

Operating Manual for Float-Controlled Condensate Trap

Type: WO-1413, EF-1418

DN 50 - 100

Connections: Flanges acc. DIN 2636/2637 and ANSI B16.5, 600 lbs

1.0 Safety instructions

1.1 Proper use

Any improper use, intervention in the design and deviation from the design data automatically lead to termination of the warranty. The float-controlled condensate trap is designed for the discharge of condensate from steam, compressed air and pressure gas systems. Any other use is not permissible. The manufacturer is not liable for damage resulting from any other use. The user or operator bears the risk in this case. This also applies analogously to incorrect assembly, startup, use and maintenance.

1.2 Warnings and symbols



- There is a risk of personal injury due to escaping operating medium as well as because of pressure, temperature and weight. Failure to comply with these warnings may lead to accidents.
- Follow the instructions in this operating manual.
- The operator must ensure that this operating manual and, if necessary, other relevant documents are available on site.
- Only trained or instructed personnel may be assigned to handling this equipment.
- Any mode of operation that may impair safety must be avoided.

2.0 General description and use

2.1 Design of the condensate trap

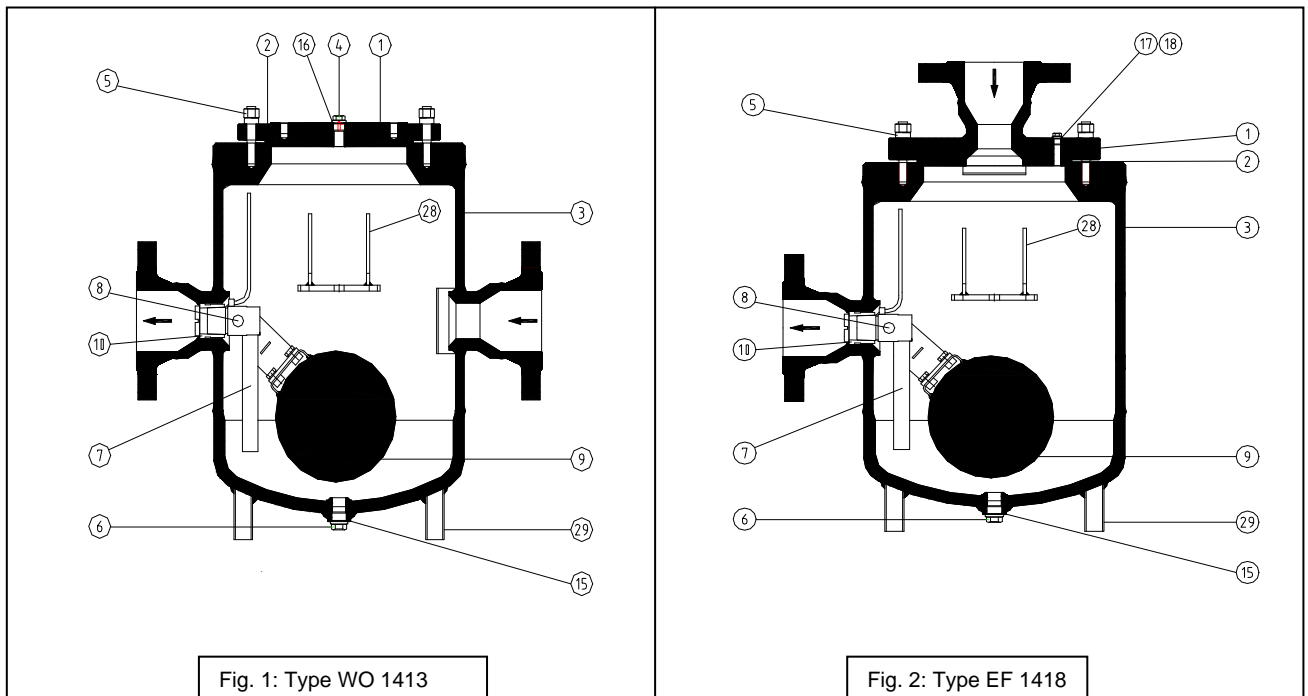




Fig. 1: Type WO 1413

Fig. 2: Type EF 1418

Item

- | | |
|--|-----------------------|
| 1 Housing cover | 9 Float with fork |
| 2 Housing gasket | 10 Bushing |
| 3 Housing with connections | 15 Seal for |
| 4 Control screw G ½ | 16 Seal for |
| 5 Set of screws with nuts | 17 Seal for |
| 6 Drain plug | 18 Control screw G ¼ |
| 7 Float control | 28 Retaining brackets |
| 8 Supporting structure with rotary slide valve | 29 Standpipe |

2.2 Identification, operating limits (see rating plate)

 Rifax - Hans Richter GmbH Spezialarmaturen - Bremen	
Works standard	Armat.-Type Year
<input type="text"/>	<input type="text"/>
Prod.-no.	PT Date
<input type="text"/>	<input type="text"/>
PS / Design	TS / Design Volume
<input type="text"/> bar g	<input type="text"/> °C <input type="text"/> L
Cross sect.	Connection
<input type="text"/>	DN PN
Flow direction	<input type="text"/>
	

2.3 Functional limit of standard float control (PMO in bar g)

Cross-section	Type 1413 / 18 - Special
SQ/SK	Special accord. Service data

2.4 Function / installation / venting / gas compensation

Due to its gravity, the condensate flows down to the deepest point, i.e. into the condensate trap housing. A rising condensate level lifts the float and through the float fork / rotary valve connection the valve opening is opened. When the condensate level drops, the control closes.

- In the case of steam, automatic venting must be provided (vent jet necessary). While start-up the venting can additional ensue manually with the screw (4) or (18); loosen item (4 or 18) by only a quarter turn.

3.0 Assembly

3.1 Fitting location

The condensate trap hangs in the middle of the pipeline with the housing sealing plug pointing up (see fig.1). To dismantle the float control, the complete condensate trap must be taken out of the pipeline system. It should be possible to mount a lifting device above the fitting location. The complete fitting weight of the condensate trap is up to 260 kg.

3.2 Installation

The condensate trap can be screwed into a pipeline between flanges.



- Remove protective caps from inlet and outlet.
- **Fitting position** according to Fig. 1 and 2
- **Flow direction** according to the arrow provided on the rating plate
- **Support:** The weight of the condensate trap must be taken up by a holding device and support, e.g. via the retaining brackets (28) welded onto the housing.
- To avoid down times, it is recommended that provision be made for a shut-off device with a by-pass line both in front of and behind the condensate trap.

4.0 Start-up



Attention: Before start up replace the transit support by enclosed screw (4 / 6), which is included to delivery!

The pressure build-up and heating-up of the housing should not take place abruptly. If leaks occur due to so-called settling after the first start-up, the screws (4, 5, 18) can be retightened taking into account the indicated torque. Retightening may only be carried out when the housing is depressurized and warm to the touch.

5.0 Monitoring and checking



Malfunctions arise either as condensate backup or steam entry into the condensate system.

Condensate backup can be determined: a) with the screw (4 or 18); loosen item (4 or 18) by only a quarter turn while ensuring that no condensate escapes; and b) in the case of steam applications, with a surface thermometer on the housing (if necessary, consult Rifax).

Steam or gas entry can be determined with an ultrasonic measuring device and in the steam section also with a surface thermometer. In the case of steam entry, check the control according to point 6.2 and replace if required (if necessary, consult Rifax).

6.0 Maintenance / inspection

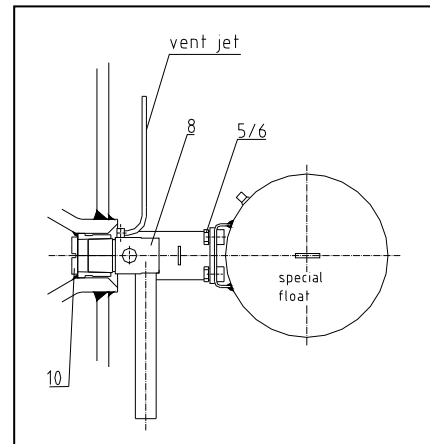
6.1 Opening the condensate trap and dismantling the float control



1. The condensate trap must be depressurized. Shut off the system in front of and behind the condensate trap.
2. Release any residual pressure by loosening the screw (4 or 18) by only a quarter turn.
3. Apply lifting device as described in point 3.2
4. Loosen flange connections and lift out of the pipeline carefully (Attention! The condensate trap weights up to 260 kg) and place on the floor.
5. Loosen hexagon nuts (5) evenly crosswise and take off housing cover (1). The cover weight is approx. 25 / 35 kg.
6. The float control is dismantled with a centering aid that is inserted in the bushing (10) that is provided with 2 slots. By turning counterclockwise (3-4 turns), the bushing is screwed out of the control support body (8). The control is detached from the seat cone by means of gentle blows with a hammer on the front end of centering aid.
7. Screw out the bushing (10) completely
8. Remove float control through the cover opening.

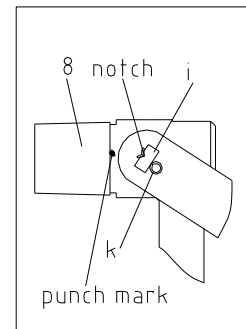
6.2 Removal of Special Float

- Loosen, unscrew and remove (5) and (6)
- Remove special float by opening the cover
- Remove float control without special float according to point 6.1



6.3 Disassembling and cleaning the float control

1. After removing the cotter pin (k), the rotary valve (i) is simply pulled out to the side.
2. Clean the parts using, for example, benzene.
3. Check the rotary valve (i) for wear along the sealing edge. If wear is detected, the support body (8) together with the rotary valve (i) must be replaced. A precise leak test must be carried out by Rifox.
4. During assembly ensure that the notch in the rotary valve (i) points to the punch mark on the support body (8) and the cotter pin (k) is inserted and secured again carefully.
5. The float must be able to move up and down without resistance.



6.4 Installing the control and assembling the condensate trap

1. The complete float control is inserted into the conical housing seat with the support body (8). Ensure here that the immersion tube points down vertically.
2. Screw the bushing (10) into the control support body (8) and tighten with the centering aid described in point 6.1.
3. Check the housing gasket (2) and replace necessary.
4. Put on the housing cover (1).
5. Tighten the housing screws (5) evenly crosswise. For tightening torque see p. 4.

6.5 Care and maintenance, spare parts

- In the case of a great risk of dirt accumulation, the housing should be rinsed thoroughly from time to time, but while depressurized. If necessary, the float control should also be checked according to point 6.2.
- Dirt that has collected in the housing can be removed after taking off the screw plug (6).
- In special cases, it may be advisable to install a separate upstream dirt trap.
- The float control usually does not require special care; maintenance primarily depends on the wear resistance of the valve seal. See points 6.1 - 6.2 in this connection.
- **Spare parts: Attention! Only genuine spare parts may be used.**

Spare parts:

Item	Designation	Dimension/DIN	Material
2	Housing gasket	270 x 250	SS profiled graphite
4	Control screw	G ½"	SS
5	Set of screws with nuts	M16, DIN 2510 / DIN 939	21CrMoV57 / 24CrMo5
6	Drain plug	G ¾", DIN 910	SS 1.4571
7	Float control	Accord. Rating plate	Standard SS
10	Bushing	Ø 60 x 45 lg.	SS 1.4571
15	Seal	G ¾"	SS profiled graphite
16	Seal	G ½"	SS profiled graphite
17	Seal	G ¼"	SS profiled graphite
18	Control screw	G ¼"	SS 1.4571

Screw tightening torque (at room temperature coat thread with temperature-resistant lubricant)

Pos. 4	Pos. 5	Pos. 6	Pos. 18
30 Nm	70 Nm	70 Nm	20 Nm

7.0 Conformity declaration CE

We declare conformity with Directive 97/23/EC of 29.05.97 for the following pressure equipment:

Float-controlled condensate trap type 1413 / 1418 - Special

The pressure equipment described is a pressure-keeping component in accordance with Article 1, 2.1.4. Applied conformity assessment procedure according to Annex III:

cat. 4, fluid group 2, module H1

Designated office: Lloyd's Register Quality Assurance GmbH, Am Sandtorkai 38-41, D-20457 Hamburg, Germany. Identification No. 0525

In the case that the equipment is modified without our approval, this declaration shall no longer be valid.

Rifox-Hans Richter GmbH
Special Fittings


Management


Quality Assurance

