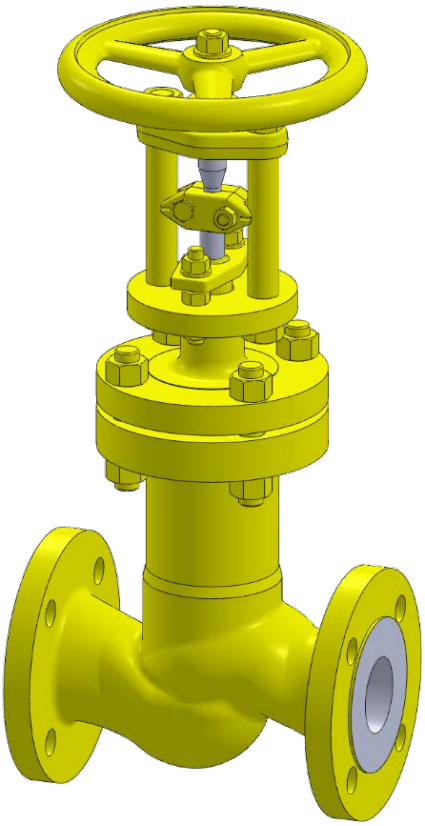
PHÖNIX STRACK DAUME REGELARMATUREN S+P Solent & Pratt Phönix Ltd



Globe Valve Type 350EC4-5 PN63

Phönix Valve Group
Am Stadtbruch 6
34471 Volkmarsen

Phone: +49 5693 988 0
web: www.phoenix-valvegroup.com
eMail: info@phoenix-valvegroup.com

PHÖNIX VALVE GROUP

Applications & Design Features

Applications
Model 350EC4-5 PN63 is designed for critical service applications involving lethal, toxic, corrosive, inflammable, volatile, radiating, or expensive fluids.

The most common applications are

- Dry Chlorine (Cl2) liquid or gas service temperature -40°C to 120°C / -40°F to 248°F
- Anhydrous Hydrogen Chloride (HCl)
- Anhydrous Hydrofluoric acid (HF)
- Phosgene (COCl2)
- Vinyl Chloride Monomer (VCM)
- Ethylene Dichloride (EDC)
- Isocyanites (MDI, TDI, HDI, etc.) and
- fluids of similar nature.

Model 350EC4 (up to DN50/2") and 350EC5 (>DN50/2") are in accordance with Euro Chlor **GEST 17/492**. Design and selected materials also meet the requirements of Chlorine Institute Pamphlet 6 Service Classes I through VI. 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. Special dual containment designs for complete valve leakage monitoring as well as designs for flow control applications with enhanced Bellows cycle life are available.

Design features

Bellows and Packing

- bellows protected in extended body against direct impingement from product flow
- multiple walls and hydroformed bellows
- up to 50.000 bellows operations guaranteed
- packing area integral with bonnet – no welded-in sleeve

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
- guided stem on top and bottom
- one-piece stem design upon request per euro chlor gest 17/492 (model 350ec14-15)

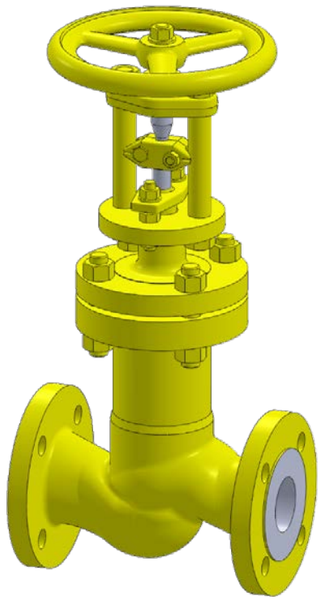
Body and Bonnet

- bodies are one-piece forgings or castings with larger than required wall thickness and integral flanges
- no welds in pressure boundary
- 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



Globe Valve *Bellows Sealed*

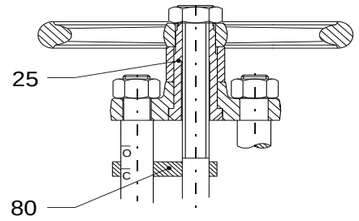
Model 350EC4-5 PN63
Straight Way / Protected Bellows

Standard Materials of Construction

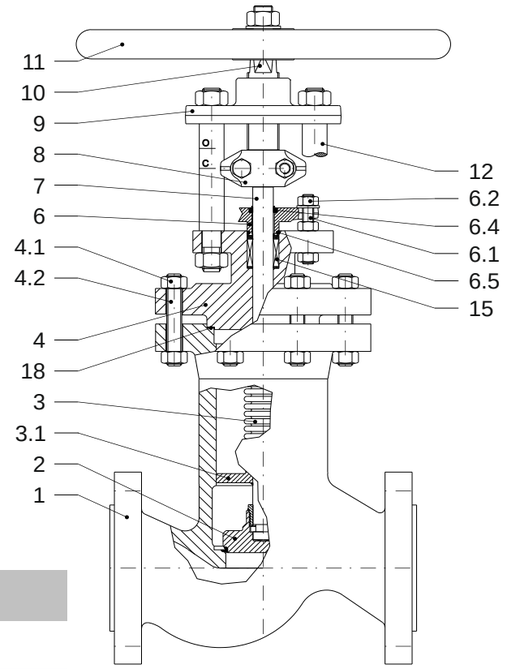
Options
Other customer specific designs on request!
Other materials per customer requirements are available!

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

max. Δp 15 bar in acc. with customer specification



350EC14-15 / one piece stem



Materials

Item	Part Name	low temp. Carbon steel -50°C up to 300°C
1	Body	1.6220
	Seat overlay	Stellite 21 (≈ 32HRC)
2	Disc	1.4571 / 1.0566 / 1.0571 [2]
	Overlay	Stellite 6 (≈ 42HRC)
3	Bellows	2.4819 [1]
3.1	Guide ring	2.4819 [1]
3.2	Ring	2.4819 [1]
4	Bonnet	1.6220
4.1	Stud bolt	A320 GR. L7
4.2	Hex. nut	A194 GR.7L
6	Gland follower	1.5638
6.1	Stud bolt	A320 GR. L7
6.2	Hex. nut	A194 GR.7L
6.4	Wiper	EPDM
6.5	O-Ring	EPDM
7	Lower stem	1.4571 [2]
8	Coupling	1.4408, 1.4571
9	Bridge	1.0460, QPQ-nitrided
10	Upper stem	1.4057
11	Handwheel	Cast iron
12	Pillar	1.4057
15	Packing	PTFE-rings
18	Gasket	Grooved stainless steel / PTFE
25	Bushing	1.0718, QPQ-nitrided
80	Position indicator	1.4571

[1] Trim material 1.4571 / 316Ti optional

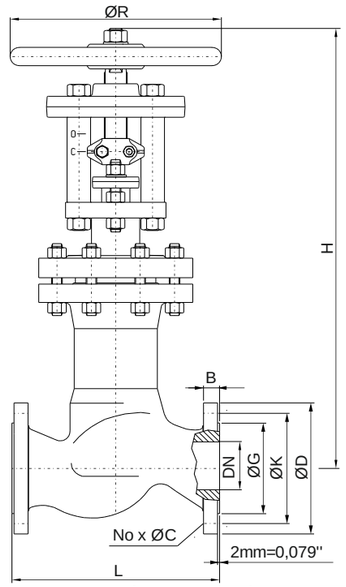
[2] Stem and Disc material 2.4819 / Hastelloy C-276 optional

Globe Valve *Bellows Sealed*

Model 350EC4-5 PN63

Straight Way / Protected Bellows

PN63 Sizes DN25 - DN150



Testing / Marking

- test and design acc. to GEST 17/492
  DIN EN 13709, DIN EN 1092-1 B2. DIN EN 558 Reihe 2
- TÜV approved strength calculation acc. to DIN EN 12516-2
  available for body & bonnet
- standard tests acc. to DIN EN 12266, ISO 5208, resistance and
  shell strength and leak test acc. to P10 and P11
- leak test on closure acc. to P12 (leakage rate A = tight)
- ASME B16.34 / MSS SP 61 / API 598 / BS 6755
- **max. dp 15 bar in acc. with customer specification**

Preservation

- drying at a temperature of 120°C (248°F) for at least 3 hours
- stuffing of drying agents (Silicagel) into the valve
- blanking of inlet and outlet orifice with suitable gaskets
  and bolted flanges to avoid entry of moisture into the valve
- disc secured in closed position
- unfinished surfaces protected against rust
- lubrication with chlorofluorinated grease

Dimensions & Weights & Flow Coefficients

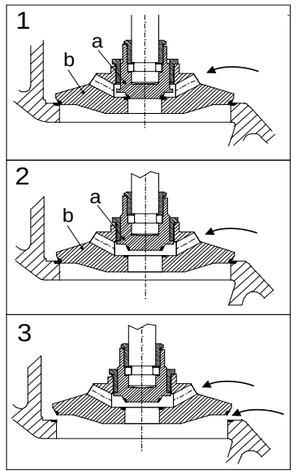
DN	Unit	Globe			Flage facing type B2						Kv [m³/h]
		L	H	ØR	ØG	ØK	No x ØC	ØD	B	Weight	cv *[USGal/min]*
25	[mm]	230	415	150	68	100	4 x 18	140	24	11 kg	11
	[in]	*9.06*	*16.34*	*5.91*	*2.68*	*3.94*	*4 x 0.71*	*5.51*	*0.94*	*24 lbs*	*12.79*
40	[mm]	260	460	200	88	125	4 x 22	170	26	22 kg	27
	[in]	*10.24*	*18.11*	*7.87*	*3.46*	*4.92*	*4 x 0.87*	*6.69*	*1.02*	*49 lbs*	*31*
50	[mm]	300	460	200	102	135	4 x 22	180	26	25 kg	46
	[in]	*11.81*	*18.11*	*7.87*	*4.02*	*5.31*	*4 x 0.87*	*7.09*	*1.02*	*55 lbs*	*53*
80	[mm]	380	695	250	138	170	8 x 22	215	28	65 kg	117
	[in]	*14.96*	*27.36*	*9.84*	*5.43*	*6.69*	*8 x 0.87*	*8.46*	*1.10*	*143 lbs*	*136*
100*	[mm]	430	770	315	162	200	8 x 26	250	30	101 kg	179
	[in]	*16.93*	*30.31*	*12.40*	*6.38*	*7.87*	*8 x 1.02*	*9.84*	*1.18*	*223 lbs*	*208*
150*	[mm]	550	1005	400	218	280	8 x 33	345	36	215 kg	445
	[in]	*21.65*	*39.57*	*15.75*	*8.58*	*11.02*	*8 x 1.30*	*13.58*	*1.42*	*474 lbs*	*517*

* with Equilibrating Disc

Functionality of Equilibrating Disc

Valves equipped with an Equilibrating Disc shall be installed in the system in such a way that the flow (and the pressure) comes from atop the disc.

At closed valve (fig. 1) the Starter Disc (a) will be lifted from its seat by turning the handwheel anticlockwise. This lift provokes immediately an equilibration of the pressure of the media (fig. 2) under the main disc (b). As soon as this balance of pressures is reached up to values mentioned in the table 1, the valve can be operated without supplementary tools or devices by normal hand force by further turning the handwheel (fig. 3).



DIN EN 13709, 4.2.3

Permissible differential pressure [bar]

PN	DN											
	10	15	20	25	32	40	50	65	80	100	125	150
10												
16												
25												25
40											35	25
63										55	35	25

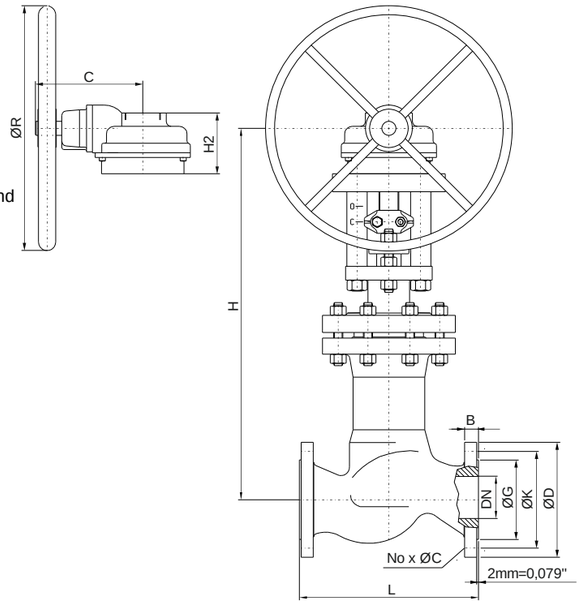
Modifications reserved

Globe Valve *Bellows Sealed*

Model 350EC4-5 PN63

Straight Way / Protected Bellows

PN63 Sizes DN100 - DN150 Gear operated, without Equilibrating Disc:



Testing / Marking

- test and design acc. to GEST 17/492
  DIN EN 13709, DIN EN 1092-1 B2. DIN EN 558 Reihe 2
- TÜV approved strength calculation acc. to DIN EN 12516-2
  available for body & bonnet
- standard tests acc. to DIN EN 12266, ISO 5208, resistance and
  shell strength and leak test acc. to P10 and P11
- leak test on closure acc. to P12 (leakage rate A = tight)
- ASME B16.34 / MSS SP 61 / API 598 / BS 6755

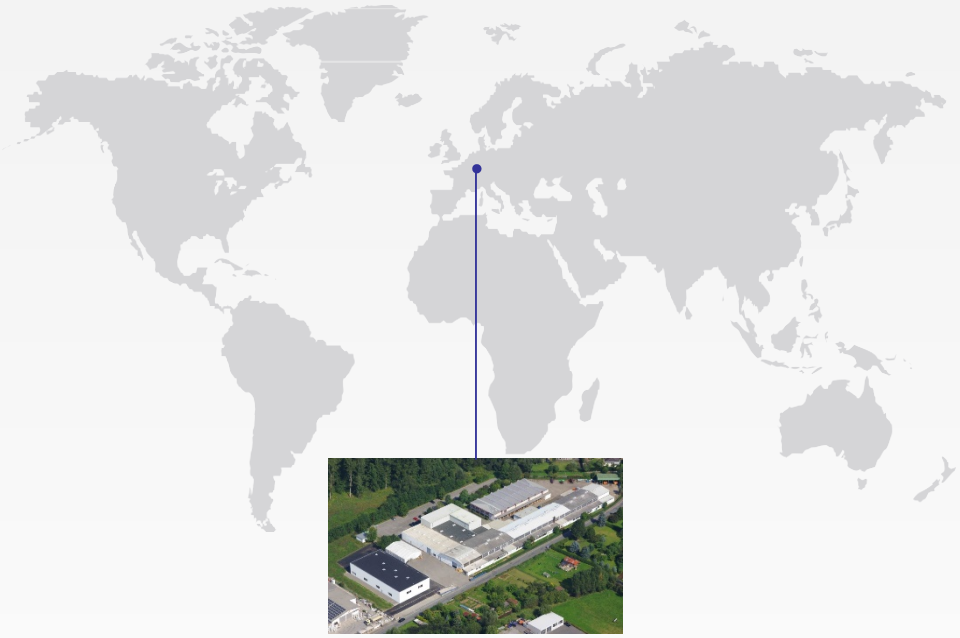
Preservation

- drying at a temperature of 120°C (248°F) for at least 3 hours
- stuffing of drying agents (Silicagel) into the valve
- blanking of inlet and outlet orifice with suitable gaskets
  and bolted flanges to avoid entry of moisture into the valve
- disc secured in closed position
- unfinished surfaces protected against rust
- lubrication with chlorofluorinated grease

Dimensions & Weights & Flow Coefficients

DN	Unit	Globe			Flage facing type B2							Kv [m³/h]
		L	H	ØR	ØG	ØK	No x ØC	ØD	B	C	H2	Weight	cv *[USGal/min]*
100	[mm]	430	830	400	162	200	8 x 26	250	30	230	130	115 kg	179
	[in]	*16.93*	*32.68*	*15.75*	*6.38*	*7.87*	*8 x 1.02*	*9.84*	*1.18*	*9.06*	*5.12*	*254 lbs*	*208*
150	[mm]	550	1100	400	218	280	8 x 33	345	36	230	130	215 kg	445
	[in]	*21.65*	*43.31*	*15.75*	*8.58*	*11.02*	*8 x 1.30*	*13.58*	*1.42*	*9.06*	*5.12*	*474 lbs*	*517*

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

Printed in Germany
09/22-R0