



CLEAN OIL
BRIGHT IDEAS

CJC™ Desorber/Filter Combi Unit

Water and particle removal from lube oils, emulsified oils and Environmentally Acceptable Lubricants (EALs) / Biodegradable Oils

CJC™ Product Sheet

APPLICATION

CJC™ Desorber/Filter Combi Unit, a combined product used for maintenance of oils. The unit **removes large amounts of water** and particles from a wide range of lubricants including emulsified oils and **EAL's (Environmentally Acceptable Lubricants) / biodegradable lubricants** in applications such as:

Marine Applications:

- thrusters
- stern tubes
- rudders
- stabiliser fins
- controllable pitch propeller

EAL's / Biodegradable Oils:

- Esters
- PAG'S
- PAO'S
- emulsified oils

CHALLENGE

*Water in oil leads to change in viscosity, reduced filter ability, reduced lubricity, formation of rust and bacterial growth and increased degradation of the oil - all factors that lead to reduced lifetime of both system components and the oil *)*

CUSTOMER BENEFITS

The CJC™ Desorber/Filter Combi Unit is one unit solving problems with both water and particles. One inlet and one outlet, plug-and-play type easy to install, has a small footprint area and ready to work in less than 30 minutes.

- Removal of large amounts of water - even from emulsified lubricants, preventing formation of acid and microbial growth
- Removal of particles and sodium
- Removal of salt (seawater)
- Reduced corrosion and wear/tear of rubber made sealings
- Extended lifetime of both oil and components by a factor 3-4
- Prevents uncontrolled shut downs and reduces maintenance costs
- Compact in size
- Environmental friendly solution

FUNCTION

The water separation ability of the CJC™ Desorber/Filter Combi Unit is unaffected by viscosity and additive package. The Desorber treats mineral oils as well as synthetic fluids, even the new kind of EAL's (Environmentally Acceptable Lubricants) / biodegradable lubricants and is able to break stable emulsions. The CJC™ Desorber/Filter Combi Unit is able to maintain the water content within systems to very low levels. Furthermore, particles are continuously removed from the oil system by passing through the CJC™ Oil Filter placed on top of the CJC™ Desorber. The filter has a filtration rating at 3 micron absolute and 0.8 micron nominally. The unit is equipped with a pressure switch function and is made of stainless steel. Furthermore, the unit delivers external signals, such as: a running alarm and a common alarm.

DESORBER PRINCIPLES

The desorption process is based on the principle that heated air can effectively hold large quantities of water. In the Desorber, the oil is preheated to 60°C and met by a counter flow of cold dry air. The air is heated rapidly by the hot oil and absorbs any water present in the oil, until the air is saturated. The warm, moist air is then chilled to condense the water out.

FILTRATION PRINCIPLES

The filtration process is performed by the separate pump drawing oil from the main system and passing it through the fine filter, exiting from the filter base and back to the main system.



The CJC™
Desorber/Filter
Combi Unit

TECHNICAL DATA

| | V/Hz | 1x208 | | 1x230 | | 3x400 | | 3x440...480 | |
|---------------------------------|---------|---------------|------------|------------|------------|------------|------------|-------------|--|
| Voltage | | | | | | | | | |
| Frequency | | 60 | 50 | 60 | 50 | 60 | 50 | 60 | |
| Current | A | 15.5 | 12.5 | | | | 5.1 | | |
| Power consump. | kW | 2.7 | 2.9 | | | | 3.2 | | |
| Height | mm/inc | 1635 / 64.4 | | | | | | | |
| Length | mm/inc | 570 / 22.4 | | | | | | | |
| Width | mm/inc | 570 / 22.4 | | | | | | | |
| Weight | kg/lb | 170 / 375 | | | | | | | |
| Flow inlet, Desorber | L/gal/h | 55 / 14.5 | 45 / 11.9 | 55 / 14.5 | 45 / 11.9 | 55 / 14.5 | 45 / 11.9 | 55 / 14.5 | |
| Flow outlet, Desorber | L/gal/h | 75 / 19.5 | 60 / 15.9 | 75 / 19.5 | 60 / 15.9 | 75 / 19.5 | 60 / 15.9 | 75 / 19.5 | |
| Flow inlet, Fine Filter | L/gal/h | 145 / 38.2 | 120 / 31.7 | 145 / 38.2 | 120 / 31.7 | 145 / 38.2 | 120 / 31.7 | 145 / 38.2 | |
| Flow outlet, Fine Filter | L/gal/h | 145 / 38.2 | 120 / 31.7 | 145 / 38.2 | 120 / 31.7 | 145 / 38.2 | 120 / 31.7 | 145 / 38.2 | |
| Viscosity range | | ISO VG 32-150 | | | | | | | |
| Filter Insert, type | | BLA | | | | | | | |
| Ambient temp. max. | °C / °F | 40 / 104 | | | | | | | |

INLET PRESSURE, MAX

| Pump type | 0.5 bar | PV |
|-----------|---------|-----|
| | 3.5 bar | PVM |

*) FACTS

The Classification Society, DNV-GL, in their Technical e-Newsletter of June 12th 2013 has stated that, for their Clean Design Class Notification:

"If a biodegradable oil is used, an arrangement shall be in place to keep the water content of the oil under control".



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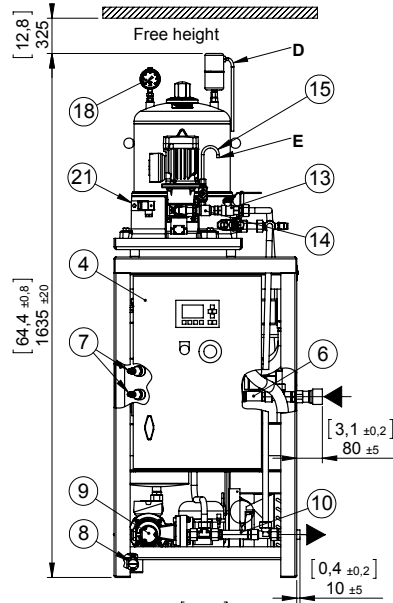
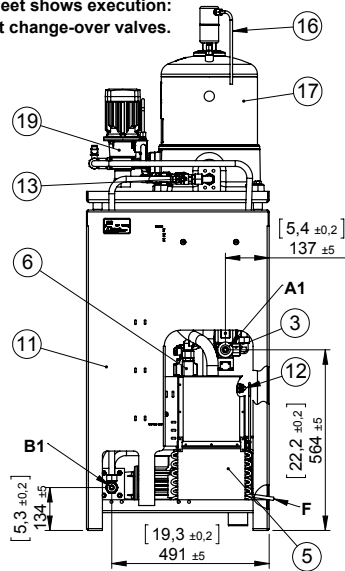
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CJC™ Product Sheet

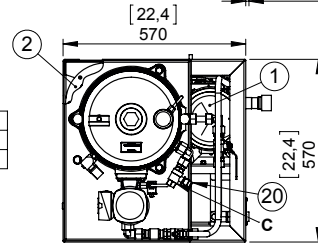
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This sheet shows execution:
Without change-over valves.



| X | Execution | Connections |
|---|----------------------------|-------------|
| 1 | Without change-over valves | A1 & B1 |
| 2 | With change-over valves | A2+3 & B2+3 |

| Y | Voltage - Freq. | Z | Pump type | Max inlet press. |
|---|-------------------|---|-----------|------------------|
| 1 | 3x380-420V - 50Hz | 1 | PV | 0,5 bar |
| 2 | 3x440-480V - 60Hz | 2 | PVM | 3,5 bar |
| 3 | 1x230V - 60Hz | | | |
| 4 | 1x230V - 50Hz | | | |
| 5 | 1x208V - 60Hz | | | |

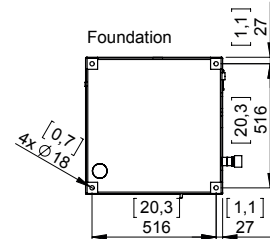


Design pressure 7 bar/101,5 psi
Design temp. 60°C/140°F
Ambient temp. 45°C/113°F
Weight 170 kg/374 lbs

A1 = 3/4" Quick release coupling, female, oil inlet
B1 = 3/4" Quick release coupling, male, oil outlet
C = 1/2" Drain valve, oil
D = Automatic air vent
E = Sampling point
F = $\varnothing 6$ [0,24] internal, Water drain

P&I Diagram: 7000818

Measurements in mm and [inches].



Optional

Oil connection to
Desorber by
interconnected
change over valves

Optional oil connection to
desorber by interconnected
change over valves.

