

# W22 Magnet Ultra Premium

## The highest efficiency level in the world!

Available from August 2014

W22 Magnet Ultra Premium is a synchronous AC motor controlled by the WEG CFW11 frequency inverter. The permanent magnets eliminate Joule losses in the rotor, resulting in a motor with **IE5 efficiency levels**. Perfect for applications where variable speed, continuous operation, low noise and reduced power consumption are essential.

# W22 Magnet Drive System

## Motor

The W22 Magnet Ultra Premium motor offers IE5 efficiency, the highest efficiencies and energy savings on the market. The rotor with permanent magnets assures high performance and reduced noise, in addition to guaranteeing efficiency levels above those defined by existing standards. The motor is driven by a WEG CFW-11 frequency inverter which offers constant torque over a speed range, guaranteeing operation at low speeds, without the need of forced ventilation, derating or oversizing. The motor operates with lower bearing temperatures, which extend lubrication intervals and increase the overall bearing lifetime.

### Standard Features

- Rated output: 7.5 up to 315 kW
- Speed range: 3,000, 1,500 and 1,000 rpm
- Voltage: 400 V
- Frames sizes: 132S up to 315S/M
- Colour: 091A.3145 (gray)
- Degree of protection: IP55 (frame 132)  
IPW55 (frames 160 to 250)
- Bearing seal: V'ring (frame 132 to 200)  
WSeal (frame 225 to 315)
- Insulation class: F
- Service factor: 1.00
- Thermal protection: PTC thermistor
- Mounting: B3T
- Balancing: ½ key
- Vibration level grade A according IEC 60034-14
- Cooling method: TEFC – Totally enclosed fan cooled (IC411)
- Lubrication: Mobil Polyrex EM Grease
- Capable of running at up to 30% above the nominal speed
- Optional characteristics upon request



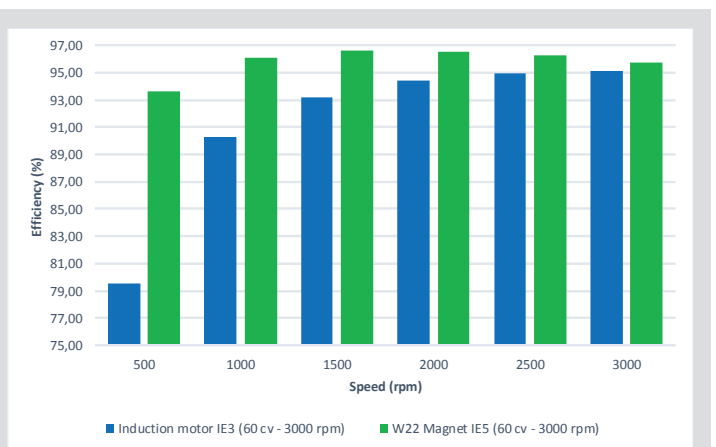
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## Drive

W22 Magnet Ultra Premium motors must be driven by frequency inverters, ensuring accuracy and economy in the process. WEG developed a specific software version for its CFW-11 inverter line to control W22 Magnet motors. The sensorless vector control technology allows the inverter to control motor speed from zero to its rated speed.

### Standard Features

- Modular Variable Speed Drive
- Power rating: 7.5 up to 315 kW
- Power supply: 380-480 V
- Human-machine interface (HMI) with backlight, graphic display and soft-keys, and real time clock
- Plug and play philosophy
- USB connection
- Memory card built-in
- PLC board (positioning applications can be performed)
- Communication: Profibus, DeviceNet, CANopen, Ethernet / IP, Modbus-RTU (optional) and Profinet
- Intelligent thermal management
- Protections with failure and alarm warnings
- Normal duty and heavy duty ratings to adapt optimally to all kinds of load
- IP20 and IP21 enclosures
- IP54 enclosure available up to 100kW



IE5 efficiency levels were calculated considering the IE4 levels with 20% lower losses.

### Typical Applications

Compressors, lifts, pumps, fans, conveyors, textile machinery and other applications where variable speed, high efficiency, low noise levels and reduced volume are mandatory.