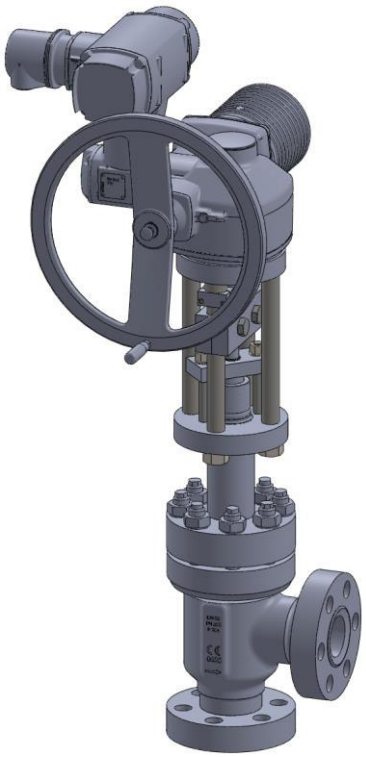
PHÖNIX STRACK DAUME REGELARMATUREN S+P Solent & Pratt Phönix Ltd



Globe Valve

Type 355HS

PN 325

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PHÖNIX VALVE GROUP

Model 355HS

Angle type / Protected Bellows

Applications & Design Features

Fig. No. 355HS

Applications

Type 355HS is designed for critical service high-pressure applications involving lethal, toxic, corrosive, inflammable, volatile, radiating, or expensive fluids.

New bellows design:

- multiple walls
- special design for hydrogene applications
- pressure hydrogen resistance is guaranteed

The most common applications are:

- Hydrogen
- Ammonia
- Urea grade
- 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.

The unique phönix bellows -sealed valve design allowes to replace the stuffing box sealed valves, which do not fulfill the requested demands to safety and reduction of emissions.

Using the flexible bonnet flange system from phönix makes it possible to replace the stuffing box bonnet/ yoke of supplied/ installed stuffing box sealed valves or existing valves in the pipeline through the bellows-sealed bonnet/ yoke from phönix type 355. This replacement can be implemented without regard to manufacturer of valves with stuffing box stem sealing system.

Design Features

Bellows and Packing

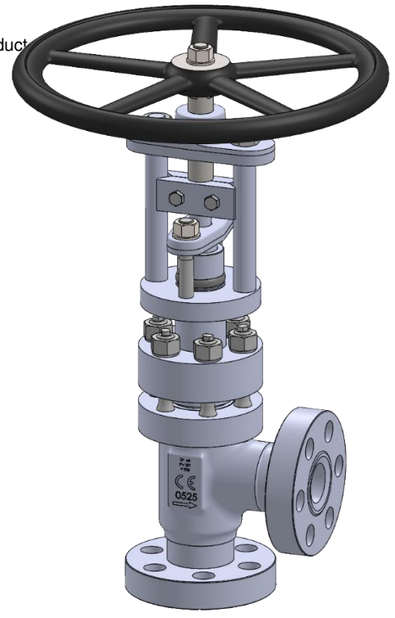
- bellows protected in extended bonnet against direct impingement from product flow
- multiple walls and hydroformed bellows
- up to 10.000 bellows operations guaranteed, depending from the application and size of the valve

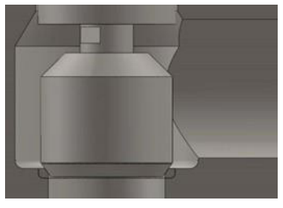
Stem

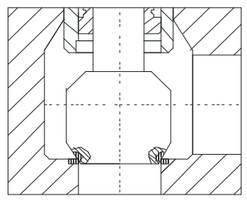
- two-piece stem protects the bellows against torque stress
- design eliminates stem bearings along with their maintenance needs
- guided stem on top and bottom
- one-piece stem design upon request

Seats

- solid hardfacings for outstanding corrosion and wear resistance
- knife edge metal-to-metal seat for bubble-tight shutoff
- replaceable disc for inexpensive maintenance







High Pressure Globe Valve *Bellows Sealed*

Model 355HS

Angle type / Protected Bellows

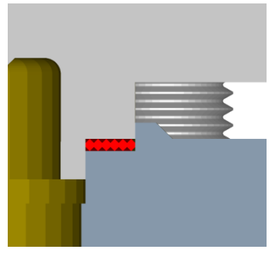
Applications & Design Features

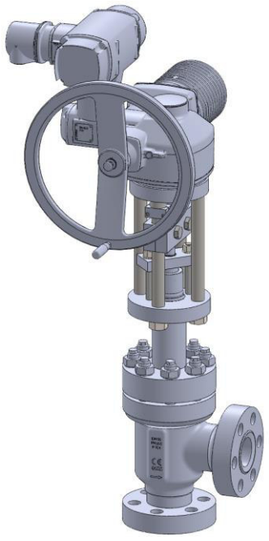
Body and Bonnet

- bodies are integral forgings
- protected / designed against switch of failure through electrical actuators - inherent safety is guaranteed
- extended bonnet provides for good thermal insulation
- body bonnet joint gasket is fully confined to prevent gasket flow or blowout
- straight way type for bodies are available (model 350 hs)

integral body

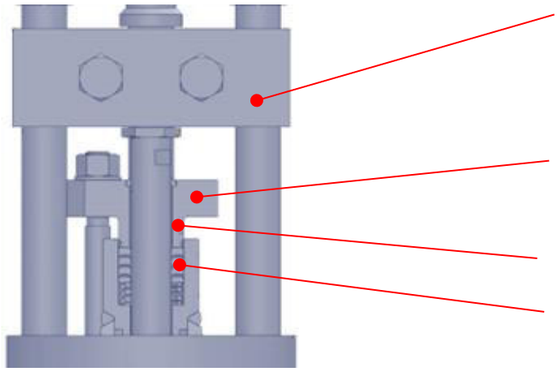
gasket fully confined





Safety gland / coupling:

The external auxiliary packed gland to the bellows prevent leakage to atmosphere should the bellows fail. The gland is externally adjustable.



- Coupling

Ensures only axial movement of the bellows and of the disc, thereby preventing torsion of the bellows, and a rubbing of the conical sealing surface on the body sealing surface

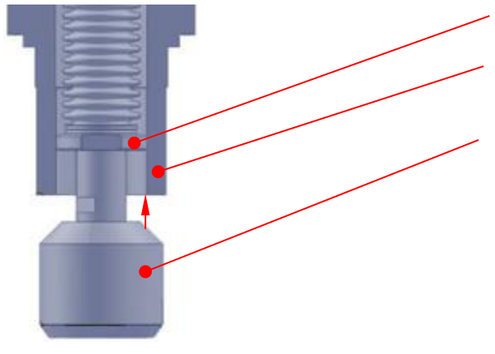
- Gland follower wiper and o-ring

Protection against the penetration of water or contaminations

- Safety gland
- Graphite packing

Stem guidance / disc:

The guide ring significantly reduces the risk of buckling of the stem, avoiding pressure surges on the bellows and prevents abrasion to the bellows.



- guide ring
- the machined body surface guaranteed reduced friction
- welded disc with stem, thus preventing rotation movements of the disc
- at full open disc is back seated against bonnet

= zero emissions, zero seat leakage, low maintenance

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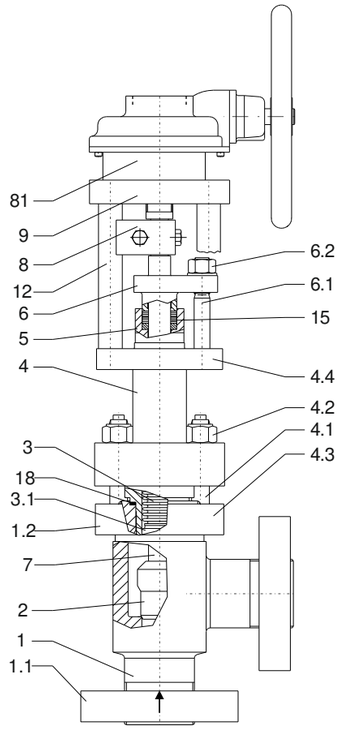
Model 355HS

Angle type / Protected Bellows

Standard Materials of Construction

Fig. No. 355HS / D



Options

Other materials per customer requirements are available!

Notes

Phönix pressure hydrogen resistance is guaranteed specification without notice!

Materials

Item	Part Name	Carbon steel (355C) 20°C / 375bar 200°C / 270bar		Stainless steel (355V) 20°C / 375bar 200°C / 270bar		Heat resis. Carbon st. (355W) 20°C / 400bar 500°C / 285bar	
		DIN	BASF-Norm	DIN	BASF-Norm	DIN	BASF-Norm
1	Body	1.0460	S 2	1.4571	RA 4	1.7779	N 9
	Seat overlay	Stellite 21 (≈ 32HRC)		Stellite 21 (≈ 32HRC)		Stellite 21 (≈ 32HRC)	
1.1	Flange	1.7258/ 1.7218	K 3	1.7258/ 1.7218	K 3	1.7258/ 1.7218	K 3
1.2	Flange	1.7258/ 1.7218	K 3	1.4057	-	1.7258/ 1.7218	K 3
2	Disc	1.4021/ 1.0460	RM 2 / S 2	1.4571	RA 4	1.4922	N 11
	Overlay	Stellite 6 (≈ 42HRC)		Stellite 6 (≈ 42HRC)		Stellite 6 (≈ 42HRC)	
3	Bellows	1.4571*	RA 4	1.4571*	RA 4	2.4856	-
3.1	Guide ring	1.4571	RA 4	1.4571	RA 4	1.4571	RA 4
4	Bonnet	1.0460	S 2	1.4571	RA 4	1.7779	N 9
4.1	Stud bolt	1.7709	K 5	1.7709 tlp	K 5	1.7709	K 5
4.2	Hex. nut	1.7218	K 2	1.7218 tlp	K 2	1.7218	K 2
4.3	Flange	1.7258/ 1.7218	K 3 / K 2	1.4057	-	1.7258/ 1.7218	K 3 / K 2
4.4	Flange	1.0460	S 2	1.4571	RA 4	1.0460	S 2
5	Stuffing box body	1.4571	RA 4	1.4571	RA 4	1.4571	RA 4
6	Gland follower	1.0460	S 2	1.4571	RA 4	1.4922	N 11
6.1	Stud bolt	1.7709	K 5	1.7709 tlp	K 5	1.7709	K 5
6.2	Hex. nut	1.7218	K 2	1.7218 tlp	K 2	1.7218	K 2
7	Lower stem	1.4021	RM 2	1.4542	17-4PH	1.4922	N 11
8	Coupling	1.4571	RA 4	1.4571	RA 4	1.4571	RA 4
9	Bridge	1.0460	S 2	1.0460 QPQ	S 2	1.0460	S 2
10	Upper stem	1.4057	-	1.4057	-	1.4057	-
12	Pillar	1.4057	-	1.4057	-	1.4057	-
15	Packing	Graphite		Graphite		Graphite	
18	Gasket	Grooved SS / graphite		Grooved SS / graphite		Grooved SS / graphite	
81	Gear operator	Fa. Rotork / Exeeco		Fa. Rotork / Exeeco		Fa. Rotork / Exeeco	

* 2.4856 on request

High Pressure Globe Valve *Bellows Sealed*

Model 355HS

Angle type / Protected Bellows

Gear operated valves

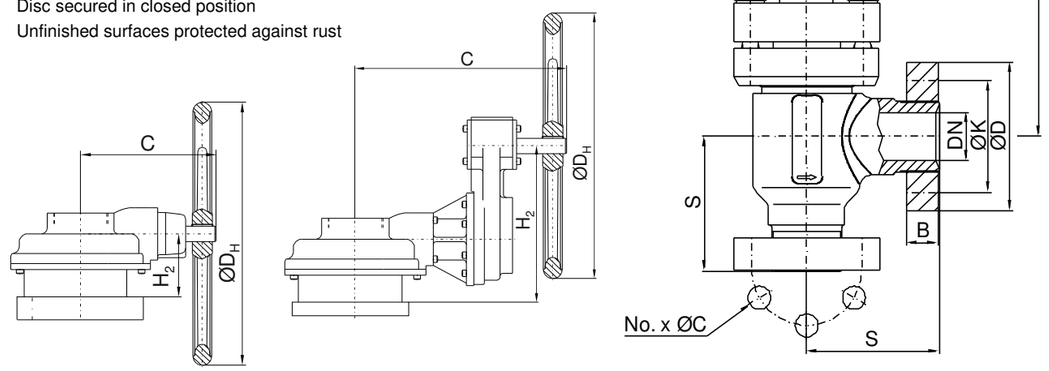
Fig. No. 355HS / PN325 DN6 - DN120

Testing / Marking

- Design acc. to PED 2014/68/EU / TA-Luft 2000 / VDI 2440
- TÜV approved strength calculation acc. to DIN EN12516-2 available for body and bonnet
- Standard tests acc. to DIN EN12266, 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

- Disc secured in closed position
- Unfinished surfaces protected against rust



Dimensions & Weights & Flow Coefficients

DN	Unit	S	H	Flage facing type B1 ØK	No x ØC	ØD	B	Flange ISO 5210	H_2	C	$ØD_H$	Weight without actuator	example for actuator Auma
6	[mm]	60	345	42	3 x 15	70	15	F10					
	[in]	*2.36*	*13.58*	*1.65*	*3 x 0.59*	*2.76*	*0.59*						
10	[mm]	85	345	60	3 x 18	95	20	F10					
	[in]	*3.35*	*13.58*	*2.36*	*3 x 0.71*	*3.74*	*0.79*						
16	[mm]	95	345	68	3 x 18	105	20	F10					
	[in]	*3.74*	*13.58*	*2.68*	*3 x 0.71*	*4.13*	*0.79*						
24	[mm]	110	375	80	4 x 18	115	22	F14					
	[in]	*4.33*	*14.76*	*3.15*	*4 x 0.71*	*4.53*	*0.87*						
30	[mm]	120	375	95	4 x 22	135	25	F14					
	[in]	*4.72*	*14.76*	*3.74*	*4 x 0.87*	*5.31*	*0.98*						
45	[mm]	150	420	115	6 x 26	165	35	F14					
	[in]	*5.91*	*16.54*	*4.53*	*6 x 1.02*	*6.50*	*1.38*						
58	[mm]	170	505	145	6 x 30	200	40	F14					
	[in]	*6.69*	*19.88*	*5.71*	*6 x 1.18*	*7.87*	*1.57*	*Form A*					
70	[mm]	200	575	170	6 x 33	225	50	F16					
	[in]	*7.87*	*22.64*	*6.69*	*6 x 1.30*	*8.86*	*1.97*	*Form A*					
90	[mm]	235	650	195	6 x 36	260	55	F16	195	335	600	255 kg	IB8 6:1
	[in]	*9.25*	*25.59*	*7.68*	*6 x 1.42*	*10.24*	*2.17*	*Form A*	*7.68*	*13.19*	*23.62*	*562 lbs*	*Rotork / Exeeco*
120	[mm]	290	840	255	8 x 42	330	70	F16	400	490	800	335 kg	IB8/ AS5 18:1
	[in]	*11.42*	*33.07*	*10.04*	*8 x 1.65*	*12.99*	*2.76*	*Form A*	*15.75*	*19.29*	*31.50*	*739 lbs*	*Rotork / Exeeco*

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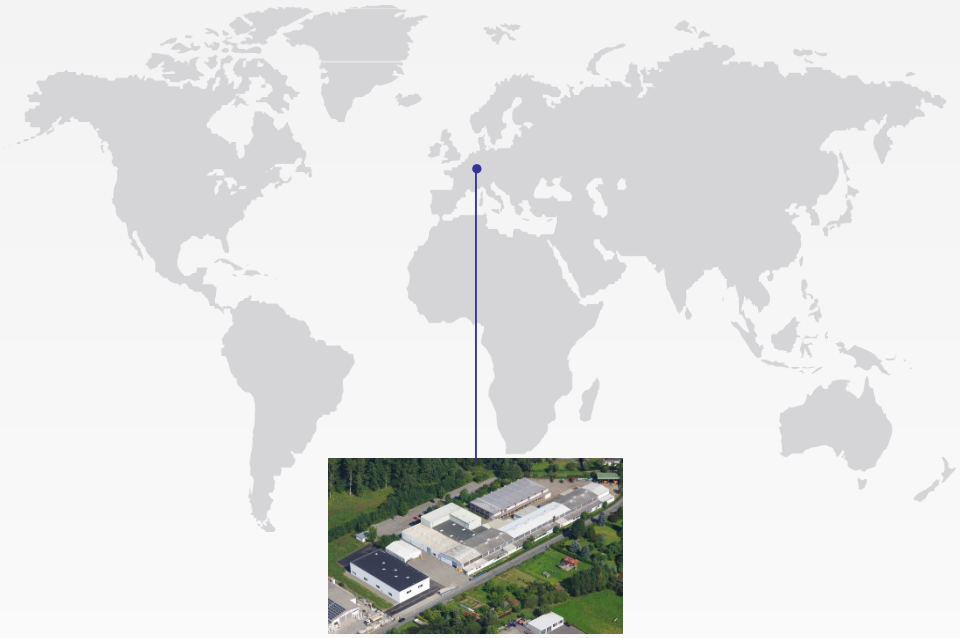

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