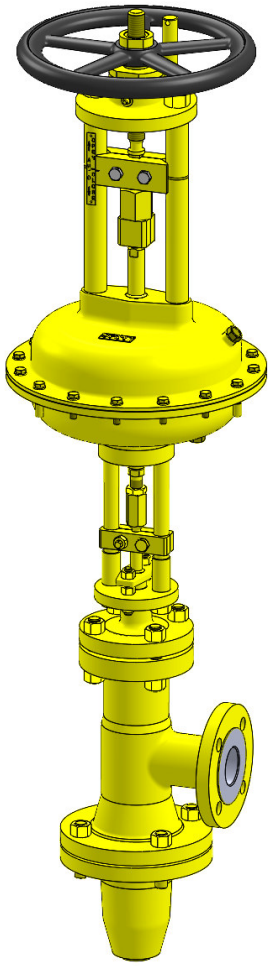
PHÖNIX STRACK DAUME REGELARMATUREN S+P Solent & Pratt Phönix Ltd



Storage Valve

Type 309.ST

PN 25 / 40

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PHÖNIX VALVE GROUP

Model 309.ST

For Stationary Tanks

Applications & Design Features

euro chlor 17.
Approval No. pending

Applications

Model 309.ST is designed for the safe storage of hazardous materials involving lethal, toxic, corrosive, or inflammable fluids.

The most common applications are

- Dry Chlorine (Cl2) liquid or gas service temperature -40°C to 120°C / -40°F to 248°F
- Dry Chlorine (Cl2) in sytems for gaseous medium PN 25 (or Class 150)
- Dry Chlorine (Cl2) in sytems for liquid medium PN 40 (or Class 300)

Model 309.ST is a combination of a spring loaded ball check valve and a pneumatically operated bellows sealed angle valve. Both are mounted seperately to the top or bottom of the tank. The check valve is located directly underneath the angle valve and flush mounted with the tank. This protects the integrity of the check valve and prevents product spill in the event that an accident or unforeseanable impact damages the above mounted angle valve. The torsion-proof multiple-wall hydroformed bellows reliable prevents stem leakage. Metal-to-metal or soft seating are available seating options for the angle valve.

Model 309.ST conforms with PED 2014/68/EU and GEST 17/492 and has been approved by Euro Chlor for compliance with the requirements for the storage of gaseous and liquid chlorine.

Design features

Bellows

- exposed/flushed to product flow for self cleaning
- multiple walls and hydroformed bellows
- up to 20.000 bellows operations guaranteed

Bodies

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

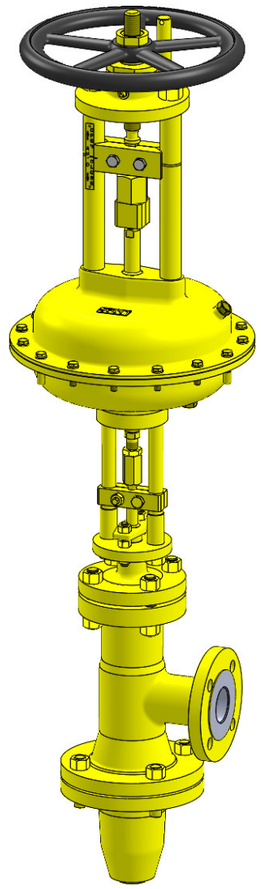
Seats

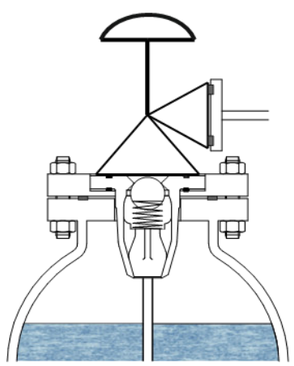
- angle valve disc either with soft seal or metal-to-metal seal
- knife edge seat for bubble-tight shutoff
- replaceable disc for inexpensive maintenance
- internal spring loaded ball check valve with soft seal PTFE ball

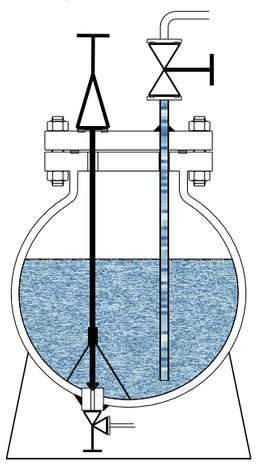
Actuator

- external mounted diaphragm actuator
- fail position close
- equipped with device to operate the valve manually in the case that the air supply failed. the device (manual override) is fitted to the body of the pneumatic actuator:
- a security device is fitted to the manual override so to prevent any unauthorised operation of the valve for staionary tanks.

= zero emissions, zero seat leakage, low maintenance







Storage Valve *Bellows Sealed*

Model 309.ST

For Stationary Tanks

Standard Materials of Construction

euro chlor 17.
Approval No. Pending

Options

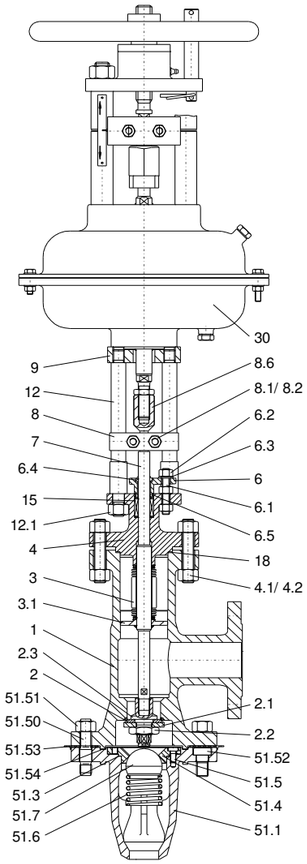
Other customer specific designs on request!
Other materials per customer requirements are available!

Notes

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

Materials

Item	Part Name	low temp. Carbon steel	
		-40°C up to 120°C	-40°F up to 248°F
1	Body	1.6220	A 352 - LCC
	Seat overlay	Stellite 21 (≈ 32HRC)	Stellite 21 (≈ 32HRC)
2	Gasket	PTFE-coal	PTFE-coal
2.1	Washer	1.0715	AISI 1213
2.2	hexagon nut	17H	17H
2.3	Pressure piece	1.4571	AISI 316 Ti
3	Bellows	2.4819	Hastelloy C-276
3.1	Bellows ring	2.4819	Hastelloy C-276
4	Bonnet	1.6220	A 352 - LCC
4.1	Stud bolt	A193-B7	A320-L7
4.2	Hexagon nut	A194-7L	--
6	Gland follower	1.5638	A 352 - LC3
6.1	Stud bolt	1.7225	A193-B7/ A 320 - L7M
6.2	Hexagon nut	--	A194-7L
6.3	Plain washer	140HV-A4	--
6.4	Wiper	NBR 90	NBR 90
6.5	O-ring	NBR 70	NBR70
7	Stem	1.4571	AISI 316 Ti
8	Coupling	1.4571	AISI 316 Ti
8.1	Hexagon bolt	A4-70	--
8.2	Hexagon nut	A4-70	A194-8M
8.6	Coupling	1.4571	AISI 316 Ti
9	Yoke	1.0460, zinc-coated	A 105, zinc-coated
12	Pillar	1.4057	AISI 431
12.1	Hexagon nut	A4-70	A194-8M
15	Packing	PTFE / silk / SIL C 4400	PTFE / silk / SIL C 4400
18	Bonnet gasket	Stainless steel / PTFE	Stainless steel / PTFE
30	Pneumatic-actuator	Fa. PHÖNIX	Fa. PHÖNIX
51.1	Body / ball valve	1.6220	A 352 - LCC
51.3	Gasket	Sil C4400	Sil C 4400
51.4	Seat	1.4541	AISI 321
51.6	Spring	1.4310	A 313
51.7	Ball	PTFE	PTFE
51.50	Stud bolt	1.7225	A193-B7/ A 320 - L7M
51.51	Hexagon nut	8	--
51.52	Socket head screw	1.7225	A193-B7/ A 320 - L7M
51.53	Water protection	Foam rubber	Foam rubber
51.54	Gasket	SIL C4400	SIL C4400



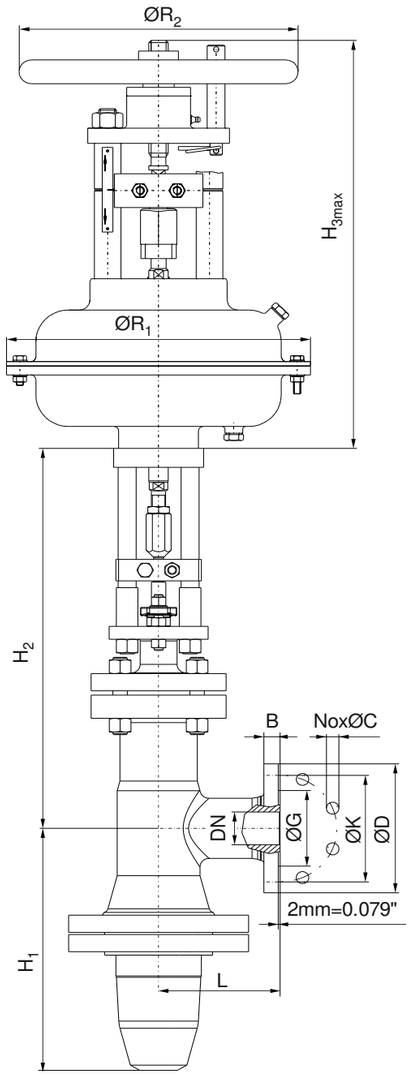
Storage Valve *Bellows Sealed*

Approval No. pendi

Model 309.ST

For Stationary Tanks

PN25 Sizes DN25 - DN150



Options

- Other customer specific designs on request

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

- test and design acc. to DIN EN 14432, GEST 17/492
- standard tests acc. to DIN EN 14432, GEST 17/492, DIN EN 12266
- marking acc. to TPED, DIN EN 14432, GEST 17/492

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

DN	P-ACTUATOR
25	MA.1-H
40	MA.2-H
50	MA.2-H
80	MA.2T-H
100	MA.2T-H-70
150	MA.3T-H

Dimensions & Weights & Flow Coefficients

DN	Unit	Globe						Flage facing type B1						Kv [m³/h]
		L	H_1	H_2	H_{3max}	$ØR_1$	$ØR_2$	ØG	ØK	No x ØC	ØD	B	Weight	cv *[USGal/min]*
25	[mm]	110	194	371	492	272	200	68	85	4 x 14	115	18	36 kg	9
	[in]	*4.33*	*7.64*	*14.61*	*19.37*	*10.71*	*7.87*	*2.68*	*3.35*	*4 x 0.55*	*4.53*	*0.71*	*79 lbs*	*10.47*
40	[mm]	135	281	442	645	343	315	88	110	4 x 18	150	18	78 kg	27
	[in]	*5.31*	*11.06*	*17.40*	*25.39*	*13.50*	*12.40*	*3.46*	*4.33*	*4 x 0.71*	*5.91*	*0.71*	*172 lbs*	*31*
50	[mm]	135	281	442	645	343	315	102	125	4 x 18	165	20	78 kg	32
	[in]	*5.31*	*11.06*	*17.40*	*25.39*	*13.50*	*12.40*	*4.02*	*4.92*	*4 x 0.71*	*6.50*	*0.79*	*172 lbs*	*37*
80	[mm]	310	353	622	805	343	315	138	160	8 x 18	200	24	161 kg	105
	[in]	*12.20*	*13.90*	*24.49*	*31.69*	*13.50*	*12.40*	*5.43*	*6.30*	*8 x 0.71*	*7.87*	*0.94*	*355 lbs*	*122*
100	[mm]	350	377	697	1030	343	300	162	190	8 x 22	235	24	216 kg	167
	[in]	*13.78*	*14.84*	*27.44*	*40.55*	*13.50*	*11.81*	*6.38*	*7.48*	*8 x 0.87*	*9.25*	*0.94*	*476 lbs*	*194*
150	[mm]	480	502	877	1370	610	400	218	250	8 x 26	300	28	581 kg	375
	[in]	*18.90*	*19.76*	*34.53*	*53.94*	*24.02*	*15.75*	*8.58*	*9.84*	*8 x 1.02*	*11.81*	*1.10*	*1281 lbs*	*436*

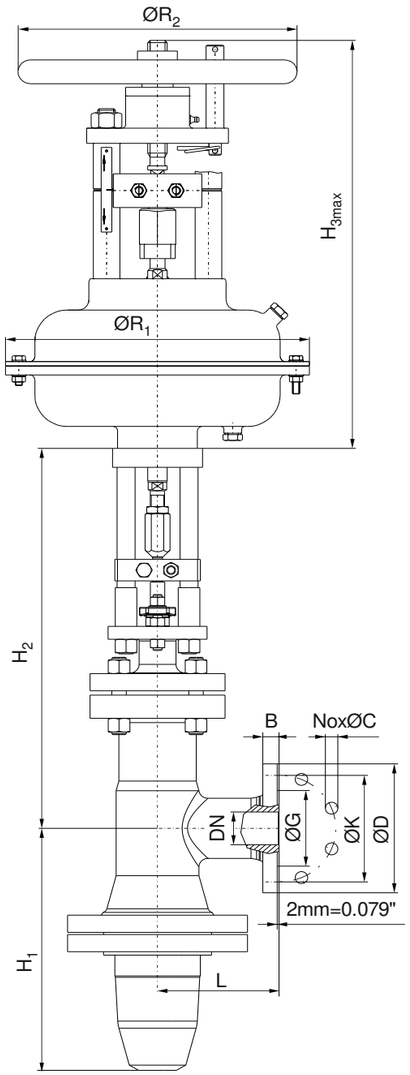
Storage Valve *Bellows Sealed*

Approval No. pendi

Model 309.ST

For Stationary Tanks

PN40 Sizes DN15 - DN500



Options

- Other customer specific designs on request

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)
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40	MA.2-H
50	MA.2-H
80	MA.2T-H
100	MA.2T-H-70
150	MA.3T-H

Dimensions & Weights & Flow Coefficients

DN	Unit	Globe						Flage facing type B1						Kv [m³/h]
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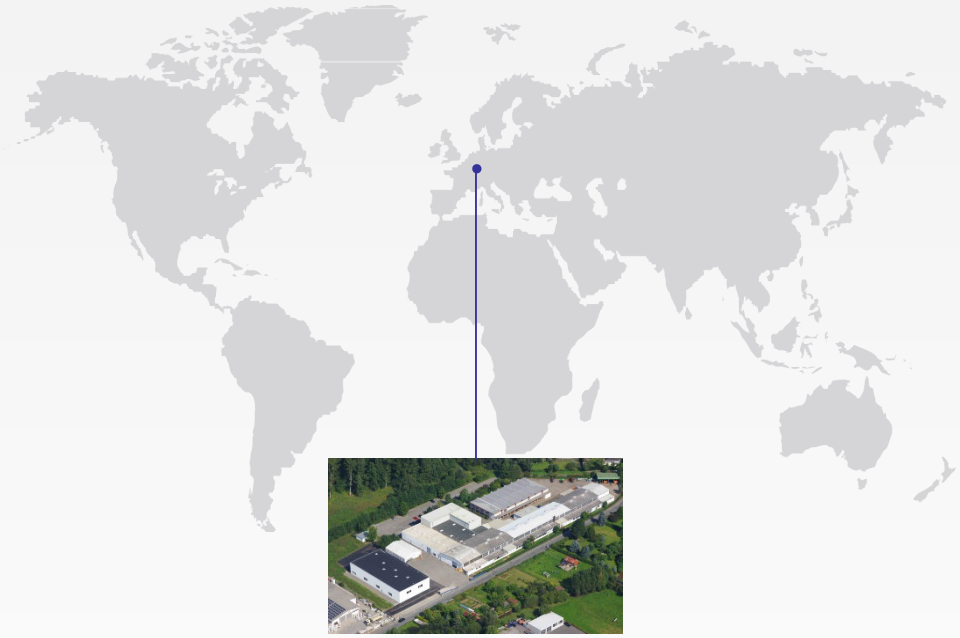

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