seamless)	Stainless Steel 1.4305 EN 10088 (AISI 303)
Plunger	Stainless Steel 1.4106 EN 10088 (AISI 430F)
Top Stop	Stainless Steel 1.4305 EN 10088 (AISI 303)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation	Class H 180 °C
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Zero pressure rated
- Stainless steel AISI 430F operators with low residual magnetism
- Manufactured in compliance to RoHS directive and to relevant international standards
- High quality seal materials
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
¼"	0.09	0.08	0 - 15	0 - 15	1.5	FKM	RD399CVC
¼"	0.15	0.13	0 - 10	0 - 10	2.0	FKM	RD399CVE
¼"	0.32	0.27	0 - 4	0 - 4	3.0	FKM	RD399CVH

Options Available

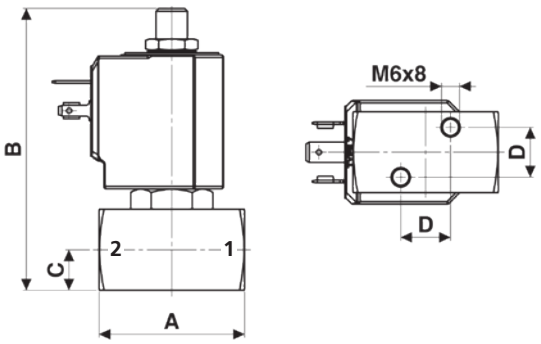
Valve Options (see coding chart)
Body threaded connection G 1/8"
NPT threads (minimum batch may be required)
Anticorrosion treatment recommended with aggressive fluids

Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM (-10 °C to +130 °C)	Water, oil, air, aggressive fluids	-10 °C	+50 °C

[1] See corrosion reference guide and sealing solutions for material compatability.

RD398/399 Series, General Purpose – 3/2 Normally Open

Coil Rotation



Preferred Valve Mounting Options

Pipe Size	A	B	C	D	Weight (kg)
1/8" - 1/4"	45	87	12.5	15.4	0.35

Dimensions (mm)

Solenoid enclosures

7--1 Type Coil - Insulation class H

External material: PPS (glass fiber & mineral filled)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 VDC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable Entry: PG9 (6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
8	1/8"
9	1/4"

Orifice	
C	1.5
E	2.0
H	3.0

Option	
N	NPT
F	Anticorrosion treatment[1]
	w/o option

Coil options

Voltage / Frequency - Class H	
7251	24 VDC
7201	24 V / 50/60 Hz
7401	110 V / 50 Hz - 120 V / 60 Hz
7601	200 V / 50 Hz - 220 V / 60 Hz
7701	230 V / 50 Hz - 240 V / 60 Hz

Plug

Plug	
0A1	c/w plug
	w/o plug

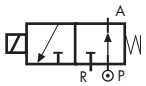
RD	3	9	•	C	V	•	•	•	•	•	•	•	•	•	•

[1] Recommended with aggressive fluids.

Product coding example:

RD399CVE 7251
1/4" G, auto operation, stainless steel body, FKM seals, 2.0 mm orifice, 24 VDC, without plug.

RD362/363 Series, General Purpose – 3/2 Normally Open

Specifications	
Function (single acting)	 Flow direction underseat 2 → 1
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass CW617N (EN 12165)
Orifice Material	Stainless Steel 1.4305 EN 10088 (AISI 303)
Flange Tube (Seamless)	Stainless Steel 1.4305 EN 10088 (AISI 303)
Plunger	Stainless Steel 1.4106 EN 10088 (AISI 430F)
Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics	
Standard Coil Voltage DC (⎓)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation	Class H 180 °C
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Zero pressure rated
- Stainless steel AISI 430F operators with low residual magnetism
- Manufactured in compliance to RoHS directive and to relevant international standards
- High quality seal materials
- Response time 5 to 25 ms

Valve manufactured in conformity of all regulation and law CE:

- EC 1935/2004
- EC 2023/2006
- EC 10/2011 and all subsequent amended and integration
- For metal alloy different from stainless steel included superficial treatment in absence of specific national or international rule the conformity is evaluated following clause 3 of regulation EC 1935/2004 using resolution of European council as guide: Metal and Alloys used in food contact 1st edition 2013.
- Italian law: D.M. 174 06/04/2004 drinkable water
- Italian law: D.M. 21/03/1973 and all subsequent amended and integration.

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
¼"	0.09	0.08	0 - 16	0 - 13	1.5	FKM	RD363CVC
¼"	0.15	0.13	0 - 10	0 - 10	2.0	FKM	RD363CVE
¼"	0.24	0.20	0 - 7	0 - 7	2.5	FKM	RD363CVG
¼"	0.32	0.27	0 - 4	0 - 4	3.0	FKM	RD363CVH

Options Available

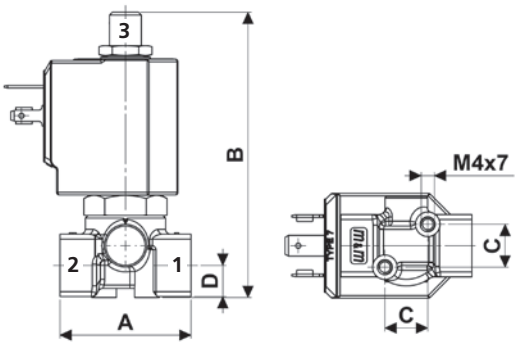
Valve Options (see coding chart)
Body threaded connection G ⅛"
NPT threads (minimum batch may be required)

Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM (-10 °C to +130 °C)	Water, oil, air	-10 °C	+50 °C

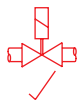
[1] See corrosion reference guide and sealing solutions for material compatability.

RD362/363 Series, General Purpose – 3/2 Normally Open

Coil Rotation



Preferred Valve Mounting Options



Pipe Size	A	B	C	D	Weight (kg)
1/8" - 1/4"	40	86.4	13	9.5	0.26

Dimensions (mm)

Solenoid enclosures

7--1 Type Coil - Insulation class H

External material: PPS (glass fiber & mineral filled)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 VDC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable Entry: PG9 (6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
2	1/8"
3	1/4"

Orifice	
C	1.5
E	2.0
G	2.5

Option	
N	NPT
	w/o option

Coil options

Voltage / Frequency - Class H	
7251	24 VDC
7201	24 V / 50/60 Hz
7401	110 V / 50 Hz - 120 V / 60 Hz
7601	200 V / 50 Hz - 220 V / 60 Hz
7701	230 V / 50 Hz - 240 V / 60 Hz

Plug

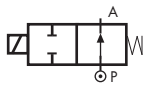
Plug	
0A1	c/w plug
	w/o plug

RD	3	6	•	C	V	•	•	•	•	•	•	•	•	•	•

Product coding example:

RD362CVC 7251
1/8" G, auto operation, brass body, FKM seals, 1.5 mm orifice, 24 VDC, without plug.

B297 Series, Automation – 2/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Low lead content Brass CW719R (EN 12165)
Orifice Material	Stainless Steel 1.4305 EN 10088 (AISI 303)
Tube	Stainless Steel AISI 304
Flange	Stainless Steel 1.4305 EN 10088 (AISI 303)
Plunger and Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F) or equivalent
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to industrial form B
Coil Insulation	Class F 155 °C
Power Rating (Standard)	AC 10 VA (holding) AC 16 VA (inrush) DC 7W

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- Manufactured in compliance to RoHS directive and to relevant international standards
- High quality seal materials
- Valve suitable for contact with food media as per the EEC Directives and Regulations. Please consult supplier for more details
- Response time 5 to 25 ms

Valve manufactured in conformity of all regulation and law CE:

- EC 1935/2004
- EC 2023/2006
- EC 10/2011 and all subsequent amended and integration
- For metal alloy different from stainless steel included superficial treatment in absence of specific national or international rule the conformity is evaluated following clause 3 of regulation EC 1935/2004 using resolution of European council as guide: Metal and Alloys used in food contact 1st edition 2013.
- Italian law: D.M. 174 06/04/2004 drinkable water
- Italian law: D.M. 21/03/1973 and all subsequent amended and integration.

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
1/8"	0.04	0.03	0 - 30	0 - 28	1.0	FKM EPDM	B297DVA B297DEA
1/8"	0.05	0.04	0 - 25	0 - 22	1.2	FKM EPDM	B297DVB B297DEB
1/8"	0.07	0.06	0 -22	0 - 18	1.5	FKM EPDM	B297DVC B297DEC
1/8"	0.12	0.10	0 - 18	0 - 9	2.0	FKM EPDM	B297DVE B297DEE
1/8"	0.16	0.14	0 - 13	0 - 3	2.5	FKM EPDM	B297DVG B297DEG
1/8"	0.21	0.18	0 - 8	0 - 1	3.0	FKM EPDM	B297DVH B297DEH

Options Available

Valve Options (see coding chart)
NPT threads (minimum batch may be required)
Manual Override
Electroless nickel plating treatment

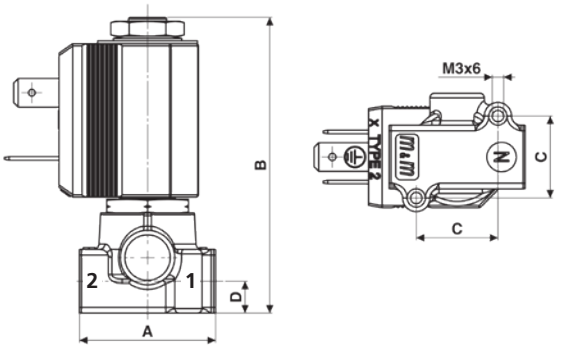
Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM (-10 °C to +130 °C)	Water, oil, air	-10 °C	+50 °C
EPDM (-10 °C to +120 °C)	Water, hot water	-10 °C	+50 °C

[1] See corrosion reference guide and sealing solutions for material compatability.

B297 Series, Automation – 2/2 Normally Closed

Coil Rotation

Preferred Valve Mounting Options



Pipe Size	A	B	C	D	Weight (kg)
1/8"	30	65	18	7	0.15

Dimensions (mm)

Solenoid enclosures

2--0 Type Coil - Insulation class F

External material: PBT (reinforced fiberglass 30%)
Electrical connection: Industrial form B
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 001- Plug

Rated Voltage (max.): 250 VAC / 300 VDC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable Entry: PG9 (6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Seals	
V	FKM
E	EPDM

Orifice	
A	1.0
B	1.2
C	1.5
E	2.0
G	2.5
H	3.0

Option	
N	NPT
M	Manual Override
K	Electroless nickel plating
	w/o option

Coil options

Voltage / Frequency - Class F	
2250	24 VDC
2200	24 V / 50/60 Hz
2400	110 V / 50 Hz - 120 V / 60 Hz
2600	200 V / 50 Hz - 220 V / 60 Hz
2700	230 V / 50 Hz - 240 V / 60 Hz

Plug

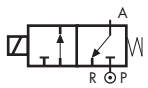
Plug	
	w/o plug
0B1	c/w plug

B	2	9	7	D	•	•	•	•	•	•	•	•	•	•	•

Product coding example:

B297DVAN 2250
1/8" NPT, auto operation, brass body, FKM seals, 1.0 mm orifice, 24 VDC, without plug.

D301 Series, Automation – 2/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction underseat 2→ 1
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass CW617N (EN 12165)
Orifice Material	Stainless Steel 1.4305 EN 10088 (AISI 303)
Flange	Stainless Steel 1.4305 EN 10088 (AISI 303)
Tube	Stainless Steel AISI 304
Plunger	Stainless Steel 1.4106 EN 10088 (AISI 430F)
Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type (Std)	Flanged 26x26 mm
Shading Ring	Copper
Electrical Characteristics	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation	Class F 155 °C
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W

Features and Benefits

- Direct Acting
- Zero pressure rated
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- Manufactured in compliance to RoHS directive and to relevant international standards
- High quality seal materials
- Response time 5 to 25 ms

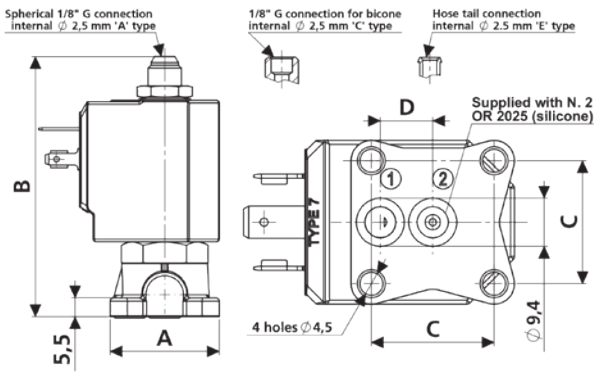
Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
Flanged	0.09	0.08	0 - 18	0 - 18	1.5	FKM	D301CVC
Flanged	0.15	0.13	0 - 10	0 - 10	2.0	FKM	D301CVE
Flanged	0.24	0.20	0 - 7	0 - 7	2.5	FKM	D301CVG
Flanged	0.32	0.27	0 - 5	0 - 5	3.0	FKM	D301CVH

Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM (-10 °C to +130 °C)	Water, oil, air	-10 °C	+50 °C

[1] See corrosion reference guide and sealing solutions for material compatability.

D301 Series, Automation – 2/2 Normally Closed

Coil Rotation



Preferred Valve Mounting Options

Pipe Size	A	B	C	D	Weight (kg)
Flanged	32	77	24	10.25	0.25

Dimensions (mm)

Solenoid enclosures

7--0 Type Coil - Insulation class F

External material: PBT (reinforced fiberglass 30%)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 VDC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable Entry: PG9 (6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Top Port	
C	G 1/8" conn
A	spherical G 1/8"
E	with hose tail

Orifice	
C	1.5
E	2.0
G	2.5
H	3.0

Option	
	w/o option

Coil options

Voltage / Frequency - Class F	
7250	24 VDC
7200	24 V / 50/60 Hz
7400	110 V / 50 Hz - 120 V / 60 Hz
7600	200 V / 50 Hz - 220 V / 60 Hz
7700	230 V / 50 Hz - 240 V / 60 Hz

Plug

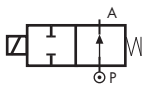
Plug	
	w/o plug
0A1	c/w plug

D	3	0	1	•	v	•	•	•	•	•	•	•	•	•	•

Product coding example:

D301CVC 7250
Flanged, auto operation, brass body, FKM seals, 1.5 mm orifice, 24 VDC, without plug.

RB297 Series, Automation – 2/2 Normally Open

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Low lead content Brass CW719R (EN 12165)
Orifice Material	Stainless Steel 1.4305 EN 10088 (AISI 303)
Flange Tube[1]	Brass CW614N (EN 12164)
Plinger and Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F) or equivalent
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to industrial form B
Coil Insulation	Class F 155 °C
Power Rating (Standard)	AC 10 VA (holding) AC 16 VA (inrush) DC 7W

[1] With special nut for NO operator (different from Standard).

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- Manufactured in compliance to RoHS directive and to relevant international standards
- High quality seal materials
- Response time 5 to 25 ms
- Valve suitable for contact with food media as per EEC Directives and Regulations. Please consult supplier for more details.

Valve manufactured in conformity of all regulation and law CE:

- EC 1935/2004
- EC 2023/2006
- EC 10/2011 and all subsequent amended and integration
- For metal alloy different from stainless steel included superficial treatment in absence of specific national or international rule the conformity is evaluated following clause 3 of regulation EC 1935/2004 using resolution of European council as guide: Metal and Alloys used in food contact 1st edition 2013.
- Italian law: D.M. 174 06/04/2004 drinkable water
- Italian law: D.M. 21/03/1973 and all subsequent amended and integration.

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)	Seal Material	Valve Code
			AC Voltages	DC[2] Voltages			
1/8"	0.04	0.03	0 - 25	0 - 25	1.0	FKM EPDM	RB297DVA RB297DEA
1/8"	0.05	0.04	0 - 20	0 - 20	1.2	FKM EPDM	RB297DVB RB297DEB
1/8"	0.07	0.06	0 - 15	0 - 15	1.5	FKM EPDM	RB297DVC RB297DEC
1/8"	0.12	0.10	0 - 10	0 - 10	2.0	FKM EPDM	RB297DVE RB297DEE
1/8"	0.16	0.14	0 - 5	0 - 5	2.5	FKM EPDM	RB297DVG RB297DEG
1/8"	0.21	0.18	0 - 4.5	0 - 4.5	3.0	FKM EPDM	RB297DVH RB297DEH

[2] For continuous service in DC we recommend the use of M&M coils 10 Watt, class H (example 24 VDC 10W class H code 22V1, see options on page 163).

Options Available

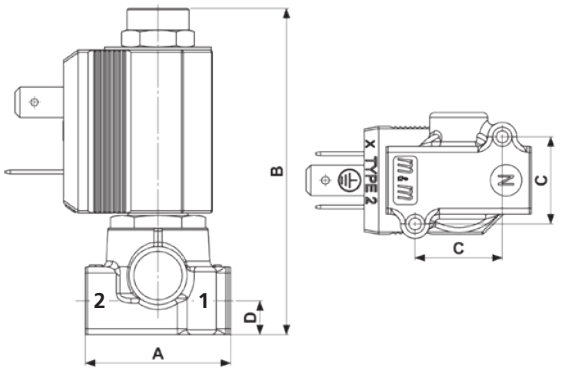
Valve Options
NPT threads (minimum batch may be required)
Electroless nickel plating treatment

Seal Material[3] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM (-10 °C to +130 °C)	Water, oil, air	-10 °C	+50 °C
EPDM (-10 °C to +120 °C)	Water, hot water	-10 °C	+50 °C

[3] See corrosion reference guide and sealing solutions for material compatability.

RB297 Series, Automation – 2/2 Normally Open

Coil Rotation



Preferred Valve Mounting Options

Pipe Size	A	B	C	D	Weight (kg)
1/8"	30	67.5	18	7	0.15

Dimensions (mm)

Solenoid enclosures

2--0 Type Coil - Insulation class F

External material: PBT (reinforced fiberglass 30%)
Electrical connection: Industrial form B
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 001- Plug

Rated Voltage (max.): 250 VAC / 300 VDC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable Entry: PG9 (6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Seals	
V	FKM
E	EPDM

Orifice	
A	1.0
B	1.2
C	1.5
E	2.0
G	2.5
H	3.0

Option	
N	NPT
K	Electroless nickel plating
	w/o option

Coil options

Voltage / Frequency - Class F	
2250	24 VDC
2200	24 V / 50/60 Hz
2400	110 V / 50 Hz - 120 V / 60 Hz
2600	200 V / 50 Hz - 220 V / 60 Hz
2700	230 V / 50 Hz - 240 V / 60 Hz

Plug

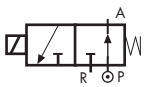
Plug	
	w/o plug
0B1	c/w plug

RB	2	9	7	D	•	•	•	•	•	•	•	•	•	•	•

Product coding example:

RB297DEE 2250
1/8" G, auto operation, brass body, EPDM seals, 2.0 mm orifice, 24 VDC, without plug.

RD301 Series, Automation – 2/2 Normally Open

Specifications	
Function (single acting)	 Flow direction underseat 2→ 1
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass CW617N (EN 12165)
Orifice Material	Stainless Steel 1.4305 EN 10088 (AISI 303)
Flange Tube	Stainless Steel 1.4305 EN 10088 (AISI 303)
Plunger	Stainless Steel 1.4106 EN 10088 (AISI 430F)
Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F)
Springs	Stainless Steel AISI 302
Seal Material	Foodgrade FKM
Connection Type (Std)	Flanged 26x26 mm
Shading Ring	Copper
Electrical Characteristics	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation	Class H 180 °C
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W

Features and Benefits

- Direct Acting
- Zero pressure rated
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- Manufactured in compliance to RoHS directive and to relevant international standards
- High quality seal materials
- Response time 5 to 25 ms

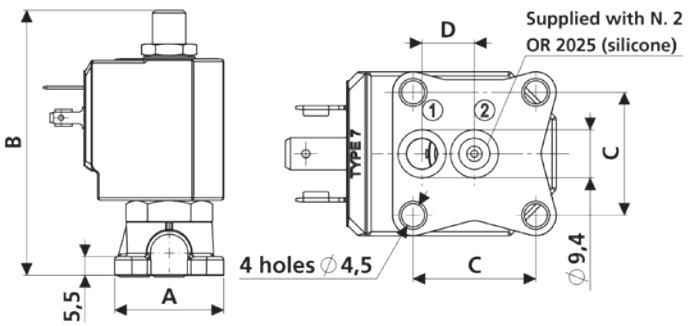
Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
Flanged	0.09	0.08	0 - 15	0 - 15	1.5	FKM	RD301CVC
Flanged	0.15	0.13	0 - 10	0 - 10	2.0	FKM	RD301CVE
Flanged	0.32	0.27	0 - 4	0 - 4	3.0	FKM	RD301CVH

Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM (-10 °C to +130 °C)	Water, oil, air	-10 °C	+50 °C

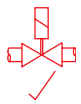
[1] See corrosion reference guide and sealing solutions for material compatability.

RD301 Series, Automation – 2/2 Normally Open

Coil Rotation



Preferred Valve Mounting Options



Pipe Size	A	B	C	D	Weight (kg)
Flanged	32	77.7	24	10.25	0.26

Dimensions (mm)

Solenoid enclosures

7--1 Type Coil - Insulation class H

External material: PPS (glass fiber & mineral filled)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 VDC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable Entry: PG9 (6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Coil options

Plug

Orifice	
C	1.5
E	2.0
H	3.0

Option	
	w/o option

Voltage / Frequency - Class H	
7251	24 VDC
7201	24 V / 50/60 Hz
7401	110 V / 50 Hz - 120 V / 60 Hz
7601	200 V / 50 Hz - 220 V / 60 Hz
7701	230 V / 50 Hz - 240 V / 60 Hz

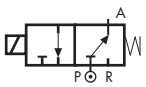
Plug	
	w/o plug
0A1	c/w plug

RD	3	0	1	C	V	•	•	•	•	•	•	•	•	•	•

Product coding example:

RD301CVC 7251
Flanged, auto operation, brass body, FKM seals, 1.5 mm orifice, 24 VDC, without plug.

SB397 Series, Automation – 2nd Service 3/2 Normally Open

Specifications	
Function (single acting)	 Flow direction OFF 3 → 1 - ON 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Low lead content Brass CW719R (EN 12165)
Orifice Material	Stainless Steel 1.4305 EN 10088 (AISI 303)
Tube	Stainless Steel AISI 304
Flange	Stainless Steel 1.4305 EN 10088 (AISI 303)
Plunger	Stainless Steel 1.4105 EN 10088 (AISI 430F) or equivalent
Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to industrial form B
Coil Insulation	Class F 155 °C
Power Rating (Standard)	AC 10 VA (holding) AC 16 VA (inrush) DC 7 W

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Zero pressure rated
- Stainless steel AISI 430F operators with low residual magnetism
- Manufactured in compliance to RoHS directive and to relevant international standards
- High quality seal materials
- Valve suitable for contact with food media as per the EEC Directives and Regulations. Please consult supplier for more details
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)		Seal Material	Valve Code
			AC Voltages	DC Voltages	1→2	1→3		
1/8"	0.05	0.04	0 - 6	0 - 3	1.2	1.7	FKM	SB397CVB
1/8"	0.07	0.06	0 - 4.5	0 - 2	1.5	1.7	FKM	SB397CVC

Options Available

Valve Options (see coding chart)
NPT threads (minimum batch may be required)
Manual Override
Electroless nickel plating treatment

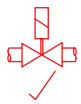
Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM (-10 °C to +130 °C)	Water, oil, air	-10 °C	+50 °C

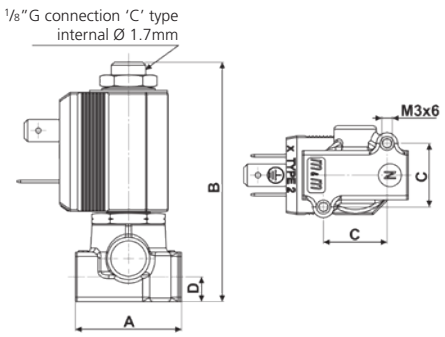
[1] See corrosion reference guide and sealing solutions for material compatability.

SB397 Series, Automation – 2nd Service 3/2 Normally Open

Coil Rotation

Preferred Valve Mounting Options





Pipe Size	A	B	C	D	Weight (kg)
1/8"	30	67.8	18	7	0.15

Dimensions (mm)

Solenoid enclosures

2--0 Type Coil - Insulation class F

External material: PBT (reinforced fiberglass 30%)
Electrical connection: Industrial form B
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 001- Plug

Rated Voltage (max.): 250 vAC / 300 vDC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable Entry: PG9 (6 to 8mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Coil options

Plug

Orifice	
B	1.2
C	1.5

Option	
N	NPT
M	Manual Override
K	Electroless nickel plating
	w/o option

Voltage / Frequency - Class F	
2250	24 VDC
2200	24 V / 50/60 Hz
2400	110 V / 50 Hz - 120 V / 60 Hz
2600	200 V / 50 Hz - 220 V / 60 Hz
2700	230 V / 50 Hz - 240 V / 60 Hz

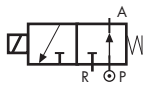
Plug	
0B1	c/w plug
	w/o plug

SB	3	9	7	C	V	•	•	•	•	•	•	•	•	•	•

Product coding example:

SB397CVB 2250
1/8" G, auto operation, brass body, FKM seals, 1.2 mm orifice, with manual override, 24 VDC, without plug.

RB397 Series, Automation – 3/2 Normally Open

Specifications	
Function (single acting)	 Flow direction underseat 2 → 1
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Low lead content Brass CW719R (EN 12165)
Orifice Material	Stainless Steel 1.4305 EN 10088 (AISI 303)
Tube	Stainless Steel AISI 304
Flange	Stainless Steel 1.4305 EN 10088 (AISI 303)
Plunger	Stainless Steel 1.4105 EN 10088 (AISI 430F) or equivalent
Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to industrial form B
Coil Insulation	Class F 155 °C
Power Rating (Standard)	AC 10 VA (holding) AC 16 VA (inrush) DC 7 W

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Zero pressure rated
- Stainless steel AISI 430F operators with low residual magnetism
- Manufactured in compliance to RoHS directive and to relevant international standards
- Choice of high quality seal materials
- Valve suitable for contact with food media as per the EEC Directives and Regulations. Please consult supplier for more details
- Response time 5 to 25 ms

Valve manufactured in conformity of all regulation and law CE:

- EC 1935/2004
- EC 2023/2006
- EC 10/2011 and all subsequent amended and integration
- For metal alloy different from stainless steel included superficial treatment in absence of specific national or international rule the conformity is evaluated following clause 3 of regulation EC 1935/2004 using resolution of European council as guide: Metal and Alloys used in food contact 1st edition 2013.
- Italian law: D.M. 174 06/04/2004 drinkable water
- Italian law: D.M. 21/03/1973 and all subsequent amended and integration.

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
1/8"	0.04	0.03	0 - 15	0 - 12	1.0	FKM EPDM	RB397CVA RB397CEA
1/8"	0.05	0.04	0 - 15	0 - 12	1.2	FKM EPDM	RB397CVB RB397CEB
1/8"	0.07	0.06	0 - 10	0 - 8	1.5	FKM EPDM	RB397CVC RB397CEC
1/8"	0.13	0.11	0 - 8	0 - 6	2.0	FKM EPDM	RB397CVE RB397CEE
1/8"	0.18	0.15	0 - 4	0 - 4	2.5	FKM EPDM	RB397CVG RB397CEG
1/8"	0.25	0.21	0 - 3.5	0 - 3.5	3.0	FKM EPDM	RB397CVH RB397CEH

Options Available

Valve Options (see coding chart)
Electroless nickel plating treatment

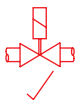
Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM (-10 °C to +130 °C)	Water, oil, air	-10 °C	+50 °C
EPDM (-10 °C to +120 °C)	Water, hot water	-10 °C	+50 °C

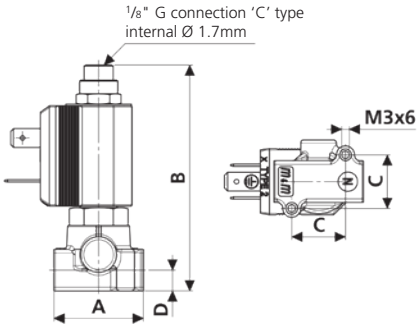
[1] See corrosion reference guide and sealing solutions for material compatability.

RB397 Series, Automation – 3/2 Normally Open

Coil Rotation

Preferred Valve Mounting Options





Pipe Size	A	B	C	D	Weight (kg)
1/8"	30	75.9	18	7	0.15

Dimensions (mm)

Solenoid enclosures

2--0 Type Coil - Insulation class F

External material: PBT (reinforced fiberglass 30%)
Electrical connection: Industrial form B
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 001- Plug

Rated Voltage (max.): 250 VAC / 300 VDC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable Entry: PG9 (6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Seals	
V	FKM
E	EPDM

Orifice	
A	1.0
B	1.2
C	1.5
E	2.0
G	2.5
H	3.0

Option	
K	Electroless nickel plating
	w/o option

Coil options

Voltage / Frequency - Class F	
2250	24 VDC
2200	24 V / 50/60 Hz
2400	110 V / 50 Hz - 120 V / 60 Hz
2600	200 V / 50 Hz - 220 V / 60 Hz
2700	230 V / 50 Hz - 240 V / 60 Hz

Plug

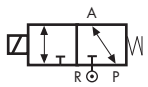
Plug	
0B1	c/w plug
	w/o plug

RB	3	9	7	C	•	•	•	•	•	•	•	•	•	•	•

Product coding example:

RB397CVB 2400
1/8" G, auto operation, brass body, FKM seals, 1.2 mm orifice, 110 V / 50 Hz - 120 V / 60 Hz, without plug.

GD362/363 Series, Automation – Universal Service 3/2 (Normally Open)

Specifications	
Function (single acting)	 Pressure can be connected to any port
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass CW617N (EN 12165)
Orifice Material	Stainless Steel 1.4305 EN 10088 (AISI 303)
Flange	Stainless Steel 1.4305 EN 10088 (AISI 303)
Tube	Stainless Steel AISI 304
Plunger	Stainless Steel 1.4106 EN 10088 (AISI 430F)
Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation	Class F 155 °C
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Zero pressure rated
- Stainless steel AISI 430F operators with low residual magnetism
- Manufactured in compliance to RoHS directive and to relevant international standards
- High quality seal materials
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)		Seal Material	Valve Code
			AC Voltages	DC Voltages	1→2	1→3		
¼"	0.15	0.13	0 - 8	0 - 7	2.0	2.0	FKM	GD363CVE

Options Available

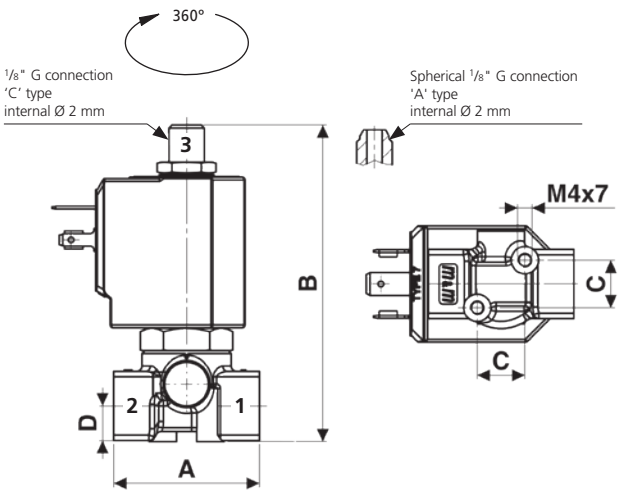
Valve Options (see coding chart)
Body threaded connection G ⅛"
NPT threads (minimum batch may be required)

Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM (-10 °C to +130 °C)	Water, oil, air	-10 °C	+50 °C

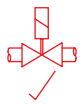
[1] See corrosion reference guide and sealing solutions for material compatability.

GD362/363 Series, Automation – Universal Service 3/2 (Normally Open)

Coil Rotation



Preferred Valve Mounting Options



Pipe Size	A	B	C	D	Weight (kg)
1/8" - 1/4"	40	87	13	9.5	0.26

Dimensions (mm)

Solenoid enclosures

7--0 Type Coil - Insulation class F

External material: PBT (reinforced fiberglass 30%)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 VDC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable Entry: PG9 (6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
2	1/8"
3	1/4"

Top Port Connection	
C	1/8" G
A	spherical 1/8" G

Option	
N	NPT
	w/o option

Coil options

Voltage / Frequency - Class F	
7250	24 VDC
7200	24 V / 50/60 Hz
7400	110 V / 50 Hz - 120 V / 60 Hz
7600	200 V / 50 Hz - 220 V / 60 Hz
7700	230 V / 50 Hz - 240 V / 60 Hz

Plug

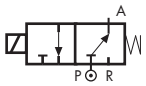
Plug	
0A1	c/w plug
	w/o plug

GD	3	6	•	•	V	E	•	•	•	•	•	•	•	•	•

Product coding example:

SD363CVE 7250
1/4" G, auto operation, universal, brass body, FKM seals, 2.0 mm orifice, with top port connection 1/8"G, 24 VDC, without plug.

SD362/363 Series, Automation – 2nd Service 3/2 (Normally Open)

Specifications	
Function (single acting)	 Flow direction OFF 3 → 1 - ON 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass CW617N (EN 12165)
Orifice Material	Stainless Steel 1.4305 EN 10088 (AISI 303)
Flange	Stainless Steel 1.4305 EN 10088 (AISI 303)
Tube	Stainless Steel AISI 304
Plunger	Stainless Steel 1.4106 EN 10088 (AISI 430F)
Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation	Class F 155 °C
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Zero pressure rated
- Stainless steel AISI 430F operators with low residual magnetism
- Manufactured in compliance to RoHS directive and to relevant international standards
- High quality seal materials
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)		Seal Material	Valve Code
			AC Voltages	DC Voltages	1→2	1→3		
¼"	0.09	0.08	0 - 15	0 - 15	1.5	1.5	FKM	SD363C<u>V</u>C
¼"	0.15	0.13	0 - 15	0 - 15	2.0	2.0	FKM	SD363C<u>V</u>E
¼"	0.24	0.20	0 - 13	0 - 13	2.5	2.5	FKM	SD363C<u>V</u>G

Options Available

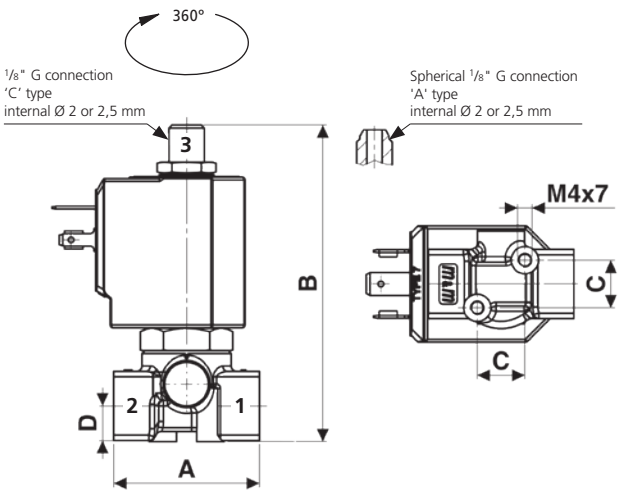
Valve Options (see coding chart)
Body threaded connection G 1/8"
NPT threads (minimum batch may be required)
Manual Override

Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM (-10 °C to +130 °C)	Water, oil, air	-10 °C	+50 °C

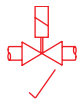
[1] See corrosion reference guide and sealing solutions for material compatability.

SD362/363 Series, Automation – 2nd Service 3/2 (Normally Open)

Coil Rotation



Preferred Valve Mounting Options



Pipe Size	A	B	C	D	Weight (kg)
1/8" - 1/4"	40	87	13	9.5	0.26

Dimensions (mm)

Solenoid enclosures

7--0 Type Coil - Insulation class F

External material: PBT (reinforced fiberglass 30%)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 VDC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable Entry: PG9 (6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
2	1/8"
3	1/4"

Top port connection	
C	1/8" G
A	spherical 1/8" G

Orifice	
C	1.5
E	2.0
G	2.5

Option	
N	NPT
M	Manual Override
	w/o option

Coil options

Voltage / Frequency - Class F	
7250	24 VDC
7200	24 V / 50/60 Hz
7400	110 V / 50 Hz - 120 V / 60 Hz
7600	200 V / 50 Hz - 220 V / 60 Hz
7700	230 V / 50 Hz - 240 V / 60 Hz

Plug

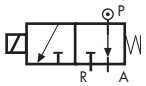
Plug	
0A1	c/w plug
	w/o plug

SD	3	6	•	•	V	•	•	•	•	•	•	•	•	•	•

Product coding example:

SD362AVG 7400
1/8" G, auto operation, 2nd service, brass body, FKM seals, 2.5 mm orifice, with top port connection spherical 1/8"G, 110 V / 50 Hz - 120 V / 60 Hz, without plug.

DD362/363 Series, Automation – Diverting 3/2 (Normally Open)

Specifications	
Function (single acting)	 Flow direction OFF 1 → 3 - ON 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass CW617N (EN 12165)
Orifice Material	Stainless Steel 1.4305 EN 10088 (AISI 303)
Flange	Stainless Steel 1.4305 EN 10088 (AISI 303)
Tube	Stainless Steel AISI 304
Plunger	Stainless Steel 1.4106 EN 10088 (AISI 430F)
Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation	Class F 155 °C
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Zero pressure rated
- Stainless steel AISI 430F operators with low residual magnetism
- Manufactured in compliance to RoHS directive and to relevant international standards
- High quality seal materials
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)		Seal Material	Valve Code
			AC Voltages	DC Voltages	1→2	1→3		
¼"	0.09	0.08	0 - 20	0 - 20	1.5	2.5	FKM	DD363CVC
¼"	0.15	0.13	0 - 20	0 - 20	2.0	2.5	FKM	DD363CVE

Options Available

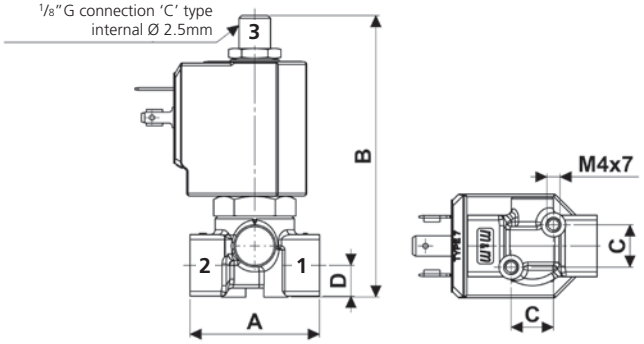
Valve Options (see coding chart)
Body threaded connection G 1/8"
NPT threads (minimum batch may be required)
Manual Override

Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM (-10 °C to +130 °C)	Water, oil, air	-10 °C	+50 °C

[1] See corrosion reference guide and sealing solutions for material compatability.

DD362/363 Series, Automation – Diverting 3/2 (Normally Open)

Coil Rotation



Preferred Valve Mounting Options

Pipe Size	A	B	C	D	Weight (kg)
1/8" - 1/4"	40	87	13	9.5	0.26

Dimensions (mm)

Solenoid enclosures

7--0 Type Coil - Insulation class F

External material: PBT (reinforced fiberglass 30%)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 VDC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable Entry: PG9 (6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
2	1/8"
3	1/4"

Orifice	
C	1.5
E	2.0

Option	
N	NPT
M	Manual Override
	w/o option

Coil options

Voltage / Frequency - Class F	
7250	24 VDC
7200	24 V / 50/60 Hz
7400	110 V / 50 Hz - 120 V / 60 Hz
7600	200 V / 50 Hz - 220 V / 60 Hz
7700	230 V / 50 Hz - 240 V / 60 Hz

Plug

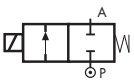
Plug	
0A1	c/w plug
	w/o plug

DD	3	6	•	C	V	•	•	•	•	•	•	•	•	•	•

Product coding example:

DD362CVE 7250
1/8" G, auto operation, diverting, brass body, FKM seals, 2.0 mm orifice, 24 VDC, without plug.

D298/299 Series, High Pressure – 2/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Stainless Steel 1.4305 EN 10088 (AISI 303)
Orifice Material	Stainless Steel 1.4305 EN 10088 (AISI 303)
Flange Tube (Seamless)	Stainless Steel 1.4305 EN 10088 (AISI 303)
Plunger	Stainless Steel 1.4106 EN 10088 (AISI 430F)
Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Ruby
Standard Connection Type	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics	
High Power Coil Voltage DC (=)	24 V
High Power Coil Voltage AC 50 Hz (~)	24 V, 110 V, 230 V
High Power Coil Voltage AC 60 Hz (~)	24 V, 120 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation	Class H 180 °C
Power Rating (High Power)	AC 25 VA (holding) AC 50 VA (inrush) DC 22 Watts

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- Manufactured in compliance to RoHS directive and to relevant international standards
- High quality seal materials
- Wide range of available orifices
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)	Seal Material	Valve Code[1]
			AC Voltages	DC Voltages			
¼"	0.05	0.04	0 - 200	0 - 110	1.2	RUBY	D299DRB1
¼"	0.08	0.07	0 - 200	0 - 80	1.5	RUBY	D299DRC1
¼"	0.16	0.14	0 - 140	0 - 30	2.0	RUBY	D299DRE1
¼"	0.23	0.20	0 - 90	0 - 23	2.5	RUBY	D299DRG1
¼"	0.32	0.27	0 - 50	0 - 14	3.0	RUBY	D299DRH1

NOTE: Not 100% leak-proof when used with air/gases. Approx leak rate is 1.5ml/min at max OPD.

[1] **ATTENTION:** when high pressure valves are supplied without a coil, their nameplates display the max OPD of the valve when equipped with an AC (25VA) and DC(22W) coil. If fitting coils with a different power rating OPD will vary, please consult supplier for more details.

Options Available

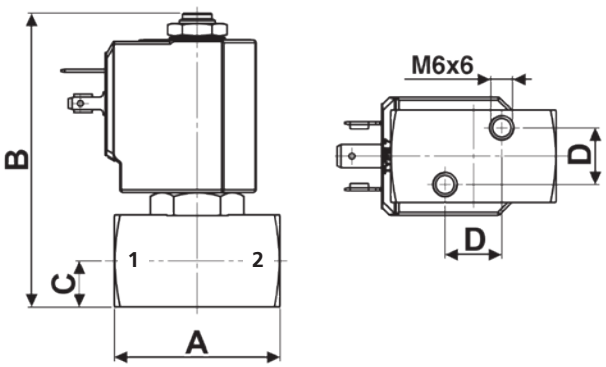
Valve Options (see coding chart)
Body threaded connection G 1/8"
NPT Threads (minimum batch may be required)
Anticorrosion treatment recommended with aggressive fluids
Silver shading ring

Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
RUBY (-10 °C to +130 °C)	Water, oil, air, aggressive fluids	-10 °C	+50 °C

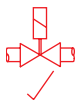
[1] See corrosion reference guide and sealing solutions for material compatability.

D298/299 Series, High Pressure – 2/2 Normally Closed

Coil Rotation



Preferred Valve Mounting Options



Pipe Size	A	B	C	D	Weight (kg)
1/8" - 1/4"	45	80	12.5	15.4	0.36

Dimensions (mm)

Solenoid enclosures

7-K1 & 7-Z1 Type Coil - Insulation class H

External material: PPS (glass fiber & mineral filled)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 VDC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable Entry: PG9 (6 to 8mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
8	1/8"
9	1/4"

Orifice	
B	1.2
C	1.5
E	2.0
G	2.5
H	3.0

Option	
A	Silver shading ring
F	Anticorrosion treatment[1]
N	NPT
	w/o option

Coil options

Voltage / Frequency - Class H, High Power	
72Z1	24 VDC
72K1	24 V / 50/60 Hz
74K1	110 V / 50 Hz - 120 V / 60 Hz
77K1	230 V / 50 Hz - 240 V / 60 Hz

Plug

Plug	
	w/o plug
0A1	c/w plug

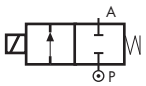
D	2	9	•	D	R	•	•	1	•	•	•	•	•	•	•

[1] Recommended with aggressive fluids.

Product coding example:

D298DRC1 72Z1 0A1
1/8" G, auto operation, stainless steel body, RUBY seals, 1.5 mm orifice, 24 VDC, with plug.

D262DR-1/263DR-1 Series, High Pressure – 2/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass CW617N (EN 12165)
Orifice Material	Stainless Steel 1.4305 EN 10088 (AISI 303)
Flange Tube (Seamless)	Stainless Steel 1.4305 EN 10088 (AISI 303)
Plunger	Stainless Steel 1.4106 EN 10088 (AISI 430F)
Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F)
Springs	Stainless Steel AISI 302
Seal Material (Std)	RUBY
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics	
High Power Coil Voltage DC (=)	24 V
High Power Coil Voltage AC 50 Hz (~)	24 V, 110 V, 230 V
High Power Coil Voltage AC 60 Hz (~)	24 V, 120 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation	Class H 180 °C
Power Rating (High Power)	AC 25 VA (holding) AC 50 VA (inrush) DC 22W

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- Manufactured in compliance to RoHS directive and to relevant international standards
- High quality seal materials
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
¼"	0.05	0.04	0 - 200	0 - 60	1.2	RUBY	D263DRB1
¼"	0.09	0.08	0 - 200	0 - 35	1.5	RUBY	D263DRC1
¼"	0.15	0.13	0 - 120	0 - 25	2.0	RUBY	D263DRE1
¼"	0.32	0.27	0 - 50	0 - 11	3.0	RUBY	D263DRH1

NOTE: Not 100% leak-proof when used with air/gases. Approx leak rate is 1.5ml/min at max OPD.

ATTENTION: when high pressure valves are supplied without a coil, their nameplates display the max OPD of the valve when equipped with an AC (25VA) and DC(22W) coil. If fitting coils with a different power rating OPD will vary, please consult supplier for more details.

Options Available

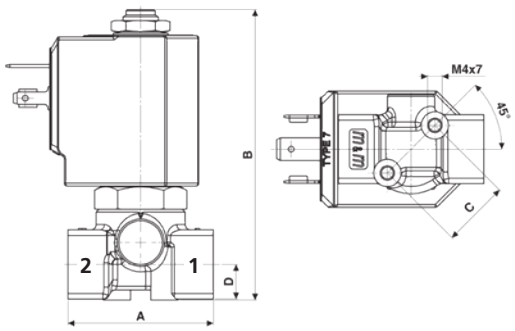
Valve Options (see coding chart)
Body threaded connection G 1/8"
NPT threads (minimum batch may be required)

Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
RUBY (-10 °C to +130 °C)	Water, oil, air, aggressive fluids	-10 °C	+50 °C

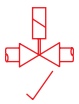
[1] See corrosion reference guide and sealing solutions for material compatability.

D262DR-1/263DR-1 Series, High Pressure – 2/2 Normally Closed

Coil Rotation



Preferred Valve Mounting Options



Pipe Size	A	B	C	D	Weight (kg)
1/8" - 1/4"	40	77.5	18.5	9.5	0.26

Dimensions (mm)

Solenoid enclosures

7-K1 & 7-Z1 Type Coil - Insulation class H

External material: PPS (glass fiber & mineral filled)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 VDC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable Entry: PG9 (6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
2	1/8"
3	1/4"

Orifice	
B	1.2
C	1.5
E	2.0
H	3.0

Option	
N	NPT
M	Manual override
	w/o option

Coil options

Voltage / Frequency - Class H, High Power	
72Z1	24 VDC
72K1	24 V / 50/60 Hz
74K1	110 V / 50 Hz - 120 V / 60 Hz
77K1	230 V / 50 Hz - 240 V / 60 Hz

Plug

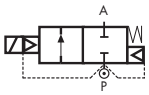
Plug	
	w/o plug
0A1	c/w plug

D	2	6	•	D	R	•	•	1	•	•	•	•	•	•	•

Product coding example:

D263DRB1 72Z1 0A1
1/4" G, auto operation, brass body, RUBY seals, 1.2 mm orifice, 24 VDC, with plug.

D634/635/636DTT1 Series, High Pressure – 2/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass CW617N (EN 12165)
Orifice Material	Stainless Steel 1.4305 EN 10088 (AISI 303)
Flange Tube (Seamless)	Stainless Steel 1.4305 EN 10088 (AISI 303)
Plunger	Stainless Steel 1.4106 EN 10088 (AISI 430F)
Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F)
Piston Material	Brass CW614N (EN 12164)
Springs	Stainless Steel AISI 302
Seal Material (Std)	PTFE
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics	
High Power Coil Voltage DC (=)	24 V
High Power Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
High Power Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation	Class H 180 °C
Power Rating (High Power)	AC 25 VA (holding) AC 50 VA (inrush) DC 22 W

Features and Benefits

- Pilot operated
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- Manufactured in compliance to RoHS directive and to relevant international standards
- High quality seal materials
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
¼"	1.47	1.26	0.3 - 140	0.3 - 35	10	PTFE	D634D⌶T1
⅜"	1.68	1.44	0.3 - 140	0 .3 - 35	10	PTFE	D635D⌶T1
½"	1.76	1.50	0.3 - 140	0 .3 - 35	10	PTFE	D636D⌶T1

NOTE: Not 100% leak-proof when used with air/gases. Approx leak rate is 1.5ml/min at max OPD.

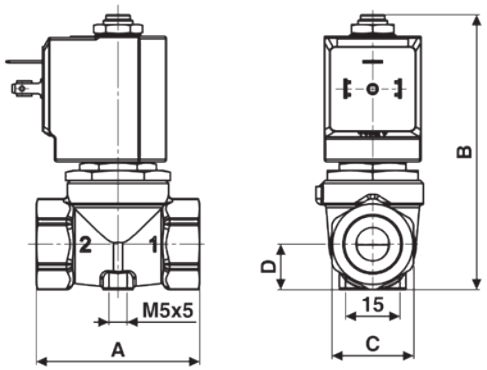
ATTENTION: when high pressure valves are supplied without a coil, their nameplates display the max OPD of the valve when equipped with an AC (25VA) and DC(22W) coil. If fitting coils with a different power rating OPD will vary, please consult supplier for more details.

Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
PTFE (-10 °C to +130 °C)	Water, oil, liquids	-10 °C	+50 °C

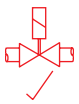
[1] See corrosion reference guide and sealing solutions for material compatability.

D634/635/636DTT1 Series, High Pressure – 2/2 Normally Closed

Coil Rotation



Preferred Valve Mounting Options



Pipe Size	A	B	C	D	Weight (kg)
¼"	54	100	HEX 27	15	0.5
⅜" to ½"	54	100	HEX 27	15	0.45

Dimensions (mm)

Solenoid enclosures

7-K1 & 7-Z1 Type Coil - Insulation class H

External material: PPS (glass fiber & mineral filled)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 VDC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable Entry: PG9 (6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
4	¼"
5	⅜"
6	½"

Coil options

Option	
	w/o option

Voltage / Frequency - Class H, High Power	
72Z1	24 VDC
72K1	24 V / 50/60 Hz
74K1	110 V / 50 Hz - 120 V / 60 Hz
77K1	230 V / 50 Hz - 240 V / 60 Hz

Plug

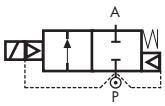
Plug	
	w/o plug
0A1	c/w plug

D	6	3	•	D	T	T	1	•	•	•	•	•	•	•	•

Product coding example:

D634DTT1 72Z1
¼" G, auto operation, brass body, PTFE seals, 10 mm orifice, 24 VDC, without plug.

D232/233/234 Series, High Pressure & Compressed Air – 2/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass CW617N (EN 12165)
Orifice Material	Stainless Steel 1.4305 EN 10088 (AISI 303)
Flange Tube (Seamless)	Stainless Steel 1.4305 EN 10088 (AISI 303)
Plunger	Stainless Steel 1.4106 EN 10088 (AISI 430F)
Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F)
Springs	Stainless Steel AISI 302
Operator Seal Material[1]	RUBY
Diaphragm Material	FKM
Main Seal Material[1]	PTFE
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation	Class F 155 °C
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W

[1] For D23-DVW operator seal material is foodgrade FKM and main seal material is FKM.

Features and Benefits

- Pilot operated
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- Manufactured in compliance to RoHS directive and to relevant international standards
- High quality seal materials
- Response time 50 to 500 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
3/8"	2.95	2.52	1 - 50	1 - 50	16	PTFE	D232DTW[2]
1/2"	3.23	2.76	1 - 50	1 - 50	16	PTFE	D233DTW[2]
3/4"	3.37	2.88	1 - 50	1 - 50	16	PTFE	D234DTW[2]
3/8"	2.95	2.52	1 - 25	1 - 25	16	FKM	D232DVW[3]
1/2"	3.23	2.76	1 - 25	1 - 25	16	FKM	D233DVW[3]
3/4"	3.37	2.88	1 - 25	1 - 25	16	FKM	D234DVW[3]

[2] Not 100% leak-proof when used with air/gases. Approximate leak rate is 1,5 ml/min at max. OPD.

[3] Non standard, MOQ required.

Options Available

Valve Options (see coding chart)
NPT threads (minimum batch may be required)

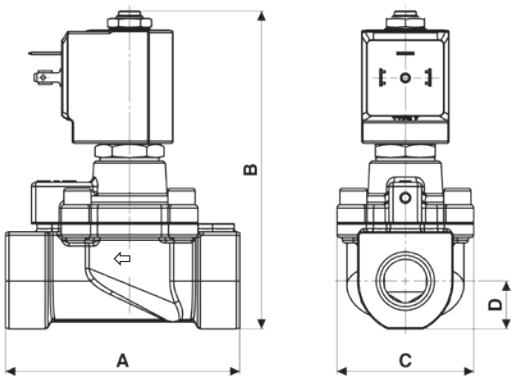
Seal Material[4] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
PTFE (-10 °C to +130 °C)	Water[5], oil, air	-10 °C	+50 °C
FKM (-10 °C to +130 °C)	Water[5], oil, air	-10 °C	+50 °C

[4] See corrosion reference guide and sealing solutions for material compatability.

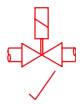
[5] When using liquid fluids waterhammer and pressures higher than 20 barg can cause the diaphragm to tear.

D232/233/234 Series, High Pressure & Compressed Air – 2/2 Normally Closed

Coil Rotation



Preferred Valve Mounting Options



Pipe Size	A	B	C	D	Weight (kg)
3/8"	86	116.5	50.2	17.5	1
½" - ¾"	86	116.5	50.2	17.5	0.9

Dimensions (mm)

Solenoid enclosures

7--0 Type Coil - Insulation class F

External material: PBT (reinforced fiberglass 30%)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 VDC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable Entry: PG9 (6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
2	3/8"
3	½"
4	¾"

Seals	
T	PTFE
V	FKM

Option	
N	NPT
	w/o option

Coil options

Voltage / Frequency - Class F	
7250	24 VDC
7200	24 V / 50/60 Hz
7400	110 V / 50 Hz - 120 V / 60 Hz
7600	200 V / 50 Hz - 220 V / 60 Hz
7700	230 V / 50 Hz - 240 V / 60 Hz

Plug

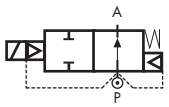
Plug	
	w/o plug
0A1	c/w plug

D	2	3	•	D	•	W	•	•	•	•	•	•	•	•	•

Product coding example:

D232DTW 7200
3/8" G, auto operation, brass body, PTFE main seal, 16 mm orifice, 24 V / 50/60 Hz, without plug.

RD232/233/234 Series, High Pressure – 2/2 Normally Open

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass CW617N (EN 12165)
Orifice Material	Stainless Steel 1.4305 EN 10088 (AISI 303)
Flange Tube	Stainless Steel 1.4305 EN 10088 (AISI 303)
Plunger	Stainless Steel 1.4106 EN 10088 (AISI 430F)
Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F)
Springs	Stainless Steel AISI 302
Operator Seal Material[1]	RUBY
Diaphragm Material	FKM
Main Seal Material[1]	PTFE
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC) +10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation	Class H 180 °C
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W

[1] For RD23-DVW operator seal material is foodgrade FKM and main seal material is FKM.

Features and Benefits

- Pilot operated
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- Manufactured in compliance to RoHS directive and to relevant international standards
- High quality seal materials
- Response time 50 to 500 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
3/8"	2.95	2.52	1 - 50	1 - 50	16	PTFE	RD232DTW[2]
1/2"	3.23	2.76	1 - 50	1 - 50	16	PTFE	RD233DTW[2]
3/4"	3.37	2.88	1 - 50	1 - 50	16	PTFE	RD234DTW[2]
3/8"	2.95	2.52	1 - 25	1 - 25	16	FKM	RD232DVW[3]
1/2"	3.23	2.76	1 - 25	1 - 25	16	FKM	RD233DVW[3]
3/4"	3.37	2.88	1 - 25	1 - 25	16	FKM	RD234DVW[3]

[2] Not 100% leak-proof when used with air/gases. Approximate leak rate is 1,5 ml/min at max. OPD.

[3] Non standard, MOQ required.

Options Available

Valve Options (see coding chart)
NPT threads (minimum batch may be required)

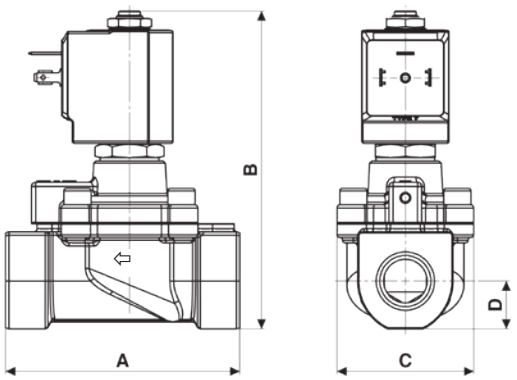
Seal Material[4] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
PTFE (-10 °C to +130 °C)	Water[5], oil, air	-10 °C	+50 °C
FKM (-10 °C to +130 °C)	Water[5], oil, air	-10 °C	+50 °C

[4] See corrosion reference guide and sealing solutions for material compatability.

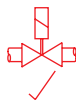
[5] When using liquid fluids waterhammer and pressures higher than 20 barg can cause the diaphragm to tear.

RD232/233/234 Series, High Pressure – 2/2 Normally Open

Coil Rotation



Preferred Valve Mounting Options



Pipe Size	A	B	C	D	Weight (kg)
3/8"	86	116.5	50.2	17.5	1
½" - ¾"	86	116.5	50.2	17.5	0.9

Dimensions (mm)

Solenoid enclosures

7--1 Type Coil - Insulation class H

External material: PPS (glass fiber & mineral filled)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 VDC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable Entry: PG9 (6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
2	3/8"
3	½"
4	¾"

Seals	
T	PTFE
V	FKM

Option	
N	NPT
	w/o option

Coil options

Voltage / Frequency - Class H	
7251	24 VDC
7201	24 V / 50/60 Hz
7401	110 V / 50 Hz - 120 V / 60 Hz
7601	200 V / 50 Hz - 220 V / 60 Hz
7701	230 V / 50 Hz - 240 V / 60 Hz

Plug

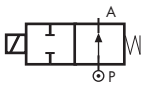
Plug	
	w/o plug
0A1	c/w plug

RD	2	3	•	D	•	W	•	•	•	•	•	•	•	•	•

Product coding example:

RD233DTW 7701 0A1
½" G, auto operation, brass body, PTFE seals, 16.5 mm orifice, 230 V / 50 Hz - 240 V / 60 Hz, with plug.

RD236DR-1 Series, High Pressure – 2/2 Normally Open

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass CW617N (EN 12165)
Orifice Material	Stainless Steel 1.4305 EN 10088 (AISI 303)
Flange Tube (Seamless)	Stainless Steel 1.4305 EN 10088 (AISI 303)
Plunger	Stainless Steel 1.4106 EN 10088 (AISI 430F)
Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Ruby
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics	
High Power Coil Voltage DC (=)	24 V
High Power Coil Voltage AC 50 Hz (~)	24 V, 110 V, 230 V
High Power Coil Voltage AC 60 Hz (~)	24 V, 120 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation	Class H 180 °C
Power Rating (High Power)	AC 25 VA (holding) AC 50 VA (inrush) DC 22 W

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Zero pressure rated
- Stainless steel AISI 430F operators with low residual magnetism
- Manufactured in compliance to RoHS directive and to relevant international standards
- High quality seal materials
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
¼"	0.04	0.03	0 - 180	0 - 180	1.0	RUBY	RD236DRA1
¼"	0.09	0.08	0 - 150	0 - 150	1.5	RUBY	RD236DRC1
¼"	0.14	0.12	0 - 60	0 - 60	2.0	RUBY	RD236DRE1
¼"	0.20	0.17	0 - 37	0 - 37	2.5	RUBY	RD236DRG1
¼"	0.25	0.21	0 - 28	0 - 28	3.0	RUBY	RD236DRH1

NOTE: Not 100% leak-proof when used with air/gases. Approx leak rate is 1.5ml/min at max OPD.

ATTENTION: when high pressure valves are supplied without a coil, their nameplates display the max OPD of the valve when equipped with an AC (25VA) and DC(22W) coil. If fitting coils with a different power rating OPD will vary, please consult supplier for more details.

Options Available

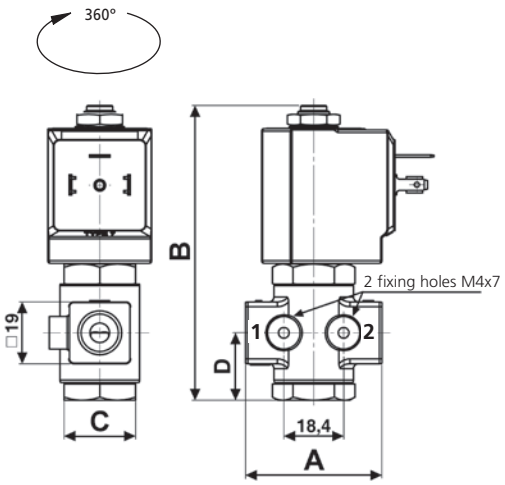
Valve Options (see coding chart)
Coils with additional protection by impregnation with Loctite® Resinol RTC for humid environments

Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
RUBY (-10 °C to +130 °C)	Water, oil, air, aggressive fluids	-10 °C	+50 °C

[1] See corrosion reference guide and sealing solutions for material compatability.

RD236DR-1 Series, High Pressure – 2/2 Normally Open

Coil Rotation



Preferred Valve Mounting Options

Pipe Size	A	B	C	D	Weight (kg)
¼"	47	91	Hex 22	20.75	0.25

Dimensions (mm)

Solenoid enclosures

7-K1 & 7-Z1 Type Coil - Insulation class H

External material: PPS (glass fiber & mineral filled)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 VDC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable Entry: PG9 (6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Orifice	
A	1.0
C	1.5
E	2.0
G	2.5
H	3.0

Option	
	w/o option

Coil options

Voltage / Frequency - Class H, High Power	
72Z1	24 VDC
72K1	24 V / 50/60 Hz
74K1	110 V / 50 Hz - 120 V / 60 Hz
77K1	230 V / 50 Hz - 240 V / 60 Hz

Voltage / Frequency - Class H, High Power, Impregnated	
D2Z1	24 VDC
D2K1	24 V / 50/60 Hz
D4K1	110 V / 50 Hz - 120 V / 60 Hz
D7K1	230 V / 50 Hz - 240 V / 60 Hz

Plug

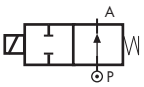
Plug	
0A1	c/w plug
	w/o plug

RD	2	3	6	D	R	•	1	•	•	•	•	•	•	•	•

Product coding example:

RD236DRC1 72K1
¼" G, auto operation, brass body, RUBY seals, 1.5 mm orifice, 24 VDC, without plug.

RD201 Series High Pressure – 2/2 Normally Open

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass CW617N (EN 12165)
Orifice Material	Stainless Steel 1.4305 EN 10088 (AISI 303)
Flange	Stainless Steel 1.4305 EN 10088 (AISI 303)
Tube	Stainless Steel AISI 304
Plunger	Stainless Steel 1.4106 EN 10088 (AISI 430F)
Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Ruby
Connection Type (Std)	Flanged 32x32mm
Shading Ring	Copper
Electrical Characteristics	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation	Class H 180 °C
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Zero pressure rated
- Stainless steel AISI 430F operators with low residual magnetism
- Manufactured in compliance to RoHS directive and to relevant international standards
- High quality seal materials
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
Flanged	0.09	0.08	0 - 55	0 - 55	1.5	Ruby	RD201DRC
Flanged	0.24	0.20	0 - 25	0 - 25	2.0	Ruby	RD201DRE
Flanged	0.32	0.27	0 - 10	0 - 10	3.0	Ruby	RD201DRH

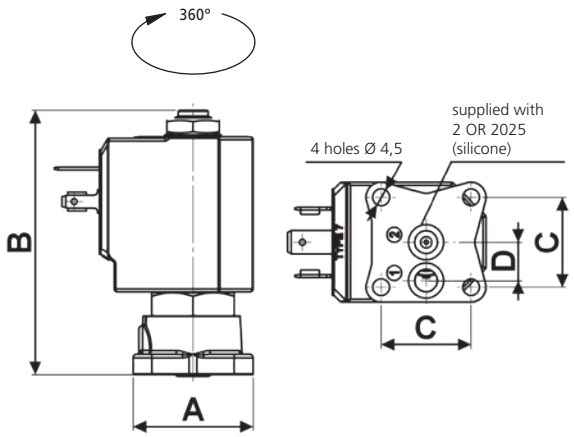
NOTE: Not 100% leak-proof when used with air/gases. Approx leak rate is 1.5ml/min at max OPD.

Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
RUBY (-10 °C to +130 °C)	Water, oil, liquids	-10 °C	+50 °C

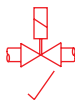
[1] See corrosion reference guide and sealing solutions for material compatability.

RD201 Series High Pressure – 2/2 Normally Open

Coil Rotation



Preferred Valve Mounting Options



Pipe Size	A	B	C	D	Weight (kg)
Flanged	32	68.4	24	10.25	0.3

Dimensions (mm)

Solenoid enclosures

7--1 Type Coil - Insulation class H

External material: PPS (glass fiber & mineral filled)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 VDC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable Entry: PG9 (6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Orifice	
C	1.5
E	2.0
H	3.0

Option	
	w/o option

Coil options

Voltage / Frequency - Class H	
7251	24 VDC
7201	24 V / 50/60 Hz
7401	110 V / 50 Hz - 120 V / 60 Hz
7601	200 V / 50 Hz - 220 V / 60 Hz
7701	230 V / 50 Hz - 240 V / 60 Hz

Plug

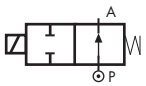
Plug	
	w/o plug
0A1	c/w plug

RD	2	0	1	D	R	•	•	•	•	•	•	•	•	•	•

Product coding example:

RD201DRC 7201
Flanged connection, auto operation, brass body, RUBY seals, 1.5 mm orifice, 24 V / 50 Hz/60 Hz, without plug.

RB214 Series, Compressed Air – 2/2 Normally Open

Specifications	
Function (single acting)	
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass CW614N (EN 12164)
Tube	Stainless Steel AISI 304
Flange	Stainless Steel 1.4305 EN 10088 (AISI 303)
Plunger	Stainless Steel 1.4105 EN 10088 (AISI 430F) or equivalent
Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to industrial form B
Coil Insulation	Class F 155 °C
Power Rating (Standard)	AC 10 VA (holding) AC 16 VA (inrush) DC 7 W

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Zero pressure rated
- Stainless steel AISI 430F operators with low residual magnetism
- Manufactured in compliance to RoHS directive and to relevant international standards
- High quality seal materials
- Response time 5 to 25 ms

Valve manufactured in conformity of all regulation and law CE:

- EC 1935/2004
- EC 2023/2006
- EC 10/2011 and all subsequent amended and integration
- For metal alloy different from stainless steel included superficial treatment in absence of specific national or international rule the conformity is evaluated following clause 3 of regulation EC 1935/2004 using resolution of European council as guide: Metal and Alloys used in food contact 1st edition 2013.
- Italian law: D.M. 174 06/04/2004 drinkable water
- Italian law: D.M. 21/03/1973 and all subsequent amended and integration.

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
1/8"	0.08	0.07	0 - 14	0 - 14	1.7	FKM EPDM	RB214CVD RB214CED

Options Available

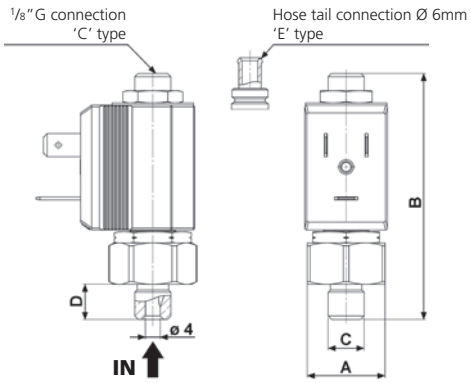
Valve Options (see coding chart)
Top port connection with hose tail Ø 6 mm

Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM (-10 °C to +130 °C)	Water, oil, air	-10 °C	+50 °C
EPDM (-10 °C to +120 °C)	Water, hot water	-10 °C	+50 °C

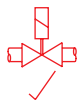
[1] See corrosion reference guide and sealing solutions for material compatability.

RB214 Series, Compressed Air – 2/2 Normally Open

Coil Rotation



Preferred Valve Mounting Options



Pipe Size	A	B	C	D	Weight (kg)
1/8"	21	72.1	1/8"	9.5	0.06

Dimensions (mm)

Solenoid enclosures

2--0 Type Coil - Insulation class F

External material: PBT (reinforced fiberglass 30%)
Electrical connection: Industrial form B
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 001- Plug

Rated Voltage (max.): 250 VAC / 300 VDC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable Entry: PG9 (6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Top Port Connection	
C	1/8" G
E	Hose tail Ø 6mm

Seals	
V	FKM
E	EPDM

Option	
	w/o option

Coil options

Voltage / Frequency - Class F	
2250	24 VDC
2200	24 V / 50/60 Hz
2400	110 V / 50 Hz - 120 V / 60 Hz
2600	200 V / 50 Hz - 220 V / 60 Hz
2700	230 V / 50 Hz - 240 V / 60 Hz

Plug

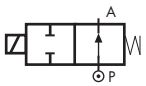
Plug	
0B1	c/w plug
	w/o plug

RB	2	1	4	•	•	D	•	•	•	•	•	•	•	•	•

Product coding example:

RB214CVD 2250
1/8" G, auto operation, brass body, FKM seals, 1.7 mm orifice, 24 VDC, without plug.

RD213 Series, Compressed Air – 2/2 Normally Open

Specifications	
Function (single acting)	
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass CW614N (EN 12164)
Tube	Stainless Steel AISI 304
Flange	Stainless Steel 1.4305 EN 10088 (AISI 303)
Plunger	Stainless Steel 1.4106 EN 10088 (AISI 430F)
Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation	Class F 155 °C
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Zero pressure rated
- Stainless steel AISI 430F operators with low residual magnetism
- Manufactured in compliance to RoHS directive and to relevant international standards
- Choice of high quality seal materials
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
1/8"	0.17	0.14	0 - 16	0 - 16	2.5	FKM EPDM	RD213CVG RD213CEG

Options Available

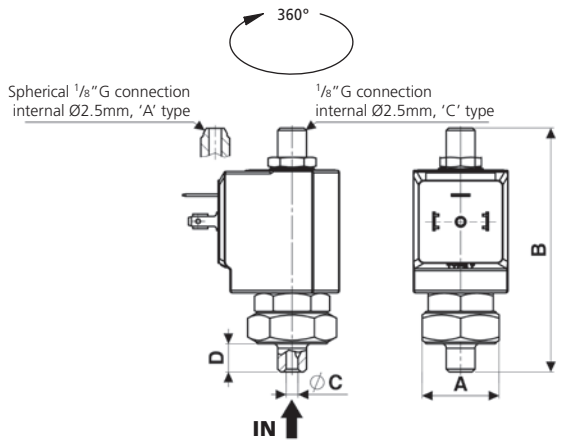
Valve Options (see coding chart)
Top port connection with spherical 1/8" G

Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM (-10 °C to +130 °C)	Water, oil, air	-10 °C	+50 °C
EPDM (-10 °C to +120 °C)	Water, hot water	-10 °C	+50 °C

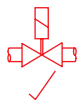
[1] See corrosion reference guide and sealing solutions for material compatability.

RD213 Series, Compressed Air – 2/2 Normally Open

Coil Rotation



Preferred Valve Mounting Options



Pipe Size	A	B	C	D	Weight (kg)
1/8"	Hex 26	82.5	4	9.5	0.1

Dimensions (mm)

Solenoid enclosures

7--0 Type Coil - Insulation class F

External material: PBT (reinforced fiberglass 30%)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 VDC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable Entry: PG9 (6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Top Port Connection	
C	1/8" G
A	Spherical 1/8" G

Seals	
V	FKM
E	EPDM

Option	
	w/o option

Coil options

Voltage / Frequency - Class F	
7250	24 VDC
7200	24 V / 50/60 Hz
7400	110 V / 50 Hz - 120 V / 60 Hz
7600	200 V / 50 Hz - 220 V / 60 Hz
7700	230 V / 50 Hz - 240 V / 60 Hz

Plug

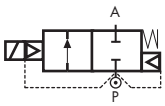
Plug	
0A1	c/w plug
	w/o plug

RD	2	1	3	•	•	G	•	•	•	•	•	•	•	•	•

Product coding example:

RD213CVG 7700 0A1
1/8" G, auto operation, brass body, FKM seals, 2.5 mm orifice, 230 V / 50 Hz - 240 V / 60 Hz AC, with plug.

D204/205/206/222 Series, Aggressive Fluids, Stainless Steel –
2/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Stainless steel AISI 316L (ASME SA351/351M GRADE CF3M
Flange Tube (Seamless)	Stainless Steel 1.4305 EN 10088 (AISI 303)
Plunger	Stainless Steel 1.4106 EN 10088 (AISI 430F)
Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F)
Springs	Stainless Steel AISI 302
Seal Material (Std)	FKM
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Silver
Electrical Characteristics	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation	Class F 155 °C
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W

Features and Benefits

- Pilot operated
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- Manufactured in compliance to RoHS directive and to relevant international standards
- Choice of high quality seal materials
- Response time 50 to 500 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
⅜"	3.86	3.30	0.3 - 16	0.3 - 16	13	FKM	D204DVZI
						NBR	D204DBZI
						EPDM	D204DEZI
½"	4.42	3.78			13	FKM	D205DVZI
						NBR	D205DBZI
						EPDM	D205DEZI
¾"	9.83	8.40			25	FKM	D206DVYI
						NBR	D206DBYI
						EPDM	D206DEYI
1"	11.23	9.60			25	FKM	D222DVYI
						NBR	D222DBYI
						EPDM	D222DEYI

Options Available

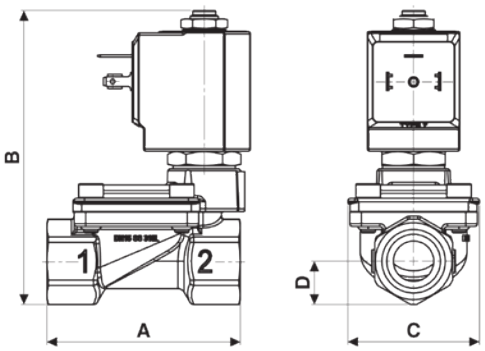
Valve Options (see coding chart)
NPT threads (minimum batch may be required)
Manual override
Anticorrosion treatment recommended with aggressive fluids

Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
NBR (-10 °C to +90 °C)	Water, oil, air	-10 °C	+50 °C
FKM (-10 °C to +130 °C)	Water, oil, air, aggressive fluids	-10 °C	+50 °C
EPDM (-10 °C to +120 °C)	Water, hot water	-10 °C	+50 °C

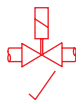
[1] See corrosion reference guide and sealing solutions for material compatability.

D204/205/206/222 Series, Aggressive Fluids, Stainless Steel –
2/2 Normally Closed

Coil Rotation



Preferred Valve Mounting Options



Pipe Size	A	B	C	D	Weight (kg)
⅜" - ½"	67	102	45.6	15	0.49
¾" - 1"	96	125	72	23	1.1

Dimensions (mm)

Solenoid enclosures

7--0 Type Coil - Insulation class F

External material: PBT (reinforced fiberglass 30%)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 VDC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable Entry: PG9 (6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
04	⅜"
05	½"
06	¾"
22	1"

Seals	
V	VKM
E	EPDM
B	NBR

Orifice[1]	
Z	13
Y	25

Option	
N	NPT
F	Anticorrosion treatment
M	Manual override
	w/o option

Coil options

Voltage / Frequency - Class F	
7250	24 VDC
7200	24 V / 50/60 Hz
7400	110 V / 50 Hz - 120 V / 60 Hz
7600	200 V / 50 Hz - 220 V / 60 Hz
7700	230 V / 50 Hz - 240 V / 60 Hz

Plug

Plug	
	w/o plug
0A1	c/w plug

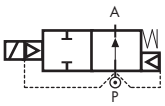
D	2	•	•	D	•	•	I	•	•	•	•	•	•	•	•

[1] DN13 for D204 and D205, DN25 for D206 and D222.

Product coding example:

D204DVZI 7250
⅜" G, auto operation, stainless steel body, FKM seals, 13 mm orifice, 24 VDC, without plug.

RD204/205/206/222 Series, Aggressive Fluids, Stainless Steel –
2/2 Normally Open

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Stainless steel AISI 316L (ASME SA351/351M GRADE CF3M
Flange Tube (Seamless)	Stainless Steel 1.4305 EN 10088 (AISI 303)
Plunger	Stainless Steel 1.4106 EN 10088 (AISI 430F)
Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F)
Springs	Stainless Steel AISI 302
Seal Material (Std)	FKM
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Silver
Electrical Characteristics	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation	Class H 180 °C
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W

Features and Benefits

- Pilot operated
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- Manufactured in compliance to RoHS directive and to relevant international standards
- Choice of high quality seal materials
- Speed control screw as standard
- Response time 50 to 500 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
⅜"	3.86	3.30	0.3 - 16	0.3 - 16	13	FKM	RD204DVZI
						NBR	RD204DBZI
						EPDM	RD204DEZI
½"	4.42	3.78			13	FKM	RD205DVZI
						NBR	RD205DBZI
						EPDM	RD205DEZI
¾"	9.83	8.40			25	FKM	RD206DVYI
						NBR	RD206DBYI
						EPDM	RD206DEYI
1"	11.23	9.60			25	FKM	RD222DVYI
						NBR	RD222DBYI
						EPDM	RD222DEYI

Options Available

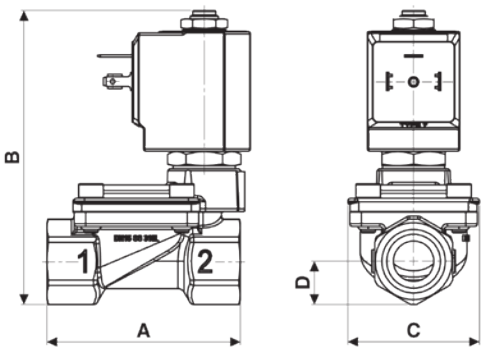
Valve Options (see coding chart)
NPT threads (minimum batch may be required)
Anticorrosion treatment recommended with aggressive fluids

Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
NBR (-10 °C to +90 °C)	Water, oil, air	-10 °C	+50 °C
FKM (-10 °C to +130 °C)	Water, oil, air, aggressive fluids	-10 °C	+50 °C
EPDM (-10 °C to +120 °C)	Water, hot water	-10 °C	+50 °C

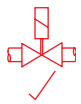
[1] See corrosion reference guide and sealing solutions for material compatability.

RD204/205/206/222 Series, Aggressive Fluids, Stainless Steel –
2/2 Normally Open

Coil Rotation



Preferred Valve Mounting Options



Pipe Size	A	B	C	D	Weight (kg)
⅜" - ½"	67	100	45.6	15	0.49
¾" - 1"	96	123	72	23	1.1

Dimensions (mm)

Solenoid enclosures

7--1 Type Coil - Insulation class H

External material: PPS (glass fiber & mineral filled)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 VDC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable Entry: PG9 (6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
04	⅜"
05	½"
06	¾"
22	1"

Seals	
V	VKM
E	EPDM
B	NBR

Orifice[1]	
Z	13
Y	25

Option	
N	NPT
F	Anticorrosion treatment
	w/o option

Coil options

Voltage / Frequency - Class H	
7251	24 VDC
7201	24 V / 50/60 Hz
7401	110 V / 50 Hz - 120 V / 60 Hz
7601	200 V / 50 Hz - 220 V / 60 Hz
7701	230 V / 50 Hz - 240 V / 60 Hz

Plug

Plug	
	w/o plug
0A1	c/w plug

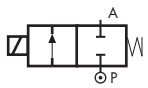
RD	2	•	•	D	•	•	I	•	•	•	•	•	•	•	•

[1] DN13 for RD204 and RD205, DN25 for RD206 and RD222.

Product coding example:

RD204DVZI 7250 ⅜" G, auto operation, stainless steel body, FKM seals, 13 mm orifice, 24 VDC, without plug.

D262DL/263DL Series, Steam – 2/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass CW617N (EN 12165)
Orifice Material	Stainless Steel 1.4305 EN 10088 (AISI 303)
Flange Tube (Seamless)	Stainless Steel 1.4305 EN 10088 (AISI 303)
Plunger	Stainless Steel 1.4106 EN 10088 (AISI 430F)
Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Sigodur (filled PTFE)
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation	Class H 180 °C
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- Manufactured in compliance to RoHS directive and to relevant international standards
- High quality seal materials
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
¼"	0.04	0.03	0 - 9	0 - 9	1.0	Filled PTFE	D263DLA
¼"	0.09	0.08	0 - 9	0 - 9	1.5	Filled PTFE	D263DLC
¼"	0.24	0.20	0 - 9	0 - 8	2.5	Filled PTFE	D263DLG
¼"	0.32	0.27	0 - 9	0 - 5	3.0	Filled PTFE	D263DLH

Options Available

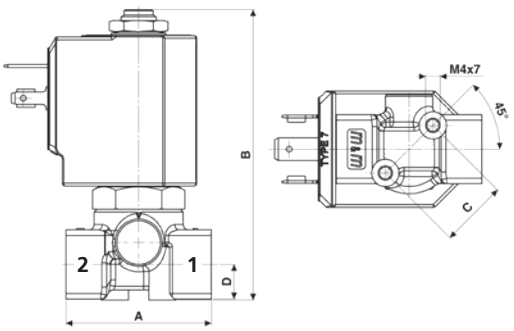
Valve Options (see coding chart)
Body threaded connection G 1/8"
NPT threads (minimum batch may be required)
Manual override

Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
Filled PTFE (-10 °C to +180 °C)	Steam	-10 °C	+70 °C

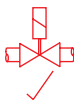
[1] See corrosion reference guide and sealing solutions for material compatability.

D262DL/263DL Series, Steam – 2/2 Normally Closed

Coil Rotation



Preferred Valve Mounting Options



Pipe Size	A	B	C	D	Weight (kg)
1/8" - 1/4"	40	77.5	18.5	9.5	0.26

Dimensions (mm)

Solenoid enclosures

7--1 Type Coil - Insulation class H

External material: PPS (glass fiber & mineral filled)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 VDC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable Entry: PG9 (6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
2	1/8"
3	1/4"

Orifice	
A	1.0
C	1.5
G	2.5
H	3.0

Option	
N	NPT
M	Manual override
	w/o option

Coil options

Voltage / Frequency - Class H	
7251	24 VDC
7201	24 V / 50/60 Hz
7401	110 V / 50 Hz - 120 V / 60 Hz
7601	200 V / 50 Hz - 220 V / 60 Hz
7701	230 V / 50 Hz - 240 V / 60 Hz

Plug

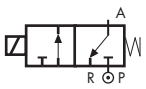
Plug	
	w/o plug
0A1	c/w plug

D	2	6	•	D	L	•	•	•	•	•	•	•	•	•	•

Product coding example:

D263DLA 7251
¼" G, auto operation, brass body, filled PTFE seals, 1.0 mm orifice, 24 VDC, without plug.

D398/399CL Series, Steam – 3/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction underseat 2 → 1
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Stainless Steel 1.4305 EN 10088 (AISI 303)
Orifice Material	Stainless Steel 1.4305 EN 10088 (AISI 303)
Flange Tube (Seamless)	Stainless Steel 1.4305 EN 10088 (AISI 303)
Plunger	Stainless Steel 1.4106 EN 10088 (AISI 430F)
Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Sigodur (filled PTFE)
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation	Class H 180 °C
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Zero pressure rated
- Stainless steel AISI 430F operators with low residual magnetism
- Manufactured in compliance to RoHS directive and to relevant international standards
- High quality seal materials
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
¼"	0.09	0.08	0 - 9	0 - 9	1.5	filled PTFE	D399CLC
¼"	0.15	0.13	0 - 9	0 - 9	2.0	filled PTFE	D399CLE
¼"	0.32	0.27	0 - 5	0 - 5	3.0	filled PTFE	D399CLH

Options Available

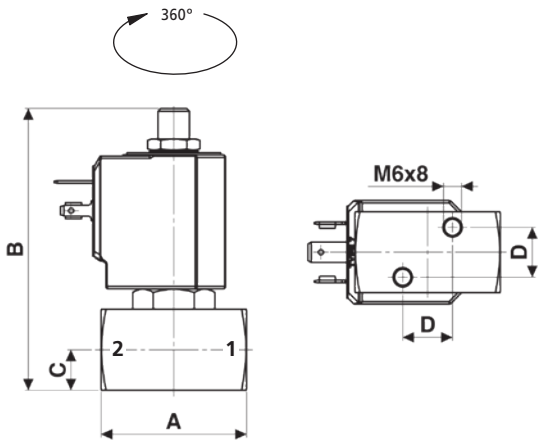
Valve Options (see coding chart)
Body threaded connection G ⅛"
NPT threads (minimum batch may be required)
Silver shading ring

Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
Filled PTFE (-10 °C to +180 °C)	Steam	-10 °C	+70 °C

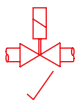
[1] See corrosion reference guide and sealing solutions for material compatability.

D398/399CL Series, Steam – 3/2 Normally Closed

Coil Rotation



Preferred Valve Mounting Options



Pipe Size	A	B	C	D	Weight (kg)
1/8" - 1/4"	45	87	12.5	15.4	0.35

Dimensions (mm)

Solenoid enclosures

7--1 Type Coil - Insulation class H

External material: PPS (glass fiber & mineral filled)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 VDC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable Entry: PG9 (6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
8	1/8"
9	1/4"

Orifice	
C	1.5
E	2.0
H	3.0

Option	
A	Silver shading ring
N	NPT
	w/o option

Coil options

Voltage / Frequency - Class H	
7251	24 VDC
7201	24 V / 50/60 Hz
7401	110 V / 50 Hz - 120 V / 60 Hz
7601	200 V / 50 Hz - 220 V / 60 Hz
7701	230 V / 50 Hz - 240 V / 60 Hz

Plug

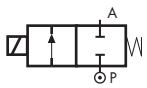
Plug	
0A1	c/w plug
	w/o plug

D	3	9	•	C	L	•	•	•	•	•	•	•	•	•	•

Product coding example:

D398CLE 7251
1/8" G, auto operation, stainless steel body, filled PTFE seals, 2.0 mm orifice, 24 VDC, without plug.

D238/239 Series, Steam – 2/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass CW617N (EN 12165)
Orifice Material	Stainless Steel 1.4305 EN 10088 (AISI 303)
Flange Tube (Seamless)	Stainless Steel 1.4305 EN 10088 (AISI 303)
Plunger	Stainless Steel 1.4106 EN 10088 (AISI 430F)
Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Sigodur (filled PTFE)
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics	
Standard Coil Voltage DC (⎓)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation	Class H 180 °C
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- Manufactured in compliance to RoHS directive and to relevant international standards
- High quality seal materials
- Response time 5 to 25 ms

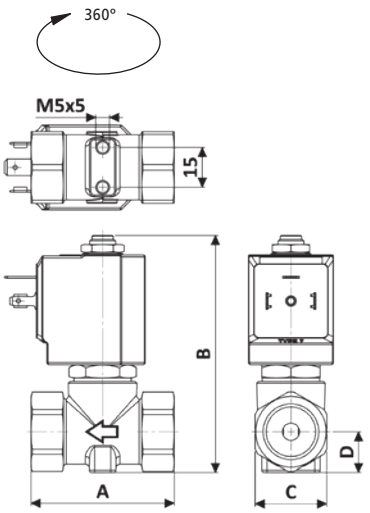
Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
3/8"	0.32	0.27	0 - 9	0 - 8	3.0	Filled PTFE	D238DLH
3/8"	0.53	0.45	0 - 5	0 - 2	5.0	Filled PTFE	D238DLN
1/2"	0.35	0.30	0 - 9	0 - 5	3.5	Filled PTFE	D239DLI

Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
Filled PTFE (-10 °C to +180 °C)	Steam	-10 °C	+70 °C

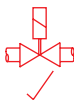
[1] See corrosion reference guide and sealing solutions for material compatability.

D238/239 Series, Steam – 2/2 Normally Closed

Coil Rotation



Preferred Valve Mounting Options



Pipe Size	A	B	C	D	Weight (kg)
3/8" - 1/2"	54	89.35	HEX 27	15	0.45

Dimensions (mm)

Solenoid enclosures

7--1 Type Coil - Insulation class H

External material: PPS (glass fiber & mineral filled)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 VDC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable Entry: PG9 (6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
8	3/8"
9	1/2"

Orifice	
H	3.0
I	3.5
N	5.0

Option	
	w/o option

Coil options

Voltage / Frequency - Class H	
7251	24 VDC
7201	24 V / 50/60 Hz
7401	110 V / 50 Hz - 120 V / 60 Hz
7601	200 V / 50 Hz - 220 V / 60 Hz
7701	230 V / 50 Hz - 240 V / 60 Hz

Plug

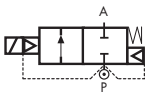
Plug	
	w/o plug
0A1	c/w plug

D	2	3	•	D	L	•	•	•	•	•	•	•	•	•	•

Product coding example:

D238DLH 7251
3/8" G, auto operation, brass body, filled PTFE seals, 3.0 mm orifice, 24 VDC, without plug.

D634/635/636 Series, Steam – 2/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass CW617N (EN 12165)
Orifice Material	Stainless Steel 1.4305 EN 10088 (AISI 303)
Flange Tube (Seamless)	Stainless Steel 1.4305 EN 10088 (AISI 303)
Plunger	Stainless Steel 1.4106 EN 10088 (AISI 430F)
Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F)
Piston Material	Brass CW614N (EN 12164)
Springs	Stainless Steel AISI 302
Seal Material (Std)	PTFE
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation	Class H 180 °C
Power Rating (Standard)*	AC 18 VA (holding) AC 36 VA (inrush) DC 22 W

* For DC only High power coil mandatory.

Features and Benefits

- Pilot operated
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- Manufactured in compliance to RoHS directive and to relevant international standards
- High quality seal materials
- Response time 50 to 500 ms

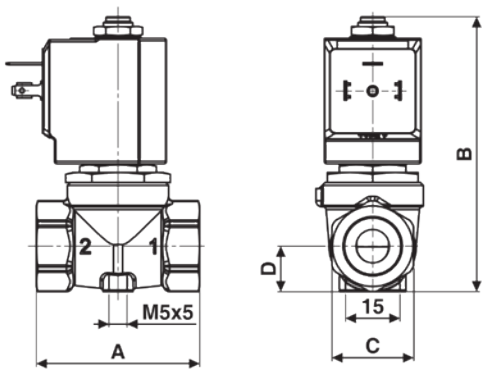
Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
¼"	1.47	1.26	0.3 - 9	0.3 - 9	10	PTFE	D634D⌶T
⅜"	1.68	1.44			10	PTFE	D635D⌶T
½"	1.76	1.50			10	PTFE	D636D⌶T

Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
PTFE (+80 °C [2] to +180 °C)	Steam	-10 °C	+70 °C

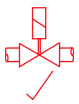
[1] See corrosion reference guide and sealing solutions for material compatability.
[2] For correct funtioning, the minimum working temperature of the solenoid valve cannot be below 80 °C.

D634/635/636 Series, Steam – 2/2 Normally Closed

Coil Rotation



Preferred Valve Mounting Options



Pipe Size	A	B	C	D	Weight (kg)
¼"	54	100	HEX 27	15	0.5
⅜" to ½"	54	100	HEX 27	15	0.45

Dimensions (mm)

Solenoid enclosures

7--1 & 7-Z1 Type Coil - Insulation class H

External material: PPS (glass fiber & mineral filled)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 VDC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable Entry: PG9 (6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
4	¼"
5	⅜"
6	½"

Option	
	w/o option

Coil options

Voltage / Frequency - Class H (High Power DC only)	
72Z1	24 VDC
7201	24 V / 50/60 Hz
7401	110 V / 50 Hz - 120 V / 60 Hz
7601	200 V / 50 Hz - 220 V / 60 Hz
7701	230 V / 50 Hz - 240 V / 60 Hz

Plug

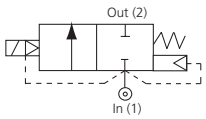
Plug	
	w/o plug
0A1	c/w plug

D	6	3	•	D	T	T	•	•	•	•	•	•	•	•	•

Product coding example:

D634DTT 72Z1
¼" G, auto operation, brass body, PTFE seals, 10 mm orifice, 24 VDC, without plug.

ACPX Series: Steam – 2/2 Normally Closed

Specifications	
Function	Normally closed, energise to open 
Maximum Viscosity	115 SSU
½" - 1" Body Material (Std)	Brass CZ122
1¼" - 2" Body Material (Std)	Bronze DIN 1705
Flange Tube	Stainless Steel 303
Plunger and Top Stop	Stainless Steel 430FR
Springs	Stainless Steel 302
Seal Material (Std)	PTFE
Connection Type (Std)	BS21
Shading Ring	Copper (std), Silver (stainless steel option)
Electrical Characteristics	
Coil Voltage DC (=)	12 V, 24 V, 110 V
Coil Voltage AC 50 Hz (~)	24 V, 110 V, 120 V, 230 V
Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V
Voltage Tolerance	+10% or -10%
Duty Cycle	100% ED
Protection Class (Std)	IP65 (BS EN 60529) (plug supplied as standard)
Electrical Connection (Std)	PG9 Din Connector DIN 43650/ISO 4400 (EN 175301-803) Form 'A'
Coil Insulation	Class H (BS EN 60085) 180 °C (E5 Type)
Power Rating	14.5 Watts, 19 VA

Features and Benefits

- Heavy Duty Valve Design
- Piston Operation
- Wide temperature range capabilities
- Choice of valve body material seals

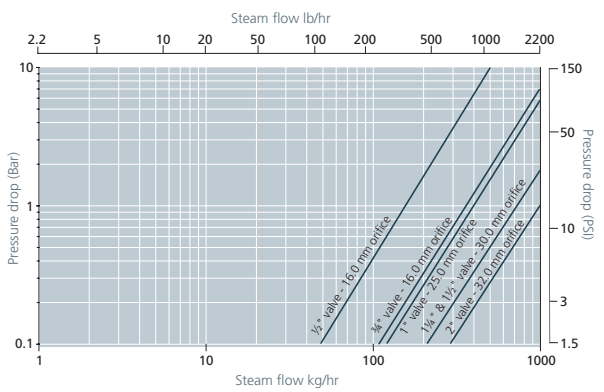
Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (Bar)		P. Max Bar	Orifice (mm)	Weight (kg)
			AC Voltages	DC Voltages			
½"	4.9	4.2	0.3-8.6	0.3-4.8	50	16.00	1.3
¾"	6.3	5.4	0.3-8.6	0.3-4.8		16.00	1.3
1"	8.2	7.1	0.3-8.6	0.3-4.8		25.00	2.3
1¼"	20.9	18	0.3-8.6	0.3-4.8		30.00	3.0
1½"	20.9	18	0.3-8.6	0.3-4.8		30.00	3.0
2"	24.4	21	0.3-8.6	0.3-4.8		32.00	5.2

Options Available

Seal Material[1] and Media Temp. Range	Ambient Temperature Range °C	
	Min	Max
PTFE (-200 °C to +180 °C)	-10	50

[1] See corrosion reference guide and sealing solutions for material compatability.

Main Valve Assembly Options
Stainless steel body 316 (available up to 1")
NPT Threads
Stainless steel tagging

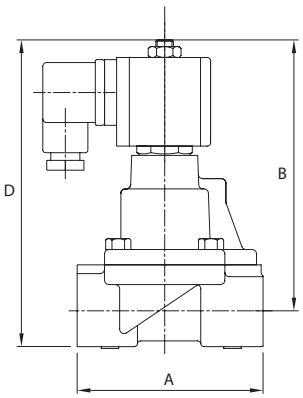


Flow shown is with steam at 4.0 bar

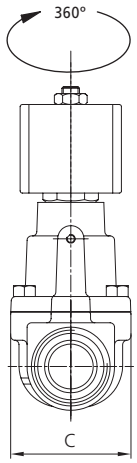
How to use the flow chart

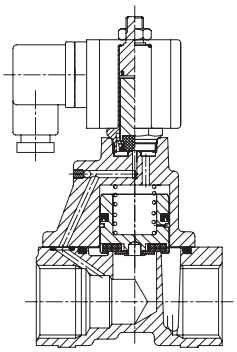
1. Select the required flow.
2. Note the corresponding pressure drop.
3. Based on where the two points intersect select the most appropriate model.

ACPX Series: Steam – 2/2 Normally Closed

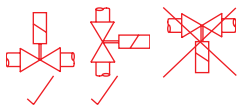


Coil Rotation





Preferred Valve Mounting Options



Dimensions

Pipe Size	A	B	C	D
½"	85	126	75 inc. plug	150
¾" - 1"	85	135	75 inc. plug	155
1¼" - 1½"	117	133	82	209
2"	146	145	103	209

Dimensions given in mm

Solenoid enclosures

E5 Type enclosure protection class IP65

External material: Glass reinforced nylon
Electrical connection: DIN Plug to ISO 4400
Winding insulation: Class H
Enclosure: Conforms to IP65 when correct plug gasket is fitted as supplied

Coding chart

Main Valve Assembly

Model	
22	ACPX

Valve Body Conn. Size	
D	½"
E	¾"
F	1"
G	1¼"
H	1½"
J	2"

Connection Type	
1	BS21
2	BSP G
3	NPT
4	FLANGED (PN16 STD)

Operation	
1	AUTO
2	MANUAL OVERRIDE

Body Material	
1	Brass (standard on valves up to and including 1")
2	Bronze (standard on valves above 1")
5	316 Stainless Steel (option available up to and inc 1")

Seals	
E	PTFE

Style	
1	Standard

Coil options

Enclosure	
1	Weather proof IP65

Voltage / Frequency	
A1	230 V / 50 Hz
A2	110 V / 50 Hz & 120 V / 50 Hz
A3	24 V / 50 Hz
A7	220 V / 50 Hz
B2	24 VDC
B3	12 VDC
B5	110 VDC

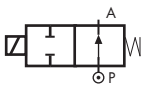
Electrical Connection	
1	Din plug 9 mm

22	•	•	•	Z	•	E	1	-	1	••	1

Product coding example:

22D11Z1E1-1A11 - ACPX Series
1/2" BS21, auto operation, brass body, PTFE seals, 230 V / 50 Hz DIN Plug 9 mm.

RD236DL Series, Steam – 2/2 Normally Open

Specifications	
Function (single acting)	 Flow direction 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass CW617N (EN 12165)
Orifice Material	Stainless Steel 1.4305 EN 10088 (AISI 303)
Flange Tube (Seamless)	Stainless Steel 1.4305 EN 10088 (AISI 303)
Plunger	Stainless Steel 1.4106 EN 10088 (AISI 430F)
Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Sigodur (filled PTFE)
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation	Class H 180 °C
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Zero pressure rated
- Stainless steel AISI 430F operators with low residual magnetism
- Manufactured in compliance to RoHS directive and to relevant international standards
- High quality seal materials
- Response time 5 to 25 ms

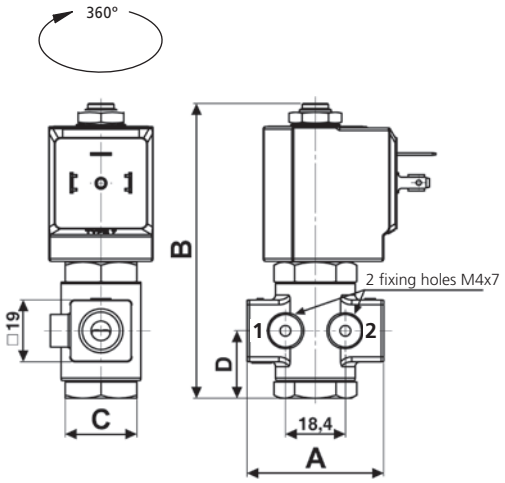
Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
¼"	0.04	0.03	0 - 9	0 - 9	1.0	filled PTFE	RD236DLA
¼"	0.09	0.08	0 - 9	0 - 9	1.5	filled PTFE	RD236DLC
¼"	0.14	0.12	0 - 9	0 - 9	2.0	filled PTFE	RD236DLE
¼"	0.25	0.21	0 - 9	0 - 9	3.0	filled PTFE	RD236DLH

Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
Filled PTFE (-10 °C to +180 °C)	Steam	-10 °C	+70 °C

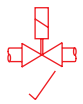
[1] See corrosion reference guide and sealing solutions for material compatability.

RD236DL Series, Steam – 2/2 Normally Open

Coil Rotation



Preferred Valve Mounting Options



Pipe Size	A	B	C	D	Weight (kg)
¼"	47	91	Hex 22	20.75	0.25

Dimensions (mm)

Solenoid enclosures

7--1 Type Coil - Insulation class H

External material: PPS (glass fiber & mineral filled)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 VDC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable Entry: PG9 (6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Orifice	
A	1.0
C	1.5
E	2.0
H	3.0

Option	
	w/o option

Coil options

Voltage / Frequency - Class H	
7251	24 VDC
7201	24 V / 50/60 Hz
7401	110 V / 50 Hz - 120 V / 60 Hz
7601	200 V / 50 Hz - 220 V / 60 Hz
7701	230 V / 50 Hz - 240 V / 60 Hz

Plug

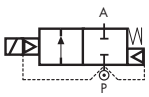
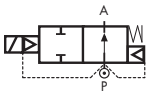
Plug	
0A1	c/w plug
	w/o plug

RD	2	3	6	D	L	•	•	•	•	•	•	•	•	•	•

Product coding example:

RD236DLE 7251
¼" G, auto operation, brass body, filled PTFE seals, 2.0 mm orifice, 24 VDC, without plug.

D606/622 Series, Steam – 2/2 NC & RD606/622 Series, Steam – 2/2 NO

Specifications	
Function NC (single acting)	 Flow direction overseat 1 → 2
Function NO (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass CW617N (EN 12165)
Orifice Material	Stainless Steel 1.4305 EN 10088 (AISI 303)
Flange Tube (Seamless)	Stainless Steel 1.4305 EN 10088 (AISI 303)
Plunger	Stainless Steel 1.4106 EN 10088 (AISI 430F)
Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F)
Springs	Stainless Steel AISI 302
Seal Material (Std)	PTFE
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics	
Standard Coil Voltage DC (=)	12V, 24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation	Class H 180 °C
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Zero pressure rated
- Stainless steel AISI 430F operators with low residual magnetism
- Manufactured in compliance to RoHS directive and to relevant international standards
- High quality seal material
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
¾"	8.42	7.20	1 - 9	1 - 9	24	PTFE	D606DIY
¾"	8.42	7.20	1 - 9	1 - 9	24	PTFE	RD606DIY
1"	8.42	7.20	1 - 9	1 - 9	24	PTFE	D622DIY
1"	8.42	7.20	1 - 9	1 - 9	24	PTFE	RD622DIY

Options Available

Valve Options (see coding chart)
NPT threads (minimum batch may be required)

Seal Material[1] and Media Temperature Range	Media[2]	Ambient Temperature Range	
		Min	Max
Filled PTFE (+80 °C[3] to +180 °C)	Steam	-10 °C	+70 °C

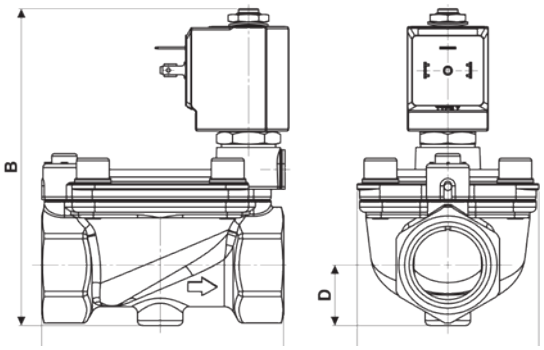
[1] See corrosion reference guide and sealing solutions for material compatability.

[2] Water and high content of condensate can damage the diaphragm.

[3] For a correct functioning, the minimum working temperature of the solenoid valve cannot be below +80 °C.

D606/622 Series, Steam – 2/2 NC & RD606/622 Series, Steam – 2/2 NO

Coil Rotation



Preferred Valve Mounting Options

Pipe Size	A	B	C	D	Weight (kg)
¾" - 1"	96	126	72	24	1.3

Dimensions (mm)

Solenoid enclosures

7--1 Type Coil - Insulation class H

External material: PPS (glass fiber & mineral filled)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 VDC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable Entry: PG9 (6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Valve Type	
D	NC
RD	NO

Pipe Size	
06	¾"
22	1"

Option	
N	NPT
	w/o option

Coil options

Voltage / Frequency - Class H	
7151	12 VDC
7251	24 VDC
7201	24 V / 50/60 Hz
7401	110 V / 50 Hz - 120 V / 60 Hz
7601	200 V / 50 Hz - 220 V / 60 Hz
7701	230 V / 50 Hz - 240 V / 60 Hz

Plug

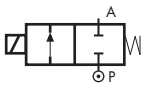
Plug	
0A1	c/w plug
	w/o plug

•	6	•	•	D	T	Y	•	•	•	•	•	•	•	•	•

Product coding example:

D606DTY 7251
¾" G, auto operation, brass body, PTFE seals, 1.5 mm orifice, 24 VDC, without plug.

D211 Series, Dry Armature – 2/2 Normally Closed

Specifications	
Function (single acting)	
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass CW617N (EN 12165)
Orifice Material	Stainless Steel 1.4305 EN 10088 (AISI 303)
Flange Tube (Seamless)	Stainless Steel 1.4305 EN 10088 (AISI 303)
Plunger	Stainless Steel 1.4106 EN 10088 (AISI 430F)
Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Silicone FDA compliant
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation	Class F 155 °C
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Zero pressure rated
- Stainless steel AISI 430F operators with low residual magnetism
- Manufactured in compliance to RoHS directive and to relevant international standards
- High quality seal material
- Total separation between internal parts and medium
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
3/8"	see flow chart		0 - 0.3	-	10.5	Silicone FDA	D211DSU
3/8"			-	0 - 0.2	10.5	Silicone FDA	CD211DSU

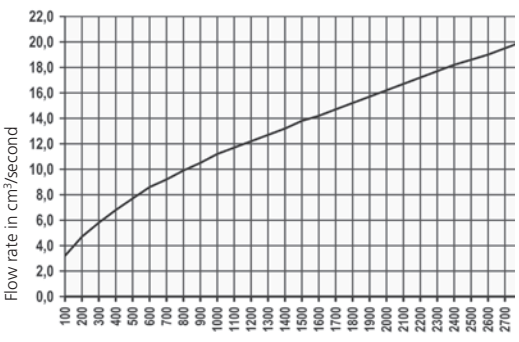
Options Available

Valve Options (see coding chart)
Electroless nickel plating

Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
Silicone FDA compliant (-10 °C to +95 °C)	Water and beverages	-10 °C	+50 °C

[1] See corrosion reference guide and sealing solutions for material compatability.

Flow chart

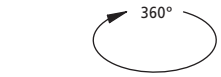


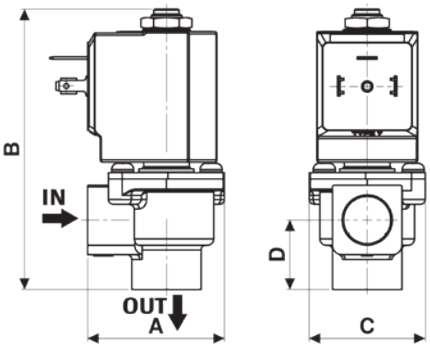
How to use the flow chart

1. Select the required flow.
2. Note the corresponding pressure drop.
3. Based on where the two points intersect select the most appropriate model.

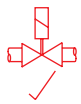
D211 Series, Dry Armature – 2/2 Normally Closed

Coil Rotation





Preferred Valve Mounting Options



Pipe Size	A	B	C	D	Weight (kg)
3/8"	43.4	88.8	36	22	0.34

Dimensions (mm)

Solenoid enclosures

7--0 Type Coil - Insulation class F

External material: PBT (reinforced fiberglass 30%)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 VDC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable Entry: PG9 (6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Valve Type	
D	AC
CD	DC

Option	
K	Electroless nickel plating
	w/o option

Coil options

Voltage / Frequency - Class F	
7250	24 VDC
7200	24 V / 50/60 Hz
7400	110 V / 50 Hz - 120 V / 60 Hz
7600	200 V / 50 Hz - 220 V / 60 Hz
7700	230 V / 50 Hz - 240 V / 60 Hz

Plug

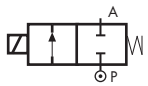
Plug	
0A1	c/w plug
	w/o plug

•	2	1	1	D	S	U	•	•	•	•	•	•	•	•	•

Product coding example:

D211DSU 7250
3/8" G, auto operation, brass body, silicone FDA seals, 10.5 mm orifice, 24 VDC, without plug.

D262/263 Series, Vacuum – 2/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass CW617N (EN 12165)
Orifice Material	Stainless Steel 1.4305 EN 10088 (AISI 303)
Flange	Stainless Steel 1.4305 EN 10088 (AISI 303)
Tube	Stainless Steel AISI 304
Plunger	Stainless Steel 1.4106 EN 10088 (AISI 430F)
Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation	Class F 155 °C
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Configuration suitable for vacuum
- Stainless steel AISI 430F operators with low residual magnetism
- Manufactured in compliance to RoHS directive and to relevant international standards
- Choice of high quality seal materials
- Response time 5 to 25 ms

Valve manufactured in conformity of all regulation and law CE:

- EC 1935/2004
- EC 2023/2006
- EC 10/2011 and all subsequent amended and integration
- For metal alloy different from stainless steel included superficial treatment in absence of specific national or international rule the conformity is evaluated following clause 3 of regulation EC 1935/2004 using resolution of European council as guide: Metal and Alloys used in food contact 1st edition 2013.
- Italian law: D.M. 174 06/04/2004 drinkable water
- Italian law: D.M. 21/03/1973 and all subsequent amended and integration.

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
¼"	0.04	0.03	-0.9 to 1	-0.9 to 1	1.0	FKM NBR	D263DVAL D263DBAL
¼"	0.09	0.08	-0.9 to 1	-0.9 to 1	1.5	FKM NBR	D263DVCL D263DBCL
¼"	0.24	0.20	-0.9 to 1	-0.9 to 1	2.5	FKM NBR	D263DVGL D263DBGL
¼"	0.32	0.27	-0.9 to 1	-0.9 to 1	3.0	FKM NBR	D263DVHL D263DBHL
¼"	0.42	0.36	-0.9 to 1	-0.9 to 1	4.0	FKM NBR	D263DVLL D263DBLL
¼"	0.53	0.45	-0.9 to 1	-0.9 to 1	5.0	FKM NBR	D263DVNL D263DBNL
¼"	0.56	0.48	-0.9 to 1	-0.9 to 1	6.0	FKM NBR	D263DVPL D263DBPL

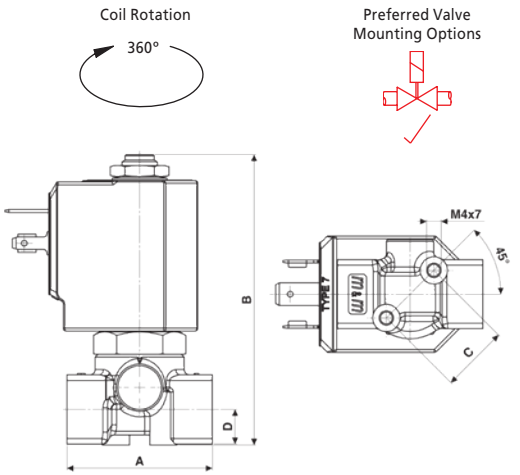
Options Available

Valve Options (see coding chart)
Body threaded connection G ⅛"

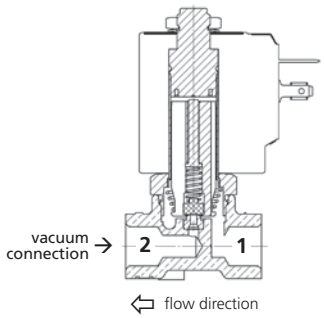
Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM (-10 °C to +130 °C)	Water, oil, air	-10 °C	+50 °C
NBR (-10 °C to +90 °C)	Water, oil, air	-10 °C	+50 °C

[1] See corrosion reference guide and sealing solutions for material compatability. Other seals material on request.

D262/263 Series, Vacuum – 2/2 Normally Closed



Connection scheme



Pipe Size	A	B	C	D	Weight (kg)
1/8" - 1/4"	40	77.5	18.5	9.5	0.26

Dimensions (mm)

Solenoid enclosures

7--0 Type Coil - Insulation class F

External material: PBT (reinforced fiberglass 30%)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 VDC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable Entry: PG9 (6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
2	1/8"
3	1/4"

Seals	
V	FKM
B	NBR

Orifice	
A	1.0
C	1.5
G	2.5
H	3.0
L	4.0
N	5.0
P	6.0

Coil options

Option	
	w/o option

Voltage / Frequency - Class F	
7250	24 VDC
7200	24 V / 50/60 Hz
7400	110 V / 50 Hz - 120 V / 60 Hz
7600	200 V / 50 Hz - 220 V / 60 Hz
7700	230 V / 50 Hz - 240 V / 60 Hz

Plug

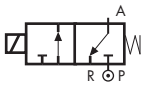
Plug	
	w/o plug
0A1	c/w plug

D	2	6	•	D	•	•	L	•	•	•	•	•	•	•	•

Product coding example:

D263DBPL 7700
1/4" G, auto operation, brass body, FKM seals, 6.0 mm orifice, 230 V / 50 Hz - 240 V / 60 Hz, without plug.

D362/363 Series, Vacuum – 3/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction underseat 2 → 1
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass CW617N (EN 12165)
Orifice Material	Stainless Steel 1.4305 EN 10088 (AISI 303)
Flange	Stainless Steel 1.4305 EN 10088 (AISI 303)
Tube	Stainless Steel AISI 304
Plunger	Stainless Steel 1.4106 EN 10088 (AISI 430F)
Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics	
Standard and Class H Coil Voltage DC (=)	24 V
Standard and Class H Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard and Class H Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
c UL us Coil Voltage DC (=)	24 V
c UL us Coil Voltage AC 50 Hz (~)	24 V, 110 V, 230 V
c UL us Coil Voltage AC 60 Hz (~)	120 V, 240 V
Voltage Tolerance	+10% to -15% (AC) +10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation	Class F 155 °C
Power Rating (Standard and Class H)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W
Power Rating (c UL us)	AC 15 VA (holding) AC 30 VA (inrush) DC 10 W

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Configuration suitable for vacuum
- Zero pressure rated
- Stainless steel AISI 430F operators with low residual magnetism
- Manufactured in compliance to RoHS directive and to relevant international standards
- High quality seal materials
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
¼"	0.15	0.13	0 to -0.95	0 to -0.95	2.0	FKM	D363CVEL
¼"	0.24	0.20	0 to -0.95	0 to -0.95	2.5	FKM	D363CVGL
¼"	0.32	0.27	0 to -0.95	0 to -0.95	3.0	FKM	D363CVHL
¼"	0.42	0.36	0 to -0.95	0 to -0.95	4.0	FKM	D363CVLL

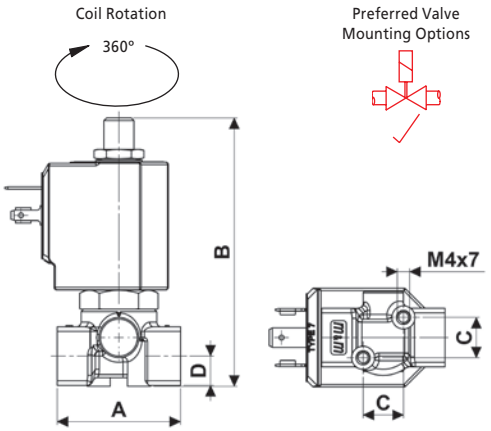
Options Available

Valve Options (see coding chart)
Body threaded connection G 1/8"

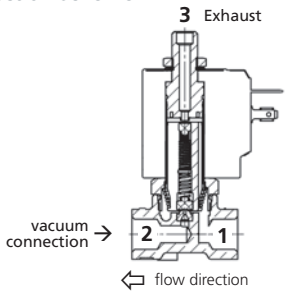
Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM (-10 °C to +130 °C)	Water, oil, air	-10 °C	+50 °C

[1] See corrosion reference guide and sealing solutions for material compatability. Other seals material on request.

D362/363 Series, Vacuum – 3/2 Normally Closed



Connection scheme



Pipe Size	A	B	C	D	Weight (kg)
1/8" - 1/4"	40	87	13	9.5	0.26

Dimensions (mm)

Solenoid enclosures

7--0 & 7--1 Type Coil - Insulation class F & H

External material (7--0): PBT (reinforced fiberglass 30%)
External material (7--1): PPS (glass fiber & mineral filled)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

7--R c UL us Type Coil - Insulation class F

Encapsulation material: PET 815ER Rynite®
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (P180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*
UL approved, file No: E193928

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 VDC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable Entry: PG9 (6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
2	1/8"
3	1/4"

Orifice	
E	2.0
G	2.5
H	3.0
L	4.0

Coil options

Option	
	w/o option

Voltage / Frequency - Class F	
7250	24 VDC
7200	24 V / 50/60 Hz
7400	110 V / 50 Hz - 120 V / 60 Hz
7600	200 V / 50 Hz - 220 V / 60 Hz
7700	230 V / 50 Hz - 240 V / 60 Hz

Voltage / Frequency - Class F - c UL us approved	
725R	24 VDC
720R	24 V / 50 Hz
740R	110 V / 50 Hz - 120 V / 60 Hz
770R	230 V / 50 Hz - 240 V / 60 Hz

Voltage / Frequency - Class H	
7251	24 VDC
7201	24 V / 50/60 Hz
7401	110 V / 50 Hz - 120 V / 60 Hz
7601	200 V / 50 Hz - 220 V / 60 Hz
7701	230 V / 50 Hz - 240 V / 60 Hz

Plug

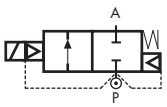
Plug	
	w/o plug
0A1	c/w plug

D	3	6	•	C	V	•	L	•	•	•	•	•	•	•	•

Product coding example:

D362CVGL 7250
1/8" G, auto operation, brass body, FKM seals, 2.5 mm orifice, 24 VDC, without plug.

D203/204/205 Series, Vacuum – 2/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction underseat 2 → 1
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass CW617N (EN 12165)
Flange	Stainless Steel 1.4305 EN 10088 (AISI 303)
Tube	Stainless Steel AISI 304
Plunger	Stainless Steel 1.4106 EN 10088 (AISI 430F)
Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F)
Springs	Stainless Steel AISI 302
Seal Material (Std)	NBR
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
c UL us Coil Voltage DC (=)	24 V
c UL us Coil Voltage AC 50 Hz (~)	24 V, 110 V, 230 V
c UL us Coil Voltage AC 60 Hz (~)	120 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation	Class F 155 °C
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W
Power Rating (c UL us)	AC 15 VA (holding) AC 30 VA (inrush) DC 10 W

Features and Benefits

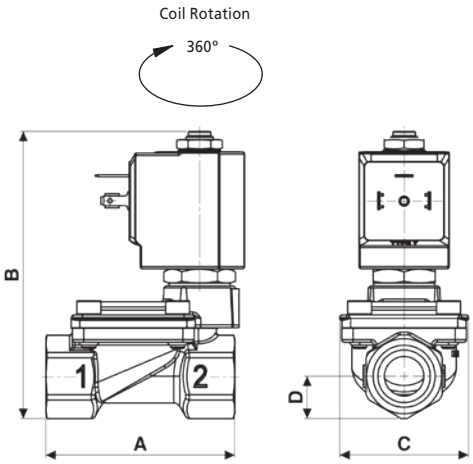
- Pilot operated
- Robust construction for industrial applications
- Configuration suitable for vacuum
- Stainless steel AISI 430F operators with low residual magnetism
- Manufactured in compliance to RoHS directive and to relevant international standards
- High quality seal materials
- Response time 50 to 500 ms

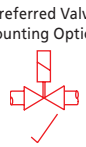
Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
¼"	1.83	1.56	-0.2 to -0.95	-0.2 to -0.95	13	NBR	D203DBZL
⅜"	3.86	3.30			13	NBR	D204DBZL
½"	4.42	3.78			13	NBR	D205DBZL

Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
NBR (-10 °C to +90 °C)	Water, oil, air	-10 °C	+50 °C

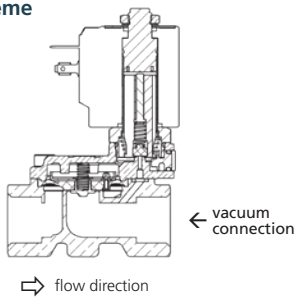
[1] See corrosion reference guide and sealing solutions for material compatability. Other seals material on request.

D203/204/205 Series, Vacuum – 2/2 Normally Closed





Connection scheme



Pipe Size	A	B	C	D	Weight (kg)
¼" to ½"	67	102	45.6	15	0.49

Dimensions (mm)

Solenoid enclosures

7--0 Type Coil - Insulation class F

External material: PBT (reinforced fiberglass 30%)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

7--R c UL us Type Coil - Insulation class F

Encapsulation material: PET 815ER Rynite®
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (P180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*
UL approved, file No: E193928

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 VDC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable Entry: PG9 (6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
203	¼"
204	⅜"
205	½"

Coil options

Option	
	w/o option

Voltage / Frequency - Class F	
7250	24 VDC
7200	24 V / 50/60 Hz
7400	110 V / 50 Hz - 120 V / 60 Hz
7600	200 V / 50 Hz - 220 V / 60 Hz
7700	230 V / 50 Hz - 240 V / 60 Hz

Voltage / Frequency - Class F - c UL us approved	
725R	24 VDC
720R	24 V / 50 Hz
740R	110 V / 50 Hz - 120 V / 60 Hz
770R	230 V / 50 Hz - 240 V / 60 Hz

Plug

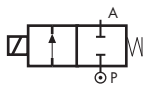
Plug	
	w/o plug
0A1	c/w plug

D	•	•	•	D	B	Z	L	•	•	•	•	•	•	•	•

Product coding example:

D205DBZL 725R
½" G, auto operation, brass body, NBR seals, 13 mm orifice, 24 V / 50/60 Hz c UL us approved, without plug.

D237/238/239 & CD237/238/239 Series, Vacuum – 2/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass CW617N (EN 12165)
Flange	Stainless Steel 1.4305 EN 10088 (AISI 303)
Additional Flange (HEX 30)	Brass CW614N (EN 12164)
Tube	Stainless Steel AISI 304
Plunger	Stainless Steel 1.4106 EN 10088 (AISI 430F)
Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F)
Springs	Stainless Steel AISI 302
Seal Material (Std)	NBR
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics	
High Power Coil Voltage DC (=)	24 V
High Power Coil Voltage AC 50 Hz (~)	24 V, 110 V, 230 V
High Power Coil Voltage AC 60 Hz (~)	24 V, 120 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation	Class H 180 °C
Power Rating (High Power)	AC 25 VA (holding) AC 50 VA (inrush) DC 22 W

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Configuration suitable for vacuum
- Stainless steel AISI 430F operators with low residual magnetism
- Manufactured in compliance to RoHS directive and to relevant international standards
- Choice of high quality seal materials
- Response time 5 to 25 ms

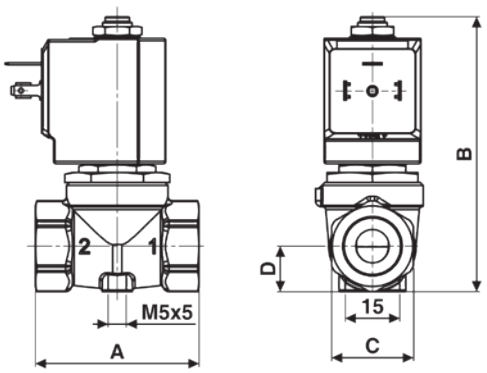
Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
¼"	1.49	1.27	0 to -0.95	-	10.5	NBR EPDM	D237DBU1 D237DEU1
⅜"	1.68	1.44	0 to -0.95	-	10.5	NBR EPDM	D238DBU1 D238DEU1
½"	1.76	1.50	0 to -0.95	-	10.5	NBR EPDM	D239DBU1 D239DEU1
¼"	1.49	1.27	-	0 to -0.95	10.5	NBR EPDM	C D237DBU1 C D237DEU1
⅜"	1.68	1.44	-	0 to -0.95	10.5	NBR EPDM	C D238DBU1 C D238DEU1
½"	1.76	1.50	-	0 to -0.95	10.5	NBR EPDM	C D239DBU1 C D239DEU1

Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
NBR 60 shore (-10 °C to +90 °C)	Water, oil, air	-10 °C	+50 °C
EPDM (-10 °C to +120 °C)	Water, hot water	-10 °C	+50 °C

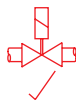
[1] See corrosion reference guide and sealing solutions for material compatability. Other seals material on request.

D237/238/239 & CD237/238/239 Series, Vacuum – 2/2 Normally Closed

Coil Rotation



Preferred Valve Mounting Options



Pipe Size	A	B	C	D	Weight (kg)
¼" - ⅜" - ½"	54	89	HEX 27	15	0.45

Dimensions (mm)

Solenoid enclosures

7-K1 & 7-Z1 Type Coil - Insulation class H

External material: PPS (glass fiber & mineral filled)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 VDC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable Entry: PG9 (6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Valve Type	
D	AC version
CD	DC version

Pipe Size	
7	¼"
8	⅜"
9	½"

Seals	
E	EPDM
B	NBR

Option	
	w/o option

Coil options

Voltage / Frequency - Class H, High Power	
72Z1	24 VDC
72K1	24 V / 50/60 Hz
74K1	110 V / 50 Hz - 120 V / 60 Hz
77K1	230 V / 50 Hz - 240 V / 60 Hz

Plug

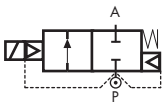
Plug	
	w/o plug
0A1	c/w plug

•	2	3	•	D	•	U	1	•	•	•	•	•	•	•	•	•

Product coding example:

D238DEU1 77K1
⅜" G, auto operation, brass body, EPDM seals, 10.5 mm orifice, 230 V / 50 Hz - 240 V / 60 Hz, without plug.

D223/224/225 Series, Vacuum – 2/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction underseat 2 → 1
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass CW617N (EN 12165)
Flange	Stainless Steel 1.4305 EN 10088 (AISI 303)
Tube	Stainless Steel AISI 304
Plunger	Stainless Steel 1.4106 EN 10088 (AISI 430F)
Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F)
Springs	Stainless Steel AISI 302
Seal Material (Std)	NBR
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation	Class F 155 °C
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W

Features and Benefits

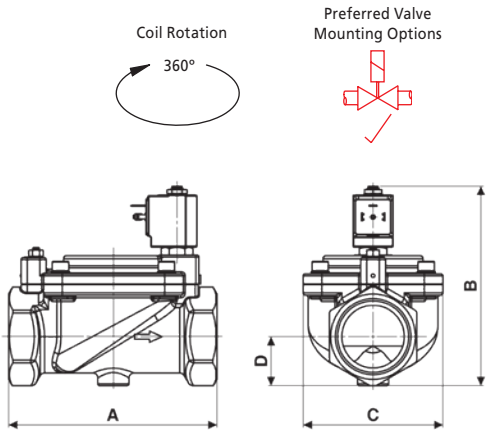
- Pilot operated
- Robust construction for industrial applications
- Configuration suitable for vacuum
- Stainless steel AISI 430F operators with low residual magnetism
- Manufactured in compliance to RoHS directive and to relevant international standards
- High quality seal materials
- Speed control screw as standard
- Response time 50 to 500 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
1 ¼"	25.97	22.20	-0.5 to -0.95	-0.5 to -0.95	40	NBR	D223DBKL
1 ½"	28.08	24.00			40	NBR	D224DBKL
2"	37.91	32.40			50	NBR	D225DBJL

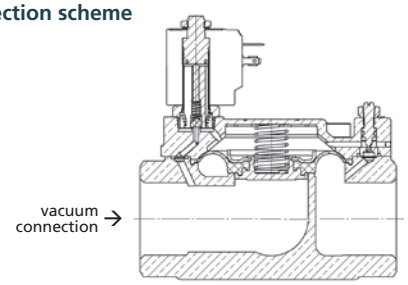
Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
NBR (-10 °C to +90 °C)	Water, oil, air	-10 °C	+50 °C

[1] See corrosion reference guide and sealing solutions for material compatability. Other seals material on request.

D223/224/225 Series, Vacuum – 2/2 Normally Closed



Connection scheme



Pipe Size	A	B	C	D	Weight (kg)
1 ¼" - 1 ½"	140	140	96	31	2.8
2"	168	158	112	39	3.9

Dimensions (mm)

Solenoid enclosures

7--0 Type Coil - Insulation class F

External material: PBT (reinforced fiberglass 30%)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 VDC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable Entry: PG9 (6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
23	1 ¼"
24	1 ½"
25	2"

Orifice[1]	
K	40
J	50

Option	
	w/o option

Coil options

Voltage / Frequency - Class F	
7250	24 VDC
7200	24 V / 50/60 Hz
7400	110 V / 50 Hz - 120 V / 60 Hz
7600	200 V / 50 Hz - 220 V / 60 Hz
7700	230 V / 50 Hz - 240 V / 60 Hz

Plug

Plug	
	w/o plug
0A1	c/w plug

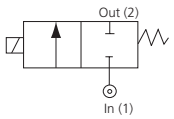
D	2	•	•	D	B	•	L	•	•	•	•	•	•	•	•	•

[1] DN40 for D223 and D224; DN50 for D225.

Product coding example:

D225DBJL 7250
2" G, auto operation, brass body, NBR seals, 50 mm orifice, 24 VDC, without plug.

GB Series: ¼" to 1" – 2/2 Normally Closed

Specifications	
Function	Normally closed, energise to open 
Body Material (Std)	Aluminium
Flange Tube	Stainless Steel 303
Plunger and top stop	Stainless Steel 430FR
Springs	Stainless Steel 302
Seal Material (Std)	NBR
Connection Type (Std)	BS21
Shading Ring	Copper
Electrical Characteristics	
Coil Voltage DC (=)	12 V, 24 V, 110 V
Coil Voltage AC 50 Hz (~)	24 V, 110 V, 120 V, 230 V
Coil Voltage AC 60 Hz (~)	24 V, 110 V, 120v, 220 V
Voltage Tolerance	+10% or -10%
Duty Cycle	100% ED
Protection Class (Std)	IP65 (BS EN 60529) (plug supplied as standard)
Electrical Connection (Std)	PG9 Din Connector DIN 43650/ISO 4400 (EN 175301-803) Form 'A'
Coil Insulation	Class H (BS EN 60085) 180 °C (E5 Type)
Power Rating	¼" - ½" (19 VA /14 watt) ¾" - 1" (32 VA / 22 watt) ¼" - 1" (24 VDC) (14 watt)

Features and Benefits

- Approved for mains gas safety shut off
- Suitable for automatic burners
- Suitable for fire protection systems
- Ideal for low pressure Natural gas
- Approved to EN161 when fitted with a standard E5 type enclosure
- Compliant with Gas Appliance Regulation
- Fully ported orifices for high flow
- Zero pressure rated
- Optional pressure test points
- Suitable for 1st, 2nd and 3rd family gases
- Suitable for LPG
- Response time up to ½" 15 - 25 ms
- Response time up to 1" 20 - 40 ms
- Panic buttons & electro thermal links available for controlling valve
- Classification: Group 2 controls (BS EN 13611)

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (mBar)		P. Max Bar	Orifice (mm)	Weight (kg)
			AC Voltages	DC Voltages			
¼"	4.2	3.6	0 -140	0 - 50	1	12.70	0.23
⅜"	5.8	5	0 -140	0 - 50		12.70	0.23
½"	6.3	5.4	0 -140	0 - 50		12.70	0.23
¾"	15.0	12.9	0 -100	0 - 50		19.00	0.27
1"	15.7	13.6	0 -100	0 - 50		19.00	0.32

Kv = Flow rate measured with differential pressure at 2.5 mbar

Options Available

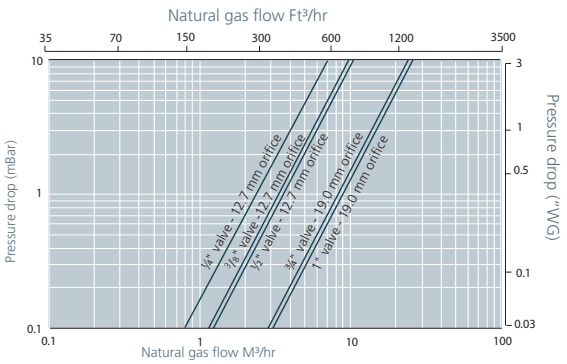
Solenoid Enclosure	
Protection Class	
Exm T5 (IP65) (up to ½")	Consult Rotork Midland for product codes

Seal Material[1] and Media Temp. Range	Ambient Temperature Range °C	
	Min	Max
NBR (-10 °C to +80 °C)	0	60

Main Valve Assembly Options
NPT Threads
Stainless steel tagging

See solenoid enclosures for specific details.

[1] See corrosion reference guide and sealing solutions for material compatability.

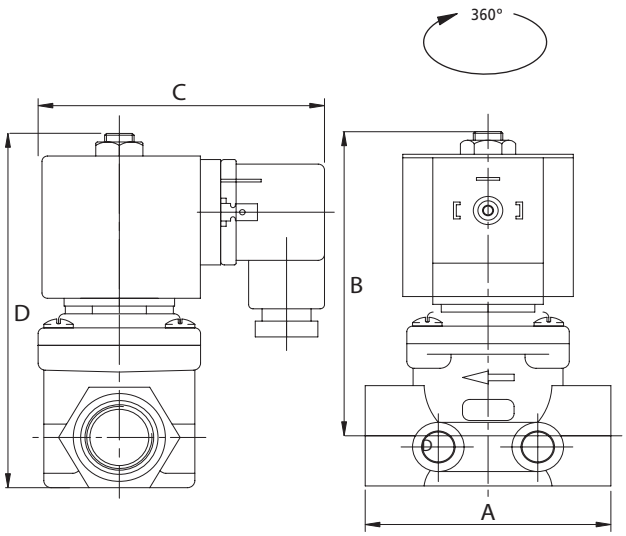


How to use the flow chart

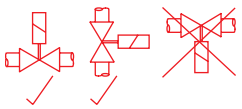
1. Select the required flow.
2. Note the corresponding pressure drop.
3. Based on where the two points intersect select the most appropriate model.

GB Series: ¼" to 1" – 2/2 Normally Closed

Coil Rotation



Preferred Valve Mounting Options



Dimensions

Pipe Size	A	B	C	D
¼"	57	87	56	101
⅜"	67	87	56	101
½"	67	87	56	101
¾"	86	90	56	107
1"	106	93	56	115

Dimensions given in mm

Solenoid enclosures

E5 Type enclosure protection class IP65

External material: Glass reinforced nylon
Electrical connection: DIN Plug to ISO 4400
Winding insulation: Class H
Enclosure: Conforms to IP65 when correct plug gasket is fitted as supplied

Coding chart

Main Valve Assembly

Model	Valve Body Conn. Size	Connection Type	Operation	Body Material	Seals	Style
34 GB	B ¼"	1 BS21	1 AUTO	3 Aluminium	A NBR	1 Standard
	C ⅜"	3 NPT				
	D ½"					
	E ¾"					
	F 1"					

Coil options

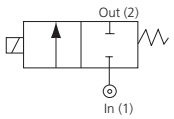
Enclosure	Voltage / Frequency	Electrical Connection
1 Weather proof IP65	A1 230 V / 50 Hz (19 VA / 14 Watt) ¼" - ½" valves only	1 Din plug 9 mm
	A2 110 V / 50 Hz & 120 V / 50 Hz (19 VA / 14 Watt) ¼" - ½" valves only	
	A8 230 V / 50 Hz (32 VA / 22 Watt) ¾" - 1" valves only	
	A9 110 V / 50 Hz (32 VA / 22 Watt) ¾" - 1" valves only	
	B2 24 VDC (14 Watt) ¼" - 1" valves only	

34	•	•	1	Z	3	A	1	-	1	••	•

Product coding example:

34F11Z3A1-1A81 - GB Series
1" BS21, auto operation, aluminium, NBR seals, 230 V / 50 Hz DIN Plug 9 mm.

GB Series: 1¼" to 2" – 2/2 Normally Closed

Specifications	
Function	Normally closed, energise to open 
Body Material (Std)	Aluminium
Flange Tube	Stainless Steel 303
Plunger and top stop	Stainless Steel 430FR
Springs	Stainless Steel 302
Seal Material (Std)	NBR
Connection Type (Std)	BS21
Shading Ring	Copper
Electrical Characteristics	
Coil Voltage DC (=)	12 V, 24 V, 110 V
Coil Voltage AC 50 Hz (~)	24 V, 110 V, 120 V, 230 V
Coil Voltage AC 60 Hz (~)	24 V, 110 V, 120v, 220 V
Voltage Tolerance	+10% or -10%
Duty Cycle	100% ED
Protection Class (Std)	IP65 (BS EN 60529) (plug supplied as standard)
Electrical Connection (Std)	PG9 Din Connector DIN 43650/ISO 4400 (EN 175301-803) Form 'A'
Coil Insulation	Class H (BS EN 60085) 180 °C (E5 Type)
Power Rating	1 ¼" - 2" (34 watt)

Features and Benefits

- Approved for mains gas safety shut off
- Suitable for automatic burners
- Suitable for fire protection systems
- Ideal for low pressure Natural gas
- Approved to EN161
- Compliant with Gas Appliance Regulation
- Fully ported orifices for high flow
- Zero pressure rated
- Optional pressure test points
- Suitable for 1st, 2nd and 3rd family gases
- Suitable for LPG
- Response time up to 1¼" 60-120 ms
- Panic buttons & electro thermal links available for controlling valve
- Classification: Group 2 controls (BS EN 13611)

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (mBar)		P. Max Bar	Orifice (mm)	Weight (kg)
			AC Voltages	DC Voltages			
1¼"	38.3	33	0 -50	0 - 50	1	40.00	3.08
1½"	38.3	33	0-50	0 - 50		40.00	3.08
2"	38.3	33	0-50	0 - 50		40.00	3.08

Options Available

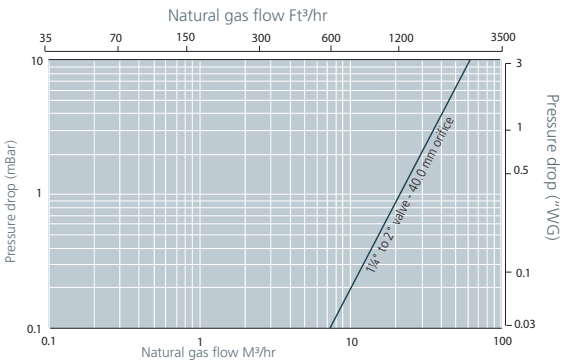
Seal Material[1] and Media Temp. Range	Ambient Temperature Range °C	
	Min	Max
NBR (-10 °C to +80 °C)	0	60

[1] See corrosion reference guide and sealing solutions for material compatability.

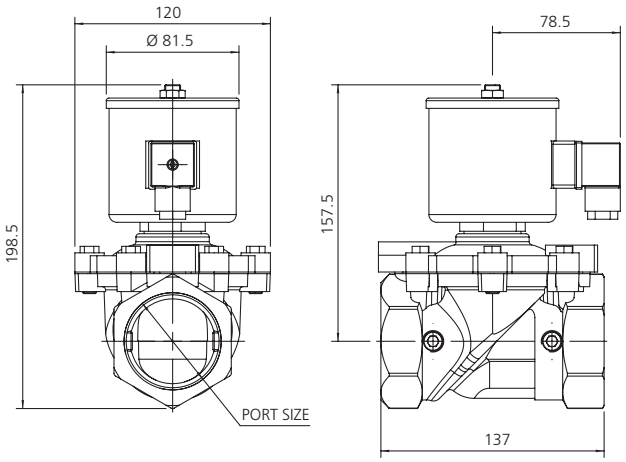
Main Valve Assembly Options
NPT Threads
Stainless steel tagging

How to use the flow chart

1. Select the required flow.
2. Note the corresponding pressure drop.
3. Based on where the two points intersect select the most appropriate model.

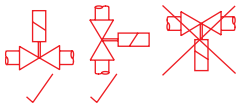


GB Series: 1¼" to 2" – 2/2 Normally Closed



Dimensions given in mm

Preferred Valve Mounting Options



Solenoid enclosures

S50 enclosure protection class IP65

External material: Pressed steel
Electrical connection: DIN Plug to ISO 4400
Winding insulation: Class H
Enclosure: Conforms to IP65 when correct plug gasket is fitted

Coding chart

Main Valve Assembly

Model		Valve Body Conn. Size		Connection Type		Operation		Body Material		Seals		Style	
34	GB	G	1¼"	1	BS21	1	AUTO	3	Aluminium	A	NBR	1	Standard
		H	1½"	3	NPT								
		J	2"										

Coil options

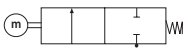
Enclosure		Voltage/Frequency/Electrical Connection	
1	Weather proof IP65	N13	230 V / 50 Hz / PR1 AC Voltage
		N23	110 V / 50 Hz / PR1 AC Voltage
		N41	24 VDC / Din plug 9mm DC Voltage

34	•	•	1	Z	3	A	1	-	1	•••

Product coding example:

34H11Z3A1-1N13 - GB Series
1½" BS21, auto operation, aluminium, NBR seals, 230 V / 50 Hz PR1.

HWA Series – 2/2 Normally Closed

Specifications	
Function	Normally Closed, energise to open 
Body Material up to 3”	Aluminium
Body Material above 3”	Cast Iron
Closing TIme:	Less than 1 second
Springs	Stainless Steel 302 & 316
Seal Material (Std)	NBR
Connection Type (Std)	BS21 & flanged PN16
Electrical Characteristics	
Coil Voltage AC 50 Hz (~)	110 V, 230 V
Voltage Tolerance	+10% / -15%
Protection Class (Std)	IP5X (BS EN 60529)
Electrical Connection (Std)	Suitable for M20 Conduit
Power Rating (Std)	90 VA, 50 W (Inrush), 9 VA, 9 W (Hold)

Seal Material[1] and Media Temp. Range	Ambient Temperature Range °C	
	Min	Max
NBR (-10 °C to +80 °C)	0	60

[1] See corrosion reference guide and sealing solutions for material compatability.

Features and Benefits

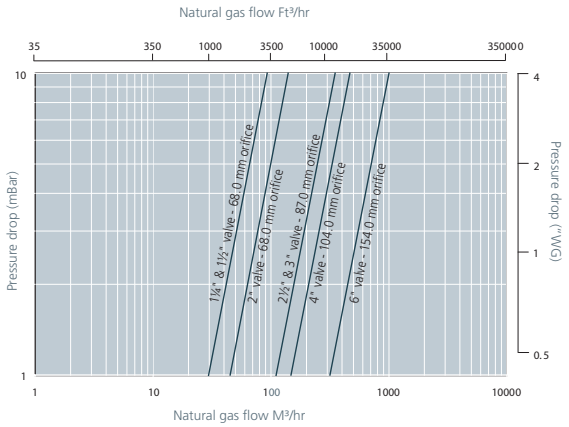
- Approved for mains gas safety shut off
- Suitable for automatic burners
- Suitable for fire protection systems
- Ideal for low pressure natural gas
- Fully ported orifices for high flow
- Zero pressure rated
- Slow opening
- Closed position volt free contacts available
- Fitted with pressure test points as standard
- First, second and third family gases
- Approved to EN161
- Compliant with Gas Appliance Regulation (EU) 2016/426 (GAR)
- Classification: Group 2 controls (BS EN 13611)

Pipe Size	Connection Type	Cv (gpm)	Kv (m^3/h)	OPD (mBar)	P. Max Bar	Hold VA	Orifice (mm)	Weight (kg)
1¼”	BS21	54	46.5	0-345	5	9	68.00	9.6
1½”	BS21	54	46.5	0-345			68.00	9.6
2”	BS21	95	82	0-345			68.00	9.6
2”	Flanged	95	82	0-345			68.00	11.6
2½”	BS21	157	135	0-345			87.00	10.5
2½”	Flanged	157	135	0-345			87.00	13.1
3”	BS21	188	162	0-345			87.00	10.5
4”	Flanged	226	195	0-345			104.00	38.4
6”	Flanged	423	365	0-200			154.00	62.4

Electro-Thermal Links

Rotork also offers a range of electro-thermal links that can be wired into the power supply of the HWA series valve offering shut down in the event of a fire.

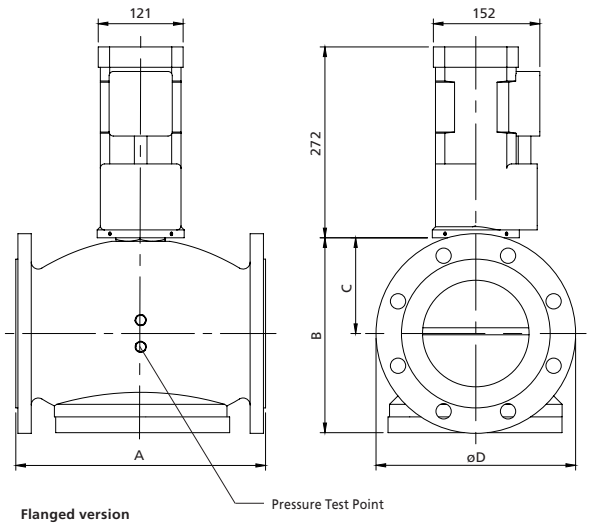
Part Number	Description
10904209	Electro-thermal link 73 °C



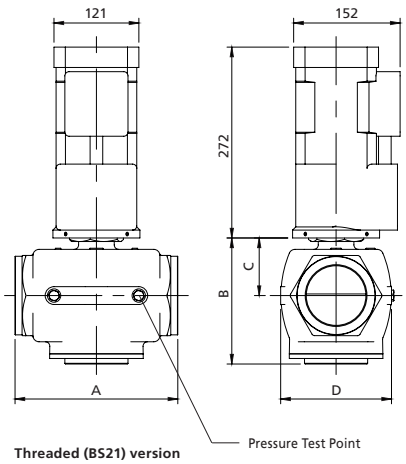
How to use the flow chart

1. Select the required flow.
2. Note the corresponding pressure drop.
3. Based on where the two points intersect select the most appropriate model.

HWA Series – 2/2 Normally Closed

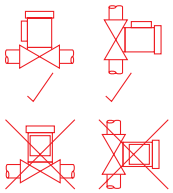


Flanged version



Threaded (BS21) version

Preferred Valve Mounting Options



Dimensions

Pipe Size	A	B (without CPI)	B (with CPI)	C (without CPI)	C (with CPI)	D
1¼" BS21	177.5	150.3	185.7	70.9	106.3	123.1
1½" BS21	177.5	150.3	185.7	70.9	106.3	123.1
2" BS21	177.5	150.3	185.7	70.9	106.3	123.1
2" Flanged	210	150.3	185.7	70.9	106.3	165
2½" BS21	232	180.5	215.9	83.7	119.1	158

Pipe Size	A	B (without CPI)	B (with CPI)	C (without CPI)	C (with CPI)	D
2½" Flanged	290	180.5	215.9	83.7	119.1	185
3" BS21	232	180.5	215.9	83.7	119.1	158
4" Flanged	292	227.8	263.2	94.3	129.7	220
6" Flanged	356	277.8	313.2	136.4	171.8	285

Standard flange size PN16 all others screwed BS21
Dimensions given in mm

Coding chart

Main Valve Assembly

Model	
49	HWA

Valve Body Conn. Size[1]	
G	1¼"
H	1½"
J	2"
K	2½
L	3"
M	4"
N	6"

Connection Type	
1	BS21
4	FLANGED (PN16 STD)

Operation	
1	AUTO

Body Material	
3	Aluminium (up to and including 3")
4	Cast Iron (4" and above)

Seals	
A	NBR

Style	
1	Standard

Coil options

Enclosure	
7	Motorised

Voltage / Frequency	
K1	110 V / 50 Hz
K2	110 V / 50 Hz inc. Closed Position Indicator
K5	230 V / 50 Hz
K6	230 V / 50 Hz inc. Closed Position Indicator

Electrical Connection	
0	M20 Conduit

49	•	•	1	Z	•	A	1	-	7	••	0

[1] See features chart for available connection types.

Product coding example:

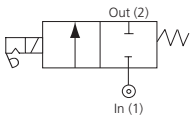
49M41Z4A1-7K60 - HWA Series
4" Flanged, closed position indicator, auto operation,
cast iron, NBR seals, 230 V / 50 Hz.

Spares

Part Number	Description
7K10SA	110 V / 50 Hz actuator (without closed position indicator)
7K20SA	110 V / 50 Hz actuator (with closed position indicator)
7K50SA	230 V / 50 Hz actuator (without closed position indicator)
7K60SA	230 V / 50 Hz actuator (with closed position indicator)

Important Note: The new HWA actuator is not compatible with pre-1995 models, identified by an alpha-numeric date code on the valve body. The digits indicate the year and the letter indicates the month i.e. A = January, B = February, etc with M = December - (note the letter 'I' is not used). For example 94J = September 1994. In addition, pre-1995 valves have a flanged centre boss that is fitted to the body with 4 socket head screws, valves post 1995 have a centre boss with a screw in post.

FACHL Series – 2/2 Normally Closed (Manual Reset)

Specifications	
Function	Normally closed, energise to open 
Maximum Viscosity	115 SSU
½" - 1" Body Material (Std)	Brass CZ122
1¼" - 2½" Body Material (Std)	Bronze DIN 1705
3"+	Cast Iron Coated
Flange Tube	Stainless Steel 303
Plunger and top stop	Stainless Steel 430FR
Springs	Stainless Steel 302
Seal Material (Std)	NBR
Connection Type (Std)	BS21
Shading Ring	Copper
Electrical Characteristics	
Coil Voltage DC (=)	12 V, 24 V, 110 V
Coil Voltage AC 50 Hz (~)	24 V, 110 V, 120 V, 230 V
Coil Voltage AC 60 Hz (~)	24 V, 110 V, 120v, 220 V
Voltage Tolerance	+10% or -10%
Duty Cycle	100% ED
Protection Class (Std)	IP65 (BS EN 60529) (plug supplied as standard)
Electrical Connection (Std)	G9 Din Connector DIN 43650/ISO 4400 (EN 175301-803) Form 'A'
Coil Insulation	Class H (BS EN 60085) 180 °C (E5/S50 Type)
Power Rating	14.5 Watts, 22 Watts, 19 VA

Features and Benefits

- Heavy Duty Valve design
- For use with fire protection systems
- Manual Lever reset operation
- No voltage release safety feature
- AC version fitted with DC internal Rectifier
- Designed for Gas, Oil and Liquids
- Suitable for 1st, 2nd and 3rd gas families

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (Bar)	P. Max Bar	Power (Watts)	Orifice (mm)	Weight (kg)
½"	3	3	0-2.0	16	14.5	16	1.40
¾"	9	8	0-2.0		14.5	19	1.90
1"	11	9.5	0-2.0		14.5	22	1.90
1¼"	27	23	0-0.35		14.5	38	3.10
1½"	27	23	0-0.35		14.5	38	3.10
2"	55	47	0-0.35		14.5	51	3.70
2½"	74	64	0-0.2		14.5	76	7.80
3"	89	77	0-0.2		14.5	76	7.80
4"[2]	194	167	0-0.8		22	102	40.50
6"[2]	384	331	0-0.3		22	152	70.50

[2] These valves are all flanged connections as standard PN10/16.

Options Available

Seal Material[1] and Media Temp. Range	Ambient Temperature Range °C	
	Min	Max
NBR (-10 °C to +80 °C)	-10	50
EPDM (-50 °C to +120 °C)	-10	50
FKM (-20 °C to +150 °C)	-10	50

Main Valve Assembly Options
NPT Threads
Stainless steel tagging

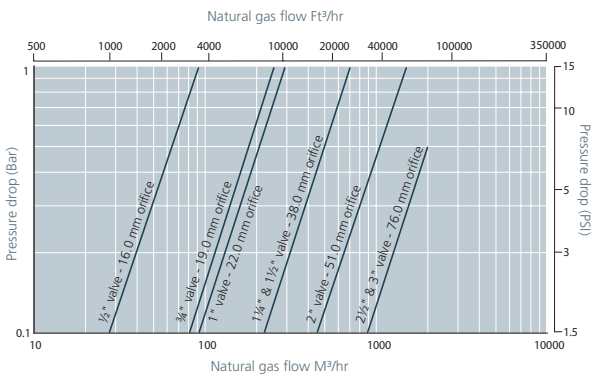
[1] See corrosion reference guide and sealing solutions for material compatability.

Notes

- If the inlet pressure on the seat area exceeds 18kg the inlet pressure must be exhausted to open the valve.
- Consult factory for flow figures for valves above 2½".

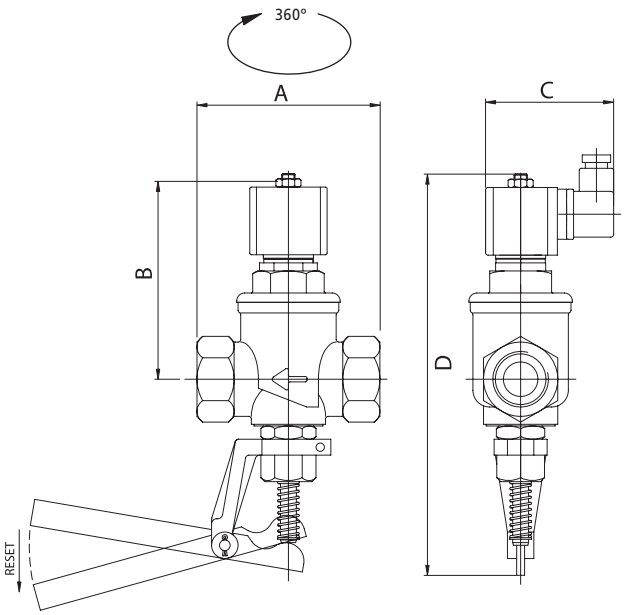
How to use the flow chart

1. Select the required flow.
2. Note the corresponding pressure drop.
3. Based on where the two points intersect select the most appropriate model.



FACHL Series – 2/2 Normally Closed (Manual Reset)

Coil Rotation



Preferred Valve Mounting Options

Dimensions

Pipe Size	A	B	C	D
½"	70	100	75 inc plug	184
¾"-1"	109	116	75 inc plug	246
1½"	122	122	75 inc plug	258
2"	140	132	75 inc plug	233
2½"	260	137	75 inc plug	273
3"	197	137	75 inc plug	273
4"	292	285	190	577
6"	356	330	260	686

Dimensions given in mm

Solenoid enclosures

E5 Type enclosure protection class IP65

External material: Glass reinforced nylon
Electrical connection: DIN Plug to ISO 4400
Winding insulation: Class H
Enclosure: Conforms to IP65 when correct plug gasket is fitted as supplied

Used on FACHL valves up to and including 3"

S50 enclosure protection class IP65

External material: Pressed steel
Electrical connection: DIN Plug to ISO 4400
Winding insulation: Class H
Enclosure: Conforms to IP65 when correct plug gasket is fitted

Used on FACHL valves 4" and above

Coding chart

Main Valve Assembly

Model	
41	FACHL

Valve Body Conn. Size	
D	½"
E	¾"
F	1"
G	1¼"
H	1½"
J	2"
K	2 ½"
L	3"
M	4"
N	6"

Connection Type	
2	BSP G
3	NPT
4	FLANGED (PN16 STD)

Operation	
3	MANUAL RESET

Body Material	
2	Bronze
4	Cast Iron (4"and above)

Seals	
A	NBR
B	EPDM
C	FKM

Style	
1	Standard

Coil options

Enclosure	
1	Weather proof IP65

Voltage / Frequency	
B1	230 V / 50 Hz
B4	110 V / 50 Hz
B2	24 VDC
L1	230 V / 50 Hz (4" and above)
L9	110 V / 50 Hz (4" and above)
L6	24 VDC (4" and above)

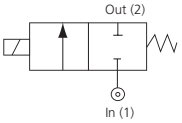
Electrical Connection	
1	Din plug 9 mm (For DC only)
3	Din plug 9 mm PR1 220/240 110/120

41	•	•	3	Z	•	•	1	-	1	••	•

Product coding example:

41H23Z2A1-1B21 - FACHL Series
1 1/2" BSPG, manual reset, bronze body, NBR seals, 24 VDC DIN Plug 9 mm.

68 Series: Cryogenic – 2/2 Normally Closed

Specifications	
Function	Normally Closed, energise to open, Out (2)  In (1)
Maximum Viscosity	65cST
1/4" - 1" Body Material	Brass (CZ122)
1 1/4" - 2" Body Material	Bronze
Flange Tube	Stainless Steel 303
Plunger and top stop	Stainless Steel 430FR
Springs	Stainless Steel 302
Seal Material (Std)	PTFE
Connection Type (Std)	BS21
Shading Ring	Copper (Std), Silver (stainless steel option)
Electrical Characteristics	
Coil Voltage DC (=)	12 V, 24 V, 110 V
Coil Voltage AC 50 Hz (~)	24 V, 110 V, 120 V, 230 V
Coil Voltage AC 60 Hz (~)	24 V, 110 V, 120 V, 220 V
Voltage Tolerance	+10% or -10%
Duty Cycle	100% ED
Protection Class (Std)	IP65 (BS EN 60529) (plug supplied as standard)
Electrical Connection (Std)	PG9 Din Connector DIN 43650/ISO 4400 (EN 175301-803) Form 'A'
Coil Insulation	Class H (BS EN 60085) 180 °C
Power Rating	14.5 Watts, 19 VA

Features and Benefits

- Controls Cryogenic Media down to -196 °C
- Larger Porting for High Kv
- Teflon® - PTFE seals
- Choice of Brass or Stainless steel valve body

Special Features

- Oxygen Degreased and individually packed for use on liquids down to -196 °C

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (Bar)		P. Max[2] Bar	Orifice (mm)	Weight (kg)
			AC Voltages	DC Voltages			
1/4"	0.52	0.43	0-8.3	0-8.3	50	4.50	0.35
1/4"	0.60	0.52	0-8	0-8		6.0	0.35
3/8"	3.5	3.0	0.3-8.6	0.3-8.6		16.00	1.20
1/2"	4.9	4.2	0.3-8.6	0.3-8.6		16.00	1.20
3/4"	6.3	5.4	0.3-8.6	0.3-8.6		16.00	1.20-2.30
1"	8.24	7.1	0.3-8.6	0.3-8.6		25.00	1.20-2.30
1 1/4"	20.9	18	0.3-8.6	0.3-8.6		32.00	3.10
1 1/2"	20.9	18	0.3-8.6	0.3-8.6		32.00	3.10
2"	20.9	18	0.3-8.6	0.3-8.6		32.00	5.20

[2] P. Max is limited to 46.5 Bar when valve is fitted with an Exd solenoid operator.

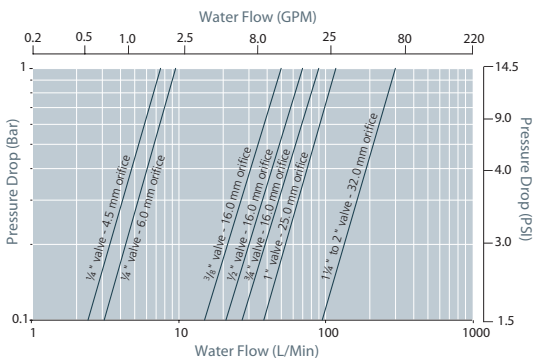
Options Available

Exd Solenoid Enclosure	
Protection Class	Consult Rotork Midland for product codes
Exd T6 (IP67)	

Seal Material[1] and Media Temp. Range	Ambient Temperature Range °C	
	Min	Max
PTFE (-196 °C to +180 °C)	-10	50

Main Valve Body Options
Stainless Steel body 316 (available up to and including 1 inch)
NPT Threads
Stainless Steel Tagging (consult factory for product code)

[1] See corrosion reference guide and sealing solutions for material compatability.

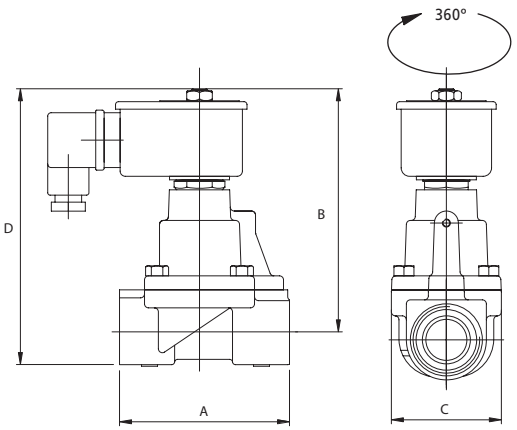


How to use the flow chart

1. Select the required flow.
2. Note the corresponding pressure drop.
3. Based on where the two points intersect select the most appropriate model.

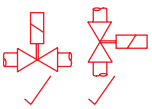
68 Series: Cryogenic – 2/2 Normally Closed

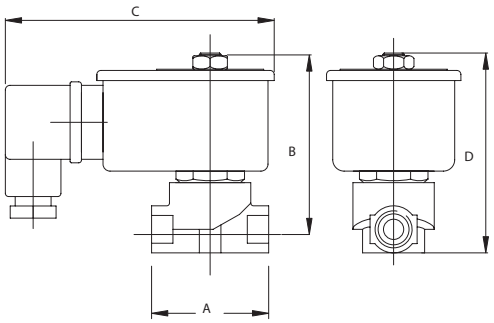
Coil Rotation



Pipe Size	A	B	C	D
3/8" - 1/2"	85	105	105*	122
3/4"-1"	85	135	105*	155
1¼"-1½"	117	133	82.5	209
2"	146	145	103	209

Preferred Valve Mounting Options





Pipe Size	A	B	C	D
¼"	44	70	105	78

Dimensions given in mm

* Dimensions including Din Plug

Solenoid enclosures

S4 Type enclosure protection class IP50

External material: Pressed steel powder coated

Electrical entry: Conduit boss 20 mm or ½" NPT

Electrical connection: Screwed terminals or 0.5 mm flying leads, or DIN connector for cryogenic applications

Winding insulation: Class H

Coding chart

Main Valve Assembly

Model	Valve Body Conn. Size	Connection Type	Operation	Orifice (mm)	Body Material	Seals	Style
37 68 Series	B ¼"	1 BS21	1 AUTO	H 4.5	1 Brass (standard on valves up to and including 1"	E PTFE	1 Standard
	C 3/8"	2 BSP G (1 ¼" and above)		J 6.0	2 Bronze (standard on valves above 1")		
	D ½"	3 NPT		Z Default	5 316 Stainless Steel (option available up to and inc 1")		
	E ¾"						
	F 1"						
	G 1¼"						
	H 1½"						
	J 2"						

Coil options

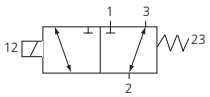
Enclosure	Voltage / Frequency	Electrical Connection
2 S4 type enclosure metal can	E2 230 V / 50 Hz	1 DIN plug 9 mm
	H2 110 V / 50 Hz & 120 V / 60 Hz	
	F1 24 VDC	

37	•	•	1	•	•	E	1	-	2	••	1

Product coding example:

37C11Z1E1-2E21 - 68 Series cryogenic
3/8" BS21, auto operation, brass body, PTFE seals, S4 enclosure 230 V / 50 Hz DIN Plug 9 mm.

67 Series – 3/2 Universal

Specifications	
Function	Normally Closed, energise to open 
Maximum Viscosity	115 SSU
Body Material (Std)	Stainless Steel 316L
Flange Tube	Stainless Steel 303
Plunger and Top Stop	Stainless Steel 430FR
Springs	Stainless Steel 302
Seal Material (Std)	NBR
Connection Type (Std)	BS21
Shading Ring	Silver (stainless steel option)
Electrical Characteristics	
Coil Voltage DC (=)	12 V, 24 V, 110 V
Coil Voltage AC 50 Hz (~)	24 V, 110 V, 120 V, 230 V
Coil Voltage AC 60 Hz (~)	24 V, 110 V, 120 V, 220 V
Voltage Tolerance	+10% or -10%
Duty Cycle	100% ED
Protection Class (Std)	IP65 (BS EN 60529) (plug supplied as standard)
Electrical Connection (Std)	PG9 Din Connector DIN 43650/ISO 4400 (EN 175301-803) Form 'A'
Coil Insulation	Class H (BS EN 60085) 180 °C (E5 Type)
Power Rating	14.5 Watts, 19 VA

Features and Benefits

- 316L stainless steel body construction
- Manual override option
- Satisfy all relevant EC directives
- Normally open, normally closed and diverting (universal)
- Diaphragm Operation
- Compact unit
- Response time 1" 75-100 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (Bar)		P. Max Bar	Orifice (mm)	Weight (kg)
			AC Voltages	DC Voltages			
¼"	0.86	0.73	0-10	0-10	20	8.80	0.90
⅜"	0.86	0.73	0-10	0-10		8.80	0.90
½"	0.86	0.73	0-10	0-10		8.80	0.90

Options Available

Exd Solenoid Enclosure	
Protection Class	See PUB117-011-00
Exd T6 (IP67)	
Exd T4 (IP67)	
Exm T5 (IP65)	

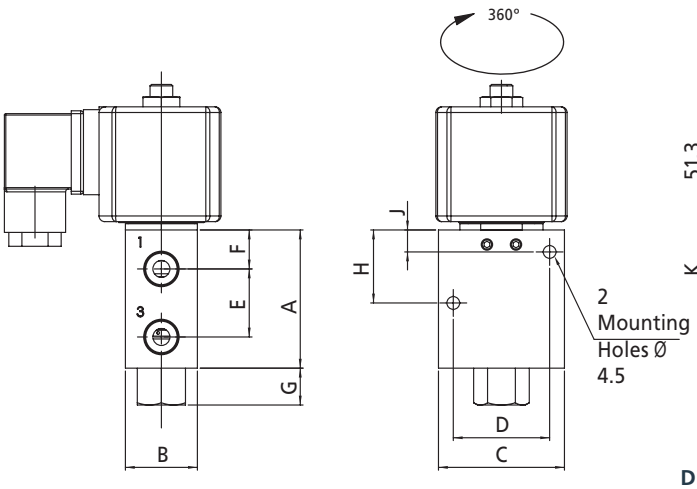
Main Valve Body Options
NPT threads
Manual Override
Oxygen cleaning (consult Rotork Midland for product code)

Seal Material[1] and Media Temp. Range	Ambient Temperature Range °C	
	Min	Max
NBR (-10 °C to +80 °C)	-10	50
EPDM (-50 °C to +120 °C)	-10	50
FKM (-20 °C to +150 °C)	-10	50

[1] See corrosion reference guide and sealing solutions for material compatability.

67 Series – 3/2 Universal

Coil Rotation



Preferred Valve Mounting Option

Dimensions

Size	A	B	C	D	E	F	G	H	J	K	K
1/4"	48.75	25.4	44.45	34	24	13.75	13	25.75	7.75	27.65	27.65
3/8"	65.65	31.75	63.5	42	33.5	16.75	13	33.25	9.25	33.25	33.25
1/2"	65.65	31.75	63.5	42	33.5	16.75	13	33.25	9.25	33.25	33.25

Dimensions given in mm

Solenoid enclosures

E5 Type enclosure protection class IP65

External material: Glass reinforced nylon
Electrical connection: DIN Plug to ISO 4400
Winding insulation: Class H
Enclosure: Conforms to IP65 when correct plug gasket is fitted as supplied

Coding chart

Main Valve Assembly

Model	
33	67 Series 3/2

Valve Body Conn. Size	
B	¼"
C	⅜"
D	½"

Connection Type	
1	BS21
3	NPT

Operation	
1	AUTO
2	MANUAL OVERRIDE

Body Material	
5	316 Stainless Steel

Seals	
A	NBR
B	EPDM
C	FKM

Style	
1	Standard

Coil options

Enclosure	
1	Weather proof IP65

Voltage / Frequency	
A1	230 V / 50 Hz
A2	110 V / 50 Hz & 120 V / 60 Hz
A3	24 V / 50 Hz
B2	24 VDC
B3	12 VDC
B5	110 VDC

Electrical Connection	
1[1]	DIN plug 9 mm
3[2]	Plug Rectified A/C

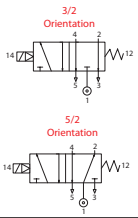
33	•	•	•	Z	5	•	1	-	1	••	•

[1] DC only
[2] AC only

Product coding example:

33B31Z5A1-1B13 - 67 Series
¼" NPT, auto operation, stainless steel body, NBR seals, 230 V / 50 Hz PR 1220/240.

NAMUR Series – 3/2 or 5/2 Universal

Specifications	
Function	
Media	Air
Maximum Viscosity	115 SSU
Body Material (Std)	Anodised Aluminium
Flange Tube	Brass
Plunger and top stop	Stainless Steel 430FR
Springs	Stainless Steel 302
Seal Material (Std)	NBR
Electrical Characteristics	
Coil Voltage DC (=)	12 V, 24 V, 110 V
Coil Voltage AC 50 Hz (~)	24 V, 110 V, 120 V, 230 V
Coil Voltage AC 60 Hz (~)	24 V, 110 V, 120 V, 220 V
Voltage Tolerance	+10% or -10%
Duty Cycle	100% ED
Protection Class (Std)	IP65 (BS EN 60529) (plug supplied as standard)
Electrical Connection (Std)	PG9 Din Connector DIN 43650/ISO 4400 (EN 175301-803) Form 'A'
Coil Insulation	Class F (BS EN 60085) 155 °C (E5 type)
Power Rating	5 watts

Features and Benefits

- Ideal for in-line system service and repair
- Choice of valve body material seals
- Manual Overide
- Low power LED Light
- Dual Coil option
- Exd, Exia and Exm compatible
- Max cycle frequency 5/sec

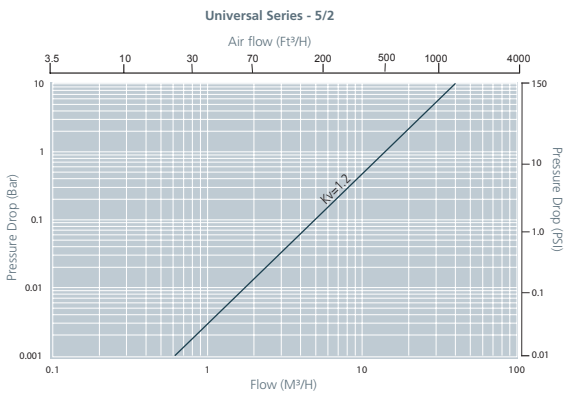
Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (Bar)	P. Max Bar	Weight
¼"	1.4	1.2	2.5-10	10	0.50

Options Available

Exd & Exm Solenoid Enclosure	
Protection Class	
Exd T6 (IP67)	See separate datasheet
Exd T4 (IP67)	
Exm	
Exia	

Seal Material[1] and Media Temp. Range	Ambient Temperature Range °C	
	Min	Max
NBR (-10 °C to +80 °C)	-10	50

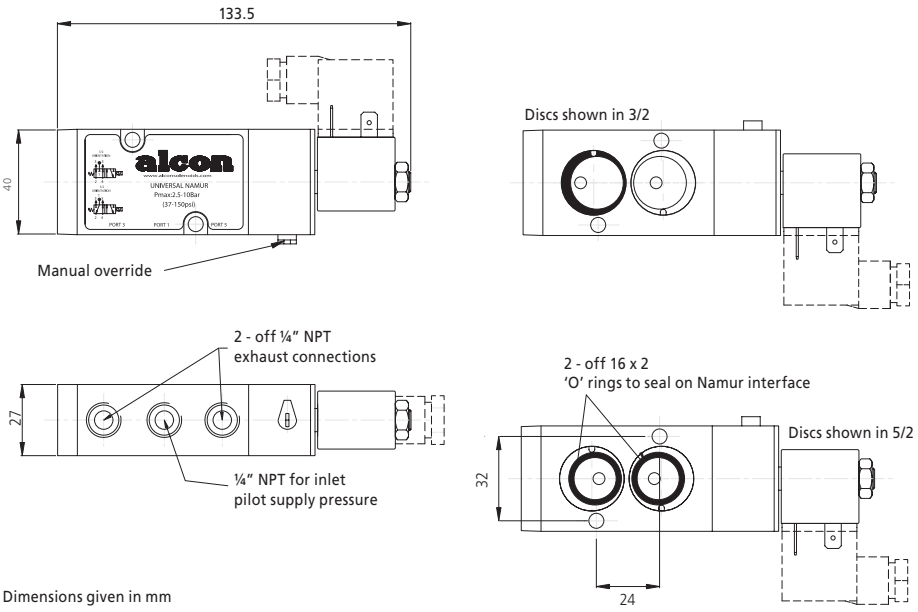
[1] See corrosion reference guide and sealing solutions for material compatability.



How to use the flow chart

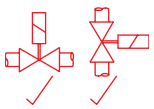
1. Select the required flow.
2. Note the corresponding pressure drop.
3. Based on where the two points intersect select the most appropriate model.

NAMUR Series – 3/2 or 5/2 Universal



Dimensions given in mm

Preferred Valve Mounting Options



Solenoid enclosures

S7 enclosure protection class IP65

External material: Nylon
Electrical connection: DIN Plug to ISO 4400
Winding insulation: Class F
Conforms to IP65 when correct plug seal gasket is fitted

Coding chart

Main Valve Assembly

Model		Valve Body Conn. Size		Connection Type		Operation		Body Material		Seals		Style	
65	Namur	B	¼"	3	NPT	2	MANUAL OVERRIDE	3	Aluminium	A	NBR	1	Standard

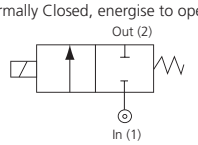
Coil options

Enclosure		Voltage / Frequency		Electrical Connection	
1	Weather Proof IP65	R5	230 V / 50 Hz	1	Din Plug 9 mm
		QY	110 V / 50 Hz 120 V / 60 Hz		
		R1	24 VDC		

65	B	3	2	Z	3	A	1	-	1	••	1

Product coding example:

65B32Z3A1-1R51 - Namur Series
1/4" NPT, manual override, aluminium, NBR seals, 230 V / 50 Hz DIN Plug 9 mm.

Specifications	
Function	Normally Closed, energise to open, 
Maximum Viscosity	115 SSU
Body Material (Std)	Brass CZ122
Flange Tube	Stainless Steel 303
Plunger and top stop	Stainless Steel 430FR
Springs	Stainless Steel 302
Seal Material (Std)	NBR
Connection Type (Std)	BS21
Shading Ring	Copper (std), Silver (stainless steel option)
Electrical Characteristics	
Coil Voltage DC (=)	24 V, 110 V
Coil Voltage AC 50 Hz (~)	24 V, 110 V, 230 V
Voltage Tolerance	+10% or -10%
Duty Cycle	100% ED
Protection Class (Exd)	Exd IIC T6 (-50 °C to +40 °C) (IP67 BS EN 60529)
Protection Class (Exm)	Exm II 2 G T5 (-20 °C to +40 °C) (IP65 BS EN 60529)
Electrical Connection (Exd)	Via terminal block (max wire diameter 1.6 mm)
Electrical Connection (Exm)	2 metre lead 3 core
Coil Insulation	Class H (BS EN 60085) 180 °C (E5 type)
Power Rating	19 VA ,14.5 Watts

Features and Benefits

- Compact valve design
- Zero pressure rated
- Wide range of available orifices
- Choice of valve body material and seals
- Exd and Exm options
- Choice of electrical connections
- ATEX approved
- Response time 5-25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (Bar)		P. Max Bar	Orifice (mm)	Protection Class	Weight (kg) excluding Solenoid
			AC Voltages	DC Voltages				
¼"	0.12	0.10	0-45	0-40	46.5	1.6	Exd T6	0.4
¼"	0.24	0.21	0-20	0-20		2.4	Exd T6	
¼"	0.35	0.30	0-15	0-10		3.0	Exd T6	
¼"	0.53	0.46	0-7.0	0-5.5		4.5	Exd T6	
¼"	0.70	0.60	0-4.0	0-2.7		6.0	Exd T6	
¼"	0.12	0.10	0-45	0-40	60	1.6	Exm T5	0.4
¼"	0.24	0.21	0-20	0-20		2.4	Exm T5	
¼"	0.35	0.30	0-15	0-10		3.0	Exm T5	
¼"	0.53	0.46	0-7.0	0-5.5		4.5	Exm T5	
¼"	0.70	0.60	0-4.0	0-2.7		6.0	Exm T5	

Options Available

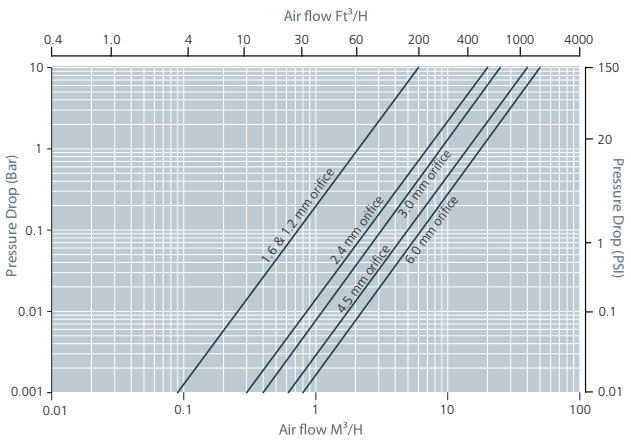
Solenoid Enclosure		
Protection Class	Electrical Entry	Enclosure Material
Exd T6 (IP67)	M20 x 1.5 Female (Std) (½" NPT conduit entry option)	Aluminium (Std) Stainless Steel optional
Exd T4 (IP67)		
Exm T5 (IP65)	M16 x 1.5 male flying lead	Powder coated metal

Seal Material[1] and Media Temp. Range	EXD		
	Ambient Temperature Range °C		
	Min	Max (T6)	Max (T4)
NBR (-10 °C to +80 °C)	-10	40	70
EPDM (-50° to +120 °C)	-50	40	70
FKM (-20 °C to +150 °C)	-20	40	70
PTFE (-200 °C to +180 °C)	-50	40	70

EXM	
Ambient Temperature Range °C	
Min	Max (Exm)
-10	40
-20	40
-20	40
-20	40

Main valve body options
Stainless Steel 316
Manual Override
NPT Threads
Stainless Steel Tagging (consult factory for product code)

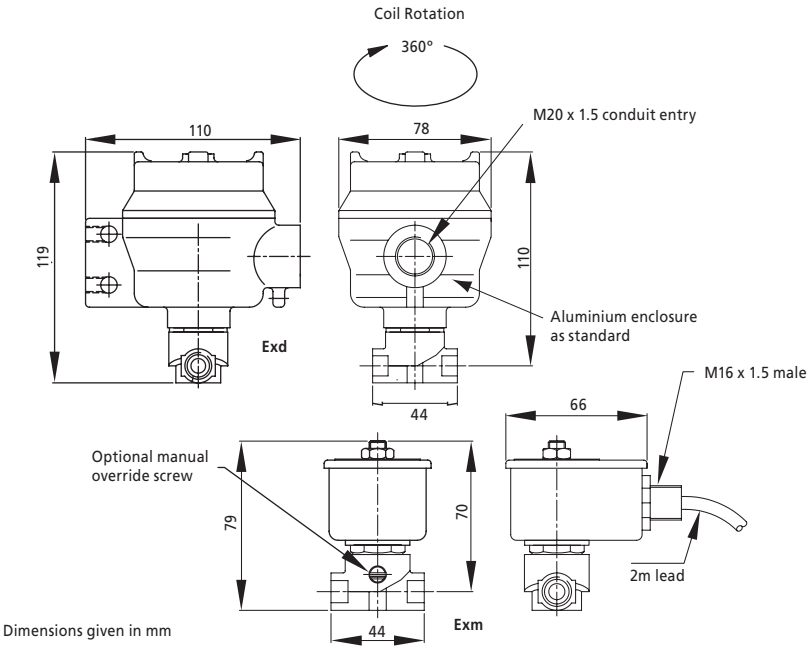
1 See corrosion reference guide and sealing solutions for material compatability.



How to use the flow chart

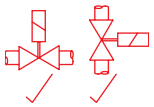
1. Select the required flow.
2. Note the corresponding pressure drop.
3. Based on where the two points intersect select the most appropriate model.

21 Series Exd & Exm – 2/2 Normally Closed



Dimensions given in mm

Preferred Valve Mounting Options



Solenoid enclosures

Exd enclosure

Power consumption:	Holding 19 VA, 12 V to 230 V 50 / 60 Hz. 14.5 W, 12 V to 212 VDC
External material:	Powder coated aluminium or 316 st.st. enclosure with st.st. nameplate
Electrical entry:	M20 x 1.5 or 1/2" NPT conduit entry
Protection Class:	II 2 G Exd IIC T6 for ambient temp -50 °C to +40 °C
Optional:	II 2 G Exd IIC T4 for ambient temp -50 °C to +70 °C
Additional Weight	0.8 kg - Aluminium or 1.5 kg - Stainless Steel

Exm enclosure

Power consumption:	Holding 16 VA, 12 V to 230 V 50 / 60 Hz. 10W 12, 24 VDC
External material:	powder coated metal enclosure with st.st. nameplate
Electrical entry:	2 metre length of approved 3 core cable with M16 conduit male winding insulation class
Protection Class:	II 2 G Exm II T5 for ambient temperatures -20 °C to +40 °C
Additional weight:	0.5 kg

Coding chart

Main Valve Assembly

Model	Size	Connection Type	Operation	Orifice (mm)	Body Material	Seals	Style
11 21 Series	B ¼"	1 BS21 3 NPT	1 AUTO 2 MANUAL OVERIDE	C 1.6 E 2.4 F 3.0 H 4.5 J 6.0	1 Brass CZ122 5 316 Stainless Steel	A NBR B EPDM C FKM E PTFE	1 Standard (inc.Exm) 3 Exd

11	B	•	•	•	•	•	•	-

Coil options

Enclosure	Voltage / Frequency	Electrical connection	Approval
5 Exd Aluminium 6 Exd Stainless Steel	E2 230 V / 50 Hz H2 110 V / 50 Hz & 120 V / 60 Hz F1 24 V / DC	5 M20 x 1.5 9 1/2" NPT	9 Atex T6 949 Atex T4

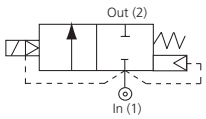
•	••	•	•

4	••	E

Enclosure	Voltage / Frequency	Electrical connection
4 Exm	M1 230 V / 50 Hz M2 110 V / 50 Hz M4 24 V / DC	E 3 meter lead M16 Exm option only

Product coding example:

11B11E5A3-6E259 - 21 Series
1/4" BS21, auto operation, 2.4 mm orifice stainless steel body, NBR seals, Exd T6, stainless steel housing 230 V / 50 Hz M20 x 1.5.

Specifications	
Function	Normally Closed, energise to open 
Maximum Viscosity	115 SSU
3/8" - 1" Body Material (Std)	Brass CZ122
1 1/4" - 2" Body Material (Std)	Bronze DIN 1705
Flange Tube	Stainless Steel 303
Plunger and top stop	Stainless Steel 430FR
Springs	Stainless Steel 302
Seal Material (Std)	NBR
Connection Type (Std)	BS21
Shading Ring	Copper (std), Silver (stainless steel option)
Electrical Characteristics	
Coil Voltage DC (=)	24 V, 110 V
Coil Voltage AC 50 Hz (~)	110 V, 230 V
Voltage Tolerance	+10% or -10%
Duty Cycle	100% ED
Protection Class (Exd)	Exd IIC T6 (-50 °C to +40 °C) (IP67 BS EN 60529)
Protection Class (Exm)	Exm II 2 G T5 (-20 °C to +40 °C) (IP65 BS EN 60529)
Electrical Connection (Exd)	Via terminal block (max wire diameter 1.6 mm)
Electrical Connection (Exm)	2 metre lead 3 core
Coil Insulation	Class H (BS EN 60085) 180 °C (E5 type)
Power Rating	14.5 Watts, 19 VA

Features and Benefits

- Robust Valve Design
- Diaphragm Operation
- Fully Ported orifices for high Kv
- Choice of valve body material seals
- Response time up to 1" 15 - 60 ms
- Response time up to 2" 60 - 120 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (Bar)		P. Max Bar	Orifice (mm)	Protection Class	Weight (kg) excluding Solenoid
			AC Voltages	DC Voltages				
3/8"	3.5	3.0	0-14	0-10.3	46.5	16.00	Exd T6	0.9
1/2"	4.9	4.2	0-14	0-10.3		16.00		
3/4"	5.4	4.7	0-14	0-10.3		16.00		
1"	8.2	7.0	0-14	0-10.3		20.00		1.2
1 1/4"	26.7	23	0-4	-		40.00		3.0-3.2
1 1/2"	26.7	23	0-4	-		40.00		
2"	30.2	26	0-4	-		40.00		
1 1/4"[2]	26.7	23	0.3-10	0.3-10		40.00		
1 1/2"[2]	26.7	23	0.3-10	0.3-10		40.00		
2"[2]	30.2	26	0.3-10	0.3-10		40.00		
3/8"	3.5	3.0	0-14	0-10.3	50	16.00	Exm T5	0.9
1/2"	4.9	4.2	0-14	0-10.3		16.00		
3/4"	5.4	4.7	0-14	0-10.3		16.00		
1"	8.2	7.0	0-14	0-10.3		20.00		1.2
1 1/4"	26.7	23	0-4	-		40.00		3.0-3.2
1 1/2"	26.7	23	0-4	-		40.00		
2"	30.2	26	0-4	-		40.00		
1 1/4"[2]	26.7	23	0.3-10	0.3-10		40.00		
1 1/2"[2]	26.7	23	0.3-10	0.3-10		40.00		
2"[2]	30.2	26	0.3-10	0.3-10		40.00		

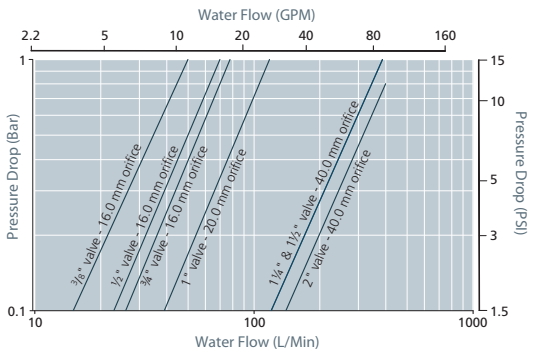
Options Available

Solenoid Enclosure		
Protection Class	**Electrical Entry**	**Enclosure Material**
Exd T6 (IP67)	M20 x 1.5 Female (Std) (1/2" NPT conduit entry option)	Aluminium (Std) Stainless Steel optional
Exd T4 (IP67)		
Exm T5 (IP65)	M16 x 1.5 male flying lead	Powder coated metal

Main Valve Body Options
Stainless Steel 316 (available up to and including 1")
NPT threads
Flanged Option (PN16 Std) for alternative options consult Rotork Midland
Manual Override

Seal Material[1] and Media Temp. Range	EXD			EXM	
	Ambient Temperature Range °C			Ambient Temperature Range °C	
	Min	Max (T6)	Max (T4)	Min	Max (Exm)
NBR (-10 °C to +80 °C)	-10	40	70	-10	40
EPDM (-50 °C to +120 °C)	-50	40	70	-20	40
FKM (-20 °C to +150 °C)	-20	40	70	-20	40

[1] See corrosion reference guide and sealing solutions for material compatability.
[2] Pressure assisted to achieve a greater OPD. e.g. code :19G11Z5C3-6H299.

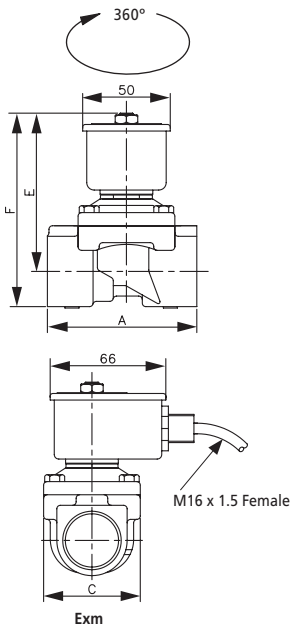


How to use the flow chart

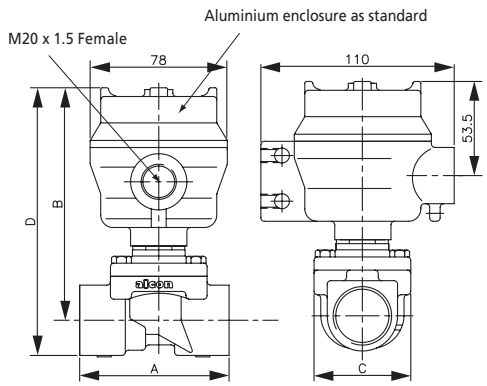
1. Select the required flow.
2. Note the corresponding pressure drop.
3. Based on where the two points intersect select the most appropriate model.

ACD Series Exd & Exm – 2/2 Normally Closed

Coil Rotation

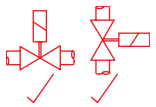


Exm



Exd

Preferred Valve Mounting Options



Dimensions Brass

Pipe Size	A	B	C	D	E	F
3/8" - 3/4"	68	125	55	141	74	90
1"	85	131	55	152	79	98

Dimensions Stainless Steel

Pipe Size	A	B	C	D	E	F
3/8" - 3/4"	85	126	55	141	74	90
1"	85	131	55	152	79	98

Dimensions Bronze

Pipe Size	A	B	C	D	E	F
1¼" - 2"	137	147	120	184	94	132

Dimensions given in mm

Solenoid enclosures

S4 Type enclosure

Power consumption:	Holding 19 VA, 12 V to 230 V 50 / 60 Hz. 14.5 W 12 V to 212 VDC
External material:	Powder coated aluminium or 316 st.st. enclosure with st.st. nameplate
Electrical entry:	M20 x 1.5 or ½" NPT conduit entry
Protection Class:	II 2 G Exd IIC T6 for ambient temp -50 °C to +40 °C
Optional:	II 2 G Exd IIC T4 for ambient temp -50 °C to +70 °C
Additional Weight	0.8 kg - Aluminium or 1.5 kg - Stainless Steel

S4 Type enclosure

Power consumption:	Holding 16 VA, 12 V to 230 V 50 / 60 Hz. 10 W 12, 24 VDC
External material:	powder coated metal enclosure with st.st. nameplate
Electrical entry:	2 metre length of approved 3 core cable with M16 conduit male winding insulation class
Protection Class:	II 2 G Exm II T5 for ambient temperatures -20 °C to +40 °C
Additional weight:	0.5 kg

Coding chart

Main Valve Assembly

Model	
17	ACD AC VOLTAGE
18	ACD DC[3] VOLTAGE
19	Pressure assisted option 1¼" to 2"

Valve Body Conn. Size	
C	3/8"
D	½"
E	¾"
F	1"
G	1¼"
H	1½"
J	2"

Conn. Type	
1	BS21
2	BSP G (1 ¼" and above)
3	NPT
4	FLANGED (PN16 STD)

Operation	
1	AUTO
2	MANUAL OVERIDE

Body Material	
1	Brass (standard on valves up to and including 1")
2	Bronze (standard on valves above 1")
5	316 Stainless Steel (option available up to and inc 1")

Seals	
A	NBR
B	EPDM
C	FKM

Style	
1	Standard (inc.Exm)
3	Exd (S4)

•	•	•	•	Z	•	•	•	-

[3] '0' pressure rated options are not available in DC voltage above 1".

Coil options

Enclosure	
5	Exd Aluminium
6	Exd Stainless Steel

Voltage / Frequency	
E2	230 V / 50 Hz
H2	110 V / 50 Hz & 120 V / 60 Hz
F1	24 VDC

Electrical Connection	
5	M20 x 1.5
9	½" NPT

Approval	
9	Atex T6
949	Atex T4

•	••	•	•

4	••	E

Enclosure	
4	Exm

Voltage / Frequency	
M1	230 V / 50 Hz
M2	110 V / 50 Hz
M4	24 VDC

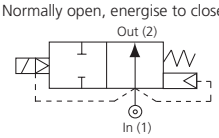
Electrical Connection	
E	3 meter lead M16 Exm option only

Product coding example:

17F31Z1C3-5H259 - ACD Series
1" NPT, auto operation, brass body, FKM seals, Exd T6 Aluminium Housing 110 V / 50 Hz M20 x 1.5.

ACDN Series Exd & Exm – 2/2 Normally Open

ATEX

Specifications	
Function	Normally open, energise to close 
Maximum Viscosity	115 SSU
3/8" - 1" Body Material (Std)	Brass CZ122
1 1/4" - 2" Body Material (Std)	Bronze DIN 1705
Flange Tube	Stainless Steel 303
Plunger and top stop	Stainless Steel 430FR
Springs	Stainless Steel 302
Seal Material (Std)	NBR
Connection Type (Std)	BS21
Shading Ring	Copper (std), Silver (stainless steel option)
Electrical Characteristics	
Coil Voltage DC (=)	24 V, 110 V
Coil Voltage AC 50 Hz (~)	110 V, 230 V
Voltage Tolerance	+10% or -10%
Duty Cycle	100% ED
Protection Class (Exd)	Exd IIC T6 (-50 °C to +40 °C) (IP67 BS EN 60529)
Protection Class (Exm)	Exm II 2 G T5 (-20 °C to +40 °C) (IP65 BS EN 60529)
Electrical Connection (Exd)	Via terminal block (max wire diameter 1.6 mm)
Electrical Connection (Exm)	2 metre lead 3 core
Coil Insulation	Class H (BS EN 60085) 180 °C
Power Rating	14.5 Watts, 19 VA

Features and Benefits

- Robust Valve Design
- Diaphragm Operation
- Fully Ported orifices for high Kv
- Choice of valve body material seals
- Sizes 3/8" - 1" Advantica approved to BS EN 60730-2-8 for household use
- Response time up to 1" 15-60 ms
- Response time up to 2" 60-120 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (Bar)		P. Max Bar	Orifice (mm)	Protection Class	Weight (kg) excluding Solenoid
			AC Voltages	DC Voltages				
3/8"	3.5	3.0	0-10	0-10	46.5	16.00	Exd T6	0.9
1/2"	4.9	4.2	0-10	0-10		16.00		
3/4"	5.4	4.7	0-10	0-10		16.00		
1"	8.2	7.0	0-10	0-10		20.00		1.2
1 1/4"	26.7	23	0.3-10	0.3-10		40.00		3.0
1 1/2"	26.7	23	0.3-10	0.3-10		40.00		
2"	30.2	26	0.3-10	0.3-10		40.00		
3/8"	3.5	3.0	0-10	0-10	50	16.00	Exm T5	0.9
1/2"	4.9	4.2	0-10	0-10		16.00		
3/4"	5.4	4.7	0-10	0-10		16.00		
1"	8.2	7.0	0-10	0-10		20.00		1.2
1 1/4"	26.7	23	0.3-10	0.3-10		40.00		3.0
1 1/2"	26.7	23	0.3-10	0.3-10		40.00		
2"	30.2	26	0.3-10	0.3-10		40.00		

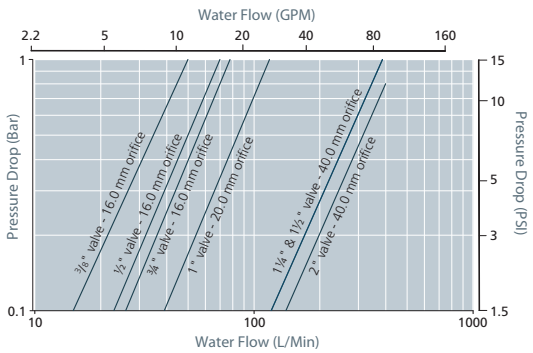
Options Available

Solenoid Enclosure		
Protection Class	**Electrical Entry**	**Enclosure Material**
Exd T6 (IP67)	M20 x 1.5 Female (Std) (1/2" NPT conduit entry option)	Aluminium (Std) Stainless Steel optional
Exd T4 (IP67)		
Exm T5 (IP65)	M16 x 1.5 male flying lead	Powder coated metal

Main valve body options
Stainless Steel 316 (available up to and including 1")
NPT threads
Flanged Option (PN16 Std) for alternative options consult Rotork Midland

Seal Material[1] and Media Temp. Range	EXD			EXM	
	Ambient Temperature Range °C			Ambient Temperature Range °C	
	Min	Max (T6)	Max (T4)	Min	Max (Exm)
NBR (-10 °C to +80 °C)	-10	40	70	-10	40
EPDM (-50 °C to +120 °C)	-50	40	70	-20	40
FKM (-20 °C to +150 °C)	-20	40	70	-20	40

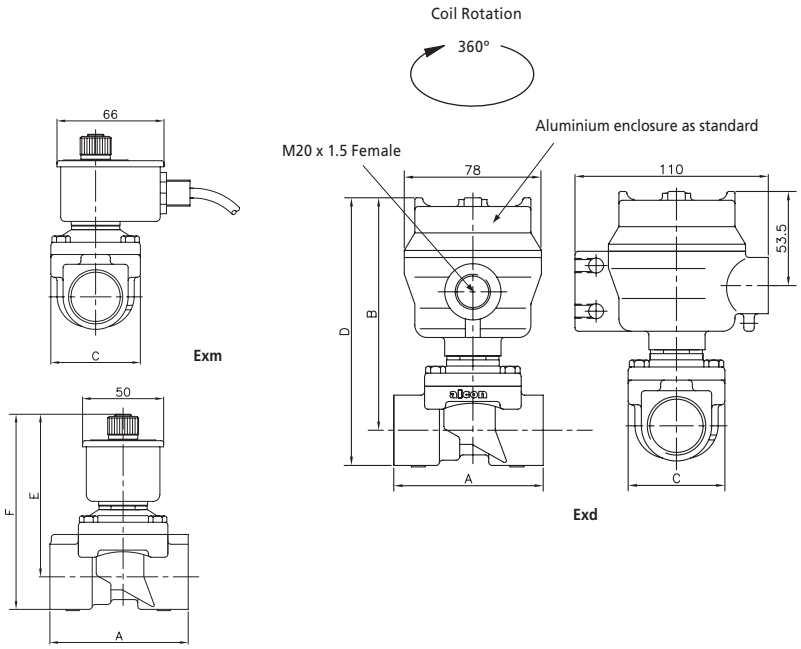
[1] See corrosion reference guide and sealing solutions for material compatability.



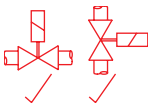
How to use the flow chart

1. Select the required flow.
2. Note the corresponding pressure drop.
3. Based on where the two points intersect select the most appropriate model.

ACDN Series Exd & Exm – 2/2 Normally Open



Preferred Valve Mounting Options



Dimensions

Pipe Size	A	B	C	D	E	F
3/8" - 3/4"	69.5	123	75	140	88	105
1"	69.5	123	75	140	88	105
1¼" - 2"	137	103	120	180	127	143

Dimensions given in mm

Solenoid enclosures

S4 Type enclosure

Power consumption:	Holding 19 VA, 12 V to 230 V, 50 / 60 Hz. 14.5 W, 12 V to 212 VDC
External material:	Powder coated aluminium or 316 st.st. enclosure with st.st. nameplate
Electrical entry:	M20 x 1.5 or ½" NPT conduit entry
Protection Class:	II 2 G Exd IIC T6 for ambient temp -50 °C to +40 °C
Optional:	II 2 G Exd IIC T4 for ambient temp -50 °C to +70 °C
Additional Weight	0.8 kg - Aluminium or 1.5 kg - Stainless Steel

S4 Type enclosure

Power consumption:	Holding 16 VA, 12 V to 230 V, 50 / 60 Hz. 10 W 12, 24 VDC
External material:	powder coated metal enclosure with st.st. nameplate
Electrical entry:	2 metre length of approved 3 core cable with M16 conduit male winding insulation class
Protection Class:	II 2 G Exm II T5 for ambient temperatures -20 °C to +40 °C
Additional weight:	0.5 kg

Coding chart

Main Valve Assembly

Model	
27	ACDN (1¼ and above)
56	ACDN (3/8"-1")

Valve Body Conn. Size	
C	3/8"
D	½"
E	¾"
F	1"
G	1¼"
H	1½"
J	2"

Connection Type	
1	BS21
2	BSP G (1¼" and above)
3	NPT
4	FLANGED (PN16 STD)

Operation	
1	AUTO

Body Material	
1	Brass (standard on valves up to and including 1")
2	Bronze (standard on valves above 1")
5	316 Stainless Steel (option available up to and inc 1")

Seals	
A	NBR
B	EPDM
C	FKM

Style	
1	Standard (inc. Exm)
3	Exd (S4)

•	•	•	1	Z	•	•	•	-

Coil options

Enclosure	
D	N/O Exd Aluminium
E	N/O Exd Stainless Steel

Voltage / Frequency	
E2	230 V / 50 Hz
H2	110 V / 50 Hz & 120 V / 60 Hz
F1	24 VDC

Electrical Connection	
5	M20 x 1.5
9	½" NPT

Approval	
9	Atex T6
949	Atex T4

•	••	•	•

4	••	E	48

Enclosure	
4	Exm

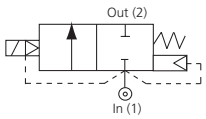
Voltage / Frequency	
M1	230 V / 50 Hz
M2	110 V / 50 Hz
M4	24 VDC

Electrical Connection	
E	3 metre lead M16 EXM

Solenoid Label	
48	N/O module

Product coding example:

56E11Z1A3-DF159 - ACDN Series
N/O 3/4" BS21, auto operation, bronze body, NBR seals, Exd T6 Aluminium 24 VDC M20 x 1.5.

Specifications	
Function	Normally closed, energise to open 
Maximum Viscosity	115 SSU
½" - 1" Body Material (Std)	Brass CZ122
1¼" - 2" Body Material (Std)	Bronze DIN 1705
Flange Tube	Stainless Steel 303
Plunger and top stop	Stainless Steel 430FR
Springs	Stainless Steel 302
Seal Material (Std)	NBR
Connection Type (Std)	BS21
Shading Ring	Copper (std), Silver (stainless steel option)
Electrical Characteristics	
Coil Voltage DC (=)	24 V, 110 V
Coil Voltage AC 50 Hz (~)	110 V, 230 V
Voltage Tolerance	+10% or -10%
Duty Cycle	100% ED
Protection Class (Exd)	Exd IIC T6 (-50 °C to +40 °C) (IP67 BS EN 60529)
Protection Class (Exm)	Exm II 2 G T5 (-20 °C to +40 °C) (IP65 BS EN 60529)
Electrical Connection (Exd)	Via terminal block (max wire diameter 1.6 mm)
Electrical Connection (Exm)	2 metre lead 3 core
Coil Insulation	Class H (BS EN 60085) 180 °C (E5 Type)
Power Rating	14.5 Watts, 19 VA

Features and Benefits

- Heavy duty valve design
- Piston Operation
- Wide temperature range capabilities
- Choice of valve body material seals
- ATEX approved
- Response time up to 1" 40-100 ms
- Response time up to 2" 60-1000 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (Bar)	P. Max Bar	Orifice (mm)	Protection Class	Weight (kg) excluding Solenoid
½"	4.9	4.2	0.3-10.3	46.5	16.00	Exd T6	1.4
¾"	6.3	5.4	0.3-10.3		16.00		
1"	14.5	12.5	0.3-10.3		25.00		2.3
1¼"	20.9	18	0.3-10.3		30.00		3.0
1½"	20.9	18	0.3-10.3		30.00		
2"	24.4	21	0.3-10.3		32.00		5.2
½"	4.9	4.2	0.3-10.3	50	16.00	Exm T5	1.4
¾"	6.3	5.4	0.3-10.3		16.00		
1"	14.5	12.5	0.3-10.3		25.00		2.3
1¼"	20.9	18	0.3-10.3		30.00		3.0
1½"	20.9	18	0.3-10.3		30.00		
2"	24.4	21	0.3-10.3		32.00		5.2

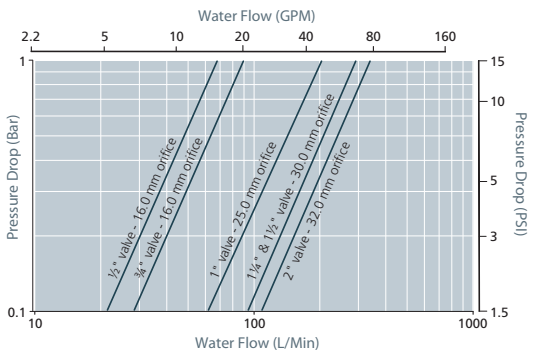
Options Available

Solenoid Enclosure		
Protection Class	**Electrical Entry**	**Enclosure Material**
Exd T6 (IP67)	M20 x 1.5 Female (Std) (½" NPT conduit entry option)	Aluminium (Std) Stainless Steel optional
Exd T4 (IP67)		
Exm T5 (IP65)	M16 x 1.5 male flying lead	Powder coated metal

Main Valve Body Options
Stainless steel body 316 (available up to 1")
Oxygen Cleaning (Consult Rotork Midland for product code)
NPT Threads
Stainless steel tagging

[1] See corrosion reference guide and sealing solutions for material compatability.

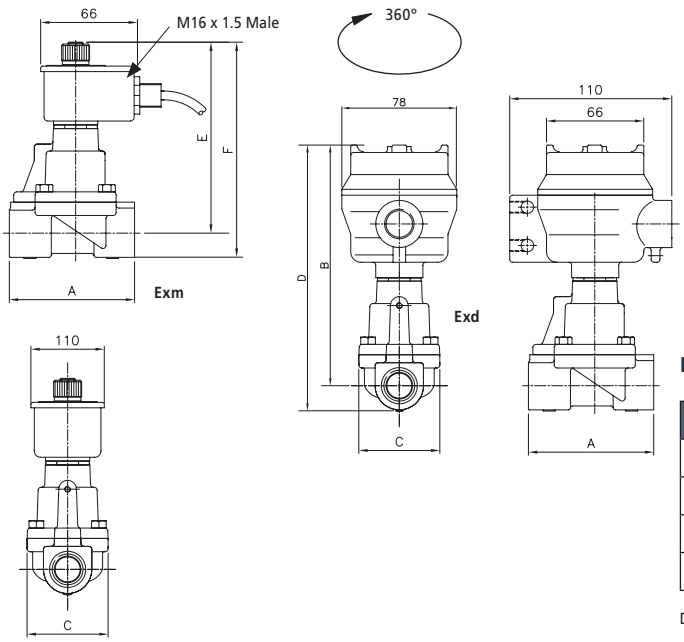
Seal Material[1] and Media Temp. Range	EXD			EXM	
	Ambient Temperature Range °C			Ambient Temperature Range °C	
	Min	Max (T6)	Max (T4)	Min	Max (Exm)
NBR (-10 °C to +80 °C)	-10	40	70	-10	40
EPDM (-50 °C to +120 °C)	-50	40	70	-20	40
FKM (-20 °C to +150 °C)	-20	40	70	-20	40



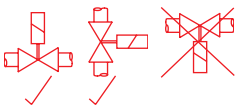
How to use the flow chart

1. Select the required flow.
2. Note the corresponding pressure drop.
3. Based on where the two points intersect select the most appropriate model.

ACP Series Exd & Exm – 2/2 Normally Closed



Preferred Valve Mounting Options



Dimensions

Pipe Size	A	B	C	D	E	F
3/8" - 3/4"	85	149	75	165	105	122
1"	85	179	75	198	135	155
1¼" - 1½"	117	177	83	252	133	209
2"	146	189	103	252	145	209

Dimensions given in mm

Solenoid enclosures

S4 Exd enclosure

Power consumption:	Holding 19 VA, 12 V to 230 V, 50 / 60 Hz. 14.5 W, 12 V to 212 VDC
External material:	Powder coated aluminium or 316 st.st. enclosure with st.st. nameplate
Electrical entry:	M20 x 1.5 or ½" NPT conduit entry
Protection Class:	II 2 G Exd IIC T6 for ambient temp -50 °C to +40 °C
Optional:	II 2 G Exd IIC T4 for ambient temp -50 °C to +70 °C
Additional Weight	0.8 kg - Aluminium or 1.5 kg - Stainless Steel

S4 Exm enclosure

Power consumption:	Holding 16 VA, 12 V to 230 V, 50 / 60 Hz. 10 W 12, 24 VDC
External material:	powder coated metal enclosure with st.st. nameplate
Electrical entry:	2 metre length of approved 3 core cable with M16 conduit male winding insulation class
Protection Class:	II 2 G Exm II T5 for ambient temperatures -20 °C to +40 °C
Additional weight:	0.5 kg

Coding chart

Main Valve Assembly

Model	
22	ACP Exd

Valve Body Conn. Size	
D	½"
E	¾"
F	1"
G	1¼"
H	1½"
J	2"

Connection Type	
1	BS21
2	BSP G
3	NPT
4	FLANGED (PN16 STD)

Operation	
1	AUTO
2	MANUAL OVERRIDE

Body Material	
1	Brass (standard on valves up to and including 1")
2	Bronze (standard on valves above 1")
5	316 Stainless Steel (option available up to and inc 1")

Seals	
A	NBR
B	EPDM
C	FKM

Style	
1	Standard (Inc Exm)
3	Exd

22	•	•	•	Z	•	•	1	-

Coil options

Enclosure	
5	Exd Aluminium
6	Exd Stainless Steel

Voltage / Frequency	
E2	230 V / 50 Hz
H2	110 V / 50 Hz & 120 V / 60 Hz
F1	24 VDC

Electrical Connection	
5	M20 x 1.5
9	½" NPT

Approval	
9	Atex T6
949	Atex T4

•	••	•	9

4	••	E

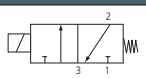
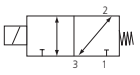
Enclosure	
4	Exm

Voltage / Frequency	
M1	230 V / 50 Hz
M2	110 V / 50 Hz
M4	24 VDC

Electrical Connection	
E	3 metre lead M16 EXM

Product coding example:

22H21Z2A3-5E259 - ACP Series
1½" BSPG, auto operation, bronze body, NBR seals, Exd Aluminium 230 V / 50 Hz M20 x 1.5.

Specifications	
Function	 31 Series, 3/2 Normally Closed  33 Series, 3/2 Universal
Maximum Viscosity	115 SSU
Body Material (Std)	Brass CZ122
Flange Tube	Stainless Steel 303
Plunger and top stop	Stainless Steel 430FR
Springs	Stainless Steel 302
Seal Material (Std)	NBR
Connection Type (Std)	BS21
Shading Ring	Copper (std), Silver (stainless steel option)
Electrical Characteristics	
Coil Voltage DC (=)	24 V, 110 V
Coil Voltage AC 50 Hz (~)	24 V, 110 V, 230 V
Voltage Tolerance	+10% or -10%
Duty Cycle	100% ED
Protection Class (Exd)	Exd IIC T6 (-50 °C to +40 °C) (IP67 BS EN 60529)
Electrical Connection (Exd)	Via terminal block (max wire diameter 1.6 mm)
Coil Insulation	Class H (BS EN 60085) 180 °C (E5 type)
Power Rating	19 VA ,14.5 Watts

Features and Benefits

- Compact valve design
- Zero pressure rated
- Wide range of available orifices
- Choice of valve body material and seals
- ATEX approved
- Response time 5-25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (Bar)		P. Max Bar	Orifice (mm)	Protection Class	Function	Weight (kg) excluding Solenoid
			AC Voltages	DC Voltages					
¼"	0.12	0.10	0-10.6	0-10.6	46.5	1.6	Exd T6	N/C	0.35
¼"	0.24	0.21	0-7.0	0-7.0		2.4		N/C	
¼"	0.35	0.30	0-5.8	0-5.8		3.0		N/C	
¼"	0.12	0.10	0-7.5	0-7.5		1.6		Universal	
¼"	0.24	0.21	0-3.5	0-3.5		2.4		Universal	
¼"	0.35	0.30	0-2.0	0-2.0		3.0		Universal	

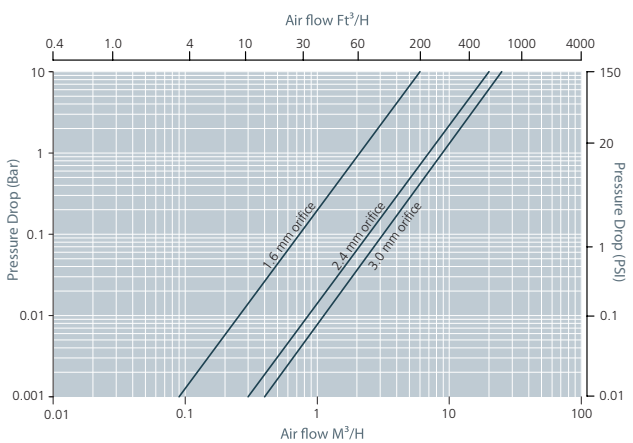
Options Available

Solenoid Enclosure		
Protection Class	Electrical Entry (Std)	Enclosure Material
Exd T6 (IP67)	M20 x 1.5 Female (Std) (½" NPT conduit entry option)	Aluminium (Std) Stainless Steel optional
Exd T4 (IP67)		

Seal Material[1] and Media Temp. Range	EXD Ambient Temperature Range °C		
	Min	Max (T6)	Max (T4)
NBR (-10 °C to +80 °C)	-10	40	70
EPDM (-50° to +120 °C)	-50	40	70
FKM (-20 °C to +150 °C)	-20	40	70

Main valve body options
Stainless Steel 316
NPT threads
Manual override
Stainless steel tagging (consult factory for product code)

1 See corrosion reference guide and sealing solutions for material compatability.



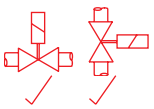
How to use the flow chart

1. Select the required flow.
2. Note the corresponding pressure drop.
3. Based on where the two points intersect select the most appropriate model.

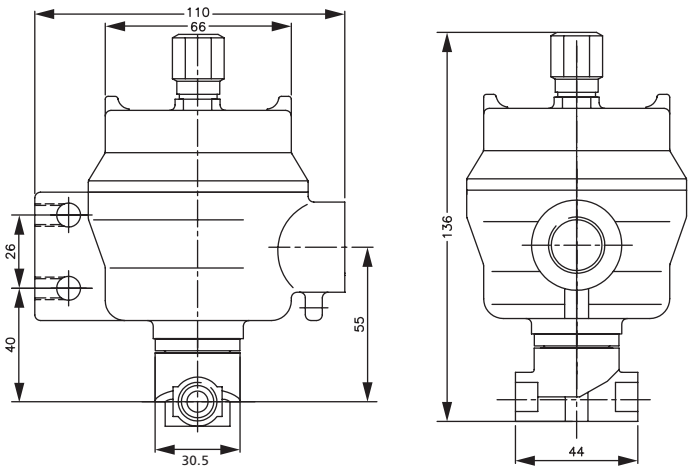
31/33 Series Exd – 3/2 Closed / Universal

Coil Rotation

Preferred Valve Mounting Options



Exd



Dimensions given in mm

Solenoid enclosures

Exd enclosure

Power consumption:	Holding 19 VA, 12 V to 230 V 50 / 60 Hz. 14.5 W, 12 V to 212 VDC
External material:	Powder coated aluminium or 316 st.st. enclosure with st.st. nameplate
Electrical entry:	M20 x 1.5 or 1/2" NPT conduit entry
Protection Class:	II 2 G Exd IIC T6 for ambient temp -50 °C to +40 °C
Optional:	II 2 G Exd IIC T4 for ambient temp -50 °C to +70 °C
Additional Weight:	0.8 kg - Aluminium or 1.5 kg - Stainless Steel

Coding chart

Main Valve Assembly

Model	Size	Connection Type	Operation	Orifice (mm)	Body Material	Seals	Style
29 31 Series (N/C)	B ¼"	1 BS21	1 AUTO	C 1.6	1 Brass CZ122	A NBR	3 Exd
32 33 Series (UNIV)		3 NPT	2 MANUAL OVERIDE	E 2.4	5 316 Stainless Steel	B EPDM	
				F 3.0		C FKM	

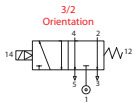
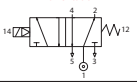
Coil options

Enclosure	Voltage / Frequency	Electrical connection	Approval
9 3 way Exd Aluminium	E2 230 V / 50 Hz	5 M20 x 1.5	9 Atex T6
A 3 way Exd Stainless Steel	H2 110 V / 50 Hz & 120 V / 60 Hz	9 1/2" NPT	949 Atex T4
	F1 24 V / DC		

••	B	•	•	•	•	•	3	-	•	••	•	•

Product coding example:

29B11C1A3-9E259 - 31 Series
1/4" BS21, auto operation, 1.6 mm orifice brass body, NBR seals, Exd T6 Aluminium 230 V / 50 Hz M20 x 1.5.

Specifications	
Function	3/2 or 5/2 3/2 Orientation  5/2 Orientation 
Media	Air
Maximum Viscosity	115 SSU
Body Material (Std)	Anodised Aluminium
Flange Tube	Brass
Plunger and Top Stop	Stainless Steel 430FR
Springs	Stainless Steel 302
Seal Material (Std)	NBR
Electrical Characteristics	
Coil Voltage DC (=)	12 V, 24 V, 110 V
Coil Voltage AC 50 Hz (~)	24 V, 110 V, 120 V, 230 V
Coil Voltage AC 60 Hz (~)	24 V, 110 V, 120 V, 220v
Voltage Tolerance	+10% or -10%
Duty Cycle	100% ED
Protection Class (Exd)	Exd IIC T6 (-50 °C to +40 °C) (IP67 BS EN 60529)
Protection Class (Exm)	Exm II 2 G T5 (-20 °C to +40 °C) (IP65 BS EN 60529)
Protection Class (Exia)	Exia IIC T6 (-40 °C to +50 °C)
Electrical Connection (Exd)	Via terminal block (max wire diameter 1.6 mm)
Electrical Connection (Exm)	2 metre lead 3 core
Electrical Connection (Exia)	PG9 via DIN plug connector DIN 43650-A
Coil Insulation (Exd & Exm)	Class H (BS EN 60085) 180 °C
Coil Insulation (Exia)	Class F (BS EN 60085) 155 °C
Power Rating	5 watts

Features and Benefits

- Ideal for in-line system service and repair
- Choice of valve body material seals
- Manual Overide
- Low power LED Light
- Dual Coil option
- Exd, Exia and Exm compatible
- Max cycle frequency 5/sec

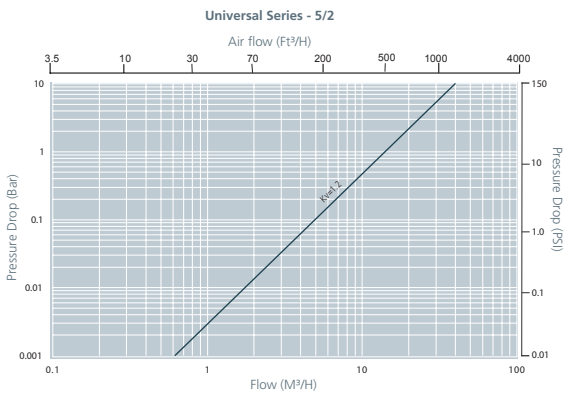
Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (Bar)		P. Max Bar	Weight (kg) excluding Solenoid
			AC Voltages	DC Voltages		
¼"	1.4	1.2	2.5-10	2.5-10	10	0.5

Options Available

Solenoid Enclosure	
Protection Class	**Electrical Entry**
Exd T6 (IP67)	M20 x 1.5 Female (Std) (½" NPT conduit entry option)
Exd T4 (IP67)	
Exm	M16 x 1.5 Male flying lead
Exia	PG9 via Din Plug Connector Din 43650-A

Seal Material[1] and Media Temp. Range	EXD			EXM	
	Ambient Temperature Range °C			Ambient Temperature Range °C	
	Min	Max (T6)	Max (T4)	Min	Max (Exm)
NBR (-10 °C to +80 °C)	-10	40	70	-10	40

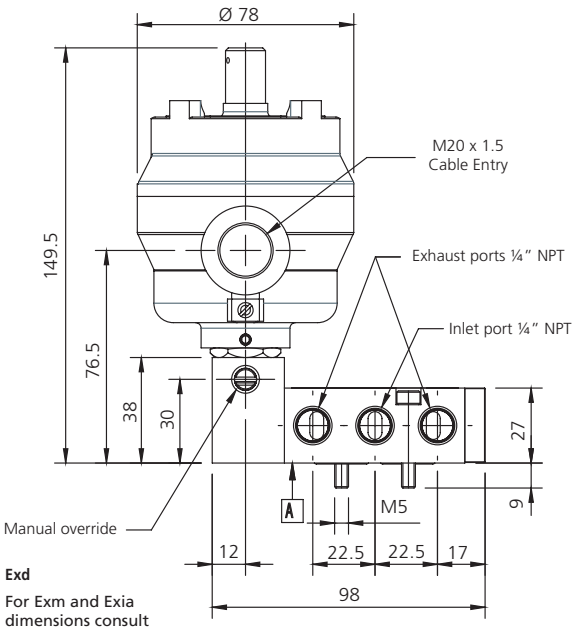
[1] See corrosion reference guide and sealing solutions for material compatability.



How to use the flow chart

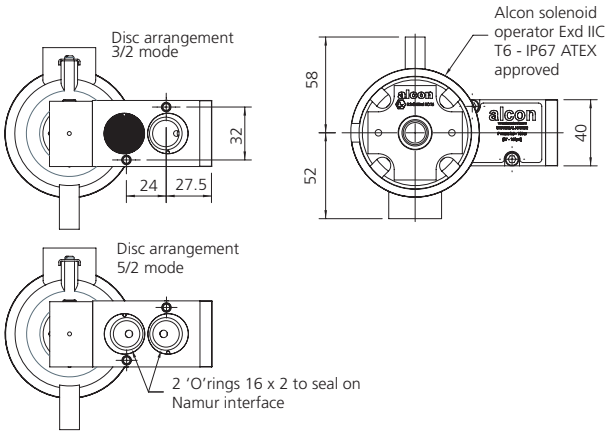
1. Select the required flow.
2. Note the corresponding pressure drop.
3. Based on where the two points intersect select the most appropriate model.

NAMUR Series Exd, Exm & Exia Series – 3/2 or 5/2 Universal



Exd

For Exm and Exia dimensions consult customer services



Solenoid enclosures

Intrinsically safe enclosure (ATEX approved)

External material:	Thermoset resin
Electrical connection:	PG9 via DIN plug connector Din 43650-A
Max power:	consumption Exia 1.6 watts DC.
Winding:	insulation Class F
Protection class:	Exia IIC T6, ATEX approved for ambient temperatures -40 °C to + 50 °C

Maximum valve media temperature of 70 °C. Weatherproof to IP65

For Exia option use product code 65B32Z3A5-1QJ1.
For all other coding options see below:

Exd enclosure

Power consumption:	Holding 19 VA, 12 V to 230 V, 50 / 60 Hz. 14.5 W, 12 V to 212 VDC
External material:	Powder coated aluminium or 316 st.st. enclosure with st.st. nameplate
Electrical entry:	M20 x 1.5 or ½" NPT conduit entry
Protection Class:	II 2 G Exd IIC T6 for ambient temp -50 °C to +40 °C
Optional:	II 2 G Exd IIC T4 for ambient temp -50 °C to +70 °C
Additional Weight	0.8 kg - Aluminium or 1.5 kg - Stainless Steel

Exm enclosure

Power consumption:	Holding 16 VA, 12 V to 230 V, 50 / 60 Hz. 10 W 12, 24 VDC
External material:	powder coated metal enclosure with st.st. nameplate
Electrical entry:	2 metre length of approved 3 core cable with M16 conduit male winding insulation class.
Protection Class:	II 2 G Exm II T5 for ambient temperatures -20 °C to +40 °C
Additional weight:	0.5 kg

Coding chart

Main Valve Assembly

Model	Valve Body Conn. Size	Connection Type	Operation	Body Material	Seals	Style
65 Namur	B ¼"	3 NPT	2 MANUAL OVERRIDE	3 Aluminium	A NBR	1 Exm 3 Exd

65	B	3	2	Z	3	A	•	-

Coil options

Enclosure	Voltage / Frequency	Electrical Connection	Approval
9 Exd Aluminium	E2 230 V / 50 Hz H2 110 V / 50 Hz & 120 V / 60 Hz F1 24 VDC	5 M20 x 1.5 9 ½" NPT	9 ATEX T6 K ATEX T4

9	••	•	•

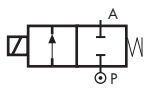
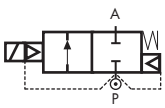
Enclosure	Voltage / Frequency	Electrical Connection
4 Exm	M1 230 V / 50 Hz M2 110 V / 50 Hz M4 24 VDC	E 3 metre lead M16 EXM

4	••	E

Product coding example:

65B32Z3A3-9E259 - Namur Series
¼" NPT, manual override, aluminium, NBR seals, Exd T6 Aluminium 230 V / 50 Hz M20 x 1.5.

ADV Series, Compressed Air – with Solenoid Valves

Specifications[1]	
Function (single acting)	 Direct ACting flow direction overseat 1 → 2  Pilot Operated flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass CW617N (EN 12165)
Plunger	Stainless Steel 1.4106 EN 10088 (AISI 430F)
Top Stop	Stainless Steel 1.4105 EN 10088 (AISI 430F)
Springs	Stainless Steel 302
Seal Material (Std)	FKM
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC) +10% to -5% (DC)
Duty Cycle	100% ED
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation	Class F 155 °C
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W

[1] For more information about detailed solenoid valve and timer please refer to each single datasheet.

Features and Benefits

- Preassembled systems consisting of solenoid valve, timer and connector
- Application: time adjusted condensate discharge of tanks with compressed air, separators, mains drainage, dryers and filters
- Direct acting and pilot operated valve
- Adjustable to suit your system requirements
- Indoor / outdoor installations
- Reliable, long life
- Cost effective
- Visual indication of operation
- Manual override - test button
- Discharge time (timer ON): from 0.5 to 10 s
- Interval time (timer OFF): from 30 s to 45 minutes

Options Available

ADV Options[2]
Strainers, NPT thread, impregnated coils with additional protection by impregnation with Loctite® Resinol RTC for humid environments, UL coils (contact sales office for options).

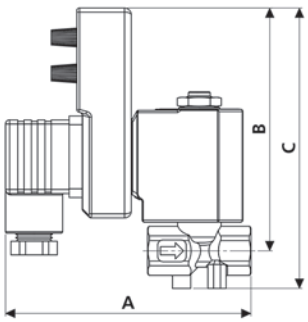
[2] ADV code changes depending on the required options codes in the selection table refer to the listed combination of components only.

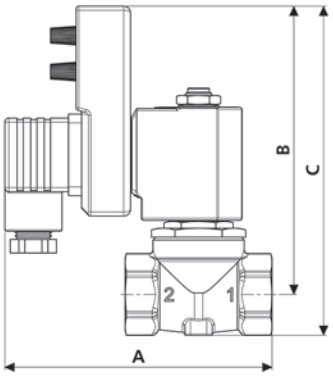
Seal Material[3] and media temperature range	Media	Ambient Temperature Range	
		Min	Max
FKM (-10 °C to +130 °C)	Water, oil, air	-10 °C	50 °C

[3] See corrosion reference guide and sealing solutions for material compatability.

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD (bar)		Orifice (mm)	Valve Code	Conn. Code	Timer Code	Voltage	ADV Code[2]
			AC Volt	DC Volt						
With Direct Acting Solenoid Valves										
¼"	0.17	0.14	0 - 18	-	2.2	D249DVF	600 011-	AT2720	110 V 50 Hz - 120 V 60 Hz	888 120 00-
¼"	0.17	0.14	0 - 18	-	2.2	D249DVF	600 011-	AT2720	230 V 50 Hz - 240 V 60 Hz	888 121 00-
¼"	0.17	0.14	-	0 - 16	2.2	D249DVF	600 011-	AT2720	24 VDC	888 122 00-
With Pilot Operated Solenoid Valves										
¼"	1.47	1.26	0.1 - 16	-	10.5	D264DVU	600 011-	AT2720	110 V 50 Hz - 120 V 60 Hz	888 123 00-
¼"	1.47	1.26	0.1 - 16	-	10.5	D264DVU	600 011-	AT2720	230 V 50 Hz - 240 V 60 Hz	888 124 00-
¼"	1.47	1.26	-	0.1 - 7	10.5	D264DVU	600 011-	AT2720	24 VDC	888 125 00-
⅜"	1.68	1.44	0.1 - 16	-	10.5	D265DVU	600 011-	AT2720	110 V 50 Hz - 120 V 60 Hz	888 126 00-
⅜"	1.68	1.44	0.1 - 16	-	10.5	D265DVU	600 011-	AT2720	230 V 50 Hz - 240 V 60 Hz	888 127 00-
⅜"	1.68	1.44	-	0.1 - 7	10.5	D265DVU	600 011-	AT2720	24 VDC	888 128 00-
½"	1.75	1.50	0.1 - 16	-	10.5	D266DVU	600 011-	AT2720	110 V 50 Hz - 120 V 60 Hz	888 129 00-
½"			0.1 - 16	-	10.5	D266DVU	600 011-	AT2720	230 V 50 Hz - 240 V 60 Hz	888 130 00-
½"			-	0.1 - 7	10.5	D266DVU	600 011-	AT2720	24 VDC	888 131 00-

ADV Series, Compressed Air – with Solenoid Valves





Valve Series	A	B	C	Weight (kg)
D248/249	90	86	100	-
D264/265/266	98	103	118	-

Dimensions (mm)

Solenoid enclosures

7--0 Type Coil - Insulation class F

External material: PBT (reinforced fiberglass 30%)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 VDC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 1.5 mm² max
Cable Entry: PG9 (6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Strainer for Condensate Drain Valve Systems

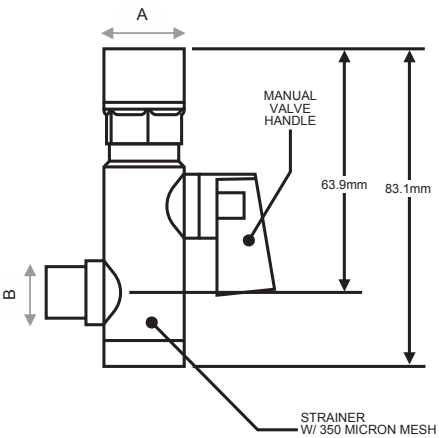
Strainer consisting of a ball valve with filter to be used together with the automatic drain valve. In order to clean and check the filter it is enough to close the valve to isolate it and then unscrew the plug.

Common Features

Media: water, oil, air and inert gases
Media temperature: -10 to +130 °C
Ambient temperature: -10 to +50 °C
Strainer material: brass (CW617N EN 12165)
Ball valve material: chromed brass (EN 5705-65)
Filter material: stainless steel (1.4305 EN 10088/AISI 304)
Seal material: PTFE
Strainer max. working pressure: 50 barg

Benefits

Cap for inspection and cleaning



Dimensions & Weights		887057	887059
A	Thread	½" BSP	½" BSP
B	Thread	½" BSP	¼" BSP
Weight	(kg)	0.16	0.16

AT2000, Analog Electronic Timer

Specifications	
Operation Temperature	-10°C to +50°C
Timing Temperature Coefficient	± 0.005% - °C
Time ON	from 0.5 to 10 seconds
Time OFF	from 30 seconds to 45 minutes
Set/reset/test	membrane key
Indicators	yellow LED for 'power ON'
	yellow LED for 'valve open'
Manual Override	test
Electrical Characteristics	
Supply Voltage (AC/DC)	from 24 V to 240 V - 50/60 Hz (**UL**)
	from 24 V to 240 V - 50/60 Hz (**CE**)
Switch Holding Voltage	400 V max.
Switch Capacity	1A
Inrush Current	10A for 10 ms
Absorption	4 mA max.
Duty Cycle	100% ED
Switch Life	$3 \bullet 10^8$
Repeat Accuracy	±1%
Protection Class	IP65 (EN 60529) with plug and gasket correctly fitted *
Circuit	UL 94 V0

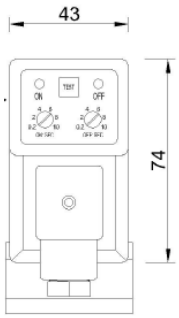
Features and Benefits

- Ideal for: automatic drain valve, sampling valves, lubrication system, air dryers
- Black colour
- UL approved

Notes

In case of DC supply, polarity should be reversed: left fast-on positive (+), right fast-on negative (-). Please refer to product instructions for use.

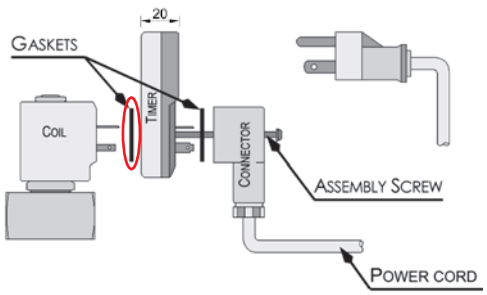
Supplied in single boxes with one squared gasket and M3x50 fixing screw (see assembling scheme)



Valve Series	Width	Height	Depth	Weight (kg)
AT2720	43	74	20	0.077

Dimensions (mm)

Assembling scheme



Solenoid Enclosures (Safe Area)

Series 2000 & 7000

Coils manufactured by Rotork are designed for continuous duty in conformity to the EN 60730 safety standards. They are encapsulated in a self-extinguishing synthetic material and offer high mechanical protection and excellent thermal dissipation. They are fully interchangeable on all Rotork solenoid valves, thereby reducing warehouse inventories.

SERIES: 2000

SERIES: 7000

Common Features

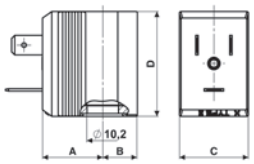
Electrical connection: fast on connection 6,3x0,8
Protection class: IP 65 (according to EN60529) - NEMA 4 (UL 50) with connector and gasket
Operation: continuous (ED 100%)
Voltage tolerance: AC +10% ÷ -15%
DC +10% ÷ -5%

Notes

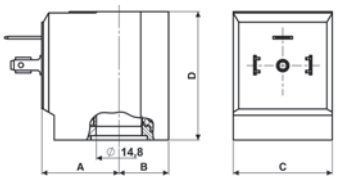
All coils manufactured by Rotork with the RoHS Directive (2011/65/EU)
Insulation class according to EN 60730-1 see the below table
All windings are realised with class 'H' wires (180 °C)
Custom voltages and low power consumption available: please contact Sales Department
Minimum batch quantity required for some voltage ratings

Dimensions & Weights		Series 2000	Series 7000
A	(mm)	19.5	25
B	(mm)	11.2	16
C	(mm)	22.3	32
D	(mm)	33.7	41.4
Weight	(kg)	0.060	0.146

Series 2000:



Series 7000:



Coils	Voltage	Power		Class	Ambient Temperature		Media Temperature[1]		
Code	-	Holding	Inrush	-	Min.	Max.	Min.	Max.	
215<u>0</u>	12 VDC	7 W	—	F 155 °C	-10 °C	+50 °C	-10 °C	+130 °C	**Series 2000 - Standard** Connection: to DIN 46244
225<u>0</u>	24 VDC	7 W	—						
275<u>0</u>	230 VDC	7 W	—						
210<u>0</u>	12 V / 50/60 Hz	10 VA	16 VA						
220<u>0</u>	24 V / 50/60 Hz	10 VA	16 VA						
230<u>0</u>	48 V / 50/60 Hz	10 VA	16 VA						
240<u>0</u>	110 V / 50 Hz - 120 V / 60 Hz	10 VA	16 VA						
260<u>0</u>	200 V / 50 Hz - 220 V / 60 Hz	10 VA	16 VA						
270<u>0</u>	230 V / 50 Hz - 240 V / 60 Hz	10 VA	16 VA						
215<u>R</u>	12 VDC	6 W	—	F 155 °C	-10 °C	+60 °C	-10 °C	+130 °C	**Series 200<u>R</u> - UL approved** UL approved coils recognized component, file number E193928
225<u>R</u>	24 VDC	6 W	—						
220<u>R</u>	24 V / 50 Hz	9 VA	14 VA						
226<u>R</u>	24 V / 60 Hz	9 VA	14 VA						
240<u>R</u>	110 V / 50 Hz - 120 V / 60 Hz	9 VA	14 VA						
270<u>R</u>	230 V / 50 Hz - 240 V / 60 Hz	9 VA	14 VA						
<u>B</u>150	12 VDC	7 W	—	F 155 °C	-10 °C	+50 °C	-10 °C	+130 °C	**Series B000 - Impregnated** Impregnated coils for humid environments (e.g code B400)
<u>B</u>250	24 VDC	7 W	—						
<u>B</u>200	24 V / 50/60 Hz	10 VA	16 VA						
<u>B</u>400	110 V / 50 Hz - 120 V / 60 Hz	10 VA	16 VA						
<u>B</u>700	230 V / 50 Hz - 240 V / 60 Hz	10 VA	16 VA						
21V<u>1</u>	12 VDC	10 W	—	H 180 °C	-10 °C	+70 °C	-10 °C	+130 °C	**Series 2001 - Class 'H'**
22V<u>1</u>	24 VDC	10 W	—						

[1] Some valve configurations allow a max. fluid temperature up to 180 °C, please check valve datasheets.

Solenoid Enclosures (Safe Area)

Coils	Voltage	Power		Class	Ambient Temperature		Media Temperature[1]		
Code	-	Holding	Inrush	-	Min.	Max.	Min.	Max.	
715Q	12 VDC	14 W	—	F 155 °C	-10 °C	+50 °C	-10 °C	+130 °C	**Series 7000 - Standard** Connection: to DIN EN 175301-803 form A (ex DIN 43650-A) **OPTIONS** Impregnated coils for humid environments (e.g. code D400)
725Q	24 VDC	14 W	—						
775Q	230 VDC	14 W	—						
710Q	12 V / 50/60 Hz	18 VA	36 VA						
720Q	24 V / 50/60 Hz	18 VA	36 VA						
730Q	48 V / 50/60 Hz	18 VA	36 VA						
740Q	110 V / 50 Hz - 120 V / 60 Hz	18 VA	36 VA						
760Q	200 V / 50 Hz - 220 V / 60 Hz	18 VA	36 VA						
770Q	230 V / 50 Hz - 240 V / 60 Hz	18 VA	36 VA						
725R	24 VDC	10 W	—	F 155 °C	-10 °C	+60 °C	-10 °C	+130 °C	**Series 700R - UL approved** UL approved coils recognized component, file number E193928
720R	24 V / 50 Hz	15 VA	30 VA						
740R	110 V / 50 Hz - 120 V / 60 Hz	15 VA	30 VA						
770R	230 V / 50 Hz - 240 V / 60 Hz	15 VA	30 VA						
7251	24 VDC	14 W	—	H 180 °C	-10 °C	+70 °C	-10 °C	+130 °C	**Series 7001 - Class 'H'** **OPTIONS** Impregnated coils for humid environments (e.g. code D701)
7201	24 V / 50/60 Hz	18 VA	36 VA						
7401	110 V / 50 Hz - 120 V / 60 Hz	18 VA	36 VA						
7701	230 V / 50 Hz - 24 V / 60 Hz	18 VA	36 VA						
71Z1	12 VDC	22 W	—	H 180 °C	-10 °C	+70 °C	-10 °C	+130 °C	**Series 7000 - High Power** **OPTIONS** Impregnated coils for humid environments (e.g. code D7K1)
72Z1	24 VDC	22 W	—						
72K1	24 V / 50/60 Hz	25 VA	50 VA						
74K1	110 V / 50 Hz - 120 V / 60 Hz	25 VA	50 VA						
77K1	230 V / 50 Hz - 240 V / 60 Hz	25 VA	50 VA						

[1] Some valve configurations allow a max. fluid temperature up to 180 °C, please check valve datasheets.

Solenoid Enclosures (Safe Area)

Type : E5, S50, S4, S7

E5 Type Enclosure **Protection Class IP65** External Material: Glass reinforced nylon Electrical Connection: DIN Plug to ISO 4400 Winding insulation Class H Enclosure conforms to IP65 when correct plug gasket is fitted as supplied. Standard enclosure for most popular Alcon valves.	
S50 Type Enclosure **Protection Class IP65** Material: Pressed steel Electrical Connection: DIN Plug to ISO 4400 Winding insulation Class H This enclosure conforms to IP65 when correct plug seal gasket is fitted Enclosure for the following types: FACHL, GB8.	
S4 Type Enclosure **Protection Class IP50** External Material: Pressed steel Powder Coated Electrical Entry: Conduit boss 20 mm or ½" NPT Electrical Connection: Screwed terminals or 0.5 mm flying leads, or DIN connector for cryogenic applications Winding insulation Class H Optional enclosure for the following types: ACD, ACDN, GB.	
S7 Type Enclosure **Protection Class IP65** Material: Nylon Electrical Connection: DIN Plug to ISO 4400 Standard Enclosure for Universal Namur Valves Winding insulation Class F This enclosure conforms to IP65 when correct plug seal gasket is fitted as supplied.	

Solenoid Enclosures (Hazardous Area)

Explosion-proof / Weatherproof

Enclosure S4 Type Exd ATEX or IECEx / CSA approved.

Intended for use in potentially explosive atmospheres Directive 2014/34/EU.

Compliance with essential health and safety requirements EN60529 (IP67), EN60079-1 and EN60079-0

Features

- Special purpose solenoid valves are used for controlling gases or liquids where a potentially explosive gas/air mixture is present in the atmosphere for long periods or likely to occur in normal operation
- Alcon flameproof enclosures are suitable for hazardous areas Zone 1 and Zone 2, for the control of Group IIA, IIB, IIC gases.

Application

- Valves configured for Hazardous Areas
- User to consult all applicable codes, such as N.E.C., EU directive 99/92/EC, for definitions, performance and safety requirements associated with Hazardous Area Classification, Apparatus Group, Zones, Division and Temperature Classification

Protection Class:	II 2 G Exd IIC T6 for ambient temperatures -50 °C to +40 °C
Optional:	II 2 G Exd IIC T4 for ambient temperatures -50 °C to +70 °C
Certificate No:	Sira 03ATEX1319 (ATEX) IECEx CSA 07.0002 1676463 (CSA)

Weatherproof to IP67

Technical Specification

Power Consumption:	Holding – 19 VA, 12 V to 230 V 50 / 60 Hz. 14.5 W 12 V to 212 VDC
Material:	Powder coated Aluminium or 316 St. St enclosure with St. St nameplate
Electrical Entry:	M20 x 1.5 or ½"NPT Conduit Entry
	Applicable to the following types: ACD, ACP, GB, FACHL, NAMUR

Explosion-proof / Weatherproof

Enclosure S4 Type Exm ATEX or IECEx approved

Intended for use in potentially explosive atmospheres Directive 2014/34/EU

Compliance with essential health and safety requirements EN60079-0 and EN60079-18

Features

- Special purpose solenoid valves are used for controlling gases or liquids where a potentially explosive gas/air mixture is present in the atmosphere for long periods or likely to occur in normal operation
- Alcon flameproof enclosures are suitable for hazardous areas Zone 1 and Zone 2, for the control of Group II gases.

Application

- Valves configured for Hazardous Areas
- User to consult all applicable codes, such as N.E.C., EU directive 99/92/EC, for definitions, performance and safety requirements associated with Hazardous Area Classification, Apparatus Group, Zones, Division and Temperature Classification
- Applicable to all catalogue valves except HWA.

Protection Class:	II 2 G Exm II T5 for ambient temperatures -20 °C to +40 °C

Hazardous area certificates:

Baseefa06ATEX0302X (ATEX)

IECEx BAS06.0080X

Weatherproof to IP65

Technical Specification

Power Consumption:	Holding – 16 VA, 12 V to 230 V 50 / 60 Hz. 10 W, 12, 24 VDC
Material:	Powder coated metal enclosure with stainless steel nameplate
Electrical Entry:	2 metre length of approved 3 Core cable with M16 conduit male winding insulation class.
	Applicable to the following types: ACD, ACP, GB, FACHL (24 VDC)

Solenoid Enclosures (Hazardous Area)

Intrinsically Safe Enclosures (ATEX approved)

Complies with EN60079-0 and EN60079-11

Protection Class: Exia IIC T6, ATEX approved for ambient temperatures -40 °C to + 50 °C

Maximum valve media temperature of 70 °C

Certificate No: PTB 02 ATEX 2154

Weatherproof to IP65

Technical Specification

Winding insulation: Class F

Rated Voltage: 24 VDC with typical 300 ohm zener barrier

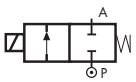
Max Power Consumption: Exia 1.6 watts DC

Material: Thermoset resin

Electrical Entry: PG9 via Din Plug Connector Din 43650-A

Applicable to the following types:
UNIVERSAL NAMUR

B298 Series, General Purpose & Chemical Industry – 2/2 Normally Closed

Specifications	
Function	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Stainless Steel AISI 303 (1.4305 EN 10088)
Orifice Material	Stainless Steel AISI 303 (1.4305 EN 10088)
Flange Tube[1]	Stainless Steel AISI 303
Plunger and Top Stop	Stainless Steel AISI 430F or equivalent
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type	NPT
Shading Ring	Copper
Electrical Characteristics	
Coil Voltage DC (=)	24 V
Coil Voltage AC 50 Hz (~)	24 V, 110 V, 230 V
Coil Voltage AC 60 Hz (~)	120 V, 240 V
Voltage Tolerance	AC +10% to -15% DC +10% to -5%
Duty Cycle	100% ED
Enclosure Classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to industrial form B
Coil Insulation Class	155 (F) to UL429 and to EN 60730-1
Power Rating (cULus Coils)	AC 9 VA (holding) AC 14 VA (inrush) DC 6W

[1] With special nut, different from Standard.

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- High quality seal materials
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD psi (bar)		Orifice inches (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
1/8	0.09	0.08	0 - 261 (0 - 18)	0 - 94 (0 - 6.5)	1/16 (1.5)	FKM	B298DVCN
1/8	0.13	0.11	0 - 218 (0 - 15)	0 - 51 (0 - 3.5)	5/64 (2.0)	FKM	B298DVEN
1/8	0.19	0.16	0 - 116 (0 - 8)	0 - 14.5 (0 - 1)	3/32 (2.5)	FKM	B298DVGN

Options Available

Valve Options (see coding chart)
Anticorrosion treatment recommended with aggressive fluids
G parallel thread (ISO 228-1)
CE coils, power DC 7W - AC 10 VA[2]

[2] Pressure ratings of valves fitted with CE coils may be higher than with UL coils (coils specifications on page 157).

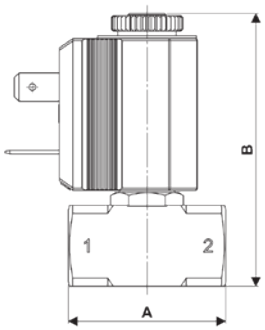
Seal Material[3] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM 14 °F to 266 °F (-10 °C to +130 °C)	Water, oil, air, aggressive fluids	14 °F (-10 °C)	122 °F (+50 °C)

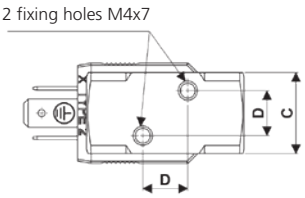
[3] See corrosion reference guide and sealing solutions for material compatability.

B298 Series, General Purpose & Chemical Industry – 2/2 Normally Closed

Coil Rotation

Preferred Valve Mounting Options





Pipe Size	A	B	C	D	Weight Lb (kg)
1/8	1.38 (35)	2.39 (60.6)	0.71 (18)	0.39 (10)	0.22 (0.1)

Dimensions inches (mm)

Solenoid enclosures

2--R c UL us Type Coil - Insulation class F

External material: PET 815ER Rynite®
Electrical connection: Industrial form B
Winding insulation: Class H (P180)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*
UL approved, file No: E193928

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 001- Plug

Rated Voltage (max.): 250 VAC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Orifice	
C	1/16
E	5/64
G	3/32

Thread Pipe	
N	NPT
	GAS

Option	
F	Anticorrosion treatment[1]
	w/o option

Coil options

Voltage / Frequency - c UL us Type, Class F	
225R	24 VDC
220R	24 V / 50 Hz
240R	110 V / 50 Hz - 120 V / 60 Hz
270R	230 V / 50 Hz - 240 V / 60 Hz

Voltage / Frequency - CE Type, Class F	
2250	24 VDC
2200	24 V / 50/60 Hz
2400	110 V / 50 Hz - 120 V / 60 Hz
2600	200 V / 50 Hz - 220 V / 60 Hz
2700	230 V / 50 Hz - 240 V / 60 Hz

Plug

Plug	
	w/o plug
0B1	c/w plug

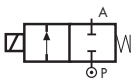
B	2	9	8	D	V	•	N	•	•	•	•	•	•	•	•	•

[1] Recommended with aggressive fluids.

Product coding example:

B298DVCN 225R
1/8 NPT, auto operation, stainless steel body, FKM seals, 1/16 orifice, 24 vDC, without plug.

D298/299 Series, General Purpose & Chemical Industry – 2/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Stainless Steel AISI 303 (1.4305 EN 10088)
Orifice Material	Stainless Steel AISI 303 (1.4305 EN 10088)
Tube	Stainless Steel AISI 304
Flange	Stainless Steel AISI 303 (1.4305 EN 10088)
Plunger	Stainless Steel AISI 430F (1.4106 EN 10088)
Top Stop	Stainless Steel AISI 430F (1.4105 EN 10088)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type	NPT
Shading Ring	Copper
Electrical Characteristics	
Coil Voltage DC (=)	24 V
Coil Voltage AC 50 Hz (~)	24 V, 110 V, 230 V
Coil Voltage AC 60 Hz (~)	120 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Enclosure Classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation Class	155 (F) to UL429 and to EN 60730-1
Power Rating (c UL us Coils)	AC 15 VA (holding) AC 30 VA (inrush) DC 10 W

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- Choice of high quality seal materials
- Wide range of available orifices
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD psi (bar)		Orifice inches (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
¼	0.08	0.07	0 - 348 (0 - 24)	0 - 348 (0 - 24)	1/16 (1.5)	FKM EPDM	D299DVCN D299DECN
¼	0.23	0.20	0 - 247 (0 - 17)	0 - 189 (0 - 13)	3/32 (2.5)	FKM EPDM	D299DVGN D299DEGN
¼	0.32	0.27	0 - 218 (0 -15)	0 - 145 (0 - 10)	1/8 (3.0)	FKM EPDM	D299DVHN D299DEHN
¼	0.42	0.36	0 - 145 (0 - 10)	0 - 73 (0 - 5)	5/32 (4.0)	FKM EPDM	D299DVLN D299DELN
¼	0.53	0.45	0 - 73 (0 - 5)	0 - 36 (0 - 2.5)	13/64 (5.0)	FKM EPDM	D299DVNN D299DENN
¼	0.16	0.14	0 - 261 (0 - 18)	0 - 218 (0 - 15)	5/64 (2.0)	KALREZ®	D299DKEN
¼	0.23	0.20	0 - 218 (0 - 15)	0 - 174 (0 - 12)	3/32 (2.5)	KALREZ®	D299DKGN
¼	0.32	0.27	0 - 189 (0 - 13)	0 - 102 (0 - 7)	1/8 (3.0)	KALREZ®	D299DKHN

Options Available

Valve Options (see coding chart)
Body threaded connection 1/8
G parallel thread (ISO 228-1)
Anticorrosion treatment recommended with aggressive fluids
Silver shading ring
CE coils, power DC 7W - AC 10 VA[1]

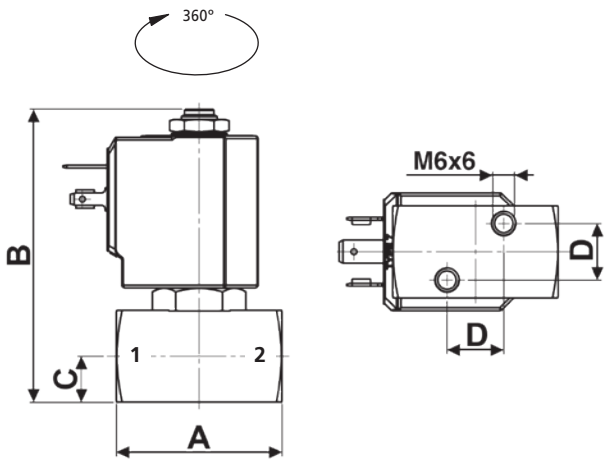
[1] Pressure ratings of valves fitted with CE coils may be higher than with UL coils (coils specifications on page 157).

Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM 14 °F to 266 °F (-10 °C to +130 °C)	Water, oil, air, aggressive fluids	14 °F (-10 °C)	122 °F (+50 °C)
EPDM 14 °F to 248 °F (-10 °C to +120 °C)	Water, hot water	14 °F (-10 °C)	122 °F (+50 °C)
Kalrez® Spectrum™ 14 °F to 266 °F (-10 °C to 130 °C)	Chemicals	14 °F (-10 °C)	122 °F (+50 °C)

[1] See corrosion reference guide and sealing solutions for material compatability.

D298/299 Series, General Purpose & Chemical Industry – 2/2 Normally Closed

Coil Rotation



Preferred Valve Mounting Options

Pipe Size	A	B	C	D	Weight Lb (kg)
1/8 - 1/4	1.77 (45)	3.15 (80)	0.49 (12.5)	0.61 (15.4)	0.79 (0.36)

Dimensions inches (mm)

Solenoid enclosures

7--R c UL us Type Coil - Insulation class F

External material: PET 815ER Rynite®
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (P180)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*
UL approved, file No: E193928

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
8	1/8
9	1/4

Seals	
V	FKM
E	EPDM
K	KALREZ®

Orifice	
C	1/16
E	5/64
G	3/32
H	1/8
L	5/32[1]
N	13/64[1]

Thread Pipe	
N	NPT
	GAS

Option	
A	Silver shading ring
F	Anticorrosion treatment[2]
	w/o option

Coil options

Voltage / Frequency - c UL us Type, Class F	
725R	24 VDC
720R	24 V / 50 Hz
740R	110 V / 50 Hz - 120 V / 60 Hz
770R	230 V / 50 Hz - 240 V / 60 Hz
Voltage / Frequency - CE Type, Class F	
7250	24 VDC
7200	24 V / 50/60 Hz
7400	110 V / 50 Hz - 120 V / 60 Hz
7600	200 V / 50 Hz - 220 V / 60 Hz
7700	230 V / 50 Hz - 240 V / 60 Hz

Plug

Plug	
	w/o plug
0A1	c/w plug

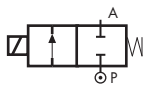
D	2	9	•	D	•	•	N	•	•	•	•	•	•	•	•	•

[1] Not available with Kalrez® seals.
[2] Recommended with aggressive fluids.

Product coding example:

D298DVCN 725R 0A1
1/8 NPT, auto operation, stainless steel body, FKM seals, 1/16 orifice, 24 VDC, with plug.

D262/263 Series, General Purpose – 2/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass C37700 (UNS Designation)
Orifice Material	Stainless Steel AISI 303 (1.4305 EN 10088)
Flange	Stainless Steel AISI 303 (1.4305 EN 10088)
Tube	Stainless Steel AISI 304
Plunger	Stainless Steel AISI 430F (1.4106 EN 10088)
Top Stop	Stainless Steel AISI 430F (1.4105 EN 10088)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type	NPT
Shading Ring	Copper
Electrical Characteristics	
Coil Voltage DC (=)	24 V
Coil Voltage AC 50 Hz (~)	24 V, 110 V, 230 V
Coil Voltage AC 60 Hz (~)	120 V, 240 V
Voltage Tolerance	+10% to -15% (AC) +10% to -5% (DC)
Duty Cycle	100% ED
Enclosure Classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation Class	155 (F) to UL429 and to EN 60730-1
Power Rating (cULus Coils)	AC 15 VA (holding) AC 30 VA (inrush) DC 10 W

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- Choice of high quality seal materials
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD psi (bar)		Orifice inches (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
1/4	0.04	0.03	0 - 435 (0 - 30)	0 - 435 (0 - 30)	3/64 (1.0)	FKM EPDM	D263DVAN D263DEAN
1/4	0.09	0.08	0 - 348 (0 - 24)	0 - 348 (0 - 24)	1/16 (1.5)	FKM EPDM	D263DVCN D263DECN
1/4	0.24	0.20	0 - 245 (0 - 17)	0 - 190 (0 - 13)	3/32 (2.5)	FKM EPDM	D263DVGN D263DEGN
1/4	0.32	0.27	0 - 189 (0 - 13)	0 - 102 (0 - 7)	1/8 (3.0)	FKM EPDM	D263DVHN D263DEHN
1/4	0.42	0.36	0 - 145 (0 - 10)	0 - 73 (0 - 5)	5/32 (4.0)	FKM EPDM	D263DVLN[2] D263DELN[2]
1/4	0.53	0.45	0 - 73 (0 - 5)	0 - 36 (0 - 2.5)	13/64 (5.0)	FKM EPDM	D263DVNN[2] D263DENN[2]

[2] Manual override not available for orifice > Ø 1/8 (3 mm).

Options Available

Valve Options (see coding chart)
Body threaded connection 1/8
G parallel thread (ISO 228-1)
Manual override
Electroless nickel plating
CE coils, power DC 14W - AC 18 VA[1]

[1] Pressure ratings of valves fitted with CE coils may be higher than with UL coils (coils specifications on page 157).

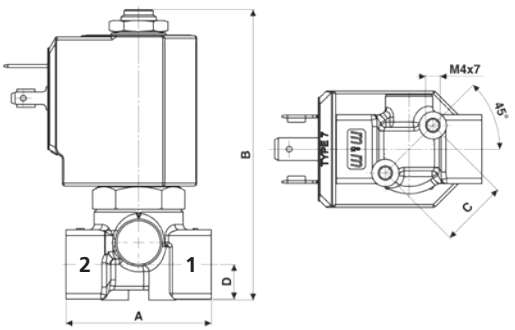
Vacuum Version
See separate datasheet

Seal Material[3] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM 14 °F to 266 °F (-10 °C to +130 °C)	Water, oil, air	14 °F (-10 °C)	122 °F (+50 °C)
EPDM 14 °F to 248 °F (-10 °C to +120 °C)	Water, hot water	14 °F (-10 °C)	122 °F (+50 °C)

[3] See corrosion reference guide and sealing solutions for material compatability.

D262/263 Series, General Purpose – 2/2 Normally Closed

Coil Rotation



Preferred Valve Mounting Options

Pipe Size	A	B	C	D	Weight Lb (kg)
1/8 - 1/4	1.57 (40)	3.05 (77.5)	0.73 (18.5)	0.37 (9.5)	0.57 (0.26)

Dimensions inches (mm)

Solenoid enclosures

7--R c UL us Type Coil - Insulation class F

External material: PET 815ER Rynite®
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (P180)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*
UL approved, file No: E193928

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
2	1/8
3	1/4

Seals	
V	FKM
E	EPDM

Orifice	
A	3/64
C	1/16
G	3/32
H	1/8
L	5/32
N	13/64
P	15/64

Thread Pipe	
N	NPT
	GAS

Option	
M	Manual Overide[1]
K	Electroless nickel plating
	w/o option

Coil options

Voltage / Frequency - c UL us Type, Class F	
725R	24 VDC
720R	24 V / 50 Hz
740R	110 V / 50 Hz - 120 V / 60 Hz
770R	230 V / 50 Hz - 240 V / 60 Hz

Voltage / Frequency - CE Type, Class F	
7250	24 VDC
7200	24 V / 50/60 Hz
7400	110 V / 50 Hz - 120 V / 60 Hz
7600	200 V / 50 Hz - 220 V / 60 Hz
7700	230 V / 50 Hz - 240 V / 60Hz

Plug

Plug	
	w/o plug
0A1	c/w plug

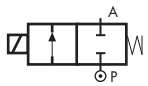
D	2	6	•	D	•	•	N	•	•	•	•	•	•	•	•	•

[1] Manual override not available for orifice > 1/8 (3.0 mm).

Product coding example:

D263DVAN 725R
1/4 NPT, auto operation, brass body, FKM seals, 3/64 orifice, 24V DC, without plug.

D248/249 Series, Compressed Air – 2/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass C37700 (UNS Designation)
Plunger	Stainless Steel AISI 430F (1.4106 EN 10088)
Top Stop	Stainless Steel AISI 430F (1.4105 EN 10088)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type	NPT
Shading Ring	Copper
Electrical Characteristics	
Coil Voltage DC (=)	24 V
Coil Voltage AC 50 Hz (~)	24 V, 110 V, 230 V
Coil Voltage AC 60 Hz (~)	120 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Enclosure Classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation Class	155 (F) to UL429 and to EN 60730-1
Power Rating (cULus Coils)	AC 15 VA (holding) AC 30 VA (inrush) DC 10 W

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Zero pressure rated
- Choice of high quality seal materials
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD psi (bar)		Orifice inches (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
1/4	0.11	0.09	0 - 362 (0 - 25)	0 - 348 (0 - 24)	1/16 (1.7)	FKM EPDM	D249DVDN D249DEDN
1/4	0.17	0.14	0 - 261 (0 - 18)	0 - 232 (0 - 16)	3/32 (2.2)	FKM EPDM	D249DVFN D249DEFN
1/4	0.32	0.27	0 - 189 (0 - 13)	0 - 87 (0 - 6)	1/8 (3.0)	FKM EPDM	D249DVHN D249DEHN

Options Available

Valve Options (see coding chart)
Body threaded connection 1/8
G parallel thread (ISO 228-1)
CE coils, power DC 14W - AC 18VA[1]

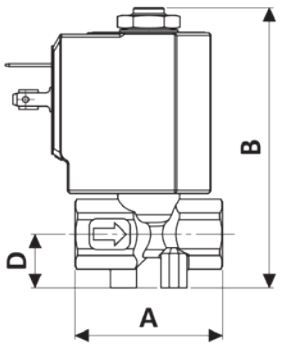
[1] Pressure ratings of valves fitted with CE coils may be higher than with UL coils (coils specifications on page 157).

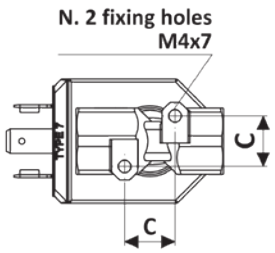
Seal Material[3] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM 14 °F to 266 °F (-10 °C to +130 °C)	Water, oil, air	14 °F (-10 °C)	122 °F (+50 °C)
EPDM 14 °F to 248 °F (-10 °C to +120 °C)	Water, hot water	14 °F (-10 °C)	122 °F (+50 °C)

[3] See corrosion reference guide and sealing solutions for material compatability.

D248/249 Series, Compressed Air – 2/2 Normally Closed

Coil Rotation





Preferred Valve Mounting Options

Pipe Size	A	B	C	D	Weight Lb (kg)
1/8 - 1/4	1.50 (38)	2.84 (72.1)	0.51 (13)	0.54 (13.8)	0.39 (0.18)

Dimensions inches (mm)

Solenoid enclosures

7--R c UL us Type Coil - Insulation class F

External material: PET 815ER Rynite®
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (P180)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*
UL approved, file No: E193928

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
8	1/8"
9	1/4"

Seals	
V	FKM
E	EPDM

Orifice	
D	1/16
F	3/32
H	1/8

Thread Pipe	
N	NPT
	GAS

Option	
	w/o option

Coil options

Voltage / Frequency - c UL us Type, Class F	
725R	24 VDC
720R	24 V / 50 Hz
740R	110 V / 50 Hz - 120 V / 60 Hz
770R	230 V / 50 Hz - 240 V / 60 Hz

Voltage / Frequency - CE Type, Class F	
7250	24 VDC
7200	24 V / 50/60 Hz
7400	110 V / 50 Hz - 120 V / 60 Hz
7600	200 V / 50 Hz - 220 V / 60 Hz
7700	230 V / 50 Hz - 240 V / 60 Hz

Plug

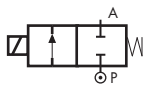
Plug	
0A1	c/w plug
	w/o plug

D	2	4	•	D	•	•	N	•	•	•	•	•	•	•	•	•

Product coding example:

D249DVDN 770R 0A1
1/4 NPT, auto operation, brass body, FKM seals, 1/16 orifice, 230 V / 50Hz - 240 V / 60 Hz AC, with plug.

D237/238/239 Series, Automation – 2/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass C37700 (UNS Designation)
Orifice Material[1]	Stainless Steel AISI 303 (1.4305 EN 10088)
Flange[2]	Stainless Steel AISI 303 (1.4305 EN 10088)
Tube	Stainless Steel AISI 304
Plunger	Stainless Steel AISI 430F (1.4106 EN 10088)
Top Stop	Stainless Steel AISI 430F (1.4105 EN 10088)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type	NPT
Shading Ring	Copper
Electrical Characteristics[3]	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC) +10% to -5% (DC)
Duty Cycle	100% ED
Enclosure Classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation Class	155 (F) to EN 60730-1
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W

[1] Not for D237D-U, D238D-U and D239D-U.
[2] D237D-U, D238D-U and D239D-U is carries an additional flange HEX 30 mm in Brass between body and flange tube, see dimensional drawing on the left (on page 39).
[3] These coils are not UL approved.

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- Choice of high quality seal materials
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD psi (bar)		Orifice inches (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
1/4	1.47	1.26	0 - 5.8 (0 - 0.4)	0 - 2.9 (0 - 0.2)	13/32 (10.5)	FKM EPDM NBR	D237DVUN[4] D237DEUN[4] D237DBUN[4]
3/8	1.76	1.50	0 - 5.8 (0 - 0.4)	0 - 2.9 (0 - 0.2)	13/32 (10.5)	FKM EPDM NBR	D238DVUN[4] D238DEUN[4] D238DBUN[4]
1/2	1.76	1.50	0 - 5.8 (0 - 0.4)	0 - 2.9 (0 - 0.2)	13/32 (10.5)	FKM EPDM NBR	D239DVUN[4] D239DEUN[4] D239DBUN[4]
3/8	0.42	0.36	0 - 116 (0 - 8)	0 - 73 (0 - 5)	5/32 (4.0)	FKM EPDM NBR	D238DVLN[5] D238DELN[5] D238DBLN[5]
3/8	0.53	0.45	0 - 73 (0 - 5)	0 - 29 (0 - 2)	13/64 (5.0)	FKM EPDM NBR	D238DVNN[5] D238DENN[5] D238DBNN[5]
3/8	0.60	0.51	0 - 51 (0 - 3.5)	0 - 16 (0 - 1.1)	15/64 (6.0)	FKM EPDM NBR	D238DVPN[5] D238DEPN[5] D238DBPN[5]
1/2	0.32	0.27	0 - 247 (0 - 17)	0 - 174 (0 - 12)	1/8 (3.0)	FKM EPDM NBR	D239DVHN[5] D239DEHN[5] D239DBHN[5]
1/2	0.42	0.36	0 - 116 (0 - 8)	0 - 73 (0 - 5)	5/32 (4.0)	FKM EPDM NBR	D239DVLN[5] D239DELN[5] D239DBLN[5]
1/2	0.53	0.45	0 - 73 (0 - 5)	0 - 29 (0 - 2)	13/64 (5.0)	FKM EPDM NBR	D239DVNN[5] D239DENN[5] D239DBNN[5]
1/2	0.60	0.51	0 - 51 (0 - 3.5)	0 - 16 (0 - 1.1)	15/64 (6.0)	FKM EPDM NBR	D239DVPN[5] D239DEPN[5] D239DBPN[5]

[4] Body as D264/265/266 (on pages 100, 101).
[5] Same flange tube as D262/263 (on pages 28, 29), see dimensional drawing on the right (on page 39).

Options Available

Valve Options (see coding chart)
G parallel thread (ISO 228-1)

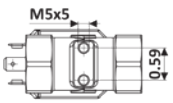
Seal Material[6] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM 14 °F to 266 °F (-10 °C to +130 °C)	Water, oil, air	14 °F (-10 °C)	122 °F (+50 °C)
EPDM 14 °F to 248 °F (-10 °C to +120 °C)	Water, hot water	14 °F (-10 °C)	122 °F (+50 °C)
NBR 14 °F to 194 °F (-10 °C to +90 °C)	Water, oil, air	14 °F (-10 °C)	122 °F (+50 °C)

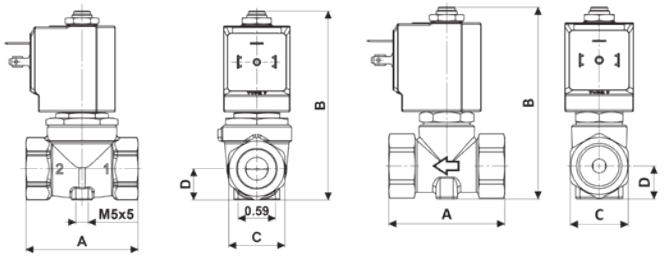
[6] See corrosion reference guide and sealing solutions for material compatability.

D237/238/239 Series, Automation – 2/2 Normally Closed

Coil Rotation

Only for orifice 13/32
(D237-D-U, D238D-U and D239D-U):





Preferred Valve Mounting Options

Pipe Size	Orifice inches	A	B	C	D	Weight Lb (kg)
1/4 - 3/8 - 1/2	13/32	2.13 (54)	3.50 (89)	HEX 27 (27)	0.59 (15)	0.99 (0.45)
1/4 - 3/8 - 1/2	from 1/8 to 15/64	2.13 (54)	3.52 (89.35)	HEX 27 (27)	0.59 (15)	0.99 (0.45)

Dimensions inches (mm)

Solenoid enclosures

7--0 Type Coil - Insulation class F

External material: PBT (reinforced glass fiber 30%)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
7	1/4
8	3/8
9	1/2

Seals	
V	FKM
E	EPDM
B	NBR

Orifice	
H	1/8
L	5/32
N	13/64
P	15/64
U	13/32

Thread Pipe	
N	NPT
	GAS

Option	
	w/o option

Coil options

Voltage / Frequency - CE Type, Class F	
7250	24 VDC
7200	24 V / 50/60 Hz
7400	110 V / 50 Hz - 120 V / 60 Hz
7600	200 V / 50 Hz - 220 V / 60 Hz
7700	230 V / 50 Hz - 240 V / 60 Hz

Plug

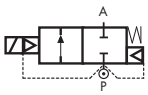
Plug	
	w/o plug
0A1	c/w plug

D	2	3	•	D	•	•	N	•	•	•	•	•	•	•	•

Product coding example:

D237DVUN 7250
1/4 NPT, auto operation, brass body, FKM seals, 13/32 orifice, 24 VDC, without plug.

D884/885/886 Series, General Purpose – 2/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass C37700 (UNS Designation)
Flange[1]	Stainless Steel AISI 303 (1.4305 EN 10088)
Tube	Stainless Steel AISI 304
Plunger	Stainless Steel AISI 430F (1.4106 EN 10088)
Top Stop	Stainless Steel AISI 430F (1.4105 EN 10088)
Springs	Stainless Steel AISI 302
Seal Material (Std)	FKM
Connection Type	NPT
Shading Ring	Copper
Electrical Characteristics	
Coil Voltage DC (=)	24 V
Coil Voltage AC 50 Hz (~)	24 V, 110 V, 230 V
Coil Voltage AC 60 Hz (~)	120 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Enclosure Classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation Class	155 (F) to UL429 and to EN 60730-1
Power Rating (cULus Coils)	AC 15 VA (holding) AC 30 VA (inrush) DC 10 W

[1] This valve carries an additional flange HEX 30 mm in Brass C37700 between body and flange tube.

Features and Benefits

- Pilot operated with assisted lift
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- High quality seal materials
- Response time 50 to 500 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD psi (bar)		Orifice inches (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
1/4	1.47	1.26	0 - 232 (0 - 16)	0 - 44 (0 - 3)	13/32 (10.5)	FKM	D884DVUN
3/8	1.68	1.44				FKM	D885DVUN
1/2	1.76	1.50				FKM	D886DVUN

Options Available

Valve Options (see coding chart)
G parallel thread (ISO 228-1)
Silver shading ring
CE coils, power DC 14W - AC 18 VA[2]

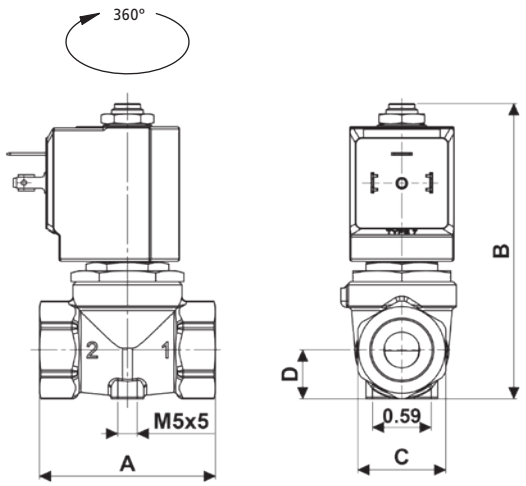
[2] Pressure ratings of valves fitted with CE coils may be higher than with UL coils (coils specifications on page 157).

Seal Material[3] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM 14 °F to 266 °F (-10 °C to +130 °C)	Water, oil, air	14 °F (-10 °C)	122 °F (+50 °C)

[3] See corrosion reference guide and sealing solutions for material compatability.

D884/885/886 Series, General Purpose – 2/2 Normally Closed

Coil Rotation



Preferred Valve Mounting Options

Pipe Size	A	B	C	D	Weight Lb (kg)
1/4	2.13 (54)	3.50 (89)	HEX 27 (27)	0.59 (15)	0.99 (0.45)
3/8 - 1/2	2.13 (54)	3.50 (89)	HEX 27 (27)	0.59 (15)	0.88 (0.4)

Dimensions inches (mm)

Solenoid enclosures

7--R c UL us Type Coil - Insulation class F

Encapsulation material: PET 815ER Rynite®
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (P180)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*
UL approved, file No: E193928

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
4	1/4
5	3/8
6	1/2

Thread Pipe		Option	
N	NPT	A	Silver shading ring
	GAS		w/o option

Coil options

Voltage / Frequency - c UL us Type, Class F	
725R	24 VDC
720R	24 V / 50 Hz
740R	110 V / 50 Hz - 120 V / 60 Hz
770R	230 V / 50 Hz - 240 V / 60 Hz
Voltage / Frequency - CE Type, Class F	
7250	24 VDC
7200	24 V / 50/60 Hz
7400	110 V / 50 Hz - 120 V / 60 Hz
7600	200 V / 50 Hz - 220 V / 60 Hz
7700	230 V / 50 Hz - 240 V / 60 Hz

Plug

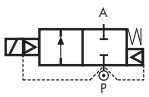
Plug	
	w/o plug
0A1	c/w plug

D	8	8	•	D	V	U	N	•	•	•	•	•	•	•	•	•

Product coding example:

D884DVUN 725R
1/4 NPT, auto operation, brass body, FKM seals, 13/32 orifice, 24 VDC, without plug.

D264/265/266 Series, Compressed Air and General Purpose –
2/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	max. 21cST (3 °E)
Body Material (Std)	Brass C37700 (UNS Designation)
Flange[1]	Stainless Steel AISI 303 (1.4305 EN 10088)
Tube	Stainless Steel AISI 304
Plunger	Stainless Steel AISI 430F (1.4106 EN 10088)
Top Stop	Stainless Steel AISI 430F (1.4105 EN 10088)
Springs	Stainless Steel AISI 302
Seal Material (Std)	NBR
Connection Type	NPT
Shading Ring	Copper
Electrical Characteristics	
Coil Voltage DC (=)	24 V
Coil Voltage AC 50 Hz (~)	24 V, 110 V, 230 V
Coil Voltage AC 60 Hz (~)	120 V, 240 V
Voltage Tolerance	+10% to -15% (AC) +10% to -5% (DC)
Duty Cycle	100% ED
Enclosure Classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation Class	155 (F) to UL429 and to EN 60730-1
Power Rating (cULus Coils)	AC 15 VA (holding) AC 30 VA (inrush) DC 10 W

[1] This valve carries an additional flange HEX 30 mm in Brass C37700 between body and flange tube.

Features and Benefits

- Pilot operated
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- Choice of high quality seal materials
- Response time 50 to 500 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD psi (bar)		Orifice inches (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
1/4	1.47	1.26	1.5 - 232 (0.1- 16)	1.5 - 102 (0.1- 7)	13/32 (10.5)	NBR	D264DBUN
						FKM	D264DVUN
						EPDM	D264DEUN
3/8	1.68	1.44				NBR	D265DBUN
						FKM	D265DVUN
						EPDM	D265DEUN
1/2	1.76	1.50				NBR	D266DBUN
						FKM	D266DVUN
						EPDM	D266DEUN

Options Available

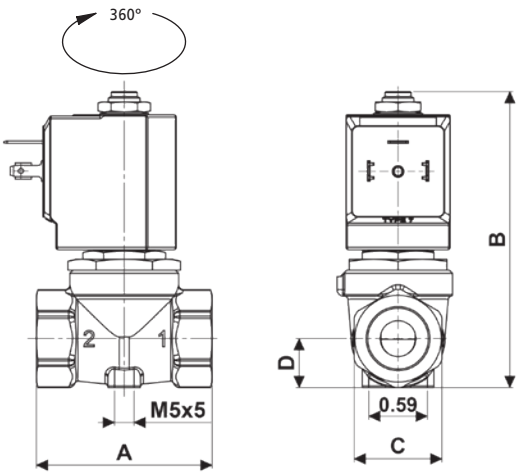
Valve Options (see coding chart)
G parallel thread (ISO 228-1)
CE coils, power DC 14W - AC 18 VA

Seal Material[2] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
NBR 14 °F to 194 °F (-10 °C to +90 °C)	Water, oil, air	14 °F (-10 °C)	122 °F (+50 °C)
FKM 14 °F to 266 °F (-10 °C to +130 °C)	Water, oil, air	14 °F (-10 °C)	122 °F (+50 °C)
EPDM 14 °F to 248 °F (-10 °C to +120 °C)	Water, hot water	14 °F (-10 °C)	122 °F (+50 °C)

[2] See corrosion reference guide and sealing solutions for material compatability.

D264/265/266 Series, Compressed Air and General Purpose –
2/2 Normally Closed

Coil Rotation



Preferred Valve Mounting Options

Pipe size	A	B	C	D	Weight Lb (kg)
1/4	2.13 (54)	3.50 (89)	HEX 27 (27)	0.59 (15)	0.99 (0.45)
3/8 - 1/2	2.13 (54)	3.50 (89)	HEX 27 (27)	0.59 (15)	0.88 (0.4)

Dimensions inches (mm)

Solenoid enclosures

7--R c UL us Type Coil - Insulation class F

Encapsulation material: PET 815ER Rynite®
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (P180)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*
UL approved, file No: E193928

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
4	1/4
5	3/8
6	1/2

Seals	
B	NBR
V	FKM
E	EPDM

Thread Pipe	
N	NPT
	GAS

Option	
	w/o option

Coil options

Voltage / Frequency - c UL us Type, Class F	
725R	24 VDC
720R	24 V / 50 Hz
740R	110 V / 50 Hz - 120 V / 60 Hz
770R	230 V / 50 Hz - 240 V / 60 Hz
Voltage / Frequency - CE Type, Class F	
7250	24 VDC
7200	24 V / 50/60 Hz
7400	110 V / 50 Hz - 120 V / 60 Hz
7600	200 V / 50 Hz - 220 V / 60 Hz
7700	230 V / 50 Hz - 240 V / 60 Hz

Plug

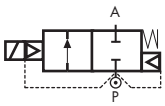
Plug	
	w/o plug
0A1	c/w plug

D	2	6	•	D	•	U	N	•	•	•	•	•	•	•	•

Product coding example:

D264DBUN 7250
1/4 NPT, auto operation, brass body, NBR seals, 13/32 orifice, 24 VDC, without plug.

D187/188/189/190/192/293 - C D187/188/189/190/192/293 Series, General Purpose – 2/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass C37700 (UNS Designation)
Flange	Stainless Steel AISI 303 (1.4305 EN 10088)
Tube	Stainless Steel AISI 304
Plunger	Stainless Steel AISI 430F (1.4106 EN 10088)
Top Stop	Stainless Steel AISI 430F (1.4105 EN 10088)
Springs	Stainless Steel AISI 302
Seal Material (Std)	NBR
Connection Type	NPT
Shading Ring	Copper
Electrical Characteristics	
Standard Coil Voltage DC (=)	24 V
c UL us Coil Voltage AC 50 Hz (~)	24 V, 110 V, 230 V
c UL us Coil Voltage AC 60 Hz (~)	120 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Enclosure Classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation Class	155 (F) to UL429 and to EN 60730-1
Power Rating (c UL us Coils)	AC 15 VA (holding) AC 30 VA (inrush) DC 10 W

Features and Benefits

- Pilot operated with linked diaphragm
- Robust construction for industrial applications
- Zero pressure rated
- Stainless steel AISI 430F operators with low residual magnetism
- Choice of high quality seal materials
- Speed control screw as standard for type D293 and C D293
- Response time 50 to 500 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD psi (bar)		Orifice inches (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
1/4	3.51	3.00	0 - 232 (0 - 16)	-	19/32 (15)	NBR FKM EPDM	D187DBWN D187DVWN D187DEWN
3/8	4.21	3.60			19/32 (15)	NBR FKM EPDM	D188DBWN D188DVWN D188DEWN
1/2	4.56	3.90			19/32 (15)	NBR FKM EPDM	D189DBWN D189DVWN D189DEWN
3/4	5.62	4.80			19/32 (15)	NBR FKM EPDM	D190DBWN D190DVWN D190DEWN
1 compact	5.97	5.10			19/32 (15)	NBR FKM EPDM	D192DBWN D192DVWN D192DEWN
1	9.83	8.40			63/64 (25)	NBR FKM EPDM	D293DBYN D293DVYN D293DEYN
1/4	3.51	3.00	-	0 - 7* (0 - 0.5)	19/32 (15)	NBR FKM EPDM	C D187DBWN* C D187DVWN* C D187DEWN*
3/8	4.21	3.60			19/32 (15)	NBR FKM EPDM	C D188DBWN* C D188DVWN* C D188DEWN*
1/2	4.56	3.90			19/32 (15)	NBR FKM EPDM	C D189DBWN* C D189DVWN* C D189DEWN*
3/4	5.62	4.80			19/32 (15)	NBR FKM EPDM	C D190DBWN* C D190DVWN* C D190DEWN*
1 compact	5.97	5.10			19/32 (15)	NBR FKM EPDM	C D192DBWN* C D192DVWN* C D192DEWN*

* Only with CE coils: pressure rating 0-6 bar.

Options Available

Valve Options (see coding chart)
G parallel thread (ISO 228-1)
Electroless nickel plating
CE coils, power DC 14W - AC 18 VA

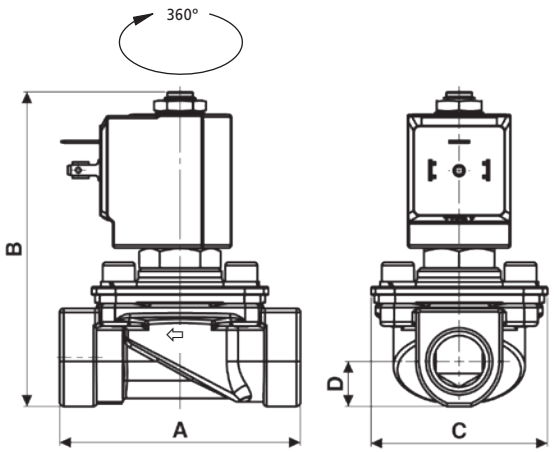
Vacuum Version
See separate datasheet

Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
NBR 14 °F to 194 °F (-10 °C to +90 °C)	Water, oil, air	14 °F (-10 °C)	122 °F (+50 °C)
FKM 14 °F to 266 °F (-10 °C to +130 °C)	Water, oil, air	14 °F (-10 °C)	122 °F (+50 °C)
EPDM 14 °F to 248 °F (-10 °C to +120 °C)	Water, hot water	14 °F (-10 °C)	122 °F (+50 °C)

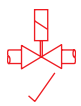
[1] See corrosion reference guide and sealing solutions for material compatability.

D187/188/189/190/192/293 - C D187/188/189/190/192/293 Series, General Purpose – 2/2 Normally Closed

Coil Rotation



Preferred Valve Mounting Options



Pipe Size	A	B	C	D	Weight Lb (kg)
1/4 - 1/2	2.95 (75)	4.25 (108)	2.17 (55)	0.55 (14)	1.10 (0.5)
3/4 - 1 compact	3.35 (85)	4.25 (108)	2.17 (55)	0.85 (21.5)	1.76 (0.8)
1	3.94 (100)	4.45 (113)	2.76 (70)	0.85 (21.5)	2.65 (1.2)

Dimensions inches (mm)

Solenoid enclosures

7--R cULus Type Coil - Insulation class F

Encapsulation material: PET 815ER Rynite®
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (P180)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*
UL approved, file No: E193928

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Valve Type	
D	AC version
CD	DC version

Pipe Size	
187	1/4
188	3/8
189	1/2
190	3/4
192	1 compact
293	1

Seals	
B	NBR
V	FKM
E	EPDM

Orifice[1]	
W	19/32
Y	63/64

Thread Pipe	
N	NPT
	GAS

Option	
K	Electroless nickel plating
	w/o option

Coil options

Voltage / Frequency - cULus Type, Class F	
725R	24 VDC
720R	24 V / 50 Hz
740R	110 V / 50 Hz - 120 V / 60 Hz
770R	230 V / 50 Hz - 240 V / 60 Hz

Voltage / Frequency - CE Type, Class F	
7250	24 VDC
7200	24 V / 50/60 Hz
7400	110 V / 50 Hz - 120 V / 60 Hz
7600	200 V / 50 Hz - 220 V / 60 Hz
7700	230 V / 50 Hz - 240 V / 60 Hz

Plug

Plug	
	w/o plug
0A1	c/w plug

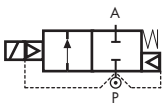
•	•	•	•	D	•	•	N	•	•	•	•	•	•	•	•	•

[1] DN 63/64 for D293 and C D293 only.

Product coding example:

D188DBWN 720R
3/8 NPT, auto operation, brass body, NBR seals, 19/32 orifice, 24 V / 50/60 Hz, without plug.

B203/204/205/206/222 Series, General Purpose – 2/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass C37700 (UNS Designation)
Flange	Stainless Steel AISI 303 (1.4305 EN 10088)
Tube	Stainless Steel AISI 304
Plunger and Top Stop	Stainless Steel AISI 430F or equivalent
Springs	Stainless Steel AISI 302
Seal Material (Std)	NBR
Connection Type	NPT
Shading Ring	Copper
Electrical Characteristics	
Coil Voltage DC (=)	24 V
Coil Voltage AC 50 Hz (~)	24 V, 110 V, 230 V
Coil Voltage AC 60 Hz (~)	120 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Enclosure Classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to industrial form B
Coil Insulation Class	155 (F) to UL429 and to EN 60730-1
Power Rating (c UL us Coils)	AC 9 VA (holding) AC 14 VA (inrush) DC 6W

Features and Benefits

- Pilot operated
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- Choice of high quality seal materials
- Response time 50 to 500 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD psi (bar)		Orifice inches (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
1/4	1.83	1.56	4 - 232 (0.3 - 16)	4 - 232 (0.3 - 16)	$^{33}/_{64}$ (13)	NBR	B203DBZN
						FKM	B203DVZN
						EPDM	B203DEZN
$^{3}/_{8}$	3.86	3.30				NBR	B204DBZN
						FKM	B204DVZN
						EPDM	B204DEZN
1/2	4.42	3.78				NBR	B205DBZN
						FKM	B205DVZN
						EPDM	B205DEZN
3/4 compact	7.02	6.00			$^{53}/_{64}$ (21)	NBR	B206DBXN
						FKM	B206DVXN
						EPDM	B206DEXN
3/4	9.83	8.40			$^{63}/_{64}$ (25)	FNBR	B206DBYN
						FKM	B206DVYN
						EPDM	B206DEYN
1	11.23	9.60				NBR	B222DBYN
						FKM	B222DVYN
						EPDM	B222DEYN

Options Available

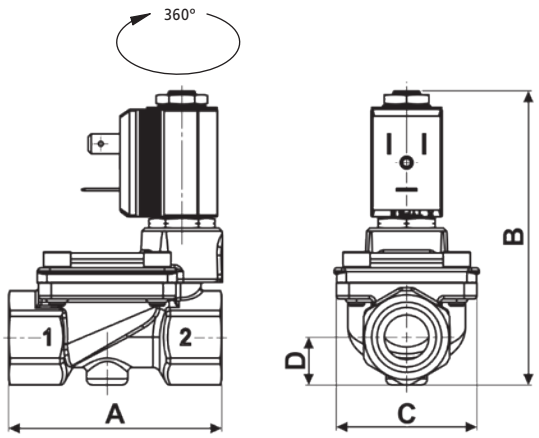
Valve Options (see coding chart)
G parallel thread (ISO 228-1)
Manual override
Electroless nickel plating treatment
Speed control screw (on DN25 only)
CE coils, power DC 7W - AC 10 VA

Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
NBR 14 °F to 194 °F (-10 °C to +90 °C)	Water, oil, air	14 °F (-10 °C)	122 °F (+50 °C)
FKM 14 °F to 266 °F (-10 °C to +130 °C)	Water, oil, air	14 °F (-10 °C)	122 °F (+50 °C)
EPDM 14 °F to 248 °F (-10 °C to +120 °C)	Water, hot water	14 °F (-10 °C)	122 °F (+50 °C)

[1] See corrosion reference guide and sealing solutions for material compatability.

B203/204/205/206/222 Series, General Purpose – 2/2 Normally Closed

Coil Rotation



Preferred Valve Mounting Options

Pipe Size	A	B	C	D	Weight Lb (kg)
1/4 - 3/8 - 1/2	2.64 (67)	3.54 (90)	1.80 (45.6)	0.59 (15)	0.88 (0.4)
3/4 compact	3.23 (82)	4.13 (105)	2.03 (51.6)	0.80 (20.25)	1.32 (0.6)
3/4 to 1	3.78 (96)	4.53 (115)	2.83 (72)	0.91 (23)	2.65 (1.2)

Dimensions inches (mm)

Solenoid enclosures

2--R c UL us Type Coil - Insulation class F

External material: PET 815ER Rynite®
Electrical connection: Industrial form B
Winding insulation: Class H (P180)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*
UL approved, file No: E193928

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 001- Plug

Rated Voltage (max.): 250 VAC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
03	1/4
04	3/8
05	1/2
06	3/4 (compact)
06	3/4
22	1

Seals		Orifice[1]	
B	NBR	Z	33/64
V	FKM	X	53/64
E	EPDM	Y	63/64

Thread Pipe		Option	
N	NPT	M	Manual Override
	GAS	K	Electroless nickel plating
		V	Speed control screw[2]
			w/o option

Coil options

Voltage / Frequency - c UL us Type, Class F	
225R	24VDC
220R	24 V / 50 Hz
240R	110 V / 50 Hz - 120 V / 60 Hz
270R	230 V / 50 Hz - 240 V / 60 Hz
Voltage / Frequency - CE Type, Class F	
2250	24 VDC
2200	24 V / 50/60 Hz
2400	110 V / 50 Hz - 120 V / 60 Hz
2600	200 V / 50 Hz - 220 V / 60 Hz
2700	230 V / 50 Hz - 240 V / 60 Hz

Plug

Plug	
	w/o plug
0B1	c/w plug

B	2	•	•	D	•	•	N	•	•	•	•	•	•	•	•	

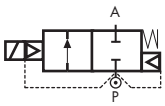
[1] DN 33/64 only for B203/204/205, DN 53/64 only for B206 compact, DN 63/64 only for B206 and B222.

[2] Speed control screw available on B206D-YN and B222D-YN.

Product coding example:

B203DBZN 225R
1/4 NPT, auto operation, brass body, NBR seals, 33/64 orifice, 24 VDC, without plug.

D223/224/225 Series, General Purpose – 2/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass C37700 (UNS Designation)
Flange	Stainless Steel AISI 303 (1.4305 EN 10088)
Tube	Stainless Steel AISI 304
Plunger	Stainless Steel AISI 430F (1.4106 EN 10088)
Top Stop	Stainless Steel AISI 430F (1.4105 EN 10088)
Springs	Stainless Steel AISI 302
Seal Material (Std)	NBR
Connection Type	NPT
Shading Ring	Copper
Electrical Characteristics	
Coil Voltage DC (=)	24 V
Coil Voltage AC 50 Hz (~)	24 V, 110 V, 230 V
Coil Voltage AC 60 Hz (~)	120 V, 240 V
Voltage Tolerance	+10% to -15% (AC) +10% to -5% (DC)
Duty Cycle	100% ED
Enclosure Classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation Class	155 (F) to UL429 and to EN 60730-1
Power Rating (cULus Coils)	AC 15 VA (holding) AC 30 VA (inrush) DC 10 W

Features and Benefits

- Pilot operated
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- Choice of high quality seal materials
- Speed control screw as standard
- Response time 50 to 500 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD psi (bar)		Orifice inches (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
1 1/4	25.97	22.20	7 - 232 (0.5 - 16)	7 - 232 (0.5 - 16)	1 37/64 (40)	NBR FKM EPDM	D223DBKN D223DVKN D223DEKN
1 1/2	28.08	24.00			1 37/64 (40)	NBR FKM EPDM	D224DBKN D224DVKN D224DEKN
2	37.91	32.40			2 (50)	NBR FKM EPDM	D225DBJN D225DVJN D225DEJN

Options Available

Valve Options (see coding chart)
G parallel thread (ISO 228-1)
Electroless nickel plating
CE coils, power DC 14W - AC 18 VA

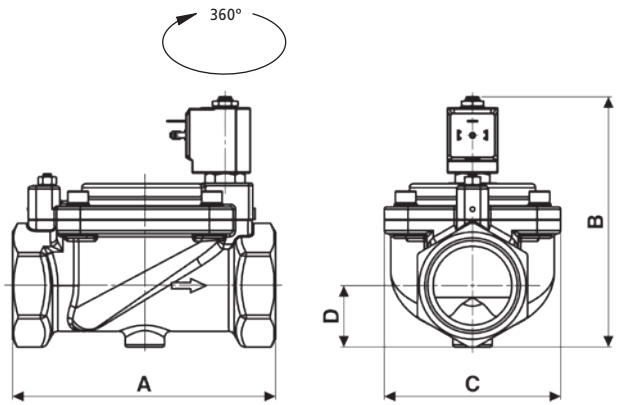
Vacuum Version
See separate datasheet

Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
NBR 14 °F to 194 °F (-10 °C to +90 °C)	Water, oil, air	14 °F (-10 °C)	122 °F (+50 °C)
FKM 14 °F to 266 °F (-10 °C to +130 °C)	Water, oil, air	14 °F (-10 °C)	122 °F (+50 °C)
EPDM 14 °F to 248 °F (-10 °C to +120 °C)	Water, hot water	14 °F (-10 °C)	122 °F (+50 °C)

[1] See corrosion reference guide and sealing solutions for material compatability.

D223/224/225 Series, General Purpose – 2/2 Normally Closed

Coil Rotation



Preferred Valve Mounting Options

Pipe Size	A	B	C	D	Weight Lb (kg)
1 1/4 - 1 1/2	5.51 (140)	5.51 (140)	3.78 (96)	1.24 (31.5)	6.17 (2.8)
2	6.57 (167)	6.22 (158)	4.41 (112)	1.54 (39)	8.60 (3.9)

Dimensions inches (mm)

Solenoid enclosures

7--R c UL us Type Coil - Insulation class F

Encapsulation material: PET 815ER Rynite®
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (P180)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*
UL approved, file No: E193928

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
23	1 1/4
24	1 1/2
25	2

Seals	
B	NBR
V	VKM
E	EPDM

Orifice[1]	
K	1 37/64
J	2

Thread Pipe	
N	NPT
	GAS

Option	
K	Electroless nickel plating
	w/o option

Coil options

Voltage / Frequency - c UL us Type, Class F	
725R	24 VDC
720R	24 V / 50 Hz
740R	110 V / 50 Hz - 120 V / 60 Hz
770R	230 V / 50 Hz - 240 V / 60 Hz

Voltage / Frequency - CE Type, Class F	
7250	24 VDC
7200	24 V / 50/60 Hz
7400	110 V / 50 Hz - 120 V / 60 Hz
7600	200 V / 50 Hz - 220 V / 60 Hz
7700	230 V / 50 Hz - 240 V / 60 Hz

Plug

Plug	
	w/o plug
0A1	c/w plug

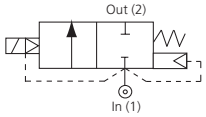
D	2	•	•	D	•	•	N	•	•	•	•	•	•	•	•

[1] DN 1 37/64 only for D223 and D224, DN 2 only for D225.

Product coding example:

D223DBKN 725R
1 1/4 NPT, auto operation, brass body, NBR seals, 40 mm orifice, 24 VDC, without plug.

UACD Series – 2/2 Normally Closed

Specifications	
Mode of Operation	Normally Closed, energise to open Out (2)  In (1)
Maximum Viscosity	115 SSU
3/8" - 1" Body Material (Std)	Brass (Std) or Stainless Steel option
1 1/4" - 2" Body Material (Std)	Bronze (Std)
Flange Tube	Stainless Steel
Plunger and top stop	Stainless Steel
Springs	Stainless Steel
Seal Material	Nitrile (BunaN) (Std) other options available
Connection Type	NPT
Shading Ring	Copper (std), Silver (stainless steel option)
Electrical Characteristics	
Coil Voltage DC (=)	12 V, 24 V
Coil Voltage AC 60 Hz (~)	24 V, 120 V
Voltage Tolerance	+10% or -10%
Duty Cycle	100% ED
Electrical Connection Options	1/2" NPT metal conduit hub with 18" leads (NEMA 2 equivalent protection class)
Coil Insulation	Class H
Power Rating	14.5 Watts

Options Available

Solenoid Enclosure	
Protection Class	
EExd T6 (NEMA 6 equivalent)	See separate datasheet
EExd T4 (NEMA 6 equivalent)	

Seal Material[1] and Media Temp. Range	Ambient Temperature Range	
	Min	Max
Nitrile (14 °F to +176 °F)	14 °F	122 °F
EPDM (-58 °F to +248 °F)	14 °F	122 °F
Viton (-4 °F to +302 °F)	14 °F	122 °F

[1] See corrosion reference guide and sealing solutions for material compatability.

How to use the flow chart

1. Select the required flow.
2. Note the corresponding pressure drop.
3. Based on where the two points intersect select the most appropriate model.

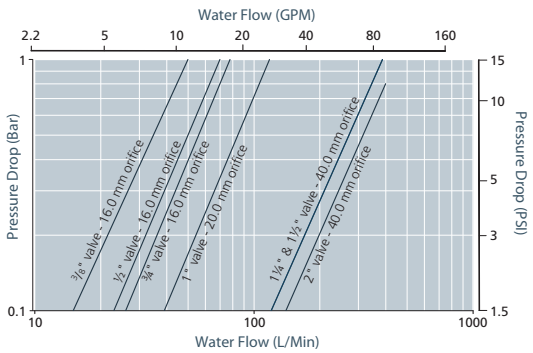
Features and Benefits

- Two way shut-off valves for the control of gases and liquids compatible with max viscosity and materials
- Zero bar minimum operating pressure
- Satisfy all relevant EC directives
- Robust Valve Design
- Diaphragm Operation
- Fully Ported Orifices for high flow
- Choice of valve body material seals
- Sizes 3/8" - 3/4" approved to BS EN 60730 - 2 -8 for household use when used with EPDM seals
- Response time 1" 15-60 ms
- Response time 2" 60-120 ms
- EN264 for fuel oils
- Tested in accordance with BS-EN 12266-1
- Suitable for vacuum applications when fitted with Viton seals (10-3 TORR) - 0 rated models only

Port Size	Cv	Kv	OPD (psi)		P. Max[3] psi	Orifice (mm)	Weight (lbs)
			AC Voltages	DC Voltages			
3/8"	3.5	3.0	0-150	0-150	725	16.0	2
1/2"	4.9	4.2	0-150	0-150		16.0	2
3/4"	5.4	4.7	0-150	0-150		16.0	2
1"	8.2	7.0	0-150	0-150		20.0	4.0
1 1/4"	26.7	23	0-60	-		40.0	6.6
1 1/2"	26.7	23	0-60	-		40.0	6.6
2"	30.16	26	0-60	-		40.0	6.6
1 1/4"[2]	26.7	23	5-150	5-150		40.0	6.6
1 1/2"[2]	26.7	23	5-150	5-150		40.0	6.6
2"[2]	30.2	26	5-150	5-150		40.0	6.6

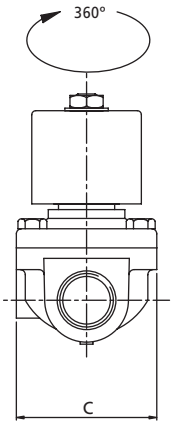
[2] Pressure assisted to achieve a greater OPD. e.g. code 19G31Z2A1-2F19A.
[3] P. Max is limited to 675 psi when valve is fitted with an Exd solenoid operator, see separate datasheet.

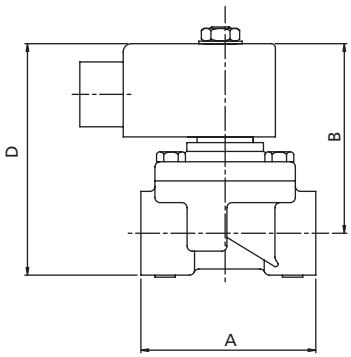
Main Valve Body Options
Stainless Steel 316 (up to and including 1")
Manual Override
Oxygen Cleaning (consult factory for product code)
Stainless Steel Tagging (consult factory for product code)



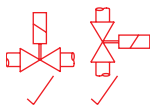
UACD Series – 2/2 Normally Closed

Coil Rotation





Preferred Valve Mounting Options



Dimensions

Port size	A	B	C	D
3/8" - 3/4"	2¾"	3 7/16"	3"	4 3/8"
1"	3 3/8"	3 7/16"	3"	5 3/8"
1¼" - 2"	5 3/8"	4 5/8"	4¾"	5 7/8"

Dimensions given in inches
Stainless steel option dimensions vary from table - consult factory.

Solenoid enclosures

S4 Type enclosure protection class IP50

External material: Pressed steel powder coated

Electrical entry: 1/2" NPT metal conduit hub with 18" leads (NEMA 2 equivalent protection class)

Winding Insulation: Class H

Coding chart

Main Valve Assembly

Model		Valve Body Conn. Size		Conn. Type		Operation		Orifice (mm)		Body Material		Seals		Style	
17	AC VOLTAGE	C	3/8"	3	NPT	1	AUTO	Z	Default	1	Brass (standard on valves up to and including 1")	A	Nitrile	1	Standard
18	DC[3] VOLTAGE	D	1/2"			2	MANUAL OVERIDE			2	Bronze (standard on valves above 1")	B	EPDM		
19	Pressure assisted option 1¼" to 2"	E	¾"							5	316 Stainless Steel (option available up to and inc 1")	C	VITON		
		F	1"												
		G	1¼"												
		H	1½"												
		J	2"												

Coil options

Enclosure		Voltage / Frequency		Electrical Connection		Approval	
2	S4 type enclosure -metal can (IP50) UL Approved[4]	F1	24 VDC	9	1/2" NPT	A	UL[4]/ CSA
		F4	12 VDC			8	Non UL
		H1	24 V / 60 Hz				
		H2	120 V / 60 Hz				

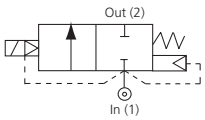
••	•	3	•	Z	•	•	1	-	2	••	9	•

[3] 1¼" to 2" '0' pressure rated options are not available in DC voltages.
[4] 24 V / 60 Hz and 120 V 60 Hz only.

Product coding example:

17C31Z1B1-2H29A: UACD Series
3/8" NPT, Auto, Brass body, EPDM seals, 120 V / 60 Hz 1/2" NPT electrical connection UL/CSA approval.

UACP Series – 2/2 Normally Closed

Specifications	
Mode of Operation	Normally Closed, energise to open 
Maximum Viscosity	115 SSU
3/8" - 1" Body Material (Std)	Brass (Std) or Stainless Steel option
1 1/4" - 2" Body Material (Std)	Bronze (Std)
Flange Tube	Stainless Steel
Plunger and top stop	Stainless Steel
Springs	Stainless Steel
Seal Material	Nitrile (BunaN) (Std) other options available
Connection Type	NPT
Shading Ring	Copper (std), Silver (stainless steel option)
Electrical Characteristics	
Coil Voltage DC (=)	12 V, 24 V
Coil Voltage AC 60 Hz (~)	24 V, 120 V
Voltage Tolerance	+10% or -10%
Duty Cycle	100% ED
Electrical Connection Options	1/2" NPT metal conduit hub with 18" leads (NEMA 2 equivalent protection class)
Coil Insulation	Class H
Power Rating	14.5 Watts

Features and Benefits

- Heavy duty valve design
- Piston operation
- Choice of valve body material and seals
- Wide temperature range capabilities
- Response time up to 1" 40 - 100 ms
- Response time up to 2" 60 - 1000 ms
- Tested in accordance with BS-EN 12266-1

Port Size	Cv	Kv	OPD (psi)		P. Max[2] psi	Orifice (mm)	Weight (lbs)
			AC Voltages	DC Voltages			
½"	4.9	4.2	5-150	5-150	725	16.0	2.8
¾"	6.3	5.4	5-125	5-125		16.0	2.8
1"	14.5	12.5	5-125	5-125		25.0	5
1¼"	20.9	18	5-125	5-125		30.0	6.8
1½"	20.9	18	5-125	5-125		30.0	6.8
2"	24.4	21	5-125	5-125		32.0	11.5

[2] P. Max is limited to 675 psi when valve is fitted with an Exd solenoid operator, see separate datasheet.

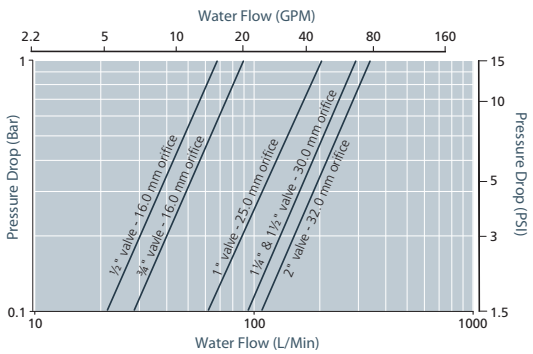
Options Available

Solenoid Enclosure	
Protection Class	
EExd T6 (NEMA 6 equivalent)	See separate datasheet
EExd T4 (NEMA 6 equivalent)	

Seal Material[1] and Media Temp. Range	Ambient Temperature Range	
	Min	Max
Nitrile (14 °F to +176 °F)	14 °F	122 °F
EPDM (-58 °F to +248 °F)	14 °F	122 °F
Viton (-4 °F to +302 °F)	14 °F	122 °F

Main Valve Body Options
Stainless Steel 316 (up to and including 1")
Oxygen Cleaning (consult factory for product code)
Stainless Steel Tagging (consult factory for product code)

[1] See corrosion reference guide and sealing solutions for material compatability.

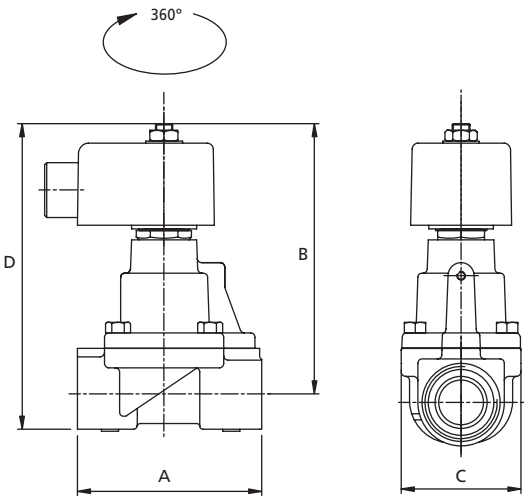


How to use the flow chart

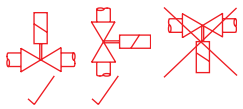
1. Select the required flow.
2. Note the corresponding pressure drop.
3. Based on where the two points intersect select the most appropriate model.

UACP Series – 2/2 Normally Closed

Coil Rotation



Preferred Valve Mounting Options



Dimensions

Port size	A	B	C	D
1/2" - 3/4"	2 1/2"	4 1/8"	2 1/4"	4 13/16"
1"	4 1/4"	4 15/16"	3"	5 3/4"
1 1/4" - 1 1/2"	4 5/8"	5 1/4"	3 1/4"	8 1/4"
2"	5 3/4"	5 3/4"	4"	8 1/4"

Dimensions given in inches

Solenoid enclosures

S4 Type enclosure protection class IP50

External material: Pressed steel powder coated

Electrical entry: 1/2" NPT metal conduit hub with 18" leads (NEMA 2 equivalent protection class)

Winding Insulation: Class H

Coding chart

Main Valve Assembly

Model		Valve Body Conn. Size		Conn. Type		Operation		Orifice (mm)		Body Material		Seals		Style	
22	UACP	D	½"	3	NPT	1	AUTO	Z	Default	1	Brass (standard on valves up to and including 1")	A	Nitrile	1	Standard
		E	¾"							2	Bronze (standard on valves above 1")	B	EPDM		
		F	1"							5	316 Stainless Steel (option available up to and inc 1")	C	VITON		
		G	1¼"												
		H	1½"												
		J	2"												

Coil options

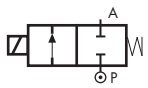
Enclosure		Voltage / Frequency		Electrical connection		Approval	
2	S4 type enclosure -metal can (IP50) UL Approved	F1	24 VDC	9	½" NPT	A	UL/CSA
		F4	12 VDC				
		H1	24 V / 60 Hz				
		H2	120 V / 60 Hz				

22	•	3	1	Z	•	•	1	-	2	••	9	A

Product coding example:

22D31Z1A1-2H29A: UACP Series
½" NPT, Auto, Brass body, nitrile seals, 120 V / 60 Hz, 1/2" NPT electrical connection UL/CSA approval.

D201 Series, General Purpose – 2/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass C37700 (UNS Designation)
Orifice Material	Stainless Steel AISI 303 (1.4305 EN 10088)
Flange	Stainless Steel AISI 303 (1.4305 EN 10088)
Tube	Stainless Steel AISI 304
Plunger	Stainless Steel AISI 430F (1.4106 EN 10088)
Top Stop	Stainless Steel AISI 430F (1.4105 EN 10088)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type (Std)	Flanged 1.26x1.26 inches
Shading Ring	Copper
Electrical Characteristics	
Coil Voltage DC (=)	24 V
Coil Voltage AC 50 Hz (~)	24 V, 110 V, 230 V
Coil Voltage AC 60Hz (~)	120 V, 240 V
Voltage Tolerance	+10% to -15% (AC) +10% to -5% (DC)
Duty Cycle	100% ED
Enclosure Classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation Class	155 (F) to UL429 and to EN 60730-1
Power Rating (c UL us Coils)	AC 15 VA (holding) AC 30 VA (inrush) DC 10 W

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- Choice of high quality seal materials
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD psi (bar)[2]		Orifice inches (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
Flanged	0.09	0.08	0 - 348 (0 - 24)	0 - 348 (0 - 24)	1/16 (1.5)	FKM EPDM	D201DVC D201DEC
Flanged	0.15	0.13	0 - 290 (0 - 20)	0 - 218 (0 - 15)	2.0 (5/64)	FKM EPDM	D201DVE D201DEE
Flanged	0.24	0.20	0 - 218 (0 - 15)	0 - 189 (0 - 13)	2.5 (3/32)	FKM EPDM	D201DVG D201DEG
Flanged	0.32	0.27	0 - 189 (0 - 13)	0 - 116 (0 - 8)	3.0 (1/8)	FKM EPDM	D201DVH D201DEH

[2] The valve supplied without coil carry a nameplate with pressure ratings marked in bar.

Options Available

Valve Options (see coding chart)
Manual override
CE coils power 14W - 18VA[1]

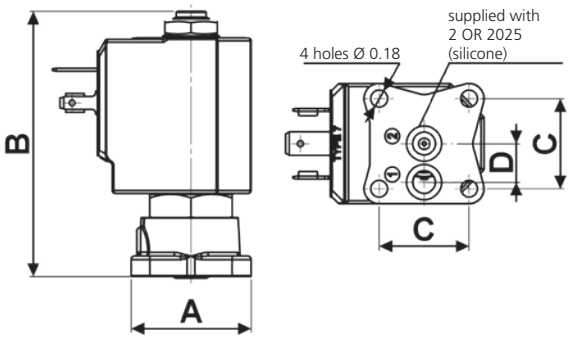
[1] Pressure ratings of valves fitted with CE coils may be higher than with UL coils (coils specifications on page 157).

Seal Material[3] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM 14 °F to 266 °F (-10 °C to +130 °C)	Water, oil, air,	14 °F (-10 °C)	122 °F (+50 °C)
EPDM 14 °F to 248 °F (-10 °C to +120 °C)	Water, hot water	14 °F (-10 °C)	122 °F (+50 °C)

[3] See corrosion reference guide and sealing solutions for material compatability.

D201 Series, General Purpose – 2/2 Normally Closed

Coil Rotation



Preferred Valve Mounting Options

Pipe Size	A	B	C	D	Weight Lb (kg)
Flanged	1.26 (32)	2.78 (70.6)	0.94 (24)	0.40 (10.25)	0.55 (0.25)

Dimensions inches (mm)

Solenoid enclosures

7--R c UL us Type Coil - Insulation class F

External material: PET 815ER Rynite®
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (P180)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*
UL approved, file No: E193928

* Plug and gasket not supplied as standard, must be ordered separately

Type 600 011- Plug

Rated Voltage (max.): 250v AC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Seals	
V	FKM
E	EPDM

Orifice	
C	1/16
E	5/64
G	3/32
H	1/8

Option	
M	Manual Overide
	w/o option

Coil options

Voltage / Frequency - c UL us Type, Class F	
725R	24 VDC
720R	24 V / 50 Hz
740R	110 V / 50 Hz - 120 V / 60 Hz
770R	230 V / 50 Hz - 240 V / 60 Hz
Voltage / Frequency - CE Type, Class F	
7250	24 VDC
7200	24 V / 50/60 Hz
7400	110 V / 50 Hz - 120 V / 60 Hz
7600	200 V / 50 Hz - 220 V / 60 Hz
7700	230 V / 50 Hz - 240 V / 60 Hz

Plug

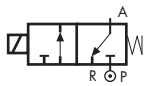
Plug	
	w/o plug
0A1	c/w plug

D	2	0	1	D	•	•	•	•	•	•	•	•	•	•	•

Product coding example:

D201DVC 770R
Flanged connection, auto operation, brass body, FKM seals, 1/16 orifice, 230 V / 50 Hz - 240 V / 60 Hz, without plug.

B397 Series, General Purpose – 3/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction underseat 2 → 1
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Low lead content Brass C46400 (UNS Designation)
Orifice Material	Stainless Steel AISI 303 (1.4305 EN 10088)
Tube	Stainless Steel AISI 304
Flange	Stainless Steel AISI 303 (1.4305 EN 10088)
Plunger	Stainless Steel AISI 430F or equivalent
Top Stop	Stainless Steel AISI 430F (1.4105 EN 10088)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type	NPT
Shading Ring	Copper
Electrical Characteristics[1]	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Enclosure Classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to industrial form B
Coil Insulation Class	155 (F) to UL429 and to EN 60730-1
Power Rating (Standard)	AC 10 VA (holding) AC 16 VA (inrush) DC 10 W

[1] These coils are not UL approved.

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Zero pressure rated
- Stainless steel AISI 430F operators with low residual magnetism
- Choice of high quality seal materials
- Valve suitable for contact with food media when used with FKM seals, as per the EEC Directives and Regulations. Please consult supplier for more details
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD psi (bar)		Orifice inches (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
1/8	0.04	0.03	0 - 261 (0 - 18)	0 - 261 (0 - 18)	3/64 (1.0)	FKM EPDM	B397CVAN B397CEAN
1/8	0.05	0.04	0 - 218 (0 - 15)	0 - 218 (0 - 15)	3/64 (1.2)	FKM EPDM	B397CVBN B397CEBN
1/8	0.07	0.06	0 - 145 (0 - 10)	0 - 145 (0 - 10)	1/16 (1.5)	FKM EPDM	B397CVCN B397CECN
1/8	0.13	0.11	0 - 73 (0 - 5)	0 - 73 (0 - 5)	5/64 (2.0)	FKM EPDM	B397CVEN B397CEEN

Options Available

Valve Options (see coding chart)
G parallel thread (ISO 228-1)
Manual Override
Electroless nickel plating treatment
Top port connection with hose tail Ø 0.24 inches (6 mm)

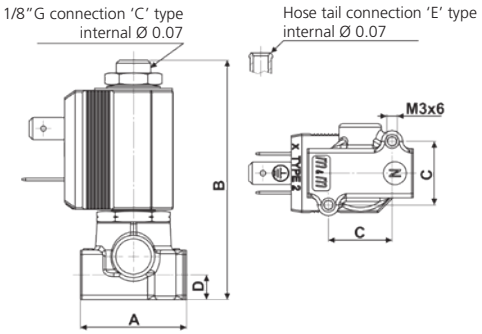
Seal Material[2] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM 14 °F to 266 °F (-10 °C to +130 °C)	Water, oil, air	14 °F (-10 °C)	122 °F (+50 °C)
EPDM 14 °F to 248 °F (-10 °C to +120 °C)	Water, hot water	14 °F (-10 °C)	122 °F (+50 °C)

[2] See corrosion reference guide and sealing solutions for material compatability.

B397 Series, General Purpose – 3/2 Normally Closed

Coil Rotation

Preferred Valve Mounting Options



Pipe Size	A	B	C	D	Weight Lb (kg)
1/8	1.18 (30)	2.67 (67.8)	0.71 (18)	0.28 (7)	0.33 (0.15)

Dimensions inches (mm)

Solenoid enclosures

2--0 Type Coil - Insulation class F

External material: PBT (reinforced fiberglass 30%)
Electrical connection: Industrial form B
Winding insulation: Class H (E180)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately

Type 600 001- Plug

Rated Voltage (max.): 250 VAC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Top port connection	
C	1/8" G
E	Hose tail Ø 6mm

Seals	
V	FKM
E	EPDM

Orifice	
A	3/64
B	3/64
C	1/16
E	5/64

Thread Pipe	
N	NPT
	GAS

Option	
M	Manual Override
K	Electroless nickel plating
	w/o option

Coil options

Voltage / Frequency - CE Type, Class F	
2250	24 VDC
2200	24 V / 50/60 Hz
2400	110 V / 50 Hz - 120 V / 60 Hz
2600	200 V / 50 Hz - 220 V / 60 Hz
2700	230 V / 50 Hz - 240 V / 60 Hz

Plug

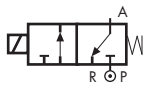
Plug	
0B1	c/w plug
	w/o plug

B	3	9	7	•	•	•	N	•	•	•	•	•	•	•	•	•

Product coding example:

B397CVANM 2250
1/8 NPT, auto operation, brass body, FKM seals, 3/64 orifice, with manual override, 24 VDC, without plug.

B398 Series, General Purpose – 3/2 Normally Closed

Specifications	
Function (single acting)	 Blow direction underseat 2 → 1
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Stainless Steel AISI 303 (1.4305 EN 10088)
Orifice Material	Stainless Steel AISI 303 (1.4305 EN 10088)
Flange Tube[1]	Stainless Steel AISI 303
Plunger and Top Stop	Stainless Steel AISI 430F or equivalent
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type	NPT
Shading Ring	Copper
Electrical Characteristics[2]	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC) +10% to -5% (DC)
Duty Cycle	100% ED
Enclosure Classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to industrial form B
Coil Insulation Class	155 (F) to UL429 and to EN 60730-1
Power Rating (Standard)	AC 10 VA (holding) AC 16 VA (inrush) DC 10 W

[1] With special nut, different from Standard.
[2] These coils are not UL approved.

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Zero pressure rated
- Stainless steel AISI 430F operators with low residual magnetism
- High quality seal materials
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD psi (bar)		Orifice inches (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
1/8	0.05	0.04	0 - 218 (0 - 15)	0 - 218 (0 - 15)	3/64 (1.2)	FKM	B398EVBN
1/8	0.07	0.06	0 - 145 (0 - 10)	0 - 145 (0 - 10)	1/16 (1.5)	FKM	B398EVCN
1/8	0.13	0.11	0 - 73 (0 - 5)	0 - 73 (0 - 5)	5/64 (2.0)	FKM	B398EVEN
1/8	0.19	0.16	0 - 44 (0 - 3)	0 - 44 (0 - 3)	3/32 (2.5)	FKM	B398EVGN

Options Available

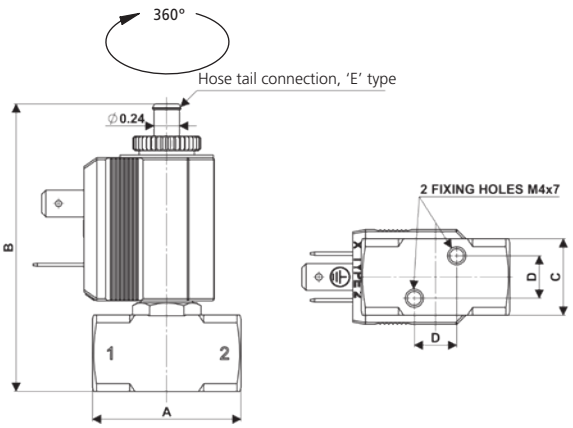
Valve Options (see coding chart)
G parallel thread (ISO 228-1)

Seal Material[3] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM 14 °F to 266 °F (-10 °C to +130 °C)	Water, oil, air, aggressive fluids	14 °F (-10 °C)	122 °F (+50 °C)

[3] See corrosion reference guide and sealing solutions for material compatability.

B398 Series, General Purpose – 3/2 Normally Closed

Coil Rotation



Preferred Valve Mounting Options

Pipe Size	A	B	C	D	Weight Lb (kg)
1/8	1.38 (35)	2.68 (68)	0.71 (18)	0.39 (10)	0.22 (0.1)

Dimensions inches (mm)

Solenoid enclosures

2--0 Type Coil - Insulation class F

External material: PBT (reinforced fiberglass 30%)
Electrical connection: Industrial form B
Winding insulation: Class H (E180)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 001- Plug

Rated Voltage (max.): 250 VAC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Orifice	
B	3/64
C	1/16
E	5/64
G	3/32

Thread Pipe	
N	NPT
	GAS

Option	
	w/o option

Coil options

Voltage / Frequency - CE Type, Class F	
2250	24 VDC
2200	24 V / 50/60 Hz
2400	110 V / 50 Hz - 120 V / 60 Hz
2600	200 V / 50 Hz - 220 V / 60 Hz
2700	230 V / 50 Hz - 240 V / 60 Hz

Plug

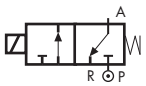
Plug	
0B1	c/w plug
	w/o plug

B	3	9	8	E	V	•	N	•	•	•	•	•	•	•	•

Product coding example:

B398EVBN 2250
1/8 NPT, auto operation, stainless steel body, FKM seals, 3/64 orifice, 24 VDC, without plug.

D398/399 Series, General Purpose – 3/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction underseat 2 → 1
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Stainless Steel AISI 303 (1.4305 EN 10088)
Orifice Material	Stainless Steel AISI 303 (1.4305 EN 10088)
Tube	Stainless Steel AISI 304
Flange	Stainless Steel AISI 303 (1.4305 EN 10088)
Plunger	Stainless Steel AISI 430F (1.4106 EN 10088)
Top Stop	Stainless Steel AISI 430F (1.4105 EN 10088)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type	NPT
Shading Ring	Copper
Electrical Characteristics	
Coil Voltage DC (=)	24 V
Coil Voltage AC 50 Hz (~)	24 V, 110 V, 230 V
Coil Voltage AC 60 Hz (~)	120 V, 240 V
Voltage Tolerance	+10% to -15% (AC) +10% to -5% (DC)
Duty Cycle	100% ED
Enclosure Classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation Class	155 (F) to UL429 and to EN 60730-1
Power Rating (cULus Coils)	AC 15 VA (holding) AC 30 VA (inrush) DC 10 W

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Zero pressure rated
- Stainless steel AISI 430F operators with low residual magnetism
- Choice of high quality seal materials
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD psi (bar)		Orifice inches (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
1/4	0.09	0.08	0 - 261 (0 - 18)	0 - 261 (0 - 18)	1/16 (1.5)	FKM EPDM	D399CVCN D399CECN
1/4	0.15	0.13	0 - 145 (0 - 10)	0 - 145 (0 - 10)	5/64 (2.0)	FKM EPDM	D399CVEN D399CEEN
1/4	0.24	0.20	0 - 102 (0 - 7)	0 - 102 (0 - 7)	3/32 (2.5)	FKM EPDM	D399CVGN D399CEGN
1/4	0.32	0.27	0 - 73 (0 - 5)	0 - 73 (0 - 5)	1/8 (3.0)	FKM EPDM	D399CVHN D399CEHN

Options Available

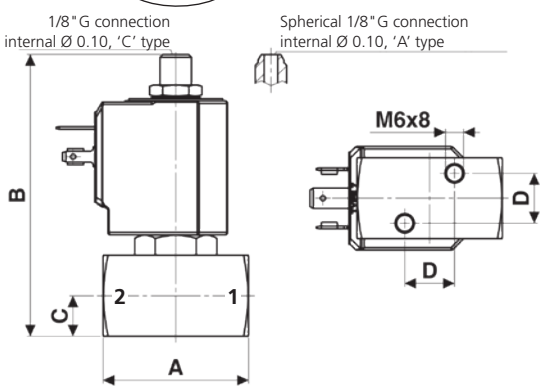
Valve Options (see coding chart)
Body threaded connection 1/8
G parallel thread (ISO 228-1)
Silver shading ring
Top port connection with spherical 1/8" G
CE coils, power DC 14W - AC 18 VA

Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM 14 °F to 266 °F (-10 °C to +130 °C)	Water, oil, air, aggressive fluids	14 °F (-10 °C)	122 °F (+50 °C)
EPDM 14 °F to 248 °F (-10 °C to +120 °C)	Water, hot water	14 °F (-10 °C)	122 °F (+50 °C)

[1] See corrosion reference guide and sealing solutions for material compatability.

D398/399 Series, General Purpose – 3/2 Normally Closed

Coil Rotation



Preferred Valve Mounting Options

Pipe Size	A	B	C	D	Weight Lb (kg)
1/8 - 1/4	1.77 (45)	3.43 (87)	0.49 (12.5)	0.61 (15.4)	0.77 (0.35)

Dimensions inches (mm)

Solenoid enclosures

7--R c UL us Type Coil - Insulation class F

External material: PET 815ER Rynite®
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (P180)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*
UL approved, file No: E193928

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
8	1/8
9	1/4

Top port connection	
C	1/8" G
A	Spherical 1/8" G

Seals	
V	FKM
E	EPDM

Orifice	
C	1/16
E	5/64
G	3/32
H	1/8

Thread Pipe	
N	NPT
	GAS

Option	
A	Silver shading ring
N	NPT
	w/o option

Coil options

Voltage / Frequency - c UL us Type, Class F	
725R	24 VDC
720R	24 V / 50Hz
740R	110 V / 50 Hz - 120 V / 60 Hz
770R	230 V / 50 Hz - 240 V / 60 Hz

Voltage / Frequency - CE Type, Class F	
7250	24 VDC
7200	24 V / 50/60 Hz
7400	110 V / 50 Hz - 120 V / 60 Hz
7600	200 V / 50 Hz - 220 V / 60 Hz
7700	230 V / 50 Hz - 240 V / 60 Hz

Plug

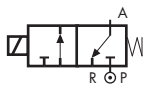
Plug	
0A1	c/w plug
	w/o plug

D	3	9	•	•	•	•	N	•	•	•	•	•	•	•	•

Product coding example:

D399CECNA 770R
1/4 NPT, auto operation, stainless steel body, EPDM seals, 1/16 orifice, with silver shading ring, 230 V / 50 Hz - 240 V / 60 Hz AC, without plug.

D362/363 Series, General Purpose – 3/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction underseat 2 → 1
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass C37700 (UNS Designation)
Orifice Material	Stainless Steel AISI 303 (1.4305 EN 10088)
Flange	Stainless Steel AISI 303 (1.4305 EN 10088)
Tube	Stainless Steel AISI 304
Plunger	Stainless Steel AISI 430F (1.4106 EN 10088)
Top Stop	Stainless Steel AISI 430F (1.4105 EN 10088)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type	NPT
Shading Ring	Copper
Electrical Characteristics	
Coil Voltage DC (=)	24 V
Coil Voltage AC 50 Hz (~)	24 V, 110 V, 230 V
Coil Voltage AC 60 Hz (~)	120 V, 240 V
Voltage Tolerance	+10% to -15% (AC) +10% to -5% (DC)
Duty Cycle	100% ED
Enclosure Classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation Class	155 (F) to UL429 and to EN 60730-1
Power Rating (cULus)	AC 15 VA (holding) AC 30 VA (inrush) DC 10 W

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Zero pressure rated
- Stainless steel AISI 430F operators with low residual magnetism
- Choice of high quality seal materials
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD psi (bar)		Orifice inches (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
1/4	0.09	0.08	0 - 261 (0 - 18)	0 - 261 (0 - 18)	1/16 (1.5)	FKM EPDM	D363CVCN D363CECN
1/4	0.15	0.13	0 - 145 (0 - 10)	0 - 145 (0 - 10)	5/64 (2.0)	FKM EPDM	D363CVEN D363CEEN
1/4	0.24	0.20	0 - 102 (0 - 7)	0 - 102 (0 - 7)	3/32 (2.5)	FKM EPDM	D363CVGN D363CEGN
1/4	0.32	0.27	0 - 73 (0 - 5)	0 - 73 (0 - 5)	1/8 (3.0)	FKM EPDM	D363CVHN D363CEHN
1/4	0.42	0.36	0 - 51 (0 - 3.5)	0 - 51 (0 - 3.5)	5/32 (4.0)	FKM EPDM	D363CVLN[1] D363CELN[1]

[1] Manual override not available for orifice > Ø 1/8 (3 mm).

Options Available

Valve Options (see coding chart)
Body threaded connection 1/8
G parallel thread (ISO 228-1)
Manual override
CE coils, power DC 14W - AC 18 VA

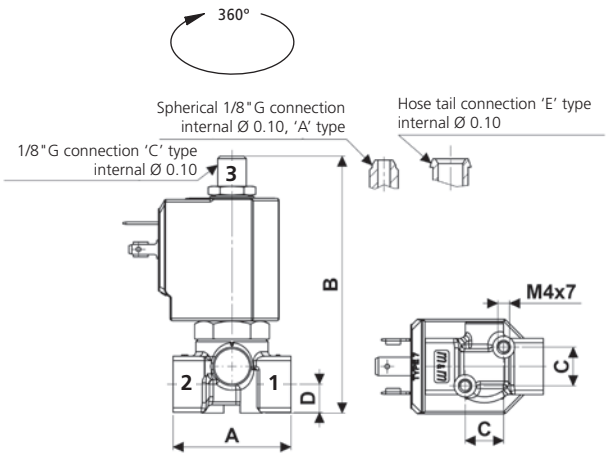
Vacuum Version
See separate datasheet

Seal Material[2] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM 14 °F to 266 °F (-10 °C to +130 °C)	Water, oil, air	14 °F (-10 °C)	122 °F (+50 °C)
EPDM 14 °F to 248 °F (-10 °C to +120 °C)	Water, hot water	14 °F (-10 °C)	122 °F (+50 °C)

[2] See corrosion reference guide and sealing solutions for material compatability.

D362/363 Series, General Purpose – 3/2 Normally Closed

Coil Rotation



Preferred Valve Mounting Options

Pipe Size	A	B	C	D	Weight Lb (kg)
1/8 - 1/4	1.57 (40)	3.43 (87)	0.51 (13)	0.37 (9.5)	0.57 (0.26)

Dimensions inches (mm)

Solenoid enclosures

7--R c UL us Type Coil - Insulation class F

Encapsulation material: PET 815ER Rynite®
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (P180)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*
UL approved, file No: E193928

* Plug and gasket not supplied as standard, must be ordered separately

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
2	1/8
3	1/4

Top port connection	
C	1/8" G
A	spherical 1/8" G
E	Hose tail Ø 6mm

Seals	
V	FKM
E	EPDM

Orifice	
C	1/16
E	5/64
G	3/32
H	1/2
L	5/32

Thread Pipe	
N	NPT
	GAS

Option	
M	Manual Override[1]
	w/o option

Coil options

Voltage / Frequency - c UL us Type, Class F	
725R	24V DC
720R	24V 50Hz
740R	110V 50Hz - 120V 60Hz
770R	230V 50Hz - 240V 60Hz

Voltage / Frequency - CE Type, Class F	
7250	24V DC
7200	24V 50/60Hz
7400	110V 50Hz - 120V 60Hz
7600	200V 50Hz - 220V 60Hz
7700	230V 50Hz - 240V 60Hz

Plug

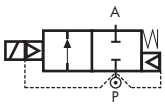
Plug	
	w/o plug
0A1	c/w plug

D	3	6	•	•	•	•	N	•	•	•	•	•	•	•	•

[1] Manual override not available for orifice > Ø 1/8 (3 mm).

Product coding example:
D363AVCN 725R
1/4 NPT, auto operation, brass body, FKM seals, 1.5 mm orifice, with top port connection spherical 1/8"G, 24 VDC, without plug.

LC203/204/205 Series, General Purpose – 2/2 Normally Closed, latching

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass C37700 (UNS Designation)
Flange	Stainless Steel AISI 303 (1.4305 EN 10088)
Tube	Stainless Steel AISI 304
Plunger	Brass C37700 (UNS Designation)
Magnet	Neodym-Iron-Boron
Top Stop	Stainless Steel AISI 430F or equivalent
Springs	Stainless Steel AISI 302
Seal Material (Std)	NBR
Connection Type	NPT
Shading Ring	Copper
Electrical Characteristics[1]	
Low Power Coil Voltage DC (=)	24 V
Voltage Tolerance	+10% to -5% (DC)
Duty Cycle	100% ED
Enclosure Classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to industrial form B
Coil Insulation Class	155 (F) to UL429 and to EN 60730-1
Power Rating (Low Power)	DC 3 W
Coil Absorbition (20 °C)	500mA for 20Q0 250mA for 21Q0 125mA for 22Q0

[1] These coils are not UL approved.

Features and Benefits

- Pilot operated, latching
- Special operator with reduced stroke for low power coils
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- Coils tested 100% in compliance to RoHS directive and to relevant international standards
- Choice of high quality seal materials
- Response time 50 to 500 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD psi (bar)		Orifice inches (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
1/4	1.83	1.56	-	4.4 - 73 (0.3 - 5)	33/64 (13)	NBR	LC203DBZN
						FKM	LC203DVZN
						EPDM	LC203DEZN
3/8	3.86	3.30				NBR	LC204DBZN
						FKM	LC204DVZN
						EPDM	LC204DEZN
1/2	4.42	3.78				NBR	LC205DBZN
						FKM	LC205DVZN
						EPDM	LC205DEZN

Options Available

Valve Options (see coding chart)
G parallel thread (ISO 228-1)

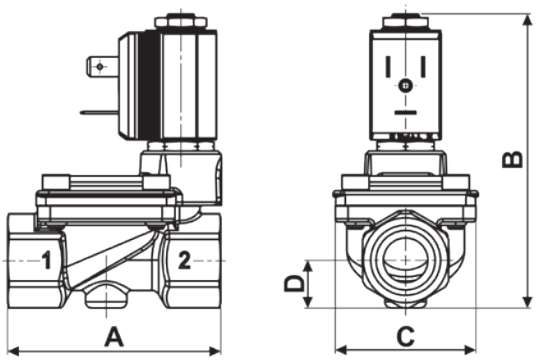
Seal Material[2] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
NBR 14 °F to 194 °F (-10 °C to +90 °C)	Water, oil, air	14 °F (-10 °C)	122 °F (+50 °C)
FKM 14 °F to 266 °F (-10 °C to +130 °C)	Water, oil, air	14 °F (-10 °C)	122 °F (+50 °C)
EPDM 14 °F to 248 °F (-10 °C to +120 °C)	Water, hot water	14 °F (-10 °C)	122 °F (+50 °C)

[2] See corrosion reference guide and sealing solutions for material compatability.

LC203/204/205 Series, General Purpose – 2/2 Normally Closed, latching

Coil Rotation

Preferred Valve Mounting Options



Pipe Size	A	B	C	D	Weight Lb (kg)
1/4 - 3/8 - 1/2	2.64 (67)	3.54 (90)	1.80 (45.6)	0.59 (15)	0.88 (0.4)

Dimensions inches (mm)

Solenoid enclosures

2-Q0 Type Coil - Insulation class F

External material: PBT (reinforced fiberglass 30%)
Electrical connection: Industrial form B
Winding insulation: Class H (E180)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 001- Plug

Rated Voltage (max.): 250 VAC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
03	1/4
04	3/8
05	1/2

Seals	
B	NBR
V	FKM
E	EPDM

Thread Pipe	
N	NPT
	GAS

Option	
	w/o option

Coil options

Voltage / Frequency - Class F, Low Power	
20Q0	6 VDC
21Q0	12 VDC
22Q0	24 VDC

Plug

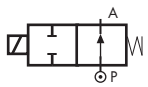
Plug	
	w/o plug
0B1	c/w plug

LC	2	•	•	D	•	Z	N	•	•	•	•	•	•	•	•

Product coding example:

LC205DBZN 20Q0
1/2 NPT, auto operation, brass body, NBR seals, 33/64 orifice, 6 VDC, without plug.

RD298/299 Series, General Purpose & High Pressure – 2/2 Normally Open

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Stainless Steel AISI 303 (1.4305 EN 10088)
Orifice Material	Stainless Steel AISI 303 (1.4305 EN 10088)
Flange Tube	Stainless Steel AISI 303 (1.4305 EN 10088)
Plunger	Stainless Steel AISI 430F (1.4106 EN 10088)
Top Stop	Stainless Steel AISI 430F (1.4105 EN 10088)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type	NPT
Shading Ring	Copper
Electrical Characteristics[1]	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC) +10% to -5% (DC)
Duty Cycle	100% ED
Enclosure Classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation Class	180 (H) to EN 60730-1
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W

[1] These coils are not UL approved.

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- Coils tested 100% in compliance to RoHS directive and to relevant international standards
- Choice of high quality seal materials
- Troublefree operation with coils class H
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD psi (bar)		Orifice inches (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
1/4	0.04	0.04	0 - 435 (0 - 30)	0 - 435 (0 - 30)	3/64 (1.0)	FKM EPDM	RD299DVAN RD299DEAN
1/4	0.16	0.14	0 - 290 (0 - 20)	0 - 290 (0 - 20)	5/64 (2.0)	FKM EPDM	RD299DVEN RD299DEEN
1/4	0.23	0.20	0 - 203 (0 - 14)	0 - 203 (0 - 14)	3/32 (2.5)	FKM EPDM	RD299DVGN RD299DEGN
1/4	0.32	0.27	0 - 131 (0 - 9)	0 - 131 (0 - 9)	1/8 (3.0)	FKM EPDM	RD299DVHN RD299DEHN
1/4	0.04	0.04	0 - 1450 (0 - 100)	0 - 1450 (0 - 100)	3/64 (1.0)	RUBY	RD299DRAN[2]
1/4	0.05	0.04	0 - 1233 (0 - 85)	0 - 1233 (0 - 85)	3/64 (1.2)	RUBY	RD299DRBN[2]
1/4	0.08	0.07	0 - 797 (0 - 55)	0 - 797 (0 - 55)	1/16 (1.5)	RUBY	RD299DRCN[2]
1/4	0.16	0.14	0 - 362 (0 - 25)	0 - 362 (0 - 25)	5/64 (2.0)	RUBY	RD299DREN[2]
1/4	0.23	0.20	0 - 276 (0 - 19)	0 - 276 (0 - 19)	3/32 (2.5)	RUBY	RD299DRGN[2]
1/4	0.32	0.27	0 - 145 (0 - 10)	0 - 145 (0 - 10)	1/8 (3.0)	RUBY	RD299DRHN[2]

[2] Not 100% leak-proof when used with air/gases. Approx leak rate is 1.5ml/min at max OPD.

Options Available

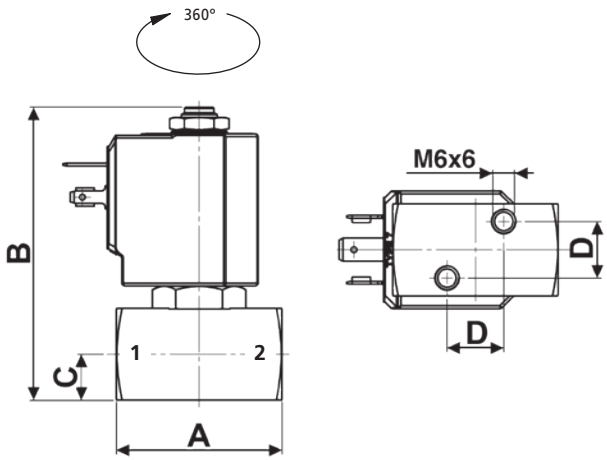
Valve Options (see coding chart)
Body threaded connection 1/8
G parallel thread (ISO 228-1)
Anticorrosion treatment recommended with aggressive fluids
Silver shading ring

Seal Material[3] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM 14 °F to 266 °F (-10 °C to +130 °C)	Water, oil, air, aggressive fluids	14 °F (-10 °C)	122 °F (+50 °C)
EPDM 14 °F to 248 °F (-10 °C to +120 °C)	Water, hot water	14 °F (-10 °C)	122 °F (+50 °C)
RUBY 14 °F to 266 °F (-10 °C to +130 °C)	Water, liquids	14 °F (-10 °C)	122 °F (+50 °C)

[3] See corrosion reference guide and sealing solutions for material compatability.

RD298/299 Series, General Purpose & High Pressure – 2/2 Normally Open

Coil Rotation



Preferred Valve Mounting Options

Pipe Size	A	B	C	D	Weight Lb (kg)
1/8 - 1/4	1.77 (45)	3.15 (80)	0.49 (12.5)	0.61 (15.4)	0.79 (0.36)

Dimensions inches (mm)

Solenoid enclosures

7--1 Type Coil - Insulation class H

External material: PPS (glass fiber & mineral filled)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
8	1/8
9	1/4

Seals	
V	FKM
E	EPDM
R	RUBY

Orifice[1]	
A	3/64
B	3/64
C	1/16
E	5/64
G	3/32
H	1/8

Thread Pipe	
N	NPT
	GAS

Option	
A	Silver shading ring
F	Anticorrosion treatment[2]
	w/o option

Coil options

Voltage / Frequency - Class H	
7251	24 VDC
7201	24 V / 50/60 Hz
7401	110 V / 50 Hz - 120 V / 60 Hz
7601	200 V / 50 Hz - 220 V / 60 Hz
7701	230 V / 50 Hz - 240 V / 60 Hz

Plug

Plug	
	w/o plug
0A1	c/w plug

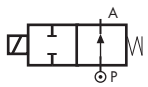
RD	2	9	•	D	•	•	N	•	•	•	•	•	•	•	•

[1] See characteristics table for availability.
[2] Recommended with aggressive fluids.

Product coding example:

RD299DVAN 7251
1/4 NPT, auto operation, stainless steel body, FKM seals, 3/64 orifice, 24 VDC, without plug.

RD262/263 Series, General Purpose – 2/2 Normally Open

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass (CW617N EN 12165)
Orifice Material	Stainless Steel AISI 303 (1.4305 EN 10088)
Flange Tube	Stainless Steel AISI 303 (1.4305 EN 10088)
Plunger	Stainless Steel AISI 430F (1.4106 EN 10088)
Top Stop	Stainless Steel AISI 430F (1.4105 EN 10088)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type	NPT
Shading Ring	Copper
Electrical Characteristics[1]	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC) +10% to -5% (DC)
Duty Cycle	100% ED
Enclosure Classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation Class	180 (H) to EN 60730-1
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W

[1] These coils are not UL approved.

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- Coils tested 100% in compliance to RoHS directive and to relevant international standards
- Choice of high quality seal materials
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD psi (bar)		Orifice inches (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
1/4	0.04	0.03	0 - 435 (0 - 30)	0 - 435 (0 - 30)	3/64 (1.0)	FKM EPDM	RD263DVAN RD263DEAN
1/4	0.09	0.08	0 - 348 (0 - 24)	0 - 348 (0 - 24)	1/16 (1.5)	FKM EPDM	RD263DVCN RD263DECN
1/4	0.24	0.20	0 - 232 (0 - 16)	0 - 232 (0 - 16)	3/32 (2.5)	FKM EPDM	RD263DVGN RD263DEGN
1/4	0.32	0.27	0 - 145 (0 - 10)	0 - 145 (0 - 10)	1/8 (3.0)	FKM EPDM	RD263DVHN RD263DEHN

Options Available

Valve Options (see coding chart)
Body threaded connection 1/8
G parallel thread (ISO 228-1)
Electroless nickel plating
For steam version with filled PTFE seal see valve model RD236DL-N
For high pressure version with RUBY seals see valve model RD236DR-N1

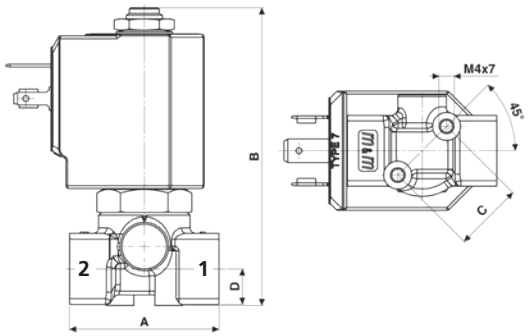
Seal Material[2] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM 14 °F to 266 °F (-10 °C to +130 °C)	Water, oil, air	14 °F (-10 °C)	122 °F (+50 °C)
EPDM 14 °F to 248 °F (-10 °C to +120 °C)	Water, hot water	14 °F (-10 °C)	122 °F (+50 °C)

[2] See corrosion reference guide and sealing solutions for material compatability.

RD262/263 Series, General Purpose – 2/2 Normally Open

Coil Rotation

Preferred Valve Mounting Options



Pipe Size	A	B	C	D	Weight Lb (kg)
1/8 - 1/4	1.57 (40)	3.06 (77.7)	0.73 (18.5)	0.37 (9.5)	0.57 (0.26)

Dimensions inches (mm)

Solenoid enclosures

7--1 Type Coil - Insulation class H

External material: PPS (glass fiber & mineral filled)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
2	1/8
3	1/4

Seals	
V	FKM
E	EPDM

Orifice	
A	3/64
C	1/16
G	3/32
H	1/8

Thread Pipe	
N	NPT
	GAS

Option	
K	Electroless nickel plating
	w/o option

Coil options

Voltage / Frequency - Class H	
7251	24 VDC
7201	24 V / 50/60 Hz
7401	110 V / 50 Hz - 120 V / 60 Hz
7601	200 V / 50 Hz - 220 V / 60 Hz
7701	230 V / 50 Hz - 240 V / 60 Hz

Plug

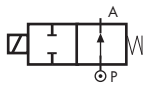
Plug	
	w/o plug
0A1	c/w plug

RD	2	6	•	D	•	•	N	•	•	•	•	•	•	•	•

Product coding example:

RD263DVHN 7251 0A1
1/4 NPT, auto operation, brass body, FKM seals, 1/8 orifice, 24 VDC, with plug.

RD236 Series, General Purpose – 2/2 Normally Open

Specifications	
Function (single acting)	 Flow direction 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass C37700 (UNS Designation)
Orifice Material	Stainless Steel AISI 303 (1.4305 EN 10088)
Tube	Stainless Steel AISI 304
Flange	Stainless Steel AISI 303 (1.4305 EN 10088)
Plunger	Stainless Steel AISI 430F (1.4106 EN 10088)
Top Stop	Stainless Steel AISI 430F (1.4105 EN 10088)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics[1]	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Enclosure Classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation Class	155 (F) to EN 60730-1
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W

[1] These coils are not UL approved.

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Zero pressure rated
- Stainless steel AISI 430F operators with low residual magnetism
- Choice of high quality seal materials
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD psi (bar)[2]		Orifice inches (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
1/4"	0.04	0.03	0 - 362 (0 - 25)	0 - 362 (0 - 25)	3/64 (1.0)	FKM EPDM	RD236DVA RD236DEA
1/4"	0.09	0.08	0 - 290 (0 - 20)	0 - 290 (0 - 20)	1/16 (1.5)	FKM EPDM	RD236DVC RD236DEC
1/4"	0.14	0.12	0 - 261 (0 - 18)	0 - 261 (0 - 18)	5/64 (2.0)	FKM EPDM	RD236DVE RD236DEE
1/4"	0.20	0.17	0 - 218 (0 - 15)	0 - 218 (0 - 15)	3/32 (2.5)	FKM EPDM	RD236DVG RD236DEG
1/4"	0.25	0.21	0 - 174 (0 - 12)	0 - 174 (0 - 12)	1/8 (3.0)	FKM EPDM	RD236DVH RD236DEH
1/4"	0.39	0.33	0 - 73 (0 - 5)	0 - 73 (0 - 5)	11/64 (4.5)	FKM EPDM	RD236DVM RD236DEM
1/4"	0.60	0.51	0 - 29 (0 - 2)	0 - 29 (0 - 2)	15/64 (6.0)	FKM EPDM	RD236DVP RD236DEP

[2] The valve supplied carry a nameplate with pressure ratings marked in bar.

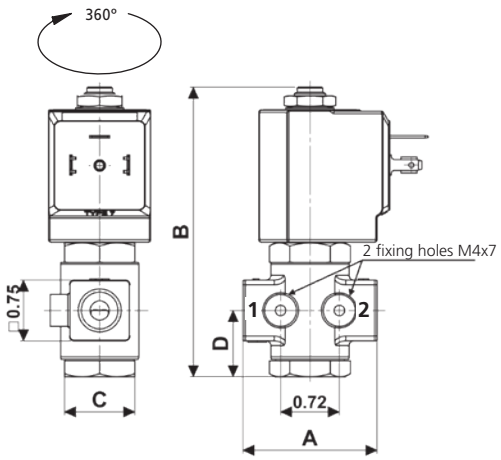
Options Available

Seal Material[3] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM 14 °F to 266 °F (-10 °C to +130 °C)	Water, oil, air	14 °F (-10 °C)	122 °F (+50 °C)
EPDM 14 °F to 248 °F (-10 °C to +120 °C)	Water, hot water	14 °F (-10 °C)	122 °F (+50 °C)

[3] See corrosion reference guide and sealing solutions for material compatability.

RD236 Series, General Purpose – 2/2 Normally Open

Coil Rotation



Preferred Valve Mounting Options

Pipe Size	A	B	C	D	Weight Lb (kg)
1/4" G	1.85 (47)	2.58 (91)	HEX 22 (22)	0.82 (20.75)	0.55 (0.25)

Dimensions inches (mm)

Solenoid enclosures

7--0 Type Coil - Insulation class F

External material: PBT (reinforced glass fiber 30%)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Seals		Orifice		Option
V	FKM	A	3/64	w/o option
E	EPDM	C	1/16	
		E	5/64	
		G	3/32	
		H	1/8	
		M	11/64	
		P	15/64	

Coil options

Voltage / Frequency - CE Type, Class F	
7250	24 VDC
7200	24 V / 50/60 Hz
7400	110 V / 50 Hz - 120 V / 60 Hz
7600	200 V / 50 Hz - 220 V / 60 Hz
7700	230 V / 50 Hz - 240 V / 60 Hz

Plug

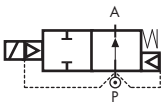
Plug	
0A1	c/w plug
	w/o plug

RD	2	3	6	D	•	•	•	•	•	•	•	•	•	•	•

Product coding example:

RD236DVC 7200 0A1
1/4" G, auto operation, brass body, FKM seals, 1/16 orifice, 24 V / 50 Hz AC, with plug.

RB203/204/205/206/222 Series, General Purpose – 2/2 Normally Open

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass C37700 (UNS Designation)
Flange Tube[1]	Brass C37700 (UNS Designation)
Plunger and Top Stop	Stainless Steel AISI 430F or equivalent
Springs	Stainless Steel AISI 302
Seal Material (Std)	NBR
Connection Type	NPT
Shading Ring	Copper
Electrical Characteristics	
Coil Voltage DC (=)	24 V
Coil Voltage AC 50 Hz (~)	24 V, 110 V, 230 V
Coil Voltage AC 60 Hz (~)	120 V, 240 V
Voltage Tolerance	+10% to -15% (AC) +10% to -5% (DC)
Duty Cycle	100% ED
Enclosure Classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to industrial form B
Coil Insulation Class	155 (F) to UL429 and to EN 60730-1
Power Rating (Coils)	AC 9 VA (holding) AC 14 VA (inrush) DC 6W

[1] With special brass nut for NO operator (different from Standard).

Features and Benefits

- Pilot operated
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- Choice of high quality seal materials
- Response time 50 to 500 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD psi (bar)		Orifice inches (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
1/4	1.83	1.56	4 - 232 (0.3 - 16)	4 - 232 (0.3 - 16)	$^{33}/_{64}$ (13)	NBR	RB203DBZN
						FKM	RB203DVZN
						EPDM	RB203DEZN
3/8	3.86	3.30				NBR	RB204DBZN
						FKM	RB204DVZN
						EPDM	RB204DEZN
1/2	4.42	3.78				NBR	RB205DBZN
						FKM	RB205DVZN
						EPDM	RB205DEZN
3/4 compact	7.02	6.00			$^{53}/_{64}$ (21)	NBR	RB206DBXN
						FKM	RB206DVXN
						EPDM	RB206DEXN
3/4	9.83	8.40			$^{63}/_{64}$ (25)	FNBR	RB206DBYN
						FKM	RB206DVYN
						EPDM	RB206DEYN
1	11.23	9.60				NBR	RB222DBYN
						FKM	RB222DVYN
						EPDM	RB222DEYN

Options Available

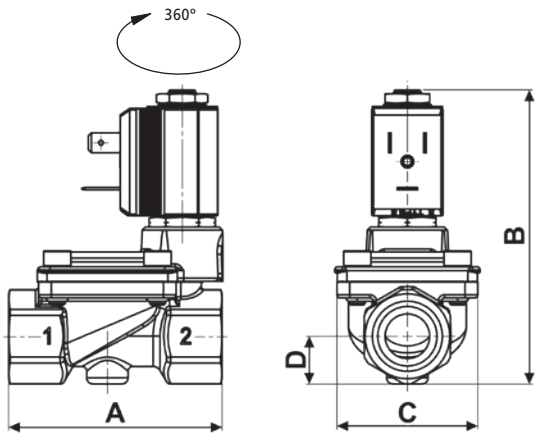
Valve Options (see coding chart)
G parallel thread (ISO 228-1)
Electroless nickel plating treatment
Speed control screw
CE coils, power DC 7W - AC 10 VA

Seal Material[2] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
NBR 14 °F to 194 °F (-10 °C to +90 °C)	Water, oil, air	14 °F (-10 °C)	122 °F (+50 °C)
FKM 14 °F to 266 °F (-10 °C to +130 °C)	Water, oil, air	14 °F (-10 °C)	122 °F (+50 °C)
EPDM 14 °F to 248 °F (-10 °C to +120 °C)	Water, hot water	14 °F (-10 °C)	122 °F (+50 °C)

[2] See corrosion reference guide and sealing solutions for material compatability.

RB203/204/205/206/222 Series, General Purpose – 2/2 Normally Open

Coil Rotation



Preferred Valve Mounting Options

Pipe size	A	B	C	D	Weight Lb (kg)
1/4 - 3/8 - 1/2	2.64 (67)	3.64 (92.5)	1.80 (45.6)	0.59 (15)	0.88 (0.4)
3/4 compact	3.23 (82)	4.23 (107.5)	2.03 (51.6)	0.80 (20.25)	1.32 (0.6)
3/4 to 1	3.78 (96)	4.63 (117.5)	2.83 (72)	0.91 (23)	2.65 (1.2)

Dimensions inches (mm)

Solenoid enclosures

2--R c UL us Type Coil - Insulation class F

External material: PET 815ER Rynite®
Electrical connection: Industrial form B
Winding insulation: Class H (P180)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*
UL approved, file No: E193928

* Plug and gasket not supplied as standard, must be ordered separately

Type 600 001- Plug

Rated Voltage (max.): 250 VaC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
03	1/4
04	3/8
05	1/2
06	3/4 (compact)
06	3/4
22	1

Seals	
B	NBR
V	FKM
E	EPDM

Orifice[1]	
Z	33/64
X	53/64
Y	63/64

Thread Pipe	
N	NPT
	GAS

Option	
K	Electroless nickel plating
V	Speed control screw[2]
	w/o option

Coil options

Voltage / Frequency - c UL us Type, Class F	
225R	24 VDC
220R	24 V / 50 Hz
240R	110 V / 50 Hz - 120 V / 60 Hz
270R	230 V / 50 Hz - 240 V / 60 Hz

Voltage / Frequency - CE Type, Class F	
2250	24 VDC
2200	24 V / 50/60 Hz
2400	110 V / 50 Hz - 120 V / 60 Hz
2600	200 V / 50 Hz - 220 V / 60 Hz
2700	230 V / 50 Hz - 240 V / 60 Hz

Plug

Plug	
	w/o plug
0B1	c/w plug

RB	2	•	•	D	•	•	N	•	•	•	•	•	•	•	•	•

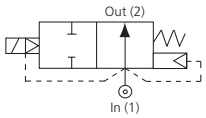
[1] DN 33/64 only for RB203/204/205, DN 53/64 only for RB206 compact, DN 63/64 only for RB206 and RB222.

[2] Speed control screw available on RB206D-YN and RB222D-YN.

Product coding example:

RB203DBZN 225R
1/4 NPT, auto operation, brass body, NBR seals, 33/64 orifice, 24 VDC, without plug.

ACDN Series – 2/2 Normally Open

Specifications	
Mode of Operation	Normally Open, energise to close 
Maximum Viscosity	115 SSU
3/8" - 1" Body Material (Std)	Brass (Std) or Stainless Steel option
1 1/4" - 2" Body Material (Std)	Bronze (Std)
Flange Tube	Stainless Steel
Plunger and top stop	Stainless Steel
Springs	Stainless Steel
Seal Material	Nitrile (BunaN) (Std) other options available
Connection Type	NPT
Shading Ring	Copper (std), Silver (stainless steel option)
Electrical Characteristics	
Coil Voltage DC (=)	12 V, 24 V
Coil Voltage AC 60 Hz (~)	24 V, 120 V
Voltage Tolerance	+10% or -10%
Duty Cycle	100% ED
Electrical Connection Options	1/2" NPT metal conduit hub with 18" leads (NEMA 2 equivalent protection class)
Coil Insulation	Class H
Power Rating	14.5 Watts

Features and Benefits

- Robust Valve Design
- Diaphragm Operation
- Fully Ported Orifices for high flow
- Choice of valve body material seals
- Sizes 3/8" - 3/4" Advantica approved to BS EN 60730 - 2 -8 for household use when used with EPDM seals
- Response time 1" 15-60 ms
- Response time 2" 60-120 ms
- Tested in accordance with BS-EN 12266-1

Port Size	Cv	Kv	OPD (psi)		P. Max[2] psi	Orifice (mm)	Weight (lbs)
			AC Voltages	DC Voltages			
3/8"	3.5	3.0	0-150	0-150	725	16.0	2
1/2"	4.9	4.2	0-150	0-150		16.0	2
3/4"	5.4	4.7	0-150	0-150		16.0	2
1"	8.2	7.0	0-150	0-150		20.0	4
1 1/4"	26.7	23	5-150	5-150		40.0	6.6
1 1/2"	26.7	23	5-150	5-150		40.0	6.6
2"	30.2	26	5-150	5-150		40.0	6.6

[2] P. Max is limited to 675 psi when valve is fitted with an Exd solenoid operator, see separate datasheet.

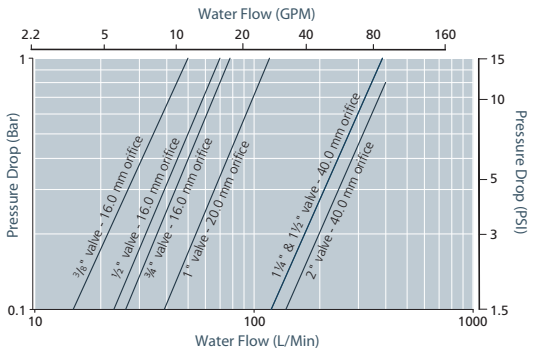
Options Available

Solenoid Enclosure	
Protection Class	
EExd T6 (NEMA 6 equivalent)	See separate datasheet
EExd T4 (NEMA 6 equivalent)	

Seal Material[1] and Media Temp. Range	Ambient Temperature Range	
	Min	Max
Nitrile (14 °F to +176 °F)	14 °F	122 °F
EPDM (-58 °F to +248 °F)	14 °F	122 °F
Viton (-4 °F to +302 °F)	14 °F	122 °F

Main Valve Body Options
Stainless Steel 316 (up to and including 1")
Oxygen Cleaning (consult factory for product code)
Stainless Steel Tagging (consult factory for product code)

[1] See corrosion reference guide and sealing solutions for material compatability.

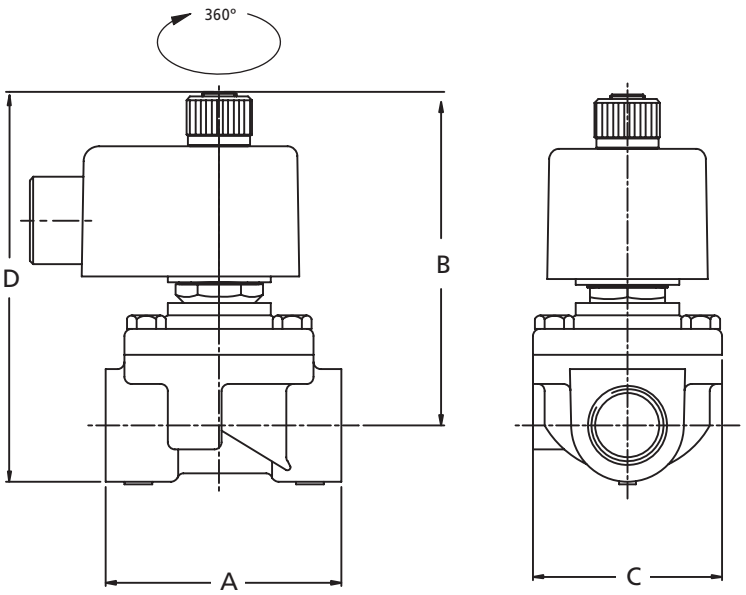


How to use the flow chart

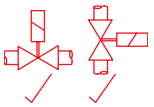
1. Select the required flow.
2. Note the corresponding pressure drop.
3. Based on where the two points intersect select the most appropriate model.

ACDN Series – 2/2 Normally Open

Coil Rotation



Preferred Valve Mounting Options



Dimensions

Port Size	A	B	C	D
3/8" - 3/4"	2¾"	3 7/16"	3"	4 3/8"
1"	3 3/8"	3 7/16"	3"	5 3/8"
1¼" - 2"	5 3/8"	4 5/8"	4¾"	5 7/8"

Dimensions given in inches

Solenoid enclosures

S4 Type enclosure protection class IP50

External material: Pressed steel powder coated

Electrical entry: 1/2" NPT metal conduit hub with 18" leads (NEMA 2 equivalent protection class)

Winding Insulation: Class H

Coding chart

Main Valve Assembly

Model	Valve Body Conn. Size	Conn. Type	Operation	Orifice (mm)	Body Material	Seals	Style
27 ACDN (1¼ and above)	C 3/8"	3 NPT	1 AUTO	Z Default	1 Brass (standard on valves up to and including 1")	A Nitrile	1 Standard
56 ACDN (3/8"-1")	D ½"				2 Bronze (standard on valves above 1")	B EPDM	
	E ¾"				5 316 Stainless Steel (option available up to and inc 1")	C VITON	
	F 1"						
	G 1¼"						
	H 1½"						
	J 2"						

Coil options

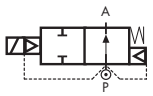
Enclosure	Voltage / Frequency	Electrical Connection	Approval
C N/O standard metal can	F1 24 VDC	9 1/2" NPT	8 Non-UL
	F4 12 VDC		
	H1 24 V / 60 Hz		
	H2 120 V / 60 Hz		

•	•	3	1	Z	•	•	1	-	C	••	9	8

Product coding example:

56C31Z1A1-CH298: ACDN Series
3/8" NPT, Auto, Brass body, nitrile seals, 120 V / 60Hz, 1/2" NPT electrical connection, non-UL.

RD223/224/225 Series, General Purpose – 2/2 Normally Open

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass C37700 (UNS Designation)
Flange Tube	Stainless Steel AISI 303 (1.4305 EN 10088)
Plunger	Stainless Steel AISI 430F (1.4106 EN 10088)
Top Stop	Stainless Steel AISI 430F (1.4105 EN 10088)
Springs	Stainless Steel AISI 302
Seal Material (Std)	NBR
Connection Type	NPT
Shading Ring	Copper
Electrical Characteristics[1]	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC) +10% to -5% (DC)
Duty Cycle	100% ED
Enclosure Classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation Class	180 (H) to EN 60730-1
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W

[1] These coils are not UL approved.

Features and Benefits

- Pilot operated
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- Choice of high quality seal materials
- Troublefree operation with coils class H
- Speed control screw as standard
- Response time 50 to 500 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD psi (bar)		Orifice inches (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
1 1/4	25.97	22.20	7 - 232 (0.5 - 16)	7 - 232 (0.5 - 16)	1 37/64 (40)	NBR	RD223DBKN
						FKM	RD223DVKN
						EPDM	RD223DEKN
1 1/2	28.08	24.00			1 37/64 (40)	NBR	RD224DBKN
						FKM	RD224DVKN
						EPDM	RD224DEKN
2	37.91	32.40			2 (50)	NBR	RD225DBJN
						FKM	RD225DVJN
						EPDM	RD225DEJN

Options Available

Valve Options (see coding chart)
G parallel thread (ISO 228-1)
Electroless nickel plating

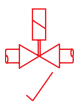
Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
NBR 14 °F to 194 °F (-10 °C to +90 °C)	Water, oil, air	14 °F (-10 °C)	122 °F (+50 °C)
FKM 14 °F to 266 °F (-10 °C to +130 °C)	Water, oil, air	14 °F (-10 °C)	122 °F (+50 °C)
EPDM 14 °F to 248 °F (-10 °C to +120 °C)	Water, hot water	14 °F (-10 °C)	122 °F (+50 °C)

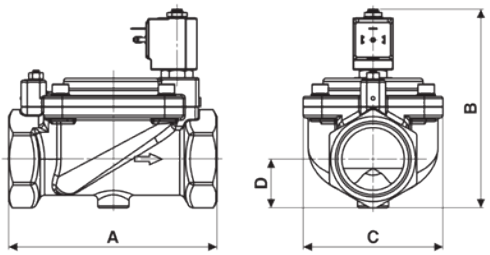
[1] See corrosion reference guide and sealing solutions for material compatability.

RD223/224/225 Series, General Purpose – 2/2 Normally Open

Coil Rotation

Preferred Valve Mounting Options





Pipe Size	A	B	C	D	Weight Lb (kg)
1 1/4 - 1 1/2	5.51 (140)	5.51 (140)	3.78 (96)	1.24 (31.5)	6.17 (2.8)
2	6.57 (167)	6.22 (158)	4.41 (112)	1.54 (39)	8.60 (3.9)

Dimensions inches (mm)

Solenoid enclosures

7--1 Type Coil - Insulation class H

External material: PPS (glass fiber & mineral filled)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
23	1 1/4
24	1 1/2
25	2

Seals	
B	NBR
V	VKM
E	EPDM

Orifice[1]	
K	1 37/64
J	2

Thread Pipe	
N	NPT
	GAS

Option	
K	Electroless nickel plating
	w/o option

Coil options

Voltage / Frequency - Class H	
7251	24 VDC
7201	24 V / 50/60 Hz
7401	110 V / 50 Hz - 120 V / 60 Hz
7601	200 V / 50 Hz - 220 V / 60 Hz
7701	230 V / 50 Hz - 240 V / 60 Hz

Plug

Plug	
	w/o plug
0A1	c/w plug

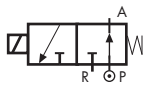
RD	2	•	•	D	•	•	N	•	•	•	•	•	•	•	•	•

[1] DN 1 37/64 only for RD223 and RD224 only, DN 2 only for RD225.

Product coding example:

RD223DBKN 7251
1 1/4 NPT, auto operation, brass body, NBR seals, 40 mm orifice, 24 VDC, without plug.

RD398/399 Series, General Purpose – 3/2 Normally Open

Specifications	
Function (single acting)	 Flow direction underseat 2 → 1
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Stainless Steel AISI 303 (1.4305 EN 10088)
Orifice Material	Stainless Steel AISI 303 (1.4305 EN 10088)
Flange Tube (seamless)	Stainless Steel AISI 303 (1.4305 EN 10088)
Plunger	Stainless Steel AISI 430F
Top Stop	Stainless Steel AISI 303 (1.4305 EN 10088)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type	NPT
Shading Ring	Copper
Electrical Characteristics[1]	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Enclosure Classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation Class	180 (H) to EN 60730-1
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W

[1] These coils are not UL approved.

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Zero pressure rated
- Stainless steel AISI 430F operators with low residual magnetism
- High quality seal materials
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD psi (bar)		Orifice inches (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
1/4	0.09	0.08	0 - 218 (0 - 15)	0 - 218 (0 - 15)	1/16 (1.5)	FKM	RD399CVCN
1/4	0.15	0.13	0 - 145 (0 - 10)	0 - 145 (0 - 10)	5/64 (2.0)	FKM	RD399CVEN
1/4	0.32	0.27	0 - 58 (0 - 4)	0 - 58 (0 - 4)	1/8 (3.0)	FKM	RD399CVHN

Options Available

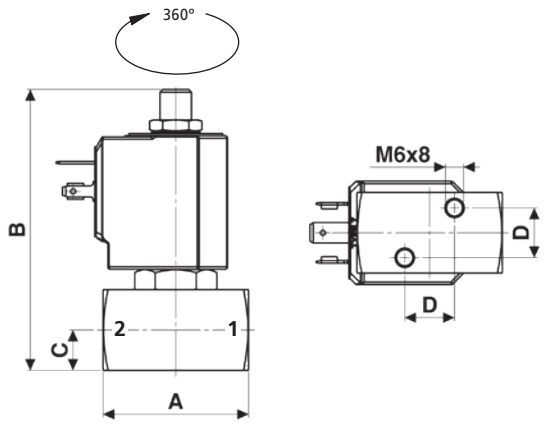
Valve Options (see coding chart)
Body threaded connection 1/8
G parallel thread (ISO 228-1)
Anticorrosion treatment recommended with aggressive fluids

Seal Material[2] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM 14 °F to 266 °F (-10 °C to +130 °C)	Water, oil, air, aggressive fluids	14 °F (-10 °C)	122 °F (+50 °C)

[2] See corrosion reference guide and sealing solutions for material compatability.

RD398/399 Series, General Purpose – 3/2 Normally Open

Coil Rotation



Preferred Valve Mounting Options

Pipe size	A	B	C	D	Weight Lb (kg)
1/8 - 1/4	1.77 (45)	3.43 (87)	0.49 (12.5)	0.61 (15.4)	0.77 (0.35)

Dimensions inches (mm)

Solenoid enclosures

7--1 Type Coil - Insulation class H

External material: PPS (glass fiber & mineral filled)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
8	1/8
9	1/4

Orifice	
C	1/16
E	5/64
H	1/8

Thread Pipe	
N	NPT
	GAS

Option	
F	Anticorrosion treatment[1]
	w/o option

Coil options

Voltage / Frequency - Class H	
7251	24 VDC
7201	24 V / 50/60 Hz
7401	110 V / 50 Hz - 120 V / 60 Hz
7601	200 V / 50 Hz - 220 V / 60 Hz
7701	230 V / 50 Hz - 240 V / 60 Hz

Plug

Plug	
0A1	c/w plug
	w/o plug

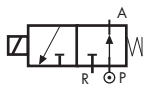
RD	3	9	•	C	V	•	N	•	•	•	•	•	•	•	•	•

[1] Recommended with aggressive fluids.

Product coding example:

RD399CVEN 7251
1/4 NPT, auto operation, stainless steel body, FKM seals, 5/64 orifice, 24 VDC, without plug.

RD362/363 Series, General Purpose – 3/2 Normally Open

Specifications	
Function (single acting)	 Flow direction underseat 2 → 1
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass C37700 (UNS Designation)
Orifice Material	Stainless Steel AISI 303 (1.4305 EN 10088)
Flange Tube (seamless)	Stainless Steel AISI 303 (1.4305 EN 10088)
Plunger	Stainless Steel AISI 430F (1.4106 EN 10088)
Top Stop	Stainless Steel AISI 430F (1.4105 EN 10088)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type	NPT
Shading Ring	Copper
Electrical Characteristics[1]	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Enclosure Classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation Class	180 (H) to EN 60730-1[1]
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W

[1] These coils are not UL approved.

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Zero pressure rated
- Stainless steel AISI 430F operators with low residual magnetism
- High quality seal materials
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD psi (bar)		Orifice inches (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
1/4	0.09	0.08	0 - 232 (0 - 16)	0 - 189 (0 - 13)	1/16 (1.5)	FKM	RD363CVCN
1/4	0.15	0.13	0 - 145 (0 - 10)	0 - 145 (0 - 10)	5/64 (2.0)	FKM	RD363CVEN
1/4	0.24	0.20	0 - 102 (0 - 7)	0 - 102 (0 - 7)	3/32 (2.5)	FKM	RD363CVGN
1/4	0.32	0.27	0 - 58 (0 - 4)	0 - 58 (0 - 4)	1/8 (3.0)	FKM	RD363CVHN

Options Available

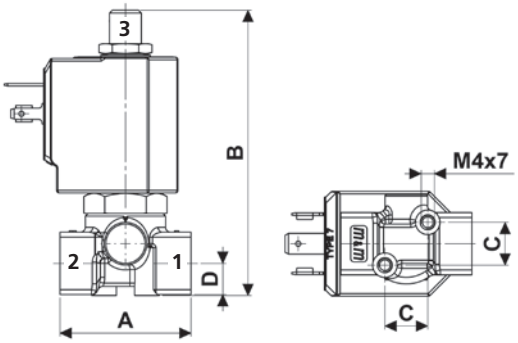
Valve Options (see coding chart)
Body threaded connection 1/8
G parallel thread (ISO 228-1)

Seal Material[2] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM 14 °F to 266 °F (-10 °C to +130 °C)	Water, oil, air	14 °F (-10 °C)	122 °F (+50 °C)

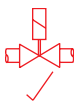
[2] See corrosion reference guide and sealing solutions for material compatability.

RD362/363 Series, General Purpose – 3/2 Normally Open

Coil Rotation



Preferred Valve Mounting Options



Pipe Size	A	B	C	D	Weight Lb (kg)
1/8 - 1/4	1.57 (40)	3.40 (86.4)	0.51 (13)	0.37 (9.5)	0.57 (0.26)

Dimensions inches (mm)

Solenoid enclosures

7--1 Type Coil - Insulation class H

External material: PPS (glass fiber & mineral filled)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
2	1/8
3	1/4

Orifice	
C	1/16
E	5/64
G	3/32
H	1/8

Thread Pipe	
N	NPT
	GAS

Option	
	w/o option

Coil options

Voltage / Frequency - Class H	
7251	24 VDC
7201	24 V / 50/60 Hz
7401	110 V / 50 Hz - 120 V / 60 Hz
7601	200 V / 50 Hz - 220 V / 60 Hz
7701	230 V / 50 Hz - 240 V / 60 Hz

Plug

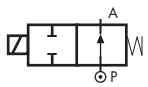
Plug	
0A1	c/w plug
	w/o plug

RD	3	6	•	C	V	•	•	•	•	•	•	•	•	•	•

Product coding example:

RD362CVCN 7251
1/8 NPT, auto operation, brass body, FKM seals, 1/16 orifice, 24 VDC, without plug.

B297 Series, Automation – 2/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Low lead content Brass C46400 (UNS Designation)
Orifice Material	Stainless Steel AISI 303 (1.4305 EN 10088)
Tube	Stainless Steel AISI 304
Flange	Stainless Steel AISI 303 (1.4305 EN 10088)
Plunger and Top Stop	Stainless Steel AISI 430F or equivalent
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type	NPT
Shading Ring	Copper
Electrical Characteristics	
Coil Voltage DC (=)	24 V
Coil Voltage AC 50 Hz (~)	24 V, 110 V, 230 V
Coil Voltage AC 60 Hz (~)	120 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Enclosure Classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to industrial form B
Coil Insulation Class	155 (F) to UL429 and to EN 60730-1
Power Rating (cULus Coils)	AC 9 VA (holding) AC 14 VA (inrush) DC 6W

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- High quality seal materials
- Valve suitable for contact with food media when used with FKM seals, as per the EEC Directives and Regulations. Please consult supplier for more details
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD psi (bar)		Orifice inches (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
1/8	0.04	0.03	0 - 435 (0 - 30)	0 - 406 (0 - 28)	3/64 (1.0)	FKM EPDM	B297DVAN B297DEAN
1/8	0.05	0.04	0 - 362 (0 - 25)	0 - 160 (0 - 11)	3/64 (1.2)	FKM EPDM	B297DVBN B297DEBN
1/8	0.07	0.06	0 - 290 (0 - 20)	0 - 94 (0 - 6.5)	1/16 (1.5)	FKM EPDM	B297DVCN B297DECN
1/8	0.12	0.10	0 - 218 (0 - 15)	0 - 51 (0 - 3.5)	5/64 (2.0)	FKM EPDM	B297DVEN B297DEEN
1/8	0.16	0.14	0 - 116 (0 - 8)	0 - 14.5 (0 - 1)	3/32 (2.5)	FKM EPDM	B297DVGN B297DEGN

Options Available

Valve Options (see coding chart)
G parallel thread (ISO 228-1)
Manual Override
Electroless nickel plating treatment
CE coils, power DC 7W - AC 10 VA[1]

[1] Pressure ratings of valves fitted with CE coils may be higher than with UL coils (coils specifications on page 157).

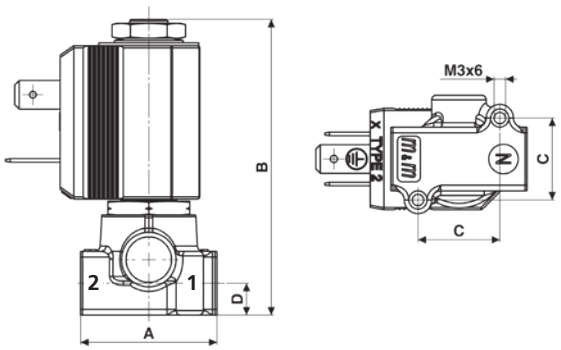
Seal Material[2] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM 14 °F to 266 °F (-10 °C to +130 °C)	Water, oil, air	14 °F (-10 °C)	122 °F (+50 °C)
EPDM 14 °F to 248 °F (-10 °C to +120 °C)	Water, hot water	14 °F (-10 °C)	122 °F (+50 °C)

[2] See corrosion reference guide and sealing solutions for material compatability.

B297 Series, Automation – 2/2 Normally Closed

Coil Rotation

Preferred Valve Mounting Options



Pipe Size	A	B	C	D	Weight Lb (kg)
1/8	1.18 (30)	2.56 (65)	0.71 (18)	0.28 (7)	0.33 (0.15)

Dimensions inches (mm)

Solenoid enclosures

2--R c UL us Type Coil - Insulation class F

External material: PET 815ER Rynite®
Electrical connection: Industrial form B
Winding insulation: Class H (P180)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*
UL approved, file No: E193928

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 001- Plug

Rated Voltage (max.): 250 VAC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Seals	
V	FKM
E	EPDM

Orifice	
A	3/64
B	3/64
C	1/16
E	5/64
G	3/32

Thread Pipe	
N	NPT
	GAS

Option	
M	Manual Override
K	Electroless nickel plating
	w/o option

Coil options

Voltage / Frequency - c UL us Type, Class F	
225R	24 DC
220R	24 V / 50 Hz
240R	110 V / 50 Hz - 120 V / 60 Hz
270R	230 V / 50 Hz - 240 V / 60 Hz
Voltage / Frequency - CE Type, Class F	
2250	24 VDC
2200	24 V / 50/60 Hz
2400	110 V / 50 Hz - 120 V / 60 Hz
2600	200 V / 50 Hz - 220 V / 60 Hz
2700	230 V / 50 Hz - 240 V / 60 Hz

Plug

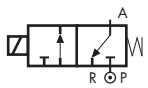
Plug	
	w/o plug
0B1	c/w plug

B	2	9	7	D	•	•	N	•	•	•	•	•	•	•	•

Product coding example:

B297DVEN 225R
1/8 NPT, auto operation, brass body, FKM seals, 5/64 orifice, 24 VDC, without plug.

D301 Series, Automation – 2/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction underseat 2→ 1
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass C37700 (UNS Designation)
Orifice Material	Stainless Steel AISI 303 (1.4305 EN 10088)
Flange	Stainless Steel AISI 303 (1.4305 EN 10088)
Tube	Stainless Steel AISI 304
Plunger	Stainless Steel AISI 430F (1.4106 EN 10088)
Top Stop	Stainless Steel AISI 430F (1.4105 EN 10088)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type (Std)	Flanged 1.26x1.26 inches
Shading Ring	Copper
Electrical Characteristics[1]	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Enclosure Classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation Class	155 (F) to EN 60730-1
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W

[1] These coils are not UL approved.

Features and Benefits

- Direct Acting
- Zero pressure rated
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- High quality seal materials
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD psi (bar)[2]		Orifice inches (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
Flanged	0.09	0.08	0 - 261 (0 - 18)	0 - 261 (0 - 18)	1/16 (1.5)	FKM	D301CVC
Flanged	0.15	0.13	0 - 145 (0 - 10)	0 - 145 (0 - 10)	5/64 (2.0)	FKM	D301CVE
Flanged	0.24	0.20	0 - 102 (0 - 7)	0 - 102 (0 - 7)	3/32 (2.5)	FKM	D301CVG
Flanged	0.32	0.27	0 - 73 (0 - 5)	0 - 73 (0 - 5)	1/8 (3.0)	FKM	D301CVH

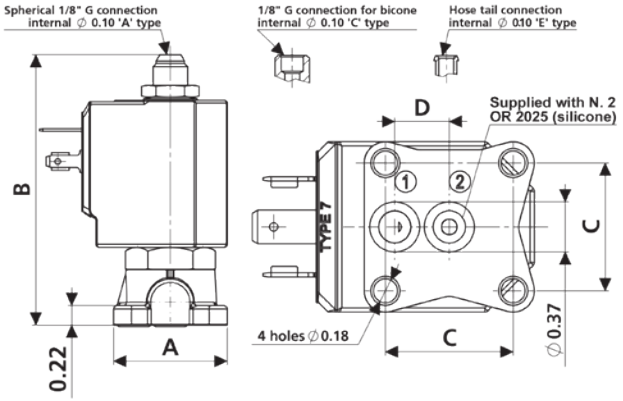
[2] The valve supplied carry a nameplate with pressure ratings marked in bar.

Seal Material[3] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM 14 °F to 266 °F (-10 °C to +130 °C)	Water, oil, air	14 °F (-10 °C)	122 °F (+50 °C)

[3] See corrosion reference guide and sealing solutions for material compatability.

D301 Series, Automation – 2/2 Normally Closed

Coil Rotation



Preferred Valve Mounting Options

Pipe Size	A	B	C	D	Weight Lb (kg)
Flanged	1.26 (32)	3.03 (77)	0.94 (24)	0.40 (10.25)	0.55 (0.25)

Dimensions inches (mm)

Solenoid enclosures

7--0 Type Coil - Insulation class F

External material: PBT (reinforced glass fiber 30%)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Top Port	
C	G 1/8" conn
A	spherical G 1/8"
E	with hose tail

Orifice	
C	1/16
E	5/64
G	3/32
H	1/8

Option	
	w/o option

Coil options

Voltage / Frequency - CE Type, Class F	
7250	24 VDC
7200	24 V / 50/60 Hz
7400	110 V / 50 Hz - 120 V / 60 Hz
7600	200 V / 50 Hz - 220 V / 60 Hz
7700	230 V / 50 Hz - 240 V / 60 Hz

Plug

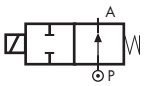
Plug	
	w/o plug
0A1	c/w plug

D	3	0	1	•	V	•	•	•	•	•	•	•	•	•	•

Product coding example:

D301CVC 7250
Flanged, auto operation, brass body, FKM seals, 1/16 orifice, 24 VDC, without plug.

RB297 Series, Automation – 2/2 Normally Open

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Low lead content Brass C46400 (UNS Designation)
Orifice Material	Stainless Steel AISI 303 (1.4305 EN 10088)
Flange Tube[1]	Brass C37700 (UNS Designation)
Plinger and Top Stop	Stainless Steel AISI 430F or equivalent
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type	NPT
Shading Ring	Copper
Electrical Characteristics[1]	
Standard Coil Voltage DC (⎓)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Enclosure Classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to industrial form B
Coil Insulation Class	155 (F) to UL429 and to EN 60730-1
Power Rating (Standard)	AC 10 VA (holding) AC 16 VA (inrush) DC 10 W

[1] These coils are not UL approved.

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- High quality seal materials
- Response time 5 to 25 ms
- Valve suitable for contact with food media when used with FKM seals, as per EEC Directives and Regulations. Please consult supplier for more details

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD psi (bar)		Orifice inches (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
1/8	0.04	0.03	0 - 362 (0 - 25)	0 - 362 (0 - 25)	3/64 (1.0)	FKM EPDM	RB297DVAN RB297DEAN
1/8	0.05	0.04	0 - 290 (0 - 20)	0 - 290 (0 - 20)	3/64 (1.2)	FKM EPDM	RB297DVBN RB297DEBN
1/8	0.07	0.06	0 - 218 (0 - 15)	0 - 218 (0 - 15)	1/16 (1.5)	FKM EPDM	RB297DVCN RB297DECN
1/8	0.12	0.10	0 - 145 (0 - 10)	0 - 145 (0 - 10)	5/64 (2.0)	FKM EPDM	RB297DVEN RB297DEEN
1/8	0.16	0.14	0 - 73 (0 - 5)	0 - 73 (0 - 5)	3/32 (2.5)	FKM EPDM	RB297DVGN RB297DEGN
1/8	0.21	0.18	0 - 65 (0 - 4.5)	0 - 65 (0 - 4.5)	1/8 (3.0)	FKM EPDM	RB297DVHN RB297DEHN

Options Available

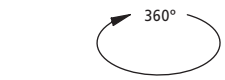
Valve Options
G parallel thread (ISO 228-1)
Electroless nickel plating treatment

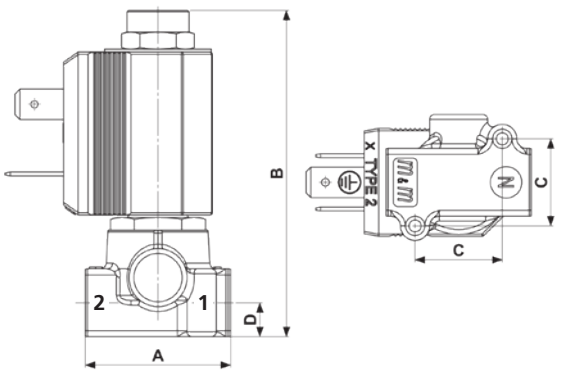
Seal Material[2] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM 14 °F to 266 °F (-10 °C to +130 °C)	Water, oil, air	14 °F (-10 °C)	122 °F (+50 °C)
EPDM 14 °F to 248 °F (-10 °C to +120 °C)	Water, hot water	14 °F (-10 °C)	122 °F (+50 °C)

[2] See corrosion reference guide and sealing solutions for material compatability.

RB297 Series, Automation – 2/2 Normally Open

Coil Rotation





Preferred Valve Mounting Options

Pipe Size	A	B	C	D	Weight Lb (kg)
1/8	1.18 (30)	2.66 (67.5)	0.71 (18)	0.28 (7)	0.33 (0.15)

Dimensions inches (mm)

Solenoid enclosures

2--0 Type Coil - Insulation class F

External material: PBT (reinforced fiberglass 30%)
Electrical connection: Industrial form B
Winding insulation: Class H (E180)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 001- Plug

Rated Voltage (max.): 250 VAC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Seals		Orifice		Thread Pipe		Option	
V	FKM	A	3/64	N	NPT	K	Electroless nickel plating
E	EPDM	B	3/64		GAS		w/o option
		C	1/16				
		E	5/64				
		G	3/32				
		H	1/8				

Coil options

Voltage / Frequency - CE Type, Class F	
2250	24 VDC
2200	24 V / 50/60 Hz
2400	110 V / 50 Hz - 120 V / 60 Hz
2600	200 V / 50 Hz - 220 V / 60 Hz
2700	230 V / 50 Hz - 240 V / 60 Hz

Plug

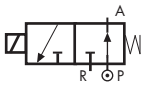
Plug	
	w/o plug
0B1	c/w plug

RB	2	9	7	D	•	•	N	•	•	•	•	•	•	•	•

Product coding example:

RB297DEE 2250
1/8" G, auto operation, brass body, EPDM seals, 5/64 orifice, 24 VDC, without plug.

RD301 Series, Automation – 2/2 Normally Open

Specifications	
Function (single acting)	 Flow direction underseat 2→ 1
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass C37700 (UNS Designation)
Orifice Material	Stainless Steel AISI 303 (1.4305 EN 10088)
Flange Tube	Stainless Steel AISI 303 (1.4305 EN 10088)
Plunger	Stainless Steel AISI 430F (1.4106 EN 10088)
Top Stop	Stainless Steel AISI 430F (1.4105 EN 10088)
Springs	Stainless Steel AISI 302
Seal Material	Foodgrade FKM
Connection Type (Std)	Flanged 1.26x1.26 inches
Shading Ring	Copper
Electrical Characteristics[1]	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Enclosure Classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation Class	180 (H) to EN 60730-1
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W

[1] These coils are not UL approved.

Features and Benefits

- Direct Acting
- Zero pressure rated
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- High quality seal materials
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD psi (bar)[2]		Orifice inches (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
Flanged	0.09	0.08	0 - 218 (0 - 15)	0 - 218 (0 - 15)	1/16 (1.5)	FKM	RD301CVC
Flanged	0.15	0.13	0 - 145 (0 - 10	0 - 145 (0 - 10)	5/64 (2.0)	FKM	RD301CVE
Flanged	0.32	0.27	0 - 58 (0 - 4)	0 - 58 (0 - 4)	1/8 (3.0)	FKM	RD301CVH

[2] The valve supplied carry a nameplate with pressure ratings marked in bar.

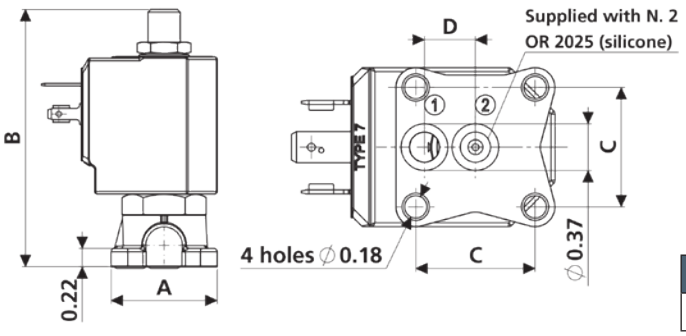
Seal Material[3] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM 14 °F to 266 °F (-10 °C to +130 °C)	Water, oil, air	14 °F (-10 °C)	122 °F (+50 °C)

[3] See corrosion reference guide and sealing solutions for material compatability.

RD301 Series, Automation – 2/2 Normally Open

Coil Rotation

Preferred Valve Mounting Options



Pipe Size	A	B	C	D	Weight Lb (kg)
Flanged	1.26 (32)	3.06 (77.7)	0.94 (24)	0.40 (10.25)	0.55 (0.25)

Dimensions inches (mm)

Solenoid enclosures

7--1 Type Coil - Insulation class H

External material: PPS (glass fiber & mineral filled)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Orifice	
C	1/16
E	5/64
H	1/8

Option	
	w/o option

Coil options

Voltage / Frequency - Class H	
7251	24 VDC
7201	24 V / 50/60 Hz
7401	110 V / 50 Hz - 120 V / 60 Hz
7601	200 V / 50 Hz - 220 V / 60 Hz
7701	230 V / 50 Hz - 240 V / 60 Hz

Plug

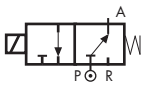
Plug	
	w/o plug
0A1	c/w plug

RD	3	0	1	C	V	•	•	•	•	•	•	•	•	•	•

Product coding example:

RD301CVC 7251
Flanged, auto operation, brass body, FKM seals, 1/16 orifice, 24 VDC, without plug.

SB397 Series, Automation – 2nd Service 3/2 Normally Open

Specifications	
Function (single acting)	 Flow direction OFF 3 → 1 - ON 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Low lead content Brass C46400 (UNS Designation)
Orifice Material	Stainless Steel AISI 303 (1.4305 EN 10088)
Tube	Stainless Steel AISI 304
Flange	Stainless Steel AISI 303 (1.4305 EN 10088)
Plunger	Stainless Steel AISI 430F or equivalent
Top Stop	Stainless Steel AISI 430F (1.4105 EN 10088)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type	NPT
Shading Ring	Copper
Electrical Characteristics[1]	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Enclosure Classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to industrial form B
Coil Insulation Class	155 (F) to UL429 and to EN 60730-1
Power Rating (Standard)	AC 10V A (holding) AC 16 VA (inrush) DC 10 W

[1] These coils are not UL approved.

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Zero pressure rated
- Stainless steel AISI 430F operators with low residual magnetism
- High quality seal materials
- Valve suitable for contact with food media when used with FKM seals, as per the EEC Directives and Regulations. Please consult supplier for more details
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD psi (bar)		Orifice inches (mm)		Seal Material	Valve Code
			AC Voltages	DC Voltages	1→2	1→3		
1/8	0.05	0.04	0 - 87 (0 - 6)	0 - 44 (0 - 3)	3/64 (1.2)	1/16 (1.7)	FKM	SB397CVBN
1/8	0.07	0.06	0 -65 (0 - 4.5)	0 - 29 (0 - 2)	1/16 (1.5)	1/16 (1.7)	FKM	SB397CVCN

Options Available

Valve Options (see coding chart)
G parallel thread (ISO 228-1)
Manual Override
Electroless nickel plating treatment

Seal Material[2] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM 14 °F to 266 °F (-10 °C to +130 °C)	Water, oil, air	14 °F (-10 °C)	122 °F (+50 °C)

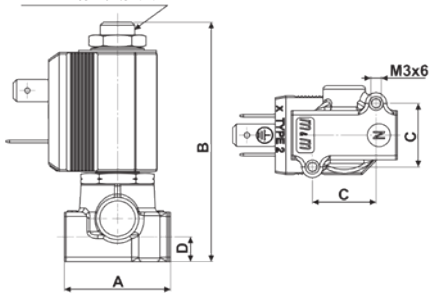
[2] See corrosion reference guide and sealing solutions for material compatability.

SB397 Series, Automation – 2nd Service 3/2 Normally Open

Coil Rotation

Preferred Valve Mounting Options

1/8"G connection 'C' type
internal Ø 0.07



Pipe Size	A	B	C	D	Weight Lb (kg)
1/8	1.18 (30)	2.67 (67.8)	0.71 (18)	0.28 (7)	0.33 (0.15)

Dimensions inches (mm)

Solenoid enclosures

2--0 Type Coil - Insulation class F

External material: PBT (reinforced fiberglass 30%)
Electrical connection: Industrial form B
Winding insulation: Class H (E180)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 001- Plug

Rated Voltage (max.): 250 VAC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Orifice	
B	3/64
C	1/16

Thread Pipe	
N	NPT
	GAS

Option	
M	Manual Override
K	Electroless nickel plating
	w/o option

Coil options

Voltage / Frequency - CE Type, Class F	
2250	24 VDC
2200	24 V / 50/60 Hz
2400	110 V / 50 Hz - 120 V / 60 Hz
2600	200 V / 50 Hz - 220 V / 60 Hz
2700	230 V / 50 Hz - 240 V / 60 Hz

Plug

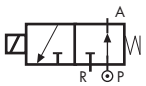
Plug	
0B1	c/w plug
	w/o plug

SB	3	9	7	C	V	•	N	•	•	•	•	•	•	•	•	•

Product coding example:

SB397CVBN 2250
1/8 NPT, auto operation, brass body, FKM seals, 3/64 orifice, with manual override, 24 VDC, without plug.

RB397 Series, Automation – 3/2 Normally Open

Specifications	
Function (single acting)	 Flow direction underseat 2 → 1
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Low lead content Brass C46400 (UNS Designation)
Orifice Material	Stainless Steel AISI 303 (1.4305 EN 10088)
Tube	Stainless Steel AISI 304
Flange	Stainless Steel AISI 303 (1.4305 EN 10088)
Plunger	Stainless Steel AISI 430F or equivalent
Top Stop	Stainless Steel AISI 430F (1.4105 EN 10088)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type	NPT
Shading Ring	Copper
Electrical Characteristics[1]	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Enclosure Classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to industrial form B
Coil Insulation Class	155 (F) to UL429 and to EN 60730-1
Power Rating (Standard)	AC 10 VA (holding) AC 16 VA (inrush) DC 10 W

[1] These coils are not UL approved.

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Zero pressure rated
- Stainless steel AISI 430F operators with low residual magnetism
- Choice of high quality seal materials
- Valve suitable for contact with food media when used with FKM seals, as per the EEC Directives and Regulations. Please consult supplier for more details
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD psi (bar)		Orifice inches (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
1/8	0.04	0.03	0 - 218 (0 - 15)	0 - 174 (0 - 12)	3/64 (1.0)	FKM EPDM	RB397CVAN RB397CEAN
1/8	0.05	0.04	0 - 218 (0 - 15)	0 - 174 (0 - 12)	3/64 (1.2)	FKM EPDM	RB397CVBN RB397CEBN
1/8	0.07	0.06	0 - 145 (0 - 10)	0 - 116 (0 - 8)	1/16 (1.5)	FKM EPDM	RB397CVCN RB397CECN
1/8	0.13	0.11	0 - 116 (0 - 8)	0 - 87 (0 - 6)	5/64 (2.0)	FKM EPDM	RB397CVEN RB397CEEN
1/8	0.18	0.15	0 - 58 (0 - 4)	0 - 58 (0 - 4)	3/32 (2.5)	FKM EPDM	RB397CVGN RB397CEGN
1/8	0.25	0.21	0 - 51 (0 - 3.5)	0 - 51 (0 - 3.5)	1/8 (3.0)	FKM EPDM	RB397CVHN RB397CEHN

Options Available

Valve Options (see coding chart)
G parallel thread (ISO 228-1)
Electroless nickel plating treatment

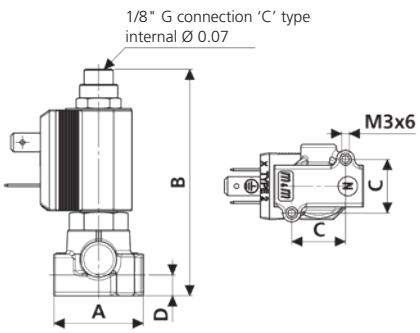
Seal Material[2] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM 14 °F to 266 °F (-10 °C to +130 °C)	Water, oil, air	14 °F (-10 °C)	122 °F (+50 °C)
EPDM 14 °F to 248 °F (-10 °C to +120 °C)	Water, hot water	14 °F (-10 °C)	122 °F (+50 °C)

[2] See corrosion reference guide and sealing solutions for material compatability.

RB397 Series, Automation – 3/2 Normally Open

Coil Rotation

Preferred Valve Mounting Options



Pipe Size	A	B	C	D	Weight Lb (kg)
1/8	1.18 (30)	2.99 (75.9)	0.71 (18)	0.28 (7)	0.33 (0.15)

Dimensions inches (mm)

Solenoid enclosures

2--0 Type Coil - Insulation class F

External material: PBT (reinforced fiberglass 30%)
Electrical connection: Industrial form B
Winding insulation: Class H (E180)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 001- Plug

Rated Voltage (max.): 250 VAC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Seals	
V	FKM
E	EPDM

Orifice	
A	3/64
B	3/64
C	1/16
E	5/64
G	3/32
H	1/8

Thread Pipe	
N	NPT
	GAS

Option	
K	Electroless nickel plating
	w/o option

Coil options

Voltage / Frequency - CE Type, Class F	
2250	24 VDC
2200	24 /V 50/60 Hz
2400	110 V / 50 Hz - 120 V / 60 Hz
2600	200 V / 50 Hz - 220 V / 60 Hz
2700	230 V / 50 Hz - 240 V / 60 Hz

Plug

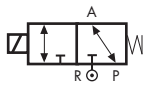
Plug	
0B1	c/w plug
	w/o plug

RB	3	9	7	C	•	•	N	•	•	•	•	•	•	•	•

Product coding example:

RB397CVBN 2400
1/8 NPT, auto operation, brass body, FKM seals, 1.2 mm orifice, 110 V / 50 Hz - 120 V / 60 Hz, without plug.

GD362/363 Series, Automation – Universal Service 3/2 (Normally Open)

Specifications	
Function (single acting)	 Pressure can be connected to any port
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass C37700 (UNS Designation)
Orifice Material	Stainless Steel AISI 303 (1.4305 EN 10088)
Flange	Stainless Steel AISI 303 (1.4305 EN 10088)
Tube	Stainless Steel AISI 304
Plunger	Stainless Steel AISI 430F (1.4106 EN 10088)
Top Stop	Stainless Steel AISI 430F (1.4105 EN 10088)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type	NPT
Shading Ring	Copper
Electrical Characteristics	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Enclosure classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation Class	155 (F) to EN 60730-1
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W

[1] These coils are not UL approved.

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Zero pressure rated
- Stainless steel AISI 430F operators with low residual magnetism
- High quality seal materials
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD psi (bar)		Orifice inches (mm)		Seal Material	Valve Code
			AC Voltages	DC Voltages	1→2	1→3		
1/4	0.15	0.13	0 - 116 (0 - 8)	0 - 102 (0 - 7)	5/64 (2.0)	5/64 (2.0)	FKM	GD363CVEN

Options Available

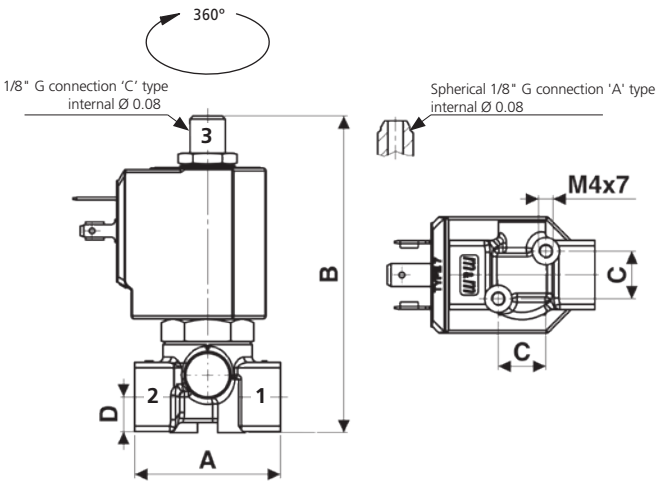
Valve Options (see coding chart)
Body threaded connection 1/8
G parallel thread (ISO 228-1)

Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM 14 °F to 266 °F (-10 °C to +130 °C)	Water, oil, air	14 °F (-10 °C)	122 °F (+50 °C)

[1] See corrosion reference guide and sealing solutions for material compatability.

GD362/363 Series, Automation – Universal Service 3/2 (Normally Open)

Coil Rotation



Preferred Valve Mounting Options

Pipe Size	A	B	C	D	Weight Lb (kg)
1/8 - 1/4	1.57 (40)	3.43 (87)	0.51 (13)	0.37 (9.5)	0.57 (0.26)

Dimensions inches (mm)

Solenoid enclosures

7--0 Type Coil - Insulation class F

External material: PBT (reinforced glass fiber 30%)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size		Top port connection	
2	1/8	C	1/8" G
3	1/4	A	spherical 1/8" G

Thread Pipe		Option	
N	NPT		w/o option
	GAS		

Coil options

Voltage / Frequency - CE Type, Class F	
7250	24 VDC
7200	24 V / 50/60 Hz
7400	110 V / 50 Hz - 120 V / 60 Hz
7600	200 V / 50 Hz - 220 V / 60 Hz
7700	230 V / 50 Hz - 240 V / 60 Hz

Plug

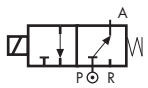
Plug	
0A1	c/w plug
	w/o plug

GD	3	6	•	•	V	E	N	•	•	•	•	•	•	•	•

Product coding example:

SD363CVEN 7250
1/4 NPT, auto operation, universal, brass body, FKM seals, 5/64 orifice, with top port connection 1/8"G, 24 VDC, without plug.

SD362/363 Series, Automation – 2nd service 3/2 (Normally Open)

Specifications	
Function (single acting)	 Flow direction OFF 3 → 1 - ON 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass C37700 (UNS Designation)
Orifice Material	Stainless Steel AISI 303 (1.4305 EN 10088)
Flange	Stainless Steel AISI 303 (1.4305 EN 10088)
Tube	Stainless Steel AISI 304
Plunger	Stainless Steel AISI 430F (1.4106 EN 10088)
Top Stop	Stainless Steel AISI 430F (1.4105 EN 10088)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type	NPT
Shading Ring	Copper
Electrical Characteristics[1]	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Enclosure Classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation Class	155 (F) to EN 60730-1
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W

[1] These coils are not UL approved.

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Zero pressure rated
- Stainless steel AISI 430F operators with low residual magnetism
- High quality seal materials
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD psi (bar)		Orifice inches (mm)		Seal Material	Valve Code
			AC Voltages	DC Voltages	1→2	1→3		
1/4	0.09	0.08	0 - 218 (0 - 15)	0 - 218 (0 - 15)	1/16 (1.5)	1/16 (1.5)	FKM	SD363CVCN
1/4	0.15	0.13	0 - 218 (0 - 15)	0 - 218 (0 - 15)	5/64 (2.0)	5/64 (2.0)	FKM	SD363CVEN
1/4	0.24	0.20	0 - 189 (0 - 13)	0 - 189 (0 - 13)	3/32 (2.5)	3/32 (2.5)	FKM	SD363CVGN

Options Available

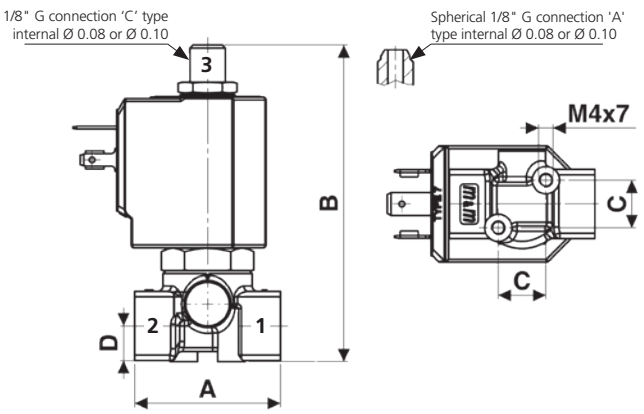
Valve Options (see coding chart)
Body threaded connection 1/8
G parallel thread (ISO 228-1)
Manual Override

Seal Material[2] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM 14 °F to 266 °F (-10 °C to +130 °C)	Water, oil, air	14 °F (-10 °C)	122 °F (+50 °C)

[2] See corrosion reference guide and sealing solutions for material compatability.

SD362/363 Series, Automation – 2nd service 3/2 (Normally Open)

Coil Rotation



Preferred Valve Mounting Options

Pipe size	A	B	C	D	Weight Lb (kg)
1/8 - 1/4	1.57 (40)	3.43 (87)	0.51 (13)	0.37 (9.5)	0.57 (0.26)

Dimensions inches (mm)

Solenoid enclosures

7--0 Type Coil - Insulation class F

External material: PBT (reinforced glass fiber 30%)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
2	1/8
3	1/4

Top port connection	
C	1/8" G
A	spherical 1/8" G

Orifice	
C	1/16
E	5/64
G	3/32

Thread Pipe	
N	NPT
	GAS

Option	
M	Manual Override
	w/o option

Coil options

Voltage / Frequency - CE Type, Class F	
7250	24 VDC
7200	24 V / 50/60 Hz
7400	110 V / 50 Hz - 120 V / 60 Hz
7600	200 V / 50 Hz - 220 V / 60 Hz
7700	230 V / 50 Hz - 240 V / 60 Hz

Plug

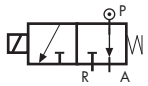
Plug	
0A1	c/w plug
	w/o plug

SD	3	6	•	•	V	•	N	•	•	•	•	•	•	•	•

Product coding example:

SD362AVGN 7400
1/8 NPT, auto operation, 2nd service, brass body, FKM seals, 3/32 orifice, with top port connection spherical 1/8"G, 110 V / 50 Hz - 120 V / 60 Hz, without plug.

DD362/363 Series, Automation – Diverting 3/2 (Normally Open)

Specifications	
Function (single acting)	 Flow direction OFF 1 → 3 - ON 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass C37700 (UNS Designation)
Orifice Material	Stainless Steel AISI 303 (1.4305 EN 10088)
Flange	Stainless Steel AISI 303 (1.4305 EN 10088)
Tube	Stainless Steel AISI 304
Plunger	Stainless Steel AISI 430F (1.4106 EN 10088)
Top Stop	Stainless Steel AISI 430F (1.4105 EN 10088)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type	NPT
Shading Ring	Copper
Electrical Characteristics[1]	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Enclosure Classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation Class	155 (F) to EN 60730-1
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W

[1] These coils are not UL approved.

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Zero pressure rated
- Stainless steel AISI 430F operators with low residual magnetism
- High quality seal materials
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD psi (bar)		Orifice inches (mm)		Seal Material	Valve Code
			AC Voltages	DC Voltages	1→2	1→3		
1/4"	0.09	0.08	0 - 290 (0 - 20)	0 - 290 (0 - 20)	1/16 (1.5)	3/32 (2.5)	FKM	DD363CVCN
1/4"	0.15	0.13	0 - 290 (0 - 20)	0 - 290 (0 - 20)	5/64 (2.0)	3/32 (2.5)	FKM	DD363CVEN

Options Available

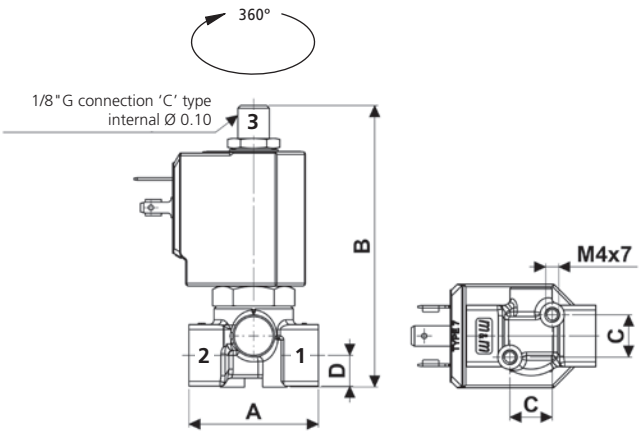
Valve Options (see coding chart)
Body threaded connection 1/8" NPT
G parallel thread (ISO 228-1)
Manual Override

Seal Material[2] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM 14 °F to 266 °F (-10 °C to +130 °C)	Water, oil, air	14 °F (-10 °C)	122 °F (+50 °C)

[2] See corrosion reference guide and sealing solutions for material compatability.

DD362/363 Series, Automation – Diverting 3/2 (Normally Open)

Coil Rotation



Preferred Valve Mounting Options

Pipe Size	A	B	C	D	Weight Lb (kg)
1/8 - 1/4	1.57 (40)	3.43 (87)	0.51 (13)	0.37 (9.5)	0.57 (0.26)

Dimensions inches (mm)

Solenoid enclosures

7--0 Type Coil - Insulation class F

External material: PBT (reinforced glass fiber 30%)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
2	1/8
3	1/4

Orifice	
C	1/16
E	5/64

Thread Pipe	
N	NPT
	GAS

Option	
M	Manual Override
	w/o option

Coil options

Voltage / Frequency - CE Type, Class F	
7250	24 VDC
7200	24 V / 50/60 Hz
7400	110 V / 50 Hz - 120 V / 60 Hz
7600	200 V / 50 Hz - 220 V / 60 Hz
7700	230 V / 50 Hz - 240 V / 60 Hz

Plug

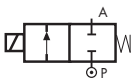
Plug	
0A1	c/w plug
	w/o plug

DD	3	6	•	C	V	•	N	•	•	•	•	•	•	•	•

Product coding example:

DD362CVEN 7250
1/8 NPT, auto operation, diverting, brass body, FKM seals, 5/64 orifice, 24 VDC, without plug.

D298/299 Series, High Pressure – 2/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Stainless Steel AISI 303 (1.4305 EN 10088)
Orifice Material	Stainless Steel AISI 303 (1.4305 EN 10088)
Flange Tube (seamless)	Stainless Steel AISI 303 (1.4305 EN 10088)
Plunger	Stainless Steel AISI 430F (1.4106 EN 10088)
Top Stop	Stainless Steel AISI 430F (1.4105 EN 10088)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Ruby
Connection Type	NPT
Shading Ring	Copper
Electrical Characteristics[1]	
High Power Coil Voltage DC (=)	24 V
High Power Coil Voltage AC 50 Hz (~)	24 V, 110 V, 230 V
High Power Coil Voltage AC 60 Hz (~)	24 V, 120 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Enclosure Classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation Class	180 (H) to EN 60730-1
Power Rating (High Power)	AC 25 VA (holding) AC 50 VA (inrush) DC 22 Watts

[1] High power coils are not UL approved.

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- Coils tested 100% in compliance to RoHS directive and to relevant international standards
- High quality seal materials
- Wide range of available orifices
- Response time 5 to 25 ms

Pipe Size	Cv^2 (gpm)	Kv^2 (m^3/h)	OPD psi (bar)[3]		Orifice inches (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
1/4	0.05	0.04	0 - 2900 (0 - 200)	0 - 1595 (0 - 110)	3/64 (1.2)	RUBY	D299DRBN1
1/4	0.08	0.07	0 - 2900 (0 - 200)	0 - 1160 (0 - 80)	1/16 (1.5)	RUBY	D299DRCN1
1/4	0.16	0.14	0 - 2030 (0 - 140)	0 - 435 (0 - 30)	5/64 (2.0)	RUBY	D299DREN1
1/4	0.23	0.20	0 - 1305 (0 - 90)	0 - 333 (0 - 23)	3/32 (2.5)	RUBY	D299DRGN1
1/4	0.32	0.27	0 - 725 (0 - 50)	0 - 203 (0 - 14)	1/8 (3.0)	RUBY	D299DRHN1

[2] Not 100% leak-proof when used with air/gases. Approx leak rate is 1.5ml/min at max OPD.

[3] When high pressure valves are supplied without a coil, their nameplates display the max OPD of the valve when equipped with an AC (25VA) and DC (22W) coil. If fitting coils with a different power rating OPD will vary, please consult supplier for more details.

Options Available

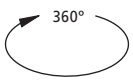
Valve Options (see coding chart)
Body threaded connection 1/8
G parallel thread (ISO 228-1)
Anticorrosion treatment recommended with aggressive fluids
Silver shading ring

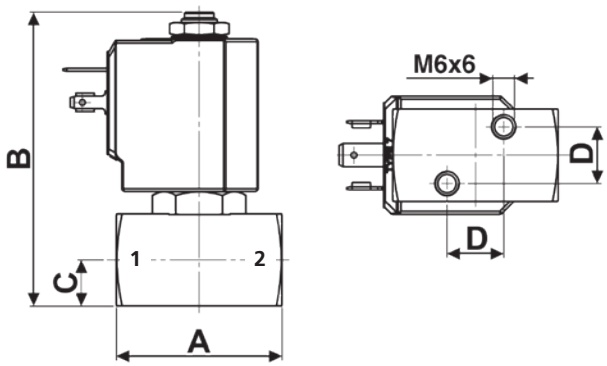
Seal Material[4] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
RUBY 14 °F to 266 °F (-10 °C to +130 °C)	Water, oil, air, aggressive fluids	14 °F (-10 °C)	122 °F (+50 °C)

[4] See corrosion reference guide and sealing solutions for material compatability.

D298/299 Series, High Pressure – 2/2 Normally Closed

Coil Rotation





Preferred Valve Mounting Options

Pipe Size	A	B	C	D	Weight Lb (kg)
1/8 - 1/4	1.77 (45)	3.15 (80)	0.49 (12.5)	0.61 (15.4)	0.79 (0.36)

Dimensions inches (mm)

Solenoid enclosures

7-K1 & 7-Z1 Type Coil - Insulation class H

External material: PPS (glass fiber & mineral filled)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
8	1/8
9	1/4

Orifice	
B	3/64
C	1/16
E	5/64
G	3/32
H	1/8

Thread Pipe	
N	NPT
	GAS

Coil options

Voltage / Frequency - Class H, High Power	
72Z1	24 VDC
72K1	24 V / 50/60 Hz
74K1	110 V / 50 Hz - 120 V / 60 Hz
77K1	230 V / 50 Hz - 240 V / 60 Hz

Plug

Plug	
	w/o plug
0A1	c/w plug

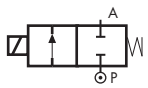
D	2	9	•	D	R	•	N	1	•	•	•	•	•	•	•

Contact supplier for options.

Product coding example:

D298DRCN1 72Z1 0A1
1/8 NPT, auto operation, stainless steel body, RUBY seals, 1/16 orifice, 24 VDC, with plug.

D262/263 Series, High Pressure – 2/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	max. 21cST (3 °E)
Body Material (Std)	Brass C37700 (UNS Designation)
Orifice Material	Stainless Steel AISI 303 (1.4305 EN 10088)
Flange Tube (seamless)	Stainless Steel AISI 303 (1.4305 EN 10088)
Plunger	Stainless Steel AISI 430F (1.4106 EN 10088)
Top Stop	Stainless Steel AISI 430F (1.4105 EN 10088)
Springs	Stainless Steel AISI 302
Seal Material (Std)	RUBY
Connection Type	NPT
Shading Ring	Copper
Electrical Characteristics[1]	
High Power Coil Voltage DC (=)	24 V
High Power Coil Voltage AC 50 Hz (~)	24 V, 110 V, 230 V
High Power Coil Voltage AC 60 Hz (~)	24 V, 120 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Enclosure Classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation Class	180 (H) to EN 60730-1
Power Rating (High Power)	AC 25 VA (holding) AC 50 VA (inrush) DC 22W

[1] High power coils are not UL approved.

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- Coils tested 100% in compliance to RoHS directive and to relevant international standards
- High quality seal materials
- Response time 5 to 25 ms

Pipe Size	Cv[2] (gpm)	Kv[2] (m^3/h)	OPD psi (bar)[3]		Orifice inches (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
1/4	0.05	0.04	0 - 2900 (0 - 200)	0 - 870 (0 - 60)	3/64 (1.2)	RUBY	D263DRBN1
1/4	0.09	0.08	0 - 2900 (0 - 200)	0 -507 (0 - 35)	1/16 (1.5)	RUBY	D263DRCN1
1/4	0.15	0.13	0 - 1740 (0 - 120)	0 - 362 (0 - 25)	5/64 (2.0)	RUBY	D263DREN1
1/4	0.32	0.27	0 - 725 (0 - 50)	0 - 160 (0 - 11)	1/8 (3.0)	RUBY	D263DRHN1

[2] Not 100% leak-proof when used with air/gases. Approx leak rate is 1.5ml/min at max OPD.

[3] When high pressure valves are supplied without a coil, their nameplates display the max OPD of the valve when equipped with an AC (25VA) and DC(22W) coil. If fitting coils with a different power rating OPD will vary, please consult supplier for more details.

Options Available

Valve Options (see coding chart)
Body threaded connection 1/8
G parallel thread (ISO 228-1)

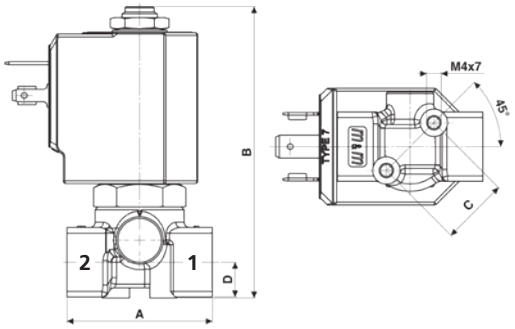
Seal Material[4] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
RUBY 14 °F to 266 °F (-10 °C to +130 °C)	Water, oil, air, aggressive fluids	14 °F (-10 °C)	122 °F (+50 °C)

[4] See corrosion reference guide and sealing solutions for material compatability.

D262/263 Series, High Pressure – 2/2 Normally Closed

Coil Rotation

Preferred Valve Mounting Options



Pipe Size	A	B	C	D	Weight Lb (kg)
1/8 - 1/4	1.57 (40)	3.05 (77.5)	0.73 (18.5)	0.37 (9.5)	0.57 (0.26)

Dimensions inches (mm)

Solenoid enclosures

7-K1 & 7-Z1 Type Coil - Insulation class H

External material: PPS (glass fiber & mineral filled)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
2	1/8
3	1/4

Orifice	
B	3/64
C	1/16
E	5/64
H	1/8

Thread Pipe	
N	NPT
	GAS

Coil options

Voltage / Frequency - Class H, High Power	
72Z1	24 VDC
72K1	24 V / 50/60 Hz
74K1	110 V / 50 Hz - 120 V / 60 Hz
77K1	230 V / 50 Hz - 240 V / 60 Hz

Plug

Plug	
	w/o plug
0A1	c/w plug

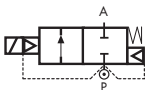
D	2	6	•	D	R	•	N	1	•	•	•	•	•	•	•

Contact supplier for options.

Product coding example:

D263DRBN1 72Z1 0A1
1/4 NPT, auto operation, brass body, RUBY seals, 3/64 orifice, 24 VDC, with plug.

D634/635/636 Series, High Pressure – 2/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass C37700 (UNS Designation)
Orifice Material	Stainless Steel AISI 303 (1.4305 EN 10088)
Flange Tube (seamless)	Stainless Steel AISI 303 (1.4305 EN 10088)
Plunger	Stainless Steel AISI 430F (1.4106 EN 10088)
Top Stop	Stainless Steel AISI 430F (1.4105 EN 10088)
Piston Material	Brass C37700 (UNS Designation)
Springs	Stainless Steel AISI 302
Seal Material (Std)	PTFE
Connection Type	NPT
Shading Ring	Copper
Electrical Characteristics[1]	
High Power Coil Voltage DC (=)	24 V
High Power Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
High Power Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC) +10% to -5% (DC)
Duty Cycle	100% ED
Enclosure Classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation Class	180 (H) to EN 60730-1
Power Rating (High Power)	AC 25 VA (holding) AC 50 VA (inrush) DC 22 W

[1] High power coils are not UL approved.

Features and Benefits

- Pilot operated
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- Coils tested 100% in compliance to RoHS directive and to relevant international standards
- High quality seal materials
- Response time 5 to 25 ms

Pipe Size	Cv[2] (gpm)	Kv[2] (m^3/h)	OPD psi (bar)[3]		Orifice inches (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
1/4	1.47	1.26	4.4 - 2030 (0.3 - 140)	4.4 - 507 (0.3 - 35)	25/64 (10)	PTFE	D634D⌶TN1
3/8	1.68	1.44	4.4 - 2030 (0.3 - 140)	4.4 - 507 (0.3 - 35)	25/64 (10)	PTFE	D635D⌶TN1
1/2	1.76	1.50	4.4 - 2030 (0.3 - 140)	4.4 - 507 (0.3 - 35)	25/64 (10)	PTFE	D636D⌶TN1

[2] Not 100% leak-proof when used with air/gases. Approx leak rate is 1.5ml/min at max OPD.

[3] When high pressure valves are supplied without a coil, their nameplates display the max OPD of the valve when equipped with an AC (25VA) and DC (22W) coil. If fitting coils with a different power rating OPD will vary, please consult supplier for more details.

Options Available

Valve Options (see coding chart)
G parallel thread (ISO 228-1)

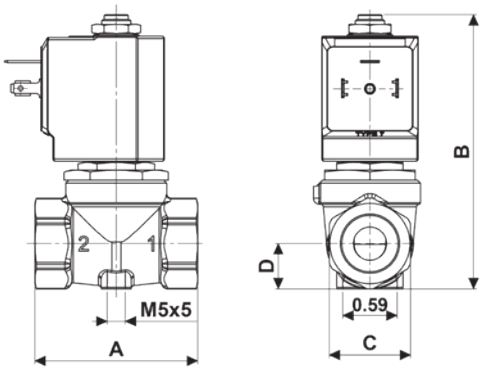
Seal Material[4] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
PTFE 14 °F to 266 °F (-10 °C to +130 °C)	Water, oil, liquids	14 °F (-10 °C)	122 °F (+50 °C)

[4] See corrosion reference guide and sealing solutions for material compatability.

D634/635/636 Series, High Pressure – 2/2 Normally Closed

Coil Rotation

Preferred Valve Mounting Options



Pipe Size	A	B	C	D	Weight Lb (kg)
1/4"	2.13 (54)	3.94 (100)	HEX 27 (27)	0.59 (15)	1.10 (0.5)
3/8" to 1/2"	2.13 (54)	3.94 (100)	HEX 27 (27)	0.59 (15)	0.99 (0.45)

Dimensions inches (mm)

Solenoid enclosures

7-K1 & 7-Z1 Type Coil - Insulation class H

External material: PPS (glass fiber & mineral filled)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
4	1/4
5	3/8
6	1/2

Thread Pipe	
N	NPT
	GAS

Coil options

Voltage / Frequency - Class H, High Power	
72Z1	24 VDC
72K1	24 V / 50/60 Hz
74K1	110 V / 50 Hz - 120 V / 60 Hz
77K1	230 V / 50 Hz - 240 V / 60 Hz

Plug

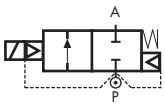
Plug	
	w/o plug
0A1	c/w plug

D	6	3	•	D	T	T	N	1	•	•	•	•	•	•	•

Product coding example:

D634DTTN1 72Z1
1/4 NPT, auto operation, brass body, PTFE seals, 25/64 orifice, 24 VDC, without plug.

D232/233/234 Series, High Pressure & Compressed Air – 2/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass C37700 (UNS Designation)
Orifice Material	Stainless Steel AISI 303 (1.4305 EN 10088)
Flange Tube (seamless)	Stainless Steel AISI 303 (1.4305 EN 10088)
Plunger	Stainless Steel AISI 430F (1.4106 EN 10088)
Top Stop	Stainless Steel AISI 430F (1.4105 EN 10088)
Springs	Stainless Steel AISI 302
Operator Seal Material[1]	RUBY
Diaphragm Material	FKM
Main Seal Material[1]	PTFE
Connection Type	NPT
Shading Ring	Copper
Electrical Characteristics	
c UL us Coil Voltage DC (=)	24 V
c UL us Coil Voltage AC 50 Hz (~)	24 V, 110 V, 230 V
c UL us Coil Voltage AC 60 Hz (~)	120 V, 240 V
Voltage Tolerance	+10% to -15% (AC) +10% to -5% (DC)
Duty Cycle	100% ED
Enclosure Classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation Class	155 (F) to UL429 and to EN 60730-1
Power Rating (c UL us Coils)	AC 15 VA (holding) AC 30 VA (inrush) DC 10 W

[1] For D23-DVWN operator seal material is foodgrade FKM and main seal material is FKM.

Features and Benefits

- Pilot operated
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- High quality seal materials
- Response time 50 to 500 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD psi (bar)		Orifice inches (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
3/8	2.95	2.52	14.5 - 725 (1 - 50)	14.5 - 725 (1 - 50)	21/32 (16)	PTFE	D232DIWN[2]
1/2	3.23	2.76	14.5 - 725 (1 - 50)	14.5 - 725 (1 - 50)	21/32 (16)	PTFE	D233DIWN[2]
3/4	3.37	2.88	14.5 - 725 (1 - 50)	14.5 - 725 (1 - 50)	21/32 (16)	PTFE	D234DIWN[2]
3/8	2.95	2.52	1.5 - 362 (1 - 25)	1.5 - 362 (1 - 25)	21/32 (16)	FKM	D232DVWN
1/2	3.23	2.76	1.5 - 362 (1 - 25)	1.5 - 362 (1 - 25)	21/32 (16)	FKM	D233DVWN
3/4	3.37	2.88	1.5 - 362 (1 - 25)	1.5 - 362 (1 - 25)	21/32 (16)	FKM	D234DVWN

[2] Not 100% leak-proof when used with air/gases. Approximate leak rate is 1,5 ml/min at max. OPD.

Options Available

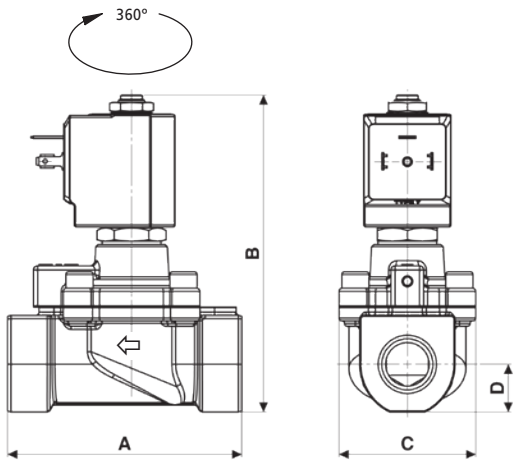
Valve Options (see coding chart)
G parallel thread (ISO 228-1)
CE coils, power DC 14W - AC 18 VA

Seal Material[3] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
PTFE 14 °F to 266 °F (-10 °C to +130 °C)	Water[4], oil, air	14 °F (-10 °C)	122 °F (+50 °C)
FKM 14 °F to 266 °F (-10 °C to +130 °C)	Water[4], oil, air	14 °F (-10 °C)	122 °F (+50 °C)

[3] See corrosion reference guide and sealing solutions for material compatability.
[4] When using liquid fluids waterhammer and pressures higher than 290 psi (20 barg) can cause the diaphragm to tear.

D232/233/234 Series, High Pressure & Compressed Air – 2/2 Normally Closed

Coil Rotation



Preferred Valve Mounting Options

Pipe Size	A	B	C	D	Weight Lb (kg)
3/8	3.39 (86)	4.59 (116.5)	1.98 (50.2)	0.69 (17.5)	2.20 (1)
1/2 - 3/4	3.39 (86)	4.59 (116.5)	1.98 (50.2)	0.69 (17.5)	1.98 (0.9)

Dimensions inches (mm)

Solenoid enclosures

7--R c UL us Type Coil - Insulation class F

Encapsulation material: PET 815ER Rynite®
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (P180)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*
UL approved, file No: E193928

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
2	3/8
3	1/2
4	3/4

Seals	
T	PTFE
V	FKM

Thread Pipe	
N	NPT
	GAS

Option	
	w/o option

Coil options

Voltage / Frequency - c UL us Type, Class F	
725R	24 VDC
720R	24 V / 50 Hz
740R	110 V / 50 Hz - 120 V / 60 Hz
770R	230 V / 50 Hz - 240 V / 60 Hz
Voltage / Frequency - CE Type, Class F	
7250	24 VDC
7200	24 V / 50/60 Hz
7400	110 V / 50 Hz - 120 V / 60 Hz
7600	200 V / 50 Hz - 220 V / 60 Hz
7700	230 V / 50 Hz - 240 V / 60 Hz

Plug

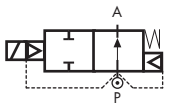
Plug	
	w/o plug
0A1	c/w plug

D	2	3	•	D	•	W	N	•	•	•	•	•	•	•	•

Product coding example:

D232DTWN 720R
3/8 NPT, auto operation, brass body, PTFE main seal, 21/32 orifice, 24 V / 50 Hz, without plug.

RD232/233/234 Series, High Pressure – 2/2 Normally Open

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass C37700 (UNS Designation)
Orifice Material	Stainless Steel AISI 303 (1.4305 EN 10088)
Flange Tube	Stainless Steel AISI 303 (1.4305 EN 10088)
Plunger	Stainless Steel AISI 430F (1.4106 EN 10088)
Top Stop	Stainless Steel AISI 430F (1.4105 EN 10088)
Springs	Stainless Steel AISI 302
Operator Seal Material[1]	RUBY
Diaphragm Material	FKM
Main Seal Material[1]	PTFE
Connection Type	NPT
Shading Ring	Copper
Electrical Characteristics[2]	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Enclosure Classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation Class	180 (H) to EN 60730-1
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W

1 For RD23-DVWN operator seal material is foodgrade FKM and main seal material is FKM.

2 This coils are not UL approved.

Features and Benefits

- Pilot operated
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- High quality seal materials
- Response time 50 to 500 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD psi (bar)		Orifice inches (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
3/8	2.95	2.52	14.5 - 725 (1 - 50)	14.5 - 725 (1 - 50)	21/32 (16)	PTFE	RD232DTWN[3]
1/2	3.23	2.76	14.5 - 725 (1 - 50)	14.5 - 725 (1 - 50)	21/32 (16)	PTFE	RD233DTWN[3]
3/4	3.37	2.88	14.5 - 725 (1 - 50)	14.5 - 725 (1 - 50)	21/32 (16)	PTFE	RD234DTWN[3]
3/8	2.95	2.52	14.5 - 362 (1 - 25)	14.5 - 362 (1 - 25)	21/32 (16)	FKM	RD232DVWN
1/2	3.23	2.76	14.5 - 362 (1 - 25)	14.5 - 362 (1 - 25)	21/32 (16)	FKM	RD233DVWN
3/4	3.37	2.88	14.5 - 362 (1 - 25)	14.5 - 362 (1 - 25)	21/32 (16)	FKM	RD234DVWN

3 Not 100% leak-proof when used with air/gases. Approximate leak rate is 1,5 ml/min at max. OPD.

Options Available

Valve Options (see coding chart)
G parallel thread (ISO 228-1)

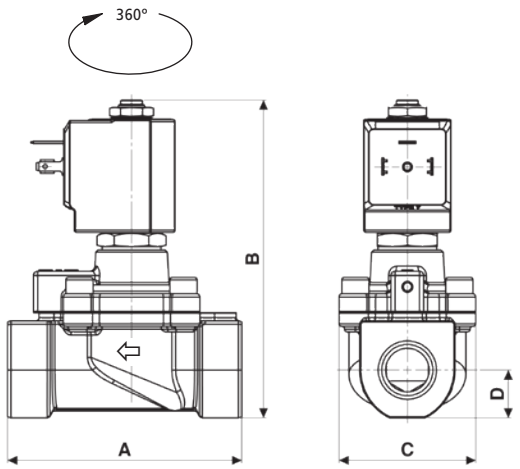
Seal Material[4] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
PTFE 14 °F to 266 °F (-10 °C to +130 °C)	Water[5], oil, air	14 °F (-10 °C)	122 °F (+50 °C)
FKM 14 °F to 266 °F (-10 °C to +130 °C)	Water[5], oil, air	14 °F (-10 °C)	122 °F (+50 °C)

4 See corrosion reference guide and sealing solutions for material compatability.

5 When using liquid fluids waterhammer and pressures higher than 290 psi (20 barg) can cause the diaphragm to tear.

RD232/233/234 Series, High Pressure – 2/2 Normally Open

Coil Rotation



Preferred Valve Mounting Options

Pipe Size	A	B	C	D	Weight Lb (kg)
3/8"	3.39 (86)	4.59 (116.5)	1.98 (50.2)	0.69 (17.5)	2.20 (1)
1/2" - 3/4"	3.39 (86)	4.59 (116.5)	1.98 (50.2)	0.69 (17.5)	1.98 (0.9)

Dimensions inches (mm)

Solenoid enclosures

7--1 Type Coil - Insulation class H

External material: PPS (glass fiber & mineral filled)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
2	3/8
3	1/2
4	3/4

Seals	
T	PTFE
V	FKM

Thread Pipe	
N	NPT
	GAS

Option	
	w/o option

Coil options

Voltage / Frequency - Class H	
7251	24 VDC
7201	24 V / 50/60 Hz
7401	110 V / 50 Hz - 120 V / 60 Hz
7601	200 V / 50 Hz - 220 V / 60 Hz
7701	230 V / 50 Hz - 240 V / 60 Hz

Plug

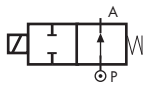
Plug	
	w/o plug
0A1	c/w plug

RD	2	3	•	D	•	W	N	•	•	•	•	•	•	•	•

Product coding example:

RD233DTWN 7701 0A1
1/2 NPT, auto operation, brass body, PTFE seals, 21/32 orifice, 230 V / 50 Hz - 240 V / 60 Hz, with plug.

RD236 Series, High Pressure – 2/2 Normally Open

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass C37700 (UNS Designation)
Orifice Material	Stainless Steel AISI 303 (1.4305 EN 10088)
Flange Tube (seamless)	Stainless Steel AISI 303 (1.4305 EN 10088)
Plunger	Stainless Steel AISI 430F (1.4106 EN 10088)
Top Stop	Stainless Steel AISI 430F (1.4105 EN 10088)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Ruby
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics[1]	
High Power Coil Voltage DC (=)	24 V
High Power Coil Voltage AC 50 Hz (~)	24 V, 110 V, 230 V
High Power Coil Voltage AC 60 Hz (~)	24 V, 120 V, 240 V
Voltage Tolerance	+10% to -15% (AC) +10% to -5% (DC)
Duty Cycle	100% ED
Enclosure classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation Class	180 (H) to EN 60730-1
Power Rating (High Power)	AC 25 VA (holding) AC 50 VA (inrush) DC 22 W

[1] High power coils are not UL approved.

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Zero pressure rated
- Stainless steel AISI 430F operators with low residual magnetism
- Coils tested 100% in compliance to RoHS directive and to relevant international standards
- High quality seal materials
- Response time 5 to 25 ms

Pipe Size	Cv^2 (gpm)	Kv^2 (m^3/h)	OPD psi (bar)[3]		Orifice inches (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
1/4"	0.04	0.03	0 - 2610 (0 - 180)	0 - 2610 (0 - 180)	3/64 (1.0)	RUBY	RD236DRA1
1/4"	0.09	0.08	0 - 2175 (0 - 150)	0 - 2175 (0 - 150)	1/16 (1.5)	RUBY	RD236DRC1
1/4"	0.14	0.12	0 - 870 (0 - 60)	0 - 870 (0 - 60)	5/64 (2.0)	RUBY	RD236DRE1
1/4"	0.20	0.17	0 - 536 (0 - 37)	0 - 536 (0 - 37)	3/32 (2.5)	RUBY	RD236DRG1
1/4"	0.25	0.21	0 - 406 (0 - 28)	0 - 406 (0 - 28)	1/8 (3.0)	RUBY	RD236DRH1

[2] Not 100% leak-proof when used with air/gases. Approx leak rate is 1.5ml/min at max OPD.

[3] When high pressure valves are supplied without a coil, their nameplates display the max OPD of the valve when equipped with an AC (25VA) and DC (22W) coil. If fitting coils with a different power rating OPD will vary, please consult supplier for more details. The valve supplied carry a nameplate with pressure ratings marked in bar.

Options Available

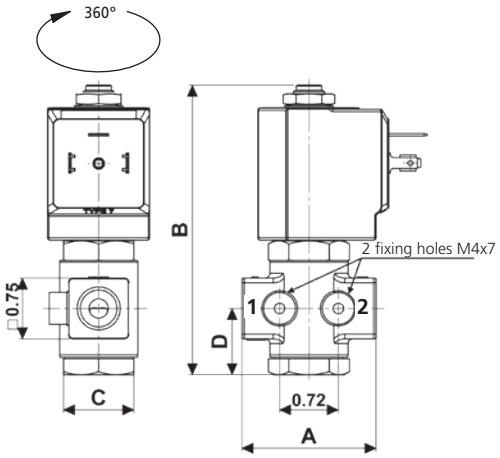
Valve Options (see coding chart)
Coils with additional protection by impregnation with Loctite® Resinol RTC for humid environments

Seal Material[4] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
RUBY 14 °F to 266 °F (-10 °C to +130 °C)	Water, oil, air, aggressive fluids	14 °F (-10 °C)	122 °F (+50 °C)

[4] See corrosion reference guide and sealing solutions for material compatability.

RD236 Series, High Pressure – 2/2 Normally Open

Coil Rotation



Preferred Valve Mounting Options

Pipe Size	A	B	C	D	Weight Lb (kg)
1/4" G	1.85 (47)	2.58 (91)	HEX 22 (22)	0.82 (20.75)	0.55 (0.25)

Dimensions inches (mm)

Solenoid enclosures

7-K1 & 7-Z1 Type Coil - Insulation class H

External material: PPS (glass fiber & mineral filled)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Orifice	
A	3/64
C	1/16
E	5/64
G	3/32
H	1/8

Coil options

Voltage / Frequency - Class H, High Power	
72Z1	24 VDC
72K1	24 V / 50/60 Hz
74K1	110 V / 50 Hz - 120 V / 60 Hz
77K1	230 V / 50 Hz - 240 V / 60 Hz
Voltage / Frequency - Class H, High Power, Impregnated	
D2Z1	24 VDC
D2K1	24 V / 50/60 Hz
D4K1	110 V / 50 Hz - 120 V / 60 Hz
D7K1	230 V / 50 Hz - 240 V / 60 Hz

Plug

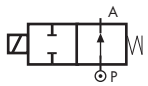
Plug	
0A1	c/w plug
	w/o plug

RD	2	3	6	D	R	•	1	•	•	•	•	•	•	•	•

Product coding example:

RD236DRC1 72K1
1/4" G, auto operation, brass body, RUBY seals, 1/16 orifice, 24 VDC, without plug.

RD201 Series, High Pressure – 2/2 Normally Open

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass C37700 (UNS Designation)
Orifice Material	Stainless Steel AISI 303 (1.4305 EN 10088)
Flange	Stainless Steel AISI 303 (1.4305 EN 10088)
Tube	Stainless Steel AISI 304
Plunger	Stainless Steel AISI 430F (1.4106 EN 10088)
Top Stop	Stainless Steel AISI 430F (1.4105 EN 10088)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Ruby
Connection Type (Std)	Flanged 1.26x1.26 inches
Shading Ring	Copper
Electrical Characteristics[1]	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Enclosure Classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation Class	180 (H) to EN 60730-1
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W

[1] These coils are not UL approved.

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Zero pressure rated
- Stainless steel AISI 430F operators with low residual magnetism
- Coils tested 100% in compliance to RoHS directive and to relevant international standards
- High quality seal materials
- Response time 5 to 25 ms

Pipe Size	Cv[3] (gpm)	Kv[3] (m^3/h)	OPD psi (bar)[4]		Orifice inches (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
Flanged	0.09	0.08	0 - 797 (0 - 55)	0 - 797 (0 - 55)	1/16 (1.5)	Ruby	RD201DRC
Flanged	0.24	0.20	0 - 362 (0 - 25)	0 - 362 (0 - 25)	5/64 (2.0)	Ruby	RD201DRE
Flanged	0.32	0.27	0 - 145 (0 - 10)	0 - 145 (0 - 10)	1/8 (3.0)	Ruby	RD201DRH

[3] Not 100% leak-proof when used with air/gases. Approx leak rate is 1.5ml/min at max OPD.
[4] The valve supplied carry a nameplate with pressure ratings marked in bar.

Options Available

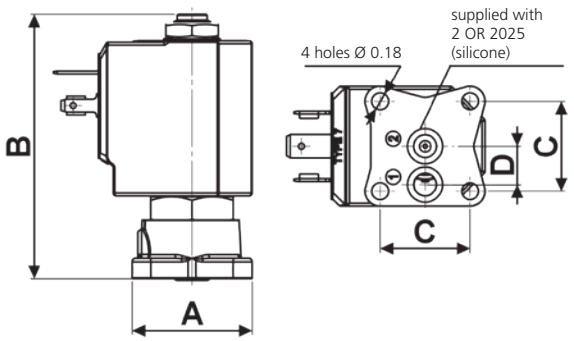
Seal Material[5] and media temperature range	Media	Ambient Temperature Range	
		Min	Max
RUBY 14 °F to 266 °F (-10 °C to +130 °C)	water, oil, liquids	14 °F (-10 °C)	122 °F (+50 °C)

[5] See corrosion reference guide and sealing solutions for material compatability.

RD201 Series, High Pressure – 2/2 Normally Open

Coil Rotation

Preferred Valve Mounting Options



Pipe Size	A	B	C	D	Weight Lb (kg)
Flanged	1.26 (32)	2.69 (68.4)	0.94 (24)	0.40 (10.25)	0.66 (0.3)

Dimensions inches (mm)

Solenoid enclosures

7--1 Type Coil - Insulation class H

External material: PPS (glass fiber & mineral filled)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Orifice		Option
C	1/16	w/o option
E	5/64	
H	1/8	

Coil options

Voltage / Frequency - Class H	
7251	24 VDC
7201	24 V / 50/60 Hz
7401	110 V / 50 Hz - 120 V / 60 Hz
7601	200 V / 50 Hz - 220 V / 60 Hz
7701	230 V / 50 Hz - 240 V / 60 Hz

Plug

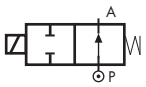
Plug	
	w/o plug
0A1	c/w plug

RD	2	0	1	D	R	•	•	•	•	•	•	•	•	•	•

Product coding example:

RD201DRC 7201
Flanged connection, auto operation, brass body, RUBY seals, 1/16 orifice, 24 V / 50 Hz/60 Hz, without plug.

RB214 Series, Compressed Air – 2/2 Normally Open

Specifications	
Function (single acting)	
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass C37700 (UNS Designation)
Tube	Stainless Steel AISI 304
Flange	Stainless Steel AISI 303 (1.4305 EN 10088)
Plunger	Stainless Steel AISI 430F or equivalent
Top Stop	Stainless Steel AISI 430F (1.4105 EN 10088)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics	
Coil Voltage DC (=)	24 V
Coil Voltage AC 50 Hz (~)	24 V, 110 V, 230 V
Coil Voltage AC 60 Hz (~)	120 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Enclosure Classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to industrial form B
Coil Insulation Class	155 (F) to UL429 and to EN 60730-1
Power Rating (c UL us Coils)	AC 9 VA (holding) AC 14 VA (inrush) DC 6W

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Zero pressure rated
- Stainless steel AISI 430F operators with low residual magnetism
- High quality seal materials
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD psi (bar)[2]		Orifice inches (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
1/8" G	0.08	0.07	0 - 203 (0 - 14)	0 - 203 (0 - 14)	1/16 (1.7)	FKM EPDM	RB214CVD RB214CED

[2] The valve supplied without coil carry a nameplate with pressure ratings marked in bar.

Options Available

Valve Options (see coding chart)
Top port connection with hose tail Ø 0.24 inches (6mm)
CE coils, power DC 7W - AC 10 VA[1]

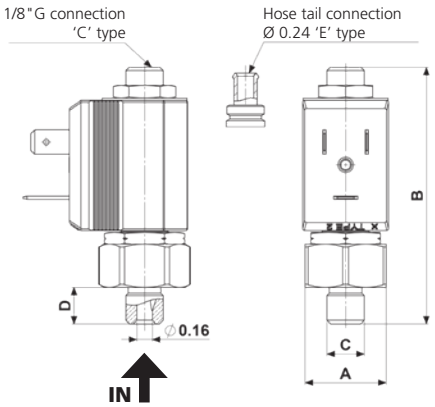
[1] Pressure ratings of valves fitted with CE coils may be higher than with UL coils (coils specifications on page 157).

Seal Material[3] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM 14 °F to 266 °F (-10 °C to +130 °C)	Water, oil, air	14 °F (-10 °C)	122 °F (+50 °C)
EPDM 14 °F to 248 °F (-10 °C to +120 °C)	Water, hot water	14 °F (-10 °C)	122 °F (+50 °C)

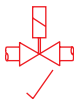
[3] See corrosion reference guide and sealing solutions for material compatability.

RB214 Series, Compressed Air – 2/2 Normally Open

Coil Rotation



Preferred Valve Mounting Options



Pipe Size	A	B	C	D	Weight Lb (kg)
1/8" G	0.83 (21)	2.84(72.1)	1/8" G	0.37 (9.5)	0.13 (0.06)

Dimensions inches (mm)

Solenoid enclosures

2--R c UL us Type Coil - Insulation class F

External material: PET 815ER Rynite®
Electrical connection: Industrial form B
Winding insulation: Class H (P180)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*
UL approved, file No: E193928

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 001- Plug

Rated Voltage (max.): 250 VAC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Top port connection	
C	1/8" G
E	Hose tail Ø 6mm

Seals	
V	FKM
E	EPDM

Option	
	w/o option

Voltage / Frequency - c UL us Type, Class F	
225R	24 VDC
220R	24 V / 50 Hz
240R	110 V / 50 Hz - 120 V / 60 Hz
270R	230 V / 50 Hz - 240 V / 60 Hz
Voltage / Frequency - CE Type, Class F	
2250	24 VDC
2200	24 V / 50/60 Hz
2400	110 V / 50 Hz - 120 V / 60 Hz
2600	200 V / 50 Hz - 220 V / 60 Hz
2700	230 V / 50 Hz - 240 V / 60 Hz

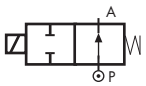
Plug	
0B1	c/w plug
	w/o plug

RB	2	1	4	•	•	D	•	•	•	•	•	•	•	•	•

Product coding example:

RB214CVD 225R
1/8" G, auto operation, brass body, FKM seals, 1/16 orifice, 24 VDC, without plug.

RD213 Series, Compressed Air – 2/2 Normally Open

Specifications	
Function (single acting)	
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass C37700 (UNS Designation)
Tube	Stainless Steel AISI 304
Flange	Stainless Steel AISI 303 (1.4305 EN 10088)
Plunger	Stainless Steel AISI 430F (1.4106 EN 10088)
Top Stop	Stainless Steel AISI 430F (1.4105 EN 10088)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics	
Coil Voltage DC (=)	24 V
Coil Voltage AC 50 Hz (~)	24 V, 110 V, 230 V
Coil Voltage AC 60 Hz (~)	120 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Enclosure Classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation Class	155 (F) to UL429 and to EN 60730-1
Power Rating (c UL us Coils)	AC 15 VA (holding) AC 30 VA (inrush) DC 10 W

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Zero pressure rated
- Stainless steel AISI 430F operators with low residual magnetism
- Choice of high quality seal materials
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD psi (bar)[1]		Orifice inches (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
1/8" G	0.17	0.14	0 - 232 (0 - 16)	0 - 232 (0 - 16)	3/32 (2.5)	FKM EPDM	RD213CVG RD213CEG

[1] The valve supplied without coil carry a nameplate with pressure ratings marked in bar.

Options Available

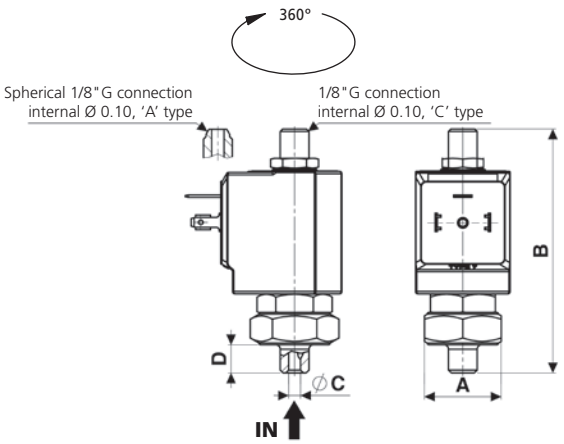
Valve Options (see coding chart)
Top port connection with spherical 1/8" G
CE coils, power DC 14W - AC 18 VA

Seal Material[2] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM 14 °F to 266 °F (-10 °C to +130 °C)	Water, oil, air	14 °F (-10 °C)	122 °F (+50 °C)
EPDM 14 °F to 248 °F (-10 °C to +120 °C)	Water, hot water	14 °F (-10 °C)	122 °F (+50 °C)

[2] See corrosion reference guide and sealing solutions for material compatability.

RD213 Series, Compressed Air – 2/2 Normally Open

Coil Rotation



Preferred Valve Mounting Options

Pipe Size	A	B	C	D	Weight Lb (kg)
1/8" G	HEX 26 (26)	3.25 (82.5)	0.16 (4)	0.37 (9.5)	0.22 (0.1)

Dimensions inches (mm)

Solenoid enclosures

7--R c UL us Type Coil - Insulation class F

External material: PET 815ER Rynite®
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (P180)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*
UL approved, file No: E193928

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Top port connection		Seals	
C	1/8" G	V	FKM
A	Spherical 1/8" G	E	EPDM

Option	
	w/o option

Coil options

Voltage / Frequency - c UL us Type, Class F	
725R	24 VDC
720R	24 V / 50 Hz
740R	110 V / 50 Hz - 120 V / 60 Hz
770R	230 V / 50 Hz - 240 V / 60 Hz
Voltage / Frequency - CE Type, Class F	
7250	24 VDC
7200	24 V / 50/60 Hz
7400	110 V / 50 Hz - 120 V / 60 Hz
7600	200 V / 50 Hz - 220 V / 60 Hz
7700	230 V / 50 Hz - 240 V / 60 Hz

Plug

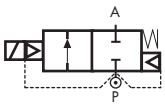
Plug	
0A1	c/w plug
	w/o plug

RD	2	1	3	•	•	G	•	•	•	•	•	•	•	•	•

Product coding example:

RD213CVG 770R 0A1
1/8" G, auto operation, brass body, FKM seals, 3/32 orifice, 230 V / 50 Hz - 240 V / 60 Hz AC, with plug.

D204/205/206/222 Series, Aggressive Fluids, Stainless Steel –
2/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Stainless steel AISI 316L (ASME SA351/351M GRADE CF3M
Flange Tube (seamless)	Stainless Steel AISI 303 (1.4305 EN 10088)
Plunger	Stainless Steel AISI 430F (1.4106 EN 10088)
Top Stop	Stainless Steel AISI 430F (1.4105 EN 10088)
Springs	Stainless Steel AISI 302
Seal Material (Std)	FKM
Connection Type	NPT
Shading Ring	Silver
Electrical Characteristics	
Coil Voltage DC (=)	24 V
Coil Voltage AC 50 Hz (~)	24 V, 110 V, 230 V
Coil Voltage AC 60 Hz (~)	120 V, 240 V
Voltage Tolerance	+10% to -15% (AC) +10% to -5% (DC)
Duty Cycle	100% ED
Enclosure Classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation Class	155 (F) to UL429 and to EN 60730-1
Power Rating (cULus Coils)	AC 15 VA (holding) AC 30 VA (inrush) DC 10 W

Features and Benefits

- Pilot operated
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- Choice of high quality seal materials
- Speed control screw as standard
- Response time 50 to 500 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD psi (bar)		Orifice inches (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
3/8	3.86	3.30	4 - 232 (0.3 - 16)	4 - 232 (0.3 - 16)	33/64 (13)	FKM	D204DVZIN
						NBR	D204DBZIN
						EPDM	D204DEZIN
1/2	4.42	3.78			33/64 (13)	FKM	D205DVZIN
						NBR	D205DBZIN
						EPDM	D205DEZIN
3/4	9.83	8.40			63/64 (25)	FKM	D206DVYIN
						NBR	D206DBYIN
						EPDM	D206DEYIN
1	11.23	9.60			63/64 (25)	FKM	D222DVYIN
						NBR	D222DBYIN
						EPDM	D222DEYIN

Options Available

Valve Options (see coding chart)
G parallel thread (ISO 228-1)
Manual override
Anticorrosion treatment recommended with aggressive fluids
CE coils, power DC 14W - AC 18 VA

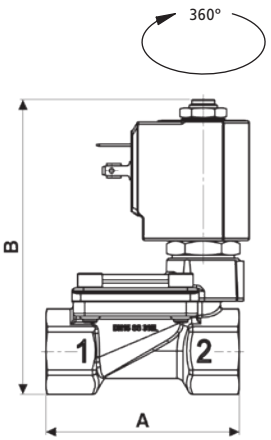
Vacuum Version
See separate datasheet

Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
NBR 14 °F to 194 °F (-10 °C to +90 °C)	Water, oil, air	14 °F (-10 °C)	122 °F (+50 °C)
FKM 14 °F to 266 °F (-10 °C to +130 °C)	Water, oil, air, aggressive fluids	14 °F (-10 °C)	122 °F (+50 °C)
EPDM 14 °F to 248 °F (-10 °C to +120 °C)	Water, hot water	14 °F (-10 °C)	122 °F (+50 °C)

[1] See corrosion reference guide and sealing solutions for material compatability.

D204/205/206/222 Series, Aggressive Fluids, Stainless Steel –
2/2 Normally Closed

Coil Rotation



Preferred Valve Mounting Options

Pipe Size	A	B	C	D	Weight Lb (kg)
3/8 - 1/2	2.64 (67)	4.02 (102)	1.80 (45.6)	0.59 (15)	1.08 (0.49)
3/4 - 1	3.78 (96)	4.92 (125)	2.83 (72)	0.91 (23)	2.43 (1.1)

Dimensions inches (mm)

Solenoid enclosures

7--R c UL us Type Coil - Insulation class F

Encapsulation material: PET 815ER Rynite®
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (P180)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*
UL approved, file No: E193928

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
04	3/8
05	1/2
06	3/4
22	1

Seals	
V	VKM
E	EPDM
B	NBR

Orifice[1]	
Z	33/64
Y	63/64

Thread Pipe	
N	NPT
	GAS

Coil options

Voltage / Frequency - c UL us Type, Class F	
725R	24 VDC
720R	24 V / 5 0Hz
740R	110 V / 50 Hz - 120 V / 60 Hz
770R	230 V / 50 Hz - 240 V / 60 Hz
Voltage / Frequency - CE Type, Class F	
7250	24 VDC
7200	24 V / 50/60 Hz
7400	110 V / 50 Hz - 120 V / 60 Hz
7600	200 V / 50 Hz - 220 V / 60 Hz
7700	230 V / 50 Hz - 240 V / 60 Hz

Plug

Plug	
	w/o plug
0A1	c/w plug

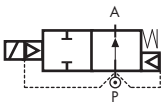
D	2	•	•	D	•	•	I	N	•	•	•	•	•	•	•

Contact supplier for options.
[1] DN 33/64 for D204 and D205, DN 63/64 for D206 and D222.

Product coding example:

D204DVZIN 725R
3/8 NPT, auto operation, stainless steel body, FKM seals, 33/64 orifice, 24 VDC, without plug.

RD204/205/206/222 Series, Aggressive Fluids, Stainless Steel –
2/2 Normally Open

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Stainless steel AISI 316L (ASME SA351/351M GRADE CF3M
Flange Tube (seamless)	Stainless Steel AISI 303 (1.4305 EN 10088)
Plunger	Stainless Steel AISI 430F (1.4106 EN 10088)
Top Stop	Stainless Steel AISI 430F (1.4105 EN 10088)
Springs	Stainless Steel AISI 302
Seal Material (Std)	FKM
Connection Type	NPT
Shading Ring	Silver
Electrical Characteristics[1]	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Enclosure Classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation Class	180 (H) to EN 60730-1
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W

[1] These coils are not UL approved.

Features and Benefits

- Pilot operated
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- Choice of high quality seal materials
- Response time 50 to 500 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD psi (bar)		Orifice inches (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
3/8	3.86	3.30	4 - 232 (0.3 - 16)	4 - 232 (0.3 - 16)	33/64 (13)	FKM	RD204DVZIN
						NBR	RD204DBZIN
						EPDM	RD204DEZIN
1/2	4.42	3.78			33/64 (13)	FKM	RD205DVZIN
						NBR	RD205DBZIN
						EPDM	RD205DEZIN
3/4	9.83	8.40			63/64 (25)	FKM	RD206DVYIN
						NBR	RD206DBYIN
						EPDM	RD206DEYIN
1	11.23	9.60			63/64 (25)	FKM	RD222DVYIN
						NBR	RD222DBYIN
						EPDM	RD222DEYIN

Options Available

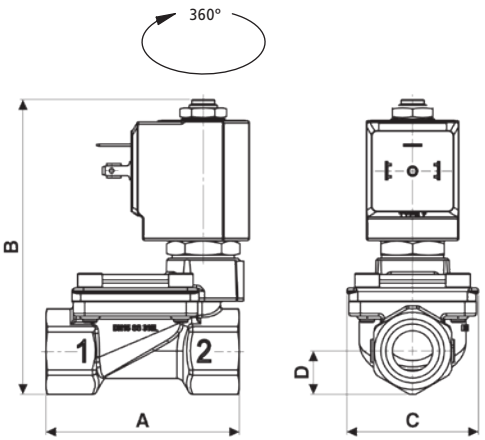
Valve Options (see coding chart)
G parallel thread (ISO 228-1)
Anticorrosion treatment recommended with aggressive fluids

Seal Material[2] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
NBR 14 °F to 194 °F (-10 °C to +90 °C)	Water, oil, air	14 °F (-10 °C)	122 °F (+50 °C)
FKM 14 °F to 266 °F (-10 °C to +130 °C)	Water, oil, air, aggressive fluids	14 °F (-10 °C)	122 °F (+50 °C)
EPDM 14 °F to 248 °F (-10 °C to +120 °C)	Water, hot water	14 °F (-10 °C)	122 °F (+50 °C)

[2] See corrosion reference guide and sealing solutions for material compatability.

RD204/205/206/222 Series, Aggressive Fluids, Stainless Steel –
2/2 Normally Open

Coil Rotation



Preferred Valve Mounting Options

Pipe Size	A	B	C	D	Weight Lb (kg)
3/8 - 1/2	2.64 (67)	3.94 (100)	1.80 (45.6)	0.59 (15)	1.08 (0.49)
3/4 - 1	3.78 (96)	4.84 (123)	2.83 (72)	0.91 (23)	2.43 (1.1)

Dimensions inches (mm)

Solenoid enclosures

7--1 Type Coil - Insulation class H

External material: PPS (glass fiber & mineral filled)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
04	3/8
05	1/2
06	3/4
22	1

Seals	
V	VKM
E	EPDM
B	NBR

Orifice[1]	
Z	33/64
Y	63/64

Thread Pipe	
N	NPT
	GAS

Coil options

Voltage / Frequency - Class H	
7251	24 VDC
7201	24 V / 50/60 Hz
7401	110 V / 50 Hz - 120 V / 60 Hz
7601	200 V / 50 Hz - 220 V / 60 Hz
7701	230 V / 50 Hz - 240 V / 60 Hz

Plug

Plug	
	w/o plug
0A1	c/w plug

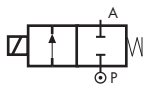
RD	2	•	•	D	•	•	I	N	•	•	•	•	•	•	•

[1] DN 33/64 for RD204 and RD205, DN 63/64 for RD206 and RD222.
Contact supplier for options.

Product coding example:

RD204DVZIN 7251
3/8 NPT, auto operation, stainless steel body, FKM seals, 33/64 orifice, 24 VDC, without plug.

D262/263 Series, Steam – 2/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass C37700 (UNS Designation)
Orifice Material	Stainless Steel AISI 303 (1.4305 EN 10088)
Flange Tube (seamless)	Stainless Steel AISI 303 (1.4305 EN 10088)
Plunger	Stainless Steel AISI 430F (1.4106 EN 10088)
Top Stop	Stainless Steel AISI 430F (1.4105 EN 10088)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Sigodur (filled PTFE)
Connection Type	NPT
Shading Ring	Copper
Electrical Characteristics	
Coil Voltage DC (=)	24 V
Coil Voltage AC 50 Hz (~)	24 V, 110 V, 230 V
Coil Voltage AC 60 Hz (~)	120 V, 240 V
Voltage Tolerance	+10% to -15% (AC) +10% to -5% (DC)
Duty Cycle	100% ED
Enclosure Classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation Class	180 (H) to UL429 and to EN 60730-1
Power Rating (cULus Coils)	AC 15 VA (holding) AC 30 VA (inrush) DC 10 W

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- High quality seal materials
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD psi (bar)		Orifice inches (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
1/4	0.04	0.03	0 - 131 (0 - 9)	0 - 131 (0 - 9)	3/64 (1.0)	Filled PTFE	D263DLAN
1/4	0.09	0.08	0 - 131 (0 - 9)	0 - 131 (0 - 9)	1/16 (1.5)	Filled PTFE	D263DLCN
1/4	0.24	0.20	0 - 131 (0 - 9)	0 - 65 (0 - 4.5)	3/32 (2.5)	Filled PTFE	D263DLGN
1/4	0.32	0.27	0 - 131 (0 - 9)	0 - 36 (0 - 2.5)	1/8 (3.0)	Filled PTFE	D263DLHN

Options Available

Valve Options (see coding chart)
Body threaded connection 1/8
G parallel thread (ISO 228-1)
Manual override
CE coils (class H), power DC 14W - AC 18 VA[1]

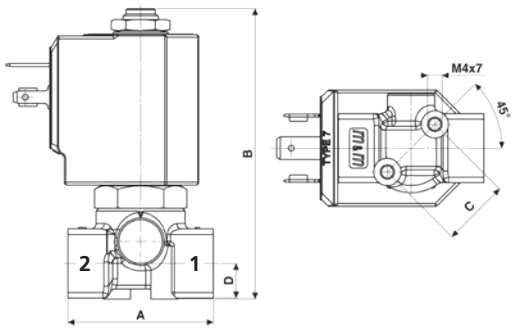
[1] Pressure ratings of valves fitted with CE coils may be higher than with UL coils (coils specifications on page 157).

Seal Material[2] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
Filled PTFE 14 °F to 356 °F (-10 °C to +180 °C)	Steam	14 °F (-10 °C)	158 °F (+70 °C)

[2] See corrosion reference guide and sealing solutions for material compatability.

D262/263 Series, Steam – 2/2 Normally Closed

Coil Rotation



Preferred Valve Mounting Options

Pipe Size	A	B	C	D	Weight Lb (kg)
1/8 - 1/4	1.57 (40)	3.05 (77.5)	0.73 (18.5)	0.37 (9.5)	0.57 (0.26)

Dimensions inches (mm)

Solenoid enclosures

7--H c UL us Type Coil - Insulation class H

External material: PET 530HTE Rynite®
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (AI210)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*

UL approved, file No: E193928

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
2	1/8
3	1/4

Orifice	
A	3/64
C	1/16
G	3/32
H	1/8

Thread Pipe	
N	NPT
	GAS

Option	
M	Manual override
	w/o option

Coil options

Voltage / Frequency - c UL us Type, Class H	
725H	24 VDC
720H	24 V / 50 Hz
740H	110 V / 50 Hz - 120 V / 60 Hz
770H	230 V / 50 Hz - 240 V / 60 Hz

Voltage / Frequency - CE Type, Class H	
7251	24 VDC
7201	24 V / 50/60 Hz
7401	110 V / 50 Hz - 120 V / 60 Hz
7701	230 V / 50 Hz - 240 V / 60 Hz

Plug

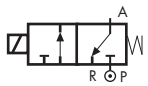
Plug	
	w/o plug
0A1	c/w plug

D	2	6	•	D	L	•	N	•	•	•	•	•	•	•	•	•

Product coding example:

D263DLAN 720H
1/4 NPT, auto operation, brass body, filled PTFE seals, 3/64 orifice, 24 V / 50 Hz, without plug.

D398/399 Series, Steam – 3/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction underseat 2 → 1
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Stainless Steel AISI 303 (1.4305 EN 10088)
Orifice Material	Stainless Steel AISI 303 (1.4305 EN 10088)
Flange Tube (seamless)	Stainless Steel AISI 303 (1.4305 EN 10088)
Plunger	Stainless Steel AISI 430F (1.4106 EN 10088)
Top Stop	Stainless Steel AISI 430F (1.4105 EN 10088)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Sigodur (filled PTFE)
Connection Type	NPT
Shading Ring	Copper
Electrical Characteristics	
Coil Voltage DC (=)	24 V
Coil Voltage AC 50 Hz (~)	24 V, 110 V, 230 V
Coil Voltage AC 60 Hz (~)	120 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Enclosure Classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation Class	180 (H) to UL429 and to EN 60730-1
Power Rating (cULus Coils)	AC 15 VA (holding) AC 30 VA (inrush) DC 10 W

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Zero pressure rated
- Stainless steel AISI 430F operators with low residual magnetism
- High quality seal materials
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD psi (bar)		Orifice inches (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
1/4	0.09	0.08	0 - 131 (0 - 9)	0 - 131 (0 - 9)	1/16 (1.5)	filled PTFE	D399CLCN
1/4	0.15	0.13	0 - 131 (0 - 9)	0 - 131 (0 - 9)	5/64 (2.0)	filled PTFE	D399CLEN
1/4	0.32	0.27	0 - 73 (0 - 5)	0 - 73 (0 - 5)	1/8 (3.0)	filled PTFE	D399CLHN

Options Available

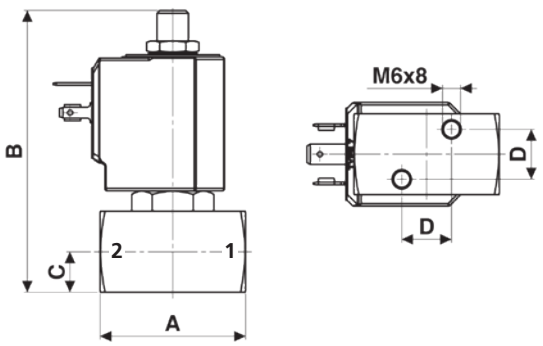
Valve Options (see coding chart)
Body threaded connection 1/8
G parallel thread (ISO 228-1)
Silver shading ring
CE coils, power DC 14W - AC 18 VA

Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
Filled PTFE 14 °F to 356 °F (-10 °C to +180 °C)	Steam	14 °F (-10 °C)	158 °F (+70 °C)

[1] See corrosion reference guide and sealing solutions for material compatability.

D398/399 Series, Steam – 3/2 Normally Closed

Coil Rotation



Preferred Valve Mounting Options

Pipe Size	A	B	C	D	Weight Lb (kg)
1/8 - 1/4	1.77 (45)	3.43 (87)	0.49 (12.5)	0.61 (15.4)	0.77 (0.35)

Dimensions inches (mm)

Solenoid enclosures

7--H c UL us Type Coil - Insulation class H

External material: PET 530HTE Rynite®
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (AI210)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*

UL approved, file No: E193928

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
8	1/8"
9	1/4"

Orifice	
C	1/16
E	5/64
H	1/8

Thread Pipe	
N	NPT
	GAS

Option	
A	Silver shading ring
	w/o option

Coil options

Voltage / Frequency - c UL us Type, Class H	
725H	24 VDC
720H	24 V / 50 Hz
740H	110 V / 50 Hz - 120 V / 60 Hz
770H	230 V / 50 Hz - 240 V / 60 Hz
Voltage / Frequency - CE Type, Class H	
7251	24 VDC
7201	24 V / 50/60 Hz
7401	110 V / 50 Hz - 120 V / 60 Hz
7701	230 V / 50 Hz - 240 V / 60 Hz

Plug

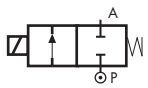
Plug	
0A1	c/w plug
	w/o plug

D	3	9	•	C	L	•	N	•	•	•	•	•	•	•	•

Product coding example:

D398CLEN 725H
1/8 NPT, auto operation, stainless steel body, filled PTFE seals, 5/64 orifice, 24 VDC, without plug.

D238/239 Series, Steam – 2/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass C37700 (UNS Designation)
Orifice Material	Stainless Steel AISI 303 (1.4305 EN 10088)
Flange Tube (seamless)	Stainless Steel AISI 303 (1.4305 EN 10088)
Plunger	Stainless Steel AISI 430F (1.4106 EN 10088)
Top Stop	Stainless Steel AISI 430F (1.4105 EN 10088)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Sigodur (filled PTFE)
Connection Type	NPT
Shading Ring	Copper
Electrical Characteristics[1]	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Enclosure classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation Class	180 (H) to EN 60730-1
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W

[1] High power coils are not UL approved.

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- High quality seal materials
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD psi (bar)		Orifice inches (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
3/8	0.32	0.27	0 - 131 (0 - 9)	0 - 116 (0 - 8)	1/8 (3.0)	Filled PTFE	D238DLHN
3/8	0.53	0.45	0 - 73 (0 - 5)	0 - 29 (0 - 2)	13/64 (5.0)	Filled PTFE	D238DLNN
1/2	0.35	0.30	0 - 131 (0 - 9)	0 - 73 (0 - 5)	1/8 (3.5)	Filled PTFE	D239DLIN

Options Available

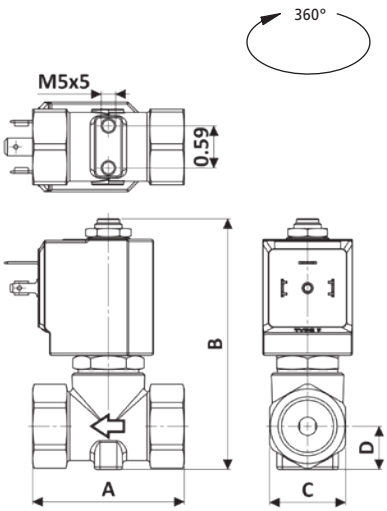
Valve Options (see coding chart)
G parallel thread (ISO 228-1)

Seal Material[2] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
Filled PTFE 14 °F to 356 °F (-10 °C to +180 °C)	Steam	14 °F (-10 °C)	158 °F (+70 °C)

[2] See corrosion reference guide and sealing solutions for material compatability.

D238/239 Series, Steam – 2/2 Normally Closed

Coil Rotation



Preferred Valve Mounting Options

Pipe Size	A	B	C	D	Weight Lb (kg)
3/8 - 1/2	2.13 (54)	3.52 (89.35)	HEX 27 (27)	0.59 (15)	0.99 (0.45)

Dimensions inches (mm)

Solenoid enclosures

7--1 Type Coil - Insulation class H

External material: PPS (glass fiber & mineral filled)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
8	3/8"
9	1/2"

Orifice	
H	1/8
I	1/8
N	13/64

Thread Pipe	
N	NPT
	GAS

Option	
	w/o option

Coil options

Voltage / Frequency - Class H	
7251	24 VDC
7201	24 V / 50/60 Hz
7401	110 V / 50 Hz - 120 V / 60 Hz
7601	200 V / 50 Hz - 220 V / 60 Hz
7701	230 V / 50 Hz - 240 V / 60 Hz

Plug

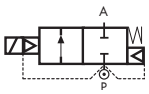
Plug	
	w/o plug
0A1	c/w plug

D	2	3	•	D	L	•	N	•	•	•	•	•	•	•	•

Product coding example:

D238DLHN 7251
3/8 NPT, auto operation, brass body, filled PTFE seals, 1/8 orifice, 24 VDC, without plug.

D634/635/636 Series, Steam – 2/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass C37700 (UNS Designation)
Orifice Material	Stainless Steel AISI 303 (1.4305 EN 10088)
Flange Tube (seamless)	Stainless Steel AISI 303 (1.4305 EN 10088)
Plunger	Stainless Steel AISI 430F (1.4106 EN 10088)
Top Stop	Stainless Steel AISI 430F (1.4105 EN 10088)
Piston Material	Brass C37700 (UNS Designation)
Springs	Stainless Steel AISI 302
Seal Material (Std)	PTFE
Connection Type	NPT
Shading Ring	Copper
Electrical Characteristics[1]	
High Power Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Enclosure Classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation Class	180 (H) to EN 60730-1
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 22 W

[1] For DC only High Power coil mandatory, these coils are not UL approved.

Features and Benefits

- Pilot operated
- Robust construction for industrial applications
- Stainless steel AISI 430F operators with low residual magnetism
- Coils tested 100% in compliance to RoHS directive and to relevant international standards
- High quality seal materials
- Response time 50 to 500 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD psi (bar)		Orifice inches (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
1/4	1.47	1.26	4.4 - 131 (0.3 - 9)	4.4 - 131 (0.3 - 9)	25/64 (10)	PTFE	D634D□TN
3/8	1.68	1.44			25/64 (10)	PTFE	D635D□TN
1/2	1.76	1.50			25/64 (10)	PTFE	D636D□TN

Options Available

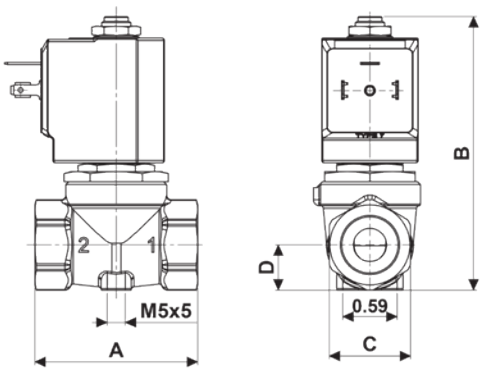
Valve Options (see coding chart)
G parallel thread (ISO 228-1)

Seal Material[2] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
PTFE 176 °F[3] to 356 °F (+80 °C[3] to +180 °C)	Steam	14 °F (-10 °C)	158 °F (+70 °C)

[2] See corrosion reference guide and sealing solutions for material compatability.
[3] For correct funtioning, the minimum working temperature of the solenoid valve cannot be below 176 °F (+80 °C).

D634/635/636 Series, Steam – 2/2 Normally Closed

Coil Rotation



Preferred Valve Mounting Options

Pipe Size	A	B	C	D	Weight Lb (kg)
1/4	2.13 (54)	3.94 (100)	HEX 27 (27)	0.59 (15)	1.10 (0.5)
3/8 to 1/2	2.13 (54)	3.94 (100)	HEX 27 (27)	0.59 (15)	0.99 (0.45)

Dimensions inches (mm)

Solenoid enclosures

7--1 & 7-Z1 Type Coil - Insulation class H

External material: PPS (glass fiber & mineral filled)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
4	1/4
5	3/8
6	1/2

Thread Pipe	
N	NPT
	GAS

Option	
	w/o option

Coil options

Voltage / Frequency - Class H (High Power DC only)	
72Z1	24 VDC
7201	24 V / 50/60 Hz
7401	110 V / 50 Hz - 120 V / 60 Hz
7601	200 V / 50 Hz - 220 V / 60 Hz
7701	230 V / 50 Hz - 240 V / 60 Hz

Plug

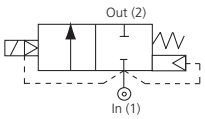
Plug	
	w/o plug
0A1	c/w plug

D	6	3	•	D	T	T	N	•	•	•	•	•	•	•	•	•

Product coding example:

D634DTTN 72Z1
1/4 NPT, auto operation, brass body, PTFE seals, 25/64 orifice, 24 VDC, without plug.

UACPX Series: Steam – 2/2 Normally Closed

Specifications	
Mode of Operation	Normally closed, energise to open 
Maximum Viscosity	115 SSU
3/8" - 1" Body Material (Std)	Brass (Std) or Stainless Steel option
1 1/4" - 2" Body Material (Std)	Bronze (Std)
Flange Tube	Stainless Steel
Plunger and top stop	Stainless Steel
Springs	Stainless Steel
Seal Material	PTFE
Connection Type	NPT
Shading Ring	Copper (std), Silver (stainless steel option)
Electrical Characteristics	
Coil Voltage DC (=)	12 V, 24 V
Coil Voltage AC 60 Hz (~)	24 V, 120 V
Voltage Tolerance	+10% or -10%
Duty Cycle	100% ED
Electrical Connection options	1/2" NPT metal conduit hub with 18" leads (NEMA 2 equivalent protection class)
Coil Insulation	Class H
Power Rating	14.5 Watts

Features and Benefits

- Heavy Duty Valve Design
- Piston Operation
- Wide temperature range capabilities
- Choice of valve body material seals
- Tested in accordance with BS-EN 12266-1

Port Size	Cv	Kv	OPD (psi)		P. Max[2] psi	Orifice (mm)	Weight (lbs)
			AC Voltages	DC Voltages			
½"	4.9	4.2	5-125	5-70	725	16.0	2.8
¾"	6.3	5.4	5-125	5-70		16.0	2.8
1"	8.2	7.1	5-125	5-70		25.0	5
1¼"	20.9	18	5-125	5-70		30.0	6.8
1½"	20.9	18	5-125	5-70		30.0	6.8
2"	24.4	21	5-125	5-70		32.0	11.5

[2] P. Max is limited to 675 psi when valve is fitted with an Exd solenoid operator.

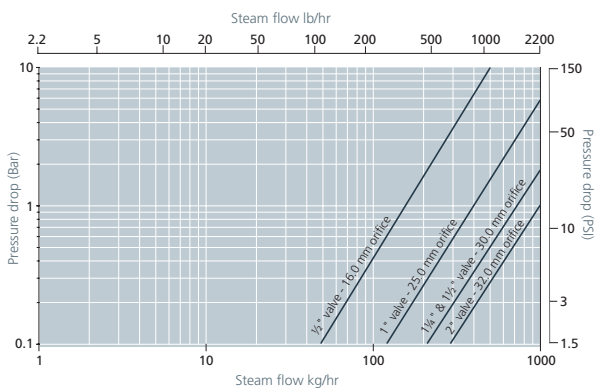
Options Available

Solenoid Enclosure	
Protection Class	
EExd T6 (NEMA 6 equivalent)	Consult Rotork Midland for product codes
EExd T4 (NEMA 6 equivalent)	

Seal Material[1] and Media Temp. Range	Ambient Temperature Range	
	Min	Max
PTFE (-328 °F to +356 °F)	14 °F	122 °F

[1] See corrosion reference guide and sealing solutions for material compatability.

Main Valve Body Options
Stainless Steel 316 (up to and including 1")
Oxygen Cleaning (consult factory for product code)
Stainless Steel Tagging (consult factory for product code)



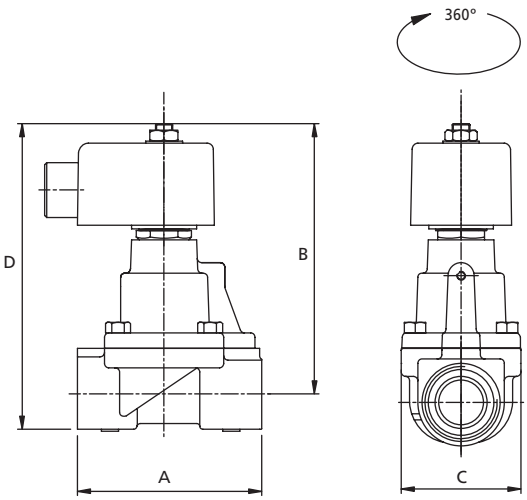
Flow shown is with steam at 58 psi

How to use the flow chart

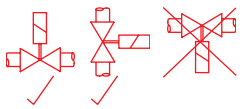
1. Select the required flow.
2. Note the corresponding pressure drop.
3. Based on where the two points intersect select the most appropriate model.

UACPX Series: Steam – 2/2 Normally Closed

Coil Rotation



Preferred Valve Mounting Options



Dimensions

Port size	A	B	C	D
3/4"	2 1/2"	4 1/8"	2 1/4"	4 13/16"
1"	4 1/4"	4 15/16"	3"	5 3/4"
1 1/4" - 1 1/2"	4 5/8"	5 1/4"	3 1/4"	8 1/4"
2"	5 3/4"	5 3/4"	4"	8 1/4"

Dimensions given in inches

Solenoid enclosures

S4 Type enclosure protection class IP50

External material: Pressed steel powder coated

Electrical entry: ½" NPT metal conduit hub with 18" leads (NEMA 2 equivalent protection class)

Winding Insulation: Class H

Coding chart

Main Valve Assembly

Model	Valve Body Conn. Size	Conn. Type	Operation	Orifice (mm)	Body Material	Seals	Style
22 UACPX	D ½"	3 NPT	1 AUTO	Z Default	1 Brass (standard on valves up to and including 1")	E PTFE	1 Standard
	E ¾"				2 Bronze (standard on valves above 1")		
	F 1"				5 316 Stainless Steel (option available up to and inc 1")		
	G 1¼"						
	H 1½"						
	J 2"						

Coil options

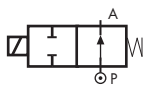
Enclosure	Voltage / Frequency	Electrical connection	Approval
2 S4 type enclosure -metal can (IP50) UL Approved	F1 24 VDC	9 ½" NPT	A UL/CSA
	F4 12 VDC		
	H1 24 V / 60 Hz		
	H2 120 V / 60 Hz		

22	•	3	1	Z	•	E	1	-	2	••	9	A

Product coding example:

22D31Z1E1-2H29A: UACPX Series
½" NPT, Auto, Brass body, PTFE seals, 120 V / 60 Hz, ½" NPT electrical connection UL/CSA approval.

RD236 Series, Steam – 2/2 Normally Open

Specifications	
Function (single acting)	 Flow direction 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass C37700 (UNS Designation)
Orifice Material	Stainless Steel AISI 303 (1.4305 EN 10088)
Flange Tube (seamless)	Stainless Steel AISI 303 (1.4305 EN 10088)
Plunger	Stainless Steel AISI 430F (1.4106 EN 10088)
Top Stop	Stainless Steel AISI 430F (1.4105 EN 10088)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Sigodur (filled PTFE)
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics[1]	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC) +10% to -5% (DC)
Duty Cycle	100% ED
Enclosure Classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation Class	180 (H) to EN 60730-1
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W

[1] These coils are not UL approved.

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Zero pressure rated
- Stainless steel AISI 430F operators with low residual magnetism
- High quality seal materials
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD psi (bar)[2]		Orifice inches (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
1/4"	0.04	0.03	0 - 131 (0 - 9)	0 - 131 (0 - 9)	3/64 (1.0)	filled PTFE	RD236DLA
1/4"	0.09	0.08	0 - 131 (0 - 9)	0 - 131 (0 - 9)	1/16 (1.5)	filled PTFE	RD236DLC
1/4"	0.14	0.12	0 - 131 (0 - 9)	0 - 131 (0 - 9)	5/64 (2.0)	filled PTFE	RD236DLE
1/4"	0.25	0.21	0 - 131 (0 - 9)	0 - 131 (0 - 9)	1/8 (3.0)	filled PTFE	RD236DLH

[2] The valve supplied carry a nameplate with pressure ratings marked in bar.

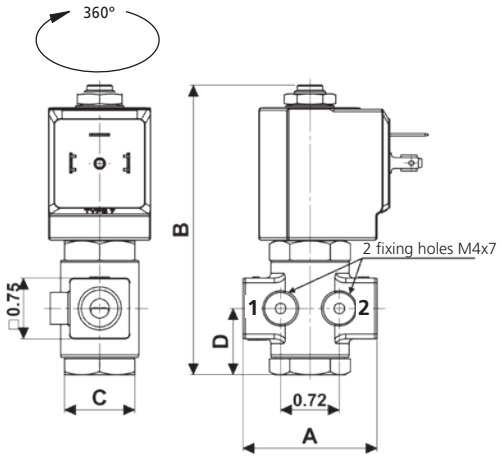
Options Available

Seal Material[3] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
Filled PTFE 14 °F to 356 °F (-10 °C to +180 °C)	Steam	14 °F (-10 °C)	158 °F (+70 °C)

[3] See corrosion reference guide and sealing solutions for material compatability.

RD236 Series, Steam – 2/2 Normally Open

Coil Rotation



Preferred Valve Mounting Options

Pipe Size	A	B	C	D	Weight Lb (kg)
1/4" G	1.85 (47)	2.58 (91)	HEX 22 (22)	0.82 (20.75)	0.55 (0.25)

Dimensions inches (mm)

Solenoid enclosures

7--1 Type Coil - Insulation class H

External material: PPS (glass fiber & mineral filled)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Orifice	
A	3/64
C	1/16
E	5/64
H	1/8

Option	
	w/o option

Coil options

Voltage / Frequency - Class H	
7251	24 DC
7201	24 V / 50/60 Hz
7401	110 V / 50 Hz - 120 V / 60Hz
7601	200 V / 50 Hz - 220 V / 60Hz
7701	230 V / 50 Hz - 240 V / 60Hz

Plug

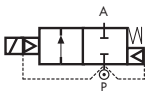
Plug	
0A1	c/w plug
	w/o plug

RD	2	3	6	D	L	•	•	•	•	•	•	•	•	•	•

Product coding example:

RD236DLE 7251
1/4" G, auto operation, brass body, filled PTFE seals, 5/64 orifice, 24 VDC, without plug.

D606/622 Series, Steam – 2/2 Normally Closed

Specifications	
Function NC (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass C37700 (UNS Designation)
Orifice Material	Stainless Steel AISI 303 (1.4305 EN 10088)
Flange Tube (seamless)	Stainless Steel AISI 303 (1.4305 EN 10088)
Plunger	Stainless Steel AISI 430F (1.4106 EN 10088)
Top Stop	Stainless Steel AISI 430F (1.4105 EN 10088)
Springs	Stainless Steel AISI 302
Seal Material (Std)	PTFE
Connection Type	NPT
Shading Ring	Copper
Electrical Characteristics	
Coil Voltage DC (=)	24 V
Coil Voltage AC 50 Hz (~)	24 V, 110 V, 230 V
Coil Voltage AC 60 Hz (~)	120 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Enclosure Classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation Class	180 (H) to UL429 and to EN 60730-1
Power Rating (c UL us Coils)	AC 15 VA (holding) AC 30 VA (inrush) DC 10 W

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Zero pressure rated
- Stainless steel AISI 430F operators with low residual magnetism
- High quality seal material
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD psi (bar)		Orifice inches (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
3/4	8.42	7.20	14.5 - 131 (1 - 9)	14.5 - 131 (1 - 9)	61/64 (24)	PTFE	D606D⌶YN
1	8.42	7.20	14.5 - 131 (1 - 9)	14.5 - 131 (1 - 9)	61/64 (24)	PTFE	D622D⌶YN

Options Available

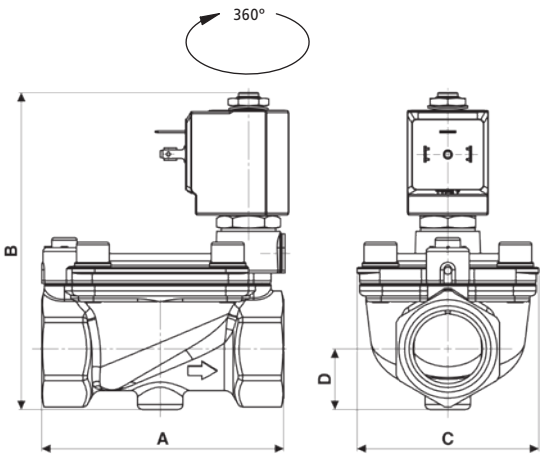
Valve Options (see coding chart)
G parallel thread (ISO 228-1)
CE coils, power DC 14W - AC 18 VA

Seal Material[1] and Media Temperature Range	Media[2]	Ambient Temperature Range	
		Min	Max
Filled PTFE 176 °F[3] to 356 °F (+80 °C[3] to +180 °C)	Steam	14 °F (-10 °C)	158 °F (+70 °C)

[1] See corrosion reference guide and sealing solutions for material compatability.
[2] Water and high content of condensate can damage the diaphragm.
[3] For a correct functioning, the minimum working temperature of the solenoid valve cannot be below 356 °F (+80 °C).

D606/622 Series, Steam – 2/2 Normally Closed

Coil Rotation



Preferred Valve Mounting Options

Pipe Size	A	B	C	D	Weight Lb (kg)
3/4" - 1"	3.78 (96)	4.96 (126)	2.83 (72)	0.94 (24)	2.87 (1.3)

Dimensions inches (mm)

Solenoid enclosures

7--H c UL us Type Coil - Insulation class H

External material: PET 530HTE Rynite®
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (AI210)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*
UL approved, file No: E193928

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
06	3/4
22	1

Thread Pipe		Option	
N	NPT		w/o option
	GAS		

Coil options

Voltage / Frequency - c UL us Type, Class H	
725H	24 VDC
720H	24 V / 50 Hz
740H	110 V / 50 Hz - 120 V / 60 Hz
770H	230 V / 50 Hz - 240 V / 60 Hz
Voltage / Frequency - CE Type, Class H	
7251	24 VDC
7201	24 V / 50/60 Hz
7401	110 V / 50 Hz - 120 V / 60 Hz
7701	230 V / 50 Hz - 240 V / 60 Hz

Plug

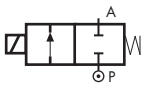
Plug	
0A1	c/w plug
	w/o plug

D	6	•	•	D	T	Y	N	•	•	•	•	•	•	•	•

Product coding example:

D606DTYN 725H
3/4 NPT, auto operation, brass body, PTFE seals, 61/64 orifice, 24 VDC, without plug.

D211 Series, Dry Armature – 2/2 Normally Closed

Specifications	
Function (single acting)	
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass C37700 (UNS Designation)
Orifice Material	Stainless Steel AISI 303 (1.4305 EN 10088)
Flange Tube (seamless)	Stainless Steel AISI 303 (1.4305 EN 10088)
Plunger	Stainless Steel AISI 430F (1.4106 EN 10088)
Top Stop	Stainless Steel AISI 430F (1.4105 EN 10088)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Silicone FDA compliant
Connection Type (Std)	G parallel thread (ISO 228-1)
Shading Ring	Copper
Electrical Characteristics[1]	
Standard Coil Voltage DC (=)	24 V
Standard Coil Voltage AC 50 Hz (~)	24 V, 110 V, 200 V, 230 V
Standard Coil Voltage AC 60 Hz (~)	24 V, 120 V, 220 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Enclosure Classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation Class	155 (F) to UL429 and to EN 60730-1
Power Rating (Standard)	AC 18 VA (holding) AC 36 VA (inrush) DC 14 W

[1] These coils are not UL approved.

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Zero pressure rated
- Stainless steel AISI 430F operators with low residual magnetism
- High quality seal material
- Total separation between internal parts and medium
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD bar[2]		Orifice inches (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
3/8" G	see flow chart		0 - 0.3	-	13/32 (10.5)	Silicone FDA	D211DSU
3/8" G			-	0 - 0.2	13/32 (10.5)	Silicone FDA	CD211DSU

[2] This valve supplied with a nameplate with pressure ratings marked in bar.

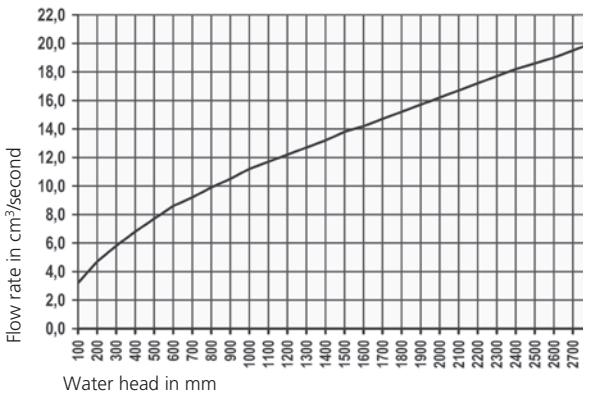
Seal Material[3] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
Silicone FDA compliant 14 °F to 203 °F (-10 °C to +95 °C)	Water and beverages	14 °F (-10 °C)	122 °F (+50 °C)

[3] See corrosion reference guide and sealing solutions for material compatability.

Options Available

Valve Options (see coding chart)
Electroless nickel plating

Flow chart

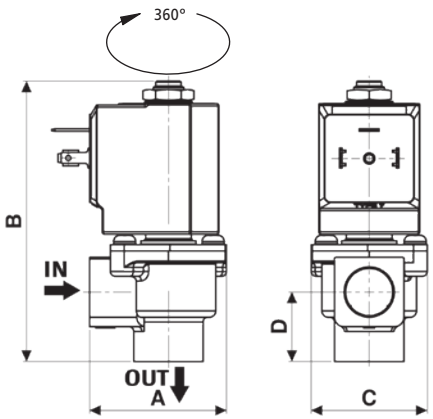


How to use the flow chart

- Select the required flow.
- Note the corresponding pressure drop.
- Based on where the two points intersect select the most appropriate model.

D211 Series, Dry Armature – 2/2 Normally Closed

Coil Rotation



Preferred Valve Mounting Options

Pipe Size	A	B	C	D	Weight Lb (kg)
3/8" G	1.71 (43.4)	3.50 (88.8)	1.42 (36)	0.87 (22)	0.75 (0.34)

Dimensions inches (mm)

Solenoid enclosures

7--0 Type Coil - Insulation class F

External material: PBT (reinforced glass fiber 30%)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Valve Type	
D	AC
CD	DC

Option	
K	Electroless nickel plating
	w/o option

Coil options

Voltage / Frequency - CE Type, Class F	
7250	24 VDC
7200	24 V / 50/60 Hz
7400	110 V / 50 Hz - 120 V / 60 Hz
7600	200 V / 50 Hz - 220 V / 60 Hz
7700	230 V / 50 Hz - 240 V / 60 Hz

Plug

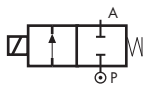
Plug	
0A1	c/w plug
	w/o plug

•	2	1	1	D	S	U	•	•	•	•	•	•	•	•	•

Product coding example:

D211DSU 7250
3/8" G, auto operation, brass body, silicone FDA seals, 13/32 orifice, 24 VDC, without plug.

D262/263 Series, Vacuum – 2/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass C37700 (UNS Designation)
Orifice Material	Stainless Steel AISI 303 (1.4305 EN 10088)
Flange	Stainless Steel AISI 303 (1.4305 EN 10088)
Tube	Stainless Steel AISI 304
Plunger	Stainless Steel AISI 430F (1.4106 EN 10088)
Top Stop	Stainless Steel AISI 430F (1.4105 EN 10088)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type	NPT
Shading Ring	Copper
Electrical Characteristics	
Coil Voltage DC (=)	24 V
Coil Voltage AC 50 Hz (~)	24 V, 110 V, 230 V
Coil Voltage AC 60 Hz (~)	120 V, 240 V
Voltage Tolerance	+10% to -15% (AC) +10% to -5% (DC)
Duty Cycle	100% ED
Enclosure Classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation Class	155 (F) to UL429 and to EN 60730-1
Power Rating (cULus Coils)	AC 15 VA (holding) AC 30 VA (inrush) DC 14 W

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Configuration suitable for vacuum
- Stainless steel AISI 430F operators with low residual magnetism
- Choice of high quality seal materials
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD psi (bar)		Orifice inches (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
1/4	0.04	0.03	-13.1 to 14.5 (-0.9 to 1)	-13.1 to 14.5 (-0.9 to 1)	3/64 (1.0)	FKM NBR	D263DVANL D263DBANL
1/4	0.09	0.08	-13.1 to 14.5 (-0.9 to 1)	-13.1 to 14.5 (-0.9 to 1)	1/16 (1.5)	FKM NBR	D263DVCNL D263DBCNL
1/4	0.24	0.20	-13.1 to 14.5 (-0.9 to 1)	-13.1 to 14.5 (-0.9 to 1)	3/32 (2.5)	FKM NBR	D263DVGNL D263DBGNL
1/4	0.32	0.27	-13.1 to 14.5 (-0.9 to 1)	-13.1 to 14.5 (-0.9 to 1)	1/8 (3.0)	FKM NBR	D263DVHNL D263DBHNL
1/4	0.42	0.36	-13.1 to 14.5 (-0.9 to 1)	-13.1 to 14.5 (-0.9 to 1)	5/32 (4.0)	FKM NBR	D263DVLNL D263DBLNL
1/4	0.56	0.48	-13.1 to 14.5 (-0.9 to 1)	-13.1 to 14.5 (-0.9 to 1)	15/64 (6.0)	FKM NBR	D263DVPNL D263DBPNL

Options Available

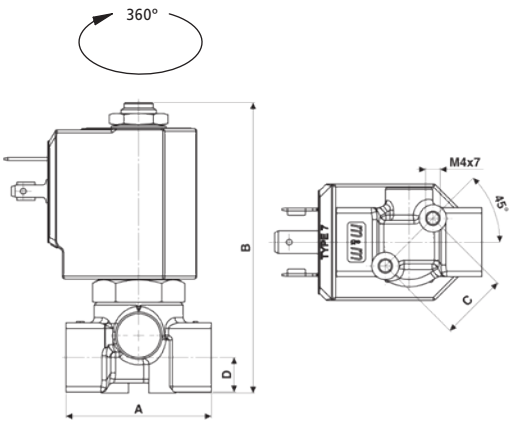
Valve Options (see coding chart)
Body threaded connection 1/8
G parallel thread (ISO 228-1)
CE coils, power DC 14W - AC 18 VA

Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM 14 °F to 266 °F (-10 °C to +130 °C)	Water, oil, air	14 °F (-10 °C)	122 °F (+50 °C)
NBR 14 °F to 194 °F (-10 °C to +90 °C)	Water, oil, air	14 °F (-10 °C)	122 °F (+50 °C)

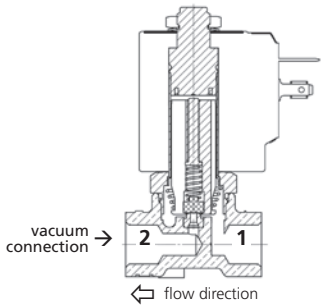
[1] See corrosion reference guide and sealing solutions for material compatability.
Other seals material on request.

D262/263 Series, Vacuum – 2/2 Normally Closed

Coil Rotation



Connection scheme



Preferred Valve Mounting Options

Pipe Size	A	B	C	D	Weight Lb (kg)
1/8" - 1/4	1.57 (40)	3.05 (77.5)	0.73 (18.5)	0.37 (9.5)	0.57 (0.26)

Dimensions inches (mm)

Solenoid enclosures

7--R c UL us Type Coil - Insulation class F

Encapsulation material: PET 815ER Rynite®
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (P180)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*
UL approved, file No: E193928

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
2	1/8
3	1/4

Seals	
V	FKM
B	NBR

Orifice	
A	3/64
C	1/16
G	3/32
H	1/8
L	5/32
P	15/64

Thread Pipe	
N	NPT
	GAS

Coil options

Voltage / Frequency - c UL us Type, Class F	
725R	24 VDC
720R	24 V / 50 Hz
740R	110 V / 50 Hz - 120 V / 60 Hz
770R	230 V / 50 Hz - 240 V / 60 Hz
Voltage / Frequency - CE Type, Class F	
7250	24 VDC
7200	24 V / 50/60 Hz
7400	110 V / 50 Hz - 120 V / 60 Hz
7600	200 V / 50 Hz - 220 V / 60 Hz
7700	230 V / 50 Hz - 240 V / 60 Hz

Plug

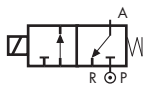
Plug	
	w/o plug
0A1	c/w plug

D	2	6	•	D	•	•	N	L	•	•	•	•	•	•	•

Product coding example:

D263DBPNL 770R
1/4 NPT, auto operation, brass body, FKM seals, 15/64 orifice, 230 V / 50 Hz - 240 V / 60 Hz, without plug.

D362/363 Series, Vacuum – 3/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction underseat 2 → 1
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass C37700 (UNS Designation)
Orifice Material	Stainless Steel AISI 303 (1.4305 EN 10088)
Flange	Stainless Steel AISI 303 (1.4305 EN 10088)
Tube	Stainless Steel AISI 304
Plunger	Stainless Steel AISI 430F (1.4106 EN 10088)
Top Stop	Stainless Steel AISI 430F (1.4105 EN 10088)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type	NPT
Shading Ring	Copper
Electrical Characteristics	
Coil Voltage DC (=)	24 V
Coil Voltage AC 50 Hz (~)	24 V, 110 V, 230 V
Coil Voltage AC 60 Hz (~)	120 V, 240 V
Voltage Tolerance	+10% to -15% (AC) +10% to -5% (DC)
Duty Cycle	100% ED
Enclosure Classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation Class	180 (H) to UL429 and to EN 60730-1
Power Rating (cULus Coils)	AC 15 VA (holding) AC 30 VA (inrush) DC 10 W

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Configuration suitable for vacuum
- Zero pressure rated
- Stainless steel AISI 430F operators with low residual magnetism
- High quality seal materials
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD psi (bar)		Orifice inches (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
1/4	0.15	0.13	0 to -13.8 (0 to -0.95)	0 to -13.8 (0 to -0.95)	5/64 (2.0)	FKM	D363CVENL
1/4	0.24	0.20	0 to -13.8 (0 to -0.95)	0 to -13.8 (0 to -0.95)	3/32 (2.5)	FKM	D363CVGNL
1/4	0.32	0.27	0 to -13.8 (0 to -0.95)	0 to -13.8 (0 to -0.95)	1/8 (3.0)	FKM	D363CVHNL
1/4	0.42	0.36	0 to -13.8 (0 to -0.95)	0 to -13.8 (0 to -0.95)	5/32 (4.0)	FKM	D363CVLNL

Options Available

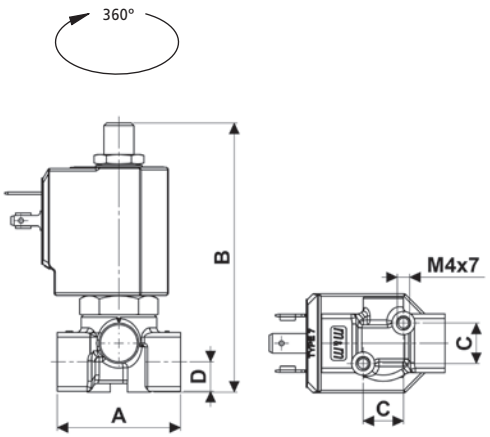
Valve Options (see coding chart)
Body threaded connection 1/8
G parallel thread (ISO 228-1)
Coil with insulation class F

Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM 14 °F to 266 °F (-10 °C to +130 °C)	Water, oil, air	14 °F (-10 °C)	122 °F (+50 °C)

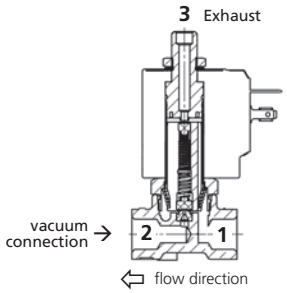
[1] See corrosion reference guide and sealing solutions for material compatability.
Other seals material on request.

D362/363 Series, Vacuum – 3/2 Normally Closed

Coil Rotation



Connection scheme



Preferred Valve Mounting Options

Pipe Size	A	B	C	D	Weight Lb (kg)
1/8 - 1/4	1.57 (40)	3.43 (87)	0.51 (13)	0.37 (9.5)	0.57 (0.26)

Dimensions inches (mm)

Solenoid enclosures

7--H c UL us Type Coil - Insulation class H

External material: PET 530HTE Rynite®
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (AI210)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*
UL approved, file No: E193928

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
2	1/8
3	1/4

Orifice	
E	5/64
G	3/32
H	1/8
L	5/32

Thread Pipe	
N	NPT
	GAS

Coil options

Voltage / Frequency - c UL us Type, Class H	
725H	24 VDC
720H	24 V / 50 Hz
740H	110 V / 50 Hz - 120 V / 60 Hz
770H	230 V / 50 Hz - 240 V / 60 Hz
Voltage / Frequency - c UL us Type, Class F	
725R	24 VDC
720R	24 V / 50 Hz
740R	110 V / 50 Hz - 120 V / 60 Hz
770R	230 V / 50 Hz - 240 V / 60 Hz

Plug

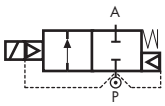
Plug	
	w/o plug
0A1	c/w plug

D	3	6	•	C	V	•	N	L	•	•	•	•	•	•	•

Product coding example:

D362CVGNL 725H
1/8 NPT, auto operation, brass body, FKM seals, 3/32 orifice, 24 VDC, without plug.

D203/204/205 Series, Vacuum – 2/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction underseat 2 → 1
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass C37700 (UNS Designation)
Flange	Stainless Steel AISI 303 (1.4305 EN 10088)
Tube	Stainless Steel AISI 304
Plunger	Stainless Steel AISI 430F (1.4106 EN 10088)
Top Stop	Stainless Steel AISI 430F (1.4105 EN 10088)
Springs	Stainless Steel AISI 302
Seal Material (Std)	NBR
Connection Type	NPT
Shading Ring	Copper
Electrical Characteristics	
Coil Voltage DC (=)	24 V
Coil Voltage AC 50 Hz (~)	24 V, 110 V, 230 V
Coil Voltage AC 60 Hz (~)	120 V, 240 V
Voltage Tolerance	+10% to -15% (AC) +10% to -5% (DC)
Duty Cycle	100% ED
Enclosure Classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation Class	155 (F) to UL429 and to EN 60730-1
Power Rating (cULus Coils)	AC 15 VA (holding) AC 30 VA (inrush) DC 14 W

Features and Benefits

- Pilot operated
- Robust construction for industrial applications
- Configuration suitable for vacuum
- Stainless steel AISI 430F operators with low residual magnetism
- High quality seal materials
- Response time 50 to 500 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD psi (bar)		Orifice inches (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
1/4	1.83	1.56	-2.9 to -13.8 (-0.2 to -0.95)	-2.9 to -13.8 (-0.2 to -0.95)	33/64 (13)	NBR	D203DBZNL
3/8	3.86	3.30			33/64 (13)	NBR	D204DBZNL
1/2	4.42	3.78			33/64 (13)	NBR	D205DBZNL

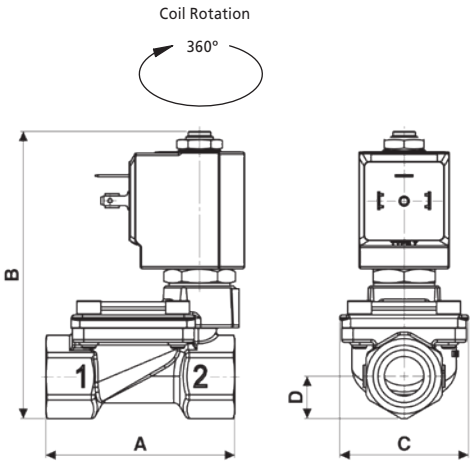
Options Available

Valve Options (see coding chart)
G parallel thread (ISO 228-1)
CE coils, power DC 14W - AC 18 VA

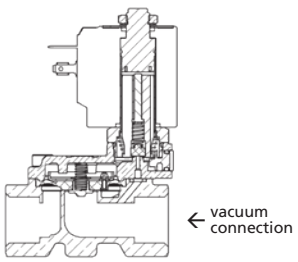
Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
NBR 14 °F to 194 °F (-10 °C to +90 °C)	Water, oil, air	14 °F (-10 °C)	122 °F (+50 °C)

[1] See corrosion reference guide and sealing solutions for material compatability. Other seals material on request.

D203/204/205 Series, Vacuum – 2/2 Normally Closed



Connection scheme



Preferred Valve Mounting Options

Pipe Size	A	B	C	D	Weight Lb (kg)
1/4 to 1/2	2.64 (67)	4.02 (102)	1.80 (45.6)	0.59 (15)	1.08 (0.49)

Dimensions inches (mm)

Solenoid enclosures

7--R c UL us Type Coil - Insulation class F

Encapsulation material: PET 815ER Rynite®
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (P180)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*
UL approved, file No: E193928

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
203	1/4
204	3/8
205	1/2

Thread Pipe	
N	NPT
	GAS

Coil options

Voltage / Frequency - c UL us Type, Class F	
725R	24 VDC
720R	24 V / 50 Hz
740R	110 V / 50 Hz - 120 V / 60 Hz
770R	230 V / 50 Hz - 240 V / 60 Hz
Voltage / Frequency - CE Type, Class F	
7250	24 VDC
7200	24 V / 50/60 Hz
7400	110 V / 50 Hz - 120 V / 60 Hz
7600	200 V / 50 Hz - 220 V / 60 Hz
7700	230 V / 50 Hz - 240 V / 60 Hz

Plug

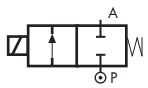
Plug	
	w/o plug
0A1	c/w plug

D	•	•	•	D	B	Z	N	L	•	•	•	•	•	•	•

Product coding example:

D205DBZNL 725R
1/2 NPT, auto operation, brass body, NBR seals, 33/64 orifice, 24 V / 50/60 Hz, without plug.

D237/238/239 & C D237/238/239 Series, Vacuum – 2/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass C37700 (UNS Designation)
Flange	Stainless Steel AISI 303 (1.4305 EN 10088)
Additional Flange (HEX 30)	Brass C37700 (UNS DESIGNATION)
Tube	Stainless Steel AISI 304
Plunger	Stainless Steel AISI 430F (1.4106 EN 10088)
Top Stop	Stainless Steel AISI 430F (1.4105 EN 10088)
Springs	Stainless Steel AISI 302
Seal Material (Std)	NBR
Connection Type	NPT
Shading Ring	Copper
Electrical Characteristics[1]	
High Power Coil Voltage DC (=)	24 V
High Power Coil Voltage AC 50 Hz (~)	24 V, 110 V, 230 V
High Power Coil Voltage AC 60 Hz (~)	24 V, 120 V, 240 V
Voltage Tolerance	+10% to -15% (AC) +10% to -5% (DC)
Duty Cycle	100% ED
Enclosure Classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation Class	180 (H) to EN 60730-1
Power Rating (High Power)	AC 25 VA (holding) AC 50 VA (inrush) DC 22 W

[1] High power coils are not UL approved.

Features and Benefits

- Direct Acting
- Robust construction for industrial applications
- Configuration suitable for vacuum
- Stainless steel AISI 430F operators with low residual magnetism
- Coils tested 100% in compliance to RoHS directive and to relevant international standards
- Choice of high quality seal materials
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD psi (bar)		Orifice inches (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
1/4	1.49	1.27	0 to -13.8 (0 to -0.95)	-	13/32 (10.5)	NBR EPDM	D237DBUN1 D237DEUN1
3/8	1.68	1.44	0 to -13.8 (0 to -0.95)	-	13/32 (10.5)	NBR EPDM	D238DBUN1 D238DEUN1
1/2	1.76	1.50	0 to -13.8 (0 to -0.95)	-	13/32 (10.5)	NBR EPDM	D239DBUN1 D239DEUN1
1/4	1.49	1.27	-	0 to -13.8 (0 to -0.95)	13/32 (10.5)	NBR EPDM	C D237DBUN1 C D237DEUN1
3/8	1.68	1.44	-	0 to -13.8 (0 to -0.95)	13/32 (10.5)	NBR EPDM	C D238DBUN1 C D238DEUN1
1/2	1.76	1.50	-	0 to -13.8 (0 to -0.95)	13/32 (10.5)	NBR EPDM	C D239DBUN1 C D239DEUN1

Options Available

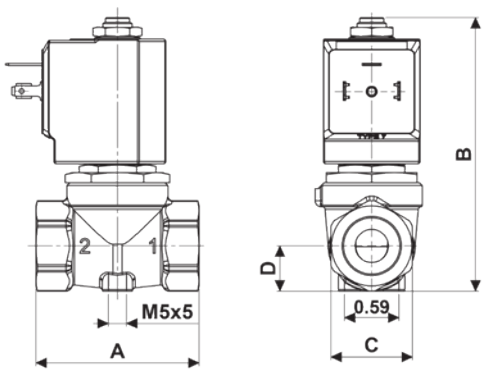
Valve Options (see coding chart)
G parallel thread (ISO 228-1)

Seal Material[2] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
NBR 60 shore 14 °F to 194 °F (-10 °C to +90 °C)	Water, oil, air	14 °F (-10 °C)	122 °F (+50 °C)
EPDM 14 °F to 248 °F (-10 °C to +120 °C)	Water, hot water	14 °F (-10 °C)	122 °F (+50 °C)

[2] See corrosion reference guide and sealing solutions for material compatability.
Other seals material on request.

D237/238/239 & C D237/238/239 Series, Vacuum – 2/2 Normally Closed

Coil Rotation



Preferred Valve Mounting Options

Pipe Size	A	B	C	D	Weight Lb (kg)
1/4 - 3/8 - 1/2	2.13 (54)	3.50 (89)	HEX 27 (27)	0.59 (15)	0.99 (0.45)

Dimensions inches (mm)

Solenoid enclosures

7-K1 & 7-Z1 Type Coil - Insulation class H

External material: PPS (glass fiber & mineral filled)
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (E180)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Valve Type	
D	AC version
CD	DC version

Pipe Size	
7	1/4
8	3/8
9	1/2

Seals	
E	EPDM
B	NBR

Thread Pipe	
N	NPT
	GAS

Coil options

Voltage / Frequency - Class H, High Power	
72Z1	24 DC
72K1	24 V / 50/60 Hz
74K1	110 V / 50 Hz - 120 V / 60 Hz
77K1	230 V / 50 Hz - 240 V / 60 Hz

Plug

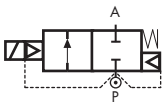
Plug	
	w/o plug
0A1	c/w plug

•	2	3	•	D	•	U	N	1	•	•	•	•	•	•	•

Product coding example:

D238DEUN1 77K1
3/8 NPT, auto operation, brass body, EPDM seals, 13/32 orifice, 230 V / 50 Hz - 240 V / 60 Hz, without plug.

D223/224/225 Series, Vacuum – 2/2 Normally Closed

Specifications	
Function (single acting)	 Flow direction underseat 2 → 1
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass C37700 (UNS Designation)
Flange	Stainless Steel AISI 303 (1.4305 EN 10088)
Tube	Stainless Steel AISI 304
Plunger	Stainless Steel AISI 430F (1.4106 EN 10088)
Top Stop	Stainless Steel AISI 430F (1.4105 EN 10088)
Springs	Stainless Steel AISI 302
Seal Material (Std)	NBR
Connection Type	NPT
Shading Ring	Copper
Electrical Characteristics	
Coil Voltage DC (=)	24 V
Coil Voltage AC 50 Hz (~)	24 V, 110 V, 230 V
Coil Voltage AC 60 Hz (~)	120 V, 240 V
Voltage Tolerance	+10% to -15% (AC) +10% to -5% (DC)
Duty Cycle	100% ED
Enclosure Classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation Class	155 (F) to UL429 and to EN 60730-1
Power Rating (cULus Coils)	AC 15 VA (holding) AC 30 VA (inrush) DC 14 W

Features and Benefits

- Pilot operated
- Robust construction for industrial applications
- Configuration suitable for vacuum
- Stainless steel AISI 430F operators with low residual magnetism
- High quality seal materials
- Speed control screw as standard
- Response time 50 to 500 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD psi (bar)		Orifice inches (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
1 1/4	25.97	22.20	-7.3 to -13.8 (-0.5 to -0.95)	-7.3 to -13.8 (-0.5 to -0.95)	1 37/64 (40)	NBR	D223DBKNL
1 1/2	28.08	24.00			1 37/64 (40)	NBR	D224DBKNL
2	37.91	32.40			2 (50)	NBR	D225DBJNL

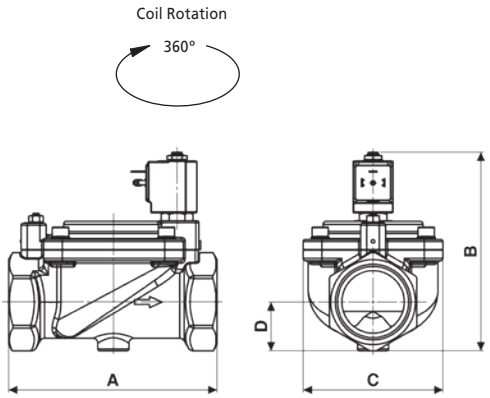
Options Available

Valve Options (see coding chart)
G parallel thread (ISO 228-1)
CE coils, power DC 14W - AC 18 VA

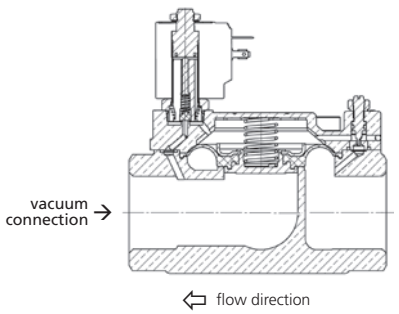
Seal Material[1] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
NBR 14 °F to 194 °F (-10 °C to +90 °C)	Water, oil, air	14 °F (-10 °C)	122 °F (+50 °C)

[1] See corrosion reference guide and sealing solutions for material compatability.
Other seals material on request.

D223/224/225 Series, Vacuum – 2/2 Normally Closed



Connection scheme



Preferred Valve Mounting Options

Pipe Size	A	B	C	D	Weight Lb (kg)
1 1/4 - 1 1/2	5.51 (140)	5.51 (140)	3.78 (96)	1.22 (31)	6.17 (2.8)
2	6.61 (168)	6.22 (158)	4.41 (112)	1.54 (39)	8.60 (3.9)

Dimensions inches (mm)

Solenoid enclosures

7--R c UL us Type Coil - Insulation class F

Encapsulation material: PET 815ER Rynite®
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (P180)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*
UL approved, file No: E193928

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Pipe Size	
23	1 1/4
24	1 1/2
25	2

Orifice[1]	
K	1 37/64
J	2

Thread Pipe	
N	NPT
	GAS

Coil options

Voltage / Frequency - c UL us Type, Class F	
725R	24 VDC
720R	24 V / 50 Hz
740R	110 V / 50 Hz - 120 V / 60 Hz
770R	230 V / 50 Hz - 240 V / 60 Hz

Voltage / Frequency - CE Type, Class F	
7250	24 VDC
7200	24 V / 50/60 Hz
7400	110 V / 50 Hz - 120 V / 60 Hz
7600	200 V / 50 Hz - 220 V / 60 Hz
7700	230 V / 50 Hz - 240 V / 60 Hz

Plug

Plug	
	w/o plug
0A1	c/w plug

D	2	•	•	D	B	•	N	L	•	•	•	•	•	•	•

[1] DN 1 37/64 for D223 and D224; DN 2 for D225.

Product coding example:

D225DBJNL 725R
2 NPT, auto operation, brass body, NBR seals, 2 orifice, 24 VDC, without plug.

UGB Series – 2/2 Normally Closed

Specifications	
Mode of Operation	Normally closed, energise to open Out (2) In (1)
Body Material	Aluminium
Flange Tube	Stainless Steel
Plunger and top stop	Stainless Steel
Springs	Stainless Steel
Seal Material	Nitrile (BunaN) (Std) other options available
Connection Type	NPT
Shading Ring	Copper
Electrical Characteristics	
Coil Voltage AC 60 Hz (~)	24 V, 120 V
Voltage Tolerance	+10% or -10%
Duty Cycle	100% ED
Electrical Connection Options	½" NPT metal conduit hub with 18" leads (NEMA 2 equivalent protection class)
Coil Insulation	Class H
Power Rating	¼" - ½" - 14 Watts ¾" - 1" - 22 Watts

Features and Benefits

- Approved for mains gas safety shut off
- Suitable for automatic burners
- Suitable for fire protection systems
- Ideal for low pressure Natural gas
- Compliant with Gas Appliance directive
- Fully ported Orifices for high flow
- Zero pressure rated
- Optional pressure test points
- Suitable for 1st, 2nd and 3rd family gases
- Suitable for LPG
- Response time up to ½" 15 - 25 ms
- Response time up to 1" 20 - 40 ms
- Consult factory for pressure rating
- Panic buttons & electro thermal links available for controlling valve

Port size	Cv	Kv	OPD (psi) AC Voltages	P. Max psi	Orifice (mm)	Weight (lbs)
¼"	4.2	3.6	0-2.0	14.5	12.7	0.5
⅜"	5.8	5.0	0-2.0		12.7	0.5
½"	6.3	5.4	0-2.0		12.7	0.5
¾"	15.0	12.9	0-1.5		19.0	0.6
1"	15.7	13.6	0-1.5		19.0	0.7

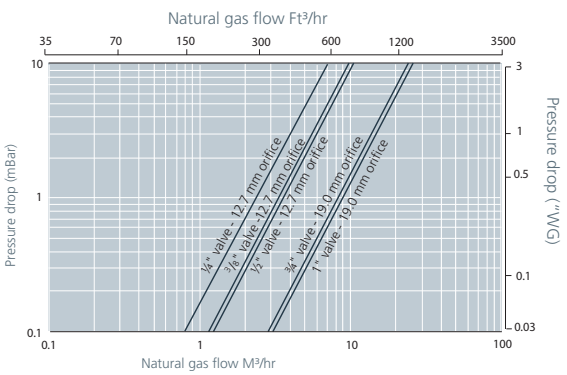
Kv = flow rate measured with differential pressure at 0.036 psi

Options Available

Seal Material[1] and Media Temp. Range	Ambient Temperature Range	
	Min	Max
Nitrile (14 °F to +176 °F)	32 °F	140 °F

1 See corrosion reference guide and sealing solutions for material compatability.

Main valve body options
Stainless Steel Tagging (consult factory for product code)

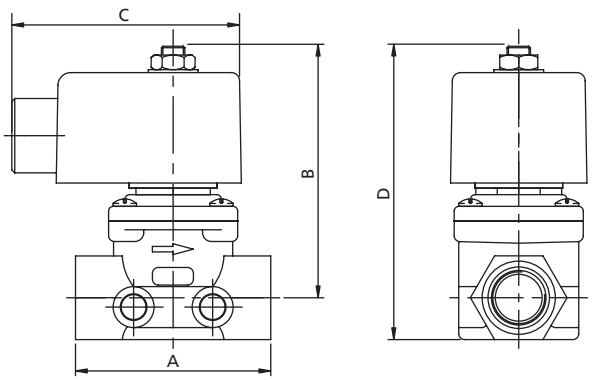


How to use the flow chart

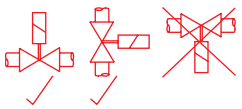
1. Select the required flow.
2. Note the corresponding pressure drop.
3. Based on where the two points intersect select the most appropriate model.

UGB Series – 2/2 Normally Closed

Coil Rotation



Preferred Valve Mounting Options



Dimensions

Port size	A	B	C	D
¼"	2¼"	3"	3"	3 5/8"
3/8"	2¼"	3"	3"	3 5/8"
½"	2¼"	3"	3"	3 5/8"
3/4"	3 3/8"	3 9/16"	2 9/16"	4¼"
1"	4 3/8"	3 9/16"	2 9/16"	4 7/16"

Dimensions given in inches

Solenoid enclosures

S4 Type enclosure protection class IP50

External material: Pressed steel powder coated

Electrical entry: ½" NPT metal conduit hub with 18" leads (NEMA 2 equivalent protection class)

Winding Insulation: Class H

Coding chart

Main Valve Assembly

Model		Valve Body Conn. Size		Conn. Type		Operation		Orifice (mm)		Body Material		Seals		Style	
34	UGB	B	¼"	3	NPT	1	AUTO	Z	Default	3	Aluminium	A	Nitrile	1	Standard
		C	3/8"												
		D	½"												
		E	3/4"												
		F	1"												

Coil options

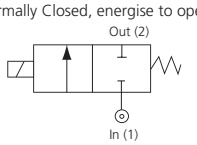
Enclosure		Voltage / Frequency		Electrical connection		Approval	
2	S4 type enclosure -metal can (IP50) UL Approved	H1	24 V / 60 Hz (¼" to ½" only)	9	½" NPT	1	UL
		H2	120 V / 60 Hz (¼" to ½" only)				
		H5	120 V / 60 Hz (3/4" to 1" only)				

34	•	3	1	Z	3	A	1	-	2	••	9	1

Product coding example:

34B31Z3A1-2H291: UGB Series
¼" NPT, Auto, brass body, Nitrile seals, 120 V / 60 Hz, ½" NPT electrical connection, UL.

68 Series: Cryogenic – 2/2 Normally Closed

Specifications	
Mode of Operation	Normally Closed, energise to open 
Special Features	Oxygen degreased and individually packed for use with liquids down to -321 °F
Maximum Viscosity	65 cST
¼" to 1" Body Material	Brass (Std) or Stainless Steel option 1¼" to 2" Body Material – Bronze
Flange Tube	Stainless Steel
Plunger and top stop	Stainless Steel
Springs	Stainless Steel
Seal Material	PTFE (Teflon)
Connection Type	NPT
Electrical Characteristics	
Coil Voltage DC (=)	12 V, 24 V
Coil Voltage AC 60 Hz (~)	24 V, 120 V
Voltage Tolerance	+10% or -10%
Duty Cycle	100% ED
Electrical Connection	½" NPT metal conduit hub with 18" leads (NEMA 2 equivalent protection class)
Coil Insulation	Class H
Power Rating	14.5 Watts

Features and Benefits

- Controls Cryogenic Media down to -321 °F
- Degreased and individually Packaged for Cryogenic Service
- Larger Porting for High Kv
- *Teflon*® - PTFE seals
- Choice of Brass or Stainless steel valve body
- Tested in accordance with BS-EN 12266-1

Port Size	Cv	Kv	OPD (psi)		P. Max psi	Orifice (mm)	Weight (lbs)
			AC Voltages	DC Voltages			
¼"	0.52	0.43	0-120	0-120	725	4.50	1
¼"	0.60	0.52	0-116	0-116		6.0	
⅜"	3.50	3.0	5-125	5-125		16.00	2.8
½"	4.90	4.2	5-125	5-125		16.00	
¾"	6.3	5.4	5-125	5-125		16.00	
1"	8.24	7.1	5-125	5-125		25.00	5.0
1¼"	20.9	18	5-125	5-125		30.00	6.8
1½"	20.9	18	5-125	5-125		30.00	
2"	20.9	18	5-125	5-125		32.00	11.5

Options Available

Solenoid Enclosure Protection Class	
EExd T6 (NEMA 6 equivalent)	Consult Rotork Midland for product codes
EExd T4 (NEMA 6 equivalent)	

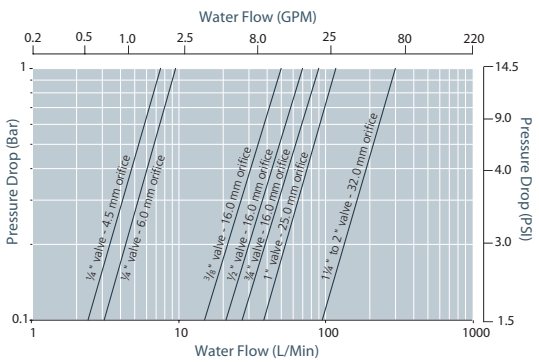
Seal Material[1] and Media Temp. Range	Ambient Temperature Range	
	Min	Max
PTFE (-321 °F to +356 °F)	14 °F	122 °F

[1] See corrosion reference guide and sealing solutions for material compatability.

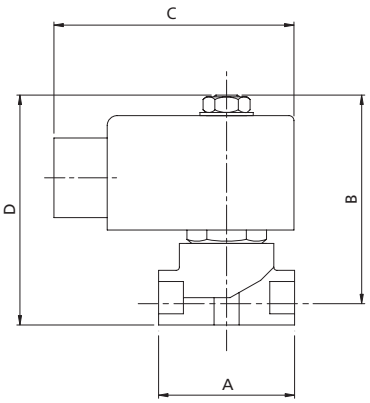
Main Valve Body Options
Stainless Steel 316
Stainless Steel Tagging (consult factory for product code)

How to use the flow chart

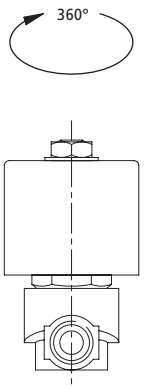
1. Select the required flow.
2. Note the corresponding pressure drop.
3. Based on where the two points intersect select the most appropriate model.



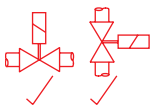
68 Series: Cryogenic – 2/2 Normally Closed



Coil Rotation



Preferred Valve Mounting Options



Port size	A	B	C	D
¼"	1 3/4"	2 3/4"	2 9/16"	3 1/16"
3/8 - 3/4"	2 1/2"	4 1/8"	2 5/16"	4 13/16"
1"	4 7/16"	4 15/16"	3 1/16"	5 3/4"
1¼"-1½	4 5/8"	5¼"	2 7/8"	7 1/16"
2"	5 3/4"	5 11/16"	3 3/4"	8 1/4"

Dimensions given in inches

Solenoid enclosures

S4 Type enclosure protection class IP50

External material: Pressed steel powder coated

Electrical entry: ½" NPT metal conduit hub with 18" leads (NEMA 2 equivalent protection class)

Winding Insulation: Class H

Coding chart

Main Valve Assembly

Model	Valve Body Conn. Size	Connection Type	Operation	Orifice (mm)	Body Material	Seals	Style
37 68 series	B ¼ C 3/8" D ½" E ¾" F 1" G 1¼" H 1½" J 2"	3 NPT	1 AUTO	H 4.5 J 6.0 Z Default	1 Brass (standard on valves up to and including 1") 2 Bronze (standard on valves above 1") 5 316 Stainless Steel (option available up to and inc 1")	E PTFE	1 Standard

Coil options

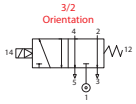
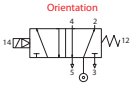
Enclosure	Voltage / Frequency	Electrical Connection	Approval
2 S4 type enclosure -metal can (IP50) UL Approved	F1 24 VDC F4 12 VDC H1 24 V / 60 Hz H2 120 V / 60 Hz	9 ½" NPT	8 Non UL

37	•	3	1	•	•	E	1	-	2	••	9	8

Product coding example:

37D31Z1E1-2H298: 68 series
½" NPT, auto, brass body, PTFE seals, 120 V / 60 Hz, ½" NPT electrical connection, Non UL.

Namur Series – 3/2, 5/2 Universal

Specifications	
Mode of Operation	Normally Closed, energise to open 3/2 Orientation  5/2 Orientation 
Media	Air
Body Material	Anodised Aluminium
Flange Tube	Brass
Plunger and top stop	Stainless Steel
Springs	Stainless Steel
Seal Material	Nitrile (BunaN) (Std)
Electrical Characteristics	
Coil Voltage DC (=)	24 V
Coil Voltage AC 60 Hz (~)	120 V
Voltage Tolerance	+10% or -10%
Duty Cycle	100% ED
Electrical Connection Options	9mm din connector (NEMA 4 equivalent protection class)
Coil Insulation	Class F
Power Rating	5 Watts

Features and Benefits

- Ideal for in-line system service and repair
- Manual Overide
- Low power LED Light
- Dual Coil option
- Exd and Exia compatible
- Max cycle frequency 5/sec

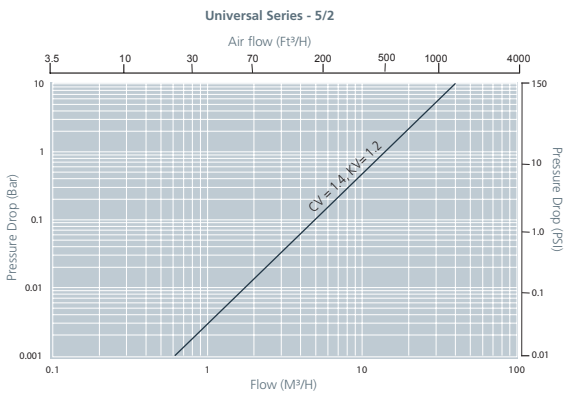
Port Size	Cv	Kv	OPD (psi)		P. Max psi	Weight (lbs)
			AC Voltages	DC Voltages		
¼"	1.4	1.2	36-150	36-150	150	0.4

Options Available

Solenoid Enclosure	
Protection Class	
EExd T6 (NEMA 6 equivalent)	See separate datasheet
EExd T4 (NEMA 6 equivalent)	

Seal Material[1] and Media Temp. Range	Ambient Temperature Range	
	Min	Max
Nitrile (14 °F to +176 °F)	14 °F	122 °F

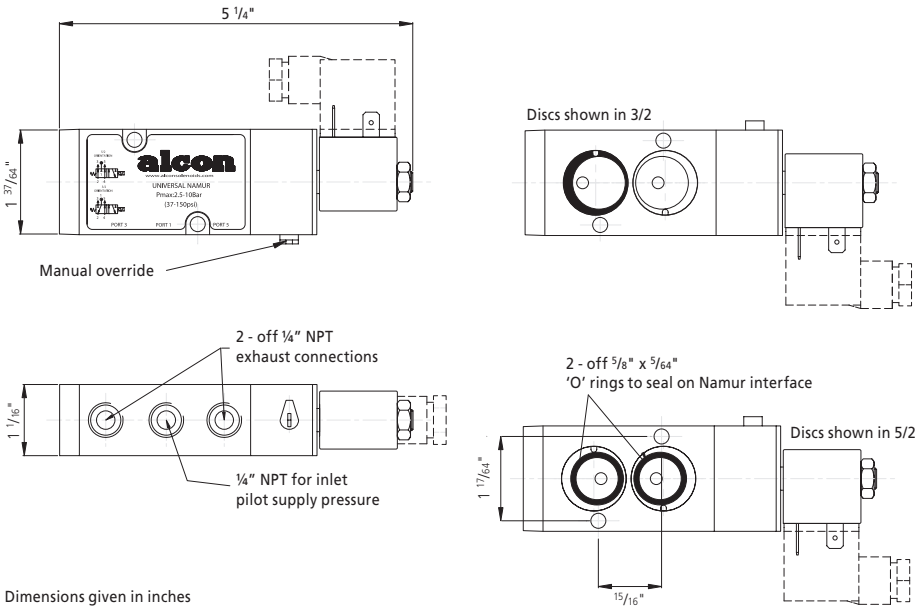
[1] See corrosion reference guide and sealing solutions for material compatability.



How to use the flow chart

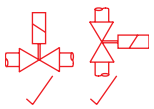
1. Select the required flow.
2. Note the corresponding pressure drop.
3. Based on where the two points intersect select the most appropriate model.

Namur Series – 3/2, 5/2 Universal



Dimensions given in inches

Preferred Valve Mounting Options



Solenoid enclosures

S7 enclosure protection class IP65 (NEMA 4 equivalent)

External material: Nylon
Electrical connection: DIN Plug to ISO 4400
Winding: Insulation Class F
Conforms to IP65 when correct plug seal gasket is fitted.

Coding chart

Main Valve Assembly

Model	Size	Connection Type	Operation	Orifice (mm)	Body Material	Seals	Style
65 Namur	B ¼"	3 NPT	2 Manual Override	Z Default	3 Aluminium	A Nitrile	1 Standard

Coil options

Enclosure	Voltage / Frequency	Electrical Connection	Approval
1 Weather Proof IP65 (NEMA 4)	QY 120 V / 60 Hz R1 24 VDC	1 Din plug 9mm	8[1] Non UL

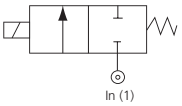
65	B	3	2	Z	3	A	1	-	1	••	1	8

[1] Not needed for DC option.

Product coding example:

65B32Z3A1-1QY18:
Namur, IP65 (NEMA 4 equivalent), ¼" NPT, manual override, Aluminium body, Nitrile seals, 120 V / 60 Hz, electrical connection 9 mm DIN.

U21 Series Ex – 2/2 Normally Closed

Specifications	
Mode of Operation	Normally Closed, energise to open Out (2)  In (1)
Maximum Viscosity	115 SSU
Body Material	Brass or Stainless Steel option
Flange Tube	Stainless Steel
Plunger and top stop	Stainless Steel
Springs	Stainless Steel
Seal Material	Nitrile (BunaN) (Std) other options available
Connection Type	NPT
Shading Ring	Copper (std), Silver (stainless steel option)
Electrical Characteristics	
Coil Voltage DC (=)	12 V, 24 V
Coil Voltage AC 60 Hz (~)	24 V, 120 V
Voltage Tolerance	+10% or -10%
Duty Cycle	100% ED
Protection Class (Exd)	II 2 G Ex d IIC T4 Tamb (-58 °F to +158 °F) (NEMA 6 equivalent) II 2 G Ex d IIC T6 Tamb (-58 °F to +104 °F) (NEMA 6 equivalent) Class 1 Zone 1 Groups IIA, IIB, IIC gases
Electrical Connection (Exd)	½" NPT Port (Std)
Coil Insulation	Class H
Power Rating	14.5 Watts

Features and Benefits

- Compact valve design
- Zero pressure rated
- Wide range of available orifices
- Choice of valve body material and seals
- Choice of electrical connections
- ATEX approved
- Response time 5-25 ms
- Tested in accordance with BS-EN 12266-1

Port size	Cv	Kv	OPD (psi)		P. Max psi	Orifice (mm)	Protection Class	Weight (lbs) excluding solenoid
			AC Voltages	DC Voltages				
¼"	0.12	0.10	0-675	0-310	675	1.6	Exd T6	0.8
¼"	0.24	0.21	0-300	0-140		2.4	Exd T6	
¼"	0.35	0.30	0-225	0-65		3.0	Exd T6	
¼"	0.53	0.46	0-105	0-34		4.5	Exd T6	
¼"	0.70	0.60	0-60	0-15		6.0	Exd T6	

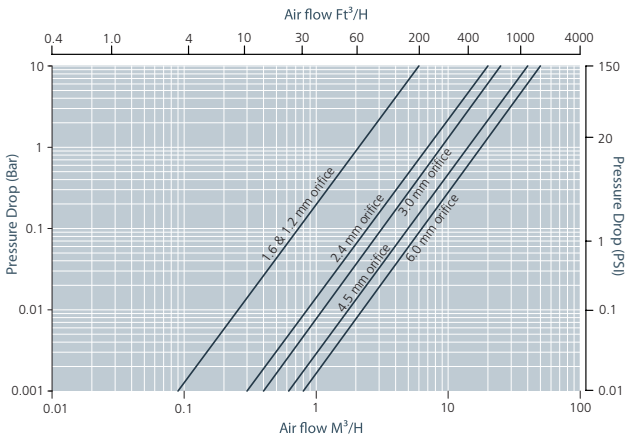
Options Available

Solenoid Enclosure		
Protection Class	**Electrical Entry**	**Enclosure Material**
Exd T4 (NEMA 6 equivalent)	½" NPT conduit (std) M20 X 1.5 conduit (option)	Aluminium (Std) Stainless Steel optional
Exd T6 (NEMA 6 equivalent)		

Seal Material[1] and Media Temp. Range	Ambient Temperature Range		
	Min	Max (T6)	Max (T4)
Nitrile (14 °F to +176 °F)	14 °F	104 °F	158 °F
EPDM (-58 °F to +248 °F)	-58 °F	104 °F	158 °F
Viton (-4 °F to +302 °F)	-4 °F	104 °F	158 °F
PTFE (-328 °F to +356 °F)	-58 °F	104 °F	158 °F

Main valve body options
Stainless Steel 316
Manual Override
Stainless Steel Tagging (consult factory for product code)

1 See corrosion reference guide and sealing solutions for material compatability.

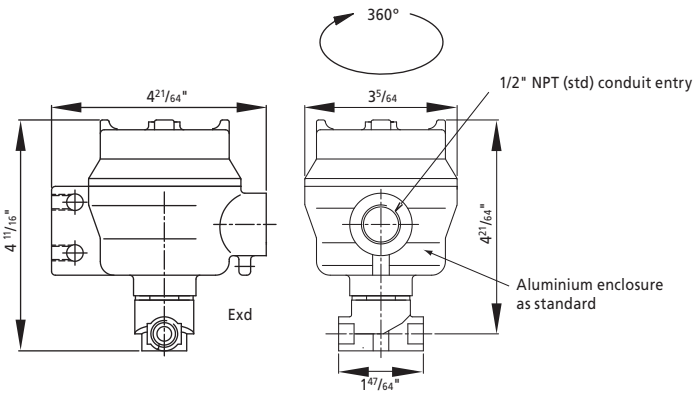


How to use the flow chart

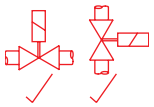
1. Select the required flow.
2. Note the corresponding pressure drop.
3. Based on where the two points intersect select the most appropriate model.

U21 Series Ex – 2/2 Normally Closed

Coil Rotation



Preferred Valve Mounting Options



Dimensions given in inches

Solenoid enclosures

Exd S4 type enclosure

Power consumption:	Holding 19 VA, 12 V to 230 V 50 / 60 Hz. 14.5 W, 12 V to 212 VDC
External material:	Powder coated aluminium or 316 st.st. enclosure with st.st. nameplate
Electrical entry:	M20 x 1.5 or ½" NPT conduit entry
Protection Class:	II 2 G Exd IIC T6 for ambient temp -58 °F to +104 °F
Optional:	II 2 G Exd IIC T4 for ambient temp -58 °F to +158 °F
Weight:	1.8 lbs Aluminium or 3.3 lbs - Stainless Steel

CSA approval

Alcon flame proof enclosures are suitable for the following areas / gases:

	Zones 1 & 2
	Class 1 Division 1
	Class 1 Division 2
Groups:	IIA, IIB, IIC gases

Main Valve Assembly

Model	
11	U21 Series

Size	
B	¼"

Connection Type	
3	NPT

Operation	
1	AUTO
2	MANUAL OVERIDE

Orifice (mm)	
C	1.6
E	2.4
F	3.0
H	4.5
J	6.0

Body Material	
1	Brass
5	316 Stainless Steel

Seals	
A	Nitrile
B	EPDM
C	VITON
E	PTFE

Style	
3	Exd

Coil options

Enclosure	
5	Exd Aluminium
6	Exd Stainless Steel

Voltage / Frequency	
F1	24 VDC
F4	12 VDC
H1	24 V / 60 Hz
H2	120 V / 60 Hz

Electrical connection	
5	M20x1.5
9	½"NPT

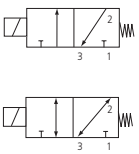
T Rating	
9	Atex T6
949	Atex T4
G	Atex T6 (CSA)
I	Atex T4 (CSA)

11	B	3	•	•	•	•	3	-	•	••	•	•

Product coding example:

11B31E1A3-5H29G: 21 Series
¼" NPT, Auto , 2.4 mm orifice, brass body, nitrile seals, Exd Aluminium housing 120 V / 60 Hz, ½" NPT electrical connection, T6 CSA approved.

U31/U33 Series Ex – 3/2 Normally Closed / Universal

Specifications	
Mode of Operation	31 series 3/2 Normally Closed  33 series 3/2 Universal
Maximum Viscosity	115 SSU
Body Material	Brass or Stainless Steel option
Flange Tube	Stainless Steel
Plunger and top stop	Stainless Steel
Springs	Stainless Steel
Seal Material	Nitrile (BunaN) (Std) other options available
Connection Type	NPT
Shading Ring	Copper (std), Silver (stainless steel option)
Electrical Characteristics	
Coil Voltage DC (=)	12 V, 24 V
Coil Voltage AC 50 Hz (~)	24 V, 120 V
Voltage Tolerance	+10% or -10%
Duty Cycle	100% ED
Protection Class (Exd)	II 2 G Ex d IIC T4 Tamb (-58 °F to + 158 °F) (NEMA 6 equivalent) II 2 G Ex d IIC T6 Tamb (-58 °F to + 104 °F) (NEMA 6 equivalent) Class 1 Zone 1 Groups IIA, IIB, IIC gases
Electrical Connection (Exd)	½" NPT Port (Std)
Coil Insulation	Class H
Power Rating	14.5 Watts

Features and Benefits

- Direct Acting
- Zero pressure rated
- Compact Valve Design
- Ideal for mixing, diverting and venting applications
- Choice of valve body material and seals
- Wide range of available orifices
- Response time 5-25 ms
- Tested in accordance with BS-EN 12266-1

Port Size	Cv	Kv	OPD (psi)		P. Max psi	Orifice (mm)	Weight (lbs) excluding solenoid	Desc.
			AC Voltages	DC Voltages				
¼"	0.12	0.10	0-155	0-155	675	1.6	1.0	N/C
¼"	0.24	0.21	0-100	0-100		2.4		N/C
¼"	0.35	0.30	0-85	0-85		3.0		N/C
¼"	0.12	0.10	0-107	0-107		1.6		Universal
¼"	0.24	0.21	0-42	0-42		2.4		Universal
¼"	0.35	0.30	0-30	0-30		3.0		Universal

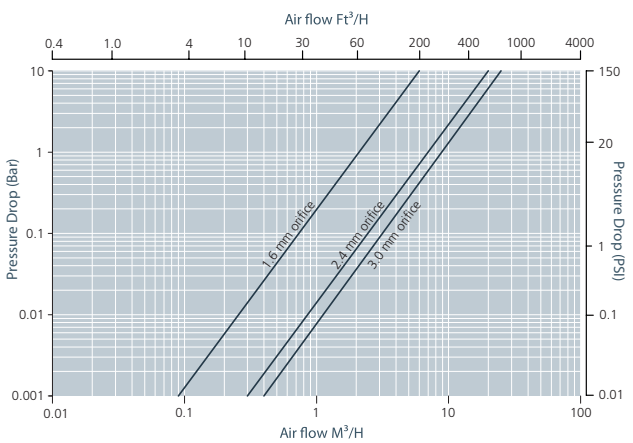
Options Available

Solenoid Enclosure		
Protection Class	**Electrical Entry**	**Enclosure Material**
Exd T4 (NEMA 6 equivalent)	½" NPT conduit (std) M20 X1.5 conduit (option)	Aluminium (Std) Stainless Steel optional
Exd T6 (NEMA 6 equivalent)		

Seal Material[1] and Media Temp. Range	Ambient Temperature Range		
	Min	Max (T6)	Max (T4)
Nitrile (14 °F to +176 °F)	14 °F	104 °F	158 °F
EPDM (-58 °F to +248 °F)	-58 °F	104 °F	158 °F
Viton (-4 °F to +302 °F)	-4 °F	104 °F	158 °F

Main valve body options
Stainless Steel 316
Manual Override
Stainless Steel Tagging (consult factory for product code)

1 See corrosion reference guide and sealing solutions for material compatability.



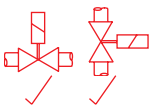
How to use the flow chart

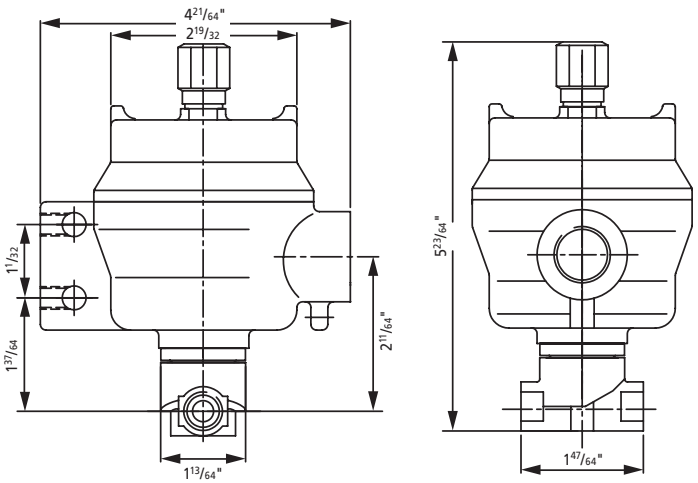
1. Select the required flow.
2. Note the corresponding pressure drop.
3. Based on where the two points intersect select the most appropriate model.

U31/U33 Series Ex – 3/2 Normally Closed / Universal

Coil Rotation

Preferred Valve Mounting Options





Dimensions given in inches

Solenoid enclosures

Exd S4 type enclosure

Power consumption:	Holding 19 VA, 12 V to 230 V 50 / 60 Hz. 14.5 W, 12 V to 212 VDC
External material:	Powder coated aluminium or 316 st.st. enclosure with st.st. nameplate
Electrical entry:	M20 x 1.5 or ½" NPT conduit entry
Protection Class:	II 2 G Exd IIC T6 for ambient temp -58 °F to +104 °F
Optional:	II 2 G Exd IIC T4 for ambient temp -58 °F to +158 °F
Weight:	1.8 lbs Aluminium or 3.3 lbs - Stainless Steel

CSA approval

Alcon flame proof enclosures are suitable for the following areas / gases:

	Zones 1 & 2
	Class 1 Division 1
	Class 1 Division 2
Groups:	IIA, IIB, IIC gases

Main Valve Assembly

Model		Size		Connection Type		Operation		Orifice (mm)		Body Material		Seals		Style	
29	31 Series	B	¼"	3	NPT	1	AUTO	C	1.6	1	Brass	A	Nitrile	3	Exd
32	33 Series					2	MANUAL OVERIDE	E	2.4	5	316 Stainless Steel	B	EPDM		
								F	3.0			C	VITON		

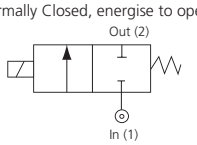
Coil options

Enclosure		Voltage / Frequency		Electrical connection		T Rating	
9	3 way Exd Aluminium	F1	24 VDC	5	M20x1.5	9	Atex T6
A	3 way Exd Stainless Steel	F4	12 VDC	9	½"NPT	949	Atex T4
		H1	24 V / 60 Hz			G	Atex T6 (CSA)
		H2	120 V / 60 Hz			I	Atex T4 (CSA)

•	B	3	•	•	•	•	3	-	•	••	•	•

Product coding example:

29B31E1A3-9H29G: 31 Series
¼" NPT, Auto, 2.4 mm orifice, brass body, nitrile seals, Exd Aluminium housing, 120 V / 60Hz, ½"NPT electrical connection, T6 CSA approved.

Specifications	
Mode of Operation	Normally Closed, energise to open 
Maximum Viscosity	115 SSU
3/8" - 1" Body Material (Std)	Brass (Std) or Stainless Steel option
1 1/4" - 2" Body Material (Std)	Bronze (Std)
Flange Tube	Stainless Steel
Plunger and top stop	Stainless Steel
Springs	Stainless Steel
Seal Material	Nitrile (BunaN) (Std) other options available
Connection Type	NPT
Shading Ring	Copper (std), Silver (stainless steel option)
Electrical Characteristics	
Coil Voltage DC (=)	12 V, 24 V
Coil Voltage AC 60 Hz (~)	24 V, 120 V
Voltage Tolerance	+10% or -10%
Duty Cycle	100% ED
Protection Class (Exd)	II 2 G Ex d IIC T4 Tamb (-58 °F to + 158 °F) (NEMA 6 equivalent) II 2 G Ex d IIC T6 Tamb (-58 °F to + 104 °F) (NEMA 6 equivalent) Class 1 Zone 1 Groups IIA, IIB, IIC gases
Electrical Connection (Exd)	½" NPT Port (Std)
Coil Insulation	Class H
Power Rating	14.5 Watts

Features and Benefits

- Robust Valve Design
- Diaphragm Operation
- Fully Ported orifices for high Kv
- Choice of valve body material seals
- ATEX Approved
- Response time up to 1" 15-60 ms
- Response time up to 2" 60-120 ms
- Tested in accordance with BS-EN 12266-1z

Port size	Cv	Kv	OPD (psi)		P. Max psi	Orifice (mm)	Weight (lbs) excluding solenoid
			AC Voltages	DC Voltages			
3/8"	3.5	3.0	0-150	0-150	675	16.0	2
½"	4.9	4.2	0-150	0-150		16.0	2
¾"	5.4	4.7	0-150	0-150		16.0	2
1"	8.2	7.0	0-150	0-150		20.0	4
1¼"	26.7	23	0-60	-		40.0	6.6
1½"	26.7	23	0-60	-		40.0	6.6
2"	30.16	26	0-60	-		40.0	6.6
1¼"[2]	26.7	23	5-150	5-150		40.0	6.6
1½"[2]	26.7	23	5-150	5-150		40.0	6.6
2"[2]	30.2	26	5-150	5-150		40.0	6.6

[2] Pressure assisted to achieve a greater OPD. e.g. code 19G31Z2A3-5F19G.

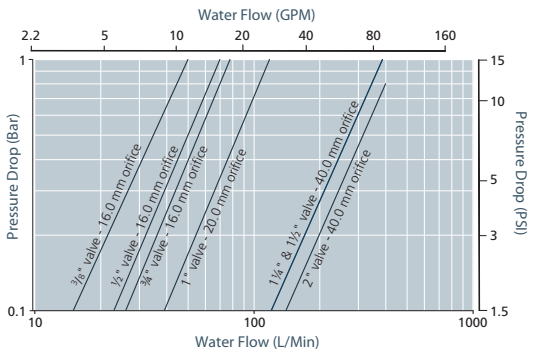
Options Available

Solenoid Enclosure		
Protection Class	Electrical Entry	Enclosure Material
Exd T4 (NEMA 6 equivalent)	½" NPT conduit (std) M20 X1.5 conduit (option)	Aluminium (Std) Stainless Steel optional
Exd T6 (NEMA 6 equivalent)		

Seal Material[1] and Media Temp. Range	Ambient Temperature Range		
	Min	Max (T6)	Max (T4)
Nitrile (14 °F to +176 °F)	14 °F	104 °F	158 °F
EPDM (-58 °F to +248 °F)	-58 °F	104 °F	158 °F
Viton (-4 °F to +302 °F)	-4 °F	104 °F	158 °F

Main Valve Body Options
Stainless Steel 316 (up to and including 1")
Manual Override
Oxygen Cleaning (consult factory for product code)
Stainless Steel Tagging (consult factory for product code)

[1] See corrosion reference guide and sealing solutions for material compatability.

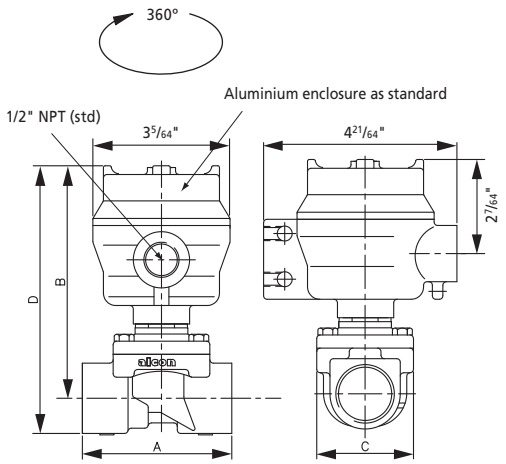


How to use the flow chart

1. Select the required flow.
2. Note the corresponding pressure drop.
3. Based on where the two points intersect select the most appropriate model.

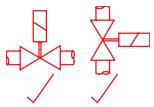
UACD Series Ex – 2/2 Normally Closed

Coil Rotation



Exd

Preferred Valve Mounting Options



Dimensions

Port size	A	B	C	D
3/8" - 3/4"	2 47/64"	4 27/32"	2 11/64"	5 33/64"
1"	3 3/8"	4 27/32"	2 11/64"	5 33/64"
1¼" - 2"	5 25/64"	5 25/32"	4 23/32"	7 3/32"

Dimensions given in inches

Solenoid enclosures

Exd S4 type enclosure

Power consumption:	Holding 19 VA, 12 V to 230 V 50 / 60 Hz. 14.5 W, 12 V to 212 VDC
External material:	Powder coated aluminium or 316 st.st. enclosure with st.st. nameplate
Electrical entry:	M20 x 1.5 or 1/2" NPT conduit entry
Protection Class:	II 2 G Exd IIC T6 for ambient temp -58 °F to +104 °F
Optional:	II 2 G Exd IIC T4 for ambient temp -58 °F to +158 °F
Weight:	1.8 lbs Aluminium or 3.3 lbs - Stainless Steel

CSA approval

Alcon flame proof enclosures are suitable for the following areas / gases:

	Zones 1 & 2
	Class 1 Division 1
	Class 1 Division 2
Groups:	IIA, IIB, IIC gases

Coding chart

Main Valve Assembly

Model	Valve Body Conn. Size	Conn. Type	Operation	Orifice (mm)	Body Material	Seals	Style
17 AC VOLTAGE	C 3/8"	3 NPT	1 AUTO	Z Default	1 Brass (standard on valves up to and including 1")	A Nitrile	3 Exd
18 DC[3] VOLTAGE	D 1/2"		2 MANUAL OVERIDE		2 Bronze (standard on valves above 1")	B EPDM	
19 Pressure assisted option 1¼"to 2"	E ¾"				5 316 Stainless Steel (option available up to and inc 1")	C VITON	
	F 1"						
	G 1¼"						
	H 1½"						
	J 2"						
••	•	3	•	Z	•	•	3

Coil options

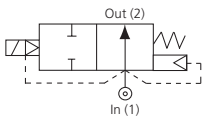
Enclosure	Voltage / Frequency	Electrical Connection	T Rating
5 Exd Aluminium	F1 24 VDC	5 M20x1.5	9 Atex T6
6 Exd Stainless Steel	F4 12 VDC	9 1/2"NPT	949 Atex T4
	H1 24 V / 60 Hz		G Atex T6 (CSA)
	H2 120 V / 60 Hz		I Atex T4 (CSA)
- •	••	•	•

[3] 1¼" to 2" '0' pressure rated options are not available in DC voltages.

Product coding example:

17C31Z1B3-5H299G: UACD Series Exd
3/8", NPT Auto, Brass body, EPDM seals, 120 V / 60Hz, Aluminium Exd enclosure, 1/2"NPT electrical connection, T6, CSA approval.

ACDN Series Ex – 2/2 Normally Open

Specifications	
Mode of Operation	Normally open, energise to close 
Maximum Viscosity	115 SSU
3/8" - 1" Body Material (Std)	Brass (Std) or Stainless Steel option
1 1/4" - 2" Body Material (Std)	Bronze (Std)
Flange Tube	Stainless Steel
Plunger and top stop	Stainless Steel
Springs	Stainless Steel
Seal Material	Nitrile (BunaN) (Std) other options available
Connection Type	NPT
Shading Ring	Copper (std), Silver (stainless steel option)
Electrical Characteristics	
Coil Voltage DC (=)	12 V, 24 V
Coil Voltage AC 60 Hz (~)	24 V, 120 V
Voltage Tolerance	+10% or -10%
Duty Cycle	100% ED
Protection Class (Exd)	II 2 G Ex d IIC T4 Tamb (-58 °F to + 158 °F) (NEMA 6 equivalent) II 2 G Ex d IIC T6 Tamb (-58 °F to + 104 °F) (NEMA 6 equivalent) Class 1 Zone 1 Groups IIA, IIB, IIC gases
Electrical Connection (Exd)	½" NPT Port (Std)
Coil Insulation	Class H
Power Rating	14.5 Watts

Features and Benefits

- Robust Valve Design
- Diaphragm Operation
- Fully Ported Orifices for high Kv
- Choice of valve body material seals
- Sizes 3/8" - 1" Advantica approved to BS EN 60730-2-8 for household use.
- Response time up to 1" 15-60 ms
- Response time up to 2" 60-120 ms
- Tested in accordance with BS-EN 12266-1

Port Size	Cv	Kv	OPD (psi)		P. Max psi	Orifice (mm)	Weight (lbs) excluding solenoid
			AC Voltages	DC Voltages			
3/8"	3.5	3.0	0-150	0-150	675	16.0	2
½"	4.9	4.2	0-150	0-150		16.0	2
¾"	5.4	4.7	0-150	0-150		16.0	2
1"	8.2	7.0	0-150	0-150		20.0	4
1¼"	26.7	23	5-150	5-150		40.0	6.6
1½"	26.7	23	5-150	5-150		40.0	6.6
2"	30.2	26	5-150	5-150		40.0	6.6

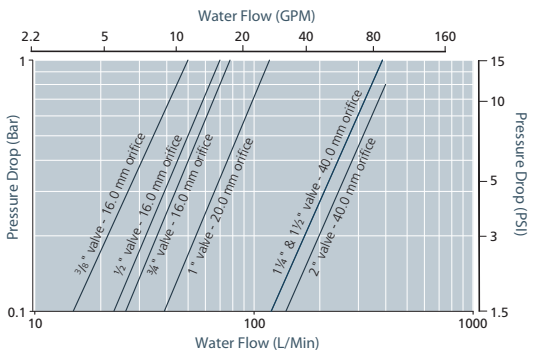
Options Available

Solenoid Enclosure		
Protection Class	**Electrical Entry**	**Enclosure Material**
Exd T4 (NEMA 6 equivalent)	½" NPT conduit (std) M20 X1.5 conduit (option)	Aluminium (Std) Stainless Steel optional
Exd T6 (NEMA 6 equivalent)		

Seal Material[1] and Media Temp. Range	Ambient Temperature Range		
	Min	Max (T6)	Max (T4)
Nitrile (14 °F to +176 °F)	14 °F	104 °F	158 °F
EPDM (-58 °F to +248 °F)	-58 °F	104 °F	158 °F
Viton (-4 °F to +302 °F)	-4 °F	104 °F	158 °F

Main Valve Body Options
Stainless Steel 316 (up to and including 1")
Oxygen Cleaning (consult factory for product code)
Stainless Steel Tagging (consult factory for product code)

[1] See corrosion reference guide and sealing solutions for material compatability.

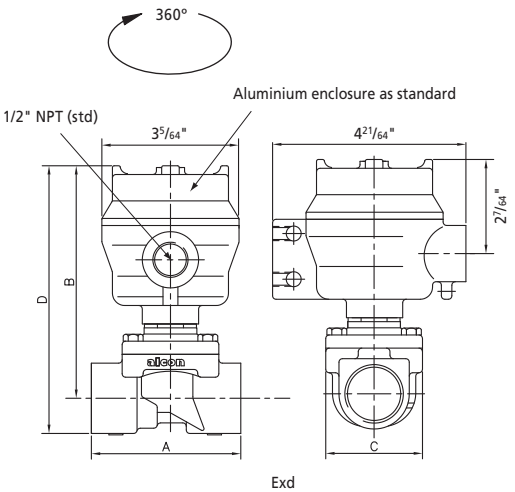


How to use the flow chart

1. Select the required flow.
2. Note the corresponding pressure drop.
3. Based on where the two points intersect select the most appropriate model.

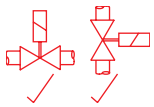
ACDN Series Ex – 2/2 Normally Open

Coil Rotation



Exd

Preferred Valve Mounting Options



Dimensions

Port size	A	B	C	D
3/8" - 3/4"	2 47/64"	4 27/32"	2 61/64"	5 33/64"
1"	2 47/64"	4 27/32"	2 61/64"	5 33/64"
1¼" - 2"	5 25/64"	4 1/16"	4 23/32"	7 3/32"

Dimensions given in inches

Solenoid enclosures

Exd S4 type enclosure

Power consumption:	Holding 19 VA, 12 V to 230 V 50 / 60 Hz. 14.5 W, 12 V to 212 VDC
External material:	Powder coated aluminium or 316 st.st. enclosure with st.st. nameplate
Electrical entry:	M20 x 1.5 or ½" NPT conduit entry
Protection Class:	II 2 G Exd IIC T6 for ambient temp -58 °F to +104 °F
Optional:	II 2 G Exd IIC T4 for ambient temp -58 °F to +158 °F
Weight:	1.8 lbs Aluminium or 3.3 lbs - Stainless Steel

CSA approval

Alcon flame proof enclosures are suitable for the following areas / gases:

Zones 1 & 2
Class 1 Division 1
Class 1 Division 2

Groups: IIA, IIB, IIC gases

Coding chart

Main Valve Assembly

Model	Valve Body Conn. Size	Conn. Type	Operation	Orifice (mm)	Body Material	Seals	Style
27 ACDN (1¼ and above)	C 3/8"	3 NPT	1 AUTO	Z Default	1 Brass (standard on valves up to and including 1")	A Nitrile	3 Exd
56 ACDN (3/8"-1")	D ½"				2 Bronze (standard on valves above 1")	B EPDM	
	E ¾"				5 316 Stainless Steel (option available up to and inc 1")	C VITON	
	F 1"						
	G 1¼"						
	H 1½"						
	J 2"						

Coil options

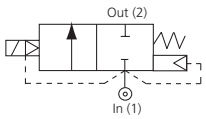
Enclosure	Voltage / Frequency	Electrical Connection	T Rating
D N/O Exd Aluminium	F1 24 VDC	5 M20 x 1.5	9 Atex T6
E N/O Exd Stainless Steel	F4 12 VDC	9 ½" NPT	949 Atex T4
	H1 24 V / 60 Hz		G Atex T6 (CSA)
	H2 120 V / 60 Hz		I Atex T4 (CSA)

•	•	3	1	Z	•	•	3	-	•	••	•	•

Product coding example:

56C31Z1A3-DH298: ACDNEXD
3/8" NPT, auto, brass body, nitrile seals, aluminium housing, 120 V / 60 Hz, ½" NPT electrical connection ExdT6.

UACP Series Ex – 2/2 Normally Closed

Specifications	
Mode of Operation	Normally closed, energise to open 
Maximum Viscosity	115 SSU
3/8" - 1" Body Material (Std)	Brass (Std) or Stainless Steel option
1 1/4" - 2" Body Material (Std)	Bronze (Std)
Flange Tube	Stainless Steel
Plunger and top stop	Stainless Steel
Springs	Stainless Steel
Seal Material	Nitrile (BunaN) (Std) other options available
Connection Type	NPT
Shading Ring	Copper (std), Silver (stainless steel option)
Electrical Characteristics	
Coil Voltage DC (=)	12 V, 24 V
Coil Voltage AC 60 Hz (~)	24 V, 120 V
Voltage Tolerance	+10% or -10%
Duty Cycle	100% ED
Protection Class (Exd)	II 2 G Ex d IIC T4 Tamb (-58 °F to + 158 °F) (NEMA 6 equivalent) II 2 G Ex d IIC T6 Tamb (-58 °F to + 104°F) (NEMA 6 equivalent) Class 1 Zone 1 Groups IIA, IIB, IIC gases
Electrical Connection (Exd)	½"NPT Port (Std)
Coil Insulation	Class H
Power Rating	14.5 Watts

Features and Benefits

- Heavy duty valve design
- Piston Operation
- Wide temperature range capabilities
- Choice of valve body material seals
- ATEX approved.
- Response time up to 1" 40-100 ms
- Response time up to 2" 60-1000 ms
- Tested in accordance with BS-EN 12266-1

Port Size	Cv	Kv	OPD (psi)		P. Max psi	Orifice (mm)	Weight (lbs) excluding Solenoid	Protection Class
			AC Voltages	DC Voltages				
½"	4.9	4.2	5-150	5-150	675	16.0	2.8	Exd T6
¾"	6.3	5.4	5-125	5-125		16.0	2.8	Exd T6
1"	14.5	12.5	5-125	5-125		25.0	5.0	Exd T6
1¼"	20.9	18	5-125	5-125		30.0	6.8	Exd T6
1½"	20.9	18	5-125	5-125		30.0	6.8	Exd T6
2"	24.4	21	5-125	5-125		32.0	11.5	Exd T6

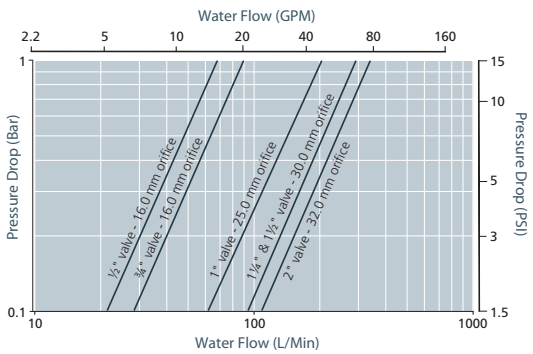
Options Available

Solenoid Enclosure		
Protection Class	**Electrical Entry**	**Enclosure Material**
Exd T4 (NEMA 6 equivalent)	½" NPT conduit (std) M20 X1.5 conduit (option)	Aluminium (Std) Stainless Steel optional
Exd T6 (NEMA 6 equivalent)		

Seal Material[1] and Media Temp. Range	Ambient Temperature Range		
	Min	Max (T6)	Max (T4)
Nitrile (14 °F to +176 °F)	14 °F	104 °F	158 °F
EPDM (-58 °F to +248 °F)	-58 °F	104 °F	158 °F
Viton (-4 °F to +302 °F)	-4 °F	104 °F	158 °F

Main Valve Body Options
Stainless Steel 316 (up to and including 1")
Oxygen Cleaning (consult factory for product code)
Stainless Steel Tagging (consult factory for product code)

[1] See corrosion reference guide and sealing solutions for material compatability.

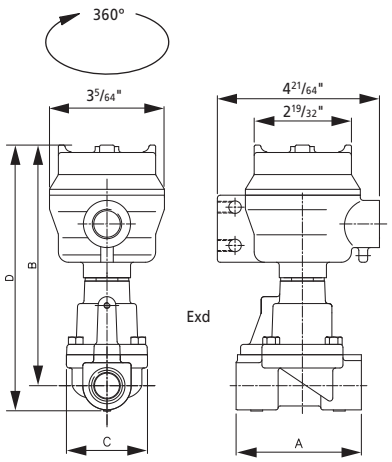


How to use the flow chart

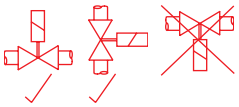
1. Select the required flow.
2. Note the corresponding pressure drop.
3. Based on where the two points intersect select the most appropriate model.

UACP Series Ex – 2/2 Normally Closed

Coil Rotation



Preferred Valve Mounting Options



Dimensions

Port size	A	B	C	D
3/4"	3 11/32"	5 55/64"	2 61/64"	6½"
1"	3 11/32"	7 3/64"	2 61/64"	7 51/64"
1¼" - 1½"	4 39/64"	6 31/32"	3 17/64"	9 59/64"
2"	5 3/4"	7 7/16"	4 1/16"	9 59/64"

Dimensions given in inches

Solenoid enclosures

Exd S4 type enclosure

Power consumption:	Holding 19 VA, 12 V to 230 V 50 / 60 Hz. 14.5 W, 12 V to 212 VDC
External material:	Powder coated aluminium or 316 st.st. enclosure with st.st. nameplate
Electrical entry:	M20 x 1.5 or 1/2" NPT conduit entry
Protection Class:	II 2 G Exd IIC T6 for ambient temp -58 °F to +104 °F
Optional:	II 2 G Exd IIC T4 for ambient temp -58 °F to +158 °F
Weight:	1.8 lbs Aluminium or 3.3 lbs - Stainless Steel

CSA approval

Alcon flame proof enclosures are suitable for the following areas / gases:

Zones 1 & 2
Class 1 Division 1
Class 1 Division 2

Groups: IIA, IIB, IIC gases

Coding chart

Main Valve Assembly

Model		Valve Body Conn. Size		Connection Type		Operation		Orifice (mm)		Body Material		Seals		Style	
22	UACP	D	½"	3	NPT	1	AUTO	Z	Default	1	Brass (standard on valves up to and including 1")	A	Nitrile	3	Exd
		E	¾"							2	Bronze (standard on valves above 1")	B	EPDM		
		F	1"							5	316 Stainless Steel (option available up to and inc 1")	C	VITON		
		G	1¼"												
		H	1½"												
		J	2"												

Coil options

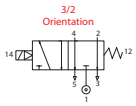
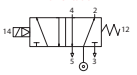
Enclosure		Voltage / Frequency		Electrical Connection		T Rating	
5	Exd Aluminium	F1	24 VDC	5	M20x1.5	9	Atex T6
6	Exd Stainless Steel	F4	12 VDC	9	½"NPT	949	Atex T4
		H1	24 V / 60 Hz			G	Atex T6 (CSA)
		H2	120 V / 60 Hz			I	Atex T4 (CSA)

22	•	3	1	Z	•	•	3	-	•	••	•	•

Product coding example:

22D31Z1A3-5H29G: UACP EXD Series
½" NPT, Auto, Brass body, nitrile seals, 120 V / 60 Hz, 1/2" NPT electrical connection, T6, CSA approval.

Namur Series Ex & Exia – 3/2, 5/2 Universal

Specifications	
Mode of Operation	3/2 or 5/2 3/2 Orientation  5/2 Orientation 
Media	Air
Body Material	Anodised Aluminium
Flange Tube	Brass
Plunger and top stop	Stainless Steel
Springs	Stainless Steel
Seal Material	Nitrile (BunaN) (Std)
Electrical Characteristics	
Coil Voltage DC (=)	12 V, 24 V
Coil Voltage AC 60 Hz (~)	24 V, 120 V
Voltage Tolerance	+10% or -10%
Duty Cycle	100% ED
Protection Class (Exd)	II 2 G Ex d IIC T4 Tamb (-58 °F to + 158 °F) (NEMA 6 equivalent) II 2 G Ex d IIC T6 Tamb (-58 °F to + 104°F) (NEMA 6 equivalent) Class 1 Zone 1 Groups IIA, IIB, IIC gases
Protection Class (Exia)	Exia IIC T6 (-40 °F to + 122 °F) (NEMA 4 equivalent)
Electrical Connection (Exd)	½"NPT Port (Std)
Electrical Connection (Exia)	PG9 via Din Plug connector
Coil Insulation (Exd)	Class H
Coil Insulation (Exia)	Class F
Power Rating (Exd)	5 Watts
Power Rating (Exia)	1.6 Watts

Features and Benefits

- Ideal for in-line system service and repair
- Choice of valve body material seals
- Manual Overide
- Low power LED Light
- Dual Coil option
- Exd, Exia compatible
- CSA approval (for Exd only)
- Max cycle frequency 5/sec

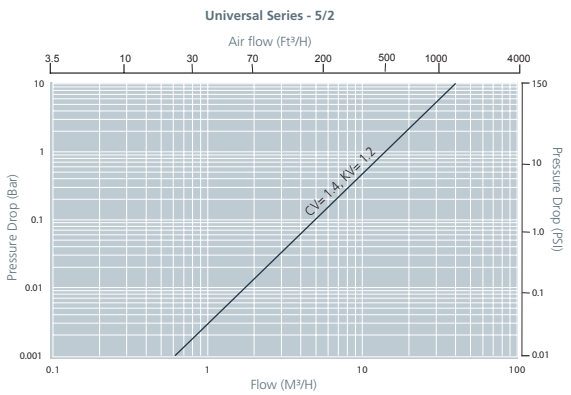
Port Size	Cv	Kv	OPD (PSI)		P. Max Bar	Protection Class	Weight (lbs) excluding Solenoid
			AC Voltages	DC Voltages			
¼"	1.4	1.2	36-150	36-150	150	Exd	0.4

Options Available

Solenoid Enclosure		
Protection Class	**Electrical Entry**	**Enclosure Material**
EExd T6 (NEMA 6 equivalent)	½" NPT conduit (std) M20 X1.5 conduit (option)	Aluminium
EExd T4 (NEMA 6 equivalent)		
Exia	9 mm DIN connector	Thermoset resin Weather Proof (NEMA 4 equivalent)

Seal Material[1] and Media Temp. Range	Ambient Temperature Range			
	Min	Max (T6)	Max (T4)	Max (Exia)
Nitrile (14 °F to +176 °F)	14 °F	104 °F	158 °F	122 °F

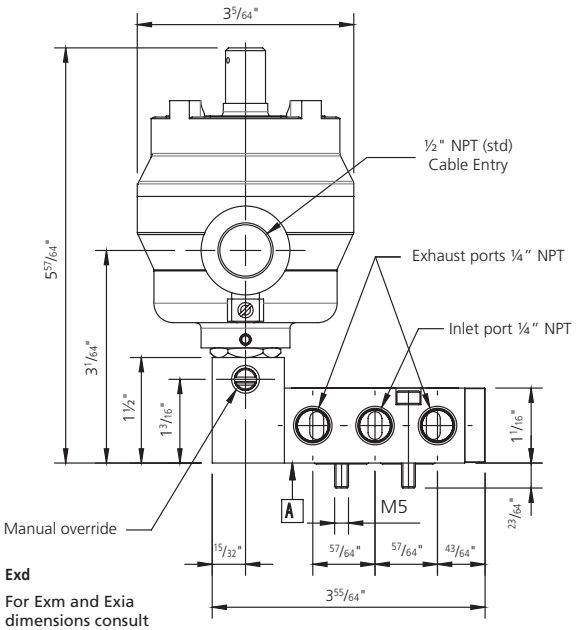
[1] See corrosion reference guide and sealing solutions for material compatability.



How to use the flow chart

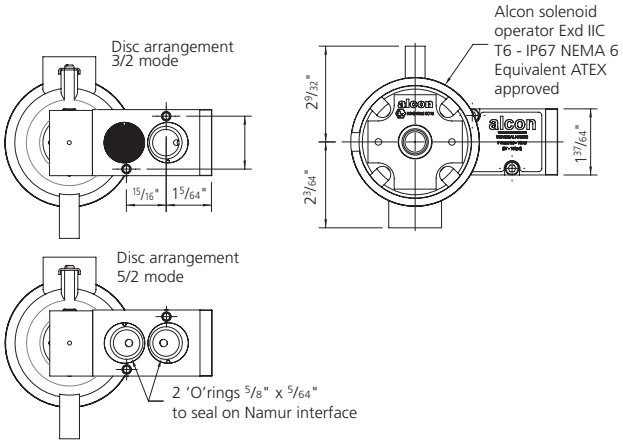
1. Select the required flow.
2. Note the corresponding pressure drop.
3. Based on where the two points intersect select the most appropriate model.

Namur Series Ex & Exia – 3/2, 5/2 Universal



Exd

For Exm and Exia dimensions consult customer services



Solenoid enclosures

Exd S4 type enclosure

Power consumption:	Holding 19 VA, 12 V to 230 V 50 / 60 Hz. 14.5 W, 12 V to 212 VDC
External material:	Powder coated aluminium or 316 st.st. enclosure with st.st. nameplate
Electrical entry:	½" NPT conduit entry (standard)
Protection Class:	II 2 G Exd IIC T6 for ambient temp -58 °F to +104 °F
Optional:	II 2 G Exd IIC T4 for ambient temp -58 °F to +158 °F
Weight:	1.8 lbs Aluminium or 3.3 lbs - Stainless Steel

CSA approval

Alcon flame proof enclosures are suitable for the following areas / gases:

	Zones 1 & 2
	Class 1 Division 1
	Class 1 Division 2
Groups:	IIA, IIB, IIC gases

Intrinsically safe enclosure (ATEX approved)

External material:	Thermoset resin
Electrical connection:	PG9 via DIN plug connector Din 43650-A
Max power consumption:	Exia 1.6 Watts DC.
Winding:	Insulation Class F
Protection class:	Exia IIC T6, ATEX approved for ambient temperatures -40 °F to + 122 °F

For Exia option use product code 65B32Z3A5-1QJ1.
For all other coding options see below:

Main Valve Assembly

Model	Size	Conn. Type	Operation	Orifice (mm)	Body Material	Seals	Style
65 Namur	B ¼"	3 NPT	2 Manual Override	Z Default	3 Aluminium	A Nitrile	3 Exd

Coil options

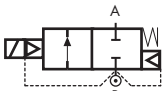
Enclosure	Voltage / Frequency	Electrical Connection	T Rating
9 Exd Aluminium	F1 24 VDC	9 ½" NPT	9 Atex T6
	F4 12 VDC		K Atex T4
	H1 24 V / 60 Hz		G ATEX T6 (CSA)
	H2 120 V / 60 Hz		I ATEX T4 (CSA)

65	B	3	2	Z	3	A	3	-	9	••	9	•

Product coding example:

65B32Z3A13-9H299:
Namur Exd ¼" NPT, manual override, Aluminium body, Nitrile seals 120 / 60 Hz ½" NPT electrical connection T6.

ADV Series, Compressed Air – with Solenoid Valves

Specifications[1]	
Function (single acting)	 Pilot Operated flow direction overseat 1 → 2
Maximum Viscosity	Max. 21cST (3 °E)
Body Material (Std)	Brass C37700 (UNS Designation)
Flange	Stainless Steel AISI 303 (1.4305 EN 10088)
Tube	Stainless Steel AISI 304
Plunger	Stainless Steel AISI 430F (1.4106 EN 10088)
Top Stop	Stainless Steel AISI 430F (1.4105 EN 10088)
Springs	Stainless Steel 302
Seal Material (Std)	FKM
Connection Type	NPT
Shading Ring	Copper
Electrical Characteristics	
Coil Voltage DC (=)	24 V
Coil Voltage AC 50 Hz (~)	24 V, 110 V, 230 V
Coil Voltage AC 60 Hz (~)	120 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Enclosure Classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation Class	155 (F) to UL429 and to EN 60730-1
Power Rating (c UL us Coils)	AC 15 VA (holding) AC 30 VA (inrush) DC 14 W

[1] For more information about detailed solenoid valve and timer please refer to each single datasheet.

Features and Benefits

- Preassembled systems consisting of solenoid valve, timer and connector
- Application: time adjusted condensate discharge of tanks with compressed air, separators, mains drainage, dryers and filters
- Direct acting and pilot operated valve
- Adjustable to suit your system requirements
- Indoor / outdoor installations
- Reliable, long life
- Cost effective
- Visual indication of operation
- Manual override - test button
- Discharge time (timer ON): from 0.5 to 10 s
- Interval time (timer OFF): from 30 s to 45 minutes

Pipe Size	OPD psi (bar)		Orifice inches (mm)	Valve Code	Conn. Code	Timer Code	Coil code	ADV Code[2]
	AC Volt	DC Volt						
With Pilot Operated Solenoid Valves								
1/4	1.5 - 300 (0.1 - 20.7)	-	13/32 (10.5)	D264DVUN	600 011-	AT2720	740R	888 109 00A
3/8	1.5 - 300 (0.1 - 20.7)	-	13/32 (10.5)	D265DVUN	600 011-	AT2720	740R	888 105 00A
1/2	1.5 - 300 (0.1 - 20.7)	-	13/32 (10.5)	D266DVUN	600 011-	AT2720	740R	888 107 00A

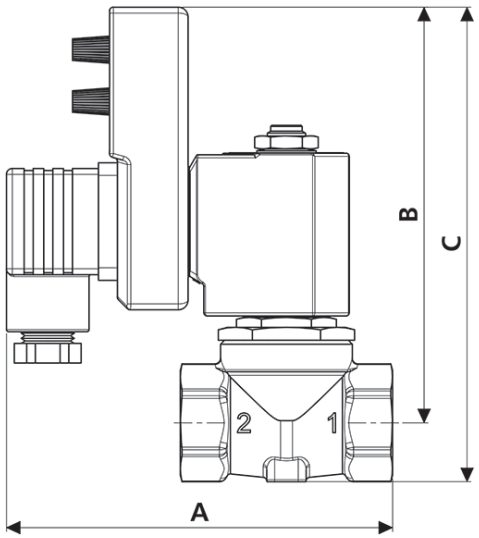
Options Available

ADV Options[2]
Strainers, G parallel thread (ISO 228-1), CE coils, impregnated coils with additional protection by impregnation with Loctite® Resinol RTC for humid environments

[2] ADV code changes depending on the required options. Codes in the selection table refer to the listed combination of components only.

Seal Material[3] and Media Temperature Range	Media	Ambient Temperature Range	
		Min	Max
FKM 14 °F to 266 °F (-10 °C to +130 °C)	Water, oil, air	14 °F (-10 °C)	122 °F (+50 °C)

[3] See corrosion reference guide and sealing solutions for material compatability.



Valve Series	A	B	C	Weight Lb (kg)
D264-/265-/266-	3.86 (98)	4.05 (103)	4.65 (118)	-

Dimensions inches (mm)

Solenoid enclosures

7--R c UL us Type Coil - Insulation class F

Encapsulation material: PET 815ER Rynite®
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (P180)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*
UL approved, file No: E193928

* Plug and gasket not supplied as standard, must be ordered separately.

Type 600 011- Plug

Rated Voltage (max.): 250 VAC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8 mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

AT2000, Analog Electronic Timer

Specifications	
Operation Temperature	14 °F to 122 °F (-10°C to +50°C)
Timing Temperature Coefficient	± 0.005% - °C
Time ON	from 0.5 to 10 seconds
Time OFF	from 30 seconds to 45 minutes
Set/reset/test	membrane key
Indicators	yellow LED for 'power ON'
	yellow LED for 'valve open'
Manual Override	test
Electrical Characteristics	
Supply Voltage (AC/DC)	from 24 V to 240 V - 50/60 Hz (c UL us)
	from 24 V to 240 V - 50/60 Hz (**CE**)
Switch Holding Voltage	400 V max.
Switch Capacity	1A
Inrush Current	10A for 10 ms
Absorption	4 mA max.
Duty Cycle	100% ED
Switch Life	$3 \bullet 10^8$
Repeat Accuracy	±1%
Enclosure Classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Circuit	UL 94 V0

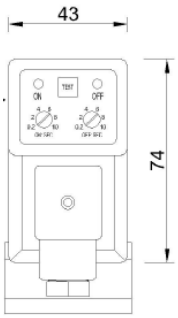
Features and Benefits

- Ideal for: automatic drain valve, sampling valves, lubrication system, air dryers
- Black colour
- UL approved

Notes

In case of DC supply, polarity should be reversed: left fast-on positive (+), right fast-on negative (-). Please refer to product instructions for use.

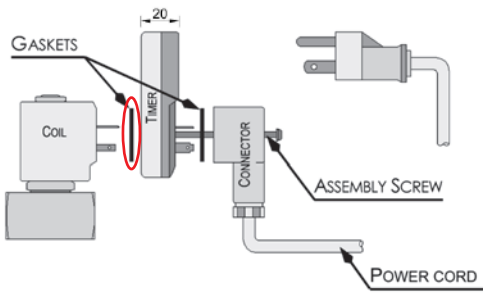
Supplied in single boxes with one squared gasket and M3x50 fixing screw (see assembling scheme)



Valve Series	Width	Height	Depth	Weight Lb (kg)
AT2720	1.69 (43)	2.91 (74)	0.79 (20)	0.17 (0.077)

Dimensions inches (mm)

Assembling scheme



Solenoid Enclosures (Safe Area)

Series 2000 & 7000

Specifications	
Electrical Connection	fast on connection 0.25x0.03 inches (6,3x0,8 mm)
Protection Class	NEMA type 4 (UL 50) and IP65 (according to EN60529) - with plug and gasket correctly fitted
Operation	Continuous (ED 100%)
Voltage Tolerance	AC +10% to -15%
	DC +10% to -5%
Insulation Class	according to EN 60730-1[1]

[1] See the below table.

Options Available

Coils Options
Impregnated coils for humid environments
Custom voltages and low power consumption, please consult supplier for more details

Features and Benefits

- UL approved coils recognized component, file number E193928
- Coils are designed for continuous duty in conformity to the EN 60730 safety standards.
- All coils are encapsulated in a self-extinguishing synthetic material and offer high mechanical protection and excellent thermal dissipation
- Fully interchangeable on all solenoid valves
- Reduced stock

Series 2

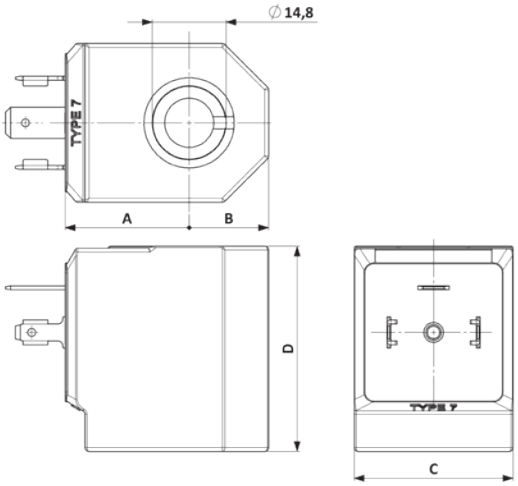
Series 7

Coil Code	Serie	Voltages	Power		Insulation Class	Ambient Temperature Range		Media Temperature Range[2]	
			Holding	Inrush		Min.	Max.	Min.	Max.
215Q	Serie 2 Standard	12 VDC	7 W	-	155 (F)	14 °F (-10 °C)	122 °F (+50 °C)	14 °F (-10 °C)	266 °F (+130 °C)
225Q		24 VDC	7 W	-					
275Q		230 VDC	7 W	-					
220Q		24 V / 50/60 Hz	10 VA	16 VA					
230Q		48 V / 50/60 Hz	10 VA	16 VA					
240Q		110 V / 50 Hz - 120 V / 60 Hz	10 VA	16 VA					
260Q		200 V / 50 Hz - 220 V / 60 Hz	10 VA	16 VA					
270Q		230V / 50 Hz - 240 V / 60 Hz	10 VA	16 VA					
225R	Serie 2 UL approved	24 VDC	6 W	-	155 (F)	14 °F (-10 °C)	140 °F (+60 °C)	14 °F (-10 °C)	266 °F (+130 °C)
220R		24 V / 50 Hz	9 VA	14 VA					
240R		110 V / 50 Hz - 120 V / 60 Hz	9 VA	14 VA					
270R		230 V / 50 Hz - 240 V / 60 Hz	9 VA	14 VA					
21V1	Serie 2 High power	12 VDC	10 W	-	180 (H)	14 °F (-10 °C)	158 °F (+70 °C)	14 °F (-10 °C)	266 °F (+130 °C)
22V1		24 VDC	10 W	-					
715Q	Serie 7 Standard	12 VDC	14 W	-	155 (F)	14 °F (-10 °C)	122 °F (+50 °C)	14 °F (-10 °C)	266 °F (+130 °C)
725Q		24 VDC	14 W	-					
775Q		230 VDC	14 W	-					
720Q		24 V / 50/60 Hz	18 VA	36 VA					
730Q		48 V / 50/60 Hz	18 VA	36 VA					
740Q		110 V / 50 Hz - 120 V / 60 Hz	18 VA	36 VA					
760Q		200 V / 50 Hz - 220 V / 60 Hz	18 VA	36 VA					
770Q		230 V / 50 Hz - 240 V / 60 Hz	18 VA	36 VA					
725R	Serie 7 UL approved	24 VDC	10 W	-	155 (F)	14 °F (-10 °C)	140 °F (+60 °C)	14 °F (-10 °C)	266 °F (+130 °C)
720R		24 V / 50 Hz	15 VA	30 VA					
740R		110 V / 50 Hz - 120 V / 60 Hz	15 VA	30 VA					
770R		230 V / 50 Hz - 240 V / 60 Hz	15 VA	30 VA					
7251	Serie 7 Class H	24 VDC	14 W	-	180 (H)	14 °F (-10 °C)	158 °F (+70 °C)	14 °F (-10 °C)	266 °F (+130 °C)
7201		24 V / 50/60 Hz	18 VA	36 VA					
7401		110 V / 50 Hz - 120 V / 60 Hz	18 VA	36 VA					
7701		230 V / 50Hz - 240 V / 60 Hz	18 VA	36 VA					
71Z1	Serie 7 High power	12 VDC	22 W	-	180 (H)	14 °F (-10 °C)	158 °F (+70 °C)	14 °F (-10 °C)	266 °F (+130 °C)
72Z1		24 VDC	22 W	-					
72K1		24 V / 50/60 Hz	25 VA	50 VA					
74K1		110 V / 50 Hz - 120 V / 60 Hz	25 VA	50 VA					
77K1		230 V / 50 Hz - 240 V / 60 Hz	25 VA	50 VA					

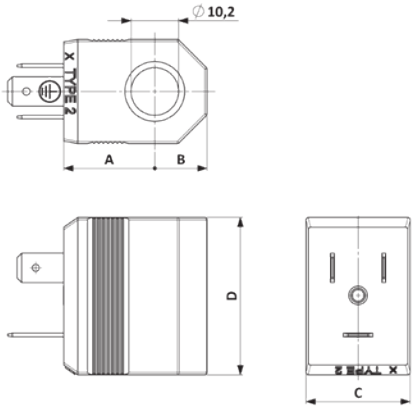
[2] Some valve configurations allow a max. fluid temperature up to 180 °C (356 °F), please check valve datasheets.

Solenoid Enclosures (Safe Area)

Series 7:



Series 2:



Coils Series	A	B	C	D	Weight Lb (kg)
Series 2	0.77 (19.5)	0.44 (11.2)	0.88 (22.3)	1.33 (33.7)	0.132 (0.060)
Series 7	0.98 (25)	0.63 (16)	1.26 (32)	1.63 (41.4)	0.321 (0.146)

Dimensions inches (mm)

Solenoid Enclosures (Safe Area)

Type : S4, S7

S4 Type Enclosure **Protection Class IP50** External Material: Pressed steel Powder Coated Electrical Entry: Conduit boss 20 mm or ½" NPT Electrical Connection: Screwed terminals or 0.5 mm flying leads, or DIN connector for cryogenic applications Winding insulation Class H Optional enclosure for the following types: ACD, ACDN, GB.	
S7 Type Enclosure **Protection Class IP65** Material: Nylon Electrical Connection: DIN Plug to ISO 4400 Standard Enclosure for Universal Namur Valves Winding insulation Class F This enclosure conforms to IP65 when correct plug seal gasket is fitted as supplied.	

Solenoid Enclosures (Hazardous Area)

Explosion-proof / Weatherproof

Enclosure S4 Type Exd ATEX or IECEx / CSA approved.

Intended for use in potentially explosive atmospheres Directive 2014/34/EU.

Compliance with essential health and safety requirements EN60529 (IP67), EN60079-1 and EN60079-0

Features

- Special purpose solenoid valves are used for controlling gases or liquids where a potentially explosive gas/air mixture is present in the atmosphere for long periods or likely to occur in normal operation
- Alcon flameproof enclosures are suitable for hazardous areas Zone 1 and Zone 2, for the control of Group IIA, IIB, IIC gases.

Application

- Valves configured for Hazardous Areas
- User to consult all applicable codes, such as N.E.C., EU directive 99/92/EC, for definitions, performance and safety requirements associated with Hazardous Area Classification, Apparatus Group, Zones, Division and Temperature Classification

Protection Class:	II 2 G Exd IIC T6 for ambient temperatures -50 °C to +40 °C
Optional:	II 2 G Exd IIC T4 for ambient temperatures -50 °C to +70 °C
Certificate No:	Sira 03ATEX1319 (ATEX) IECEx CSA 07.0002 1676463 (CSA)

Weatherproof to IP67

Technical Specification

Power Consumption:	Holding – 19 VA, 12 V to 230 V 50 / 60 Hz. 14.5 W 12 V to 212 VDC
Material:	Powder coated Aluminium or 316 St. St enclosure with St. St nameplate
Electrical Entry:	M20 x 1.5 or ½"NPT Conduit Entry
	Applicable to the following types: ACD, ACP, GB, NAMUR

Intrinsically Safe Enclosures (ATEX approved)

Complies with EN60079-0 and EN60079-11

Protection Class:	Exia IIC T6, ATEX approved for ambient temperatures -40 °C to + 50 °C

Maximum valve media temperature of 70 °C

Certificate No:	PTB 02 ATEX 2154

Weatherproof to IP65

Technical Specification

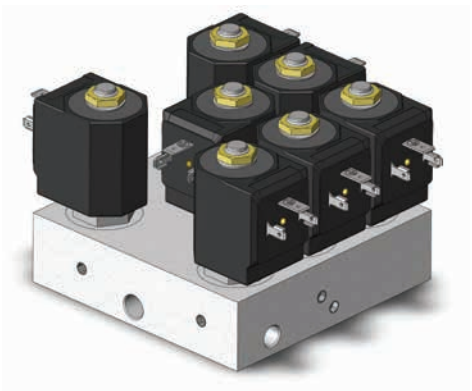
Winding insulation:	Class F
Rated Voltage:	24 VDC with typical 300 ohm zener barrier
Max Power Consumption:	Exia 1.6 watts DC
Material:	Thermoset resin
Electrical Entry:	PG9 via Din Plug Connector Din 43650-A
	Applicable to the following types: UNIVERSAL NAMUR

Customised Products

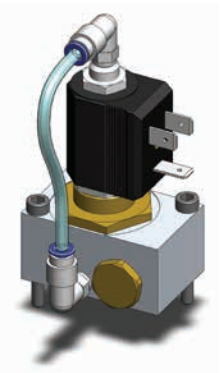
Rotork is constantly evolving and developing new products, enabling us to remain competitive in an ever changing market and keeping at the forefront of technological advances. For many years Rotork has operated in the most diverse industrial sectors and therefore acquired vast experience with a multitude of specialist applications. Our experience enables us to understand, design and manufacture to our customers' specific requirements.

We can develop new customised solenoid valve solutions according to the customers' technical requirements and needs, concentrating on increasing functionality, optimising space and reducing costs of existing systems.

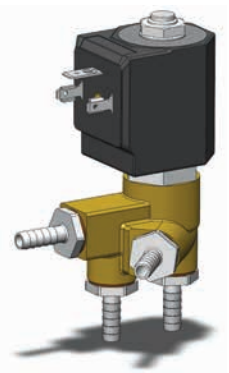
Please find below some examples:



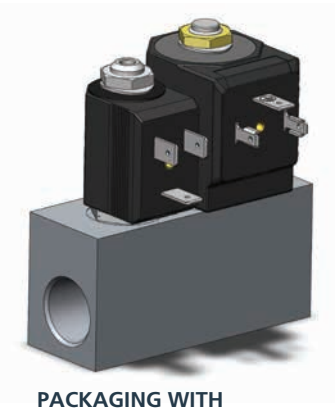
CAR AIR CONDITIONING REFILLER



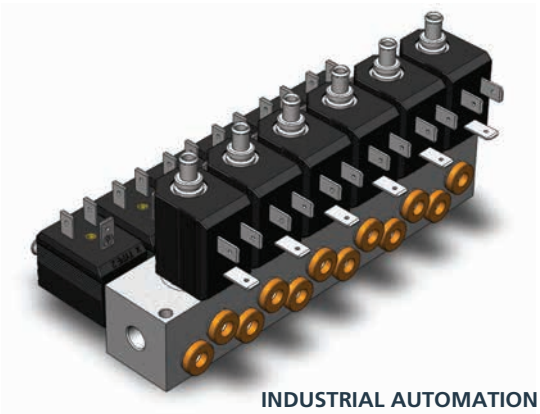
COMPRESSED AIR TREATMENT



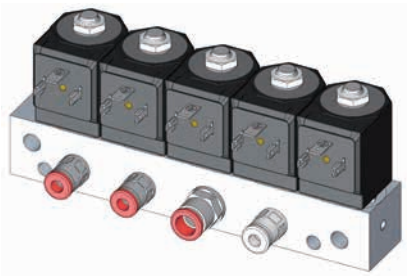
STERILIZERS



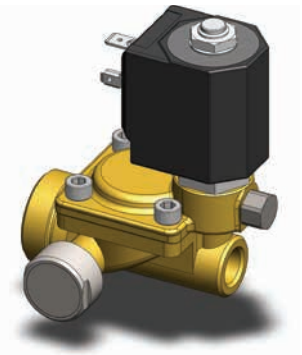
PACKAGING WITH VACUUM SYSTEMS FOR INDUSTRY



INDUSTRIAL AUTOMATION



COOLING SYSTEM



FIREFIGHTING SYSTEMS

The following points should be considered to ensure a correct choice of valve:

Connections and Nominal Diameters

Threaded connections are either "G"- inches (ISO 228) or metric. Nominal diameters (DN) are expressed in millimetres and correspond to the diameter of the valve's main orifice.

Performances (OPD)

Pressure values shown in this catalogue are the max values expressed in relative bar with no pressure at outlet.

For 3/2 way solenoid valves the pressure range can vary when used in other functions or systems.

The maximum pressure (PN) that the valve can tolerate is tested to 1.5 times the maximum value of the operating pressure differential (OPD).

Pressure (units of measurement)

The SI unit of pressure is the pascal (Pa), defined as 1 newton of force per square metre (1 N/m^2).

As Pa is such a small unit, the kPa (1 kilonewton/m^2) or MPa (1 Meganewton/m^2) tend to be more appropriate to fluid engineering.

However, the most popular metric unit used to measure the pressure in fluid engineering field is the bar, which is equal to 105 N/m^2, and approximates to 1 atmosphere. This unit is used throughout this publication.

Other units often used include lb/in^2 (PSI), kg/cm^2, atm in H_2O (atmosphere) and mm Hg. Conversion factors are readily available from many sources.

Absolute pressure (bar a)

This is the pressure measured from the datum of a perfect vacuum: i.e. a perfect vacuum has a pressure of 0 bar a.

Gauge pressure (bar g)

This is the pressure measured from the datum of the atmospheric pressure. Although in reality the atmospheric pressure will depend upon the climate and the height above sea level, a generally accepted value of 1.013 bar a (1 atm) is often used. This is the average pressure exerted by the air of the earth's atmosphere at sea level.

Gauge pressure = Absolute pressure - Atmospheric pressure

Pressure above atmospheric will always yield a positive gauge pressure. Conversely a vacuum or negative pressure is the pressure below that of the atmosphere. A pressure of -1 bar g corresponds closely to a perfect vacuum.

Differential pressure

This is simply the difference between two pressures. When specifying a differential pressure, it is not necessary to use the suffixes 'g' or 'a' to denote either gauge pressure or absolute pressure respectively, as the pressure datum point becomes irrelevant. Therefore the difference between two pressures will have the same value whether these pressures are measured in gauge pressure or absolute pressure, as long as the two pressures are measured from the same datum.

Flow

The flow is the quantity of fluid that passes through the valve's main orifice which has the nominal diameter (DN) shown in the tables.

The flow is given with a constant Kv value (according to VDI/VDE 2173) that shows how many cubic meters of water, at a temperature of 20 °C, flow through the valve in one hour with a pressure difference of one bar across the valve.

To determine the flow at higher pressures, multiply the Kv value by the square root of the differential pressure. Flow values shown in the selection tables are subject to a tolerance of ± 15%.

Viscosity

Viscosity of a fluid (liquid or gas) is its resistance to flow freely in a duct.

This phenomenon is also called internal friction and depends on existing cohesion forces among the fluid molecules. The viscosity of liquids decreases as the temperature rises; the viscosity of gases grows if the volume does not change.

According to the International System of Units (SI), the physical quantities are: force **F** ⇨ in Newton **N**, distance **h** ⇨ in meters **m**, area **A** ⇨ in square meters $\mathbf{m^2}$, speed **u** ⇨ in meters per second **m/s**, the unit of measurement of the **dynamic viscosity** is Pascal per second (Pa•s) or Newton multiplied by second per square meter ($N•s/m^2$).

Dividing the dynamic viscosity of the liquid by its density, you can obtain the **kinematic viscosity**. Its unit of measurement is expressed in square meter per second (m^2/s). Since the given numerical values are too small, the most common used unit is 10.000 times smaller: the stokes (stox) **St,**

$$1\ St = 1•10\text{-}4\ m^2/s \text{ or } 10.000\ St = 1\ m^2/s$$

as well as the additional unit centistokes **cSt**

$$1\ cSt = 1•10\text{-}2\ St$$

Coil power supply

It is important that the exact voltage and frequency of the coil is used for the valve to operate correctly. Provided the coil is fitted correctly on the operator and that the armature is not obstructed, the valve can be operated for an indefinite time within the temperature limitations indicated. All solenoid valves have a copper shading ring to reduce vibrations caused by alternating currents. **Remark: The same valve fitted with coils of different power may have different pressure ratings than standard combinations indicated in each datasheet in this catalogue.**

Media and Ambient Temperatures

Temperature limits for the media in the datasheets and should be used as a guide to valve selection. Normally the maximum ambient temperature can reach +50 °C for

solenoid valves with coils in class "F", +70 °C for class "H". For applications outside these limits please contact our Technical Department.

General purpose solenoid valves

Solenoid valves shown in this catalogue, either normally open or normally closed, are intended to control the flow of fluids and cannot be used as safety valves.

Valve Installation

To ensure proper valve function please observe following instructions:

Water hammer or fluid hammer

Water hammer (or, more generally, fluid hammer) is a pressure surge or wave resulting when a fluid (usually a liquid but sometimes also a gas) in motion is forced to stop or change direction suddenly (momentum change).

Water hammer commonly occurs when a valve is closed suddenly at an end of a pipeline system, and a pressure wave propagates in the pipe. It may also be known as hydraulic shock.

When using liquid fluids water-hammer can occur at pressure of 6 relative bar or higher.

This pressure wave can cause major problems, from noise and vibration to pipe collapse. It is possible to reduce the effects of the water hammer pulses with accumulators and other features.

Mitigating measures:

– **Air vessels** typically have an air cushion above the fluid level, which may be regulated or separated by a bladder. Sizes of air vessels may be up to hundreds of cubic meters on large pipelines. They come in many shapes, sizes and configurations. Such vessels often are called accumulators or expansion tanks.

– **Water Hammer** Arrestors are hydropneumatic devices similar to shock absorbers that can be installed between the water pipe and the machine to absorb the shock and stop the banging.

Safety

This product is not a safety device and must not be used as sole device to prevent the over-pressure of some parts of the plant or the containment of dangerous fluids.

Always connect the coil's earth terminal to ground to ensure the safety of the user and installation. The coil provides the basic insulation only. Install the product in a protected place to prevent electric shocks.

The coil should not be energized if it is not fitted onto a valve or without a plunger inside the valve, as it would overheat and get damaged. Do not touch the energized coil: risk of high temperature.

Do not use the tubes for conveying fluid to ground electrical devices.

Before disconnecting or disassembling the valve, make sure that there is no pressure inside the tubing or the valve itself. Accidental shocks due to fall or collision may damage the operator and/or the integrity of the coil encapsulation thus causing malfunctions such as loss of insulation, seizure of the moving parts and overheating.

Installation

Check for the operating conditions on product label and on the technical documents.

Check for compatibility between medium and valve materials. In case of doubt, please contact the manufacturer.

Keep the valve operator in a vertical position, facing upwards. This prevents limescale or dirt particles in the operator tube which could restrict the armature or create excessive noise whilst operating.

Whilst tightening or unscrewing the valve must be held or revolved only and exclusively by the hexagon or the frame set (in order to avoid damage to its components such as coil, armature tube, etc.).

The recommended **tightening torque of the coil nut is 0,5 Nm maximum**, a higher torque may cause damage to the valve armature tube.

The recommended **tightening torque of the connector screw is 0,5 Nm maximum**, a higher torque may cause an excessive yield stress with consequent damages to the coil rivet and/or plastic encapsulation.

Connections

To ensure that the solenoid valve works properly, do not connect to pipework with an internal diameter less than the nominal diameter (DN) of the valve. Clean all pipework before connection to the solenoid valve: care should be taken to prevent foreign bodies – dirt or material chips – from entering the valve during the assembly phase.

Use suitable seal material on the valve threads. Where liquid sealants are used, it is important to prevent them from entering the valve and block the movement.

Flow Direction

Respect the direction of flow across the valve, shown with an arrow or by numbers on the valve body, depending on the model type.

Filtration

If the fluid contains dirt particles it is necessary to install a filter upstream of the solenoid valve. Dirt is the most frequent cause of malfunction.

Environment

Coils fitted with suitable connectors have a protection class of IP65. However, it is advisable not to use the solenoid valve outside or in very damp conditions without adequate protection. Provide sufficient ventilation for the solenoid valve. **During continuous service the coil of the solenoid valve becomes hot and should not be touched.**

NBR (BunaN)

Trade Names:
Chemigum Hycar (Zeo (Goodyear)n Chemical), Ny Syn (Copolymer), Paracril (Uniroyal), Krynac (Polysar), PerNitrilen (Mobay)

This is the most widely used O-Ring elastomer. It has excellent resistance to petroleum products. Excellent compression set, tear and abrasion resistance. Suitable for air, oil, water, acetylene, kerosene, lime solutions, liquefied petroleum gases and turpentine.

- NBR/ BunaN is Alcon's preferred sealing solution unless otherwise stated.
- Please note NBR (BunaN) is not recommended for highly aromatic petroleum / gasoline's or acids.

EPDM (EPR or EPDM) EPDM (EPR)

Excellent resistance to weathering and ozone, water and steam, with good performance in castor and some phosphate ester based fluids and poor on petroleum/gasoline. It's low and high temperature capabilities are good, having excellent resistance to set with good resilience, this low compression set provides a suitable solution for steam sealing. EPDM is suitable for temperatures above the NBR range. Ethylene-propylene is generally suitable for most photographic solutions as well as numerous chemical solutions. EPDM has served to replace the formerly used butyl.

- Please note EPDM should NEVER be used in contact with mineral based fluids or DI ester based lubricants, due to excessive swell and deterioration. When lubrication is required silicone grease or fluids should be used.

FKM (FPM FLUORELASTOMER)

It has high temperature capabilities, excellent resistance to hydraulic oils, petrol and many other chemicals. FKM O-Rings are used in automobile and other mechanical devices requiring maximum resistance to elevated temperature and to many functional fluids. FKM is a fluorocarbon elastomer. Primarily developed for handling hydrocarbons such as jet fuels, gasoline's, solvent, etc., which normally caused detrimental swelling to NBR. FKM has a high temperature range similar to ethylene propylene but is more resistant to "dry heat". FKM has a rather wide range of chemical compatibility.

*PTFE / Teflon®

PTFE is a fluorocarbon resin known as a disc sealing material solution where all other synthetic materials have failed. Rulon is a form of Teflon® having fillers which have been added for improved mechanical properties. Teflon® with fillers are considered more of a plastic than a resilient-type material. They are virtually unattacked by any fluid. PTFE provides sealing solutions for cryogenic and steam applications.

*Teflon® is a registered trademark of Du-Pont. It must be noted that PTFE sealing will allow slight let-by.

Silicone

This elastomer provides high and low temperature solutions under certain conditions for numerous applications (it must be noted that silicone is not suitable for steam applications). It can handle hydrogen peroxide and some acid solutions. Silicone's retention of properties at high temperatures is superior to other elastic materials.

It must be noted that Silicone has poor tensile strength, tear resistance and abrasion resistance.

Neoprene

Neoprene is commonly used for refrigeration systems sealing as an external seal. Suitable for alcohol, mild acids, water, air, ammonia, argon gas and other gases.

Sigodur (filled PTFE) & Ruby

Stiff materials particularly suitable for heavy duty applications.

KALREZ® Spectrum™ 6375

KALREZ® Spectrum™ 6375 is a compound specifically designed for the chemical process industry. This compound has excellent broad chemical resistance, good mechanical properties, and outstanding hot-air aging properties. Kalrez® 6375 is well suited for use in mixed process streams because of its excellent resistance to acids, bases and amines. It is also recommended for use in hot water, steam, pure ethylene oxide and propylene oxide.

Metals

Ag (silver)

Silver is a soft, malleable metal with a characteristic sheen. It has the highest thermal and electrical conductivity of all metals. Alcon provide shading coil material for stainless steel valves in silver.

Al (aluminium)

Derived from the Latin ALUMEN for ALUM (Potassium aluminium sulphate). A lightweight material that offers high strength and rigidity along with good corrosion resistance and heat dissipation. Alcon provide die-cast bodies, solenoid enclosures and shading coils made from aluminium.

Cu (copper)

Copper is an important engineering material since it is widely used in its pure state and also in alloys with other metals. In its pure state it is the most important material in the electrical industry. It has high electrical conductivity and corrosion resistance and is easy to fabricate. It has reasonable tensile strength, controllable annealing properties and general soldering and joining characteristics. Alcon provide as standard shading rings produced from Copper.

CU Sn (bronze)

Bronze alloys consist of copper and tin primarily and these can be known as "tin bronzes". Since phosphorus is usually added to these alloys as a deoxidising agent during casting, the tin bronzes are commercially known as "phosphor bronzes". These alloys possess desirable properties such as high strength, wear resistance, and good sea water resistance. Alcon provide bodies from bronze.

Cu Zu (brass)

Brass is probably the best known of the “yellow metals” and it is produced in a wide variety of forms with many different characteristics and attributes. It is a basic alloy of copper and zinc and it finds many engineering applications. Alcon provide forged bodies from brass this forging brass has a composition of 58% copper, 2% lead and 40% zinc.

Fe CrNi 300 Series Stainless Steel (18-8) Austenitic

303 Stainless Steel is essentially low-carbon steel to which chromium has been added. It is the addition of chromium, in amounts of 18%, that adds strength and gives stainless steel its unique 'stainless', corrosion-resisting properties. The corrosion resistance, as well as other useful properties of the steel, is enhanced by the addition of other elements such as 8% nickel. Alcon provide flange tubes, bodies & springs in 300 series stainless steel.

316 Stainless Steel

316 Stainless Steel is essentially low-carbon steel to which chromium has been added. It is the addition of chromium, in amounts of 18%, that adds strength and gives stainless steel its unique ‘stainless’, corrosion-resisting properties. The corrosion resistance, as well as other useful properties of the steel, is enhanced by the addition of other elements such as 12% nickel. Alcon provide valve bodies flange tubes and coil enclosures in 316 series stainless steel.

430F & 430FR Magnetic Stainless Steel

Type 430F is a solenoid grade stainless steel that has the best magnetic properties and lowest residual magnetism. Type 430FR stainless, used for corrosive service for many years, also offers improved wear resistance, higher electrical resistivity and increased hardness. Alcon’s plunger and top stop materials are produced using the 430F series. Basic composition 18% chromium, remainder iron.

Modes of Operation

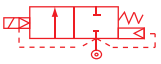
Valve Selection

A solenoid valve should be chosen whenever the following conditions are met:

- ✓ Media without dirt particles
- ✓ Moderate flow volumes
- ✓ Average differential pressures
- ✓ High speed in operation
- ✓ Media with a viscosity not higher than 21 cST(3°E)

2/2 N/C Normally Closed

Solenoid Operated
Direct Acting



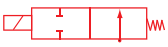
Solenoid
Pilot Operated

2 way, normally closed, energise to open, on/off operation (de-energise to close), with one inlet and one outlet connection. There are 2 types of valve operation – Direct Acting and Pilot Operated.

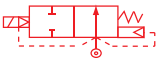
a) Direct Acting – The coil supplies all the power to open the valve and the valve will operate from zero pressure.

b) Pilot Operated – this can either be diaphragm or piston operated. These valves have a pilot hole which is opened/closed by the coil acting upon a plunger and diaphragm or piston used to control the main orifice. The operation relies on the media pressure difference between the inlet and outlet and a minimum operating pressure is required to operate these valves unless stated as zero.

2/2 N/O Normally Open



Solenoid
Direct Acting



Solenoid
Pilot Operated

2 way, normally open, energise to close, de-energise to open, with one inlet and one outlet connection. Can be either direct acting or pilot operated.

3/2 N/C Normally Closed

Valve open when energised, closed when de-energised. This valve operates on the same principle as the 2/2 N/C version except the valve has 3 connections, 2 orifices, one permanently open, one permanently closed. The use of these are for operation of actuators for large valves where single cylinder spring return system is employed.

3/2 N/O Normally Open

Valve open when de-energised, closed when energised.

3/2 UNI Universal

Valve may be used as normally closed, normally open or diversion/selector valve.

5/2

These valves are available in 2 forms;

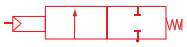
a) Single Solenoid – 2 position, spool and sleeve type, which is based on an air pilot return mechanism. When de-energised, the valve allows one inlet and one outlet to be connected, exhausting the other inlet/outlet connection through an exhaust port. On energisation, the action reverses.

b) Dual Solenoid Valves – these spool and sleeve type solenoid valves are momentary contact type. When one coil is energised, one inlet is connected to one outlet, with the other inlet/outlet connection connected to an exhaust port, when the coil is de-energised and other coil energised, the action is reversed.

These valves are for use on double acting cylinder applications.

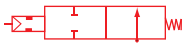
Modes of Operation

2/2 N/C Normally Closed Pneumatic



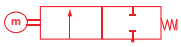
2 way, normally closed, pressurise to open, de-pressurise to close with the aid of a return spring, having one inlet and one outlet connection. Can be direct acting air operated against a return spring. Note: These valves are operated via a 3 way solenoid valve which is always required.

2/2 N/O Normally Open Pneumatic



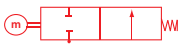
2 way, normally open, pressurise to close, de-pressurise to open with the aid of a return spring, having one inlet and one outlet connection. Can be direct acting air operated against a return spring. Note: These valves are operated via a 3 way solenoid valve which is always required

2/2 N/C Normally Closed Motorised



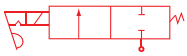
2 way, normally closed, energise to open – (slow opening) de-energise to close – (quick closing) with one inlet and one outlet connection. Motor driven against a return spring.

2/2 N/O Normally Open Motorised



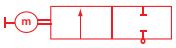
2 way, normally open, energise to close – (slow closing) de-energise to open – (quick opening).

2/2 N/C Normally Closed Manual Reset (Solenoid)



These valves operate on the same principle as 2/2 N/C direct acting version except – once the coil is energised the valve will not open until manually opened by either a lever or push reset device.

2/2 N/C Normally Closed Manual Reset (Motorised)



The operation is similar to 2/2 N/C Normally Closed Manual Reset (Solenoid) except, once the motor is energised the valve will not open till a manual reset/relay button is operated, either remote or integral to the actuator. General use is for both manual reset or safety systems where knowledge of an electrical failure is required.

Optional Features

Manual Override

Normally closed direct acting and pilot operated solenoid valves (only versions specified in each datasheet) can be supplied with a manual override which allows the valve to be opened independently of electrical current.

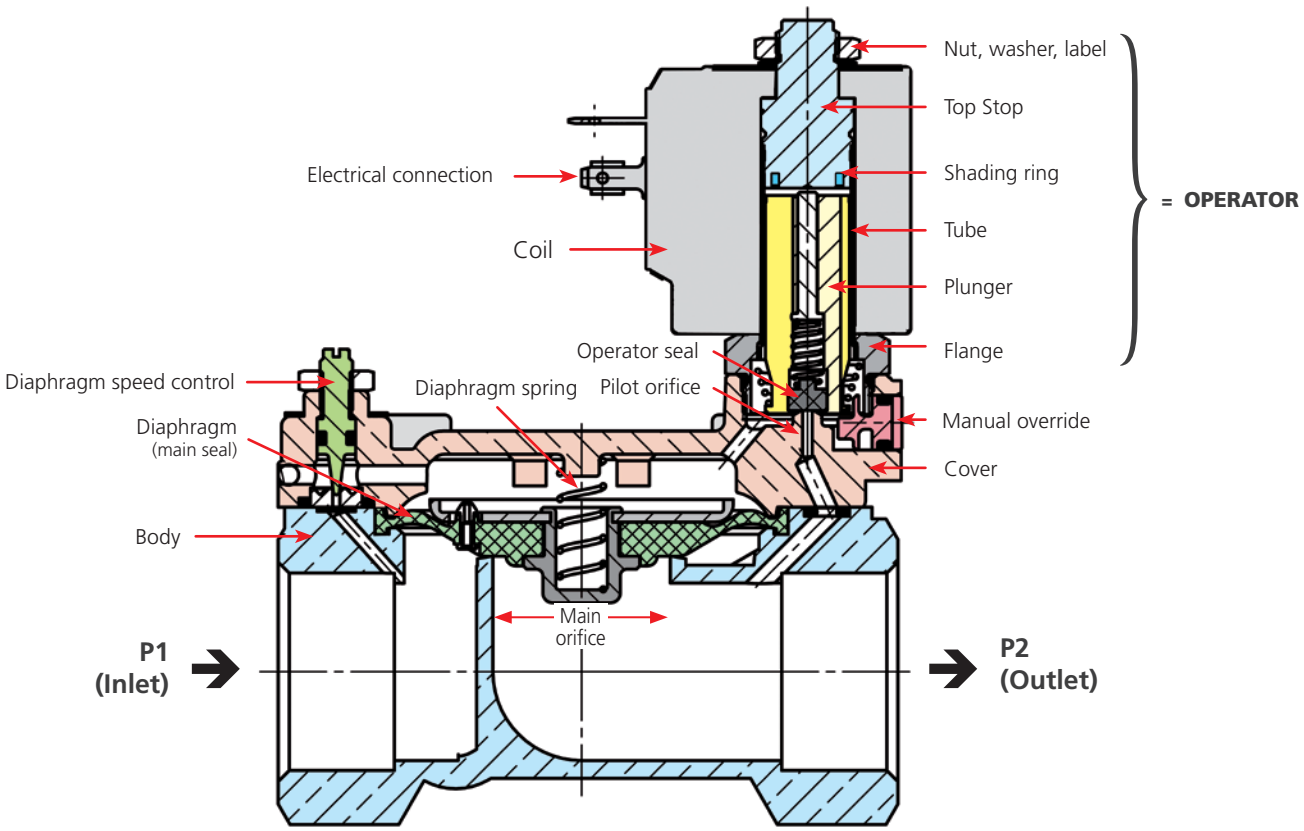
Waterhammer Control

Pilot operated solenoid valves (only versions specified in each datasheet) can be supplied with a system that regulates the closing speed of the diaphragm in order to control waterhammer.

The seal closing speed is operated by the adjusting screw: by screwing it clockwise (in the "+" direction) when using liquid, the valve will close slower reducing any waterhammer effect that may occur in the solenoid valve and the upstream pipes.

In the case of larger valves (1¼", 1½" and 2"), please adjust the anti-waterhammer screw to ensure that that valve closes as slowly as possible in order to avoid causing any damage that may affect the functioning of the equipment and valve due to the waterhammer effect.

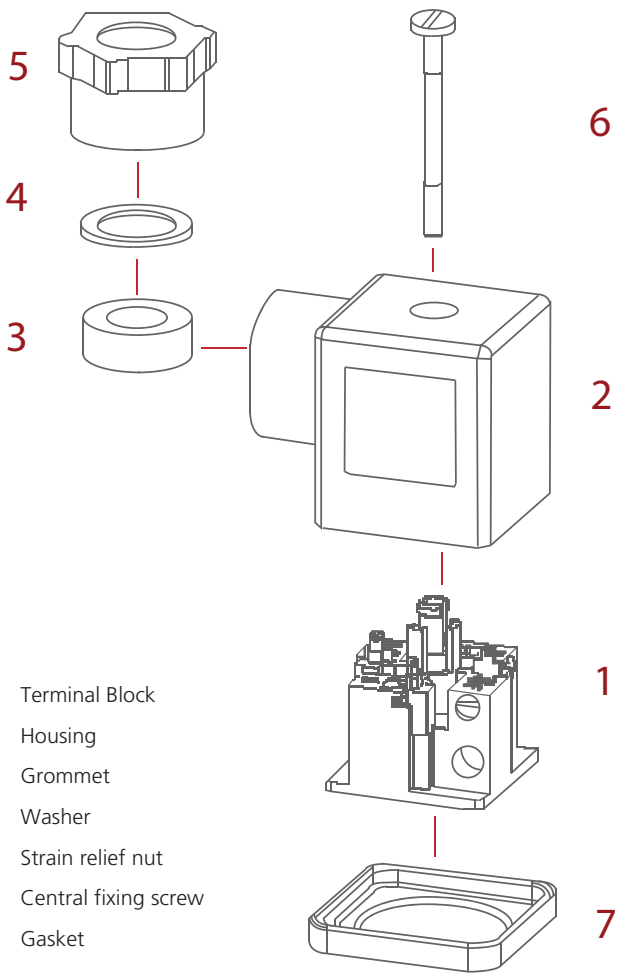
Scheme of Components of Solenoid Valves



Din Plug Connectors

Features

- Dust and splash proof protected (IEC60529-IP65)
- Impact resistant plastic housing.
- Easy to install cable harness.
- Optional integrated electronic circuit, optional indicator LED with or without rectifiers etc.
- Retained central fixing screw.
- Special versions on request.



1. Terminal Block
2. Housing
3. Grommet
4. Washer
5. Strain relief nut
6. Central fixing screw
7. Gasket

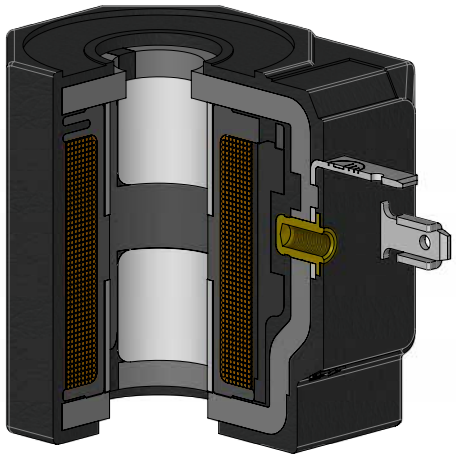
Copper Winding Temperature Classification

Insulation systems are arranged in order of their insulation level and classified by a letter symbol or by a numerical value.

The numerical value relates to the temperature classification of the insulation system.

The temperature classification indicates the maximum (hotspot) temperature at which the insulation system can be operated for normal expected service life.

In general, all materials used in a given insulation system should be rated for temperatures equal to, or exceeding, the temperature classification of the system.



Insulation Systems*	Temperature Classification
Class A Class 105	105 °C (221 °F)
Class E** Class 120	120 °C (248 °F)
Class B Class 130	130 °C (266 °F)
Class F Class 155	155 °C (311 °F)
Class H Class 180	180 °C (356 °F)
Class N Class 200	200 °C (392 °F)

* IEEE Std.117.

** Used in European equipment.

Protection Class, IP Ratings & Hazardous Areas

Enclosure Protection - Non Hazardous locations, Comparison of American Nema classification & European CENELEC IP classification

Nema type & relevant tests	Description	Equivalent degree of protection
1	General purpose - indoor	IP30
2	Drip proof - indoor	IP32
3	Dust and rain tight - outdoor	IP54
3R	Rain proof - outdoor	IP54
4	Water tight and dust tight - indoor and outdoor	IP65
4X	Water tight, dust tight and corrosion resistant - indoor and outdoor	IP65
6	Submersible, water tight and dust tight - indoor and outdoor	IP67
12	Industrial use, dust tight and drip proof - indoor	IP52
13	Oil tight and dust tight - indoor	IP55

IP No.	First number - protection again solids	Second number - protection against liquids
0	No protection	No protection
1	Protected against solid objects over 50 mm Ø	Protected against vertically falling drops of water
2	Protected against solid objects over 12 mm Ø	Protected against direct sprays up to 15 °From vertical
3	Protected against solid objects over 2.5 mm Ø	Protected against direct sprays up to 60 °From vertical
4	Protected against solid objects over 1 mm Ø	Protected against direct sprays from all directions limited ingress permitted.
5	Protected against dust - limited ingress permitted	Protected against low pressure jets from all directions limited ingress permitted
6	Totally protected against dust	Protected against strong jets from all directions limited ingress permitted
7		Protected against effects of immersion from 15 cm - 1m
8		Protected against long periods of immersion under pressure

International Standards - Temperature classification

IEC 79-8 & CENELEC		Amercian NEC	
Class	**Max. surface temp**	**Class**	**Max. surface temp**
T1	450 °C (842 °F)	T1	450 °C (842 °F)
T2	300 °C (572 °F)	T2	300 °C (572 °F)
		T2A	280 °C (536 °F)
		T2B	260 °C (500 °F)
		T2C	230 °C (446 °F)
		T2D	215 °C (419 °F)
T3	200 °C (392 °F)	T3	200 °C (392 °F)
		T3B	165 °C (329 °F)
		T3C	160 °C (320 °F)
T4	135 °C (275 °F)	T4	135 °C (275 °F)
		T4A	120 °C (248 °F)
T5	100 °C (212 °F)	T5	100 °C (212 °F)
T6	85 °C (185 °F)	T6	85 °C (185 °F)

Zones & divisions - Define the likelihood of the hazard being present in potentially explosive concentrations

UK / CENELEC / IEC		USA & CANADA	
Hazard continuously present (>1000 hrs / year)	Zone 0	Division 1	Hazard likely to be present: N.B. where the hazard is continuously present, electrcial apparatus is avoided if possible.
Hazard likely to be present	Zone 1		
Hazard unlikely to be present: typically only for short periods or under fault conditions (<10 Hrs/year)	Zone 2	Division 2	Hazard unlikely to be present - likely to be confined. An area adjacent to a Division 1 area.
Fully defined in BS5345 and IEC 79-10 (Guideline figures)			Fully described in Article 500 of the National Electrical Code.

Conversions

Capacity & flow rate

Multiply number of / by / to obtain	m^3/h	l/s	l/m	m^3/s (cumec)	UK gpm	US gpm	ft^3/s (cusec)	Water	
								UK ton/h	tonne/h
1 m^3/h	1	0.278	16.66	0.000278	3.666	4.4	0.00981	0.982	1
1 l/s	3.6	1	60	0.001	13.2	15.83	0.00353	3.528	3.6
1 l/m	0.06	0.0167	1	1.66 x 10-5	0.2199	0.264	0.000588	0.059	0.06
1 m^3/s	3600	1000	60,000	1	13,200	15,800	35,315	3532	3600
1 UK gpm	0.272	0.0757	4.546	0.000757	1	1.2	0.002267	0.268	0.272
1 US gpm	0.227	0.0632	3.785	0.000063	0.833	1	0.00223	0.223	0.227
1 ft^3/s	101.9	28.32	1698	0.0283	374	449	1	100	101.9
1 UK ton/h	1.02	0.283	17	0.000283	3.73	4.48	0.01	1	1.02
1 tonne/h	1.005	0.278	16.7	0.000278	3.666	4.41	0.0098	0.98	1

Volumetric rate of flow

Multiply number of / by / to obtain	Litres per sec	Litres per minute	Cubic metres per hour	Cubic Ft per hour	Cubic Ft per min	Imperial Gallons per min	U.S. Gallons per min	U.S. Barrels per day
Litres per sec	1	60	3.6	127.1	21.19	13.2	15.85	543.4
Litres per min	0.1667	1	0.06	2.119	0.03532	0.22	0.2642	9.057
Cubic metres per hour	0.2778	16.67	1	35.31	0.5886	3.666	4.403	150.9
Cubic Feet per hour	0.007865	0.4719	0.02832	1	0.01667	0.1038	0.1247	4.275
Cubic Feet per min	0.4719	28.32	1.6999	60	1	6.229	7.481	256.5
Imperial Gallons per min	0.07577	4.546	0.2727	9.633	0.1606	1	1.201	41.17
U.S. Gallons per min	0.06309	3.785	0.2271	8.021	0.1337	0.8327	1	34.29
U.S. Barrels per day	0.00184	0.1104	0.0006624	0.2339	0.0003899	0.02428	0.02917	1

1 MGD = 189.4 m^3/h 1 scfm = 1.699 Nm^3/h

Temperature

To convert from	To Fahrenheit	To Celcius	To Kelvin
Fahrenheit (F)	F	(F-32) * 5/9	(F-32) * 5/9 + 273.15
Celcius (C)	(C*9/5) + 32	C	C + 273.16
Kelvin (K)	(K - 273.15) * 9/5 + 32	K - 273.15	K

Pressure

Multiply number of / by / to obtain	bar	Psi (lbf/in^2)	Cm water (39.2 °F, 4 °C)	Inch of water (39.2 °F, 4 °C)	Foot of water (39.2 °F, 4 °C)	Kilopascal (kPa)
Bar	1	14.503 77	1019.74	401.474	33.456 2	100
Psi (lbf/in^2)	0.068 947 57	1	70.308 9	27.680 7	2.306 73	6.894 757
Cm water (39.2 °F, 4 °C)	0.000 980 638	0.014 223 0	1	0.393 701	0.032 808 4	0.098 063 8
Inch of water (39.2 °F, 4 °C)	0.002 490 82	0.036 123 3	2.54	1	0.083 333 4	0.249 082
Foot of water (39.2 °F, 4 °C)	0.029 889 8	0.433 515	30.48	12.021 3	1	2988 98
Kilopascal (kPa)	0.01	0.145 037 7	10.197 4	4.014 74	0.334 562	1

Corrosion Reference Guide

This chart is for general recommendation only. When ordering valves for corrosive duty application details are to be given, particularly media, % concentration, temperature and ambient temperature. For additional support please contact us.

	Valve Body					Seals				Notes
Material	Alum	Brass	Brz	CI	Stainless	NBR	EPDM	FKM	PTFE	
Acetic Acid 10%	NR	NR	NR	NR	•	NR	•	NR	•	1
Acetone	•	•	•	•	•	NR	•	NR	•	
Acetylene	NR	•	•	NR	•	NR	•	•	•	1
Air	•	•	•	•	•	•	•	•	•	
Ammonia Gas Anhydrous 20%	NR	NR	NR	•	•	NR	•	NR	•	
Argon Gas	•	•	•	NR	•	NR	•	•	•	
Beer	NR	NR	NR	NR	•	•	•	•	NR	
Benzene	•	•	•	NR	•	NR	NR	•	•	
Bromine (Liquid)	NR	NR	NR	NR	NR	NR	NR	•	NR	1
Butane	•	•	•	•	•	•	NR	•	•	
Carbon Dioxide (Gas)	•.	•.	•	•	•	•	•	•	•	
Carbon Dioxide (Liquid)	NR	NR	NR	NR	•	NR	NR	NR	•	
Carbon Tetrachloride (Dry)	NR	•	•	NR	•	NR	NR	•	•	
Carbonated Water	NR	NR	NR	NR	•	•	•	NR	•	
Caustic Soda 30%	NR	NR	NR	NR	•	NR	•	NR	•	
Chrome Acid 20% - 20C	NR	NR	NR	NR	•	NR	NR	•	•	
Chlorine Gas (Dry)	NR	NR	NR	NR	NR	NR	NR	•	•	1
Chlorine Liquid	NR	NR	NR	NR	NR	NR	NR	•	•	1
Chlorine in Water	NR	•	•	NR	•	•	•	NR	•	2
Coke Oven Gas	•	NR	NR	•	•	•	NR	NR	•	
Coolant	NR	•	•	NR	•	•	NR	•	•	
Creosote	•	NR	NR	NR	•	NR	NR	•	•	
Crude Oil	•	NR	NR	NR	•	•	NR	•	•	
De-ionized Water	NR	NR	NR	NR	•	•	•	•	•	
De-mineralised Water	NR	NR	NR	NR	•	•	•	•	•	
Detergents	NR	•	•	NR	•	•	•	•	•	
Diesel Oil	•	•	•	.	•	•	NR	•	•	
Distilled Water	NR	•	•	NR	•	•	•	•	•	
Ethyl Alchohol	NR	•	•	NR	•	•	•	•	•	
Ethylene Glycol	•	•	•	NR	•	•.	•	•	•	
Ethylene Oxide	NR	NR	NR	NR	•	NR	NR	NR	NR	1
Food Products	NR	NR	NR	NR	•	•	NR	•	NR	
Freon 12	NR	•	•	•	•	NR	NR	NR	•	
Freon 22	NR	NR	NR	NR	•	NR	NR	NR	•	
Freon Solvents	NR	•	•	NR	•	•	NR	NR	•	
Fuel Oil	•	•	•	NR	•	•	NR	•	•	
Gasoline	NR	•	•	NR	•	NR	NR	•	•	
Helium	•	•	•	NR	•	•	•	•	•	
Hydraulic Fluids	NR	•	•	NR	•	NR	NR	•	•	
Hydrochloric Acid	NR	NR	NR	NR	NR	NR	NR	NR	•	1
Hydrogen Gas	•	•	•	•	•	•	•	•	•	3
Hydrogen Sulphide (dry)	NR	NR	NR	NR	•	NR	•	•	•	
Jet Fuel	•	NR	NR	NR	•	•	NR	•	•	
Kerosene	•	•	•	•	•	•	NR	•	•	

Notes:

1. Non-standard materials of construction are required.
2. Chlorine must not exceed 5 parts per million.
3. We are required to provide industry standard degreasing, cleaning and individual packaging with appropriate label.

• = Recommended
NR = Not Recommended

Corrosion Reference Guide

This chart is for general recommendation only. When ordering valves for corrosive duty application details are to be given, particularly media, % concentration, temperature and ambient temperature. For additional support please contact us.

	Valve Body					Seals				Notes
Material	Alum	Brass	Brz	CI	Stainless	NBR	EPDM	FKM	PTFE	
LPG	•	•	•	NR	•	•	NR	•	•	
Lubricating Oil	•	•	•	•	•	NR	•	•	•	
Methane Gas	•	•	•	•	•	•	NR	•	•	
Methyl Alcohol	NR	•	•	•	•	•	•	•	•	
Mineral Oil	•	•	•	•	•	•	NR	•	•	
Natural Gas	•	•	•	•	•	•	•	•	•	
Natural Gas Liquid	NR	•	•	NR	•	NR	NR	NR	•	3
Nitric Acid 50% 20C	NR	NR	NR	NR	•	NR	NR	•	•	
Nitrogen gas	•	•	•	•	•	•	•	•	•	
Nitrogen Liquid	NR	•	•	NR	•	NR	NR	NR	•	3
Nitrous Oxide	NR	NR	NR	NR	•	NR	•	NR	•	
Oxygen Gas	NR	•	•	NR	•	NR	NR	•	•	3
Oxygen Liquid	•	•	•	NR	•	NR	NR	NR	•	3
Paraffin	•	•	•	NR	•	•	•	•	•	
Perchlcrenthylene 20C	NR	•	•	NR	•	NR	NR	•	•	
Phosperic Acid 30%	NR	NR	NR	•	NR	NR	•	•	•	1
Photographic solution	NR	NR	NR	NR	NR	NR	NR	NR	•	1
Potable water	NR	•	•	NR	•	•	•	•	•	
Potassium Sulphate	NR	NR	NR	•	•	•	•	•	•	
Propane	•	•	•	NR	•	•	NR	•	•	
Salt Water	NR	NR	•	NR	•	•	•	•	•	1
Sea Water	NR	NR	•	NR	•	•	•	•	•	1
Soapy Water	NR	•	•	NR	•	•	NR	•	•	
Sodium Hydroxide 70%	NR	NR	NR	NR	•	NR	•	•	•	
Sodium Hypochorite 5%	NR	NR	NR	NR	•	NR	•	•	•	
Steam 0 - 50 psi	NR	•	•	NR	•	NR	•	NR	•	
Steam 0 - 125 psi	NR	•	•	NR	•	NR	NR	NR	•	
Steam Condensate	NR	•	•	NR	•	NR	•	NR	•	
Sulphur Dioxide	NR	NR	NR	NR	•	NR	•	NR	•	
Sulphuric Acid 40%	NR	NR	NR	NR	NR	•	•	•	•	1
Sulphurous Acid 5% - 20C	NR	NR	NR	NR	NR	NR	NR	•	•	1
Toluene	•	•	•	NR	•	NR	NR	NR	•	
Town Gas	•	•	•	•	•	•	NR	•	•	
Trichlorethylene (Dry)	NR	NR	NR	NR	•	NR	NR	•	•	
Turpentine	•	•	•	NR	•	•	NR	•	•	
Vegetable Oil	NR	NR	NR	NR	•	•	NR	•	•	
Vinegar	NR	NR	NR	NR	•	NR	•	NR	•	1
Water (mains)	NR	•	•	•	•	•	•	•	•	
Water 80 - 120 °C	NR	•	•	NR	•	NR	•	•	•	
Water 120 - 150 °C	NR	•	•	NR	•	NR	NR	•	•	
Water 150 - 180 °C	NR	•	•	NR	•	NR	NR	NR	•	
Water boiler feed	NR	NR	NR	NR	•	•	•	NR	•	
Water/Glycol Solutions	NR	•	•	NR	•	NR	•	•	•	
White Spirit	•	•	•	•	•	NR	NR	•	•	

Notes:

1. Non-standard materials of construction are required.
2. Chlorine must not exceed 5 parts per million.
3. We are required to provide industry standard degreasing, cleaning and individual packaging with appropriate label.

• = Recommended
NR = Not Recommended

Viscosity Reference Guide

Redwood 1 (Seconds)	Redwood 11 (Seconds)	Saybolt Universal SSU (Seconds)	Saybolt Fural (Seconds)	Engler (Degrees)	Kinematic (Centistrokes)
30	-	-	-	1.05	1.5
32	-	34	-	1.15	2.5
34	-	37	-	1.25	3.4
36	-	40	-	1.3	4.2
38	-	42	-	1.4	5
40	-	45	-	1.45	5.7
45	-	50	-	1.6	7.5
50	-	57	-	1.8	9.4
55	-	62	-	1.9	11
60	-	68	-	2.1	12.6
65	-	74	-	2.2	14.2
70	-	79	-	2.4	15.5
75	-	85	-	2.6	17
80	-	92	-	2.7	18.6
85	-	98	-	2.9	20
90	-	103	-	3	21.3
95	-	109	-	3.2	22.8
100	-	115	15	3.4	24.1
110	-	125	16	3.7	26.7
120	-	137	17	4	29.2
130	-	148	18	4.3	31.7
140	-	160	20	4.6	34.2
150	-	171	21	4.9	36.8
160	-	183	22	5.2	39
180	-	205	24	5.9	44
200	-	228	26	6.5	49
225	-	256	28	7.3	55
250	-	285	31	8.1	62
275	-	313	34	8.9	68
300	-	342	37	9.8	74
325	34	370	40	10.6	80
350	36	399	42	11.4	86
375	38	428	45	12.2	93
400	41	456	48	13	99
450	46	513	53	14.7	111
500	51	570	59	16.3	124
550	56	628	65	17.9	136
600	61	684	71	19.5	148
700	71	799	82	22.8	173
800	81	912	94	26.1	198
900	91	1025	105	29.3	222
1000	100	1142	117	32.6	247
1100	110	1257	128	35.9	272
1200	120	1368	140	39	296
1400	140	1599	163	46	346
1600	160	1825	186	52	395
1800	180	2050	209	59	444
2000	200	2280	232	65	493
2200	220	2510	255	72	534
2400	240	2735	278	78	592
2600	260	2965	302	85	642
2800	280	3190	325	91	691
3000	300	3420	348	98	741
3500	350	3990	406	114	864
4000	400	4560	464	130	987
4500	450	5140	522	147	1112
5000	500	5700	580	163	1235
5500	550	6280	639	179	1359
6000	600	6840	696	195	1482
6500	650	7415	754	212	1605
7000	700	7990	814	228	1730
7500	750	8550	869	244	1850
8000	800	9120	928	261	1957

Quality Standards

Rotork has a management system certified to ISO 9001, ISO 14001 & OHSAS 18001.

Certifications and approvals

The Ex mark signifies that a product complies with the ATEX Directive 94/9/EC (applicable up to 20th April 2016 but already implemented by Directive 2014/34/EU, effective from 18th April 2014).

The ATEX Directive sets the safety requirements of protection equipment and systems to be used in an environment with a potentially explosive atmosphere.

The Ex mark on a product enables its free movement within the European market (EEA).

Underwriters Laboratories Quality Certificate

The UL Listing mark on a product signifies that the product meets UL's Standards for Safety. The UL Listing mark appears on products and components suitable for factory and field installation.

All of the products carrying a UL Listing mark are covered by UL's Follow-up services program to verify that the products continue to be manufactured in compliance with UL's Safety Requirements.

We manufacture and resell valve coils and timers complying with UL 429 and 746C.

The cURus Listing mark on the products indicates that the compliance is accepted both in USA and Canada.

RoHS

The Restriction of Hazardous Substances Directive (RoHS) 2011/65/EU regards the restriction of the use of Lead (Pb), Cadmium (Cd), Mercury (Hg), Hexavalent chromium (Cr6+), Polybrominated biphenyls (PBB) and Polybrominated diphenyl ether (PBDE) in electrical and electronic equipment sold in the European Union.

RoHs is meant to prevent the release of these substances into the environment and protect the human, animal and environmental health, especially during the waste treatment. The CE mark on a product guarantees the compliance with the RoHS Directive.

European Community Conformity

The CE marking was introduced in 1993 upon establishment of the European Economic Area. It regulates the entire life cycle of a product: design, manufacturing, placing on the market, disposal and enables its free movement within the European market (EEA).

CE marking signifies that the product conforms with the essential applicable EC requirements, such as safety, public health, consumer protection, and gives the product the presumption of conformity.

By affixing the CE mark on a product, manufacturers and importers are declaring, at their sole responsibility, conformity with all of the legal requirements of the Directive. EC directives that apply to our products are:

Machinery directive

EMC Directive

Low Voltage Directive (2006/95/EC)

The directive 97/23/EC concerns safety of pressure bearing equipment.

The directive 2011/65/EU (RoHS) limits the use of dangerous substances in electrical and electronic equipment.

Miscellaneous

Upon request (to be specified at the time of the Purchase Order) we can provide the following inspection documents, which are also related to requirements of the PED Directive 2014/68/EC as additional evidence of the technical requirements of supplies:

For metal parts in stainless steel AISI 316L or 304L the inspection certificate 3.1 according to the standard EN 10204 (this certificate is mandatory only for products in categories above I, see PED 2014/68/EC ANNEX I, art. 4.3).

For all products the Test Report 2.2 according to the standard EN 10204, is relevant for products in category I or SEP.

Notes

Notes

Notes

rotork®

Rotork Instruments Italy Srl
24050 Orio al Serio (Bg)
ITALY Via Portico 17
tel +39 035 451161
fax +39 035 531763
email info.instruments-italy@rotork.com
www.mminternational.net

Rotork Midland Ltd.
Patrick Gregory Road
Wolverhampton
WV11 3DZ, UK
tel +44 (0)1902 305 678
email sales.midland@rotork.com

Fairchild Industrial Products Company
3920 West Point Blvd.
Winston-Salem
NC 27103
tel 336-659-3400
fax 336-659-9323
email sales@fairchildproducts.com
www.fairchildproducts.com

Rotork Trading (Shanghai) Co. Ltd
2/F, Unit 3
No 159 Tianzhou Road
Shanghai
200 233, SH
China
tel +86 21 5445 2910
fax +86 21 5445 2912

www.rotork.com

A full listing of our worldwide sales and service network is available on our website.

Rotork plc
Brassmill Lane, Bath, UK
tel +44 (0)1225 733200
email mail@rotork.com

PUB124-005-00
Issue 05/22

As part of a process of on-going product development, Rotork reserves the right to amend and change specifications without prior notice. Published data may be subject to change. For the very latest version release, visit our website at www.rotork.com

The name Rotork is a registered trademark. Rotork recognises all registered trademarks. Published and produced in the UK by Rotork. POLJB0422