Automatic oil draw-off device

for ecoLine-a Oil/Water Separators
Material: HDPE
Physical principles.

Two fluids with different specific gravity build up a height difference in the vertical tubes as shown in the drawing. Since the pressure in both tubes has to be equal, the fluid level in the tube with the liquid of lower specific weight is higher than in the second tube. If the cross-sectional area of the tubes is the same, the specific weight of both liquid columns has to be the same.

In the patented, automatic and mechanical oil draw-off device (ADD), the outlet-aperture of the oil is above the outlet edge of the water. The float in the pipe ensures, that only pure oil can reach the oil outlet pipe. Extracted oil is 99.7% pure free of water.

Construction.

The automatic oil draw-off device enables the operator to extract any light liquid from the water surface of the oil-separator and to collect it in a separate receptacle.

The automatic oil draw-off device consists of:

1. Water outlet pipe
2. Oil inlet pipe
3. Rising pipe
4. Float with gasket
5. Cover with gasket
6. Oil outlet pipe
Function.

If the rising pipe of the automatic oil draw-off device is full of pure water, the float with the gasket ① closes the pipe of the cover ②. This ensures that the water never reaches the oil outlet pipe. ③

If there is enough oil in the separator, it flows over across the oil inlet pipe to the rising pipe. As soon as the oil layer reaches a height of about 20-30mm inside this pipe, the float starts to drop and allows the oil to flow to the oil outlet pipe. If the oil layer decreases under 20-30mm, the float seals.

Installation and putting into service.

Fill the unit with clean water up to the gasket ①. Ensure that there is no water flowing through the oil outlet pipe. If water flows through this outlet, remove the cover and make sure that the gasket is properly positioned in the slot. Before reinstalling the cover, grease the gasket and the rising pipe. Tighten the gasket.

Note:
Do not start operating until making sure that pure water does not flow through the oil outlet pipe.

Maintenance.

During operation, ensure that the oil inlet pipe is not blocked.