

Baumann™ 16, 32, 54, and 70 Pneumatic Actuators

Baumann actuators are single acting, pneumatic actuators with spring-return action. They are compact, multi-spring actuators with low operating friction. The 16, 32, and 54 can be reversed in the field (air-to-open or air-to-close) without special tools or additional parts. The size 70 is not field-reversible.

Features

- Multi-spring, field-reversible actuator with reduced deadband, permits direct operation from remote signal devices.
- Epoxy powder-coated actuator with stainless steel fasteners for corrosion resistance.
- Actuator and yoke can be removed from the valve assembly while maintaining packing integrity.
- Stainless steel construction available for corrosive and sanitary environments.
- Optional handwheel and adjustable travel stop constructions are available.



X0567

Baumann 24000SB Valve with Baumann 32 Actuator

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Specifications

Table 1. Actuator Construction

TYPE	16	32	54	70
DIAPHRAGM PLATE	S30400 SST	Steel - AISI G10100		
STEM	ASTM A582 S30300 Condition A		ASTM A276 S30400 Condition A	
DIAPHRAGM MATERIAL ⁽¹⁾	CR (Chloroprene), TPES (Polyester Thermoplastic)	NBR (Nitrile), TPES (Polyester Thermoplastic)		
SPRINGS	Stainless Steel	Steel		
SPRING CASES	Carbon Steel (AISI G10100) ⁽²⁾			
YOKE	CF8M Stainless Steel	Ductile Iron, Powder-Epoxy-Coated ⁽³⁾		
<p>1. Optional reinforced VMQ (Silicone) diaphragm with FKM (Fluorocarbon) O-ring actuator stem seal for high temperature conditions (-29°C to 121°C / -20°F to 250°F) is available on select sizes.</p> <p>2. ASTM S240 S30400 SST is available as an optional casing material on select sizes.</p> <p>3. ASTM A351 CF8M SST is available as an optional yoke material on select sizes.</p>				

Table 2. Actuator Specifications

TYPE ⁽¹⁾	16	32	54	70
DIAPHRAGM AREA	103 cm ² (16 in ²)	210 cm ² (32 in ²)	350 cm ² (54 in ²)	450 cm ² (70 in ²)
AIR FAILURE	Fail Open or Closed (Field Reversible)			Fail Closed ONLY
TRAVEL ⁽²⁾	12.7 mm (0.50 inches)	12.7 or 19.1 mm (0.50 or 0.75 inches)		
AMBIENT TEMPERATURE RANGE	-29°C to 71°C / -20°F to 160°F			
MAXIMUM AIR PRESSURE	2.41 barg / 35 psig			
SPRING CASES	Steel, Powder Epoxy-Coated with Stainless Steel Fasteners			
YOKE	CF8M Stainless Steel	Ductile Iron, Powder Epoxy-Coated		
<p>1. Electric actuators available. Refer to bulletins 52.1:ECV (D103347X012) and 52.1:SVACT (D104169X012).</p> <p>2. Dual travel stops are available on Baumann 32 and 54 actuators. These are not field reversible.</p> <p>3. Optional reinforced VMQ (Silicone) diaphragm with FKM (Fluorocarbon) O-ring actuator stem seal for high temperature conditions (-29°C to 121°C / -20°F to 250°F) is available with Baumann 32 and 54 actuators ONLY.</p>				

Table 3. Actuator Weight

ACTUATOR TYPE	WEIGHT	
	kg	lb
16	2.1	4.6
32	4.5	10
54	11.3	25
70	15.4	34

Considerations

- Contact your [Emerson Process Management sales office](#) for Bellows sizing and actuator selection
- Size 54 or 70 actuator should be used with Graphite packing selection



General Utility and Industrial Process ATO (Air-To-Open)

Table 4. Maximum Allowable Pressure Drops (bar) for 24000LS, 24000C, 24000CVF/SVF, and 24000S
Air-To-Open Action - 0.50 Inch Travel - CL IV Shutoff

Air to Diaphragm, psig		3 to 15				0 to 20				
Bench Set, psig		5 to 15	7 to 15	9 to 15	10 to 15	5 to 15	7 to 15	9 to 15	10 to 15	12 to 18
Port Dia (in)	Actuator Size	ΔP, bar	ΔP, bar	ΔP, bar	ΔP, bar	ΔP, bar	ΔP, bar	ΔP, bar	ΔP, bar	ΔP, bar
0.25	32	51.7	51.7	---	---	51.7	51.7	---	---	---
	54	51.7	51.7	51.7	---	51.7	51.7	51.7	---	---
0.375	32	41.7	51.7	---	---	51.7	51.7	---	---	---
	54	51.7	51.7	51.7	---	51.7	51.7	51.7	---	---
0.8125	32	9.0	17.9	---	---	17.9	26.9	---	---	---
	54	13.4	27.2	40.7	---	27.2	40.7	51.7	---	---
	70	---	---	---	51.7	---	---	---	51.7	51.7
1.0625	32	---	---	---	---	---	4.1	---	---	---
	54	---	4.5	12.4	---	4.5	12.4	20.3	---	---
	70	---	---	---	26.5	---	---	---	37.6	48.3

1. Do not exceed valve body temperature/pressure ratings.
2. Maximum shutoff pressure when using ENVIRO-SEAL™ packing: Table Value - (1.72/ (port dia)^2). Environmental applications, maximum shutoff pressure limited to 51.7 bar.
3. Maximum shutoff pressure when using Graphite packing: Table Value - (10.0/ (port dia)^2).

Table 5. Maximum Allowable Pressure Drops (psi) for 24000LS, 24000C, 24000CVF/SVF, and 24000S
Air-To-Open Action - 0.50 Inch Travel - CL IV Shutoff

Air to Diaphragm, psig		3 to 15				0 to 20				
Bench Set, psig		5 to 15	7 to 15	9 to 15	10 to 15	5 to 15	7 to 15	9 to 15	10 to 15	12 to 18
Port Dia (in)	Actuator Size	ΔP, Psi	ΔP, Psi	ΔP, Psi	ΔP, Psi	ΔP, Psi	ΔP, Psi	ΔP, Psi	ΔP, Psi	ΔP, Psi
0.25	32	750	750	---	---	750	750	---	---	---
	54	750	750	750	---	750	750	750	---	---
0.375	32	605	750	---	---	750	750	---	---	---
	54	750	750	750	---	750	750	750	---	---
0.8125	32	130	260	---	---	260	390	---	---	---
	54	195	395	590	---	395	590	750	---	---
	70	---	---	---	750	---	---	---	750	750
1.0625	32	---	---	---	---	---	60	---	---	---
	54	---	65	180	---	65	180	295	---	---
	70	---	---	---	385	---	---	---	545	700

1. Do not exceed valve body temperature/pressure ratings.
2. Maximum shutoff pressure when using ENVIRO-SEAL™ packing: Table Value - (25/ (port dia)^2). Environmental applications, maximum shutoff pressure limited to 750 psi.
3. Maximum shutoff pressure when using Graphite packing: Table Value - (145/ (port dia)^2).

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**Table 6. Maximum Allowable Pressure Drops (bar) for 24000LS, 24000C, 24000CVF/SVF, and 24000S
Air-To-Open Action - 0.75 Inch Travel - CL IV Shutoff**

Air to Diaphragm, psig		3 to 15			0 to 20			
Bench Set, psig		7 to 13	10 to 14	10 to 15	7 to 13	10 to 14	10 to 15	12 to 18
Port Dia (in)	Actuator Size	ΔP, bar	ΔP, bar	ΔP, bar	ΔP, bar	ΔP, bar	ΔP, bar	ΔP, bar
1.25	54	1.7	10.3	---	7.6	16.2	---	---
	70	---	---	17.6	---	---	25.5	33.4
1.5	54	---	5.9	---	3.8	10.0	---	---
	70	---	---	11.0	---	---	16.5	22.1
2.0	54	---	1.7	---	0.7	4.1	---	---
	70	---	---	4.8	---	---	7.9	11.0

1. Do not exceed valve body temperature/pressure ratings.
 2. Maximum shutoff pressure when using ENVIRO-SEAL packing is: Table Value - (1.72 / (Port Dia)²). For Environmental application the maximum shutoff pressure is limited to 51.7 bar.
 3. Maximum shutoff pressure when using Graphite packing is: Table Value - (10.0 / (Port Dia)²)

**Table 7. Maximum Allowable Pressure Drops (psi) for 24000LS, 24000C, 24000CVF/SVF, and 24000S
Air-To-Open Action - 0.75 Inch Travel - CL IV Shutoff**

Air to Diaphragm, psig		3 to 15			0 to 20			
Bench Set, psig		7 to 13	10 to 14	10 to 15	7 to 13	10 to 14	10 to 15	12 to 18
Port Dia (in)	Actuator Size	ΔP, Psi	ΔP, Psi	ΔP, Psi	ΔP, Psi	ΔP, Psi	ΔP, Psi	ΔP, Psi
1.25	54	25	150	---	110	235	---	---
	70	---	---	255	---	---	370	485
1.5	54	---	85	---	55	145	---	---
	70	---	---	160	---	---	240	320
2.0	54	---	25	---	10	60	---	---
	70	---	---	70	---	---	115	160

1. Do not exceed valve body temperature/pressure ratings.
 2. Maximum shutoff pressure when using ENVIRO-SEAL packing is: Table Value - (25 / (Port Dia)²). For Environmental application the maximum shutoff pressure is limited to 750 psi.
 3. Maximum shutoff pressure when using Graphite packing is: Table Value - (145 / (Port Dia)²)

**Table 8. Maximum Allowable Pressure Drops (bar) for 24000LS, 24000C, 24000CVF/SVF, and 24000S
Air-To-Open Action - 0.50 Inch Travel - CL VI Shutoff**

Air to Diaphragm, psig		3 to 15				0 to 20				
Bench Set, psig		5 to 15	7 to 15	9 to 15	10 to 15	5 to 15	7 to 15	9 to 15	10 to 15	12 to 18
Port Dia (in)	Actuator Size	ΔP, bar	ΔP, bar	ΔP, bar	ΔP, bar	ΔP, bar	ΔP, bar	ΔP, bar	ΔP, bar	ΔP, bar
0.156 (Trim 151)	32	51.7	51.7	---	---	51.7	51.7	---	---	---
	54	51.7	51.7	51.7	---	51.7	51.7	51.7	---	---
0.3125 ⁽⁴⁾	32	39.6	51.7	---	---	51.7	51.7	---	---	---
	54	51.7	51.7	51.7	---	51.7	51.7	51.7	---	---
0.375	32	25.5	51.7	---	---	51.7	51.7	---	---	---
	54	47.6	51.7	51.7	---	51.7	51.7	51.7	---	---
0.8125	32	1.4	10.3	---	---	10.3	19.3	---	---	---
	54	5.9	19.7	33.4	---	19.7	33.4	46.9	---	---
	70	---	---	---	51.7	---	---	---	51.7	51.7
1.0625	32	---	---	---	---	---	---	---	---	---
	54	---	---	2.1	---	---	2.1	10.0	---	---
	70	---	---	---	16.2	---	---	---	27.2	37.9

1. Do not exceed valve body temperature/pressure ratings.
 2. Maximum shutoff pressure when using ENVIRO-SEAL™ packing: Table Value - (1.72/ (port dia)²). Environmental applications, maximum shutoff pressure limited to 51.7 bar.
 3. Maximum shutoff pressure when using Graphite packing: Table Value - (10.0/ (port dia)²).
 4. Actuator requires dual travel stops.

**Table 9. Maximum Allowable Pressure Drops (psi) for 24000LS, 24000C, 24000CVF/SVF, and 24000S
Air-To-Open Action - 0.50 Inch Travel - CL VI Shutoff**

Air to Diaphragm, psig		3 to 15				0 to 20				
Bench Set, psig		5 to 15	7 to 15	9 to 15	10 to 15	5 to 15	7 to 15	9 to 15	10 to 15	12 to 18
Port Dia (in)	Actuator Size	ΔP, Psi	ΔP, Psi	ΔP, Psi	ΔP, Psi	ΔP, Psi	ΔP, Psi	ΔP, Psi	ΔP, Psi	ΔP, Psi
0.156 (Trim 151)	32	750	750	---	---	750	750	---	---	---
	54	750	750	750	---	750	750	750	---	---
0.3125 ⁽⁴⁾	32	575	750	---	---	750	750	---	---	---
	54	750	750	750	---	750	750	750	---	---
0.375	32	370	750	---	---	750	750	---	---	---
	54	690	750	750	---	750	750	750	---	---
0.8125	32	20	150	---	---	150	280	---	---	---
	54	85	285	485	---	285	485	680	---	---
	70	---	---	---	750	---	---	---	750	750
1.0625	32	---	---	---	---	---	---	---	---	---
	54	---	---	30	---	---	30	145	---	---
	70	---	---	---	235	---	---	---	395	550

1. Do not exceed valve body temperature/pressure ratings.
2. Maximum shutoff pressure when using ENVIRO-SEAL™ packing: Table Value - (25/ (port dia)²). Environmental applications, maximum shutoff pressure limited to 750 psi.
3. Maximum shutoff pressure when using Graphite packing: Table Value - (145/ (port dia)²).
4. Actuator requires dual travel stops.

**Table 10. Maximum Allowable Pressure Drops (bar) for 24000LS, 24000C, 24000CVF/SVF, and 24000S
Air-To-Open Action - 0.75 Inch Travel - CL VI Shutoff**

Air to Diaphragm, psig		3 to 15			0 to 20			
Bench Set, psig		7 to 13	10 to 14	10 to 15	7 to 13	10 to 14	10 to 15	12 to 18
Port Dia (in)	Actuator Size	ΔP, bar	ΔP, bar	ΔP, bar	ΔP, bar	ΔP, bar	ΔP, bar	ΔP, bar
1.25	54	---	1.7	---	---	7.2	---	---
	70	---	---	9.0	---	---	16.9	24.5
1.5	54	---	---	---	---	---	---	---
	70	---	---	3.8	---	---	9.0	14.5
2.0	54	---	---	---	---	6.6	---	---
	70	---	---	---	---	---	2.4	5.5

1. Do not exceed valve body temperature/pressure ratings.
2. Maximum shutoff pressure when using ENVIRO-SEAL™ packing: Table Value - (1.72/ (port dia)²). Environmental applications, maximum shutoff pressure limited to 51.7 bar.
3. Maximum shutoff pressure when using Graphite packing: Table Value - (10.0/ (port dia)²).

**Table 11. Maximum Allowable Pressure Drops (psi) for 24000LS, 24000C, 24000CVF/SVF, and 24000S
Air-To-Open Action - 0.75 Inch Travel - CL VI Shutoff**

Air to Diaphragm, psig		3 to 15			0 to 20			
Bench Set, psig		7 to 13	10 to 14	10 to 15	7 to 13	10 to 14	10 to 15	12 to 18
Port Dia (in)	Actuator Size	ΔP, Psi	ΔP, Psi	ΔP, Psi	ΔP, Psi	ΔP, Psi	ΔP, Psi	ΔP, Psi
1.25	54	---	25	---	---	105	---	---
	70	---	---	130	---	---	245	355
1.5	54	---	---	---	---	---	---	---
	70	---	---	55	---	---	130	210
2.0	54	---	---	---	---	95	---	---
	70	---	---	---	---	---	35	80

1. Do not exceed valve body temperature/pressure ratings.
2. Maximum shutoff pressure when using ENVIRO-SEAL™ packing: Table Value - (25/ (port dia)²). Environmental applications, maximum shutoff pressure limited to 750 psi.
3. Maximum shutoff pressure when using Graphite packing: Table Value - (145/ (port dia)²).

ATC (Air-To-Close)

**Table 12. Maximum Allowable Pressure Drops (bar) for 24000LS, 24000C, 24000CVF/SVF, and 24000S
Air-To-Close Action - 0.50 Inch Travel - CL IV Shutoff**

Air to Diaphragm, psig		3 to 15		0 to 20	
Bench Set, psig		3 to 13	3 to 10	3 to 13	3 to 10
Port Dia (in)	Actuator Size	ΔP, bar	ΔP, bar	ΔP, bar	ΔP, bar
0.25	32	51.7	51.7	51.7	51.7
	54	51.7	51.7	51.7	51.7
0.375	32	42.4	51.7	51.7	51.7
	54	51.7	51.7	51.7	51.7
0.8125	32	9.0	22.4	31.4	44.8
	54	13.4	34.1	47.6	51.7
1.0625	32	---	1.4	6.9	14.8
	54	---	8.3	16.5	28.6

1. Do not exceed valve body temperature/pressure ratings.
2. Maximum shutoff pressure when using ENVIRO-SEAL packing: Table Value - (1.72/ (port dia)²). Environmental applications, maximum shutoff pressure limited to 51.7 bar.
3. Maximum shutoff pressure when using Graphite packing: Table Value - (10.0/ (port dia)²).

**Table 13. Maximum Allowable Pressure Drops (psi) for 24000LS, 24000C, 24000CVF/SVF, and 24000S
Air-To-Close Action - 0.50 Inch Travel - CL IV Shutoff**

Air to Diaphragm, psig		3 to 15		0 to 20	
Bench Set, psig		3 to 13	3 to 10	3 to 13	3 to 10
Port Dia (in)	Actuator Size	ΔP, Psi	ΔP, Psi	ΔP, Psi	ΔP, Psi
0.25	32	750	750	750	750
	54	750	750	750	750
0.375	32	615	750	750	750
	54	750	750	750	750
0.8125	32	130	325	455	650
	54	195	495	690	750
1.0625	32	---	20	100	215
	54	---	120	240	415

1. Do not exceed valve body temperature/pressure ratings.
2. Maximum shutoff pressure when using ENVIRO-SEAL packing: Table Value - (25/ (port dia)²). Environmental applications, maximum shutoff pressure limited to 750 psi.
3. Maximum shutoff pressure when using Graphite packing: Table Value - (145/ (port dia)²).

**Table 14. Maximum Allowable Pressure Drops (bar) for 24000LS, 24000C, 24000CVF/SVF, and 24000S
Air-To-Close Action - 0.75 Inch Travel - CL IV Shutoff**

Air to Diaphragm, psig		3 to 15		0 to 20	
Bench Set, psig		3 to 13	3 to 10	3 to 13	3 to 10
Port Dia (in)	Actuator Size	ΔP, bar	ΔP, bar	ΔP, bar	ΔP, bar
1.25	32	---	---	3.4	9.3
	54	---	4.5	10.3	19.0
1.5	32	---	---	1.0	5.2
	54	---	2.1	5.9	12.1
2.0	32	---	---	---	1.4
	54	---	---	1.7	5.2

1. Do not exceed valve body temperature/pressure ratings.
2. Maximum shutoff pressure when using ENVIRO-SEAL packing: Table Value - (1.72/ (port dia)²). Environmental applications, maximum shutoff pressure limited to 51.7 bar.
3. Maximum shutoff pressure when using Graphite packing: Table Value - (10.0/ (port dia)²).

**Table 15. Maximum Allowable Pressure Drops (psi) for 24000LS, 24000C, 24000CVF/SVF, and 24000S
Air-To-Close Action - 0.75 Inch Travel - CL IV Shutoff**

Air to Diaphragm, psig		3 to 15		0 to 20	
Bench Set, psig		3 to 13	3 to 10	3 to 13	3 to 10
Port Dia (in)	Actuator Size	ΔP, Psi	ΔP, Psi	ΔP, Psi	ΔP, Psi
1.25	32	---	---	50	135
	54	---	65	150	275
1.5	32	---	---	15	75
	54	---	30	85	175
2.0	32	---	---	---	20
	54	---	---	25	75

1. Do not exceed valve body temperature/pressure ratings.
2. Maximum shutoff pressure when using ENVIRO-SEAL packing: Table Value - (25/ (port dia)²). Environmental applications, maximum shutoff pressure limited to 750 psi.
3. Maximum shutoff pressure when using Graphite packing: Table Value - (145/ (port dia)²).

**Table 16. Maximum Allowable Pressure Drops (bar) for 24000LS, 24000C, 24000CVF/SVF, and 24000S
Air-To-Close Action - 0.50 Inch Travel - CL VI Shutoff**

Air to Diaphragm, psig		3 to 15		0 to 20	
Bench Set, psig		3 to 13	3 to 10	3 to 13	3 to 10
Port Dia (in)	Actuator Size	ΔP, bar	ΔP, bar	ΔP, bar	ΔP, bar
0.156	32	51.7	51.7	51.7	51.7
	54	51.7	51.7	51.7	51.7
0.3125 ⁽⁴⁾	32	41.0	51.7	51.7	51.7
	54	51.7	51.7	---	---
0.375	32	25.9	51.7	51.7	51.7
	54	47.6	51.7	51.7	51.7
0.8125	32	1.4	14.8	23.8	37.6
	54	5.9	26.5	40.0	51.7
1.0625	32	---	---	---	4.5
	54	---	---	5.9	17.9

1. Do not exceed valve body temperature/pressure ratings.
2. Maximum shutoff pressure when using ENVIRO-SEAL™ packing: Table Value - (1.72/ (port dia)²). Environmental applications, maximum shutoff pressure limited to 51.7 bar.
3. Maximum shutoff pressure when using Graphite packing: Table Value - (10.0/ (port dia)²).
4. Actuator requires dual travel stops.

**Table 17. Maximum Allowable Pressure Drops (psi) for 24000LS, 24000C, 24000CVF/SVF, and 24000S
Air-To-Close Action - 0.50 Inch Travel - CL VI Shutoff**

Air to Diaphragm, psig		3 to 15		0 to 20	
Bench Set, psig		3 to 13	3 to 10	3 to 13	3 to 10
Port Dia (in)	Actuator Size	ΔP, Psi	ΔP, Psi	ΔP, Psi	ΔP, Psi
0.156	32	750	750	750	750
	54	750	750	750	750
0.3125 ⁽⁴⁾	32	595	750	750	750
	54	750	750	---	---
0.375	32	375	750	750	750
	54	690	750	750	750
0.8125	32	20	215	345	545
	54	85	385	580	750
1.0625	32	---	---	---	65
	54	---	---	85	260

1. Do not exceed valve body temperature/pressure ratings.
2. Maximum shutoff pressure when using ENVIRO-SEAL™ packing: Table Value - (25/ (port dia)²). Environmental applications, maximum shutoff pressure limited to 750 psi.
3. Maximum shutoff pressure when using Graphite packing: Table Value - (145/ (port dia)²).
4. Actuator requires dual travel stops.

**Table 18. Maximum Allowable Pressure Drops (bar) for 24000LS, 24000C, 24000CVF/SVF, and 24000S
Air-To-Close Action - 0.75 Inch Travel - CL VI Shutoff**

Air to Diaphragm, psig		3 to 15		0 to 20	
Bench Set, psig		3 to 13	3 to 10	3 to 13	3 to 10
Port Dia (in)	Actuator Size	ΔP, bar	ΔP, bar	ΔP, bar	ΔP, bar
1.25	32	---	---	---	---
	54	---	---	1.7	10.3
1.5	32	---	---	---	---
	54	---	---	---	4.5
2.0	32	---	---	---	---
	54	---	---	---	---

1. Do not exceed valve body temperature/pressure ratings.
 2. Maximum shutoff pressure when using ENVIRO-SEAL packing: Table Value - (1.72/ (port dia)²). Environmental applications, maximum shutoff pressure limited to 51.7 bar.
 3. Maximum shutoff pressure when using Graphite packing: Table Value - (10.0/ (port dia)²).

**Table 19. Maximum Allowable Pressure Drops (psi) for 24000LS, 24000C, 24000CVF/SVF, and 24000S
Air-To-Close Action - 0.75 Inch Travel - CL VI Shutoff**

Air to Diaphragm, psig		3 to 15		0 to 20	
Bench Set, psig		3 to 13	3 to 10	3 to 13	3 to 10
Port Dia (in)	Actuator Size	ΔP, Psi	ΔP, Psi	ΔP, Psi	ΔP, Psi
1.25	32	---	---	---	---
	54	---	---	25	150
1.5	32	---	---	---	---
	54	---	---	---	65
2.0	32	---	---	---	---
	54	---	---	---	---

1. Do not exceed valve body temperature/pressure ratings.
 2. Maximum shutoff pressure when using ENVIRO-SEAL packing: Table Value - (25/ (port dia)²). Environmental applications, maximum shutoff pressure limited to 750 psi.
 3. Maximum shutoff pressure when using Graphite packing: Table Value - (145/ (port dia)²).

Table 20. Allowable Pressure Drops (psi) - Mixing (Combining) Service for 24003

ORIFIC DIAMETER (inch)	NOMINAL PLUG TRAVEL (inch) ⁽¹⁾	ACTUATOR TYPE	BENCH RANGE (psi)	ALLOWABLE PRESSURE DROP PORT L FAILS CLOSED (PSI)		BENCH RANGE (psi)	ALLOWABLE PRESSURE DROP PORT L FAILS OPEN (PSI)	
				3-15 psi Signal to Actuator	With Positioner 20 psig Air Supply		3-15 psi Signal to Actuator	With Positioner 20 psig Air Supply
0.626	0.56	32	5-13	112	225	3-11	281	563
			7-15	225	337	5-13	112	394
		54	7-14	375	563	3-10	469	720
			9-15	563	720	3-13	187	656
0.876	0.56	32	5-13	60	121	3-11	151	303
			7-15	121	259	5-13	60	212
		54	7-14	202	303	3-10	252	505
			9-16	303	404	3-13	101	353
1.126	0.56	32	5-13	37	75	3-11	94	189
			7-15	75	113	5-13	37	132
		54	7-14	126	189	3-10	157	315
			9-16	189	252	3-13	63	220
		70	8-15	220	309	---	---	---
			---	---	---	---	---	---
1.676	0.75	54	5-15	29	58	3-10	73	147
			7-13	58	88	3-13	29	102
		70	7-15	82	123	---	---	---
2.126	0.75	54	3-10	---	---	3-10	46	93
			7-13	37	55	3-13	18	65
		70	7-15	52	78	---	---	---
			10-15	91	117	---	---	---

1. Use Baumann 54 or larger actuator with molded graphite ribbon or ENVIRO-SEAL packing systems.

Table 21. Allowable Pressure Drops (psi) - Diverting (Diverging) Service for 24003

ORIFIC DIAMETER (inch)	NOMINAL PLUG TRAVEL (inch) ⁽¹⁾	ACTUATOR TYPE	BENCH RANGE (psi)	ALLOWABLE PRESSURE DROP PORT L FAILS CLOSED (PSI)		BENCH RANGE (psi)	ALLOWABLE PRESSURE DROP PORT L FAILS OPEN (PSI)	
				3-15 psi Signal to Actuator	With Positioner 20 psig Air Supply		3-15 psi Signal to Actuator	With Positioner 20 psig Air Supply
0.626	0.56	32	5-13	80	160	3-11	201	402
			7-15	160	241	5-13	80	281
		54	7-14	268	402	3-10	335	670
			9-15	402	670	3-13	134	469
0.876	0.56	32	5-13	43	86	3-11	108	216
			7-15	86	185	5-13	43	151
		54	7-14	144	216	3-10	180	360
			9-16	216	288	3-13	72	252
1.126	0.56	32	5-13	27	54	3-11	67	135
			7-15	54	81	5-13	27	94
		54	7-14	90	135	3-10	112	225
			9-16	135	180	3-13	45	157
		70	8-15	157	220	---	---	---
1.676	0.75	54	5-15	21	42	3-10	52	105
			7-13	42	63	3-13	21	73
		70	7-15	59	88	---	---	---
2.126	0.75	54	3-10	---	---	3-10	33	66
			7-13	26	39	3-13	13	46
		70	7-15	37	55	---	---	---
			10-15	65	83	---	---	---

1. Use Baumann 54 or larger actuator with molded graphite ribbon or ENVIRO-SEAL packing systems.

Low Flow and Specialty

Table 22. 24000F Allowable Pressure Drops (bar)

PORT DIA. (mm)	PLUG TRAVEL (mm)	ACT TYPE	AIR-TO-OPEN ACTION						AIR-TO-CLOSE ACTION					
			BENCH RANGE (barg)	0.2-1.0 barg SIGNAL TO ACTUATOR		WITH POSITIONER 1.38 barg AIR SUPPLY		BENCH RANGE (barg)	0.2-1.0 barg SIGNAL TO ACTUATOR		WITH POSITIONER 1.38 barg AIR SUPPLY			
				Max CL IV Shutoff Pressure	Max CL VI Shutoff Pressure	Max CL IV Shutoff Pressure	Max CL VI Shutoff Pressure		Max CL IV Shutoff Pressure	Max CL VI Shutoff Pressure	Max CL IV Shutoff Pressure	Max CL VI Shutoff Pressure		
6.4	12.7	32	0.3-1.0	61	---	99	---	0.2-0.9	61	---	99 ⁽¹⁾	---		
		32	0.5-1.0	99	---	99 ⁽¹⁾	---	0.2-0.7	99 ⁽¹⁾	---	99 ^(1,2)	---		
7.9	12.7	32	0.3-1.0	---	28	---	71	0.2-0.9	---	28	---	99 ⁽¹⁾		
		32	0.5-1.0	---	71	---	99	0.2-0.7	---	92	---	99 ^(1,2)		
9.5	12.7	32	0.3-1.0	31	19	62	50	0.2-0.9	31	19.1	99	97		
		32	0.5-1.0	62	50	93	81	0.2-0.7	77	65	99 ⁽¹⁾	99 ⁽¹⁾		
		54	0.6-1.0	99 ⁽¹⁾	99 ⁽¹⁾	99 ^(1,2)	99 ^(1,2)	0.2-0.7	---	---	---	---		
20.6	12.7	32	0.3-1.0	7.7	1.3	15.5	9.1	0.2-0.9	7.7	1.3	27	20		
		32	0.5-1.0	15.5	9.1	23	16.8	0.2-0.7	19.5	12.9	38	32		
		54	0.5-1.0	23	17.0	35	28	0.2-0.7	29.5	23	59	52		
		54	0.8-1.0	47	40	59	52	---	---	---	---	---		
		70	0.7-1.0	56	49	72	65	---	---	---	---			

1. The maximum shutoff pressure when using ENVIRO-SEAL packing is defined by: $\Delta P = \text{Table Value} - [1112/(\text{Port Diameter})^2]$. These table values should not be modified by this formula and the maximum ΔP of 51 bar should be used for ENVIRO-SEAL packing.
 2. The maximum shutoff pressure when using Flexible Graphite packing is defined by: $\Delta P = \text{Table Value} - [5337/(\text{Port Diameter})^2]$. These table values should not be modified by this formula and the maximum ΔP of 99 bar should be used for Flexible Graphite packing.

Table 23. 24000F Allowable Pressure Drops (psi)

PORT DIA. (in)	PLUG TRAVEL (in)	ACT TYPE	AIR-TO-OPEN ACTION						AIR-TO-CLOSE ACTION					
			BENCH RANGE (psig)	3-15 psig SIGNAL TO ACTUATOR		WITH POSITIONER 20 psig AIR SUPPLY		BENCH RANGE (psig)	3-15 psig SIGNAL TO ACTUATOR		WITH POSITIONER 20 psig AIR SUPPLY			
				Max CL IV Shutoff Pressure	Max CL VI Shutoff Pressure	Max CL IV Shutoff Pressure	Max CL VI Shutoff Pressure		Max CL IV Shutoff Pressure	Max CL VI Shutoff Pressure	Max CL IV Shutoff Pressure	Max CL VI Shutoff Pressure		
0.25	0.50	32	5-15	887	---	1440	---	3-13	887	---	1440 ⁽¹⁾	---		
		32	7-15	1440	---	1440 ⁽¹⁾	---	3-10	1440 ⁽¹⁾	---	1440 ^(1,2)	---		
0.3125	0.50	32	5-15	---	418	---	1033	3-13	---	418	---	1440 ⁽¹⁾		
		32	7-15	---	1033	---	1440	3-10	---	1341	---	1440 ^(1,2)		
0.375	0.50	32	5-15	452	278	905	730	3-13	452	278	1440	1409		
		32	7-15	905	730	1357	1182	3-10	1131	956	1440 ⁽¹⁾	1440 ⁽¹⁾		
		54	9-15	1440 ⁽¹⁾	1440 ⁽¹⁾	1440 ^(1,2)	1440 ^(1,2)	3-10	---	---	---	---		
0.8125	0.50	32	5-15	113	19	226	132	3-13	113	19	396	301		
		32	7-15	226	132	339	245	3-10	283	188	565	471		
		54	7-15	343	248	514	419	3-10	428	334	856	762		
		54	11-15	685	591	856	762	---	---	---	---	---		
		70	10-15	815	720	1048	953	---	---	---	---			

1. The maximum shutoff pressure when using ENVIRO-SEAL packing is defined by: $\Delta P = \text{Table Value} - [25/(\text{Port Diameter})^2]$. These table values should not be modified by this formula and the maximum ΔP of 750 psi should be used for ENVIRO-SEAL packing.
 2. The maximum shutoff pressure when using Flexible Graphite packing is defined by: $\Delta P = \text{Table Value} - [120/(\text{Port Diameter})^2]$. These table values should not be modified by this formula and the maximum ΔP of 1440 psi should be used for Flexible Graphite packing.

Table 24. 24000SB Allowable Pressure Drops for Baumann 32, 54, and 70 Actuators with CWP 3000 Valve Body (bar)

ORIFICE DIA. (mm)	PLUG TRAVEL (mm)	ACT TYPE	AIR-TO-OPEN ACTION						AIR-TO-CLOSE ACTION					
			BENCH RANGE (barg)	0.2-1.0 barg SIGNAL TO ACTUATOR		WITH POSITIONER 1.38 barg AIR SUPPLY		BENCH RANGE (barg)	0.2-1.0 barg SIGNAL TO ACTUATOR		WITH POSITIONER 1.38 barg AIR SUPPLY			
				Max CL IV Shutoff Pressure	Max CL VI Shutoff Pressure	Max CL IV Shutoff Pressure	Max CL VI Shutoff Pressure		Max CL IV Shutoff Pressure	Max CL VI Shutoff Pressure	Max CL IV Shutoff Pressure	Max CL VI Shutoff Pressure		
6.4	12.7	32	0.3-1.0	64	---	123	---	0.2-0.9	61	---	206	---		
		32	0.5-1.0	125	---	184	---	0.2-0.7	153	---	206 ⁽¹⁾	---		
		54	0.6-1.0	206	---	206 ⁽¹⁾	---	0.2-0.7	231	---	206 ^(1,2)	---		
7.9	12.7	32	0.4-1.0	---	73	---	114	0.2-0.7	---	92	---	199		
		54	0.6-1.0	---	182	---	206 ⁽¹⁾	0.2-0.7	---	147	---	206 ^(1,2)		
9.5	12.7	32	0.5-1.0	64	52	94	81	0.2-0.7	78	66	156	144		
		54	0.6-1.0	144	132	189	177	0.2-0.7	118	106	206	206		
		70	0.6-1.0	195	183	206 ⁽¹⁾	206 ⁽¹⁾	---	---	---	---	---		
20.6	12.7	54	0.8-1.0	48	41	59	53	0.2-0.7	29	23	59	53		
		70	0.7-1.0	57	50	72	66	---	---	---	---	---		

1. The maximum shutoff pressure when using ENVIRO-SEAL packing is defined by: $\Delta P = \text{Table Value} - [1112 / (\text{Port Diameter})^2]$. These table values should not be modified by this formula and the maximum ΔP of 51.7 bar should be used for ENVIRO-SEAL packing.
2. The maximum shutoff pressure when using Flexible Graphite packing is defined by: $\Delta P = \text{Table Value} - [5337 / (\text{Port Diameter})^2]$. These table values should not be modified by this formula and the maximum ΔP of 206 bar should be used for Flexible Graphite packing.

Table 25. 24000SB Allowable Pressure Drops for Baumann 32, 54, and 70 Actuators with CWP 3000 Valve Body (psi)

ORIFICE DIA. (in)	PLUG TRAVEL (in)	ACT TYPE	AIR-TO-OPEN ACTION						AIR-TO-CLOSE ACTION					
			BENCH RANGE (psig)	3-15 psig SIGNAL TO ACTUATOR		WITH POSITIONER 20 psig AIR SUPPLY		BENCH RANGE (psig)	3-15 psig SIGNAL TO ACTUATOR		WITH POSITIONER 20 psig AIR SUPPLY			
				Max CL IV Shutoff Pressure	Max CL VI Shutoff Pressure	Max CL IV Shutoff Pressure	Max CL VI Shutoff Pressure		Max CL IV Shutoff Pressure	Max CL VI Shutoff Pressure	Max CL IV Shutoff Pressure	Max CL VI Shutoff Pressure		
0.25	0.50	32	5-15	887	---	1773	---	3-13	887	---	3000	---		
		32	7-15	1773	---	2660	---	3-10	2216	---	3000 ⁽¹⁾	---		
		54	8-15	3000	---	3000 ⁽¹⁾	---	3-10	3000	---	3000 ^(1,2)	---		
0.3125	0.50	32	7-15	---	1033	---	1649	3-10	---	1341	---	2880		
		54	9-15	---	2600	---	3000 ⁽¹⁾	3-10	---	2133	---	3000 ^(1,2)		
0.375	0.50	32	7-15	905	730	1357	1182	3-10	1131	956	2262	2087		
		54	9-15	2055	1881	2741	2566	3-10	1713	1538	3000	3000		
		70	9-15	2794	2619	3000 ⁽¹⁾	3000 ⁽¹⁾	---	---	---	---	---		
0.8125	0.50	54	11-15	685	591	856	762	3-10	428	334	856	762		
		70	10-15	815	720	1048	953	---	---	---	---	---		

1. The maximum shutoff pressure when using ENVIRO-SEAL packing is defined by: $\Delta P = \text{Table Value} - [25 / (\text{Port Diameter})^2]$. These table values should not be modified by this formula and the maximum ΔP of 750 psi should be used for ENVIRO-SEAL packing.
2. The maximum shutoff pressure when using Flexible Graphite packing is defined by: $\Delta P = \text{Table Value} - [120 / (\text{Port Diameter})^2]$. These table values should not be modified by this formula and the maximum ΔP of 3000 psi should be used for Flexible Graphite packing.

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Table 26. 24000SB Allowable Pressure Drops for Baumann 32, 54, and 70 Actuators with CWP 6000 Valve Body (bar)

ORIFICE DIA. (mm)	PLUG TRAVEL (mm)	ACT TYPE	AIR-TO-OPEN ACTION						AIR-TO-CLOSE ACTION					
			BENCH RANGE (barg)	0.2-1.0 barg SIGNAL TO ACTUATOR		WITH POSITIONER 1.38 barg AIR SUPPLY		BENCH RANGE (barg)	0.2-1.0 barg SIGNAL TO ACTUATOR		WITH POSITIONER 1.38 barg AIR SUPPLY			
				Max CL IV Shutoff Pressure	Max CL VI Shutoff Pressure	Max CL IV Shutoff Pressure	Max CL VI Shutoff Pressure		Max CL IV Shutoff Pressure	Max CL VI Shutoff Pressure	Max CL IV Shutoff Pressure	Max CL VI Shutoff Pressure		
6.4	12.7	32	0.3-1.0	64	---	123	---	0.2-0.9	61	---	214	---		
		32	0.5-1.0	125	---	184	---	0.2-0.7	153	---	306 ⁽¹⁾	---		
		54	0.6-1.0	236	---	325 ⁽¹⁾	---	0.2-0.7	231	---	431 ^(1,2)	---		
7.9	12.7	32	0.4-1.0	---	73	---	114	0.2-0.7	---	92	---	199		
		54	0.6-1.0	---	182	---	244 ⁽¹⁾	0.2-0.7	---	147	---	308 ^(1,2)		
9.5	12.7	32	0.5-1.0	64	52	94	81	0.2-0.7	78	66	156	144		
		54	0.6-1.0	144	132	189	177	0.2-0.7	118	106	236	224		
		70	0.6-1.0	195	183	257 ⁽¹⁾	245 ⁽¹⁾	---	---	---	---	---		
20.6	12.7	54	0.8-1.0	48	41	59	53	0.2-0.7	29	23	59	53		
		70	0.7-1.0	57	50	72	66	---	---	---	---	---		

1. The maximum shutoff pressure when using ENVIRO-SEAL packing is defined by: $\Delta P = \text{Table Value} - [1112 / (\text{Port Diameter})^2]$. These table values should not be modified by this formula and the maximum ΔP of 51.7 bar should be used for ENVIRO-SEAL packing.
2. The maximum shutoff pressure when using Flexible Graphite packing is defined by: $\Delta P = \text{Table Value} - [5337 / (\text{Port Diameter})^2]$. These table values should not be modified by this formula and the maximum ΔP of 431 bar should be used for Flexible Graphite packing.

Table 27. 24000SB Allowable Pressure Drops for Baumann 32, 54, and 70 Actuators with CWP 6000 Valve Body (psig)

ORIFICE DIA. (in)	PLUG TRAVEL (in)	ACT TYPE	AIR-TO-OPEN ACTION						AIR-TO-CLOSE ACTION					
			BENCH RANGE (psig)	3-15 psig SIGNAL TO ACTUATOR		WITH POSITIONER 20 psig AIR SUPPLY		BENCH RANGE (psig)	3-15 psig SIGNAL TO ACTUATOR		WITH POSITIONER 20 psig AIR SUPPLY			
				Max CL IV Shutoff Pressure	Max CL VI Shutoff Pressure	Max CL IV Shutoff Pressure	Max CL VI Shutoff Pressure		Max CL IV Shutoff Pressure	Max CL VI Shutoff Pressure	Max CL IV Shutoff Pressure	Max CL VI Shutoff Pressure		
0.25	0.50	32	5-15	887	---	1773	---	3-13	887	---	3103	---		
		32	7-15	1773	---	2660	---	3-10	2216	---	4433 ⁽¹⁾	---		
		54	8-15	3357	---	4700 ⁽¹⁾	---	3-10	3357	---	6250 ^(1,2)	---		
0.3125	0.50	32	7-15	---	1033	---	1649	3-10	---	1341	---	2880		
		54	9-15	---	2600	---	3532 ⁽¹⁾	3-10	---	2133	---	4465 ^(1,2)		
0.375	0.50	32	7-15	905	730	1357	1182	3-10	1131	956	2262	2087		
		54	9-15	2055	1881	2741	2566	3-10	1713	1538	3426	3251		
		70	9-15	2794	2619	3725 ⁽¹⁾	3551 ⁽¹⁾	---	---	---	---	---		
0.8125	0.50	54	11-15	685	591	856	762	3-10	428	334	856	762		
		70	10-15	815	720	1048	953	---	---	---	---	---		

1. The maximum shutoff pressure when using ENVIRO-SEAL packing is defined by: $\Delta P = \text{Table Value} - [25 / (\text{Port Diameter})^2]$. These table values should not be modified by this formula and the maximum ΔP of 750 psi should be used for ENVIRO-SEAL packing.
2. The maximum shutoff pressure when using Flexible Graphite packing is defined by: $\Delta P = \text{Table Value} - [120 / (\text{Port Diameter})^2]$. These table values should not be modified by this formula and the maximum ΔP of 6250 psi should be used for Flexible Graphite packing.

Table 28. 26000 Allowable Pressure Drops (bar)

PORT DIA. (mm)	PLUG TRAVEL (mm)	ACT TYPE	AIR-TO-OPEN ACTION						AIR-TO-CLOSE ACTION					
			BENCH RANGE (barg)	0.2-1.0 barg SIGNAL TO ACTUATOR		WITH POSITIONER 1.38 barg AIR SUPPLY		BENCH RANGE (barg)	0.2-1.0 barg SIGNAL TO ACTUATOR		WITH POSITIONER 1.38 barg AIR SUPPLY			
				Max CL IV Shutoff Pressure	Max CL VI Shutoff Pressure	Max CL IV Shutoff Pressure	Max CL VI Shutoff Pressure		Max CL IV Shutoff Pressure	Max CL VI Shutoff Pressure	Max CL IV Shutoff Pressure	Max CL VI Shutoff Pressure		
7.9	12.7	32	0.3-1.0	---	10	---	10	0.2-0.9	---	10	---	10		
9.5	12.7	32	0.3-1.0	10	---	10	---	0.2-0.9	10	---	10	---		
12.7	12.7	32	0.3-1.0	10	---	10	---	0.2-0.9	10	---	10	---		

Table 29. 26000 Allowable Pressure Drops (psi)

PORT DIA. (in)	PLUG TRAVEL (in)	ACT TYPE	AIR-TO-OPEN ACTION				AIR-TO-CLOSE ACTION					
			BENCH RANGE (psig)	3-15 psig SIGNAL TO ACTUATOR		WITH POSITIONER 20 psig AIR SUPPLY		BENCH RANGE (psig)	3-15 psig SIGNAL TO ACTUATOR		WITH POSITIONER 20 psig AIR SUPPLY	
				Max CL IV Shutoff Pressure	Max CL VI Shutoff Pressure	Max CL IV Shutoff Pressure	Max CL VI Shutoff Pressure		Max CL IV Shutoff Pressure	Max CL VI Shutoff Pressure		
0.312	0.50	32	5-15	---	150	---	150	3-13	---	150	---	150
0.375	0.50	32	5-15	150	---	150	---	3-13	150	---	150	---
0.500	0.50	32	5-15	150	---	150	---	3-13	150	---	150	---

Table 30. 51000 Series Valve with Baumann 16 Actuator and Positioner (Metric)

PERFORMANCE SPECIFICATIONS				ALLOWABLE PRESSURE DROPS			
Valve Size, mm	K _v Range	Process Temperature Range	Seat Leakage (per ASME/FCI 70-2)	Bench Spring Range	Air-to-Open ⁽¹⁾	Bench Spring Range	Air-to-Close ⁽¹⁾
6.35 & 12.7	0.00011 - 0.39	-28.9 to 177°C	Class VI	0.3 - 0.9 bar	207 bar	0.2 - 0.8 bar	207 bar
12.7	0.86, 1.29, 2.16	-28.9 to 232°C	Class IV	0.3 - 0.9 bar	28 bar	0.2 - 0.8 bar	55 bar

1. Based on 1.4 barg air supply to positioner.

Table 31. 51000 Series Valve with Baumann 16 Actuator and Positioner

PERFORMANCE SPECIFICATIONS				ALLOWABLE PRESSURE DROPS			
Valve Size, NPS	C _v Range	Process Temperature Range	Seat Leakage (per ASME/FCI 70-2)	Bench Spring Range	Air-to-Open ⁽¹⁾	Bench Spring Range	Air-to-Close ⁽¹⁾
1/4 & 1/2	0.00013 - 0.45	-20 to 350°F	Class VI	4-13 psi	3000 psi	3-12 psi	3000 psi
1/2	1.0, 1.5, 2.5	-20 to 450°F	Class IV	4-13 psi	400 psi	3-12 psi	800 psi

1. Based on 20 psig air supply to positioner.

Table 32. 51000 Series Valve with Baumann 16 Actuator without Positioner or with Transducer (Metric)

PERFORMANCE SPECIFICATIONS				ALLOWABLE PRESSURE DROPS			
Valve Size, mm	K _v Range	Process Temperature Range	Seat Leakage (per ASME/FCI 70-2)	Bench Spring Range	Air-to-Open ⁽¹⁾	Bench Spring Range	Air-to-Close ⁽¹⁾
6.35 & 12.7	0.00011 - 0.39	-28.9 to 177°C	Class VI	0.3 - 0.9 bar	69 bar	0.2 - 0.8 bar	207 bar
12.7	0.86, 1.29, 2.16	-28.9 to 232°C	Class IV	0.3 - 0.9 bar	6.8 bar	0.2 - 0.8 bar	20.6 bar

1. Based on 0.2 to 1.0 bar air output signal to actuator.

Table 33. 51000 Series Valve with Baumann 16 Actuator without Positioner or with Transducer

PERFORMANCE SPECIFICATIONS				ALLOWABLE PRESSURE DROPS			
Valve Size, NPS	C _v Range	Process Temperature Range	Seat Leakage (per ASME/FCI 70-2)	Bench Spring Range	Air-to-Open ⁽¹⁾	Bench Spring Range	Air-to-Close ⁽¹⁾
1/4 & 1/2	0.00013 - 0.45	-20 to 350°F	Class VI	4-13 psi	1000 psi	3-12 psi	3000 psi
1/2	1.0, 1.5, 2.5	-20 to 450°F	Class IV	4-13 psi	100 psi	3-12 psi	300 psi

1. Based on 3 to 15 psi air output signal to actuator.

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Table 34. 81000 Allowable Pressure Drops

VALVE SIZE	PLUG		PLUG TRAVEL	AIR-TO-OPEN ACTION						AIR-TO-CLOSE ACTION					
				Bench Range		3-15 psig (0.2-1.0 bar) Signal to Actuator		With Positioner		Bench Range		3-15 psig (0.2-1.0 bar) Signal to Actuator		With Positioner	
NPS (mm)	Cv	Kv	mm (inch)	bar	psig	bar	psig	bar	psig	bar	psig	bar	psig	bar	psig
1/4 (6.35)	0.01 0.03 0.10 0.30	0.0009 0.026 0.086 0.259	12.7 (0.50)												
1/2 (12.7)	0.01 0.03 0.10 0.30 0.50 0.70	0.0009 0.026 0.086 0.259 0.43 0.60	12.7 (0.50)	0.2-1.0	3-15	10	150	19	275	0.2-0.9	3-13	10	150	19	275

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Table 35. 83000 Allowable Pressure Drops

ORIFICE		PLUG TRAVEL	AIR-TO-OPEN ACTION						AIR-TO-CLOSE ACTION					
Cv	Kv		Bench Range		3-15 psig (0.2-1.0 bar) Signal to Actuator		With Positioner ⁽¹⁾		Bench Range		3-15 psig (0.2-1.0 bar) Signal to Actuator		With Positioner ⁽¹⁾	
		mm (inch)	bar	psig	bar	psig	bar	psig	bar	psig	bar	psig	bar	psig
0.014	0.012	12.7 (0.50)	0.2-1.0	3-15	10	150	19	275	0.2-0.9	3-13	10	150	19	275
0.053	0.046													
0.182	0.157													
0.427	0.369													
0.631	0.546													
1.02	0.882													

1. Based on 1.38 bar (20 psig) supply.

Table 36. 84000 Allowable Pressure Drops (bar): NPS 1 Angle and NPS 1 Inline Valves

VALVE SIZE	FLOW DIRECTION	RATED Kv	TRAVEL	ACTUATOR TYPE	AIR-TO-OPEN ACTION			AIR-TO-CLOSE ACTION				
					Bench Spring Range	Signal to Actuator		With Positioner (2)	Bench Spring Range	Signal to Actuator		With Positioner (2)
					bar	0.2-1.0 bar	0.07-1.2 bar ⁽¹⁾	bar	bar	0.2-1.0 bar	0.07-1.2 bar ⁽¹⁾	bar
25	A to B	1.72	12.7	32	0.3-1.0	7.58	8.62	8.62	0.2-0.9	6.9	8.62	8.62
			12.7	32	0.3-1.0	6.9	10.34	10.34	0.2-0.9	6.9	8.62	8.62
		3.44	12.7	54	0.3-1.0	10.34	10.34	10.34	0.2-0.9	10.34	10.34	10.34
			19.05	32	0.3-1.0	3.45	8.62	8.62	0.2-0.9	3.45	8.62	8.62
		6.88	19.05	54	0.5-0.9	6.9	10.34	10.34	0.2-0.7	6.9	10.34	10.34

1. I/P transducer with 0.07 - 1.2 bar (1 - 17 psig) output signal per FCI 87.2.
2. Shutoff with positioner based on 1.4 bar (20 psi) air supply pressure.

Table 37. 84000 Allowable Pressure Drops (psi): NPS 1 Angle and NPS 1 Inline Valves

VALVE SIZE	FLOW DIRECTION	RATED Cv	TRAVEL	ACTUATOR TYPE	AIR-TO-OPEN ACTION			AIR-TO-CLOSE ACTION				
					Bench Spring Range	Signal to Actuator		With Positioner (2)	Bench Spring Range	Signal to Actuator		With Positioner (2)
					psig	3-15 psig	1-2 psig ⁽¹⁾	psig	psig	3-15 psig	1-2 psig ⁽¹⁾	psig
1	A to B	2.00	0.50	32	5-15	110	125	125	3-13	100	125	125
			0.50	32	5-15	100	150	150	3-13	100	125	125
		4.00	0.50	54	5-15	150	150	150	3-13	150	150	150
			0.75	32	5-15	50	125	125	3-13	50	125	125
		8.00	0.75	54	7-13	100	150	150	3-10	100	150	150

1. I/P transducer with 0.07 - 1.2 bar (1 - 17 psig) output signal per FCI 87.2.
2. Shutoff with positioner based on 1.4 bar (20 psi) air supply pressure.

Table 38. 84000 Allowable Pressure Drops (bar): Flow Direction A to B: NPS 1-1/2 and 2 Angle Valves

VALVE SIZE	FLOW DIRECTION	RATED Kv	TRAVEL	ACTUATOR TYPE	AIR-TO-OPEN ACTION			AIR-TO-CLOSE ACTION				
					Bench Spring Range	Signal to Actuator		With Positioner (2)	Bench Spring Range	Signal to Actuator		With Positioner (2)
						bar	0.2-1.0 bar			0.07-1.2 bar ⁽¹⁾	bar	
DN			mm									
40	A to B	18.92	12.7	54	0.3-1.0	1.99	3.99	3.99	0.2-0.9	1.99	3.99	6.96
		18.92	12.7	54	0.6-1.0	4.96	6.96	6.96	0.2-0.7	4.96	6.96	9.99
		25.8	19.05	54	0.3-1.0	1.99	3.99	3.99	0.2-0.9	1.99	3.99	6.96
		25.8	19.05	54	0.5-0.9	3.99	5.99	5.99	0.2-0.7	4.92	6.96	9.99
50	A to B	24.94	12.7	54	0.3-1.0	2.34	4.68	4.68	0.2-0.9	2.34	4.68	8.20
		24.94	12.7	54	0.6-1.0	5.86	8.20	8.20	0.2-0.7	5.79	8.20	11.72
		36.98	19.05	54	0.3-1.0	2.34	4.68	4.68	0.2-0.9	2.34	4.68	8.20
		36.98	19.05	54	0.5-0.9	4.68	7.03	7.03	0.2-0.7	5.86	8.20	11.72

1. I/P transducer with 0.07 - 1.2 bar (1 - 17 psig) output signal per FCI 87.2.
2. Shutoff with positioner based on 1.4 bar (20 psi) air supply pressure.

Table 39. 84000 Allowable Pressure Drops (psi): Flow Direction A to B: NPS 1-1/2 and 2 Angle Valves

VALVE SIZE	FLOW DIRECTION	RATED Cv	TRAVEL	ACTUATOR TYPE	AIR-TO-OPEN ACTION			AIR-TO-CLOSE ACTION				
					Bench Spring Range	Signal to Actuator		With Positioner (2)	Bench Spring Range	Signal to Actuator		With Positioner (2)
						psig	3-15 psig			1-2 psig ⁽¹⁾	psig	
NPS			Inches									
1-1/2	A to B	22	0.50	54	5-15	29	58	58	3-13	29	58	101
		22	0.50	54	8-15	72	101	101	3-10	72	101	145
		30	0.75	54	5-15	29	58	58	3-13	29	58	101
		30	0.75	54	7-13	58	87	87	3-10	72	101	145
2	A to B	29	0.50	54	5-15	34	68	68	3-13	34	68	119
		29	0.50	54	8-15	85	119	119	3-10	84	119	170
		43	0.75	54	5-15	34	68	68	3-13	34	68	119
		43	0.75	54	7-13	68	102	102	3-10	85	119	170

1. I/P transducer with 0.07 - 1.2 bar (1 - 17 psig) output signal per FCI 87.2.
2. Shutoff with positioner based on 1.4 bar (20 psi) air supply pressure.

Table 40. 84000 Allowable Pressure Drops (bar): Flow Direction B to A: NPS 1-1/2 and 2 Angle Valves

VALVE SIZE	FLOW DIRECTION	RATED Kv	TRAVEL	ACTUATOR TYPE	AIR-TO-OPEN ACTION			AIR-TO-CLOSE ACTION				
					Bench Spring Range	Signal to Actuator		With Positioner (2)	Bench Spring Range	Signal to Actuator		With Positioner (2)
						bar	0.2-1.0 bar			0.07-1.2 bar ⁽¹⁾	bar	
DN			mm									
40	B to A	14.62	12.7	54	0.3-1.0	5.10	10.20	10.20	0.2-0.9	5.10	10.20	17.86
		14.62	12.7	54	0.6-1.0	12.76	17.86	17.86	0.2-0.7	12.76	17.86	25.58
		20.64	19.05	54	0.3-1.0	5.10	10.20	10.20	0.2-0.9	5.10	10.20	17.86
		20.64	19.05	54	0.5-0.9	10.20	15.31	15.31	0.2-0.7	12.76	17.86	25.58
50	B to A	20.64	12.7	54	0.3-1.0	2.90	5.79	5.79	0.2-0.9	2.90	5.79	10.14
		20.64	12.7	54	0.6-1.0	7.24	10.14	10.14	0.2-0.7	7.24	10.14	14.48
		27.52	19.05	54	0.3-1.0	2.90	5.79	5.79	0.2-0.9	2.90	5.79	10.14
		27.52	19.05	54	0.5-0.9	5.79	8.69	8.69	0.2-0.7	7.24	10.14	14.48

1. I/P transducer with 0.07 - 1.2 bar (1 - 17 psig) output signal per FCI 87.2.
2. Shutoff with positioner based on 1.4 bar (20 psi) air supply pressure.

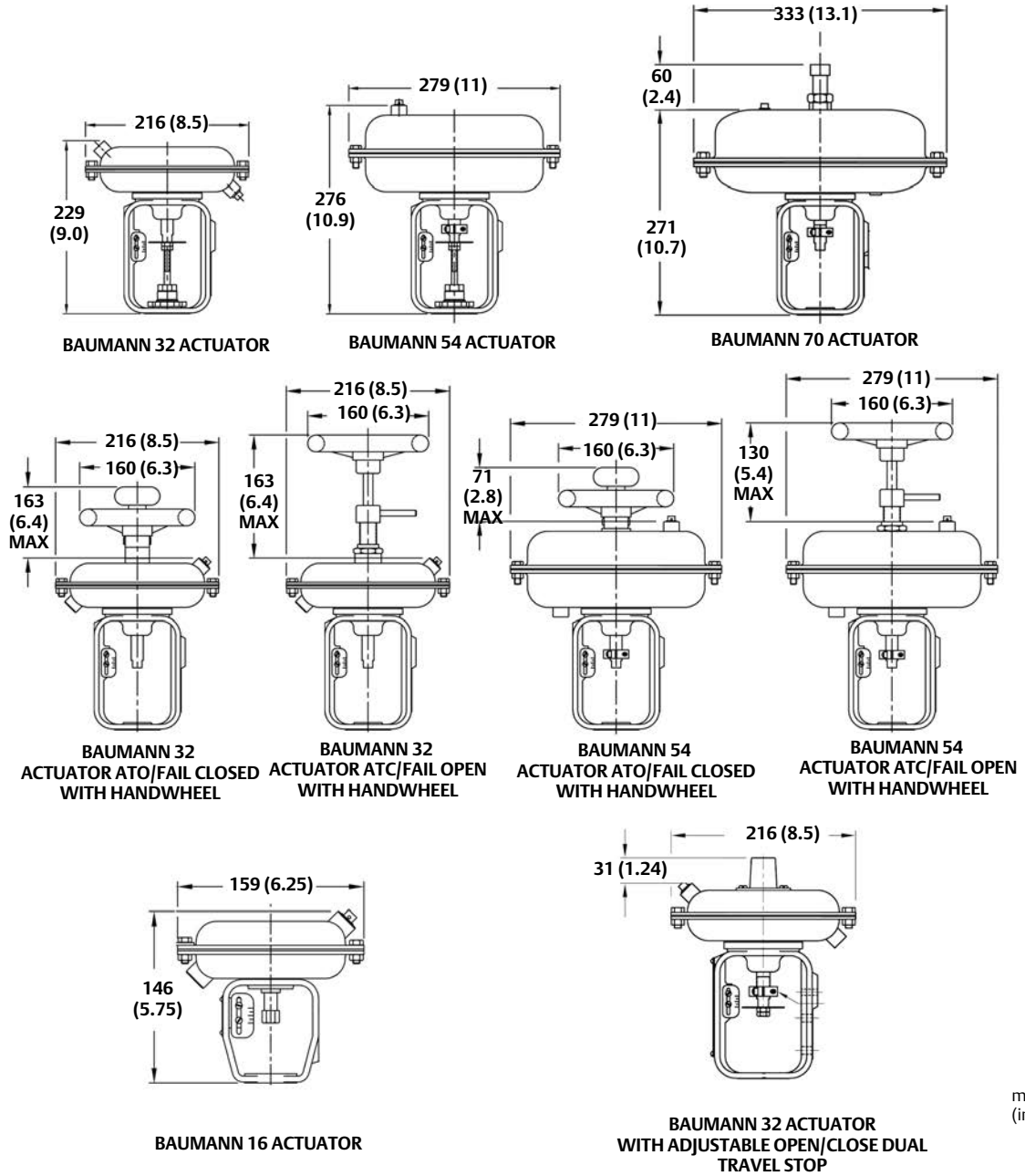
Table 41. 84000 Allowable Pressure Drops (psi): Flow Direction B to A: NPS 1-1/2 and 2 Angle Valves

VALVE SIZE	FLOW DIRECTION	RATED Cv	TRAVEL	ACTUATOR TYPE	AIR-TO-OPEN ACTION			AIR-TO-CLOSE ACTION				
					Bench Spring Range	Signal to Actuator		With Positioner (2)	Bench Spring Range	Signal to Actuator		With Positioner (2)
						psig	3-15 psig			1-2 psig ⁽¹⁾	psig	
NPS			Inches									
1-1/2	B to A	17	0.50	54	5-15	74	148	148	3-13	74	148	259
		17	0.50	54	8-15	185	259	259	3-10	185	259	371
		24	0.75	54	5-15	74	148	148	3-13	74	148	259
		24	0.75	54	7-13	148	222	222	3-10	185	259	371
2	B to A	24	0.50	54	5-15	42	84	84	3-13	42	84	147
		24	0.50	54	8-15	105	147	147	3-10	105	147	210
		32	0.75	54	5-15	42	84	84	3-13	42	84	147
		32	0.75	54	7-13	84	126	126	3-10	105	147	210

1. I/P transducer with 0.07 - 1.2 bar (1 - 17 psig) output signal per FCI 87.2.
2. Shutoff with positioner based on 1.4 bar (20 psi) air supply pressure.

See the appropriate Baumann valve bulletin for maximum pressure drops for 85000 and 87000 valves.

Figure 1. Baumann Pneumatic Actuator Dimensions, mm (Inch)



mm
(inch)

E1313

Product Bulletin

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