



WEAR FREE OPERATION FOR VERTICAL PUMPS

## HERMETIC contactless magnetic support bearing

### ZART® design philosophy

The HERMETIC ZART® design philosophy combines several technical features to ensure an operation where no parts contact each other. This feature results in trouble free and wear free operation.

**No contact – no wear – no worries**

**ZART®**

*simply best balance*

### Safety

- handles unstable or extremely changing operating conditions
- prevent damages
- lowest emissions
- full secondary containment
- each pump tested and certified

### Economics

- no wear parts
- perfect for variable speed drives
- lowest TCO (total costs of ownership)
- lowest unexpected shutdown costs
- lowest maintenance expenses

### Reliability

- ideal for instable or intermittent operation
- highest MTBF (mean time between failure)
- suitable for challenging services
- **no contact – no wear – no worries**

### Operation range

- Temp.: -160 °C to +100 °C
- System pressure: up to 500 bar
- Frequency range: 0 – 60 Hz  
exceeding parameters on request



Sealless Technology **Unlimited**

# The contactless magnetic support bearing – advanced technology for vertical pumps

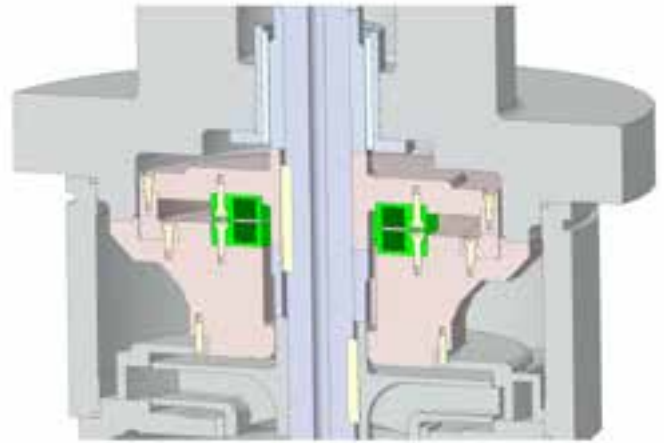
To complement the ZART® (zero axial and radial thrust) technology in HERMETIC vertical canned motor pumps, HERMETIC has engineered and developed a magnetic shaft support bearing to be offered as an additional option for this pump segment.

The magnetic bearing technology utilizes two powerful magnetic discs, or, support bearings to keep the rotating elements of the pump contact free during operation and shutdown. This is accomplished by the strong magnetic forces of the bearing stabilizing the rotating shaft-assembly during operation so that there is a defined vertical separation between the rotating magnetic disc and the stationary magnetic disc.

This gap between magnetic discs guarantees wear-free operation during start-stop operations as well as upset conditions. The magnetic bearing also ensures the contact-free performance during extreme operating parameters such as low flow conditions, cavitation or temporary gas entrainments. In addition, this technology is ideal for operation with variable frequency drives. All of these conditions are easily handled by the specialized design of the magnetic bearing and ensure that the pump continuously maintains the HERMETIC ZART® thrust balancing standard.

If unstable conditions are expected during operation, the magnetic shaft support bearing will substantially improve reliability, operation time and increase mean time between maintenance. The magnetic bearing has proven advantageous in hundreds of installations globally including, but not limited to, ethylene, propane and numerous supercritical gasses.

This is one more way that HERMETIC has implemented their more than 150 years of pump experience to provide customers with cutting edge pumping technology to meet some of the industry's most extraordinary demands.



Picture: Construction details of the HERMETIC magnetic support bearing technology

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