



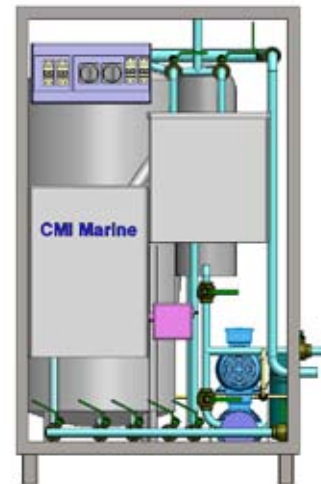
MARINE

CMI SLUDGE CLEANER

The CMI Sludge Cleaner (CSC) separates sludge oil from water and dirt into clean sludge oil without using any chemicals in the process. The oil residues are processed through filters and cleaned to a high extent and the oil residues can therefore be re-used onboard in the incinerator or the auxiliary boiler without operational problems to these units.

Since the sludge is reduced and the total amount of sludge onboard is minimized, the overall cost for sludge handling is reduced to a minimum.

If sent to shore facilities, the sludge is considered as clean sludge oil and not contaminated with any chemicals.



Situation today

Vessel's waste oil ends up to a sludge tank. To get rid of the sludge the vessels need to pay the harbor to take care of it. The CMI Sludge Cleaner takes care of this and reduces the volume of sludge oil and bilge water. The return water from the CSC will be pumped to the bilge water separator which separates influent bilge water to the required 15 ppm or less.

Technical solution

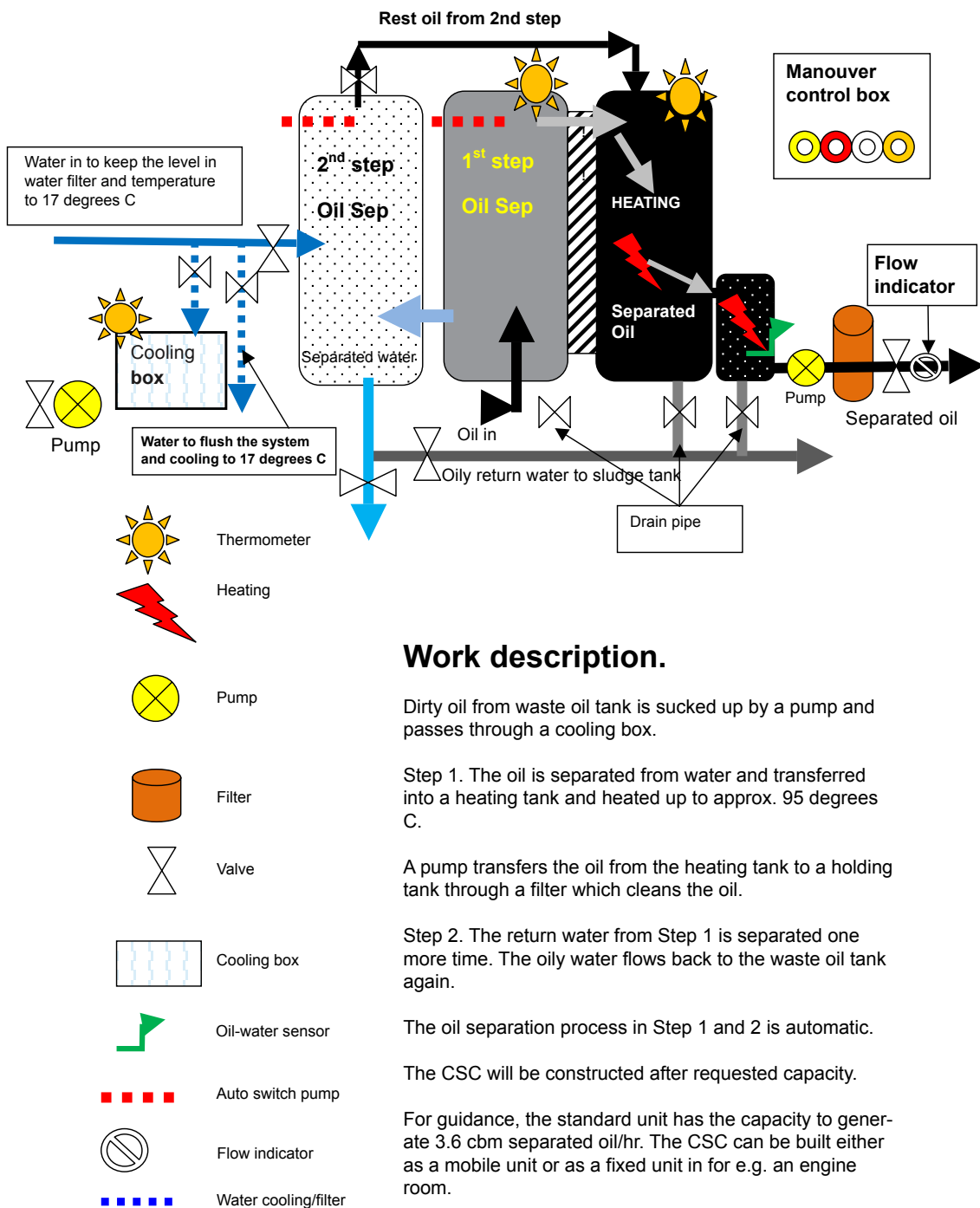
The CSC has no wear damage, because it contains no loose parts and no rotating parts. The separation of sludge oil will be done in two steps. The separation process will be controlled by temperature and densities of the oil. After being separated from water the sludge oil pass a filter (100µm) to be cleaned from dirt and particles (filter cleaning after customer request).

Key Points

The CMI Sludge Cleaner cleans the sludge oil to a high extent and the sludge oil can therefore be re-used on-board in the waste oil incinerator or the auxiliary boiler without any operational problems. If the owner chooses to send the sludge oil to shore facilities the sludge oil is considered as clean sludge oil. It also:

- Reduces costs for sludge disposal since the sludge is considered clean and not contaminated with chemicals.
- Reduces costs for operating vessel if the clean sludge is re-used
- Reduces wear of bilge water separator and increases the efficiency.
- Requires minimal maintenance
- Fits on a pallet
- Creates good value at a low cost

CMI Sludge Cleaner



Work description.

Dirty oil from waste oil tank is sucked up by a pump and passes through a cooling box.

Step 1. The oil is separated from water and transferred into a heating tank and heated up to approx. 95 degrees C.

A pump transfers the oil from the heating tank to a holding tank through a filter which cleans the oil.

Step 2. The return water from Step 1 is separated one more time. The oily water flows back to the waste oil tank again.

The oil separation process in Step 1 and 2 is automatic.

The CSC will be constructed after requested capacity.

For guidance, the standard unit has the capacity to generate 3.6 cbm separated oil/hr. The CSC can be built either as a mobile unit or as a fixed unit in for e.g. an engine room.

TECHNICAL SPECIFICATIONS

- Height = 1500 mm
- Length = 1200 mm
- Width = 800 mm
- Weight empty = 200 kg
- Noise level = 78 dB
- Capacity separated oil = 3.6 cbm/hr
- Two gear pumps (300G,600) 230/400V 3PH/50HZ
- Two heaters (30 to 85 degrees Celsius) 400V 3PH/50HZ
- Manual valves
- Temperature indicator
- Manual or automatic filter (Mahle AF 71 G, 100µm or 50 µm)
- All parts in construction are made in stainless steel
- Safety valve
- Electrical cabinet with earth connection (approved installation)
- With 100µ filter: 80% oil residue cleaning
- No rotating parts and no wear damage
- Built in stainless steel 4301
- Separates oil without any problems from 5-30 Degrees Celsius (HFO 380 cst)
- Capacity separated clean sludge oil: 3.6 cbm /h
- Separator tanks with over pressure valves (according to regulation)
- No chemicals used in process
- No maintenance required
- Easy installation
- Small footprints
- All installation based on safety regulations



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