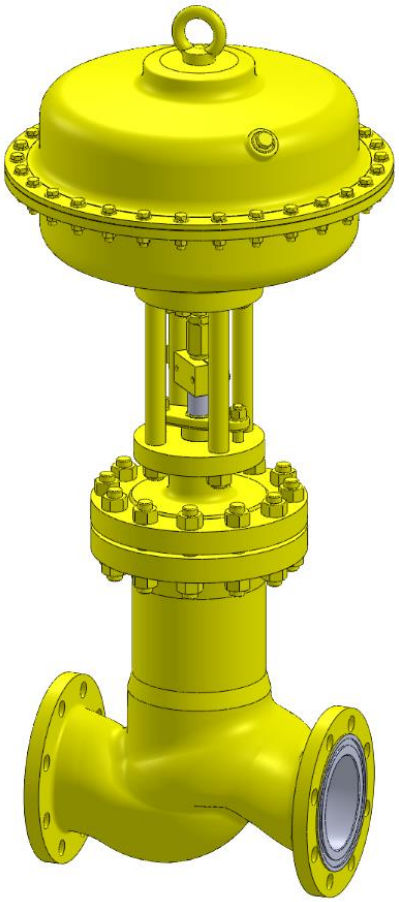
PHÖNIX STRACK DAUME REGELARMATUREN S+P Solent & Pratt Phönix Ltd



Globe Valve

Type 350EC16-17

Class 300

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

Approval No. 20/08

Applications
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 350EC16 (up to DN50/2") and 350EC17 (>DN50/2") are Euro Chlor approved for their compliance with **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 (type 350EC8 and EC9).

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

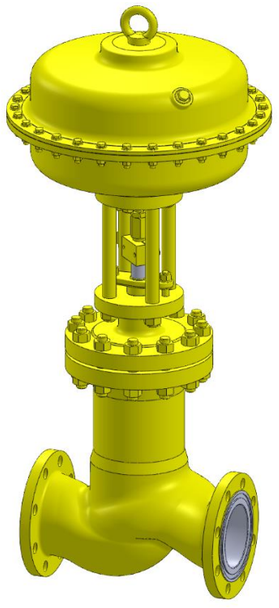
Stem
- metal-to-metal back seat provides additional safety
- guided stem on top and bottom

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

Actuator
- pneumatic actuator - diaphragm type as standard



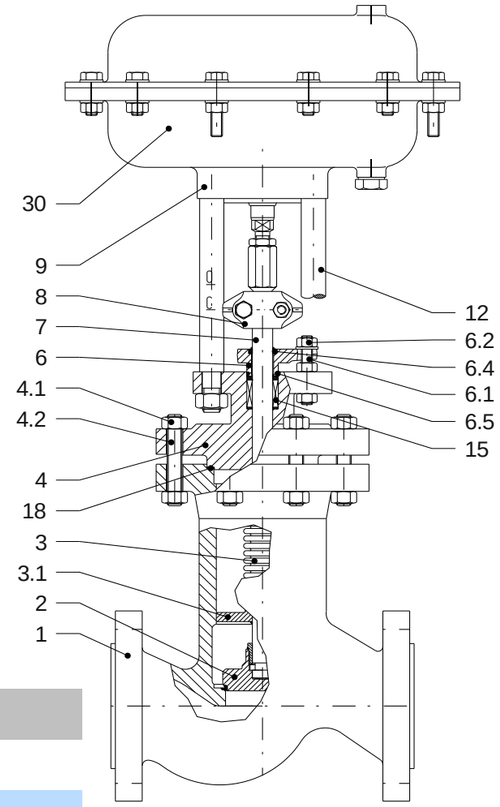
Pneumatic operated
On / Off valves
Model 350EC16-17
Straight Way / Protected Bellows

Standard Materials of Construction

Approval No. 20/08

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!



Materials

Item	Part Name	low temp. Carbon steel -40°F up to 248°F
1	Body	A 352 LCC
	Seat overlay	Stellite 21 (≈ 32HRC)
2	Disc	AISI 316Ti, A350 LF2 [2]
	Overlay	Stellite 6 (≈ 42HRC)
3	Bellows	Hastelloy C-276 [1]
3.1	Guide ring	Hastelloy C-276 [1]
4	Bonnet	A352 LCC
4.1	Stud bolt	A320 GR. L7
4.2	Hex. nut	A194 GR. 7L
6	Gland follower	A352 LC3
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	A479 316Ti [2]
8	Coupling	A351 CF8C
9	Bridge	A 105, QPQ-nitrided
12	Pillar	AISI 431
15	Packing	PTFE-rings
18	Gasket	Grooved stainless steel / PTFE
30	Pneumatic actuator	Phönix MA.1 / 2 / 3 / 3T

[1] Trim material 1.4571 / 316Ti optional

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

Pneumatic operated

On / Off valves

Model 350EC16-17

Straight Way / Protected Bellows

Class 300 Sizes ½" - 6"

euro chlor 17. Approval No. 20/08

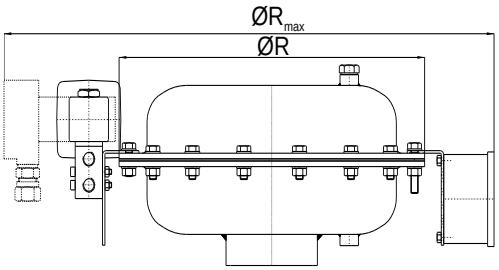
PHÖNIX

Testing / Marking

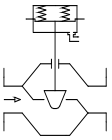
- test and design acc. to GEST 17/492
- TÜV approved strength calculation acc. to DIN EN 12516-2 available for body & bonnet
- standard tests acc. to DIN EN 12266, ISO 5208, resistance and shell strength and leak test acc. to P10 and P11
- leak test on closure acc. to P12 (leakage rate A = tight)
- ASME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

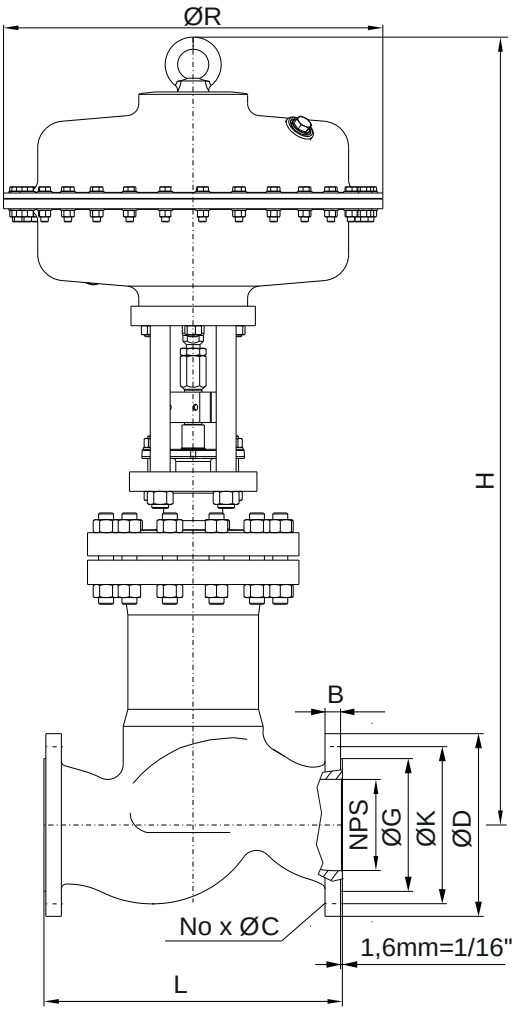
Preservation

- 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



ØR: Diameter of actuator without accessoires
ØRmax: Diameter of actuator with expected accesoires





Dimensions & Weights & Flow Coefficients

- Flow to open (FTO), Failed position: spring closed (FC)

NPS	Unit	Globe L	H	ØR	$ØR_{max}$	Phönix Actuator Δp 51 bar**	Flage facing type RF ØG	ØK	No x ØC	ØD	B	Weight	Kv [m³/h] cv *[USGal/min]*
1	[mm]	203	520	266	516	MA.1	51	89	4 x 19	124	15.7	19 kg	11
	[in]	*7.99*	*20.47*	*10.47*	*20.31*	*0.6 - 3.0*	*2.01*	*3.50*	*4 x 0.75*	*4.88*	*0.62*	*42 lbs*	*12.79*
1 ¼*	[mm]	216	830	335	585	MA.2T	64	99	4 x 19	133	17.5	56 kg	18
	[in]	*8.50*	*32.68*	*13.19*	*23.03*	*0.4 - 2.0*	*2.52*	*3.90*	*4 x 0.75*	*5.24*	*0.69*	*123 lbs*	*20.93*
1 ½	[mm]	229	830	335	585	MA.2T	73	114	4 x 22	155	19.0	56 kg	28
	[in]	*9.02*	*32.68*	*13.19*	*23.03*	*0.4 - 2.0*	*2.87*	*4.49*	*4 x 0.87*	*6.10*	*0.75*	*123 lbs*	*33*
2	[mm]	267	830	335	585	MA.2T	92	127	8 x 19	165	20.6	60 kg	47
	[in]	*10.51*	*32.68*	*13.19*	*23.03*	*0.6 - 3.0*	*3.62*	*5.00*	*8 x 0.75*	*6.50*	*0.81*	*132 lbs*	*55*
2 ½*	[mm]	292	on	335	585	MA.2T	105	149	8 x 22	191	23.9	on	78
	[in]	*11.50*	request	*13.19*	*23.03*	*0.8 - 4.0*	*4.13*	*5.87*	*8 x 0.87*	*7.52*	*0.94*	request	*91*
3	[mm]	318	1355	610	860	MA.3T	127	168	8 x 22	210	26.9	344 kg	117
	[in]	*12.52*	*53.35*	*24.02*	*33.86*	*0.6 - 3.0*	*5.00*	*6.61*	*8 x 0.87*	*8.27*	*1.06*	*758 lbs*	*136*
4	[mm]	356	1420	610	860	MA.3T	157	200	8 x 22	254	30.2	378 kg	179
	[in]	*14.02*	*55.91*	*24.02*	*33.86*	*0.8 - 4.0*	*6.18*	*7.87*	*8 x 0.87*	*10.00*	*1.19*	*833 lbs*	*208*
5*	[mm]	400	1425	610	860	MA.3T	186	235	8 x 22	279	33.3	on	256
	[in]	*15.75*	*56.10*	*24.02*	*33.86*	*0.8 - 4.0*	*7.32*	*9.25*	*8 x 0.87*	*10.98*	*1.31*	request	*298*
6	[mm]	444	1985 ***	590	840	KA 500T **	216	270	12 x 22	318	35.1	1170 kg ***	445
	[in]	*17.48*	*78.15*	*23.23*	*33.07*	*5600cm³*	*8.50*	*10.63*	*12 x 0.87*	*12.52*	*1.38*	*2579 lbs*	*517*

* these nominal sizes are not included in GEST 17/492, construction and material in acc. with GEST 17/492 ** Air Supply 4 bar *** with 5600cm²

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
05/23-R1