

Proportional Valves with Compact Positioner

Normally Closed/Pressure Under Disc



Features

- Variable flow proportional to the control signal.
- Closed loop control via linear potentiometer.
- Fail-close construction: Valve returns to closed position upon loss of power.
- Supplied factory-assembled.

General

Differential Pressure	0 to 240 psi
Maximum allowable pressure	240 psi
Fluid Temperature Ranges	See chart on following page.
Ambient Temperature Ranges	0 to 122°F
Response Time	See chart on following page.
Linearity	± 5%
Hysteresis	< 1%

Compact Positioner

Pilot Fluids	Air or inert gas, filtered 50µm, lubricated or not
Pilot Pressure	60 to 240 psi
Pilot Fluid Temperature	0 to 60°C
Pilot Connection	1/8"
Maximum Current	150mA
Nominal Supply Voltage	24VDC ± 10%, Max. ripple 10%
Maximum Power	3.6 W
Connector Size	15
Coil Insulation Class	F
Positioner Body/Enclosure	Aluminum, PA/IP65

Control Signal

Control Signal	Suffix ①
0 - 10 VDC	PDB04
0 - 20 mA	PDB05
4 - 20 mA	PDB06

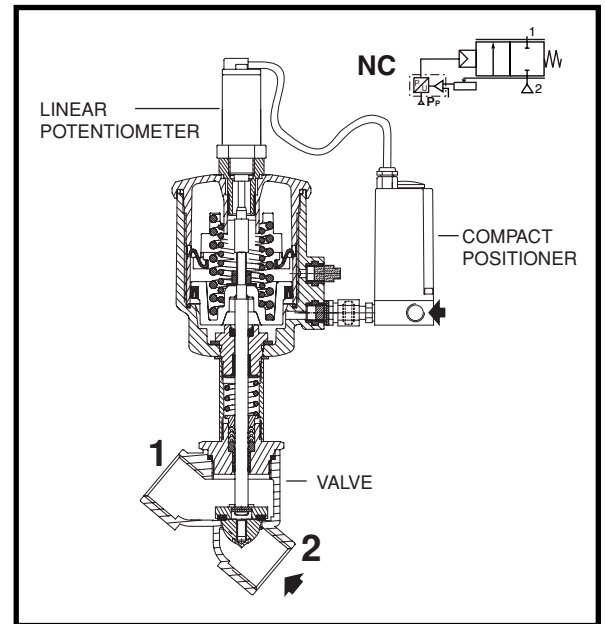
① Add suffix to 8290 catalog number (EG: 8290A384PDB04), see following page for complete product range. Supplied installed on valve and pre-adjusted at the factory. Positioner configured for one, customer specified, control signal.

Linear Potentiometer

Resistance	500Ω
Body/Enclosure	Aluminum/IP65

Valve Construction

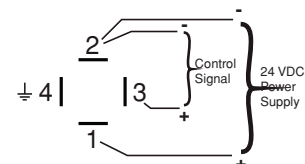
Part	Valve Parts in Contact with Fluids	
	50mm - 125mm	50mm - 125mm
Body	Bronze	316L Stainless Steel
Stem	431 Stainless Steel	431 Stainless Steel
Stuffing Box	Brass	303 Stainless Steel
Stuffing Box Seal	PTFE Chevron	PTFE Chevron
Wiper Seal	FKM	FKM
Profile Disc	Brass	304L Stainless Steel
Disc Seal	PTFE	PTFE



Electrical Connection

Compact Positioner

- 1: + 24 VDC (power)
- 2: 0 VDC (power)
- 3: Control Signal (0-10 VDC, 0-20mA, 4-20mA)
- 4: (0-10V) Sensor Feedback for calibration (Factory use only, is not an earth ground).



Specifications

Pipe Size (ins.)	Orifice Dia. (ins.)	Cv Flow	OPD Min (psi.)	OPD Max. Fluids (psi.)	OPD Max. Steam (psi.)	Max. Fluid Temp. °F	Bronze	Stainless Steel	Pilot Pressure Min (psi)	Pilot Pressure Max (psi)	Approx. Shipping Weight (lbs.)	Suffix ① (0 -10 VDC) Fail closed	Suffix ① (0 -20 mA) Fail closed	Suffix ① (4 -20 mA) Fail closed			
50mm Operator																	
1/2	1/2	5.3	0	240	150	366	8290A384	8290A393	60	150	4.1	PDB04	PDB05	PDB06			
3/4	3/4	8.3	0	150	150	366	8290A385	8290A394	60	150	4.3						
63mm Operator																	
3/4	3/4	8.3	0	240	150	366	8290B005	8290B048	60	150	5.3						
1	1	17	0	150	150	366	8290B010	8290B053	60	150	6.3						
1-1/4	1-1/4	24	0	90	90	366	8290A016	8290A059	60	150	7.5						
1-1/2	1-1/2	33	0	60	60	366	8290A020	8290A063	60	150	9.8						
2	2	46	0	40	40	366	8290A024	8290A067	60	150	12.2						
90mm Operator																	
1	1	17	0	240	150	366	8290B011	8290B054	60	150	7.9						
1-1/4	1-1/4	24	0	180	150	366	8290A017	8290A060	60	150	9.3						
1-1/2	1-1/2	33	0	120	120	366	8290A021	8290A064	60	150	11.1						
2	2	46	0	90	90	366	8290A025	8290A068	60	150	17.8						
125mm Operator																	
1-1/4	1-1/4	34	0	240	150	366	8290A642	8290A646	60	150	15.1						
1-1/2	1-1/2	56	0	240	150	366	8290A482	8290A495	60	150	16.6						
2	2	77	0	150	120	366	8290A485	8290A498	60	150	18.8						
2-1/2	2-1/2	86	0	90	90	366	8290A488	8290A501	60	150	23.7						

① Add suffix to 8290 catalog number (EG: 8290A384PDB04).
Fail closed construction: Valve returns to closed position upon loss of power.
Compact Positioner not available on 32mm Operator.

Response time (in seconds) for NC valves (90 psi air control)

Pipe Size (ins.)	Operator (mm)							
	50		63		90		125	
	Open	Close	Open	Close	Open	Close	Open	Close
1/2	1.26	0.92	-	-	-	-	-	-
3/4	1.30	0.93	1.7	2.25	-	-	-	-
1	-	-	2.7	3.18	5.23	7.26	-	-
1 1/4	-	-	2.7	3.18	5.23	7.26	9.34	17.8
1 1/2	-	-	2.7	3.18	5.23	7.26	13.7	18.3
2	-	-	2.7	3.18	5.23	7.26	13.7	18.3
2 1/2	-	-	-	-	-	-	14.0	19.5

Installation

- Valves can be mounted in any position.
- Installation and maintenance instructions are included with each valve.

Dimensions (inches)

Pipe Size	Ø A	B	C	D	E	F
50mm Operator						
1/2	2.7	6.93	8.21	7.68	2.56	1.7
3/4	2.7	7.26	8.39	7.76	2.95	1.7
63mm Operator						
3/4	3.4	7.78	9.11	8.51	2.95	2.0
1	3.4	8.18	9.51	8.71	3.54	2.0
1-1/4	3.4	9.52	10.82	9.84	4.33	2.0
1-1/2	3.4	9.80	11.45	10.27	4.72	2.0
2	3.4	10.78	12.01	10.63	5.90	2.0
90mm Operator						
1	4.7	8.59	9.92	9.12	3.54	2.6
1-1/4	4.7	9.88	11.11	10.12	4.33	2.6
1-1/2	4.7	10.16	11.73	10.55	4.72	2.6
2	4.7	11.10	12.29	10.91	5.91	2.6
125mm Operator						
1-1/4	6.1	11.10	13.63	12.63	4.30	3.1
1-1/2	6.1	11.50	14.23	13.13	4.70	3.1
2	6.1	12.40	14.83	13.43	6.00	3.1
2-1/2	6.1	13.70	15.83	14.03	7.50	3.1