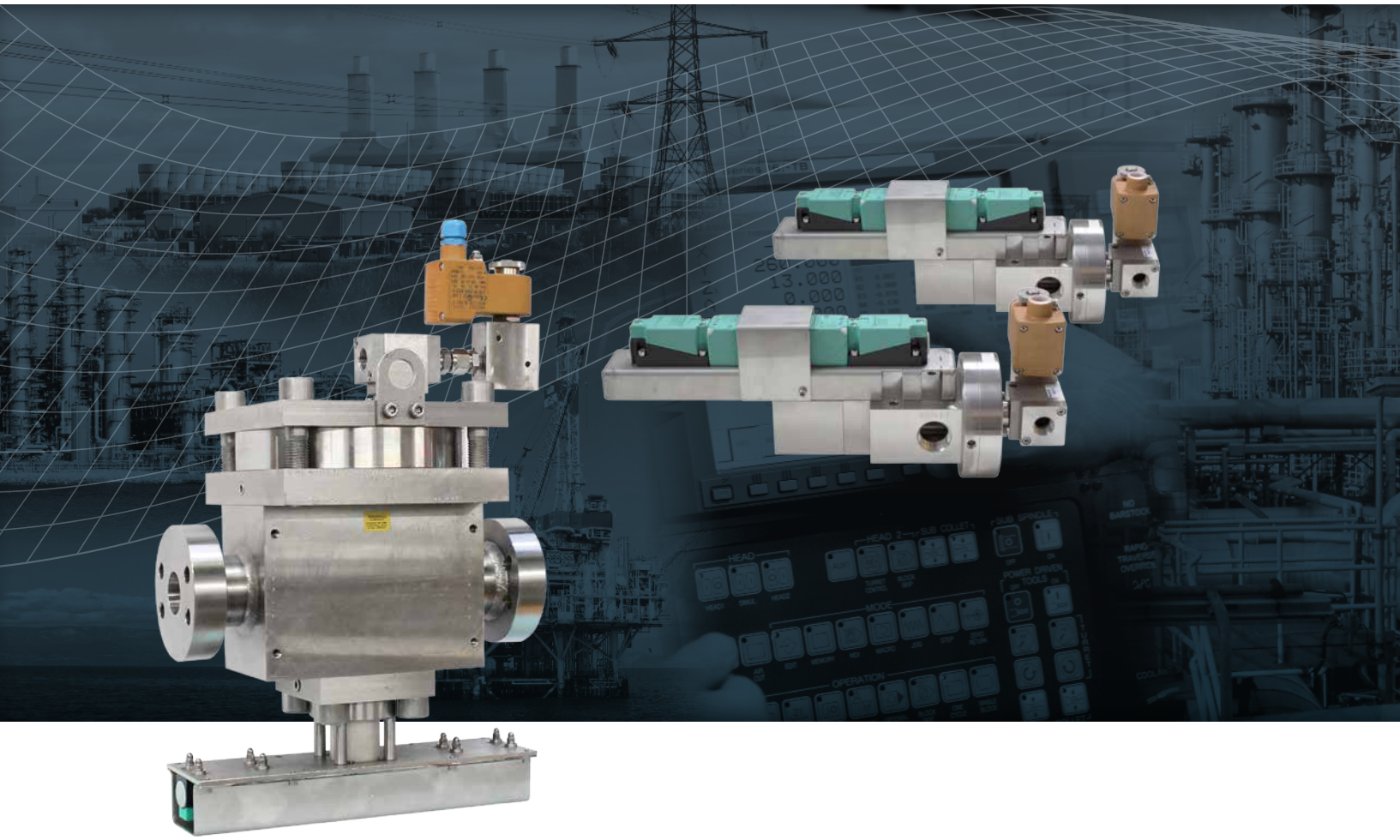
rotork®
Instruments

GTV Series High Pressure Control Valves

For primary and secondary shut off of fuel control lines



Keeping the World Flowing

Contents

Section	Page
Technical Specification	3
¾" & 1" 2-Way Poppet Valve	4
¾" & 1" 3-Way Poppet Valve	5
1½", 2" & 3" 2-Way and 3-Way Poppet Valve	6
Solenoid Specifications	7
Coding Chart	8
Flow Characteristics	
¾" & 1"	9
1½" & 2"	10
2" & 3" High Flow	11

Rotork is the global market leader in valve automation and flow control. Our products and services are helping organisations around the world to improve efficiency, assure safety and protect the environment.

We strive always for technical excellence, innovation and the highest quality standards in everything we do. As a result, our people and products remain at the forefront of flow control technology.

Uncompromising reliability is a feature of our entire product range, from our flagship electric actuator range through to our pneumatic, hydraulic and electro-hydraulic actuators, as well as instruments, gearboxes and valve accessories.

Rotork is committed to providing first class support to each client throughout the whole life of their plant, from initial site surveys to installation, maintenance, audits and repair. From our network of national and international offices, our engineers work around the clock to maintain our position of trust.

Rotork. Keeping the world flowing.

Technical Specifications

GTV Series High Pressure Control Valves

A range of high pressure control valves specifically designed for primary shut off and secondary shut off applications for fuel control lines serving gas turbine and centrifuges.

Features and Benefits

- Specifically designed for reliable long life service
- For use with gas turbines up to 30 MW size
- 3/2 function eliminates the need for an additional valve to exhaust
- Optional open/close positon indication switches
- Oil & Gas offshore (severe service) 316L construction
- Large flow paths up to 130 Cv
- PED certification pending

Working Temperature Range

- -20 to +93 °C (-4 to 199 °F) - Natural Gas
  +6 to +80 °C (42 to 176 °F) - Diesel Oil

Ambient temperature range

- 40 to 80 °C (104 to 176 °F)
  Dependent on solenoid - see solenoid specification chart on page 7

Valve body connections

- ¾" & 1" threaded connections
- 1½", 2" & 3" flanged connections
- Air pilot ¼" NPT (pilot exhaust ½" NPT)
- Solenoid cable entry M20 x 1.5
  (optional ½" NPT adaptor available)
- Proximity switch cable entry M20 x 1.5
  (optional ½" NPT adaptor available)

Operating Media

- Air, natural gas or diesel oil

Construction Materials

- Body and trim 316L stainless steel
- Internals bearings PTFE, Acetal
- Seals Viton, PTFE, NBR

Accreditations

- PED
- ATEX
- CE

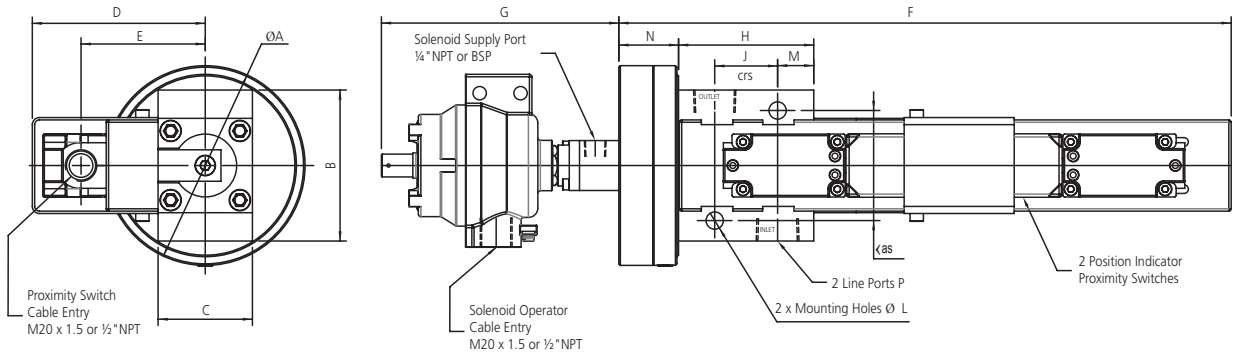
Model shown is 2 way body ported with Exe mb option.

Valve Size	Cv	OPD bar Natural Gas or Diesel Oil (psi)	Pilot Pressure bar (Air psi)	Design Pressure bar (psi)	Response / Closing time
¾"	8	0 to 67 (0 - 971)	4.5 to 12 (65-174)	80 (1160)	< 100ms
1"	18				
1½"	33				
2"	34				
2"	83				
3"	130				

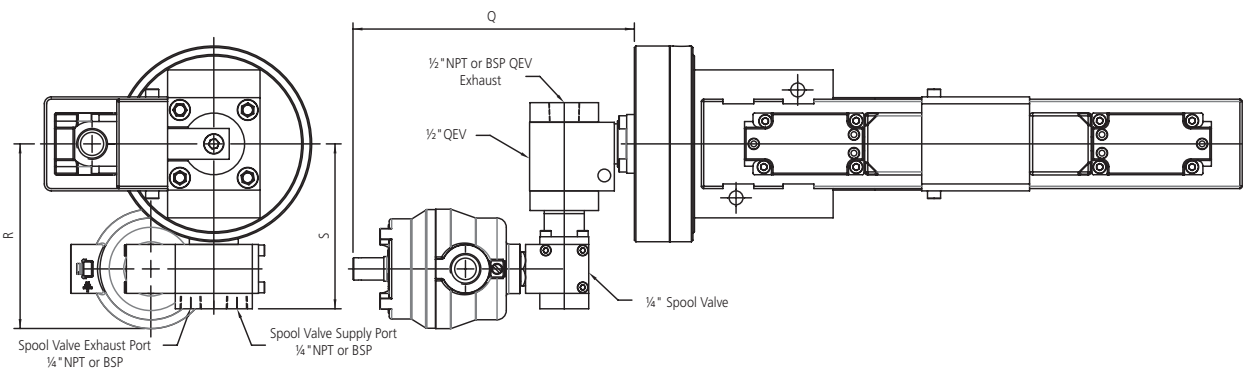
GTV Series ¾" & 1" 2-Way Poppet Valve

Servo-solenoid operated, spring-return, threaded connections

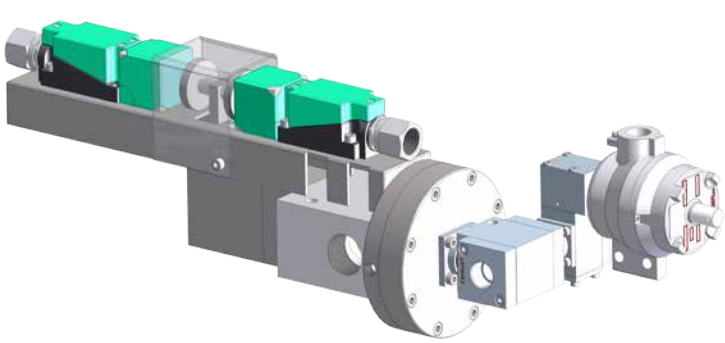
Standard



Fitted with ½" QEV for rapid response <100 milliseconds



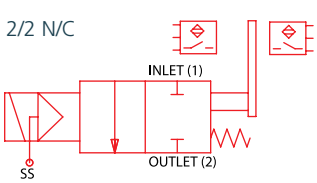
Valve Size	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	Flow Factor (Cv)	Weight (kg) Standard	Weight (kg) Rapid Response
¾"	127	96	60	110	79	390	151	86	40	70	11	23	38	3/4"NPT or BSP	183	120	107	11	12.2	13.7
1"	127	96	60	110	79	390	151	86	40	70	11	23	39	1"NPT or BSP	183	120	107	15.5	12.2	13.7



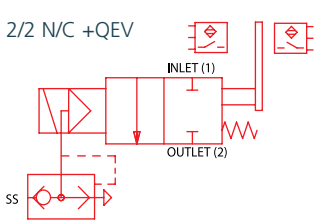
Model shown is 3/4" flanged, 2/2 Normally Closed, Fuel Isolation Valve with open/closed proximity switches fitted.

Valve Symbol

2/2 N/C



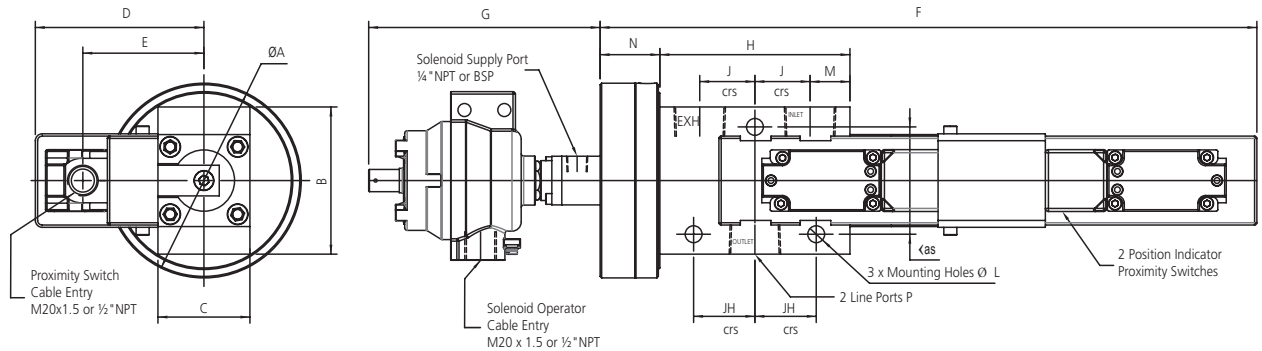
2/2 N/C +QEV



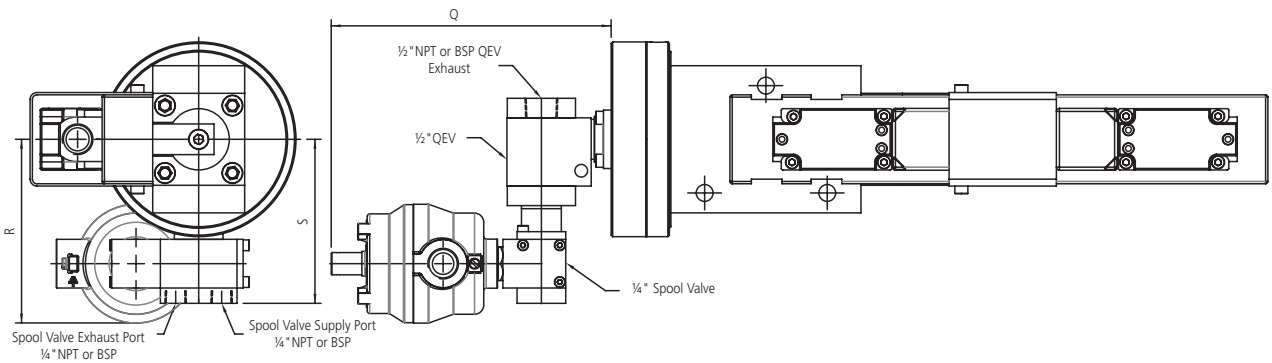
GTV Series ¾" & 1" 3-Way Poppet Valve

Servo-solenoid operated, spring-return threaded, connections

Standard



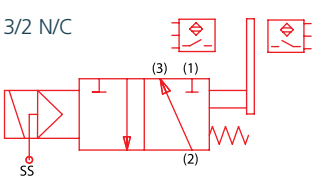
Fitted with ½" QEV for rapid response <100 milliseconds



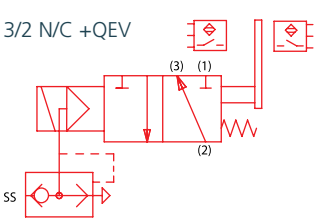
Valve Size	A	B	C	D	E	F	G	H	J	JH	K	L	M	N	P	Q	R	S	Flow Factor (Cv)	Weight (kg) Standard	Weight (kg) Rapid Response
¾"	127	96	60	110	79	429	151	124	36	40	70	11	26	39	3/4"NPT or BSP	183	120	107	11	13.4	14.9
1"	127	96	60	110	79	429	151	124	36	40	70	11	26	39	1"NPT or BSP	183	120	107	15.5	13.4	14.9

Valve Symbol

3/2 N/C

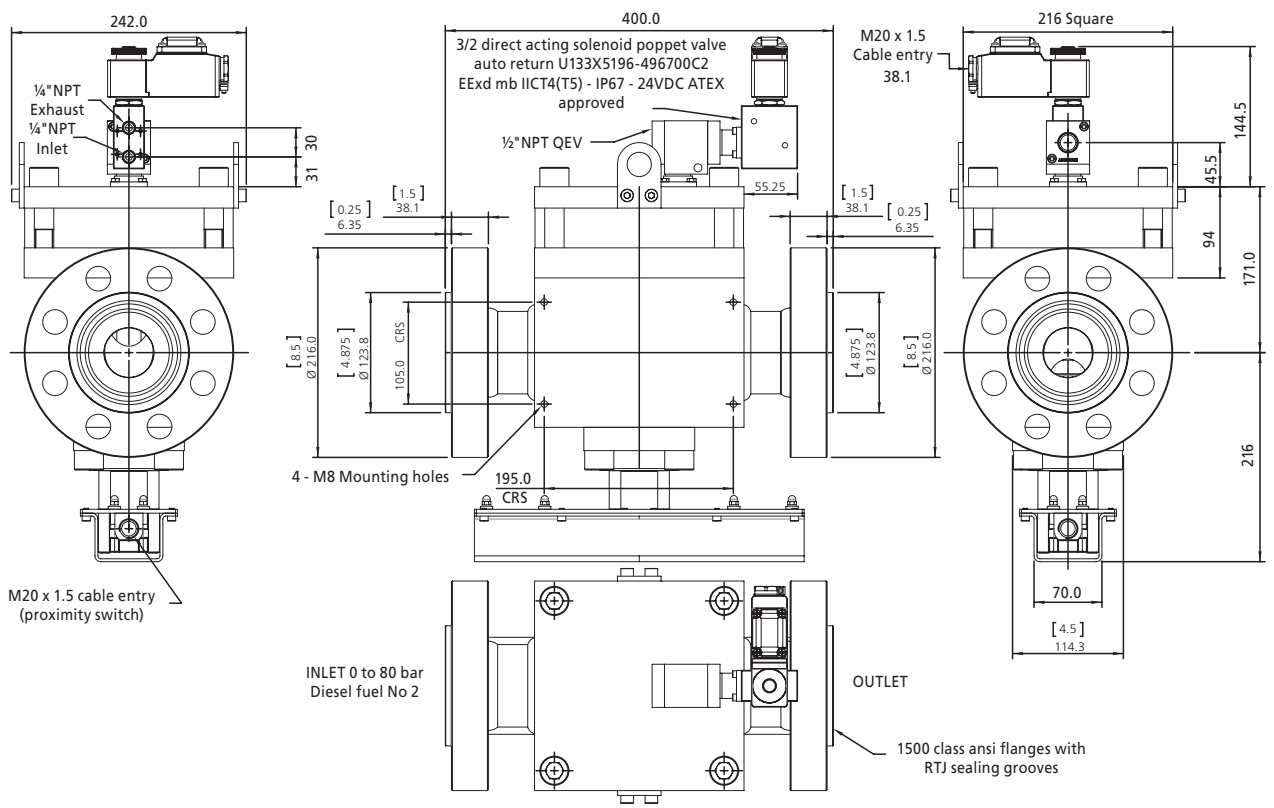


3/2 N/C +QEV

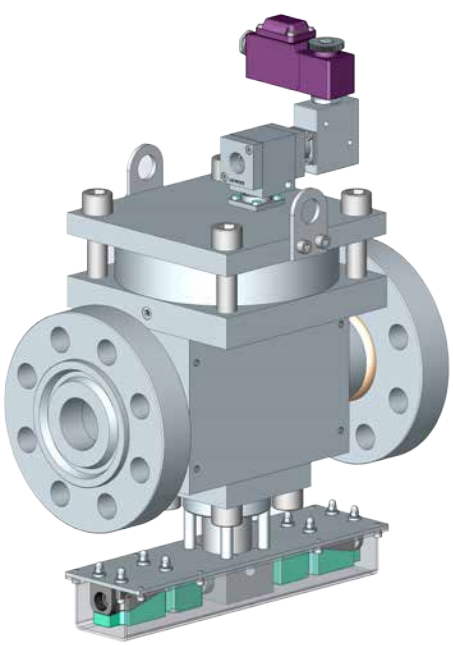


GTV Series 1½", 2" & 3" Poppet Valve

Servo-solenoid operated, spring-return: Flanged Connections



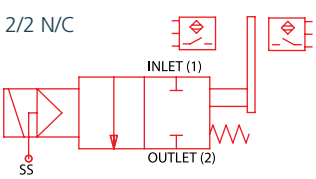
NOTE: Dimensions shown are for 2" NPT 2-Way model. Please consult factory for dimensions of alternative models.



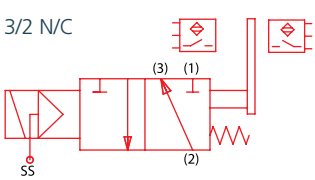
Model shown is 2" flanged, 2/2 Normally Closed, with QEV and open/closed proximity switches.

Valve Symbol

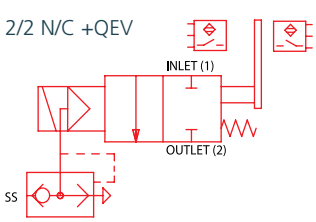
2/2 N/C



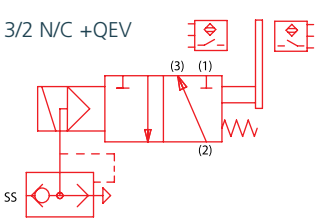
3/2 N/C



2/2 N/C +QEV



3/2 N/C +QEV



GTV Series Solenoid Specifications

Model Code	**K**	**7**	**P**
Type of Protection	Exd IIC T6	Exd IIC T4	Eex me II T4/T5
Approved Area	Zones 1 and 2, Class 1*	Zones 1 and 2, Class 1*	Zones 1 and 2, Class 1*
Degree of Protection	IP67 (NEMA Equivalent : 6)	IP67 (NEMA Equivalent : 6)	IP66 (NEMA Equivalent : 4X)
Housing	316L Stainless Steel	316L Stainless Steel	Glass reinforced Polyamid (St St conduit hub)
Cable Entry	M20 x 1.5 (Optional ½" NPT consult factory for code)	M20 x 1.5 (Optional ½" NPT consult factory for code)	M20 x 1.5 (Optional ½" NPT consult factory for code)
Power Consumption DC/AC	5 W (DC) 22.4 VA (110 VAC) 23.4 VA (120 VAC)	5 W (DC) 22.4 VA (110 VAC) 23.4 VA (120 VAC)	7.5 W (DC)
Maximum Admissable Surface Temp	85 °C (185 °F)	135 °C (275 °F)	T4 135 °C (275 °F) T5 100 °C (212 °F)
Maximum Ambient Temperature	40 °C (104 °F)	80 °C (176 °F)	T4 75 °C (167 °F) T5 40 °C (104 °F)
Maximum Fluid Temperature	80 °C (176 °F)	80 °C (176 °F)	75 °C (167 °F)
Weight (Kg)	1.62	1.62	0.63
Approved Standard	ATEX, CSA, UL, IECEX & EAC	ATEX, CSA, UL, IECEX & EAC	ATEX, CSA, UL, IECEX & EAC

NOTE: The combination of valve and coil will determine maximum ambient i.e. always the lower of the two.

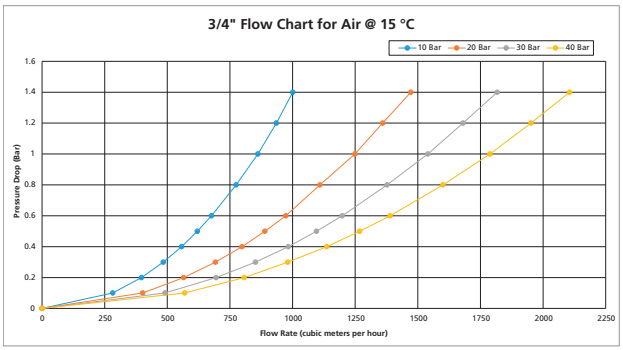
* When specified with a CSA coil.

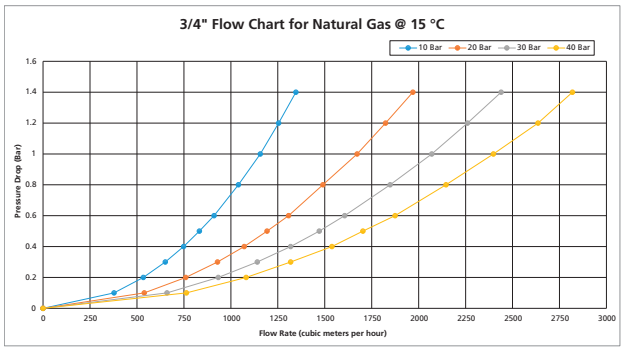
GTV Series Coding Chart

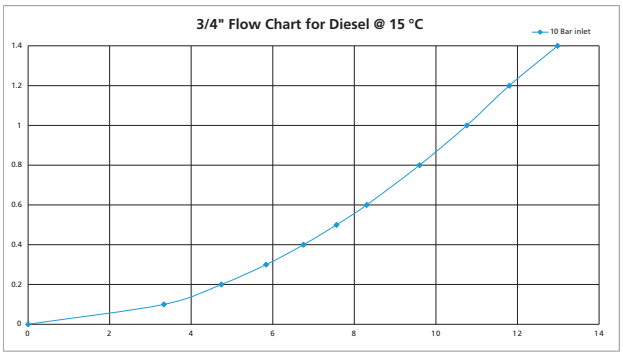
The GTV Series Coding Chart (Gas Turbine Valves)																			
G	6	2	2	3	M	2	4	V	N	1	0	2	6	7	K	D	C	N	EXAMPLE Code Description	
																			Model & Revision List	
																			Size	**Cv**
	6										0	2	6	7					³/₄"	8
	8										0	2	3	9					1"	18
	7										0	0	6	1					1 ¹/₂"	33
	B										0	0	2	0					2"	34
	9										0	0	1	9					2"	83
	C										0	0	0	4					3"	130
																			Number of Ports	
		2																	2 Ports	
		3																	3 Ports	
																			Number of Positions	
			2																2 Position	
																			Type	
				3															Normally Closed	
				4															Normally Open	
																			Function	
					M														Mono Stable	
																			Operator	
						2													Spring	
							4												Solenoid Separate Supply	
							1												Pilot Operated	
							7												Pilot or Manual Operated	
																			Material	
								V											Stainless / Viton	
								S											Stainless / NBR	
																			Proximity Switch Options	
									N										None	
									A										Open (CSA class 1, Div 1, Groups C and D)	
									B										Closed (CSA class 1, Div 1, Groups C and D)	
									C										Open / Closed (CSA class 1, Div 1, Groups C and D)	
									D										Open (UL Class 1, Div 1, groups C and D)	
									E										Closed (UL Class 1, Div 1, groups C and D)	
									F										Open / Closed (UL Class 1, Div 1, groups C and D)	
																			Valve Body Connection	
										1									BSP	
										2									NPT	
										A									DIN ND40 flanged*	
										B									ANSI 300 1b. RF flanged*	
										C									ANSI 150 1b. RF flanged*	
										D									ANSI 600 1b. RF flanged*	
																			Operator	
															K				Exd IICT6 (Stainless Enclosure)	
															7				Exd IICT4 (Stainless Enclosure)	
															P				Exeb mb	
																			Voltage / Frequency	
																D			24 VDC	
																F			48 VDC	
																S			220 V / 50 Hz	
																M			110 V / 50 Hz	
																N			110/120 V / 60 Hz	
																G			110/120 V DC	
																C			12 VDC	
																			Approvals	
																	A		ATEX / IECEx as Standard	
																	C		CSA Approval Required	
																			Electrical Conduit Connection	
																		M	M20 x 1.5 as Standard	
																		N	¹/₂" NPT	

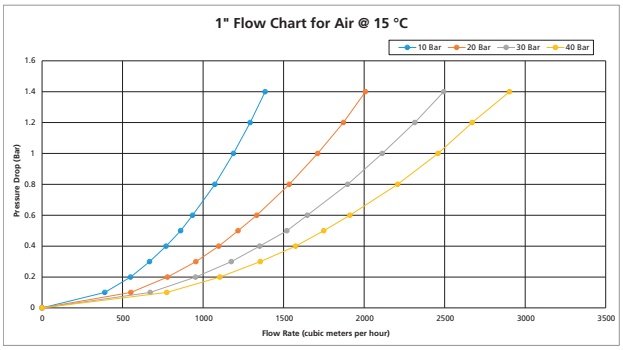
* for 3/4" flanged consult factory

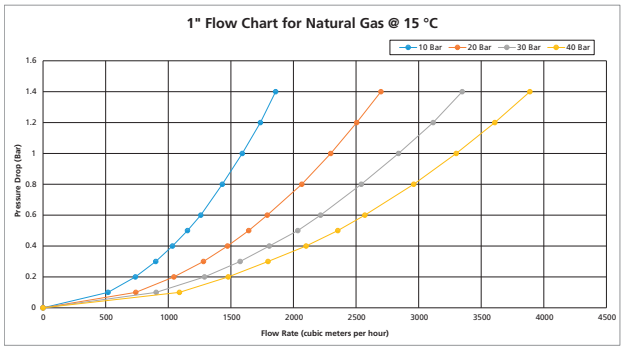
GTV Series Flow Characteristics ¾" & 1"

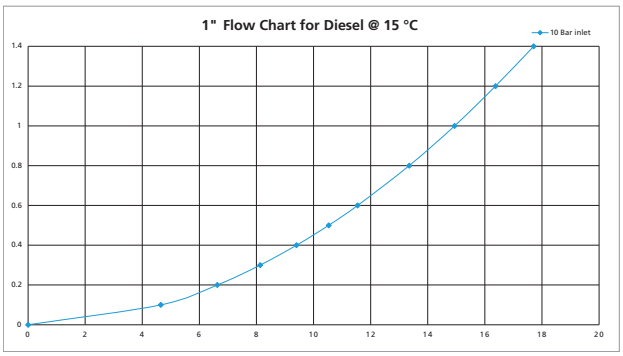




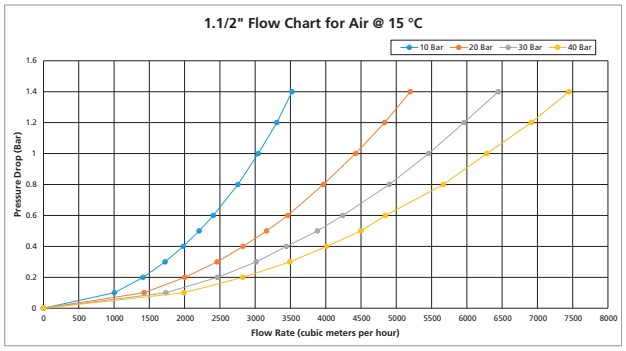


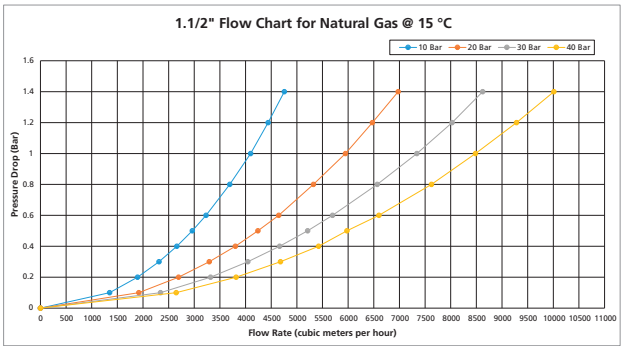


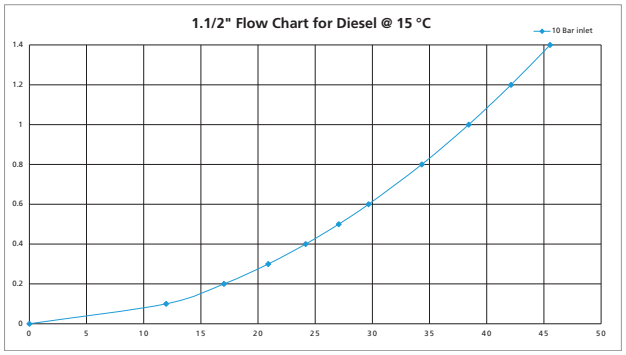


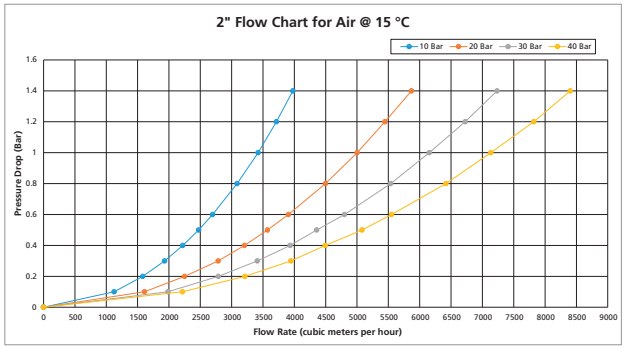


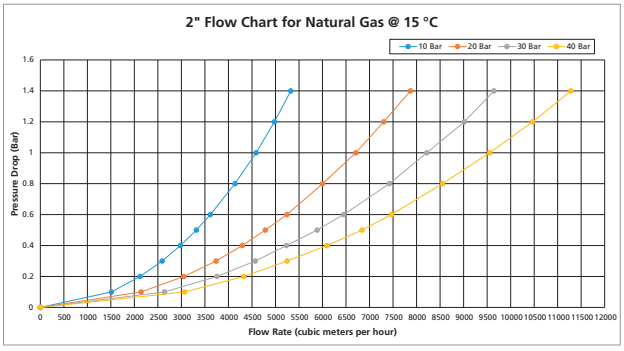
GTV Series Flow Characteristics 1½" & 2"

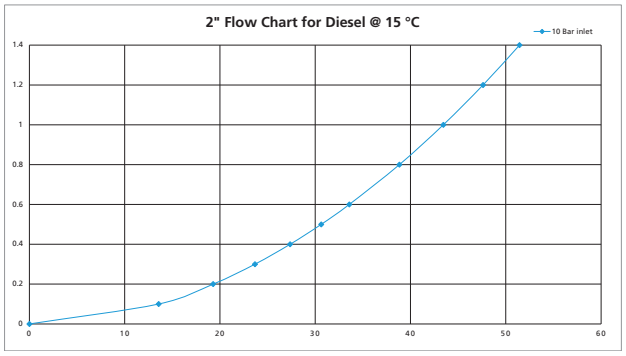




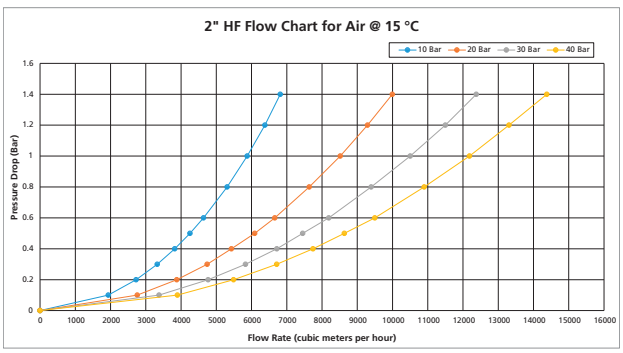


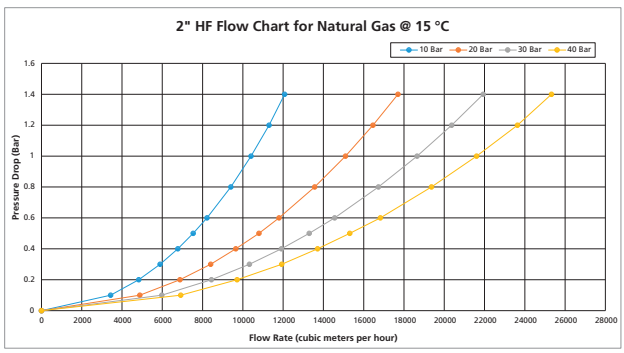


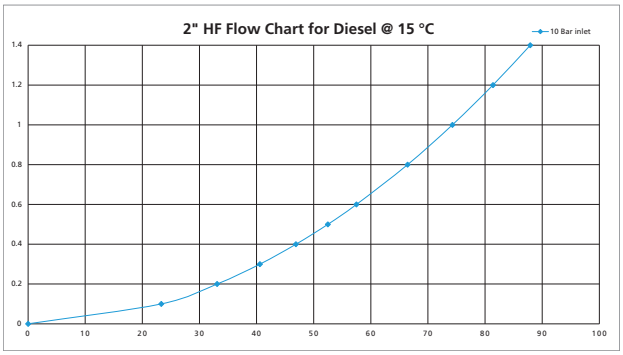


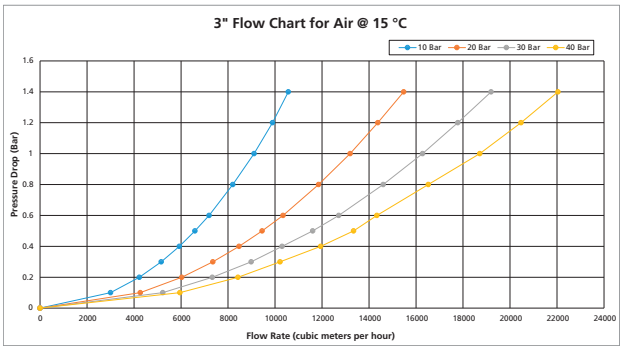


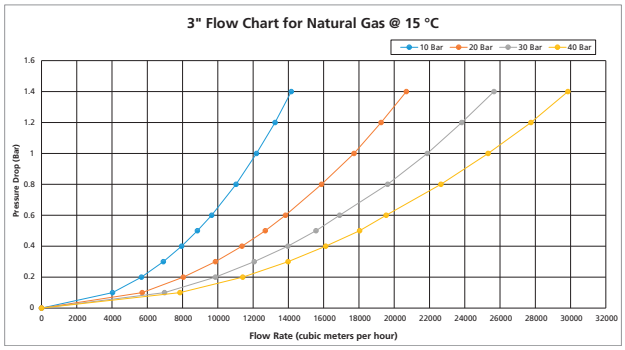
GTV Series 2" & 3" High Flow

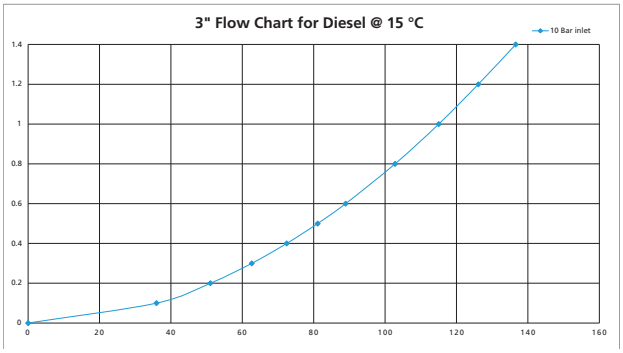












Keeping the World Flowing

www.rotork.com

A full listing of our worldwide sales and service network is available on our website.

Rotork Midland Ltd.
Patrick Gregory Road
Wolverhampton
WV11 3DZ, UK

tel +44 (0)1902 305 678
fax +44 (0)1902 305 676
email sales.midland@rotork.com

Rotork is a corporate member of the Institute of Asset Management

PUB117-015-00
Issue 11/16

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. POWJB1016.
Published and produced in the UK by Rotork Controls Limited. Registered office: Rotork plc, Brassmill Lane, Bath, BA1 3JQ, UK.