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**Published by:** Alfa Laval Separation AB
Marine & Power Oil Treatment Division
S - 147 80 Tumba
Sweden

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Study instruction manuals and observe the warnings before installation, operation, service and maintenance.

Not following the instructions can result in serious accidents with fatal injuries.

In order to make the information clear only foreseeable conditions have been considered. No warnings are given, therefore, for situations arising from unintended usage of the machine and its tools.

A summary of the safety information is found in the Safety chapter under divider 1.
Contents

1  Function Description 1
   1.1  Application 1
   1.2  Design 1
   1.3  Working Principle 1
2  Fault Finding 3
3  Maintenance 5
   3.1  Dismantling and Assembly 5
4  Technical Data 9
   4.1  Specification 9
   4.2  Dimensions 10
5  Installation 11
6  Spare Parts 13
1 Function Description

1.1 Application
The feed pump is used to feed lube oil, gas oil, or marine diesel oil to the separator.

1.2 Design
The pump is of constant flow vane type. The pump unit consists of an electric motor and a pump.

1.3 Working Principle
The working part of the pump is a rotor with seven vanes which rotate inside an eccentrical stator.

Individual cavities are formed between the vanes and the stator. When the cavities are filled with oil, the oil is transported to the separator inlet.

Priming
The pump will not work properly if the cavities are not completely filled.

If the pump is not completely filled, disconnect the flexible hose on the separator inlet and fill with oil.

Direction of Rotation
The direction of rotation is shown by an arrow on the electric motor.
## 2 Fault Finding

<table>
<thead>
<tr>
<th>Fault</th>
<th>Probable cause</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low capacity or low pressure</td>
<td>Suction valves shut off, or clogged strainer</td>
<td>Open the valves, or clean the strainer</td>
</tr>
<tr>
<td>Pump does not prime</td>
<td>Pump too dry</td>
<td>Fill the pump housing with oil</td>
</tr>
<tr>
<td></td>
<td>Air leak on suction side of the pump</td>
<td>Seal off the air leak</td>
</tr>
<tr>
<td>Drive motor tends to stop by tripping the overload relay</td>
<td>The counter pressure after the pump is too high</td>
<td>Check the valves between pump and separator</td>
</tr>
<tr>
<td></td>
<td>The cut-off setting of the motor relay is too low</td>
<td>Adjust the relay setting according to the motor power rating in Amps</td>
</tr>
<tr>
<td>Pump noisy when running</td>
<td>Suction valves shut off, or clogged strainer</td>
<td>Open the valves, or clean the strainer</td>
</tr>
<tr>
<td></td>
<td>Air leak on suction side of the pump</td>
<td>Seal off the air leak</td>
</tr>
<tr>
<td></td>
<td>Heavy wear in the pump</td>
<td>Dismantle the pump and replace the worn parts</td>
</tr>
</tbody>
</table>
3 Maintenance

3.1 Dismantling and Assembly

Dismantling the pump

1. Disconnect the suction and pressure pipes from the front flange/distributor (2).

WARNING

Entrapment hazard

Do not start maintenance work unless the power is switched off and the inlet and outlet are shut.

1 Hexagon screw
2 Front flange/distributor
3 O-ring
4 Stator
5 Rotor
6 Vane
7 End flange
8 Shaft seal ring
9 Hexagon screw
2. Loosen and remove the four hexagon screws (1), securing the pump to the electrical motor.

3. Remove the pump from the electrical motor shaft.

4. Loosen and remove the three hexagon screws (9) on the end flange (7) that secure the front flange/distributor (2) to the end flange.

5. Be careful when taking out the rotor, the vanes are not fixed. Remove the stator (4) and the rotor (5) with vanes (6).

6. Remove the shaft seal ring (8) on the end flange (7) and clean the recess.

7. Remove the O-ring (3) on the front flange/distributor and clean the groove.

Assembling the pump

1. Apply oil to the new shaft sealing lip and the outer rim of the shaft sealing.

2. Press in the new shaft sealing, flush with the end flange (7).
3. Fit the new O-ring (3) on the front flange/distributor (2).

4. Fit the stator (4) onto the gauge peg on the front flange/distributor (2).

5. Place the rotor (5) with vanes (6) inside the stator (4).

6. Fit the end flange (7) and secure the front flange/distributor (2) to the end flange with the three hexagon screws (9).

7. Mount the pump on the electric motor shaft.

8. Tighten the four hexagon screws (2), securing the pump to the electric motor.

9. Connect the suction and pressure pipes to the front flange/distributor (2).
4 Technical Data

4.1 Specification

Media
- Lube oil, Marine diesel oil (MDO), Gas oil

Maximum media temperature
- 80 °C

Pump type
- Vane

Max. capacity
- Lube oil: 300 l/h at 50 Hz or 360 l/h at 60 Hz
- Diesel oil: 630 l/h at 50 Hz or 760 l/h at 60 Hz
- Diesel oil: 630 l/h, 24V DC

Mounting style
- Horizontally

Weight incl. electric motor
- 9.5 kg, 230V AC
- 11 kg, 24V DC

Material
- Pump housing: Cast iron
- Rotor with vanes: Steel
- Stator: Steel
- Sealing: Shaft sealing

Motor
- 230V 1-phase AC or 24V DC, for marine applications

Insulation
- According to class F

Enclosure
- IP 54

Speed
- 1350 rpm, 230V AC at 50 Hz
- 1620 rpm, 230V AC at 60 Hz
- 1400 rpm, 24V DC

Power consumption
- 0.25 kW, 230V AC
- 0.2 kW, 24V DC

<table>
<thead>
<tr>
<th>Article No.</th>
<th>Voltage</th>
<th>Frequency</th>
<th>Current</th>
<th>Flow l/h 50 Hz</th>
<th>Flow l/h 60 Hz</th>
</tr>
</thead>
<tbody>
<tr>
<td>1764696-81</td>
<td>230V</td>
<td>50/60 Hz</td>
<td>2.2 A</td>
<td>300</td>
<td>360</td>
</tr>
<tr>
<td>1764696-80</td>
<td>230V</td>
<td>50/60 Hz</td>
<td>2.2 A</td>
<td>630</td>
<td>760</td>
</tr>
<tr>
<td>1764688-80</td>
<td>24V DC</td>
<td></td>
<td>12 A</td>
<td>630</td>
<td></td>
</tr>
</tbody>
</table>

1764688-80 24V DC 12 A 630
4.2 Dimensions

1. Pump
2. Electric motor 230V AC

1. Pump
2. Electric motor 24V DC
The feed pump must be installed to meet the following demands:

- The pump must be installed on a solid foundation and on a drip tray or in a cofferdam. It must be installed in horizontal position.
- The suction height must not cause a pressure exceeding 0.4 bar (40 kPa).
6 Spare Parts

Pump (230V AC)

<table>
<thead>
<tr>
<th>Item</th>
<th>Qty</th>
<th>Article No.</th>
<th>Description</th>
<th>Flow l/h 50 Hz</th>
<th>Flow l/h 60 Hz</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-3</td>
<td>1</td>
<td>1764693-01</td>
<td>Spare parts kit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>1764693-03</td>
<td>Displacement ring, inner diam. 49.6 mm</td>
<td>300</td>
<td>360</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>1764693-02</td>
<td>Displacement ring, inner diam. 51.0 mm</td>
<td>630</td>
<td>760</td>
</tr>
</tbody>
</table>
Pump complete (24V DC)

<table>
<thead>
<tr>
<th>Item</th>
<th>Qty</th>
<th>Article No.</th>
<th>Description</th>
<th>Flow l/h</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-3</td>
<td>1</td>
<td>1764693-01</td>
<td>Spare parts kit</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>1764693-02</td>
<td>Displacement ring, inner diam. 51.0 mm</td>
<td>630</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>1764710-01</td>
<td>Brush-set</td>
<td></td>
</tr>
</tbody>
</table>