

Type of service	Purpose	Interval
Periodical inspection	To prevent operational interruptions and machine breakdown. Measures to secure performance and efficiency are defined and decided for each individual application. It can include such things as impeller trimming, wear part control and replacement, control of zinc-anodes and control of the stator.	12,000 hours or 3 years, whichever comes first. Applies to normal applications and operating conditions at media (liquid) temperatures < 40°C (104°F).
Major overhaul	To secure a long operating lifetime for the product. It includes the replacement of key components and the measures that are taken during an inspection.	24,000 hours or 6 years, whichever comes first. Applies to normal applications and operating conditions at media (liquid) temperatures < 40°C (104°F).

**NOTICE:**

Shorter intervals may be required when the operating conditions are extreme, for example with very abrasive or corrosive applications or when the liquid temperatures exceed 40°C (104°F).

## 6.2.1 Inspection

**CAUTION: Compressed Gas Hazard**

Air inside may cause parts or liquid to be propelled with force. Be careful when opening.

Regular inspection and service of the pump makes sure that the operation is more reliable.

For seal lubricant information, see [Lubricants used in the drive units](#) on page 85.

Do the following to service the pump:

Part to service	Action
Pump exterior	Check the entire pump and the cables for external mechanical damage.
Cable	<ol style="list-style-type: none"> <li>If the outer jacket is damaged, replace the cable.</li> <li>Check that the cables do not have any sharp bends and are not pinched.</li> <li>Check that the leads and cable entry screws are correctly connected and tightened to the correct torque.</li> </ol>
Lifting handle	Check the lifting handle for corrosion or other damage.
Junction box	<ol style="list-style-type: none"> <li>General: Check that it is clean and dry. If it is wet: <ol style="list-style-type: none"> <li>Check the cable entry.</li> <li>Replace the O-rings. Fit new O-rings to all O-ring seal joints which are opened during inspection.</li> </ol> </li> <li>Terminal board: Check that the connections are properly secured.</li> </ol>
Junction box insulation: Drive units up to 1.1 kV	Check the condition and function. See <a href="#">Check the insulation, up to 1 kV drives or generators</a> on page 84.
Junction box insulation: Drive units 1.2–6.6 kV	Check the condition and function. See <a href="#">Check the insulation, 1.2–6.6 kV drives</a> on page 84.

Part to service	Action
Stator housing Drive units with oil as the seal lubricant.	<ol style="list-style-type: none"> <li>Check that it is clean and dry. <ul style="list-style-type: none"> <li>If there is oil in the stator housing, then drain and clean it. Check the stator housing again after one week of operation. If there is still oil in the stator housing, then change the seals.</li> <li>If there is water in the stator housing and there was water in the oil, change the seals immediately.</li> <li>If there is water in the stator housing, but there was no water in the oil, check all other connections.</li> </ul> </li> <li>Replace the O-rings.</li> </ol>
Oil housing Drive units with oil as the seal lubricant	<ol style="list-style-type: none"> <li>Check the oil quality: <ul style="list-style-type: none"> <li>If there is water in the oil, then drain the oil and replace with new oil. After one week of operation, check the oil quality again.</li> <li>If the oil is free from water, then fill the oil to the correct level, if necessary.</li> </ul> </li> <li>Replace the filling plug O-rings.</li> </ol>
Hydraulic parts	<ol style="list-style-type: none"> <li>Check the general condition of the impeller or propeller and the wear ring.</li> <li>Replace if necessary.</li> <li>If applicable, check O-ring.</li> </ol>
Zinc anodes	Check and change if necessary.
Screw joints	Check all externally accessible screw joints, and tighten if necessary to the correct torque. See <a href="#">Torque values</a> on page 95.
Electrical cabinets	Check that it is clean and dry.
Connection to power	Check that the connections are properly secured.
Level regulators	Check the condition and function. See <a href="#">Check the leakage detectors</a> on page 84.
Temperature sensors	Check the condition and function. See <a href="#">Check the temperature sensors</a> on page 84.

After any service involving the power connections, you must check the rotation before operating the pump. See [Check the impeller rotation](#) on page 76.

## 6.2.2 Major overhaul

- Perform a complete inspection service. See [Inspection](#) on page 81.
- Do these additional steps:

Part to service	Action
Motor: insulation check Drive units up to 1.1 kV	Check that the resistance between earth and phase lead is more than 5 MΩ. Use a 500 VDC or 1000 VDC insulation and continuity tester.
Motor: insulation check 1.2–6.6 kV drive units	<ol style="list-style-type: none"> <li>Check that the resistance between earth and phase lead is more than the minimum for the motor voltage. Recommended test voltage: 2500 VDC The resistance value is related to the motor voltage and must have minimum value of 5 MΩ/kV at a temperature of 25°C (77°F). For example, for a 6 kV motor the resistance between earth and phase lead must be more than 30 MΩ.</li> </ol>
Cable	Check that the rubber sheathing is undamaged. Change if necessary.
Oil housing	Change the lubricant. For lubricant information, see <a href="#">Lubricants used in the drive units</a> on page 85.
General dismantling and cleaning	<ol style="list-style-type: none"> <li>Dismantle the pump completely.</li> <li>Clean all the parts.</li> <li>Reassemble after replacing bearings, O-rings, and seals.</li> </ol>