

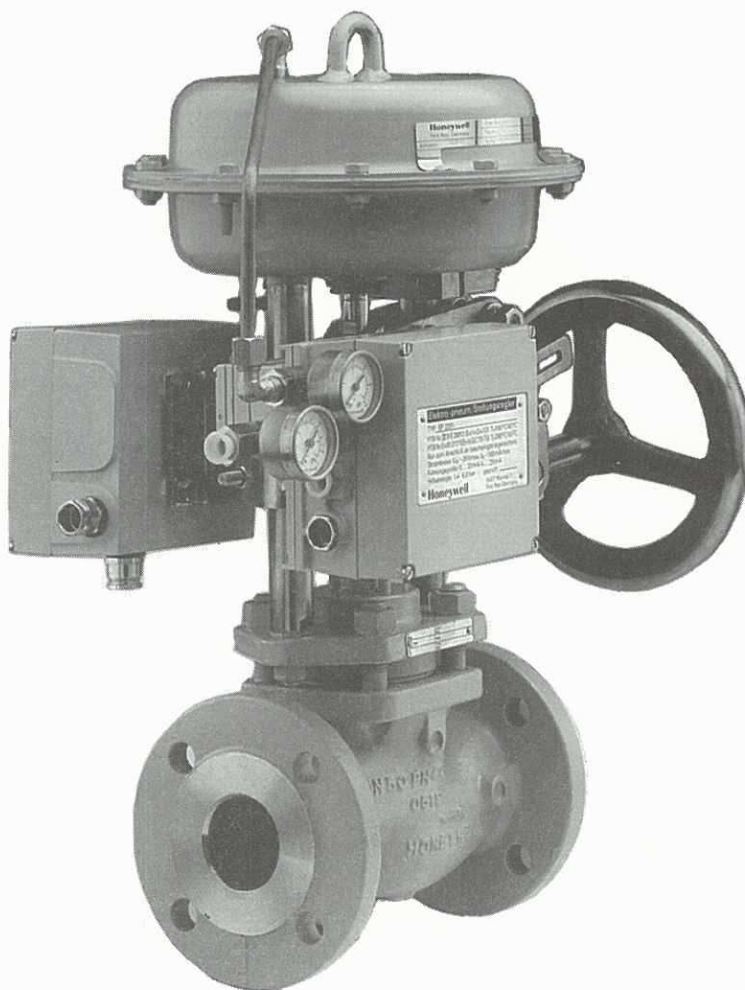
Series 2000 Top guided control valve

Specification

Series 2000 comprises a range of single seated, straight through top guided globe valves. Suitable for a wide variety of applications, they offer significant cost/benefit advantages compared to traditional designs. Like all Honeywell valves, the Series 2000 range is backed by the resources of a major instrumentation company.

Features

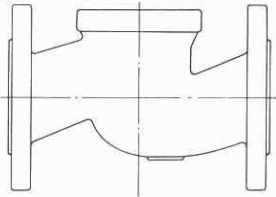
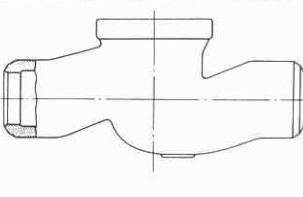
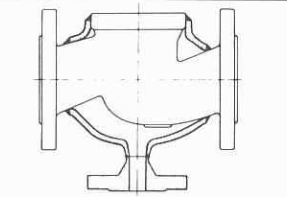
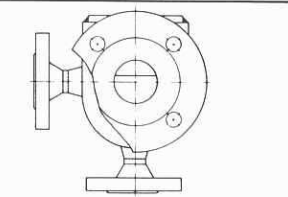
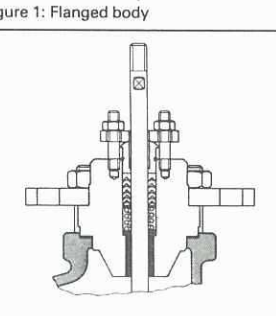
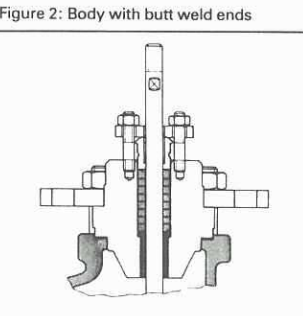
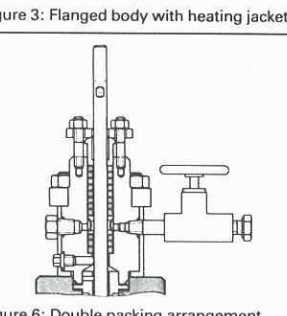
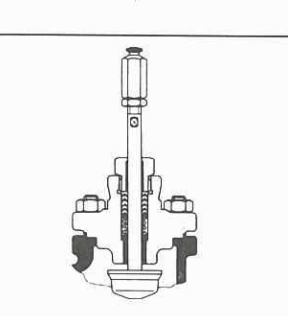
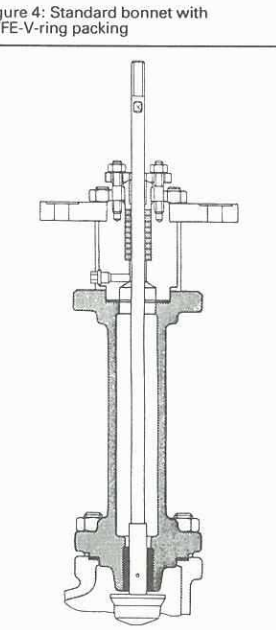
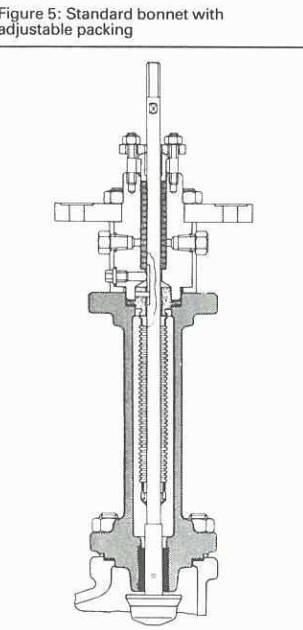
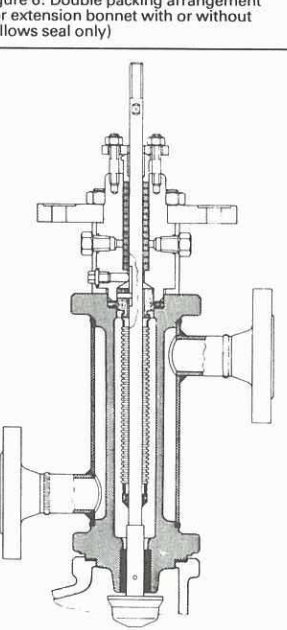
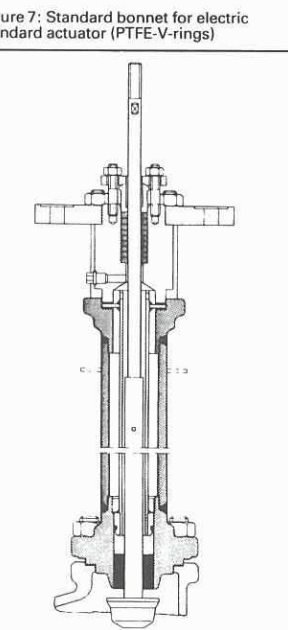
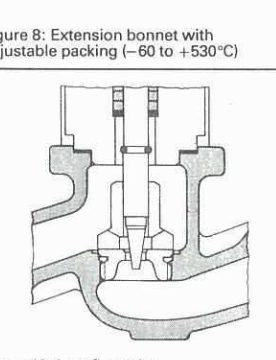
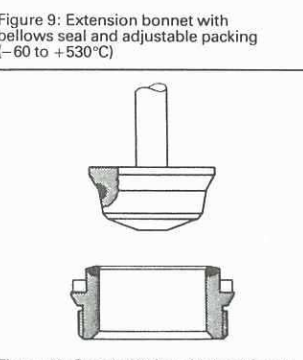
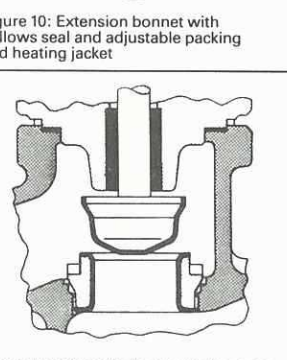
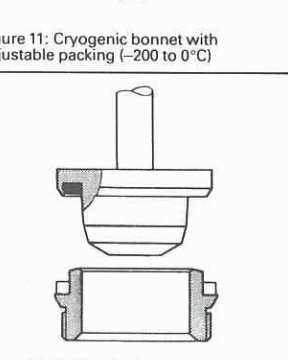
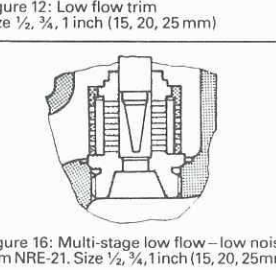
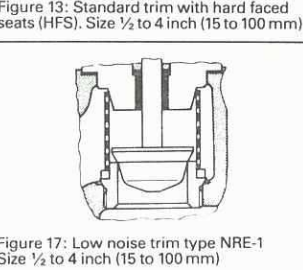
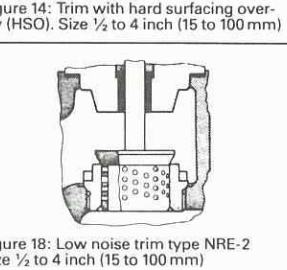
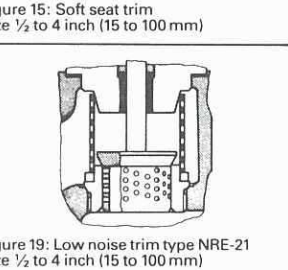
- Advanced engineering
- Proven design
- Compact
- Low noise trims
- ANSI and DIN body patterns
- Full accessory range



Specifications

Style	Top entry single seated straight through globe															
Size	mm	15	20	25	32	40	50	65	80	100	125	150	200	250	300	
	inch	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10	12	
Pressure ratings	Cast iron: PN 16															
	Steel: ANSI 300 and PN 40															
	Heating jacket for steel valves: ANSI 150 and PN 25 for the sizes 15 to 150 (1/2 to 6 inch)															
End connections	Cast iron flanged PN 16	Raised face (RF)														
	Steel flanged ANSI 300	Raised face (RF) Raised face with small groove Raised face with groove for ring type joint (RTJ) Raised face, flange holes drilled according to ANSI 150 RF, small groove, flanges drilled according to ANSI 150														
	Steel flanged PN 40	Raised face (RF) Raised face with groove according to DIN 2512 Raised face, flange holes drilled to PN 16 RF, groove according to DIN 2512, flanges drilled according to PN 16														
	Stell but weld ends	According to ANSI B 16.5, Schedule 40 According to DIN 3239														
Bonnet and Packing	Bonnet type	Packing type	Process temperature (Recommended temperature limits)													
			Degress F							Degress C						
	Standard	PTFE-V-Ring	+ 15 to + 485							- 10 to + 250						
		PTFE Silk	+ 15 ... + 536							- 10 ... + 280						
		Graphite	+ 390 to + 1000							+ 200 to + 530						
	Extension	PTFE-V-Ring	- 75 to + 660							- 60 to + 350						
		PTFE Silk	+ 15 ... + 536							- 10 ... + 280						
		Graphite	+ 390 ... + 1000							+ 200 ... + 530						
	Bellows seal	Same as extension bonnet	Same as extension bonnet													
	Cryogenic	PTFE-V-Ring	- 330 to + 32							- 200 to 0						
		PTFE Silk	+ 15 ... + 536							- 10 ... + 280						
Flow direction	Liquids	Standard trims: FTO; Low noise trims: NRE-2 FTO, NRE-21 FTO														FTO = Flow to open
	Gas/steam	Standard trims: FTO; Low noise trims: NRE-1, NRE-2 and NRE-21 FTO														FTC = Flow to close
Characteristics	Linear, equal percentage, quick opening															
Flow coefficients	See page "Flow coefficients" in this specification															
Rangeability	50 : 1															
Leakage rates	Trim description	Leakage class according to ANSI B 16. 104	Approximate % of rated Cv.	Trim type		Pressure balanced		Valve size mm								
				Metal seat	Soft seat	With-out	With									
	Standard	II	0.5	■			■	125 ÷ 300								
	Standard	IV	0.01	■			■	15 ÷ 150								
	Standard	IV a	0.05	■			■	200 ÷ 300								
	Standard	Va	0.001		■		■	15 ÷ 300								
	Special	Va	0.001	■			■	15 ÷ 150								
	Special	Vla	0.0001	■	■		■	15 ÷ 150								
Trim types	Single seat	Standard	Plug with metal seat or soft seat (linear, equal percentage and quick opening)													
		Pressure balanced	Plug with metal seat and metal piston ring (linear, equal percentage and quick opening)													
	Low noise		Type NRE-1: Contoured plug with baffle (metal seat, linear, equal percentage) Type NRE-2: Multihole plug (metal seat, linear, equal percentage) Type NRE-21: Multihole plug with baffle (metal seat, linear, equal percentage)													
Temperature limits vs body material		Cast iron	Carbon steel	LT carbon steel	HT chrome-moly steel	316 stainless steel	LT stainless steel									
	Degrees F	- 15 to + 570	- 15 to + 825	- 50 to + 840	- 15 to + 1000	- 150 to + 840	- 320 to 840									
	Degrees C	- 10 to + 300	- 10 to + 450	- 45 to + 450	- 10 to + 530	- 100 to + 450	- 196 to + 450									
Noise level	See brochure "Control Valve Noise Prediction."															
Pneum. actuators	See specification sheet 62 - 86 - 03 - 10															

Specifications

**Specifications
for Size DN 125 and DN 150**

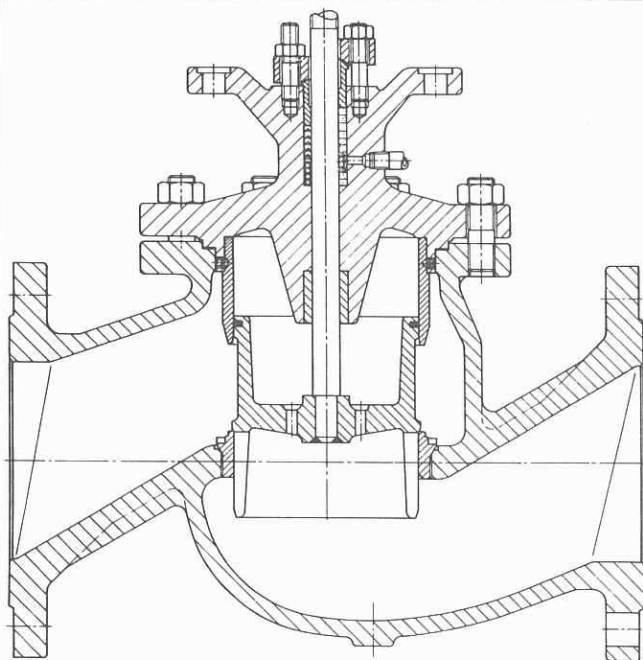


Figure 20: Pressure balanced trim: Size DN 125 to 150

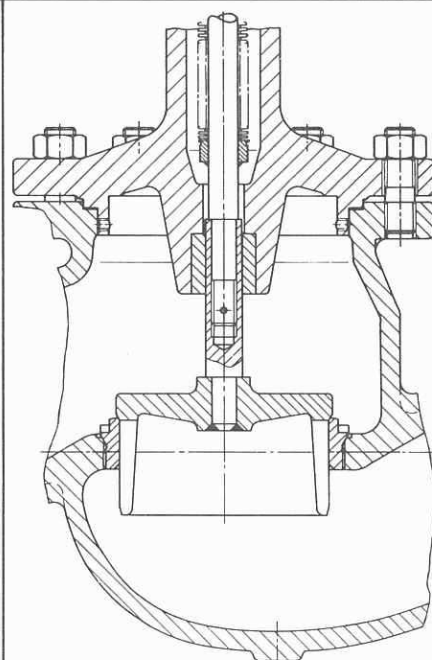


Figure 21: Single seated trim

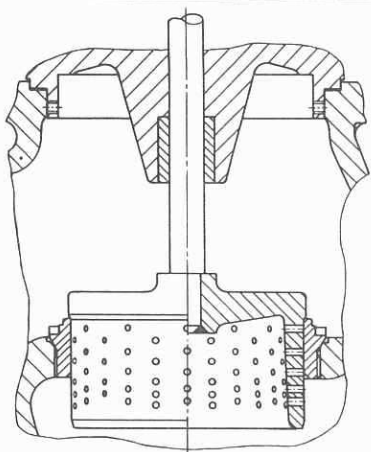


Figure 22: Single seated trim type NRE-2

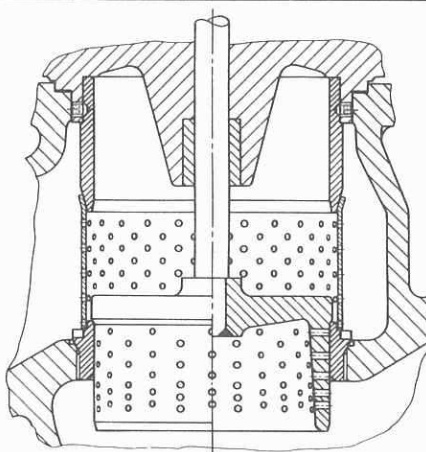


Figure 23: Single seated trim type NRE-21

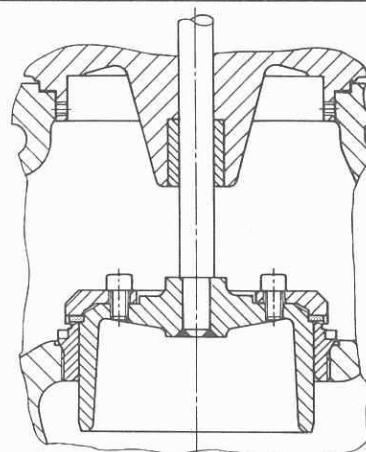


Figure 24: On-off, soft seat trim

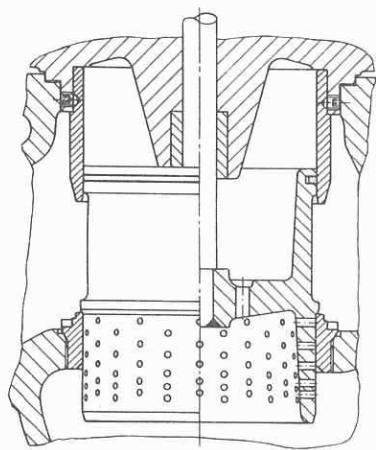


Figure 25: Pressure balanced trim type NRE-2

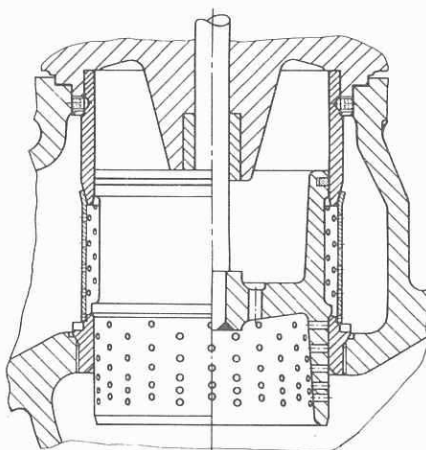


Figure 26: Pressure balanced trim type NRE-21

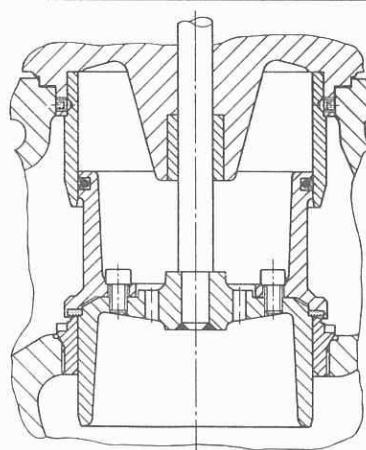


Figure 27: On-off with soft seat, pressure balanced trim

Specifications

for Size DN 200 ... DN 300

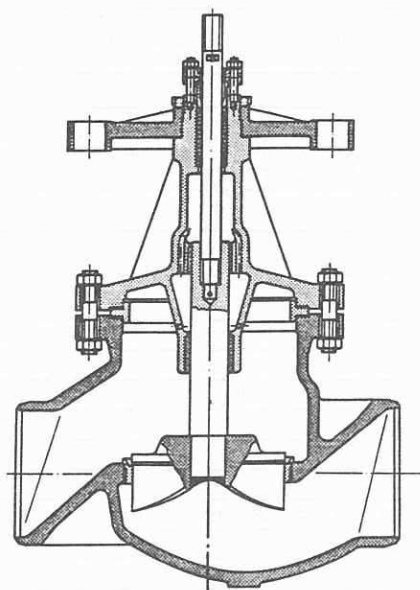


Figure 28: Globevalve DN200 with weldends, standard bonnet, V-Port plug, single seat

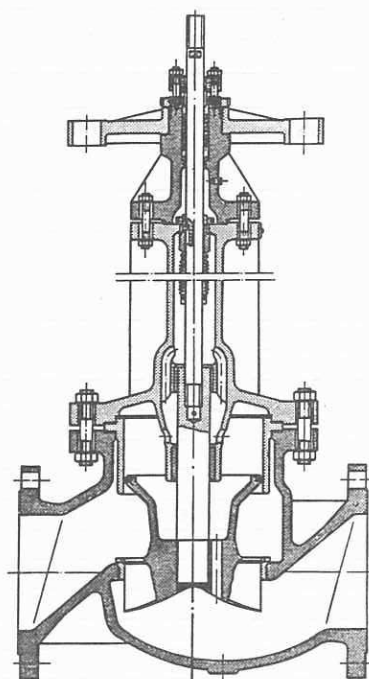


Figure 29: Globevalve, DN 200, flanged RF, bellows seal bonnet, V-Port plug, pressure balanced

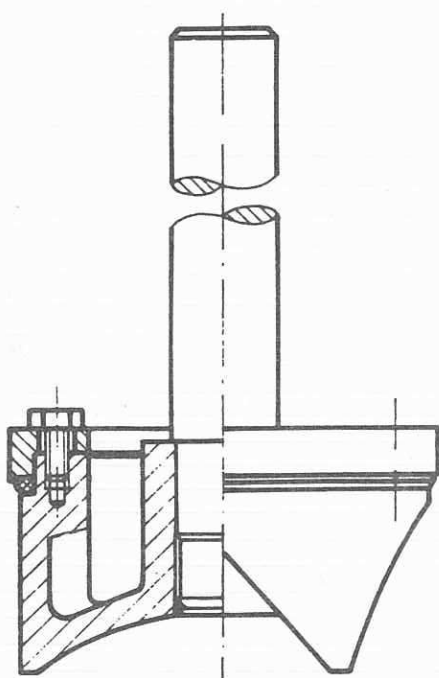


Figure 30: Plug with soft seat

Materials of construction (other materials on request)

Body and bonnet		Material description		Material no. acc. to DIN 17007		Equivalent ASTM specification		
		Cast iron		0.6025		A-126B		
		Carbon steel		1.0619		A-216 WCB		
		Low temperature carbon steel		1.1138		A-352 LCB		
		High temperature chrome-moly steel		1.7357		A-217 WC6		
		Stainless steel		1.4581		A-351 CF8M		
		Low temperature stainless steel		1.4308/1.6902		A-351 CF8		
Trim	Trim type	Code	Plug (6) ¹⁾	Seat ring (5)	Stem (6)	Guide bushing (7)	Baffle	
	Plug metal seat (MS)	K1	316	316	316	316 HST		
		K2	316 HFS	316 HFS	316	316 HST		
		K3	316 HSO	316 HFS/HSO	316	316 HST		
¹⁾ Basic material for the plug on 5...12 inch 125 to 300 mm size valves is 1.4581 stainless steel	Low flow trim (MS)	K7	316	316	316			
		K8	Alloy 6	Alloy 6	316			
	Low noise trim (MS) type NRE-1	K9	316	316	316	316 HST	316	
		K10	316 HFS	316 HFS	316	316 HST	316	
	Low noise trim (MS) type NRE-2	K12	316	316 HST	316	316 HST		
		K13	316 HFS	316 HFS/HST	316	316 HST		
	Low noise trim (MS) type NRE-21	K14	316	316 HST	316	316 HST	316	
		K15	316 HFS	316 HFS/HST	316	316 HST	316	
	Low flow trim (MS) type NRE-2	K16	316	316 HST	316			
		K17	Alloy 6	316/Alloy 6	316			
	Low flow trim (MS) type NRE-21	K18	316	316	316		316	
		K19	Alloy 6	316/Alloy 6	316		316	
	Soft seat trim	K20	316+PTFE GR	316	316		316 HST	
	Other parts	Part description	Part no.	Body/bonnet material				
	For detailed information see 'Parts list'			Cl and CS	LT CS	HT Cr/Mo	SS	LT SS
		Bonnet studs	24	Steel ZP	B7	B16	316	B8S
		Bonnet nuts	23	Steel ZP	316	316	316	8S
Packing studs		22	316	316	316	316	316	
Packing nuts		21	316	316	316	316	316	
Packing follower		10	316	316	316	316	316	
Packing flange		9	Steel ZP	Steel ZP	Steel ZP	316	316	
Gland ring		19	316	316	316	316	316	
Packing spring/ring		12/13	316	316	316	316	316	
Traverse*		3	Steel ZP	Steel ZP	Steel ZP	Steel ZP	Steel ZP	
Bonnet drain plug		27	316	316	316	316	316	
Bellows and stem		8	321	321	321	321	321	
Gasket		15	SiI C 4400	SiI C 4400	1.4001+ Graphite	1.4401+ Graphite	1.4401+ Graphite	
Nameplate		17	316	316	316	316	316	
Recommended temperature limits for trims	Trim code	Process temperature						
		Degrees F		Degrees C				
	1, 2, 3, 7, 8, 9, 10, 12, 13, 14, 15, 16, 18	-330 to +750		-200 to +400				
	17, 19	-150 to +1000		-100 to +530				
	20	-150 to +390		-100 to +200				

Notes:

HFS=Hard Faced Seats
HSO=Hard Surfacing Overlay
HST=Hard Surfacing Treatment
CP=Chromium Plated
ZP=Zinc Plated
GR=Glass Reinforced
Cl=Cast Iron
CS=Carbon Steel
SS=Stainless Steel
LT=Low Temperature
HT=High Temperature

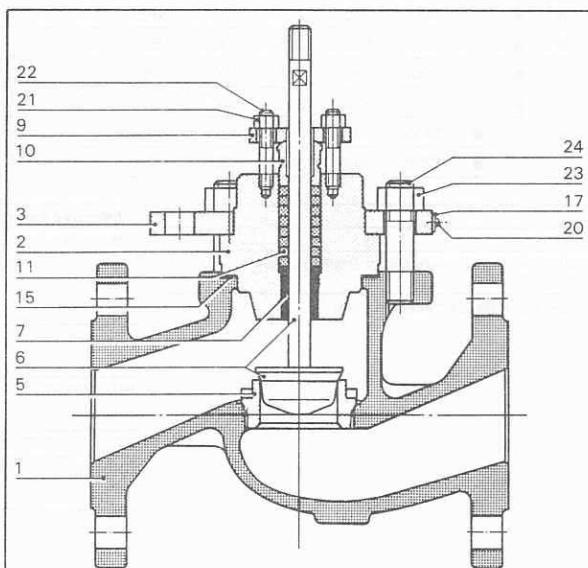


Figure 31: Body assembly

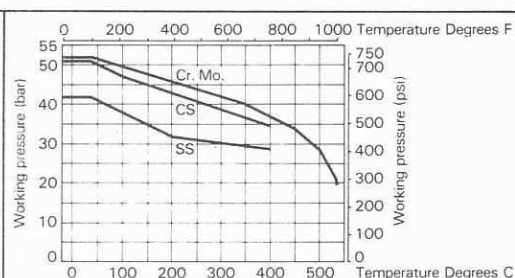


Figure 32: Pressure vs temperature (ANSI 300)

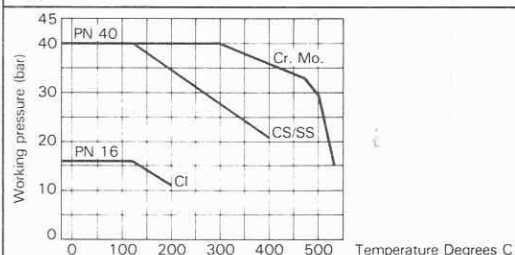


Figure 33: Pressure vs temperature (PN 16/40)

Leakage rate $<0.01\%$ of Kvs (Leakage class IV) and 0.5% of Kvs on pressure balanced trim.

Notes:
^aNPB = Non pressure balanced. PB = Pressure balanced
^bDifferential pressure > 40 bar for ANSI 300 only
^cThe differential pressures are not valid for valves with special versions. For these versions please request sales support.

Flow coefficients

Cv standard trims

Valve size	inch	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10	12
Seat diameter	mm	15	20	25	32	40	50	65	80	100	125	150	200	250	300
Full	inch	0.63	0.63	0.87	1.1	1.38	1.69	2.2	2.75	3.46	5.51	5.51	9.25	9.25	11.81
	mm	16	16	22	28	35	43	56	70	88	140	140	235	235	300
1st reduction	inch		0.63	0.63	0.87	1.1	1.38	1.69	2.2	2.75	3.46	5.51	9.25	9.25	11.81
	mm		16	16	22	28	35	43	56	70	88	140	235	235	300
2nd reduction	inch			0.63	0.63	0.87	1.1	1.38	2.2	2.2	3.46	5.51	9.25	9.25	11.81
	mm			16	16	22	28	35	56	56	88	140	235	235	300
3rd reduction	inch													9.25	
	mm													235	
Characteristics	Trim size	Cv values													
Linear	Full	4.7	7.4	12	19	29	47	74	117	190	290	420	580	930	1400
	1st reduction		4.7	7.4	12	19	29	47	74	117	190	290	370	580	
	2nd reduction			4.7	7.4	12	19	29	47	74		190	230	370	560
	3rd reduction													230	
Equal percentage	Full	4.7	7.4	12	19	29	47	74	117	190	290	370	580	930	1400
	1st reduction		4.7	7.4	12	19	29	47	74	117	190	290	370	580	
	2nd reduction			4.7	7.4	12	19	29	47	74		190	230	370	560
	3rd reduction													230	
Quick opening	Full	4.7	8.2	14	23	36	54	88	131	200	350	420	930	1200	1900

Cv low flow trims

Seat diameter	Full	inch	0.39	0.39	0.39	Low flow trims available for 1/2, 3/4 and 1 inch sizes only
		mm	10	10	10	
	1st reduction	inch	0.2	0.2	0.2	
		mm	5	5	5	
	2nd reduction	inch	0.12	0.12	0.12	
		mm	3	3	3	
<i>Characteristics</i>	<i>Trim size</i>	<i>Cv values</i>				
Linear	Full	2.9, 1.9, 1.17				
	1st reduction	0.74, 0.47, 0.29				
	2nd reduction	0.19, 0.117, 0.074, 0.047, 0.029, 0.019, 0.01				
Equal percentage	Full	2.9, 1.9, 1.17				
	1st reduction	0.74, 0.47, 0.29				

Cv low noise trims

Valve size	inch	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6			
	mm	15	20	25	32	40	50	65	80	100	125	150			
Seat diameter		Same as for standard trims													
Characteristics	Trim size	Cv values													
NRE-1 Linear	Full		7	10.5	16	24	34	60	80	110	250	315			
	1st reduction		4.7	7.3	11	17	25	43	61	88	174	250			
	2nd reduction			4.6	7.3	11	17	28	43	65		174			
Equal percentage	Full		7	10.5	16	24	34	60	80	110	250	295			
	1st reduction		4.7	7.3	11	17	25	43	61	88	174	250			
	2nd reduction			4.6	7.3	11	17	28	43	65		147			
NRE-2 Linear	Full		6.5	6.5	9.4	14.6	23	37	47	74	260	260			
	1st reduction				6.5	9.4	14.6		37	47	117	117			
	2nd reduction					6.5	9.4			37					
Equal percentage	Full		6.5	6.5	9.4	14.6	19	37	47	74	190	190			
	1st reduction				6.5	9.4	14.6		37	47	117	117			
	2nd reduction					6.5	9.4			37					
NRE-21 Linear	Full			6.3	9.0	14	21	35	44	72	190	190			
	1st reduction				6.5	9.4	14.6		37	47	105	105			
	2nd reduction					6.5	9.4			37					
Equal percentage	Full			6.3	9.0	14	18	35	44	72	146	146			
	1st reduction				6.5	9.4	14.6		37	47	93	93			
	2nd reduction					6.5	9.4			37					
NRE-21 low flow	Linear	0.12, 0.29, 0.74, 1.2, 2.4													
	Equal percentage	0.29, 0.74, 1.2, 2.4													

Valve factors FL and XT

Trim style	Standard	NRE-1	NRE-2	NRE-21											
Flow direction	FTO	FTC	FTO	FTC	FTO	FTC	FTO	FTC	FTO	FTC	FTO	FTC	FTO	FTC	FTO
FL	Full Cv	0.9	0.75	0.9		0.95	0.95	0.98							
	Reduced Cv	0.92	0.8	0.92		0.95	0.95	0.98							
XT	Full Cv	0.72	0.55	0.72		0.74	0.75	0.75							
	Reduced Cv	0.72	0.55	0.72		0.74	0.75	0.75							

Note:
FTO = Flow to open
FTC = Flow to close

Dimensions and shipping weights

Dimensions millimetres	Valve size mm	Actuator size	A PN16 PN25 PN40	A Butt weld ends	C (dia) Metric thread	D (dia)	H1 Std bon- net	H2 Ext bon- net	H3 Cryo bon- net	H4 Bonnet for elec. mod. mot.	L ¹⁾	M ²⁾	X Clear- ance to remove act.
	15		130	226	M12x1	47.6	112	385	740	101	117	133	35
	20		150	193.7	M12x1	47.6	110.5	279.5	735.5	101	117	133	35
	25		160	210	M12x1	47.6	112	385	740	101	117	133	35
	32		180	226	M12x1	47.6	112	385	740	116	117	133	35
	40		200	248	M12x1	47.6	112	385	740	104	117	133	35
	50		230	284	M12x1	47.6	112	385	740	104	117	133	35
	65		290	308	M12x1 ⁴⁾	47.6	153	516	740	140	117 ¹⁾	133	35
	80		310	334	M16x1.5	47.6	148	497	720	140	134	133	35
	100		350	380	M16x1.5	47.6	148	497	925	142	134	133	35
	125	2012/2012T	400	510	M20x1.5		296	690	941.5		132.5		35
	125	2016/2016T	400	510	M20x1.5		280	673.5	925		149		80
	150	2012/2012T	480	510	M20x1.5		296	690	941.5		132.5		35
	150	2016/2016T	480	510	M20x1.5		280	673.5	925		149		80
	200		600	600	M30x2		585	1148			295		100
	250		730	730	M30x2		585	1148			295		100
	300		850	850	M30x2		635	1198			295		100

Dimensions inches	Valve size inch	Actuator size	A ANSI 300RF	A ANSI 300RTJ	A ANSI 300 small groove	A Butt weld ends	C (dia) Metric thread	D (dia)	H1 Std bon- net	H2 Ext bon- net	H3 Std bon- net	H4 Bonnet for elec. mod. mot.	L ¹⁾	M ²⁾	X Clear- ance to remove act.
	1/2		7.5	7.92	7.87	8.9	M12x1	1.87	4.4	15.2	29.1	3.95	4.6	5.24	1.38
	3/4		7.63	8.15	7.99	7.63	M12x1	1.87	4.4	15	29	3.95	4.6	5.24	1.38
	1		7.75	8.27	8.13	8.27	M12x1	1.87	4.4	15.2	29.1	3.95	4.6	5.24	1.38
	1 1/4		8.38	8.90	8.76	8.90	M12x1	1.87	4.4	15.2	29.1	4.66	4.6	5.24	1.38
	1 1/2		9.25	9.76	9.63	9.76	M12x1	1.87	4.4	15.2	29.1	4.10	4.6	5.24	1.38
	2		10.5	11.18	10.89	11.18	M12x1	1.87	4.4	15.2	29.1	4.10	4.6	5.24	1.38
	2 1/2		11.5	12.14	11.87	12.12	M12x1 ⁴⁾	1.87	6.0	20.3	29.1	5.5	4.6 ⁴⁾	5.24	1.38
	3		12.5	13.12	12.87	13.14	M16x1.5	1.87	5.8	19.6	28.4	5.5	5.27	5.24	1.30
	4		14.5	15.12	14.86	14.96	M16x1.5	1.87	5.8	19.6	36.4	5.6	5.27	5.24	1.38
	5	2012/2012T				20	M20x1.5		11.65	27.16	37		5.2		1.38
	5	2016/2016T				20	M20x1.5		11.02	26.51	36.4		5.86		3.15
	6	2012/2012T	18.62	19.24	19	20	M20x1.5		11.65	27.16	37		5.2		1.38
	6	2016/2016T	18.62	19.24	19	20	M20x1.5		11.02	26.51	36.4		5.86		3.15
	8		22.36	23.0	22.71	23.62	M30x2		23.03	45.2			11.61		4
	10		28.74	29.4	29.1	28.74	M30x2		23.03	45.2			11.61		4
	12		33.46	34.1	33.82	33.46	M30x2		25.0	47.16			11.61		4

Shipping weight ³⁾ (body assembly only	Valve size		Standard bonnet		Extension bonnet		Cryogenic bonnet	
	mm	inch	kg	lbs	kg	lbs	kg	lbs
	15	1/2	7	16	13	29	19	41
	20	3/4	8	18	14	31	20	44
	25	1	9	20	15	33	21	46
	32	1 1/4	10	22	16	36	22	48
	40	1 1/2	13	29	20	44	26	56
	50	2	16	36	23	51	29	63
	65	2 1/2	25	55	34	75	39	85
	80	3	29	64	39	86	44	97
	100	4	39	86	56	124	64	140
	125	5	69	153	106	235	112	249
	150	6	75	167	115	255	120	267
	200	8	335	747	393	877		
	250	10	360	803	418	932		
	300	12	450	1004	508	1133		

Notes:

¹⁾ Valve open (full travel)

²⁾ Valve closed

³⁾ Dimensions and weights
for actuators see
specification sheet
62-86-03-10

⁴⁾ Actuator 2012 and 2012T
C (dia): M16 x 1.5
L: 5.27 inch (134 mm)

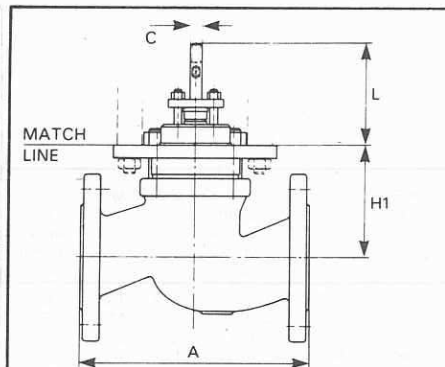


Figure 34: Valve with standard bonnet

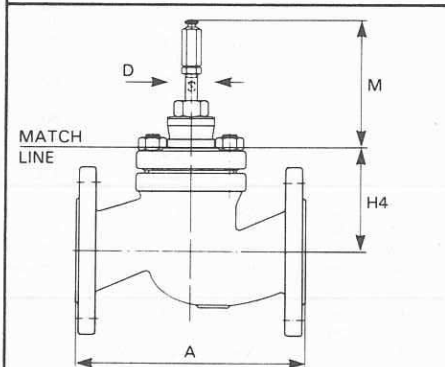


Figure 35: Valve with bonnet for electric modutrol motor

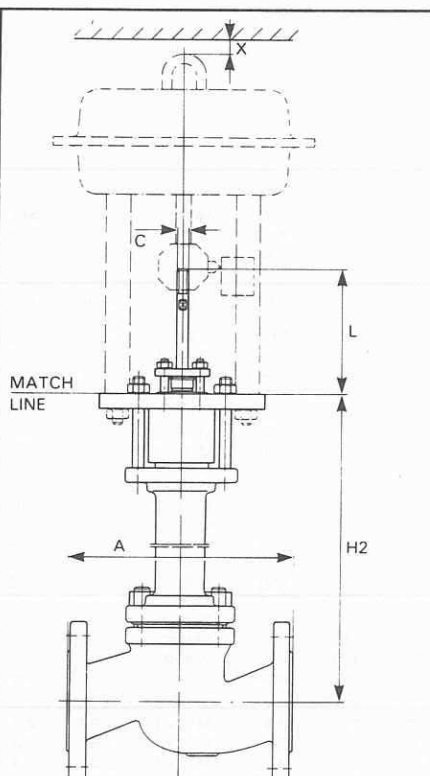


Figure 36: Valve bellows seal bonnet or with plain extension bonnet

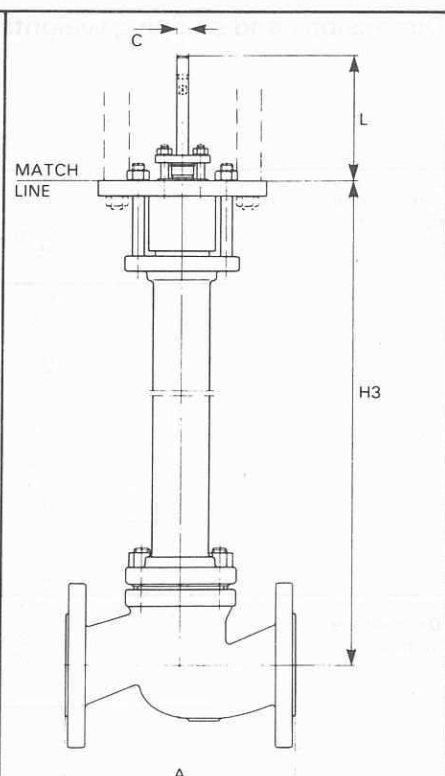


Figure 37: Valve with cryogenic bonnet

Ordering check list

Specification

Service
Line size/schedule number
Type of body
Body size
Guiding
End connections
Pressure ratings
Body material
Bonnet type and packing
Lubricator
Trim type and characteristics
Trim material
Required seat tightness
Bellows seal
Maximum allowable SPL (dB,A)

Items to check

On-off, throttling etc.
Valve size, pressure rating
Globe, angle, three way, etc.
Specify nominal pipe size unless others are requested
Specify appropriate trim type (top guided, top and seat guided)
Specify raised face (RF), ring joint (RTJ) etc.
Pressure vs. temperature relationship
Specify as required
Specify as required
Indicate only when required
Standard, HFS, HFO, low noise etc. linear, equal percentage, on-off
Specify as required
Specify leakage class according to ANSI B16.104
Indicate only when required
Calculate SPL to make sure that specification is metric

Before specifying the correct model number check items above to make sure that the appropriate valve is selected

See model selection guide

Valve type (Series 2000)	Action (direct or reverse)	Valve body size	Pressure rating	Body/bonnet material	End connections	Single seat	Trim type	CV and characteristic	Trim material	Bonnet type	Packing	Actuator type/spring range	Actuator size	Heat jacket/flushing connection	Pneumatic or electro-pneumatic positioner	Pressure regulator/booster	Stroke transm./limit switches	Solenoid valve
K																		