

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) Grey cast iron
- (Fig. 631....2) SG iron
- (Fig. 631....3) Cast steel /
- (Fig. 631....4) Forged steel

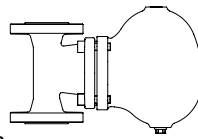


Fig. 631

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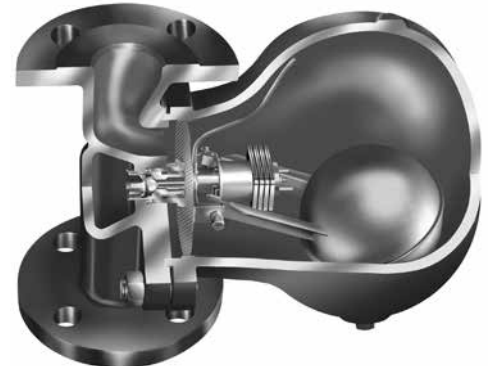
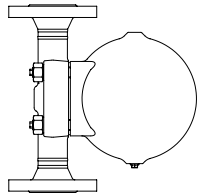


Fig. 631....1
vertical installation

Ball float steam trap
ANSI600

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

- (Fig. 631....1)
- (Fig. 631....4)



- Cast steel
- High temperature steel

Fig. 631

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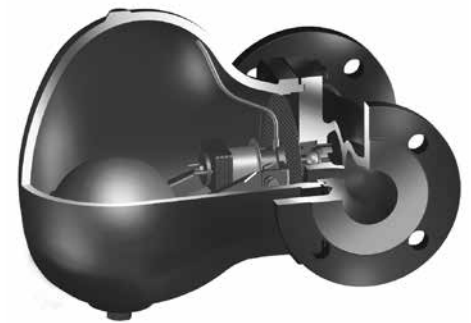
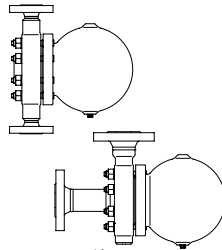


Fig. 631....1
horizontal installation

Ball float steam trap
ANSI900

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

- (Fig. 631....1)
- (Fig. 631....3)
- (Fig. 631....4)



Angle pattern design:

- with flanges
- with butt weld ends

- (Fig. 632....1) High temperature steel/
- (Fig. 632....4) Cast steel

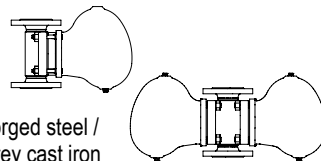
Fig. 631 / Fig. 632

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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

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Fig. 633 / Fig. 639

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

ANSI125 / 150 / 300

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

- (Fig. 630....1) Grey cast iron
- (Fig. 630....2) SG iron
- (Fig. 630....3) Forged steel /
- (Fig. 630....4) Cast steel
- Stainless steel

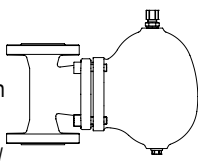


Fig. 630

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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 pressure compensation line 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)

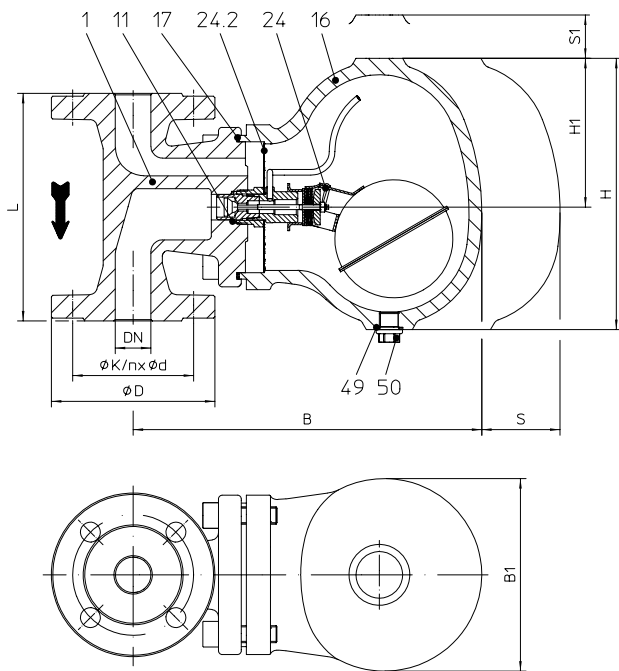


Fig. 631....1 with flanges - vertical installation

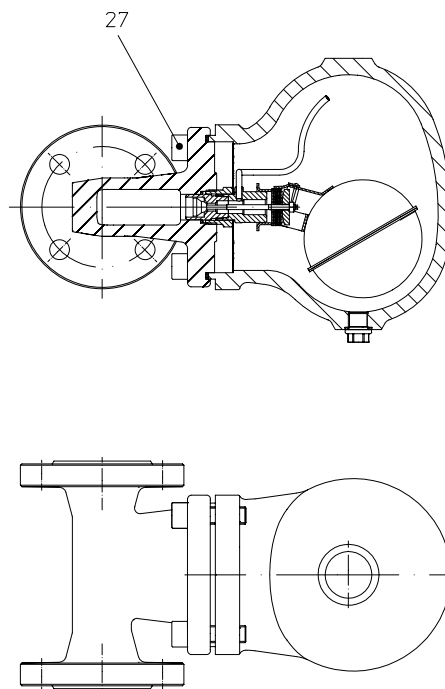


Fig. 631....1 with flanges - horizontal installation

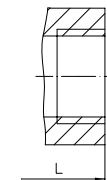


Fig. 631....2 with screwed sockets

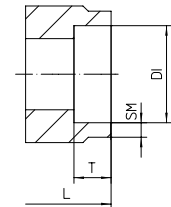


Fig. 631....3 with socket weld ends

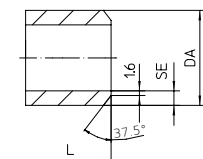


Fig. 631....4 with butt weld ends

Figure	Nominal pressure	Material	NPS (DN)	Operating pressure PS	Inlet temperature TS	allowable differential pressure ΔPMX	for controller	
							≥ NPS (DN)	1 1/2"
11.631	ANSI125	Body/Hood: EN-JL1040 (similar to ASTM A 126 Cl. B)	1/2" - 2"	Flanges acc. to ANSI B16.1	232 °C	2 bar	R2	R2-S
				8,6 barg		4 bar	R4	R4-S
				Screwed sockets acc. to ANSI B16.4	178 °C	8 bar	R8	R8-S
22.631	ANSI150	Body/Hood: EN-JS1049 (similar to SA395)	1/2" - 2"	12,8 barg	232 °C	2 bar	R2	R2-S
				8,6 barg	343 °C			
42.631	ANSI150	Body: SA105 / Hood: SA216WCB	1/2" - 4"	13 barg	225 °C	4 bar	R4	R4-S
				8 barg	360 °C	8 bar	R8	R8-S
				4 barg	427 °C	13 bar	R13	R13-S
45.631	ANSI300	Body: SA105 / Hood: SA216WCB	1/2" - 4"	32 barg	411 °C	≥ ANSI300:	R22	R32
				22 barg	427 °C			
52.631	ANSI150	Body: SA182F321 / Hood: SA351CF8	1/2" - 4"	13 barg	208 °C	22 bar	R22	R32
				8 barg	360 °C			
				4 barg	467 °C			
55.631	ANSI300	Body: SA182F321 / Hood: SA351CF8	1/2" - 4"	2 barg	510 °C	32 bar	R22	R32
				32 barg	262 °C			
				22 barg	510 °C			

DIN/EN-Constructions refer to data sheet CONA@S

Types of connection		Other types of connection on request.
<ul style="list-style-type: none"> Flanges1 _____ acc. to ASME B16.1 (ANSI125) / acc. to ASME B16.5 (ANSI150-300) Screwed sockets2 ___ NPT-Thread acc. to ASME B16.4 (ANSI125) / acc. to ASME B1.20.1 (ANSI150-300) or Rp-Thread acc. to DIN EN 10226-1) Socket weld ends3 ___ acc. to ASME B16.11 and B16.34 Butt weld ends4 ___ ASME B16.25 (Note restriction on operating pressure / inlet temperature depending to design!) 		
Features		
<ul style="list-style-type: none"> 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 Inside strainer 	<ul style="list-style-type: none"> Body with flanged hood Non return protection The controller maybe changed without disturbing the pipe work 	
Mounting position		
<ul style="list-style-type: none"> Standard: vertical Optional: horizontal with inlet from right or left 	<p>Please indicate when ordering!</p> <p>Refer to: Information about the different installation positions (Page 19)</p> <p>On-site change of the installation position is possible according to the operating instructions.</p>	
Options		
<ul style="list-style-type: none"> Air vent - (Pos. 51) or blow down valve (Pos. 46), manual operated 		(Design refer to page 3)

Types of connection	Flanges								Screwed sockets ¹⁾ Socket weld ends ²⁾					Butt weld ends ²⁾				
	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"

¹⁾ NPS (DN) 2" nicht in EN-JL / EN-JS ²⁾ nicht in EN-JL / EN-JS

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

	(mm)	150	150	160	230	230	--	--	--	150	150	160	230	--	--	--	--	--	--
L (EN-JL/EN-JS)	(mm)	150	150	160	230	230	--	--	--	150	150	160	230	--	--	--	--	--	--
L (Steel)	(mm)	210	210	230	230	230	290	310	350	150	150	160	210	210	160	160	160	250	250

Dimensions Standard-flange dimensions refer to page 19

H	(mm)	162	162	193	274	274	274	274	274	162	162	193	274	274	162	162	193	274	274
H1	(mm)	87	87	107	157	157	157	157	157	87	87	107	157	157	87	87	107	157	157
B (EN-JS1049)	(mm)	215	215	245	289	289	--	--	--	215	215	245	289	--	--	--	--	--	--
B (Steel)	(mm)	170	170	190	297	297	297	297	297	170	170	197	297	297	170	170	197	292	292
B1	(mm)	114	114	135	194	194	194	194	194	114	114	135	194	194	114	114	135	194	194
DI / DA	(mm)	--	--	--	--	--	--	--	--	22,0	27,4	34,1	49	61,5	21,3	26,7	33,4	48,3	60,3
SM / SE	(mm)	--	--	--	--	--	--	--	--	4,1	4,3	5,1	5,6	6,1	2,8	2,9	3,4	3,7	3,9
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
T	(mm)	--	--	--	--	--	--	--	--	10	13	13	13	16	--	--	--	--	--

Weights

Fig. 631 (approx.)	(kg)	8,1	8,3	12,1	28,5	29,1	31	33	36,5	7,5	7,5	9,7	23,8	24,3	7,1	8,1	10,2	24,8	25,8
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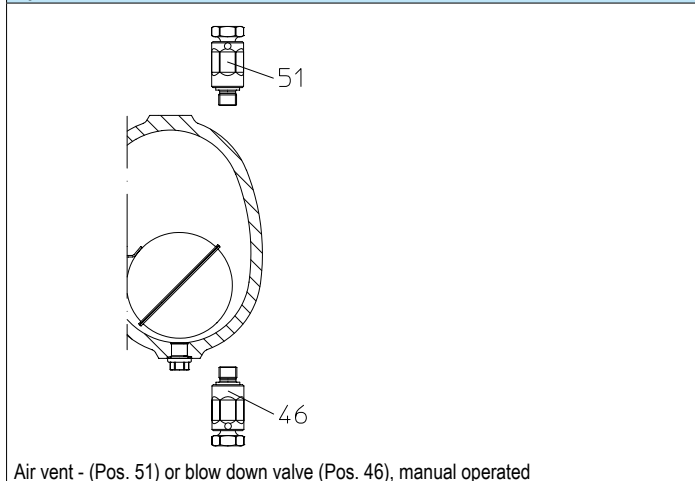
Parts

Pos.	Sp.p.	Description	Fig. 11.631	Fig. 22.631	Fig. 42./45.631	Fig. 52./55.631
1		Body	EN-GJL-250, EN-JL1040 (similar to ASTM A 126 Cl. B)	EN-GJS-400-18U-LT, EN-JS1049 (similar to SA395)	SA105	SA182F321
11	x	Sealing ring	Cu	SA240Gr.316Ti		
16		Hood	EN-GJL-250, EN-JL1040 (similar to ASTM A 126 Cl. B)	EN-GJS-400-18U-LT, EN-JS1049 (similar to SA395)	SA216WCB	SA351CF8
17	x	Gasket	GRAPHIT (CrNi laminated with graphite)			
24	x	Controller, cpl.	SA240Gr.304 / TB102/85 (corrosion resistant bimetal)			
24.2		Strainer	SA240Gr.304			
27		Cheese head screw	SA193Gr.B16 (with metric screw-thread)			
28		Hexagonal nut	SA194Gr.B7 (with metric screw-thread)			
46	x	Blow down valve	SA276Gr.321			
49	x	Sealing ring	Cu	SA240Gr.316Ti		
50		Plug (M14x1,5)	SA276Gr.321 (with metric screw-thread)			
51	x	Manual air vent valve	SA276Gr.321			
		L Spare parts				

Information / restriction of technical rules need to be observed!

Resistance and fitness must be verified (contact manufacturer for information, refer to Product overview and Resistance list).

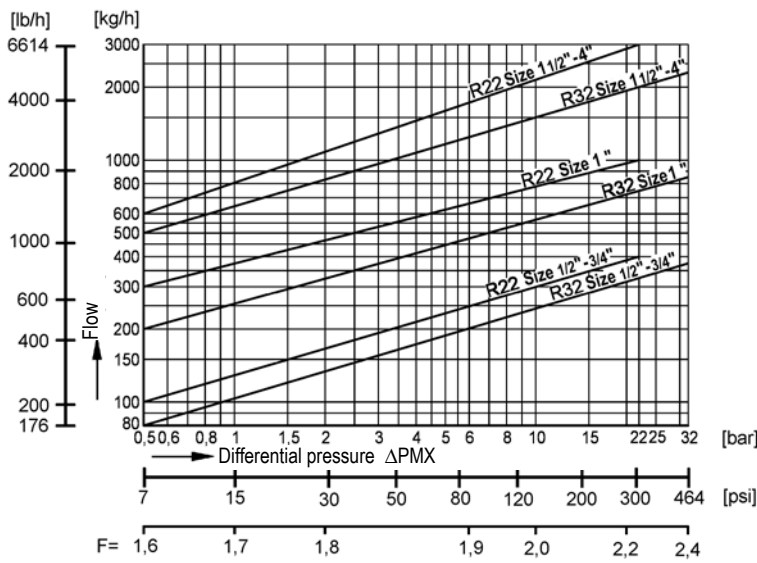
Operating and installation instructions can be downloaded at www.ari-armaturen.com.

Options


Capacity chart

Standard R22 and R32

NPS (DN) 1/2" - 4"



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

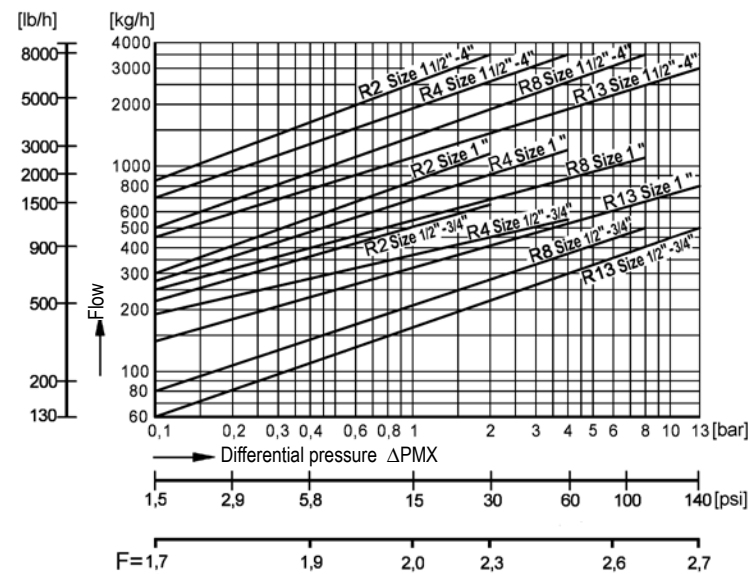
In common, the steam traps are fitted out with an controller as shown in the flow diagrams of this page acc. to the differential pressures and flow rates.

For very large flow rates with low differential pressures, steam traps at sizes 1 1/2" to 4" 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) with the hot condensate quantity determined by the capacity chart.

Standard R2 to R13

NPS (DN) 1/2" - 4"



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" can be fitted out with a super-controller.

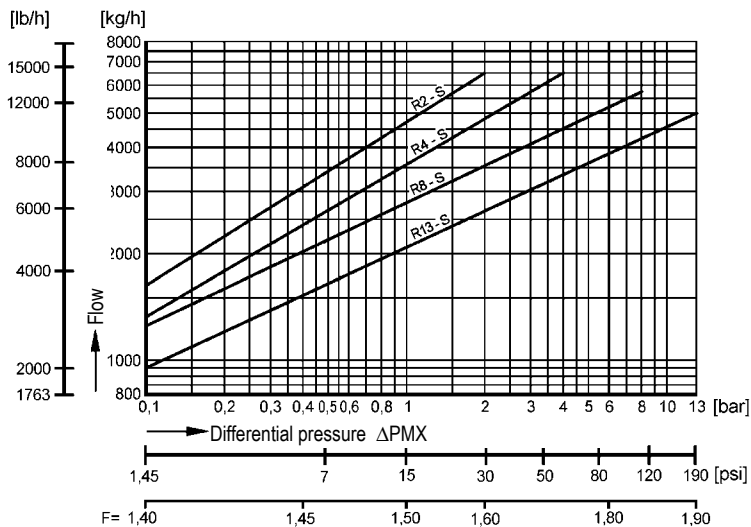
The maximum flow quantity of cold condensate at about 20°C can be determined by multiplication of the appropriate factor F (in the scale below the diagrams) with the hot condensate quantity determined by the capacity chart.

Capacity chart

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

R2-S to R13-S

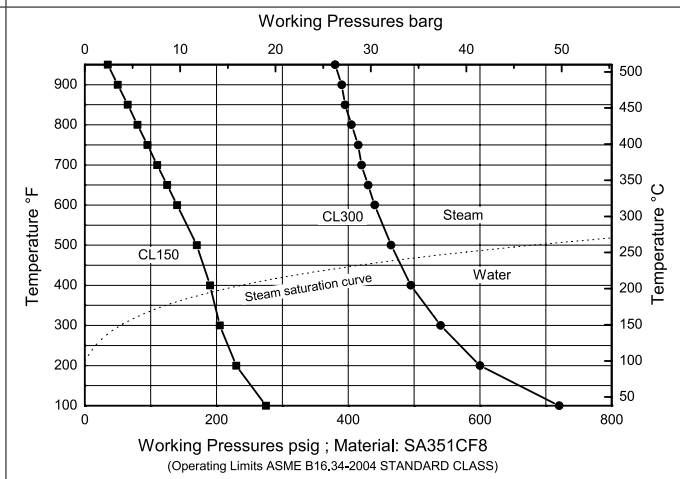
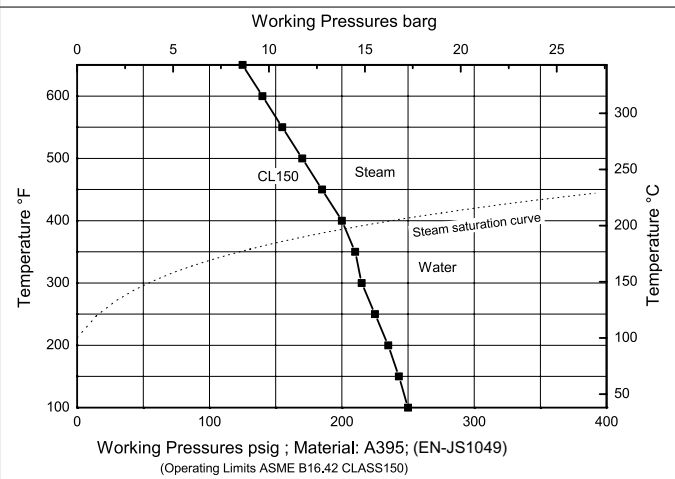
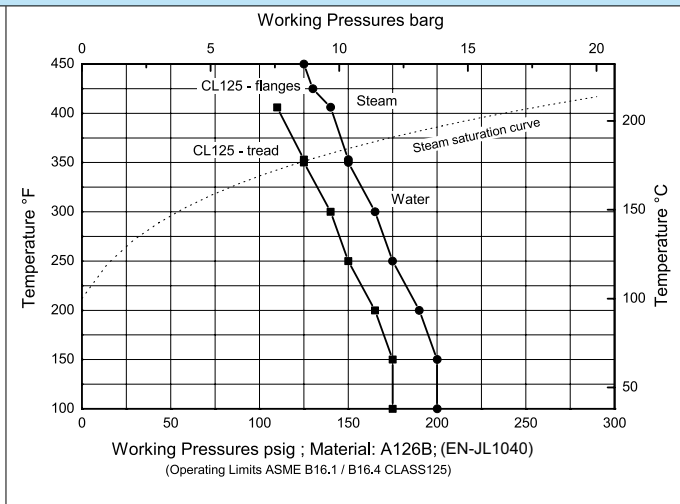
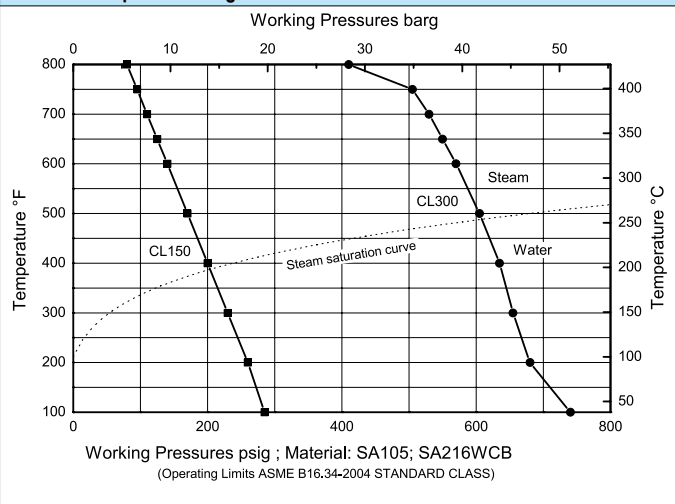
NPS 1 1/2" - 4"



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) with the hot condensate quantity determined by the capacity chart.

Pressure-Temperature-Diagram



Ball float steam trap (High temperature steel)

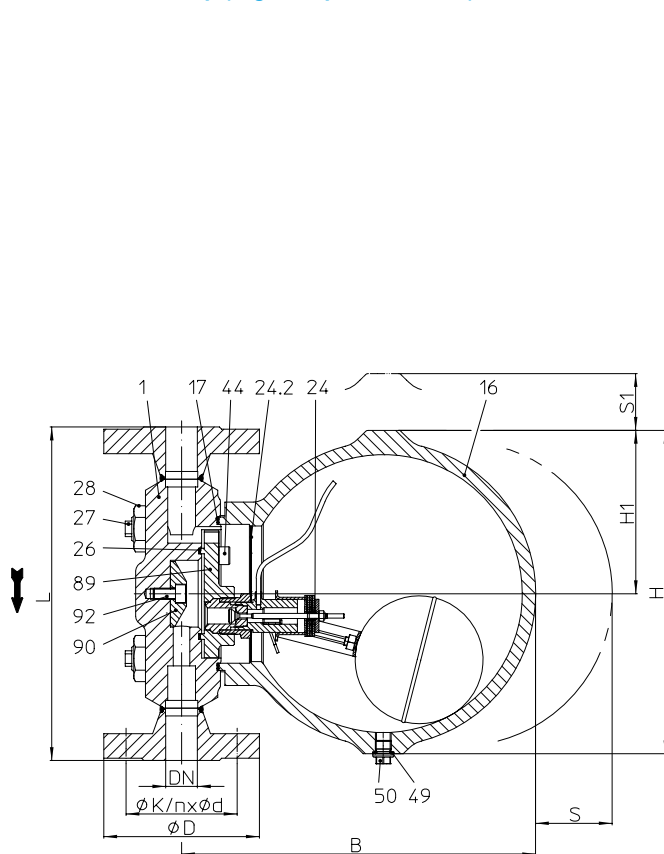


Fig. 631....1 with flanges - vertical installation

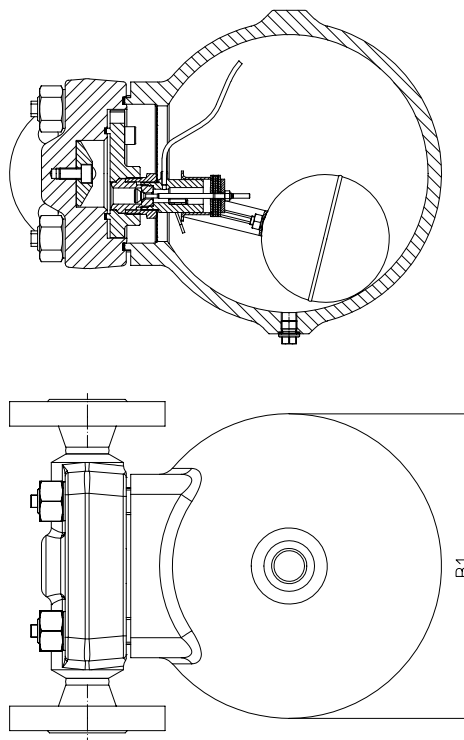


Fig. 631....1 with flanges - horizontal installation

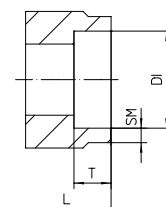
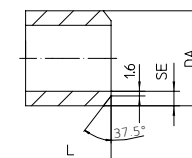

 Fig. 631....3
 with socket weld
 ends

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

Figure	Nominal pressure	Material	NPS (DN)	Operating pressure PS	Inlet temperature TS	allowable differential pressure ΔPMX	for controller
87.631	ANSI600	Body: SA182F12Cl.2 / Hood: SA217WC6	1/2" - 2"	80 barg	353 °C	80 bar 64 bar	R80 R64
				64 barg	460 °C		
				50 barg	485 °C		
				37,9 barg	510 °C		

DIN/EN-Constructions refer to data sheet CONA®S

Types of connection		Other types of connection on request.
<ul style="list-style-type: none"> Flanges1 _____ acc. to ASME B16.5 Socket weld ends3 _____ acc. to ASME B16.11 and B16.34 Butt weld ends4 _____ ASME B16.25 (Note restriction on operating pressure / inlet temperature depending to design!) 		
Features		
<ul style="list-style-type: none"> 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 Inside strainer 		<ul style="list-style-type: none"> 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
Mounting position		
Standard:	vertikal	Please indicate when ordering! Refer to: Information about the different installation positions (Page 19) On-site change of the installation position is possible according to the operating instructions.
Optional:	horizontal mit Zufluss von rechts oder links	
Options		(Design refer to page 7)
Air vent - (Pos. 51) or blow down valve (Pos. 46), manual operated		

Types of connection	Flanges						Socket weld ends					Butt weld ends				
	NPS (DN)	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"
Face-to-face acc. to data sheet resp. customer request																
L	(mm)	300	300	300	420	416	216	216	216	240	330	250	250	250	250	250

Dimensions		Standard-flange dimensions refer to page 19														
H	(mm)	291	291	291	291	291	291	291	291	291	291	291	291	291	291	291
H1	(mm)	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147
B	(mm)	327	327	327	327	327	327	327	327	327	327	327	327	327	327	327
B1	(mm)	274	274	274	274	274	274	274	274	274	274	274	274	274	274	274
DI / DA	(mm)	--	--	--	--	--	22,0	27,4	34,1	49	61,5	21,3	26,7	33,4	48,3	60,3
SM / SE	(mm)	--	--	--	--	--	4,1	4,3	5,1	5,6	6,1	3,7	3,9	4,5	5,1	5,5
S	(mm)	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300
S1	(mm)	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
T	(mm)	--	--	--	--	--	10	13	13	13	16	--	--	--	--	--

Weights																
Fig. 631	(approx.) (kg)	40	41	42	47	48	39	39	39	39	42	39	39	39	39	39

Parts			
Pos.	Sp.p.	Description	Fig. 87.631
1		Body	SA182F12Cl.2
16		Hood	SA217WC6
17	x	Gasket	GRAPHIT (CrNi laminated with graphite)
24	x	Controller, cpl.	SA240Gr.304 / TB102/85 (korrosionsfestes Bimetall)
24.2		Strainer	SA240Gr.304
26	x	Gasket	GRAPHIT (CrNi laminated with graphite)
27		Stud-bolt	SA193-B16
28		Hexagonal nut	SA184-7
44		Cheese head screw	AISI316
46	x	Blow down valve, cpl.	AISI440 (with metric screw-thread)
49	x	Sealing ring	SA240Gr.316Ti
50		Plug (M14x1,5)	SA276Gr.321
51	x	Manual air vent valve	AISI440 (with metric screw-thread)
89		Adapter	AISI303
90		Deflector plate	AISI440
92		Cheese head screw	AISI316
		L Spare parts	

Options

Air vent - (Pos. 51) or blow down valve (Pos. 46), manual operated

Information / restriction of technical rules need to be observed!

Resistance and fitness must be verified (contact manufacturer for information, refer to Product overview and Resistance list).

Operating and installation instructions can be downloaded at www.ari-armaturen.com.

Capacity chart

The capacity chart shows the maximum flow rates.

Curve 1: Maximum flow of hot condensate.

Curve 2: Maximum flow at cold condensate of approx. 20°C (during start-up of a cold installation).

Pressure-Temperature-Diagram

Working Pressures barg: 20, 30, 40, 50, 60, 70, 80, 90, 100, 110

Temperature °F: 200, 400, 600, 800, 950

Temperature °C: 100, 200, 300, 400, 500

Working Pressures psig: 200, 400, 600, 800, 1000, 1200, 1400, 1600

Material: SA182F12 Cl.2 (Operating Limits ASME B16.34 - 2017 STANDARD CLASS)

Ball float steam trap (High temperature steel)

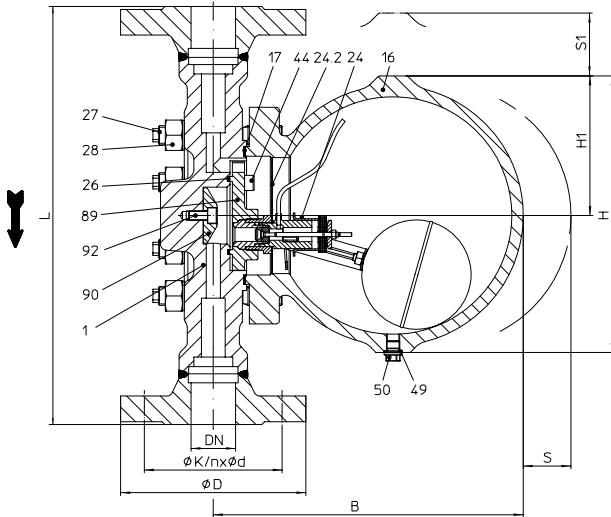


Fig. 631....1 Straight through with flanges - vertical installation

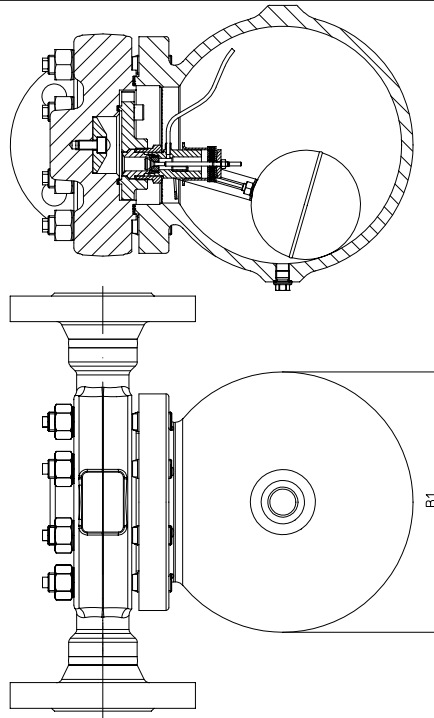


Fig. 631....1 Straight through with flanges - horizontal installation

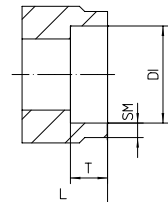


Fig. 631....3 with socket weld ends

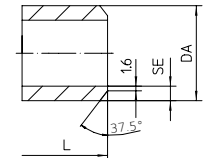


Fig. 631....4 with butt weld ends

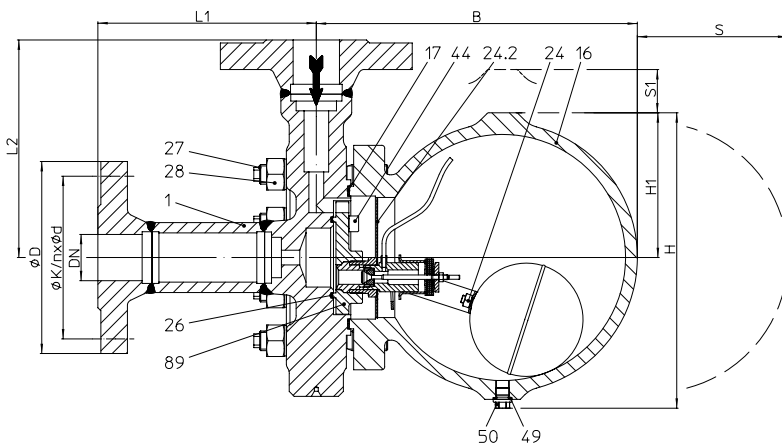


Fig. 632....1 Angle pattern design with flanges - vertical installation

Figure	Nominal pressure	Material	NPS	Operating pressure PS	Inlet temperature TS	allowable differential pressure ΔPMX	for controller
88.631	ANSI900	Body: SA182F12Cl.2 / Hood: SA217WC6	1/2" - 2"	110 barg	399 °C	110 bar	R110
88.632				80 barg	479 °C		80 bar
				41 barg	538 °C		

DIN/EN-Constructions refer to data sheet CONA@S

Types of connection		Other types of connection on request.
<ul style="list-style-type: none"> Flanges1 _____ acc. to ASME B16.5 Socket weld ends3 ____ acc. to B16.11 and B16.34 Butt weld ends4 _____ ASME B16.25 (Note restriction on operating pressure / inlet temperature depending to design!) 		
Features		
<ul style="list-style-type: none"> 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 Inside strainer 		<ul style="list-style-type: none"> 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
Mounting position		
Standard:	vertical	Please indicate when ordering! Refer to: Information about the different installation positions (Page 19) On-site change of the installation position is possible according to the operating instructions.
Optional:	horizontal with inlet from right or left	
Options		
Air vent - (Pos. 51) or blow down valve (Pos. 46), manual operated		(Design refer to page 7)

Types of connection	Flanges						Socket weld ends					Butt weld ends				
	NPS (DN)	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"
Face-to-face acc. to data sheet resp. customer request																
L	(mm)	400	400	415	440	440	335	335	335	335	440	335	335	335	335	335
L1 / L2 ECK	(mm)	200	200	208	220	220	--	--	--	--	--	168	168	168	168	168

Dimensions		Standard-flange dimensions refer to page 19														
H	(mm)	291	291	291	291	291	291	291	291	291	291	291	291	291	291	291
H1	(mm)	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147
B	(mm)	327	327	327	327	327	327	327	327	327	327	327	327	327	327	327
B1	(mm)	274	274	274	274	274	274	274	274	274	274	274	274	274	274	274
DI / DA	(mm)	--	--	--	--	--	22,0	27,4	34,1	49	61,5	21,3	26,7	33,4	48,3	60,3
SM / SE	(mm)	--	--	--	--	--	5,3	6,1	6,9	7,9	9,7	4,8	5,6	6,4	7,1	8,7
S	(mm)	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300
S1	(mm)	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
T	(mm)	--	--	--	--	--	10	13	13	13	16	--	--	--	--	--

Weights																
Fig. 631/632 (approx.)	(kg)	54,1	55,7	57,6	64	70,1	51	51	51	51	54	51	51	51	51	51

Parts			
Pos.	Sp.p.	Description	Fig. 88.631 / 88.632
1		Body	SA182F12Cl.2
16		Hood	SA217WC6
17	x	Gasket	GRAPHIT (CrNi laminated with graphite)
24	x	Controller, cpl.	SA240Gr.304 / TB102/85 (corrosion resistant bimetal)
24.2		Strainer	SA240Gr.304
26	x	Gasket	GRAPHIT (CrNi laminated with graphite)
27		Stud	SA453Gr.660b
28		Hexagonal nut	SA453Gr.660b
44		Cheese head screw	AISI316
46	x	Blow down valve, cpl.	AISI440 (with metric screw-thread)
49	x	Sealing ring	SA240Gr.316Ti
50		Plug (M14x1,5)	SA276Gr.321
51	x	Manual air vent valve	AISI440 (with metric screw-thread)
89		Adapter	AISI303
90		Deflector plate	AISI440
92		Cheese head screw	AISI316
L Spare parts			

Options

Air vent - (Pos. 51) or blow down valve (Pos. 46), manual operated

Information / restriction of technical rules need to be observed!

Resistance and fitness must be verified (contact manufacturer for information, refer to Product overview and Resistance list).

Operating and installation instructions can be downloaded at www.ari-armaturen.com.

Capacity chart

The capacity chart shows the maximum flow rates.

Curve 1: Maximum flow of hot condensate.

Curve 2: Maximum flow at cold condensate of approx. 20°C (during start-up of a cold installation).

Pressure-Temperature-Diagram

Working Pressures barg

Working Pressures psig ; Material: SA182F12
(Operating Limits ASME B16.34 - 2004 STANDARD CLASS)

Ball float steam trap (Cast steel/Forged steel)

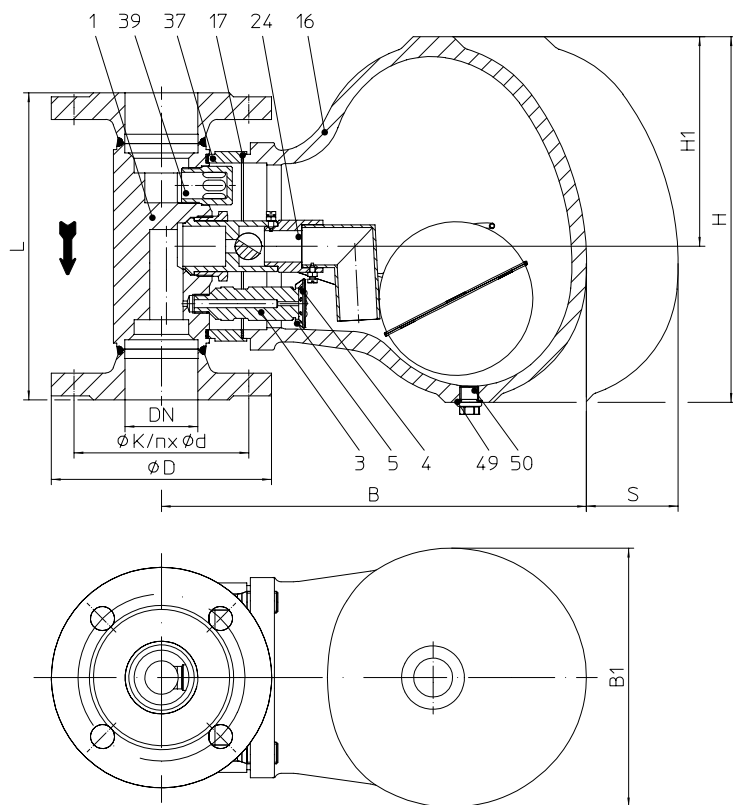


Fig. 633....1 with flanges - vertical installation

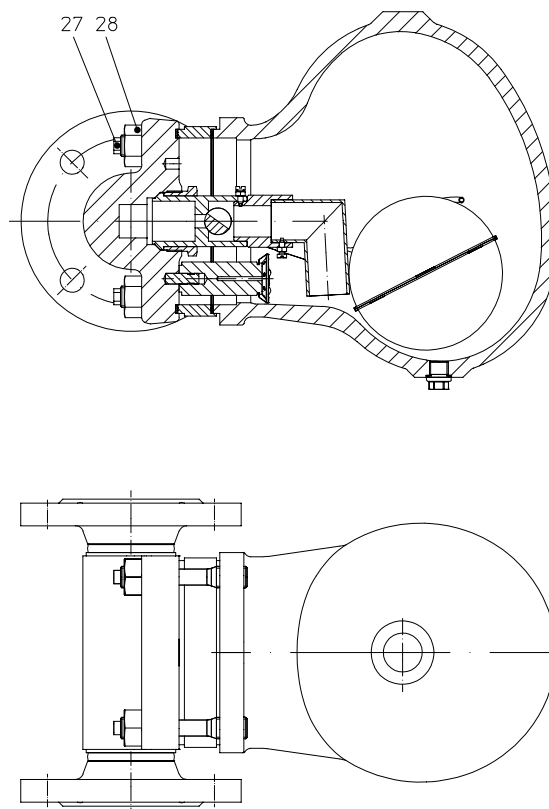


Fig. 633....1 with flanges - horizontal installation

Figure	Nominal pressure	Material	NPS (DN)	Operating pressure PS	Inlet temperature TS	allowable differential pressure ΔPMX	for controller
42.633	ANSI150	Body: SA105 / Hood: SA216WCB	1 1/2" - 4"	4 barg	427 °C	4 bar	R4-P
45.633	ANSI300	Body: SA105 / Hood: SA216WCB	1 1/2" - 4"	4 barg	427 °C	4 bar	R4-P

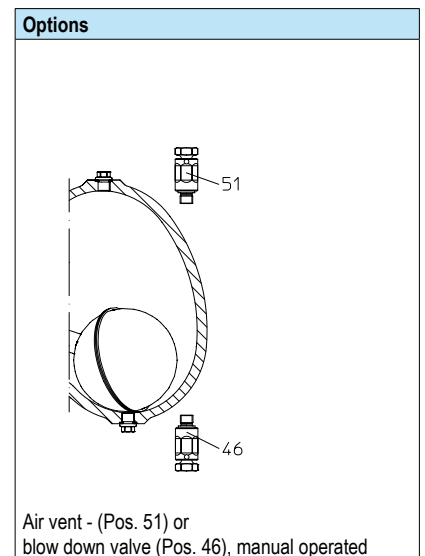
EN-JL1040, EN-JS1049 und SA182F321 on request.

DIN/EN-Constructions refer to data sheet CONA@S

Types of connection		Other types of connection on request.
• Flanges1 _____ acc. to ASME B16.5		
Features		
<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • Body with flanged hood • The controller maybe changed without disturbing the pipe work • Installation position can not be changed <u>later</u> on 	
Mounting position		
• Standard:	vertical	Please indicate when ordering! Refer to: Information about the different installation positions (Page 19) On-site change of the installation position is <u>not</u> possible.
• Optional:	horizontal with inlet from right or left	
Options		(Design refer to page 9)
• Air vent - (Pos. 51) or blow down valve (Pos. 46), manual operated		

Types of connection		Flanges				
NPS (DN)		1 1/2"	2"	2 1/2"	3"	4"
Face-to-face acc. to data sheet resp. customer request						
L	(mm)	230	230	290	310	350
Dimensions Standard-flange dimensions refer to page 19						
H	(mm)	274	274	274	274	274
H1	(mm)	157	157	157	157	157
B	(mm)	319	319	319	319	319
B1	(mm)	194	194	194	194	194
S	(mm)	300	300	300	300	300
Weights						
Fig. 633	(approx.) (kg)	29,6	30,2	32,6	34	37,6

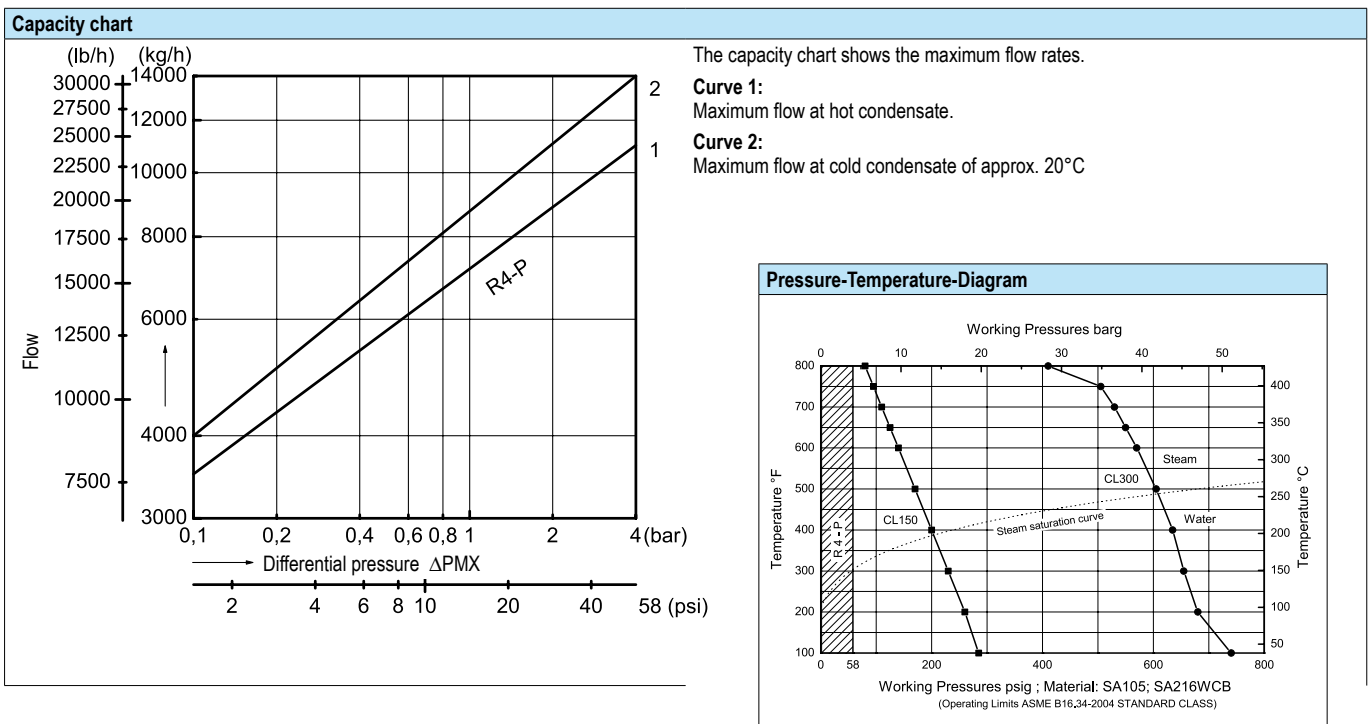
Parts			
Pos.	Sp.p.	Description	Fig. 42./45.633
1		Body	SA105
3		Seat	AISI303
4	x	Capsule	SA240Gr.304
5	x	Spring actuated clip	AISI301
16		Hood	SA216WCB
17	x	Gasket	GRAPHIT (CrNi laminated with graphite)
24	x	Controller, cpl.	SA240Gr.304
27		Stud	SA193Gr.B16 (with metric screw-thread)
28		Hexagonal nut	SA194Gr.7 (with metric screw-thread)
37		Intermediate flange	SA105
39		Baffle straightener	AISI430F
46	x	Blow down valve	SA276Gr.321 (with metric screw-thread)
49	x	Sealing ring	SA240Gr.316Ti
50		Plug (M14x1,5)	SA276Gr.321 (with metric screw-thread)
51	x	Manual air vent valve	SA276Gr.321 (with metric screw-thread)
L Spare parts			



Information / restriction of technical rules need to be observed!

Resistance and fitness must be verified (contact manufacturer for information, refer to Product overview and Resistance list).

Operating and installation instructions can be downloaded at www.ari-armaturen.com.



Ball float steam trap (Forged steel , Stainless steel)

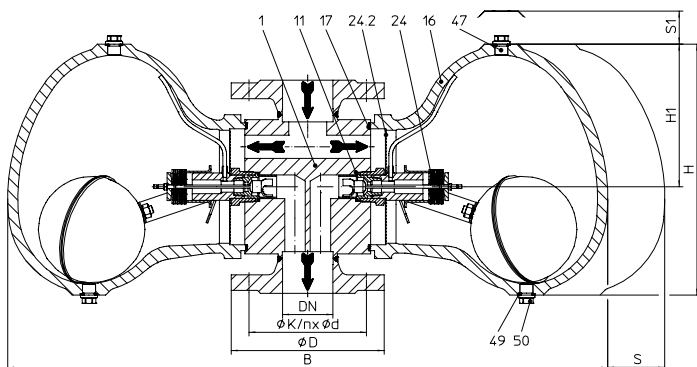


Fig. 639....1 with flanges - vertical installation

The controller R4-P deviates in his construction from the shown controller on this side. Refer to Fig. 633 (Page 10).

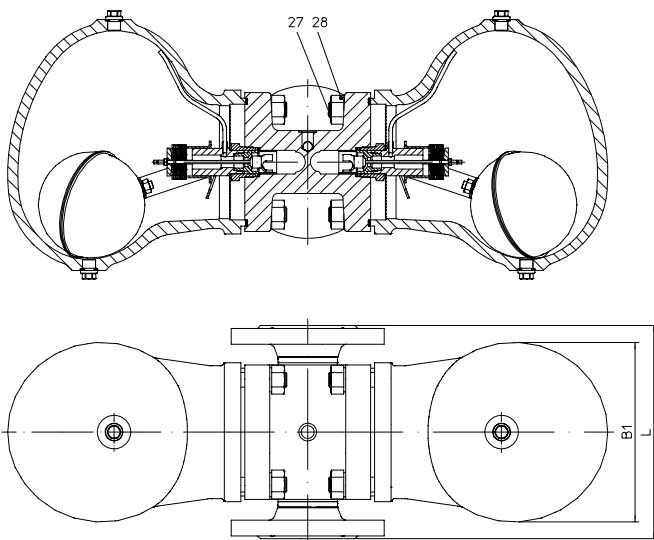


Fig. 639....1 with flanges - horizontal installation

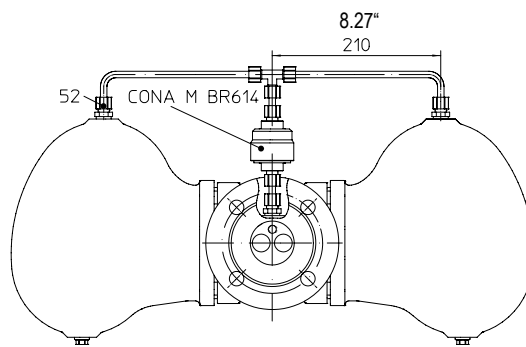


Fig. 639....1 with flanges - horizontal installation and external vent

Figure	Nominal pressure	Material	NPS (DN)	Operating pressure PS	Inlet temperature TS	allowable differential pressure ΔPMX	for controller
41.639	ANSI125	Body: SA105 / Hood: EN-JL1040	2" - 4"	8,6 barg	232 °C	2 bar 4 bar 8 bar 8,6 bar	R2-S R4-S / R4-P R8-S R13-S
42.639	ANSI150	Body: SA105 / Hood: SA216WCB	2" - 4"	13 barg	225 °C	2 bar 4 bar 8 bar 13 bar	R2-S R4-S / R4-P R8-S R13-S
				8 barg	360 °C		
				4 barg	427 °C		
45.639	ANSI300	Body: SA105 / Hood: SA216WCB	2" - 4"	32 barg	411 °C	4 bar 8 bar 13 bar 22 bar	R2-S R4-S / R4-P R8-S R13-S
				22 barg	427 °C		
				13 barg	208 °C		
52.639	ANSI150	Body: SA182F321 / Hood: SA351CF8	2" - 4"	8 barg	360 °C	22 bar 32 bar	R22 R32
				4 barg	467 °C		
				2 barg	510 °C		
				2 barg	510 °C		
55.639	ANSI300	Body: SA182F321 / Hood: SA351CF8	2" - 4"	32 barg	262 °C		
				22 barg	510 °C		

DIN/EN-Constructions refer to data sheet CONA®S

Types of connection		Other types of connection on request.
• Flanges1 _____ acc. to ASME B16.5		
Features		
<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Inside strainer (except R4-P) Body with flanged hood Non return protection (except R4-P) The controller maybe changed without disturbing the pipe work 	
Mounting position		
<ul style="list-style-type: none"> Standard: vertical Optional: horizontal with inlet from right or left 	Please indicate when ordering! Refer to: Information about the different installation positions (Page 19) On-site change of the installation position is possible according to the operating instructions (except R4-P); if an external air vent is installed, the pipe set required for the new installation position must be ordered from the manufacturer.	
Options		
• External vent cpl. for venting of high quantities of air in start-up and operating state, standard with controller R2-S, R4-S and R4-P (Design refer to page 11)		

Types of connection	Flanges			
	2"	2 1/2"	3"	4"
NPS (DN)	2"	2 1/2"	3"	4"

Face-to-face acc. to data sheet resp. customer request					
L	(mm)	230	290	310	350

Dimensions		Standard-flange dimensions refer to page 19			
H	(mm)	271	271	271	271
H1	(mm)	154	154	154	154
B	R2-S, R4-S, R8-S, R13-S, R22, R32	(mm)	648	648	648
	R4-P	(mm)	700	700	700
B1	(mm)	194	194	194	194
S	(mm)	300	300	300	300
S1	(mm)	200	200	200	200

Weights						
ANSI 150	(approx.)	(kg)	51,4	52,9	54,4	57,2
ANSI 300	(approx.)	(kg)	52,7	55	57,2	61,7

Parts					
Pos.	Sp.p.	Description	Fig. 41.639	Fig. 42./45.639	Fig. 52./55.639
1		Body	SA105		SA182F321
11	x	Sealing ring	SA240Gr.316Ti		
16		Hood	EN-GJL-250, EN-JL1040 (similar to A126Cl.B)	SA216WCB	SA351CF8
17		Gasket	GRAPHIT (CrNi laminated with graphite)		
24	x	Controller	SA240Gr.304 / bimetallic TB102/85		
24.2		Strainer	SA240Gr.304		
27		Stud	SA193Gr.B16		
28		Hexagonal nut	SA194Gr.7		
46	x	Blow down valve	SA276Gr.321 (with metric screw-thread)		
47		Vent plug (M14x1,5)	SA276Gr.321 (with metric screw-thread)		
49	x	Sealing ring	Cu	SA240Gr.316Ti	
50		Plug (M14x1,5)	SA276Gr.321 (with metric screw-thread)		
51		Manual air vent valve	SA276Gr.321 (with metric screw-thread)		
52	x	Union for recovery pipe	AISI303 (with metric screw-thread)		
L Spare parts					

Information / restriction of technical rules need to be observed!
Resistance and fitness must be verified (contact manufacturer for information, refer to Product overview and Resistance list).
Operating and installation instructions can be downloaded at www.ari-armaturen.com.

Capacity chart	Options for R8-S bis R32
<p>The capacity chart shows the maximum flow quantities of hot condensate for the different controllers and steam trap sizes.</p>	<p>Air vent - (Pos. 51) or blow down valve (Pos. 46), manual operated</p>

Pressure-Temperature-Diagram		
<p>Working Pressures barg</p> <p>Material: A126B5 (EN-JL1040) (Operating Limits ASME B16.34-2004 STANDARD CLASS)</p>	<p>Working Pressures barg</p> <p>Material: SA105, SA216WCB (Operating Limits ASME B16.34-2004 STANDARD CLASS)</p>	<p>Working Pressures barg</p> <p>Material: SA351CF8 (Operating Limits ASME B16.34-2004 STANDARD CLASS)</p>

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

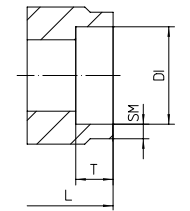
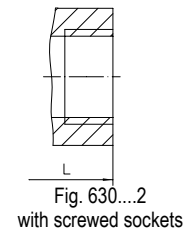
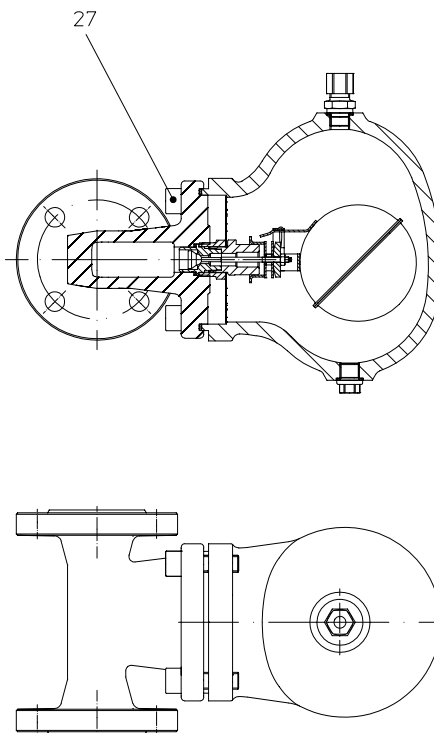
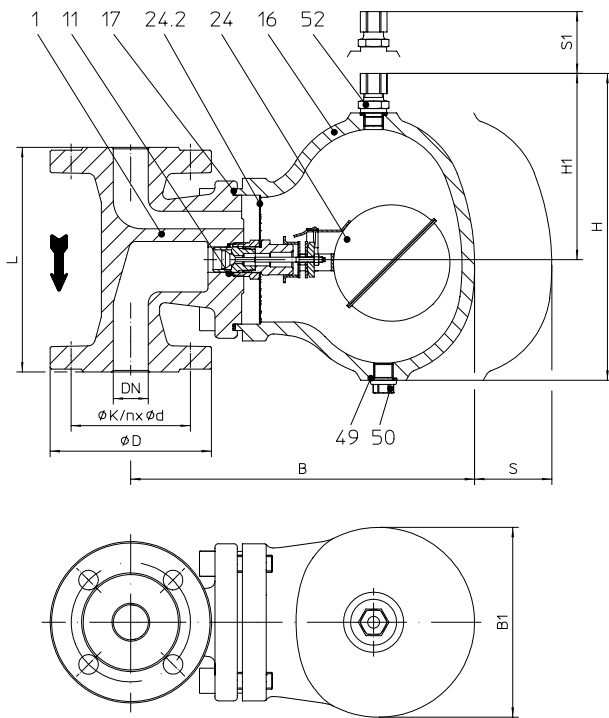


Fig. 630....3 with socket weld ends

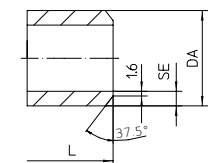


Fig. 630....4 with butt weld ends

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

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

Figure	Nominal pressure	Material	NPS (DN)	Operating pressure PS	Inlet temperature TS	allowable differential pressure ΔPMX	for controller
11.630	ANSI125	Body/Hood: EN-JL1040 (similar to ASTM A 126 Cl. B)	1/2" - 2"	Flanges acc. to ANSI B16.1		2 bar	R2
				8,6 barg	232 °C	4 bar	R4
22.630	ANSI150	Body/Hood: EN-JS1049 (similar to SA395)	1/2" - 2"	Screwed sockets acc. to ANSI B16.4		8 bar	R8
				8,6 barg	178 °C	8,6 bar	R13
42.630	ANSI150	Body: SA105 / Hood: SA216WCB	1/2" - 2"	12,8 barg	232 °C	2 bar	R2
				8,6 barg	343 °C		
45.630	ANSI300	Body: SA105 / Hood: SA216WCB	1/2" - 2"	13 barg	225 °C	4 bar	R4
				8 barg	360 °C	8 bar	R8
52.630	ANSI150	Body: SA182F321 / Hood: SA351CF8	1/2" - 2"	4 barg	427 °C	13 bar	R13
				32 barg	411 °C	22 bar	R22
55.630	ANSI300	Body: SA182F321 / Hood: SA351CF8	1/2" - 2"	8 barg	360 °C	32 bar	R32
				2 barg	467 °C		
				2 barg	510 °C		
				32 barg	262 °C		
				22 barg	510 °C		

DIN/EN-Constructions refer to data sheet CONA@S

Types of connection Other types of connection on request.

- Flanges1 _____ acc. to ASME B16.5
- Screwed sockets2 _____ NPT-Thread acc. to ANSI B1.20.1 oder Rp-Thread acc. to DIN EN 10226-1
- Socket weld ends3 _____ acc. to ASME B16.11 and B16.34
- Butt weld ends4 _____ ASME B16.25 (Note restriction on operating pressure / inlet temperature depending to design!)

Features

- Ball float steam trap with level control for the condensate-discharge from compressed air and gas systems (acc. to PED 2014/68/EU fluid group 1, subject to suitability for medium and material resistance)
- Inside strainer
- Body with flanged hood
- Non return protection
- Union (Pos. 52) for recovery pipe (for connecting pipes with outside- \varnothing 8 acc. to EN 10305-4 steel or EN 10216-5 stainless steel, compression type fitting acc. to DIN 2353)
- The controller maybe changed without disturbing the pipe work

Mounting position

- Standard: vertical
 - Optional: horizontal with inlet from right or left
- Please indicate when ordering!**
Refer to: Information about the different installation positions (Page 19)
On-site change of the installation position is possible according to the operating instructions.

Options (Design refer to page 13)

- Air vent - (Pos. 51) or blow down valve (Pos. 46), manual operated

Types of connection	Flanges					Screwed sockets ¹⁾ Socket weld ends ²⁾					Butt weld ends ²⁾				
	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"

¹⁾ NPS 2" not in EN-JL/EN-JS ²⁾ not in EN-JL / EN-JS

Face-to-face acc. to data sheet resp. customer request																
L (EN-JL/EN-JS)	(mm)	150	150	160	230	230	150	150	160	230	--	--	--	--	--	--
L (Steel)	(mm)	210	210	230	230	230	150	150	160	210	210	160	160	160	250	250

Dimensions																
Standard-flange dimensions refer to page 19																
H	(mm)	188	188	219	299	299	188	188	219	299	299	188	188	219	299	299
H1	(mm)	113	113	113	182	182	113	113	113	182	182	113	113	113	182	182
B (EN-JL/EN-JS)	(mm)	215	215	245	289	289	215	215	245	289	--	--	--	--	--	--
B (Steel)	(mm)	170	170	190	297	297	170	170	197	298	298	170	170	197	297	297
B1	(mm)	114	114	135	194	194	114	114	135	194	194	114	114	135	194	194
S	(mm)	180	180	200	300	300	180	180	200	300	300	180	180	200	300	300
S1	(mm)	35	35	50	65	65	35	35	50	65	65	35	35	50	65	65

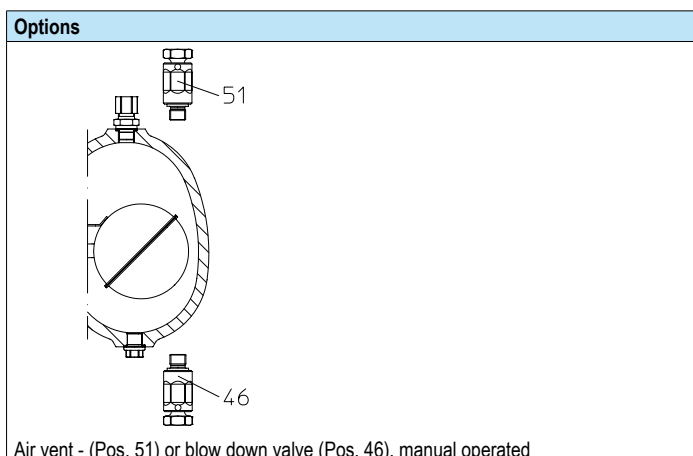
Weights																
Fig. 630 (approx.)	(kg)	8,1	8,3	12,1	28,5	29,1	7,5	7,5	9,7	23,8	24,3	7,1	8,1	10,2	24,8	25,8

Parts							
Pos.	Sp.p.	Description	Fig. 11.630	Fig. 22.630	Fig. 42./45.630	Fig. 52./55.630	
1		Body	EN-GJL-250, EN-JL1040 (similar ASTM A 126 Cl. B)	EN-GJS-400-18U-LT, EN-JS1049 (similar to SA395)	SA105		SA182F321
11	x	Sealing ring	CU	SA240Gr.316Ti			
16		Hood	EN-GJL-250, EN-JL1040 (similar ASTM A 126 Cl. B)	EN-GJS-400-18U-LT, EN-JS1049 (similar A395)	SA216WCB		SA351CF8
17	x	Gasket	GRAPHIT (CrNi laminated with graphite)				
24	x	Controller, cpl.	SA240Gr.304				
24.2		Strainer	SA240Gr.304				
27		Cheese head screw	SA193Gr.B16 (with metric screw-thread)				
46	x	Blow down valve	SA276Gr.321 (with metric screw-thread)				
49	x	Sealing ring	CU	SA240Gr.316Ti			
50		Plug (M14x1,5)	SA276Gr.321 (with metric screw-thread)				
51	x	Manual air vent valve	SA276Gr.321 (with metric screw-thread)				
52	x	Union for recovery pipe	X8CrNiS18-9, 1.4305				
		L Spare parts					

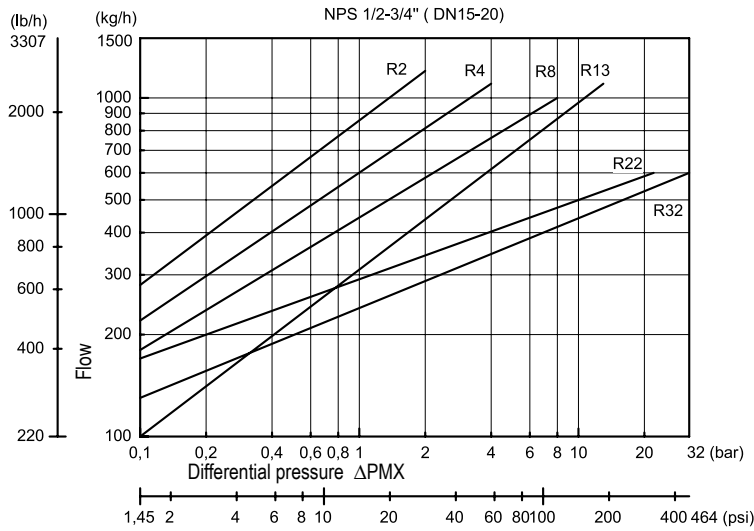
Information / restriction of technical rules need to be observed!

Resistance and fitness must be verified (contact manufacturer for information, refer to Product overview and Resistance list).

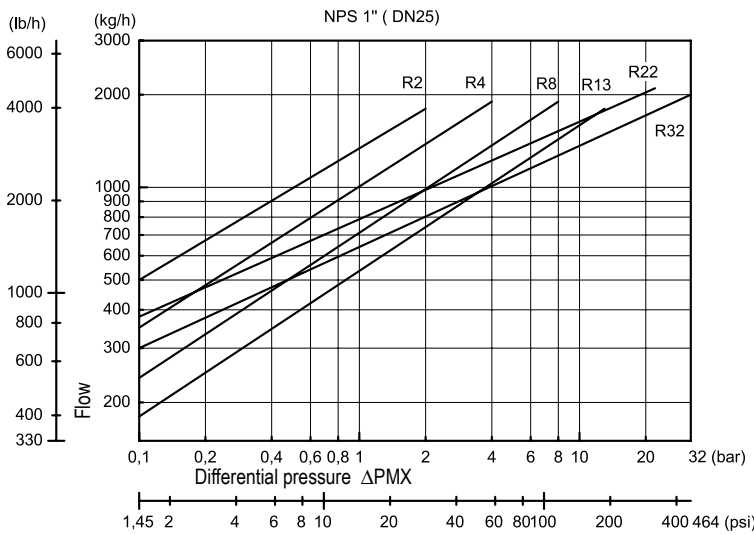
Operating and installation instructions can be downloaded at www.ari-armaturen.com.



Capacity chart

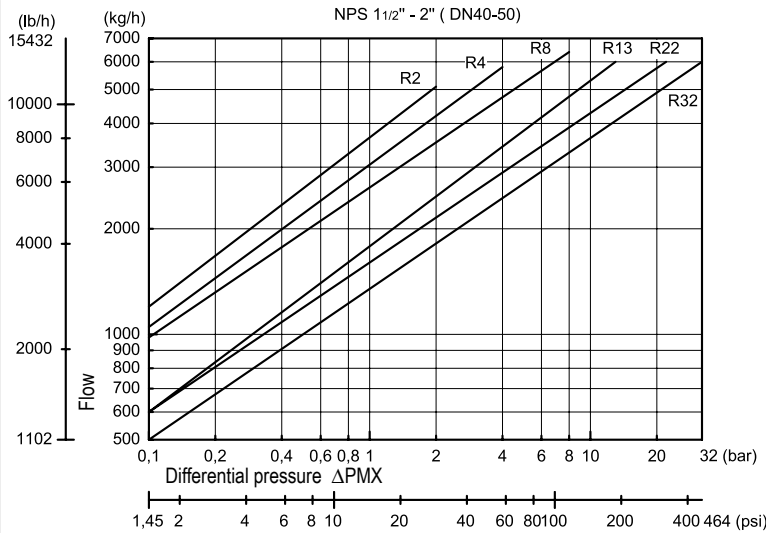


To determine the drainage quantity of cold water at about 20°C from compressed air and gas systems.



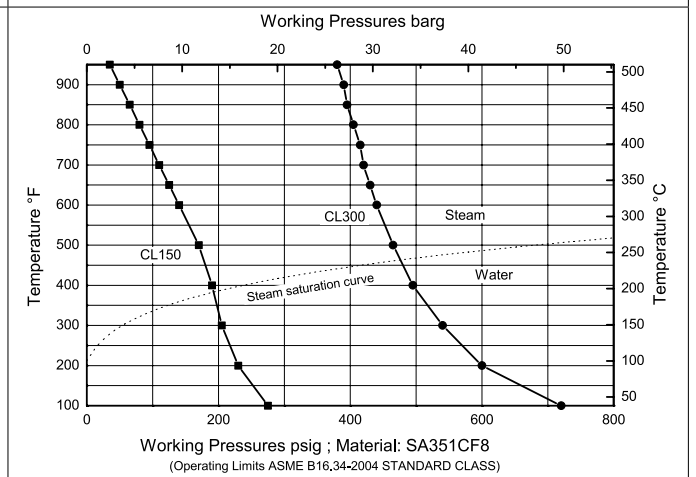
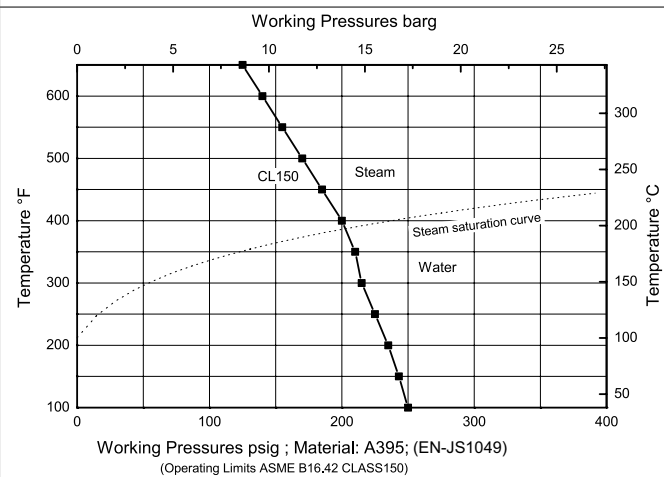
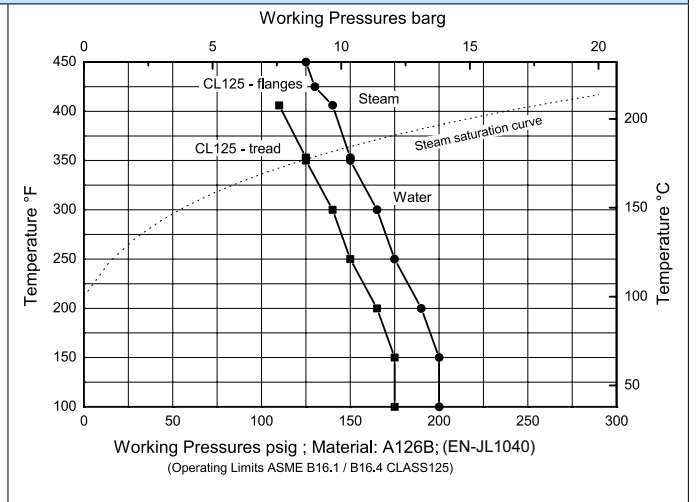
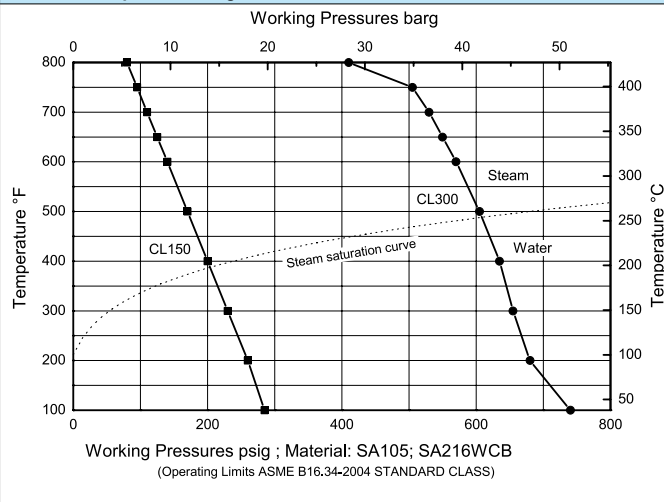
To determine the drainage quantity of cold water at about 20°C from compressed air and gas systems.

Capacity chart



To determine the drainage quantity of cold water at about 20°C from compressed air and gas systems.

Pressure-Temperature-Diagram



Informations about pipe welding
Welding groove acc. to ASME B16.25

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

- SA105
- SA182F321
- SA182F12Cl.2

Note:

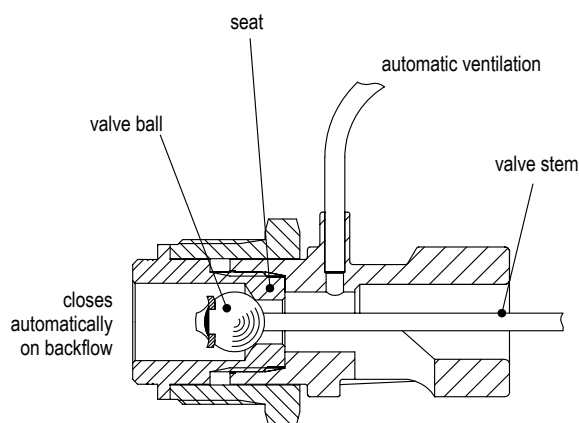
Note restriction on operating pressure / inlet temperature depending to design!

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 (welding process 111 acc. to DIN EN 24063).

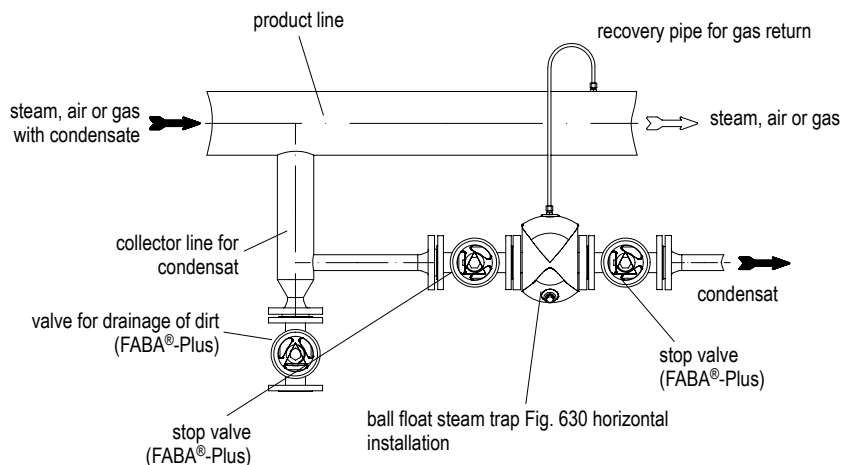
If during the time of warranty others than the manufacturer or by the manufacturer authorized persons are interfering in the product and/or the setting, the right of claim for warranty will lapse!

Integrated non return protection


The integrated non return protection acts as a check valve (except BR633 and BR639 R4-P).

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

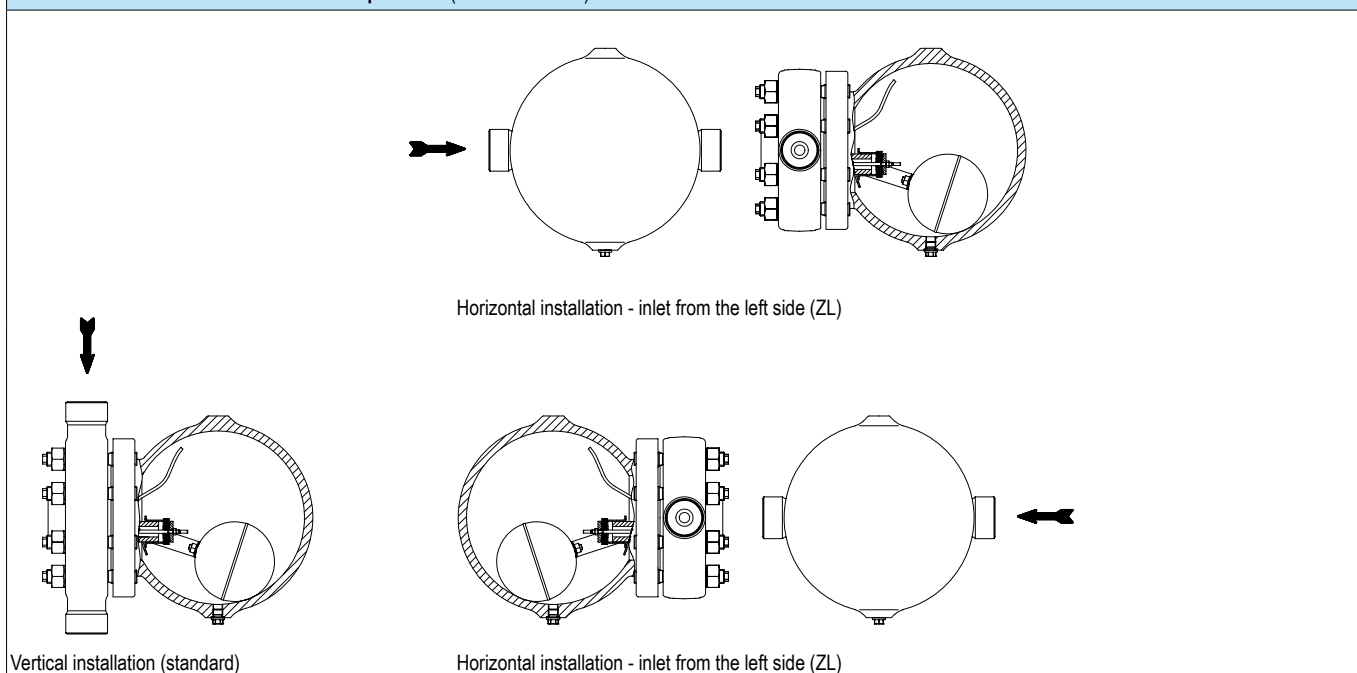
A check valve which otherwise has to be installed is not necessary.

Installation with recovery pipe

Important:

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

Selection criteria:	Example for order data:
<ul style="list-style-type: none"> • Steam pressure • Back pressure • Quantity of condensate • Flow medium • Nominal diameter / pressure • Type of connection • Material • Place of service or kind of steam consumer 	<p>Ball float steam trap CONA® S, Fig. 630, ANSI300, NPS 2", SA105/SA216WCB, Controller R22, with flanges, Face-to-face dimension 230 mm</p>
<p>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</p>	

Standard-Flanschmaße acc. to ASME B16.5 Table II											
NPS (DN)			1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
ANSI150	ØD	(mm)	89	99	108	117	127	153	--	--	--
	ØK	(mm)	60	70	79	89	98	121	--	--	--
	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
	ØK	(mm)	66,5	82,5	89	99	114	127	149	168	200
	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	--	--	--
	ØK	(mm)	67	83	89	99	114	127	--	--	--
	n x Ød	(mm)	4 x 16	4 x 19	4 x 19	4 x 19	4 x 22	8 x 19	--	--	--
ANSI600	ØD	(mm)	95	117	127	133	156	165	--	--	--
	ØK	(mm)	67	83	89	99	114	127	--	--	--
	n x Ød	(mm)	4 x 16	4 x 19	4 x 19	4 x 19	4 x 22	8 x 19	--	--	--
ANSI900	ØD	(mm)	121	130	149	160	180	215	--	--	--
	ØK	(mm)	83	89	102	111	124	165	--	--	--
	n x Ød	(mm)	4 x 22	4 x 22	4 x 25	4 x 25	4 x 28	8 x 25	--	--	--

Information about the different installation positions (shown at BR631)

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).

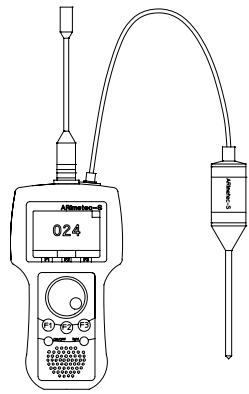
The steam trap must be fitted with the direction of flow as indicated by the arrow on the body..

An adequate clearance (refer to dimension S) for the removal of the hood shall be provided.

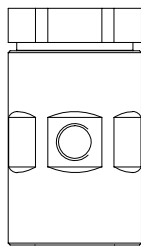
The steam trap shall preferably be installed at the lowest point of the system and the bleeding tube shall be installed in an upright position inside of the hood.

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

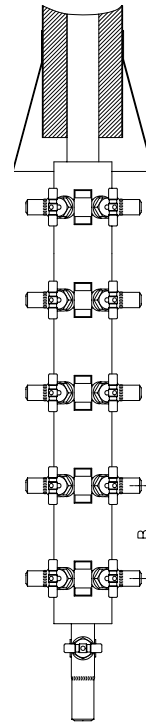
A modification of the installation position during the time of warranty shall be carried out by the AWH-Service or it shall be agreed between the customer and manufacturer.



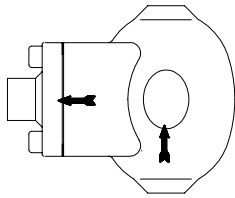
Multifunction tester ARImetec®-S



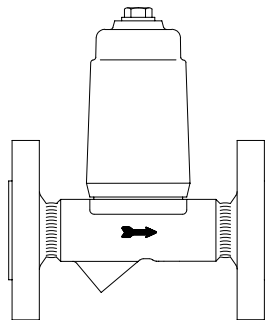
Vacuum breaker
Fig. 655



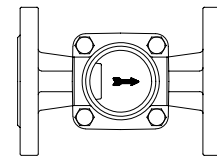
CODI®S with gland packing Fig. 671/672;
CODI®B with bellows seal, maintenance-free Fig. 675/676



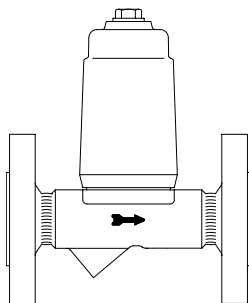
Automatic air vent for liquid systems
Fig. 656



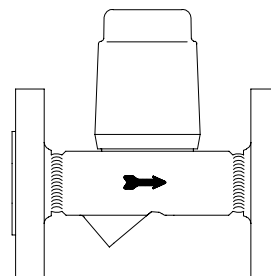
Condensate discharge temperature limiter
Fig. 645/647



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.)