

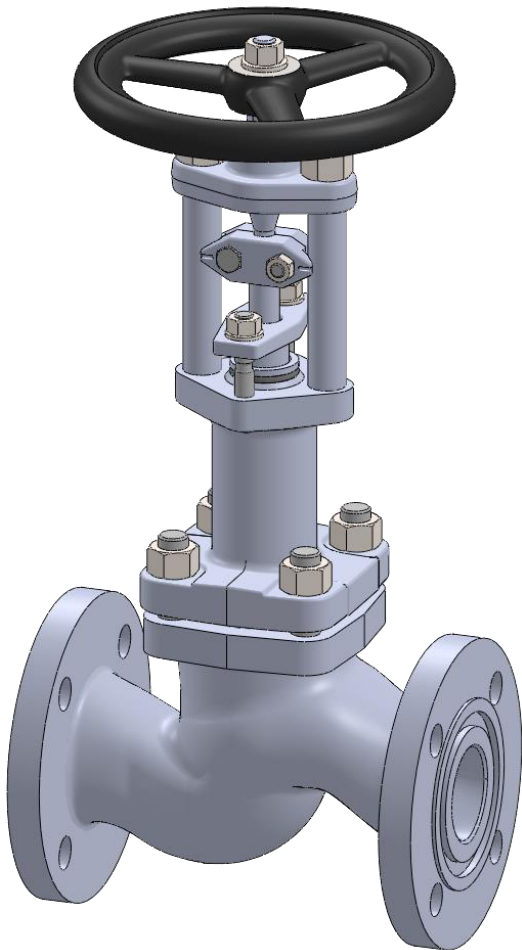


**PHÖNIX**

**STRACK**

**DAUME**  
REGELARMATUREN

**SIP** Solent & Pratt  
Phönix Ltd



# Globe Valve Type 350 Class 600

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## Model 350

Straight Way / Protected Bellows

### Applications & Design Features

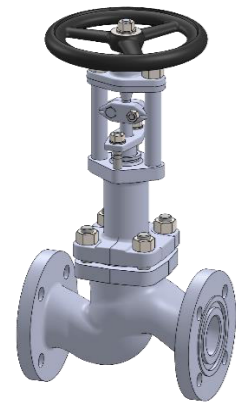
#### Applications

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.

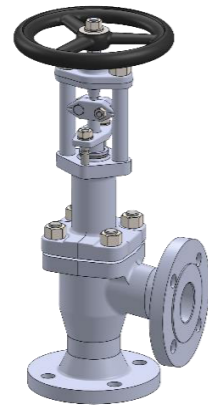
High vacuum resistant design 10<sup>-3</sup> to 10<sup>-8</sup> mbar, helium leakage test is possible if required  
the most common applications are

- Dry Chlorine (Cl<sub>2</sub>)
- 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.

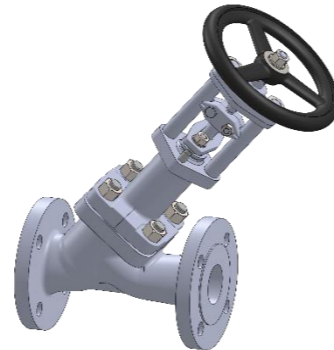
The unique valve design guarantees reliable and excellent protection against leaks or fugitive emissions. The stem seal requires virtually no maintenance due to leak free weld connections of the bellows with bonnet and stem. Constant packing monitoring and re-packing is eliminated. In the unlikely event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



Straight



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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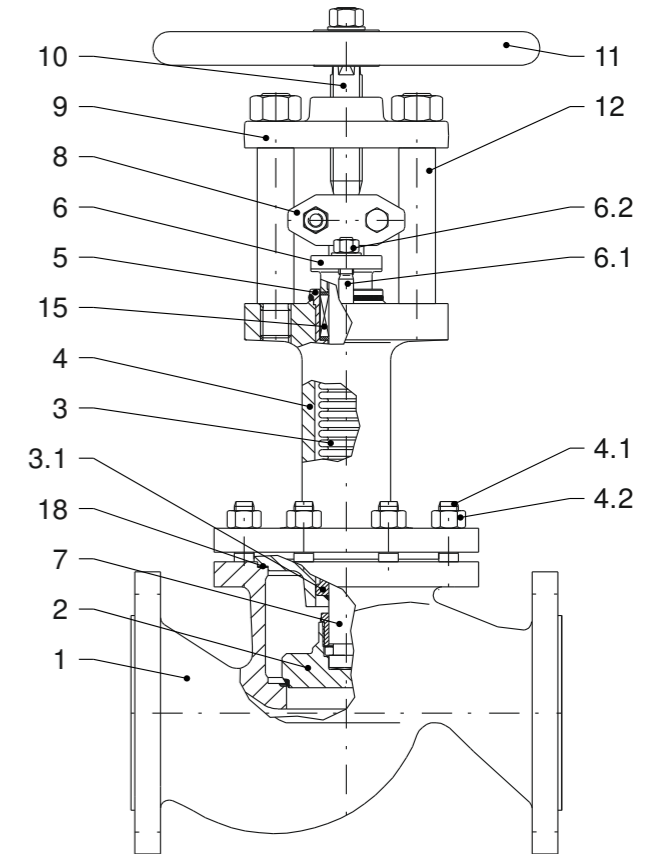
### Standard Materials of Construction

#### Options

Other materials per customer requirements are available!

#### Notes

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



#### Materials

Item	Part Name	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 Seat overlay	A105 / A216 WCB ER307 (≈ 200HRB)	A350 LF2 / A352 LCC ER307 (≈ 200HRB)	A182 F316L / A351 CF8M like body (≈ 200HRB)
2	Disc Overlay	AISI 420 hardened / A105 ER410 (≈ 300HRB)	A479 GR.316TI / A350 LF2 STELLITE 6 (≈ 42HRC)	A479 GR.316TI 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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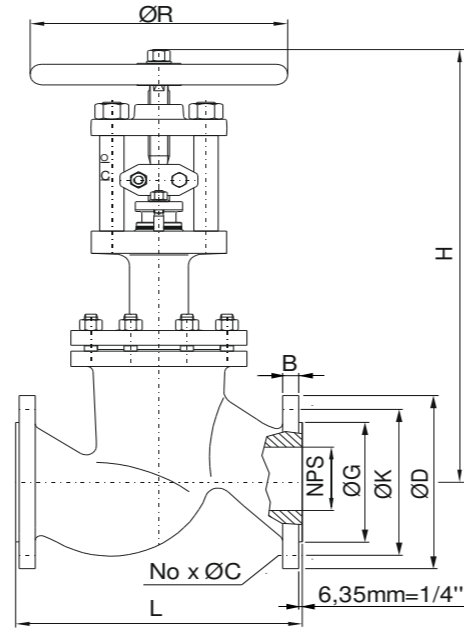
Class 600 Sizes 1/2" - 8"

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		Flange facing type B1					Weight	Kv [m³/h]	cv [USGal/min]
		L	H	ØR	ØG	ØK	No x ØC	ØD			
1/2"	[mm]	165	360	150	35	67	4 x 16	95	14.2	11 kg	3.4
	[in]	6.50	14.17	5.91	1.38	2.64	4 x 0.63	3.74	0.56	24 lbs	3.95
3/4"	[mm]	191	345	150	43	83	4 x 19	117	15.7	13 kg	7
	[in]	7.52	13.58	5.91	1.69	3.27	4 x 0.75	4.61	0.62	29 lbs	8.14
1"	[mm]	216	365	150	51	89	4 x 19	124	17.5	15 kg	9.5
	[in]	8.50	14.37	5.91	2.01	3.50	4 x 0.75	4.88	0.69	33 lbs	11.05
1 1/4"	[mm]	229	430	200	64	99	4 x 19	133	20.6	23 kg	18
	[in]	9.02	16.93	7.87	2.52	3.90	4 x 0.75	5.24	0.81	51 lbs	20.93
1 1/2"	[mm]	241	430	200	73	114	4 x 22	155	22.4	26 kg	27
	[in]	9.49	16.93	7.87	2.87	4.49	4 x 0.87	6.10	0.88	57 lbs	31
2"	[mm]	292	465	200	92	127	8 x 19	165	25.4	30 kg	40
	[in]	11.50	18.31	7.87	3.62	5.00	8 x 0.75	6.50	1.00	66 lbs	47
2 1/2"	[mm]	330	650	315	105	149	8 x 22	191	28.4	45 kg	78
	[in]	12.99	25.59	12.40	4.13	5.87	8 x 0.87	7.52	1.12	99 lbs	91
3"	[mm]	356	700	315	127	168	8 x 22	210	31.8	69 kg	113
	[in]	14.02	27.56	12.40	5.00	6.61	8 x 0.87	8.27	1.25	152 lbs	131
4"	[mm]	432	720	400	157	216	8 x 25	273	38.1	100 kg	179
	[in]	17.01	28.35	15.75	6.18	8.50	8 x 0.98	10.75	1.50	220 lbs	208
5"	[mm]	508	850	400	186	267	8 x 28	330	44.4	150 kg	256
	[in]	20.00	33.46	15.75	7.32	10.51	8 x 1.10	12.99	1.75	331 lbs	298
6" *	[mm]	559	870	400	216	292	12 x 28	356	47.8	180 kg	405
	[in]	22.01	34.25	15.75	8.50	11.50	12 x 1.10	14.02	1.88	397 lbs	471
8" *	[mm]	660	1080	500	270	349	12 x 32	419	55.6	304 kg	693
	[in]	25.98	42.52	19.69	10.63	13.74	12 x 1.26	16.50	2.19	670 lbs	806

\* Nominal Sizes with Equilibrating Disc



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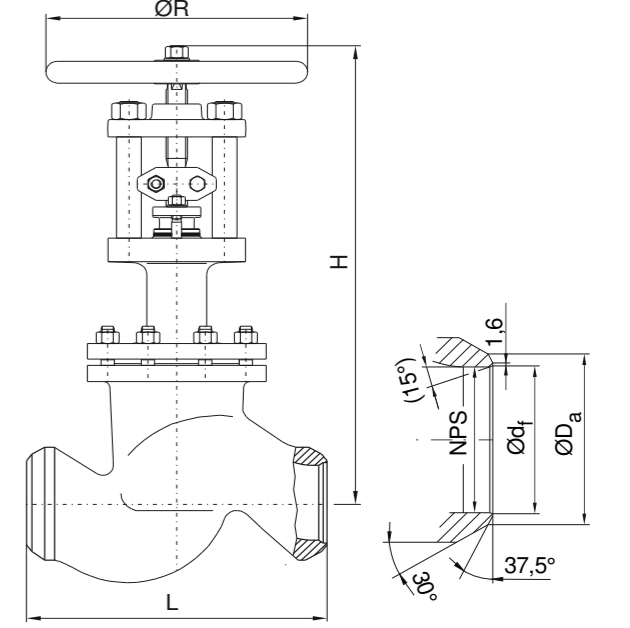
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Options

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Dimensions & Weights & Flow Coefficients

NPS	Unit	Globe		ØR	Butt Weld Ends			Weight	Kv [m³/h]	cv [USGal/min]
		L	H		ØDₐ	Ødₑ	Schedule			
1/2"	[mm]	130	360	150	21.5	15.5	40	Ø21.3 x 2.8	9 kg	3.4
	[in]	5.12	14.17	5.91	0.85	0.61		Ø0.84 x 0.11	19.8 lbs	3.95
3/4"	[mm]	150	345	150	27	21	40	Ø26.7 x 2.9	10 kg	7
	[in]	5.91	13.58	5.91	1.06	0.83		Ø1.05 x 0.11	22 lbs	8.14
1"	[mm]	160	365	150	34	27	40	Ø33.4 x 3.4	11,5 kg	9.5
	[in]	6.30	14.37	5.91	1.34	1.06		Ø1.31 x 0.13	25 lbs	11.05
1 1/4"	[mm]	180	430	200	42	35	40	Ø42.2 x 3.6	18,5 kg	18
	[in]	7.09	16.93	7.87	1.65	1.38		Ø1.66 x 0.14	41 lbs	20.93
1 1/2"	[mm]	200	430	200	48.5	41	40	Ø48.3 x 3.7	19,5 kg	27
	[in]	7.87	16.93	7.87	1.91	1.61		Ø1.90 x 0.15	43 lbs	31
2"	[mm]	230	465	200	60.5	52.5	40	Ø60.3 x 3.9	22,5 kg	40
	[in]	9.06	18.31	7.87	2.38	2.07		Ø2.37 x 0.15	50 lbs	47
2 1/2"	[mm]	330	650	315	73	63	40	Ø73 x 5.2	34 kg	78
	[in]	12.99	25.59	12.40	2.87	2.48		Ø2.87 x 0.20	75 lbs	91
3"	[mm]	356	700	315	89	78	40	Ø88.9 x 5.5	55 kg	113
	[in]	14.02	27.56	12.40	3.50	3.07		Ø3.50 x 0.22	121 lbs	131
4"	[mm]	432	720	400	114	102	40	Ø114.3 x 6.0	71 kg	179
	[in]	17.01	28.35	15.75	4.49	4.02		Ø4.50 x 0.24	157 lbs	208
5"	[mm]	508	850	400	141	128	40	Ø141.3 x 6.6	101 kg	256
	[in]	20.00	33.46	15.75	5.55	5.04		Ø5.56 x 0.26	223 lbs	298
6" *	[mm]	559	870	400	168	154	40	Ø168.3 x 7.1	124 kg	405
	[in]	22.01	34.25	15.75	6.61	6.06		Ø6.63 x 0.28	273 lbs	471
8" *	[mm]	660	1080	500	219	203	40	Ø219.1 x 8.2	222 kg	693
	[in]	25.98	42.52	19.69	8.62	7.99		Ø8.63 x 0.32	489 lbs	806

\* Nominal Sizes with Equilibrating Disc



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Printed in Germany  
09/22-R0