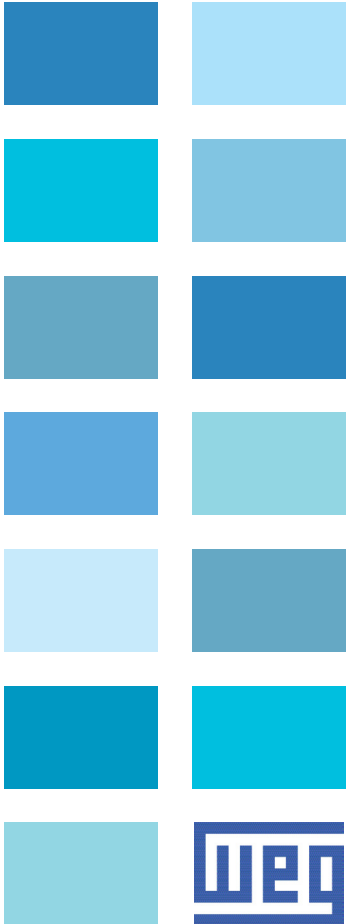
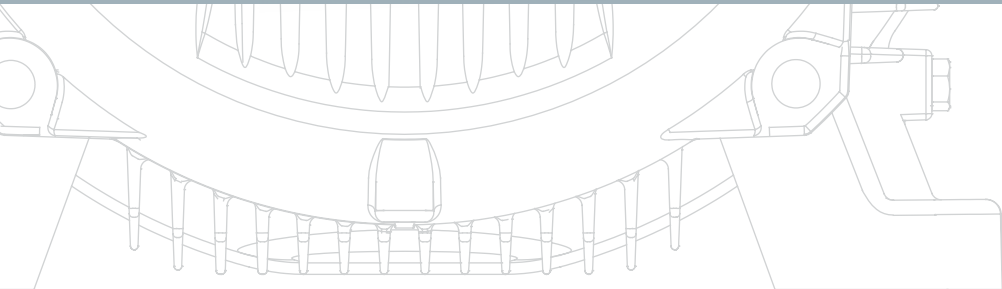
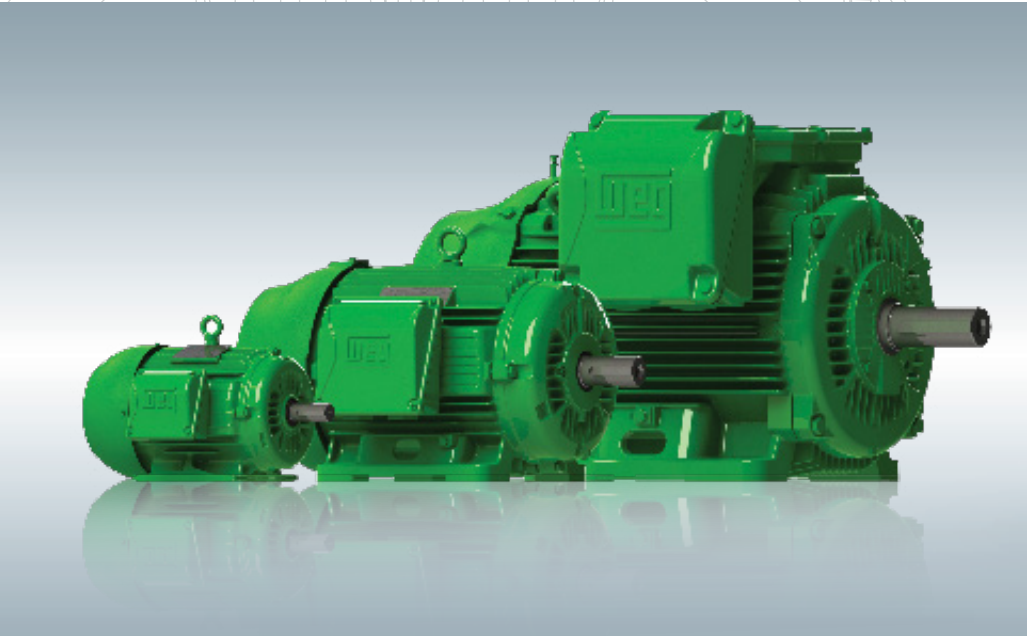
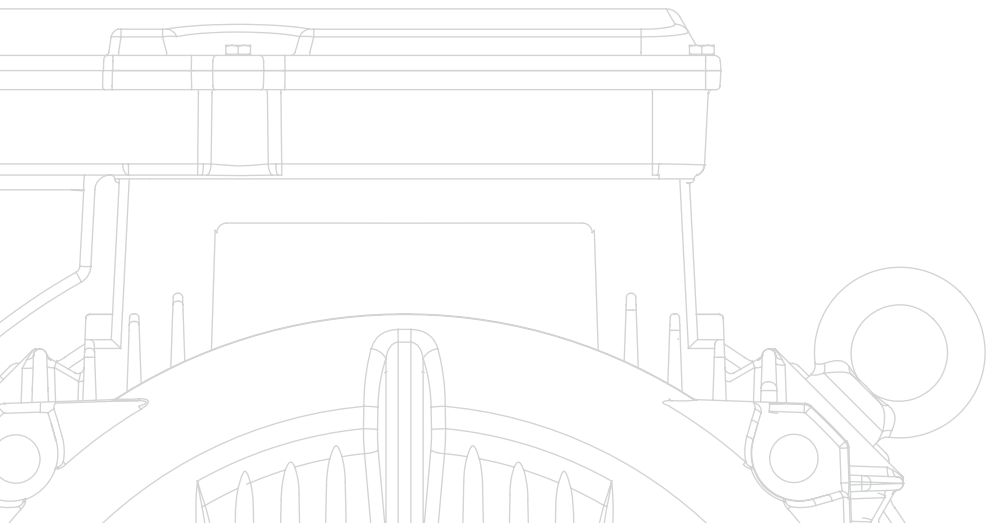


# W22 Super Premium

Three-phase Induction Motor

Exceeds the IE4 Efficiency Levels





## W22 Super Premium

### Presenting the world's most comprehensive range of energy efficient motors

In the last two decades global energy consumption has increased by 50%, with the forecast that the next two decades will see the usage increase dramatically.

This increasing demand for electric energy to sustain global development requires constant heavy investment in power supply generation. In addition to complex medium and long term planning, these investments rely on natural resources, which are becoming depleted due to constant pressures upon the environment.

As a reflection of this scenario, electric energy costs are spiralling and in comparison to other economic indicators, standing out negatively.

One of the main reasons for the global increase in power consumption is the industrial sector, which demands around 30% of the electric energy globally available. In industrial applications, electric motor driven systems represents around 65% of all energy consumption.

If we consider industrial and domestic applications, including appliances, in our analysis, the electric motor represents more than 40% of the total energy consumed globally.

Due to this increase it is more important now that products are manufactured with energy

efficiency as the main driver.

Aware and concerned about this situation, several Governments are implementing Minimum Energy Efficiency Performance Standards in order to drive the use of high-efficient equipment.

Europe is no different, and motor systems were earmarked as a priority target in the Eco-Design Directive (2005), which has established requirements for Energy-using Products: "EuP Directive". As a result of that, EU Mandatory Minimum Energy-Efficiency Performance Standard (MEPS) for industrial electric motors came into force from July 2009.

With this situation in mind WEG presents its W22 Super Premium efficiency motor line, exceeding the IE4 Efficiency Levels defined in IEC Technical Specification IEC/TS 60034-31 and draft IEC Standard 60034-30 edition 2.

The efficiency performance of these motors far exceeds the minimum efficiency level IE2 required by European legislation today, and the future required IE3, mandatory as from 2015. This enables the customer to reduce their Total Cost of Ownership (TCO) through the reduction of the energy consumption and to reduce their carbon footprint.

High overall performance which is translated into a lower Total Cost of Ownership, due to its reliability, easy maintenance and **energy savings!**

# Total Cost of Ownership (TCO) to be considered!



## Industries Operating Costs

Industry requires water, steam, compressed air and electric energy to drive their manufacturing processes. These resources play a major part in a company's results since they directly impact on the operating costs which are then reflected in the prices, affecting the bottom line and ultimate competitiveness.

In a competitive market it is not always possible to reduce purchasing costs or to increase prices so other cost savings must be made. Focussing efforts on saving resources during production is one strategy to reduce costs and improve margins.

WEG has developed the W22 Super Premium efficiency motor to allow for significant savings in energy usage and give a more reliable motor for the required applications.

## Total Cost of Ownership

When a company needs to buy a new electric motor, the acquisition cost can determine the purchase, however more consideration needs to be given to the total cost of ownership (TCO) including maintenance, installation and running costs which account for a large portion of that overall amount.

Learn how you can further reduce your operating costs!

Typically applications do not run at full load all the time. Installing a VFD can help you save money by controlling the speed of your process and adjusting it to the specific load at any time. This is specifically true for variable torque applications like pumps and fans.

### Consider this:

Most motors consume their initial purchase cost in power within 6 months!

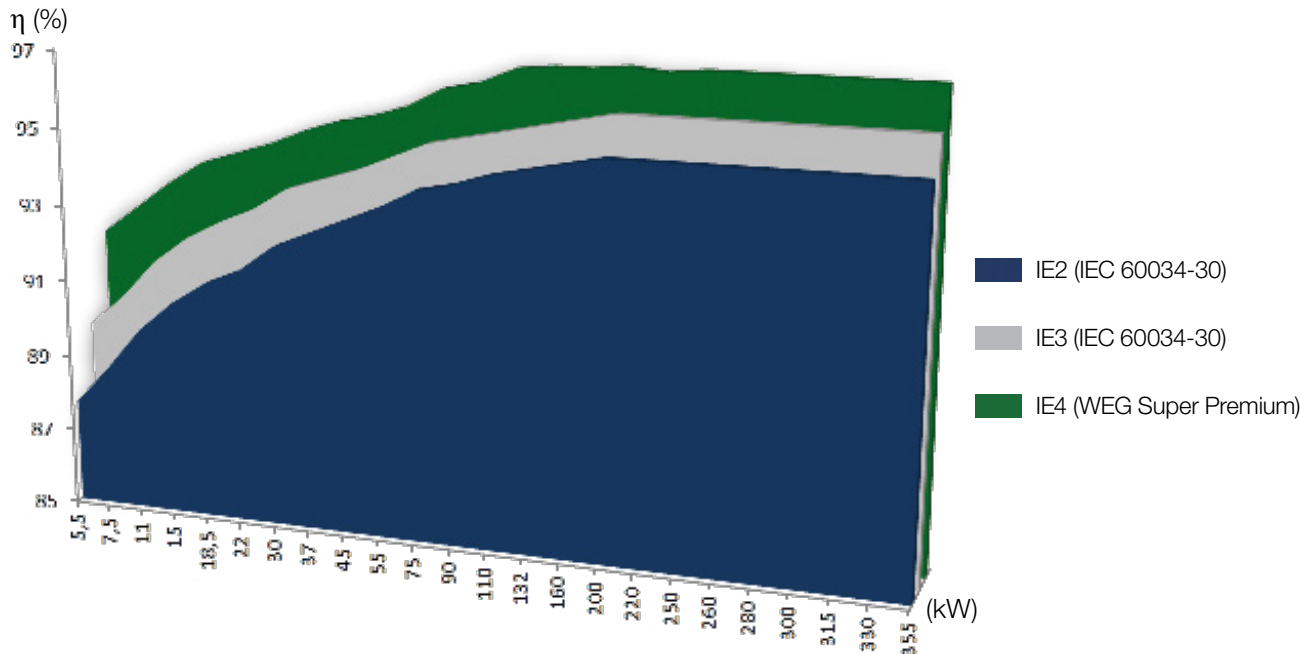
### WEG's Super Premium motors are based on the W22 mechanical design, which offers:

- Increased lubrication intervals – less need for maintenance interventions
- Low operating temperatures – increases the insulation time, resulting in a longer lifespan
- Flexible terminal box design for frames 225 to 355 – the same design allows for lateral or top-mount machines, reducing the motors replacement inventory
- Solid and integrated feet – provides a tough construction and enables easier installation and alignment
- Oversized and diagonally slip terminal box – provides fast and secure procedures, besides more ergonomics
- Provisions for vibration detectors – motors in frames 160 and above are fitted with flat surfaces for vibration detectors
- New rubber drains – allows for easy motor drainage at maintenance procedures, and can provide high protection at harsh conditions

These items, combined with the assured energy savings, states the commitment of the W22 Super Premium motors design with the TCO.



# Outstanding Performance



The chart above shows the efficiency comparison between the IE2 and IE3 efficiency levels determined by the IEC Standard 60034-30 and the new W22 Super Premium line efficiency, for 4-pole machines. As motors usually run for thousands of hours every year, any gain in efficiency by replacing motors with higher efficiency versions, will translate into considerable savings which would pay for the investment in a few years and in some cases even months.

The Super Premium design, which presents from 20 to 40% less losses in comparison to the

conventional motors, provides the world's highest efficiency levels available for an induction electric motor.

Because of this, the investment for the replacement of installed motors by the W22 Super Premium efficiency motor will be repaid in a very short period of time, resulting not only on energy savings, but also on plant reliability and availability.

The energy savings will be even greater if the old motor has been subject to repairs during its lifetime, each repair can reduce performance by up to 1% of efficiency.

## Calculate yourself your savings

$$\text{Energy Savings kWh} = \frac{\text{Output}_{\text{old motor}}(\text{kW})}{\left(\frac{\text{Efficiency}_{\text{old motor}}(\%)}{100}\right)} - \frac{\text{Output}_{\text{Super Premium}}(\text{kW})}{\left(\frac{\text{Efficiency}_{\text{Super Premium}}(\%)}{100}\right)}$$

$$\text{Anual Energy Savings kWh} = \text{Energy Savings kWh} \times \text{Operating days} \times \text{Operating hours}$$

$$\text{Anual Savings (\$)} = \text{Anual Energy Savings kWh} \times \text{Energy Cost} \frac{\$}{\text{kWh}}$$

The W22 Super Premium Efficiency motors are designed according to the DIN EN 50347 Standard, which means that you can replace an IE1, IE2 or IE3 motor with total reliability.

To obtain technical information about the **W22 Super Premium motors** such as datasheets, performance curves, 2D or 3D CAD Drawings please access our online Electronic Catalogue.

### Basic features

- Rated Output: 3 to 355 kW
- Frame sizes: 132S to 355A/B
- Number of poles: 2, 4 and 6
- Voltage: 400V, 50 Hz

The online Electronic Catalogue is the most reliable source of technical data for the WEG Products.  
**Access: <http://ecatalog.weg.net>**

## W22 IE4 Technical Data

Output (kW)	2 Poles		4 Poles		6 Poles	
	Frames Size	Efficiency at Full Load	Frames Size	Efficiency at Full Load	Frames Size	Efficiency at Full Load
3	-	-	-	-	132S	88,6
4	-	-	-	-	132M	89,5
5,5	132S	90,9	L132S	91,9	L132M/L	90,5
7,5	L132S	91,7	L132M/L	92,6	160M	91,3
9,2	L132M/L	92,1	160M	93,0	160L	91,8
11	160M	92,6	160M	93,3	160L	92,3
15	160M	93,3	160L	93,9	180L	92,9
18,5	160L	93,7	L180M	94,2	200L	93,4
22	180M	94,0	L180L	94,5	200L	93,7
30	200L	94,5	200L	94,9	225S/M	94,2
37	200L	94,8	225S/M	95,2	250S/M	94,5
45	225S/M	95,0	225S/M	95,4	280S/M	95,2
55	250S/M	95,3	250S/M	95,7	280S/M	95,4
75	280S/M	96,3	280S/M	96,2	315S/M	96,2
90	280S/M	96,5	280S/M	96,4	315S/M	96,2
110	315S/M	96,5	315S/M	96,8	315L	96,2
132	315S/M	96,6	315S/M	96,9	315L	96,4
150	315S/M	96,8	315L	96,9	315L	96,4
160	315S/M	96,8	315L	96,9	315L	96,4
185	315L	96,8	315L	96,9	355M/L	96,5
200	315L	97,0	315L	97,0	355M/L	96,5
220	315L	96,9	355M/L	96,9	355M/L	96,5
250	315L	96,9	355M/L	97,0	355A/B	96,6
260	315L	96,9	355M/L	97,0	355A/B	96,6
280	355M/L	97,0	355M/L	97,0	355A/B	96,6
300	355M/L	97,0	355M/L	97,0	355A/B	96,6
315	355M/L	97,0	355M/L	97,0	355A/B	96,6
330	355A/B	97,1	355A/B	97,0	-	-
355	355A/B	97,1	355A/B	97,0	-	-

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For those countries where there is not a WEG own operation, find our local distributor at [www.weg.net](http://www.weg.net).



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