Product Bulletin
D103340X012
June 2026

Fisher™ Baumann™ 81000

Control Valve

FISHER™

EMERSON™

General Application

The Fisher Baumann 81000 control valve is excellent for throttling of liquid or gaseous media, particularly where wide flow variations are encountered. Its packless design allows for applications where leakage prone stem packings are not tolerated.

A nearly frictionless mechanical force-amplifying mechanism is employed to reduce the travel of the pneumatic or electric actuators. This allows the closure diaphragm to move precisely against the valve orifice to throttle or stop the passing fluid. The same nearly frictionless mechanism, composed of stainless steel and PTFE lined ball bearings and guide bushings, assures very precise positioning with negligible deadband. This permits direct operation from remote mounted I/P (current to pneumatic) signal converters.

Easy removal of the bonnet allows for inspection and cleaning of the valve seat and closure diaphragm while the actuator stays attached to the bonnet and the valve body remains in the line. During this process the actuator stays in calibration. A backup O-ring prevents leakage should the primary seal (diaphragm to valve body) fail. A tell-tale connection in the bonnet yoke can be utilized to show if the sealing diaphragm is damaged.

Figure 1. Fisher Baumann 81000 Control Valve

W9847

81000 NPS 1/2 INLINE VALVE WITH 16 ACTUATOR AND FISHER FIELDVUE DVC2000 DIGITAL VALVE CONTROLLER

Features

- Compact and light-weight design reduces installed piping costs
- Packless construction
- Fisher FIELDVUE™ digital valve controller available for remote calibration and diagnostics

Figure 2. Fisher Baumann 81000 NPS 1/4 Angle Valve Body

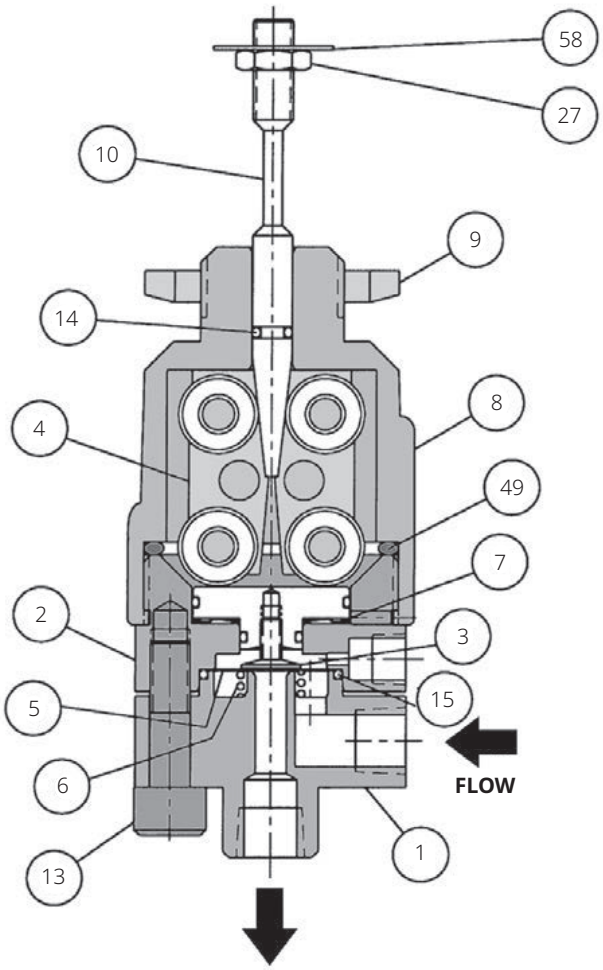

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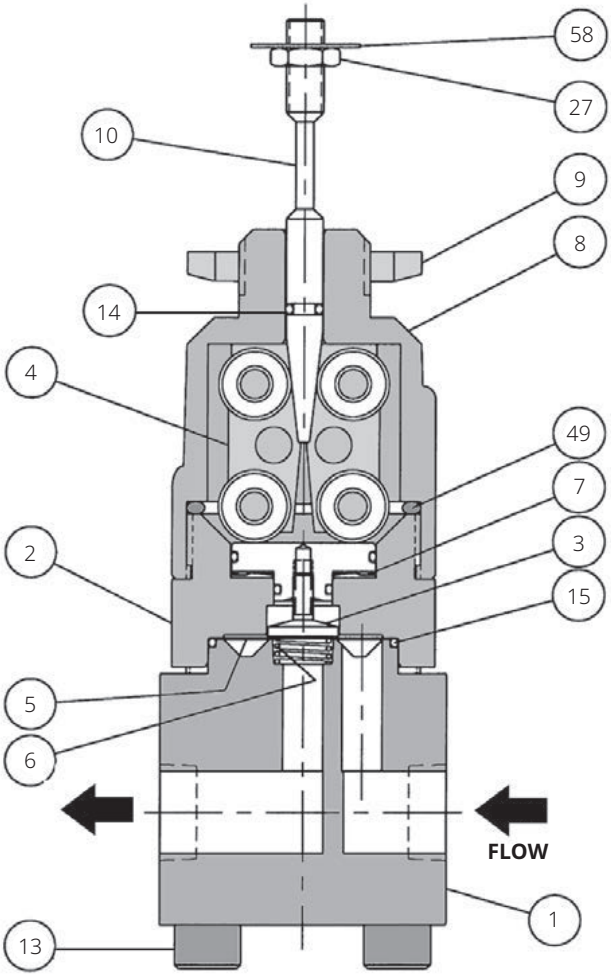
Figure 3. Fisher Baumann 81000 NPS 1/2 Inline Valve Body



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Specifications

See Table 3 for technical specifications.

Table 1. Flow Coefficients (ASME/ISA/IEC) and ISA Sizing Factors

ORIFICE DIAMETER	DIAPHRAGM TRAVEL	C_V AT VALVE OPENING - PERCENT OF VALVE STEM TRAVEL
mm / in.	mm / in.	100
0.635 / 0.025	0.177 / 0.007	0.01
1.60 / 0.063		0.03
7.92 / 0.312		0.10
7.92 / 0.312	0.381 / 0.015	0.30
13.2 / 0.520	0.304 / 0.012	0.50
13.2 / 0.520	0.381 / 0.015	0.70

Table 2. Materials of Construction

Key Number	Description	Material
1	Valve body	S31600 SST, standard / ASTM B575 N06022, optional
2	Bonnet yoke	S31600 SST
3	Piston subassembly	S30300 SST and FKM (Fluorocarbon)
4	Bearing cartridge subassembly	Stainless steel and PTFE (Polytetrafluoroethylene)
5	Closure diaphragm	S31600 SST, standard / N10276 Nickel alloy, optional
6	Seat spring	ASTM B574 N10276
7	Wave spring	S17700 SST
8	Bonnet	ASTM A743 CF8
9	Drive nut, Yoke	S30400 SST
10	Plunger	ASTM A276 S31600 Condition A
13	Allen head bolts	Stainless steel (18-8 SST)
14	O-ring, Plunger	FKM (Fluorocarbon)
15	O-ring	PTFE, FDA 21 CFR 177 (Polytetrafluoroethylene)
27	Jam nut	Stainless steel (18-8 SST)
49	O-ring	FKM (Fluorocarbon)
58	Travel indicator disk	ASTM A240 S30400

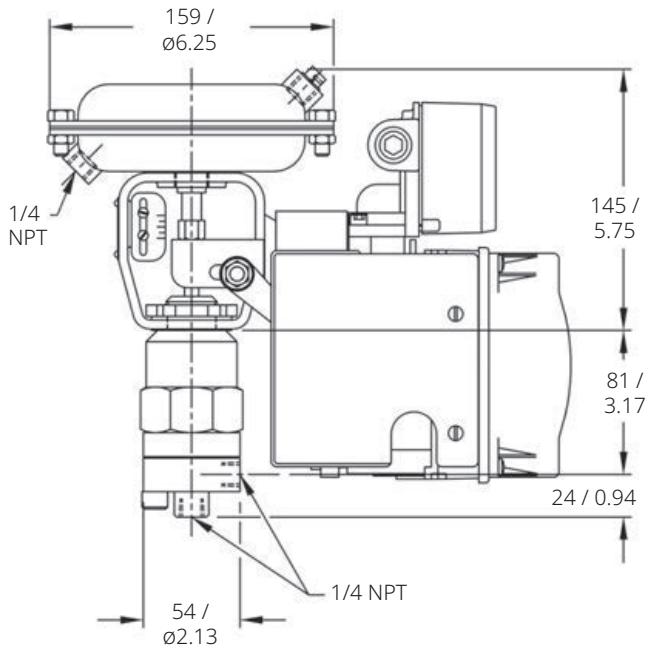
Table 3. Technical Specifications

VALVE BODY RATING		18.9 bar CWP / 275 psi CWP
NOMINAL SIZE		6.35 or 12.7 mm / NPS 1/4 or 1/2
CONNECTIONS		NPT (Flanged or Welded Ends Optional)
SEAT LEAKAGE		ASME/FCI 70-2, Class IV
BONNET		Bolted
CHARACTERISTIC		Modified Equal Percentage
MAXIMUM OPERATING TEMPERATURE		177°C / 350°F
WEIGHTS	**6.35 mm / 1/4 in.**	1.35 kg / 3 lbs
	12.7 mm / 1/2 in.	1.82 kg / 4 lbs

Table 4. Model Numbering System

81000										
81					**2**					
Maximum C_V			**End Connections**		**Bonnet Construction**		**Valve Body Material**		**Valve Body Style**	
Size No.	**C_V**	**K_V**								
3	0.01	0.009	0	Screwed (NPT) / Flangeless	2	Bolted	S	316 SST	A	Angle
4	0.03	0.026	3	Special	- - -	- - -	H	N06022 Nickel Alloy	I	Inline
6	0.10	0.086	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
7	0.30	0.259	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
8	0.50	0.43	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
9	0.70	0.60	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -

Figure 4. 81000 Angle Valve with 16 Actuator and Fisher FIELDVUE Digital Valve Controller



mm / in.

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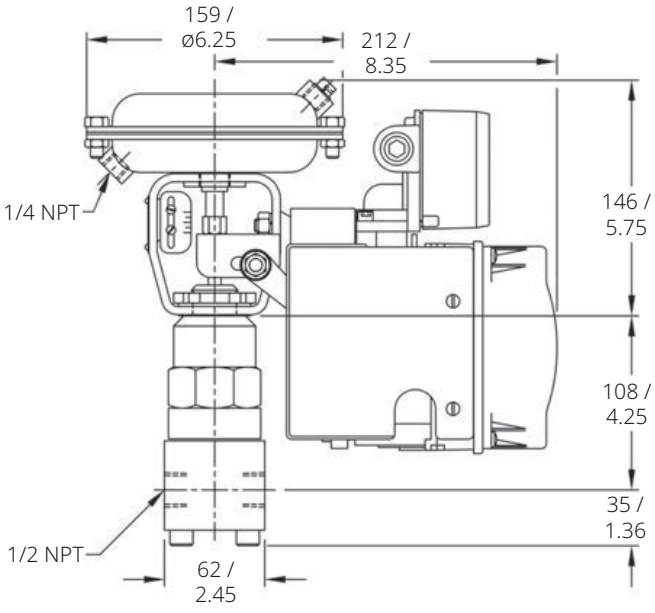
Figure 5. 81000 Inline Valve with 16 Actuator and Fisher FIELDVUE Digital Valve Controller



mm / in.

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