

Description

Automatic self cleaning filter

16 AFK 100 ...



Generals

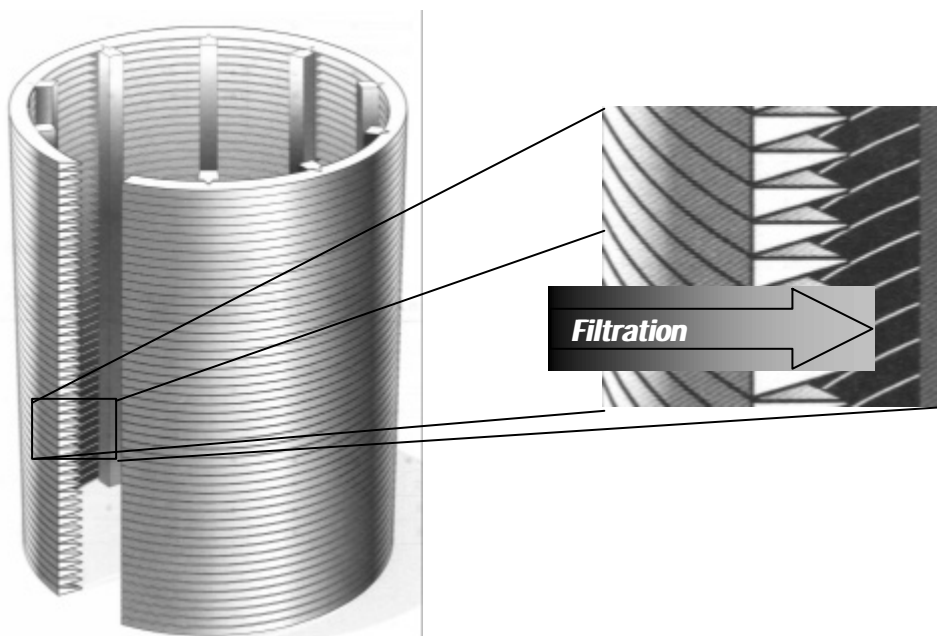
The EPE automatic filter is suitable for continuous depositing of solid particles or even pasty fluids. It is a completely mechanic surface filtration. Particles the size of which is bigger than the width of the gap (fineness) of the built in element, are retained.

The filter hardly needs any maintenance, as the cleaning is completely or semiautomatic without service interruption.

Filter element:

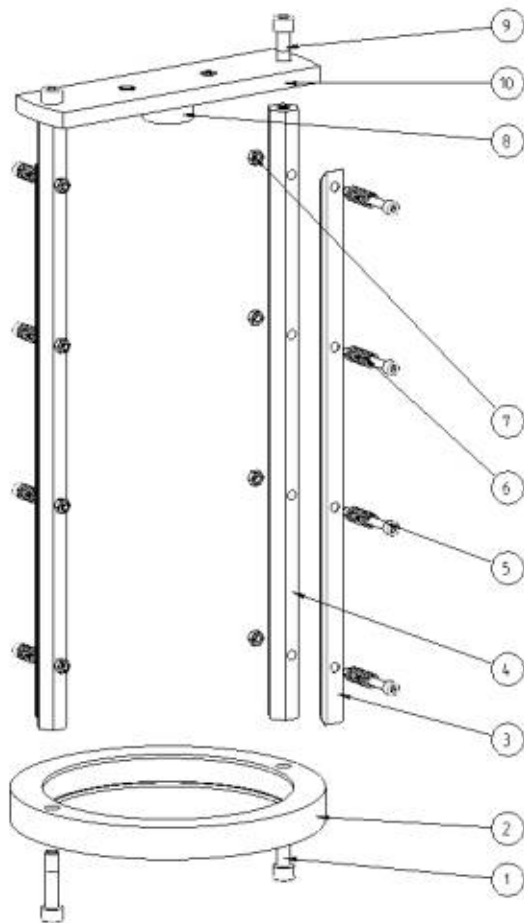
We use in the EPE automatic filter AFK a split tube. It is a triangular form wedge wire, which is rolled around a supporting body with welded contact spots. This results in a solid and differential pressure resistant element. The spline profiles in parallel and defined distances form splits, which enlarger themselves to one side (off-flow side) in a conical way. This reduces the flow resistance in the splits. A further advantage of the conical enlargement is the fact that the flowing particles will hardly collect between the splits. The split-tube elements made of stainless steel can be delivered from 50 μm to 3 mm. Filtration direction by the split tube is from outside to inside.

The dirt particles on the even outside from a filter cake which leads to a rise of pressure between the dirty and the clean side of the filter.



Cleaning cycle

The cleaning arm with two spring-loaded scraping blades in rotation will take off the dirt particles from the split-tube. The long-wearing surface of the split-tube guarantees long life and exact filtration grade. In order to remove the dirt which might be found in the gaps of the splits, you can additionally fix a brush made of brass or stainless steel wires.



Cleaning device

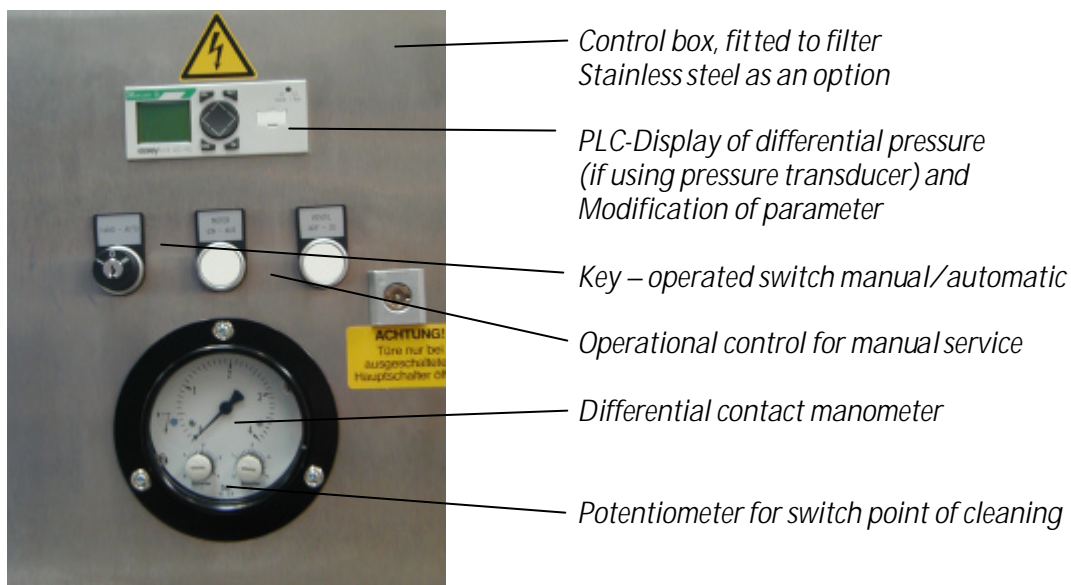
- 4-10 support for scraping blades
- 3 scraping blades
- 8 bearing
- 2 lower guidance
- 6 springs
- 7 jam nut

Design with PLC - Control

You can detect the differential pressure of the element by a differential contact manometer or by two pressure transducers. In both cases, you can see the exact value of the differential pressure on the control box.

Once the differential pressure chosen by you has been reached, the cleaning procedure will start without interruption of the filtration. This method of cleaning by differential pressure can be combined with a time loop (1min-99 hours), in order to guarantee a daily cleaning of the filter. This will avoid glueing of dirt particles.

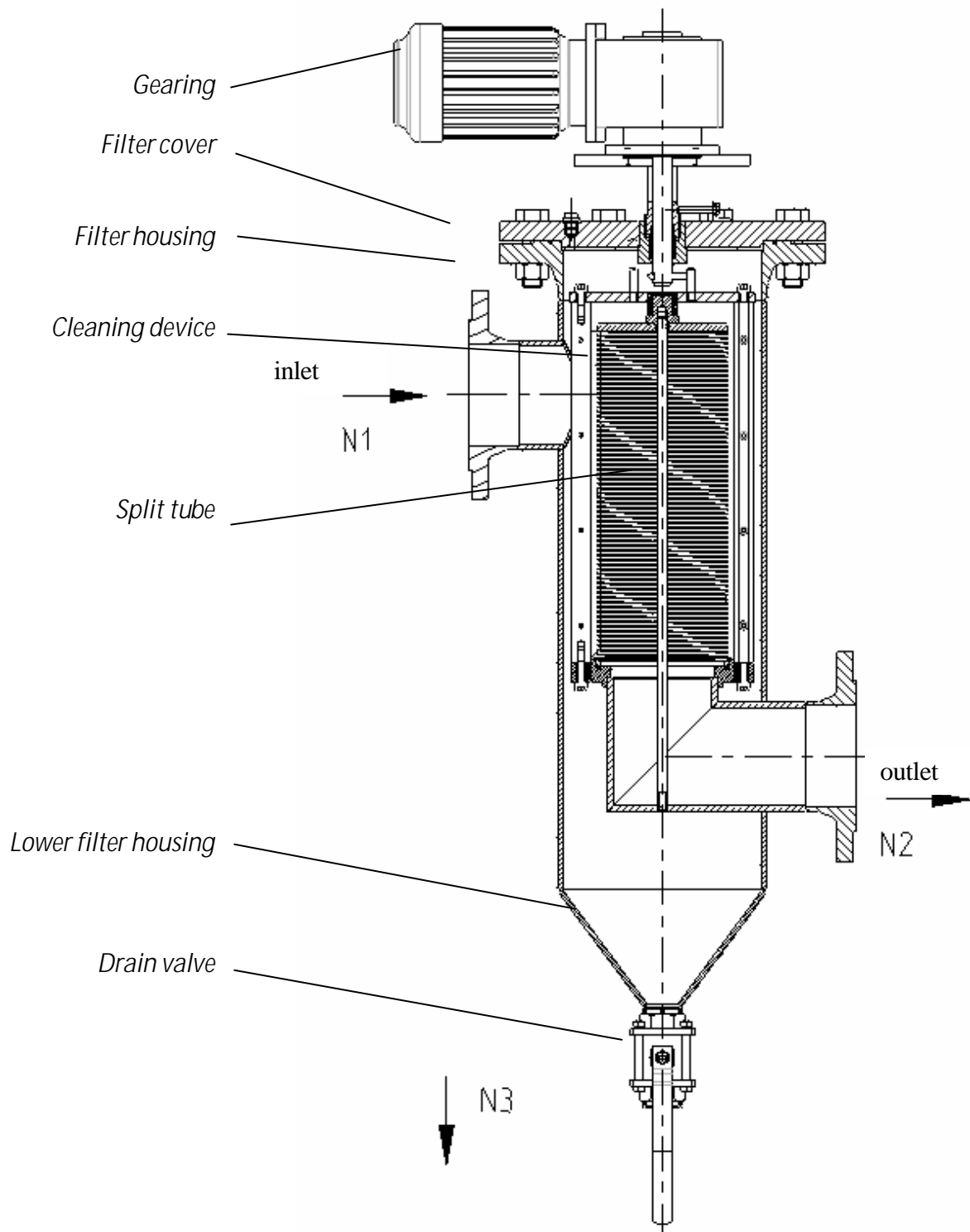
The dirt settled in the conical lower part of the filter will be carried away by the short-time (adjustable 1s – 1 min) automatic opening of the drain valve (electric – pneumatic ball valve). The quantity of drained fluid can be kept minimal. The quantity of drained fluid depends on system pressure, volume stream and the open area of the discharge tube. The signal for the opening of the ball valve can be released by the nr. off cleanings (engine speed) or by a preset period (1min – 99hours).



Design with manual triggering of cleaning

The increasing differential pressure can be seen on the fitted differential pressure measuring instrument. Once the max. value has been exceeded the cleaning motor has to be started by the circuit closer/breaker with integrated motor protection switch. The motor should revolve as long as the differential pressure has dropped to a minimum. After that, the motor has to be switched off. The ball valve fitted on the lower part of the filter has to be opened briefly at regular intervals so that the system pressure will convey the settled dirt outside.

Construction:



Technical Data:

max. Operation pressure: 16 bar

max. Operation temperature: 80 °C / 120 °C

Wormshaft gear: Performance 0,18 kW, 400V 50Hz

Rotation speed 10,8 1/min

Driving torque 97 Nm

Connections: In- and outlet DN 200

drain DN 50, all flanges DIN 2633

Drive shaft : stuffing box out of PTFE Garn – packing box

Compressed air supply: 6-8 bar

Materials: 1.0038, 1.4301 or 1.4571