Emmie

Mobile hydraulic oil cleaning system

The Emmie mobile cleaning system for hydraulic oil comprises a trolley mounted centrifugal separator and a mobile electrical oil heater. Wheeled between hydraulic systems, Emmie removes water and 99% of all particles in the size range 2 µm–5 µm.

The result is a dramatic increase in the reliability of the hydraulic systems, the life-time of the hydraulic oil is extended, filter cartridge consumption is reduced and there is less contaminated oil to dispose of.

The Emmie mobile centrifugal separation system is designed for cleaning hydraulic oils onboard ships and in power plants. Throughput capacity is 80–120 l/h.

Applications

- Bow, stern and azimuth thrusters
- CP propellers
- Deck cranes
- Winches
- Hoistable decks
- Hatch covers
- Ramps
- Steering gear
- Stabilizers
- Hydraulic lifts
- Deep well pumping systems for product tankers/ chemical tankers
- Stern tube lube oil
- Steam turbine lube oil
- Thermal oil.

Emmie system concept

- Emmie separator, mounted on a stainless steel trolley.
- Trolley equipped with built-on screw-pump, collecting tank, control functions.
- Mobile, electrical preheater.
- Set of standard hydraulic hoses with quick-release couplings, including non-return valves.

Features

- Installation-free start-up, Emmie can be connected to a hydraulic oil tank in minutes. Then simply plug in and switch on.
- Separator, pump and heater operate on single phase 110 V or 230 V AC, and can therefore be plugged into any wall socket.
- Two bowl options delivered with the Emmie separator offer clarifier or purifier mode.
- The entire system can be wheeled from tank to tank.
- Combined suction and return pipe with air/dust filter.
- Compact design allows access to confined spaces. Sledge runner handles on the trolley slide easily down ladders.

Benefits

- Drastic increase in the reliability and availability of hydraulic systems.
- The life-time of the hydraulic oil is extended.
- Reduced filter cartridge consumption.
- Less contaminated oil and fewer filter cartridges to dispose of.

Purifier or clarifier

The Emmie is supplied with two bowl sets, enabling the user to operate Emmie in either purifier or clarifier mode. Switching between the two modes is done in minutes.Purifier mode is used when the oil is heavily contaminated with water since it offers continuous water removal. The separated water drains into the collecting tank under the separator. The solids accumulate on the bowl wall and are removed periodically by hand. If the hydraulic oil contains only traces of water, or none at all, the clarifier mode is recommended.

Operating the system

The system can be connected to a hydraulic oil tank in minutes. Replace filler cap on the hydraulic oil tank with the Emmie cap with combined suction and return pipe. Connect one end of hose to dive pipe and the other to suction side of the pump.

Connect pressure side of pump to heater, heater to separator, and separator to the hydraulic oil tank. Hook up control cable from separator control box to heater. Connect separator and heater to standard 110 V or 230 V AC wall socket.

Start separator, start pump – wait for oil to flow through. Start heater. After about one to three days' operation, the separator bowl should be cleaned.

System components

Emmie separator

- Direct drive, eliminating gears or belts.
- Frequency converter with built-in voltage protector.

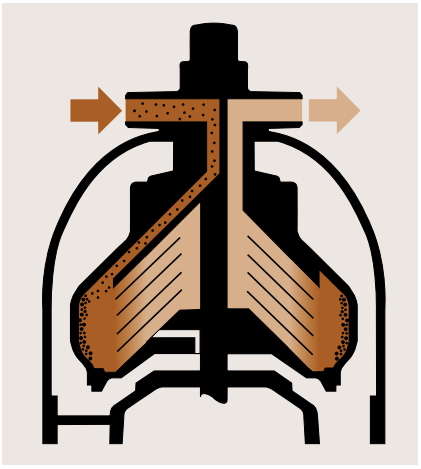
Trolley

- Built-on screw pump.
- Collecting tank for oil spill and separated water, including overflow switch.
- Starters for the separator and pump.
- Pressure gauge.
- Low pressure switch/water seal alarm on the outgoing oil.
- Handles with sledge runner design.

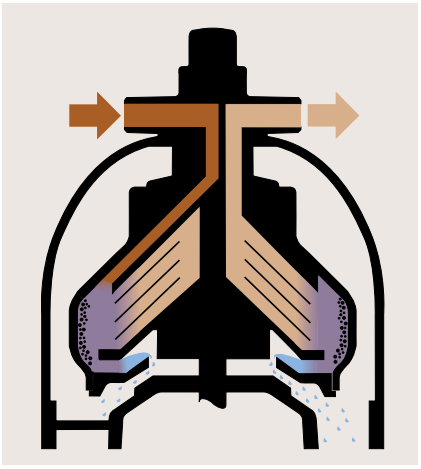
Mobile electrical oil pre-heater

- Fitted with wheels and handle.
- Heats the hydraulic oil to max. 65°C.
- Hold-up volume of 1 litre ensures good response.
- PID controller ensures oil at a constant temperature to the separator.

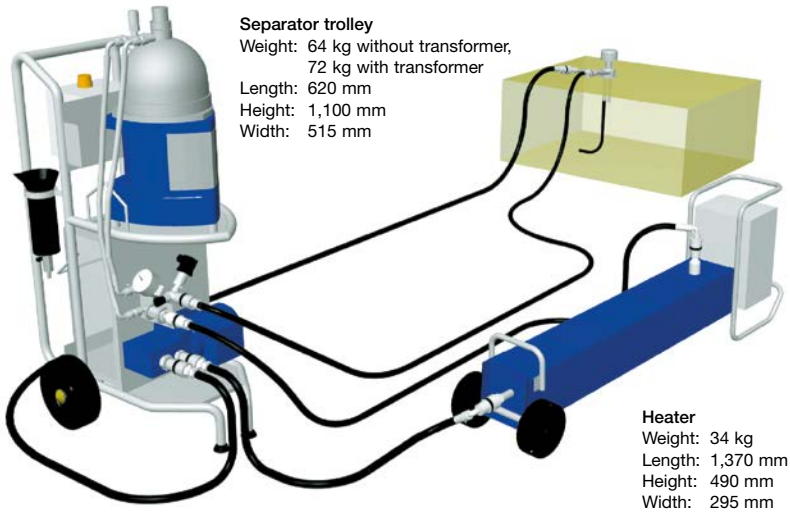
Standard hydraulic hoses with quick-release couplings, including non-return valves and dive pipe (with breather filter) with suction and return for connection to hydraulic oil tank.



Clarifier



Purifier



Separator trolley
Weight: 64 kg without transformer, 72 kg with transformer
Length: 620 mm
Height: 1,100 mm
Width: 515 mm

Heater
Weight: 34 kg
Length: 1,370 mm
Height: 490 mm
Width: 295 mm

Technical data

Application	
Mineral oil based hydraulic oils	
Viscosity grade	VG 15–150
Flow rate	80–120 l/h
Separation temperature	35–65°C

Separator	
Emmie	Solid bowl separator, manually cleaned
Weight	15 kg (separator alone)
Bowl sludge space	0.6 litre
Bowl speed	7,300 r.p.m.

Heater	
Output	Full-load, 2,100 W Low-load, 700 W
Heat load	1.1 W/cm^2

Electrical	
Separator, pump and heater operate on single phase	(110 V) 230 V, 50/60 Hz
Amperage (total system)	10A/14A (heater low-load/ full-load)

Alfa Laval reserves the right to change specifications without prior notification.

How to contact Alfa Laval
Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com

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