WMagnet®
Drive System

- Tough
- Reliable
- Durable
- Quality
WEG's latest technology uses permanent magnet motors inside the electric motor which are controlled by a Variable Frequency Drive (VFD).

**Extra High Efficiency**

The permanent magnet motors WMagnet drive system are fitted with NdFeB magnets inserted inside the rotor, instead of conventional aluminum alloy WEG's technology. 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 WMagnet drive system technology ensuring efficiency levels much higher than any other conventional induction motor. The efficiency levels provided by WMagnet drive system permanent magnet motors are much higher than the minimum requirements by the standard for High Efficiency motor ratings.

### REDUCTION

**Weight:** 130.3 lb = **-52.1%**  
**Volume:** 0.056 ft³ = **-47.0%**

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

The compact size of the WMagnet drive system (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 drive systems are built in at least one frame size smaller than an induction motor and, in some cases, there will be a reduction of two frame sizes for the same output.

### LOW NOISE AND VIBRATION LEVEL

Significant noise reduction to under 73dB(A), (-3dB(A) better than standard induction motors,) means the WMagnet drive system is ideal in applications in buildings or other sensitive areas. A forced ventilation kit is not required even for low speed, constant torque applications.

Due to its reduced cooling requirements, WMagnet drive systems are fitted with smaller fans resulting in significantly lower noise levels.
Features

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
- Insulation system
- Frequency Inverter with Vector Control - Sensorless for 10:1 speed range
- 0 - 90 Hz with encoder feedback

For precision control and optimum energy efficiency with the WMagnet drive system, the specially-configured CFW-11 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 drive system 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: 15Hp to 200Hp
- Voltage: 380–480V
- Easy to program, same programming as CFW-11

Efficiency Levels According to NEMA Standards

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