

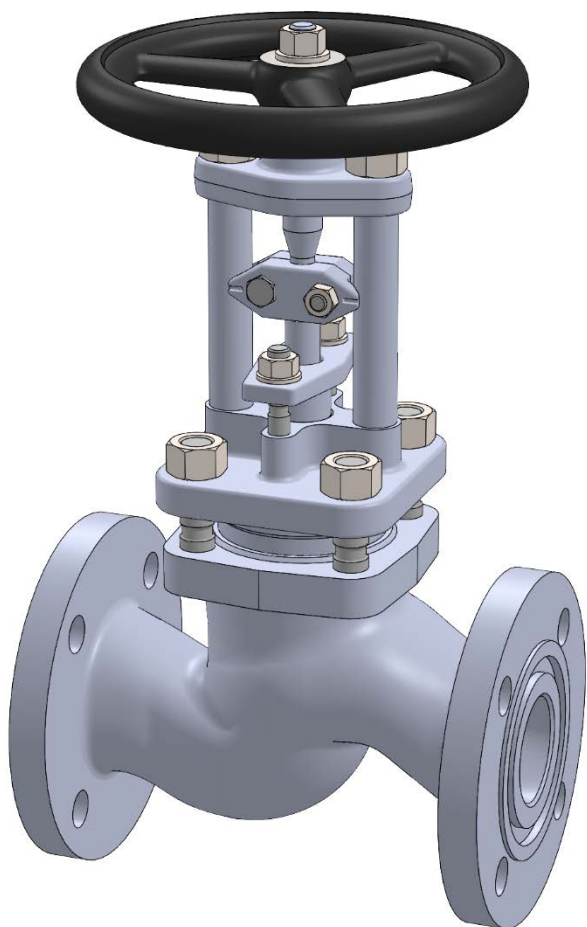


PHÖNIX

STRACK

DAUME
REGELARMATUREN

SIP Solent & Pratt
Phönix Ltd



Globe Valve

Type 390

PN 63

Phönix Valve Group
Am Stadtbruch 6
34471 Volkmarsen

Phone:
web:
eMail:

+49 5693 988 0
www.phoenix-valvegroup.com
info@phoenix-valvegroup.com



Model 390

Short Medium Flushed Bellows

Applications & Design Features

Applications

Model 390 is designed for a wide range of critical applications involving lethal, toxic, corrosive, inflammable, volatile, radiating, or expensive process fluids. With its bellows exposed to the product flow model 390 is recommended for service conditions where fluid crystallization, polymerization, or any settling of solids in the bellows convolutions are likely. The large annular area around the bellows allows for fluid circulation and maintains a bellows temperature equivalent to the fluid.

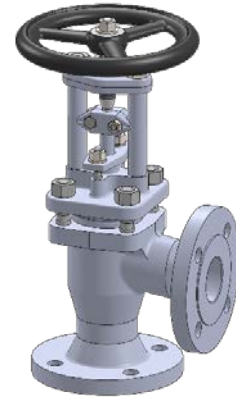
The most common applications are

- Phosgene (COCl₂)
- Isocyanites (MDI, TDI)
- Hydrocyanic Acid (HCN)
- Vinyl Chloride
- Styrene
- Slurries
- Molten Sodium
- Heat transfer fluid applications (thermal oil, refrigerants, etc.) and fluids of similar nature.

This 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 valve monitoring and re-adjustment of the 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

- exposed to product flow for self cleaning
- multiple walls and hydroformed bellows
- up to 10.000 bellows operations guaranteed

Stem

- two-piece stem protects the bellows against torque stress
- design eliminates stem bearings along with their maintenance needs
- metal-to-metal back seat provides additional safety

Body and Bonnet

- bodies are forgings or castings with larger than required wall thickness and integral flanges
- body bonnet joint gasket is fully confined to prevent gasket flow or blowout
- angle and Y-pattern design available (model 391 and 392)

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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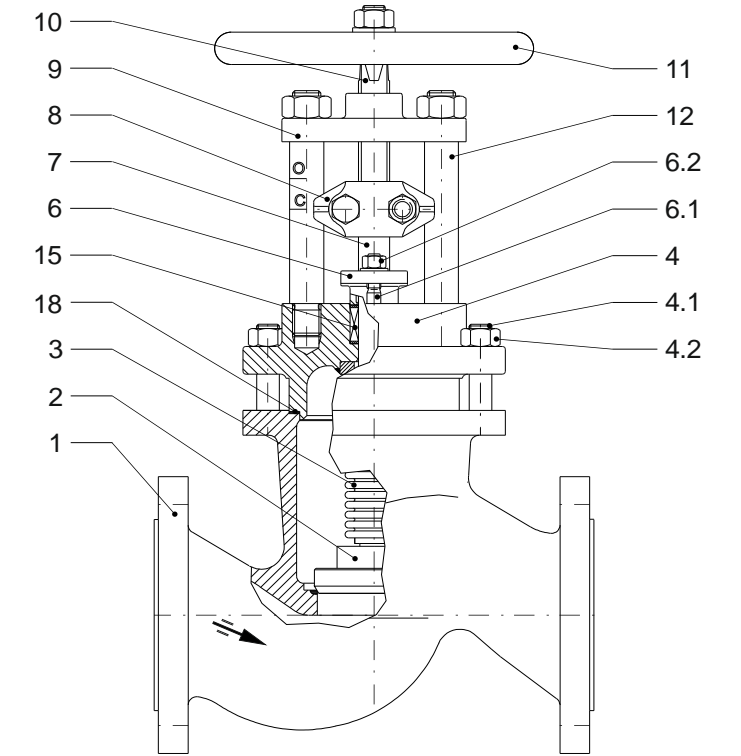
Standard Materials of Construction

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 390C up to 450°C	low temp. Carbon steel Model 390T -50°C up to 300°C	Stainless steel Model 390V -200°C up to 400°C
1	Body	1.0460 / 1.0619	1.0566 / 1.6220 / 1.1138	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
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
6	Gland follower	1.0460 / 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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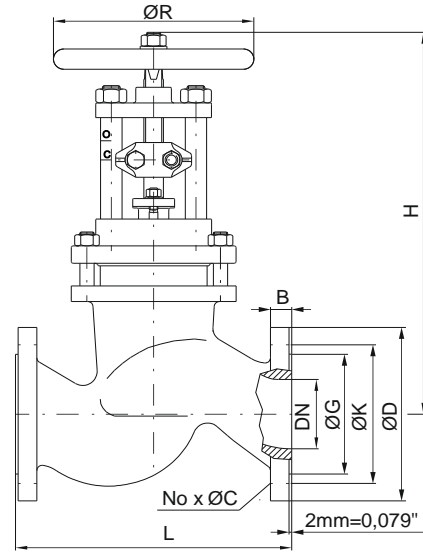
PN63 Sizes DN15 - DN150

Options

- Other customer specific designs on request

Notes

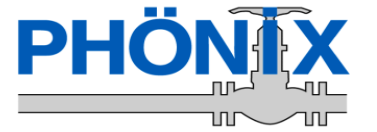
- Design acc. PED 2014/68/EU and harmonized standards
- Marking acc. to EN 19, AD-A4, PED 2014/68/EU, CE
- Standard tests acc. to DIN EN 12266, ISO 5208
- Preservation acc. to manufacturer standard
- Connections: Flanges acc. to DIN EN 1092-1
Butt Weld Ends acc. to DIN EN 12627
Socket Weld Ends acc. 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		Flange facing type B1						Kv [m³/h]	
		L	H	ØR	ØG	ØK	No x ØC	ØD	B	Weight	cv [USGal/min]
15	[mm]	210	270	150	45	75	4 x 14	105	20	12 kg	3.6
	[in]	8.27	11.1	5.91	1.77	2.95	4 x 0.55	4.13	0.79	26 lbs	4.19
20	[mm]	230	270	150	58	90	4 x 18	130	22	13 kg	7.4
	[in]	9.06	11.1	5.91	2.28	3.54	4 x 0.71	5.12	0.87	29 lbs	8.6
25	[mm]	230	270	150	68	100	4 x 18	140	24	15 kg	9
	[in]	9.06	11.1	5.91	2.68	3.94	4 x 0.71	5.51	0.94	33 lbs	10.47
32	[mm]	260	370	200	78	110	4 x 22	155	24	24 kg	17
	[in]	10.24	14.6	7.87	3.07	4.33	4 x 0.87	6.10	0.94	53 lbs	19.77
40	[mm]	260	345	200	88	125	4 x 22	170	26	26 kg	27
	[in]	10.24	16.9	7.87	3.46	4.92	4 x 0.87	6.69	1.02	57 lbs	31
50	[mm]	300	345	200	102	135	4 x 22	180	26	30 kg	32
	[in]	11.81	15.8	7.87	4.02	5.31	4 x 0.87	7.09	1.02	66 lbs	37
65	[mm]	ON REQUEST									
	[in]	ON REQUEST									
80	[mm]	380	530	315	138	170	8 x 22	215	28	60 kg	105
	[in]	14.96	20.87	12.40	5.43	6.69	8 x 0.87	8.46	1.10	132 lbs	122
100*	[mm]	430	540	400	162	200	8 x 26	250	30	80 kg	167
	[in]	16.93	21.26	15.75	6.38	7.87	8 x 1.02	9.84	1.18	176 lbs	194
125*	[mm]	ON REQUEST									
	[in]	ON REQUEST									
150*	[mm]	550	800	400	218	280	8 x 33	345	36	200 kg	375
	[in]	21.65	31.50	15.75	8.58	11.02	8 x 1.30	13.58	1.42	441 lbs	436

* permissible differential pressure [bar] see Appendix I, Table 1



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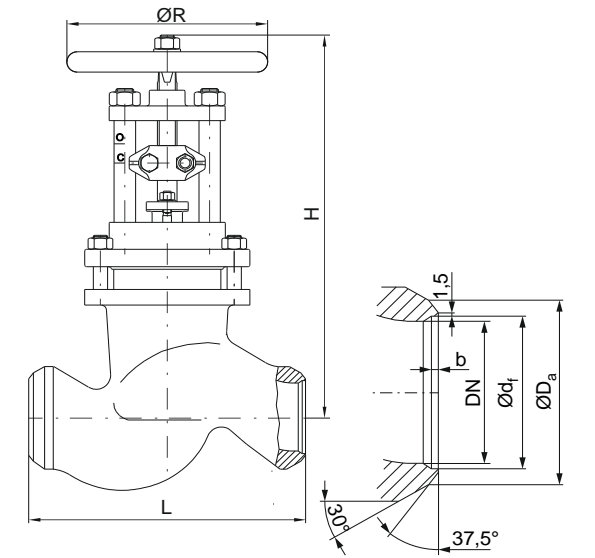
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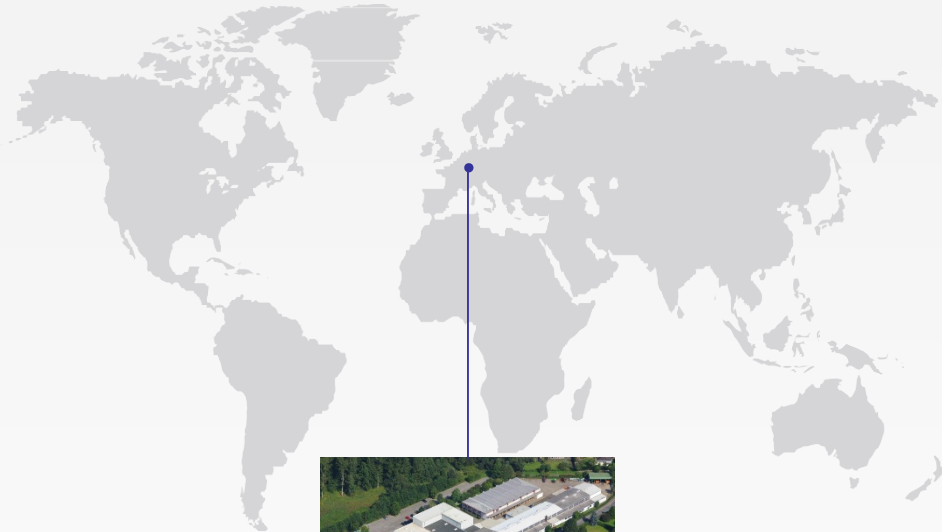


Dimensions & Weights & Flow Coefficients

DN	Unit	Globe		Butt Weld Ends							Kv [m³/h]	
		L	H	ØR	ØD _a	Ød _f	b	for pipe	Weight	cv [USGal/min]		
15	[mm]	130	270	150	22	17	3	Ø21.3 x 2.0	10 kg	3.6		
	[in]	5.12	10.63	5.91	0.87	0.67	0.12	Ø0.84 x 0.08	22 lbs	4.19		
20	[mm]	ON REQUEST										
	[in]	ON REQUEST										
25	[mm]	160	270	150	35	28.5	4	Ø33.7 x 2.6	11 kg	9		
	[in]	6.30	10.63	5.91	1.38	1.12	0.16	Ø1.33 x 0.10	24 lbs	10.47		
32	[mm]	180	370	200	44	ON REQUEST				17 kg	17	
	[in]	7.09	14.57	7.87	1.73	ON REQUEST				37 lbs	19.77	
40	[mm]	200**	345	200	50	43	4	Ø48.3 x 2.6	18 kg	27		
	[in]	7.87	13.58	7.87	1.97	1.69	0.16	Ø1.90 x 0.10	40 lbs	31		
50	[mm]	230**	345	200	62	53.5	5	Ø60.3 x 3.2	22 kg	32		
	[in]	9.06	13.58	7.87	2.44	2.11	0.20	Ø2.37 x 0.13	49 lbs	37		
65	[mm]	ON REQUEST										
	[in]	ON REQUEST										
80	[mm]	380	530	315	91	80.5	6	Ø88.9 x 4.0	50 kg	105		
	[in]	14.96	20.87	12.40	3.58	3.17	0.24	Ø3.50 x 0.16	110 lbs	122		
100*	[mm]	430	540	400	117	104.3	8	Ø114.3 x 5.0	65 kg	167		
	[in]	16.93	21.26	15.75	4.61	4.11	0.31	Ø4.50 x 0.20	143 lbs	194		
125*	[mm]	ON REQUEST										
	[in]	ON REQUEST										
150*	[mm]	550	800	400	172	157	9	Ø168.3 x 5.6	166 kg	375		
	[in]	21.65	31.50	15.75	6.77	6.18	0.35	Ø6.63 x 0.22	366 lbs	436		

* permissible differential pressure [bar] see Appendix I, Table 1

Contact us



Volkmarsen, Germany

Sales and Operations

Phönix Valve Group GmbH

Volkmarsen, Germany
Phone: +49 5693 988 0
Email: info@phoenix-valvegroup.com
Website: www.phoenix-valvegroup.com

Phönix Armaturen Werke-Bregel GmbH

Volkmarsen, Germany
Phone: +49 5693 988 0
Email: info@phoenix-valvegroup.com
Website: www.phoenix-valvegroup.com

Strack GmbH

Volkmarsen, Germany
Phone: +49 5693 988 0
Email: info@phoenix-valvegroup.com
Website: www.phoenix-valvegroup.com

PAW SARL

Genay Cedex, France
Phone: +33 437 408 195
Email: commercial@phoenix-valvegroup.com
Website: www.phoenix-valvegroup.com

Daume Regelarmaturen GmbH

Volkmarsen, Germany
Phone: +49 5693 988 0
Email: info@phoenix-valvegroup.com
Website: www.phoenix-valvegroup.com

Solent & Pratt Phönix Ltd.

Volkmarsen, Germany
Phone: +49 5693 988 0
Email: info@phoenix-valvegroup.com
Website: www.phoenix-valvegroup.com



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