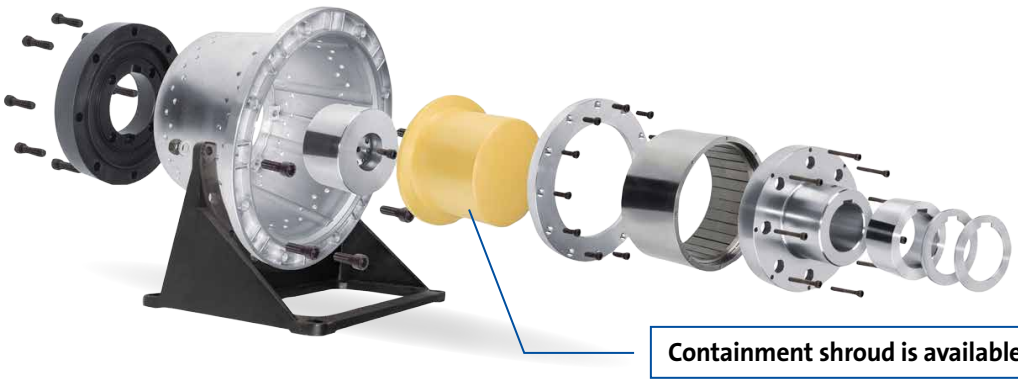
Non-contact torque transmission with permanent magnets.



MINEX®-S is a permanent magnet synchronous coupling which transmits the torque contactlessly via the magnetic forces between the inner and outer rotor.

Its main function is to serve as a seal element in pumps and agitators, where it guarantees hermetic separation between the drive and output ends. In the case of critical media (aggressive acids and bases etc.), it acts as a reliable sealing method and prevents leakage along with the associated consequences.

MINEX®-S also features overload protection — if the maximum coupling torque and maximum angle of rotation are exceeded, force transmission is automatically interrupted.

HIGHLIGHTS

- Non-contact torque transmission via permanent magnets
- Hermetic separation of drive and output ends
- Resistant to aggressive media
- Torques ranging from 0.15 to 1000 Nm
- Overload protection for drive and unit

Lenze SELECTION

MINEX®-S magnetic couplings

Structure/function

The coupling consists of an external and an internal rotor. The inner side of the outer rotor is lined with high-quality permanent magnets of alternating polarity. The magnets of the inner rotor are concealed by encapsulating them in a welded magnet covering that is impermeable to liquids.

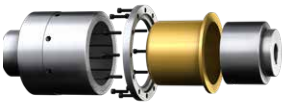
In an idle state, the north and south poles of the rotors face each other, and the magnetic field is completely symmetrical. It is only when the rotor starts turning that the magnetic field lines are deflected, thereby allowing torques to be transmitted through the air gap.

This results in synchronous operation with constant backlash.

The main component of MINEX®-S is the containment shroud, which is permanently attached to the unit at the output end and separates the inner from the outer rotor.

It ensures low-vibration torque transmission without the need for a mechanical connection, and provides hermetic separation between the drive and output ends — the sealing is achieved statically (e.g. flat gasket or O-ring).

The metal versions of the containment shroud cover the largest application range. However, they also result in eddy current losses and this may call for cooling measures.

MINEX®-S with		Torque	Additional info
Containment shroud made of stainless steel		0,15 bis 14 Nm	• Non-contact torque transmission with permanent magnets • Hermetic separation of drive and output ends • Containment shroud made of 1.4571 stainless steel
Containment shroud made of Hastelloy		10 bis 1.000 Nm	• Non-contact torque transmission with permanent magnets • Hermetic separation of drive and output ends
Containment shroud made of PEEK		10 bis 390 Nm	• No eddy current losses • Low susceptibility to breakage, low weight, easy Handling • Perfect for low temperature and pressure resistance requirements (up to 16 bar and +130°C) • No heat generation due to the containment shroud in the clutch • Particularly suitable for dry-running drives
Containment shroud made of ceramic		25 bis 550 Nm	• No eddy current losses • Suitable for higher temperature and pressure resistance requirements (up to 25 bar and +300°C) • No heat generation due to the containment shroud in the clutch • Particularly suitable for dry-running drives

If eddy current losses can be completely ruled out, PEEK and ceramic containment shroud also be chosen as energy-efficient alternative materials.

We will be happy to advise you with regard to individual dimensioning and any other questions you may have.