

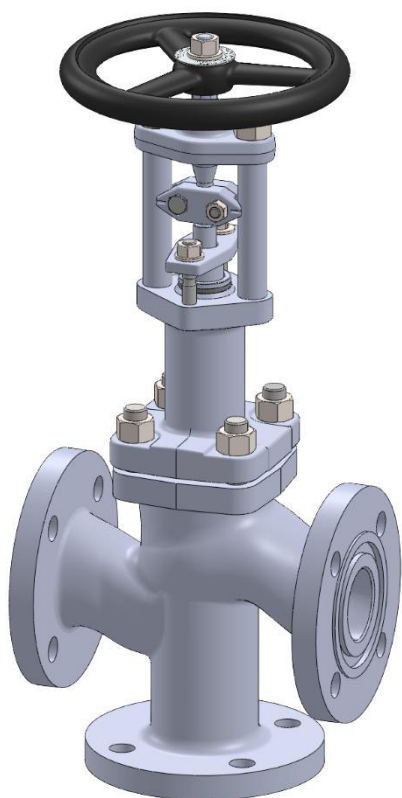


PHÖNIX

STRACK

DAUME
REGELARMATUREN

S/P Solent & Pratt
Phoenix Ltd



3-Way Globe Valve Type 374 PN 25

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Model 374

3- Way / Protected Bellows

Applications & Design Features

Applications

Model 374 is designed for critical service applications involving lethal, toxic, corrosive, inflammable, volatile, radiating, or expensive fluids. The 3-way valve, depending on the version, perform different functions: the mixing and distribution of media flows or the shut-off of individual pipe sections.

The most common applications are

- Dry Chlorine (Cl₂)
- Anhydrous Hydrogen Chloride (HCl)
- Vinyl Chloride Monomer (VCM)
- Ethylene Dichloride (EDC)
- Anhydrous Hydrofluoric Acid (HF)
- Isocyanates (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.

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

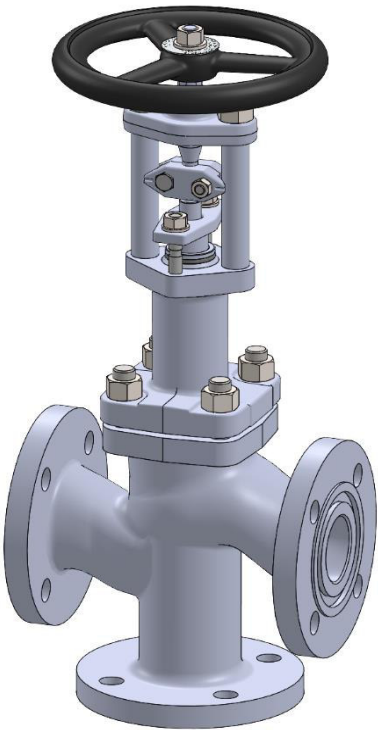
Body and Bonnet

- 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 and seats for flowrate modification
- replaceable disc and seats for inexpensive maintenance

= zero emissions, zero seat leakage, low maintenance



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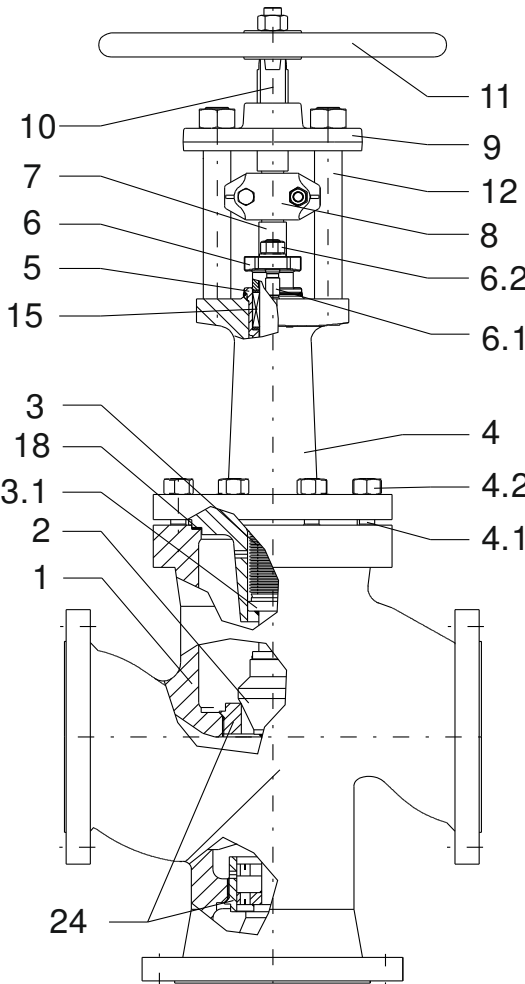
Standard Materials of Construction

Options

Other materials per customer requirements are available!

Notes

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



Materials

Item		Carbon steel Model 350C up to 450°C	low temp. Carbon steel Model 350T -50°C up to 300°C	Stainless steel Model 350V -200°C up to 400°C
1	Body	1.0460 / 1.0619	1.0566 / 1.6220 / 1.1138	1.4404 / 1.4408
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 / 1.1138	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
24	Seat ring	1.4571	1.4571	1.4571

* 3 220°C Packing of pure graphite



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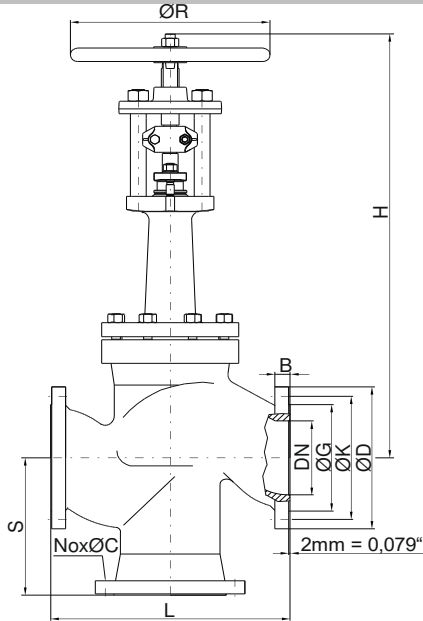
PN25 Sizes DN15 - DN500

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	L	S	H	ØR	Flange facing type B1					Weight	Kv [m³/h]	
						ØG	ØK	No x ØC	ØD	B		cv [USGal/min]	
15	[mm]	130	120/ 115	380	150	45	65	4 x 14	95	16	7 kg	3.4	
	[in]	5.12	4.72/ 4.52	14.96	5.91	1.77	2.56	4 x 0.55	3.74	0.63	15.4 lbs	3.95	
20	[mm]	150	120/ 115	380	150	58	75	4 x 14	105	18	8 kg	7	
	[in]	5.91	4.72/ 4.52	14.96	5.91	2.28	2.95	4 x 0.55	4.13	0.71	17.6 lbs	8.14	
25	[mm]	160	120/ 115	380	150	68	85	4 x 14	115	18	9.5 kg	8.3	
	[in]	6.30	4.72/ 4.52	14.96	5.91	2.68	3.35	4 x 0.55	4.53	0.71	20.9 lbs	9.65	
32	[mm]	180	130/ 150	405	200	78	100	4 x 18	140	18	16 kg	18	
	[in]	7.09	5.12/ 5.9	15.94	7.87	3.07	3.94	4 x 0.71	5.51	0.71	35 lbs	20.93	
40	[mm]	200	130/ 150	420	200	88	110	4 x 18	150	18	19 kg	21	
	[in]	7.87	5.12/ 5.9	16.54	7.87	3.46	4.33	4 x 0.71	5.91	0.71	42 lbs	24	
50	[mm]	230	130/ 150	440	200	102	125	4 x 18	165	20	21 kg	31	
	[in]	9.06	5.12/ 5.9	17.32	7.87	4.02	4.92	4 x 0.71	6.50	0.79	46 lbs	36	
65	[mm]	290	145	425	200	122	145	8 x 18	185	22	33 kg	78	
	[in]	11.42	5.71	16.73	7.87	4.80	5.71	8 x 0.71	7.28	0.87	73 lbs	91	
80	[mm]	310	180/ 190	520	250	138	160	8 x 18	200	24	44 kg	113	
	[in]	12.20	7.09/ 7.47	20.47	9.84	5.43	6.30	8 x 0.71	7.87	0.94	97 lbs	131	
100	[mm]	350	236	625	315	162	190	8 x 22	235	24	68 kg	179	
	[in]	13.78	9.29	24.61	12.40	6.38	7.48	8 x 0.87	9.25	0.94	150 lbs	208	
125*	[mm]	400	236	625	315	188	220	8 x 26	270	26	105 kg	256	
	[in]	15.75	9.29	24.61	12.40	7.40	8.66	8 x 1.02	10.63	1.02	231 lbs	298	
150*	[mm]	480	350	840	400	218	250	8 x 26	300	28	140 kg	405	
	[in]	18.90	13.78	33.07	15.75	8.58	9.84	8 x 1.02	11.81	1.10	309 lbs	471	
200*	[mm]	600	325	930	500	278	310	12 x 26	360	30	207 kg	693	
	[in]	23.62	12.80	36.61	19.69	10.94	12.20	12 x 1.02	14.17	1.18	456 lbs	806	
250*	[mm]	730	350	1020	500	335	370	12 x 30	425	32	321 kg	1047	
	[in]	28.74	13.78	40.16	19.69	13.19	14.57	12 x 1.18	16.73	1.26	708 lbs	1217	
300*	[mm]	850	375	1125	630	395	430	16 x 30	485	34	446 kg	1460	
	[in]	33.46	14.76	44.29	24.80	15.55	16.93	16 x 1.18	19.09	1.34	983 lbs	1698	
350*	[mm]	980	425	1395	720	450	490	16 x 33	555	38	577 kg	1780	
	[in]	38.58	16.73	54.92	28.35	17.72	19.29	16 x 1.30	21.85	1.50	1272 lbs	2070	
400*	[mm]	1100	575	1400	720	505	550	16 x 36	620	40	869 kg	2024	
	[in]	43.31	22.64	55.12	28.35	19.88	21.65	16 x 1.42	24.41	1.57	1916 lbs	2353	
500*	[mm]	1300	850/ 700	1500	720	615	660	20 x 36	730	48	1385 kg	3100	
	[in]	51.18	33.46/ 27.53	59.06	28.35	24.21	25.98	20 x 1.42	28.74	1.89	3053 lbs	3605	

* Nominal Sizes with Equilibrating Disc



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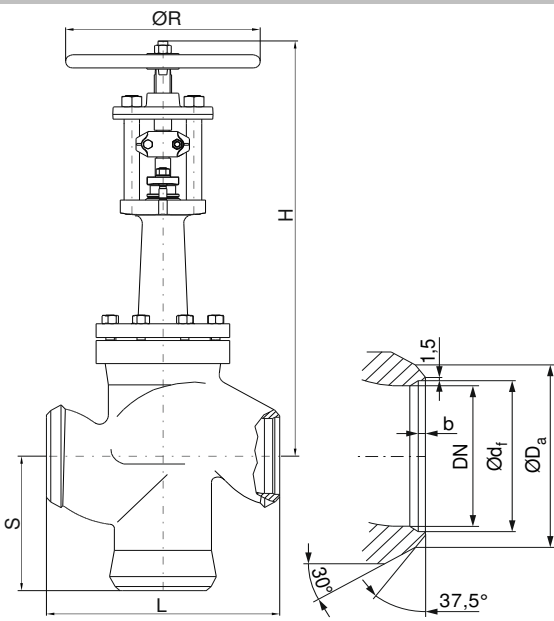
PN25 Sizes DN15 - DN500

Options

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Notes

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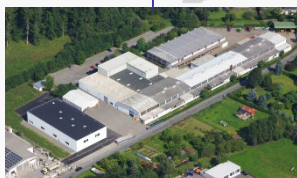


Dimensions & Weights & Flow Coefficients

DN	Unit	L	S	H	ØR	Butt Weld Ends			for pipe	Weight	Kv [m³/h]	
						ØD_a	Ød_i	b			cv [USGal/min]	
15	[mm]	130	120/ 115	380	150	22	17	3	Ø21.3 x 2.0	5 kg	3.4	
	[in]	5.12	4.72/ 4.52	14.96	5.91	0.87	0.67	0.12	Ø0.84 x 0.08	11 lbs	3.95	
20	[mm]	150	120/ 115	380	150	28	22	4	Ø26.9 x 2.3	6 kg	7	
	[in]	5.91	4.72/ 4.52	14.96	5.91	1.10	0.87	0.16	Ø1.06 x 0.09	13.2 lbs	8.14	
25	[mm]	160	120/ 115	380	150	35	28.5	4	Ø33.7 x 2.6	6.1 kg	8.3	
	[in]	6.30	4.72/ 4.52	14.96	5.91	1.38	1.12	0.16	Ø1.33 x 0.10	13.4 lbs	9.65	
32	[mm]	180	130/ 150	405	200	44			ON REQUEST	11 kg	18	
	[in]	7.09	5.12/ 5.9	15.94	7.87	1.73				24 lbs	20.93	
40	[mm]	200	130/ 150	420	200	50	43	4	Ø48.3 x 2.6	14 kg	21	
	[in]	7.87	5.12/ 5.9	16.54	7.87	1.97	1.69	0.16	Ø1.90 x 0.10	31 lbs	24	
50	[mm]	230	130/ 150	440	200	62	53.5	5	Ø60.3 x 3.2	14 kg	31	
	[in]	9.06	5.12/ 5.9	17.32	7.87	2.44	2.11	0.20	Ø2.37 x 0.13	31 lbs	36	
65	[mm]	290	145	425	200	77	68.5	6	Ø76.1 x 3.6	24 kg	78	
	[in]	11.42	5.71	16.73	7.87	3.03	2.70	0.24	Ø3.00 x 0.14	53 lbs	91	
80	[mm]	310	180/ 190	520	250	91	80.5	6	Ø88.9 x 4.0	33 kg	113	
	[in]	12.20	7.09/ 7.47	20.47	9.84	3.58	3.17	0.24	Ø3.50 x 0.16	73 lbs	131	
100	[mm]	350	236	625	315	117	104.3	8	Ø114.3 x 5.0	53 kg	179	
	[in]	13.78	9.29	24.61	12.40	4.61	4.11	0.31	Ø4.50 x 0.20	117 lbs	208	
125*	[mm]	400	236	625	315	144	130.5	7	Ø139.7 x 4.5	85 kg	256	
	[in]	15.75	9.29	24.61	12.40	5.67	5.14	0.28	Ø5.50 x 0.18	187 lbs	298	
150*	[mm]	480	350	840	400	172	157	9	Ø168.3 x 5.6	114 kg	405	
	[in]	18.90	13.78	33.07	15.75	6.77	6.18	0.35	Ø6.63 x 0.22	251 lbs	471	
200*	[mm]	600	325	930	500	223	204.5	11	Ø219.1 x 7.1	172 kg	693	
	[in]	23.62	12.80	36.61	19.69	8.78	8.05	0.43	Ø8.63 x 0.28	379 lbs	806	
250*	[mm]	730	350	1020	500	278	257	12	Ø273.0 x 8.0	272 kg	1047	
	[in]	28.74	13.78	40.16	19.69	10.94	10.12	0.47	Ø10.75 x 0.31	600 lbs	1217	
300*	[mm]	850	375	1125	630	329	307.9	12	Ø323.9 x 8.0	384 kg	1460	
	[in]	33.46	14.76	44.29	24.80	12.95	12.12	0.47	Ø12.75 x 0.31	847 lbs	1698	
350*	[mm]	980	425	1395	720	362	338	14	Ø355.6 x 8.8	486 kg	1780	
	[in]	38.58	16.73	54.92	28.35	14.25	13.31	0.55	Ø14.00 x 0.35	1071 lbs	2070	
400*	[mm]	1100	575	1400	720	413	384.4	17	Ø406.4 x 11.0	752 kg	2024	
	[in]	43.31	22.64	55.12	28.35	16.26	15.13	0.67	Ø16.00 x 0.43	1658 lbs	2353	
500*	[mm]	1300	850/ 700	1500	720	516	479.6	22	Ø508.0 x 14.2	1211 kg	3100	
	[in]	51.18	33.46/ 27.53	59.06	28.35	20.31	18.88	0.87	Ø20.00 x 0.56	2670 lbs	3605	

* Nominal Sizes with Equilibrating Disc

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Printed in Germany
09/22-R0