

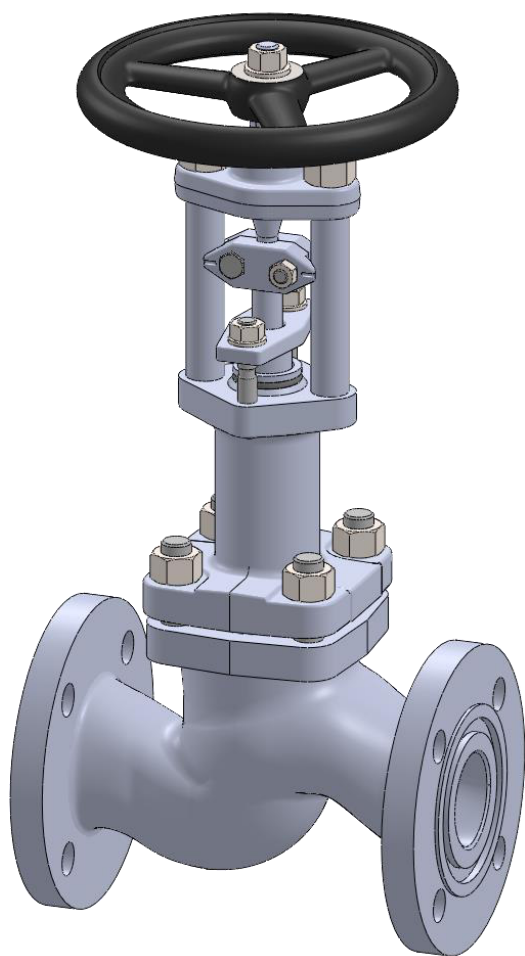


PHÖNIX

STRACK

DAUME
REGELARMATUREN

S/P Solent & Pratt
Phoenix Ltd



Globe Valve Type 350 Class 150

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Model 350

Straight Way / Protected Bellows

Applications & Design Features

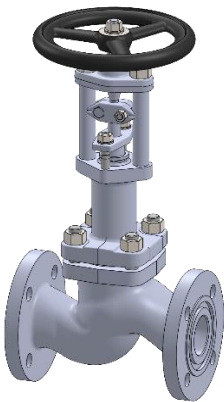
Applications

Model 350 is designed for critical service applications involving lethal, toxic, corrosive, inflammable, volatile, radiating, or expensive fluids. A Fire-Safe approved design per DIN EN 10497 is available for applications that have to comply with fire security standards.

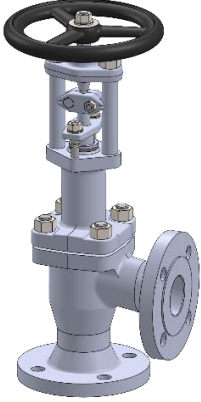
High vacuum resistant design 10-3 to 10-8 mbar, helium leakage test is possible if required
the most common applications are

- Dry Chlorine (Cl₂)
- Anhydrous Hydrogen Chloride (HCl)
- Vinyl Chloride Monomer (VCM)
- Ethylene Dichloride (EDC)
- Anhydrous Hydrofluoric Acid (HF)
- Isocyanites (MDI, TDI, HDI, etc.)
- heat transfer fluid application (steam, hot oil, molten Sodium, etc.) and
- fluids of similar nature.

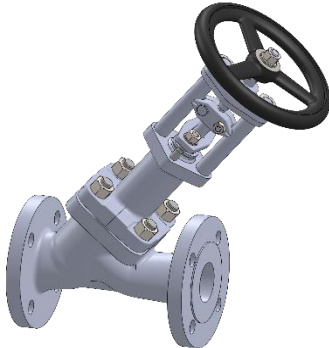
The unique valve design guarantees reliable and excellent protection against leaks or fugitive emissions. The stem seal requires virtually no maintenance due to leak free weld connections of the bellows with bonnet and stem. Constant packing monitoring and re-packing is eliminated. In the unlikely event of a bellows failure the backup packing guarantees safe valve performance until the next scheduled shutdown.



Srraight



Angle



Y-Pattern

Design Features

Bellows and Packing

- bellows protected in extended bonnet against direct impingement from product flow
- multiple walls and hydroformed bellows
- up to 50.000 bellows operations guaranteed

Stem

- two-piece stem protects the bellows against torque stress
- design eliminates stem bearings along with their maintenance needs
- guided stem on top and bottom
- one-piece stem design upon request

Body and Bonnet

- bodies are forgings or castings with larger than required wall thickness and integral flanges
- extended bonnet provides for good thermal insulation
- body bonnet joint gasket is fully confined to prevent gasket flow or blowout

Seats

- solid hardfacings for outstanding corrosion and wear resistance
- knife edge metal-to-metal seat for bubble-tight shutoff
- replaceable disc for inexpensive maintenance

= zero emissions, zero seat leakage, low maintenance



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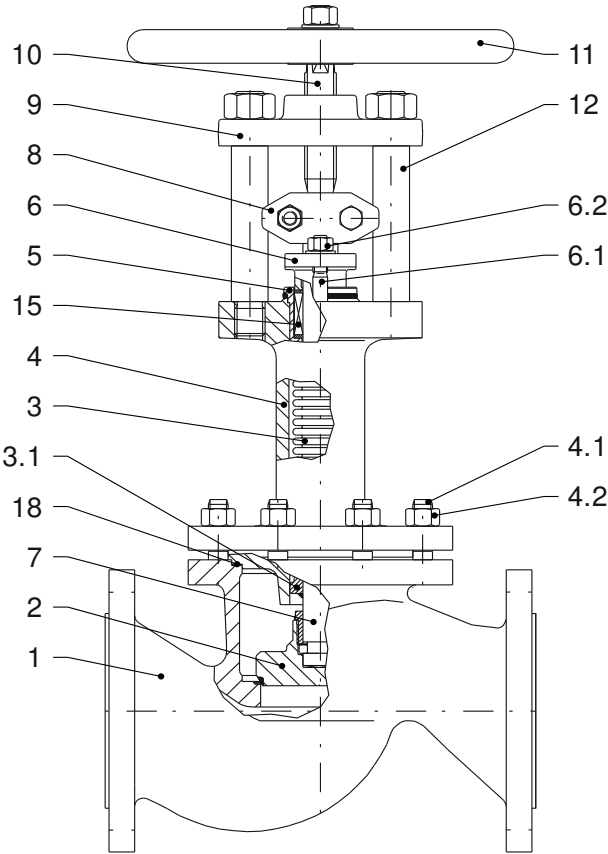
Standard Materials of Construction

Options

Other materials per customer requirements are available!

Notes

Phoenix reserves the right to change product design and specification without notice!



Materials

Item		Carbon steel Model 350C UP TO 842°F	low temp. Carbon steel Model 350T -58°F UP TO 572°F	Stainless steel Model 350V -328°F UP TO 752°F
1	Body	A105 / A216 WCB	A350 LF2 / A352 LCC	A182 F316L / A351 CF8M
	Seat overlay	ER307 (≈ 200HRB)	ER307 (≈ 200HRB)	like body (≈ 200HRB)
2	Disc	AISI 420 hardened / A105	A479 GR.316TI / A350 LF2	A479 GR.316TI
	Overlay	ER410 (≈ 300HRB)	STELLITE 6 (≈ 42HRC)	Stellite 6 (≈ 42HRC)
3	Bellows	A240 GR.316TI	A240 GR.316TI	A240 GR.316TI
3.1	Guide ring	A479 GR.316TI	A479 GR.316TI	A479 GR.316TI
4	Bonnet	A105 / A216 WCB	A350 LF2 / A352 LCC	A182 F316L / A351 CF8M
4.1	Stud bolt	A193 GR.B7	A193 GR.B8M	A193 GR.B8M
4.2	Hex. nut	A194 - 7L	A194 GR.8M	A194 GR.8M
5	Stuffing box body	A479 GR.316TI	A479 Gr. 316TI	A479 Gr. 316TI
6	Gland follower	A216 WCB	A352 LC3	A351 CF8M
6.1	Stud bolt	Carbon steel	A193 GR.B8M	A193 GR.B8M
6.2	Hex. nut	Carbon steel	A194 GR.8M	A194 GR.8M
7	Lower stem	A479 GR.316TI	A479 GR.316TI	A479 GR.316TI
8	Coupling	A351 CF8M	A351 CF8M	A351 CF8M
9	Bridge	A105, QPQ-nitrided	A105, QPQ-nitrided	A105, QPQ-nitrided
10	Upper stem	AISI 431	AISI 431	AISI 431
11	Handwheel	CAST IRON	CAST IRON	Cast iron
12	Pillar	C35	AISI 431	AISI 431
15	Packing	Graphite	PTFE-silk *	Graphite
18	Gasket	Grooved SS / graphite	Grooved SS / graphite	Grooved SS / graphite

* ≥ 220°C Packing of pure graphite



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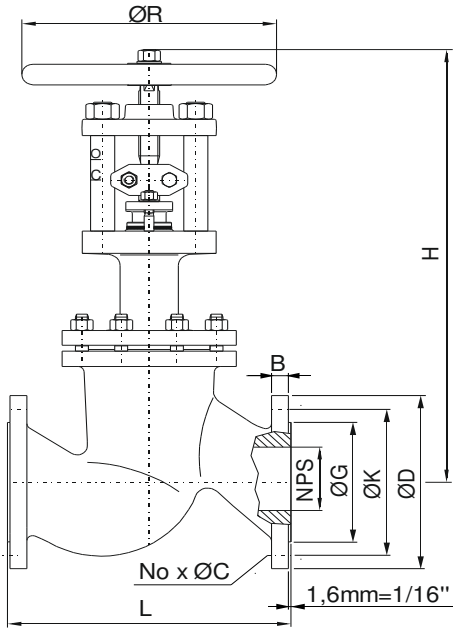
Class 150 Sizes ½" - 12"

Options

- Other customer specific designs on request

Notes

- Designed in acc. with asme b 16.34
- Marking acc. to MSS SP-25, ISO 5209 (EN19, AD-A4, CE)
- Standard tests acc. to API 598, ISO 5208
- Preservation acc. to manufacturer standard
- Connections: Flanges acc. to ASME B16.5
Butt Weld Ends acc. to ASME B16.25
Socket Weld Ends acc. to ASME B16.11
- F-T-F Dimensions: Flanges acc. to ASME B16.10
Butt Weld Ends acc. to ASME B16.10
Socket Weld Ends acc. to manufacturer standard



Dimensions & Weights & Flow Coefficients

NPS	Unit	Globe		ØR	Flange facing type RF				B	Weight	Kv [m³/h] cv [USGal/min]
		L	H		ØG	ØK	No x ØC	ØD			
½"	[mm]	108	360	150	35	61	4 x 16	89	9.7	6.5 kg	3.4
	[in]	4.25	14.17	5.91	1.38	2.40	4 x 0.63	3.50	0.38	14.3 lbs	3.95
¾"	[mm]	117	345	150	43	70	4 x 16	99	11.2	7 kg	7
	[in]	4.61	13.58	5.91	1.69	2.76	4 x 0.63	3.88	0.44	15.4 lbs	8.14
1"	[mm]	127	365	150	51	79	4 x 16	108	12.7	8 kg	9.5
	[in]	5.00	14.37	5.91	2.01	3.11	4 x 0.63	4.25	0.50	17.6 lbs	11.05
1 ¼"	[mm]	140	430	200	64	89	4 x 16	117	14.2	14 kg	18
	[in]	5.51	16.93	7.87	2.52	3.50	4 x 0.63	4.62	0.56	31 lbs	20.93
1 ½"	[mm]	165	430	200	73	99	4 x 16	127	15.9	16 kg	27
	[in]	6.50	16.93	7.87	2.87	3.90	4 x 0.63	5.00	0.62	35 lbs	31
2"	[mm]	203	465	200	92	121	4 x 19	152	17.5	19 kg	40
	[in]	7.99	18.31	7.87	3.62	4.76	4 x 0.75	6.00	0.69	42 lbs	47
2 ½"	[mm]	216	460	200	105	140	4 x 19	178	20.6	28 kg	78
	[in]	8.50	18.11	7.87	4.13	5.51	4 x 0.75	7.00	0.81	62 lbs	91
3"	[mm]	241	520	250	127	152	4 x 19	191	22.4	38 kg	113
	[in]	9.49	20.47	9.84	5.00	5.98	4 x 0.75	7.50	0.88	84 lbs	131
4"	[mm]	292	625	315	157	191	8 x 18	229	22.4	60 kg	179
	[in]	11.50	24.61	12.40	6.18	7.52	8 x 0.71	9.00	0.88	132 lbs	208
5"	[mm]	356	625	315	186	216	8 x 22	254	22.4	85 kg	256
	[in]	14.02	24.61	12.40	7.32	8.50	8 x 0.87	10.00	0.88	187 lbs	298
6" *	[mm]	406	835	400	216	241	8 x 22	279	23.9	110 kg	405
	[in]	15.98	32.87	15.75	8.50	9.49	8 x 0.87	11.00	0.94	243 lbs	471
8" *	[mm]	495	895	500	270	299	8 x 22	343	26.9	174 kg	693
	[in]	19.49	35.24	19.69	10.63	11.77	8 x 0.87	13.50	1.06	384 lbs	806
10" *	[mm]	622	1020	500	324	362	12 x 25	406	28.4	285 kg	1047
	[in]	24.49	40.16	19.69	12.76	14.25	12 x 0.98	16.00	1.12	628 lbs	1217
12" *	[mm]	698	1125	630	381	432	12 x 25	483	30.2	425 kg	1460
	[in]	27.48	44.29	24.80	15.00	17.01	12 x 0.98	19.00	1.19	937 lbs	1698

* Nominal Sizes with Equilibrating Disc



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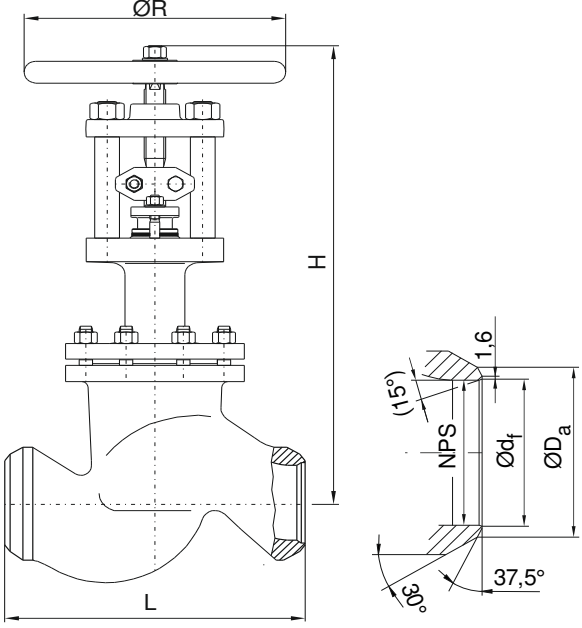
Class 150 Sizes ½" - 12"

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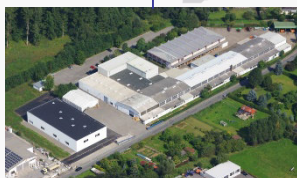


Dimensions & Weights & Flow Coefficients

NPS	Unit	Globe		ØR	ØD _a	Ød _t	Butt Weld Ends		Weight	Kv [m³/h] cv [USGal/min]
		L	H				Schedule	for pipe		
½"	[mm]	130	360	150	21.5	15.5	40	Ø21.3 x 2.8	6 kg	3.4
	[in]	5.12	14.17	5.91	0.85	0.61		Ø0.84 x 0.11	13.2 lbs	3.95
¾"	[mm]	150	345	150	27	21	40	Ø26.7 x 2.9	6 kg	7
	[in]	5.91	13.58	5.91	1.06	0.83		Ø1.05 x 0.11	13.2 lbs	8.14
1"	[mm]	160	365	150	34	27	40	Ø33.4 x 3.4	6.5 kg	9.5
	[in]	6.30	14.37	5.91	1.34	1.06		Ø1.31 x 0.13	14.3 lbs	11.05
1 ¼"	[mm]	180	430	200	42	35	40	Ø42.2 x 3.6	12 kg	18
	[in]	7.09	16.93	7.87	1.65	1.38		Ø1.66 x 0.14	26 lbs	20.93
1 ½"	[mm]	200	430	200	48.5	41	40	Ø48.3 x 3.7	13.5 kg	27
	[in]	7.87	16.93	7.87	1.91	1.61		Ø1.90 x 0.15	30 lbs	31
2"	[mm]	230	465	200	60.5	52.5	40	Ø60.3 x 3.9	15 kg	40
	[in]	9.06	18.31	7.87	2.38	2.07		Ø2.37 x 0.15	33 lbs	47
2 ½"	[mm]	216	460	200	73	63	40	Ø73 x 5.2	22 kg	78
	[in]	8.50	18.11	7.87	2.87	2.48		Ø2.87 x 0.20	49 lbs	91
3"	[mm]	241	520	250	89	78	40	Ø88.9 x 5.5	31 kg	113
	[in]	9.49	20.47	9.84	3.50	3.07		Ø3.50 x 0.22	68 lbs	131
4"	[mm]	292	625	315	114	102	40	Ø114.3 x 6.0	50 kg	179
	[in]	11.50	24.61	12.40	4.49	4.02		Ø4.50 x 0.24	110 lbs	208
5"	[mm]	356	625	315	141	128	40	Ø141.3 x 6.6	74.5 kg	256
	[in]	14.02	24.61	12.40	5.55	5.04		Ø5.56 x 0.26	164 lbs	298
6" *	[mm]	406	835	400	168	154	40	Ø168.3 x 7.1	98 kg	405
	[in]	15.98	32.87	15.75	6.61	6.06		Ø6.63 x 0.28	216 lbs	471
8" *	[mm]	495	895	500	219	203	40	Ø219.1 x 8.2	154 kg	693
	[in]	19.49	35.24	19.69	8.62	7.99		Ø8.63 x 0.32	340 lbs	806
10" *	[mm]	622	1020	500	273	255	40	Ø273.0 x 9.3	258 kg	1047
	[in]	24.49	40.16	19.69	10.75	10.04		Ø10.75 x 0.37	569 lbs	1217
12" *	[mm]	698	1125	630	324	305	STD	Ø323.8 x 9.5	382 kg	1460
	[in]	27.48	44.29	24.80	12.76	12.01		Ø12.75 x 0.37	842 lbs	1698

* Nominal Sizes with Equilibrating Disc

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