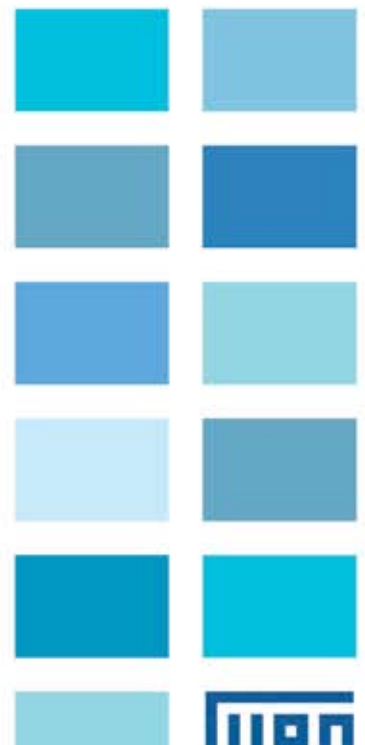


Permanent Magnet Motor Drive System





Permanent Magnet Motor Drive System

WEG's latest technology uses Permanent Magnets inside the motor which are controlled by a Variable Frequency Drive (VFD).

Extra High Efficiency

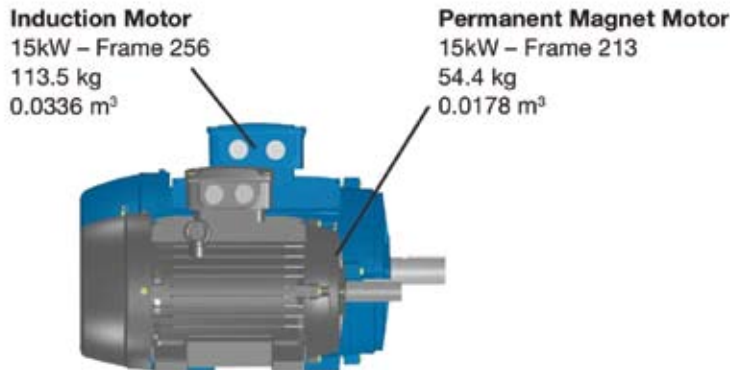
WMagnet motors are fitted with NdFeB magnets inserted inside the rotor, instead of conventional aluminum alloy squirrel cage. As the Joule losses in the induction motor rotor are responsible for a significant portion of total losses in the motor, replacing the squirrel cage with the permanent magnet technology ensuring efficiency levels much higher than any other conventional induction motor. The efficiency levels provided by WMagnet motors are much higher than the minimum requirements by the standard for High Efficiency motor ratings.

Reduction

Weight: 59.1 kg = **-52.1%** Volume: 0.0158 m³ = **-47.0%**

The WEG-developed WISE insulation system also provides extended life and reliability through enhanced specifications of all insulation materials.

The compact size of the WMagnet motors (between one and two frame sizes smaller than the equivalent power/torque ratio standard squirrel cage induction motor) derives from the low temperature rise feature, and the fan cooling system is therefore reduced in size.

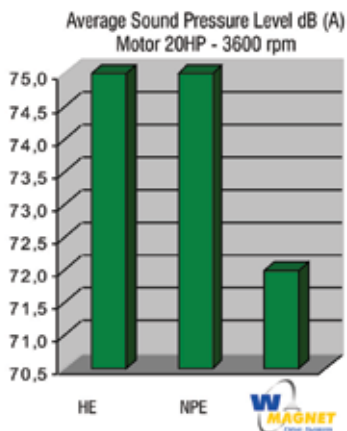


All WMagnet motors are built at least one frame size smaller than the induction motors and, in some cases, there will be a reduction of two frame sizes for the same output.

Low Noise and Vibration Level

With significant noise reduction to under 73dB(A), -3dB(A) better than standard induction motors, means the WMagnet is ideal in applications within buildings or other sensitive areas. A forced ventilation kit is not required even for heavy loads.

Due to its reduced cooling requirements, Permanent Magnet motors are fitted with smaller fans resulting in significant lower noise levels.



Permanent Magnet Motor Drive System



Standard Features

- Cast iron frames (213T up to 404/5T)
- Mounting F1
- Output: 15 to 200 HP
- Voltages: 460V
- Degree of Protection: IP55
- V-ring seal
- Ball bearings
- Plastic fan (213T up to 404/5T)
- Class "F" insulation
- Service factor: 1.0

Optional Features

- Mounting F2, F3
- Degree of Protection: IP56, IP65, IP66 and IPW
- Drip Cover
- Aluminum, Bronze, Cast Iron Fan
- Space Heater
- * More options available, on request

Applications

- Pumps and Ventilation Systems
- Elevators
- Compressors
- Conveyor belts
- Others

Enhanced Features

- Extra high efficiency
- Lower weight and volume
- Wide speed range with constant torque
- Reduced noise and vibration level
- Extended life time
- WISE Insulation system
- Frequency Inverter with Vector Control - Sensorless



For precision control and optimum energy efficiency with the WMagnet motor, the specially-configured CFW-09 drive uses WEG's unique vector control technology algorithm. This enables control without the use of an encoder / position sensor and, by reducing the number of components, helps improve reliability. As a synchronous motor, the WMagnet cannot be started directly from the power supply because accurate synchronization of the supply waveforms with the rotor position is continuously required.

VFD Features

- Output: 11kW to 160kW
- Voltage: 380-480V
- Sensorless Vector Control
- RISC 32 bit micro controller
- EMC filters
- Modbus RTU

Efficiency Levels According to NEMA Standards

