Wärtsilä High Friction Couplings have been created to increase torque capacity and reduce costs. Using the latest, innovative technology, maximum propulsion efficiency can be achieved without changing the simplicity of the shaft connection method.

DESIGNED WITH DURABILITY AT ITS CORE
At Wärtsilä, we endeavour to provide our customers with products that ensure longevity and reliability. That’s why through years of research and development, we have engineered a specialised design approach towards our Wärtsilä High Friction Couplings. In doing so, we have produced an improved friction coefficient which increases the standard value from 0.14 to 0.30.

The innovative technology developed by Wärtsilä increases the torque transmission capacity. This can produce substantial cost-savings for the shaft line. Thanks to this technology, customers can avoid the use of costly reinforcement sleeves and large connection couplings can be substituted for more compact solutions.
Wärtsilä High Friction Couplings

INSTALLATION AND OPERATION

During installation, the process must be recorded. It’s therefore important to take note of pressures in low and high pressure pumps at every step as well as the diametric expansion and/or pull-up length achieved at the end of the process. Wärtsilä provide a data record table in the technical manual to help with this.

### Step one – coupling position

**Shaft surface:**
- Free from sharp edges, blows or markings.
- Clean (no particles).
- Thin film of oil.

### Step two – coupling purge

Process ends when no bubbles appear

### Step three – coupling starting position

**Oil return closed in low pressure pump**

### Step four – coupling installation process

**Manometers**

### Step five – coupling installation check

**Δ=OK?**

### Step six – concluding installation

**Locking tool**

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**FEATURES**

<table>
<thead>
<tr>
<th>High quality design.</th>
<th>Carefully engineered to ensure the best performances in servicing and operations.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Special high friction treatment.</td>
<td>No added material.</td>
</tr>
<tr>
<td>Friction coefficient.</td>
<td>High friction coefficients.</td>
</tr>
<tr>
<td>Reduced surface contact pressure.</td>
<td>Reduced shaft material stress.</td>
</tr>
<tr>
<td>Sealing system.</td>
<td>No oil leakages on mount-dismount process.</td>
</tr>
<tr>
<td>Increased distance between shafts.</td>
<td>Allows a degree of axial misalignments on shaft line assemblies.</td>
</tr>
</tbody>
</table>

**ADVANTAGES**

**BENEFITS**

Approved with major classification societies and designed with the most effective service life. Greater resistance and no surface damages. Improved manufacturing tolerances control. Minimum shaft preparation. Reduced coupling dimensions with higher torque capacity. Allows a higher hollow shaft. Expensive reinforcement sleeves on hollow shafts are not required. Reduced shaft material properties. Simple, quick and clean installation. Minimum staff required. No seizure problems.
Coupling types

We have a range of Wärtsilä High Friction Couplings, all of which are ready to install, with a clean and easy installation/uninstallation process.

WÄRTSILÄ OHSN-X HIGH FRICTION COUPLINGS

- Cylindrical shaft end to cylindrical shaft end connection.
- Supports a small gap between shafts without losing effectiveness.
- For all kind of installations.

WÄRTSILÄ OHSN-BX HIGH FRICTION COUPLINGS

- Cylindrical shaft end to cylindrical shaft end connection.
- Specially designed for installations with cross pitch propellers (CPP).
- Allows a greater distance between shafts, avoiding the use of distance rings.

WÄRTSILÄ OHSN-VX AND OHSN-VXD HIGH FRICTION COUPLINGS

- Cylindrical shaft end to flanged shaft end connection.
- Fixed through the flange and integrated in the sleeve to the connection flange before coupling installation.
- Enables a perfect alignment between flanges, with minimum effort.

<table>
<thead>
<tr>
<th>Coupling type</th>
<th>Shaft sizes</th>
<th>Coupling materials*</th>
<th>Hydraulic connections*</th>
<th>Hydraulic equipment required pressure</th>
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<tbody>
<tr>
<td>OHSN-X</td>
<td>Standard design: Ø200 – Ø700mm (Ø7.88 – Ø27.56 inch). Custom engineered: any dimension</td>
<td>Boss: alloy steel (standard)</td>
<td>Size from 200mm to end: High pressure: G3/4&quot; (standard) Low pressure: G1/4&quot; (standard)</td>
<td>High pressure: 2500bar (36,250psi) Low pressure: 400bar (5,800psi)</td>
</tr>
<tr>
<td>OHSN-BX</td>
<td>Custom engineered: any dimension</td>
<td>Sleeve: alloy steel (standard)</td>
<td></td>
<td>High pressure: 2500bar (36,250psi) Low pressure: 600bar (8,702psi)</td>
</tr>
<tr>
<td>OHSN-VX and OHSN-VXD</td>
<td>Standard design: Ø200 – Ø500mm (Ø7.88 – Ø19.68 inch) Custom engineered: Dimensions higher than Ø700mm</td>
<td></td>
<td></td>
<td>High pressure: 2500bar (36,250psi) Low pressure: 400bar (5,800psi)</td>
</tr>
</tbody>
</table>

*Other coupling materials and hydraulic connections are available on request.
Wärtsilä manufactures and provides protection cover for installations with alloyed steel shaft with bronze liners. Both the coupling and the shaft length need to mount and dismount the coupling over the shafts between the bronze liners, offering protection from contact with seawater. This also provides easier access to the coupling during maintenance procedures.

Wärtsilä manufactures and provides protection cover for installations with stainless steel shaft or alloyed steel shaft with glass refined plastic (GRP) protection material. This solution protects the coupling from contact with seawater.

Wärtsilä is a global leader in complete lifecycle power solutions for the marine and energy markets. By emphasising technological innovation and total efficiency, Wärtsilä maximises the environmental and economic performance of the vessels and power plants of its customers.