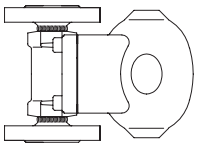
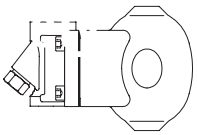
Ball float steam trap

내부의 체크밸브가
급격한 운전에서 보호

CONA® SC
Ball float steam trap
with capsule for rapid system start-up
ANSI150 / 300

- **with flanges** **(Fig. 634....1)**
- **with screwed sockets** **(Fig. 634....2)**
- **with socket weld ends** **(Fig. 634....3)**
- **with butt weld ends** **(Fig. 634....4)**





Forged steel/
SG iron
Forged steel/
Cast steel
Stainless steel

Fig. 634 Page 2

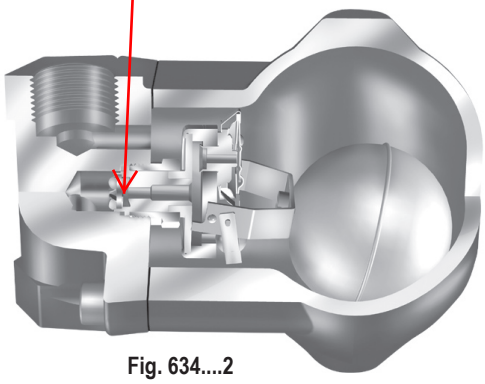
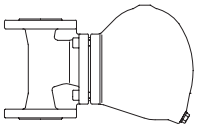


Fig. 634....2

CONA® SC Plus
Ball float steam trap
with capsule for rapid system start-up
ANSI150 / 300

- **with flanges** **(Fig. 635....1)**
- **with screwed sockets** **(Fig. 635....2)**



Forged steel

Fig. 635 Page 4

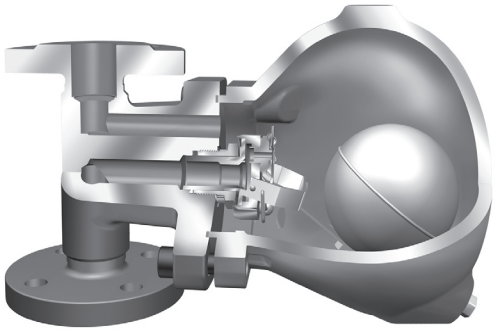
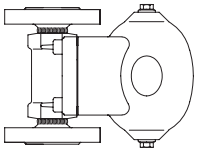
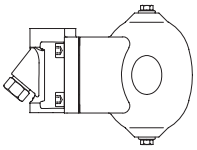


Fig. 635....1

CONA® SC
Ball float steam trap for drainage of water from compressed air and gas systems
(acc. to PED 97/23/EC fluid group 2)
ANSI150 / 300

- **with flanges** **(Fig. 636....1)**
- **with screwed sockets** **(Fig. 636....2)**
- **with socket weld ends** **(Fig. 636....3)**
- **with butt weld ends** **(Fig. 636....4)**





Forged steel/
SG iron
Forged steel/
Cast steel
Stainless steel

Fig. 636 Page 6

Features:

- Back pressure-free condensate discharge even at extreme pressure- and quantity fluctuations
- Controller with integrated automatic ventilation (except Fig. 636)
- Robust and insensitive to waterhammer
- Non return protection (except Fig. 635)
- Union for pressure compension line and bypass possible
- On-site change of the installation position is possible according to the operating instructions
- The controller maybe changed without disturbing the pipe work
- Pressure test acc. to API 598
- CRN approved

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

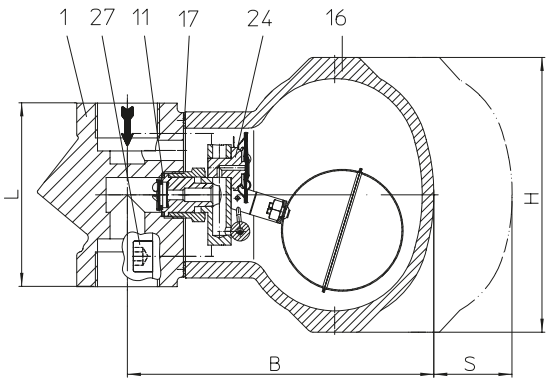


Fig. 634....2 (ANSI150) with screwed sockets - vertical installation

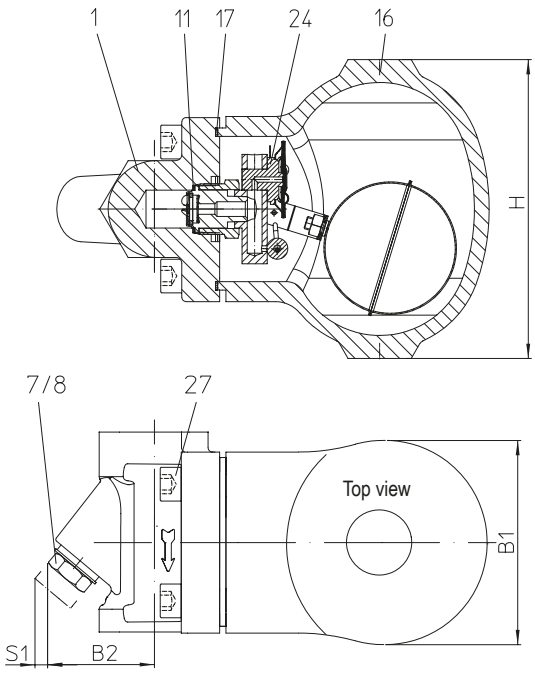


Fig. 634....2 (ANSI300) with screwed sockets - horizontal installation

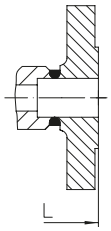


Fig. 634....1
with flanges

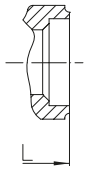


Fig. 634....3
with socket weld ends

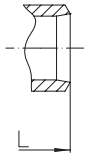


Fig. 634....4
with butt weld ends

Figure	Nominal pressure	Material	NPS	Operating pressure PS	Inlet temperature TS	allowable differential pressure ΔPMX	for controller
42.634	ANSI150	Body: SA105 / Hood: SA216WCB	1/2“ - 1“	5,5 barg	427 °C	4 bar	R4
				14 barg	199 °C	14 bar	R14
45.634 (Y)	ANSI300	Body: SA105 / Hood: SA216WCB	1/2“ - 1“	28 barg	427 °C	4 bar 14 bar	R4 R14
				32 barg	411 °C	21 bar 32 bar	R 21 R32
52.634	ANSI150	Body: SA182F321 / Hood:SA351CF8	1/2” - 1”	2,4 barg	510 °C	4 bar 12,8 bar	R4 R14
				4 barg	467 °C		
				12,8 barg	218 °C		
55.634 (Y)	ANSI300	Body: SA182F321 / Hood: SA351CF8	1/2“ - 1“	26,2 barg	510 °C	4 bar 14 bar	R4 R14
				32 barg	262 °C	21 bar 32 bar	R 21 R32
DIN/EN-Constructions refer to data sheet CONA®SC/SC-Plus							

Types of connection — Other types of connection on request.

- Flanges ....1 _____ acc. to ASME B16.5
- Screwed sockets ....2 ___ NPT thread acc. to ANSI B1.20.1 or Rp thread acc. to DIN EN 10226-1
- Socket weld ends ....3 ___ acc. to ASME B16.11
- Butt weld ends ....4 _____ 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 all kinds of steam systems
- Rapid system start-up due to thermostatic air venting capsule (for condensate with temperatures ≥ 100°C)
- Immediate discharge of hot boiling condensat
- Discharge of great condensate quantities even at low differential pressure
- ANSI150 without strainer / ANSI300 with outside strainer - Fig. 634 (Y)
- Body with flanged hood
- Non return protection
- 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 13)
On-site change of the installation position is possible according to the operating instructions.

Options

- Vent plug (Pos. 47)
- Plug (Pos. 50)
- Manual air vent valve (Pos. 51)
- Ball valve for blow down (Pos. 56)

Types of connection		Flanges			Screwed sockets Socket weld ends			Butt weld ends		
NPS		1/2	3/4	1	1/2	3/4	1	1/2	3/4	1
Face-to-face acc. to data sheet resp. customer request										
L	(mm)	150	150	160	95	95	95	200 (250)	200 (250)	200 (250)
Dimensions										Standard-flange dimensions refer to page 11.
H	(mm)	140	140	140	140	140	140	140	140	140
B	(mm)	155	155	155	155	155	155	155	155	155
B1	(mm)	97	97	97	97	97	97	97	97	97
B2	(mm)	53	53	53	53	53	53	53	53	53
S	(mm)	120	120	120	120	120	120	120	120	120
S1	(mm)	10	10	10	10	10	10	10	10	10
Weights										
(approx.)	(kg)	6,7	6,9	7,1	4,7	4,9	5,1	5,1	5,4	5,8

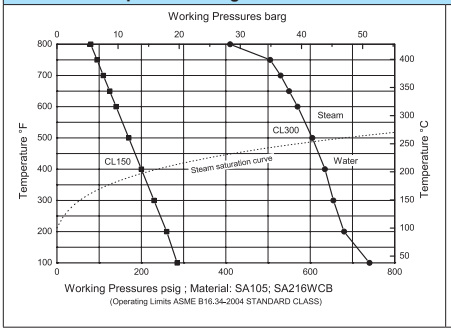
Parts						
Pos.	**Sp.p.**	**Description**	**Fig. 42.634**	**Fig. 45.634 (Y)**	**Fig. 52.634**	**Fig. 55.634 (Y)**
1		Body	SA105		SA182F321	
7	x	Strainer	--	SA240Gr.304	--	SA240Gr.304
8		Strainer plug	--	SA182F321	--	SA182F321
11	x	Sealing ring	SA182F321			
16		Hood	SA216WCB		SA351CF8	
17	x	Gasket	GRAPHIT (CrNi laminated with graphite)			
24	x	Controller / Capsule, cpl.	SA240Gr.304 / Hastelloy			
27		Cheese head screw	SA193Gr.B16 (with metric screw-thread)			
47		Vent plug (M14x1,5)	SA182F321 (with metric screw-thread)			
49	x	Sealing ring	SA182F321			
50	x	Plug (M14x1,5)	SA182F321 (with metric screw-thread)			
51	x	Manual air vent valve	SA182F321 (with metric screw-thread)			
56	x	Ball valve for blow down	SA351CF8M (with metric screw-thread)			
		└ Spare parts				

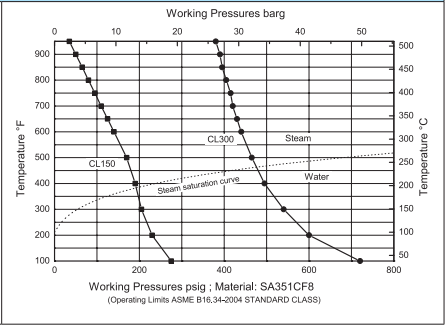
Information / restriction of technical rules need to be observed!

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

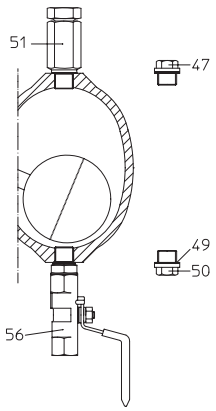
Operating and installation instructions can be downloaded at www.ari-armaturen.com.

Pressure-Temperature-Diagram



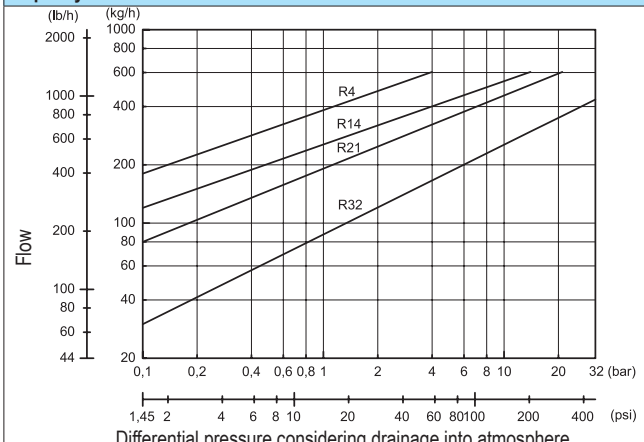


Options



Vent plug (Pos. 47),
Plug (Pos. 50),
Manual air vent valve (Pos. 51),
Ball valve for blow down (Pos. 56)
(restricted to 16 bar, 210°C)

Capacity chart



Differential pressure considering drainage into atmosphere

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

The total cold water capacity is the result of:

- The capacity of the trap is increased by 1,2 x the value shown in the capacity chart.
- The thermostatic air vent is open, provided additional capacity as shown in the table

Additional cold water-flow quantity of the thermostatic steam trap at starting conditions									
Δp in bar	**0,1**	**1**	**2**	**4**	**8**	**10**	**14**	**21**	**32**
Q (approx. 20°C) in kg/h	50	180	250	360	480	530	620	750	920

Ball float steam trap (Forged steel)

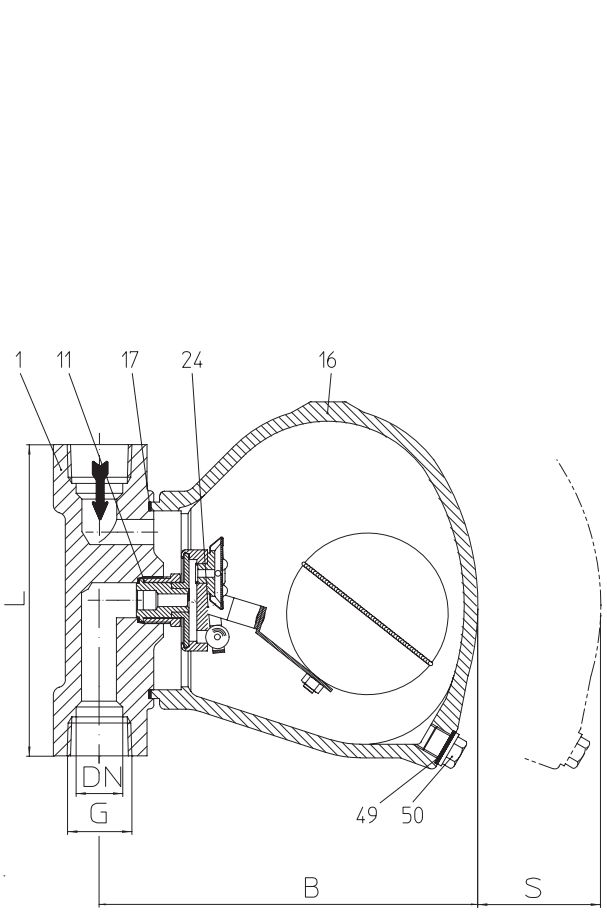


Fig. 635....2 with screwed sockets - vertical installation

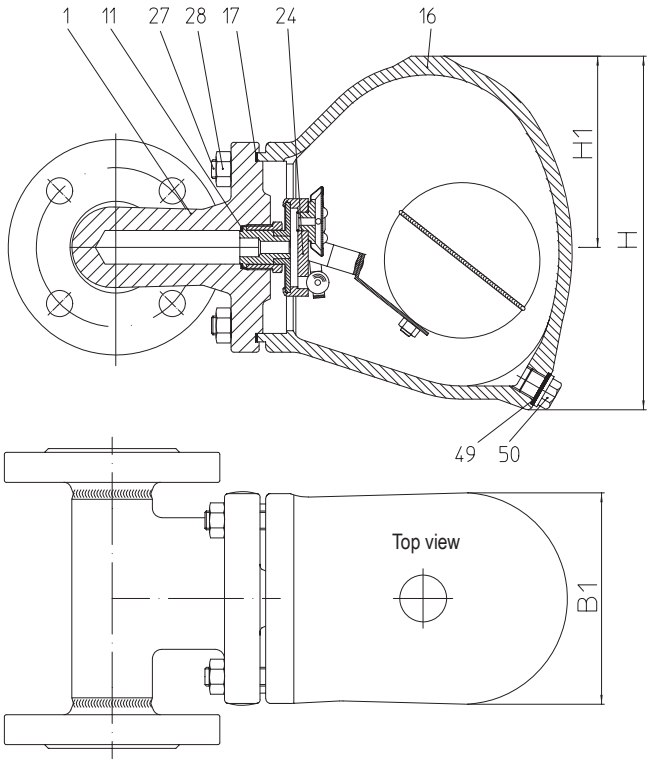


Fig. 635....1 with flanges - horizontal installation

Figure	Nominal pressure	Material	NPS	Operating pressure PS	Inlet temperature TS	allowable differential pressure ΔPMX	for controller
42.635	ANSI150	Body: SA105 / Hood: SA216WCB	1“	5,5 barg	427 °C	5 bar 10 bar 14 bar	R5 R10 R14
				10 barg	306 °C		
				14 barg	199 °C		
45.635	ANSI300	Body: SA105 / Hood: SA216WCB	1“	14 barg	427 °C		
DIN/EN-Constructions refer to data sheet CONA®SC/SC-Plus							

Types of connection		Other types of connection on request.
• Flanges ....1 _____ acc. to ASME B16.5		
• Screwed sockets ....2 ___ NPT thread acc. to ANSI B1.20.1 or Rp thread acc. to DIN EN 10226-1		
Features		
• Ball float steam trap with level control for the condensate-discharge from all kinds of steam systems • Rapid system start-up due to thermostatic air venting capsule (for condensate with temperatures ≥ 100°C) • Immediate discharge of hot boiling condensat		• Discharge of great condensate quantities even at low differential pressure • Body with flanged hood • The controller maybe changed without disturbing the pipe work
Mounting position		
• Standard:	vertical	**Please indicate when ordering!** Refer to: Information about the different installation positions (Page 13) 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		

Types of connection		Flanges	Screwed sockets
NPS		1	1

Face-to-face acc. to data sheet resp. customer request			
L	(mm)	160	160

Dimensions			Standard-flange dimensions refer to page 11.
H	(mm)	190	190
H1	(mm)	102	102
B	(mm)	244	196
B1	(mm)	113	113
S	(mm)	160	160

Weights			
(approx.)	(kg)	11	8,5

Parts

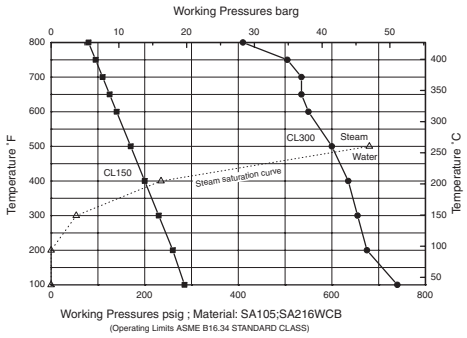
Pos.	Sp.p.	Description	Fig. 42.635	Fig. 45.635
1		Body	SA105	
11	x	Sealing ring	SA182F321	
16		Hood	SA216WCB	
17	x	Gasket	GRAPHIT (CrNi laminated with graphite)	
24	x	Controller / Capsule, cpl.	SA240Gr.304 / Hastelloy	
27		Stud	SA193Gr.B16 (with metric screw-thread)	
28		Hexagonal nut	SA193Gr.B16 (with metric screw-thread)	
46	x	Blow down valve, cpl.	SA182F321 (with metric screw-thread)	
49	x	Sealing ring	SA182F321	
50	x	Plug (M14x1,5)	SA182F321 (with metric screw-thread)	
51	x	Manual air vent valve	SA182F321 (with metric screw-thread)	
	└ Spare parts			

Information / restriction of technical rules need to be observed!

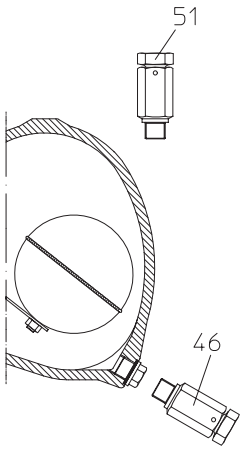
Resistance and fitness must be verified (contact manufacturer for information, refer to Product overview and Resistance list).

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

Pressure-Temperature-Diagram

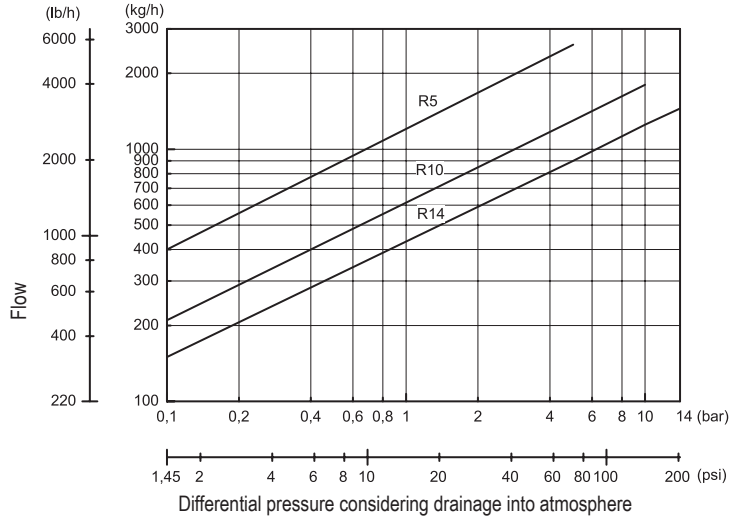


Options



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

Capacity chart



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

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

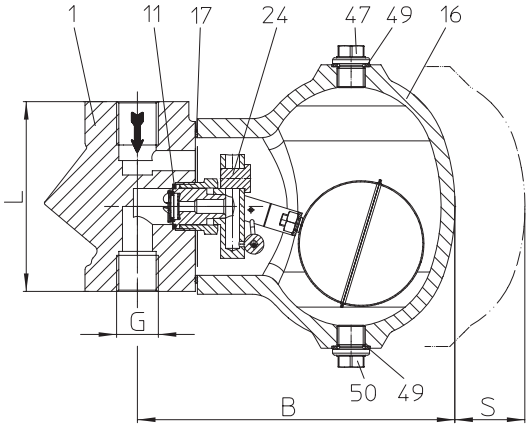


Fig. 636....2 (ANSI150) with screwed sockets - vertical installation

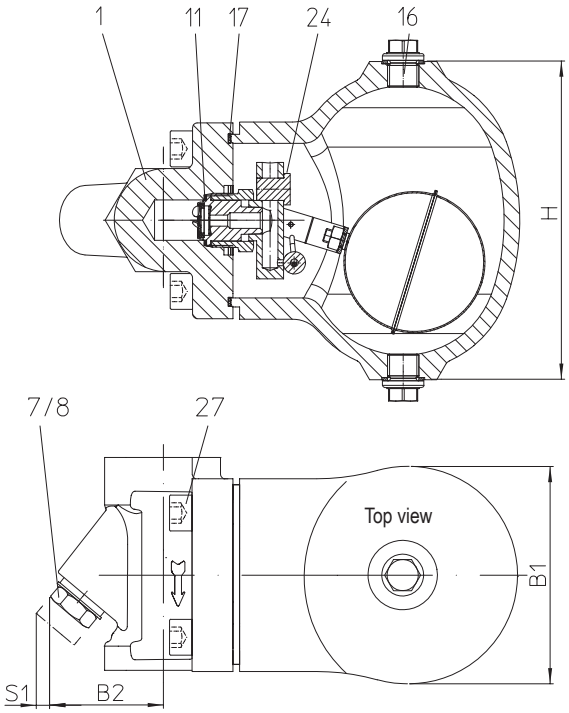


Fig. 636....1 (ANSI300) with screwed sockets - horizontal installation

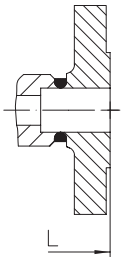


Fig. 636....1
with flanges

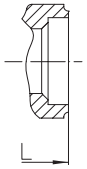


Fig. 636....3
with socket weld ends

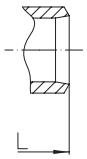


Fig. 636....4
with butt weld ends

Figure	Nominal pressure	Material	NPS	Operating pressure PS	Inlet temperature TS	allowable differential pressure ΔPMX	for controller
42.636	ANSI150	Body: SA105 / Hood: SA216WCB	1/2“ - 1“	5,5 barg	427 °C	4 bar	R4
				14 barg	199 °C	14 bar	R14
45.636 (Y)	ANSI300	Body: SA105 / Hood: SA216WCB	1/2“ - 1“	28 barg	427 °C	4 bar 14 bar	R4 R14
				32 barg	411 °C	21 bar 32 bar	R 21 R32
52.636	ANSI150	Body: SA182F321 / Hood:SA351CF8	1/2“ - 1“	2,4 barg	510 °C	4 bar 12,8 bar	R4 R14
				4 barg	467 °C		
				12,8 barg	218 °C		
55.636 (Y)	ANSI300	Body: SA182F321 / Hood: SA351CF8	1/2“ - 1“	26,2 barg	510 °C	4 bar 14 bar	R4 R14
				32 barg	262 °C	21 bar 32 bar	R 21 R32
DIN/EN-Constructions refer to data sheet CONA®SC/SC-Plus							

Types of connection — Other types of connection on request.

- Flanges ....1 _____ acc. to ASME B16.5
- Screwed sockets ....2 ___ NPT thread acc. to ANSI B1.20.1 or Rp thread acc. to DIN EN 10226-1
- Socket weld ends ....3 ___ acc. to ASME B16.11
- Butt weld ends ....4 _____ ASME B16.25 (Note restriction on operating pressure / inlet temperature depending to design!)

Features

- Ball float steam trap with level controller for the condensate-discharge from compressed air and gas systems (acc. to PED 97/23/EC fluid group 2, other fluid groups on request)
- Discharge of great condensate quantities even at low differential pressure
- ANSI150 without strainer / ANSI300 with outside strainer - Fig. 636 (Y)
- Body with flanged hood
- Non return protection
- The controller maybe changed without disturbing the pipe work

Mounting position

• Standard:	vertical	**Please indicate when ordering!**
• Optional:	• horizontal with inlet from right or left • horizontal with adapter for recovery pipe (union joint). Example for installation ref. to page 10	Refer to: Information about the different installation positions (Page 11) On-site change of the installation position is possible according to the operating instructions.

Options

- Manual air vent valve (Pos. 51)
- Ball valve for blow down (Pos. 56)
- Union (Pos. 52) for recovery pipe (for connecting pipes with outside-Ø 8 x 1 mm acc. to EN 10305-4 steel or EN 10216-5 stainless steel, compression type fitting acc. to DIN 2353)
- Softsealing ball FKM (Viton), max. 120°C

Types of connection		Flanges			Screwed sockets Socket weld ends			Butt weld ends		
NPS		1/2	3/4	1	1/2	3/4	1	1/2	3/4	1
Face-to-face acc. to data sheet resp. customer request										
L	(mm)	150	150	160	95	95	95	200 (250)	200 (250)	200 (250)
Dimensions										Standard-flange dimensions refer to page 11.
H	(mm)	156	156	156	156	156	156	156	156	156
B	(mm)	155	155	155	155	155	155	155	155	155
B1	(mm)	97	97	97	97	97	97	97	97	97
S	(mm)	120	120	120	120	120	120	120	120	120
Weights										
(approx.)	(kg)	6,7	6,9	7,1	4,7	4,9	5,1	5,1	5,4	5,8

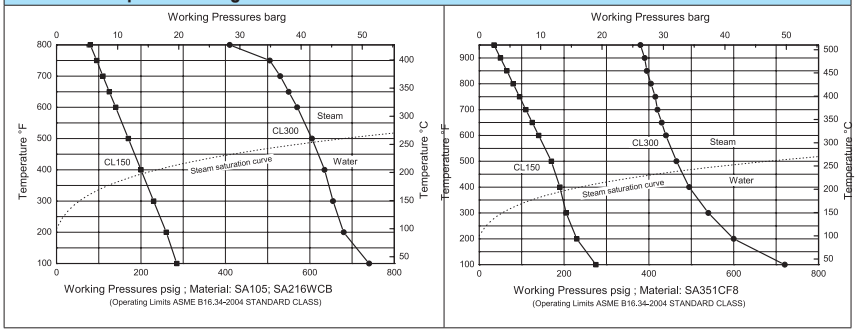
Parts						
Pos.	Sp.p.	Description	Fig. 42.636	Fig. 45.636 (Y)	Fig. 52.636	Fig. 55.636 (Y)
1		Body	SA105		SA182F321	
7	x	Strainer	--	SA240Gr.304	--	SA240Gr.304
8		Strainer plug	--	SA182F321	--	SA182F321
11	x	Sealing ring	A4		SA182F321	
16		Hood	SA216WCB		SA351CF8	
17	x	Gasket	GRAPHIT (CrNi laminated with graphite)			
24	x	Controller, cpl.	SA240Gr.304 / Hastelloy			
27		Cheese head screw	SA193Gr.B16 (with metric screw-thread)			
47		Vent plug (M14x1,5)	SA182F321 (with metric screw-thread)			
49	x	Sealing ring	SA182F321			
50	x	Plug (M14x1,5)	SA182F321 (with metric screw-thread)			
51	x	Manual air vent valve	SA182F321 (with metric screw-thread)			
52	x	Union for recovery pipe	AISI303 (with metric screw-thread)			
56	x	Ball valve for blow down	SA351CF8M (with metric screw-thread)			
		└ Spare parts				

Information / restriction of technical rules need to be observed!

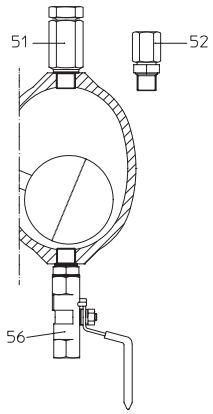
Resistance and fitness must be verified (contact manufacturer for information, refer to Product overview and Resistance list).

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

Pressure-Temperature-Diagram

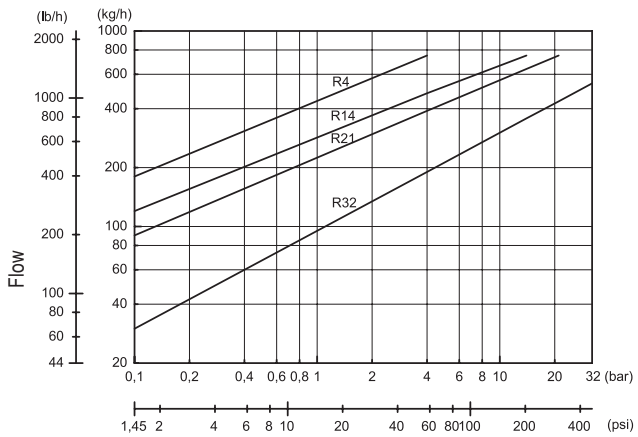


Options



Manual air vent valve (Pos. 51),
Union (Pos. 52) for pressure compension line,
Ball valve for blow down (Pos. 56)
(restricted to 16 bar 210°C)

Capacity chart



Differential pressure considering drainage into atmosphere

The capacity chart shows the maximum flow of cold water for the different controller.

Informations about pipe welding

Welding groove acc. to ASME B16.25

The material used for ARI valves with butt weld ends are: SA105

SA182F321

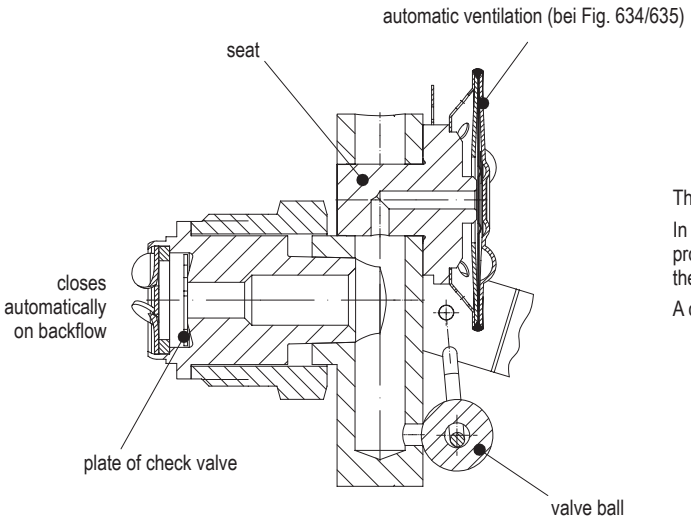
Due to our experience, we recommend to apply an electric welding process.

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

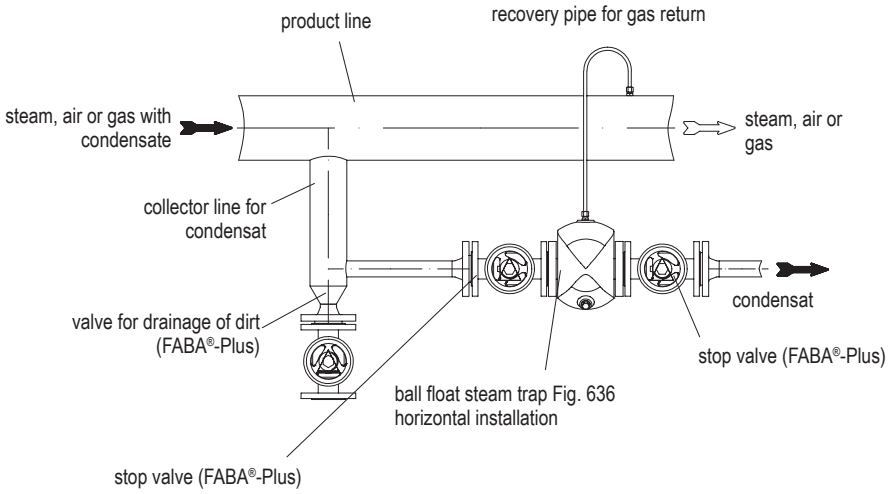


The internal plate acts at series 634 and 636 as integrated check valve..

In case of parallel installed heat exchangers or heater batteries the non return protection prevents a shut down heat-exchanger fror 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

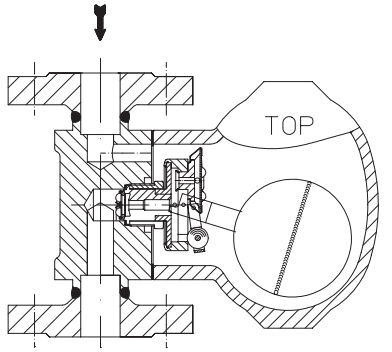


Important:
The installation of a recovery pipe for gas return is always recommended; especially if the ball float steam trap is installed horizontally.

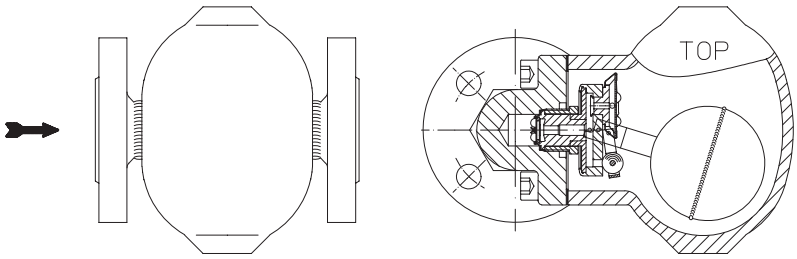
Selection criteria:		Example for order data:
• Steam pressure • Back pressure • Quantity of condensate • Flow medium • Nominal diameter / pressure	• Type of connection • Material • Place of service or kind of steam consumer	**Ball float steam trap CONA® SC, Fig. 634, ANSI150, NPS 1“, SA105/SA216WCB, R14, with flanges, Face-to-face dimension 160 mm**
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		

Standard-flange dimensions acc. to ASME B16.5					
NPS			**1/2**	**3/4**	**1**
ANSI150	**ØD**	**(mm)**	89	99	108
	ØK	**(mm)**	60	70	79
	n x Ød	**(mm)**	4 x 16	4 x 16	4 x 16
ANSI300	**ØD**	**(mm)**	95	117	124
	ØK	**(mm)**	66,5	82,5	89
	n x Ød	**(mm)**	4 x 16	4 x 19	4 x 19

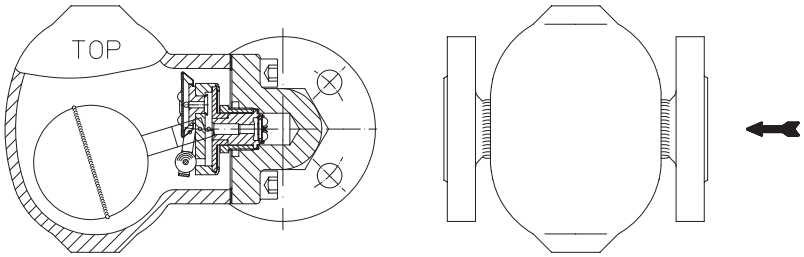
Information about the different installation positions (shown at Fig. 634 CONA® SC ANSI)



Vertical installation (standard)



Horizontal installation - inlet from the left side (ZL)



Horizontal installation – inlet from the right side (ZR)

Installation (see picture)

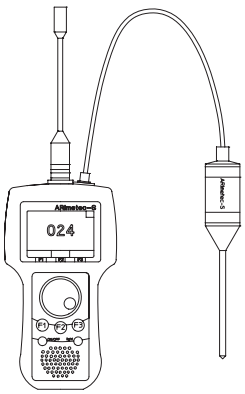
The ball float steam traps can be installed either in vertical (standard) or horizontal position. In case of horizontal installation please indicate whether the inlet is from the left or right side.

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

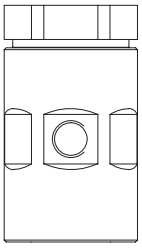
The steam trap must be fitted with the direction of flow as indicated by the arrow on the body.
Enough clearance (refer to dimension S) for the removal of the hood shall be provided.
The steam trap shall preferably be installed at the lowest point of the system and the membrane capsule resp. the bleeding tube shall be installed in an upright position inside of the hood.

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

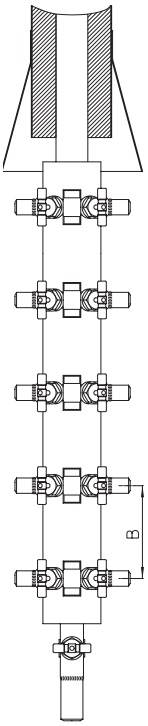
A modification of the installation position during the time of warranty shall be carried out by the AWH-Service or it shall be agreed between the customer and manufacturer.



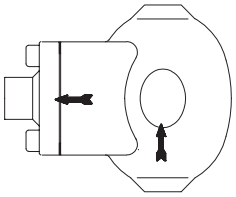
Multifunction tester **ARImetec®-S**



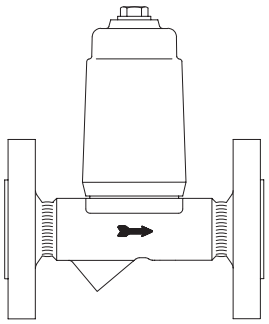
Vacuum breaker
Fig. 655



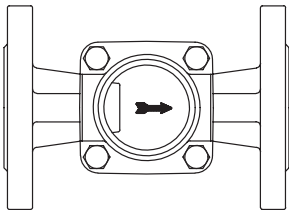
CODI ®S with gland packing Fig. 671/672;
CODI ®B with bellows seal, maintenance-free Fig. 675/676



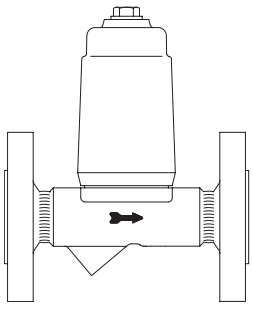
Automatic air vent for liquid systems
Fig. 656



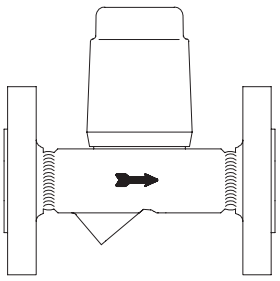
Condensate discharge temperature limiter
Fig. 645/647



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.)

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