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Parker Flow Meter and Valve Solutions

For Water and Coolant



ENGINEERING YOUR SUCCESS.

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Parker Fluid Control Division

Parker Fluid Control Division is a world-wide market leader of solenoid valves that control motion, flow and pressure.

With manufacturing facilities strategically placed around the world we are prepared to meet your needs wherever they may be. Our facilities located in U.S.A, Brazil, Italy, Switzerland and South Korea are equipped with a complete staff of experienced design engineers permitting rapid completion of customized valve designs for specific user requirements. Also, each facility has well equipped evaluation and testing laboratories to ensure proper valve operation, long cycle life, and optimum reliability of the product for the application.

With sales affiliates worldwide, an extensive distribution network, and broad product breadth, Parker Fluid Control Division is in a unique position to service the world's requirements for solenoid valves.

Parker Fluid Control product line consists of; Gold Ring™, Skinner Valve™, Sinclair Collins®, Lucifer™ and Jackes Evans™. These product lines make Parker Fluid Control Division, the leading supplier of products controlling motion, flow and pressure.

Applications:

- | | | |
|-----------------|------------|-----------------|
| • Rubber | • Refining | • Petrochemical |
| • Steel | • Paper | • Waste Water |
| • Fabrication | • Chemical | • Power |
| • Manufacturing | • Food | • Mining |



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This document and other information from Parker-Hannifin Corporation, its subsidiaries and authorized distributors provide product or system options for further investigation by users having technical expertise.

The user, through its own analysis and testing, is solely responsible for making the final selection of the system and components and assuring that all performance, endurance, maintenance, safety and warning requirements of the application are met. The user must analyze all aspects of the application, follow applicable industry standards, and follow the information concerning the product in the current product catalog and in any other materials provided from Parker or its subsidiaries or authorized distributors.

To the extent that Parker or its subsidiaries or authorized distributors provide component or system options based upon data or specifications provided by the user, the user is responsible for determining that such data and specifications are suitable and sufficient for all applications and reasonably foreseeable uses of the components or systems.

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Flow Meter

Vortex Shedding

1/4" - 2" NPT

Bronze & Stainless Steel



General Description:

This flow meter is made for water, water/glycol coolant or low viscosity fluids. It has the following features:

- Flow rate transmitter 4-20 mA
- Solid state relay can be configured as alarm or pulse out
- LED digital display
- No moving parts to clog or wear
- Certified CSA and CE

Installation

Mountable in any position with 50 pipe diameters upstream from a valve. Meter should be installed on a straight pipe run of 10 pipe-diameters upstream from flow meter as well as 5-pipe-diameters downstream.

Material Specifications:

- Flow meter bodies of brass or 316 Stainless Steel with PVDF sensors and Viton® seals standard.

User-Configurable Options:

Features that are selectable on 4-20 mA units include:

- Selectable alarm state (N.O. or N.C.)
- Set point or pulse output
- Engineering units (GPM, LPM)



Instrument Specifications:

- Flow Visual readout: 3 digit LED, 0.3" digit height
Response time: 250 ms,
Alarm: 5% F.S. deadband
Accuracy: $\pm 2\%$ F.S.
- Repeatability: $\pm 0.25\%$ of indicated
Flow Turndown: 10:1
- Pressure 300 PSIG (20 Bar) operating pressure
- General Fluid temperature limits: 35-150°F (2-55°C) standard. 35-210°F (2-99°C) for high temp option E22. Enclosure rating: IP 65, Type 1, 3, 4, 12 and 13
- Connections: NPT Thread Standard
BSPP & BSPT Optional

Electrical Specifications:

- Input Power: 10 - 30 VDC @ 80 mA
- Output: 4-20 mA for flow rate with 100 pulses per gallon from the solid state relay (25 Pulses per gallon for the 2 inch)
- Electrical Connection Pin Connector (standard)

Flow Meter

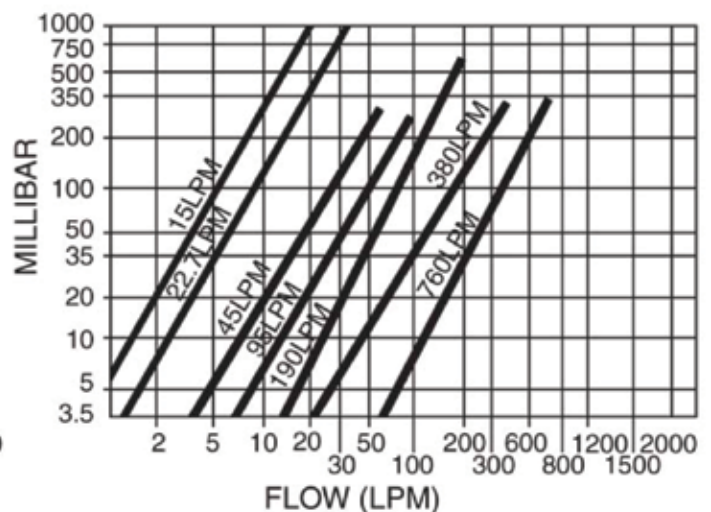
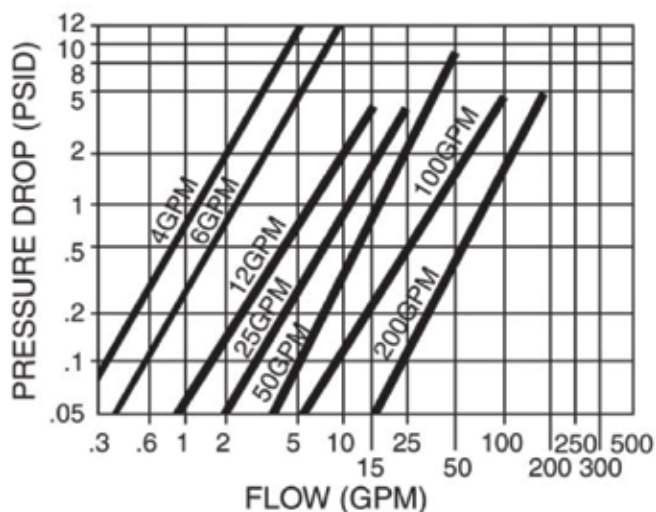
Flow Meter Data - Bronze

Port Size NPT	Flow Maximum GPM (LPM)	Maximum Working Pressure	Min. Fluid Temp. °F	Max. Fluid Temp. °F	Input Power	Output	Flowmeter Model Number	Weight (lbs)
1/4	4 (15)	300 PSIG	35°F	150°F	10 - 30 VDC @ 80 mA	4-20 mA	PF04BNP000	2.68
3/8	6 (22.7)	300 PSIG	35°F	150°F	10 - 30 VDC @ 80 mA	4-20 mA	PF06BNP000	2.68
1/2	12 (45)	300 PSIG	35°F	150°F	10 - 30 VDC @ 80 mA	4-20 mA	PF08BNP000	2.68
3/4	25 (95)	300 PSIG	35°F	150°F	10 - 30 VDC @ 80 mA	4-20 mA	PF12BNP000	5.00
1	50 (190)	300 PSIG	35°F	150°F	10 - 30 VDC @ 80 mA	4-20 mA	PF16BNP000	6.28
1-1/2	100 (380)	300 PSIG	35°F	150°F	10 - 30 VDC @ 80 mA	4-20 mA	PF24BNP000	14.00
2	200 (750)	300 PSIG	35°F	150°F	10 - 30 VDC @ 80 mA	4-20 mA	PF32BNP000	21.00

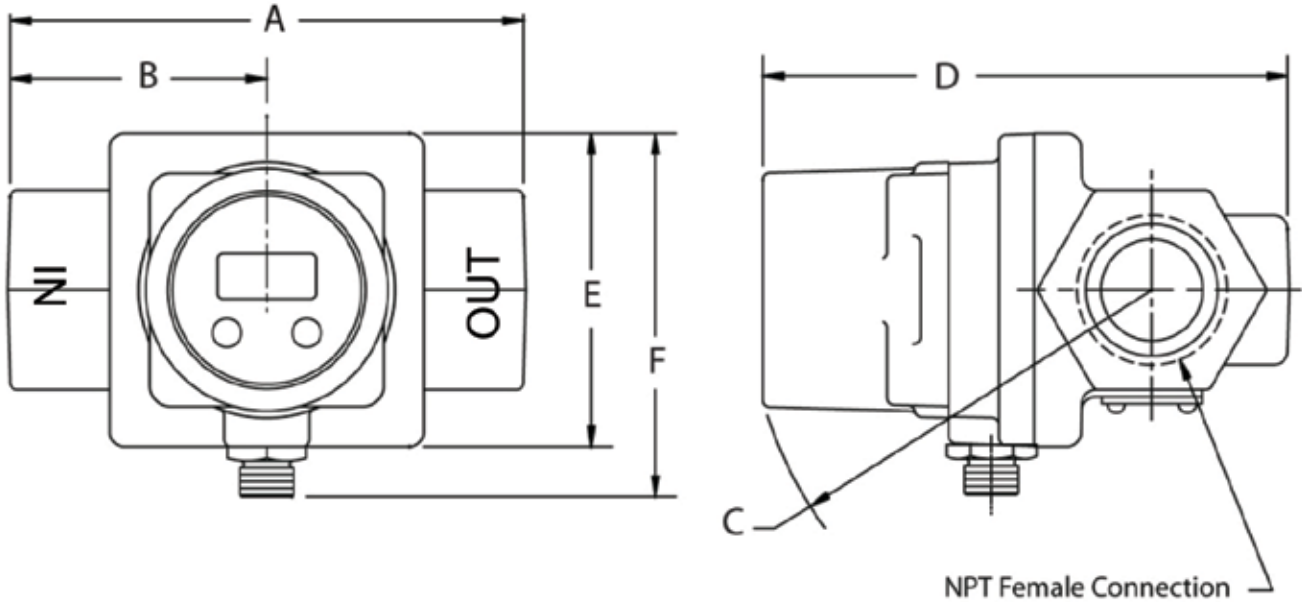
Flow Meter Data 316 - Stainless Steel

Port Size NPT	Flow Maximum GPM (LPM)	Maximum Working Pressure	Min. Fluid Temp. °F	Max. Fluid Temp. °F	Input Power	Output	Flowmeter Model Number	Weight (lbs)
1/4	4 (15)	300 PSIG	35°F	150°F	10 - 30 VDC @ 80 mA	4-20 mA	PF04SNP000	2.47
3/8	6 (22.7)	300 PSIG	35°F	150°F	10 - 30 VDC @ 80 mA	4-20 mA	PF06SNP000	2.47
1/2	12 (45)	300 PSIG	35°F	150°F	10 - 30 VDC @ 80 mA	4-20 mA	PF08SNP000	2.47
3/4	25 (95)	300 PSIG	35°F	150°F	10 - 30 VDC @ 80 mA	4-20 mA	PF12SNP000	4.60
1	50 (190)	300 PSIG	35°F	150°F	10 - 30 VDC @ 80 mA	4-20 mA	PF16SNP000	5.78
1-1/2	100 (380)	300 PSIG	35°F	150°F	10 - 30 VDC @ 80 mA	4-20 mA	PF24SNP000	12.88
2	200 (750)	300 PSIG	35°F	150°F	10 - 30 VDC @ 80 mA	4-20 mA	PF32SNP000	19.32

Pressure Drop Chart



Dimensional Drawings

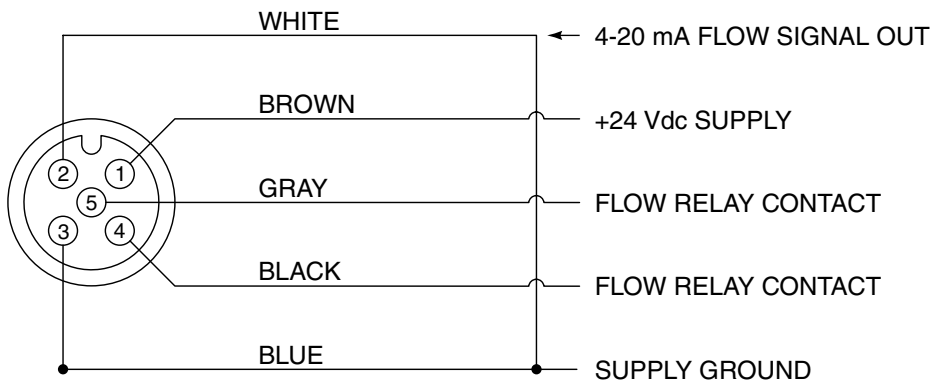


Size	A	B	C	D	E	F
1/4" & 1/2"	3.25" [83mm]	1.62" [41mm]	3.13" [80mm]	4.07" [103mm]	2.29" [59mm]	2.73" [94mm]
3/4" & 1"	4.50" [114mm]	2.25" [57mm]	3.55" [90mm]	4.60" [117mm]	2.75" [70mm]	3.19" [81mm]
1 1/2" & 2"	6.75" [171mm]	3.37" [86mm]	4.24" [108mm]	5.58" [149mm]	2.88" [73mm]	3.25" [83mm]

Accessory Cables Available For Pin Connector Meters

Series	Description	Length in Meters	Part Number
PF	5 pin female	1	PF01
		3	PF03
		10	PF10

Order desired cable length with Flow meter.



Configuration:

- 1: + 24 VDC power supply
- 2: 4-20 mA flow signal out
- 3: power supply ground
- 4: flow relay contact
- 5: flow relay contact

2-Way

Pilot Operated Valves - Normally Closed
 1/4"–2" NPT
 Brass & Stainless Steel



General Description:

Parker Fluid Control Pilot Operated valves are designed for higher flow and medium to high pressure applications.

Installation

Valves can be mounted in any position. The preferred orientation is vertical and upright.

Compatible Fluids

Lubricated Air, Inert Gases, Water, Light Oil (300 SSU), and additional fluids compatible with materials of construction as shown in product specification chart.

Standard Materials of Construction:

- Sleeve - 304 SS
- Sleeve Stop - 430FR stainless steel
- Sleeve Flange - 430FR stainless steel
- Plunger - 430FR stainless steel
- Shading Ring - copper
- Spring - 18-8 stainless steel
- Seals - NBR, FKM as listed

Electrical Characteristics:

Standard Voltages:

AC –24/60,
 120/60 110/50,
 240/60 220/50

DC – 12, 24

For other Voltages – Consult Factory



Coil Classification:

Std Coil Class of Insulation	AC Wattage Rating & Power Consumption		
	Watts	VA Holding*	VA Inrush*
F	10	17-20	27-46
F	22	35-47	45-80

*Values vary due to orifice size and seal material
 Class H available as option

Agency Approvals:

Standard valves with Type 4X coils or optional Explosion Proof solenoid enclosures are UL Listed and CSA Certified. For additional details, Consult Factory.

Features:

Parker Fluid Control Solenoid valves feature technological innovations that improve system quality, performance and increase life.

- Robust welded sleeve construction
- Long life operation
- Improved pressure and durability ratings
- Single pressure vessel for AC/DC
- Tight shutoff



2-Way Internal Pilot Operated - Normally Closed - Brass

Port Size NPT	Orifice Size in.	Flow Factor Cv	Operating Pressure Differential (MOPD) PSI				Wattage		Max. Fluid Temp. °F	Seal	Pressure Vessel Number	Reference	
			Min.	Air, Inert Gas	Water	Light Oil 300 SSU	AC	DC				Coil	Valve
AC													
1/4	7/16	2.00	3	150	150	150	10	-	185	NBR	7321KBN2RN00	1	98
3/8	7/16	2.50	3	150	150	150	10	-	185	NBR	7321KBN3SN00	1	98
1/2	7/16	2.50	3	150	150	150	10	-	185	NBR	7321KBN4SN00	1	98
3/4	25/32	9.60	5	230	230	230	10	-	185	NBR	7321GBN53N00	1	14
1	1	12.50	5	230	230	230	10	-	185	NBR	7321GBN64N00	1	14
1 1/2	1 9/16	29.00	5	230	230	230	10	-	185	NBR	7321GBN88N00	1	14
2	1 9/16	38.60	5	230	230	230	10	-	185	NBR	7321GBN99N00	1	14
DC													
1/4	7/16	2.00	3	150	150	150	-	22	185	NBR	7321KBN2RN00	2	98
3/8	7/16	2.50	3	150	150	150	-	22	185	NBR	7321KBN3SN00	2	98
1/2	7/16	2.50	3	150	150	150	-	22	185	NBR	7321KBN4SN00	2	98
3/4	25/32	9.60	5	230	230	230	-	10	185	NBR	7321GBN53N00	1	14
1	1	12.50	5	230	230	230	-	10	185	NBR	7321GBN64N00	1	14
1 1/2	1 9/16	29.00	5	200	200	200	-	10	185	NBR	7321GBN88N00	1	14
2	1 9/16	38.60	5	200	200	200	-	10	185	NBR	7321GBN99N00	1	14

2-Way Internal Pilot Operated - Normally Closed - Stainless Steel (430F & 316 SS)

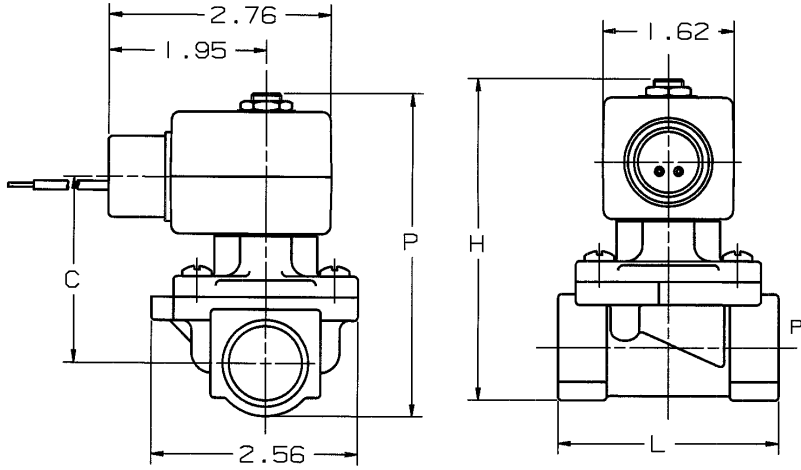
Port Size NPT	Orifice Size in.	Flow Factor Cv	Operating Pressure Differential (MOPD) PSI				Wattage		Max. Fluid Temp. °F	Seal	Pressure Vessel Number	Reference	
			Min.	Air, Inert Gas	Water	Light Oil 300 SSU	AC	DC				Coil	Valve
AC													
1/4	1/4	0.76	5	300	300	300	10	-	185	NBR	73212SN2MN00	1	17
3/8	5/8	3.00	0	100	100	100	10	-	185	FKM	72218RN3TV00	1	8
1/2	5/8	4.00	0	100	100	100	10	-	185	FKM	72218RN4UV00	1	8
3/4	3/4	5.00	0	100	100	100	10	-	185	FKM	72218RN5VV00	1	8

#8



Valve	Dimension			
	H	P	C	L
72218BN3TXXX	3.78	3.23	2.21	2.64
72218BN4UXXX	3.78	3.23	2.21	2.64
72218BN5VXXX	3.99	3.33	2.31	2.72
72218RN3TXXX	3.99	3.33	2.31	2.72
72218RN4UXXX	3.99	3.33	2.31	2.72
72218RN5VXXX	3.99	3.33	2.31	2.72

"X" denotes multiple digit combinations for brevity.

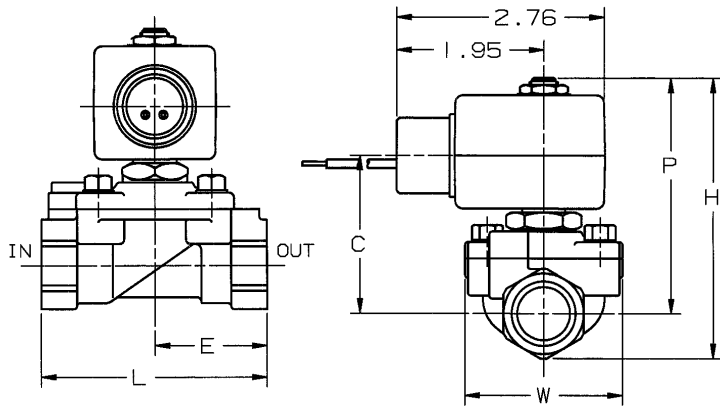


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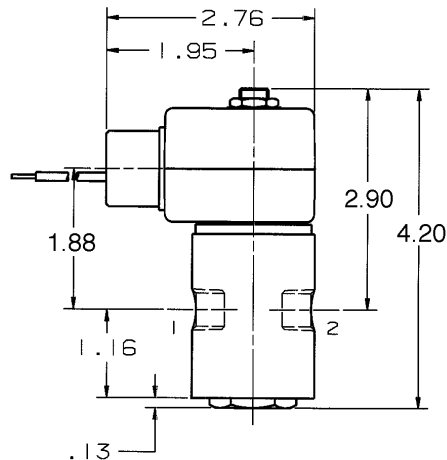
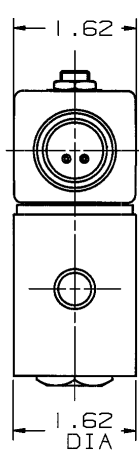


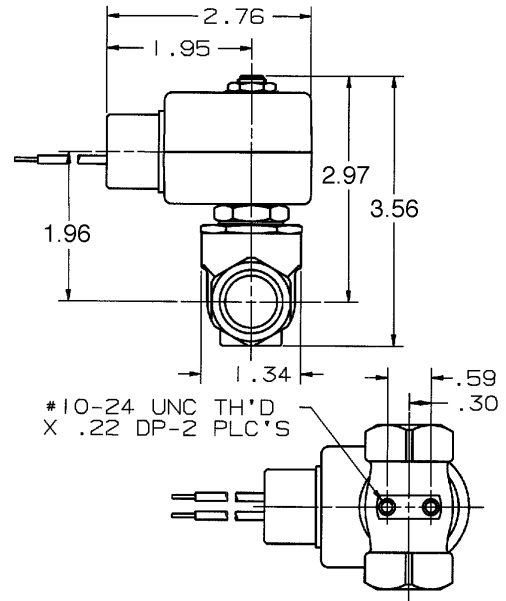
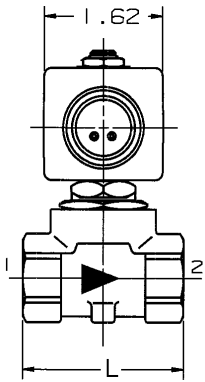
Valve	Dimension				
	H	P	C	L	W
7321GBN53XXX	4.75	3.86	2.84	3.94	2.75
7321GBN64XXX	4.75	3.86	2.84	3.94	2.75
7321GBN76XXX	5.41	4.11	3.09	4.33	2.75
7321GBN88XXX	5.66	4.37	3.35	5.51	3.90
7321GBN99XXX	6.25	4.60	3.58	5.91	3.90

"X" denotes multiple digit combinations for brevity.



#17





Valve	Dimension			
	H	P	C	L
7321KBN4SXXX	3.56	2.97	1.96	2.17
7321KBN2RXXX	3.56	2.97	1.96	1.97
7321KBN3SXXX	3.56	2.97	1.96	1.97

Valve can be normally closed or normally open, depending on piping of external pilot.

Integrated Coil Offering

Chart 1 - 10 Watt





Coil Code	Description	Voltage	Class
	C111B2	1/2" NPT Conduit*	24/60 F
	C111P3	1/2" NPT Conduit*	110/50, 120/60 F
	C111Q3	1/2" NPT Conduit*	220/50, 240/60 F
	C111C1	1/2" NPT Conduit*	12VDC F
	C111C2	1/2" NPT Conduit*	24VDC F
	C222B2	1/2" NPT Conduit*	24/60 H
	C222P3	1/2" NPT Conduit*	110/50, 120/60 H
	C222Q3	1/2" NPT Conduit*	220/50, 240/60 H
	C222C1	1/2" NPT Conduit*	12VDC H
	C222C2	1/2" NPT Conduit*	24VDC H
	D100B2	DIN	24/60 F
	D100P3	DIN	110/50, 120/60 F
	D100Q2	DIN	220/50, 240/60 F
	D100C1	DIN	12VDC F
	D100C2	DIN	24VDC F

Chart 2 - 22 Watt

Coil Code	Description	Voltage	Class
	C322B2	1/2" NPT Conduit*	24/60 H
	C322P3	1/2" NPT Conduit*	110/50, 120/60 H
	C322Q3	1/2" NPT Conduit*	220/50, 240/60 H
	C322C1	1/2" NPT Conduit*	12VDC H
	C322C2	1/2" NPT Conduit*	24VDC H
* 18" Lead Wires, Nema 1, 2, 3, 4, 4X			
	D300P3	DIN	110/50, 120/60 H
	D300Q3	DIN	220/50, 240/60 H
	D300C1	DIN	12VDC H
	D300C2	DIN	24VDC H

2-Way

Angle Body Valves - Normally Closed

1/4" - 3" NPT

Bronze, Brass & Stainless Steel



General Description:

Parker's Series 810 Angle Body on/off pneumatically actuated valves range in size from 1/4 to 3 inches and have operating pressures up to 580 psi. Valves are designed for millions of cycles and are suitable for temperature ranges from -40 F to 430 F. Valves feature visual position indicator and utilize damped closing anti-water hammer design (fluid under seat). The Angle Body design compliments the Parker Flow Meter with reliable control and are fully repairable with discrete repair kits.

Installation

Mountable in any position

Compatible Fluids

Bronze & Brass: Inert gases, hot water, oils, steam

316 Stainless: Aggressive & corrosive fluids

Standard Materials of Construction:

- Bronze
- Brass
- 316 Stainless Steel
- Seal Material: PTFE



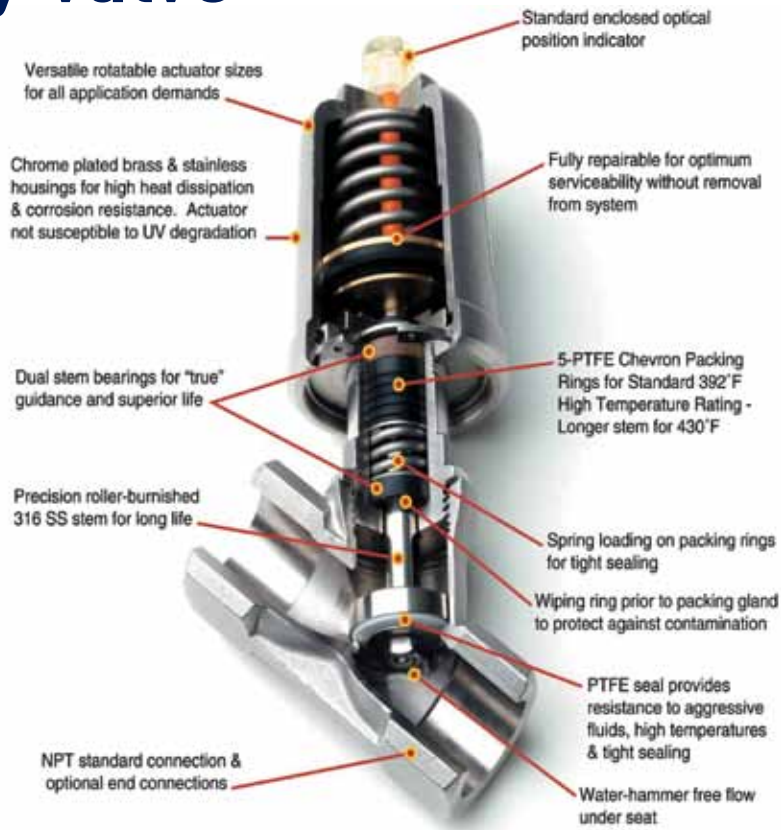
Features:

- Compact design, high flow rates
- Visual position indicator standard
- For temperatures from - 22°F to +430°F / -30°C to 221°C
- Working pressures up to 580 psi
- Damped closing anti-water hammer design (fluid under seat)
- Metal actuator housing for exceptional durability in steam & mildly aggressive applications
- Valves satisfy the Pressure Equipment Directive 97/23/EC
- Mountable in any position
- Tight shut-off and Long Service Life
- Actuator and valve components fully repairable



Angle Body Valve

Key Features



Technical Specifications

Body Material	Bronze Rg5	AISI 316L	Brass
Function	2/2 NC, NO	2/2 NC, NO	2/2 NC, NO
Nominal sizes	1/2" - 2"	1/4" - 2 1/2"	2 1/2" and 3"
Connections: NPT thread standard BSP thread (ISO228/1) Tri Clamp Tube Ends Flanges ANSI 150	1/2" - 2"	1/4" - 2 1/2"	2 1/2" - 3"
Nominal Pressure	235 psi (16 bar)	580 psi (40 bar)	235 psi (16 bar)
Differential Pressure	See Specifications tables		
Pilot Pressure	up to 145 psi (10bar) reference graphs		
Actuator: ^Optional	2" & 3" brass plated	2" & 3" brass plated ^ Stainless Actuator	5" aluminum anodized
Max. Fluid Temperature #Optional *Optional	-22°F (-30°C) up to 392°F (200°C) # to -40°F (-40°C)	-22°F (-30°C) up to 392°F (200°C) # to -40°F (-40°C) * Up to +430°F (221°C)	-22°F (-30°C) up to 392°F (200°C) # to -40°F (-40°C)
Ambient Temperature	-22°F (-30°C) up to +140°F (60°C)		
Seal Material	PTFE		
Packing Gland	PTFE / Graphite		
Viscosity of the Fluid	maximum 600 mm ² /s (600cSt, 80°E, 2700 SSU)		
Vacuum	maximum 0.0295 mercury (Hg)		
Working pressure for inverted packing for vacuum service	maximum 175 psi		
Leakage	ANSI Class VI shutoff		
Installation	Any position		
Optical Position Indicator	Standard all sizes		
Pilot Control Media	Air, neutral gas, (water with Stainless Steel Actuator opt)		
Fluids	Inert gases, hot water, oils, steam	Aggressive & corrosive fluids	Inert gases, hot water, oils, steam

Series 810 Operating Data

Normally Closed, Flow Direction Under Seat

Recommended for liquids and anti water-hammer application needs

Bronze / Brass * Body Valves

Port Size	Orifice Size		Flow Coeff		Operating Pressure						Pilot Pressure		Actuator		Valve Number Bronze(1)(2)	Wt. lbs	
	inch	DN (mm)	Cv	Kv (m³/h)	Min	psi air, gases	bar	psi water, liquids	bar	psi steam	bar	psi	bar	mm dia			port bsp
1/2	0.59	15	4.1	3.6	0	232	16.0	232	16.0	-	-	51-145	3.5-10	50	1/8	810VBN08T320BH000	2.4
3/4	0.78	20	9.2	8.0	0	190	13.0	190	13.0	-	-	65-145	4.5-10	50	1/8	810VBN12T320BH000	2.6
3/4	0.78	20	9.2	8.0	0	232	16.0	232	16.0	-	-	85-145	5.7-10	50	1/8	810VBN12T323BH000	2.8
1	1.00	25	17.4	15.0	0	85	5.8	85	5.8	-	-	65-145	4.5-10	50	1/8	810VBN16T320BH000	3.1
1	1.00	25	17.4	15.0	0	130	9.0	130	9.0	-	-	85-145	5.7-10	50	1/8	810VBN16T323BH000	3.3
1	1.00	25	18.6	16.0	0	232	16.0	232	16.0	-	-	51-145	3.5-10	80	1/4	810VBN16T330BH000	6.6
1-1/4	1.25	32	24.3	21.0	0	75	5.2	75	5.2	-	-	85-145	5.7-10	50	1/8	810VBN20T320BH000	4.0
1-1/4	1.25	32	27.8	24.0	0	175	12.1	175	12.1	-	-	51-145	3.5-10	80	1/4	810VBN20T330BH000	7.3
1-1/4	1.25	32	27.8	24.0	0	232	16.0	232	16.0	-	-	65-145	4.5-10	80	1/4	810VBN20T332BH000	7.5
1-1/2	1.56	40	40.6	35.0	0	100	7.0	100	7.0	-	-	51-145	3.5-10	80	1/4	810VBN24T330BH000	8.0
1-1/2	1.56	40	40.6	35.0	0	145	10.0	145	10.0	-	-	65-145	4.5-10	80	1/4	810VBN24T332BH000	8.2
1-1/2	1.56	40	40.6	35.0	0	190	13.0	190	13.0	-	-	80-145	5.5-10	80	1/4	810VBN24T333BH000	8.5
1-1/2	1.56	40	40.6	35.0	0	220	15.2	220	15.2	-	-	30-145	2.1-10	125	1/4	810VBN24T350BH000	12.8
2	2.00	50	63.8	55.1	0	60	4.0	60	4.0	-	-	51-145	3.5-10	80	1/4	810VBN32T330BH000	9.2
2	2.00	50	63.8	55.1	0	110	7.6	110	7.6	-	-	80-145	5.5-10	80	1/4	810VBN32T333BH000	9.6
2	2.00	50	63.8	55.1	0	125	8.6	125	8.6	-	-	30-145	2.1-10	125	1/4	810VBN32T350BH000	14.1
2	2.00	50	63.8	55.1	0	190	13.0	190	13.0	-	-	45-145	3.1-10	125	1/4	810VBN32T353BH000	14.4
2-1/2	2.56	65	107.9	93.3	0	75	5.0	75	5.0	-	-	45-145	3.1-10	125	1/4	810VBN40T350BH000	* 18.5
3	3.15	80	133.4	115.0	0	50	3.5	50	3.5	-	-	45-145	3.1-10	125	1/4	810VBN48T350BH000	* 23.1

316L Stainless Steel Valves

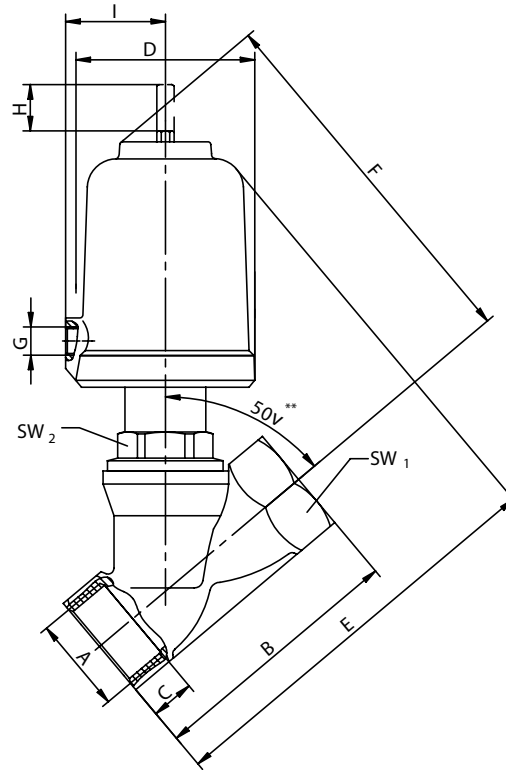
Port Size	Orifice Size		Flow Coeff		Operating Pressure						Pilot Pressure		Actuator		Valve Number Stainless(1)(2)(3)(4)	Wt. lbs	
	inch	DN (mm)	Cv	Kv (m³/h)	Min	psi air, gases	bar	psi water, liquids	bar	psi steam	bar	psi	bar	mm dia			port bsp
1/4	0.31	08	1.1	0.9	0	580	40.0	580	40.0	-	-	51-145	3.5-10	50	1/8	810VSN04T320BH000	2.2
3/8	0.39	10	1.9	1.6	0	580	40.0	580	40.0	-	-	51-145	3.5-10	50	1/8	810VSN06T320BH000	2.3
1/2	0.59	15	4.1	3.6	0	320	22.0	320	22.0	-	-	51-145	3.5-10	50	1/8	810VSN08T320BH000	2.4
3/4	0.78	20	9.2	8.0	0	190	13.0	190	13.0	-	-	65-145	4.5-10	50	1/8	810VSN12T320BH000	2.6
3/4	0.78	20	9.2	8.0	0	275	19.0	275	19.0	-	-	85-145	5.7-10	50	1/8	810VSN12T323BH000	2.8
1	1.00	25	17.4	15.0	0	85	5.8	85	5.8	-	-	65-145	4.5-10	50	1/8	810VSN16T320BH000	3.1
1	1.00	25	17.4	15.0	0	130	9.0	130	9.0	-	-	85-145	5.7-10	50	1/8	810VSN16T323BH000	3.3
1	1.00	25	18.6	16.0	0	320	22.0	320	22.0	-	-	51-145	3.5-10	80	1/4	810VSN16T330BH000	6.6
1-1/4	1.25	32	24.3	21.0	0	75	5.2	75	5.2	-	-	85-145	5.7-10	50	1/8	810VSN20T320BH000	4.0
1-1/4	1.25	32	27.8	24.0	0	175	12.1	175	12.1	-	-	51-145	3.5-10	80	1/4	810VSN20T330BH000	7.3
1-1/4	1.25	32	27.8	24.0	0	245	16.9	245	16.9	-	-	65-145	4.5-10	80	1/4	810VSN20T332BH000	7.5
1-1/4	1.25	32	27.8	24.0	0	320	22.0	320	22.0	-	-	85-145	5.7-10	80	1/4	810VSN20T333BH000	7.7
1-1/2	1.56	40	40.6	35.0	0	100	7.0	100	7.0	-	-	51-145	3.5-10	80	1/4	810VSN24T330BH000	7.9
1-1/2	1.56	40	40.6	35.0	0	145	10.0	145	10.0	-	-	65-145	4.5-10	80	1/4	810VSN24T332BH000	8.1
1-1/2	1.56	40	40.6	35.0	0	190	13.0	190	13.0	-	-	80-145	5.5-10	80	1/4	810VSN24T333BH000	8.3
1-1/2	1.56	40	40.6	35.0	0	220	15.2	220	15.2	-	-	30-145	2.1-10	125	1/4	810VSN24T350BH000	12.8
2	2.00	50	63.8	55.1	0	60	4.0	60	4.0	-	-	51-145	3.5-10	80	1/4	810VSN32T330BH000	9.2
2	2.00	50	63.8	55.1	0	110	7.6	110	7.6	-	-	80-145	5.5-10	80	1/4	810VSN32T333BH000	9.6
2	2.00	50	63.8	55.1	0	125	8.6	125	8.6	-	-	30-145	2.1-10	125	1/4	810VSN32T350BH000	14.1
2	2.00	50	63.8	55.1	0	190	13.0	190	13.0	-	-	45-145	3.1-10	125	1/4	810VSN32T353BH000	14.4
2-1/2	2.56	65	107.9	93.3	0	100	7.0	100	7.0	-	-	45-145	3.1-10	125	1/4	810VSN40T350BH000	18.5

Pressure ratings reflect standard product offering. Higher pressure ratings are available. Consult Parker.



Series 810 Operating Data

Dimensions and Weights



Normally Closed

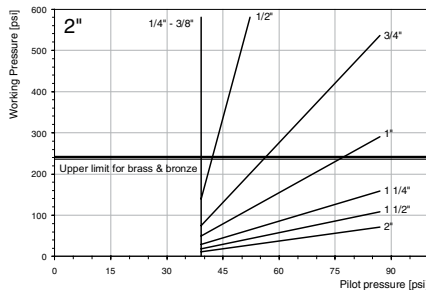
A Pipe Size NPT	Actuator Diameter mm	DN	B		C	D	E		F	G	H	I	SW1		SW2	Cv-values		Weight	
			Bronze SST	Brass			Bronze SST	Brass					Bronze SST	Brass		Bronze SST	Brass	Bronze SST	Brass
1/4"	50	08	2.35	-	0.45	2.45	5.10	-	4.85	G1/8	0.33	1.35	0.80	-	1.20	1.1	-	2.2	1.0
3/8"	50	10	2.35	-	0.45	2.45	5.10	-	4.85	G1/8	0.35	1.35	0.90	-	1.20	1.9	-	2.3	1.0
1/2"	50	15	2.35	-	0.60	2.45	5.30	-	4.70	G1/8	0.28	1.35	1.00	-	1.20	4.1	-	2.4	1.1
3/4"	50	20	2.95	-	0.65	2.45	5.30	-	4.90	G1/8	0.47	1.35	1.20	-	1.20	9.2	-	2.6	1.2
1"	50	25	2.55	-	0.75	2.45	5.70	-	5.10	G1/8	0.63	1.35	1.55	-	1.20	17.3	-	3.1	1.4
1"	80	25	2.55	-	0.75	3.80	7.30	-	6.70	G1/4	0.63	2.15	1.55	-	1.20	18.5	-	6.6	3.0
1-1/4"	50	32	4.35	-	0.85	2.45	6.30	-	5.70	G1/8	0.63	1.35	1.90	-	1.20	24.3	-	4.0	1.8
1-1/4"	80	32	4.35	-	0.85	3.80	7.85	-	7.50	G1/4	0.79	2.15	1.90	-	1.20	27.7	-	7.3	3.3
1-1/4"	125	32	4.35	-	0.85	5.75	9.05	-	8.45	G1/4	0.79	3.15	1.90	-	1.20	28.0	-	12.1	5.5
1-1/2"	50	40	4.70	-	0.85	2.45	6.50	-	5.90	G1/8	0.63	1.35	2.15	-	1.20	35.0	-	4.6	2.1
1-1/2"	80	40	4.70	-	0.85	3.80	8.05	-	7.70	G1/4	0.91	2.15	2.15	-	1.20	40.4	-	7.9	3.6
1-1/2"	125	40	4.70	-	0.85	5.75	9.25	-	8.65	G1/4	0.91	3.15	2.15	-	1.20	40.4	-	12.8	5.8
2"	50	50	5.90	-	1.00	2.45	7.30	-	6.30	G1/8	0.63	1.35	2.70	-	1.25	46.0	-	5.9	2.7
2"	80	50	5.90	-	1.00	3.80	8.85	-	7.85	G1/4	1.14	2.15	2.70	-	1.25	63.5	-	9.2	4.2
2"	125	50	5.90	-	1.00	5.75	9.85	-	8.85	G1/4	1.14	3.15	2.70	-	1.25	63.5	-	14.1	6.4
2-1/2"	80	65	-	7.10	1.20	3.80	-	10.25	8.25	G1/4	1.14	2.15	-	3.35	1.60	-	107	13.6	6.2
2-1/2"	125	65	-	7.10	1.20	5.75	-	11.20	9.45	G1/4	1.14	3.15	-	3.35	1.60	-	107	18.5	8.4
3"	80	80	-	8.25	1.30	3.80	-	11.20	8.85	G1/4	1.14	2.15	-	3.95	1.60	-	133	18.3	8.3
3"	125	80	-	8.25	1.30	5.75	-	12.00	9.85	G1/4	1.14	3.15	-	3.95	1.60	-	133	23.1	10.5

Dimension in inches except as noted

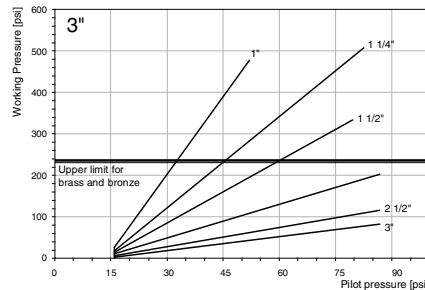
Series 810 Operating Data

Control Pressure & Operating Pressure Charts

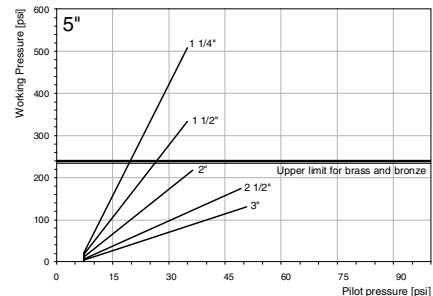
Actuator Diameter 2" (50mm)



Actuator Diameter 3" (80mm)



Actuator Diameter 5" (125mm)



Banjo Valve

For air actuation of process and industrial control valves



Parker's 3-way normally closed solenoid Banjo valve offers an ideal and cost effective complement to our 810 Series Angled Body Valve. The Banjo valve screws directly into the actuator without the need for supplemental pilot valve fittings. Product features include:

- Direct mounting
- Standard locking manual override
- Din coil freely rotatable
- Life expectancy up to 5 million cycles
- Agency approved hazardous coils
- AC and DC voltage compatible



Standard Materials of Construction:

- Anodized aluminum body
- Stainless steel internals
- FKM sealing material

Part Number w/DIN Coil & Connector	Actuator Enclosure Port 2	Valve Pressure Port 1
U131B01NDAx	G 1/8"	1/8" NPT
U131B02NDAx	G 1/4"	1/8" NPT
U131B03NDAx	G 1/8"	G 1/8"
U131B04NDAx	G 1/4"	G 1/8"

Voltage Code for Din Coil

A= 12VDC B= 24VDC E= 24/60
F= 120/60, 110/50 G= 240/60, 220/50

Replace "x" in the Part number with one of the above Voltage Din Coil Codes.



2-Way

Proportional Control

Angle Body Valves - Normally Closed

1/4" - 2" NPT

Stainless Steel



General Description:

Parker's Series 820 Angle Body 2-way proportional control valves feature a digital control with integrated microprocessor-positioner for neutral through aggressive fluids. Valves range in size from 1/4 to 2 inches and have operating pressure up to 232 psi. Valves are designed for millions of cycles and are suitable for temperature ranges from -22 F to 392 F. Digital position allows for precise flow control. The Series 820 is an ideal choice when coupled with Parker's new Flow Meter for water and coolant applications.

Installation

Mount in any position

Compatible Fluids

Inert gases, hot water, oils, steam, aggressive & corrosive fluids

Standard Materials of Construction:

- 316 Stainless Steel
- Seal Material: PTFE



Features:

- Compact design, high flow rates
- Visual position indicator standard
- For temperatures from - 22°F to +392°F / -30°C to 200°C
- Working pressures up to 232 psi
- Damped closing anti-water hammer design (fluid under seat)
- Metal actuator housing for exceptional durability in steam & mildly aggressive applications
- Valves satisfy the Pressure Equipment Directive 97/23/EC
- Mountable in any position
- Tight shut-off and Long Service Life
- Actuator and valve components fully repairable

Features for Digital Control Positioner:

- Top mounted
- Compact construction for linear and rotary actuators
- Control input 0/4-20mA, 0/2-10VDC
- Inductive sensor for non-contact stroke feedback
- 140 movements per inch stroke for precise control
- Self calibrating
- Standard visual position indicator
- Alarm output capable



Series 820 Operating Data

Control valve with integrated digital positioner for the control of neutral through aggressive media in process engineering, chemical industry and for plant equipment.

Digital Positioner

Port Size	Orifice Size		Flow Coeff		Min	Operating Pressure						Pilot Pressure		Actuator		Valve Number Stainless (1) (2) (3) Linear Flow (4) (5) (8)			Valve Number Stainless (1) (2) (3) Equal Percentage Flow (6) (7) (8)			Wt.		
	DN inch	mm	Cv	Kv (m ³ /h)		psi air, gases	bar	psi water, liquids	bar	psi steam	bar	psi	bar	mm dia	port bsp	mm	port bsp							lbs
1/4	0.31	08	0.7	0.6	0	232	16.0	232	16.0	210	14.5	75-90	4-6	50	1/8	820VSN04TC2ABH000	820VSN04TC2EBH000							5.0
1/4	0.31	08	0.7	0.6	0	232	16.0	232	16.0	210	14.5	60-90	4-6	80	1/4	820VSN04TC3ABH000	820VSN04TC3EBH000							9.0
1/2	0.59	15	4.4	3.8	0	232	16.0	232	16.0	210	14.5	60-90	4-6	80	1/4	820VSN08TC3ABH000	820VSN08TC3EBH000							9.0
3/4	0.78	20	10.2	8.9	0	232	16.0	232	16.0	210	14.5	60-90	4-6	80	1/4	820VSN12TC3ABH000	820VSN12TC3EBH000							9.3
1	1.00	25	16.2	14.1	0	232	16.0	232	16.0	210	14.5	60-90	4-6	80	1/4	820VSN16TC3ABH000	820VSN16TC3EBH000							9.7
1-1/4	1.25	32	23.2	20.2	0	145	10.0	145	10.0	145	10.0	45-90	3-6	80	1/4	820VSN20TC3ABH000	820VSN20TC3EBH000							10.5
1-1/4	1.25	32	23.2	20.2	0	232	16.0	232	16.0	210	14.5	60-90	3-6	125	1/4	820VSN20TC5ABH000	820VSN20TC5EBH000							16.1
1-1/2	1.56	40	31.3	27.2	0	87	6.0	87	6.0	87	6.0	60-90	4-6	80	1/4	820VSN24TC3ABH000	820VSN24TC3EBH000							11.0
1-1/2	1.56	40	31.3	27.2	0	232	16.0	232	16.0	210	14.5	60-90	4-6	125	1/4	820VSN24TC5ABH000	820VSN24TC5EBH000							16.8
2	2.00	50	42.9	37.3	0	45	3.0	45	3.0	45	3.0	60-90	4-6	80	1/4	820VSN32TC3ABH000	–							12.4
2	2.00	50	42.9	37.3	0	131	9.0	131	9.0	131	9.0	58-87	4-6	125	1/4	820VSN32TC5ABH000	–							18.1

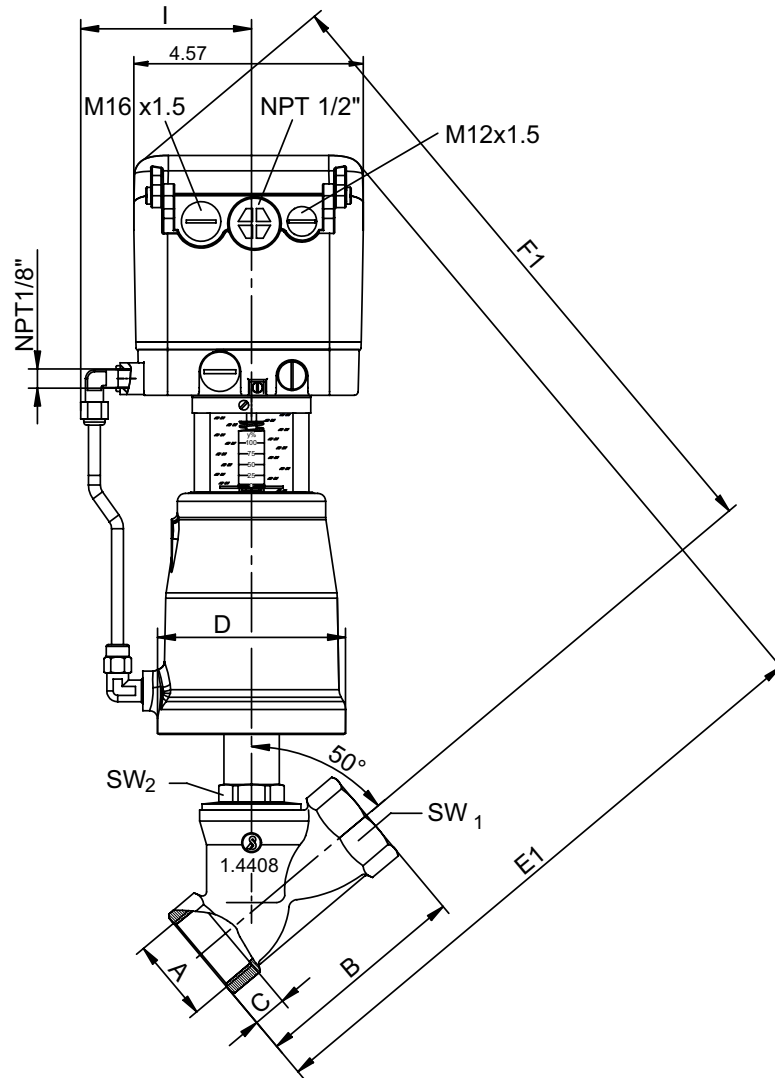
Technical Specifications

Body Material	AISI 316L
Function	2/2 Normally Closed, Closes against the flow
Nominal sizes	1/4" - 2"
Connections: NPT thread standard BSP thread (ISO228/1) Tube Ends Flanges ANSI 150	1/4" - 2"
Differential Pressure	See Specifications tables
Pilot Pressure	up to 145 psi (10bar) reference graphs
Actuator: ^Optional	2" & 3" brass plated, 5" aluminum ^ 2" & 3" Stainless Actuator
Max. Fluid Temperature #Optional *Optional	-22°F (-30°C) up to 392°F (200°C) # to -40°F (-40°C) * Up to +430°F (221°C)
Seal Material	PTFE
Packing Gland	PTFE / Graphite
Viscosity of the Fluid	maximum 600 mm ² /s (600cSt, 80°E, 2700 SSU)
Vacuum	maximum 0.0295 mercury (Hg)
Working pressure for inverted packing for vacuum service	maximum 175 psi
Leakage	ANSI Class VI shutoff
Installation	Any position
Pilot Control Media	Air, neutral gas, (water with Stainless Steel Actuator opt)
Fluids	Inert gases, hot water, oils, steam, aggressive & corrosive fluids
Optical Position Indicator	Standard all sizes



Series 820 Operating Data

Dimensions and Weights



Normally Closed

Valve Size	Actuator Diameter (mm)	ØA	B	C	D	E	F	Stroke	I	SW ₁	SW ₂	Cv* values	Weight (lbs)
1/2"	3.15	1/2"	2.56	0.47	3.78	12.17	11.85	0.28	3.15	0.98	1.18	4.4	9.70
3/4"	3.15	3/4"	2.95	0.51	3.78	12.36	12.05	0.47	3.15	1.22	1.18	10.2	9.92
1"	3.15	1"	3.56	0.59	3.78	12.76	12.24	0.63	3.15	1.54	1.18	16.2	10.36
1 1/4"	3.15	1 1/4"	4.33	0.67	3.78	13.36	12.83	0.79	3.15	1.89	1.18	23.2	11.02
1 1/4"	4.92	1 1/4"	4.33	0.67	5.75	14.53	14.02	0.79	4.13	1.89	1.18	23.2	16.76
1 1/2"	3.15	1 1/2"	4.72	0.75	3.78	13.54	13.03	0.91	3.15	2.17	1.18	31.3	11.68
1 1/2"	4.92	1 1/2"	4.72	0.75	5.75	14.72	14.21	0.91	4.13	2.17	1.18	31.3	17.42
2"	3.15	2"	5.91	0.83	3.78	14.13	13.43	1.14	3.15	2.68	1.26	42.9	13.01
2"	4.92	2"	5.91	0.83	5.75	15.31	14.61	1.14	4.13	2.68	1.26	42.9	18.74

*100% Linear Trim

Series 820

Control Accessories



Features

Digital Control Positioner

- Top mounted
- Control input 0/4-20 mA, and 4/20 mA
- Compact construction for linear actuators
- Inductive sensor for non-contact stroke feedback
- Self calibrating
- Optional feedback module available
- Simple installation and serviceability
- Supply air prefilter
- G1/8" pilot air supply port
- Standard visual indicator between the positioner and valve actuator

Technical Specifications

Version	4 Wire	2 Wire
Set Point Signal	0/4 – 20 mA	4 – 20 mA
Supply Voltage	24 VDC, maximum 10W	None required
Burden Voltage	1.2 V	6 V (700 Ohm @ 20 mA)
Supply Pressure	60 – 87 psi / 4.1 – 5.9 bar	60 – 87 psi / 4.1 – 5.9 bar
Ambient Temperature	-4°F to + 167°F / -20°C to + 75°C	-4°F to + 167°F / -20°C to + 75°C
Characteristics	Linear, Equal Percentage	
Adjustment (stroke, zero point)	Self – Learning	
Protection Class, DIN40050	IP 65	
Range of Stroke	0.12 to 1.1 inches / 3 - 28 mm	
Mounting to Control Valve	Standard mounting	
Adaption to Range and Zero	Self – Learning	
Steady State Air Consumption	None	



Analog Feedback Module AFM

- Linear feedback signal 4 - 20 mA
- independent from positioner electronics
- Easy to retrofit
- 2 wire design

Technical Specifications

Version	4 Wire	2 Wire
Supply Voltage	24 VDC	24 VDC
Output Signal	4 – 20 mA	4 – 20 mA
Temperature Range	-4°F to + 167°F / -20°C to + 75°C	32°F to + 122°F / 0°C to + 50°C *
Limit Signal Sender	2 Pieces	N/A
Switching Range	Adjustable 0 -100%	N/A
Switching Capacity of LSS	24 AC/DC, 70 mA	N/A
Temperature Coefficient	N/A	<.2% / K

* At temperatures outside this range, the feedback module must be readjusted at operating temperature.

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2. Payment: Payment shall be made by Buyer net 30 days from the date of delivery of the items purchased hereunder. Any claims by Buyer for omissions or shortages in a shipment shall be waived unless Seller receives notice thereof within 30 days after Buyer's receipt of the shipment. The minimum order amount is \$125.00 net, unless otherwise noted on the quotation.

3. Delivery: Unless otherwise provided on the face hereof, delivery shall be made F.O.B. Seller's plant. Regardless of the method of delivery, however, risk of loss shall pass to Buyer upon Seller's delivery to a carrier. Any delivery dates shown are approximate only and Seller shall have no liability for any delays in delivery. Shipments are made by common carrier. Any premium freight must be requested and paid for by the Buyer.

4. Warranty: Seller warrants that the items sold hereunder shall be free from defects in material or workmanship for a period of 2 years from the date of shipment to Buyer, or 2,000 hours of use, whichever expires first. Exception to this is the Angle Body Valve line has a 1 year warranty. THIS WARRANTY COMPRISES THE SOLE AND ENTIRE WARRANTY PERTAINING TO ITEMS PROVIDED HEREUNDER. SELLER MAKES NO OTHER WARRANTY, GUARANTEE, OR REPRESENTATION OF ANY KIND WHATSOEVER. ALL OTHER WARRANTIES, INCLUDING BUT NOT LIMITED TO, MERCHANTABILITY AND FITNESS FOR PURPOSE, WHETHER EXPRESS, IMPLIED, OR ARISING BY OPERATION OF LAW, TRADE USAGE, OR COURSE OF DEALING ARE HEREBY DISCLAIMED. NOTWITHSTANDING THE FOREGOING, THERE ARE NO WARRANTIES WHATSOEVER ON ITEMS BUILT OR ACQUIRED WHOLLY OR PARTIALLY, TO BUYER'S DESIGNS OR SPECIFICATIONS.

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6. Changes, Reschedules and Cancellations: Buyer may request to modify the designs or specifications for the items sold hereunder as well as the quantities and delivery dates thereof, or may request to cancel all or part of this order, however, no such requested modification or cancellation shall become part of the contract between Buyer and Seller unless accepted by Seller in a written amendment to this Agreement. Acceptance of any such requested modification or cancellation shall be at Seller's discretion, and shall be upon such terms and conditions as Seller may require.

7. Special Tooling: A tooling charge may be imposed for any special tooling, including without limitation, dies, fixtures, molds and patterns, acquired to manufacture items sold pursuant to this contract. Such special tooling shall be and remain Seller's property notwithstanding payment of any charges by Buyer. In no event will Buyer acquire any interest in apparatus belonging to Seller which is utilized in the manufacture of the items sold hereunder, even if such apparatus has been specially converted or adapted for such manufacture and notwithstanding any charges paid by Buyer. Unless otherwise agreed, Seller shall have the right to alter, discard or otherwise dispose of any special tooling or other property in its sole discretion at any time.

8. Buyer's Property: Any designs, tools, patterns, materials, drawings, confidential information or equipment furnished by Buyer or any other items which become Buyer's property, may be considered obsolete and may be destroyed by Seller after two (2) consecutive years have elapsed without Buyer placing an order for the items which are manufactured using such property. Seller shall not be responsible for any loss or damage to such property while it is in Seller's possession or control.

9. Taxes: Unless otherwise indicated on the face hereof, all prices and charges are exclusive of excise, sales, use, property, occupational or like taxes which may be imposed by any taxing authority upon the manufacture, sale or delivery of the items sold hereunder. If any such taxes must be paid by Seller or if Seller is liable for the collection of such tax, the amount thereof shall be in addition to the amounts for the items sold. Buyer agrees to pay all such taxes or to reimburse Seller therefore upon receipt of its invoice. If Buyer claims exemption from any sales, use or other tax imposed by any taxing authority, Buyer shall save Seller harmless from and against any such tax, together with any interest or penalties thereon which may be assessed if the items are held to be taxable.

10. Indemnity For Infringement of Intellectual Property Rights: Seller shall have no liability for infringement of any patents, trademarks, copyrights, trade dress, trade secrets or similar rights except as provided in this Part 10. Seller will defend and indemnify Buyer against allegations of infringement of U.S. patents, U.S. trademarks, copyrights, trade dress and trade secrets (hereinafter 'Intellectual Property Rights'). Seller will defend at its expense and will pay the cost of any settlement or damages awarded in an action brought against Buyer based on an allegation that an item sold pursuant to this contract infringes the Intellectual Property Rights of a third party. Seller's obligation to defend and indemnify Buyer is contingent on Buyer notifying Seller within ten (10) days after Buyer becomes aware of such allegations of infringement, and Seller having sole control over the defense of any allegations or actions including all negotiations for settlement or compromise. If an item sold hereunder is subject to a claim that it infringes the Intellectual Property Rights of a third party, Seller may, at its sole expense and option, procure for Buyer the right to continue using said item, replace or modify said item so as to make it noninfringing, or offer to accept return of said item and return the purchase price less a reasonable allowance for depreciation. Notwithstanding the foregoing, Seller shall have no liability for claims of infringement based on information provided by Buyer, or directed to items delivered hereunder for which the designs are specified in whole or part by Buyer, or infringements resulting from the modification, combination or use in a system of any item sold hereunder. The foregoing provisions of this Part 10 shall constitute Seller's sole and exclusive liability and Buyer's sole and exclusive remedy for infringement of Intellectual Property Rights.

If a claim is based on information provided by Buyer or if the design for an item delivered hereunder is specified in whole or in part by Buyer, Buyer shall defend and indemnify Seller for all costs, expenses or judgments resulting from any claim that such item infringes any patent, trademark, copyright, trade dress, trade secret or any similar right.

11. Force Majeure: Seller does not assume the risk of and shall not be liable for delay or failure to perform any of Seller's obligations by reason of circumstances beyond the reasonable control of Seller (hereinafter 'events of Force Majeure'). Events of Force Majeure shall include without limitation, accidents, acts of God, strikes or labor disputes, acts, laws, rules or regulations of any government or government agency, fires, floods, delays or failures in delivery of carriers or suppliers, shortages of materials and any other cause beyond Seller's control.

12. Entire Agreement/Governing Law: The terms and conditions set forth herein, together with any amendments, modifications and any different terms or conditions expressly accepted by Seller in writing, shall constitute the entire Agreement concerning the items sold, and there are no oral or other representations or agreements which pertain thereto. This Agreement shall be governed in all respects by the law of the State of Ohio. No actions arising out of the sale of the items sold hereunder or this Agreement may be brought by either party more than two (2) years after the cause of action accrues.

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