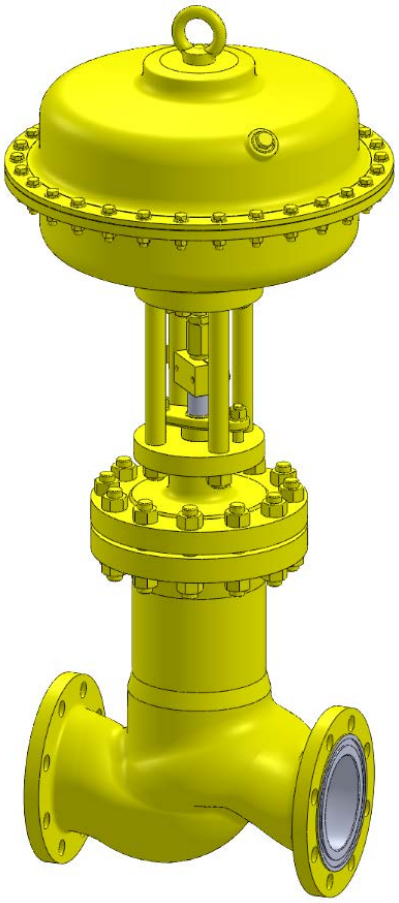
PHÖNIX STRACK DAUME REGELARMATUREN S+P Solent & Pratt Phönix Ltd



Globe Valve

Type 350EC16-17

PN 40

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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

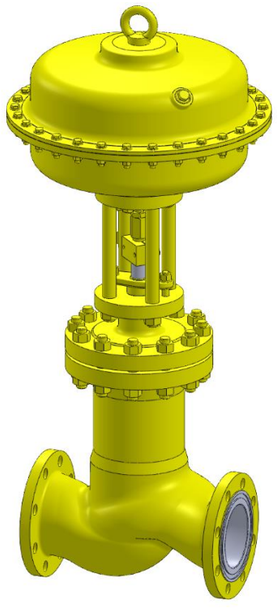
Seats

- 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

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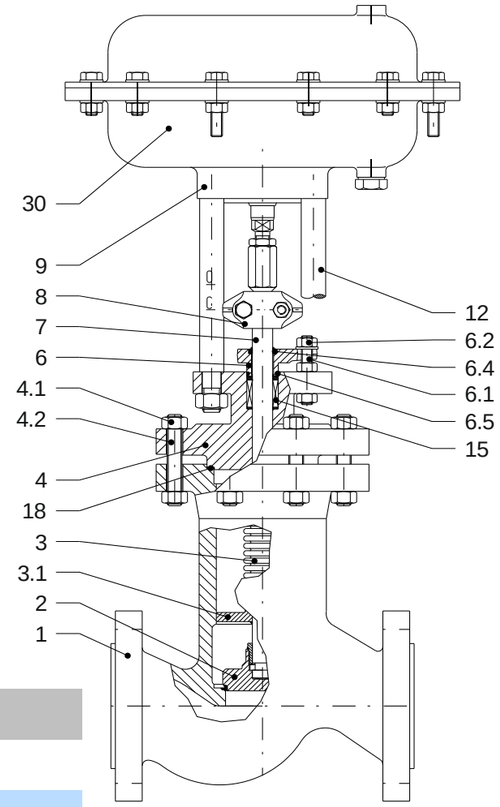
Options
Other customer specific designs on request!
Other materials per customer requirements are available!

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



Materials

Item	Part Name	low temp. Carbon steel -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)]
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
12	Pillar	1.4057
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

PN40 Sizes DN25 - DN150

euro chlor 17. Approval No. 20/08

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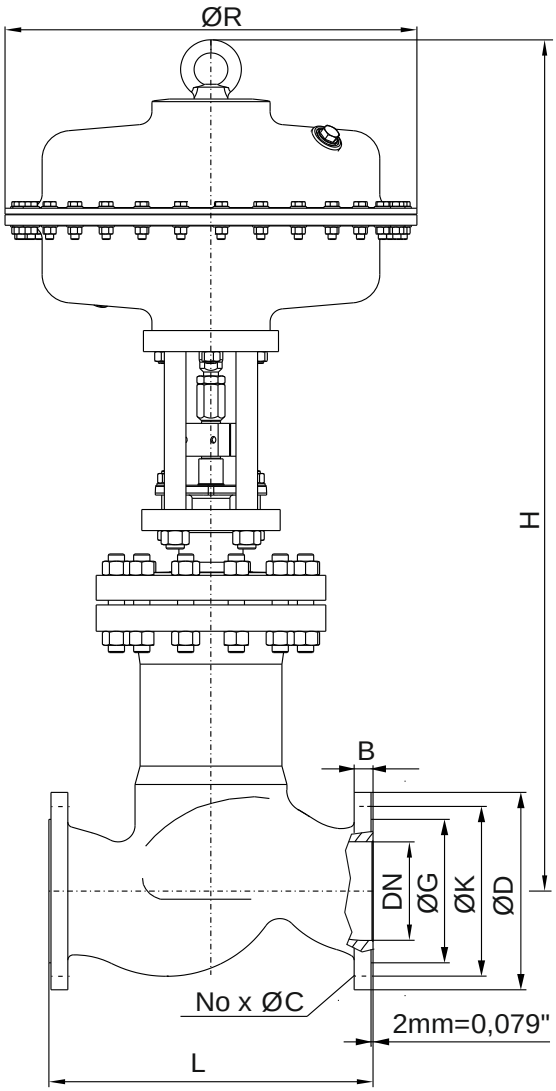
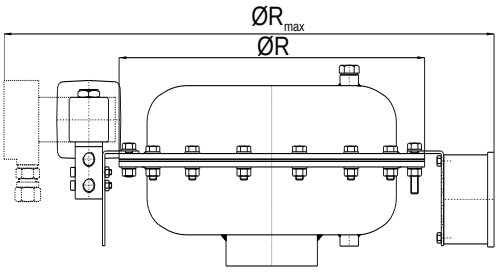


Testing / Marking

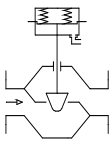
- test and design acc. to GEST 17/492
- TÜV approved strength calculation acc. to DIN EN 12516-2 available for body & bonnet
- standard tests acc. to DIN EN 12266, ISO 5208, resistance and shell strength and leak test acc. to P10 and P11
- leak test on closure acc. to P12 (leakage rate A = tight)
- ASME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

DN	Unit	Globe L	H	ØR	$ØR_{max}$	Phönix Actuator Δp 40 bar**	Flage facing type B1 ØG	ØK	No x ØC	ØD	B	Weight	Kv [m³/h] cv [USGal/min]
25	[mm]	160	520	266	516	MA.1	68	85	4 x 14	115	18	19 kg	11
	[in]	*6.30*	*20.47*	*10.47*	*20.31*	*0.4 - 2.0*	*2.68*	*3.35*	*4 x 0.55*	*4.53*	*0.71*	*42 lbs*	*12.79*
32*	[mm]	180	680	343	593	MA.2	78	100	4 x 18	140	18	35 kg	18
	[in]	*7.09*	*26.77*	*13.50*	*23.35*	*0.6 - 3.0*	*3.07*	*3.94*	*4 x 0.71*	*5.51*	*0.71*	*77 lbs*	*20.93*
40	[mm]	200	680	343	593	MA.2	88	110	4 x 18	150	18	35 kg	28
	[in]	*7.87*	*26.77*	*13.50*	*23.35*	*0.6 - 3.0*	*3.46*	*4.33*	*4 x 0.71*	*5.91*	*0.71*	*77 lbs*	*33*
50	[mm]	230	830	343	593	MA.2T	102	125	4 x 18	165	20	60 kg	47
	[in]	*9.06*	*32.68*	*13.50*	*23.35*	*0.4 - 2.0*	*4.02*	*4.92*	*4 x 0.71*	*6.50*	*0.79*	*132 lbs*	*55*
65*	[mm]	290	on request	343	593	MA.2T	122	145	8 x 18	185	22	on request	78
	[in]	*11.42*		*13.50*	*23.35*	*0.6 - 3.0*	*4.80*	*5.71*	*8 x 0.71*	*7.28*	*0.87*		*91*
80	[mm]	310	1090	610	860	MA.3	138	160	8 x 18	200	24	209 kg	117
	[in]	*12.20*	*42.91*	*24.02*	*33.86*	*0.8 - 4.0*	*5.43*	*6.30*	*8 x 0.71*	*7.87*	*0.94*	*461 lbs*	*136*
100	[mm]	350	1420	610	860	MA.3T	162	190	8 x 22	235	24	378 kg	179
	[in]	*13.78*	*55.91*	*24.02*	*33.86*	*0.6 - 3.0*	*6.38*	*7.48*	*8 x 0.87*	*9.25*	*0.94*	*833 lbs*	*208*
125*	[mm]	400	1425	610	860	MA.3T	188	220	8 x 26	270	26	on	256
	[in]	*15.75*	*56.10*	*24.02*	*33.86*	*0.4 - 2.0*	*7.40*	*8.66*	*8 x 1.02*	*10.63*	*1.02*	request	*298*
150	[mm]	480	2218 ***	590	840	KA 500T **	218	250	8 x 26	300	28	1218 kg ***	445
	[in]	*18.90*	*87.32*	*23.23*	*33.07*	*5600cm³*	*8.58*	*9.84*	*8 x 1.02*	*11.81*	*1.10*	*2685 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

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