

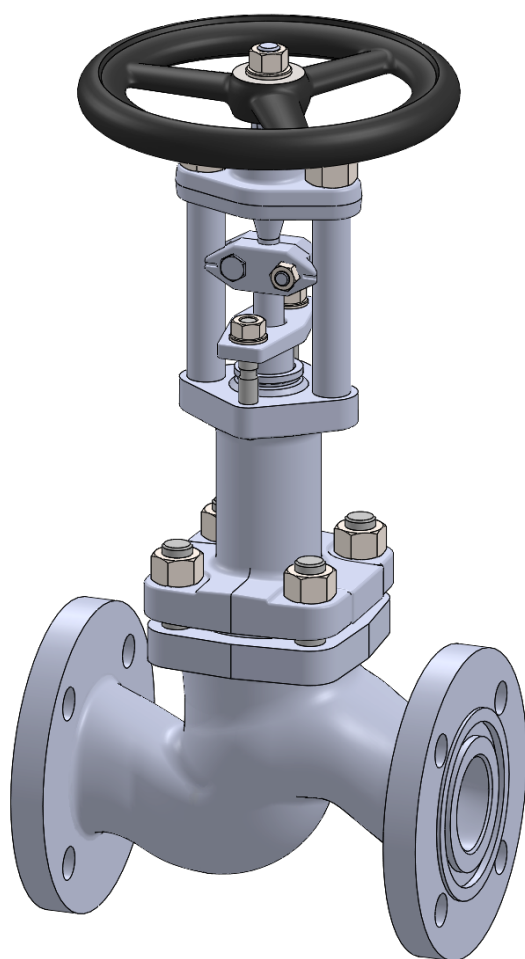


PHÖNIX

STRACK

DAUME
REGELARMATUREN

SIP Solent & Pratt
Phönix Ltd



Globe Valve Type 350 PN 40

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Model 350

Straight Way / Protected Bellows

Applications & Design Features

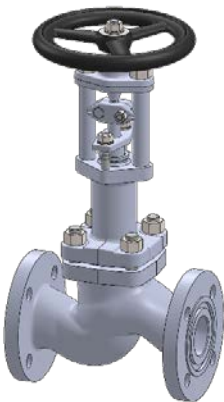
Applications

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.

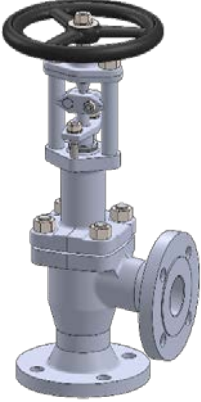
High vacuum resistant design 10-3 to 10-8 mbar, helium leakage test is possible if required
the most common applications are

- 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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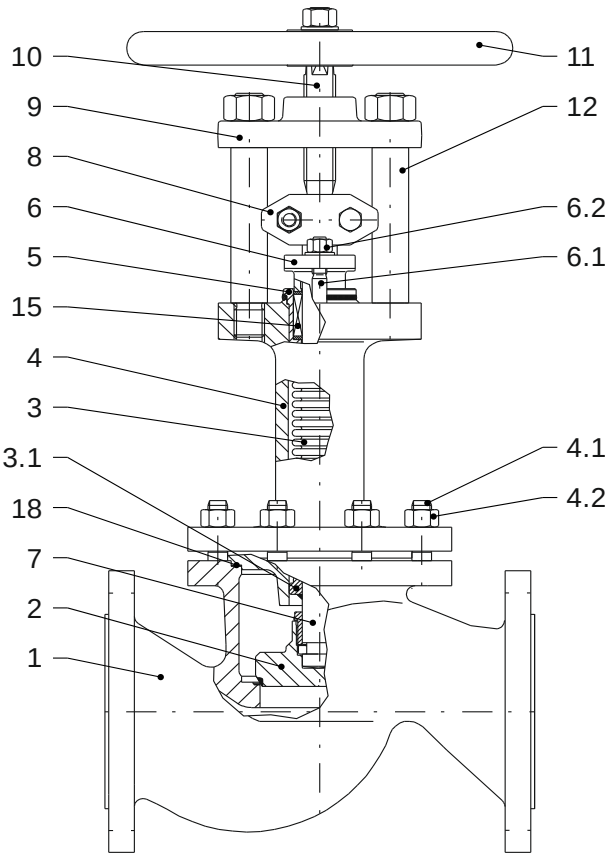
Standard Materials of Construction

Options

Other materials per customer requirements are available!

Notes

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



Materials

Item	Part Name	Carbon steel	low temp. Carbon steel	Stainless steel
		Model 350C up to 450°C	Model 350T -50°C up to 300°C	Model 350V -200°C up to 400°C
1	Body	1.0460 / 1.0619	1.0566 / 1.6220	1.4404 / 1.4408
	Seat overlay	1.4370 (≈ 200HRB)	1.4370 (≈ 200HRB)	like body (≈ 200HRB)
2	Disc	1.4021 hardened / 1.0460	1.4571 / 1.0566	1.4571
	Overlay	1.4009 (≈ 300HRB)	Stellite 6 (≈ 42HRC)	Stellite 6 (≈ 42HRC)
3	Bellows	1.4571	1.4571	1.4571
3.1	Guide ring	1.4571	1.4571	1.4571
4	Bonnet	1.0460 / 1.0619	1.0566 / 1.6220	1.4404 / 1.4408
4.1	Stud bolt	1.7709	A4-70	A4-70
4.2	Hex. nut	1.7218	A4-70	A4-70
5	Stuffing box body	1.4571	1.4571	1.4571
6	Gland follower	1.0619	1.5638	1.4408
6.1	Stud bolt	Steel 5.6	A4-70	A4-70
6.2	Hex. nut	Steel 5	A4-70	A4-70
7	Lower stem	1.4571	1.4571	1.4571
8	Coupling	1.4408	1.4408	1.4408
9	Bridge	1.0460, QPQ-nitrided	1.0460, QPQ-nitrided	1.0460, QPQ-nitrided
10	Upper stem	1.4057	1.4057	1.4057
11	Handwheel	Cast iron	Cast iron	Cast iron
12	Pillar	1.0501	1.4057	1.4057
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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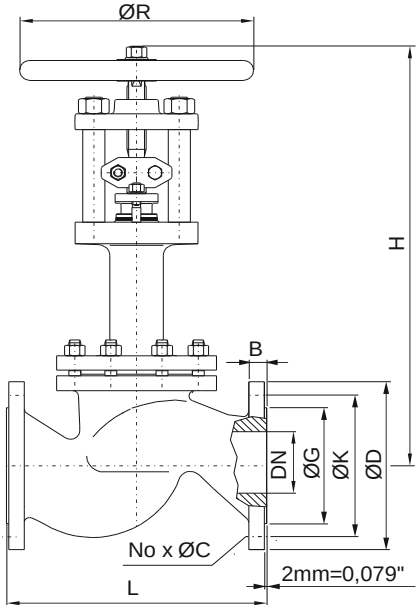
PN40 Sizes DN15 - DN500

Options

- Other customer specific designs on request

Notes

- Design acc. PED 2014/68/EU and harmonized standards
- Marking acc. to EN 19, AD-A4, PED 2014/68/EU, CE
- Standard tests acc. to DIN EN 12266, ISO 5208
- Preservation acc. to manufacturer standard
- Connections: Flanges acc. to DIN EN 1092-1
Butt Weld Ends acc. to DIN EN 12627
Socket Weld Ends acc. to DIN EN 12760
- F-T-F Dimensions: Flanges acc. to DIN EN 558-1
Butt Weld Ends acc. to DIN EN 12982
Socket Weld Ends acc. to manufacturer standard



Dimensions & Weights & Flow Coefficients

DN	Unit	Globe		ØR	Flange facing type B1				Weight	Kv [m³/h]	
		L	H		ØG	ØK	No x ØC	ØD		B	cv [USGal/min]
15	[mm]	130	380	150	45	65	4 x 14	95	6.5 kg	16	3.4
	[in]	5.12	14.96	5.91	1.77	2.56	4 x 0.55	3.74	14.3 lbs	0.63	3.95
20	[mm]	150	380	150	58	75	4 x 14	105	7 kg	18	7
	[in]	5.91	14.96	5.91	2.28	2.95	4 x 0.55	4.13	15.4 lbs	0.71	8.14
25	[mm]	160	380	150	68	85	4 x 14	115	8 kg	18	9.5
	[in]	6.30	14.96	5.91	2.68	3.35	4 x 0.55	4.53	17.6 lbs	0.71	11.05
32	[mm]	180	405	200	78	100	4 x 18	140	14 kg	18	18
	[in]	7.09	15.94	7.87	3.07	3.94	4 x 0.71	5.51	31 lbs	0.71	20.93
40	[mm]	200	420	200	88	110	4 x 18	150	16 kg	18	27
	[in]	7.87	16.54	7.87	3.46	4.33	4 x 0.71	5.91	35 lbs	0.71	31
50	[mm]	230	440	200	102	125	4 x 18	165	19 kg	20	40
	[in]	9.06	17.32	7.87	4.02	4.92	4 x 0.71	6.50	42 lbs	0.79	47
65	[mm]	290	425	200	122	145	8 x 18	185	29 kg	22	78
	[in]	11.42	16.73	7.87	4.80	5.71	8 x 0.71	7.28	64 lbs	0.87	91
80	[mm]	310	520	250	138	160	8 x 18	200	38 kg	24	113
	[in]	12.20	20.47	9.84	5.43	6.30	8 x 0.71	7.87	84 lbs	0.94	131
100	[mm]	350	625	315	162	190	8 x 22	235	60 kg	24	179
	[in]	13.78	24.61	12.40	6.38	7.48	8 x 0.87	9.25	132 lbs	0.94	208
125*	[mm]	400	625	315	188	220	8 x 26	270	95 kg	26	256
	[in]	15.75	24.61	12.40	7.40	8.66	8 x 1.02	10.63	209 lbs	1.02	298
150*	[mm]	480	840	400	218	250	8 x 26	300	125 kg	28	405
	[in]	18.90	33.07	15.75	8.58	9.84	8 x 1.02	11.81	276 lbs	1.10	471
200*	[mm]	600	930	500	285	320	12 x 30	375	190 kg	34	693
	[in]	23.62	36.61	19.69	11.22	12.60	12 x 1.18	14.76	419 lbs	1.34	806
250*	[mm]	730	1020	500	345	385	12 x 33	450	305 kg	38	1047
	[in]	28.74	40.16	19.69	13.58	15.16	12 x 1.30	17.72	672 lbs	1.50	1217
300*	[mm]	850	1125	630	410	450	16 x 33	515	425 kg	42	1460
	[in]	33.46	44.29	24.80	16.14	17.72	16 x 1.30	20.28	937 lbs	1.65	1698
350*	[mm]	980	1395	720	465	510	16 x 36	580	540 kg	46	1780
	[in]	38.58	54.92	28.35	18.31	20.08	16 x 1.42	22.83	1190 lbs	1.81	2070
400*	[mm]	1100	1400	720	535	585	16 x 39	660	831 kg	50	2024
	[in]	43.31	55.12	28.35	21.06	23.03	16 x 1.54	25.98	1832 lbs	1.97	2353
500*	[mm]	1300	1500	720	615	670	20 x 42	755	1300 kg	52	3100
	[in]	51.18	59.06	28.35	24.21	26.38	20 x 1.65	29.72	2866 lbs	2.05	3605

* Nominal Sizes with Equilibrating Disc



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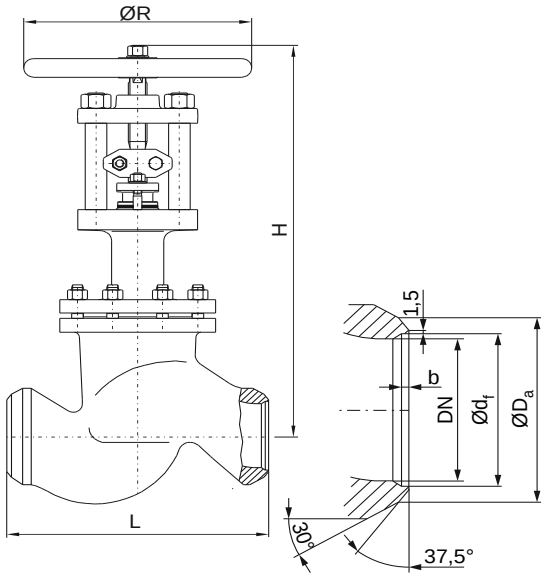
PN40 Sizes DN15 - DN500

Options

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Notes

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Socket Weld Ends acc. to manufacturer standard



Dimensions & Weights & Flow Coefficients

DN	Unit	Globe		ØR	Butt Weld Ends			Weight	Kv [m³/h]	
		L	H		ØD _a	Ød _f	b		for pipe	cv [USGal/min]
15	[mm]	130	380	150	22	17	3	5.1 kg	Ø21.3 x 2.0	3.4
	[in]	5.12	14.96	5.91	0.87	0.67	0.12	11.2 lbs	Ø0.84 x 0.08	3.95
20	[mm]	150	380	150	28	22	4	6.1 kg	Ø26.9 x 2.3	7
	[in]	5.91	14.96	5.91	1.10	0.87	0.16	13.4 lbs	Ø1.06 x 0.09	8.14
25	[mm]	160	380	150	35	28.5	4	5.7 kg	Ø33.7 x 2.6	9.5
	[in]	6.30	14.96	5.91	1.38	1.12	0.16	12.6 lbs	Ø1.33 x 0.10	11.05
32	[mm]	180	405	200	44	ON REQUEST				18
	[in]	7.09	15.94	7.87	1.73					20.93
40	[mm]	200	420	200	50	43	4	12.2 kg	Ø48.3 x 2.6	27
	[in]	7.87	16.54	7.87	1.97	1.69	0.16	27 lbs	Ø1.90 x 0.10	31
50	[mm]	230	440	200	62	53.5	5	14 kg	Ø60.3 x 3.2	40
	[in]	9.06	17.32	7.87	2.44	2.11	0.20	31 lbs	Ø2.37 x 0.13	47
65	[mm]	290	425	200	77	68.5	6	23 kg	Ø76.1 x 3.6	78
	[in]	11.42	16.73	7.87	3.03	2.70	0.24	51 lbs	Ø3.00 x 0.14	91
80	[mm]	310	520	250	91	80.5	6	31 kg	Ø88.9 x 4.0	113
	[in]	12.20	20.47	9.84	3.58	3.17	0.24	68 lbs	Ø3.50 x 0.16	131
100	[mm]	350	625	315	117	104.3	8	50 kg	Ø114.3 x 5.0	179
	[in]	13.78	24.61	12.40	4.61	4.11	0.31	110 lbs	Ø4.50 x 0.20	208
125*	[mm]	400	625	315	144	130.5	7	83 kg	Ø139.7 x 4.5	256
	[in]	15.75	24.61	12.40	5.67	5.14	0.28	183 lbs	Ø5.50 x 0.18	298
150*	[mm]	480	840	400	172	157	9	108 kg	Ø168.3 x 5.6	405
	[in]	18.90	33.07	15.75	6.77	6.18	0.35	238 lbs	Ø6.63 x 0.22	471
200*	[mm]	600	930	500	223	204.5	11	160 kg	Ø219.1 x 7.1	693
	[in]	23.62	36.61	19.69	8.78	8.05	0.43	353 lbs	Ø8.63 x 0.28	806
250*	[mm]	730	1020	500	278	257	12	258 kg	Ø273.0 x 8.0	1047
	[in]	28.74	40.16	19.69	10.94	10.12	0.47	569 lbs	Ø10.75 x 0.31	1217
300*	[mm]	850	1125	630	329	307.9	12	362 kg	Ø323.9 x 8.0	1460
	[in]	33.46	44.29	24.80	12.95	12.12	0.47	798 lbs	Ø12.75 x 0.31	1698
350*	[mm]	980	1395	720	362	338	14	455 kg	Ø355.6 x 8.8	1780
	[in]	38.58	54.92	28.35	14.25	13.31	0.55	1003 lbs	Ø14.00 x 0.35	2070
400*	[mm]	1100	1400	720	413	384.4	17	712 kg	Ø406.4 x 11.0	2024
	[in]	43.31	55.12	28.35	16.26	15.13	0.67	1570 lbs	Ø16.00 x 0.43	2353
500*	[mm]	1300	1500	720	516	479.6	22	1157 kg	Ø508.0 x 14.2	3100
	[in]	51.18	59.06	28.35	20.31	18.88	0.87	2551 lbs	Ø20.00 x 0.56	3605

* Nominal Sizes with Equilibrating Disc

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