High Torque Magnetic Coupling
HTMC-500
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Magnetic couplings provide a means of coupling two shafts without physical contact. Torque is transmitted across the coupling due to the interacting magnetic fields of the inner and outer ring. The two shafts that are coupled will rotate at the same speed provided the torque limit of the coupling is not exceeded. The primary advantage of a magnetic coupling is the ability to transmit rotary power into or out of a sealed environment without requiring a mechanical connection.

HTMC-500 is a high torque-density magnetic coupling, with up to 50% less mass compared to commercial equivalents. The magnetic coupling has an excellent torque capacity for its overall size and mass. The high torque-density is specific to magniX products and is possible due to the unique magnetic arrangement that is utilised in the coupling construction. The coupling can be readily retrofitted to existing applications that utilise magnetic or non-magnetic couplings. The coupling is particularly suitable for use in applications where rotary motion has to be transmitted across a sealed barrier.

Containment shroud materials include PEEK, Ceramic, Glass, Carbon Fibre and a variety of plastics.

Technical Specifications

<table>
<thead>
<tr>
<th>Feature</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outer Diameter (D)</td>
<td>172 mm</td>
</tr>
<tr>
<td>Outer Coupling Bore (B1)</td>
<td>50 mm</td>
</tr>
<tr>
<td>Inner Coupling Bore (B2)</td>
<td>50 mm</td>
</tr>
<tr>
<td>Assembled Coupling Length (L)</td>
<td>210 mm</td>
</tr>
<tr>
<td>Maximum Torque</td>
<td>500 Nm</td>
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<tr>
<td>Maximum Operating Speed</td>
<td>5000 rpm</td>
</tr>
<tr>
<td>Coupling Mass</td>
<td>10 kg</td>
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</tbody>
</table>

Features

- Hermetically Sealed
- Inherent Torque
- Overload Protection
- No Maintenance Required
- No Friction or Wear
- Soft Start-up
- Isolates and Dampens Vibration
- Tolerant of Misalignment

Applications

Magnetic couplings enable driving shafts to be driven elements through solid walls such as laboratory equipment, boats or installations where external drives for internal equipment, without a sliding seal arrangement, is preferred.

- Food manufacturing
- Mining
- Oil and Gas
- Pumps and Compressors
- Chemical Processing
- Agriculture
- Industrial Processing

magniX is leading energy innovation by redefining power density and efficiency. Through its pioneering magniflux™ technology applied to superconductor and permanent magnetic motors and generators, magniX is capable of scaling its technology to meet electrical generation and torque requirements for sustainable commercial transport and industry.

Power magnified.