

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)

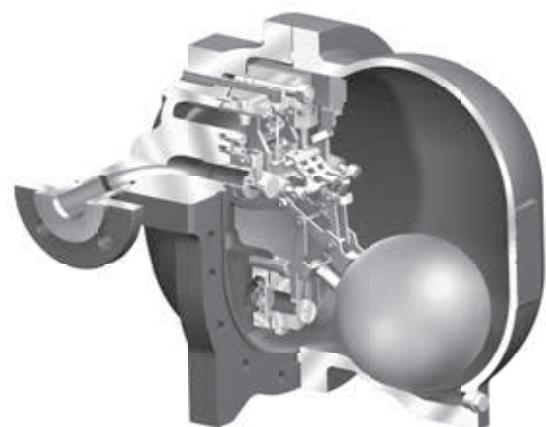
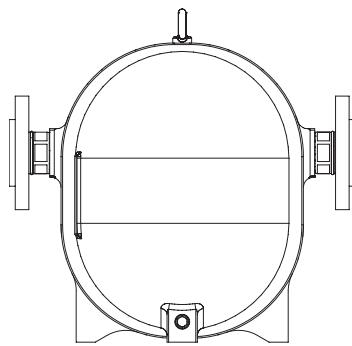


Fig. 694

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)

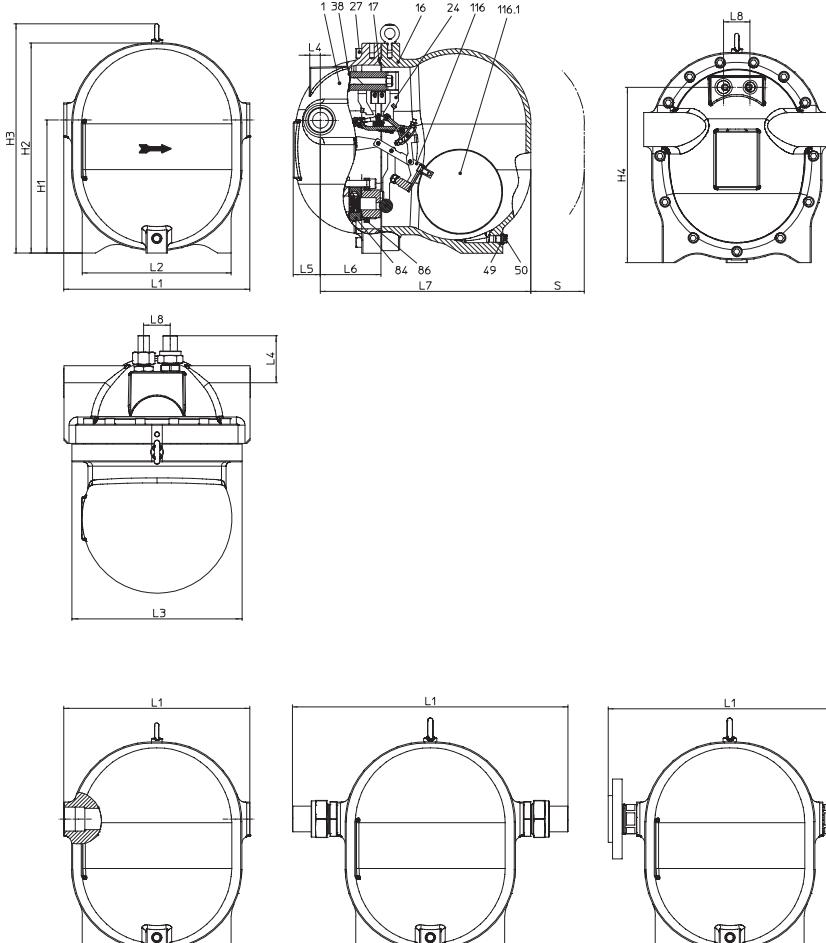
ARI-CONA®P Float-operated pump trap

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 ¹⁾ PS	Operating temperature TS	Allowable diff. pressure ²⁾ ΔPMX	for Controller ³⁾
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
- Motive medium _____ DN40 with butt weld ends 48,3 x 2,6
- Air vent _____ 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

<ul style="list-style-type: none"> Automatic operation, adapts automatically to the condensate level and the pressure conditions No manual settings required Robust, durable design Easy servicing, no need to disturb the pipework for maintenance and repairs All internals made of stainless steel, wearing parts in hardened stainless steel 	<ul style="list-style-type: none"> 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)
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Fluids pumped

- Group 2 fluids with a density of 0,85 to 1,15 kg/dm³

Mounting position

Standard: Horizontal		Required filling head above pump trap footprint: <ul style="list-style-type: none"> min. 300 mm required: 500 - 1200 mm
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¹⁾ 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.

²⁾ 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.

³⁾ 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) ¹⁾	89	89	89	20 (89) ¹⁾	20 (89) ¹⁾
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

¹⁾ 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, Δ PMX) 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.

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.