

SOLUTIONS FOR WATER



Motors | Automation | Energy | Transmission & Distribution | Coatings

WORKING IN PARTNERSHIP

with the

water industry

WEG solutions stand out for the efficiency and flexibility of their electrical and mechanical design, adapting to the most demanding customer requirements in different applications, with a full range of products for the water industry.

Bergen Point WWTP (U.S.A.) 2017

SACMEX WWTP (México) 2011

Pirangi Pumping System (Brazil) 2017


Atacama Desalination Plant (Chile) 2019

General Belgrano WTP (Argentina) 2017

WEG at a Glance

50 % of the products sold in 2019 were released in the last 5 years

Distributors in **+120** countries



70k motors produced daily



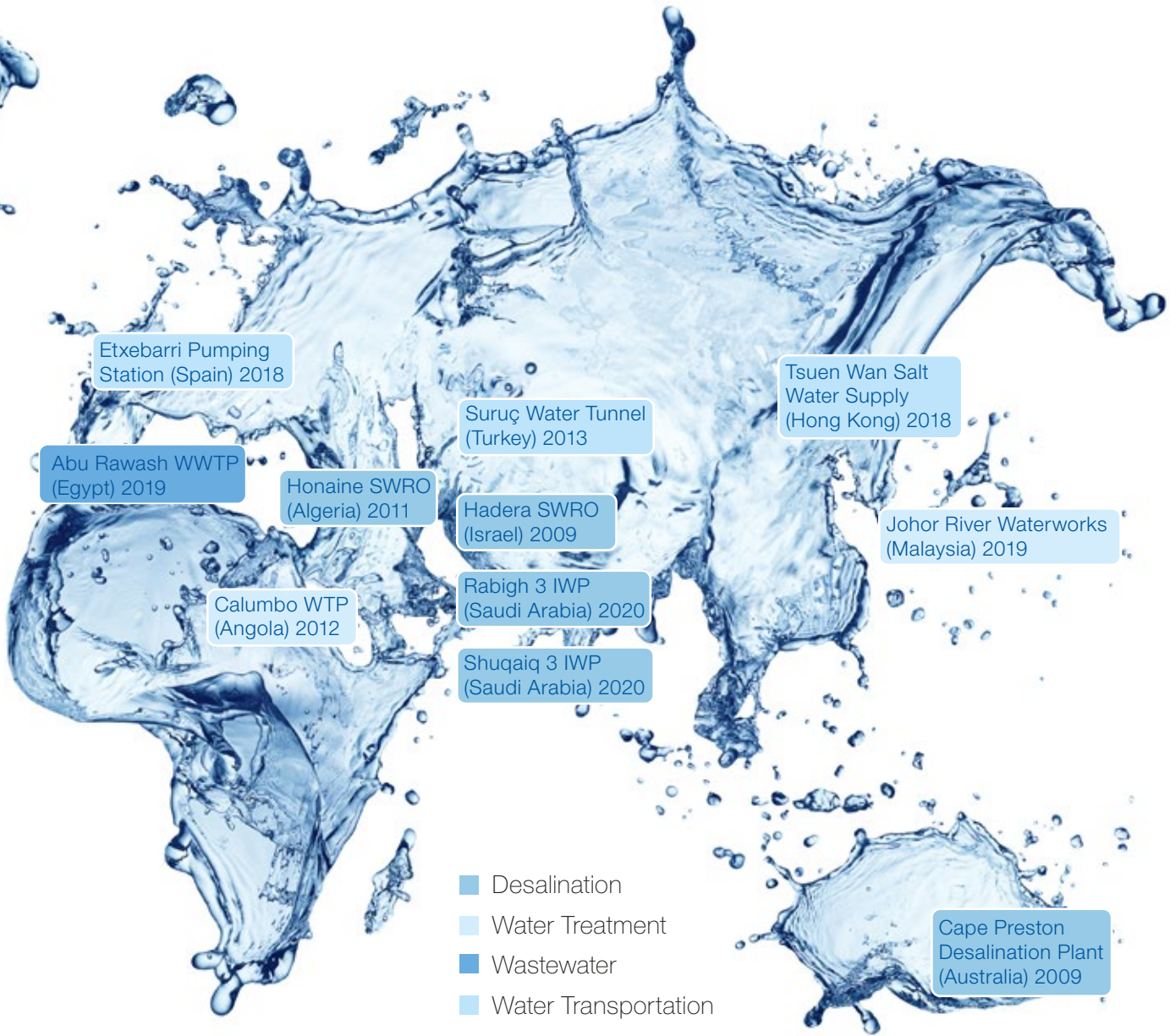
47 manufacturing sites in **12** countries, **4** continents and commercial operations in **36** countries

2.5 % of the net operating revenue is invested in R&D



Largest manufacturing site for LV electric motors in the world with **+1 million m²**

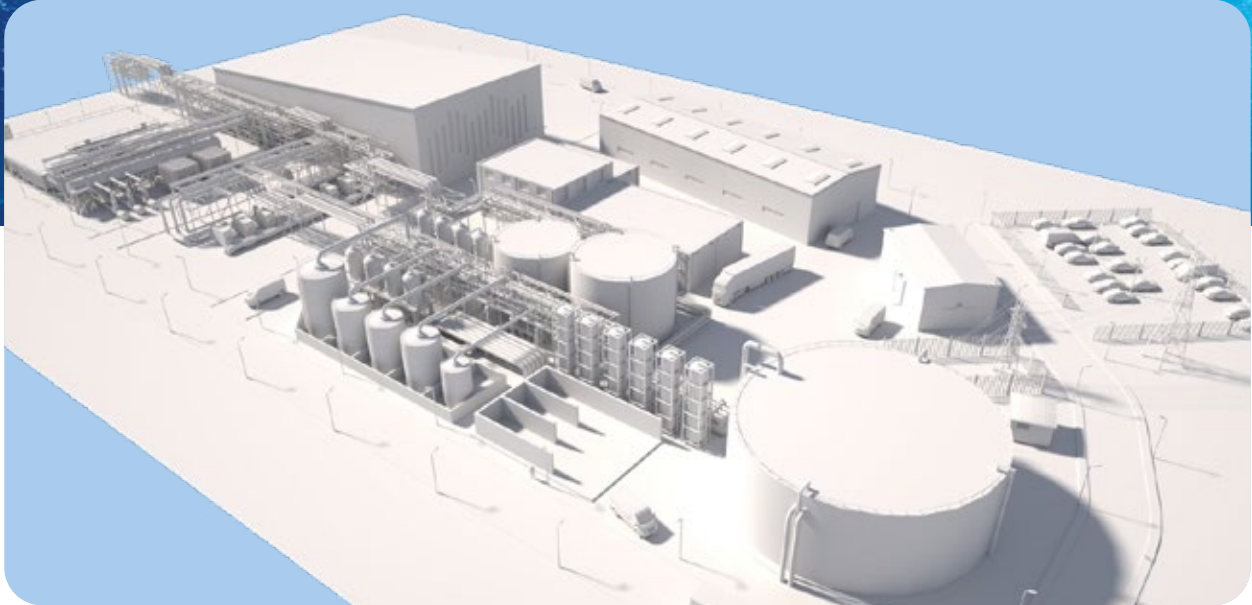
Some WEG Water Projects References



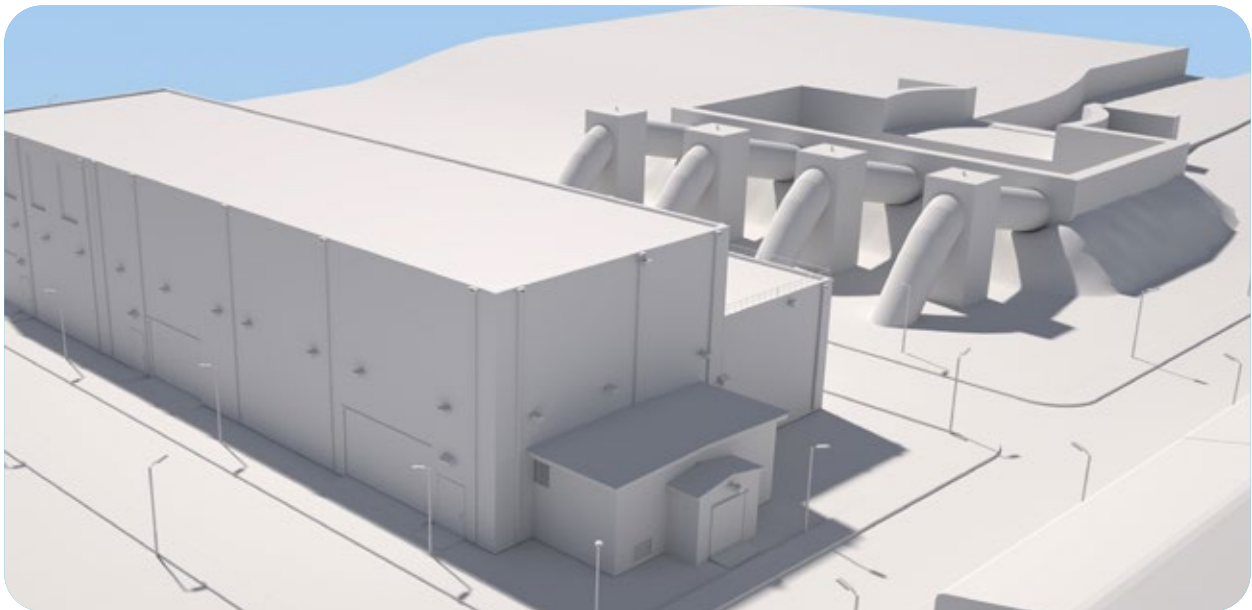
Global Water Facts

			
<p>1 in 3 people do not have access to safe drinking water</p>	<p>2 out of 5 people do not have a basic hand-washing facility with soap and water</p>	<p>1 in 10 people lack access to clean water</p>	<p>Inadequate sanitation facilities often cause contamination of drinking water</p>

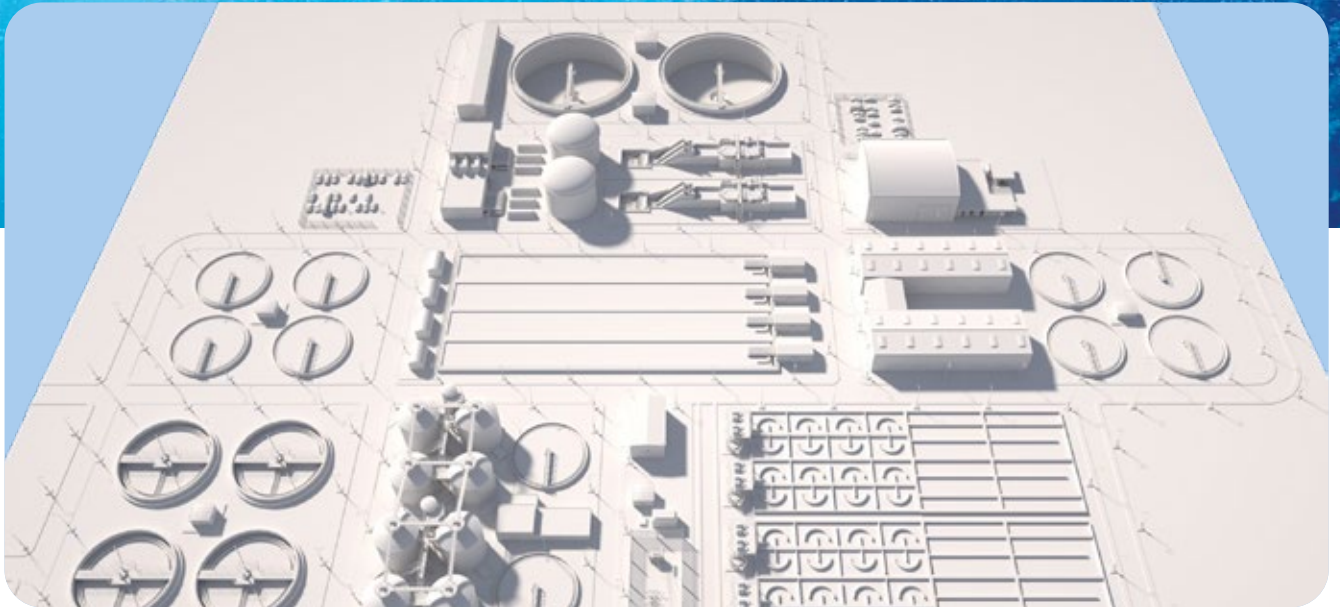
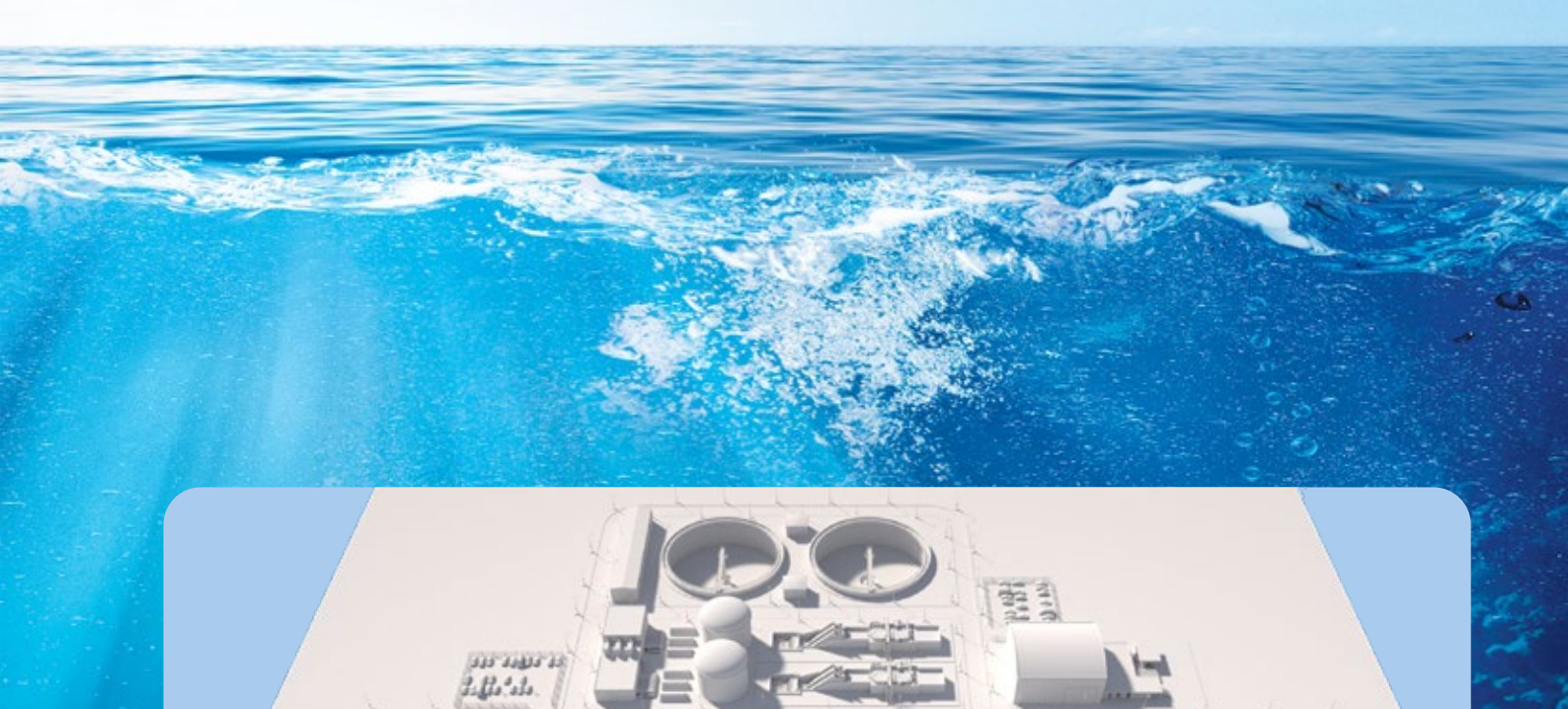
Water Segments



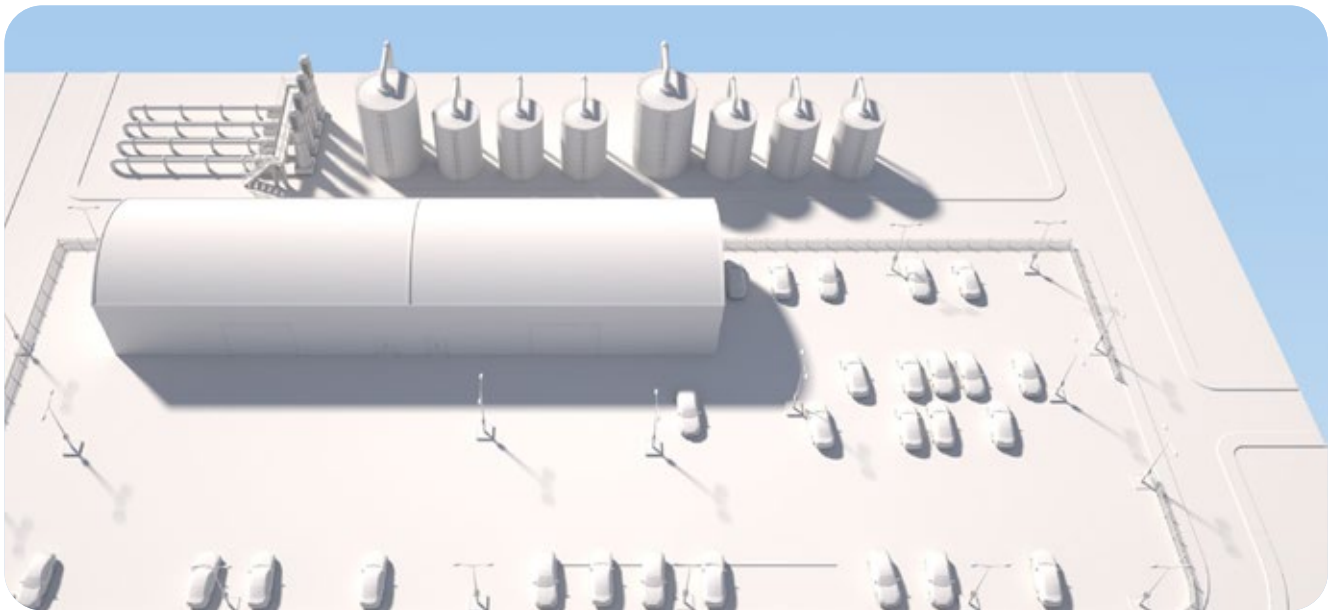
Desalination



Water Distribution System



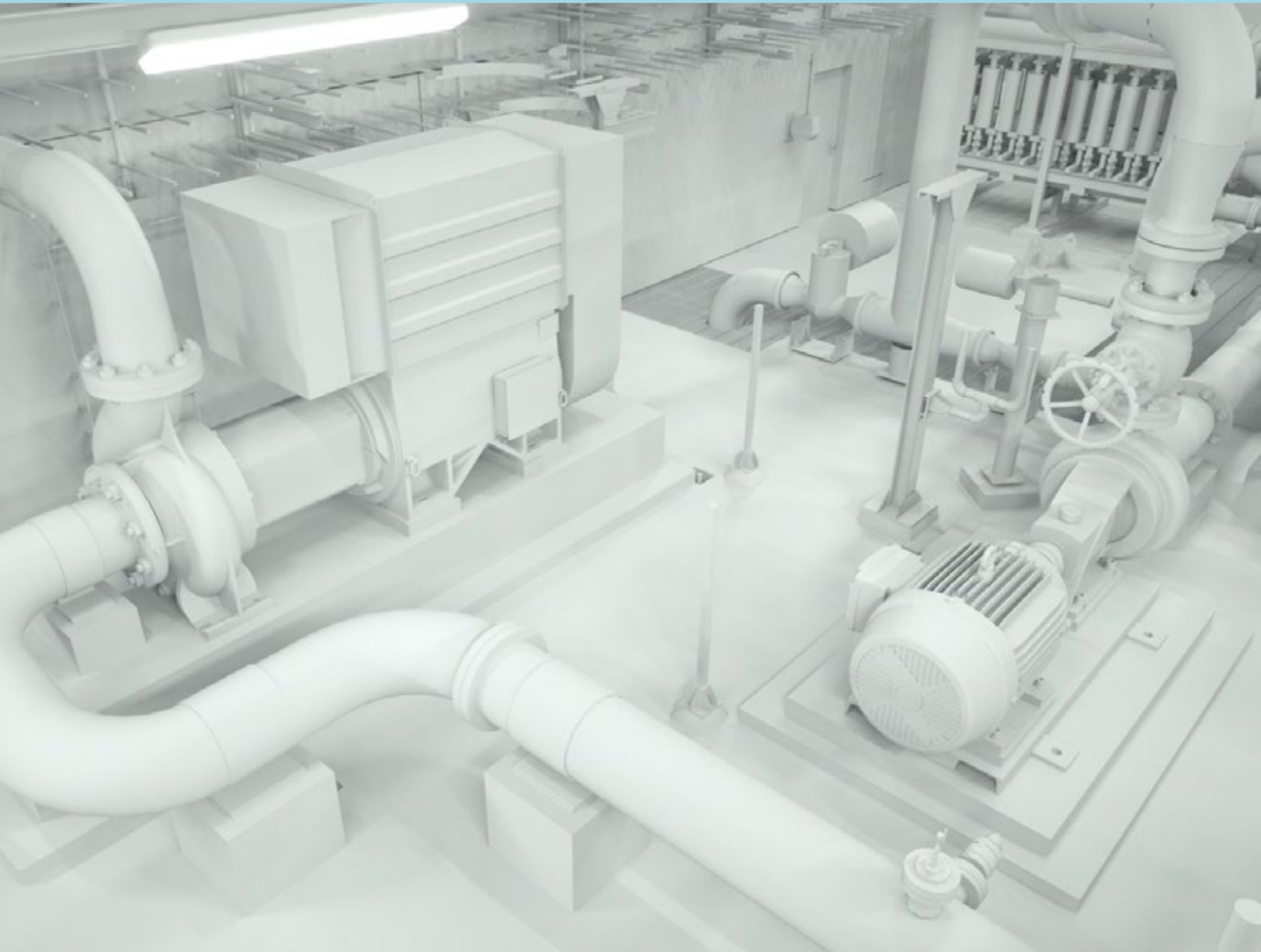
Wastewater



Process and Potable Water



Desalination



Products



W60



**W22
IE4 Super Premium**

WEG motors were designed to meet the requirements of water industry applications, ensuring high efficiency and low maintenance, even under severe operating conditions such as "salt" environments.



Applications



Sea Water Intake Pumping Station

WEG offers a complete service for the whole-life-cycle of supply and management of the pumping station from design, manufacturing and commissioning for low voltage and medium voltage electrical systems.



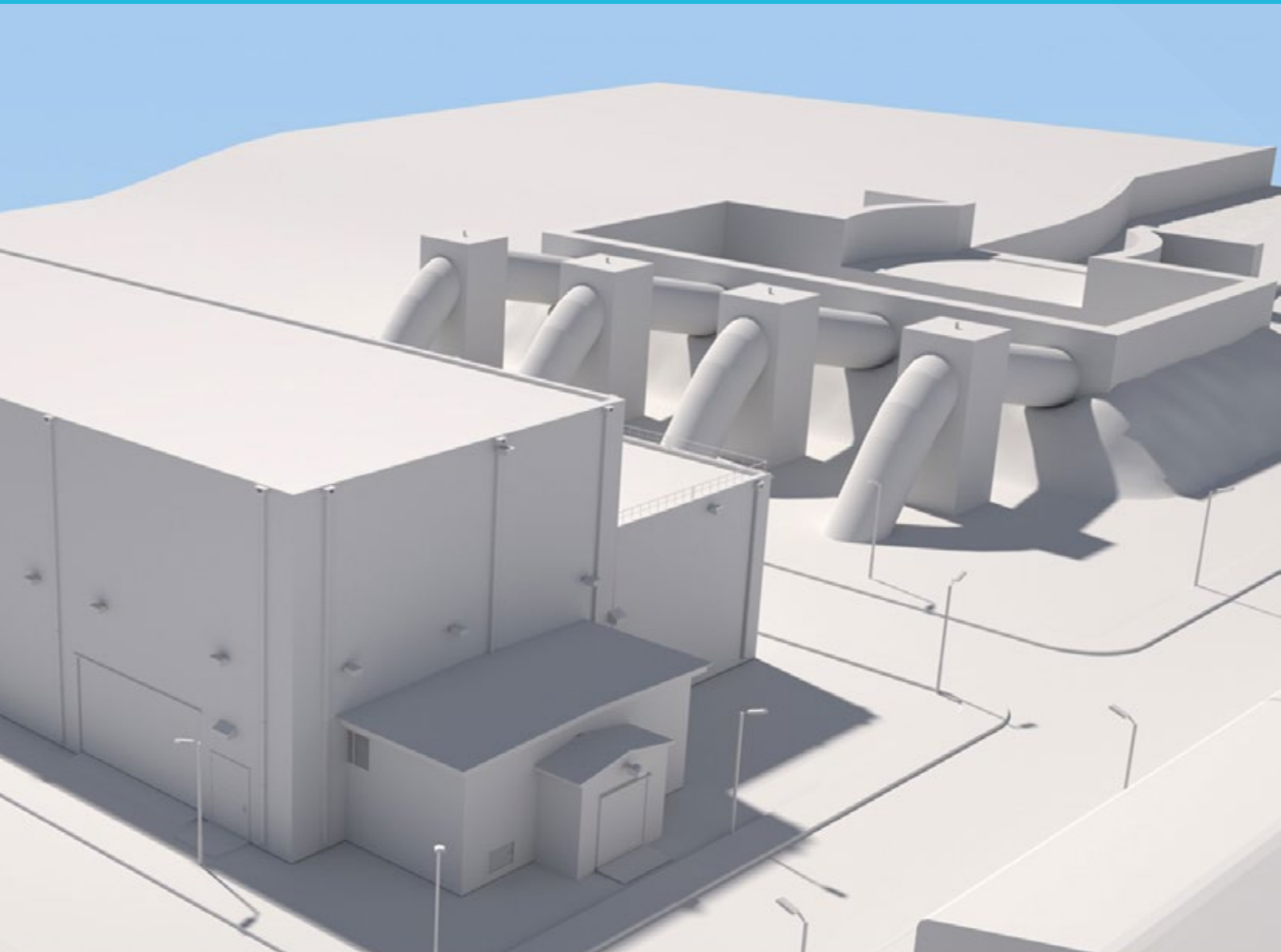
High Pressure Pumps

The latest design innovation ensures that WEG standard line medium voltage motors offer very high energy efficiency in addition to outstanding reliability.



Medium Voltage Drives are perfect for a wide range of industrial applications that required speed variation such as pumping control. For new installations or retrofits, the Medium Voltage Drives are an efficient and robust solution to control the speed and streamline the process, reducing energy consumption and maintenance costs.

Water Distribution System



Products

Master



W60



W60 vertical



Vertical



Horizontal



Induction Motors

Synchronous Motors

Applications



Booster Pumps - Pumping Stations

Water transfer pumps transport water from one place to another. Transfer pumps can be used for an abundance of applications, including commercial and residential needs.



Medium Voltage Induction and Synchronous Motors

Moving large quantities of ground water is a fundamental aspect of water transportation in many areas.



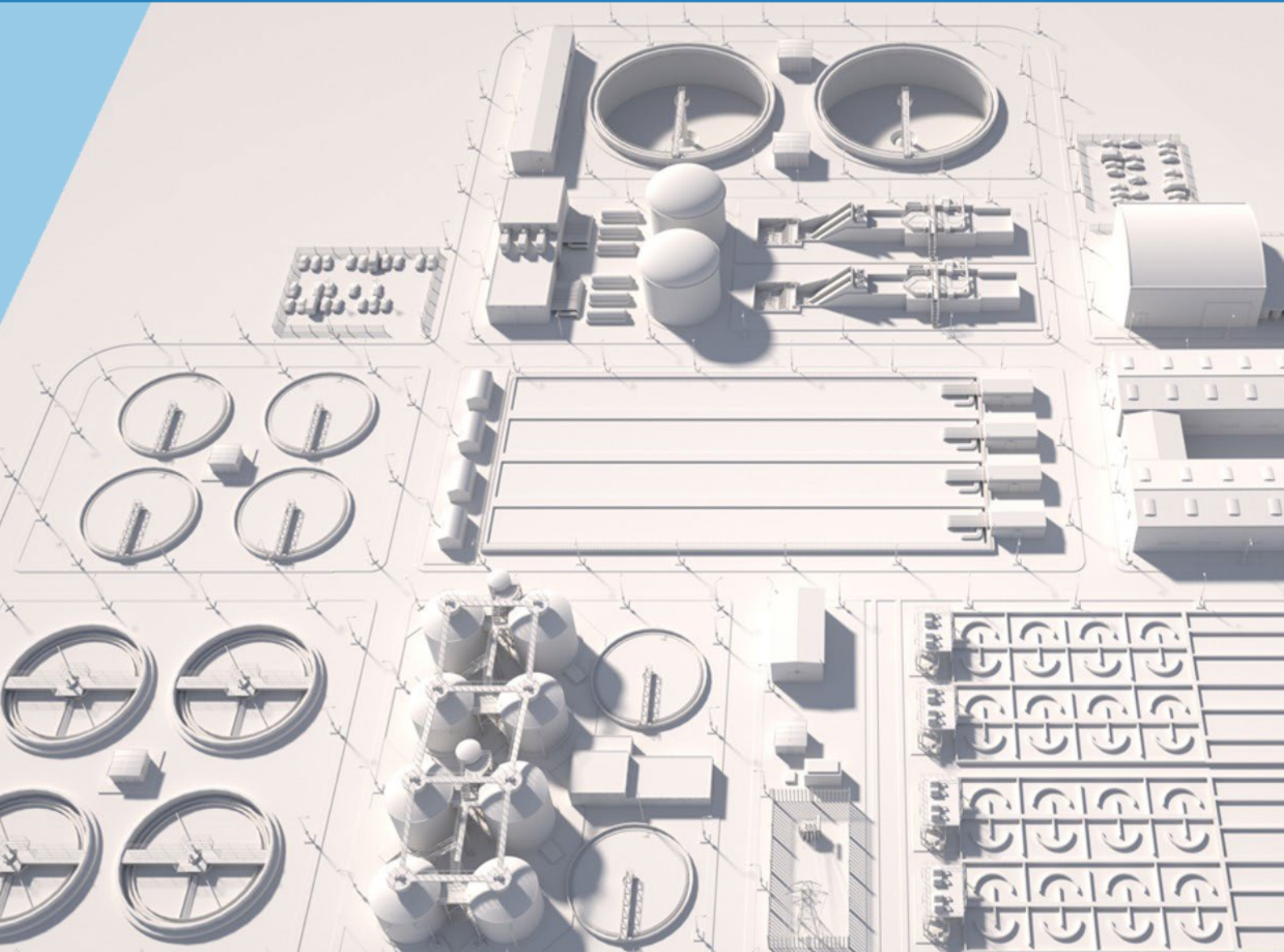
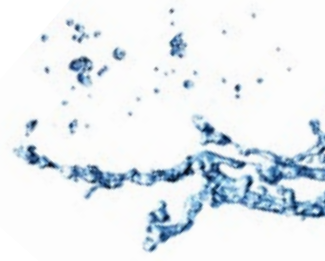
Pumping Power Control

Medium Voltage Soft-Starters SSW7000 uses latest technology to provide start/stop control and protection for three-phase induction and synchronous medium voltage motors.



MV Drives and Soft-Starters

Wastewater



Products



W22
IE4 Super Premium



W50



Master



W60 vertical



Applications



Sewage Intake Pumps/Effluent Pumps

Are used for pumping wastewater or sewage from a lower to higher elevation, particularly where the elevation of the source is not sufficient for gravity flow and/or when the use of gravity conveyance will result in excessive excavation and higher construction costs.



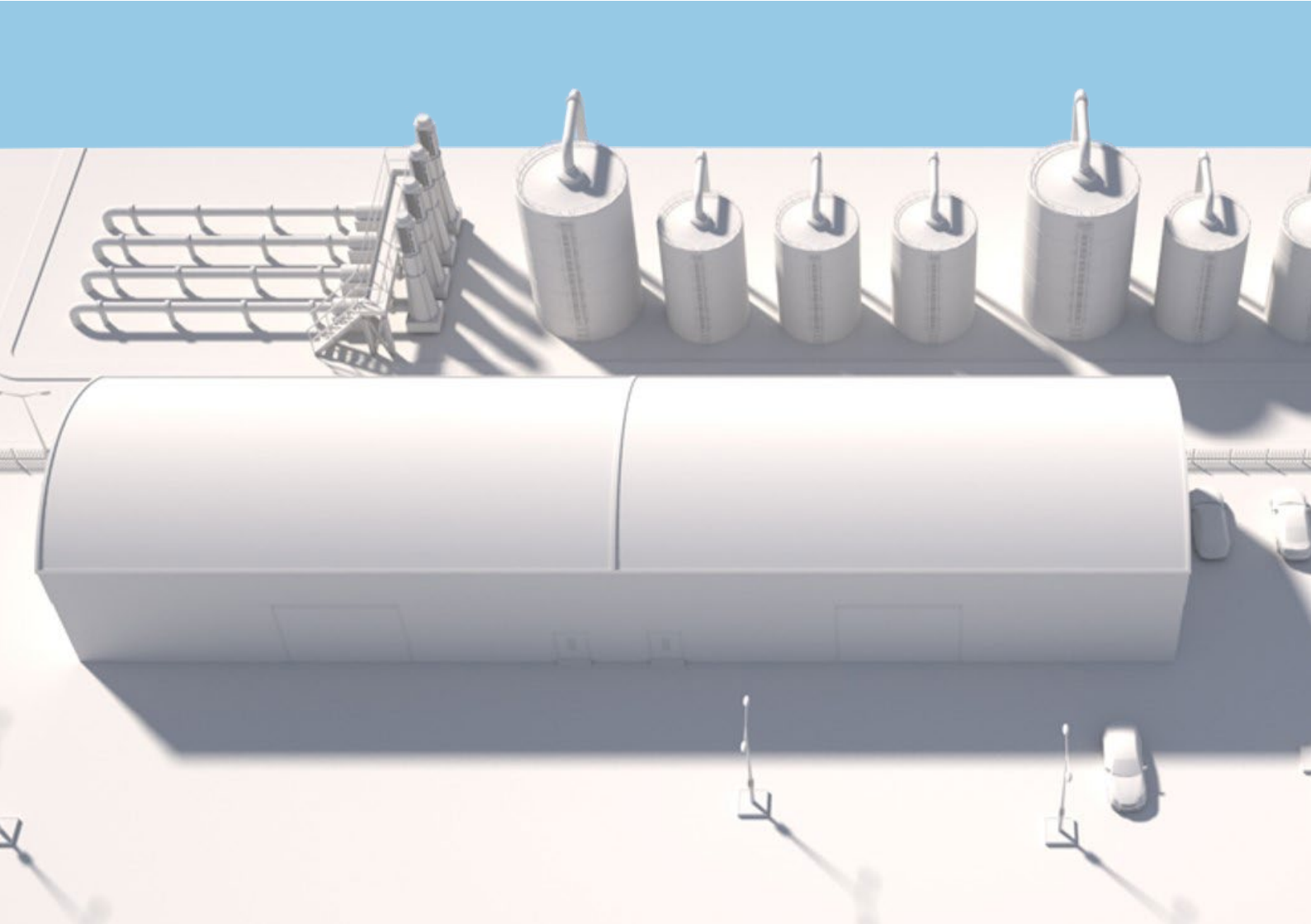
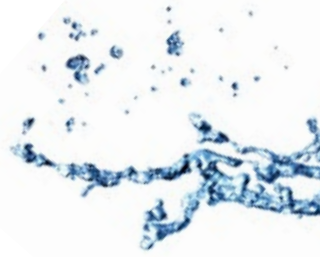
Aeration

Wastewater aeration is the process of adding air into wastewater to allow aerobic bio-degradation of the pollutant components. It is an integral part of most biological wastewater treatment systems.



**Variable
Frequency
Drives**

Process and Potable Water



Products



W22 Magnet

W22 Magnet motors are synchronous motors with permanent high performance magnets inside their rotor resulting in differentiated characteristics. The W22 Magnet Line offers IE5 Ultra Premium performance, wide range of torque with constant torque without the need for forced ventilation and higher lifespan. WEG technology provides greater efficiency, quality and saving for the industry.

WEG Motor Scan Ready for the Industry 4.0

- Connect all factory sensors
- Synchronize data through the WEG IoT Platform
- Name and monitor how many motors you need
- Analyze data uploaded to the cloud
- Set the motor location



Applications



Raw Water Intake Pump

A range of robust WEG motors are available with high efficiency ratings as standard and outdoor specification options. Ideal for lift pump applications with large heads of water and frequent operation.



Booster Pumps

WEG's W22 line of electric motors, including W22 Magnet – permanent magnet motor, ensures energy reduction and has an excellent cost-benefit with increased. Offer outstanding energy efficiency performance in continuous or high duty-cycle applications, particularly when used with matched WEG CFW inverter drives.

Pump Genius

Pumps, pipeline and fittings can get seriously damaged if pressure or flow are out of control and such occurrences are not tracked early. The Pump Genius is a customizable feature of WEG drives that enables your standard VSD to become dedicated for pumping systems. It ensures accurate pressure / flow control throughout the processing cycle, starting with raw water and its usage, ending on wastewater treatment. With an easy-to-use programming wizard, Pump Genius helps you to minimize downtime and maximize energy savings. Everything you need is selecting one of the three options that best fits to your application.



simplex



multipump



multiplex

Expertise & Service

Service Support complying with the **quality** of our products

Energy Efficiency

Identification of potential reduction of power consumption in electric motors, drives and deviations in the power factor, proposing solutions and defining the necessary retrofit. Results presented with individual return deadlines, making the decision flexible.

Commissioning and Start Up

Bearing in mind the magnitude of the water projects and complexity of the installed equipment, WEG offers specialized technical support for the installation, from beginning to end including supervision services. Also included is verification of equipment details and concept integration with the entire system.

WEG Manufacturing System (WMS)

The WMS is a manufacturing management system, which aims to identify losses and waste and eliminate them, reducing product transformation costs and improving results financial.



Partnership Program

- Global sourcing
- Local support
- Procurement solutions
- Design and engineering
- Industry knowledge base
- Managed maintenance
- Environmental focus

Project Management

Complex projects usually require very strict control of technical documents, production schedule, inspections and logistic procedures. In those cases WEG offers dedicated staff structure to support tasks at different stages of the project execution. With these initiatives WEG provides clear and up to date information on the equipment manufacturing stages and keep all parties involved informed on the production and delivery progress.

Preventive Maintenance

Checkup and preparation of preventive plans according to maintenance concepts focused on reliability and adjustments according to operating conditions for each plant.

Energy Efficiency

WEG solutions stand out for the efficiency and flexibility of their electrical and mechanical design, adapting to the most demanding customer requirements in different applications, with a full range of products for the water industry.

If we can build motors, energy and automation that use resources responsibly, run on less fuel, and create fewer emissions, we're doing our job well. And we're helping you do your job even better.

Get to know our energy efficiency products, learn how you can save money, and take advantage of our resources to help your work environment become more efficient and productive.

Several countries have already finalized or are in progress of approving federal regulations that will mandate a minimum level of efficiency for electric motors that are manufactured or sold within their borders. Get to know more about regulations in your country or region. By working with energy efficient products and solutions you can do much more than just saving money due to the higher efficiency levels of the system. Get to learn more ways to save money. Not only can you save money, you can actually help in the global efforts to conserve our environment by reducing the amount of CO₂ (carbon dioxide) that is produced globally.



Pumping Systems

Pumping systems are used in the most diverse segments and applications to transport different types of fluids from water to chemicals.

The solution consists in the application of the high efficiency motor with inverter, for flow and pressure control:

- **W22 IE3 Premium, W22 IE4 Super Premium**, with **CFW11** or **CFW700** inverter
- **W22 Magnet IE4 Super Premium, W22 Magnet IE5 Ultra Premium**, with **CFW11** inverter

Due to the fact that centrifugal pumps have a parabolic curve, small reductions in the rotation of the high efficiency motor provide large reductions in consumption.

Features & Benefits

- Precise control of process variables (pressure, flow, temperature, etc.) through a PID regulator superposed to the speed control
- Optimization of power consumption through speed control with an adjustable V/F curve
- Safety and maintenance signaling and alarms of pumps
- Availability of PID regulators to control other process accessories like valves, dumpers, other VSDs, etc.
- Built-in PLC for equipment automation
- Alarm logging, faults and event control
- Power saving mode
- Communication networks for interconnection with supervision and control

OUR INDUSTRY IS UNDERGOING MAJOR SHIFTS

MEGATRENDS CREATING CHANGES IN DEMAND PATTERNS & NEW BUSINESS OPPORTUNITIES

Energy and Industrial Efficiency

- Electric motors represent around 70% of industrial electricity consumption.
- Electricity consumption is by far the largest component of total cost of ownership of electric motors for industrial use.
- Clear regulatory trend towards higher efficiency electric motors.
- Industrial productivity and energy management drives investments.



Digital Solutions

- Electric products must evolve. There will be more sensors, more automation, more efficient generation and use of electricity.
- New products are being developed.



Renewable Energy

- Global drive to lower GHG emissions.
- Renewables allow distributed generation.
- Over time technology catches up with economics.
- Diversified sources increases systems stability and energy availability.



Electrical Mobility

- Increasing urbanization call for alternatives.
- Pollutants above sustainable levels.
- Electricity is more efficient.
- Pure electric, hybrids and alternative fuels will grow faster than market.
- Powertrain solutions scalable to all vehicle types and sizes.



Sustainability

SDGs

Sustainable Development Goals

WEG, as a way of reaffirming its commitment to sustainability, has become a signatory of the Sustainable Development Goals. It is a voluntary initiative created by the UN that proposes coordinated global action between society as a whole - private sector, governments, civil society, among others - in order to achieve the SDG, as they are called. Membership also strengthens WEG's positioning and engagement in the face of challenges and opportunities with regard to a sustainable development. The SDG are deployed in 17 goals and 169 targets to be achieved by 2030.



WEG among the world's leading clean energy companies

As stated by Carbon Clean Report, the company stands out for the income obtained from low carbon products and services around the world.

Sustainability has been an integrated part of WEG's philosophy since its foundation. That is why awareness of environment protection has been a major concern in the company for the correct use of natural resources and the application of efficient energy solutions.

It is understood internationally, that the effective use of electric power significantly reduces environmental impacts with further cost savings and improved living standards. This is the path followed by WEG's continuous investments in technological innovation as well as development of premium efficiency electric motors and electronic products which are

suitable to operate under increased performance, high productivity, low power consumption, and reduced operational costs providing outstanding benefits to its customers and to the environment.

Along its successful history, energy has been the company's focus while manufacturing reliable and highly efficient products that contribute to a global sustainable development.

We can't **predict** the future, but **we can see** it coming...

Quality Control

Our goal is to ensure the development, production and commercialization of products and services with high efficiency and continuous improvement of processes, meeting legal requirements and allowing reduction of energy consumption.



That's why we work with high efficiency products in line with the most demanding global standards.



Quality Processes and Certifications of WEG products and services



Advanced
test methods



100% of our
products are tested



Quality control in **100%** of the
manufacturing process



ISO 50001
Certification

Competitive Advantages



VERTICAL INTEGRATION

Vertical Integration allows production flexibility to competitively supply small batches of highly customized products that match perfectly our customers needs. We do mass customization, not necessarily mass production.



DIVERSIFICATION

Our production flexibility allows us to target the markets (geographies, segments and products) to offer the best growth perspectives. It also allows us to target markets based on returns, not on our needs to occupy specialized production capacity.



FINANCIAL STRENGTH

Financial strength allows WEG to pursue growth opportunities as they become available. These opportunities range from trivial initiatives, such as raw materials procurement at attractive conditions to strategic initiatives, such as acquisitions of new business.



MODULAR EXPANSION

Our production system is also based on modular expansion, avoiding idle capacity build up, maximizing returns on capital and lowering demand risks.



GLOBAL PRESENCE

The diversity of our product offering also allows us to expand internationally, leveraging the expertise we have developed into new markets and being a premium partner for our global customers.



Learn More

Solutions

Control Panels

Designed to address all kinds of requirements, WEG lines of fully tested distribution boards and panels ensure safety, robustness, flexibility and speed in business and industrial installations. They are manufactured according to Regulatory Standard, which makes them the ideal solution for distribution, protection and control of electrical installations.



Complete Substations

WEG offers solutions for turn-key conventional and mobile substations, from the basic design, to the detailed engineering comprising electrical studies, product and material supply and specialized works and services, which include commissioning and after-sales support, coordinating and integrating all the participants of the process.

SKID

The Transportable Solution (SKID) is the result of WEG know-how in the manufacture of mobile solutions added to the alignment with the needs of the market, increasingly demanding for safety and reliability in temporary or permanent applications. Thus, we have developed a complete line of portable, compact and modular substations, which optimize implementation time and reduce civil construction costs.



Coatings for Pipelines and Tanks

Water treatment and Wastewater treatment plants are environments with high chemical aggressiveness. Due to this WEG offers high durability liquid and powder coatings for painting and maintenance of the structures. The coatings are certified by external laboratories, complying with the main standards of the industry, such as AWWA C210, AWWA C222 and for contact with drinking water (NSF/ANSI 61:2016), in compliance with the resolution of the Brazilian Health Regulatory Agency and SABESP (São Paulo State Water and Waste Management Company).



For more information, check our specific brochure for the segment.

For WEG's worldwide
Operations visit our website



www.weg.net



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The values shown are subject to change without prior notice.

The information contained is reference values.