Industrial Motors

Commercial & Appliance Motors

Automation

Digital & Systems

Energy

Transmission & Distribution

Coatings

# FOOD AND BEVERAGE

Solutions to maximize your reliability, efficiency and safety in process, packaging and utilities area





**Driving efficiency and sustainability** 

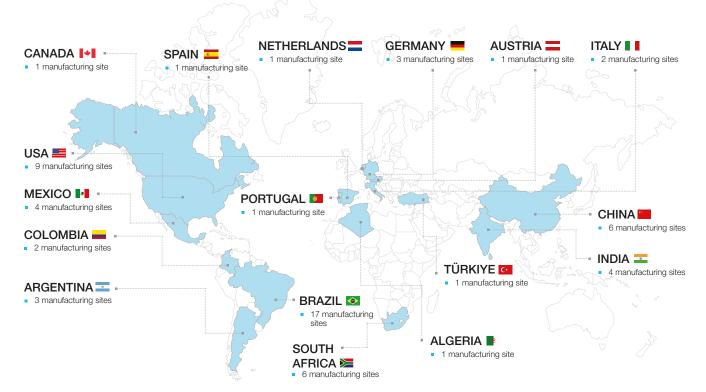




# WEG at a glance



## **17 countries**



## Global presence

WEG is a global company regarded as one of the world's leading manufacturers of energy efficient electric motors, automation, power transmission, renewable resource technologies, solar, biomass and wind power generation, distribution equipment and industrial coatings and varnishes.

Doing business in over 135 countries, WEG is among the top three electric motors suppliers with background expertise to provide full turn-key systems for a wide variety of industrial applications.

## WEG offers a complete range of products and solutions for Food and Beverage.

WEG's designed products ensure seamless quality and high technology standards and comply with worldwide market requirements, even the most stringent ones. WEG also offers skilled and qualified technical staff that provide technical support to its customers and ensure the most efficient solution for the Meat, Poultry, Seafood, Bakery, Grains, Beverage, Dairy and Fruits and Vegetables industries. WEG consistently invests in R&D, promoting technical cooperation with universities and research centers to bring state-of-the-art technologies for safe and reliable product solutions in the sustainable and profitable food supply chain.



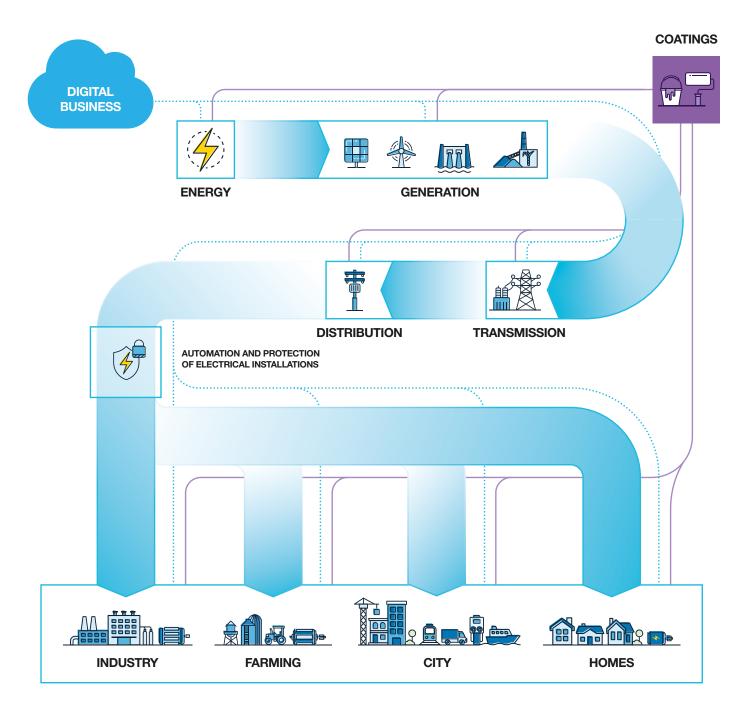


Product portfolio with over 1,500 product lines





# Whenever you need a reliable supplier of solutions for Food and Beverage, count on WEG!







# Segments

Product quality, efficiency, support and customer relationship are part of WEG's values. WEG offers the widest range of solutions in electrical equipment, automation and paints for the Food and Beverage, combining the experience of the market with an environmental concerned company. WEG products were developed with a modern design and high performance standard, giving F&B applications low maintenance, high reliability and flexibility, resulting in industrial solutions of greater efficiency and safety.





Meat, poultry and seafood

The meat packing and processing industry is a segment that handles the slaughtering, processing, and distribution of animals such as cattle, pigs, poultry, seafood and others.



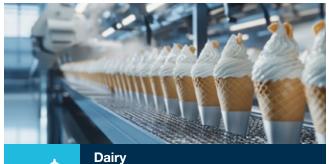
The Beverage industries are related to production of general beverage, special water, bottles and cans, juices, beers, wines, carbonated soft drink, and others alcoholic and non-alcoholic beverages.





#### **Bakery and confectionary**

Bakery and Confectionary are industries involved in the production of baked goods including breads, cakes, pastries, cookies, crackers, tortillas and prepared dough.





The dairy is the industry that prepare raw milk in derivatives providing cheese, yogurt, ice cream and others related products.







Food service involves the preparation, delivery, and presentation of food to customers, facilitated by a range of commercial equipment. These include ovens, grills, refrigerators, and specialized cooking tools, essential for maintaining quality, safety, and efficiency in various culinary operations.





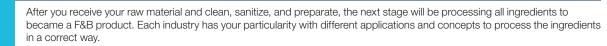
#### Agribusiness

Agribusiness seamlessly integrates irrigation, milk collection, grain aeration, and animal comfort to sustainably enhance productivity and quality in agriculture.

# **Industrial Sectors**

With a vertical production structure, high capacity of research and innovation, the WEG portfolio includes solutions for processing, packaging and utilities area, always providing state-of-the-art products with reliability, efficiency and safety that meet all requirements of the demanding Food and Beverage Segment.







Food packaging is the process of protecting the food from damage and contamination, spoilage and during transportation and storage.





#### Utilities

Utilities area support all factory with pumping system, water treatment, cold/hot water, industrial refrigeration, steam generation, energy and thermal fluids. Utilities services are fundamental to process industry. Each company create which are the main resources needed according each production stage.



## Dairy

From farm to your home, raw milk has a long way to become a dairy product. When you consume cheese, butter, yogurt, milk, or ice cream, you can't imagine the quantity of different industrial processes behind. Each dairy industry is different from other one, depending on product that will be manufactured, machines are designed specifically for your needs, but in general pasteurization, separation, homogenization, agitator, filtering, evaporating, and drying are part of main applications responsible to transform raw milk in a dairy product. Beyond applications mentioned, pumps and conveyors are spread over the factory to move milk during process and transport the final product to filling and packaging machines.

There is a lot of information about Dairy Industry, but don't worry, let's discover about each application and how WEG products are the perfect fit for your needs to get a better performance, control, and energy saving.



Pasteurization

Separation





Agitators



Membrane filtration



Evaporation



Decanter centrifuges

The milk processing sector demands advanced technology to ensure smooth operations and consistent product quality. From the initial stages of milk collection to the final packaging of dairy items, every step requires precision and efficiency. WEG offers a comprehensive product portfolio tailored to meet the diverse needs of dairy processing. Our products are used in all stages of production, providing solutions that are not only efficient but also adaptable to different production demands.

#### **Overview of WEG products at Dairy Industry**





#### Beverage

The beverage industry has several sectors, from soft drinks to spirits and beer to energy drinks, each with its unique demands and challenges. Furthermore, the level of technology required in these sectors is high, ensuring correct performance of production, packaging and processes. In this situation, it's really important for companies to keep up with the latest technology to satisfy growing consumer demands and maintain a competitive advantage. In the beverage industry, WEG's products play a crucial role in ensuring smooth operations across various sectors. WEG's high-performance electric motors and frequency converters power pumps, mixers, conveyors, and other equipment, providing precise control over speed and torque. Advanced automation and control solutions monitor and regulate parameters such as temperature, pressure, and flow, ensuring consistency and quality in product processing and packaging. WEG develops customized solutions tailored to specific challenges and requirements, enhancing productivity and competitiveness. Discover the beverage industry applications and how WEG product can be a perfect fit for your factory:



Dryer







Conveyors



Palletizer packer

The beverage industry demands high level technologies to navigate the complexities of machine operations with precision and speed. With its extensive portfolio, WEG is a reliable partner for companies seeking comprehensive solutions. From the intricate processes of bottling to the packaging, WEG offers a range of innovative solutions designed to optimize performance and enhance productivity across the production line. With WEG, beverage manufacturers can trust in a partner that not only understands their industry but also delivers the complete solutions necessary.

#### **Overview of WEG products at Beverage Industry**

capper





#### Meat, poultry and seafood

The meat and poultry industry operates in complex technological level, where the machinery, processes, and standards of hygiene is crucial. Above anything, this industry requires high-technology machines and equipment that can be used in food processing, packaging, and delivering meat products. Some machines paramount to the operation of a modern meat and poultry processing plant: slaughter lines, partial and package systems, automation. Based on the amount of processing or the creation of food, this equipment must be precisely picked. In this context, sanitizing questions should be highlighted. Businesses are compelled to take stringent and consistent steps to avoid bacterial infections due to the toxic meat and poultry that gives rise to a fast growing, perishable waste.

In this context, WEG has a wide portfolio able to cover all needs of meat and poultry industry with motors, frequency drives, automation components and others. Below you will see each industrial application and WEG products that are the perfect fit for your machines:



Evisceration



Cutting



Deboning





Mixing



WEG Digital

Solutions



Freezing tunnels



Slicers



**Frying equipment** 



Packaging

Commercial

**Appliance Motors** 

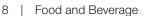
Fractional

Appliance

Complex machines that need speed, precision and control in food processing is very common in meat and poultry industry. From slaughter to packaging, different automation level is required to ensure efficiency and energy saving.

#### **Overview of WEG products at Meat, Poultry and Seafood Industries**







#### Bakery and confectionary

The bakery industry offers a wide varley of products, ranging from crackers, hard and soft biscuits, sponge cakes, bread, cupcakes, to even specialized items like pet food. Each of these products demands attention in ingredient blending, shaping, slicing, and baking to ensure optimal quality. After that the wheat arrived in the factory, all machines that transform this raw material in food product had a complex automation system behind, and WEG has a complete product portfolio able to cover all applications. Motors, gears, frequency drives, PLCs and controls when combined are perfect fit if you looking for efficiency, better performance and energy saving. Discover the bakery industry applications and how WEG products can be a perfect fit for your industry:



Horizontal mixer

Planetary mixer



Industrial lamination line



**Tunnel oven** 



**Biscuit extruder** 

Spiral cooling



**Slicing machine** 

The bakery industry requires a high technological level to ensure seamless operations and consistent product quality. From the initial stages of mixing ingredients to the final packaging of baked goods, each step requires precision and efficiency. WEG has a wide product portfolio designed to address the diverse needs of bakery operations. Their range of advanced machinery covers all aspects of the production process, offering solutions that are not only efficient but also adaptable to varying production requirements.

#### **Overview of WEG products at Bakery Industry**





## Utilities

Utilities area in the Food and Beverage industry is not just where the magic happens, but where the heartbeat of operations resides. This critical sector provides indispensable services and support to ensure continuous functioning in several industry types. From the supply of power to waste management, every aspect is vital for operational success. At WEG, we bring expertise and a comprehensive product portfolio tailored to meet the diverse needs of this industry. Whether it's controlling processes, enhancing efficiency, promoting sustainability, or energy savings, we have the solutions you need.

Below, you'll find common utilities applications found in industrial plants, and how WEG can collaborate with you to optimize each aspect of your operations:



Power supply



Steam production Wa



Water supply



Compressed air

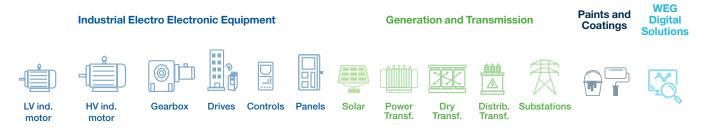


Refrigeration

Every aspect of the utilities area is crucial for the regular functioning of a factory. Whether it's electricity, waste treatment, steam, or cold generation, each component plays a vital role in ensuring operational efficiency. Ultimately, the main goal of any factory is to sustain success, and WEG is your reliable partner in achieving this objective. With decades of experience and a global presence, WEG offers unmatched expertise and innovative solutions tailored to the diverse needs of factories across various industries.

From motors, drives, transformers and industrial coatings to advanced automation technologies, we provide the tools needed to optimize operations, boost efficiency, and drive productivity. Beyond just products, we offer comprehensive support and customized solutions to address specific factory requirements. By teaming up with WEG, factories can unlock their full potential, streamline processes, and confidently navigate the challenges of modern industry. Whether it's overcoming technical obstacles, improving sustainability, or maximizing profitability, WEG is here to lead you towards success. Trust WEG as your dedicated partner on the journey.

#### **Overview of WEG products at utilities area**





#### Agribusiness

The agricultural environment is the early stage for the journey of food and beverage products. It's here that a diverse array of grains, vegetables, fruits, milk collection, and animal raise are produced by farmers, ensuring the supply of fresh and nutritious raw materials to the industrial sector. From fields to dairy farms, these farmers delivery of healthy ingredients that find their way to processing and by implementing processes like irrigation, grain aeration, milk collection, animal comfort, and utilizing appropriate technologies and techniques, farmers can enhance farm quality, ensure sustainability increase productivity, and deliver high-quality products to consumers. WEG has a wide product portfolio to cover all solutions and applications designed for the agribusiness sector, supporting farmers globally in enhancing their operational efficiency.



#### **Overview of WEG products for agribusiness**

**Industrial Electro Electronic Equipment** 



















Commercial

**Appliance Motors** 



LV ind, motor

HV ind, motor

Gearbox

Drives

ols	Panel

Fractiona

þ	gl
al	Appliance



Paints and

Coatings



## Food service

Food service is an expansive industry encompassing everything from fast-food joints to high-end restaurants, catering businesses, institutional cafeterias, and beyond. At its core, food service involves the preparation, presentation, and delivery of food to customers, whether they're dining in, taking out, or having food delivered to them. This industry is dynamic, shaped by evolving consumer preferences, culinary trends, technological advancements, and regulatory requirements.

Central to any food service operation is the efficient and effective use of commercial equipment. These specialized tools and appliances are designed to streamline kitchen operations, ensure food safety, maintain quality standards, and enhance overall productivity. Commercial equipment varies widely depending on the specific needs of the establishment, but some common categories include cooking appliances, refrigeration units, food storage solutions, food preparation equipment, and dishwashing systems.



Automatic meat slicer



Meat slicer



Espresso machine



Tilting blender



Food processor



Ice cream dispenser



Grater



**Commercial oven** 



Pasta cylinder

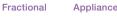
#### **Overview of WEG products for Food Service**

Industrial Electro Electronic Equipment



Commercial Appliance Motors





www.weg.net

# **Competitive advantages**

A UNIQUE BUSINESS MODEL CREATES IMPORTANT COMPETITIVE ADVANTAGES



#### Vertical Integration

Production flexibility that reduces costs and optimizes processes.



#### **Diversification**

Varied mix of solutions that meets several markets and consolidates our global presence.



#### Modular Expansion

Our production system is dedicated to maximize return on capital and minimize risks of demand.



#### Mass Customization

We understand needs in order to meet objectives and thus develop customized solutions.



Productive scale allows for competitive gains in the global market.



#### Financial Flexibility

Financial flexibility allows WEG to pursue growth opportunities as they become available. These opportunities range from raw materials procurement at attractive conditions to acquisitions of new business.

# Motors and gearboxes

# Efficiency and reliability for the food and beverage industry

The manufacture of WEG electric motors started with the combined skills of an electrician, an administrator and a mechanic, which resulted in the production of the first WEG electric motor. Since then, that is what guides us to produce more efficient machines, designed with the most advanced technologies. All that because, regardless of the market segment, WEG keeps dedicated research and innovation initiatives to produce highly efficient electric motors, which guarantee the production reliability for your industry.





WEG offers various solutions with **electric motors** and **gearboxes**, such as permanent magnet motors, antimicrobiotic and corrosion resistant painting, and new technologies for Industry 4.0, such as **WEGScan®**. These are products specifically designed for any application in the Food and Beverage Industry.





## Preparation, process and HVAC systems

These systems incorporate several WEG solutions, such as motors for ventilation in differente Food an Beverage industries. Additionaly, WEG offers the W30 Smart EC (WEG Electric Commutated Motor), which is designed for freezing tunnels, condensers and evaporators; the W12 which can be used with gearboxes, pumps and fans, while the W22 line offers all of its versatility and efficiency. Developed for large exhaust and pumping systems, the W60 motors offer high levels of energy efficiency, ideal for high speed applications.





# Washdown application environments

Applications requiring continuous washdown process (handling animal protein, such as: pork, beef, lamb and poultry) demand safe equipment. WEG offers solutions like the Encapsulated Washdown Motors Hydroduty and Picker Plus, and General Purpose Washdown Motors Hydrowash, Shark and W22 Wash, which features NobaC<sup>®</sup>, exclusive WEG paiting with antimicrobial properties.

# **Motors and gearboxes**



# Small machines and food service

WEG offers a diverse range of commercial motors, specifically designed for small machines in dry area. These solutions are versatile and suitable for various industries or equipment used in food service.

## Industrial refrigeration and air compressors

In utilities area, applications such as ammonia and air compressors demand dedicated and realiable products.

WEG also offer the W60 line, with a compact design and optimized air flow, dedicated to pumps, fans, compressors, mills, and others. The highlight is the **W22 Cooling Tower** motor line, used in cooling towers.





# Heavy applications

Gearmotors such as the **WG20**, Magmax, **MAS** and **GSA**, combined with **W22** and **W12** motor line, are suitable for applications like conveyors, rolling machines, stirrers, winches, elevators, chippers and others. Some applications may receive special antimicrobial painting, resistant to corrosion, which is important for the Food and Beverage industry.

## Hazardous locations

These electric motors meet the needs of hazardous locations, as they are manufactured according to current industrial standards, both NEMA and IEC. The products are certified by the main product certification bodies in the world, in addition to having high safety levels, essential for Zone 1 (W22Xdb line), Zone 2 (W22Xec) and Zone 21/22 (W22Xtb). With a robust construction, they are the most modern drives for hazardous locations machines containing gas, steam or dust.



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## WEGSee+



WEGSee+ is a free, multiplatform software that simulates the application of high-efficiency electric motors to reduce energy consumption in industry. It generates feasibility reports for replacing electric motors, calculating the potential savings in financial and energy terms. The software also presents financial indicators, such as NPV and IRR, and allows you to simulate the capitalization of resources through different forms of investment.

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# WEG motors for Food and **Beverage industrial areas**

The food and beverage industry encompasses various hygienic zones, each requiring specific considerations to mitigate the risk of food contamination. Understanding the optimal motor for your application within these industrial areas is essential, taking into account technical specifications, sustainability factors, and sanitation requirements. Finding a single supplier capable of addressing all these aspects can be a significant challenge, but don't worry, WEG specializes in solutions tailored for the food and beverage industry and is poised to assist you in identifying your food safety zone and selecting the most suitable products.

WEG offers a comprehensive range of motors suitable for both outdoor and indoor installations. However, before exploring our product offerings for these applications, it is crucial to ascertain your food safety zone (1-4). By partnering with WEG, you can access expertise and solutions designed to optimize hygiene, performance, and reliability in your specific industrial environment.

Zone 4	Areas outside food processing areas This zone covers non-food contact areas where sanitation remains essential for overall food safety. It includes spaces like maintenance areas, employee facilities, and waste disposal zones. While no direct contact with food occurs here, maintaining cleanliness is crucial to prevent the spread of contaminants.
Zone 3	<b>Non-food contact surfaces (dry area)</b> Typically includes areas where food is not directly handled but where food safety risks still exist, such as packaging and storage areas. While direct contact with food is unlikely, equipment should still be constructed to withstand cleaning procedures to prevent cross-contamination.
Zone 2	Non-food contact surfaces (wet area) In this area, there is potential for indirect contact with food, where fluids used in processing or cleaning may come into contact with equipment. Equipment must be designed to prevent contamination, and frequent washdowns are common to maintain cleanliness.
Zone 1	<b>Food contact surfaces</b> This zone involves direct contact with food products during processing or handling. Equipment and surfaces here must be constructed of materials that are safe for food contact and able to withstand rigorous cleaning methods, such as high-pressure and high-temperature washdowns.

Now we know about the different food safety zones, you can confidently choose the motor that best suits your needs. Whether it's for conveyor systems, packing/dosing machines, or liquid transfer applications, WEG offers a comprehensive motor portfolio that meets all the requirements and standards of the food and beverage industry.

## Washdown motors

Applications requiring continuous washdown process (handling animal protein, such as: pork, beef, lamb and poultry) demand safe equipment. WEG offers solutions like the Encapsulated Washdown Motors Hydroduty and Picker Plus, and General Purpose Washdown Motors Hydrowash, Shark and W22 Wash, which features NobaC<sup>®</sup>, exclusive WEG paiting with antimicrobial properties. In the Washdown motor. These kinds of motors are a perfect fit to installation at zone 1 and 2, and follow the food safe construction (no gaps).

#### Shark



For use in food processing, pharmaceutical and other applications requiring extreme cleanliness.

PRODUCT SCOPE				
Horsepower	1 - 30 HP			
RPM	1,800 and 3,600			
Voltage	230/460 V (60 Hz)			
Enclosure	TEFC, TENV			
Frames	143TC to 286TC			
Mounting	C-Face footless or C-Face Footed			

#### **HydroDuty**



The best stainless washdown motor in the industry. Significantly reduces motor replacement and downtime costs.

PRODUCT SCOPE		
Horsepower	0.5 to 10 HP	
RPM	3,800, 1,800, 1,200 and 900	
Voltage	208-230/460 V @ 60 Hz / De-rated HP @ 50 Hz	
Enclosure	TENV and TEFC	
Frames	56C through 210TC (100 and 80 IEC frames available)	
Insulation	Class-F inverter rated, meeting NEMA MG 1 Part 31	
Mounting	C-Face or C-Face footed	

#### **HydroWash**



Designed for long service life in general purpose washdown applications.

PRODUCT SCOPE		
Horsepower	epower 0.5 to 25 HP	
RPM	3,600, 1,800 and 1,200	
Voltage	208-230/460 V and 575 V as optional	
Enclosure	TEFC (TENV available for fractional motors (60/50 Hz)	
Frames	56C - 250TC	
Insulation	Class-F inverter rated, meeting NEMA MG 1 Part 31	
Mounting	C-Face footless or C-Face footed	

#### **PickerPlus**



Encapsulated winding and a patented sealing system to ensure they will "standup" in the most severe applications.

PRODUCT SCOPE			
Horsepower	3 HP		
RPM	1,800		
Voltage	230/460 V (60 Hz)		
Enclosure	TEFC		
Frames	100L or 145TC		
Mounting	C-Face footless or C-Face footed		



# Product overview

Features	HYDRODUTY	PICKERPLUS	HYDROWASH	SHARK MOTORS
Encapsulated winding				
304 Stainless steel frame				
304 Stainless steel fan cover				
Breather vent				
EZ-Connect (56/140T)				
Potted leads passage				
Gasketed leads passage				
O'ring on end shield/shell joint				
End shield/shell joint sealant				
White powder epoxy coating				
Stainless steel shaft slinger				
Stainless steel shaft				
IP degree	IP69K	IP69K	IP56	IP56



# WEGmotion Drives

From motors, drives and gears to a integrated motion package.

WEGmotio

Industry is always on the move. And WEG doesn't stop evolving. Thinking on this, we developed WEGmotion Drives, an integrated and flexible package that combines motors, gearboxes, drives and digital solutions to improve productivity of your manufacturing plant. Do you know what that means? It means reliability, better control of machines and equipment, more intelligence in operational processes and more efficiency for your industry. It is WEG's partnership getting you ready today for tomorrow's challenge.



# Automation

Food and Beverage industry requires a high level of technology. Several applications need efficient process control to ensure the correct preparation to raw material became final product, and WEG automation solutions will provide you with effective results for your industry.

#### Main advantages



Flexibility



Products highly resistant to aggressive environments and impacts



High safety level for operators



Products in compliance with global standards

With decades of experience in developing electronic products, WEG offers high performance and efficient solutions to drive and protect industrial electric motors. Designed in accordance with international standards, the products are ideal for different applications, such as mixers, conveyor belts, meet cutting machines and small fans.

Discover the WEG automation solutions suitable for our industry.



#### Drives

With a complete line of low and medium voltage frequency drives and soft-starters, programmable logic controllers, software and operating interfaces, WEG offers flexibility and technology to increase the productivity and reliability of industrial processes, packaging and utilities area.

#### Main advantages



Products developed to operate in harsh environments



Adaptable with any industrial communication protocol



Energy savings

Products with high degree of protection, specially developed to operate in wet environments, providing safety against bacteria, corrosion and contamination.



# Automation

## Controls

From contactors to molded-case circuit breakers, including starters, overload relays and limit switches, in addition to a complete line of pushbuttons and pilot lights, WEG offers an extensive electric motor start and protection portfolio, developed for different requirements in the Food and Beverage industry.

#### Main advantages



Several products with degree of protection suitable for outdoor applications, specially developed to mantain security and integrity even in environments with high presence of water.



## Machine safety

Specially developed to comply with national and international safety standards, the Safety Line offers standalone solutions or integrated solutions with safety systems, helping to reduce accident risks and ensuring protection for operators and machines, which increases the reliability of the production processes.

- Safety light curtain
- Control systems
- Zero-force electronic pushbuttons
- Magnetic sensors and switches
- Interlock and emergency switches
- Relays
- Safety PLCs
- Safety contactors
- Emergency-stop pushbuttons with monitored contact
- 3-stage foot control
- Two-hand control
- Press safety block



Electric package

Developed for different applications in the Food and Beverage industry, WEG electrical panels comply with international quality and performance standards and requirements, ensuring the safety of operators and machinery. The high rate of product standardization of the products provides easy assembly, installation, maintenance, modular expansion and interchangeability.

#### Main advantages



Customized projects according your needs



Modularity: easy and fast expansion



Easy assembly, connection and inspection



Reduced dimensions



Easy access to the compartments for maintenance by means of removable covers and doors



Turn-key solutions





## Integrated battery solution

- Complete BESS integration or a complete battery solution, including battery cabinet, fire detection and suppression system, HVAC system, and DC disconnect.
- From small projects with a few kilowatt-hours to hundreds of kilowatthours.



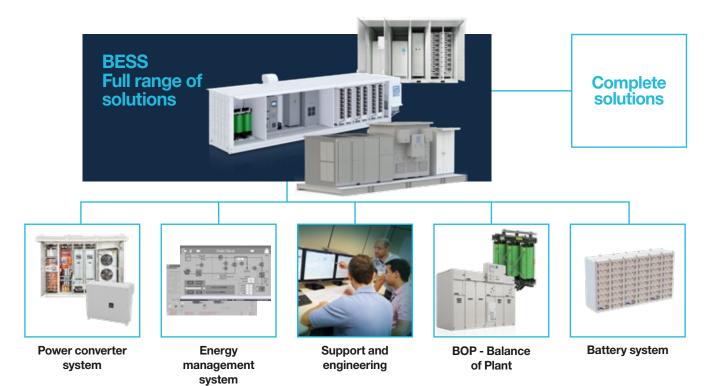
## Power converter systems

- Integrated power converter system, including PCS, transformer, and/or high-voltage switchgear. Option for individual equipment power supply.
- From small projects with a few kilowatts to hundreds of kilowatts.



## BESS solutions

Providing solutions from a few kWh to hundreds of MWh, focusing on meeting customer requirements, WEG uses its products with a high standard of quality procedures and qualification, with options to meet UL, IEC, and CE markets.



# Service

Service support complying with the quality of our products

## Retrofitting and repowering

WEG services are provided in the same facilities and following the same standards to perform retrofitting and repowering to garantee extended equipment lifetime.

- DC motors and generators
- Three-phase induction motors
- Synchronous motors
- Turbogenerators
- Hydrogenerators
- Steam turbines (24/7 service)
- Hydraulic turbines
- Wind turbines

#### Turn-key project

- Engineering and commercial studies for CAPEX projects
- Integration of electrical package from the WEG Group
- Inclusion of sub-suppliers equipment / services
- Inclusion and optimization of Services: Engineering, Automation, Assembly, Start-up and Commissioning
- Special commercial conditions for the supply of services & equipment packages
- Centralized contract management (sales and aftersales)

#### Project management

Complex projects usually require very strict control of technical documents, production schedule, inspections and logistics 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 informed on the production and delivery progress.

## Recoverability limit

Definition by means of technical and economic criteria of the feasibility to repair or replace the electric motors. The work is performed with the help of a specific software application, analyzing the data of each plant, allowing the cost analysis of the motor lifetime.

#### 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.

## Preventive maintenance

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

#### Partnership program

Management of specification & supply for end users and #1 contractors

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



# Transmission, distribution & power generation

Vertical production process aligned with the application of high quality raw materials and project customization differentiate WEG Transmission and Distribution solutions for the Food and Beverage industry. By offering complete solutions, WEG provides the entire electrical package, including the construction of internal distribution networks, transmission lines and connection to local utilities, with technical support.





#### **Conventional substations**

WEG's substation department has know-how and extensive experience designing and building medium and high-voltage electrical systems. The company offers solutions for turn-key conventional substations, from the basic design to the detailed engineering design, including electrical studies, product and material supply and dedicated services, which include commissioning and after-sales support, coordinating and integrating all project players.

#### **SKID** solution

Developed with the most modern components on the market, Mobile Solutions guarantee each customer a specific and customized product, meeting the typical characteristics of maneuver, transformation, switching, control, protection and local and remote supervision, always in a practical and safe way, with focus, especially in emergency situations, in which it is necessary to perform critical operations with total reliability and in the shortest time possible.



#### **Turbogenerators**

The turbogenerators are developed for applications in Thermal Power Plants with a wide power range up to 150 MW, designed based on WEG's experience in the supply and sizing of steam or gas turbogenerators.





#### **Disconnectors**

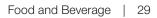
WEG offers competitive solutions for different needs in order to meet several technical requirements in 15 kV to 550 kV disconnectors. An economical and highly customized solution suitable for every substation layout, even within a limited space.

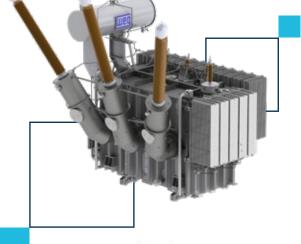


Available in voltage classes up to 550 kV, they are designed to guarantee high performance in all applications. The vertical manufacturing processes (production of the electrical insulating varnish, electric wires, tanks, insulating kits, coatings, etc.) is a remarkable characteristic and advantage of WEG, allowing broad quality control of the different production steps, as well as flexibility in lead times.

#### Oil transformers and dry transformers

Offered with power range up to 20,000 kVA and voltage class up to 36.5 kV. With assured quality, WEG is among the main manufacturers of this line for the preference of consumer market. Developed by an engineering team specifically dedicated to this range of transformers due to the special features and requirements for each application, these products offer optimized dimensions for space saving installation.







# Coatings

To help you create and maintain a clean, safe and compliant environment, the WEG Coatings Division provides a variety of solutions in liquid and powder paints. Our industrial coatings offer excellent anti-corrosion protection, providing greater durability to assets in factories (metallic structures, tanks, pipes, equipment in general), in addition to maintaining beauty and aesthetics.

You can choose from a diversity of durable high-performance coatings for floor, tanks, pipes, machinery and equipment that minimize downtime, maintenance costs and meet food processing standards.

## Floor solutions

The floor of a food processing facility is typically exposed to all sorts of food by-products, including fats, oils, blood, sugar solutions, and natural food acids. Some of these substances can cause serious damage to the floor due to their corrosive impact.

In addition, the urethane floor coating has highly effective antimicrobial properties, so bacteria and fungi do not proliferate on the floor. With self-leveling properties, the urethane coating is matte and also an extremely hygienic material, resulting in easy and fast cleaning, as it does not have porosities that absorb any type of dirt. The coating has high chemical resistance, as well as resistance to blood, caustic soda, milk (lactic acid) and citric acid, as well as being odor free and zero VOC.

- Resistant to impacts caused by handling of boxes and pallets
- Low porosity, easy cleaning and sanitizing
- Reduction of critical contamination spots, such as joints and sharp edges
- Chemically resistant to organic and inorganic acids
- Thermal resistant





#### Cold rooms

The cold rooms and walk-in freezers environments are different from any other. Regular exposure to thermal cycles during cleaning and sanitation procedures and severe condensation are some of the specific challenges these environments face requiring high performance paints. This type of application can cure at temperatures as low as -5 °C, facilitating the application, as the equipment do not need to be turned off. In addition, they offer excellent resistance to impact and chemicals. The cold room floor is typical for supermarkets, hospitals, food, baverage, dairy and pharmaceutical industries.



#### Main advantages



Resistant to below zero temperatures



Resistant to periodic cycles of frosting and defrosting



Impact resistant



Transportation and handling resistant

## Storage tanks and pipelines

Painting is primarily intended to protect steel and concrete tanks against the weathering and inner walls of the tanks against corrosion.

WEG develops technologies for the external painting of tanks capable of withstanding temperatures up to 220 °C (428 °F) and applicationon hot surfaces up to 85 °C (185 °F) without complete shutdown. The same way the internal painting provides proper anticorrosive protection with nontoxic paintings, there is an extra barrier against the proliferation of bacteria and microorganisms that may be harmful to the food.



When the equipment is painted with high performance paints, problems are avoided, ensuring the expected productivity and profit, reducing repair expenses on the coating, and nonscheduled production shutdown.

WEG applies different technologies to meet the technical standards for powder and liquid paints to be used in contact with drinkeable water and alcoholic beverage.



# WEGdigital

# A new way to combine smart people, companies and products.

Based on its engineering expertise, WEG made available a new way of combining people, companies, software and intelligent products, resulting in a global solution that transforms energy into more reliable, efficient and intelligent solutions.

VEGdigital

ataforma loT, Conectividade, Inteligén e Software para a indústria 4.

## No matter your company size, we can help you:

#### Scalable and flexible solutions

- Easy to be implemented independently of the type of industry.
- Flexible solution designed for you.

#### **WEG Expertise**

 We have the ability to contribute to increasing the operational efficiency of our partners and

reducing waste in different industry processes.

#### **Co-working**

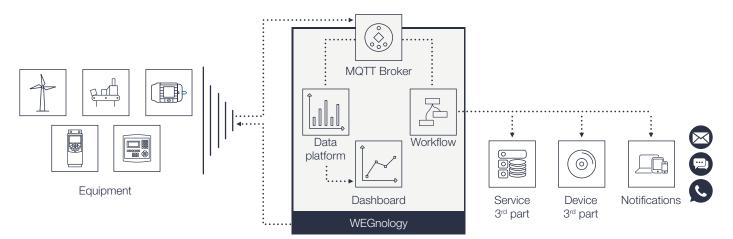
- We support you to migrate from traditional industry into Industry 4.0.
- We share our technologies and experience to benefit your business.



# **WEG**nology®

## WEG's IoT platform

The WEGnology<sup>®</sup> loT platform is a powerful tool based on cloud computing, specially developed for creating of connected solutions. The practicality of using the tool, whether for simple or more complex applications, enables the creation of collaborative ecosystems, in addition to providing the co-creation of solutions focused on the digitization of processes and efficiency gains.



Highly scalable, the WEGnology<sup>®</sup> IoT platform has advanced features for data collection, aggregation and visualization, allowing its application in the most varied segments, in addition to enabling a better understanding of the large amount of data from factory floor devices, such as sensors, motors, actuators, drives, controls, among others.

#### **Main features**

- "Drag and drop" functionality in the visual workflow facilitates and accelerates the development of solutions of IoT while streamlining adaptations and adjustments accordingly with the natural and constant evolution of business logic.
- Easily customizable dashboards are built in a simple and fast way, meeting the needs of the business.
- Geolocation and correlation between variables are also easily configured by the user. "Multi-tenant" applications, as well like domains or specifics reports are also possible in the "organization" environment.
- The platform also allows data processing and transformation, numerical simulation, modeling statistics and machine learning through Jupyter Notebooks application.



## Sustainability

# Thinking about **tomorrow today** means being sustainable in the way you are, think and act.

This Policy establishes the responsibilities and Sustainability strategies broken down into Strategic Axes, Themes and Objectives, aiming to direct the structuring of programs, actions and commitments in the Environmental, Social and Governance dimensions.



## Megatrends



#### Energy Efficiency

- Solutions that make electric motors, gearboxes and drives even more efficient.
- Energy Managing Systems which optimize operational processes.
- Higher productivity and better performance.



#### Renewable Energy

- Solar power will become, more representative in the power grid.
- Solar energy generation and wind generation should grow significantly in the coming years.
- Energy storage will be crucial in the new phase of electrification, as well as systems with batteries, also the use of hydrogen should become more viable.



#### **Digital Solutions**

- Increasingly automated industries and machines.
- Operational processes becoming increasingly digital.
- IoT, Big Data and AI will drive productivity.
- Growth of data centers and rise of new "communication network" technologies and solutions.



#### **Electric Mobility**

- Electrical Mobility global growth.
- Increase of infrastructure for battery charging.
- Expansion of the electric vehicles market.
- Powertrain solutions for the transport segment.

## **WEG** Purpose

TO DEVELOP TECHNOLOGIES AND SOLUTIONS CONTRIBUTING TO **A MORE EFFICIENT AND SUSTAINABLE WORLD.** 



# **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.

ISO 9001 ISO 14001 ISO 50001 ISO TS 16949

OHSAS 18001 Occupational Health and Safety Management

# 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



# Learn More

High performance and reliable products to improve your production process.



Excelence is to provide a complete solution in industrial automation that improves our customers productivity.

Visit: www.weg.net



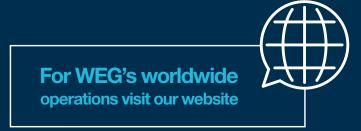


## Notes




## Notes


The scope of WEG Group solutions is not limited to products and solutions presented in this catalogue. **To see our portfolio, contact us.** 



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Cod: 50104965 | Rev: 03 | Date (m/y): 11/2024. The values shown are subject to change without prior notice. The information contained is reference values.