

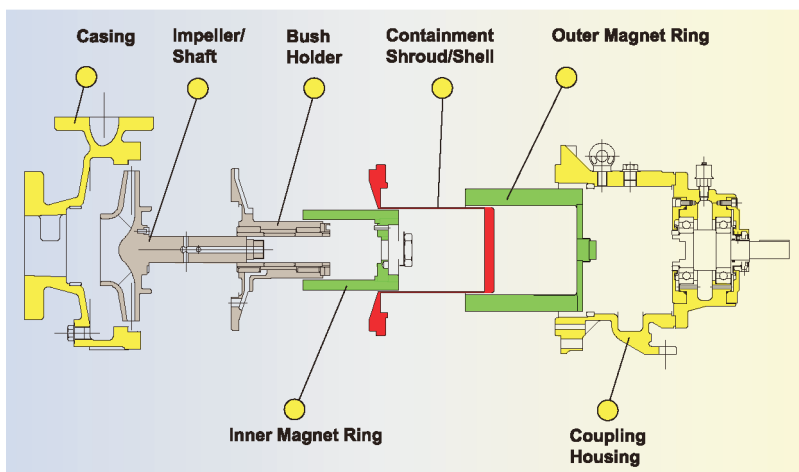
Sealless Magnetic Drive Pumps

A Few Facts

What is meant by magnet drive sealless pumps?

The sealless pump is a conventional centrifugal pump without packed glands or mechanical seals. The dynamic seal normally used to seal the impeller shaft has been replaced by a static containment shroud/shell to form **a completely sealed liquid end/pressure boundary.**

Prime mover energy is transmitted to the sealed liquid end by a bank of external magnets passing force through the containment shroud/shell to the impeller shaft.



The Facts

Mechanical seals on pumps are designed to maintain their seal as much as possible by leaking small amounts of fluid to keep the seal faces lubricated. This is then boiled off (fugitive emission).

Seals, like bearings, must wear. As they wear, the faces lose their sealing effect and any liquid pumped will seep through the seal.

A fugitive emission can be costly in terms of time, money and safety in the work place.

Environmental controls, occupational safety and product liability are now of paramount importance to process plant operators.

Most companies will probably have a seal maintenance or support programme, to lessen their continuous leakage problems. This involves time, extra money and a spares inventory as well as plant down-time when replacement seals are required.

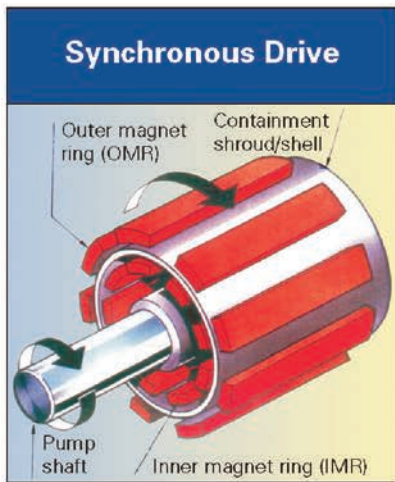
Advantages of sealless pumps

- Ease of application
- Low capital cost
- Safe, leak free operation
- Low running costs
- Minimal spares holding
- Fast maintenance
- Minimal downtime
- Maximises on-line time

Key Sundyne HMD Kontro benefits

- Almost no unplanned maintenance
- Uses standard electric motors
- No leakage possible – environmentally safe
- High pressures and hot oil capabilities without 'backup' systems
- All specifications available EN22858: 1993, ASME B73.3 and API 685
- Sundyne HMD service back up worldwide (separate bulletin available)
- Over 65,000 pumps installed worldwide is your guarantee of quality
- Non-metallic versions are available
- Can be serviced on site
- No spares required on hand
- No cooling required up to 450°C, 850°F

A Few Facts

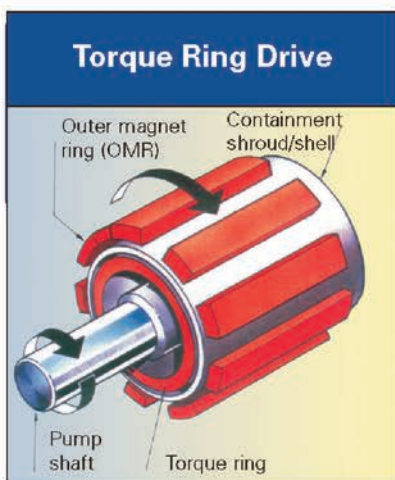


Sundyne HMD Kontro magnet drive operation

For service up to 260°C, 500°F

The **synchronous drive** comprises an outer magnet ring assembly (OMR) built to magnetically couple with an inner magnet ring assembly (IMR). These two magnet rings are locked together by the flux of attracting magnet poles flowing through the containment shroud/shell. The magnet / magnet coupling is, therefore, a fixed speed drive and has a constant torque performance.

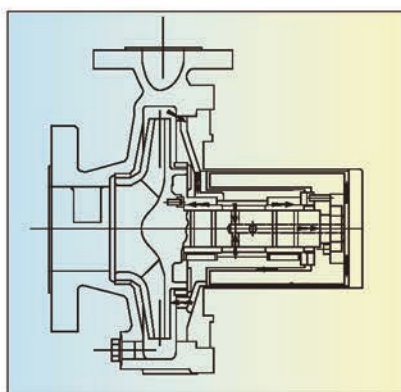
Any prime mover can be used; electric motor, turbine or air motors are typical and can be supplied either in close coupled or separate mounted configurations.



For service up to 450°C, 850°F

The **torque ring drive** is similar in method to the synchronous drive except the inner magnet ring is replaced in this drive system by a special torque ring.

Magnetic eddy currents are created which rotate the torque ring. This allows Sundyne HMD Kontro pumps to operate at temperatures up to 450°C, 850°F without cooling.



Lubrication

The impeller and shaft assembly is supported within the bush holder by product wetted bearings. During rotation, pumpage is taken from the discharge side of the impeller and fed back through the inner magnet ring, the containment shroud/shell and the product wetted bearings to both cool and lubricate.

Sundyne Headquarters:

Sundyne, LLC

14845 West 64th Avenue
Arvada, Colorado 80007
USA

1-866-Sundyne

Phone: 1 303 425 0800

Fax: 1 303 940 2911

www.sundyne.com

Sundyne United Kingdom:

Sundyne HMD Kontro Sealless Pumps

Marshall Road
Hampden Park Industrial Estate
Eastbourne, East Sussex, BN22 9AN
United Kingdom

Phone: +44 (0)1323 452000

Fax: +44 (0)1323 503369

Sundyne China:

**Sundyne Industrial Equipment
(Tianjin) Company Limited**

Building 1, No. 879 Shen Fu Road
XinZhuang Industrial Zone
Min Hang District

Shanghai, China 201108

Phone: +86 21 5055 5005

Fax: +86 21 5442 5265

Sundyne France:

Sundyne International S.A.

13-15, Bld. Eiffel - B.P. 30
21604 Longvic Cedex
France

Phone: +33 (0)3 80 38 33 00

Fax: +33 (0)3 80 38 33 66

Sundyne Spain:

Sundyne Marelli Bombas, S.R.L.

Ctra. Madrid-Toledo, Km.30.8
45200 Illescas
Toledo, Spain

Phone: +34 925 53 45 00

Fax: +34 925 51 16 00

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Sundyne HMD Kontro
Facts 2.1 9/14 A4 Eng.