



Dewatering Unit

COPS 010

- Fast dewatering and filtration of oils
- Compact design
- Easy handling
- Monitoring with water sensor

Dewatering – compact and easy



COPS 010

The smallest amount of free water can cause acidification in oils and corrode components surfaces. An increase in water content can dramatically alter the characteristics of the oil. The consequences include reduced load capacity, lower temperature resistance and, ultimately, rapid oil oxidation (aging), which all results in economic damage. Some of the causes of water in hydraulic and lubricating oil are: Ambient moisture, splash water, cooler breakage.

Compact and easy

With the new COPS mobile dewatering unit large quantities of free water can be removed economically. The oil is heated and channelled into a vacuum chamber. The water is reduced quickly, long before the saturation limit is reached, thanks to the reduced steam pressure. A fine filter is installed downstream from the drying process to ensure that the oil is dry and filtered when it flows back into the machine or tank. Water content is constantly monitored with the ARGO-HYTOS LubCos H₂O water sensor. A digital display reading water content (relative humidity) and indicator lights show the user the current state of the dewatering process.

Design and accessories

- 1 Operating panel
- 2 Inspection glass water collection tray
- 3 Connections
- 4 Electrical power supply
- 5 Reactor
- 6 Oil outlet pump
- 7 Vacuum pump
- 8 Filter

Accessories

- 9 Hose support
- 10 Automatic coupling for load hooks or loop



Design

The unit consists of an upper housing with operating panel and cover for the electrical components as well as a lower housing.

Reactor, collection tray, heating element, pumps and filter are assembled separately from the electrical components in the lower housing.

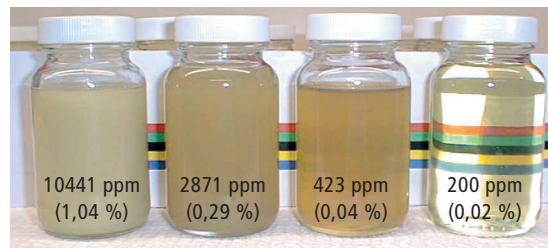
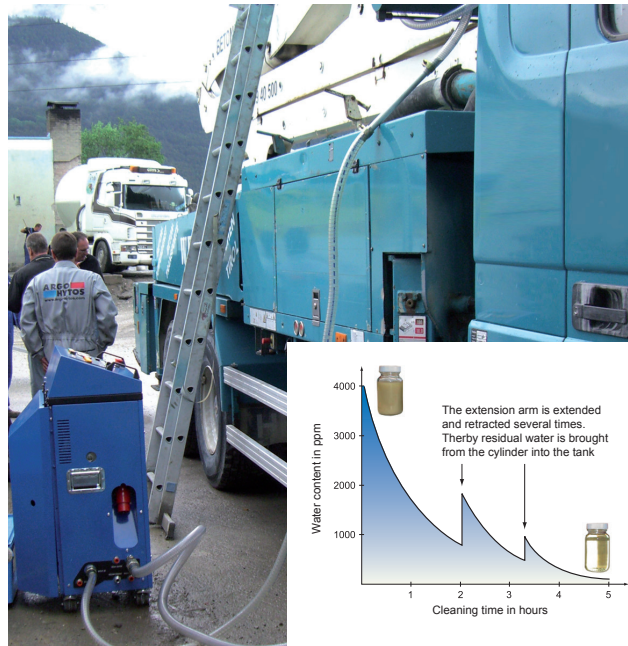
All connections are situated easily accessible at one side of the housing.

Functionality

The unit separates free and dissolved water from hydraulic and lubricating oils. By means of a vacuum pump low pressure is produced within the reactor and oil is sucked in via the oil inlet. A heater warms up the oil to the adjusted temperature.

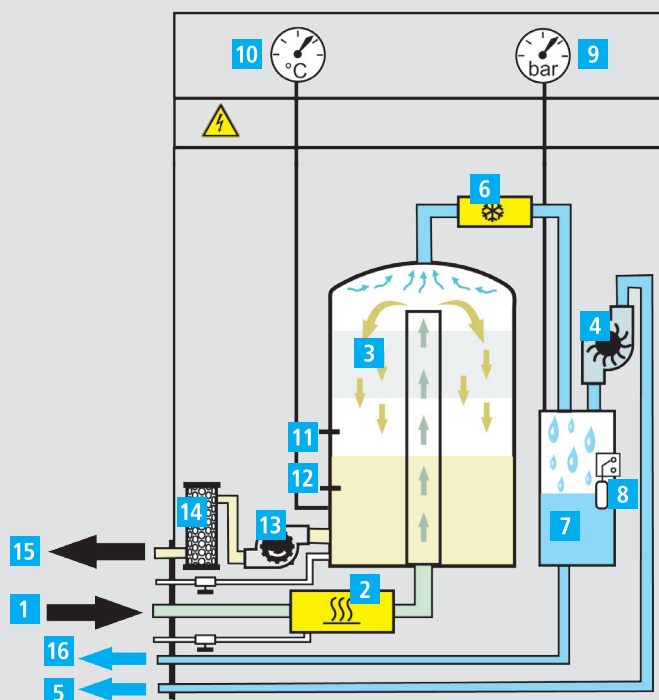
Inside the reactor the water evaporates far below the saturation limit. The steam is cooled down and condensed. The condensed water conglomerates in a collection tray. With full collection tray the process is stopped by a floating switch and the collection tray must be emptied. The dried oil conglomerates within the reactor. Herein level switches are found for switching on and off the outlet pump. As soon as the maximum filling level is reached the outlet pump operates and delivers the dewatered oil via a fine filter to the oil outlet.

On site the cooled oil sample can be evaluated optically. As long as the cooled oil is clouded, the water content is impermissible high. In case the cooled oil sample seems to be clear, the water content lies within the permitted range. An exact examination of the water content is carried out by an oil sample analysis in the laboratory (e. g. determination of the water after the Karl-Fischer-Method according to DIN 51777).

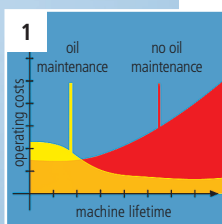


Oil samples with different water content

- 1 Oil inlet
- 2 Heater
- 3 Reactor
- 4 Vacuum pump
- 5 Air outlet
- 6 Cooler
- 7 Collecting tray – water
- 8 Floating switch
- 9 Manometer – low pressure
- 10 Oil temperature – Reactor
- 11 Level switch (min.) – outlet pump on
- 12 Level switch (max.) – outlet pump off
- 13 Outlet pump
- 14 Fine filter
- 15 Oil outlet
- 16 Outlet water collecting tray



Advantages at a glance



1. Economical

By using ARGO-HYTOS fluid management systems, greater efficiency will be achieved. Fast return on investment by extended service intervals and increased machine availability.

2. Easy handling

The operating panel is clearly and easily arranged. All operating elements and indications can be realized at a glance.

3. User-friendly filter element change

The filter element can be pulled out of the housing together with the cover. By means of the dirt retention valve sedimented solid particles are removed together with the filter element which is flown through from the centre outwards. Extensive flushing of the filter housing is not necessary.

4. Compact design

Due to its compact design, COPS may be transported also in service vehicles as mobile unit and can operate in places where space is limited.

5. Efficient dewatering

By means of the vacuum chamber and tempering of the oil the COPS dewateres far below the saturation limit.

6. Monitored dewatering

With the water sensor LubCos H₂O the relative humidity is monitored during the dewatering process.

Technical data

COPS 010

Order no.	COPS 010-41110
Nominal flow rate	10 l/min
Dewatering rate	0,9 l/h*
Viscosity range	10...700 mm ² /s
Replacement filter element no.	V7.1230-53
Filter fineness	5 µm (c) ($\beta_{s(c)} = 200^{**}$)
Dirt-holding capacity	220 g
Electrical supply	3 ~ 400 V / 50/60 Hz
Max. power input	7,4 kW
Weight	approx. 160 kg (without accessories)

* typical dewatering rate with 200 litres of oil
at > 10.000 ppm water content

**with test dust ISO MTD determined by ISO 16889

Accessories

Description	Order no.
Suction hose 3 m (DN 32)	COPS010.1702
Return hose 3 m (DN 25)	COPS010.1704
Electric cable 4 m, 3 ~ 400 V / 50/60 Hz / 16 A	COPS010.1703

Automatic coupling for load hooks or loop as well as hose support on request.

Dimensions

