



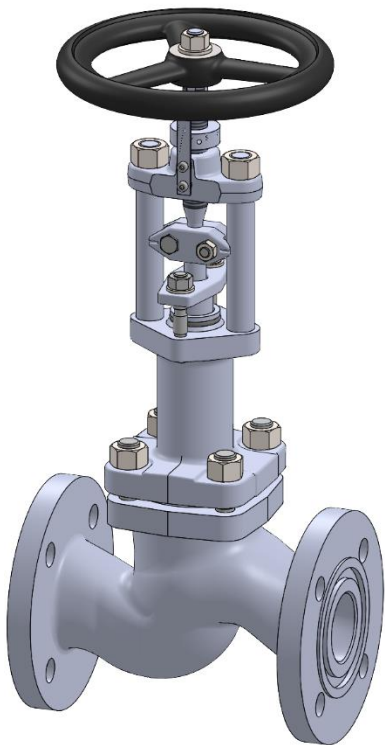
**PHÖNIX**

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**DAUME**  
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**Solent & Pratt**  
Phoenix Ltd



# Control Valve Type 359 Class 150 - 300

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# Bellows Sealed Fine Setting Valve / Type 359

NPS 1/2 - 12  
Class 150 / 300



## Design

- Bellows highly protected against erosion, abrasion and water hammers
- Up to 50.000 operations guaranteed
- Multiple-wall bellows, protected against torquing
- Additional emergency stuffing box as secondary sealing element
- Coupled stem, lower stem with polished shaft
- Rising handwheel
- Rotating needle disc with conic metal- to-metal seat, easy to replace, renewable seat
- Easy reproducibility of former setting points with the calibrated ring and indicating scale

CE 0525

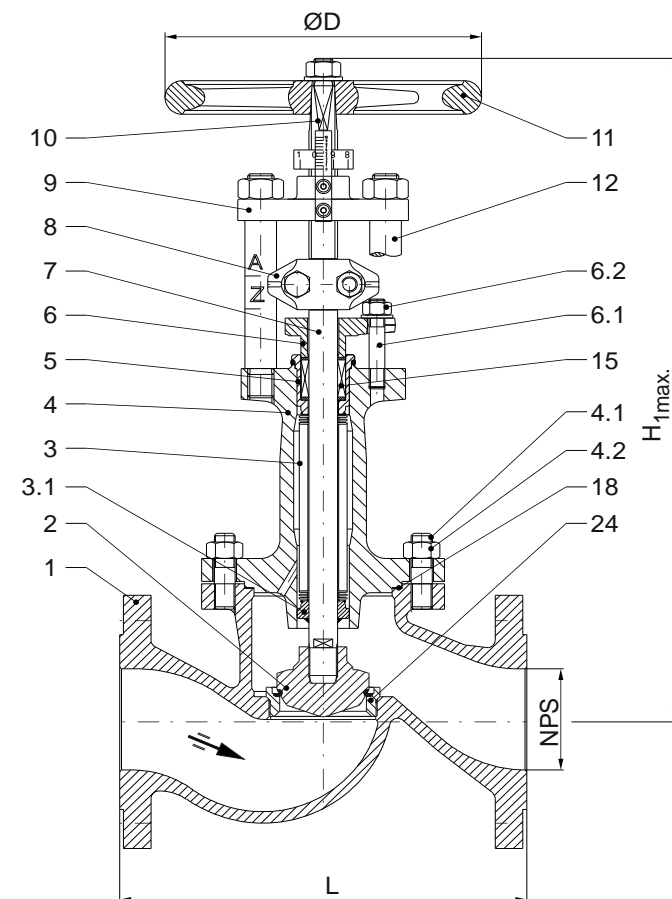
## Dimensions

Class 150 / 300	NPS	1/2				1			2		3		4		6		8		10		12	
	L Cl. 150	108				127			203		241		292		406		495		622		699	
	L Cl. 300	152				203			267		318		356		445		559		622		711	
	Lift h <sup>1)</sup>	11				11			18		27		31		46		58		70		80	
	H	360				365			455		555		670		855		1000		1150		1250	
	D <sub>Seat</sub>	3,2	5	8	13	8	13	20	25	40	50	63	63	80	100	125	150	250	290			
	k <sub>VS</sub> [m <sup>3</sup> /h]	0,3	0,9	2	3,2	2,2	4,9	8,3	17	31	75	90	105	155	225	350	550	1047	1460			
	ζ <sub>v</sub> [-]	900	100	20	7,9	129	26	8,9	35	10	12	8,1	15	6,7	16	6,6	8,5	5,7	6,1			
	c <sub>v</sub> [USgal/min]	0,35	1,05	2,33	3,72	2,6	5,7	9,7	20	36	87	105	122	180	262	407	639,53	1217,4	1697,7			
	Weight Cl. 150 [kg]	6,5				8			19		38		60		110		175		285		425	
	Weight Cl. 300 [kg]	6,5				8			19		38		60		125		200		315		440	

## Coefficients

Coefficient for:	flow limitation x <sub>T</sub> <sup>2)</sup>	0,58									
	pressure recovery factor F <sub>L</sub> <sup>2 2)</sup>	0,65									
	start of cavitation z <sup>2)</sup>	0,42	0,42	0,42	0,35	0,33	0,29	0,24	0,2	0,16	

<sup>2)</sup> only for standard parabolic disc



PHÖNIX reserves the right to change product design and specification without notice.

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# Bellows Sealed Fine Setting Valve / Type 359

Cl. 150 / 300 NPS 1/2 - 12

Materials



Item	Part name	Heat resistant carbon steel / Type 359 C	Low temperature steel / Type 359 T	Stainless steel / Type 359 V
		Material <sup>1)</sup> up to 450°C	Material <sup>1)</sup> from -50°C up to 300°C	Material <sup>1)</sup> from -200°C up to 400°C
1	Body	A 105 A 216 WCB	A 350 Gr. LF2 A 352 LCC	A 182 Gr.F316L A 351 CF 8M
2	Disc Overlay	A 276 Gr. 420	A 479 Gr.316Ti	A 479 Gr.316Ti
3	Bellows	A 240 Gr.316Ti	A 240 Gr.316Ti	A 240 Gr.316Ti
3.1	Guide ring	A 479 Gr.316Ti	A 479 Gr.316Ti	A 479 Gr.316Ti
4	Bonnet	A 105 A 216 WCB	A 350 LF2 A 352 LCC	A 182 Gr.F316L A 351 CF 8M
4.1	Stud bolt	A 193 Gr. B7	A 193 Gr. B8M	A 193 Gr. B8M
4.2	Hex.nut	A 194 Gr. 4	A 194 Gr. 8M	A 194 Gr. 8M
5	Stuffing box body	A 479 Gr.316Ti	A 479 Gr.316Ti	A 479 Gr.316Ti
6	Gland follower	A 216 WCB	A 352 LC3	A 351 CF 8M
6.1	Stud bolt	carbon steel	A 193 Br. B8M	A 193 Br. B8M
6.2	Hex.nut	carbon steel	A 194 Gr. 8M	A 194 Gr. 8M
7	Lower Stem	A 479 Gr.316Ti	A 479 Gr.316Ti	A 479 Gr.316Ti
8	Coupling	A 351 CF 8M	A 351 CF 8M	A 351 CF 8M
9	Bridge	A 105	A 105	A 105
10	Upper Stem	A 276 Gr. 431	A 276 Gr. 431	A 276 Gr. 431
11	Handwheel	A 395	A 395	A 395
12	Pillar	C35	A 276 Gr. 431	A 276 Gr. 431
15	Packing	Graphite	PTFE <sup>2)</sup>	Graphite
18	Bonnet gasket	Stainless steel / graphite	Stainless steel / graphite	Stainless steel / graphite
24	Seat	A 479 Gr.316Ti	A 479 Gr.316Ti	A 479 Gr.316Ti

**Special materials on request.**

## Specification

Marking	MSS SP-25, ISO 5209 (EN19, AD-A4, CE)
Face-to-face dimensions:	Flanged option ASME B 16.10
	Butt weld ends ASME B 16.10
	Socket weld ends ASME B 16.34
Connections:	Flanged option ASME B 16.5
	Butt weld ends ASME B 16.25
	Socket weld ends ASME B 16.11
Testing standard:	API 598, ISO 5208 (AD-2000, DIN 3230 section 3)
Pressure-temp.-rating:	ASME B 16.34

<sup>1)</sup> Pressure-temperature-rating see appendix

<sup>2)</sup> ≥ 220°C Packing of pure graphite

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