

# Baumann™ 24000S Stainless Steel Control Valve

Baumann's 24000S versatile, pneumatic control valve may be used for the control of pressure, temperature, level and flow. Sizes 1/2 inch through 2 inch are available with NPT and buttweld end connections. A 3 inch size is available as wafer style only. The type 316 stainless steel body will withstand mildly corrosive fluids, yet is economical enough to use in applications where carbon steel is normally specified.

## FEATURES:

- Compact and light weight design reduces installed piping costs.
- End connection options are available to meet your piping standards.
- Superior dual stem and plug guiding provides increased stability during plug travel.
- High quality type 316 stainless steel trim materials; 416 stainless steel trim available.
- Multiple trim capacity reductions available to meet changing process requirements.
- Epoxy powder coated actuator with stainless steel fasteners for corrosion resistance.
- Multi-spring field reversible actuator with reduced deadband permits direct operation from remote signal devices.
- Entire actuator and yoke can be removed from the valve assembly while maintaining packing integrity.
- FIELDVUE® Digital Valve Controllers available for remote calibration and diagnostics in facilities utilizing the PlantWeb® architecture.
- The DVC2000 Digital Valve Controller has a local user interface that includes a liquid crystal display and four push buttons for menu navigation.
- NOLEEK™ Bellows Bonnet and single through triple extension bonnets are available.



Figure 1. 24000S NPT Control Valve



Figure 2. 24000S Control Valves with Butt weld and Tri-clamp Ends





Table 1. MATERIALS OF CONSTRUCTION

KEY NO.	DESCRIPTION		MATERIAL
1	Body		316 SST (ASTM A351, CF8M)
2	Seat Ring		316 SST (ASTM A276 S31600) (used for 1/4" & 3/8" [6.3 mm & 9.5 mm] orifice diameters only)
4	Plug (Metal Seat) Cv ≤ 2.5	Standard	S21800 SST (ASTM A479 S21800 Annealed)
		Optional	416 SST (ASTM A582 S41600 CONDITION T)
	Plug (Metal Seat) Cv ≥ 4.0	Standard	316 SST (ASTM A276 S31600 Condition A)
		Optional	416 SST (ASTM A582 S41600 CONDITION T)
Plug (Soft Seat)		316 SST (ASTM A276 S31600 Condition A) with PTFE (Polytetrafluoroethylene) Insert	
5	Stem		316 SST (ASTM A276 S31600 Condition A)
6	Packing Set		Refer to page 5
7	Bonnet Flange	0.5 - 2.0"	316 SST (ASTM A351 CF8)
		3.0"	316 SST (ASTM A240 S31600)
8	Bonnet	Standard	ASTM A479 S31600
		Extension	ASTM A479 S31600
		NOLEEK™	ASTM A479 S31600
9	Drive Nut (Yoke)		316 SST (ASTM A194 Grade 8M)
10	Packing Follower		316 SST (ASTM A276 S31600 Condition A)
11	Bonnet Studs (Bolt)		ASTM A193 GRADE B8, CLASS 1 S30400
12	Bonnet Nuts		ASTM F594 ALLOY GROUP 1, Condition CW S30400
27	Locknuts		Stainless Steel (18-8 Stainless Steel)
49	Body Gasket		Graphite Grade GHR with 316 Stainless Steel Insert
58	Travel Indicator		304 SST (ASTM A240 S30400)

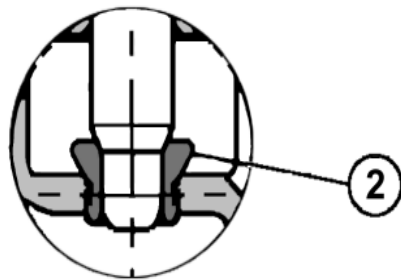


Figure 5. Screwed Seat, Cv ≤ 2.5

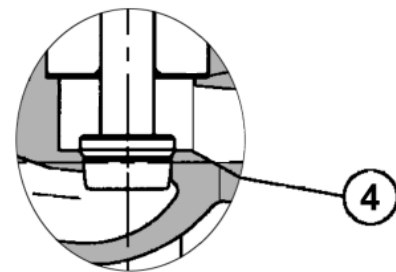


Figure 6. Integral Seat, Cv ≥ 4.0,  
 Seat is on Body, Key No. 1

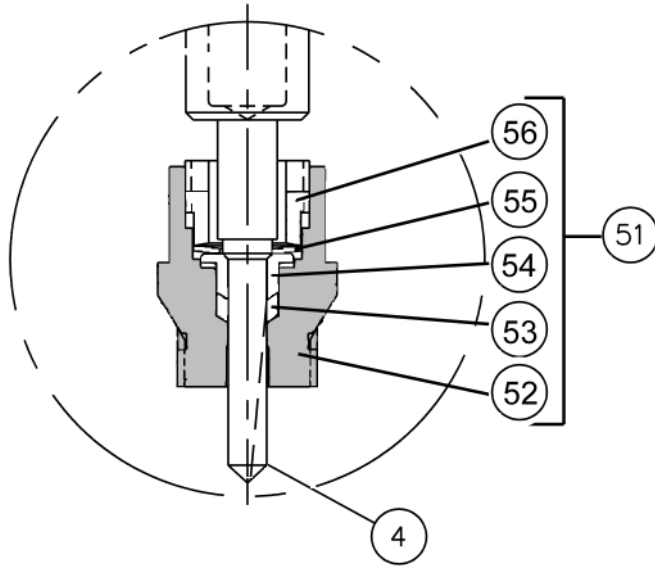


Figure 7. 24151S Low Flow Trim

Table 2. 24151S LOW FLOW TRIM

KEY NO.	DESCRIPTION	MATERIAL	
4	Plug	ASTM A479 S21800	
51	Seat Sub-Assembly:		
	52	Cage	ASTM A276 S31600
	53	Seat	PTFE
	54	Collar	ASTM A276 S31600
	55	Washer	ASTM A276 S31600
	56	Insert	ASTM A276 S31600

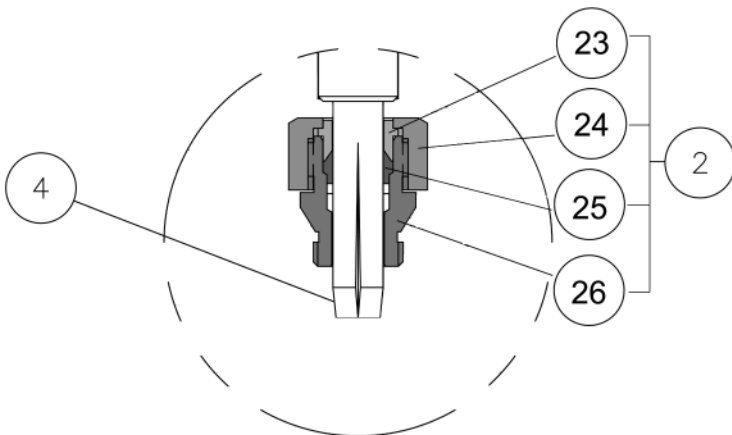
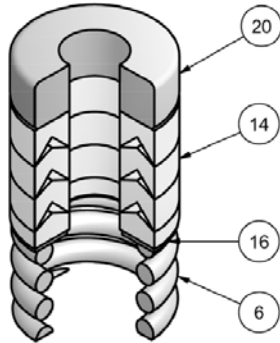


Figure 8. 24177S Low Flow Trim

Table 3. 24177S LOW FLOW TRIM

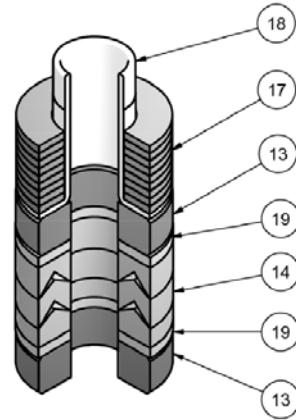
KEY NO.	DESCRIPTION	MATERIAL	
2	Seat Sub-Assembly:		
	23	Gland	ASTM A276 S31600
	24	Retainer Nut	ASTM A276 S31600
	25	Insert	Rulon® LR *
	26	Housing	ASTM A276 S31600
4	Plug	ASTM A479 S21800	

\*Rulon® is a registered trademark of Dixon, Division of Furon.



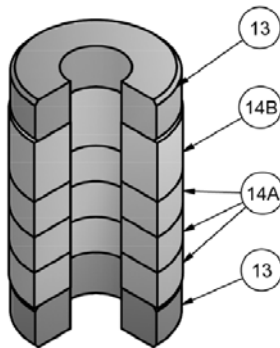
**Figure 9, Table 4. STANDARD SPRING LOADED PTFE V-RING PACKING KIT**

KEY NO.	DESCRIPTION	MATERIAL
6	Spring	302 SST (ASTM A313 S30200)
14	Packing Set	PTFE (Polytetrafluoroethylene)/PTFE, 25% carbon filled
16	Washer	316 SST (ASTM A240 S31600)
20	Spacer	J-2000 (filled Polytetrafluoroethylene)



**Figure 11, Table 6. ENVIRO-SEAL® PACKING KIT (OPTIONAL)**

KEY NO.	DESCRIPTION	MATERIAL
13	Bushings	Carbon Graphite
14	Packing Rings	PTFE (Polytetrafluoroethylene)/PTFE, 25% carbon filled
17	Belleville Spring	N06600 Nickel Alloy (ASTM B637 N07718, 40 HRC MAX)
18	Bushing	PEEK (Polyetheretherketone)
19	Washer	PTFE (Polytetrafluoroethylene), filled Gylon



**Figure 10, Table 5. MOLDED GRAPHITE (FLEXIBLE GRAPHITE) PACKING KIT (OPTIONAL)**

KEY NO.	DESCRIPTION	MATERIAL
13	Bushings	Carbon-Graphite
14A	Packing Rings	Graphite
14B	Packing Ring	Graphite

**SPECIAL ENVIRO-SEAL® PACKING NOTE:**

The ENVIRO-SEAL® PTFE packing system is suitable for 100 ppm environmental applications on services up to 750 psig (51.7 barg) and process temperatures ranging from -50 to 450°F (-46 to 232°C).

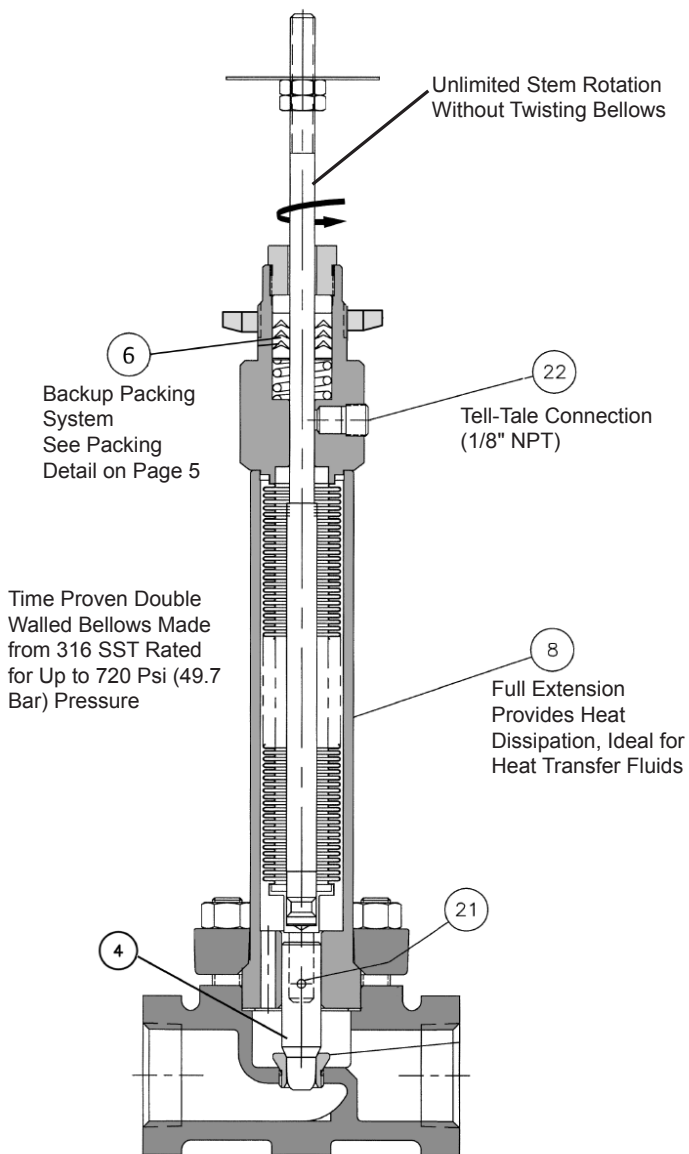
For non-environmental applications, this packing system offers superior performance at the same temperature range up to the maximum valve working pressure.

Temperature limits apply to packing arrangements only. Complete valve assembly temperature limits may differ, refer to appropriate pressure/temperature ratings.

(Reference *Fisher Packing Selection Guidelines for Sliding-Stem Valves*, Bulletin 59.1:062)

# Baumann™ 24000S Stainless Steel

The NOLEEK™ Bellows Bonnet Assembly is reliable and user-friendly. Typical service life is in excess of 250,000 full cycles under 100 psi pressure. The bonnet adds only approximately 5" to the height of a standard valve. Operating temperature range is -320°F to 750°F (-195°C to 399°C).



Time Proven Double Walled Bellows Made from 316 SST Rated for Up to 720 Psi (49.7 Bar) Pressure

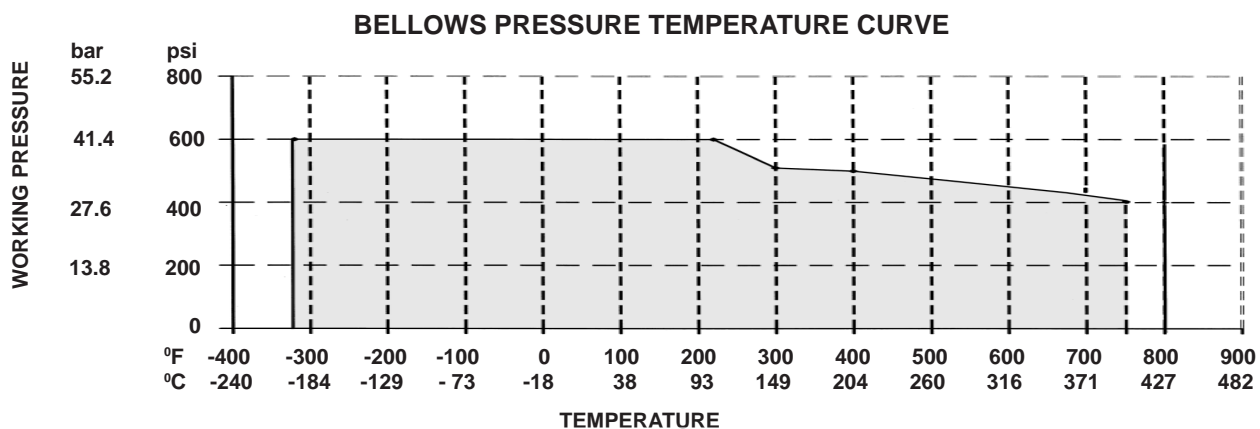
**⚠ WARNING**

The Baumann NOLEEK™ valve bonnet assembly is not intended for use in lethal service applications.

**Table 7. NOLEEK™ BELLOWS BONNET ASSEMBLY**

KEY NO.	DESCRIPTION	MATERIAL
4	Plug	See Table 1, Page 2
6	V-Ring Packing Kit (Standard)	See Table 4, Page 5
	ENVIRO-SEAL® Packing Kit (Optional)	See Table 6, Page 5
8	Complete Bellows / Bonnet Sub-Assembly	A479 S31600 Stainless Steel
21	Plug Retaining Pin	303 SST (S30300)
22	Hex Socket Pipe Plug, 1/8" NPT	304 SST (S30400)

**Figure 12. NOLEEK™ Bellows Bonnet Assembly**



**Bulletin**

24S.SS:BTN  
July 2007 Rev 2

**Baumann™ 2400S Stainless Steel**

**Table 8. C<sub>v</sub> VALUES @ 100% PLUG OPENING**

VALVE SIZE	ORIFICE DIAMETER	PLUG TRAVEL	PLUG SERIES						
			102	151	177	577	548 / 588	677	648 / 688
in	in	in	Cv	Cv	Cv	Cv	Cv	Cv	Cv
0.5 & 1.0	0.156	0.50	---	0.00013, 0.00025, 0.0005, 0.001, 0.002, 0.004, 0.008, 0.015, 0.03, 0.06, 0.10, 0.20, 0.45	---	---	---	---	---
	0.25	0.50	0.02, 0.05, 0.10, 0.20	---	---	---	0.22, 0.61, 1.0	---	0.5, 1.0
	0.3125	0.50	---	---	0.0005, 0.001, 0.002, 0.005, 0.01, 0.02, 0.05	---	---	---	---
	0.375	0.50	---	---	---	1.0, 1.5, 2.5	1.5, 2.5	0.1, 0.2, 0.5, 1.0, 2.5	1.5, 2.5
1.0	0.8125	0.50	---	---	---	4, 8.5	4.7, 9.5	4	4, 9.5
1.5	1.25	0.75	---	---	---	17.5	9, 17.5	17.5	17.5
2.0	1.5	0.75	---	---	---	10, 18, 30.5	10, 17.5, 30.5	10, 17.5	10, 17.5, 30.5
3.0	2.0	0.75	---	---	---	35	35, 52.3	35, 61	35, 61

**102 Linear Low Flow Trim**



**151 Modified Equal % Low Flow Trim**



**177 Modified Equal % Low Flow Trim**



**548 / 577 / 588 Equal % Trim**



**648 / 677 / 688 Linear Trim**



Baumann™ 24000S Stainless Steel

Table 9.  $K_v$  VALUES @ 100% PLUG OPENING

VALVE SIZE	ORIFICE DIAMETER	PLUG TRAVEL	PLUG SERIES						
			151	177	102	577	548 / 588	677	648 / 688
DN	mm	mm	Kv	Kv	Kv	Kv	Kv	Kv	Kv
15 & 25	3.96	12.7	0.0001, 0.0002, 0.0004, 0.0009, 0.0017, 0.003, 0.007, 0.013, 0.026, 0.052, 0.09, 0.17, 0.39	---	---	---	---	---	---
	6.3	12.7	---	---	0.017, 0.04, 0.09, 0.17	---	0.19, 0.52, 0.86	---	0.43, 0.86
	7.9	12.7	---	0.0004, 0.0009, 0.0017, 0.004, 0.009, 0.017, 0.04	---	---	---	---	---
	9.5	12.7	---	---	---	0.86, 1.29, 2.15	1.29, 2.15	0.09, 0.17, 0.43, 0.86, 2.15	1.29, 2.15
25	20.6	12.7	---	---	---	3.4, 7.3	4.0, 8.2	3.4	3.4, 8.2
40	31.8	19.1	---	---	---	15.1	7.7, 15.1	15.1	15.1
50	38.1	19.1	---	---	---	8.6, 15.5, 26.2	8.6, 15.1, 26.2	8.6, 15.1	8.6, 15.1, 26.2
80	50.8	19.1	---	---	---	30.1	30.1, 45	30.1, 52.5	30.1, 52.5



**Table 10. TECHNICAL SPECIFICATIONS**

<b>NOMINAL SIZE</b>	0.5, 1.0, 1.5, 2.0 & 3.0 inch	DN 15, 25, 40, 50 & 80
<b>END CONNECTIONS</b>	Screwed (NPT) (except for 3 inch, wafer style only!) Wafer / Butt weld	
<b>PRESSURE RATING</b>	Class 300 (Class 150 for 3 inch per ASME B16.34)	
<b>BODY MATERIAL</b>	316 SST ASTM A351, CF8M	
<b>CHARACTERISTIC</b>	Equal Percentage or Linear	

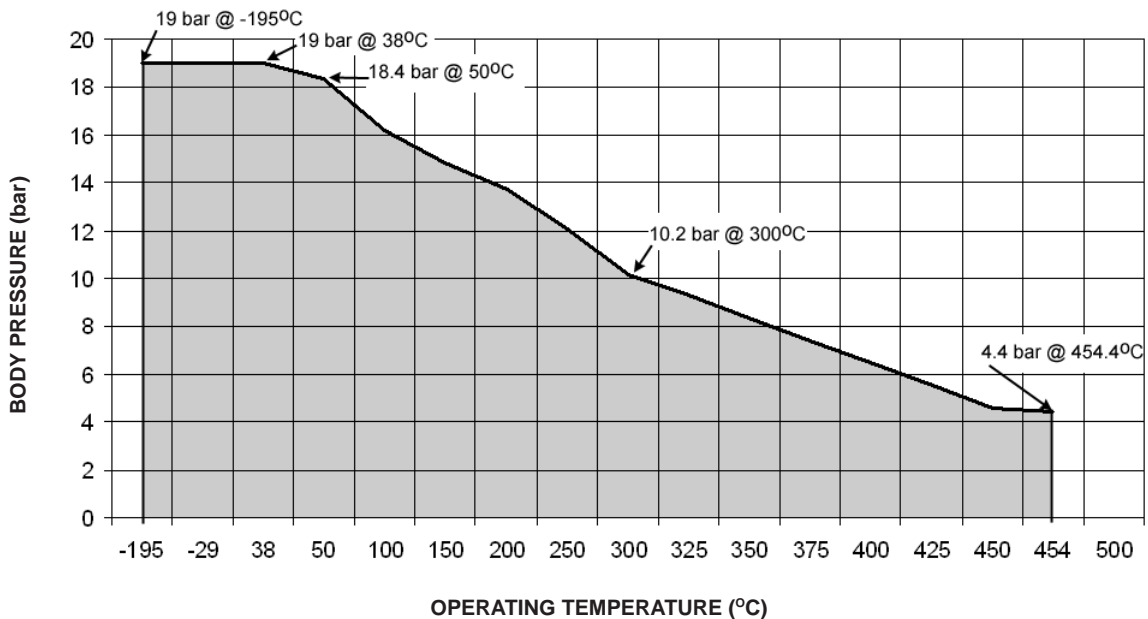
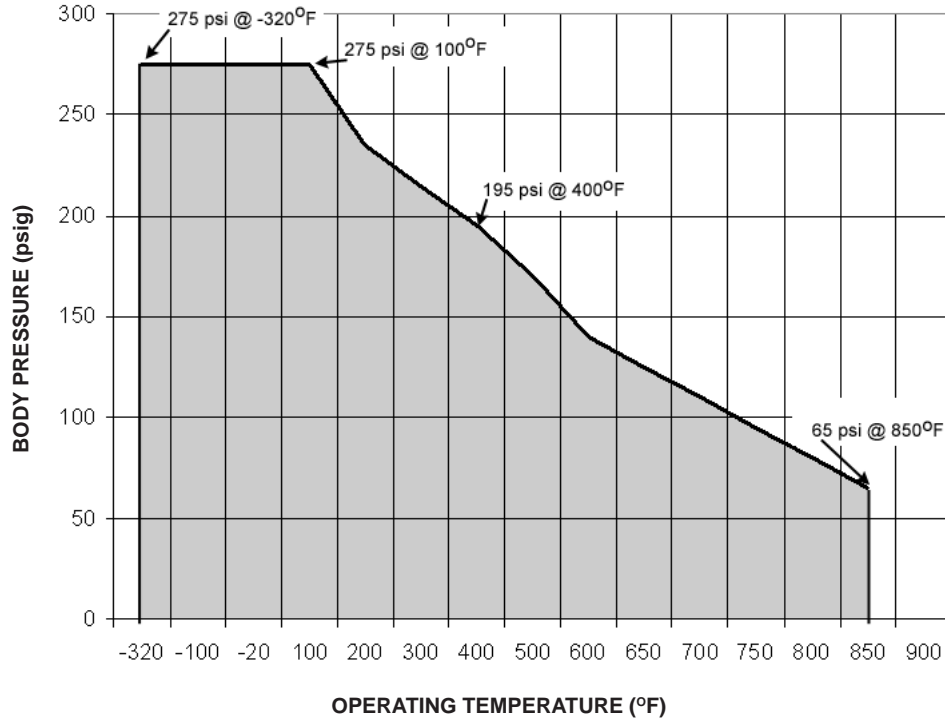
**Table 11. TEMPERATURE RATINGS FOR PACKING AND SEAT MATERIAL (See Note A)**

<b>SEATING MATERIAL</b>	PTFE Soft Seat	151 Trim	-20°F to 350°F (-29°C to 177°C)
		177, 577, 677 Trim	-100°F to 450°F (-73°C to 232°C)
	Metal Seat	102, 548, 588, 648, 688 Trim	-320°F to 1000°F (-195°C to 537°C)
<b>PACKING AND BONNET COMBINATIONS</b>	<b>BONNET STYLE</b>	<b>PACKING</b>	<b>TEMPERATURE LIMIT</b>
	Standard Bonnet	Spring Loaded PTFE	-100°F to 450°F (-73°C to 232°C)
		ENVIRO-SEAL®	-50°F to 450°F (-45°C to 232°C)
		Graphite	-100°F to 450°F (-73°C to 232°C)
	Extension Bonnet	Spring Loaded PTFE	-100°F to 450°F (-73°C to 232°C)
		ENVIRO-SEAL®	-50°F to 450°F (-45°C to 232°C)
		Graphite	-320°F to 1000°F (-195°C to 537°C)
	Bellows	NOLEEK™ Bellows	-320°F to 750°F (-195°C to 399°C)
<p>Note A: Temperature limits apply to seating or packing arrangements only.                  Complete valve assembly temperature limits may differ, refer to appropriate pressure/temperature ratings.                  For more information on packing selection, reference Fisher Controls "Sliding-Stem Packing Selection" guidelines                  (Product Bulletin Number 59.1:062).</p>			

**Table 12. ACTUATOR SPECIFICATIONS**

<b>TYPE</b>	32, 54, 70 Multi-Spring Diaphragm (Single Acting)
<b>DIAPHRAGM AREA</b>	32, 54, 70in <sup>2</sup> / 210, 350, 450cm <sup>2</sup>
<b>AIR FAILURE</b>	32 and 54 Fails Open or Fails Closed (Field Reversible) / 70 Fails Closed ONLY
<b>TRAVEL (A)</b>	0.50 or 0.75 inches / 12.7 or 19.1 mm
<b>AMBIENT TEMPERATURE RANGE</b>	-20°F to 160°F / -29°C to 71°C
<b>MAXIMUM AIR PRESSURE</b>	35 psig / 2.41 barg
<b>DIAPHRAGM MATERIAL (B)</b>	NBR (Nitrile) / TPES (Polyester Thermoplastic) Fabric
<b>SPRING CASES</b>	Steel, Powder Epoxy-Coated with Stainless Steel Fasteners
<b>YOKE</b>	Ductile Iron, Powder Epoxy-Coated
<p>NOTES A: Dual stops available on type 32 and 54 ONLY. Not field reversible.                  B: Optional reinforced VMQ diaphragm with FKM (fluorocarbon) O-ring actuator stem seal for high ambient temperature conditions                  (-20°F to 250°F / -29°C to 121°C) is available with type 32 and 54 ONLY.</p>	

BODY PRESSURE-TEMPERATURE RATINGS ASME CLASS 150 VALVES (SOURCE: ASME B16.34)



**BODY PRESSURE-TEMPERATURE RATINGS ASME CLASS 300 VALVES (SOURCE: ASME B16.34)**  
*(DOES NOT APPLY TO 3 inch 24000S valves)*

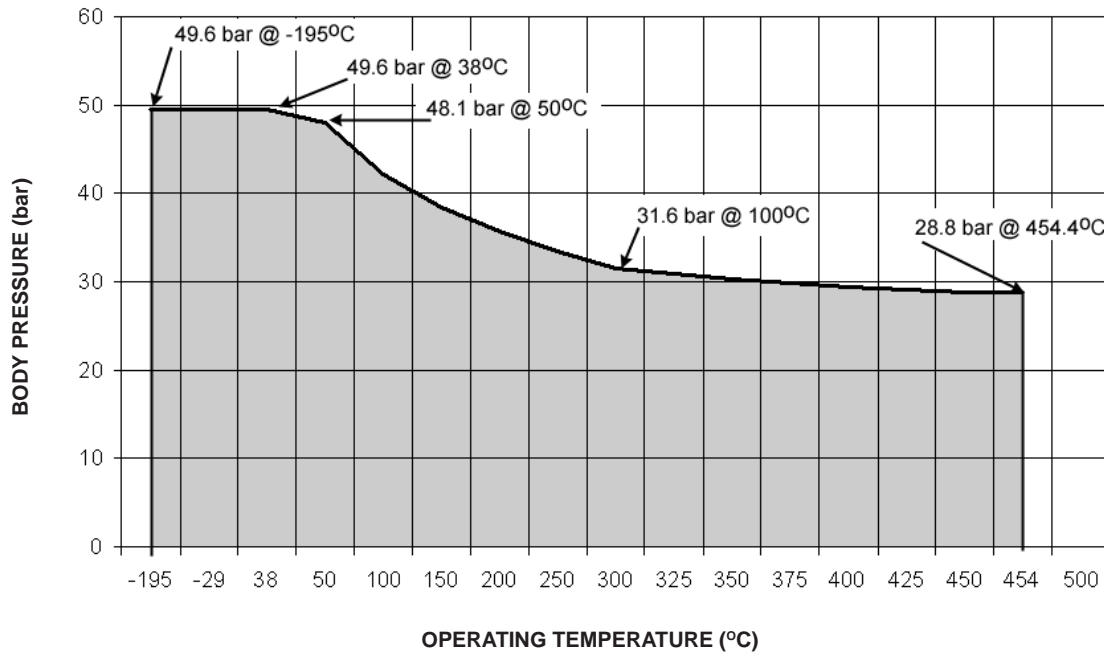
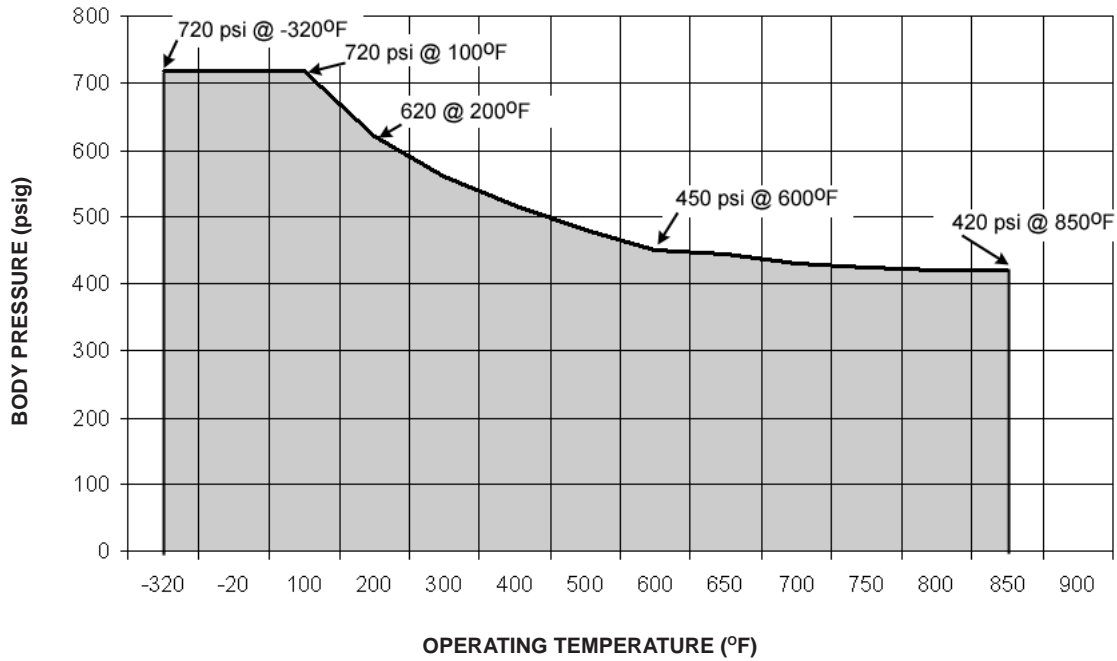


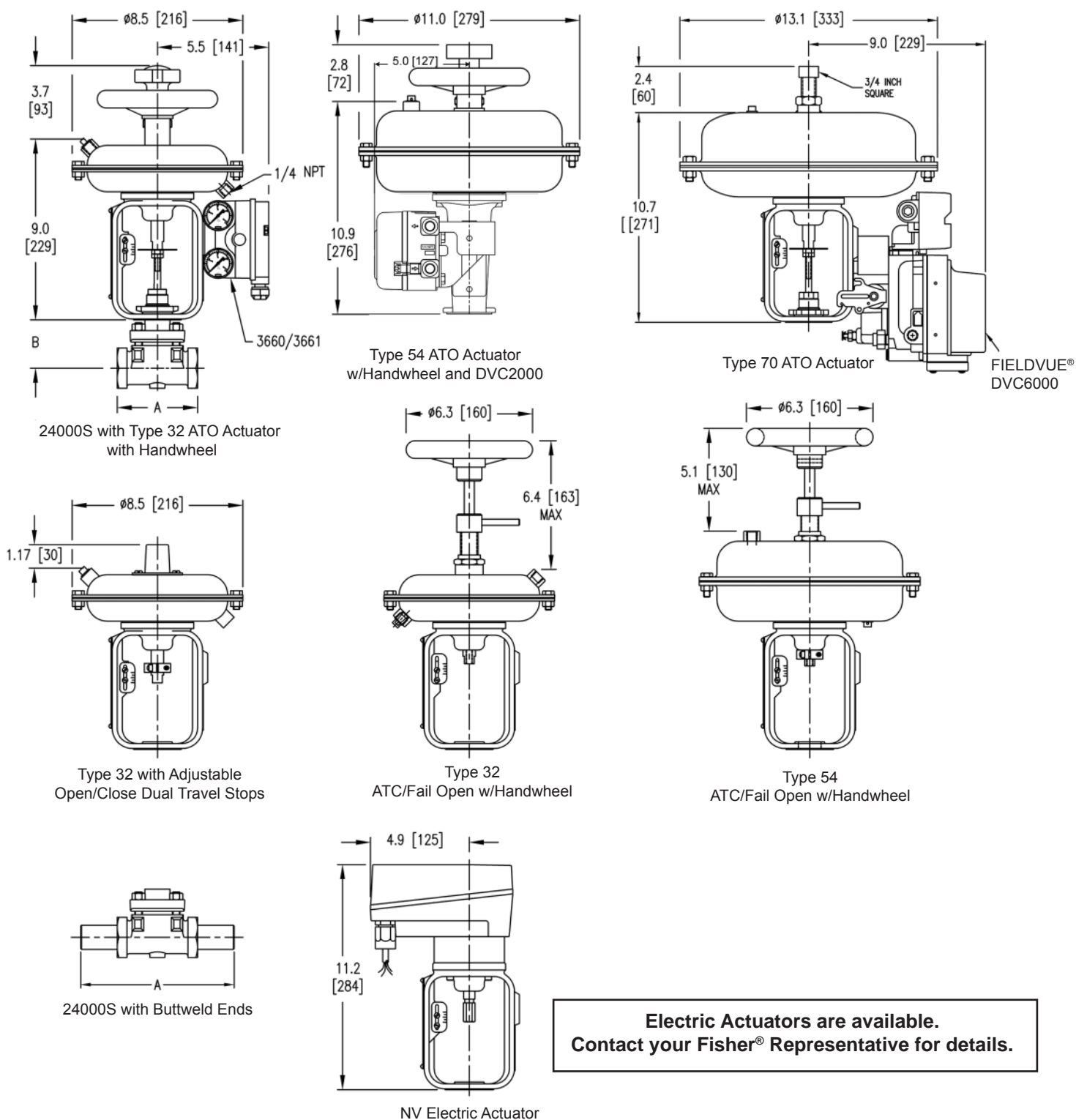
Table 13. ALLOWABLE PRESSURE DROPS (psi)

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 Press.	Max CL VI Shutoff Press.	Max CL IV Shutoff Press.	Max CL VI Shutoff Press.		Max CL IV Shutoff Press.	Max CL VI Shutoff Press.	Max CL IV Shutoff Press.	Max CL VI Shutoff Press.
0.25	0.50	32	5-15	720	---	720	---	3-13	720	---	720	---
0.3125	0.50	32	5-15	---	418	---	720	3-13	---	418	---	720
0.375	0.50	32	5-15	452	278	720	720	3-13	452	278	720	720
0.8125	0.50	32	5-15	113	19	226	132	3-13	113	10	396	301
		32	7-15	226	132	339	245	3-10	283	188	565	471
		54	4-15	86	---	257	162	3-13	171	77	600	505
		54	7-15	343	248	514	419	3-10	428	334	720	720
		54	9-15	514	419	685	591	---	---	---	---	---
1.0625	0.50	32	5-15	68	---	137	62	3-13	68	---	239	165
		32	7-15	137	62	205	130	3-10	171	96	342	267
		54	4-15	52	---	155	81	3-13	104	29	363	288
		54	7-15	207	132	311	236	3-10	259	184	518	443
		54	9-15	311	236	414	340	---	---	---	---	---
1.25	0.75	32	5-15	50	---	101	36	3-13	50	---	176	111
		32	---	---	---	---	---	3-10	126	61	251	187
		54	5-15	76	---	152	88	3-13	76	---	266	202
		54	7-13	152	88	228	164	3-10	190	126	381	316
		54	10-14	266	202	343	278	---	---	---	---	---
		70	10-15	362	297	466	401	---	---	---	---	---
1.5	0.75	32	5-15	35	---	71	16	3-13	35	---	124	69
		32	---	---	---	---	---	3-10	89	34	177	123
		54	5-15	54	---	107	53	3-13	54	---	188	133
		54	7-13	107	53	161	106	3-10	134	80	269	214
		54	10-14	188	133	242	187	---	---	---	---	---
		70	10-15	256	201	329	274	---	---	---	---	---
		70	12-18	---	---	402	347	---	---	---	---	---
2.0	0.75	32	5-15	20	---	41	---	3-13	20	---	71	29
		32	---	---	---	---	---	3-10	51	---	102	60
		54	5-15	31	---	62	20	3-13	31	---	108	66
		54	7-13	62	20	92	51	3-10	77	35	154	112
		54	10-14	108	66	139	97	---	---	---	---	---
		70	10-15	147	105	189	147	---	---	---	---	---
		70	12-18	---	---	230	189	---	---	---	---	---

Table 14. ALLOWABLE PRESSURE DROPS (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 Press.	Max CL VI Shutoff Press.	Max CL IV Shutoff Press.	Max CL VI Shutoff Press.		Max CL IV Shutoff Press.	Max CL VI Shutoff Press.	Max CL IV Shutoff Press.	Max CL VI Shutoff Press.
6.3	12.7	32	0.34-1.0	49.6	---	49.6	---	0.20-0.89	49.6	---	49.6	---
7.9	12.7	32	0.34-1.0	---	28.8	---	49.6	0.20-0.89	---	28.8	---	49.6
9.5	12.7	32	0.34-1.0	31.2	19.2	49.6	49.6	0.20-0.89	31.2	19.2	49.6	49.6
20.6	12.7	32	0.34-1.0	7.79	1.31	15.6	9.10	0.20-0.89	7.79	1.31	27.3	20.8
		32	0.48-1.0	15.6	9.10	23.4	16.9	0.20-0.68	19.5	13.0	39.0	32.5
		54	0.28-1.0	5.93	---	17.7	11.2	0.20-0.89	11.8	5.30	41.4	34.8
		54	0.48-1.0	23.6	17.0	35.4	28.9	0.20-0.68	29.5	23.0	49.6	49.6
		54	0.62-1.0	35.4	28.9	47.2	40.7	---	---	---	---	---
27.0	12.7	32	0.34-1.0	4.19	---	9.45	4.27	0.20-0.89	4.69	---	16.5	11.4
		32	0.48-1.0	9.45	4.27	14.1	8.96	0.20-0.68	11.8	6.62	23.6	18.4
		54	0.28-1.0	3.59	---	10.7	12.5	0.20-0.89	7.17	2.0	25.0	19.9
		54	0.48-1.0	14.3	9.10	21.4	16.3	0.20-0.68	17.9	12.7	35.7	30.5
		54	0.62-1.0	21.4	16.3	28.5	23.4	---	---	---	---	---
31.8	19.1	32	0.34-1.0	3.45	---	6.96	2.48	0.20-0.89	3.45	---	12.1	7.65
		32	---	---	---	---	---	0.20-0.68	8.69	4.20	17.3	12.9
		54	0.34-1.0	5.24	---	10.5	6.07	0.20-0.89	5.24	---	18.3	13.9
		54	0.48-0.89	10.9	6.07	15.7	11.3	0.20-0.68	13.1	8.69	26.3	21.8
		54	0.68-0.96	18.3	13.9	23.6	19.2	---	---	---	---	---
		70	0.68-1.0	24.9	20.5	32.1	27.6	---	---	---	---	---
38.1	19.1	32	0.34-1.0	2.14	---	4.89	1.10	0.20-0.89	2.41	---	8.55	4.76
		32	---	---	---	---	---	0.20-0.68	6.13	2.34	12.2	8.48
		54	0.34-1.0	3.72	---	7.38	3.65	0.20-0.89	3.72	---	19.9	9.17
		54	0.48-0.89	7.38	3.65	11.1	7.31	0.20-0.68	9.24	5.52	18.5	14.8
		54	0.68-0.96	12.9	9.17	16.7	12.9	---	---	---	---	---
		70	0.68-1.0	17.7	13.9	22.7	18.9	---	---	---	---	---
		70	0.82-1.24	---	---	27.7	23.9	---	---	---	---	---
50.8	19.1	32	0.34-1.0	1.38	---	2.83	---	0.20-0.89	1.38	---	4.89	2.0
		32	---	---	---	---	---	0.20-0.68	3.52	---	7.03	4.14
		54	0.34-1.0	2.14	---	4.27	1.38	0.20-0.89	2.14	---	7.44	4.55
		54	0.48-0.89	4.27	1.38	6.34	3.52	0.20-0.68	5.31	2.41	10.6	7.72
		54	0.68-0.96	7.45	4.55	9.58	6.69	---	---	---	---	---
		70	0.68-1.0	10.1	7.24	13.0	8.07	---	---	---	---	---
		70	0.82-1.24	---	---	15.9	13.0	---	---	---	---	---

# Baumann™ 24000S Stainless Steel



**Electric Actuators are available. Contact your Fisher® Representative for details.**

Figure 13. DIMENSIONS - inches [millimeters]

NOTES A: Actuator removal requires 4.5 in ( 115 mm) vertical clearance.

B: **WARNING:** To avoid property damage or personal injury, you must use an actuator support when purchasing an actuator with FIELDVUE® Digital Valve Controller and mounting horizontally..

Table 15. DIMENSIONS

VALVE SIZE		ANSI	A						B									
			NPT		WAFER		BUTTWELD (Sched 40)		STANDARD		EXTENSION BONNET						NOLEEK™ BELLOWS	
			in	mm	in	mm	in	mm			Single		Double		Triple			
in	DN	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	
0.5	15	300	3.1	7.9	N/A	N/A	14.38	365	3.1	78.7	8.4	213.4	13.8	351	19.2	488	8.97	227.8
1.0	25	300	4.0	102	4.0	102	15.00	381	3.1	78.7	8.5	215.9	13.8	351	19.2	488	8.97	227.8
1.5	40	300	4.5	114	4.5	114	15.25	387	3.5	88.9	8.9	226	14.3	363	19.6	498	9.28	235.7
2.0	50	300	4.9	124	4.9	124	15.50	394	3.3	83.8	8.7	221	14	356	19.4	493	9.23	234.4
3.0	80	150	N/A	N/A	6.5	165	13.25	337	3.8	96.5	9.2	234	14.6	371	20	508	9.28	235.7

Table 16. VALVE ASSEMBLY WEIGHTS

VALVE SIZE		WEIGHTS	
in	DN	lbs	kg
0.5	15	5	2.3
1.0	25	6	2.7
1.5	40	9	4.1
2.0	50	11	5.0
3.0	80	20	9.1

Table 17. ACTUATOR WEIGHTS

ACTUATOR TYPE	WEIGHTS	
	lbs	kg
32	10	4.5
54	25	11.3
70	34	15.4
MV1020*	22	10
VA1020*	30	14
NV24-MFT (non spring return)*	3.3	1.5
NVF24-MFT or NVF24-MFT-E (spring return)*	4	1.8

\*Electric Actuators, reference electric actuator bulletins for more details.

Table 18. 24000S WAFER STYLE

The 24000S is available as NPT and wafer style (fits between RF line flanges). Not all sizes available as wafer. Table below outlines available constructions.

VALVE SIZE	1/2 in / DN 15	1 in / DN 25	1-1/2 in / DN 40	2 in / DN 50	3 in / DN 80
ANSI FLANGE	None	150 or 300	150 or 300	150	150
DN FLANGE	None	PN 16	PN 16	PN 16	PN 16
NPT	Yes	Yes	Yes	Yes	None

Table 19. MODEL NUMBERING SYSTEM

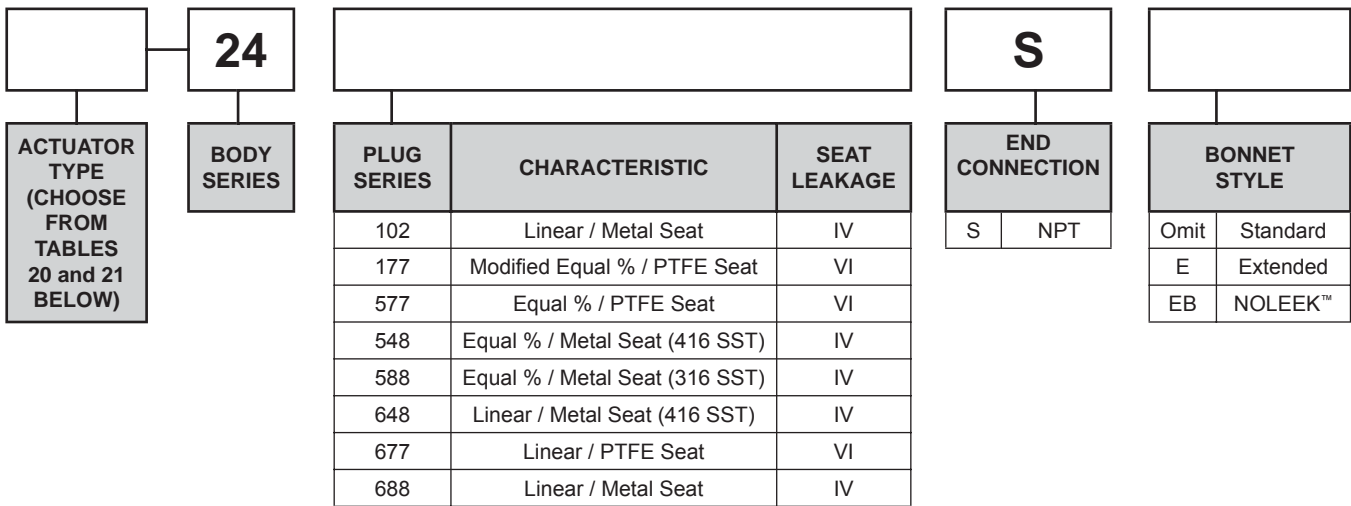


Table 20. PNEUMATIC ACTUATORS

ACTUATOR TYPE
32
54
70

Table 21. ELECTRIC ACTUATORS  
(refer to Electric Actuator Bulletins )

ACTUATOR TYPE	TRAVEL
MV1020	N/A
VA1020	N/A
NV <sup>(1)</sup>	50
NVF <sup>(2)</sup>	75
NVFE <sup>(3)</sup>	

<sup>(1)</sup>NV24-MFT = Non Spring Return  
<sup>(2)</sup>NVF24-MFT = Spring Return-Fail Open  
<sup>(3)</sup>NVF24-MFT-E = Spring Return-Fail Closed

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