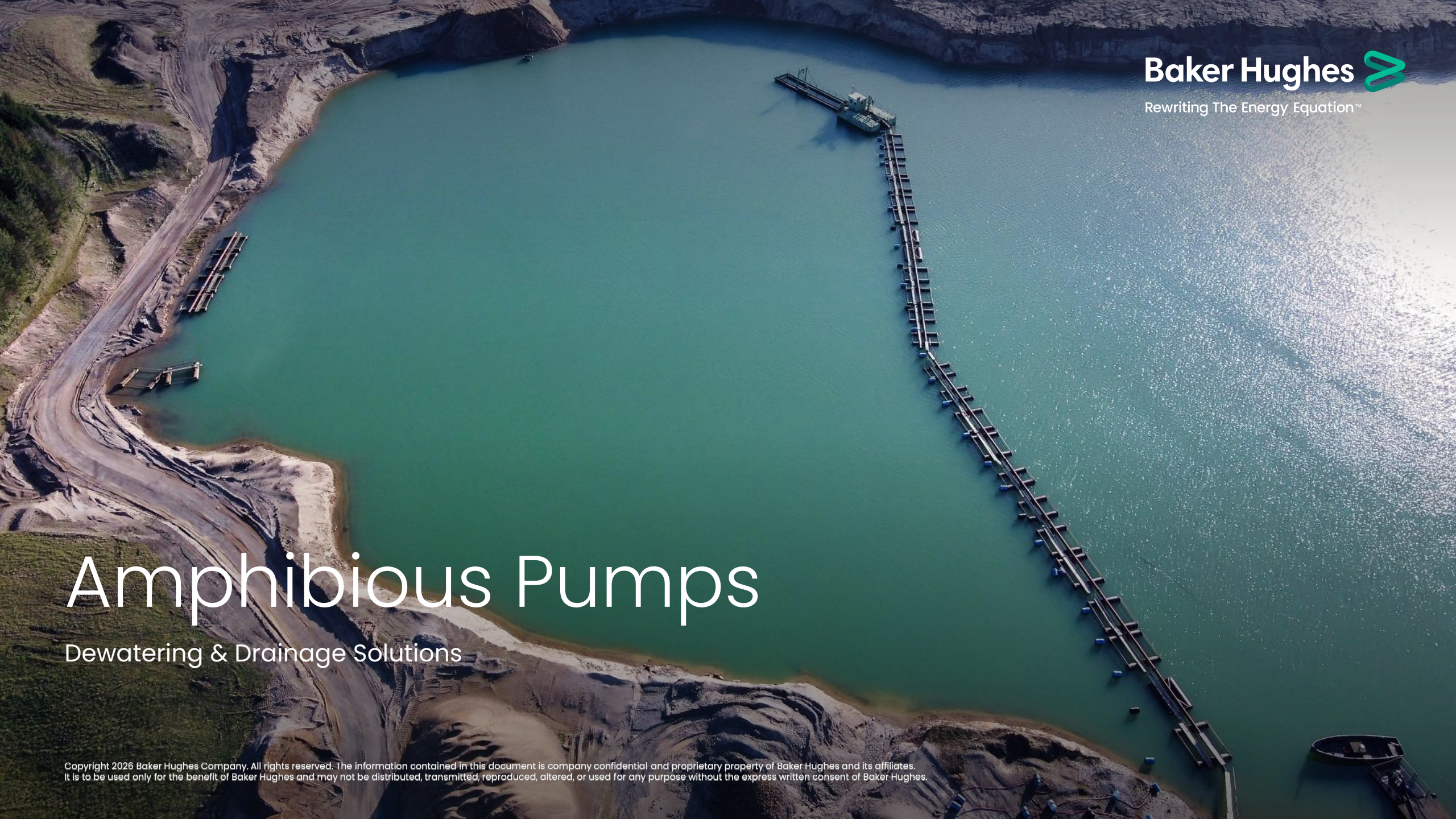


Baker Hughes

Rewriting The Energy Equation™

Amphibious Pumps

Dewatering & Drainage Solutions

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Concept and features

Our amphibious pumps (licensed by HIGRA in the European territory) are versatile, efficient, and reliable solutions for water management.

They can operate in and out of water with the same equipment thanks to a unique design where the water flux is admitted through the flanged axial suction, passing through a centrifugal impeller and alongside the motor. This system ensures excellent thermal interchange, low noise, installation versatility, low maintenance, and high energy efficiency.

All our activities are grounded in our sustainability pillars, from concept design until the pump is installed and running.

We perform advanced digital simulations of field conditions to ensure optimal performance.

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Sensors

Can equip pumps with sensor devices to control conditions including motor inner fluid level, temperature, vibration, speed and pressure.

Low and medium voltages

Three-phase submersible IPW68 electric motors, available in both low and medium voltages.

Materials

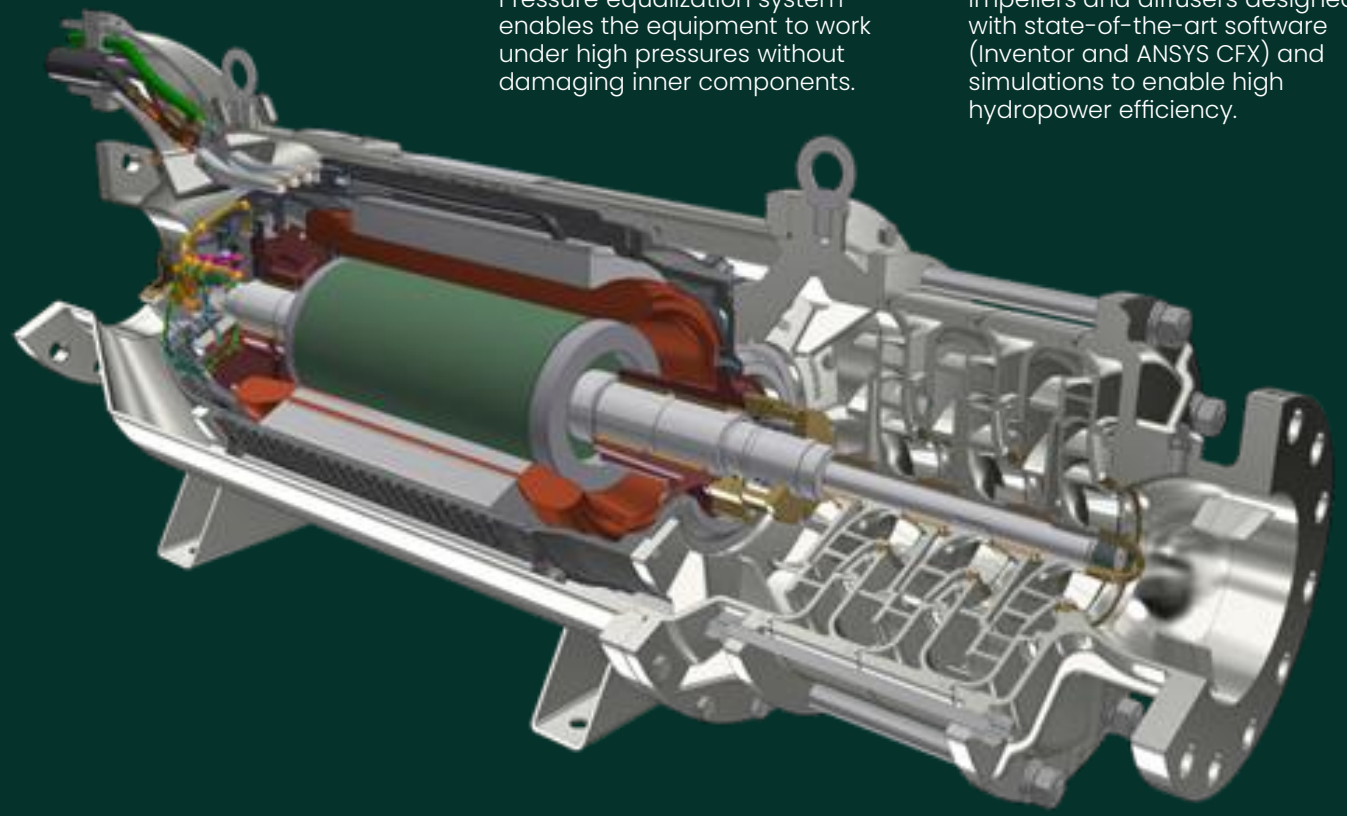
Different construction materials such as AISI 304, AISI 316L, CD4M, cast iron and chromium/nickel, and others.

Pressure equalization

Pressure equalization system enables the equipment to work under high pressures without damaging inner components.

Optimized pumpers

Impellers and diffusers designed with state-of-the-art software (Inventor and ANSYS CFX) and simulations to enable high hydropower efficiency.



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Product line



SINGLE-STAGE RADIAL

HIGH PRESSURE

Flow rate	15–2,600 m^3/h
Installed power	7.35–441 kW
Head	up to 80 mwc



MULTI-STAGE RADIAL

HIGH PRESSURE

Flow rate	14–2,000 m^3/h
Installed power	11–550 kW
Head	up to 295 mwc



MIXED SINGLE AND MULTI-STAGE

HIGH FLOW

Flow rate	120–2,500 m^3/h
Installed power	11–550 kW
Head	up to 50 mwc



SEMI-AXIAL

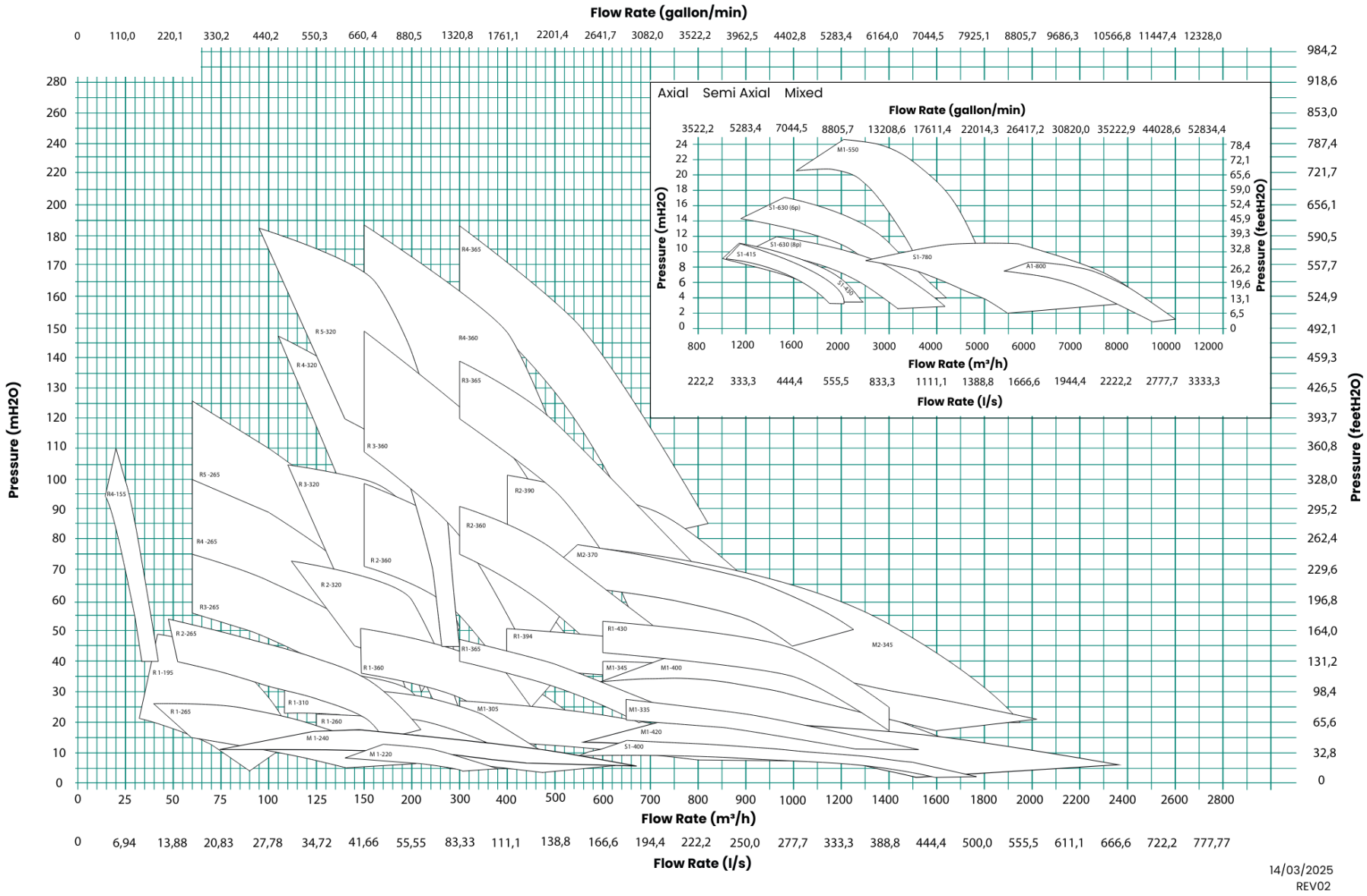
HIGH FLOW, LOW PRESSURE

Flow rate	1,000-9,000 m^3/h
Installed power	55–441 kW
Head	up to 20 mwc

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Amphibious Global Pump Selection Chart – 50Hz



14/03/2025
REV02

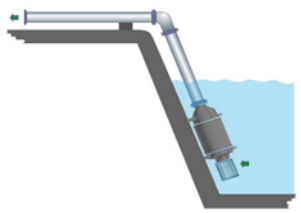
Choose the pressure and flow duty points on the chart for quick pump selection.

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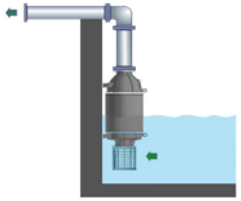
Installation options

Submerged



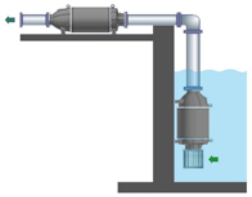
Fully submerged in the water. Ideal for any harvesting applications, such as irrigation, central pivot feeding, collection of river water for water treatment plants, raw water and others.

Partially Submerged



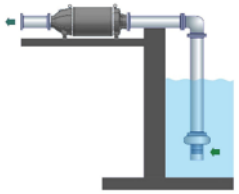
Partially submerged in water. Ideal for shallow-water applications. The amphibious design enables free collection, just like when totally submerged.

Modulated pumps



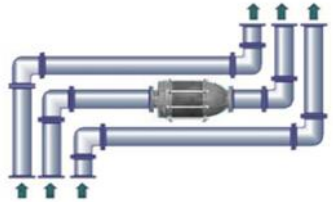
Combined pumps summing flow rates and/or pressures. Enables excellent drainage of high flow rates or discharge line pressurization.

Suction



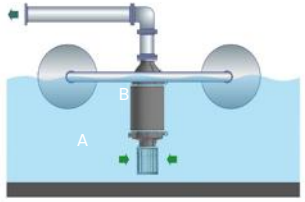
Installed above the water line, ensuring the same efficiency when operating submerged, within NPSH conditions. Ideal for any application that demands suction operation.

Horizontal



Connected to pipeline to increase the pressure in a system. Compact and efficient solution for various systems.

Over float



Submerged in floating structure. Ideal for areas with restricted space or access, such as lakes and rivers. Easy relocation and minimal environmental impact.

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Benefits

Amphibious

Work in or out of water
with equal efficiency

Versatile

Can be installed in any position
(horizontal, vertical, or inclined)

Simple alignment

Monoblock equipment with single shaft
(no need to level motor and pump
shafts)

Lower installation costs (civil and hydraulic)

No need for engine room

No need to lubricate or grease

Mechanical and electrical systems
cooled with water oil-free technology

Reduced risks of leakage and accidents

Totally hermetic, no moving parts are
exposed

Minimal environmental impact

The simplified installation allows
reduced intervention in PPAs
(permanent preservation areas)

Low noise

Approximately 60 dB

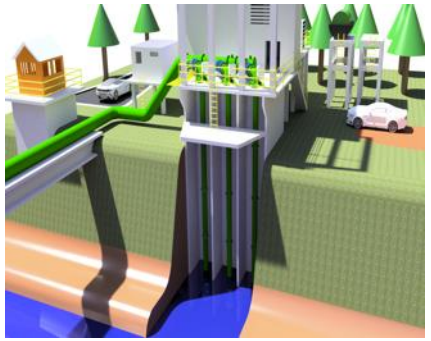
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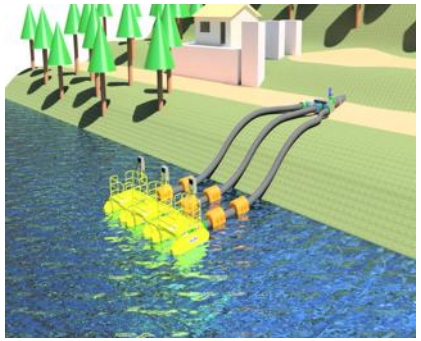
Markets and applications



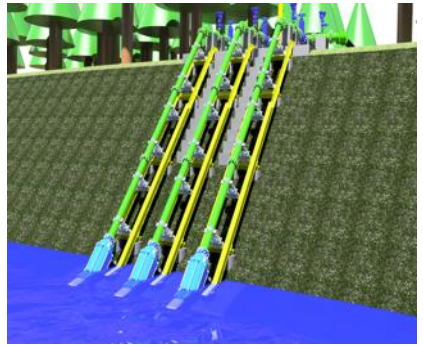
Flood control and urban drainage



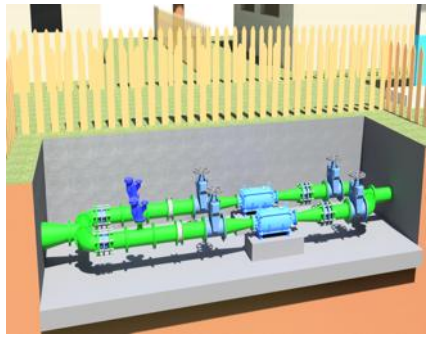
Replacement of VS pumps



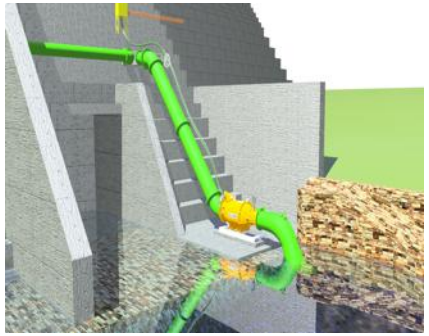
Floating pumping stations



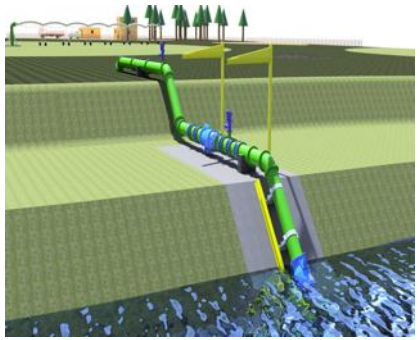
Rail pumping systems



Pressure booster systems



Hydropower solutions



Irrigation pumping solutions



Image courtesy of BGG

Emergency pump system

Agriculture

Industry

Mining

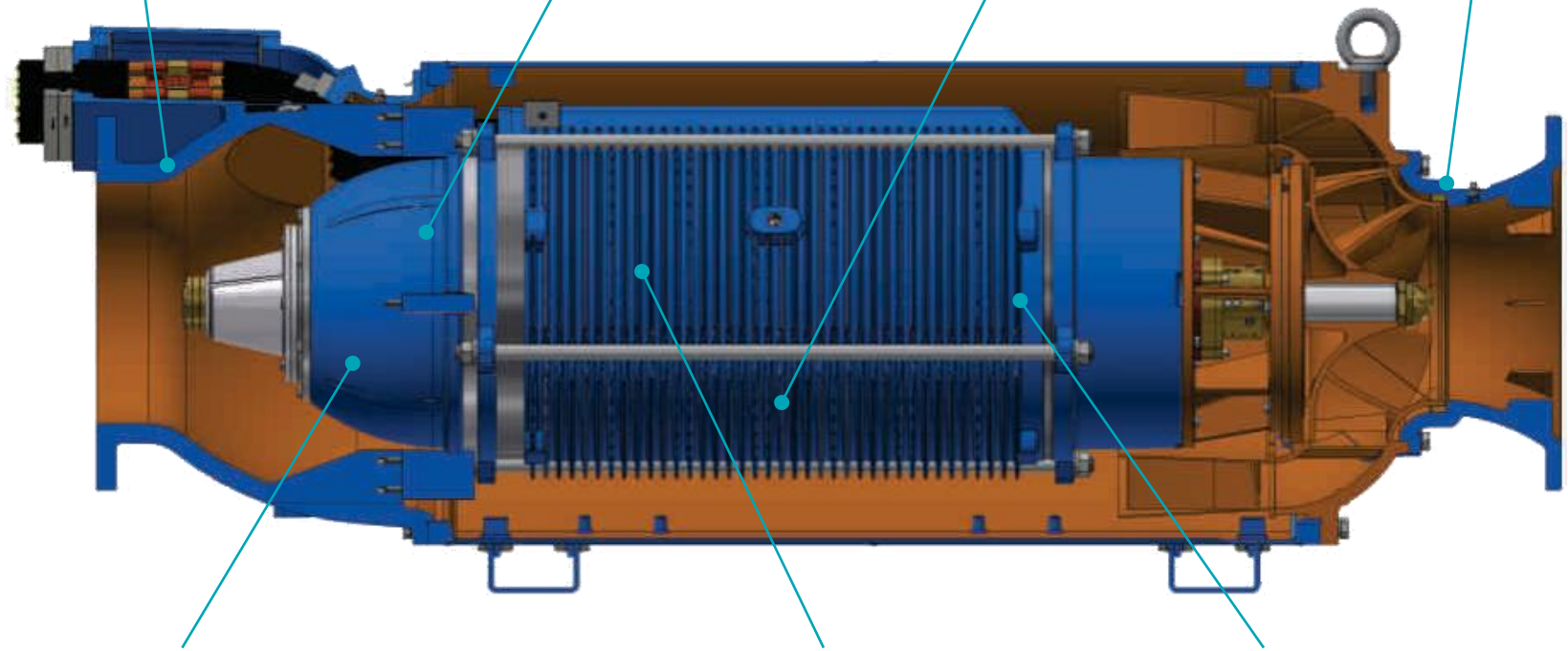
Water

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Smart sensors

Sensors are set according to customer needs and availability for the pump model.



Discharge Pressure

Instantaneous measurement of discharge pressure.

Motor internal fluid level

Protection of motor against overload for lack of its internal fluid.

Motor temperature

Measurement of motor internal operating temperature.

Intake Pressure

Instantaneous measurement of intake pressure.

Vibration

Measurement of vibration at the hydrodynamic bearings.

Bearings temperature

Measurement of temperature at the hydrodynamic bearings.

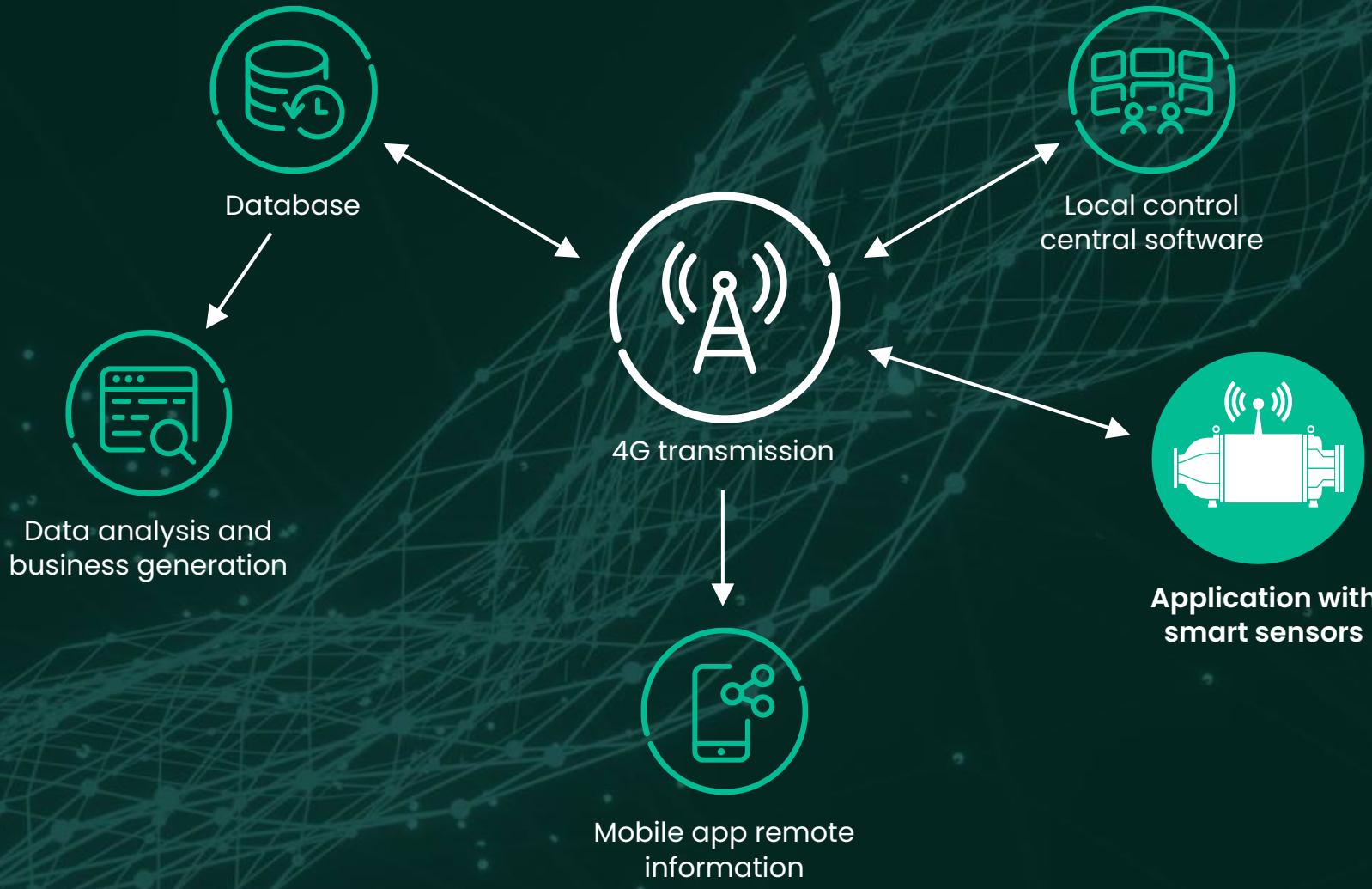
Speed

Measurement of effective speed of the drive shaft with load.

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