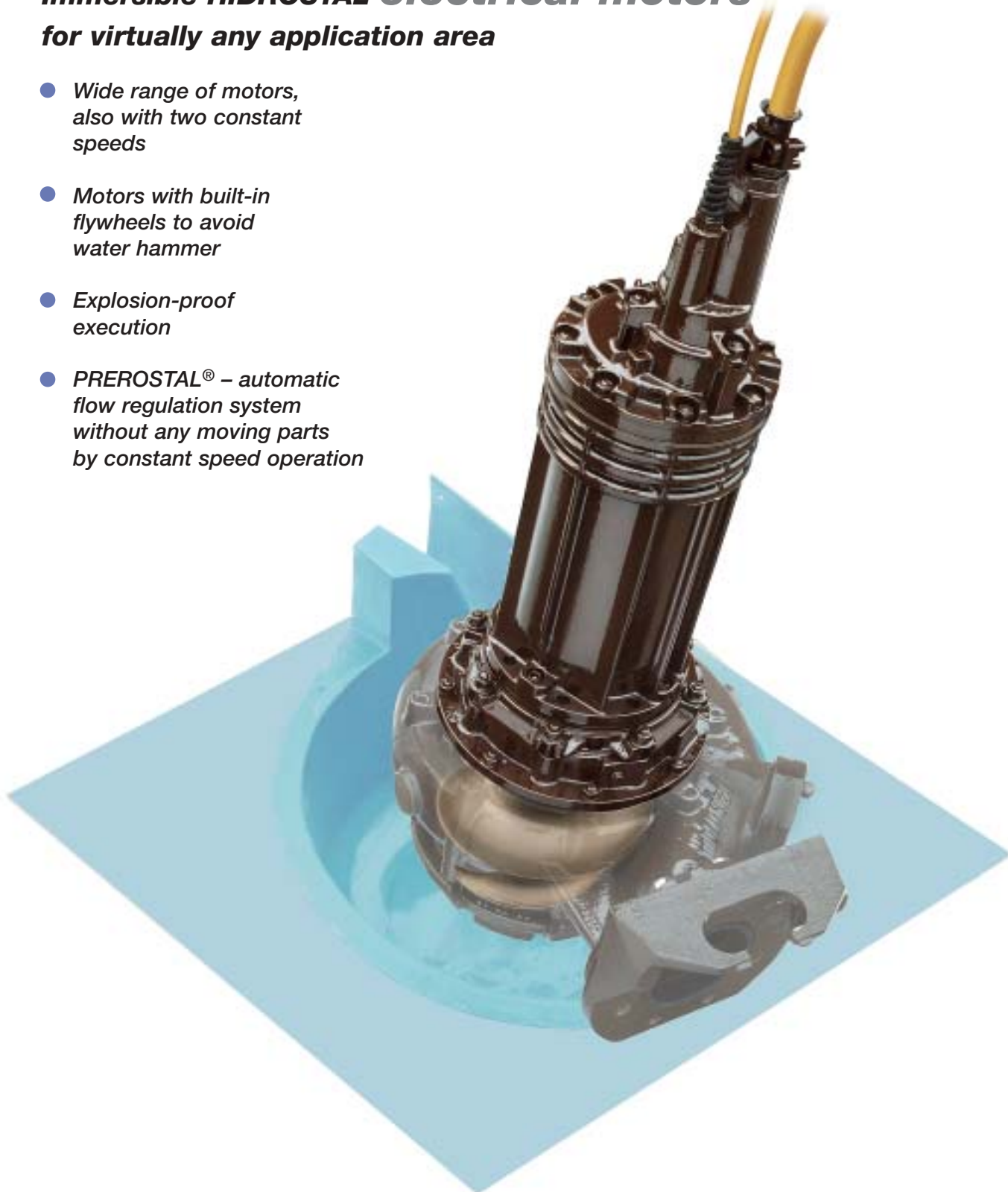




Hidrostat

Immersible HIDROSTAL electrical motors for virtually any application area

- *Wide range of motors, also with two constant speeds*
- *Motors with built-in flywheels to avoid water hammer*
- *Explosion-proof execution*
- *PREROSTAL® – automatic flow regulation system without any moving parts by constant speed operation*



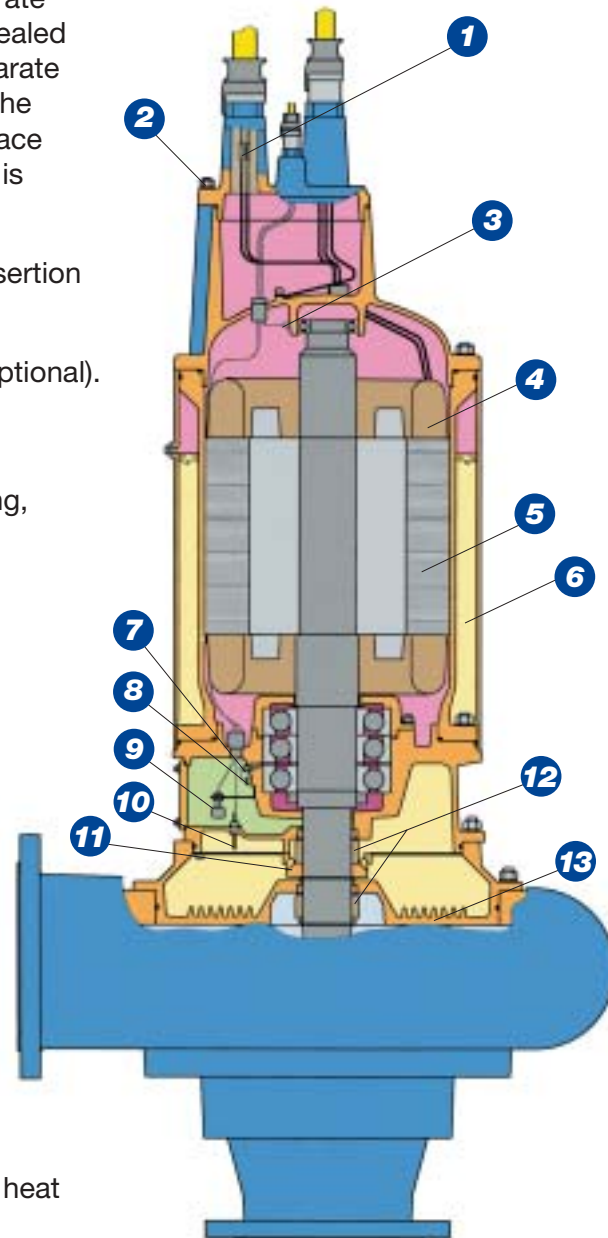
HIDROSTAL – Pioneers in Pump Technology

For increased operational reliability and high service life

Characteristics of the immersible HIDROSTAL electrical motors

- Being mounted directly in the sump, the immersible electrical pumps save a maximum of space and results in the lowest costs with regard to the overall investment.
- A pump installed in the dry area that is liable to flooding is fitted with an immersible electrical motor, and is installed vertically directly on the floor, by means of an induction pipe. This system is usually selected for pump stations of around ≤ 30 kW.
- Service life of 50,000 operational hours with correspondingly designed bearings.
- From a certain size, pumps are additionally fitted with a lubrication system.

- 1 The cable inlet allows no moisture to penetrate into the interior of the motor. The cable is sealed with epoxy resin, the wires are fed into separate guides, which also form the connection to the motor, and, in this way, even the interior space between the cable sheathing and the wires is completely sealed off.
- 2 Separate cable covers permit the simple insertion of a new cable.
- 3 Temperature sensor in the upper bearing (optional).
- 4 Temperature sensor built into the winding.
- 5 High-efficiency motor with dry stator winding, insulated to Class F.
- 6 Oil cooling jacket with forced circulation.
- 7 Re-lubrication facility for the axial bearing.
- 8 Temperature sensor in the lower bearing.
- 9 Float switch for warning of leakage from the upper seal (optional).
- 10 Moisture sensor in sealant oil gives warning of water penetration.
- 11 Oil pump impeller, rigidly mounted on the shaft.
- 12 Tandem Mechanical Seal in wide oil chamber.
- 13 Sealplate part with cooling ribs serves as a heat exchanger to the transported medium.



The HIDROSTAL motor cooling system

The circulation pump in the oil cooling reservoir, which runs synchronously with the motor, guarantees absolute operational reliability.

The process heat is transferred to the transported medium via cooling ribs on the rear of the hydraulic system. Therefore no special cooling channels are necessary for this in the oil chamber. The channels that are common used often become coated with sludge, thereby hindering an efficient heat transfer and leading to undesirable overheating.

Monitoring moisture

If the amount of water in the oil chamber exceeds a certain level, the built-in moisture detector gives an alarm. The necessary service can then be organised.

Monitoring the bearing temperature

The bearing temperatures of the upper and lower bearings can be monitored using temperature sensors. In this way, bearing damage can be detected at an early stage, and the necessary steps be taken.

Float switch (optional)

As a supplement to the moisture sensor, a floater switch can be installed in the oil chamber. If water penetrates into the dry chamber, it will react before the water reaches the lower bearing. In this way, washing-out of the lubrication oil and damage to the bearings can be avoided.

Explosion protection

The motors are approved for use in applications where there is a danger of explosion, according to EExd II B, T3 or T4. Many models are also approved for operation with frequency inverters.

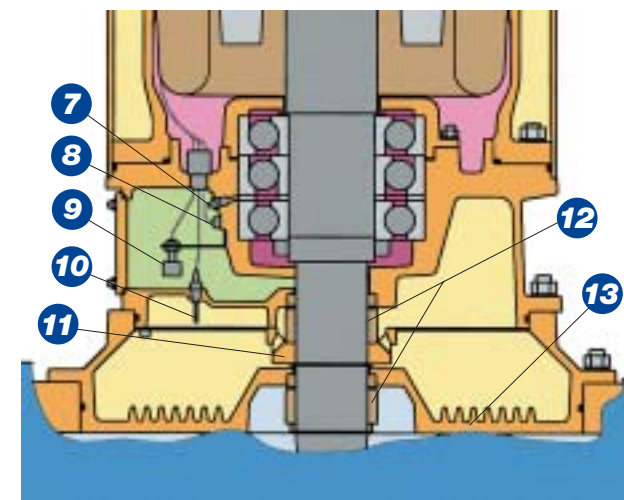
Tandem Mechanical Seal

The seals run in the oil bath. The seal at the pump-side is made from material that is specially resistant to abrasive media.

Lubrication of the lower bearing

The lower bearing is loaded by the weight of the rotor and by the hydraulic forces acting vertically downwards.

This bearing requires a corresponding lubrication. For this reason, the watertight protective cover is removed, exposing the lubrication points.



Zero Zone

In areas that have been declared as Zero Zones, electrical motors are generally forbidden.

For such zones, HIDROSTAL delivers hydraulic drives for dry and wet applications. More details are available on request.

Versatility is our strength

For every application area we are able to offer the best motor with the correct characteristics

Immersible pumps as dry models

All immersible pumps can, of course, also be operated dry. As a result, a separate motor installation and long propeller shafts become unnecessary.

The on-site adaptations are reduced, and the motors run quieter. In case of immersion, they continue to run, and are accessible for service and maintenance.

Immersible motors can be employed in any situation:

- for dry installations
- in immersed areas
- for variable levels

Immersion depths

All immersible pumps are approved for depths up to 30 m. HIDROSTAL special models can be used for depths up to 200 m.

Motors with two speeds

HIDROSTAL has a wide ex-stock range of motors with two speeds. The consulting engineer will select the most suitable motor according to the area of application.



Axial and tubular pumps

The screw-centrifugal principle is also ideally suited for pumps with flows in the axial direction, particularly for small heads.

Applications:

- Pump station for rain and flood water
- Irrigation and drainage installations
- Handling of sludges
- Handling of water contaminated with oil



The PREROSTAL® SYSTEM

The PREROSTAL® flow regulation system automatically matches the output flow to the quantity arising. It works without any moving parts, and functions entirely through the shape of the inlet.

Advantages:

- The pump works with constant speed
- Self-cleaning effect, i.e., no deposition of solid material in the pump sump
- Low space requirement
- Closed construction possible



Installation in the pump sump

All submersible and immersible pumps are available with guide rails. Using these, the pump can be exactly positioned on the automatic coupling on the outlet housing.



Flywheel equipment (Optional)

If the flow rate in the hydraulic system changes quickly, pressure pulses can occur, which can lead to parts of the installation becoming damaged. These pressure pulses can arise when the speed suddenly drops as a result of a loss of electrical power. In such cases, HIDROSTAL install a flywheel, and thereby considerably increase the run down time. As a result, the flow rate of the medium changes less quickly.

Portable pumps

Free-standing or portable pumps are fitted with a circular support.

The large inlet openings allow the transported medium to flow through without hindrance.

**HIDROSTAL electrical motors
are optimally tailored to each application**



Sludge pumps with a special suction stand installed vertically and dry.



Rainwater pumps with the PREROSTAL® System.



Sewage pumps installed dry.



Waste water pump with the PREROSTAL® System.

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