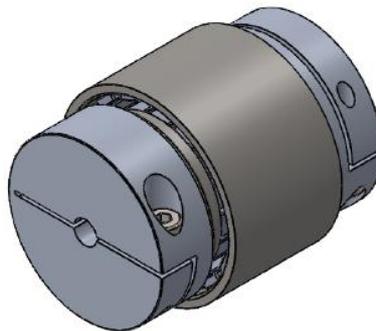
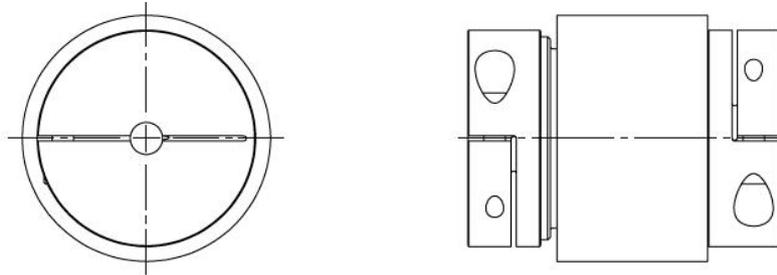


## Coupling series PMK & HMK



### General information

The installation and operating instructions are an essential part of the KBK magnetic coupling. They provide instructions for proper installation, operation and maintenance. Please read them carefully and observe all instructions. Failure to do so may result in failure of the KBK magnetic coupling.

 Couplings are available in ATEX design. Please refer to the supplementary operating and assembly instructions for hazardous areas.

### Safety instructions



**ATTENTION!**

- Installation may only be carried out by trained and qualified personnel.
- Rotating couplings are danger points. The user / operator must ensure appropriate protective measures. Do not reach into the working area of the coupling when it is still rotating. Secure the machine against unintentional switching on during assembly work.

### Manufacturer's Declaration

According to EC Machinery Directive 2006/42/EC Annex IIB shaft couplings are in the sense of the Machinery Directives (MR), they are not machines but components for installation in machines. The commissioning is prohibited until the requirements of the Machinery Directive are fulfilled by or after integration into the final product.

## Magnetic coupling with clamping hub: PMK & HMK



### Function

Magnetic couplings transmit torque by means of magnetic forces in a contactless and constant manner. Due to the two coupling halves, it is possible to compensate for radial misalignment. If the torque is exceeded, the magnetic field lines to the opposite poles break off and the inner and outer rotor can slip. When the overload torque is undershot, the magnetic field lines automatically cause their reset. This does not have to be done manually. The overload torque or the transmissible torque can be adjusted via the immersion depth of the magnets.

**Permanent magnet couplings** consist of an inner rotor and an outer rotor, which are fitted with permanent magnets. They achieve a relatively high torque transmission. In the event of an overload, there will be a slight jerking due to the restoring forces of the magnetic field lines.

In **hysteresis magnetic couplings**, the permanent magnet in the outer rotor is replaced by ferromagnets. This material can be easily magnetized or demagnetized. In the event of an overload, permanent demagnetization takes place, which ensures very smooth running. The torque transmission, however, is relatively low with these couplings.



#### Attention!

valid for  
HMK

If a slip or overload cycle lasts too long, the heat generated can damage or destroy both the bonding of the magnets and the magnets themselves.

The permissible power loss must not exceed the maximum power loss.

$$Pv = \frac{T \cdot n}{9,55} \cdot s$$

Pv: power loss (W)  
T: set torque (Nm)  
n: slip speed (1/min)  
s: slip (-)

### Shaft- hub connections

KBK magnetic couplings may only be used in accordance with the technical data stated in the catalog. A subsequent processing of the coupling is not permitted.

### Assembly preparation

The shafts and bores of the hubs to be connected must be free of dirt and burrs. Check the shaft connection dimensions (also dimensions relating to key) and check the tolerances. KBK magnetic couplings have an H7 fit. This fit clearance and oiling of the shaft pins facilitates assembly and disassembly. The recommended fit clearance is 0.02mm - 0.05mm.



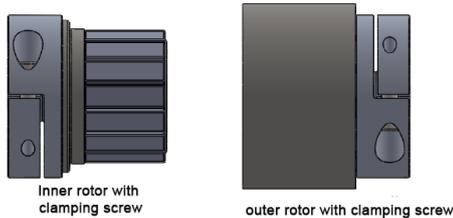
#### Attention!

Oils and greases with molybdenum disulfide or any other high-pressure additives, as well as sliding grease pastes must not be used!

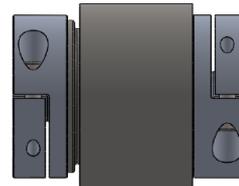
## Assembly and adjustment of the overload torque

- Slide the clamping hubs of the inner and outer rotor onto the shafts to be connected and fasten them with the clamping screw (A) provided. These must be tightened using a torque wrench. Please refer to the table regarding the tightening torque (TA).
- The overload torque is adjusted by overlapping the inner and outer rotors. Move both rotors axially to each other. When the magnets are completely overlapped, the maximum torque is transmitted - this corresponds to the length (L) in the catalog. With 50% overlap, only half of the overload torque is transmitted. Overlap and torque transmission correlate linearly.

### Tightening of the screws at the shaft shoulder

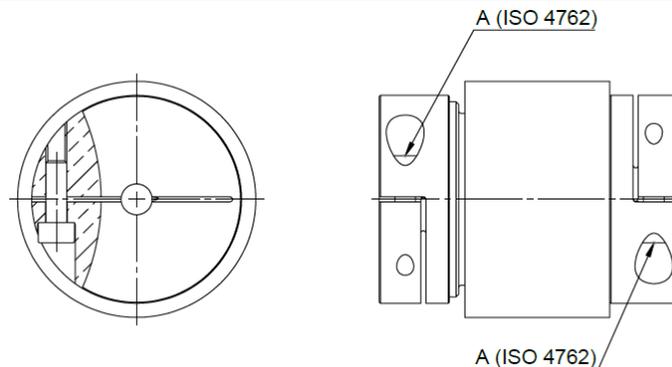


### Axial alignment to inner or outer rotor



PMK -	2	4	10	18	30	60	150
$T_A$ (Nm) (A)	2	3.5	4.5	8	15	40	84

HMK -	2	4	10	18	30	60	150
$T_A$ (Nm) (A)	2	3.5	4.5	8	15	40	84



## Disassembly

The KBK magnetic coupling is disassembled in reverse order to assembly.

## Maintenance

KBK magnetic couplings are maintenance-free. A visual inspection of the KBK magnetic coupling should be carried out at the same time as the regular inspection intervals. When used as intended, KBK magnetic couplings are fatigue resistant.

## Transportation

KBK magnetic couplings are supplied ready for installation. After the incoming goods inspection, the magnetic coupling should be stored again in its original packaging and made available for assembly later. The installation and operating instructions should always be available at the place of installation.