

Fisher™ Baumann™ 24000C Carbon Steel

Control Valve



Fisher Baumann 24000C industrial control valves are intended for general utility service in pressure, flow and temperature control applications. This compact carbon steel control valve is positioned to take advantage of the trend toward industrial grade requirements spanning general utility and special applications. These control valves exhibit low hysteresis and deadband, good control characteristics, tight shutoff, rugged construction, high performance packing and easy maintainability. These attributes translate into reduced maintenance costs, reduced process variability and increased process availability, resulting in lower long-term operating costs.

Features

- Compact and light weight design reduces installed piping costs
- ASME and EN end connections are available to meet your piping standards
- High quality type 316 austenitic stainless steel trim materials
- 416 stainless steel trim available
- Dual plug and stem guiding provides increased stability during plug travel
- Multiple trim capacity reductions available to meet changing process requirements
- Fisher FIELDVUE™ digital valve controller available for remote calibration and diagnostics

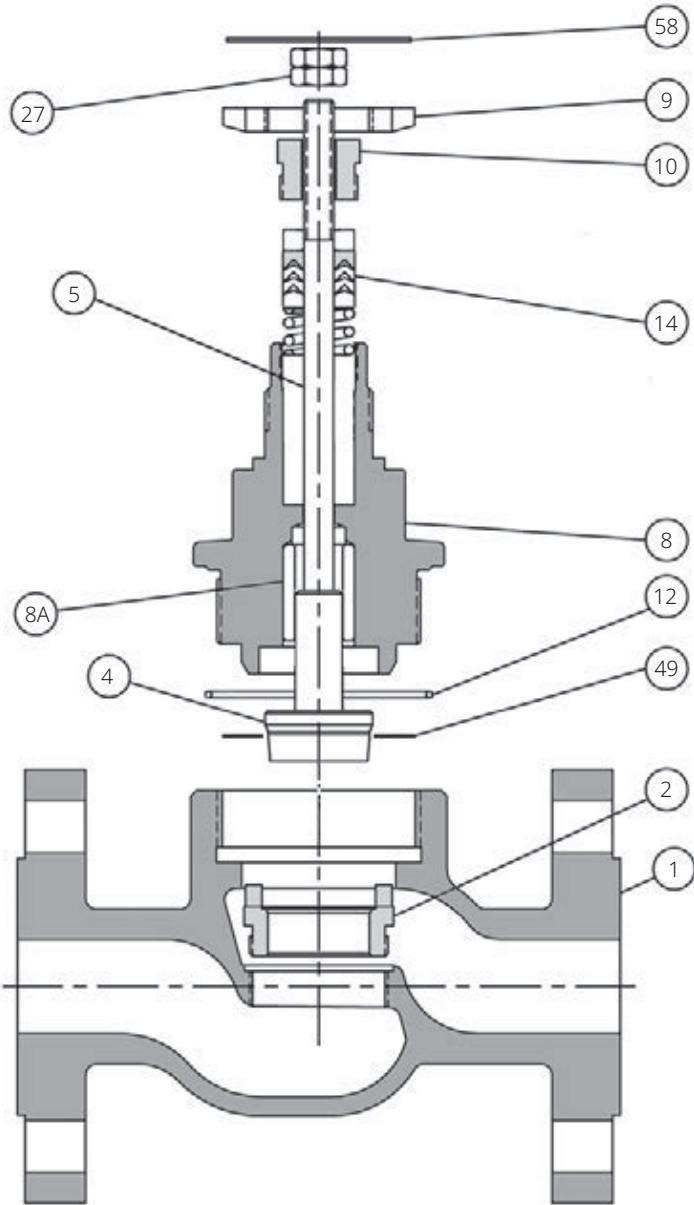
Figure 1. Fisher Baumann 24000C Carbon Steel Control Valve



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24000C CONTROL VALVE WITH 32 ACTUATOR

Figure 2. 24000C Valve Body Assembly with Standard PTFE Spring-Loaded Packing

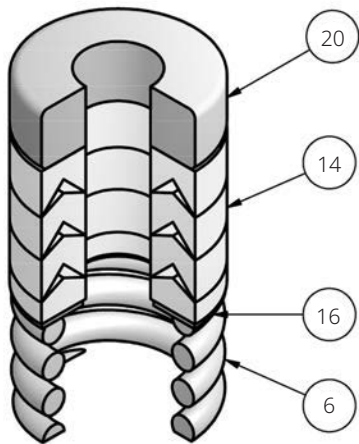


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Table 1. Materials of Construction

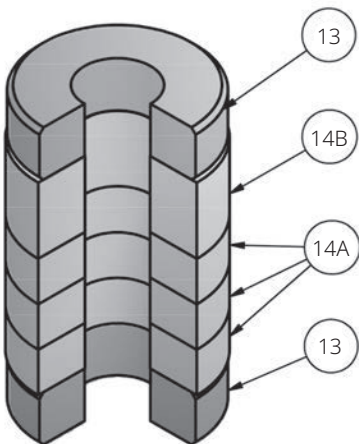
KEY NO.	DESCRIPTION		MATERIAL
1	Valve body		Carbon steel
2	Seat ring	Standard	ASTM A276 S31600 / S31603 dual certified
		Optional	ASTM A582 S41600 Condition T
4	Plug (Metal seat) $C_v < 2.5$	Standard	ASME SA479 S21800 annealed
		Optional	ASTM A582 S41600 Condition T
	Plug (Metal seat) $C_v > 4.0$	Standard	ASTM A276 S31600 / S31603 dual certified
		Optional	ASTM A582 S41600 Condition T
	Plug (Soft seat)		ASTM A276 S31600 / S31603 with PTFE (Polytetrafluoroethylene) insert
5	Stem		ASTM A276 S31600 Condition A
8	Bonnet		Carbon steel
8A	Bonnet bushing		ASTM A276 S44004, HT 56-60 HRC or ASTM A311 Class B stressproof 62 to 65 HRC
9	Drive nut (Yoke)		S30400
10	Packing follower		ASTM A276 S31600 / S31603 dual certified
12	O-ring		FKM (Fluorocarbon)
14	Packing	Standard	Refer to Figure 3, Table 2
		Optional	Refer to Figure 4, Table 3
27	Locknuts		Stainless steel
49	Body gasket	Standard	Annealed soft copper
		Optional	Graphite Grade GHR with Stainless steel insert
58	Travel indicator		ASME SA240 S30400

Figure 3. Standard Spring Loaded PTFE V-Ring Packing Kit



E1240

Figure 4. Molded Graphite (Flexible Graphite) Packing Kit (Optional)



E1241

Table 2. Standard Spring Loaded PTFE V-Ring Packing Kit

KEY NO.	DESCRIPTION	MATERIAL
6	Spring	ASTM A313 S30200
14	Packing set	PTFE (Polytetrafluoroethylene) / 25% carbon filled PTFE
16	Washer	ASME SA240 S31600
20	Spacer	J-2000 (filled Polytetrafluoroethylene)

Table 3. Molded Graphite (Flexible Graphite) Packing Kit (Optional)

KEY NO.	DESCRIPTION	MATERIAL
13	Bushings	Carbon-Graphite
14A	Packing rings	Graphite
14B	Packing ring	Graphite

Table 4. C_V Values at 100% Plug Opening ($K_V = 0.86 \times C_V$)⁽¹⁾

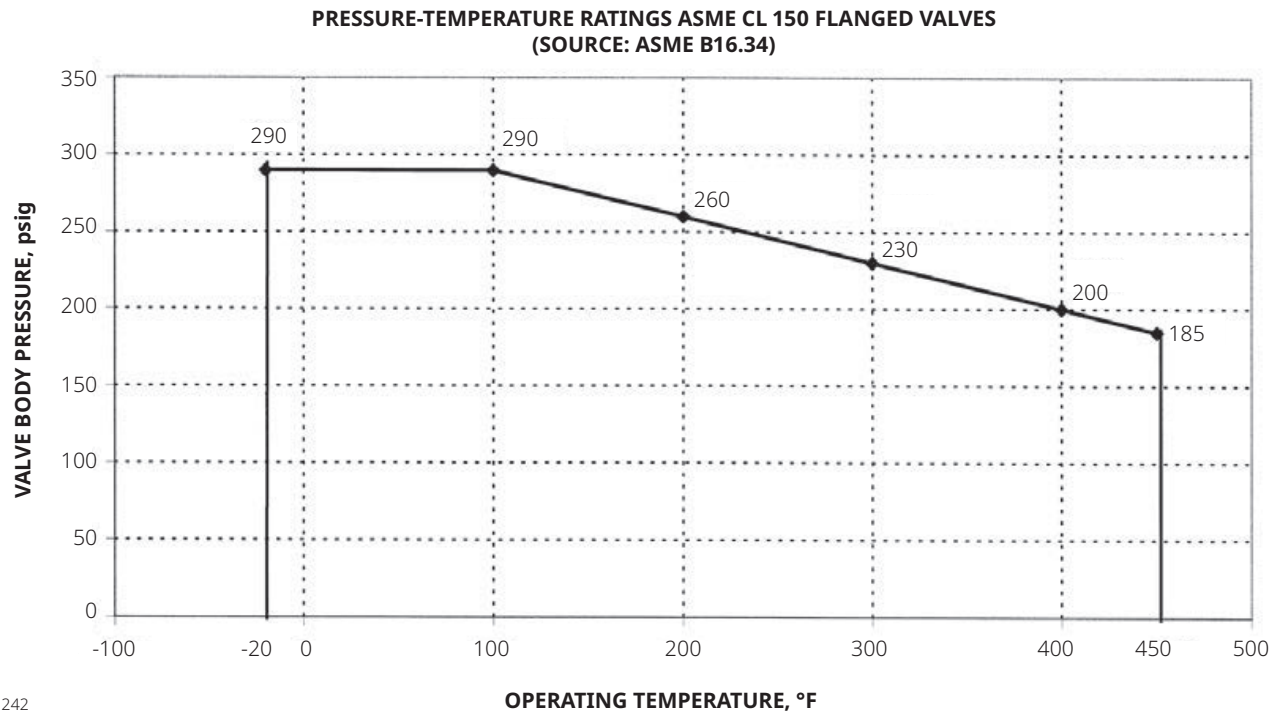
VALVE SIZE	ORIFICE DIAMETER	PLUG TRAVEL	PLUG SERIES				
			102	577	548 / 588	677	648 / 688
NPS	in.	in.	C_V	C_V	C_V	C_V	C_V
1/2	0.25	0.50	0.02, 0.05, 0.10, 0.20	---	0.20, 0.50, 1.0	---	0.50, 1.0
	0.375	0.50	---	1.0, 1.5, 2.5	1.5, 2.5	0.10, 0.20, 0.50, 1.0, 2.5	1.5, 2.5
	0.8125	0.50	---	4, 6	4, 7.7	5	4, 6
3/4	0.25	0.50	0.02, 0.05, 0.10, 0.20	---	0.20, 0.50, 1.0	---	0.5, 1.0
	0.375	0.50	---	1.0, 1.5, 2.5	1.5, 2.5	0.10, 0.20, 0.50, 1.0, 2.5	1.5, 2.5
	0.8125	0.5	---	4, 7.5	4, 10.1	5	4, 8
1	0.25	0.50	0.02, 0.05, 0.10, 0.20	---	0.20, 0.50, 1.0	---	0.5, 1.0
	0.375	0.50	---	1.0, 1.5, 2.5	1.5, 2.5	0.10, 0.20, 0.5, 1.0, 2.5	1.5, 2.5
	0.8125	0.5	---	4, 8.5	4, 10.1	5	4, 9
	1.0625	0.5	---	13	13.6	---	13
1-1/2	1.25	0.75	---	20	10, 20	20	10, 20
	1.5	0.75	---	10, 17, 28	10, 17, 32.9	10, 17	10, 17, 28
2	1.5	0.75	---	10, 17, 28	10, 17, 32.9	10, 17	10, 17, 28
	2.0	0.75	---	30	30, 52.9	30, 50	30, 50

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

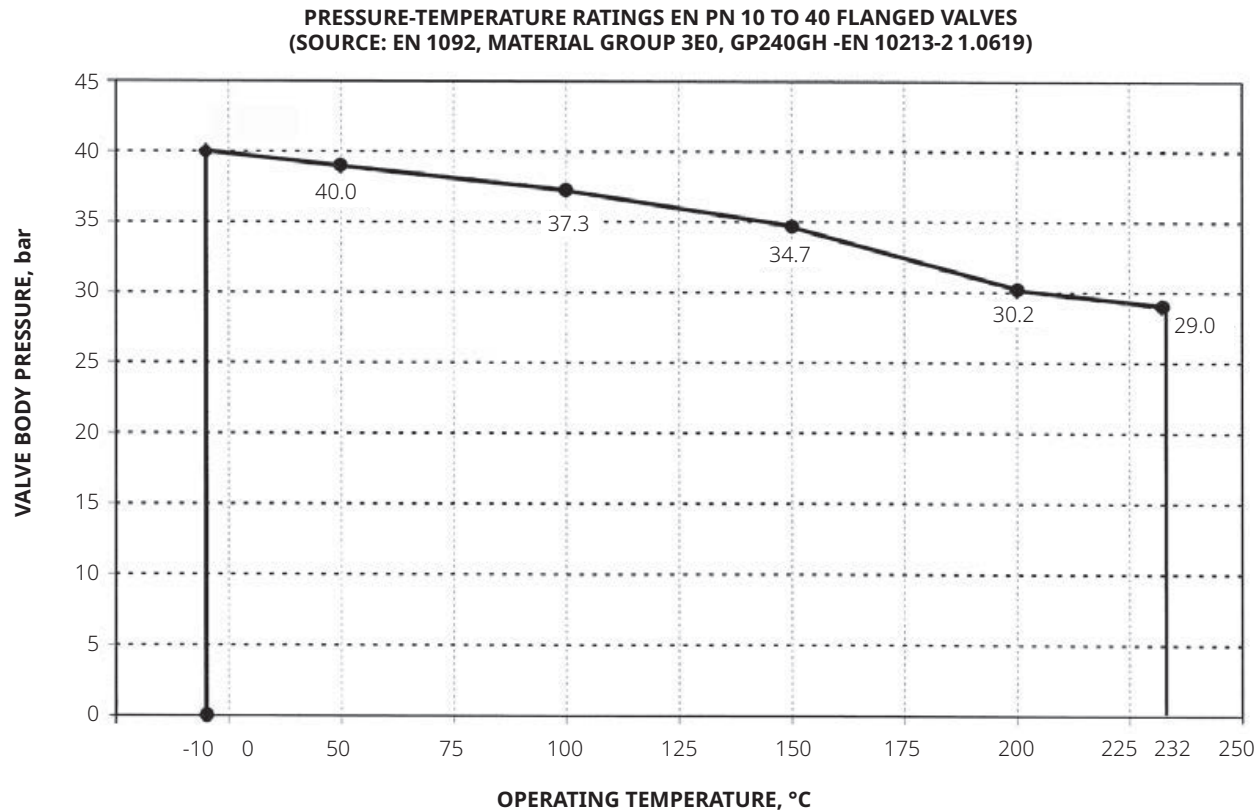
Table 5. Technical Specifications

VALVE TYPE	EN	ASME
NOMINAL SIZE	DN 15, 20, 25, 40 and 50	NPS 1/2, 3/4, 1, 1-1/2 and 2
END CONNECTIONS	Mates with PN 10 to 40 Flanges per EN 1092-1	Mates with ASME CL150 RF Flanges per ASME B16.5
PRESSURE RATING	PN 40 per EN 1092-2	ASME CL150 per ASME B16.34
SEAT PLUG SEALING	Metal-to-Metal or PTFE Soft Seat	Metal-to-Metal or PTFE Soft Seat
FLANGE FINISH	EN 500 to 300 Ra circular lay	ASME 250 to 125 Ra circular lay
FACE-TO-FACE DIMENSIONS	Consistent with EN 558-1	Consistent with EN 588-2 (same as ISA S75.03)
CHARACTERISTIC	Equal Percentage or Linear	Equal Percentage or Linear
TEMPERATURE LIMITS	-29 to +232°C / -20 to +450°F	-29 to +232°C / -20 to +450°F
ACTUATOR	See 16, 32, 54 and 70 Pneumatic Actuators Bulletin (D104175X012).	

Figure 5. Pressure-Temperature Ratings



E1242



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Table 6. Valve Dimensions

VALVE SIZE		A FACE-TO-FACE				B BONNET	
EN	ASME	EN 10 to 40		CL 150			
DN	NPS	mm	in.	mm	in.	in.	mm
15	1/2	130	5.1	184	7.25	3.2	80
20	3/4	150	5.9	184	7.25	3.2	80
25	1	160	6.3	184	7.25	3.3	83
40	1-1/2	200	7.9	222	8.75	3.9	99
50	2	230	9.1	254	10.00	4.2	107

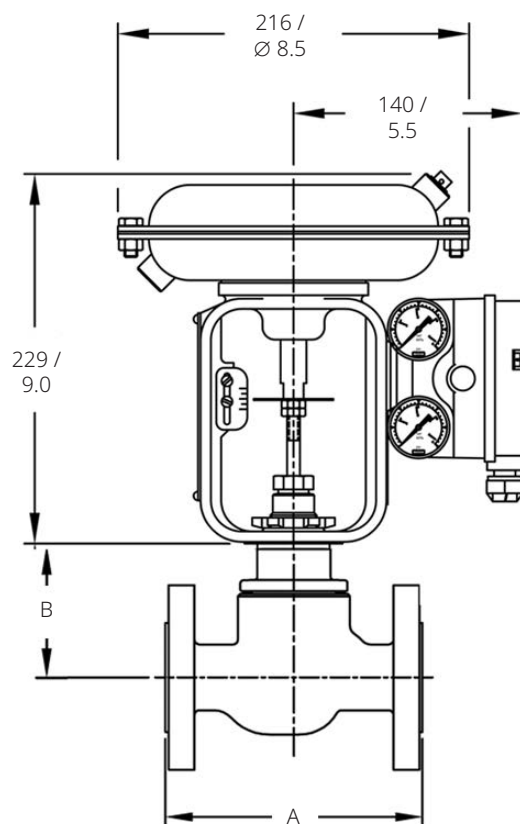
Table 7. Valve Assembly Weights

VALVE SIZE		WEIGHTS	
EN	ASME		
DN	NPS	kg	lb
15	1/2	3.9	9
20	3/4	4.8	11
25	1	6.4	14
40	1-1/2	10	22
50	2	15	33

Table 8. Actuator Weights

ACTUATOR TYPE	WEIGHTS	
	kg	lb
MV1020	10	22
VA1020	13.6	30
SVX24-MFT	See Baumann SV Electric Actuator Bulletin (D104169X012)	
SVK24-MFT		

Figure 6. Dimensional Drawing

**24000C WITH 32 ACTUATOR AND
FISHER 3660/3661 POSITIONER**

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NOTE: ACTUATOR REMOVAL REQUIRES 115 mm / 4.5 in. VERTICAL CLEARANCE.

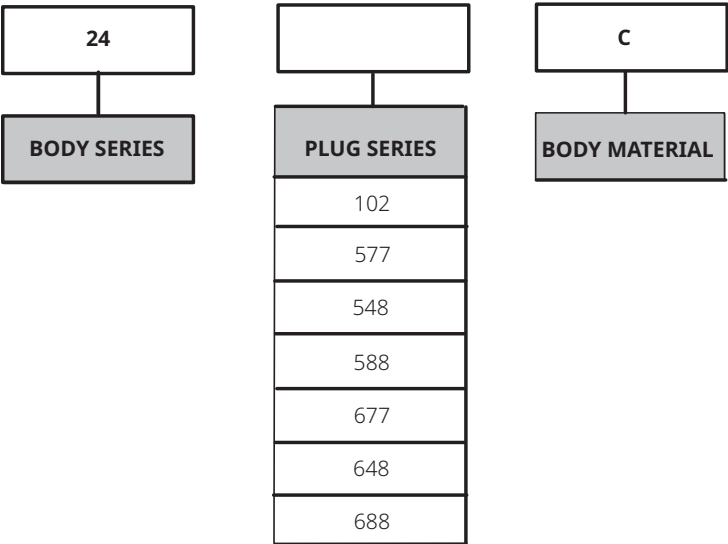
Table 9. Electric Actuators

ACTUATOR TYPE
CML-250
CML-750
SVX24-MFT
SVK24-MFT

Table 10. 24000C Valve Model Numbering System

MODEL	PLUG SERIES	CHARACTERISTIC	SEAT LEAKAGE	VALVE BODY MATERIAL	
24	102	Linear / Metal Seat	IV	C	Carbon Steel
	577	Equal % / PTFE Seat	VI		
	548	Equal % / Metal Seat (S41600)	IV		
	588	Equal % / Metal Seat (S31600)	IV		
	677	Linear / PTFE Seat	VI		
	648	Linear / Metal Seat (S41600)	IV		
	688	Linear / Metal Seat (S41600)	IV		

Figure 7. 24000C Valve Model Nameplate Example



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