

Ball float steam trap

Ball float steam trap

ANSI125 / 150 / 300

- with flanges
- with screwed sockets
- with socket weld ends
- with butt weld ends

(Fig. 631....1)

(Fig. 631....2)

(Fig. 631....3)

(Fig. 631....4)

Grey cast iron

SG iron

Cast steel

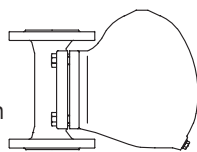
Forged steel

High temperature steel

Stainless steel

Fig. 631

Page 2



Ball float steam trap

ANSI900

- with flanges
- with socket weld ends
- with butt weld ends

Angle pattern design:

- with flanges
- with butt weld ends

(Fig. 631....1)

(Fig. 631....3)

(Fig. 631....4)

(Fig. 632....1)

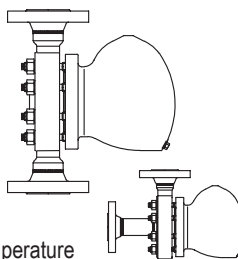
(Fig. 632....4)

High temperature

steel / Cast steel

Fig. 631 / Fig. 632

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Ball float steam trap

ANSI150 / 300

- with flanges R4-P
- with flanges

(Fig. 633....1)

(Fig. 639....1)

Forged steel /

Grey cast iron

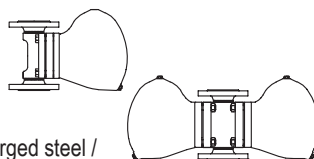
Forged steel /

Cast steel

Stainless steel

Fig. 633 / Fig. 639

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Ball float steam trap for drainage of water from compressed air and gas systems

(acc. to PED 97/23/EC fluid group 2)

ANSI125 / 150 / 300

- with flanges
- with screwed sockets
- with socket weld ends
- with butt weld ends

(Fig. 630....1)

(Fig. 630....2)

(Fig. 630....3)

(Fig. 630....4)

Grey cast iron

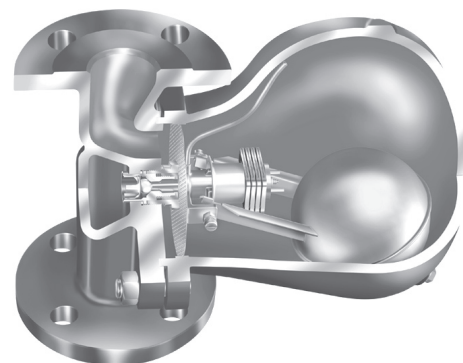
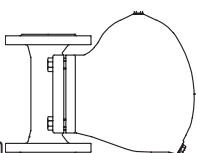
SG iron

Forged steel /

Cast steel

Fig. 630

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Fig. 631....1

Features:

- Back pressure-free condensate discharge even at extreme pressure- and quantity fluctuations
- Controller with integrated automatic ventilation (except Fig. 630)
- Robust and insensitive to waterhammer
- Non return protection (except Fig. 633)
- Union for recovery pipe and bypass possible
- On-site change of the installation position is possible according to the operating instructions (except Fig. 633)
- The controller maybe changed without disturbing the pipe work
- Pressure test acc. to API 598
- CRN approved

Ball float steam trap (Grey cast iron, SG iron, Cast steel/Forged steel, Stainless steel)

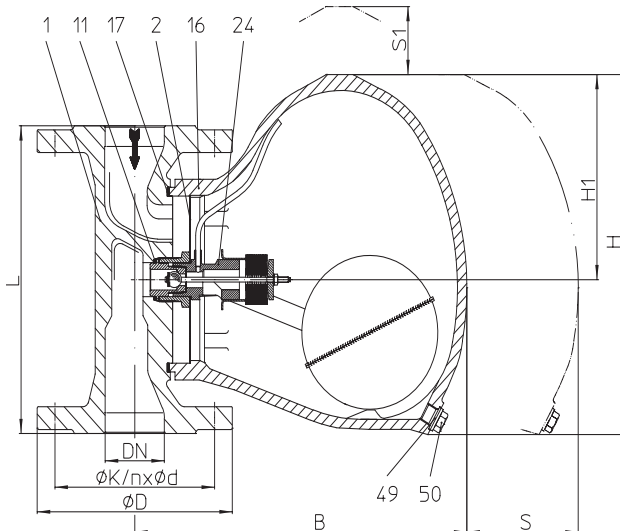


Fig. 631....1 with flanges - vertical installation

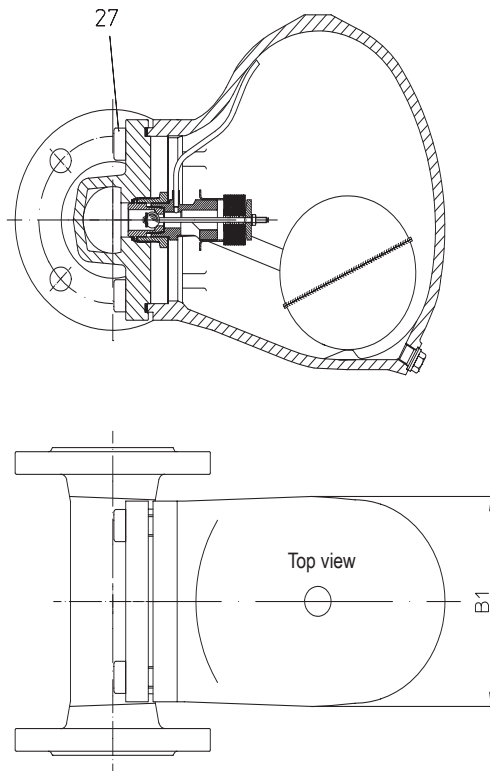


Fig. 631....1 with flanges - horizontal installation

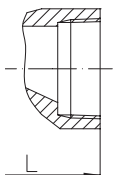


Fig. 631....2
with screwed sockets

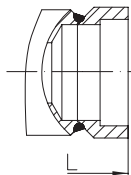


Fig. 631....3
with socket weld ends

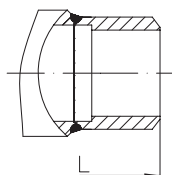


Fig. 631....4
with butt weld ends

Types of connection

Flanges1	ANSI125 acc. to ASME B16.1 ANSI150 / 300 acc. to ASME B16.5
Screwed sockets2	Rp- and NPT-thread ANSI125 acc. to ASME B16.4 ANSI150/300 acc. to ASME B1.20.1
Socket weld ends3	acc. to ASME B16.11
Butt weld ends4	acc. to ASME B16.25

Other types of connection on request.

- Ball float steam trap with level control for the condensate-discharge from all kinds of steam systems
- Rapid system start-up due to thermostatic control element
- Standard installation position: - vertical
- Optional installation position: - horizontal with inlet from right or left (Please indicate when ordering).
- Inside strainer
- Body with flanged hood
- Non return protection
- The controller may be changed without disturbing the pipe work
- On-site change of the installation position is possible according to the operating instructions
- Options: - Air vent - (Pos. 51) or blow down valve (Pos. 46), manual operated

Operating limits

Fig. 11.631 - ANSI125	Body/Hood: EN-JL1040 (comparable with ASTM A 126 Cl. B)			
	Flanges acc. to ANSI B16.1	Screwed sockets acc. to ANSI B16.4		
Operating pressure PS (psig)	125	125		
Operating temperature TS (°F)	450	353		
Operating pressure PS (barg)	8,6	8,6		
Operating temperature TS (°C)	232	178		
allow. diff. pressure ΔPMX (psi):	29	58	116	125
allow. diff. pressure ΔPMX (bar):	2	4	8	8,6
for controller:	R2 R2-S	R4 R4-S	R8 R8-S	R13 R13-S

Fig. 22.631 - ANSI150	Body/Hood: EN-JS1049 (comparable with SA395)	
Operating pressure PS (psig)	185	125
Operating temperature TS (°F)	450	650
Operating pressure PS (barg)	12,8	8,6
Operating temperature TS (°C)	232	343

Fig. 42.631 - ANSI150	Body: SA105 / Hood: SA216WCB		
Operating pressure PS (psig)	189	116	58
Operating temperature TS (°F)	437	680	800
Operating pressure PS (barg)	13	8	4
Operating temperature TS (°C)	225	360	427

Fig. 45.631 - ANSI300	Body: SA105 / Hood: SA216WCB	
Operating pressure PS (psig)	464	319
Operating temperature TS (°F)	771	800
Operating pressure PS (barg)	32	22
Operating temperature TS (°C)	411	427

Fig. 52.631 - ANSI150	Body: SA182F321 / Hood: SA351CF8			
Operating pressure PS (psig)	189	116	58	29
Operating temperature TS (°F)	407	680	873	950
Operating pressure PS (barg)	13	8	4	2
Operating temperature TS (°C)	208	360	467	510

Fig. 55.631 - ANSI300	Body: SA182F321 / Hood: SA351CF8	
Operating pressure PS (psig)	464	319
Operating temperature TS (°F)	504	950
Operating pressure PS (barg)	32	22
Operating temperature TS (°C)	262	510

allow. diff. pressure ΔPMX (psi):	29	58	116	189	319	464
allow. diff. pressure ΔPMX (bar):	2	4	8	13	22	32
for controller:	R2 R2-S	R4 R4-S	R8 R8-S	R13 R13-S	R22	R32

Dimensions and weights		Types of connection																	
		Flanges								Screwed sockets Socket weld ends ²⁾					Butt weld ends				
NPS	(inch)	1/2	3/4	1	1 1/2	2	2 1/2	3	4	1/2	3/4	1	1 1/2	2	1/2	3/4	1	1 1/2	2
L* (EN-JL/EN-JS)	(inch)	5.90	5.90	6.30	9.06	9.06	--	--	--	5.90	5.90	6.30	9.06	--	--	--	--	--	--
L* (Steel)	(inch)	8.27	8.27	8.27	9.06	9.06	11.42	12.20	13.78	5.91	5.91	6.3	8.27	8.27	6.3	6.3	6.3	9.84	9.84
H	(inch)	6.38	8.38	7.36	10.63	10.63	10.63	10.63	10.63	6.38	6.38	7.36	10.63	10.63	6.38	6.38	7.36	10.63	10.63
H1	(inch)	3.35	3.35	4.02	5.94	5.94	5.94	5.94	5.94	3.35	3.35	4.02	5.94	5.94	3.35	3.35	4.02	5.94	5.94
B (SA395)	(inch)	8.42	8.42	10.04	11.02	11.02	--	--	--	8.42	8.42	10.04	11.02	--	--	--	--	--	--
B (Steel)	(inch)	6.57	6.57	7.72	11.22	11.22	11.22	11.22	11.22	6.57	6.57	7.72	11.22	11.22	6.57	6.57	7.72	11.22	11.22
B1	(inch)	3.74	3.74	4.65	6.18	6.18	6.18	6.18	6.18	3.74	3.74	4.65	6.18	6.18	3.74	3.74	4.65	6.18	6.18
S	(inch)	7.09	7.09	7.87	11.81	11.81	11.81	11.81	7.09	7.09	7.87	11.81	11.81	11.81	7.09	7.09	7.87	11.81	11.81
S1	(inch)	5.91	5.91	7.09	7.87	7.87	7.87	7.87	7.87	5.91	5.91	7.09	7.87	7.87	5.91	5.91	7.09	7.87	7.87
Weight approx.	(lb)	17.4	17.9	24	54.5	55.8	60	64.4	72.1	16.1	16.1	18.7	41.1	45.2	15.2	17.4	19.8	46.3	48.5

Dimensions and weights		Types of connection																	
		Flanges								Screwed sockets Socket weld ends ²⁾					Butt weld ends				
DN	(mm)	15	20	25	40	50	65	80	100	15	20	25	40	50	15	20	25	40	50
L* (EN-JL/EN-JS)	(mm)	150	150	160	230	230	--	--	--	150	150	160	230	--	--	--	--	--	--
L* (Steel)	(mm)	210	210	210	230	230	290	310	350	150	150	160	210	210	160	160	160	250	250
H	(mm)	162	162	187	270	270	270	270	270	162	162	187	270	270	162	162	187	270	270
H1	(mm)	85	85	102	151	151	151	151	151	85	85	102	151	151	85	85	102	151	151
B (EN-JL/EN-JS)	(mm)	214	214	255	280	280	--	--	--	214	214	255	280	--	--	--	--	--	--
B (Steel)	(mm)	167	167	196	285	285	285	285	285	167	167	196	285	285	167	167	196	285	285
B1	(mm)	95	95	118	157	157	157	157	157	95	95	118	157	157	95	95	118	157	157
S	(mm)	180	180	200	300	300	300	300	300	180	180	200	300	300	180	180	200	300	300
S1	(mm)	150	150	180	200	200	200	200	200	150	150	180	200	200	150	150	180	200	200
Weight approx.	(kg)	7,9	8,1	10,9	24,7	25,3	27,2	29,2	32,7	7,3	7,3	8,5	20	20,5	6,9	7,9	9	21	22

Standard-flange dimensions refer to page 21.

²⁾ not in EN-JL1040, EN-JS1049

* Face-to-face acc. to data sheet resp. customer request

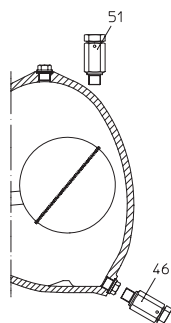
Parts

Pos.	Description	Fig. 11.631	Fig. 22.631	Fig. 42./45.631	Fig. 52./55.631
1	Body	EN-GJL-250, EN-JL1040 (comparable with ASTM A 126 Cl. B)	EN-GJS-400-18U-LT, EN-JS1049 (comparable with SA395)	SA105	SA182F321
2	Strainer	SA240Gr.304			
11	Sealing ring *	R-Cu99	SA182F321		
16	Hood	EN-GJL-250, EN-JL1040 (comparable with ASTM A 126 Cl. B)	EN-GJS-400-18U-LT, EN-JS1049 (comparable with SA395)	SA216WCB	SA351CF8
17	Gasket *	GRAPHIT (CrNi laminated with graphite)			
24	Controller *	TB 102 / 85 (corrosion resistant bimetal)			
27	Cheese head screw (with metric screw-thread)	SA193Gr.B16			
46	Blow down valve *	AISI303			
49	Sealing ring *	R-Cu99	SA182F321		
50	Plug (M14x1,5) * (with metric screw-thread)	SA182F321			
51	Manual air vent valve *	AISI303			

* Spare part

Information / restriction of technical rules need to be observed!

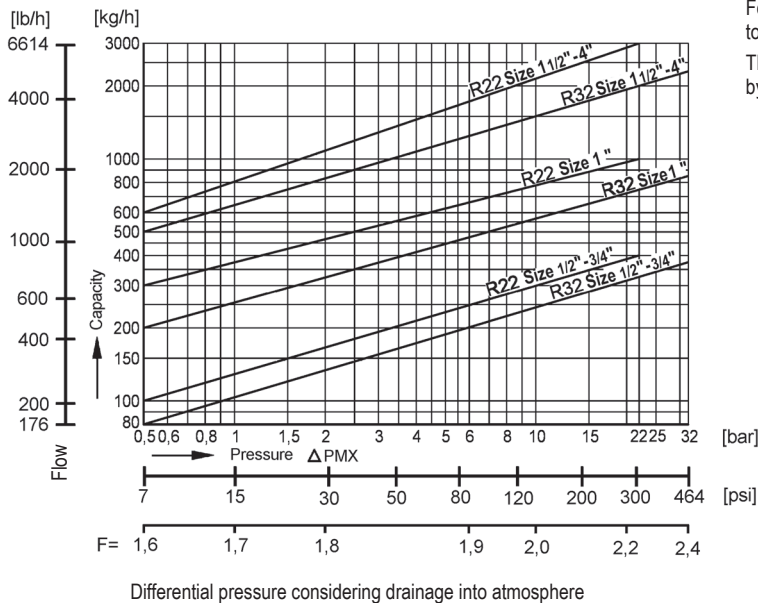
Operating instructions can be ordered by phone +49 (0)5207 / 994-0 or fax +49 (0)5207 / 994-158 or -159.

Options


Capacity chart

Standard R22 and R32

NPS 1/2" - 4" / DN15 - DN100



The capacity chart shows the maximum flow quantities of hot condensate for the different controllers and steam trap sizes

In common, the steam traps are fitted out with an controller as shown in the flow diagrams of this page acc. to the differential pressures and flow rates.

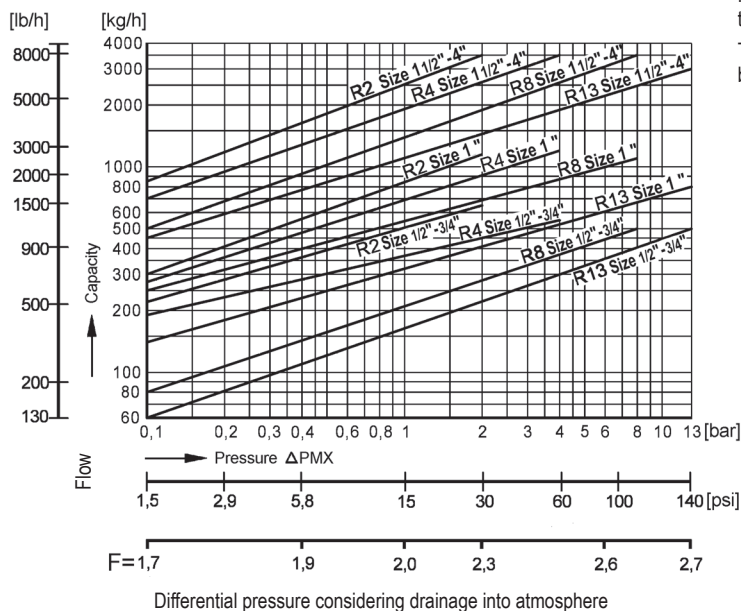
For very large flow rates with low differential pressures, steam traps at sizes 1 1/2" to 4" / DN40 to DN100 can be fitted out with a super-controller

The maximum flow quantity of cold condensate at about 20°C can be determined by multiplication of the appropriate factor F (in the scale below the diagrams)

Capacity chart

Standard R2 to R13

NPS 1/2" - 4" / DN15 - DN100



The capacity chart shows the maximum flow quantities of hot condensate for the different controllers and steam trap sizes

In common, the steam traps are fitted out with an controller as shown in the flow diagrams of this page acc. to the differential pressures and flow rates.

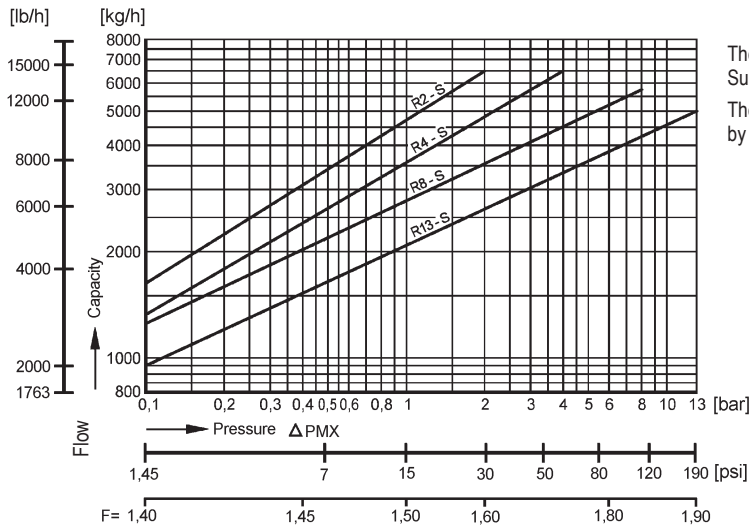
For very large flow rates with low differential pressures, steam traps at sizes 1 1/2" to 4" / DN40 to DN100 can be fitted out with a super-controller

The maximum flow quantity of cold condensate at about 20°C can be determined by multiplication of the appropriate factor F (in the scale below the diagrams)

Special design: Super-controller for very large flow rates with low differential pressures

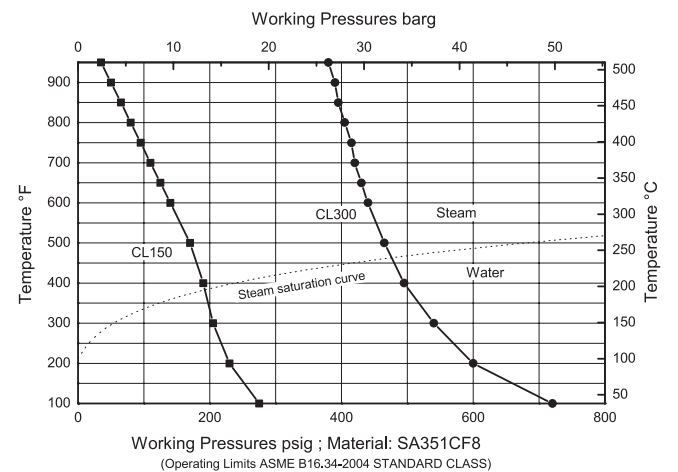
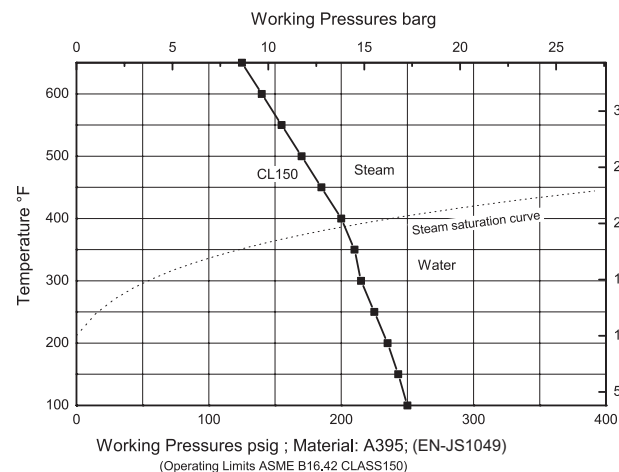
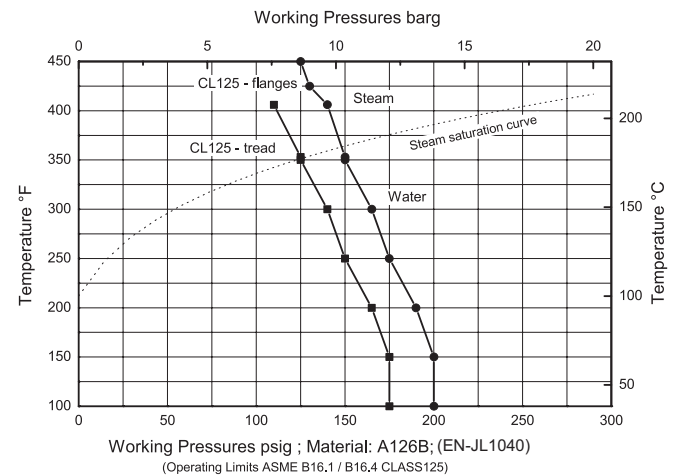
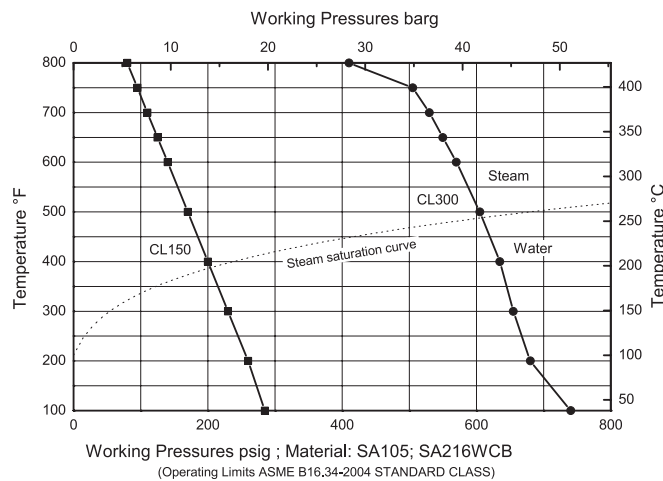
R2-S to R13-S

NPS 1 1/2" - 4" / DN40 - DN100



The capacity chart shows the maximum flow quantities of hot condensate for the Super-controller versions.

The maximum flow quantity of cold condensate at about 20°C can be determined by multiplication of the appropriate factor F (in the scale below the diagrams)



Ball float steam trap (high temperature steel)

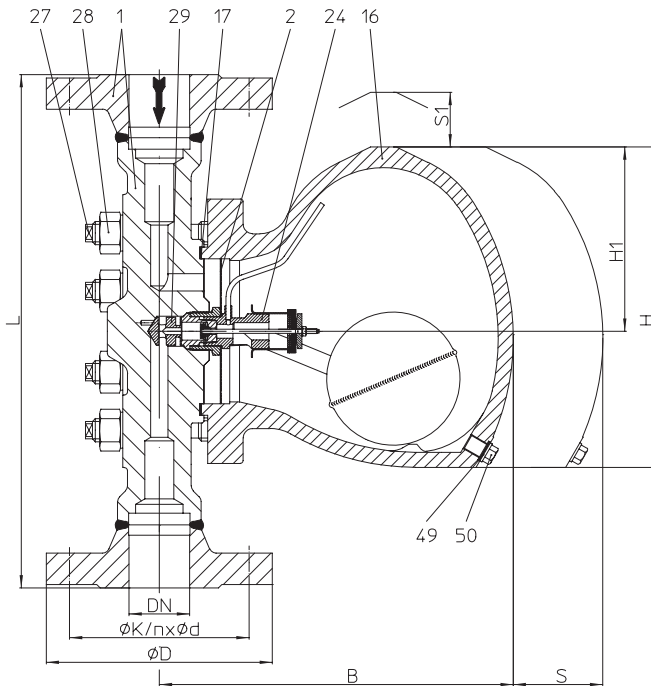


Fig. 631....1 with flanges - vertical installation

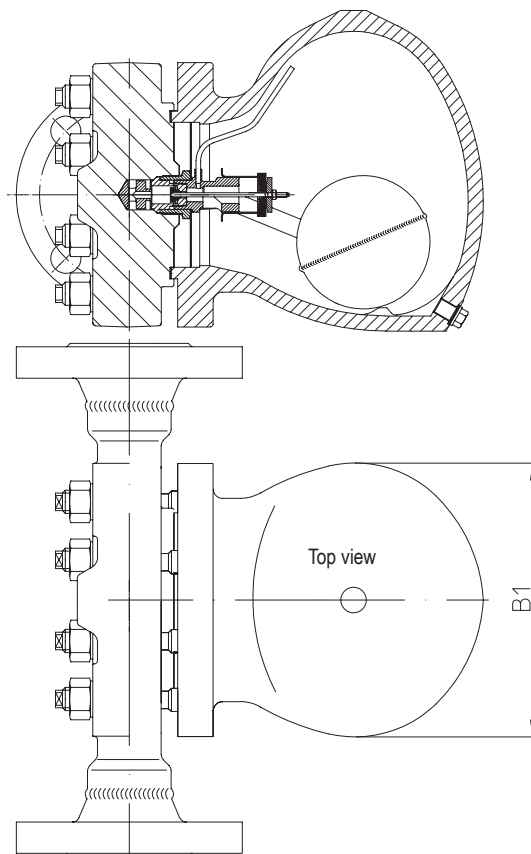


Fig. 631....1 with flanges - horizontal installation

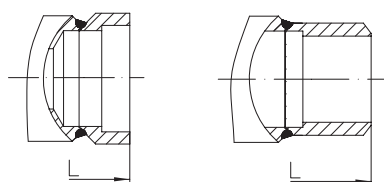


Fig. 631....3
with socket weld ends

Fig. 631....4
with butt weld ends

- Ball float steam trap with level control for the condensate-discharge from all kinds of steam systems
- Rapid system start-up due to thermostatic control element
- Standard installation position: - vertical
- Optional installation position: - horizontal with inlet from right or left (Please indicate when ordering).
- Inside strainer
- Body with flanged hood
- Non return protection
- The controller may be changed without disturbing the pipe work
- On-site change of the installation position is possible according to the operating instructions
- Options: - Air vent - (Pos. 51) or blow down valve (Pos. 46), manual operated

Operating limits

Fig. 88.631 - ANSI900 / Fig. 88.632 ANGLE - ANSI900	Body: SA182F12Cl.2 / Hood: SA217WC6		
Operating pressure PS (psig)	1595	1160	650
Operating temperature TS (°F)	750	894	1000
Operating pressure PS (barg)	110	80	45
Operating temperature TS (°C)	399	479	538

allow. diff. pressure ΔPMX (psi):	1595	1160
allow. diff. pressure ΔPMX (bar):	110	80
for controller:	R110	R80

Types of connection

Flanges1	ANSI900 acc. to ASME B16.5
Socket weld ends3	acc. to ASME B16.11
Butt weld ends4	acc. to ASME B16.25

Other types of connection on request.

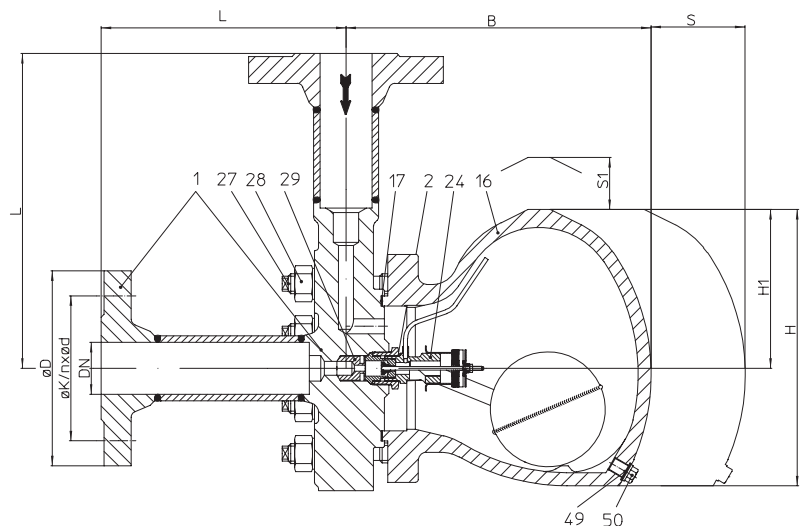


Fig. 632....1 Angle pattern design with flanges - vertical installation

Dimensions and weights		Types of connection						Dimensions and weights		Types of connection					
		Flanges			Socket weld ends Butt weld ends					Flanges			Socket weld ends Butt weld ends		
NPS	(inch)	1/2	1	2	1/2	1	2	DN	(mm)	15	25	50	15	25	50
L	(inch)	15.75	16.34	17.32	13.19	13.9	13.19	L	(mm)	400	415	440	335	335	335
L1 / L2 ANGLE *	(inch)	7.87	8.19	8.66	6.61	6.61	6.61	L1 / L2 ANGLE *	(mm)	200	208	220	168	168	168
H	(inch)	280	280	280	280	280	280	H	(mm)	280	280	280	280	280	280
H1	(inch)	160	160	160	160	160	160	H1	(mm)	160	160	160	160	160	160
B	(inch)	302	302	302	302	302	302	B	(mm)	302	302	302	302	302	302
B1	(inch)	185	185	185	185	185	185	B1	(mm)	185	185	185	185	185	185
S	(inch)	300	300	300	300	300	300	S	(mm)	300	300	300	300	300	300
S1	(inch)	200	200	200	200	200	200	S1	(mm)	200	200	200	200	200	200
Weight approx.	(lb)	101.4	108	123.5	116.9	90.4	83.8	Weight approx.	(kg)	46	49	56	53	41	38
Standard-flange dimensions refer to page 21.															

Standard-flange dimensions refer to page 21.

* Face-to-face acc. to data sheet resp. customer request

Parts

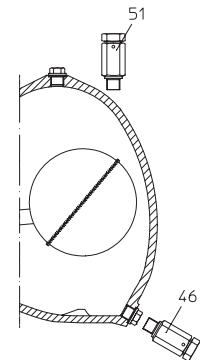
Pos.	Description	Fig. 88.631 / 88.632
1	Body	SA182F12Cl.2
2	Strainer	SA240Gr.304
16	Hood	SA217WC6
17	Gasket *	GRAPHIT (CrNi laminated with graphite)
24	Controller *	TB 102 / 85 (corrosion resistant bimetal)
27	Stud	SA453Gr.660b
28	Hexagonal nut	SA453Gr.660b
29	Erosion deflector	AISI431
46	Blow down valve *	AISI440 (with metric screw-thread)
49	Sealing ring *	SA182F321
50	Plug (M14x1,5) *	SA182F321
51	Manual air vent valve *	AISI440 (with metric screw-thread)

* Spare part

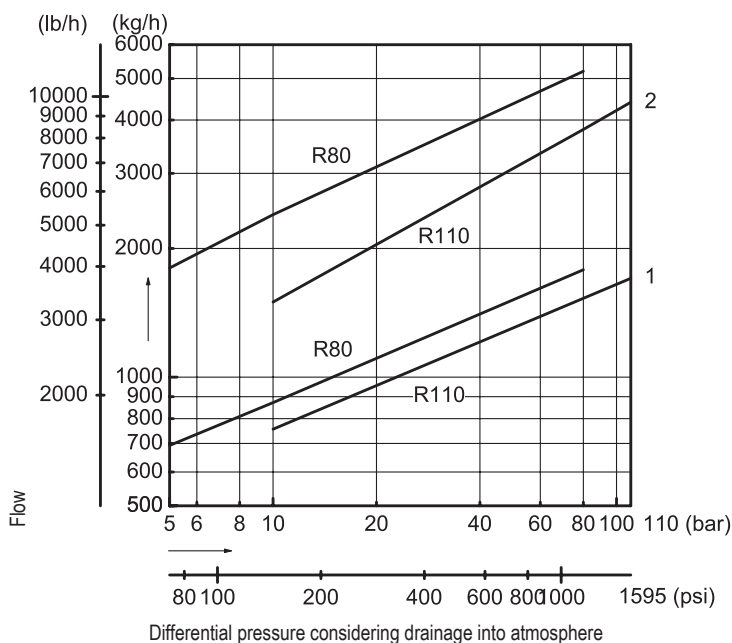
Information / restriction of technical rules need to be observed!

Operating instructions can be ordered by phone +49 (0)5207 / 994-0 or fax +49 (0)5207 / 994-158 or -159.

Options



Capacity chart



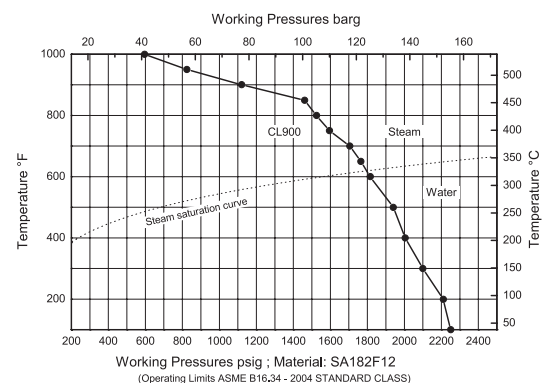
The capacity chart shows the maximum flow rates.

Curve 1:

The capacity chart shows the maximum flow quantities of hot condensate.

Curve 2:

Maximum flow at cold condensate at about 68°F / 20°C (during start-up of a cold installation).



Ball float steam trap (high temperature steel)

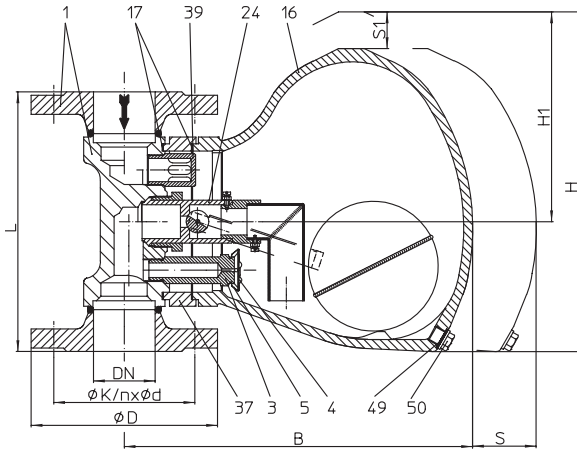


Fig. 633....1 with flanges - vertical installation

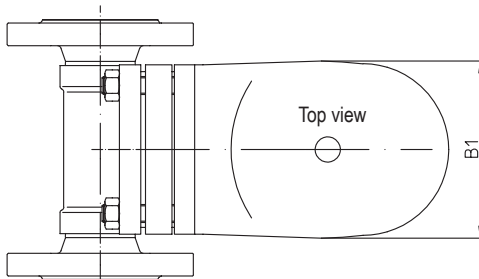
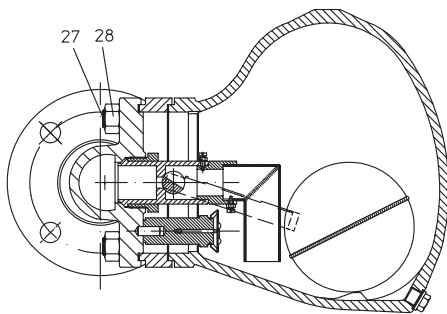


Fig. 633....1 with flanges - horizontal installation

- Ball float steam trap with level control for the condensate-discharge from all kinds of steam systems
- Rapid system start-up due to thermostatic control element
- Immediate discharge of hot boiling condensat
- Standard installation position: - vertical
- Optional installation position: - horizontal with inlet from right or left (Please indicate when ordering).
- Body with flanged hood
- The controller may be changed without disturbing the pipe work
- Installation position can not be changed later on
- Options: - Air vent - (Pos. 51) or blow down valve (Pos. 46), manual operated

Operating limits

Fig. 42.633 - ANSI150 Fig. 45.633 - ANSI300	Body: SA105 / Hood: SA216WCB
Operating pressure PS (psig)	58
Operating temperature TS (°F)	800
Operating pressure PS (barg)	4
Operating temperature TS (°C)	427
allow. diff. pressure ΔPMX (psi):	58
allow. diff. pressure ΔPMX (bar):	4
for controller:	R4-P

EN-JL1040, EN-JS1049 and SA182F321 on request.

Types of connection

Flanges1	ANSI150 / 300 acc. to ASME B16.5
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Other types of connection on request.

Dimensions and weights		Types of connection					Dimensions and weights		Types of connection				
		Flanges							Flanges				
NPS	(inch)	1 1/2	2	2 1/2	3	4	DN	(mm)	40	50	65	80	100
L *	(inch)	9.06	9.06	11.42	12.20	13.78	L *	(mm)	230	230	290	310	350
H	(inch)	10.63	10.63	10.63	10.63	10.63	H	(mm)	270	270	270	270	270
H1	(inch)	5.94	5.94	5.94	5.94	5.94	H1	(mm)	151	151	151	151	151
B	(inch)	11.97	11.97	11.97	11.97	11.97	B	(mm)	307	307	307	307	307
B1	(inch)	6.18	6.18	6.18	6.18	6.18	B1	(mm)	157	157	157	157	157
S	(inch)	11.81	11.81	11.81	11.81	11.81	S	(mm)	300	300	300	300	300
S1	(inch)	7.87	7.87	7.87	7.87	7.87	S1	(mm)	200	200	200	200	200
Weight approx.	(lb)	54.45	55.78	59.97	64.37	72.09	Weight approx.	(kg)	24,7	25,3	27,2	29,2	32,7
Standard-flange dimensions refer to page 21.													

Standard-flange dimensions refer to page 21.

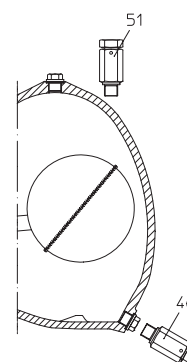
* Face-to-face acc. to data sheet resp. customer request

Parts

Pos.	Description	Fig. 42./45.633
1	Body	SA105
3	Seat	AISI303
4	Capsule *	SA240Gr.304
5	Spring actuated clip *	AISI301
16	Hood	SA216WCB
17	Gasket *	GRAPHIT (CrNi laminated with graphite)
24	Controller *	SA240Gr.304 / bimetallic TB102/85
27	Stud	SA193Gr.B16 (with metric screw-thread)
28	Hexagonal nut	SA194Gr.4 (with metric screw-thread)
37	Intermediate flange	SA105
39	Baffle straightener	AISI430F
46	Blow down valve *	AISI303 (with metric screw-thread)
49	Sealing ring *	SA182F321
50	Plug (M14x1,5) *	SA182F321 (with metric screw-thread)
51	Manual air vent valve *	AISI303 (with metric screw-thread)

* Spare part

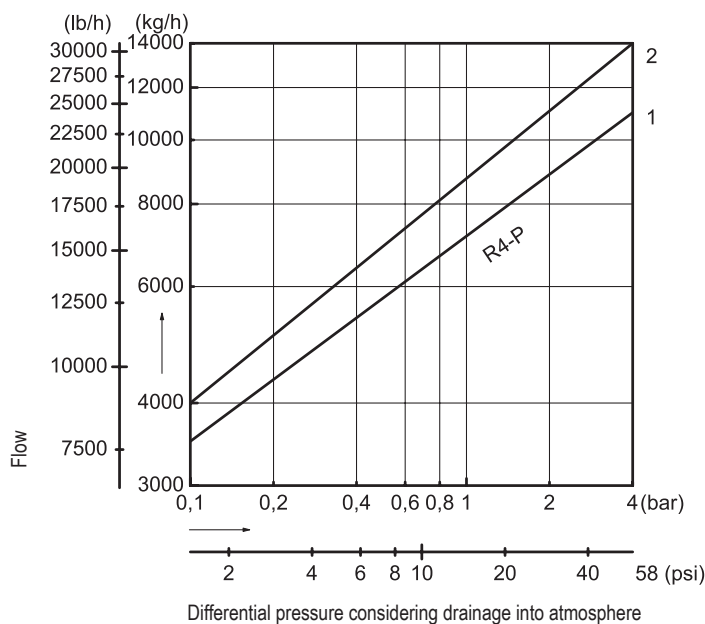
Options



Information / restriction of technical rules need to be observed!

Operating instructions can be ordered by phone +49 (0)5207 / 994-0 or fax +49 (0)5207 / 994-158 or -159.

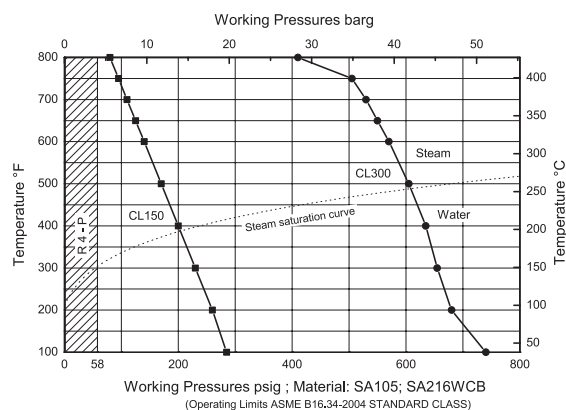
Capacity chart



The capacity chart shows the maximum flow rates.

Curve 1:
The capacity chart shows the maximum flow quantities of hot condensate.

Curve 2:
Maximum flow at cold condensate at about 68°F / 20°C



Ball float steam trap (Forged steel, Stainless steel)

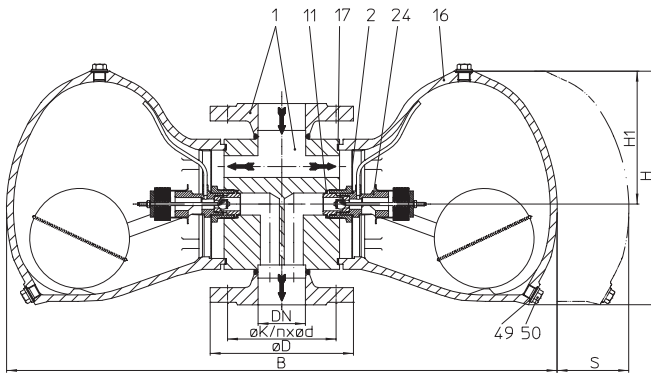


Fig. 639....1 with flanges - vertical installation

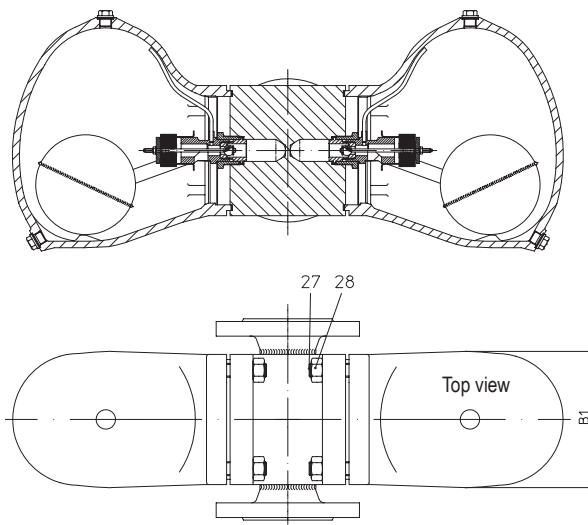


Fig. 639....1 with flanges - horizontal installation

The controller R4-P deviates in his construction from the shown controller on this side. Refer to Fig. 633 (Page 8).

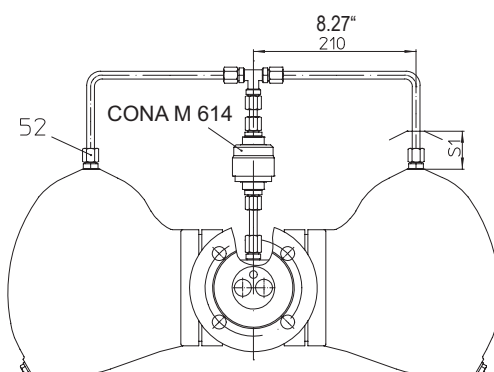


Fig. 639....1 with flanges - horizontal installation and external vent kpl.

- Ball float steam trap with level control for the condensate-discharge from all kinds of steam systems for large condensate flowrates
- Discharge of great condensate quantities even at low differential pressure
- Rapid system start-up due to thermostatic control element
- Standard installation position: - vertical
- Optional installation position: - horizontal with inlet from right or left (Please indicate when ordering).
- Inside strainer
- Body with flanged hood
- Non return protection
- The controller maybe changed without disturbing the pipe work
- On-site change of the installation position is possible according to the operating instructions; with an existing external vent there are modifies bypass parts needed due to the required installation position - please inquire.
- Options: - External vent cpl. for venting of high quantities of air during start-up and operation (standard with controller R2-S, R4-S and R4-P)

Operating limits

Fig. 41.639	ANSI125 Body: SA105 / Hood: EN-JL1040			
Operating pressure PS (psig)	125			
Operating temperature TS (°F)	450			
Operating pressure PS (barg)	8,6			
Operating temperature TS (°C)	232			
allow. diff. pressure ΔPMX (psi):	29	58	116	125
allow. diff. pressure ΔPMX (bar):	2	4	8	8,6
for controller:	R2-S	R4-S	R8-S	R13-S

Fig. 42.639	ANSI150 Body: SA105 / Hood: SA216WCB		
Operating pressure PS (psig)	189	116	58
Operating temperature TS (°F)	437	680	800
Operating pressure PS (barg)	13	8	4
Operating temperature TS (°C)	225	360	427

Fig. 45.639	ANSI300 Body: SA105 / Hood: SA216WCB					
Operating pressure PS (psig)	464		319			
Operating temperature TS (°F)	771		800			
Operating pressure PS (barg)	32		22			
Operating temperature TS (°C)	411		427			
allow. diff. pressure ΔPMX (psi):	29	58	116	189	319	464
allow. diff. pressure ΔPMX (bar):	2	4	8	13	22	32
for controller:	R2-S	R4-S	R8-S	R13-S	R22	R32

Fig. 52.639	ANSI150 Body: SA182F321 / Hood: SA351CF8			
Operating pressure PS (psig)	189	116	58	29
Operating temperature TS (°F)	437	680	873	950
Operating pressure PS (barg)	13	8	4	2
Operating temperature TS (°C)	225	360	427	510

Fig. 55.639	ANSI300 Body: SA182F321 / Hood: SA351CF8					
Operating pressure PS (psig)	464		319			
Operating temperature TS (°F)	504		950			
Operating pressure PS (barg)	32		22			
Operating temperature TS (°C)	262		510			
allow. diff. pressure ΔPMX (psi):	29	58	116	189	319	464
allow. diff. pressure ΔPMX (bar):	2	4	8	13	22	32
for controller:	R2-S	R4-S	R8-S	R13-S	R22	R32

Types of connection

Flanges1	ANSI150/300 acc. to ASME B16.5
---------------	--------------------------------

Other types of connection on request.

Dimensions and weights		Types of connection				Dimensions and weights		Types of connection			
		Flanges						Flanges			
NPS	(inch)	2	2 1/2	3	4	DN	(mm)	50	65	80	100
L*	(inch)	9.06	11.42	12.20	13.78	L*	(mm)	230	290	310	350
H	(inch)	10.63	10.63	10.63	10.63	H	(mm)	270	270	270	270
H1	(inch)	5.94	5.94	5.94	5.94	H1	(mm)	151	151	151	151
B	(inch)	24.96	24.96	24.96	24.96	B	(mm)	634	634	634	634
B1	(inch)	6.18	6.18	6.18	6.18	B1	(mm)	157	157	157	157
S	(inch)	11.81	11.81	11.81	11.81	S	(mm)	300	300	300	300
S1	(inch)	7.87	7.87	7.87	7.87	S1	(mm)	200	200	200	200
Weight ANSI150	(lb)	98.55	101.85	105.16	111.33	Weight ANSI150	(kg)	44,7	46,2	47,7	50,5
Weight ANSI300	(lb)	101.41	106.48	111.33	121.25	Weight ANSI300	(kg)	46	48,3	50,5	55
Standard-flange dimensions refer to page 21.											

Standard-flange dimensions refer to page 21.

* Face-to-face acc. to data sheet resp. customer request

Parts

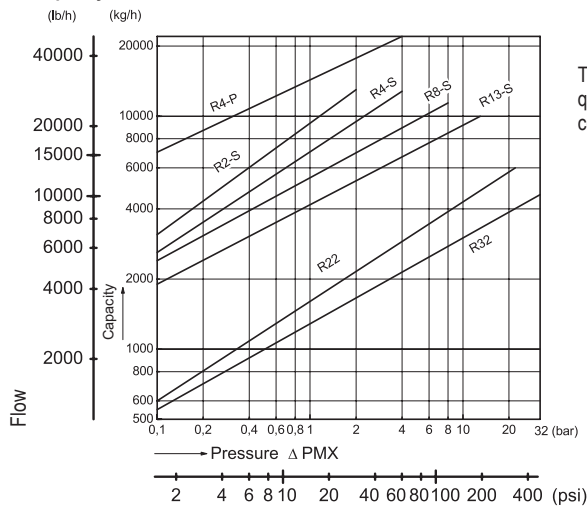
Pos.	Description	Fig. 42.639	Fig. 42./45.639	Fig. 52./55.639
1	Body	SA105		SA182F321
2	Strainer	SA240Gr.304		
11	Sealing ring *	SA182F321		
16	Hood	EN-GJL-250, EN-JL1040 (comparable with A126Cl.B)	SA216WCB	SA351CF8
17	Gasket	GRAPHIT (CrNi laminated with graphite)		
24	Controller *	SA240Gr.304 / bimetallic TB102/85		
27	Stud	SA193Gr.B16		
28	Hexagonal nut	SA194Gr.4		
46	Blow down valve *	AISI303		
49	Sealing ring *	SA182F321		
50	Plug (M14x1,5) * (with metric screw-thread)	SA182F321		
51	Manual air vent valve *	AISI303		
52	Union for recovery pipe * (with metric screw-thread)	AISI303		

* Spare part

Information / restriction of technical rules need to be observed!

Operating instructions can be ordered by phone +49 (0)5207 / 994-0 or fax +49 (0)5207 / 994-158 or -159.

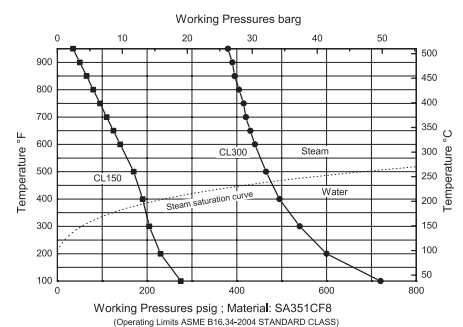
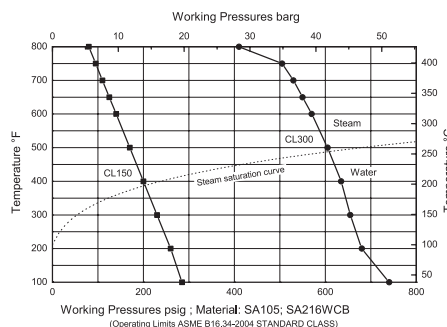
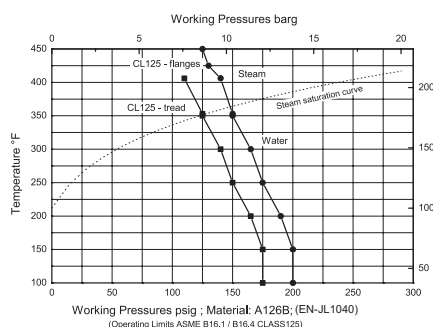
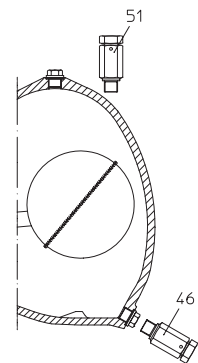
Capacity chart



Differential pressure considering drainage into atmosphere

The capacity chart shows the maximum flow quantities of hot condensate for the different controllers and steam trap sizes

Options for R8-S to R32



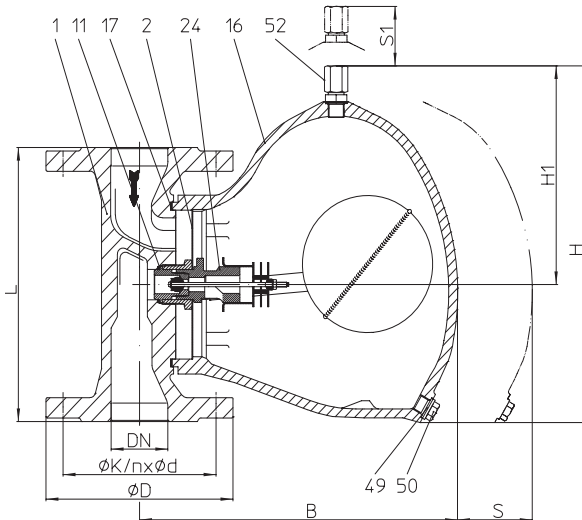
Ball float steam trap (Grey cast iron, SG iron, Cast steel/Forged steel, Stainless steel)


Fig. 630....1 with flanges - vertical installation

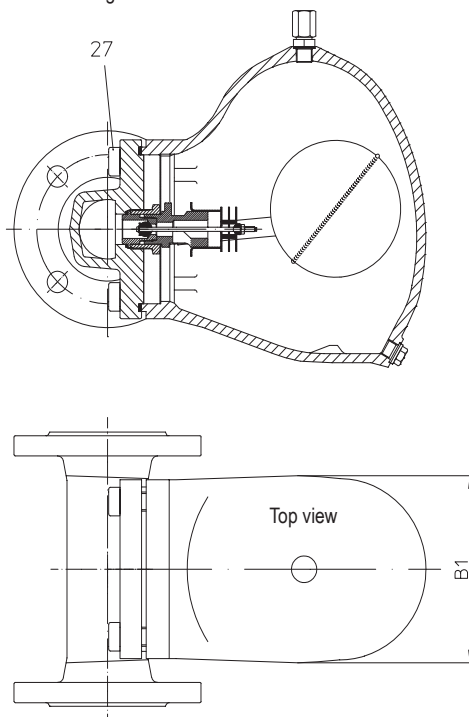
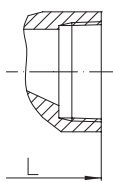
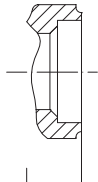
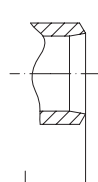


Fig. 630....1 with flanges - horizontal installation


 Fig. 630....2
with screwed sockets

 Fig. 630....3
with socket weld ends

 Fig. 630....4
with butt weld ends

Types of connection

Flanges1	ANSI125 acc. to ASME B16.1 ANSI150 / 300 acc. to ASME B16.5
Screw sockets2	Rp- and NPT-thread ANSI125 acc. to ASME B16.4 ANSI150/300 acc. to ASME B1.20.1
Socket weld ends3	acc. to ASME B16.11
Butt weld ends4	acc. to ASME B16.25

Other types of connection on request.

- Ball float steam trap with level control for the condensate-discharge from compressed air and gas systems (acc. to PED 97/23/EG fluid group 2, other fluid groups on request)
- Standard installation position: - vertical
- Optional installation position: - horizontal with inlet from right or left (Please indicate when ordering).
- Inside strainer
- Body with flanged hood
- Non return protection
- Union (Pos. 52) for recovery pipe
- The controller maybe changed without disturbing the pipe work
- On-site change of the installation position is possible according to the operating instructions
- Options: - Air vent - (Pos. 51) or blow down valve (Pos. 46), manual operated

Operating limits

Fig. 11.630 - ANSI125	Body/Hood: EN-JL1040 (comparable with ASTM A 126 Cl. B)			
	Flanges acc. to ANSI B16.1		Screw sockets acc. to ANSI B16.4	
Operating pressure PS (psig)	125		125	
Operating temperature TS (°F)	450		353	
Operating pressure PS (barg)	8,6		8,6	
Operating temperature TS (°C)	232		178	
allow. diff. pressure ΔPMX (psi):	29	58	116	125
allow. diff. pressure ΔPMX (bar):	2	4	8	8,6
for controller:	R2	R4	R8	R13

Fig. 22.630 - ANSI150	Body/Hood: EN-JS1049 (comparable with SA395)	
Operating pressure PS (psig)	185	125
Operating temperature TS (°F)	450	650
Operating pressure PS (barg)	12,8	8,6
Operating temperature TS (°C)	232	343

Fig. 42.630 - ANSI150	Body: SA105 / Hood: SA216WCB		
Operating pressure PS (psig)	189	116	58
Operating temperature TS (°F)	437	680	800
Operating pressure PS (barg)	13	8	4
Operating temperature TS (°C)	225	360	427

Fig. 45.630 - ANSI300	Body: SA105 / Hood: SA216WCB	
Operating pressure PS (psig)	464	319
Operating temperature TS (°F)	771	800
Operating pressure PS (barg)	32	22
Operating temperature TS (°C)	411	427

Fig. 52.630 - ANSI150	Body: SA182F321 / Hood: SA351CF8			
Operating pressure PS (psig)	189	116	58	29
Operating temperature TS (°F)	407	680	873	950
Operating pressure PS (barg)	13	8	4	2
Operating temperature TS (°C)	208	360	467	510

Fig. 55.630 - ANSI300	Body: SA182F321 / Hood: SA351CF8		
Operating pressure PS (psig)	464	319	
Operating temperature TS (°F)	504	950	
Operating pressure PS (barg)	32	22	
Operating temperature TS (°C)	262	510	

allow. diff. pressure ΔPMX (psi):	29	58	116	189	319	464
allow. diff. pressure ΔPMX (bar):	2	4	8	13	22	32
for controller:	R2	R4	R8	R13	R22	R32

Dimensions and weights		Types of connection														
		Flanges					Screw sockets Socket weld ends ²⁾					Butt weld ends				
NPS	(inch)	1/2	3/4	1	1 1/2	2	1/2	3/4	1	1 1/2	2	1/2	3/4	1	1 1/2	2
L* (EN-JL/EN-JS)	(mm)	5.90	5.90	6.30	9.06	9.06	5.90	5.90	6.30	9.06	--	--	--	--	--	--
L* (Steel)	(mm)	8.27	8.27	8.27	9.06	9.06	5.91	5.91	6.3	8.27	8.27	6.3	6.3	6.3	9.84	9.84
H	(inch)	6.38	8.38	7.36	10.63	10.63	6.38	6.38	7.36	10.63	10.63	6.38	6.38	7.36	10.63	10.63
H1	(inch)	4.37	4.37	5.04	6.97	6.97	4.37	4.37	5.04	6.97	6.97	4.37	4.37	5.04	6.97	6.97
B (SA395)	(inch)	8.42	8.42	10.04	11.02	11.02	8.42	8.42	10.04	11.02	--	--	--	--	--	--
B (Steel)	(inch)	6.57	6.57	7.72	11.22	11.22	6.57	6.57	7.72	11.22	11.22	6.57	6.57	7.72	11.22	11.22
B1	(inch)	3.74	3.74	4.65	6.18	6.18	3.74	3.74	4.65	6.18	6.18	3.74	3.74	4.65	6.18	6.18
S	(inch)	7.09	7.09	7.87	11.81	11.81	7.09	7.87	11.81	11.81	11.81	7.09	7.09	7.87	11.81	11.81
S1	(inch)	5.91	5.91	7.09	7.87	7.87	5.91	5.91	7.09	7.87	7.87	5.91	5.91	7.09	7.87	7.87
Weight approx.	(lb)	17.4	17.9	24	54.5	55.8	16.1	16.1	18.7	41.1	45.2	15.2	17.4	19.8	46.3	48.5

Dimensions and weights		Types of connection														
		Flanges					Screw sockets Socket weld ends ²⁾					Butt weld ends				
DN	(mm)	15	20	25	40	50	15	20	25	40	50	15	20	25	40	50
L* (EN-JL/EN-JS)	(mm)	150	150	160	230	230	150	150	160	230	--	--	--	--	--	--
L* (Steel)	(mm)	210	210	210	230	230	150	150	160	210	210	160	160	160	250	250
H	(mm)	162	162	187	270	270	162	162	187	270	270	162	162	187	270	270
H1	(mm)	111	111	128	177	177	111	111	128	177	177	111	111	128	177	177
B (EN-JL/EN-JS)	(mm)	214	214	255	280	280	214	214	255	280	--	--	--	--	--	--
B (Steel)	(mm)	167	167	196	285	285	167	167	196	285	285	167	167	196	285	285
B1	(mm)	95	95	118	157	157	95	95	118	157	157	95	95	118	157	157
S	(mm)	180	180	200	300	300	180	180	200	300	300	180	180	200	300	300
S1	(mm)	150	150	180	200	200	150	150	180	200	200	150	150	180	200	200
Weight approx.	(kg)	7,9	8,1	10,9	24,7	25,3	7,3	7,3	8,5	20	20,5	6,9	7,9	9	21	22

Standard-flange dimensions refer to page 21.

²⁾ not in EN-JL1040, EN-JS1049

* Face-to-face acc. to data sheet resp. customer request

Parts

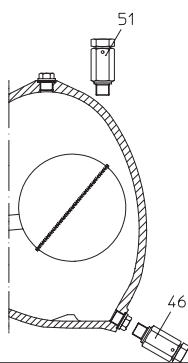
Pos.	Description	Fig. 11.630	Fig. 22.630	Fig. 42./45.630	Fig. 52./55.630
1	Body	EN-GJL-250, EN-JL1040 (comparable with ASTM A 126 Cl. B)	EN-GJS-400-18U-LT, EN-JS1049 (comparable with SA395)	SA105	SA182F321
2	Strainer	SA240Gr.304			
11	Sealing ring *	R-Cu99	SA182F321		
16	Hood	EN-GJL-250, EN-JL1040 (comparable with ASTM A 126 Cl. B)	EN-GJS-400-18U-LT, EN-JS1049 (comparable with SA395)	SA216WCB	SA351CF8
17	Gasket *	GRAPHIT (CrNi laminated with graphite)			
24	Controller *	TB 102 / 85 (corrosion resistant bimetal)			
27	Cheese head screw (with metric screw-thread)	SA193Gr.B16			
46	Blow down valve *	AISI303			
49	Sealing ring *	R-Cu99	SA182F321		
50	Plug (M14x1,5) * (with metric screw-thread)	SA182F321			
51	Manual air vent valve *	AISI303			
* Spare part					

* Spare part

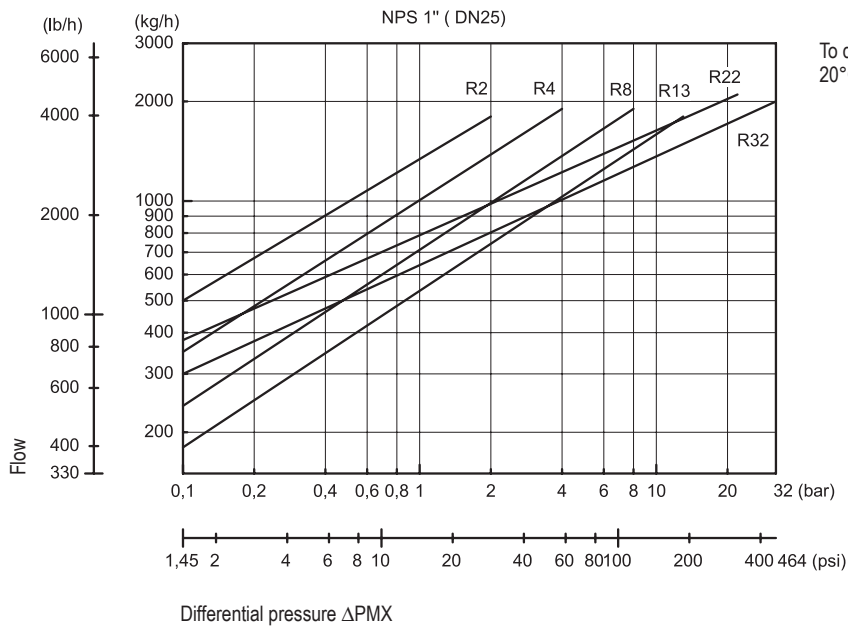
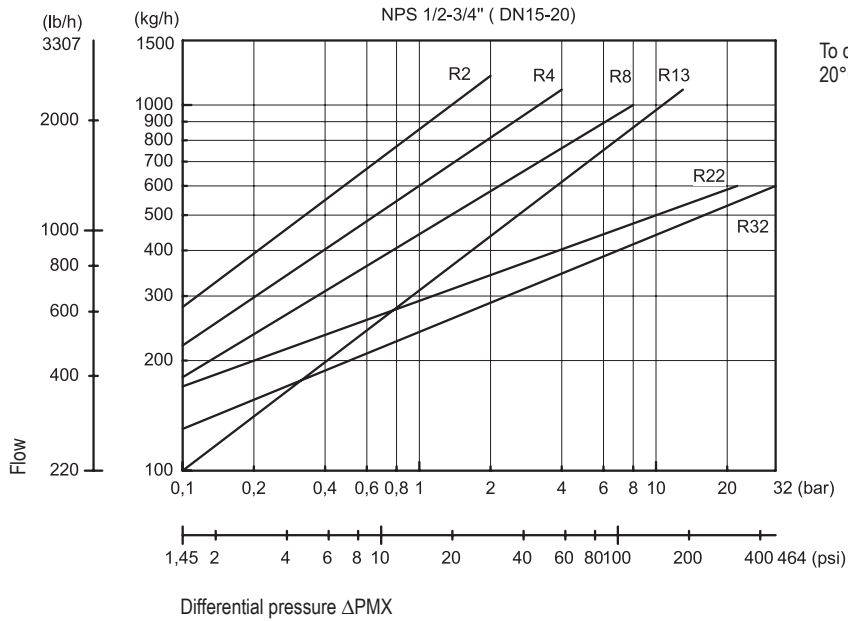
Information / restriction of technical rules need to be observed!

Operating instructions can be ordered by phone +49 (0)5207 / 994-0 or fax +49 (0)5207 / 994-158 or -159.

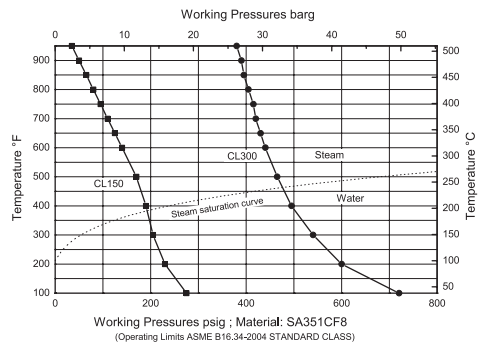
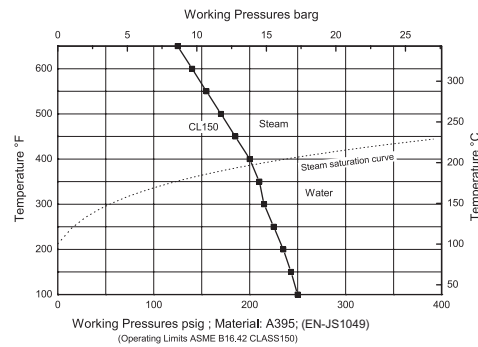
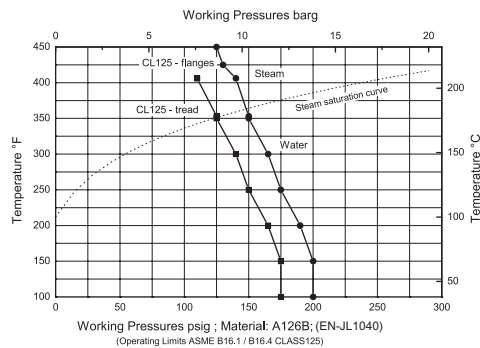
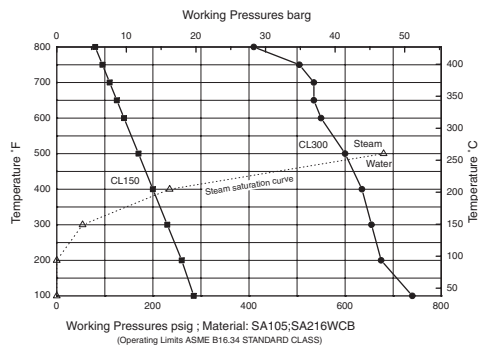
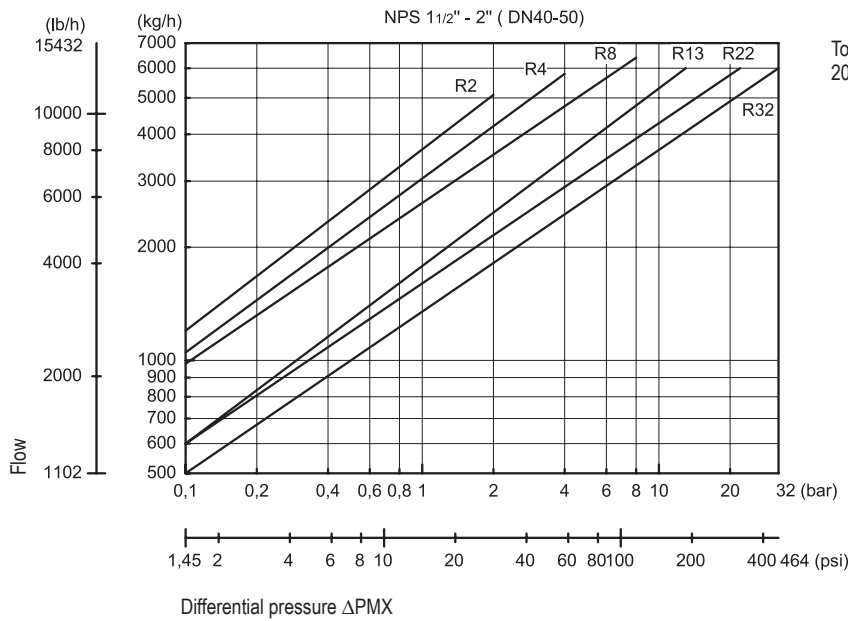
Options



Capacity chart



Capacity chart



Informations about pipe welding
Welding groove acc. to DIN 2559

The material used for ARI valves with butt weld ends are:

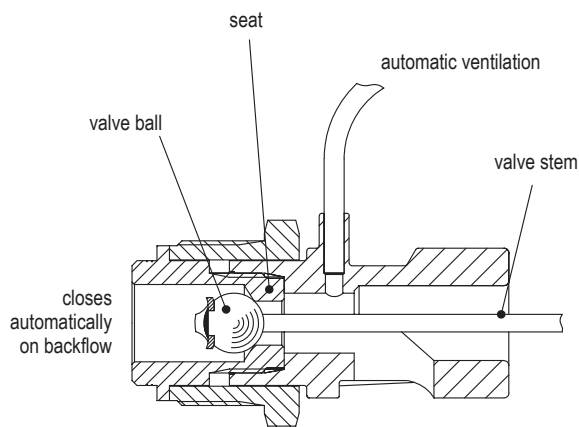
SA216WCB
SA105
SA182F321
SA182F12Cl.2

Due to our experience, we recommend to apply an electric welding process.

Because of the different material compositions and wall thickness of the steam traps and the pipe gas welding shall not be applied. Quenching cracks and coarse grain structure may develop.

Steam traps with socket-weld ends shall only be welded by arc welding.

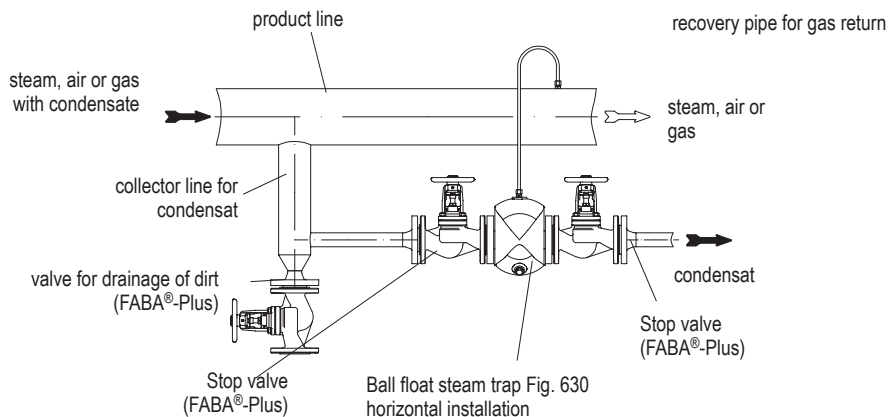
If during the time of warranty others than the manufacturer or by the manufacturer authorized persons are interfering in the product and/or the setting, the right of claim for warranty will lapse!

Integrated non return protection


The integrated non return protection acts as a check valve (except Fig. 633 and Fig. 639 R4-P).

In case of parallel installed heat exchangers or heater batteries the non return protection prevents a shut down heat-exchanger from flooding with condensate from the downstream side and reverse heating up.

A check valve which otherwise has to be installed is not necessary.

Installation with recovery pipe

Important:

The installation of a pressure compensation line for gas return is always recommended; especially if the ball float steam trap is installed horizontally.

Selection criteria:

- Steam pressure
- Back pressure
- Quantity of condensate
- Flow medium
- Nominal diameter / pressure
- Type of connection
- Material
- Place of service or kind of steam consumer

Other installation positions than standard (vertical) have to be indicated together with the information about the flow direction i.e. inlet from left or right

Example for order data:

=> Ball float steam trap CONA® S,
Fig. 630, ANSI300, NPS 2", SA105/SA216WCB, Controller R22, with flange connection, Face-to-face dimension 9.06 inch

Dimensions in mm resp. inch
Weights in kg
1 bar $\triangleq$ 10⁵ Pa $\triangleq$ 0,1 MPa
1 bar $\triangleq$ 14,5 psi
1 inch $\triangleq$ 25,4 mm

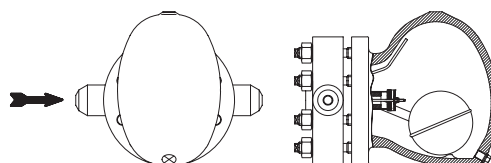
Standard-flange dimensions

Flanges acc. to ASME B16.5

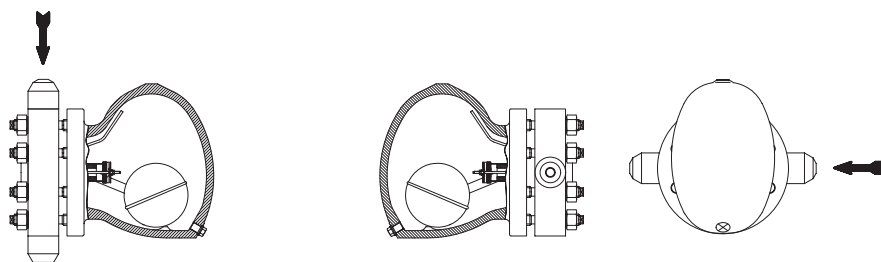
NPS		(inch)	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4
ANSI150	ØD	(inch)	3.50	3.90	4.25	4.62	5.00	6.00	--	--	--
ANSI150	ØK	(inch)	2.36	2.70	3.10	3.50	3.85	4.76	--	--	--
ANSI150	n x Ød	(inch)	4 x 0.62	4 x 0.62	4 x 0.62	4 x 0.62	4 x 0.62	4 x 0.75	--	--	--
ANSI300	ØD	(inch)	3.75	4.62	4.88	5.25	6.12	6.50	7.52	8.27	10.00
ANSI300	ØK	(inch)	2.62	3.25	3.50	3.88	4.50	5.00	5.86	6.61	7.87
ANSI300	n x Ød	(inch)	4 x 0.62	4 x 0.75	4 x 0.75	4 x 0.75	4 x 0.88	8 x 0.75	8 x 0.87	8 x 0.87	8 x 0.87
ANSI400	ØD	(inch)	3.75	4.62	4.88	5.25	6.12	6.50	--	--	--
ANSI400	ØK	(inch)	2.62	3.25	3.50	3.88	4.50	5.00	--	--	--
ANSI400	n x Ød	(inch)	4 x 0.62	4 x 0.75	4 x 0.75	4 x 0.75	4 x 0.88	8 x 0.75	--	--	--
ANSI600	ØD	(inch)	3.75	4.62	4.88	5.25	6.12	6.50	--	--	--
ANSI600	ØK	(inch)	2.62	3.25	3.50	3.88	4.50	5.00	--	--	--
ANSI600	n x Ød	(inch)	4 x 0.62	4 x 0.75	4 x 0.75	4 x 0.75	4 x 0.88	8 x 0.75	--	--	--
ANSI900	ØD	(inch)	4.75	5.12	5.88	--	--	--	--	--	--
ANSI900	ØK	(inch)	3.25	3.50	4.00	--	--	--	--	--	--
ANSI900	n x Ød	(inch)	4 x 0.88	4 x 0.88	4 x 1.0	--	--	--	--	--	--

DN		(mm)	15	20	25	32	40	50	65	80	100
ANSI150	ØD	(mm)	89	99	108	117	127	153	--	--	--
ANSI150	ØK	(mm)	60	70	79	78	98	121	--	--	--
ANSI150	n x Ød	(mm)	4 x 16	4 x 16	4 x 16	4 x 16	4 x 16	4 x 19	--	--	--
ANSI300	ØD	(mm)	95	117	124	133	155	165	191	210	254
ANSI300	ØK	(mm)	66,5	82,5	89	99	114	127	149	168	200
ANSI300	n x Ød	(mm)	4 x 16	4 x 19	4 x 19	4 x 19	4 x 22	8 x 19	8 x 22	8 x 22	8 x 22
ANSI400	ØD	(mm)	95	117	127	133	156	165	--	--	--
ANSI400	ØK	(mm)	67	83	89	99	114	127	--	--	--
ANSI400	n x Ød	(mm)	4 x 16	4 x 19	4 x 19	4 x 19	4 x 22	4 x 19	--	--	--
ANSI600	ØD	(mm)	95	117	127	133	156	165	--	--	--
ANSI600	ØK	(mm)	67	83	89	99	114	127	--	--	--
ANSI600	n x Ød	(mm)	4 x 16	4 x 19	4 x 19	4 x 19	4 x 22	4 x 19	--	--	--
ANSI900	ØD	(mm)	121	130	149	--	--	--	--	--	--
ANSI900	ØK	(mm)	83	89	102	--	--	--	--	--	--
ANSI900	n x Ød	(mm)	4 x 22	4 x 22	4 x 25	--	--	--	--	--	--

Information about the different installation positions (shown at Fig. 631)



Horizontal installation - inlet from the left side (ZL)



Vertical installation (standard)

Horizontal installation – inlet from the right side (ZR)

Installation (see picture)

The ball float steam traps can be installed either in vertical (standard) or horizontal position. In case of horizontal installation please indicate whether the inlet is from the left or right side.

The steam trap can also be converted on site to match the different installation positions. Please observe the appropriate operating manuals.

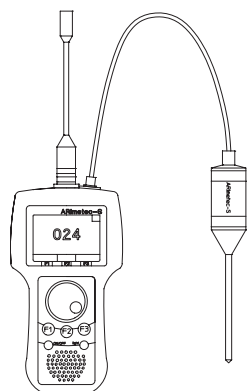
The steam trap must be fitted with the direction of flow as indicated by the arrow on the body.

A clearance of 11.8 inch / 300 mm for the removal of the hood shall be provided.

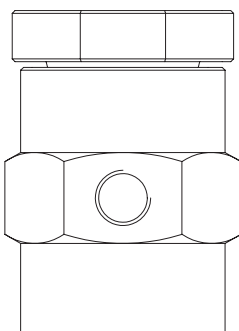
The steam trap shall preferably be installed at the lowest point of the system and the membrane capsule resp. the bleeding tube shall be installed in an upright position inside of the hood.

For the modification of the installation position observe the operating manual.

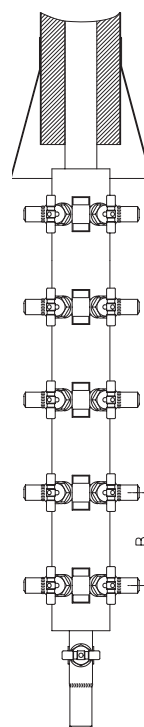
A modification of the installation position during the time of warranty shall be carried out by the AWH-Service or it shall be agreed between the customer and manufacturer.



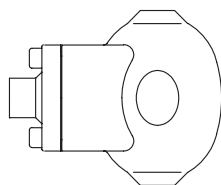
Multifunction tester **ARImetec®-S**



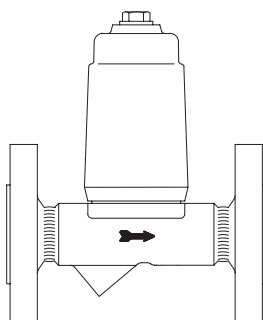
Vacuum breaker Fig. 655



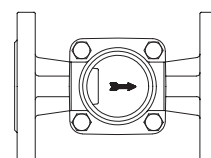
CODI®S with gland packing Fig. 671/672;
CODI®B with bellows seal, maintenance-free Fig. 675/676



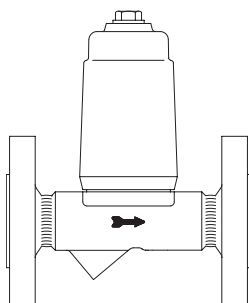
Automatic air vent for liquid systems
Fig. 656



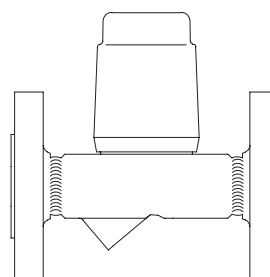
Condensate discharge temperature limiter
Fig. 645/647



Flow indicator
Fig. 660/661



Return temperature limiter Fig. 650



Liquid drainer Fig. 665

(Further informations about the accessories can be found in the appropriate data sheets.)