

ARI Pump trap,  
Displacement: 10,5 Liter, Fluid group 2

**ARI-CONA®P**  
Pump trap  
No electricity required /  
float-operated  
PN16

- Body / Hood:  
EN-GJS-400-18-LT (EN-JS 1049)
- Bolts: 21CrMoV5 (1.7709)

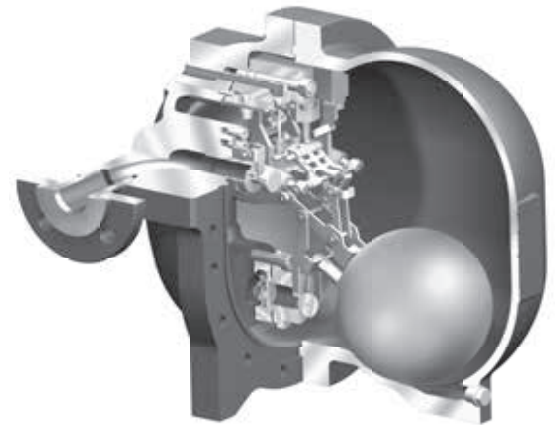
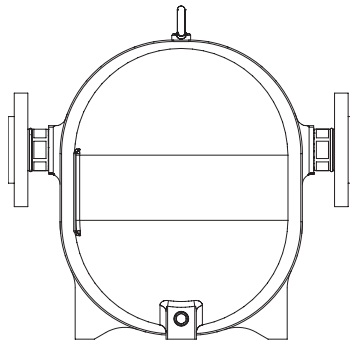


Fig. 694

**Features:**

- Automatic operation, adapts automatically to the condensate level and the pressure conditions
- No manual settings required
- Robust, durable design
- Easy servicing, maintenance and repairs are possible without disturbing the pipework
- All internals made of stainless steel, wearing parts in hardened stainless steel
- High-endurance Inconel X-750 springs
- Body designed with high cycle fatigue strength
- Low filling head
- No leakage due to moving exterior parts
- Works without electricity
- Connections: Female thread Rp/G, union with butt weld ends or loose flange available as an option (loose flange only for main connections)

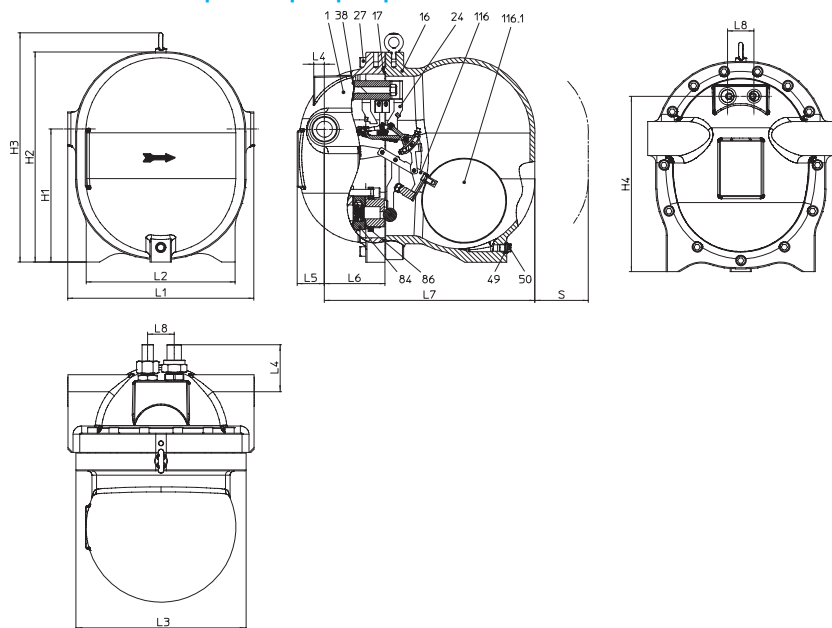
**ARI-CONA®P Float-operated pump trap**

 Fig. 694...2  
 with screwed sockets

 Fig. 694...5  
 Union with butt weld ends

 Fig. 694...7  
 with loose flanges

Figure	Nominal pressure	Material	Nominal diameter	Operating pressure <sup>1)</sup> PS	Operating temperature TS	Allowable diff. pressure <sup>2)</sup> ΔPMX	for Controller <sup>3)</sup>
22.694	PN16	EN-JS1049	1 1/2" (25, 40, 50)	min. -0,8 barg max. 8 / 13 barg	min. -10 °C max. 200 °C	5 bar	R5
				min. -0,8 barg max. 8 / 13 barg	min. -10 °C max. 200 °C	8 bar	R8
				min. -0,8 barg max. 13 barg	min. -10 °C max. 200 °C	13 bar	R13

**Types of connection**

## Screwed sockets:

- Condensate inlet and outlet \_\_\_\_\_ acc. to EN 10226-1 Rp 1 1/2"
- Motive medium \_\_\_\_\_ acc. to EN 10226-1 Rp 1/2"
- Air vent \_\_\_\_\_ acc. to EN 10226-1 Rp 3/4"

## Loose flange (optional):

- Condensate inlet and outlet \_\_\_\_\_ similar to EN 1092-1  
Type 02/35-PN16, DN40 and DN50

## Union with butt weld ends (optional):

- Condensate inlet and outlet \_\_\_\_\_ DN25 with butt weld ends 33,7 x 2,6  
DN40 with butt weld ends 48,3 x 2,6  
DN50 with butt weld ends 60,3 x 2,9
- Motive medium \_\_\_\_\_ DN15 with butt weld ends 21,3 x 2,0
- Air vent \_\_\_\_\_ DN20 with butt weld ends 26,9 x 2,3

**Features**

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- Easy servicing, no need to disturb the pipework for maintenance and repairs
- All internals made of stainless steel, wearing parts in hardened stainless steel
- High-endurance Inconel X-750 springs
- Body designed with high cycle fatigue strength
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- Works without electricity
- Connections: Female thread Rp/G, union with butt weld ends or loose flange available as an option (loose flange only for main connections)

**Fluids pumped**

- Group 2 fluids with a density of 0,85 to 1,15 kg/dm<sup>3</sup>

**Mounting position**

- |             |            |  |
|-------------|------------|--|
| • Standard: | Horizontal | Required filling head above pump trap footprint:<br>• min. 300 mm<br>• required: 500 - 1200 mm |
|-------------|------------|--|

<sup>1)</sup> The operating pressure refers both to the maximum pressure of the motive medium and to the maximum pressure of the condensate upstream of the pump trap.

<sup>2)</sup> The allowable differential pressure refers to the difference between the maximum pressure of the condensate upstream of the pump trap and the minimum possible back pressure.

<sup>3)</sup> The maximum possible back pressure is 5 bar. Back pressures higher than 5 bar require consultation with the manufacturer.

Types of connection	Screwed sockets	Union with butt weld ends			Flanges	
Nennweite	1 1/2"	25	40	50	40	50

Volume							
Displacement	(l)	10,5	10,5	10,5	10,5	10,5	10,5
Vessel volume	(l)	22	22,2	22,3	22,4	22,2	22,5

Dimensions							
L1	(mm)	350	500	510	520	460	480
L2	(mm)	280					
L3	(mm)	320					
L4	(mm)	20 (89) <sup>1)</sup>	89	89	89	20 (89) <sup>1)</sup>	20 (89) <sup>1)</sup>
L5	(mm)	51					
L6	(mm)	114					
L7	(mm)	396					
L8	(mm)	50					
S	(mm)	260					
H1	(mm)	250					
H2	(mm)	395					
H3	(mm)	440					
H4	(mm)	330					

Weights								
Fig. 694	(approx.)	(kg)	72,4	74,8	75,1	75,5	79,1	80,3

<sup>1)</sup> Optional: Union with butt weld ends for the motive steam and vented pipes.

Design data							
Temperature	(°C)	-10 to 100	150	200	250	300	
Pressure	(bar)	16	15,5	14,7	13,9	12,8	

**Attention!**

The design data is not the same as the operating data. The specified operating limits (PS, TS, ΔPMX) must not be exceeded. Exceeding the operating data can result in malfunctions or impair safety

The maximum test pressure for the shell strength and seat tightness tests is 32 bar at room temperature.

Parts			
Pos.	Sp. p.	Description	Fig. 22.694
1		Body	EN-GJS-400-18U-LT, EN-JS1049
16		Hood	EN-GJS-400-18U-LT, EN-JS1049
17	x	Gasket	Graphite (CrNi laminated)
24	x	Controller cpl.	Stainless steel
27		Cheese head screw	21CrMoV5, 1.7709
38	x	Gasket	Graphite (CrNi laminated)
49	x	Sealing ring	Stainless steel
50		Screw plug	21CrMoV5, 1.7709
84	x	CHECKO-D (disc check valve)	GX5CrNiMo19-11-2, 1.4408
86	x	Gasket	Graphite (CrNi laminated)
116	x	Ball float cpl. (incl. lever)	Stainless steel
116.1	x	Ball float	X5CrNi18-10, 1.4301
		L Spare parts	

Additional information / restrictions in technical regulations must be observed!

Please check the stability and suitability of the materials or contact the manufacturer (refer to the product overview and resistance list).

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

Edition 04/16 - Data subject to alteration - Regularly updated data on [www.ari-armaturen.com](http://www.ari-armaturen.com)!

### Applications

The ARI-CONA®P is a float-operated pump trap which is used to recover condensate safely and completely from heat exchangers and unaerated vessels in difficult pressure conditions.

If the pressure difference is positive, the pump trap operates as a normal steam trap; if the pressure difference is negative, it operates as a condensate pump. It switches between these two operating modes automatically.

The pump trap can thus be used to remove condensate from heat exchangers and vessels at anything from high pressure to vacuum.

### Notes

We recommend limiting the operating pressure of the motive medium 1 to 4 bar higher than the expected back pressure, to enable the energy contained in the medium to be optimally utilised.

Since the motive medium remains in the system, it must match the gas phase of the medium to be drained (e.g. steam condensate from steam spaces in heat exchangers → motive medium: steam).

### Sizing

ARI starts by checking whether the CONA®P pump trap is suitable for the customer's specific application. The following information is required from the customer in order to determine the size:

- Max. heating steam quantity and max. heating steam overpressure when the heat exchanger is operating at full load
- Inlet temperature of the fluid to be heated
- Outlet temperature of the fluid to be heated
- Operating mode (variable inlet temperature, variable outlet temperature or variable volume flow)
- Max. possible back pressure in the condensate system, comprised of:
  - Max. possible overpressure in the condensate system
  - Length and nominal diameter of the planned feed pipe (friction loss)
  - Geodetic height difference between the footprint of the steam trap and the point where the pump trap's feed pipe leads into the condensate header
- Overpressure of the motive steam for pump operation
- Filling head, height difference between the drain flange of the heat exchanger and the footprint of the pump trap

If the customer is unable to supply all the necessary information, ARI provides recommendations and indicates the pump trap's limits of use for the application in question.

### Nominal capacity

Please request the capacity and the flow rate directly from the manufacturer or determine them using the calculation module in myValve®, the valve sizing-program.