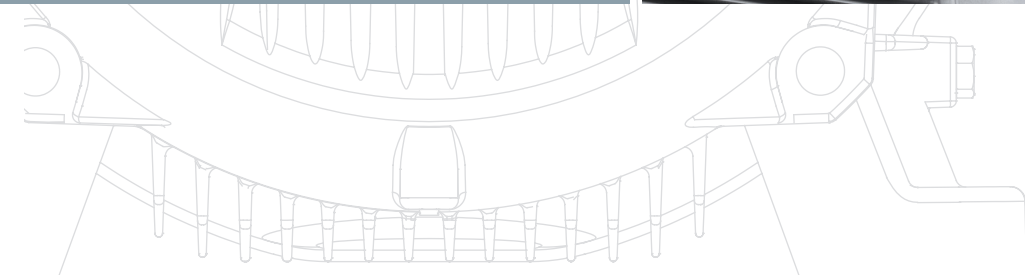
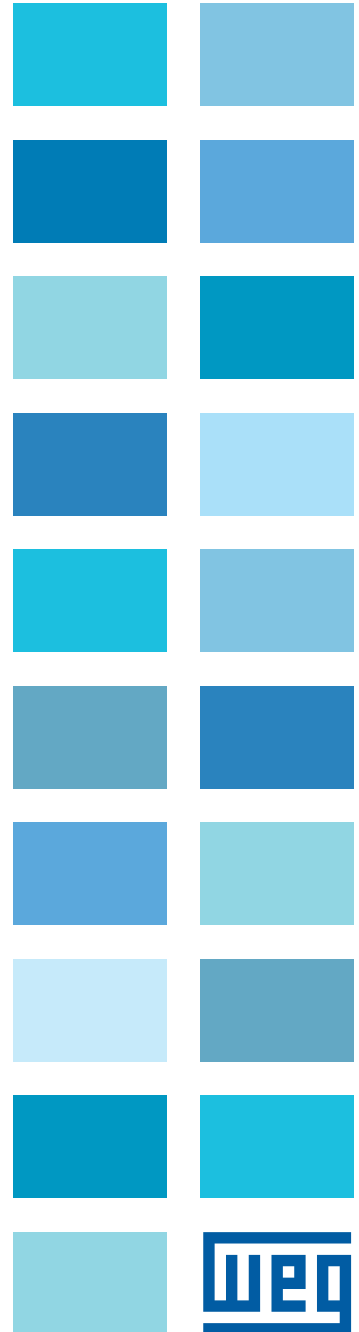
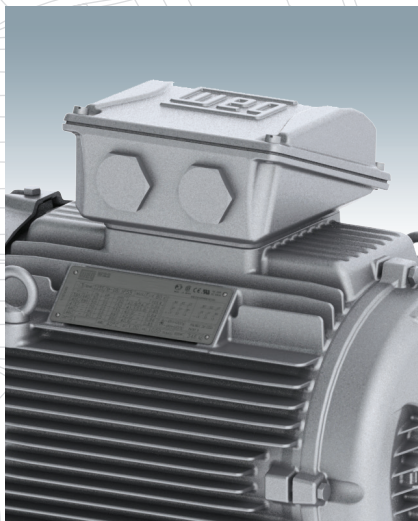
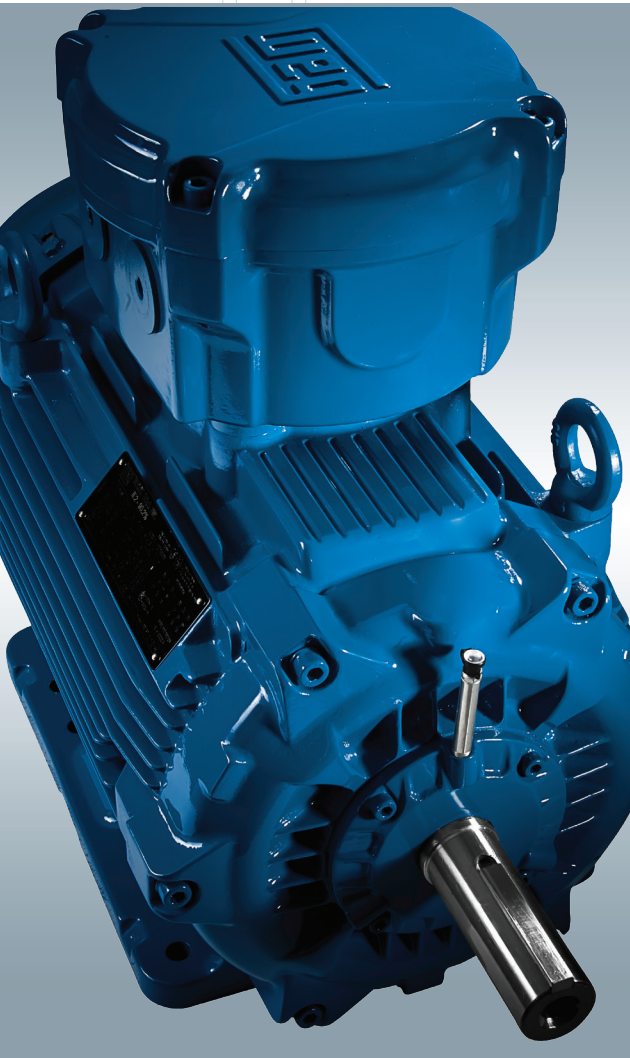


Motors

Product Lines European Market





Efficiency and Reliability to the Industry

Founded in 1961, WEG is recognized today as one of the world's largest electric motor manufacturers, with exports to over 135 countries across five continents and employing more than 30,000 people, producing in excess of 15 million motors each year.

High performance with maximum energy efficiency, this is the standard for all of WEG's electric motors.

With a comprehensive range of industrial electric motors, WEG has a solution to suit the simplest to the most demanding of applications in aggressive environments, whilst always focussing on customer service.

Reinforcing the Global commercial presence of our branch and distributor network, WEG is dedicated to providing world class customer service with an After Sales Service Network on hand to offer technical support for all installations and applications.

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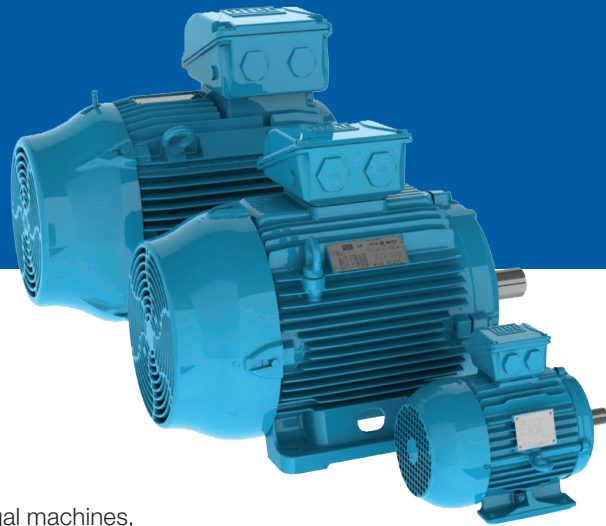
W22 General Purpose Low Voltage Motors

W22 General Purpose motors are designed to provide not only significantly lower energy consumption, but lower noise and vibration levels, higher reliability, easier maintenance and lower total cost of ownership
 A motor line that addresses the concepts of energy efficiency, performance and productivity, generating maximum benefit to the customer.



Standard Features

- Output: 0,12 kW to 500 kW
- Number of Poles: 2, 4, 6 and 8
- Frequency: 50 Hz
- Voltage: 220-240/380-415 V (up to 100L)
380-415/660 V (from 112M and up)
- Frames: 63 to 355A/B
- Colour: RAL 5009 - Blue



Versions Available

- High Efficiency - IE2
- Premium Efficiency - IE3
- Multi speed motors (Dahlander, Double Winding, etc.)
- 10 and 12 poles

Applications

Pumps, compressors, fans, crushers, conveyors, mills, centrifugal machines, presses, elevators, packaging equipment, grinders, etc.

Features	Benefits
Efficiency levels	High Efficiency - IE2 - Exceeds the IE2 efficiency levels specified in the IEC 60034-30 Premium Efficiency - IE3 - Exceeds the IE3 efficiency levels specified in the IEC 60034-30 to provide significant energy savings and a fast return on investment
Frame and endshields design	Higher mechanical stiffness and excellent heat dissipation
Terminal box design	Diagonally split oversized terminal box provides optimal conditions for operators to access main and accessories terminals Provides easy and fast modification to the terminal box mounting position (for frames 225S/M to 355A/B)
Low bearing operating temperature	Extended lubrication intervals and longer bearings lifetime
Exclusive WSeal® Sealing System	Preventing the ingress of contaminant agents into the motor interior (for frames 225S/M to 355A/B)
Ventilation system	Fins design allows an optimized air flow distribution over the frame and reduces the noise levels
Solid and integrated feet	Stiffness, easy alignment and installation
WISE® insulation system	Increases stator electrical strength and allows the motor operation by frequency inverters, without damage by voltage peaks*

*For more information about Frequency Inverter operation, please see page 23.

W22 Super Premium Efficiency

In the last two decades global energy consumption has increased by more than 50%. This increasing demand for electrical energy to sustain global development requires constant investment in power supply generation.

One of the main reasons for this dramatic increase in power consumption is in the industrial sector, where the electric motor represents more than 40% of the total energy consumed globally.

Due to this increase in energy use, it is essential that products are manufactured with energy efficiency a primary consideration. Conscious of, and responding to this situation, several Governments have implemented Minimum Energy Efficiency Performance Standards in order to enforce the utilization of high efficient equipment.

Addressing this situation WEG presents its W22 Super Premium Efficiency motor line, exceeding the IE4 Efficiency Levels defined in IEC 60034-30-1.

WEG W22 Super Premium Efficiency motors offer high overall performance which is translated into a lower Total Cost of Ownership, due to their reliability, easy maintenance and energy savings!



Standard Features

- Output: 3 to 355 kW
- Number of poles: 2, 4 and 6
- Frequency: 50 Hz
- Voltage: 400/690 V
- Frames: 132S up to 355A/B
- Colour: RAL 6002 - Green



Applications

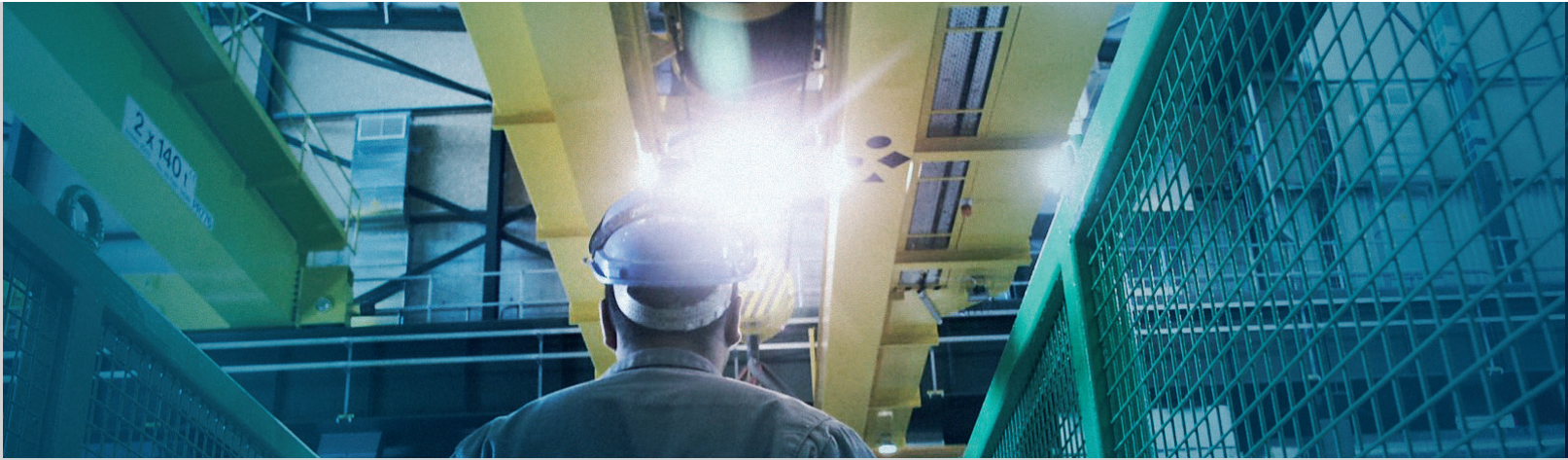
Pumps, compressors, fans, crushers, conveyors, mills, centrifugal machines, presses, elevators, packaging equipment, grinders, etc.

Features	Benefits
Efficiency level	Exceeding the IE4 Efficiency Levels defined in IEC 60034-30-1
W22 Platform	Counts on all the innovative features of the W22 General Purpose Motors Platform
Same output x frame ratio when compared to conventional induction motors	Totally Interchangeable with existing induction motors
WISE® Insulation System	Increases stator electrical strength and allows the motor operation by frequency inverters, without damage by voltage peaks*

*For more information about Frequency Inverter operation, please see page 23.

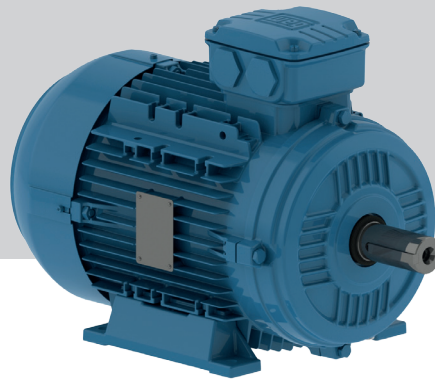
W21 Aluminum Multimounting Motors

W21 Aluminium frame motors with removable feet were specially designed to meet market requirements in reference to mounting flexibility since they allow all mounting positions. The foot mounting system offers great flexibility and allows changing of the mounting configuration without requiring any additional machining process or modification to the motor feet. Motor terminal boxes can be rotated at 90 degrees allowing motor leads to be connected on any side. In addition, these motors are fully interchangeable with existing cast iron frame motors. Reduced stock is needed as only one motor is required for all mounting positions.



Standard Features W21

- Output: 0,12 kW to 37 kW
- Number of Poles: 2, 4, 6 and 8
- Frequency: 50 Hz
- Voltage: 220-240/380-415 V (up to 100L)
380-415/660 V (from 112M and up)
- Frames: 63 to 200 L
- Colour: RAL 5009 - Blue



Versions Available

- Standard Efficiency - IE1
- High Efficiency - IE2
- Premium Efficiency - IE3

Applications

Pumps, compressors, air conditioning systems, fans, cranes, conveyors, machine tools, winding machines, drawing machines, presses, hoists, elevators, looms, grinders, injectors, extruders, cooling towers, packaging machines, etc.

Features	Benefits
Multimounting	Flexible and easy to change mounting configurations without requiring machining operations or additional changes to the motor feet
Aluminium frame	Provides high protection to the enclosures offering lower and better heat dissipation
Definite purpose derived lines	W21 Aluminum Multimounting motors line counts on, besides the General Purpose line, several definite purpose derived lines, such as Brake Motors, Single-Phase Motors and Fan & Exhaust Motors (TEAO)
Extended Range	The introduction of the 160, 180 and 200 frames allow the W21 aluminium multimounting line to offer rated outputs up to 37 kW, enabling this line to cover even more applications
WISE® insulation system	Increases stator electrical strength and allows the motor operation by frequency inverters, without damage by voltage peaks*

*For more information about Frequency Inverter operation, please see page 23.

W22 Quattro and W22 Magnet Motors

The rotor fitted with permanent magnets ensures high performance, reduced noise levels and significantly higher efficiency levels when compared with standard induction motors. These motors operate at lower temperatures, hence extending lubrication intervals and increasing bearing lifetime.

W22 Quattro motor is a hybrid motor design fitted with a squirrel cage rotor (permitting starting either direct on line or via inverter), and high energy permanent magnets which assure synchronous operation and high efficiency operation.

The W22 Magnet motors provide higher outputs per frame size therefore requiring less floor space for installation. These motors need to be fed via a WEG frequency inverter and are an ideal to provide constant torque over a wide speed range.



Standard Features W22 Quattro

- Output: 0,37 kW to 7,5 kW
- Number of Poles: 4 and 6
- Frequency: 50 Hz
- Voltage: 230/400 (up to 100 L)
400/690 V (from 112M and up)
- Frames: 80 to 132M/L
- Colour: RAL 6021 - Green

Standard Features W22 Magnet

- Output: 7,5 kW to 315 kW (IE4 Efficiency)
3 kW to 160 kW (IE5 Efficiency)
- Speed range: 180 to 3600 rpm
- Frequency: 50 Hz
- Voltage: 400 V
- Frames: 132S to 315S/M
- Colour: 091A.3145 - Gray



Applications

Compressors, elevators, pumps, fans, exhausters, conveyors, electrical vehicles, textile industry machines and other applications where speed variation, high efficiency, low noise levels and reduced volume are necessary.

Features	Benefits
Super and Ultra Premium Efficiency Levels	The motor efficiency meets the IE4 or the impending IE5 levels of the IEC 60034-30-1, offering energy savings and reduction in CO2 emissions
Rotor fitted with permanent magnets	Motor extended lifetime, higher output / frame size ratio, higher efficiency, higher power factor and reduced bearing and overall motor temperature
Synchronous operation	Easy speed synchronization with multiple motors fed by the same variable frequency inverter
Wide speed range with constant torque	Ensures operation at lower speeds with the same performance, without requiring a forced ventilation kit, demanding less floor space for motor and MCC installation
WISE® Insulation System	Increases stator electrical strength and allows the motor operation by frequency inverters, without damage by voltage peaks*

*For more information about Frequency Inverter operation, please see page 23.

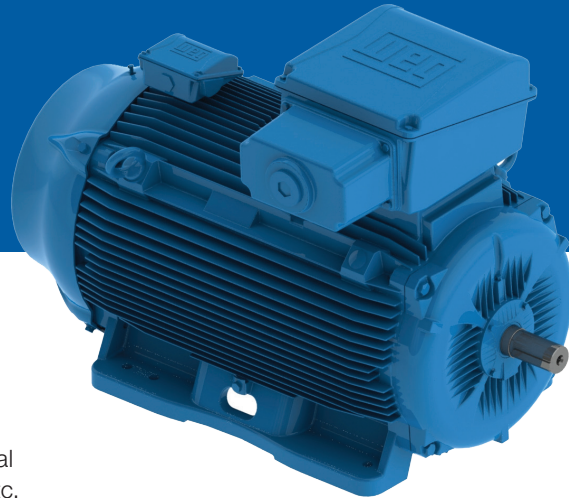
W22 High Voltage Motors

With technical know-how in the manufacture of compact pre-formed coils and access to the latest electrical design optimization software, WEG has developed the W22 High Voltage general purpose motors line. The line has all of the innovative features incorporated in to the W22 Low Voltage motors range and represent an excellent cost-benefit solution for general purpose applications requiring High Voltage machines.



Standard Features

- Output: 90 kW to 440 kW
- Number of Poles: 2, 4, 6 and 8
- Frequency: 50 Hz
- Voltage: 1,2 to 6,6 kV
- Frames: 315L, 355M/L and 355A/B
- Colour: RAL 5009 - Blue



Applications

Pumps, compressors, fans, crushers, conveyors, mills, centrifugal machines, presses, elevators, packaging equipment, grinders, etc.

Features	Benefits
Compact construction	One of the most compact High Voltage machines available on the market
W22 Platform	Counts on all the innovative features of the W22 General Purpose Motors Platform
Accessories terminal box	Placed in the top of the frame close to the fan cover, provides easy and safe connection for accessories separated from main terminals, thus avoiding signal interference



HGF and W50 Low and High Voltage Motors

These motors are designed to address the most demanding technological standards available on the market, using modern computer software for mechanical, electrical and thermal analysis evidenced by performing rigid tests and checks. The result of this innovative development is a flexible product, in compliance with the requirements of international standards and fully aligned with world market trends.

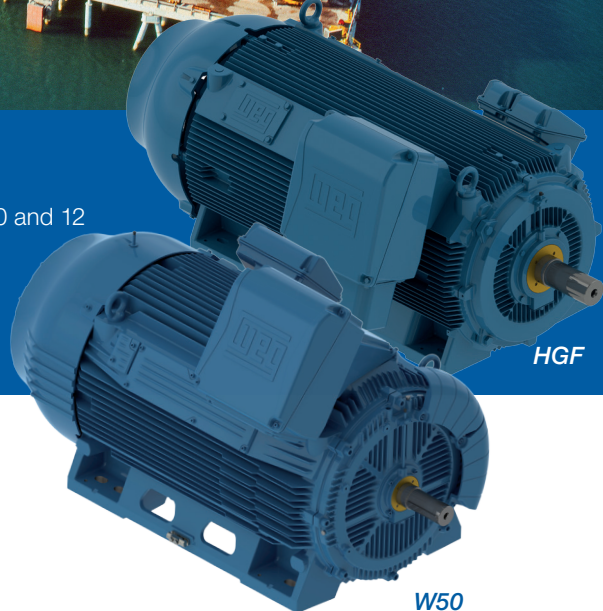


Standard Features HGF

- Output: 75 kW to 2500 kW
- Number of poles: 2, 4, 6, 8, 10 and 12
- Frequency: 50 Hz
- Voltage: 380 V to 6,6 kV
- Frame sizes: 315 to 630
- Colour: RAL 5009 - Blue

Standard Features W50

- Output: 75 kW to 1000 kW
- Number of poles: 2, 4, 6, 8, 10 and 12
- Frequency: 50 Hz
- Voltage: 380 V to 6,6 kV
- Frame sizes: 315 to 450
- Colour: RAL 5009 - Blue



Versions Available

- Standard
- Non-Sparking (Ex nA)

Applications

Pumps, compressors, fans, crushers, conveyors, mills, centrifugal machines, presses, etc.

Features	Benefits
Frame design	Frame design aimed at best equation between mechanical rigidity and thermal dissipation possible for enclosures, thereby reducing motor vibration and increasing lifetime
Fan cover design	The fan cover was designed to direct airflow over the entire frame with minimal recirculation inside the motor, allowing maximum heat exchange and resulting in a cooler motor
Lower sound pressure levels	The cooling system allows for sound pressure reductions up to 7 dB(A)
Special painting plan for aggressive ambients	Higher resistance and painting durability, protecting the enclosure against corrosion and abrasion
Pt-100 thermal detectors	Thermal resistances (Pt-100) installed in the windings and bearings provide precise and constant temperature control to quickly detect any abnormal operating condition
Sleeve bearings available as optional features	Sleeve bearings require less maintenance due to the fact that the lubrication intervals are up to three times longer than the lubrication intervals of conventional bearings, and specially because they present a lifetime similar to, or longer than that of the motor itself
Additional terminal box for accessories fitted with two spare magazines	Thermal detectors and space heaters leads are connected in separate terminal boxes, avoiding any possible signal interference and providing easy and safe connections
Flexibility	Several dedicated features available such as: Non-reverse ratchet, signal transducer, independent hydraulic oil circulation system for sleeve bearing, etc. Motor design adaptable to the most varied applications and specific needs

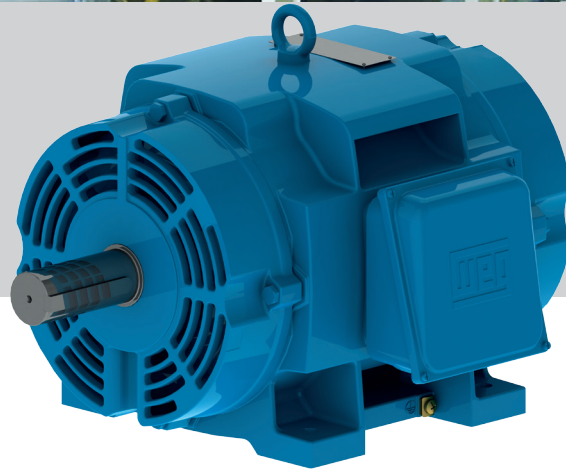
W40 Low Voltage Motors

Designed specifically for environments where dirt and moisture are minimal. The totally cast iron frame is designed to provide maximum ventilation and heat dissipation, offering low vibration levels, high mechanical stiffness and durability.



Standard Features

- Output: 11 kW to 800 kW
- Number of Poles: 2, 4 and 6
- Frequency: 50 Hz
- Voltage: 380-415 / 660 V (for frames 160M to 315G/F)
400 V (for IE3 motors, frames 355J/H and 400J/H)
- Frames: 160M to 400J/H
- Colour: RAL 5009 - Blue



Versions Available

- High Efficiency - IE2
- Premium Efficiency - IE3
- Fire Pump
- Close-Coupled Pump Motors (JM/JP)

Applications

Pumps, compressors, fans, exhausters, kneader and mixer machines, presses, industrial machines, conveyors, blowers, cranes, chillers, packaging equipment and other sheltered and protected industrial applications.

Features	Benefits
High performance	Due to its open enclosure, the motor design features higher rated output levels in comparison with totally enclosed motors, resulting in the most cost-effective option for the driven equipment
Fire pump certification available	The ODP line is UL certified for Fire Pump applications with the ambient temperature up to 50 °C
WISE® insulation system	Increases stator electrical strength and allows the motor operation by frequency inverters, without damage by voltage peaks*

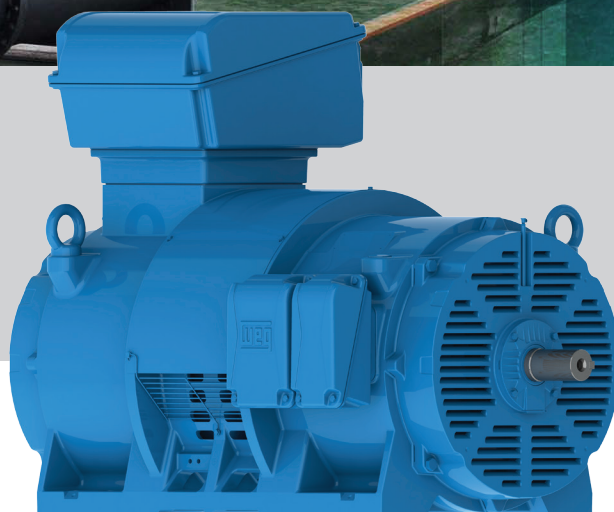
*For more information about Frequency Inverter operation, please see page 23.

W40 High Voltage Motors



Standard Features

- Output: 220 kW to 1500 kW
- Number of Poles: 2 and 4
- Frequency: 50 Hz
- Voltage: 1,2 to 5,0 kV
- Frame: 280L to 450K/J
- Colour: RAL 5009 - Blue



Applications

Pumps, compressors, fans, presses, industrial machines, conveyors, blowers, cranes, chillers and other sheltered and protected industrial applications.

Features	Benefits
High performance	Due to its open enclosure, the motor design features higher rated output levels in comparison with totally enclosed motors, resulting in the most cost-effective option for the driven equipment
Compact construction	One of the most compact High Voltage machines available on the market
Additional terminal box for accessories fitted with two spare magazines	Thermal detectors and space heaters leads are connected in different terminal boxes, avoiding any possible signal interference and providing easy and safe connections

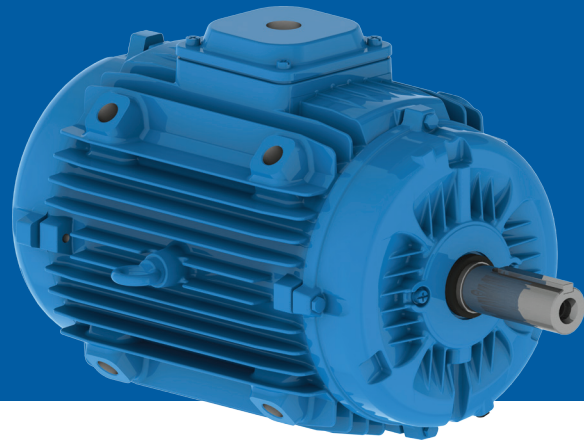
Fan and Exhaust Motors

Suitable for the most demanding specifications of ventilation OEM's, the Fan and Exhaust line delivers standard and high output designs in light and compact frame sizes particularly suited to axial fan applications.



Standard Features

- Output: 0,12 kW to 500 kW
- Number of Poles: 2, 4, 6, 8, 10 and 12
- Frequency: 50 Hz
- Voltage: 220-240/380-415 V (up to 100L)
380-415/660V (from 112M and up)
- Frames: 63 up to 355A/B (for cast iron frames)
63 to 132M (for aluminium frames)
- Cooling method: TEAO or TEFC
- Colour: RAL 5009 - Blue



Versions Available

- Premium Efficiency - IE3
- High Efficiency - IE2
- Standard Efficiency - IE1
- Multi speed motors (Dahlander, Double Winding, etc.)
- Cast Iron or aluminum frames

Applications

Fans and exhausters for: tunnels, metros, subways, shopping centres, car parks, cinemas, etc.

Features	Benefits
Mounting Flexibility	Fan and Exhaust motors can be supplied with the following features: foot, flange or pad mounting. Besides the mounting configurations the motor can be also supplied with terminal box and terminal block or with loose leads allowing remote assembly of the terminal box
Premium Efficiency motor	IE3 efficiency level available across the range
WISE® insulation system	Increases stator electrical strength and allows the motor operation by frequency inverters, without damage by voltage peaks*

*For more information about Frequency Inverter operation, please see page 23.

W22 Smoke Extraction Motors

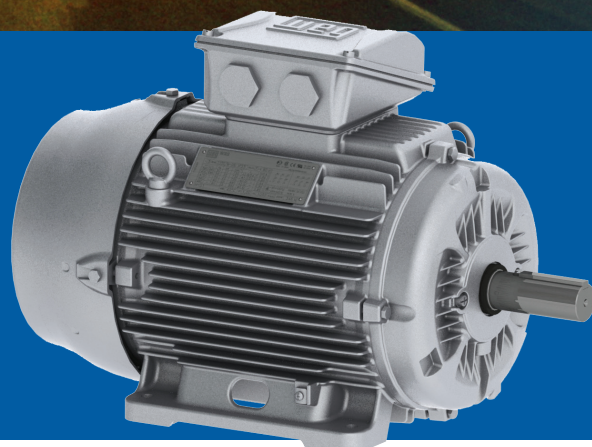
Assuring safety in commercial and industrial facilities is one of the main concerns of developers and owners during the design of shopping centres, hotels, theatres, cinemas, tunnels, car parks and other locations where large concentrations of people are present.

Smoke Extraction motors are suitable for both general ventilation and, under emergency conditions, at high temperatures to prevent or delay the spread of fires, assist firefighting operations, reduce smoke / heat damage and keep emergency exits and access routes free from smoke.



Standard Features

- Output: 0,18 kW to 500 kW
- Number of Poles: 2, 4, 6 and 8
- Frequency: 50 Hz
- Frames: 80 to 355A/B
- Voltage: 220-240/380-415 V (up to 100L)
380-415/660 V (from 112M and up)
- Colour: RAL 9006 - Aluminium



Versions Available

- TEFC (Totally Enclosed Fan Cooled) or TEAO (Totally Enclosed Air Over)
- Premium Efficiency - IE3
- High Efficiency - IE2
- Standard Efficiency - IE1
- 10 and 12 poles
- Multi speed motors (Dahlander, Double Winding, etc.)
- F200 (200 °C/2 h), Ff250 (250°C/2 h), F300 (300°C/1 h), Ff300 (300°C/2 h) and F400 (400 °C/2 h)

Applications

Fans and exhausters for: tunnels and metros, shopping centres, hotels, theatres, cinemas, enclosed or underground car parks and other installations where large concentrations of people are present.

Features	Benefits
Mounting Flexibility	Smoke Extraction motors can be supplied with the following features: foot, flange or pad mounting. Besides the mounting configurations the motor can be also supplied with terminal box and terminal block or with loose leads allowing remote assembly of the terminal box
W22 Platform	Offers on all the innovative features of the W22 General Purpose Motors platform (for foot or flange mounted)
Special design for high ambient temperature	Components carefully designed to withstand the operation in extreme temperature conditions
Extensively tested and approved according to EN 12101-3	Safety and reliability
WISE® insulation system	Increases stator electrical strength and allows the motor operation by frequency inverters, without damage by voltage peaks*

*For more information about Frequency Inverter operation, please see page 23.

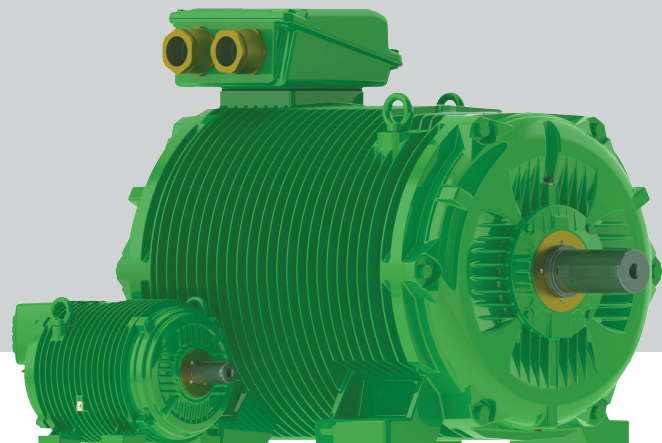
Roller Table Motors

Severe operating conditions require more robust motors. The Roller Table motor's frame is fitted with radial fins that prevent residue accumulation on the frame surface. They are also fitted with an advanced sealing system, high protection against corrosion and high mechanical strength, thus requiring low maintenance and providing high durability and productivity.



Standard Features

- Output: 1,1 kW to 260 kW
- Number of Poles: 4, 6, 8, 10 and 12
- Frequency: 50 Hz
- Frames: 132M to 400
- Voltage: 400 V
- Colour: Ral 6002 - Green



Versions Available

- Premium Efficiency - IE3

Applications

Roller tables and laminating machines for the steel industry.

Features	Benefits
Premium Efficiency - IE3	Exceeds the IE3 efficiency levels specified in the IEC 60034-30-1 to provide significant energy savings and fast return on investment
Radial/circular fins	Prevent residue accumulation on motor frame
W3Seal® sealing system and IPW66 degree of protection	Protect the motor against the ingress of contaminants into the motor frame
Sealing at cable inlet and sealing between endshield and frame	Protect the motor against the ingress of contaminants into the motor frame
Shaft, bolts and nameplate are made of stainless steel	Provides high corrosion resistance
Internal epoxy anti-corrosion painting	Prevents corrosion of internal motor components and improves protection of windings
Painting plan for aggressive environments	Provides more resistance in corrosive environments
WISE® insulation system	Increases stator electrical strength and allows the motor operation by frequency inverters, without damage by voltage peaks*

*For more information about Frequency Inverter operation, please see page 23.

W22 Brake Motors

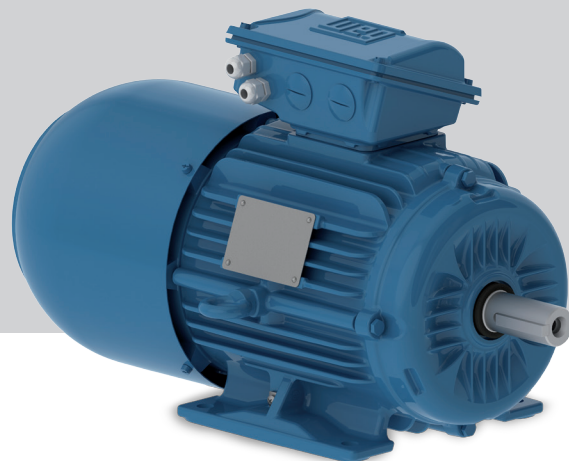
High-performance companies require equipment tailored to their needs.

WEG brake motors are suitable for equipment where rapid and safe stopping and accurate load positioning are required. WEG braking solutions allow synergy in the production process, providing agility and safety.



Standard Features

- Output: 0,12 up to 75 kW
- Poles: 2, 4, 6, 8, 10 and 12
- Frame: 63 up to 250S/M
- Frequency: 50 Hz
- Voltage: 220-240/380-415 V (up to 100L)
380-415/660 V (from 112M and up)
- Colour: Premium Efficiency - IE3: RAL 6002 - Green
High Efficiency - IE2: RAL 5009 - Blue
Standard Efficiency - IE1: RAL 5009 - Blue



Versions Available

- Premium Efficiency - IE3
- High Efficiency - IE2
- Standard Efficiency - IE1
- Cast Iron or Aluminium Enclosures

Applications

These motors are ideally suited for use on machinery requiring fast stops for safety, control or accurate positioning, such as: packing equipment, conveyors, washing and bottling machines, overhead cranes, elevators, printing machines, automatic gates, woodworking machinery, etc.

Features	Benefits
High performance braking system	Ensures fast and safe stopping and accurate load positioning, whilst requiring low maintenance
Manual brake release	Possibility to release the motor shaft during emergencies or power outages
Aluminium frame available	Lower weight with the same reliability
WISE® insulation system	Increases stator electrical strength and allows the motor operation by frequency inverters, without damage by voltage peaks*

*For more information about Frequency Inverter operation, please see page 23.



W22Xd Flameproof Motors

Incorporating the same innovative concepts of the W22 General Purpose Motors, the W22X Line is an evolution on the market of classified area products offering high efficiency levels, energy saving, low operational costs, extended lifetime, low maintenance and assured safety.



Standard Features

- Output: 0,12 to 370 kW
- Number of Poles: 2, 4, 6 and 8
- Frequency: 50 Hz
- Voltage: High and Premium Efficiency:
 - 220-240/380-415 V (up to 100L)
 - 380-415/660-690 V (from 112M and up)
 Super Premium Efficiency: 400/690 V (All frames)
- Frames: 71 - 355M/L
- Colour: High and Premium Efficiency - IE2 and IE3: RAL 5009 - Blue
Super Premium Efficiency - IE4: RAL 6002 - Green



Versions Available

- Super Premium Efficiency - IE4
- Premium Efficiency - IE3
- High Efficiency - IE2
- Multi speed motors (Dahlander, Double Winding, etc.)
- 10 and 12 poles

Applications

Pumps, compressors, fans, blowers, conveyors and other severe duty applications in potentially explosive atmospheres classified as Zones 1 and 2, gas groups IIA, IIB or IIC.

Features	Benefits
W22 Platform	Incorporates several innovative features of the W22 General Purpose Motors platform
High Efficiency Levels	Whilst EU Regulations do not apply to motors installed in potentially explosive atmospheres, since the introduction of the ATEX Directive there has been an increase in demand for these products. Consequently WEG launches the W22Xd line with the efficiency level IE2 as standard for all IEC motors
Terminal box	The terminal box was generously dimensioned, allowing easy access and safe handling of the power cables, even when larger cross sectional cables are required
Wide range of certified accessories	The new W22Xd line offers users a wide range of certified accessories fulfilling a variety of specific customer requirements without losing the primary focus on the safety of the application
Easy maintenance	The motor components were carefully designed in order to ensure easy maintenance: W22Xd motors are fitted with bearing caps on the external side of the endshields, for easy bearing inspection The motors also can be supplied with grease nipples and open bearings, increasing the bearing lifetime Easy seal change allows higher degree of protection Two sets of holes in motor feet providing easier replacement and retrofitting of existing machines The feet have provision for dowel pins, making the alignment of motors easier when removed from their mounting bases for maintenance
Zone 21 and 22 certified	To enable a higher functionality to the W22X line, these motors will be also certified for applications in ambients where combustible dusts/fibers may be expected to be present
IIC Group certified	Assured safety in hazardous areas where IIC gases e.g. hydrogen, may be present
Protection	Motor suitable to operate in hazardous locations classified as Zones 1 and 2
WISE® insulation system	Increases stator electrical strength and allows the motor operation by frequency inverters, without damage by voltage peaks*

*For more information about Frequency Inverter operation, please see page 23.

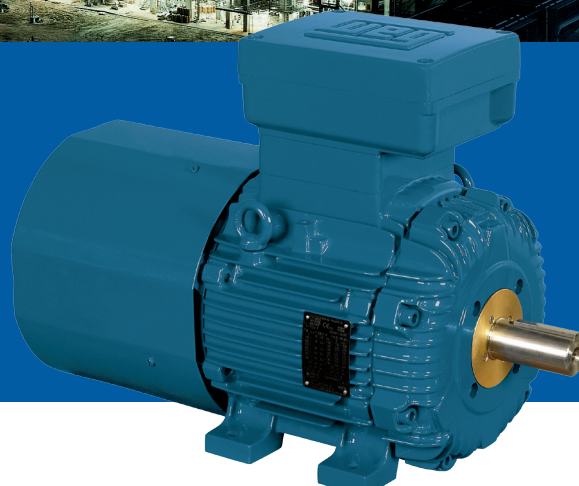
W21 Flameproof Brake Motors

The installation of electric motors where flammable products are continuously handled, processed or stored must comply with the most demanding safety standards in order to guarantee protection of people, machines and the environment. Following the highest safety standards, these WEG flameproof motors integrate high performance brakes which provide an effective solution for equipment requiring fast stopping for safety, control or accurate positioning in Zone 1 or Zone 2 hazardous areas.



Standard Features

- Output: 2.2 up to 18.5 kW
- Number of Poles: 2, 4, 6 and 8
- Frequency: 50 Hz
- Voltage: 380-415/660 V
- Frames: 132S to 160L
- Colour: RAL 5009 - Blue



Versions Available

- High Efficiency - IE2
- Standard Efficiency - IE1

Applications

Cranes, winches, conveyors and other severe duty applications in potentially explosive atmospheres classified as Zones 1 and 2, gas groups IIA or IIB.

Features	Benefits
High performance braking system	Ensures fast and safe stopping and accurate load positioning, whilst requiring low maintenance
Manual brake release	Possibility to release the motor shaft during emergencies or power outages
Modern flame retention system with robust frame, endshields and T-box	Avoid flame propagation from within the motor to the external side, guaranteeing protection of life, machines and the environment
W3Seal® sealing system	Degree of protection up to IPW66 to protect against the ingress of contaminants inside the motor frame
Painting Plans for Severe Environments	Special painting plans up to C5/I or C5/M for arduous environments, sheltered or non-sheltered
Protection	Motor suitable to operate in hazardous locations classified as Zones 1 and 2
WISE® insulation system	Increases stator electrical strength and allows the motor operation by frequency inverters, without damage by voltage peaks*

*For more information about Frequency Inverter operation, please see page 23.

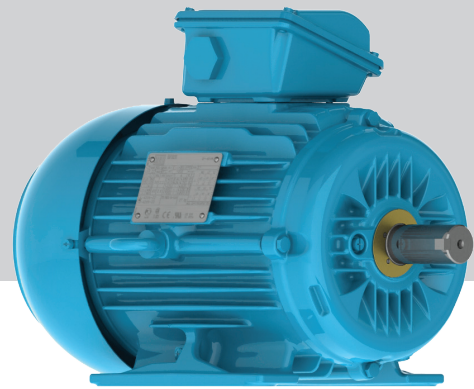
W22Xtb Dust Ignition Proof Motors

W22Xtb motors are specially designed to maximise safety and reliability on installations in potentially explosive dust atmospheres classified as Zone 21 where conductive dusts either in the form of clouds (free suspension) or layers (up to 5mm thick) may be present.



Standard Features

- Output: 0,12 up to 450 kW
- Number of Poles: 2, 4, 6, 8, 10 and 12
- Frequency: 50 Hz
- Voltage: 220-240/380-415 V (up to 100L)
380-415/660 V (from 112M and up)
- Frames: 63 to 355A/B
- Colour: RAL 5009 - Blue



Versions Available

- Premium Efficiency - IE3
- High Efficiency - IE2
- Standard Efficiency - IE1

Applications

Sugar refineries, breweries, cement plants, saw mills, textiles, pharmaceutical, chemical, agricultural process industries and other applications in potentially explosive atmospheres classified as Zone 21 or Zone 22.

Features	Benefits
Reduced surface temperature	Safety. Prevents risk of ignition of combustible dusts or fibres in contact with the motor
Conductive fan material	Safety. Avoids sparks which could cause the ignition of combustible material present in the environment
Degree of Protection IP66	Restricts the ingress of contaminants inside the motor frame
Winding Thermal Protection	Fitted with PTC's to provide protection of the motor under abnormal operating conditions, and safeguarding the surface temperature limit of the equipment.
WISE® insulation system	Increases stator electrical strength and allows the motor operation by frequency inverters, without damage by voltage peaks*

*For more information about Frequency Inverter operation, please see page 23.

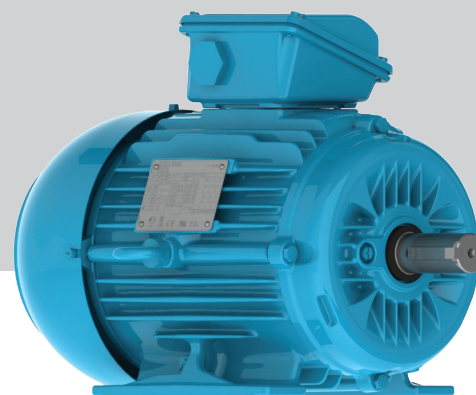
W22XnCD Non-Sparking Motors

The installation of electric motors where a flammable mixture is unlikely to occur present but may represent risks, must comply with the most demanding safety standards for protection of people, machines and the environment. Following the highest safety standards WEG Ex nA/Ex tc motors are adaptable to various applications allowing your company flexibility during installation, easy operation, low maintenance cost and safety.



Standard Features

- Output: 0,12 kW to 450 kW
- Number of Poles: 2, 4, 6, 8, 10 and 12
- Frequency: 50 Hz
- Voltage: 220-240/380-415 V (up to 100L)
380-415/660 V (from 112M and up)
- Frames: 63 to 355A/B
- Colour: RAL 5009 - Blue



Versions Available

- Premium Efficiency - IE3
- High Efficiency - IE2
- Standard Efficiency - IE1

Applications

Pumps, compressors, fans, mills, presses, winches, woodworking machinery, grinders, looms, packaging machines, conveyors and other applications in potentially explosive atmospheres classified as Zone 2 (gas) or Zone 22 (dust).

Features	Benefits
Certifications	Dual certification for Zone 2 (gas) and Zone 22 (non-conductive dusts)
Winding Thermal Protection	Safety. Two sets of PTC's with tripping temperatures of 155°C for gas, and 140°C for dust, to provide protection of the motor under abnormal operating conditions, and safeguarding the surface temperature limit of the equipment.
Premium Efficiency	IE3 efficiency level available for all motors in the range
WISE® insulation system	Increases stator electrical strength and allows the motor operation by frequency inverters, without damage by voltage peaks*

*For more information about Frequency Inverter operation, please see page 23.

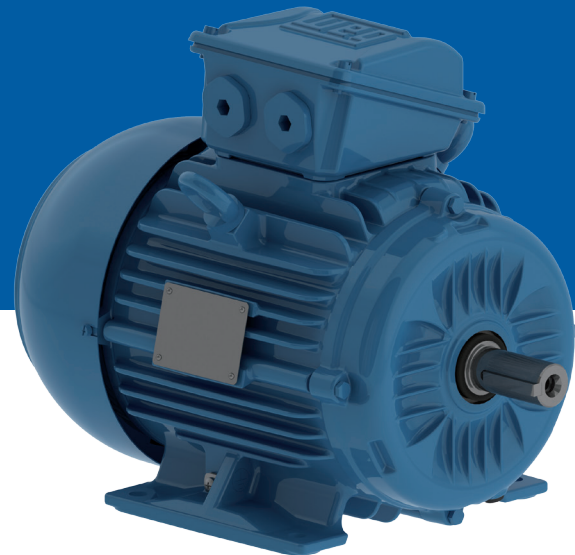
W22Xe Increased Safety Motors

Increased Safety “Ex eb” motors are designed to prevent the occurrence in operation (including starting & locked rotor conditions) of arcs, sparks and excessive overheating of all inner and outer surfaces of the machine which could reach the self ignition temperature of the surrounding potentially explosive atmosphere.



Standard Features

- Output: 0,18 kW to 250 kW
- Number of Poles: 2, 4, 6 and 8
- Frequency: 50 Hz
- Voltage: 230/400 V (up to 100L)
400/690 V (from 112M and up)
- Frames: 63 to 355M/L
- Colour: RAL 5009 - Blue



Versions Available

- Dual marking for Zone 1 / Zone 21, Gas & Dust: Ex eb / Ex tb
- Ambient Temperature Range: -55 °C to 60 °C
- VIK Compliant Execution
- Suitable for frequency inverter application*

Applications

Pumps, compressors, fans, mills, presses, winches, woodworking machinery, grinders, looms, packaging machines, conveyors and other applications in potentially explosive atmospheres classified as Zone 1 or Zone 2, Gas Groups IIA, IIB, IIC.

Features	Benefits
Certifications	Optional dual certification for Zone 1 (gas) and Zone 21 (conductive dusts)
Winding Thermal Protection	Fitted with PTC's to provide protection of the motor under abnormal operating conditions, and safeguarding the surface temperature limit of the equipment.
Premium motor	IE3 efficiency level available for all motors in the range
WISE® insulation system	Increases stator electrical strength and allows the motor operation by frequency inverters, without damage by voltage peaks*

*For more information about Frequency Inverter operation, please see page 23.

Water Cooled Motors

WEG Water Cooled motors are used in a variety of applications and are mainly utilised for installations where compact dimensions, low noise levels and ease of access for maintenance are required.

Standard Features

- Output: 18,5 kW to 450 kW
- Number of Poles: 2, 4, 6 and 8
- Frequency: 50 Hz
- Voltage: up to 660 V
- Frames: 180L to 355M/L
- Colour: RAL 5009 - Blue

Versions Available

- High Efficiency - IE2
- Premium Efficiency - IE3

Applications

Compressors, injection machines, water treatment plants, textile industries, mining equipment, vacuum pumps, power train and marine equipment.



Features	Benefits
Cooling method IC71W	Water jacketed system offers excellent heat exchange, increasing bearing and motor lifetime
Higher output x frame ratio	Demands less space on plant, facilitating easier access for maintenance operations
Pt-100 thermal detectors	Thermal resistances Pt-100 supplied in windings and bearings provide precise and constant temperature monitoring and a rapid detection of abnormal operation conditions
WISE® insulation system	Increases stator electrical strength and allows the motor operation by frequency inverters, without damage by voltage peaks*

*For more information about Frequency Inverter operation, please see page 23.

Single-Phase Motors

Flexible and Compact Motors, designed with highest technologically available tools and suitable for a variety of domestic, rural and industrial applications.



Standard Features

- Output: 0,12 kW to 9,2 kW
- Number of Poles: 2 and 4
- Frequency: 50 Hz
- Voltage: 230 V
- Frame: 63 to 132M/L
- Colour: RAL 5009 - Blue



Versions Available

- Cast iron or aluminum enclosures
- Capacitor Start / Capacitor Run with start and run capacitors
- 230/460 V

Applications

Fans and blowers, grain driers, centrifugal pumps, compressors, high pressure washers, conveyors / materials handling, silo unloaders and augers, grinding machines etc.

Features	Benefits
Performance	High starting torques for severe applications
Easy installation and operation	Suitable for domestic and rural power supply conditions
Flexibility	Adaptable design suitable for a variety of applications and needs



Application of Motors with Frequency Inverters (VFD's)

The stator windings of WEG motors are wound with class “F” insulation (class H optional) and are suitable for either DOL starting or via variable speed drive. They incorporate the WEG exclusive insulation system - WISE® (WEG Insulation System Evolution) - which ensures superior electrical insulation characteristics.

The stator winding is suitable for variable speed drive application, taking into account the limits shown in the table below:

Motor rated voltage	Voltage Spikes	dV/dt *	Rise time*	Time between pulses
	at motor terminals (phase-phase)			
V _{rated} < 460 V	≤ 1600 V	≤ 5200 V/μs	≥ 0.1 μs	≥ 6 μs
460 V ≤ V _{rated} < 575 V	≤ 2000 V	≤ 6500 V/μs		
575 V ≤ V _{rated} ≤ 1000 V	≤ 2400 V	≤ 7800 V/μs		

* dV/dt and Rise time definition according to Nema Std. MG1 - Part 30.

Notes:

- 1 - In order to protect the motor insulation system, the maximum recommended switching frequency is 5 kHz.
- 2 - If one or more of the above conditions is not met, a filter (load reactor or dV/dt filter) must be installed at the output of the VSD.
- 3 - General purpose motors with rated voltage greater than 575 V, which at the time of purchase did not have any indication of operation with VSD, are able to withstand the electrical limits set in the table above for rated voltage up to 575 V. If such conditions are not fully satisfied, output filters must be used.
- 4 - General purpose motors of the dual voltage type, for example 400/690 V, which at the time of purchase did not have any indication of operation with VSD, are able to be driven by a VSD in the higher voltage only if the limits set in the table above for rated voltage up to 460 V are fully attended in the application. Otherwise, a load reactor or a dV/dt filter must be installed in the VSD output.
- 5 - From frame size 315S/M upwards additional measures should be taken in order to avoid detrimental bearing currents. This can be accomplished by means of the use of an insulated bearing or an insulated hub endshield at the non drive end side and a shaft grounding brush mounted on the drive endshield.
- 6 - Motors operating with frequency inverters may present a higher temperature rise than when operating under sinusoidal supply due to the combined effects of the loss increase resulting from the PWM harmonics and the reduction in ventilation experienced by self-ventilated motors when operating at low frequencies. Under these conditions, please contact WEG.
- 7 - For the application of motors for potentially explosive atmosphere with variable frequency inverters, please contact WEG.



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