

Baumann™ 83000 Sanitary Angle Control Valve



The Baumann 83000 sanitary control valve is excellent for the control of high purity fluids or gaseous media. A low-friction-force amplification mechanism, comprised of a roller bearing linkage, produces high-positioning resolution suitable for direct operation from remote I/P signal converters.

The 83000 features a packless design and is intended for laboratory flow rates as low as 0.001 liters per minute (l/m) with a Cv range of 0.00001 to 1.02. This innovative design also allows for clean-in-place (CIP) and sanitize-in-place (SIP) procedures and is self-draining.

Features

- Compact and light-weight design reduces installed piping costs.
- NPS 1/2 tri-clamp end connections standard with optional welded connections.
- Electropolished wetted interior finished to ≤ 30 Ra microinch (≤ 20 Ra microinch optional).
- Self-draining designed for Clean-in-Place (CIP) and Sanitize-in-Place (SIP).
- Closure diaphragm is polished 316 stainless steel; Quick-Disconnect bonnet aids closure diaphragm replacement.



W9848
83000 Sanitary Angle Valve with Baumann 16 Actuator



W9849
83000 Sanitary Angle Valve with FIELDVUE DVC2000 Digital Valve Controller

- Fisher™ FIELDVUE™ digital valve controller available for remote calibration and diagnostics in facilities utilizing the PlantWeb™ architecture.
- Elastomer seals meet FDA and USP CLVI requirements.

Specifications

See table 3 for technical specifications.

Figure 1. 83000 for Baumann 16 Actuator

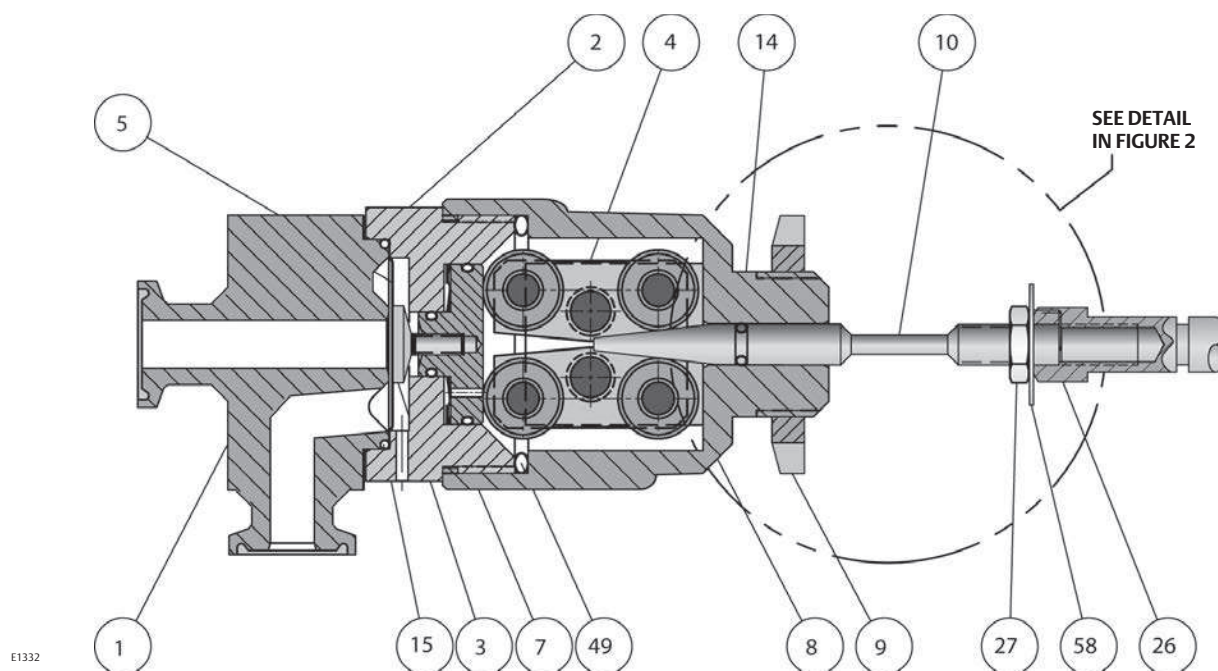


Figure 2. 83000 with Stem Adaptor for Baumann 32 Actuator

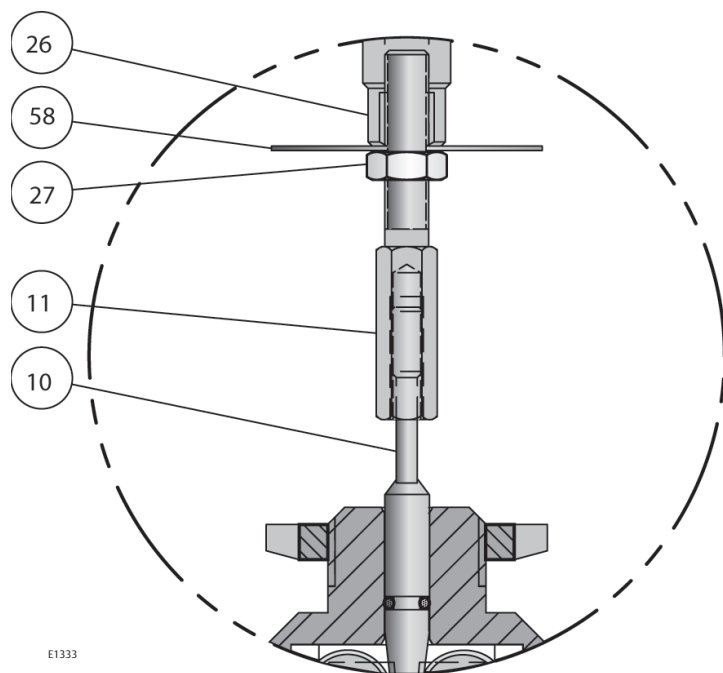
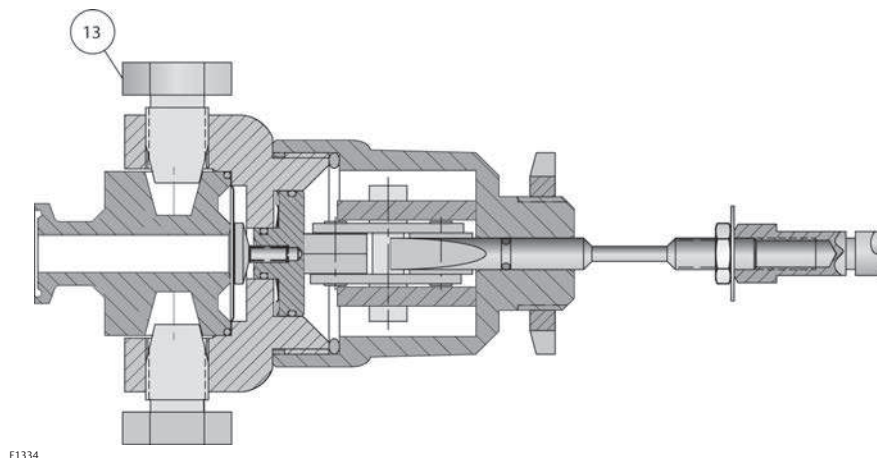


Figure 3. Baumann 83000 - Rotated View to Show Locking Bolts



E1334

Table 1. Materials of Construction

Key Number	Description	Material
1	Valve Body	ASME A479 S31600/S31603
2	Bonnet Yoke	S30400 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
7	Wave Spring	S17700 SST
8	Bonnet	ASTM A743 CF8
9	Drive Nut, Yoke	S30400 SST
10	Plunger	ASTM A276 S31600 Condition A
11	Actuator Stem Adapter for Baumann 32	A582 S30300 Stainless Steel
13	Locking Bolt (Refer to Figure 3)	S21800 SST
14	O-Ring, Plunger	FKM (Fluorocarbon)
15	O-Ring, Body	EPDM
27	Jam Nut, Baumann 16 Actuator	Stainless Steel (18-8 SST)
	Jam Nut, Baumann 32 Actuator	S30400 SST
49	O-Ring	FKM (Fluorocarbon)
58	Travel Indicator Disk	ASTM A240 S30400

Table 2. Flow Coefficients (Cv Values)⁽¹⁾

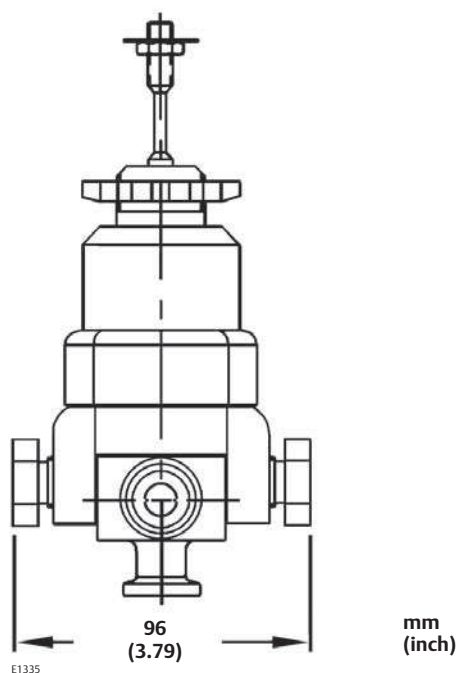
ORIFICE DIAMETER	DIAPHRAGM TRAVEL	Cv AT VALVE OPENING - PERCENT OF VALVE STEM TRAVEL
mm (Inch)	mm (Inch)	100
0.686 (0.027)	0.177 (0.007)	0.014
1.60 (0.063)		0.053
3.81 (0.150)		0.182
3.81 (0.150)	0.381 (0.015)	0.427
9.40 (0.370)	0.304 (0.012)	0.631
9.40 (0.370)	0.381 (0.015)	1.02

1. See [Fisher Catalog 12](#) for a full range of flow and sizing information.

Table 3. Technical Specifications

VALVE BODY RATING	18.9 bar CWP (275 psi CWP)
NOMINAL SIZE	12.7 mm (NPS 1/2)
CONNECTIONS	Tri-Clamp, Standard / Welded Ends, Optional
SEAT LEAKAGE	ASME/FCI 70-2, Class IV
BONNET	Quick Disconnect
CHARACTERISTIC	Modified Equal Percentage
INTERNAL VALVE BODY FINISH	≤ 30 Ra microinch, Standard / ≤ 20 Ra microinch Optional
MAXIMUM OPERATING TEMPERATURE	177°C (350°F)
WEIGHT	1.82 kg (4 lbs)

Figure 4. Valve Body Subassembly



Note

The Baumann 16 actuator requires 77 mm (3 inches) vertical clearance. The Baumann 32 actuator requires 115 mm (4.5 inches) vertical clearance.

⚠ WARNING

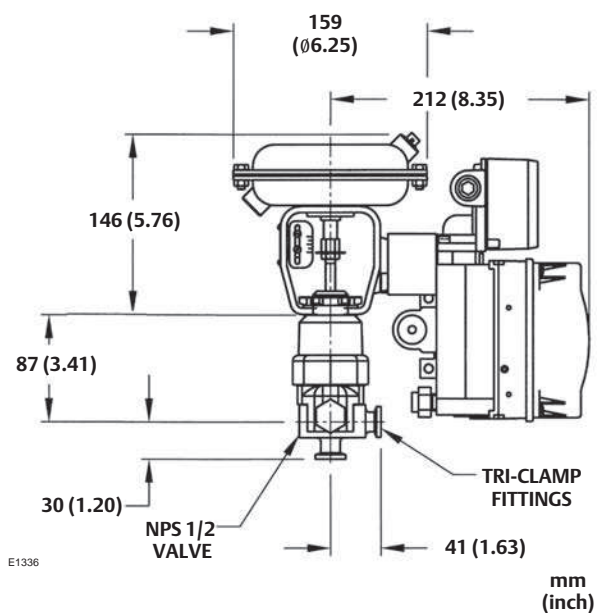
To prevent property damage or personal injury, you must use an actuator support when purchasing an actuator with a FIELDVUE digital valve controller and mounting sideways.

Table 4. Model Numbering System

83	Maximum Cv			End Connections		SA	
83000						Valve Body Style	
		Cv	Kv				
	3	0.014	0.012	11	Tri-Clamp	SA	Angle
	4	0.053	0.046	12	Welded Ends		
	6	0.182	0.157				
	7	0.427	0.369				
	8	0.631	0.546				
	9	1.02	0.882				

1. Contact your Emerson Process Management sales office.

Figure 5. 83000 with Baumann 16 Actuator and FIELDVUE Digital Valve Controller



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