



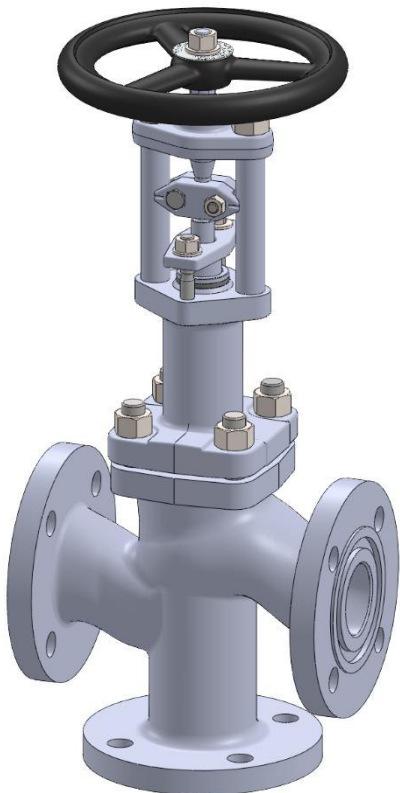
PHÖNIX

STRACK

DAUME
REGELARMATUREN



Solent & Pratt
Phönix Ltd



3-Way Globe Valve Type 374 PN 40

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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

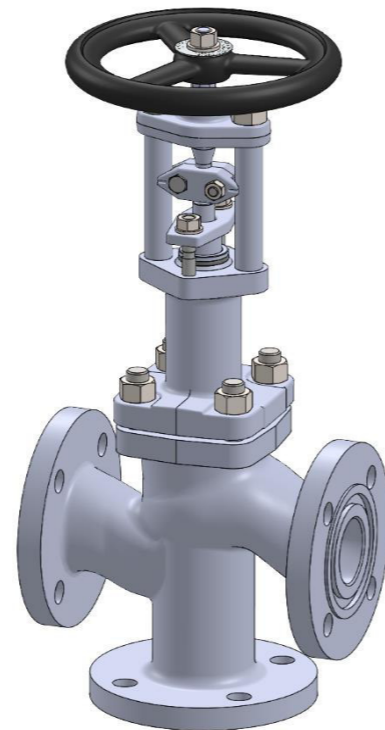
Body and Bonnet

- 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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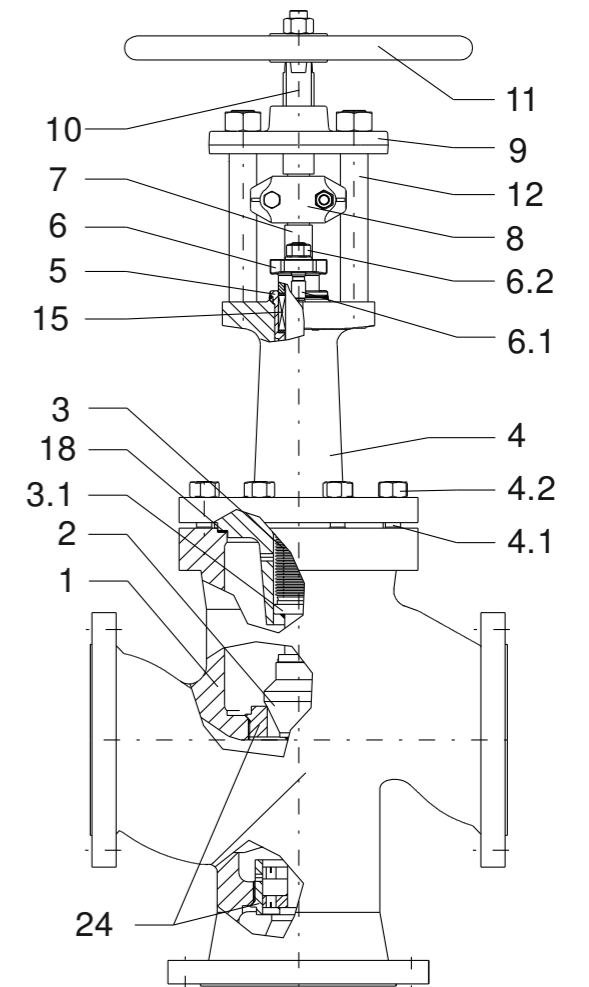
Standard Materials of Construction

Options

Other materials per customer requirements are available!

Notes

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



Materials

Item	Part Name	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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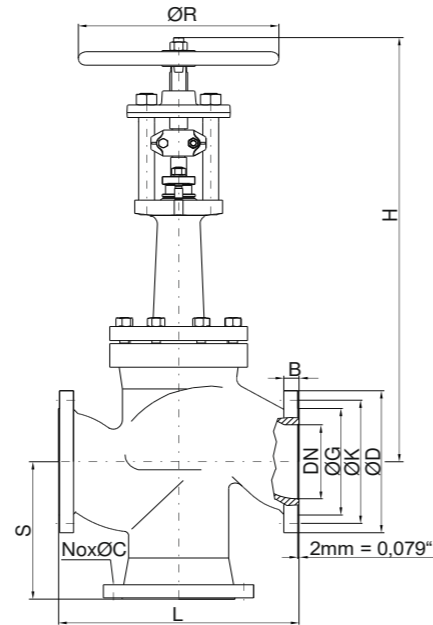
PN40 Sizes DN15 - DN500

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	L	S	H	ØR	Flange facing type B1					Weight	Kv [m³/h]	cv [USGal/min]
						ØG	ØK	No x ØC	ØD	B			
15	[mm] [in]	130 5.12	120/ 115 4.72/ 4.52	380 14.96	150 5.91	45 1.77	65 2.56	4 x 14 4 x 0.55	95 3.74	16 0.63	7 kg 15.4 lbs	3.4 3.95	
20	[mm] [in]	150 5.91	120/ 115 4.72/ 4.52	380 14.96	150 5.91	58 2.28	75 2.95	4 x 14 4 x 0.55	105 4.13	18 0.71	8 kg 17.6 lbs	7 8.14	
25	[mm] [in]	160 6.30	120/ 115 4.72/ 4.52	380 14.96	150 5.91	68 2.68	85 3.35	4 x 14 4 x 0.55	115 4.53	18 0.71	9.5 kg 20.9 lbs	8.3 9.65	
32	[mm] [in]	180 7.09	130/ 150 5.12/ 5.9	405 15.94	200 7.87	78 3.07	100 3.94	4 x 18 4 x 0.71	140 5.51	18 0.71	16 kg 35 lbs	18 20.93	
40	[mm] [in]	200 7.87	130/ 150 5.12/ 5.9	420 16.54	200 7.87	88 3.46	110 4.33	4 x 18 4 x 0.71	150 5.91	18 0.71	19 kg 42 lbs	21 24	
50	[mm] [in]	230 9.06	130/ 150 5.12/ 5.9	440 17.32	200 7.87	102 4.02	125 4.92	4 x 18 4 x 0.71	165 6.50	20 0.79	21 kg 46 lbs	31 36	
65	[mm] [in]	290 11.42	145 5.71	425 16.73	200 7.87	122 4.80	145 5.71	8 x 18 8 x 0.71	185 7.28	22 0.87	33 kg 73 lbs	78 91	
80	[mm] [in]	310 12.20	180/ 190 7.09/ 7.47	520 20.47	250 9.84	138 5.43	160 6.30	8 x 18 8 x 0.71	200 7.87	24 0.94	44 kg 97 lbs	113 131	
100	[mm] [in]	350 13.78	236 9.29	625 24.61	315 12.40	162 6.38	190 7.48	8 x 22 8 x 0.87	235 9.25	24 0.94	68 kg 150 lbs	179 208	
125*	[mm] [in]	400 15.75	236 9.29	625 24.61	315 12.40	188 7.40	220 8.66	8 x 26 8 x 1.02	270 10.63	26 1.02	105 kg 231 lbs	256 298	
150*	[mm] [in]	480 18.90	350 13.78	840 33.07	400 15.75	218 8.58	250 9.84	8 x 26 8 x 1.02	300 11.81	28 1.10	140 kg 309 lbs	405 471	
200*	[mm] [in]	600 23.62	325 12.80	930 36.61	500 19.69	285 11.22	320 12.60	12 x 30 12 x 1.18	375 14.76	34 1.34	215 kg 474 lbs	693 806	
250*	[mm] [in]	730 28.74	350 13.78	1020 40.16	500 19.69	345 13.58	385 15.16	12 x 33 12 x 1.30	450 17.72	38 1.50	340 kg 750 lbs	1047 1217	
300*	[mm] [in]	850 33.46	375 14.76	1125 44.29	630 24.80	410 16.14	450 17.72	16 x 33 16 x 1.30	515 20.28	42 1.65	475 kg 1047 lbs	1460 1698	
350*	[mm] [in]	980 38.58	425 16.73	1395 54.92	720 28.35	465 18.31	510 20.08	16 x 36 16 x 1.42	580 22.83	46 1.81	610 kg 1345 lbs	1780 2070	
400*	[mm] [in]	1100 43.31	575 22.64	1400 55.12	720 28.35	535 21.06	585 23.03	16 x 39 16 x 1.54	660 25.98	50 1.97	931 kg 2053 lbs	2024 2353	
500*	[mm] [in]	1300 51.18	850/ 700 33.46/ 27.53	1500 59.06	720 28.35	615 24.21	670 26.38	20 x 42 20 x 1.65	755 29.72	52 2.05	1420 kg 3131 lbs	3100 3605	

* Nominal Sizes with Equilibrating Disc



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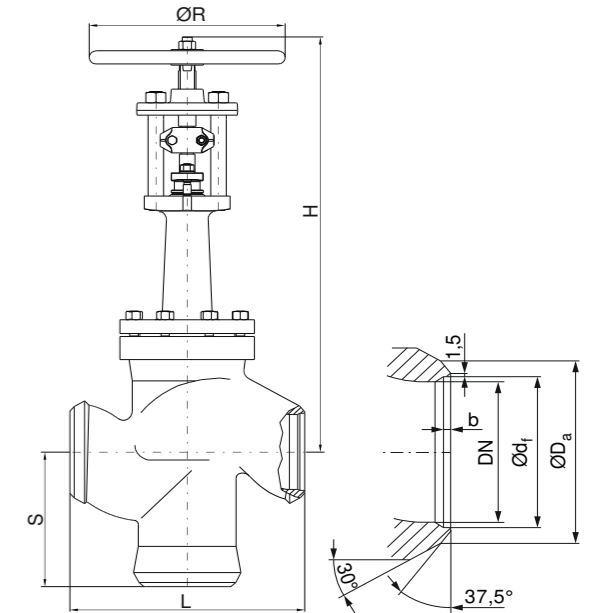
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- F-T-F Dimensions: Flanges acc. to DIN EN 558-1
Butt Weld Ends acc. to DIN EN 12982
Socket Weld Ends acc. to manufacturer standard



Dimensions & Weights & Flow Coefficients

DN	Unit	L	S	H	ØR	Butt Weld Ends				Weight	Kv [m³/h]	cv [USGal/min]
						ØD _a	Ød _i	b	for pipe			
15	[mm] [in]	130 5.12	120/ 115 4.72/ 4.52	380 14.96	150 5.91	22 0.87	17 0.67	3 0.12	Ø21.3 x 2.0 Ø0.84 x 0.08	5 kg 11 lbs	3.4 3.95	
20	[mm] [in]	150 5.91	120/ 115 4.72/ 4.52	380 14.96	150 5.91	28 1.10	22 0.87	4 0.16	Ø26.9 x 2.3 Ø1.06 x 0.09	6 kg 13.2 lbs	7 8.14	
25	[mm] [in]	160 6.30	120/ 115 4.72/ 4.52	380 14.96	150 5.91	35 1.38	28.5 1.12	4 0.16	Ø33.7 x 2.6 Ø1.33 x 0.10	6.1 kg 13.4 lbs	8.3 9.65	
32	[mm] [in]	180 7.09	130/ 150 5.12/ 5.9	405 15.94	200 7.87	44 1.73	ON REQUEST			11 kg 24 lbs	18 20.93	
40	[mm] [in]	200 7.87	130/ 150 5.12/ 5.9	420 16.54	200 7.87	50 1.97	43 1.69	4 0.16	Ø48.3 x 2.6 Ø1.90 x 0.10	14 kg 31 lbs	21 24	
50	[mm] [in]	230 9.06	130/ 150 5.12/ 5.9	440 17.32	200 7.87	62 2.44	53.5 2.11	5 0.20	Ø60.3 x 3.2 Ø2.37 x 0.13	14 kg 31 lbs	31 36	
65	[mm] [in]	290 11.42	145 5.71	425 16.73	200 7.87	77 3.03	68.5 2.70	6 0.24	Ø76.1 x 3.6 Ø3.00 x 0.14	24 kg 53 lbs	78 91	
80	[mm] [in]	310 12.20	180/ 190 7.09/ 7.47	520 20.47	250 9.84	91 3.58	80.5 3.17	6 0.24	Ø88.9 x 4.0 Ø3.50 x 0.16	33 kg 73 lbs	113 131	
100	[mm] [in]	350 13.78	236 9.29	625 24.61	315 12.40	117 4.61	104.3 4.11	8 0.31	Ø114.3 x 5.0 Ø4.50 x 0.20	53 kg 117 lbs	179 208	
125*	[mm] [in]	400 15.75	236 9.29	625 24.61	315 12.40	144 5.67	130.5 5.14	7 0.28	Ø139.7 x 4.5 Ø5.50 x 0.18	85 kg 187 lbs	256 298	
150*	[mm] [in]	480 18.90	350 13.78	840 33.07	400 15.75	172 6.77	157 6.18	9 0.35	Ø168.3 x 5.6 Ø6.63 x 0.22	114 kg 251 lbs	405 471	
200*	[mm] [in]	600 23.62	325 12.80	930 36.61	500 19.69	223 8.78	204.5 8.05	11 0.43	Ø219.1 x 7.1 Ø8.63 x 0.28	171 kg 377 lbs	693 806	
250*	[mm] [in]	730 28.74	350 13.78	1020 40.16	500 19.69	278 10.94	257 10.12	12 0.47	Ø273.0 x 8.0 Ø10.75 x 0.31	270 kg 595 lbs	1047 1217	
300*	[mm] [in]	850 33.46	375 14.76	1125 44.29	630 24.80	329 12.95	307.9 12.12	12 0.47	Ø323.9 x 8.0 Ø12.75 x 0.31	381 kg 840 lbs	1460 1698	
350*	[mm] [in]	980 38.58	425 16.73	1395 54.92	720 28.35	362 14.25	338 13.31	14 0.55	Ø355.6 x 8.8 Ø14.00 x 0.35	483 kg 1065 lbs	1780 2070	
400*	[mm] [in]	1100 43.31	575 22.64	1400 55.12	720 28.35	413 16.26	384.4 15.13	17 0.67	Ø406.4 x 11.0 Ø16.00 x 0.43	753 kg 1660 lbs	2024 2353	
500*	[mm] [in]	1300 51.18	850/ 700 33.46/ 27.53	1500 59.06	720 28.35	516 20.31	479.6 18.88	22 0.87	Ø508.0 x 14.2 Ø20.00 x 0.56	1205 kg 2657 lbs	3100 3605	

* Nominal Sizes with Equilibrating Disc

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