



INDAR PUMPING SOLUTIONS FOR THE ENTIRE WATER CYCLE

Ingeteam

ELECTRIFYING
A SUSTAINABLE FUTURE

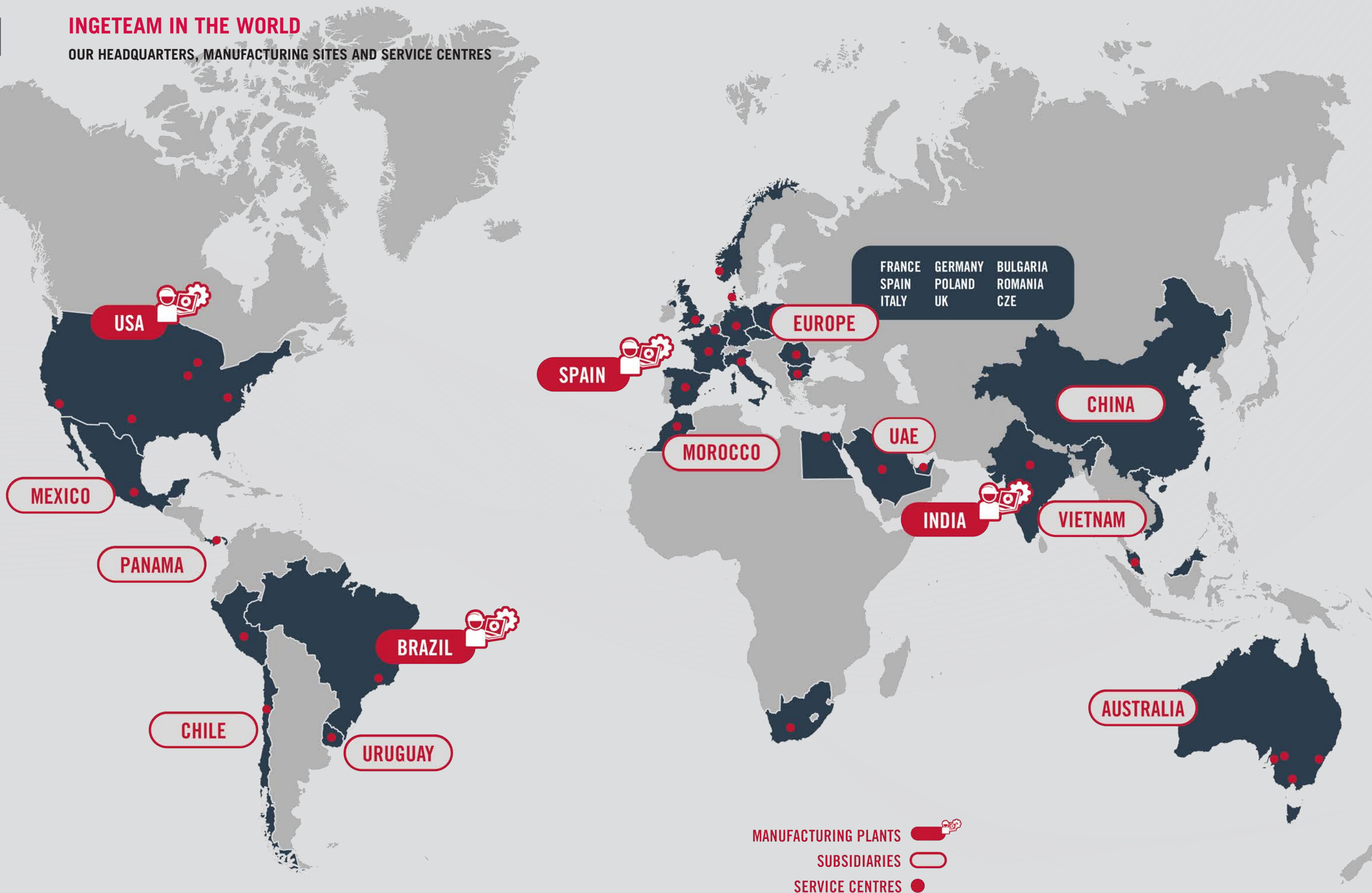


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INGETEAM IN THE WORLD

OUR HEADQUARTERS, MANUFACTURING SITES AND SERVICE CENTRES



1 | *Indar* PUMPING SOLUTIONS

INDAR PUMPING SOLUTIONS

At Ingeteam we are committed to the efficient management and use of water resources throughout the whole value chain.

Our offering includes:

- Indar submersible pumps systems.
- Indar electric motors.
- Frequency Converters for power control.
- Wire to Water Pumping solutions.
- Automation & eBoP of Pumping Stations.
- O&M Services for Water Treatment Plants.

We offer high quality products, guaranteed by the ISO 9001, ISO 14001 and ISO 45001.

Technical expertise and the spirit of adaptability have been and remain our main strength and hallmark.

COMPETITIVE ADVANTAGES

- Versatility and Flexibility.
- Tailor made solutions.
- Pump and motor, both manufactured at Ingeteam.
- Own technology and Designs.
- Short lead times.
- Testing in real conditions.

TURNKEY PROJECTS FROM START TO FINISH

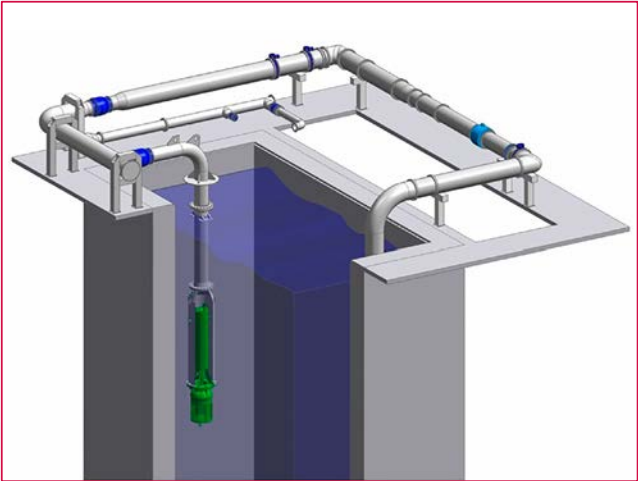
- Analysis
- Definition and Development
- Design, Manufacture and Testing
- Transport, Assembly and Commissioning
- Preventive and Predictive Maintenance and Monitoring Services
- Rehabilitation and Repowering
- Replacements

2 | WORLD CLASS TESTING FACILITIES

WORLD CLASS TESTING FACILITIES

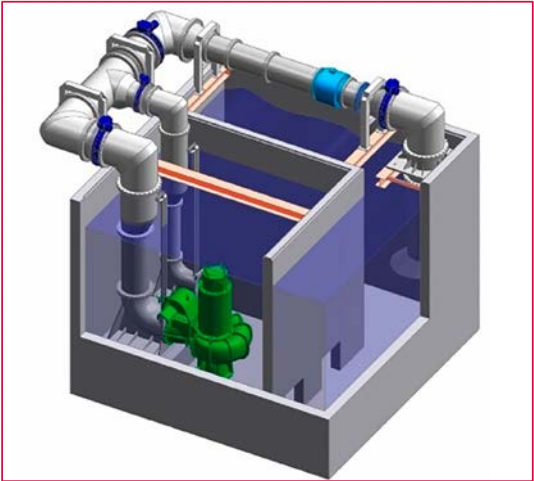
TESTING CAPABILITIES INCLUDE:

TEST BENCH - BEASAIN, SPAIN	
Features	Ranges
Flow	up to 21,000 m³/h
Head	up to 1,000 m
Power	up to 4,000 KW (own gen set)
Voltage	up to 13.8 kV
Frequency	50 Hz, 60 Hz / Frequency Converter
Weight	40 Ton



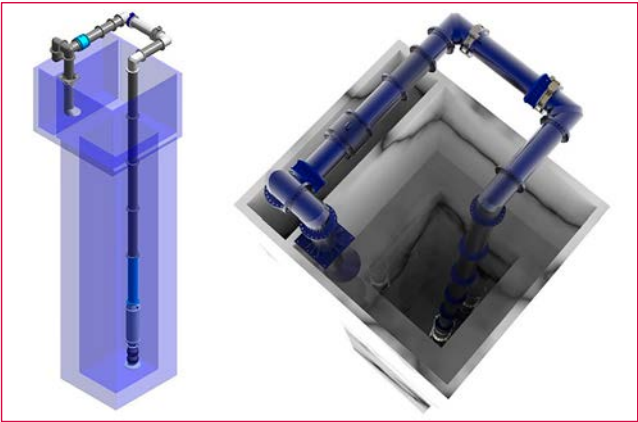
Indar UGP / UGP - M

- Flow: up to 1 m³/sec
- Head: up to 1,000 m



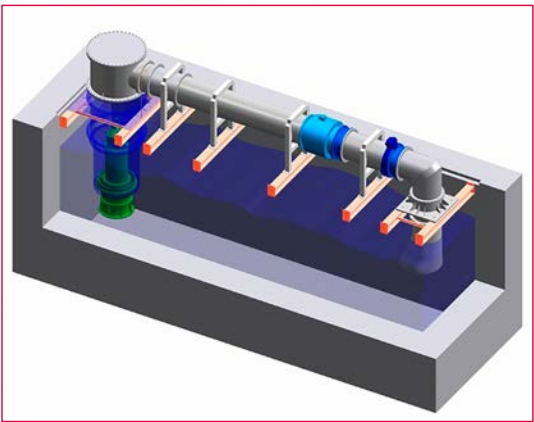
Indar BF

- Flow: up to 3.75 m³/sec
- Head: up to 100 m



Indar UGP / UGP - M

- Flow: up to 4 m³/sec
- Head: up to 400 m



Indar H / HE

- Flow: up to 6 m³/sec
- Head: up to 60 m

3 | WIRE TO WATER

Header Tank Available

Non-return Valve
Can be located at deck level or at the last pump bowl discharge.

Pump discharge elbow.

Efficient Multi-stage Indar Pump

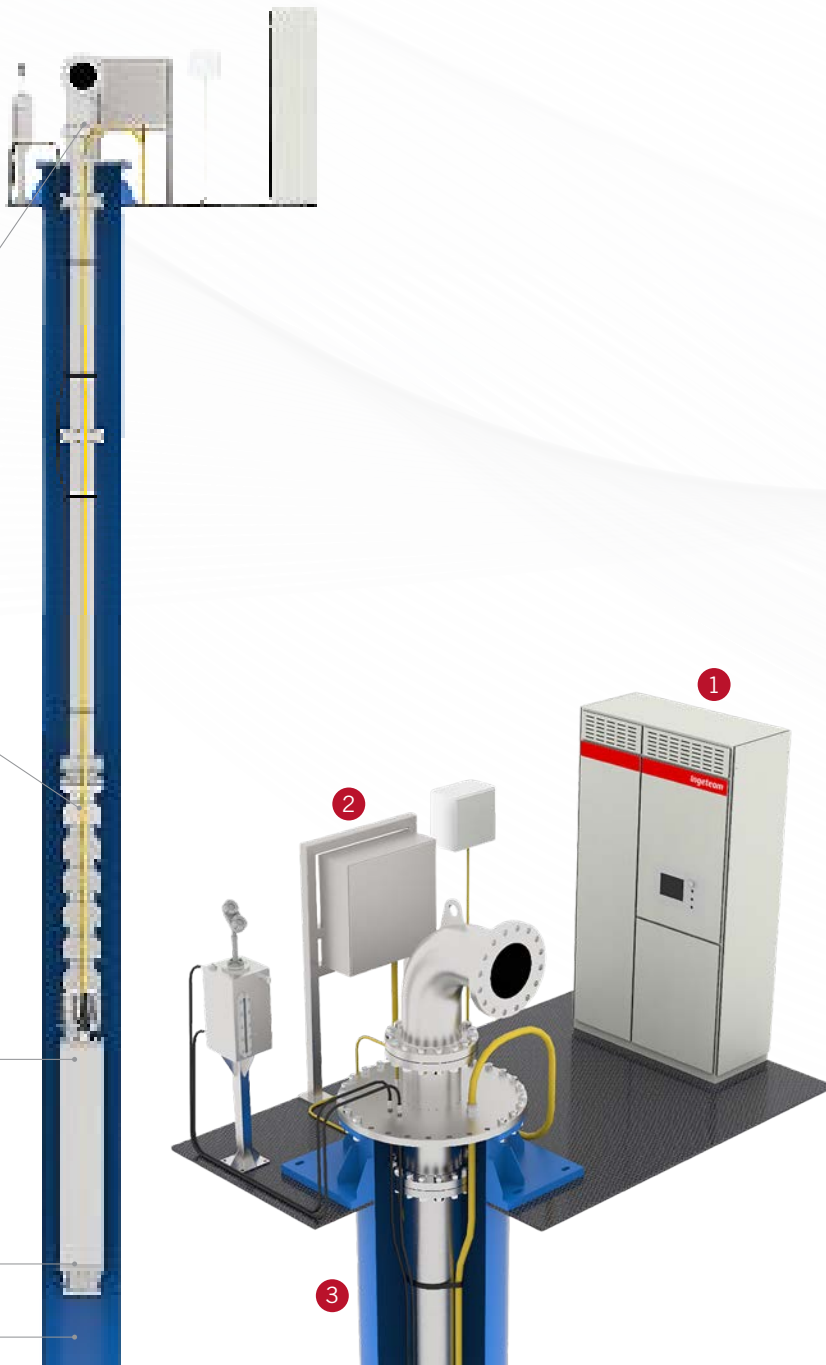
Hydraulic designs optimised for high efficiency.

Indar Submerged Electrical Motor

Standard or Inverted configuration.

No External Lubrication Required

Fluid



1 Equipment system

- **Indar** Submersible (eco-friendly) water filled motor and pump.
- Valves.
- Riser pipes.
- Wellhead with elbow, cable penetration, etc.
- Anodes.
- Anti fouling system.
- Transportation cradle.

2 Power control & monitoring

- Power control and automation.
- Header Tank.
- Temperature monitoring.
- Vibration monitoring.

3 Service

- Field Services.
- Repairs and Overhauls.
- Rehabs and Modernisation.
- Spare Parts Management.
- Digital Services.
- Ingeteam Water Premium Support.

4 | **Indar** UGP

Easily installed and maintenance free, Indar UGP / ML pump-motor set is a compact solution that consists of a multi-stage centrifugal pump coupled with a water-filled motor.

Adapted to various configurations: Vertical, Horizontal or Inclined (slant).

Hydraulic Part

A customised hydraulic solution adequate to various operating scenarios.

Ensures higher hydraulic efficiencies due to the absence of couplings connecting it to the motor*.

Water-filled Motor

Maintenance-free and environmentally friendly.

A silent motor that is flexible to electrical needs.

*Provided that the set is operated in adequate operational conditions.



Impeller

Customised to reduce operational costs.

Direct Coupling

No mechanical losses.

Axial Thrust Bearing

Bi-directional bearing that makes the use of non-return valve optional (taking into account the results of surge analysis).



Indar UGP-M

In installations where the water level is too low to ensure the required suction conditions, the UGP-M comes into play.

The pump suction located at the bottom of the set allows maximising its submergence. It also optimises pumping and allows for an efficient use of water reserves.

Enhanced Cooling

The pumped fluid represents an additional cooling of the motor.

Cooling Shroud

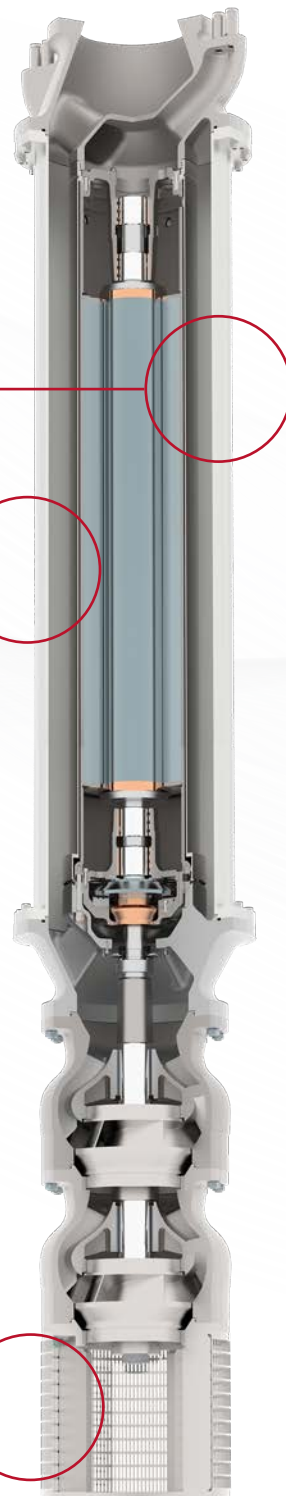
Ensures proper cooling by the flow of the discharged fluid.

NOTES

Intake bellmouth available (hydraulically optimised design to improve suction conditions).

Strainer (if required)

Adapted to the type of fluid to avoid particles inside the pump.



Indar UGP & UGP-M

Technical Features

- Starting from 8".
- Flows from 10 l/s to 2,500 l/s.
- Head from 20 m to 1,000 m.
- Power from 25 KW to 4,000 KW and Voltage up to 13.8 kV.
- Speed between 500 rpm to 3,600 rpm.
- **Materials:** Cast Iron, Stainless Steel 316, Duplex, Super Duplex.

Main Advantages

- Rewindable stator.
- **Permanent Magnet Motors.**
- **Water-filled** motor.
- **Compact solution.** Direct coupling.
- Maintenance **free.**
- **Low-suction** UGP-M.
- Bi-directional **axial thrust bearing.**



Indar HE

A mono block design pump with an axial impeller, a mixed-flow impeller or variable pitch propeller coupled to a submersible motor. An efficient cooling system allows the unit to operate continuously even under severe environmental conditions.

Air-filled Motor

Water-filled and oil-filled motors also available depending on the application and client specifications.

Manufactured entirely in-house in our Beasain facilities in Spain.

Hydraulic Part

Prevents clogging thanks to the hydraulic design of the impeller blades and high free ball passage.

As all Indar products, customisable to a wide range of materials.



Easily installed and maintained thanks to its anchoring hook that allows to optimise operational costs and gain significant time on-site.

Anchoring Hook

Allowing easy installation and removal of the set.

Sensors

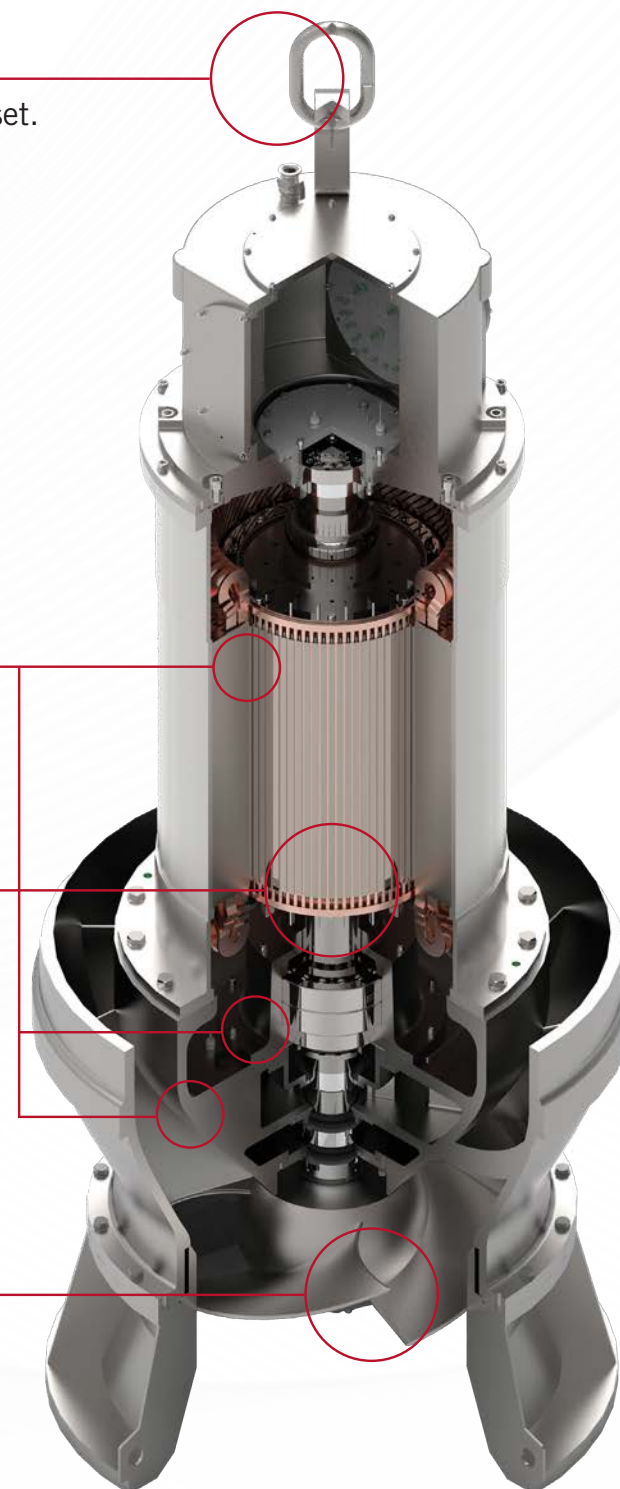
The oil-filled motor comes with all necessary sensors: pt-100, vibration sensors, humidity sensors, etc.

Common Shaft

To the rotor and the impeller, limiting efficiency losses.

Impeller

Allows reaching very high flows at lower manometric heads.



7 | Indar H

A variation to the HE pump, the H motor-pump set is installed within the discharge piping that also serves as a cooling shroud and allows to centre and correctly position the pumping unit.

Protected Cables

The cables are not in contact with the pumped water that in some cases can reduce their lifetime.

The cables are submersible and their length customisable to the client's needs.

Cooling Shroud

Covers the motor and allows the circulation of the pumped water.

The cables are protected as they do not come in contact with pumped water.



Indar HE & H

Technical Features

- Flows from **600 l/s** to **6,000 l/s**.
- Head from **1 m** to **30 m**.
- Power from **50 KW** to **2,500 KW** and Voltage up to **13.8 kV**.
- Speed between **100 rpm** to **1,800 rpm**.
- **Materials:** Cast Iron, Stainless Steel 316, Duplex, Super Duplex.

Main Advantages

- Rewindable stator.
- **Permanent Magnet Motors.**
- Compact solution.
- H alternative available with **integrated cooling shroud and cable protection.**



8 | Indar BF IP

Indar BF pump is a mono cellular design with a multi-channel radial impeller design and a submersible electrical Indar MF motor directly coupled to the pump.

It is a heavy-duty set specially designed for pumping water with solids, waste or rain, and for operating in harsh conditions with urban and industrial wastewater and/or raw water.

Air-filled motor

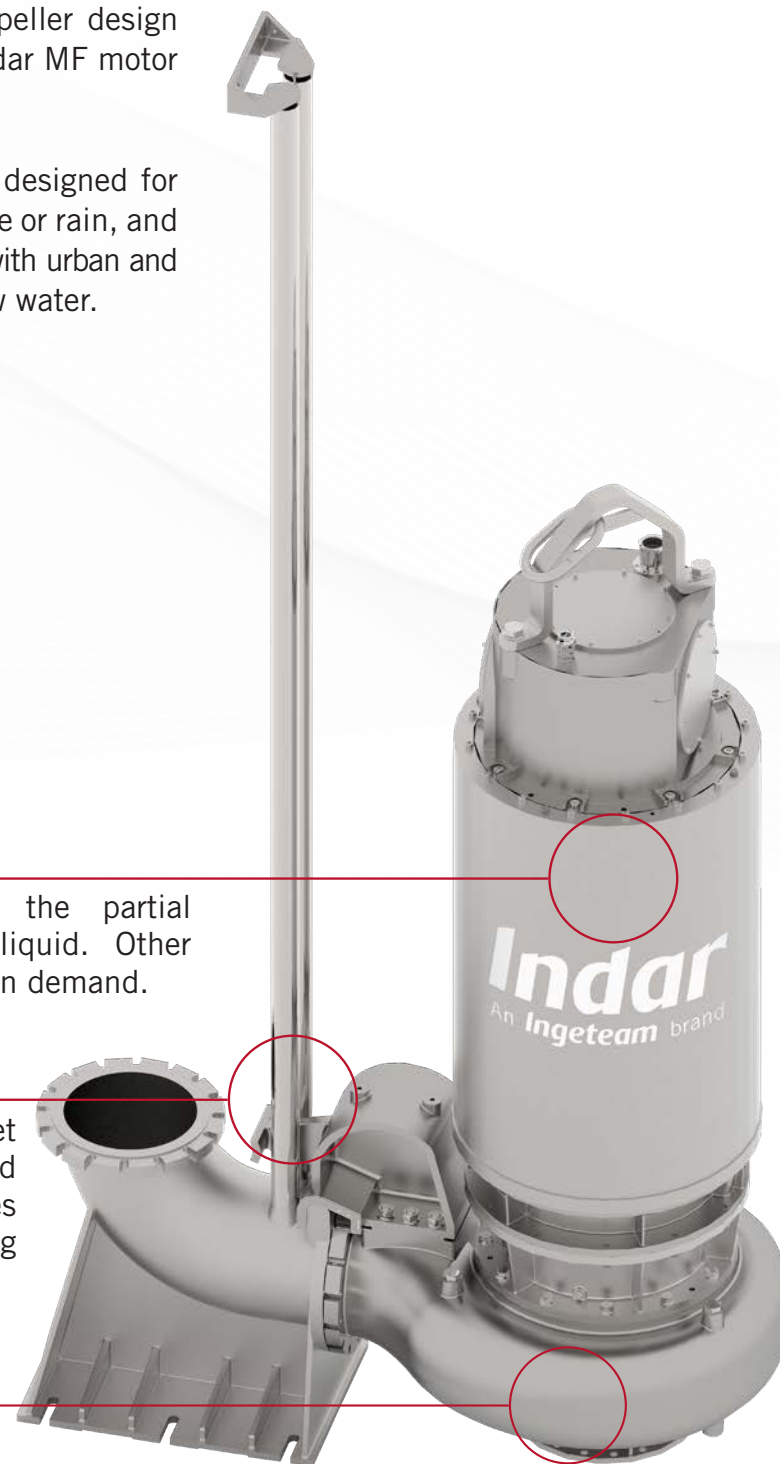
Forced cooling by allowing the partial circulation of the pumping liquid. Other cooling systems also available on demand.

Easy removal

The set is submerged in a wet well and for its installation and extraction the pump set includes the pump support, quick coupling and guide support.

Impeller

Allows great free ball passage.



Anchoring Hook

Quick installation and hoisting of the pump done by a lifting chain or lifting device.

Sensors

Motor protections: Pt-100 and/or PTC in different parts of the motor, leakage sensors, anti-condensation heaters. On demand, vibration sensors and sacrificial anodes.

Cooling Shroud

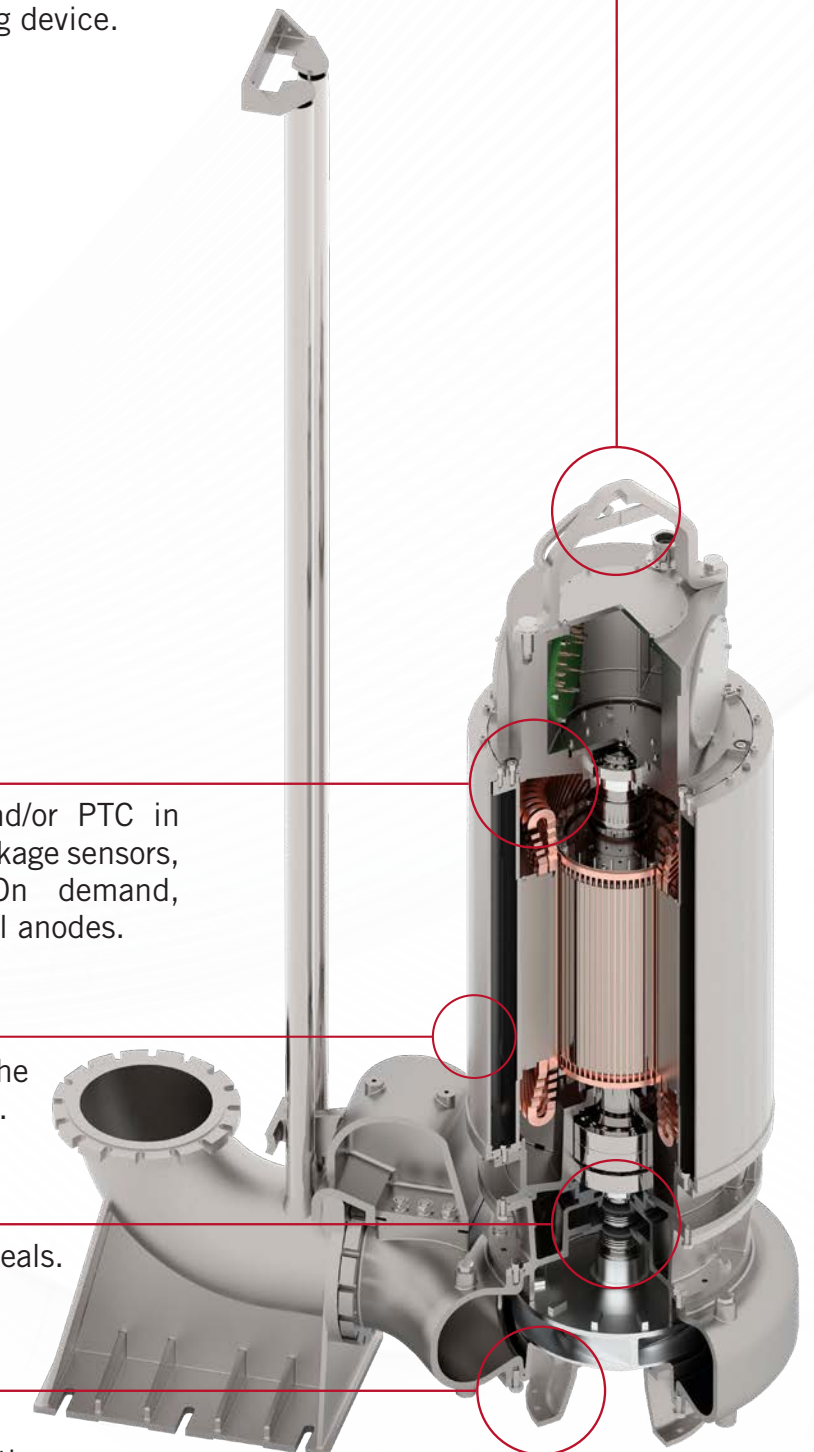
The external shroud allows the cooling with the pumped water.

Sealing

Two bi-directional mechanical seals.

Suction Bellmouth

Customisable to the client's need for optimum suction conditions.



Indar BF IS

Air-filled motor

Submersible motor IP68, for wet or floodable conditions.

Cooling Shroud

Cooling by the circulation of the pumping liquid and, if applicable, by the forced air ventilation inside the motor.

For certain motor ranges, cooling done by independent closed loop (water + glycol).

Hydraulic Part

The set is installed in a dry well on a pump support and the suction and discharge are connected to the piping.



Indar BF IP & BF IS

Technical Features

- Flows from **50 l/s** to **3,750 l/s**.
- Head from **5 m** to **100 m**.
- Power from **30 KW** to **3,000 KW** and Voltage up to **13.8 kV**.
- Speed between **300 rpm** and **1,800 rpm**.

Main Advantages

- Rewindable stator.
- **Permanent Magnet Motors.**
- Large solid passage.
- Compact solution.



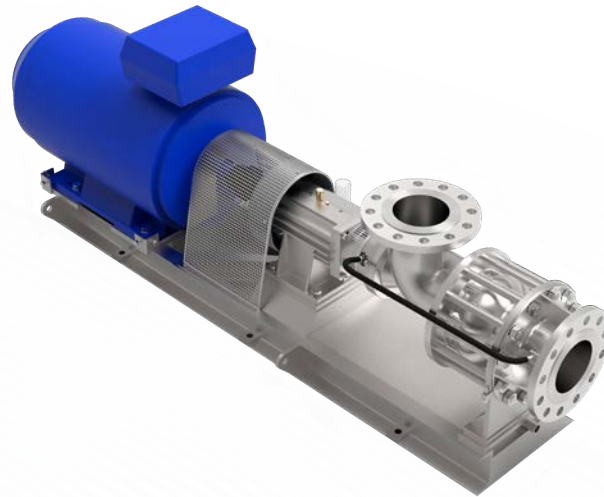
Wet well

Dry well

10 | Indar BR

Technical Features

- Flows up to **21,000 m³/h**.
- Head up to **100 m**.
- Power up to **350 KW** and Voltage up to **11 kV**.
- Indar BR pumps are booster pumps designed for reverse osmosis process. Available in standard and special stainless steel materials.



11 | Indar ML

Technical Features

- Size from **8" to 45"**.
- Power up to **4,000 KW** and Voltage up to **13.8 kV**.
- Speed from **500 rpm to 3,600 rpm**.
- Insulation **90°C**.
- **Materials:** Cast Iron, 316 SS, 904-L, Duplex, Super Duplex.
- Indar ML motors are asynchronous three-phase squirrel cage motors. Filled, cooled and lubricated only with water, they are rewindable and suitable for 50HZ, 60HZ & VFD.



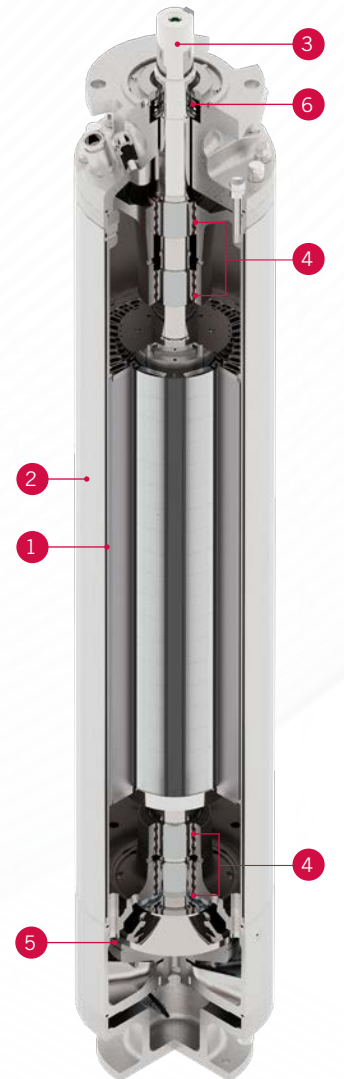
12 | Indar PML

Technical Features

- Size from **10" to 45"**.
- Power up to **3,000 KW** and Voltage up to **13.8 kV**.
- Speed from **500 rpm to 3,600 rpm (with VFD)**.
- Insulation **90°C**.
- **Materials:** Cast Iron, 316 SS, 904-L, Duplex, Super Duplex.
- Indar PML Permanent Magnet electrical motors are synchronous, three-phase, magnet rotor water filled submersible motors designed for driving centrifugal vertical pumps. Suitable for 50HZ, 60HZ & VFD.

Operational Advantages:

- High efficiencies allow high operational savings. Over 2.5% of improvement in efficiency.
- Operational flexibility of the pumping system. Allows frequency variations for multiple duty points.
- Wider operation and range improving efficiency along the whole curve.
- Higher motor power in less space.
- Cable section reduction due to better motor efficiency. Better maneuvers for deep well and cost reduction.



1. Motor casing
2. Motor jacket
3. Rotor shaft end
4. Radial bearings
5. Axial thrust bearing
6. Mechanical seal

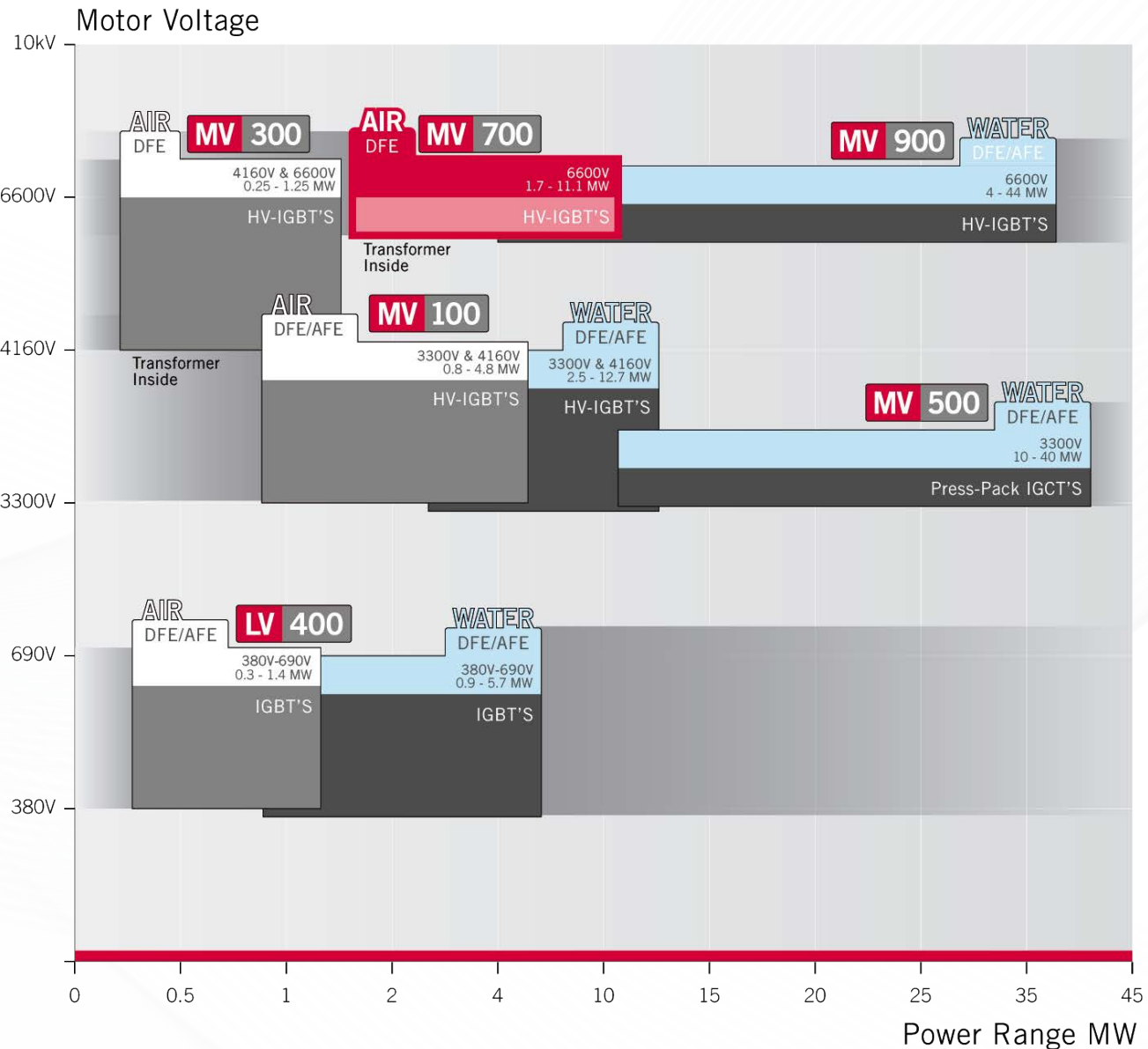
13 | POWER CONTROL: INGEDRIVE™ VFD

Ingeteam also provides starter cabinets MV switchgear for motor starting. Frequency converters LV and MV in order to reach wire to water concept.

Topologies and Configurations

INGEDRIVE™ can be applied to different sectors and custom made to specific requirements. It can control motors with one or several windings and cater to the needs of redundant, single - motor and multi - motor solutions. Parallel connection of several inverters to the same motor is feasible allowing higher converter output. It is also possible to connect several AFE rectifiers in parallel so that more power can be handled.

- Optimised
- Robust
- Reliable



APPLICATIONS



APPLICATIONS

Water Cycle



Water Supply



Wastewater Treatment



Desalination



Flood Control

Energy



Oil & Gas

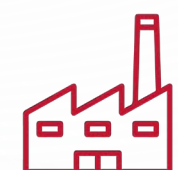


Offshore Wind



Pumped Storage

Industrial



Industrial



Shipyards



Mining

Agriculture



Irrigation

INGETEAM WATER SERVICES

Ingeteam

INGETEAM WATER SERVICES

INDARCARE

INDARCARE is a customised mobile and web application that covers all the stages and points of contact between Ingeteam and its customers. This service seeks customer satisfaction and the continuous improvement of products and services.

Through INDARCARE the clients are able to complete the Commissioning and Start-up of all their equipment, contact directly with Ingeteam upon any need or requirement of the installation, access our portfolio, and ask for technical and engineering assistance either through the phone using our Mobile App or through the Web version.

At Ingeteam, we create a bond through our supplied technology and build a loyal relationship offering the best service.

Partnering with us our customers are able to:

- Improve efficiency and reliability of the installation.
- Optimise costs and increase profit.
- Detect and repair failures promptly.

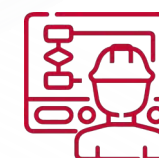
Our services



DIGITAL SERVICES



INGETEAM PREMIUM SUPPORT



FIELD SERVICES



REPAIRS & OVERHAULS



REHABS & MODERNISATION



SPARE PARTS MANAGEMENT

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THE REAL DREAM *team*

BE PART OF **BE**
THE ENERGY TRANSITION **WATER.**

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