

Rotary Stop Valve (GSxP)

Applications

The GSxP is a Pneumatically Actuated Rotary Stop Valve designed for a wide variety of applications and service conditions. The actuator design incorporates an industry-proven actuator failsafe spring for long, reliable operational life. The valve design is a segmented ball valve providing tight shut-off, high flow capacity—low ΔP , and elevated pressure and temperature ranges.

Optional features that can be configured at time of order are:

- Valve body sizes from 75 mm to 200 mm (3 inches to 8 inches)
- Flanged process connections—ANSI 300 lb and 600 lb class
- Carbon or stainless steel body construction
- Fail closed or fail open
- Visual indicator
- Robust actuator
- Fully integrated and tested from factory

Description

The GSxP valve family combines a highly robust Woodward self-cleaning metering valve with an industry-proven high-torque actuator to ensure extended operation in all types of gaseous fuel service.

The complete valve assembly mirrors the GSxE product family with a quick opening valve port for high flow capacity while maintaining low differential pressures. The self-cleaning, shear-type metering action keeps the metering port free from performance-limiting deposits of gas condensates, contaminants, and system debris. The GSxP valve's positive flow shut-off rating exceeds the requirements of ANSI B16.104 Class IV while operating at extended temperatures.

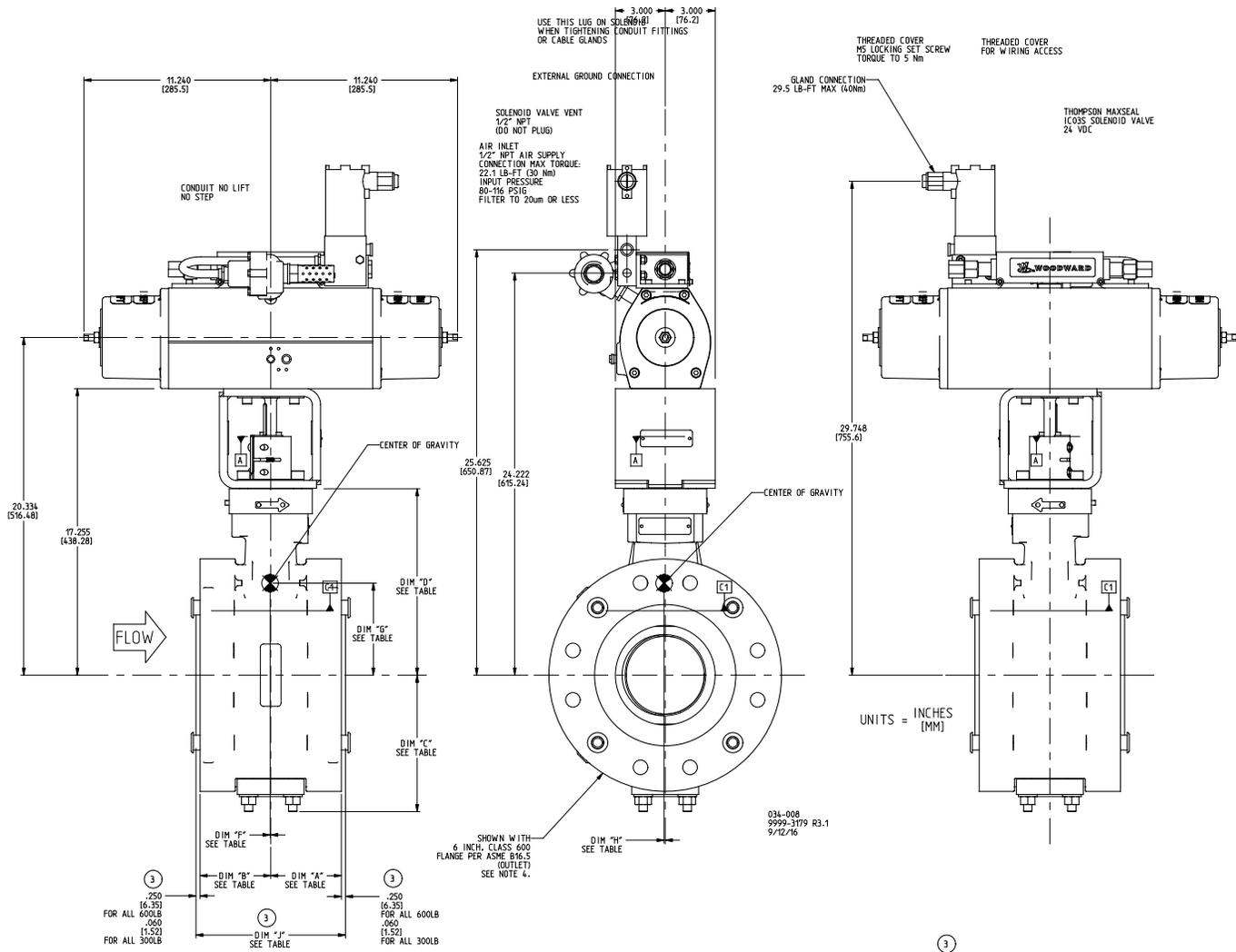
The industry-proven pneumatic actuator is fully integrated and tested to Woodward's high standards for performance and life. The actuator is for on/off duty with options for solenoid voltages and proximity sensors for reliable position feedback.



- Pneumatically actuated round port valve
- Dual piston actuator with spring return
- High-speed failsafe
- Proximity sensors for high reliability
- Visual indicator
- Robust self-cleaning valve
- Certified for US and Canada Hazardous Locations
- Compliant with applicable CE Directives
- IECEx Certified

Valve Size	Full Port Valve Capacity	
	Cg	Cv
GS75P (3-inch)	5227	529
GS100P (4-inch)	9737	985
GS150P (6-inch)	19616	1985
GS200P (8-inch)	28763	2101

Installation



DIMENSION TABLE											
SIZE	CLASS	WEIGHT	CENTER OF GRAVITY								
			DIM "A"	DIM "B"	DIM "C"	DIM "D"	DIM "E"	DIM "F"	DIM "G"	DIM "H"	DIM "J"
3 INCH	300	162 LBS (73.5 KG)	3.18 (80.7)	3.18 (80.7)	6.42 (163.2)	9.45 (240)	8.60 (218.4)	.01 (.2)	9.41 (239.0)	.08 (2.0)	6.50 (165.1)
3 INCH	600	164 LBS (74.4 KG)	3.00 (76.2)	3.00 (76.2)	6.42 (163.2)	9.45 (240)	8.60 (218.4)	.02 (.5)	9.24 (234.7)	.09 (2.2)	6.50 (165.1)
4 INCH	300	217 LBS (98.4 KG)	3.74 (95.0)	3.74 (95.0)	7.00 (177.8)	10.00 (254.0)	9.16 (232.6)	.02 (.5)	7.30 (185.4)	.06 (1.5)	7.62 (193.5)
4 INCH	600	236 LBS (107.0 KG)	3.56 (90.4)	3.56 (90.4)	7.00 (177.8)	10.00 (254.0)	9.16 (232.6)	.02 (.5)	6.68 (169.6)	.06 (1.5)	7.62 (193.5)
6 INCH	300	299 LBS (135.6 KG)	4.44 (112.8)	4.44 (112.8)	8.22 (208.8)	11.25 (285.1)	10.4 (264.2)	.04 (1.0)	5.75 (146.0)	.04 (1.0)	9.00 (228.6)
6 INCH	600	315 LBS (142.8 KG)	4.25 (107.9)	4.25 (107.9)	8.22 (208.8)	11.25 (285.1)	10.4 (264.2)	.04 (1.0)	5.43 (138.0)	.04 (1.0)	9.00 (228.6)
8 INCH	300	391 LBS (177.3 KG)	4.72 (119.8)	4.72 (119.8)	9.25 (234.9)	12.82 (325.6)	11.97 (304.0)	.06 (1.5)	5.05 (128.3)	.00 (0.0)	9.56 (242.8)
8 INCH	600	430 LBS (195.0 KG)	4.53 (115.0)	4.53 (115.0)	9.25 (234.9)	12.82 (325.6)	11.97 (304.0)	.07 (1.7)	4.50 (114.3)	.00 (0.0)	9.56 (242.8)

Specifications

Valve Performance Characteristics

Description: 3, 4, 6, and 8-inch (75, 100, 150, and 200 mm) pneumatically actuated gas stop valves

Mean Time Between Failure (MTBF): 100 000 hrs operation combined valve per valve/actuator

Ambient Temperature Range: (-17 to +79) °C / (0 to +175) °F

Pneumatic Actuator

Description: Dual piston Scotch-yoke with spring return

Failure Mode: Fail Close

Closing Time: <350 ms (at >70 °F ambient)

Visual Position Indication: Yes

Ingress Protection: IP66

Solenoid Input Rating: 24 Vdc (7.8W)

Solenoid Pull-in Voltage: >21 Vdc

Solenoid Drop-out Voltage: 2.4 to 4.8 Vdc

Proximity Switch Input Ratings: 2A @ 240VAC, 0.5A @ 24VDC

Actuation Fluid: Dry Air (cleanliness 20 micron max)

Actuation Fluid Pressure: 5.5 to 8 bar (80 to 116 psig)

Test pressure per BS EN 15714 11.4 bar (165 psig)

Round Port Ball Valve

Process Fluid:	Natural Gas
Gas Filtration:	25 µm absolute at 75 beta requirement ANSI Class 300 # RF flanges
Connections:	ANSI Class 600 # RF flanges Overboard Vent Drain (OBVD) (see Outline Drawing)
Min Process Fluid Temperature:	-29°C (-20°F)
Max Process Fluid Temperature:	260°C (500°F)
Max Thermal Shock Differential:	37.8° C (100° F) within valve due to thermal transient
Min Working Pressure	0 MPa (0 psig)
Max Working Pressure:	4.17 MPa (605 psig) [3", 4", & 6" valves]. 4.62 MPa (670 psig) [8" valves] Class 300 (WCC) flanges: See ASME B16.34, Table 2-1.2 (VII-2-1.2) Class 300 (CF8M) flanges: See ASME B16.34, Table 2-2.2 (VII-2-2.2)
Max Process Fluid Containment Pressure:	Class 600 (WCC) flanges: See ASME B16.34, Table 2-1.2 (VII-2-1.2) 3", 4" & 6" valves follow Class 300 limits 8" valve follow Class 600 limits Class 600 (CF8M) flanges: See ASME B16.34, Table 2-2.2 (VII-2-2.2) 3", 4" & 6" valves follow Class 300 limits 8" valve follow Class 600 limits
Proof Test Pressure:	Production 7.76 MPa (1125 psig)
Burst Pressure:	5x maximum working pressure
Overboard Leakage:	<20 sccm as shipped (see OBVD Port section) 75 mm (3-inch)
Trim Sizes	100 mm (4-inch) 150 mm (6-inch) 200 mm (8-inch)

Certification and/or Compliance Requirements**European Compliance for CE Marking:**

Pressure Equipment Directive:	2014/68/EU (Category II and III based on size)
ATEX Directive:	2014/34/EU. This suitability is the result of ATEX compliance of the individual components
Solenoid Valve:	Sira 05ATEX1156, Zone 1, Category 2, Ex d IIC T4 Gb
Proximity Switch:	Baseefa 08ATEX0360X, Zone 1, Category 2, Ex d IIC T3 Gb
Thread Adapter:	Sira 00ATEX1094X, Zone 1, Category 2, Ex d IIC Gc

Other European Compliance:

(Compliance with the following European Directives or standards does not qualify this product for application of the CE Marking.)

EMC Directive: Not applicable to this product. Electromagnetically passive devices are excluded from the scope of the 2014/30/EU Directive.

ATEX Directive: Exempt from the non-electrical portion of the ATEX Directive 2014/34/EU as non-electrical equipment bearing no potential ignition sources per EN 13463-1.

Machinery Directive: Compliant as a partly completed machinery per 2006/42/EC.

Other International Compliance:

IECEX:	This suitability is the result of IECEx compliance on the individual components as follows:
Solenoid Valve:	IECEX SIR 05.0029, Ex d IIC T4 Gb
Proximity Switch:	IECEX BAS 08.0122X, Ex d IIC T3 Gb
Thread Adapter:	IECEX SIR 12.0016X Ex d IIC Gb

North American Compliance:

Suitability for use in North American Hazardous Locations is the result of compliance of the individual components.

Solenoid Valve: CSA Certified for Class I, Division 1, Groups B, C, and D T4 for use in the United States and Canada per CSA 1805901 (LR51486).

Proximity Switch: CSA Certified for Class I, Division 1, Groups A, B, C, D, T3C. For use in the United States and Canada per CSA 1372905.

Thread Adapter: CSA Certified for Class I, Division 1 & 2 Groups A, B, C and D for use in the United States and Canada per CSA 1248014 (LR 106084)

Special Conditions for Safe Use

- Wiring must be in accordance with North American Class I, Division 1, or European or other international Zone 1, Category 2 wiring methods as applicable, and in accordance with the authority having jurisdiction. This applies for installation in a Division 2 / Zone 2 area.
- The integral supply cables of the proximity switches must be mechanically protected and terminated in a suitable terminal or junction facility.
- The external earth bonding connection for the proximity switches may be maintained by connection to the solenoid ground terminal and/or the internal cable gland/conduit entry thread. The bond path between the solenoid valve and proximity switches is sufficient for one external earth connection only, if desired.
- Only one adaptor or reducer is to be used with any single cable entry.
- The temperature codes assigned to the hazardous location components reflect conditions without process fluid in the valve. The surface temperature of this valve approaches the maximum temperature of the applied process media. It is the responsibility of the user to ensure that the external environment contains no hazardous gases capable of ignition in the range of the process media temperatures.
- Compliance with the Machinery Directive 2006/42/EC noise measurement and mitigation requirements is the responsibility of the manufacturer of the machinery into which this product is incorporated.



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