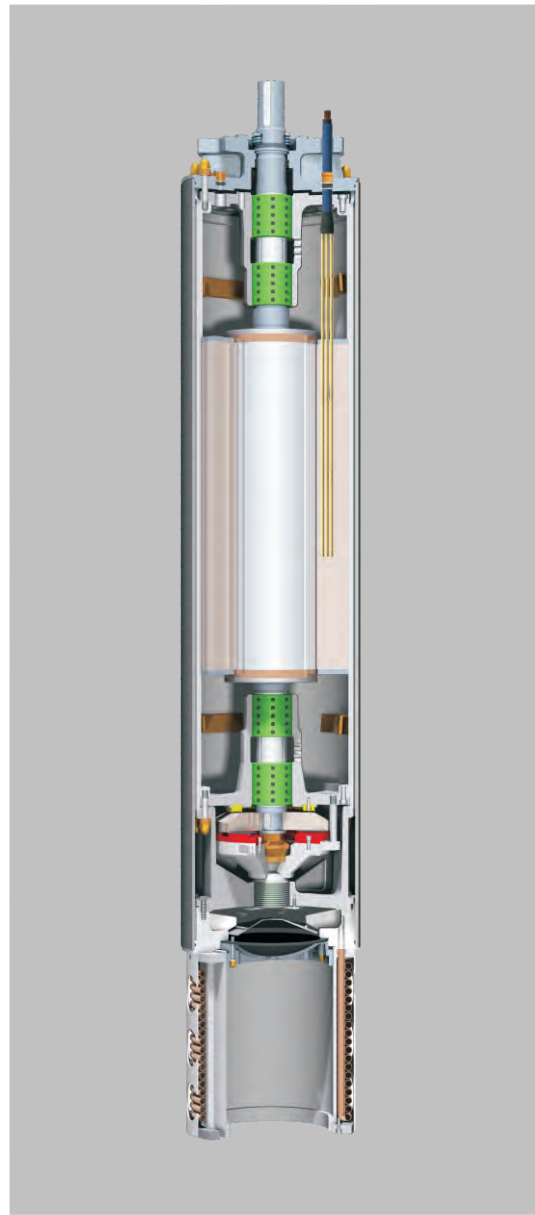
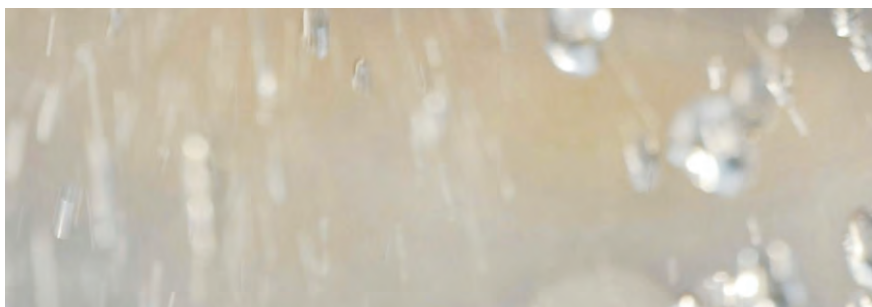


Indar

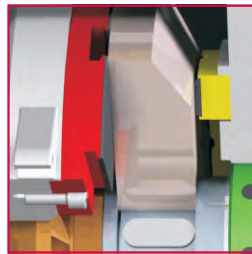


MAIN CHARACTERISTICS OF INDAR MOTORS





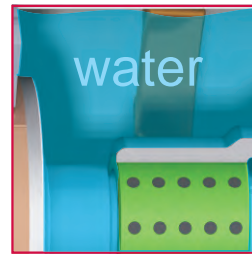
- 01 Unique pivot balancing system**
Made by a unique ball (or half hemisphere) withstanding huge trust ratings and allowing the rotating part to balance while in operation, optimizing the surface to a maximum which reduces wear and tear.



- 02 Bidirectional axial thrust bearing**
Consists of two sets of graphite surfaces (upper and lower shoe), helps to prevent axial up and down movement of the motor shaft caused by "hammering" pump and similar situations.



- 03 Radial Bearings**
Manufactured with a Bronze frame and INDAR invent graphite composite, with special grooves to enhance lubrication and cooling.



- 04 Water filled motor type**
Is filled with normal non contaminant tap water to evacuate the heat produced inside the motor and to lubricate all the rotating parts.



- 05 Rubber Cable Gland**
Manufactured with appropriate materials for the pumping fluid, ensures the necessary protection by sealing the motor tight in compliance with IP-68 design requirements.

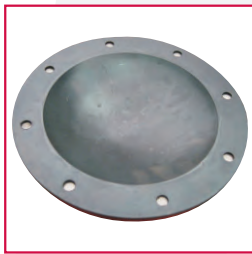
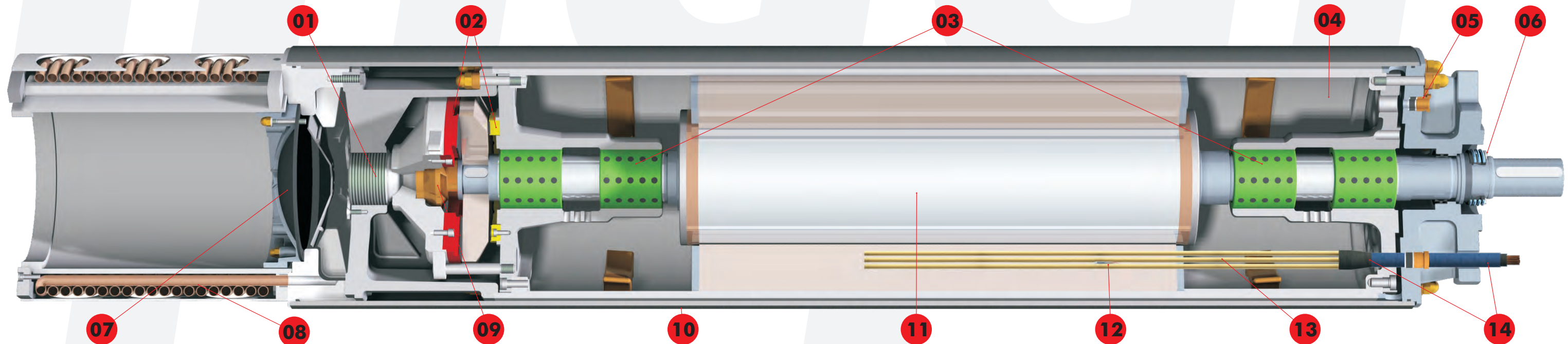


- 06 Single mechanical seal**
Manufactured in different materials for the right type of fluid to be pumped, ensuring dynamic sealing even under very harsh conditions. As an option, sand protectors are obtainable under request.

Details of Water filled Motors:

- 01) Filling of motor with normal tap water
- 02) Frame diameter: from 8" to 35"
- 03) Maximum power rating: 2215 kW
- 04) Maximum Voltage: 6.6 kV
- 05) Speed: from 750 rpm to 3500 rpm
- 06) Standard insulation: Class Y
- 07) Protections: PT-100 temperature sensors placed in the winding and/or thrust bearing
- 08) Re-woundable
- 09) Suitable for VFD operation
- 10) Manufactured with different type of winding wires and power cables, specifically to the details of each application.
- 11) Materials of construction: Cast Iron, Bronze, 316 SS, 904L SS, Duplex, Super Duplex, 254 SM0.
- 12) Motor heads: According to NEMA for small sizes and following US industry standards for bigger sizes.

"Indar reserves the right to make technical changes at any time without notice".



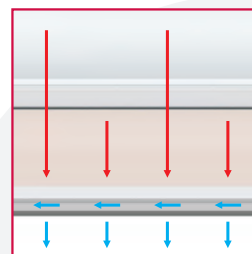
- 07 Rubber membrane for pressure balancing**
Which does not have any mechanical parts, simple and effective. Balances the inside pressure of the motor with the outside ambient pressure and prevents the internal cooling water from leaking or exchange with the external water.



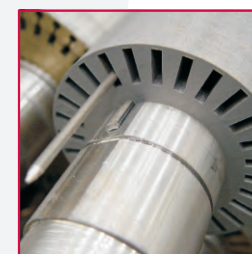
- 08 External cooling exchanger**
Available as an option, designed to enhance the cooling capacity of the motor for hot water applications, or to increase the nominal power in standard wells.



- 09 Internal cooling impeller**
Designed to circulate the water in the interior of the thrust bearing and also through the motor laminations to transmit temperature exchange from inside the motor to the main motor frame. This is only available for specific motor types according to Indar design.



- 10 Cooling Shroud**
Ensures a constant flow passed the motor frame which guarantees proper cooling and can also increase the nominal power offering of the motor. This is only available for specific motor types according to Indar design.



- 11 Keyed and protected rotor**
To prevent laminations to twist around the rotor shaft. The shaft is covered with Chromium where the radial bearings are placed to eliminate friction.



- 12 Temperature sensors: Pt100**
Offers an accurate and instantaneous temperature reading inside the motor and protects the winding from overheating by using a switch off relay.



- 13 Winding wire**
Specially manufactured to ensure insulation against water with utmost longevity. The common used materials are PVC, PE2 + PA, and Teflon based wires.



- 14 Power cable**
Durable and designed for continuous submerged exposure specific to the desired application. Spliced inside the motor with a minimum length of 8 m (25 FT).

Some information about Indar Maquinas Hidraulicas SL

INDAR Maquinas Hidraulicas: a company leader in the submersible pump and motor manufacturing sector for different water-based applications.

It was founded in 1940 and since then, the experience and range of products have gradually increased until it was finally integrated into the INGETEAM GROUP.

At this point, using their own specialist expertise and the GROUP's technological know-how, a new manufacturing plant was set up in the year 2000, equipped with the very best resources for ensuring that we remain at the forefront of innovation.



At present, INDAR Maquinas Hidraulicas has a 26,000 m² (85.246 Ft²) plant building, and 4,000 m² (13.115 Ft²) of office space. INDAR uses cutting-edge technology that includes a hydraulic laboratory and testing bench.

INDAR has a highly qualified R + D + i department that allows developing its product with its own technology always committed to the twin aims of quality and customer satisfaction.

INDAR also has an After-Sales Service for spares, repairs and maintenance (preventive and corrective).

All its products are sold worldwide through official distributors and branches.

It is vitally important for INDAR that its products and services are of excellent quality. INDAR's products and services comply with the applicable standards and specifications and satisfy the expectations and needs of the customer. At present, INDAR has UNE EN ISO 9001 and 14001 certifications.



Indar

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