

Ball float steam trap

**Ball float steam trap**  
**PN16 / PN40**

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

(Fig. 631....1)  
(Fig. 631....2)  
(Fig. 631....3)  
(Fig. 631....4)

Grey cast iron  
SG iron  
Forged steel/  
Cast steel  
Stainless steel

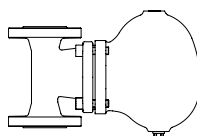


Fig. 631

Page 2



Fig. 631....1  
vertical installation

**Ball float steam trap**  
**PN63 / PN100**

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

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

High temperature steel

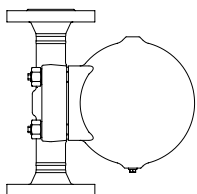


Fig. 631

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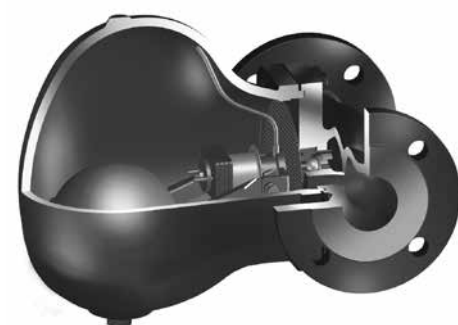


Fig. 631....1  
horizontal installation

**Ball float steam trap**  
**PN160**

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

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

**Angle pattern design:**

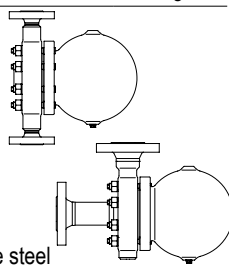
- with flanges
- with butt weld ends

(Fig. 632....1)  
(Fig. 632....4)

High temperature steel

Fig. 631 / Fig. 632

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**Ball float steam trap**  
**PN16 / PN40**

- with flanges R4-P
- with flanges

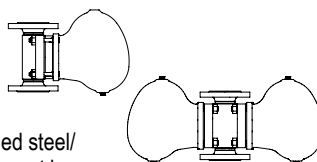
(Fig. 633....1)  
(Fig. 639....1)

Forged steel/  
Grey cast iron  
Forged steel/Cast steel  
Stainless steel

Fig. 633 / Fig. 639

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**Ball float steam trap**  
**PN16 / PN25PN40**

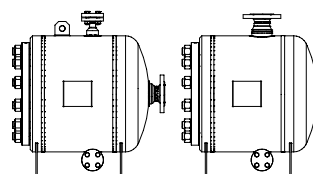
- with flanges
- Angle pattern design:**
- with flanges

(Fig. 637....1)  
(Fig. 638....1)

Steel

Fig. 637 / Fig. 638

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

**PN16 / PN40**

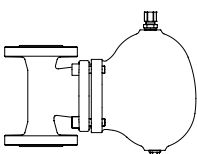
- with flanges
- with screwed sockets
- with socket weld ends
- with butt weld ends

(Fig. 630....1)  
(Fig. 630....2)  
(Fig. 630....3)  
(Fig. 630....4)

Grey cast iron  
SG iron  
Forged steel/  
Cast steel  
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. 633/637/638)
- Union for pressure compensation line and bypass possible
- On-site change of the installation position is possible according to the operating instructions (except Fig. 633/637/638)
- The controller may be changed without disturbing the pipe work

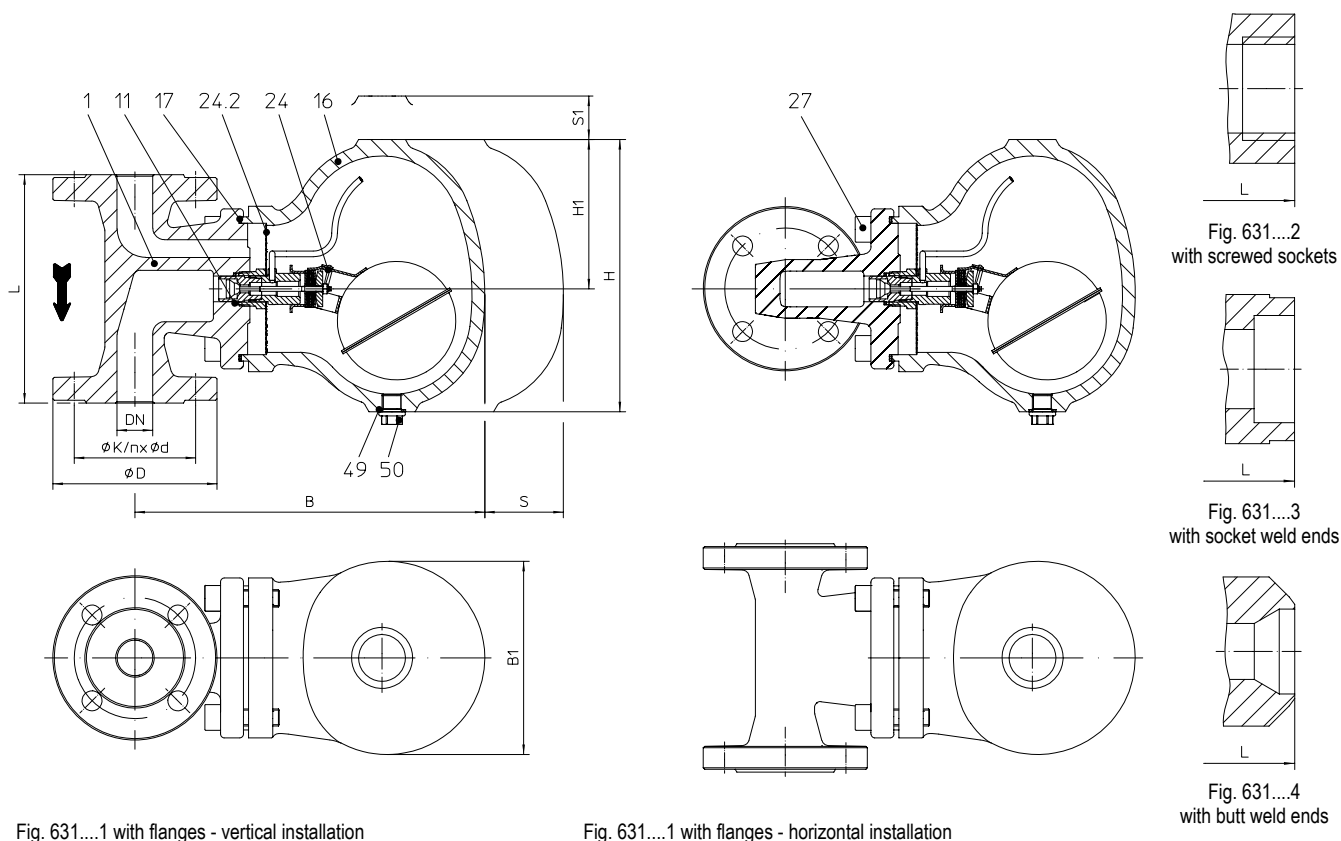
**Ball float steam trap (Grey cast iron, SG iron, Forged steel/Cast steel, Stainless steel)**


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	Nominal diameter / NPS	Operating pressure PS	Inlet temperature TS	allowable differential pressure ΔPMX	for controller		
12.631	PN16	Body/Hood: EN-JL1040	15 - 50 / 1/2" - 2"	12,8 barg	200 °C	2 bar	R2	≥ DN40 / ≥ NPS 1 1/2": R2-S	
				9,6 barg	300 °C	4 bar	R4	R4-S	
25.631	PN40	Body/Hood: EN-JS1049	15 - 50 / 1/2" - 2"	32 barg	250 °C	8 bar	R8	R8-S	
				22 barg	350 °C	13 bar	R13	R13-S	
45.631	PN40	Body: 1.0460 / Hood: 1.0619+N	15 - 100 / 1/2" - 4"	32 barg	250 °C	2 bar	R2	≥ DN40 / ≥ NPS 1 1/2": R2-S	
				21 barg	400 °C	4 bar	R4	R4-S	
55.631	PN40	Body: 1.4541 / Hood: 1.4308	15 - 100 / 1/2" - 4"	32 barg	250 °C	8 bar	R8	R8-S	
				28 barg	300 °C	13 bar	R13	R13-S	
							≥ PN40:	PN40:	R22
							32 bar	R32	R32

For ANSI versions refer to data sheet CONA®S-ANSI

Types of connection		Other types of connection on request.
<ul style="list-style-type: none"> <li>Flanges ....1 _____ acc. to DIN EN 1092-2 (EN-JL1040) and DIN EN 1092-1 (1.0460, 1.4541)</li> <li>Screwed sockets ....2 ___Rp thread acc. to DIN EN 10226-1 or NPT thread acc. to ANSI B1.20.1</li> <li>Socket weld ends ....3 ___ acc. to DIN EN 12760</li> <li>Butt weld ends ....4 _____Weld preparation acc. to EN ISO 9692 identification No. 1.3 and 1.5 (Note restriction on operating pressure / inlet temperature depending to design!)</li> </ul>		
Features		
<ul style="list-style-type: none"> <li>Ball float steam trap with level control for the condensate-discharge from all kinds of steam systems</li> <li>Rapid system start-up due to thermostatic control element</li> <li>Inside strainer</li> <li>Body with flanged hood</li> </ul>		<ul style="list-style-type: none"> <li>Non return protection</li> <li>The controller maybe changed without disturbing the pipe work</li> <li>On-site change of the installation position is possible according to the operating instructions</li> </ul>
Mounting position		
Standard:	vertical	<b>Please indicate when ordering!</b> Refer to: Information about the different installation positions (Page 21) On-site change of the installation position is possible according to the operating instructions.
Optional:	horizontal with inlet from right or left	
Options		
<ul style="list-style-type: none"> <li>Air vent - (Pos. 51) or blow down valve (Pos. 46), manual operated</li> </ul>		

Types of connection		Flanges								Screwed sockets <sup>1)</sup> Socket weld ends <sup>2)</sup>					Butt weld ends <sup>2)</sup>				
DN	(mm)	15	20	25	40	50	65 <sup>2)</sup>	80 <sup>2)</sup>	100 <sup>2)</sup>	15	20	25	40	50	15	20	25	40	50
NPS	(inch)	1/2"	3/4"	1"	1 1/2"	2"	2 1/2" <sup>2)</sup>	3" <sup>2)</sup>	4" <sup>2)</sup>	1/2"	3/4"	1"	1 1/2"	2"	1/2"	3/4"	1"	1 1/2"	2"

<sup>1)</sup> DN50 (2") not in EN-JL/EN-JS      <sup>2)</sup> not in EN-JL / EN-JS

Face-to-face acc. to data sheet resp. customer request																			
L (EN-JL1040)	(mm)	150	150	160	230	230	--	--	--	150	150	160	230	--	--	--	--	--	--
L (EN-JS1049)	(mm)	150	150	160	230	230	--	--	--	150	150	160	230	--	--	--	--	--	--
L (1.0460, 1.4541)	(mm)	150	150	160	230	230	290	310	350	150	150	160	210	210	160	160	160	250	250

Dimensions		Standard-flange dimensions refer to page 21.																	
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)	217	217	249	292	292	292	292	292	170	170	197	292	292	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
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

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

Parts							
Pos.	Sp.p.	Description	Fig. 12.631	Fig. 25.631	Fig. 45.631	Fig. 55.631	
1		Body	EN-GJL-250, EN-JL1040	EN-GJS-400-18U-LT, EN-JS1049	P250 GH, 1.0460	X6CrNiTi18-10, 1.4541	
11	x	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	x	Gasket	Graphite (CrNi laminated with graphite)				
24	x	Controller, cpl.	X5CrNi18-10, 1.4301 / TB102/85 (corrosion resistant bimetal)				
24.2		Strainer	X5CrNi18-10, 1.4301				
27		Cheese head screw	A2-70 / 8.8	21CrMoV 5-7, 1.7709	21CrMoV 5-7, 1.7709	< DN40: A4-80 ≥ DN40: X6CrNiTi18-10, 1.4541	
46	x	Blow down valve, cpl.	X6CrNiTi18-10, 1.4541				
49	x	Sealing ring	CU	A4			
50		Plug (M14x1,5)	C35E, 1.1181				
51	x	Manual air vent valve	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).

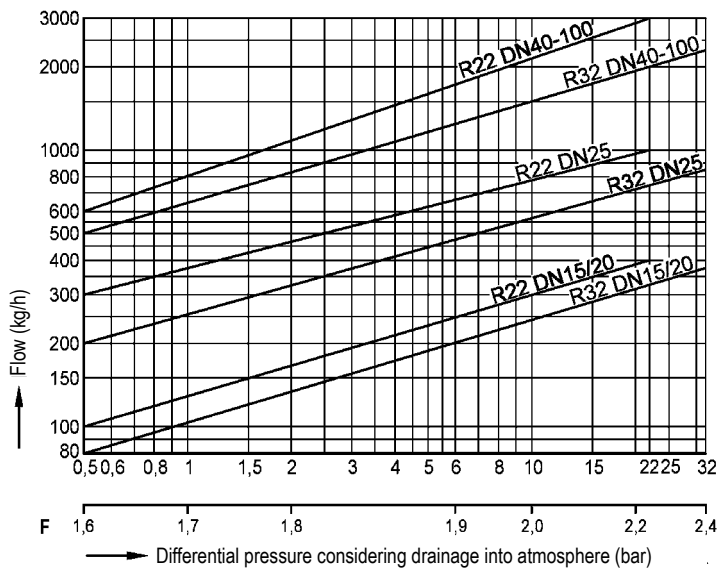
 Operating and installation instructions can be downloaded at [www.ari-armaturen.com](http://www.ari-armaturen.com).

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

Capacity chart

Standard R22 and R32

DN15 - DN100



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

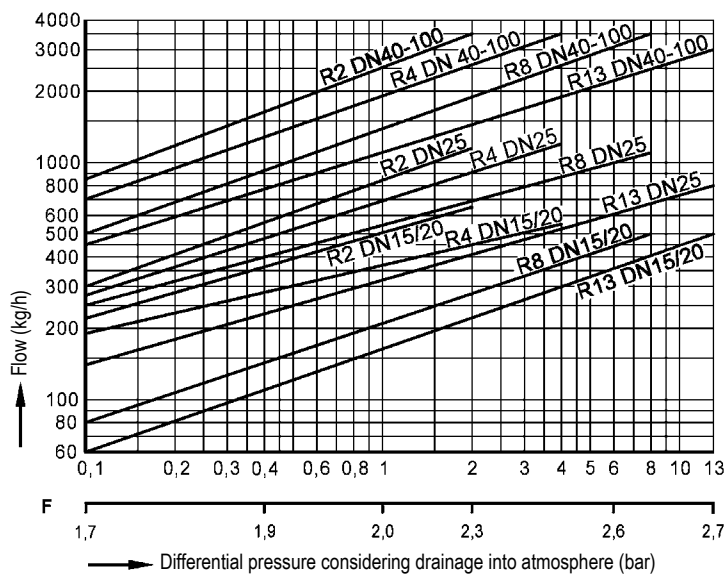
In common, the steam traps are fitted out with an controller as shown in the flow diagrams of this page acc. to the differential pressures and flow rates.

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

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

Standard R2 to R13

DN15 - DN100



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

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

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

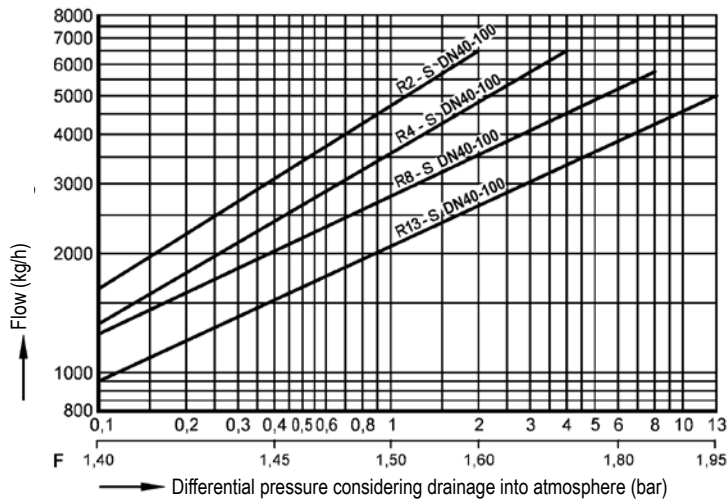
The maximum flow quantity of cold condensate at about 20°C can be determined by multiplication of the appropriate factor F (in the scale below the diagrams) with the hot condensate quantity determined by the capacity chart. (Factor F is related to the differential pressure)

**Capacity chart**

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

R2-S to R13-S

DN 40 - 100



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. (Factor F is related to the differential pressure)

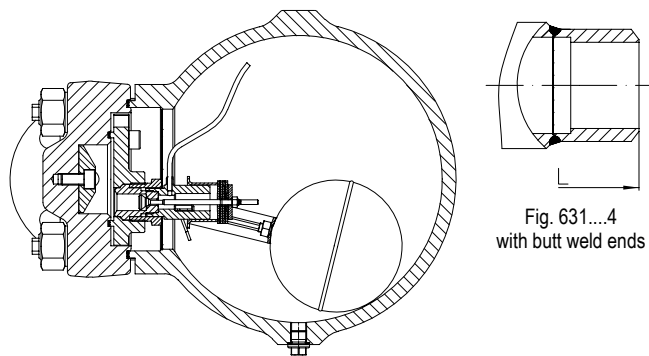
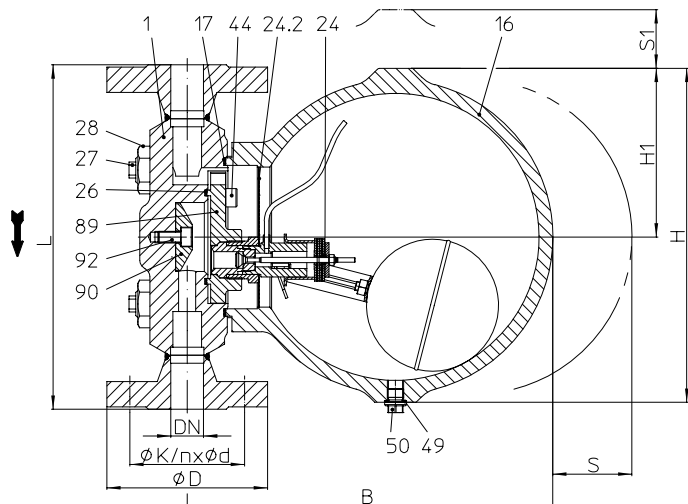
**Ball float steam trap (High temperature steel)**

 Fig. 631...4  
 with butt weld ends


Fig. 631...1 with flanges - vertical installation (PN100)

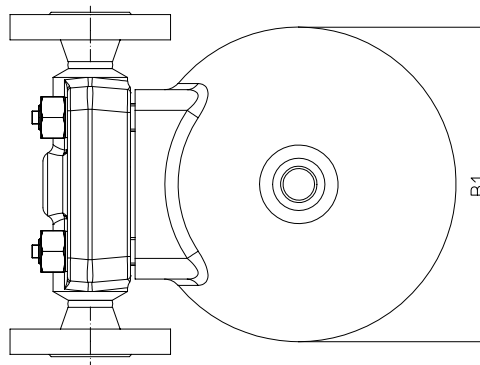


Fig. 631...1 with flanges - horizontal installation (PN100)

Figure	Nominal pressure	Material	Nominal diam. / NPS	Operating pressure PS	Inlet temperature TS	allowable differential pressure ΔPMX	for controller
86.631	PN63	Body: 16Mo3 / Hood: G17CrMo5-5	15 - 50 / 1/2" - 2"	56 barg	300 °C	50 bar	R50
				50 barg	350 °C		
				45 barg	450 °C		
87.631	PN100	Body: 16Mo3 / Hood: G17CrMo5-5	15 - 50 / 1/2" - 2"	64 barg	400 °C	64 bar	R64
				50 barg	450 °C	50 bar	R50
87.631	PN100	Body: 13CrMo4-5 / Hood: G17CrMo5	15 - 50 / 1/2" - 2"	80 barg	480 °C	80 bar	R80
				64 barg	504 °C	64 bar	R64
				50 barg	515 °C	50 bar	R50
				30 barg	525 °C		

For ANSI versions refer to data sheet CONA®S-ANSI

**Types of connection** Other types of connection on request.

- Flanges ....1 \_\_\_\_\_ acc. to DIN EN 1092-1
- Butt weld ends ....4 \_\_\_\_\_ Weld preparation acc. to EN ISO 9692 identification No. 1.3 and 1.5 (Note restriction on operating pressure / inlet temperature depending to design!)

**Features**

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>• Ball float steam trap with level control for the condensate-discharge from all kinds of steam systems</li> <li>• Rapid system start-up due to thermostatic control element (for condensate with temperatures ≥ 100°C)</li> <li>• Inside strainer</li> </ul> | <ul style="list-style-type: none"> <li>• Body with flanged hood</li> <li>• Non return protection</li> <li>• The controller maybe changed without disturbing the pipe work</li> </ul> |
|--|--|

**Mounting position**

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>• Standard: vertical</li> <li>• Optional: horizontal with inlet from right or left</li> </ul> | <p><b>Please indicate when ordering!</b></p> <p>Refer to: Information about the different installation positions (Page 21)</p> <p>On-site change of the installation position is possible according to the operating instructions.</p> |
|--|--|

**Options**

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

Types of connection		Flanges					Butt weld ends				
DN	(mm)	15	20	25	40	50	15	20	25	40	50
NPS	(inch)	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	250

Dimensions		Standard-flange dimensions refer to page 21.									
H	(mm)	300	300	300	300	300	300	300	300	300	300
H1	(mm)	147	147	147	147	147	147	147	147	147	147
B	(mm)	319	319	319	319	319	319	319	319	319	319
B1	(mm)	274	274	274	274	274	274	274	274	274	274
S	(mm)	300	300	300	300	300	300	300	300	300	300
S1	(mm)	250	250	250	250	250	250	250	250	250	250

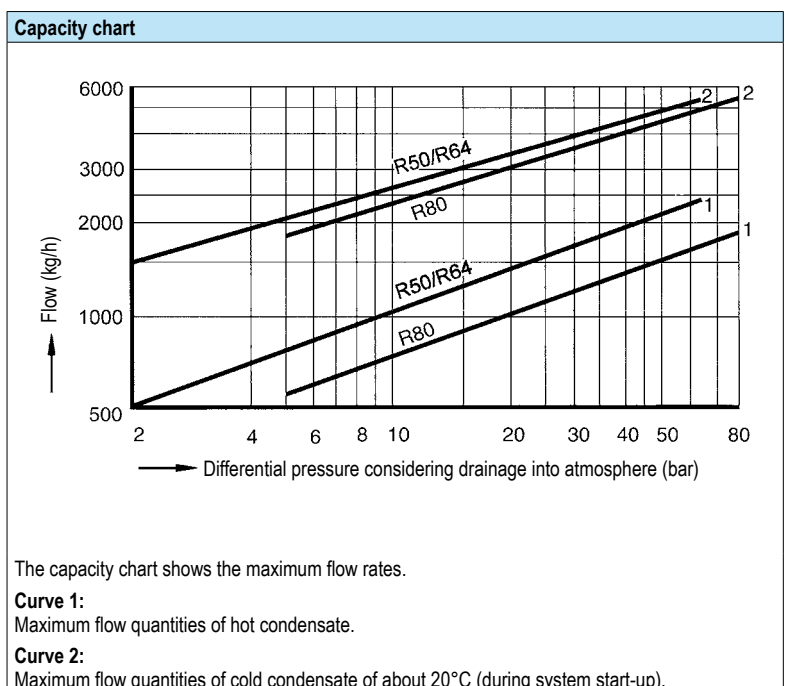
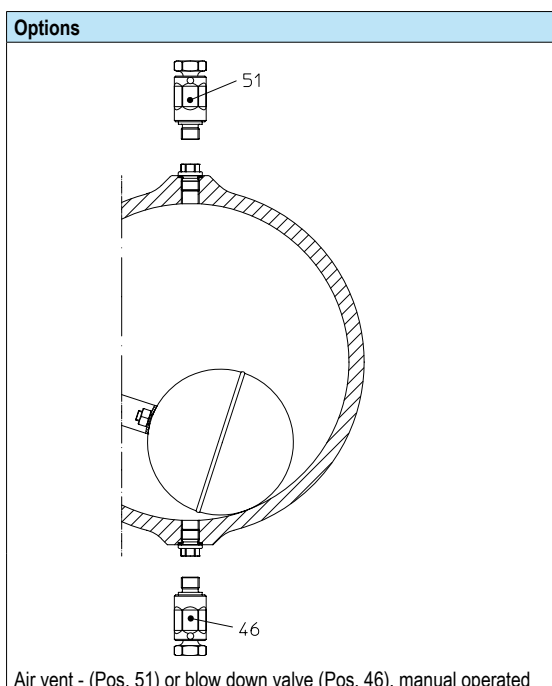
Weights											
Fig. 631 (approx.)	(kg)	41	43	44	48	52	39	39	39	39	39

Parts											
Pos.	Sp.p.	Description	Fig. 86.631 / 87.631	Fig. 87.631							
1		Body	16Mo3, 1.5415	13CrMo4-5, 1.7335							
16		Hood	G17CrMo5-5, 1.7357								
17	x	Gasket	Graphite (CrNi laminated with graphite)								
24	x	Controller, cpl.	X5CrNi18-10, 1.4301 / TB102/85 (corrosion resistant bimetal)								
24.2		Strainer	X5CrNi18-10, 1.4301								
26	x	Gasket	Graphite (CrNi laminated with graphite)								
27		Stud	21CrMoV 5-7, 1.7709	X22CrMoV12-1, 1.4923							
28		Hexagonal nut	21CrMoV 5-7, 1.7709	X22CrMoV12-1, 1.4923							
44		Cheese head screw	A4-70								
46	x	Blow down valve, cpl.	X39CrMo17-1+QT, 1.4122+QT								
49	x	Sealing ring	X6CrNiTi18-10, 1.4541								
50		Plug (M14x1,5)	21CrMoV 5-7, 1.7709								
51	x	Manual air vent valve	X39CrMo17-1+QT, 1.4122+QT								
89		Adapter	X8CrNi 18-9, 1.4305								
90		Baffle plate	X39CrMo17-1+QT, 1.4122+QT								
92		Cheese head screw	A4-70								
		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](http://www.ari-armaturen.com).



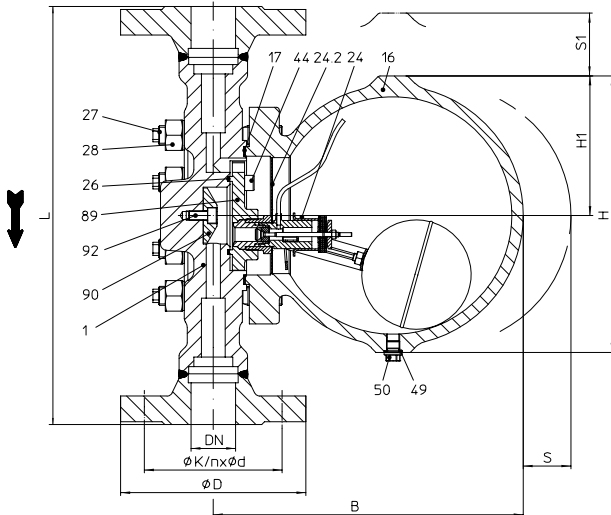
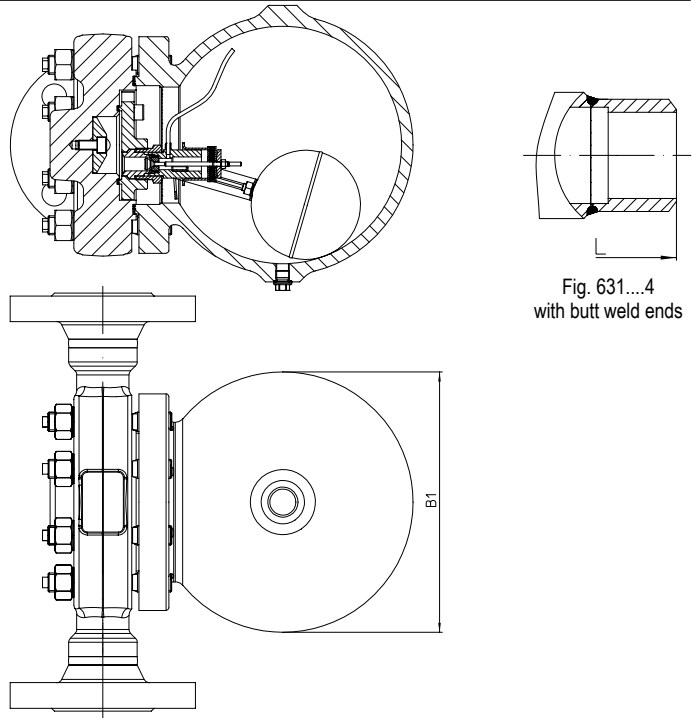
**Ball float steam trap (High temperature steel)**

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

 Fig. 631...4  
with butt weld ends

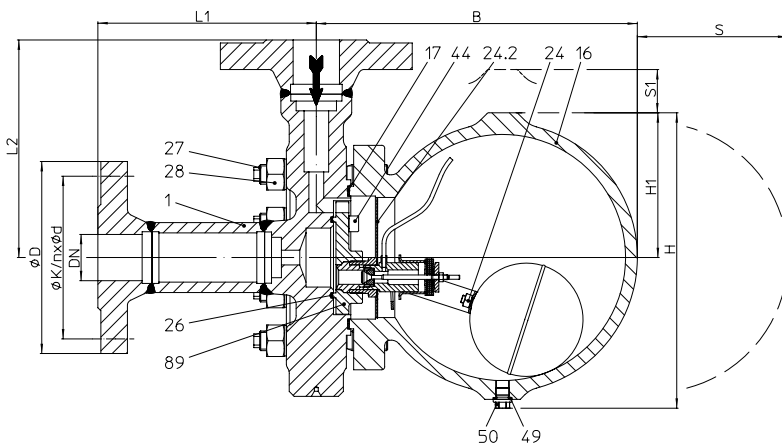
 Fig. 631...1 Straight through with flanges  
- horizontal installation


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

Figure	Nominal pressure	Material	Nominal diam. / NPS	Operating pressure PS	Inlet temperature TS	allowable differential pressure ΔPMX	for controller
88.631	PN160	Body: 13CrMo4-5 / Hood: G17CrMo5-5	15 - 50 / 1/2" - 2"	110 barg	506 °C	110 bar	R110
88.632				80 barg	519 °C		80 bar
				35 barg	550 °C		

For ANSI versions refer to data sheet CONA®S-ANSI

**Types of connection**

Other types of connection on request.

- Flanges ....1 \_\_\_\_\_ acc. to DIN EN 1092-1
- Butt weld ends ....4 \_\_\_\_\_ Weld preparation acc. to EN ISO 9692 identification No. 1.3 and 1.5 (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 control element
- Inside strainer
- 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 21)  
On-site change of the installation position is possible according to the operating instructions.

**Options**

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



Types of connection		Flanges			Butt weld ends		
DN	(mm)	15	25	50	15	25	50
NPS	(inch)	1/2"	1"	2"	1/2"	1"	2"

Face-to-face acc. to data sheet resp. customer request							
L	(mm)	400	415	440	335	335	335
L1 / L2 ECK	(mm)	200	208	220	168	168	168

Dimensions		Standard-flange dimensions refer to page 21.					
H	(mm)	291	291	291	291	291	291
H1	(mm)	147	147	147	147	147	147
B	(mm)	327	327	327	327	327	327
B1	(mm)	274	274	274	274	274	274
S	(mm)	300	300	300	300	300	300
S1	(mm)	250	250	250	250	250	250

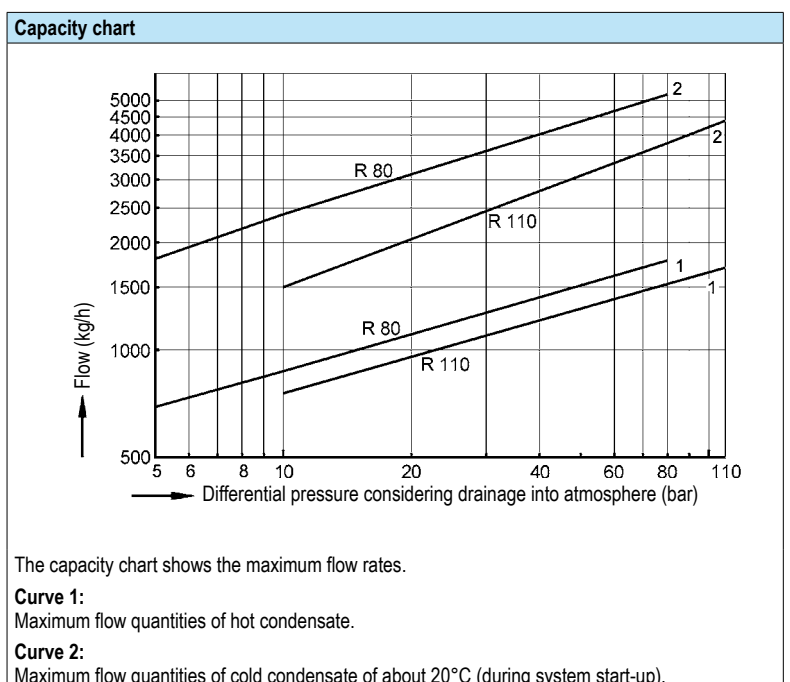
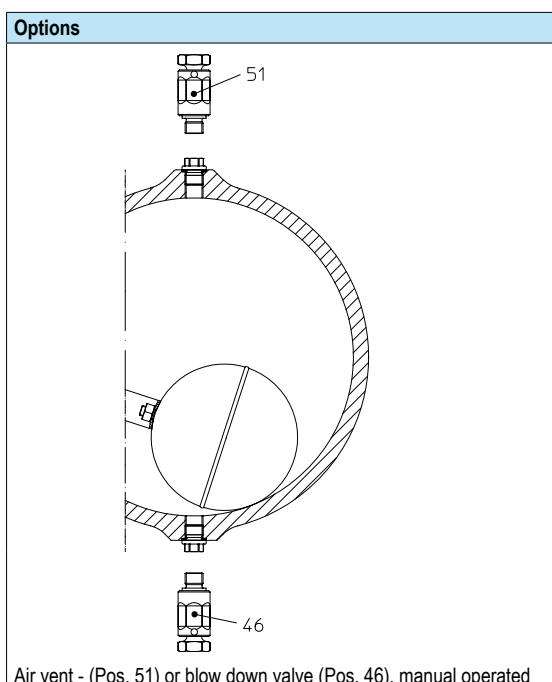
Weights							
Fig. 631/632 (appr.)	(kg)	54	56	64	51	51	51

Parts			
Pos.	Sp.p.	Description	Fig. 88.631 / 88.632
1		Body	13CrMo4-5, 1.7335
16		Hood	G17CrMo5-5, 1.7357
17	x	Gasket	Graphite (CrNi laminated with graphite)
24	x	Controller, cpl.	X5CrNi18-10, 1.4301 / TB102/85 (corrosion resistant bimetal)
24.2		Strainer	X5CrNi18-10, 1.4301
26	x	Gasket	Graphite (CrNi laminated with graphite)
27		Stud	X22CrMoV12-1, 1.4923
28		Hexagonal nut	X22CrMoV12-1, 1.4923
44		Cheese head screw	A4-70
46	x	Blow down valve, cpl.	X39CrMo17-1+QT, 1.4122+QT
49	x	Sealing ring	A4
50		Plug (M14x1,5)	21CrMoV 5-7, 1.7709
51	x	Manual air vent valve	X39CrMo17-1+QT, 1.4122+QT
89		Adapter	X8CrNi 18-9, 1.4305
90		Baffle plate	X39CrMo17-1+QT, 1.4122+QT
92		Cheese head screw	A4-70
		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](http://www.ari-armaturen.com).



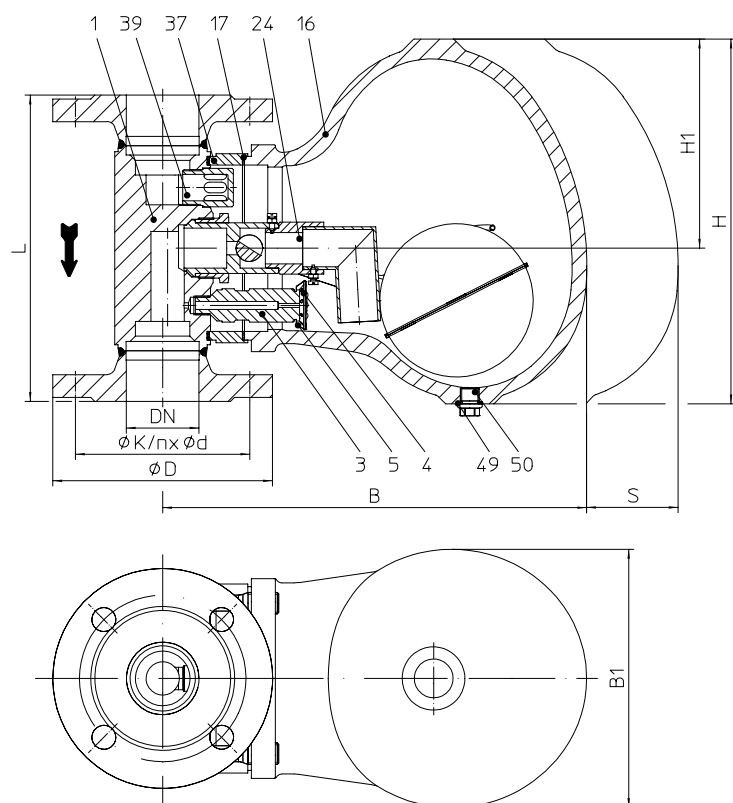
**Ball float steam trap (Forged steel/Cast steel)**


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

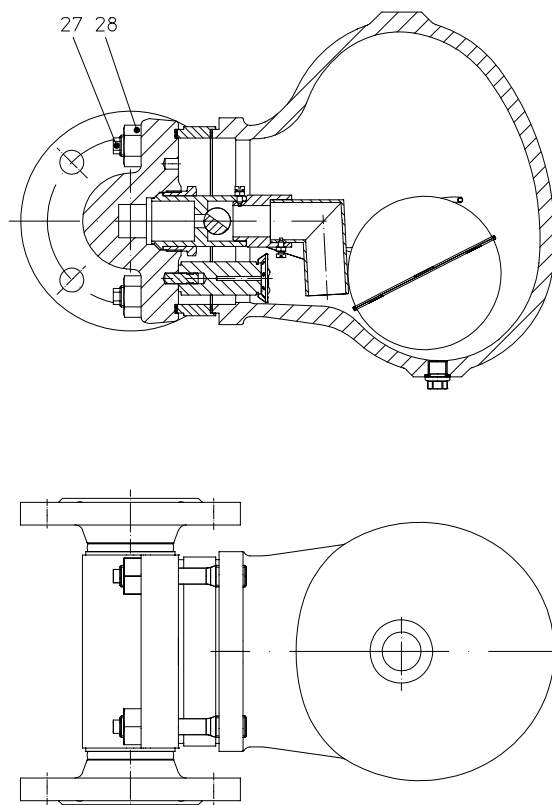


Fig. 633....1 with flanges - horizontal installation

Figure	Nominal pressure	Material	Nominal diam. / NPS	Operating pressure PS	Inlet temperature TS	allowable differential pressure $\Delta PMX$	for controller
45.633	PN40	Body: 1.0460 / Hood: 1.0619+N	40 - 100	0,1 - 4 barg	350 °C	4 bar	R4-P

**EN-JL1040, EN-JS1049 and 1.4541 on request.**

For ANSI versions refer to data sheet CONA®S-ANSI

**Types of connection**

Other types of connection on request.

- Flanges ....1 \_\_\_\_\_ acc. to DIN EN 1092-1

**Features**

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>• Ball float steam trap with level control for the condensate-discharge from all kinds of steam systems</li> <li>• Rapid system start-up due to thermostatic control element</li> <li>• Immediate discharge of hot boiling condensat</li> </ul> | <ul style="list-style-type: none"> <li>• Body with flanged hood</li> <li>• The controller maybe changed without disturbing the pipe work</li> </ul> |
|--|---|

**Mounting position**

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>• Standard: vertical</li> <li>• Optional: horizontal with inlet from right or left</li> </ul> | <b>Please indicate when ordering!</b><br>Refer to: Information about the different installation positions (Page 21)<br><b>Installation position can not be changed later on.</b> |
|--|--|

**Options**

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

Types of connection		Flanges				
DN	(mm)	40	50	65	80	100

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

Dimensions		Standard-flange dimensions refer to page 21.				
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. 45.633
1		Body	P250 GH, 1.0460
3		Seat	X8CrNiS18-9, 1.4305
4	x	Capsule	Hastelloy / X5CrNi18-10, 1.4301
5	x	Spring actuated clip	X10CrNi18-8, 1.4310
16		Hood	GP240GH+N, 1.0619+N
17	x	Gasket	Graphite (CrNi laminated with graphite)
24	x	Controller, cpl.	X5CrNi18-10, 1.4301
27		Stud	21CrMoV 5-7, 1.7709
28		Hexagonal nut	21CrMoV 5-7, 1.7709
37		Intermediate flange	P250 GH, 1.0460
39		Baffle straightener	X8CrNiS18-9, 1.4305
46	x	Blow down valve, cpl.	X6CrNiTi18-10, 1.4541
49	x	Sealing ring	A4
50		Plug (M14x1,5)	C35E, 1.1181
51	x	Manual air vent valve	X6CrNiTi18-10, 1.4541
↳ 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](http://www.ari-armaturen.com).

**Options**

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

**Capacity chart**

The capacity chart shows the maximum flow rates.

**Curve 1:**  
Maximum flow quantities of hot condensate.

**Curve 2:**  
Maximum flow quantities of cold condensate of about 20°C (during system start-up).

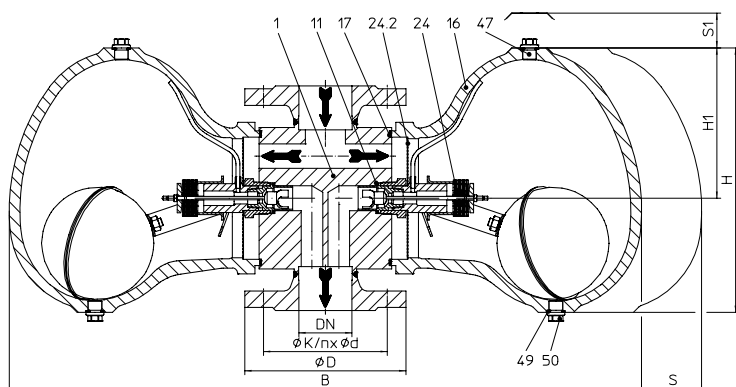
**Ball float steam trap (Forged steel/Grey cast iron, Forged steel/Cast steel, Stainless steel)**


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

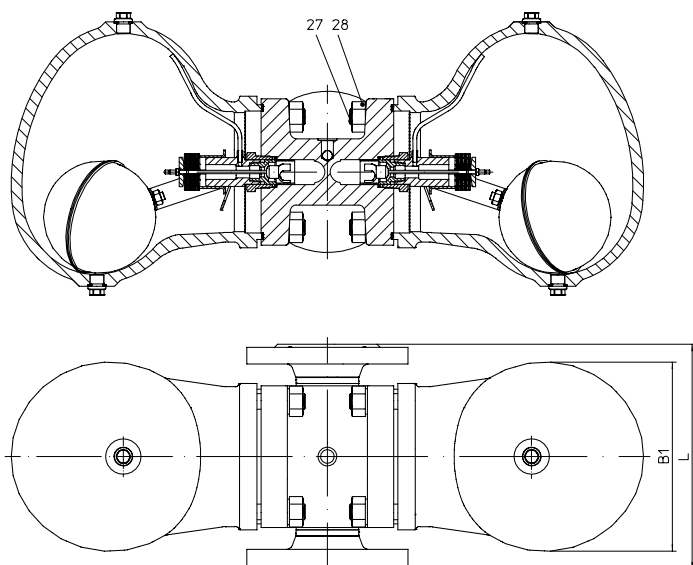


Fig. 639....1 with flanges - horizontal installation

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

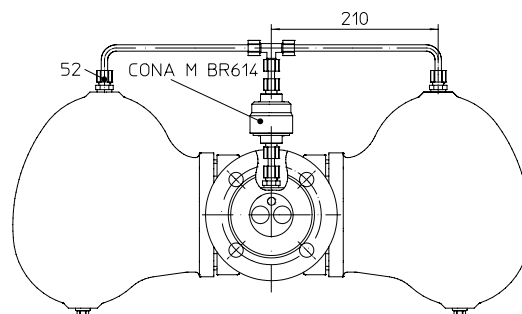


Fig. 639....1 with flanges - horizontal installation and external vent kpl.

Figure	Nominal pressure	Material	Nominal diam. / NPS	Operating pressure PS	Inlet temperature TS	allowable differential pressure ΔPMX	for controller
42.639	PN16	Body: 1.0460 / Hood: EN-JL1040	50 - 100 / 2" - 4"	12,8 barg	200 °C	2 bar	R2-S
				9,6 barg	300 °C	4 bar	R4-S / R4-P
45.639	PN40	Body: 1.0460 / Hood: 1.0619+N	50 - 100 / 2" - 4"	32 barg	250 °C	8 bar	R8-S
				21 barg	400 °C	13 bar	R13-S
55.639	PN40	Body: 1.4541 / Hood: 1.4308	50 - 100 / 2" - 4"	32 barg	250 °C	2 bar	R2-S
				28 barg	300 °C	4 bar	R4-S / R4-P
						8 bar	R8-S
						13 bar	R13-S
						22 bar	R22
						32 bar	R32

For ANSI versions refer to data sheet CONA®S-ANSI

Types of connection		Other types of connection on request.
• Flanges ....1 _____ acc. to DIN EN 1092-1		
Features		
<ul style="list-style-type: none"> <li>Ball float steam trap with level control for the condensate-discharge from all kinds of steam systems for large condensate flowrates</li> <li>Discharge of great condensate quantities even at low differential pressure</li> <li>Rapid system start-up due to thermostatic control element</li> </ul>		<ul style="list-style-type: none"> <li>Inside strainer</li> <li>Body with flanged hood</li> <li>Non return protection</li> <li>The controller maybe changed without disturbing the pipe work</li> </ul>
Mounting position		
• Standard:	vertical	<b>Please indicate when ordering!</b> On-site change of the installation position is possible according to the operating instructions; with an existing external vent there are modifies bypass parts needed due to the required installation position - please inquire.
• Optional:	horizontal	
Options		
• External vent cpl. for venting of high quantities of air during start-up and operation (standard with controller R2-S, R4-S and R4-P)		

Types of connection		Flanges			
DN	(mm)	50	65	80	100

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

Dimensions		Standard-flange dimensions refer to page 21.			
H	(mm)	271	271	271	271
H1	(mm)	154	154	154	154
B	(mm)	648	648	648	648
B1	(mm)	194	194	194	194
S	(mm)	300	300	300	300
S1	(mm)	200	200	200	200

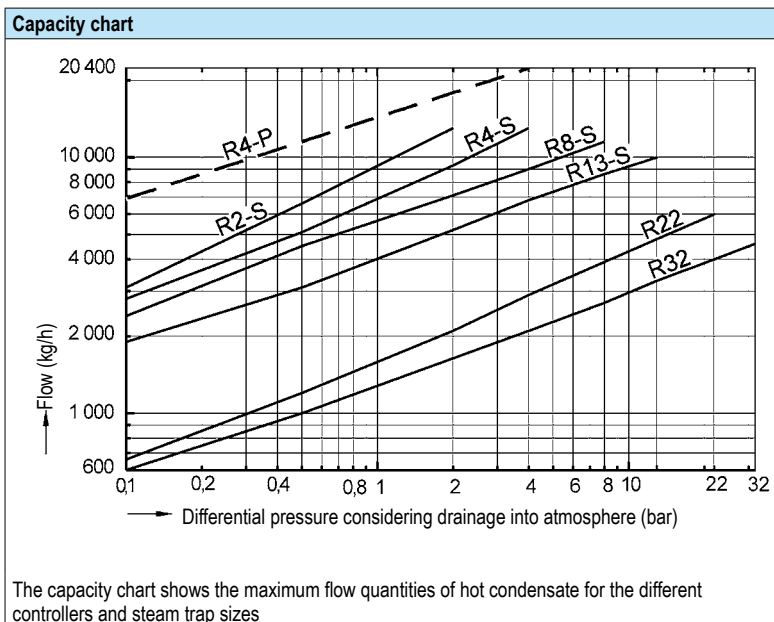
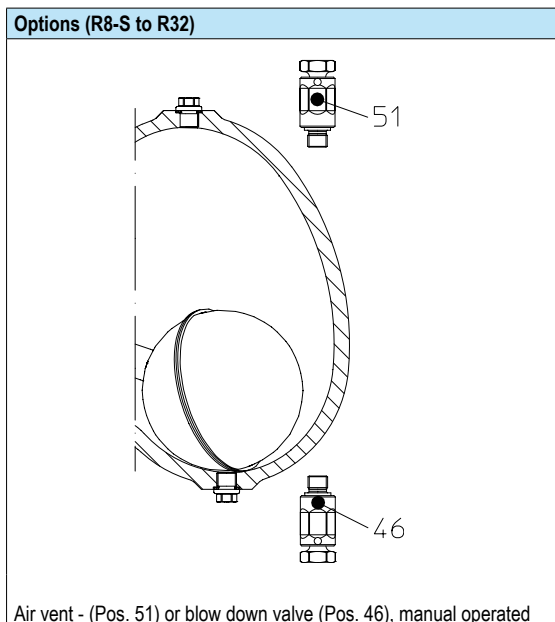
Weights						
Fig. 639 PN16	(approx.)	(kg)	51,4	52,9	54,4	57,2
Fig. 639 PN40	(approx.)	(kg)	52,7	55	57,2	61,7

Parts					
Pos.	Sp.p.	Description	Fig. 42.639	Fig. 45.639	Fig. 55.639
1		Body	P250 GH, 1.0460		X6CrNiTi18-10, 1.4541
11	x	Sealing ring	A4		
16		Hood	EN-GJL-250, EN-JL1040	GP240GH+N, 1.0619+N	GX5CrNi19-10, 1.4308
17		Gasket	Graphite (CrNi laminated with graphite)		
24	x	Controller, cpl.	X5CrNi18-10, 1.4301 / bimetallic TB102/85 (corrosion resistant bimetal)		
24.2		Strainer	X5CrNi18-10, 1.4301		
27		Stud	21CrMoV 5-7, 1.7709		A4-70
28		Hexagonal nut	25CrMo4, 1.7218		A4
46	x	Blow down valve, cpl.	X6CrNiTi18-10, 1.4541		
47		Vent plug (M14x1,5)	C35E, 1.1181		X6CrNiTi18-10, 1.4541
49	x	Sealing ring	A4		A4
50		Plug (M14x1,5)	C35E, 1.1181		X6CrNiTi18-10, 1.4541
51	x	Manual air vent valve	X6CrNiTi18-10, 1.4541		
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](http://www.ari-armaturen.com).



**Ball float steam trap (Steel)**

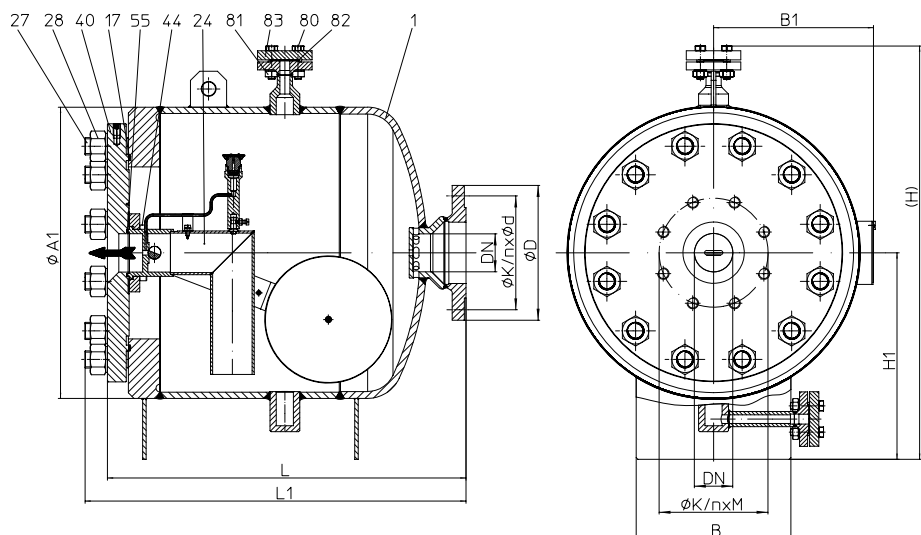


Fig. 637....1 Straight through with flanges (inlet from right)

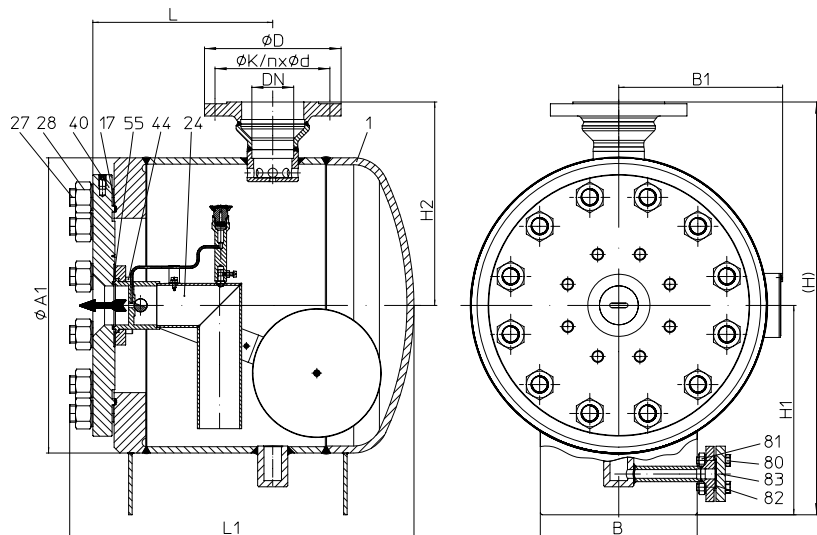


Fig. 638....1 Angle pattern design with flanges (inlet at the bottom)

Figure	Nominal pressure	Material	Nominal diameter	Operating pressure PS	Inlet temperature TS	allowable differential pressure $\Delta PMX$	for controller		
82.637	PN16	Body: P235GH-TC1 Cover: P355NH	50 - 100	16 barg	120 °C	4 bar	R4		
82.638				14 barg	200 °C				
84.637	PN25	Body: P235GH-TC1 Cover: P355NH	50 - 100	25 barg	120 °C			14 bar	R14
84.638				17 barg	300 °C			23 bar	R23
85.637	PN40	Body: P235GH-TC1 Cover: P355NH	50 - 100	40 barg	120 °C			30 bar	R30
85.638				29 barg	250 °C				
				25 barg	300 °C				
				22 barg	350 °C				

**Types of connection** Other types of connection on request (possibly note different operating limits).

- Flanges ....1 \_\_\_\_\_ acc. to DIN EN 1092-1  
on request: drilled acc. to ANSI150 and ANSI300

**Features**

- Ball float steam trap with level control for the condensate-discharge from all kinds of steam systems
- Rapid system start-up and venting of air during operation due to thermostatic air venting capsule
- Immediate discharge of hot boiling condensat
- Capacity: 74 litres
- Drain fitting (Pos. 80 - 83; DN15)
- Support points
- Simple exchange of controller.

**Mounting position**

- Standard: horizontal
- BR637: straight through (inlet from right or left)
- BR638: angle pattern design (inlet from the top)

**Options**

- Design of mounted connecting flange at the outlet

Types of connection		Fig. 637 (Straight through)				Fig. 638 (Angle pattern design)			
DN	(mm)	50	65	80	100	50	65	80	100

Face-to-face acc. to data sheet resp. customer request									
L	(mm)	620	620	620	620	310	310	310	310
L1	(mm)	664	664	664	664	592	592	592	592

Dimensions									
Standard-flange dimensions refer to page 21.									
H	(mm)	721	721	721	721	710	710	710	710
H1	(mm)	360	360	360	360	360	360	360	360
H2	(mm)	--	--	--	--	350	350	350	350
B	(mm)	270	270	270	270	270	270	270	270
B1	(mm)	280	280	280	280	280	280	280	280
Ø A1	(mm)	508	508	508	508	508	508	508	508
Ø K / n x M	(mm)	125 / 4 x M16	145 / 8 x M16	160 / 8 x M16	190 / 8 x M20	125 / 4 x M16	145 / 8 x M16	160 / 8 x M16	190 / 8 x M20
Ø K / n x d	(mm)	125 / 4 x 18	145 / 8 x 18	160 / 8 x 18	190 / 8 x 22	125 / 4 x 18	145 / 8 x 18	160 / 8 x 18	190 / 8 x 22

Weights									
Fig. 637 / 638 (approx.)	(kg)	195	195	197	199	195	196	197	199

Connecting flange connection to the cover (Pos. 40)									
Stud (DIN 939 - 1.7709)	M16 x 55	M16 x 55	M16 x 55	M20 x 55 (PN16: M16 x 55)	M16 x 55	M16 x 55	M16 x 55	M16 x 55	M20 x 55 (PN16: M16 x 55)
Hexagonal nut (DIN 2510 - 1.7709)	NF M16	NF M16	NF M16	NF M20 (PN16: NF M16)	NF M16	NF M16	NF M16	NF M16	NF M20 (PN16: NF M16)

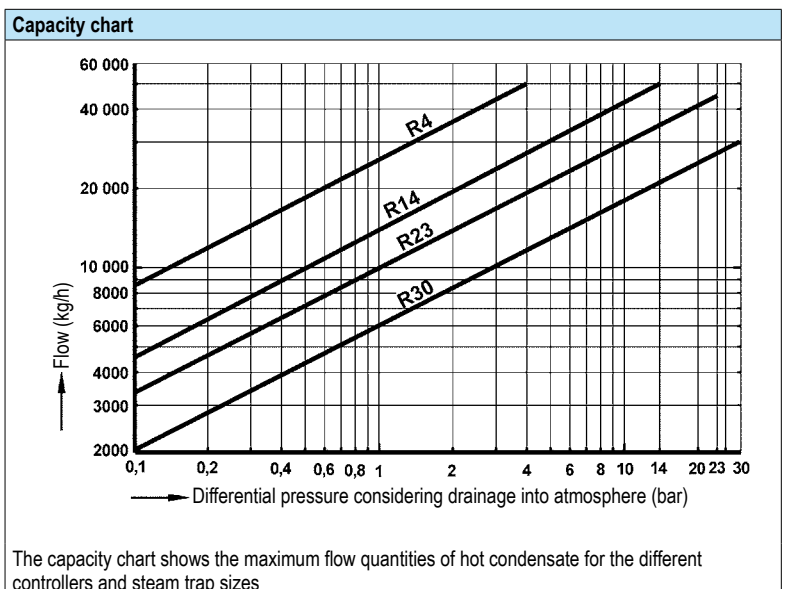
Parts			
Pos.	Sp.p.	Description	Fig. 82./84./85.637 / 82./84./85.638
1		Body	P235GH-TC1, 1.0345
17	x	Gasket	Graphite (CrNi laminated with graphite)
24	x	Controller, cpl.	X5CrNi18-10, 1.4301
27		Stud	21CrMoV 5-7, 1.7709
28		Hexagonal nut	21CrMoV 5-7, 1.7709
40		Cover	P355NH, 1.0565
44		Hexagonal screw (DN50)	A4-70
44		Head cap screw (DN65-100)	A4-70
55	x	Gasket	Graphite (CrNi laminated with graphite)
59	x	Gasket	Graphite (CrNi laminated with graphite)
80		Hexagonal screw	21CrMoV 5-7, 1.7709
81		Hexagonal nut	21CrMoV 5-7, 1.7709
82	x	Gasket	Graphite (CrNi laminated with graphite)
83		Flange	P250 GH, 1.0460
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](http://www.ari-armaturen.com).

Options					
Design of mounted connecting flange at the outlet					
		Fig. 637 Straight		Fig. 638 Angle	
DN		50 - 65	80 - 100	50 - 65	80 - 100
L	(mm)	750	800	435	485



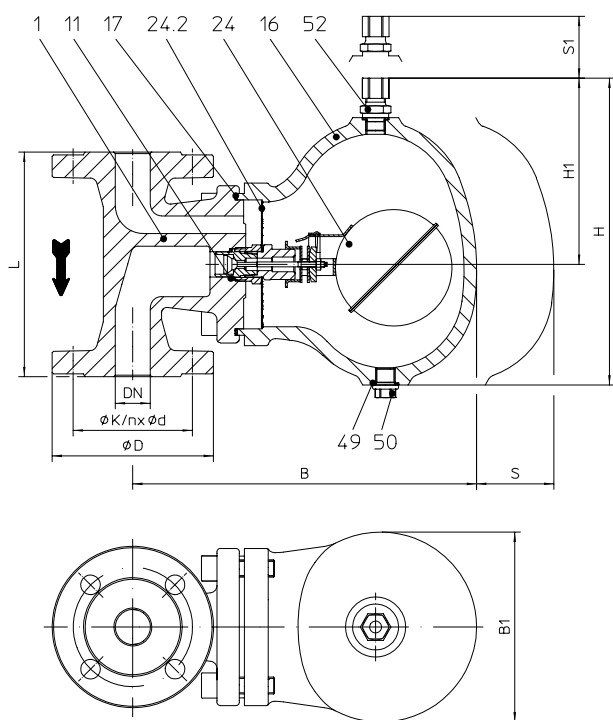
**Ball float steam trap (Grey cast iron, SG iron, Forged steel/Cast steel, Stainless steel)**


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

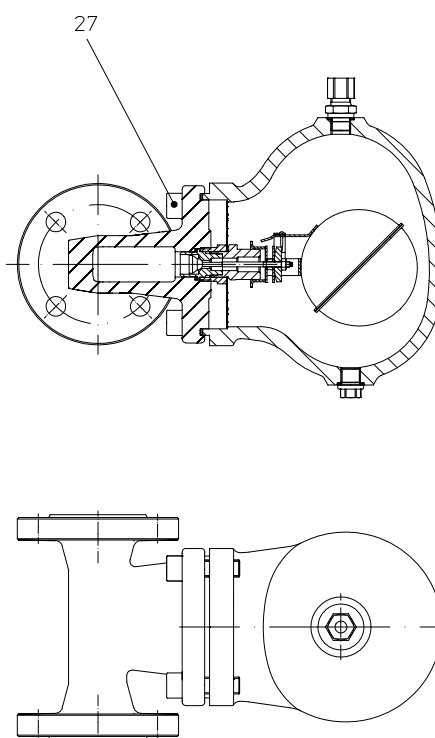


Fig. 630....1 with flanges - horizontal installation

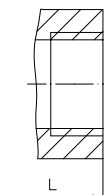


Fig. 630....2 with screwed sockets

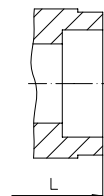


Fig. 630....3 with socket weld ends



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

Figure	Nominal pressure	Material	Nominal diam. / NPS	Operating pressure PS	Inlet temperature TS	allowable differential pressure ΔPMX	for controller
12.630	PN16	Body/Hood: EN-JL1040	15 - 50 / 1/2" - 2"	12,8 barg	200 °C	2 bar	R2
				9,6 barg	300 °C	4 bar	R4
25.630	PN40	Body/Hood: EN-JS1049	15 - 50 / 1/2" - 2"	32 barg	250 °C	8 bar	R8
				22 barg	350 °C	13 bar	R13
45.630	PN40	Body: 1.0460 / Hood: 1.0619+N	15 - 50 / 1/2" - 2"	32 barg	250 °C	2 bar	R2
				21 barg	400 °C	4 bar	R4
55.630	PN40	Body: 1.4541 / Hood: 1.4308	15 - 50 / 1/2" - 2"	32 barg	250 °C	8 bar	R8
				28 barg	300 °C	13 bar	R13
						22 bar	R22
						32 bar	R32

For ANSI versions refer to data sheet CONA®S-ANSI

Types of connection		Other types of connection on request.
<ul style="list-style-type: none"> <li>Flanges ....1 _____ acc. to DIN EN 1092-2 (EN-JL1040, EN-JS1049) and DIN EN 1092-1 (1.0460, 1.4541)</li> <li>Screwed sockets ....2 ___ Rp thread acc. to DIN EN 10226-1 or NPT thread acc. to ANSI B1.20.1</li> <li>Socket weld ends ....3 ___ acc. to DIN EN 12760</li> <li>Butt weld ends ....4 ___ Weld preparation acc. to EN ISO 9692 identification No. 1.3 and 1.5 (Note restriction on operating pressure / inlet temperature depending to design!)</li> </ul>		
Features		
<ul style="list-style-type: none"> <li>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 2, other fluid groups on request)</li> <li>Inside strainer</li> <li>Body with flanged hood</li> </ul>		<ul style="list-style-type: none"> <li>Non return protection</li> <li>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)</li> <li>The controller maybe changed without disturbing the pipe work</li> </ul>
Mounting position		
Standard:	vertical	<b>Please indicate when ordering!</b> Refer to: Information about the different installation positions (Page 21) On-site change of the installation position is possible according to the operating instructions.
Optional:	horizontal with inlet from right or left	
Options		
<ul style="list-style-type: none"> <li>Air vent - (Pos. 51) or blow down valve (Pos. 46), manual operated</li> </ul>		



Types of connection		Flanges					Screwed sockets <sup>1)</sup> Socket weld ends <sup>2)</sup>					Butt weld ends <sup>2)</sup>				
DN	(mm)	15	20	25	40	50	15	20	25	40	50	15	20	25	40	50
NPS	(inch)	1/2"	3/4"	1"	1 1/2"	2"	1/2"	3/4"	1"	1 1/2"	2"	1/2"	3/4"	1"	1 1/2"	2"

<sup>1)</sup> DN50 (2") not in EN-JL/EN-JS      <sup>2)</sup> not in EN-JL/EN-JS

Face-to-face acc. to data sheet resp. customer request																
L (EN-JL1040)	(mm)	150	150	160	230	230	150	150	160	230	--	--	--	--	--	--
L (EN-JS1049)	(mm)	150	150	160	230	230	150	150	160	230	--	--	--	--	--	--
L (1.0460, 1.4541)	(mm)	150	150	160	230	230	150	150	160	210	210	160	160	160	250	250

Dimensions																	Standard-flange dimensions refer to page 21.				
H	(mm)	188	188	219	299	299	188	188	219	299	299	188	188	219	299	299					
H1	(mm)	113	113	133	182	182	113	113	133	182	182	113	113	133	182	182					
B (EN-JS1049)	(mm)	215	215	245	289	289	215	215	245	289	--	--	--	--	--	--					
B (Steel)	(mm)	217	217	249	292	292	170	170	197	292	292	170	170	197	292	292					
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					

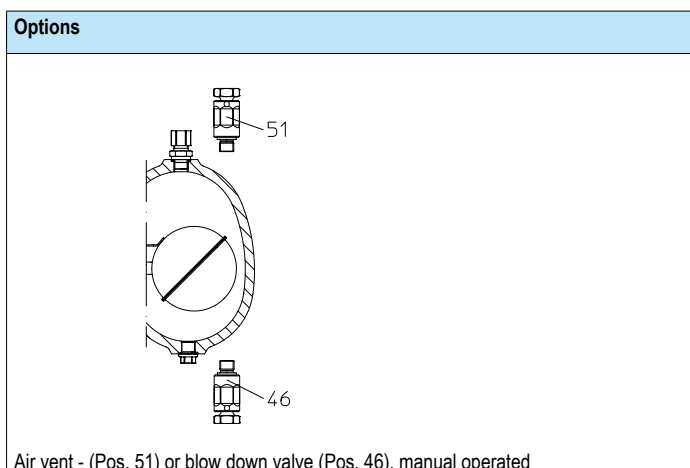
Weights																
Fig. 630 (approx.)	(kg)	8,1	8,3	12,1	29,4	30	7,5	7,5	9,7	24,7	25,2	7,1	8,1	10,2	25,7	26,7

Parts						
Pos.	Sp.p.	Description	Fig. 12.630	Fig. 25.630	Fig. 45.630	Fig. 55.630
1		Body	EN-GJL-250, EN-JL1040	EN-GJS-400-18U-LT, EN-JS1049	P250 GH, 1.0460	X6CrNiTi18-10, 1.4541
11	x	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	x	Gasket	Graphite (CrNi laminated with graphite)			
24	x	Controller, cpl.	X5CrNi18-10, 1.4301			
24.2		Strainer	X5CrNi18-10, 1.4301			
27		Cheese head screw	A2-70 / 8.8	21CrMoV 5-7, 1.7709	21CrMoV 5-7, 1.7709	< DN40: A4-80 ≥ DN40: X6CrNiTi18-10, 1.4541
46	x	Blow down valve, cpl.	X8CrNiS18-9, 1.4305			
49	x	Sealing ring	CU	A4		
50		Plug (M14x1,5)	C35E, 1.1181			X6CrNiTi18-10, 1.4541
51	x	Manual air vent valve	X6CrNiTi18-10, 1.4541			
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).

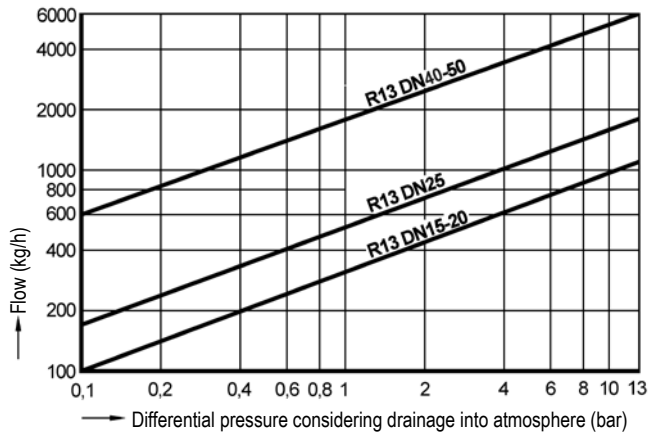
Operating and installation instructions can be downloaded at [www.ari-armaturen.com](http://www.ari-armaturen.com).



**Capacity chart**

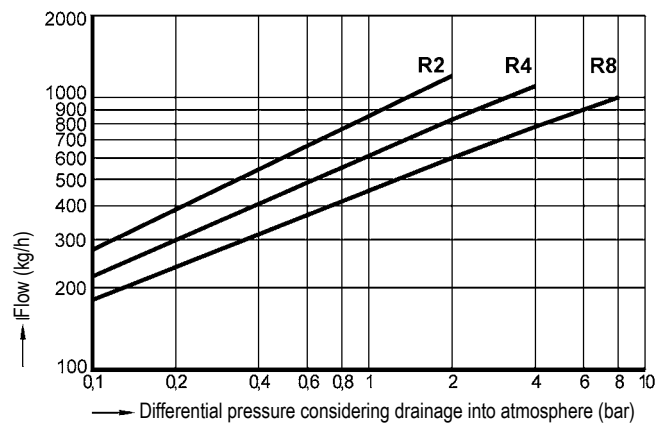
**PN16 - Standard R13**

**DN15 - DN50**



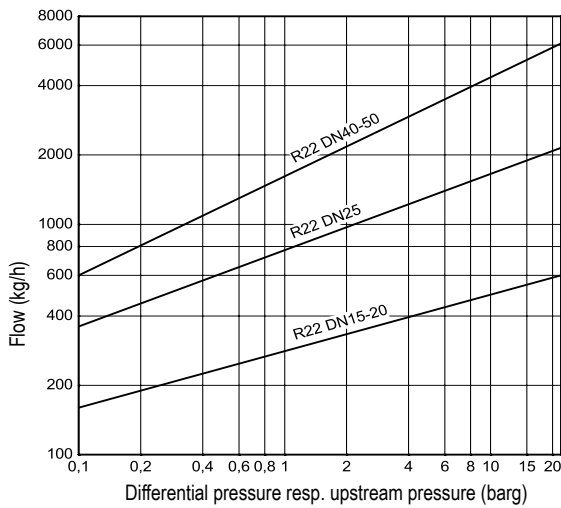
**PN16 - PN40 - Special execut. R2, R4, R8**

**DN 15 - DN 20**



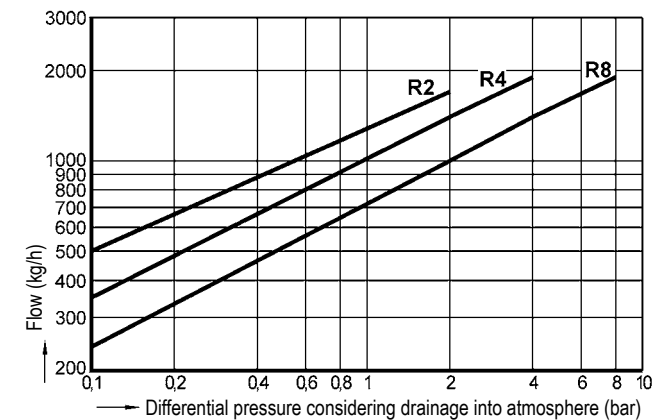
**PN40 - Standard R22**

**DN15 - DN50**



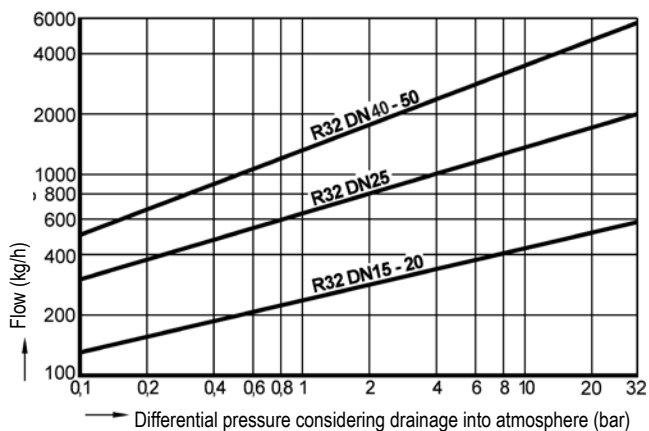
**PN16 - PN40 - Special execut. R2, R4, R8**

**DN 25**



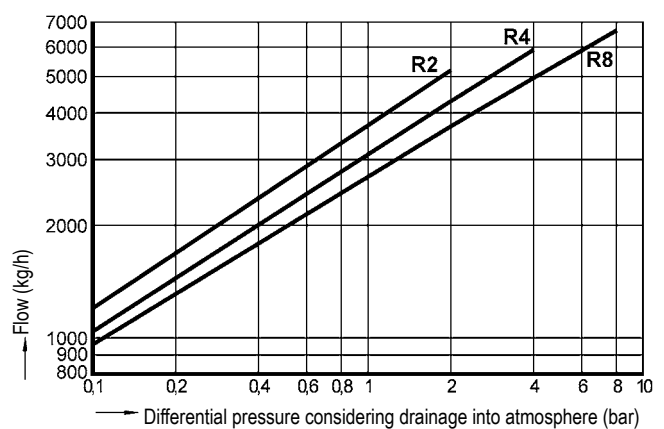
**PN40 - Standard R32**

**DN15 - DN50**



**PN16 - PN40 - Special execut. R2, R4, R8**

**DN 40 - DN 50**



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

**myValve® - Your VALVE Sizing-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 Sizing-Program**
**Contents:**
**Module ARI-Steam trap CONA-Calculation**

- 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.

**Informations about pipe welding**
**Welding groove acc. to DIN 2559**

The material used for ARI valves with butt weld ends are:	1.0619+N	GP240GH+N acc. to DIN EN 10213-2
	1.0460	P250GH acc. to DIN EN 10222-2
<b>Note:</b>	1.5415	16Mo3 acc. to DIN EN 10222-2
Note restriction on operating pressure / inlet temperature depending to design!	1.4541	X6CrNiTi18-10 acc. to DIN EN 10222-5
	1.7335	13CrMo4-5 acc. to DIN EN 10222-2

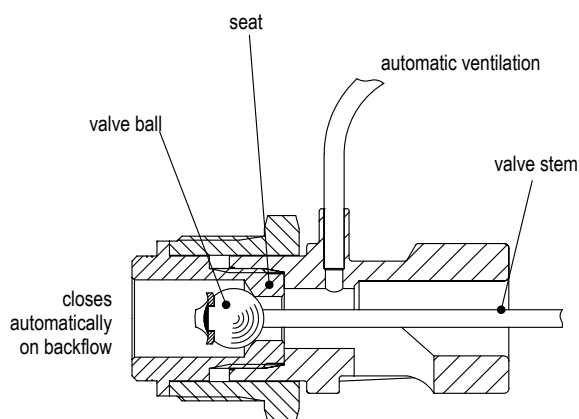
Due to our experience, we recommend to apply an electric welding process.

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

On bimetallic steam traps face-to-face of 95 mm or less, the bimetallic controller has to be disassembled prior to welding. After the traps have cooled down to the ambient temperature the bimetallic controller shall be fitted again into the body.

Steam traps with socket-weld ends shall only be welded by arc welding (welding process 111 acc. to DIN EN 24063).

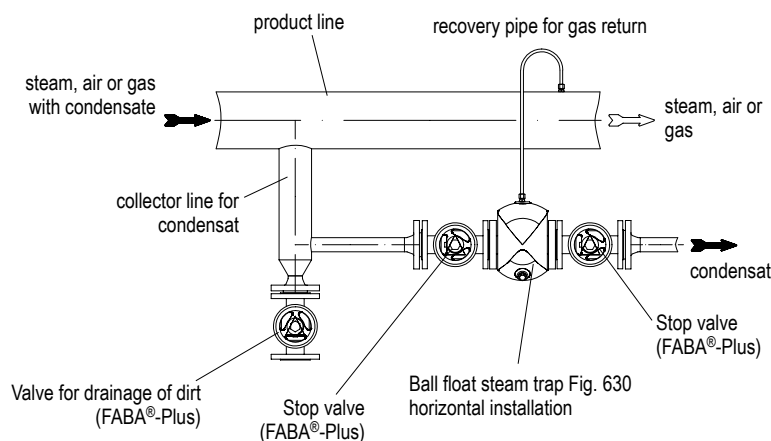
If during the time of warranty others than the manufacturer or by the manufacturer authorized persons are interfering in the product and/or the setting, the right of claim for warranty will lapse!

**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 from flooding with condensate from the downstream side and reverse heating up.

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

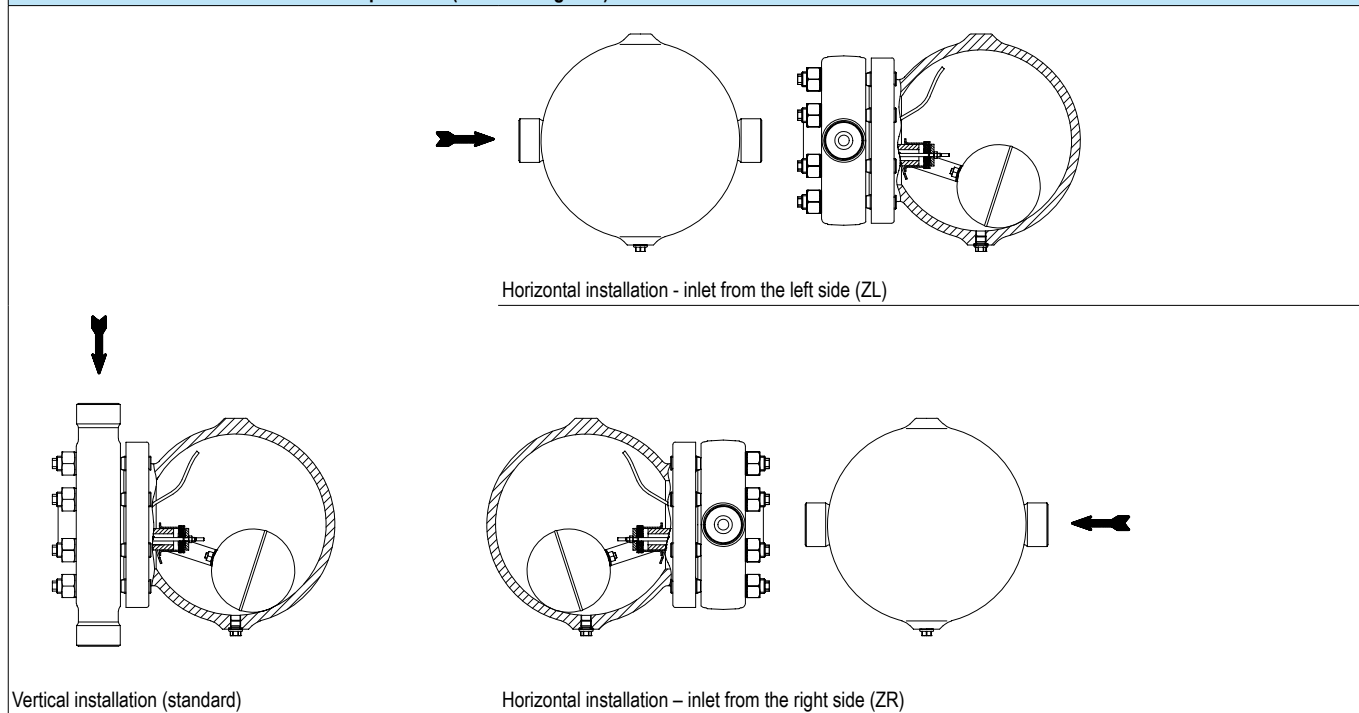
**Installation with recovery pipe**

**Important:**

The installation of a 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"> <li>• Steam pressure</li> <li>• Back pressure</li> <li>• Quantity of condensate</li> <li>• Flow medium</li> </ul>	<ul style="list-style-type: none"> <li>• Nominal diameter / pressure</li> <li>• Type of connection</li> <li>• Material</li> <li>• Place of service or kind of steam consumer</li> </ul>	<b>Ball float steam trap CONA® S, Fig. 630, PN40, DN50, 1.0460/1.0619+N, Controller R22, with flanges, Face-to-face dimension 230 mm</b>
<b>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</b>		

Standard-flange dimensions acc. to DIN EN 1092-1 / -2											
DN		(mm)	15	20	25	32	40	50	65	80	100
NPS		(inch)	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
PN16	ØD	(mm)	95	105	115	140	150	165	185	200	220
	ØK	(mm)	65	75	85	100	110	125	145	160	180
	n x Ød	(mm)	4 x 14	4 x 14	4 x 14	4 x 18	4 x 18	4 x 18	4 x 18	8 x 18	8 x 18
PN25	ØD	(mm)	--	--	--	--	--	--	185	200	235
	ØK	(mm)	--	--	--	--	--	--	145	160	190
	n x Ød	(mm)	--	--	--	--	--	--	8 x 18	8 x 18	8 x 18
PN40	ØD	(mm)	95	105	115	140	150	165	185	200	235
	ØK	(mm)	65	75	85	100	110	125	145	160	190
	n x Ød	(mm)	4 x 14	4 x 14	4 x 14	4 x 18	4 x 18	4 x 18	8 x 18	8 x 18	8 x 22
PN63	ØD	(mm)	105	130	140	--	170	180	--	--	--
	ØK	(mm)	75	90	100	--	125	135	--	--	--
	n x Ød	(mm)	4 x 14	4 x 18	4 x 18	--	4 x 22	4 x 22	--	--	--
PN100	ØD	(mm)	105	130	140	--	170	195	--	--	--
	ØK	(mm)	75	90	100	--	125	145	--	--	--
	n x Ød	(mm)	4 x 14	4 x 16	4 x 18	--	4 x 22	4 x 26	--	--	--
PN160	ØD	(mm)	130	--	140	--	--	195	--	--	--
	ØK	(mm)	75	--	100	--	--	4 x 26	--	--	--
	n x Ød	(mm)	4 x 14	--	4 x 18	--	--	4 x 26	--	--	--

\* Steel flanges with 4 holes subject to agreement

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

**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 (except BR633).

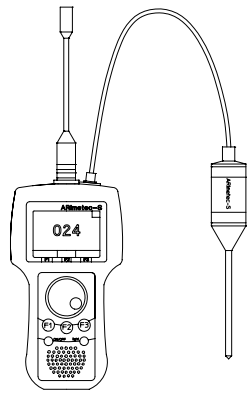
The steam trap must be fitted with the direction of flow as indicated by the arrow on the body.

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

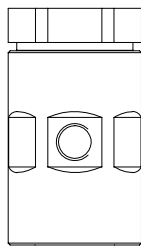
The steam trap shall preferably be installed at the lowest point of the system and the membrane capsule resp. the bleeding tube shall be installed in an upright position inside of the hood.

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

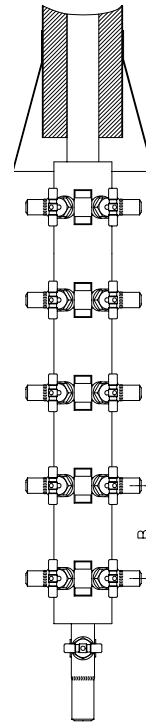
A modification of the installation position during the time of warranty shall be carried out by the AWH-Service or it shall be agreed between the customer and manufacturer.



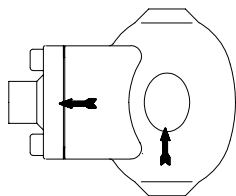
Multifunction tester **ARImetec<sup>®</sup>-S**



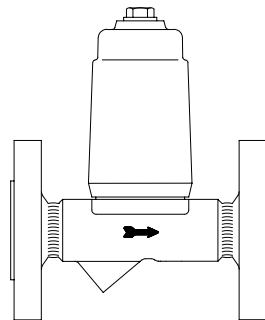
Vacuum breaker  
Fig. 655



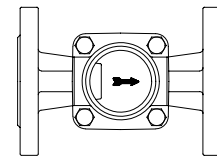
Condensate collection (B = 160), steam distribution (B = 120)  
**CODI<sup>®</sup>S** with gland packing Fig. 671/672;  
**CODI<sup>®</sup>B** with bellows seal, maintenance-free Fig. 675/676



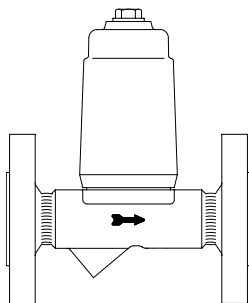
Automatic air vent for liquid systems  
Fig. 656



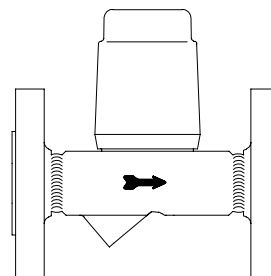
Condensate discharge temperature limiter  
Fig. 645/647



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.)