

## **Ball float steam trap**

# **Ball float steam trap PN16**

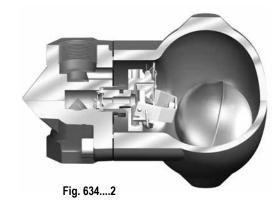
- with screwed sockets (Fig. 629....2)



#### Stainless steel

Fig. 629

Page 2



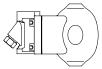
## CONA® SC

# Ball float steam trap with capsule for rapid system start-up PN16 / PN25 / PN40

Forged steel/ (Fig. 634....1) - with flanges SG iron (Fig. 634....2) - with screwed sockets Forged steel/ - with socket weld ends (Fig. 634....3) Cast steel

> (Fig. 634....4) Stainless steel

Fig. 634



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# **CONA® SC Plus**

- with butt weld ends

Ball float steam trap with capsule for rapid system start-up

PN16 / PN40 - with flanges (Fig. 635....1) - with screwed sockets

(Fig. 635....2)

Forged steel Stainless steel

SG iron

Fig. 635

Grey cast iron

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Fig. 635....1

## CONA® SC

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

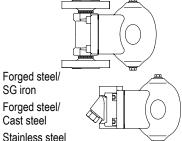
(acc. to PED 2014/68/EU fluid group 2)

## PN16 / PN25 / PN40

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

Stainless steel (Fig. 636....4) Fig. 636

SG iron



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## Features:

- · Back pressure-free condensate discharge even at extreme pressure- and quantity fluctuations
- · Controller with integrated automatic ventilation (except Fig. 629/636)
- · Robust and insensitive to waterhammer
- Non return protection (except Fig. 629/635)
- · Union for pressure compension line and bypass possible (except Fig. 629)
- On-site change of the installation position is possible according to the operating instructions (except Fig. 629)
- The controller maybe changed without disturbing the pipe work (except Fig. 629)



# **Ball float steam trap (Stainless steel)**

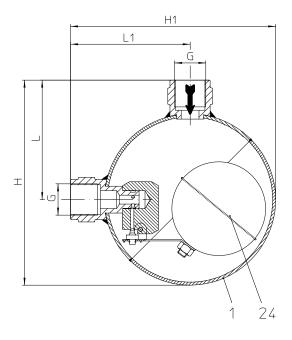
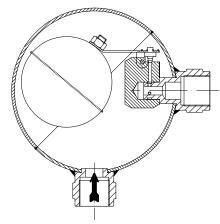


Fig. 629....2 with screwed sockets



Also as automatic air vent with inlet from the bottom useable (refer to Fig. 656)  $\,$ 

Figure	Nominal pressure	Material	Nominal diameter / NPS	Operating pressure PS	Inlet temperature TS	allowable differential pressure ΔPMX	for controller
52.629	PN16	Body: 1.4301	15 /	5 barg	300 °C	5	R5
52.029	FINIO	Bouy. 1.4301	1/2"	13 barg	300 C	13	R13

# Types of connection

Screwed sockets ...2 \_\_\_\_\_Rp thread acc. to DIN EN 10226-1 or NPT thread acc. to ANSI B1.20.1

# Features

- Ball float steam trap with level control for the condensate-discharge from all kinds of steam systems
- Immediate discharge of condensat
- Body in welded design

# Mounting position

Standard: vertical / angle pattern



Types of connection		Screwed sockets
DN	(mm)	15
NPS	(inch)	1/2"

Face-to-face acc. to data sheet resp. customer request				
L	(mm)	80		
L1	(mm)	80		

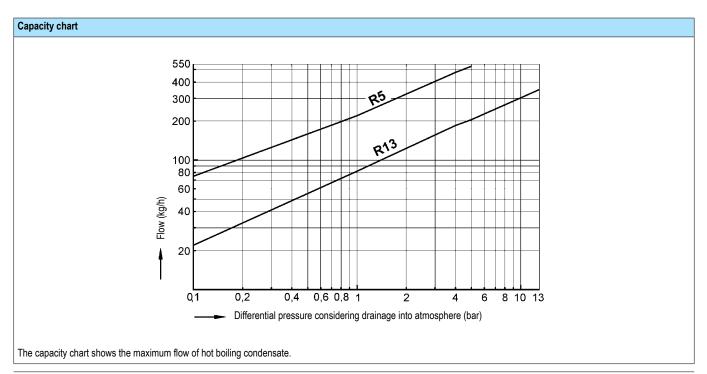
Dimensions					
Н	(mm)	138			
H1	(mm)	138			

١	Weights		
	Fig. 629 (approx.)	(kg)	0,9

Parts	Parts					
Pos. Description		Fig. 52.629				
1	Body	X5CrNi18-10, 1.4301				
24	Controller, cpl.	X5CrNi18-10, 1.4301				

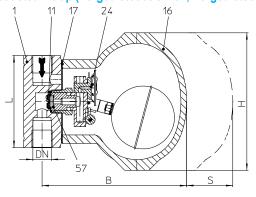
Resistance and fitness must be verified (contact manufacturer for information, refer to Product overview and Resistance list).

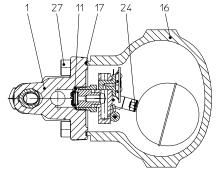
Operating and installation instructions can be downloaded at www.ari-armaturen.com.

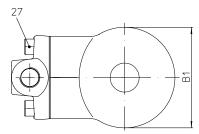


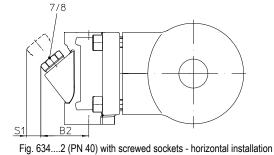


# Ball float steam trap (Forged steel/SG iron, Forged steel/Cast steel, Stainless steel)









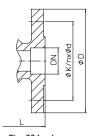


Fig. 634....1 with flanges

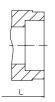


Fig. 634....3 with socket weld ends



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

Fig. 634....2 (PN16/25) with screwed sockets - vertical installation

Operating **Nominal** Nominal diam. / allowable differential Inlet temperature for **Figure** Material pressure **NPS** pressure **DPMX** controller pressure Body: 1.0460 / 15 - 25 / 4 barg 4 bar R4 42.634 PN16 300 °C Hood: EN-JS1049 1/2" - 1" 14 barg 14 bar R14 4 barg Body: 1.0460 / 400 °C 15 - 25 / PN25 44.634 14 barg 1/2" - 1" Hood: 1.0619+N R4 4 bar 21 barg 225 °C R14 14 bar 4 barg 21 bar 15 - 25 / 1/2" - 1" Body: 1.0460 / 14 barg 400 °C 45.634 (Y) PN40 32 bar (PN40) R32 (PN40) Hood: 1.0619+N 21 barg 28,3 barg 250 °C 4 barg 15 - 25 / 1/2" - 1" Body: 1.4541 / 54.634 PN25 300 °C 14 barg Hood:1.4308 4 bar R4 21 barg 14 bar R14 4 barg 21 bar R21 14 barg 300 °C Body: 1.4541 / 15 - 25 / 55.634 (Y) PN40 32 bar (PN40) R32 (PN40) 21 barg Hood: 1.4308 1/2" - 1" 27.6 bard 250 °C

27,6 barg 250 °C				
Other types of connection on request.				
ead acc. to ANSI B1.20.1				
cation No. 1.3 and 1.5 temperature depending to design!)				
<ul> <li>• PN16 / 25 without strainer / PN40 with outside strainer - Fig. 634 (Y)</li> <li>• Body with flanged hood</li> </ul>				
Non return protection     The controller maybe changed without disturbing the pipe work				
The controller maybe changed without disturbing the pipe work				
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.				
Manual air vent valve (Pos. 51)				
Ball valve for blow down (Pos. 56)				
a				

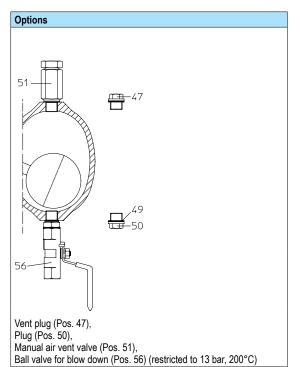


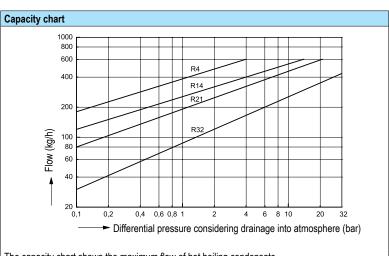
Types of co	nnection	Flanges			Screwed sockets Socket weld ends			Butt weld ends		
DN	(mm)	15	20	25	15	20	25	15	20	25
NPS	(inch)	1/2"	3/4"	1"	1/2"	3/4"	1"	1/2"	3/4"	1"
Face-to-face	e acc. to data she	et resp. custon	ner request							
L	(mm)	150	150	160	95	95	95	200 (250)	200 (250)	200 (250)
Dimensions	3							Standard-flang	ge dimensions re	efer to page 13.
Н	(mm)	140	140	140	140	140	140	140	140	140
В	(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										
Fig. 634 (a	approx.) (kg)	6,7	6,9	7,1	4,7	4,9	5,1	5,1	5,4	5,8

Parts	Parts							
Pos.	Sp.p.	Description	Fig. 42.634	Fig. 44.634	Fig. 45.634	Fig. 54.634	Fig. 55.634	
1		Body	P250 GH, 1.0460			X6CrNiTi18-10, 1.45	41	
7	х	Strainer			X5CrNi18-10, 1.4301		X5CrNi18-10, 1.4301	
8		Strainer plug			X6CrNiTi18-10, 1.4541		X6CrNiTi18-10, 1.4541	
11	х	Sealing ring	A4			A4		
16		Hood	EN-GJS-400-18U- LT, EN-JS1049 GP240GH+N, 1.		9+N	GX5CrNi19-10, 1.4308		
17	х	Gasket	GRAPHIT (CrNi lami	nated with graphite)				
24	х	Controller / Capsule, cpl.	X5CrNi18-10, 1.4301	/ Hastelloy				
27		Cheese head screw	A2-70		21CrMoV 5-7, 1.7709	A2-70		
47		Vent plug (M14x1,5)	C35E, 1.1181			X6CrNiTi18-10, 1.4541		
49	х	Sealing ring	A4			A4		
50		Plug (M14x1,5)	C35E, 1.1181			X6CrNiTi18-10, 1.4541		
51	Х	Manual air vent valve	X6CrNiTi18-10, 1.45	41				
56	Х	Ball valve for blow down	GX5CrNiMo19-11-2, 1.4408					
57		Non return protection	X6Cr17, 1.4016					
	L Spar	e parts						

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.





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

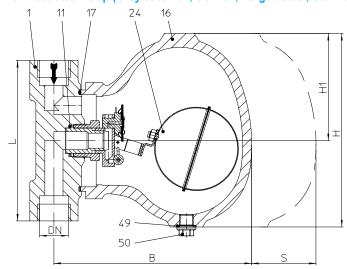
The total cold water capacity is the result of:

- 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	1	2	4	8	10	14	21	32
Q (approx. 20°C) in kg/h	180	250	360	480	530	620	750	920



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



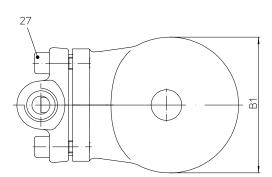


Fig. 635....2 with screwed sockets - vertical installation

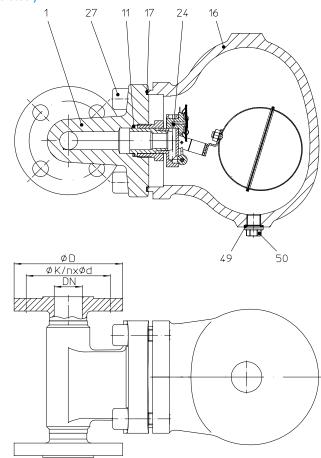


Fig. 635....1 with flanges - horizontal installation

Figure	Nominal pressure	Material	Nominal diam. / NPS	Operating pressure PS	Inlet temperature TS	allowable differential pressure ΔPMX	for controller
	Body: EN-JL1040 /	25 /	12,8 barg	200 °C			
12.635	PN16	Hood: EN-JL1040	1"	9,6 barg	300 °C	5 bar 10 bar 14 bar	
25.635	PN40	Body: EN-JS1049 / Hood: EN-JS1049	25 / 1"	14 barg	350 °C		R5 R10
45.635	PN40	Body: 1.0460 / Hood: 1.0619+N	25 / 1"	14 barg	400 °C		R14
55.635	PN40	Body: 1.4541 / Hood: 1.4308	25 / 1"	14 barg	300 °C		
For ANSI version	ons refer to data she	eet CONA®S-ANSI	1	1	1		

Types of conn	ection	Other types of connection on request						
• Flanges1	• Flanges1 acc. to DIN EN 1092-2 (EN-JL1040, EN-JS1049) and DIN EN 1092-1 (1.0460, 1.4541)							
Screwed soc	kets2 Rp thread acc. to DIN EN 10226-1 or NPT thread	d acc. to ANSI B1.20.1						
Features								
	am trap with level control for the condensate-discharge s of steam systems	Discharge of great condensate quantities even at low differential pressure     Body with flanged hood						
	n start-up due to thermostatic air venting capsule ate with temperatures ≥ 100°C)	The controller maybe changed without disturbing the pipe work						
Immediate di	scharge of hot boiling condensat							
Mounting posi	ition							
Standard:	vertical	Please indicate when ordering!  Refer to: Information about the different installation positions (Page 13)						
Optional:	horizontal with inlet from right or left	On-site change of the installation position is possible according to the operating instructions.						
Options								
Air vent - (Po	ss. 51) or blow down valve (Pos. 46), manual operated							



Types of connection		Flanges	Screwed sockets
DN	(mm)	25	25
NPS	(inch)	1"	1"

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

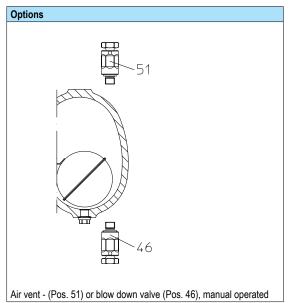
Dimensions			Standard-flange dimensions refer to page 13.
Н	(mm)	193	193
H1	(mm)	107	107
B (EN-JL1040)	(mm)	250	250
B (Steel)	(mm)	250	197
B1	(mm)	136	136
S	(mm)	160	160

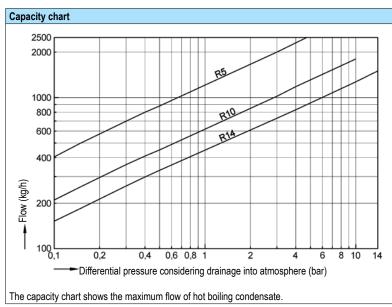
Weights			
Fig. 635	(approx.) (kg)	11,8	9,3

Parts								
Pos.	Sp.p. Description		Fig. 12.635	Fig. 12.635 Fig. 25.635		Fig. 55.635		
1		Body	EN-GJL-250, EN-JL1040	EN-GJS-400-18U-LT, EN-JS1049	P250 GH, 1.0460	X6CrNiTi18-10, 1.4541		
11	х	Sealing ring	CU	A4				
16		Hood	EN-GJL-250, EN-JL1040	EN-GJS-400-18U-LT, EN-JS1049	GP240GH+N, 1.0619+N	GX5CrNi19-10, 1.4308		
17	х	Gasket	GRAPHIT (CrNi laminated	GRAPHIT (CrNi laminated with graphite)				
24	х	Controller / Capsule, cpl.	X5CrNi18-10, 1.4301 / Has	stelloy				
27		Cheese head screw	A2-70	21CrMoV 5-7, 1.7709		A4-80		
46	х	Blow down valve	X6CrNiTi18-10, 1.4541					
49	х	Sealing ring	CU	A4				
50		Plug (M14x1,5)	C35E, 1.1181	C35E, 1.1181 X6CrNiTi18-10, 1.4541				
51	х	Manual air vent valve	X6CrNiTi18-10, 1.4541					
	L Spar	e parts						

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

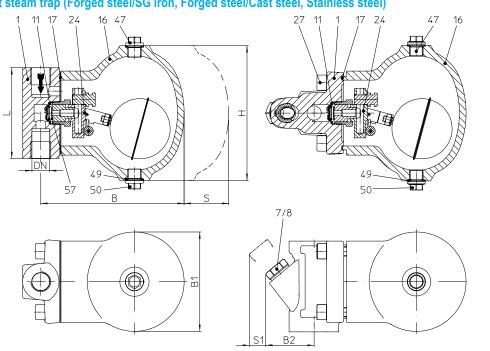
Operating and installation instructions can be downloaded at www.ari-armaturen.com.







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



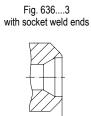


Fig. 636....1 with flanges

Fig. 636....2 (PN16/25) with screwed sockets - vertical installation

Fig. 636....1 (PN 40) with screwed sockets - horizontal installation

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

Figure	Nominal pressure	Material	Nominal diam. / NPS	Operating press. PS	Inlet temperature TS	allowable differential pressure ΔPMX	for controller
40.636	PN16	Body: 1.0460 /	15 - 25 /	4 barg	300 °C	4 bar	R4
42.636	PINIO	Hood: EN-JS1049	1/2" - 1"	14 barg	300 C	14 bar	R14
		B 1 404004	45 05 /	4 barg	400 °C		
44.636	PN25	Body: 1.0460 / Hood: 1.0619+N	15 - 25 / 1/2" - 1"	14 barg	400 C	4 bar	R4
		1100d. 1.0019+1V	1/2 - 1	21 barg	225 °C	14 bar	R14
				4 barg			R21 R32 (PN40)
4F C2C (\(\)	PN40	Body: 1.0460 / Hood: 1.0619+N	15 - 25 / 1/2" - 1"	14 barg	400 °C	21 bar 32 bar (PN40)	
45.636 (Y)				21 barg			
				28,3 barg	250 °C		
			45 05 /	4 barg		4 bar	
54.636	PN25	Body: 1.4541 / Hood:1.4308	15 - 25 / 1/2" - 1"	14 barg	300 °C		R4
		11000.1.4300	1/2 - 1	21 barg		4 bar	R14
55.636 (Y)				4 barg	300 °C		
	DNAO	Body: 1.4541 /	15 - 25 /	14 barg		21 bar 32 bar (PN40)	R21
	PN40	Hood: 1.4308	1/2" - 1"	21 barg			R32 (PN40)
				27,6 barg	250 °C		

Types of conne	ection	Other types of connection on request.			
• Flanges1 _	acc. to DIN EN 1092-1 (PN40)				
Screwed sock	tets2Rp thread acc. to DIN EN 10226-1 or NPT thread ac	c. to ANSI B1.20.1			
Socket weld e	ends3 acc. to DIN EN 12760				
Butt weld ends	s4Weld preparation acc. to EN ISO 9692 identification (Note restriction on operating pressure / inlet temper				
Features					
Ball float stear	m trap with level controller for the condensate-discharge from	Body with flanged hood			
	air and gas systems (acc. to PED 2014/68/EU fluid group 2, other	Non return protection			
fluid groups or	n request)	The controller maybe changed without disturbing the pipe work			
Discharge of g	great condensate quantities even at low differential pressure	The contains major shanger miner actually the pipe nome			
• PN16 / 25 with	out strainer / PN40 with outside strainer (Y)				
Mounting posit	tion				
Standard:	- vertical	Please indicate when ordering!			
	- horizontal with inlet from right or left	Refer to: Information about the different installation positions (Page 13)			
Optional:     - horizontal with adapter for recovery pipe (union joint).     Example for installation ref. to page 10.		On-site change of the installation position is possible according to the operating instructions.			
Options					
		Union (Pos. 52) for recovery pipe			
Manual air ver	nt valve (Pos. 51)	(for connecting pipes with outside-Ø 8 x 1 mm acc. to EN 10305-4 steel or EN 10216-5			
Ball valve for b	blow down (Pos. 56)	stainless steel, compression type fitting acc. to DIN 2353)			
		Soft sealing ball FKM (Viton), max. 120°C			

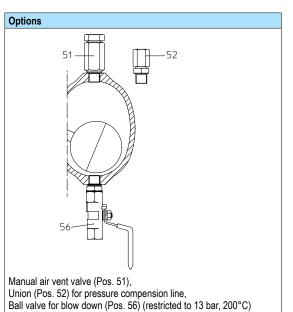


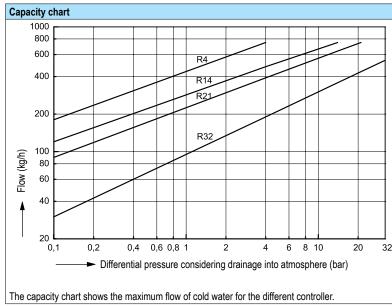
Types of connection		Flanges				Screwed sockets Socket weld ends			Butt weld ends		
DN	(mm)	15	20	25	15	20	25	15	20	25	
NPS	(inch)	1/2"	3/4"	1"	1/2"	3/4"	1"	1/2"	3/4"	1"	
Face-to-face	acc. to data shee	et resp. custom	ner request								
L	(mm)	150	150	160	95	95	95	200 (250)	200 (250)	200 (250)	
Dimensions								Standard-flang	ge dimensions re	efer to page 13.	
Н	(mm)	156	156	156	156	156	156	156	156	156	
В	(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											
Fig. 636 (ap	prox.) (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. 44.636	Fig. 45.636	Fig. 54.636	Fig. 55.636	
1		Body	P250 GH, 1.0460		'	X6CrNiTi18-10,	1.4541	
7	х	Strainer			X5CrNi18-10, 1.4301		X5CrNi18-10, 1.4301	
8		Strainer plug			X6CrNiTi18-10, 1.4541		X6CrNiTi18-10, 1.4541	
11	х	Sealing ring	A4			A4		
16		Hood	EN-GJS-400-18U- LT, EN-JS1049	(3P)/40(3H+N 1 0619+N		GX5CrNi19-10, 1.4308		
17	х	Gasket	GRAPHIT (CrNi lam	GRAPHIT (CrNi laminated with graphite)				
24	х	Controller, cpl.	X5CrNi18-10, 1.430	1				
27		Cheese head screw	A2-70		21CrMoV 5-7, 1.7709	A2-70		
47		Vent plug (M14x1,5)	C35E, 1.1181			X6CrNiTi18-10, 1.4541		
49	х	Sealing ring	A4			A4		
50		Plug (M14x1,5)	C35E, 1.1181	C35E, 1.1181			1.4541	
51	х	Manual air vent valve	X6CrNiTi18-10, 1.45	X6CrNiTi18-10, 1.4541				
52	х	Union for recovery pipe	X8CrNiS18-9, 1.430	X8CrNiS18-9, 1.4305				
56	х	Ball valve for blow down	GX5CrNiMo19-11-2,	GX5CrNiMo19-11-2, 1.4408				
57		Non return protection	X6Cr17, 1.4016					
	L Spar	e parts						

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.









## Informations about pipe welding

Welding groove acc. to DIN 2559

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

1.0460 P250GH acc. to DIN EN 10222-2

Note:

1.4541 X6CrNiTi18-10 acc. to DIN EN 10222-5

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).

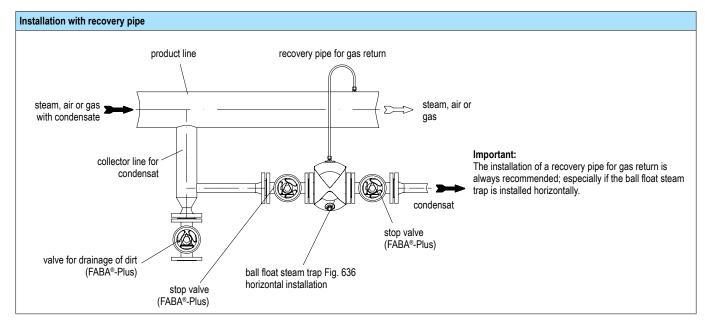
If during the time of warranty others than the manufacturer or by the manufacturer authorized persons are interfering in the product and/or the setting, the right of claim for warranty will lapse!

Selection criteria:		Example for order data:			
Steam pressure	Type of connection				
Back pressure     Material		- 11 11 11 11 11 11 11 11 11 11 11 11 11			
Quantity of condensate	<ul> <li>Place of service or kind</li> </ul>	Ball float steam trap CONA® SC, Fig. 634, PN25, DN25, 1.0460/1.0619+N. R14, with flanges, Face-to-face dimension 160 mm			
Flow medium	of steam consumer	1 ig. 60-4, 1 Nzo, 5Nzo, 1.0400/1.0010 · N, N14, With halfges, 1 acc to face difficultion for fill			
Nominal diameter / pressure					
Other installation positions than	standard (vertical) have to be indica	ted together with the information about the flow direction i.e. inlet from left or right			

Edition 07/18 - Data subject to alteration - Regularly updated data on www.ari-armaturen.com!



# automatic ventilation (for Fig. 634/635) 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.





## myValve® - Your VAlve Slzing-Program.

myValve is a powerful software tool that not only helps you size your system components; it also gives you instant access to all other data about the selected product, such as order information, spare parts drawings, operating instructions, data sheets, etc., whenever you need it.



## myValve - VAlve Slzing-Program

#### Contents:

## Module ARI-Steam trap CONA-Calcuation

- Sizing (calculation of steam trap systems with given flow capacity or heat capacity)
- Calculation of nominal diameter acc. to given pressure, condensate quantity, condensate sub-cooling and speed

Media:

- Steam (saturated and superheated)
- Compressed air

#### **Special Features**

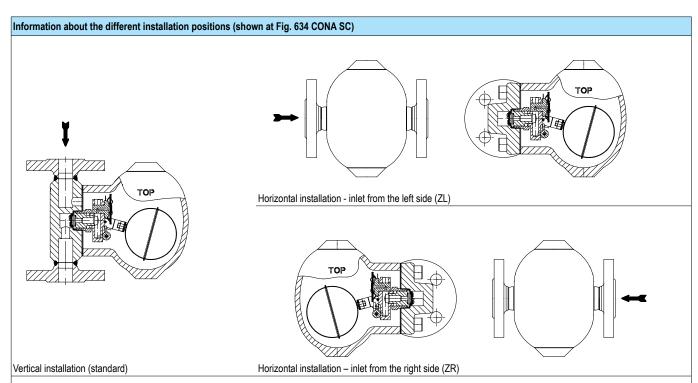
- Project administration of the calculation and product data incl. spare part drawings concerning to project and tag number
- Direct output or calculation and product data in PDF format
- Product data could be taken for a direct order
- SI- and ANSI-units with direct conversion to another databank
- Settings with over pressure or absolute pressure
- All ARI products are integrated in one databank
- Direct access concerning to the product on data sheets, operating instructions, pressure-temperature-diagram and spare part drawings
- Operation in company networks possible (no complex installations on individually PC's necessary)
- Extensive catalogue extending over several product groups

## System Requirements:

Windows operating systems, Linux, etc.



Standard-	-flange dimens	sions acc. to 1092-1 /	-2		
ON		(mm)	15	20	25
NPS		(inch)	1/2"	3/4"	1"
	ØD	(mm)	95	105	115
PN16	ØK	(mm)	65	75	85
	n x Ød	(mm)	4 x 14	4 x 14	4 x 14
	ØD	(mm)	95	105	115
N25	ØK	(mm)	65	75	85
	n x Ød	(mm)	4 x 14	4 x 14	4 x 14
	ØD	(mm)	95	105	115
N40	ØK	(mm)	65	75	85
	n x Ød	(mm)	4 x 14	4 x 14	4 x 14



## 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.

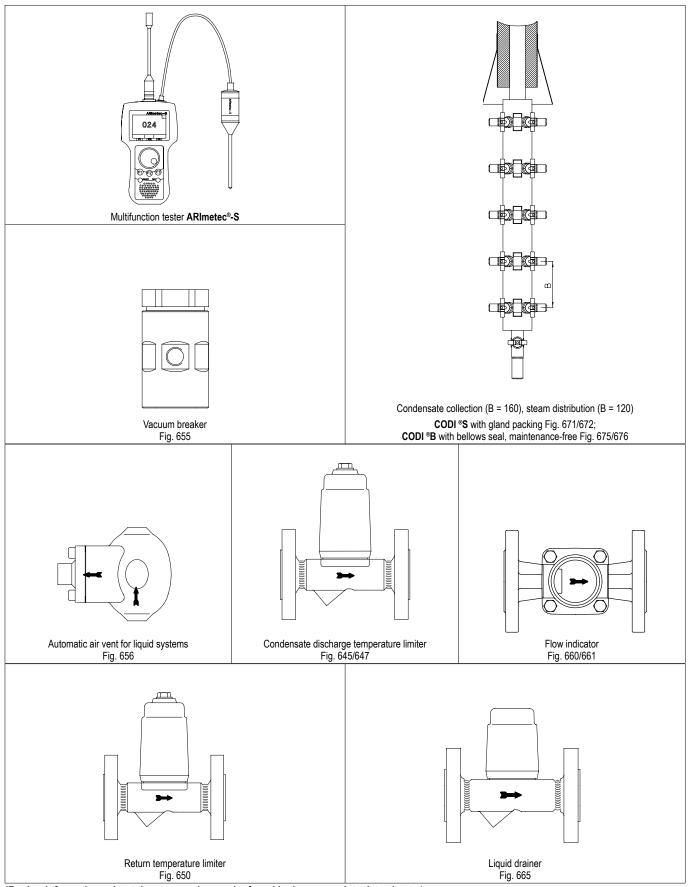
Enough clearance (refer to dimension S) for the removal of the hood shall be provided.

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.





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









Technology for the Future.

GERMAN QUALITY VALVES

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