Keeping Industry Turning

WEPM(A) IE5

Frequency Controlled Permanent Magnet Motor

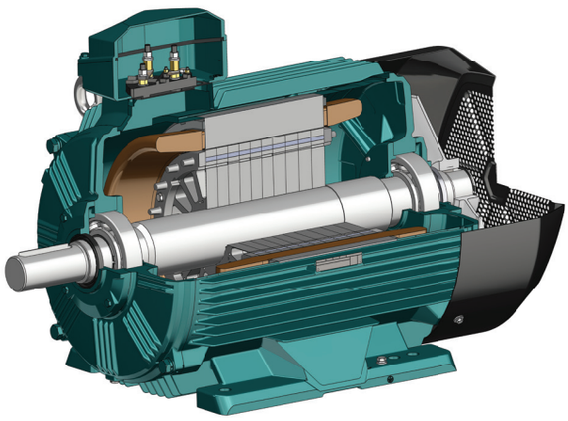
BROOK CROMPTON
Keeping Industry Turning

2433

WOLONG
Power your future

WEPM(A) IE5
Motor Features

- WEPM cast iron range has a robust contruction. WEPMA aluminium has a lightweight flexible design.
- WEPM have reputable branded bearings fitted as standard.
- Above frame size 280, a engineered ceramic plate is used on NDE shaft to protect the bearings from circulating currents.
- The design of the fan blade and stator frame allows the cooling air circuit to work at its most optimal.
- WEPM (A) are available with higher outputs in reduced frame sizes.



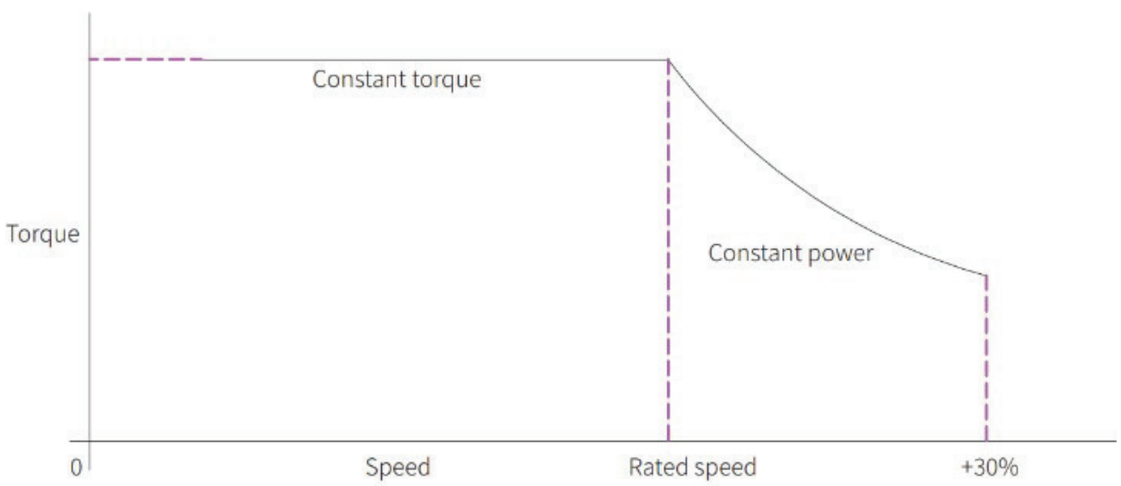
WEPM 315 Frame, Foot Mounted (B3)

High power density advantage - low volume and reduced weight

When compared to IE3 and IE4, the IE5 efficiency of the WEPM motor not only improves the motor efficiency but also reduces the motor weight and volume.
WEPM motors have shafts and bearings that can with withstand higher power and torque in a smaller housing size.

Maintain constant torque over a wide speed

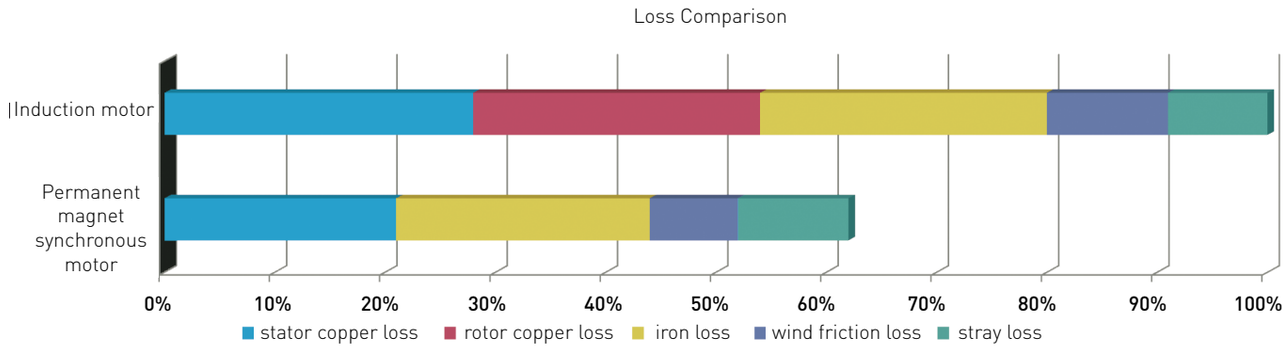
The need for forced ventilation is because the WEPM motors can operate at constant torque over a wide range of rotational speeds.



WEPM(A) IE5

Loss, Efficiency and Power Factor

In an IE3 induction motor, the rotor copper loss accounts for nearly 30% of the overall sum of losses. The WEPM(A) IE5 motor uses permanent magnet technology use which eliminates the rotor copper losses in comparison to the IE3 induction motor.



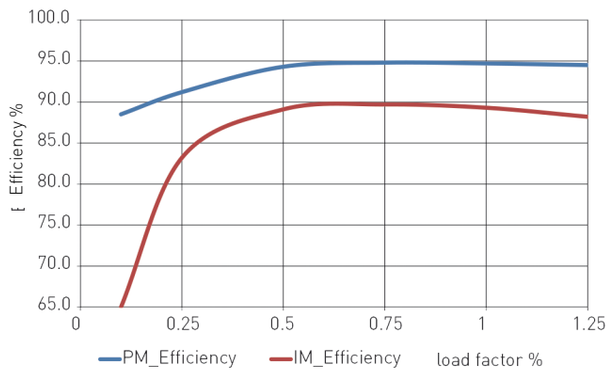
Comparison of loss between IE3 induction motor and WEPM IE5 motor

Ultra-high efficiency at full range of speeds or loads

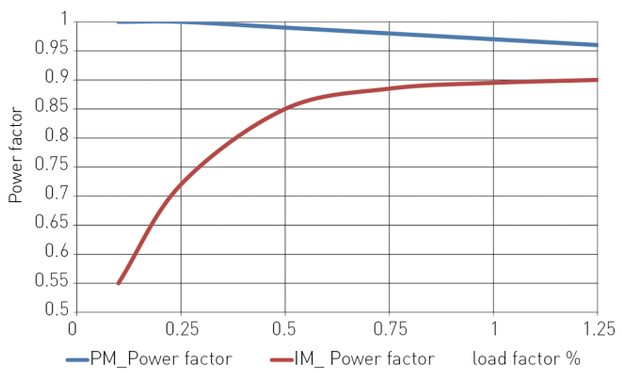
The WEPM series uses a permanent magnetic field that significantly improves the power factor and efficiency, regardless of the speed or low torque output.

Efficiency and power factor curves under rated speed variable torque operation

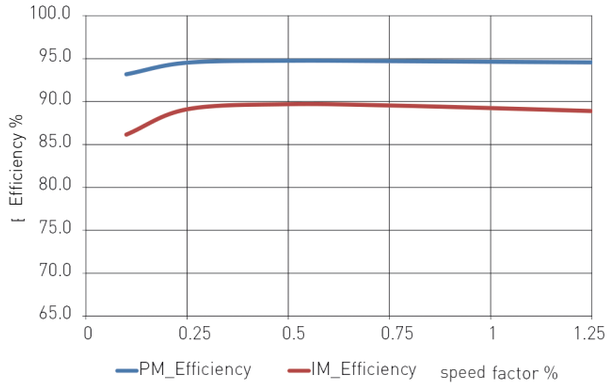
Efficiency curve (permanent magnet motor and induction motor)

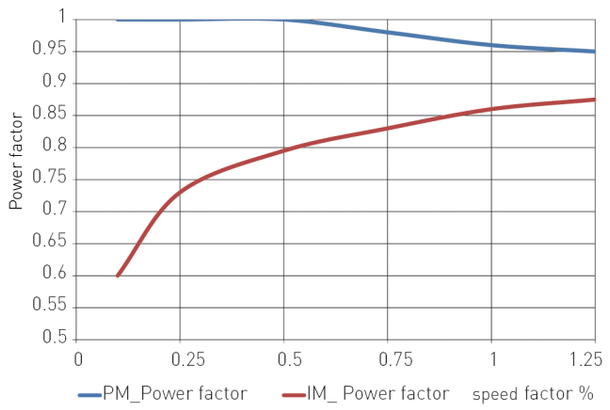


Power factor curve (permanent magnet motor and induction)

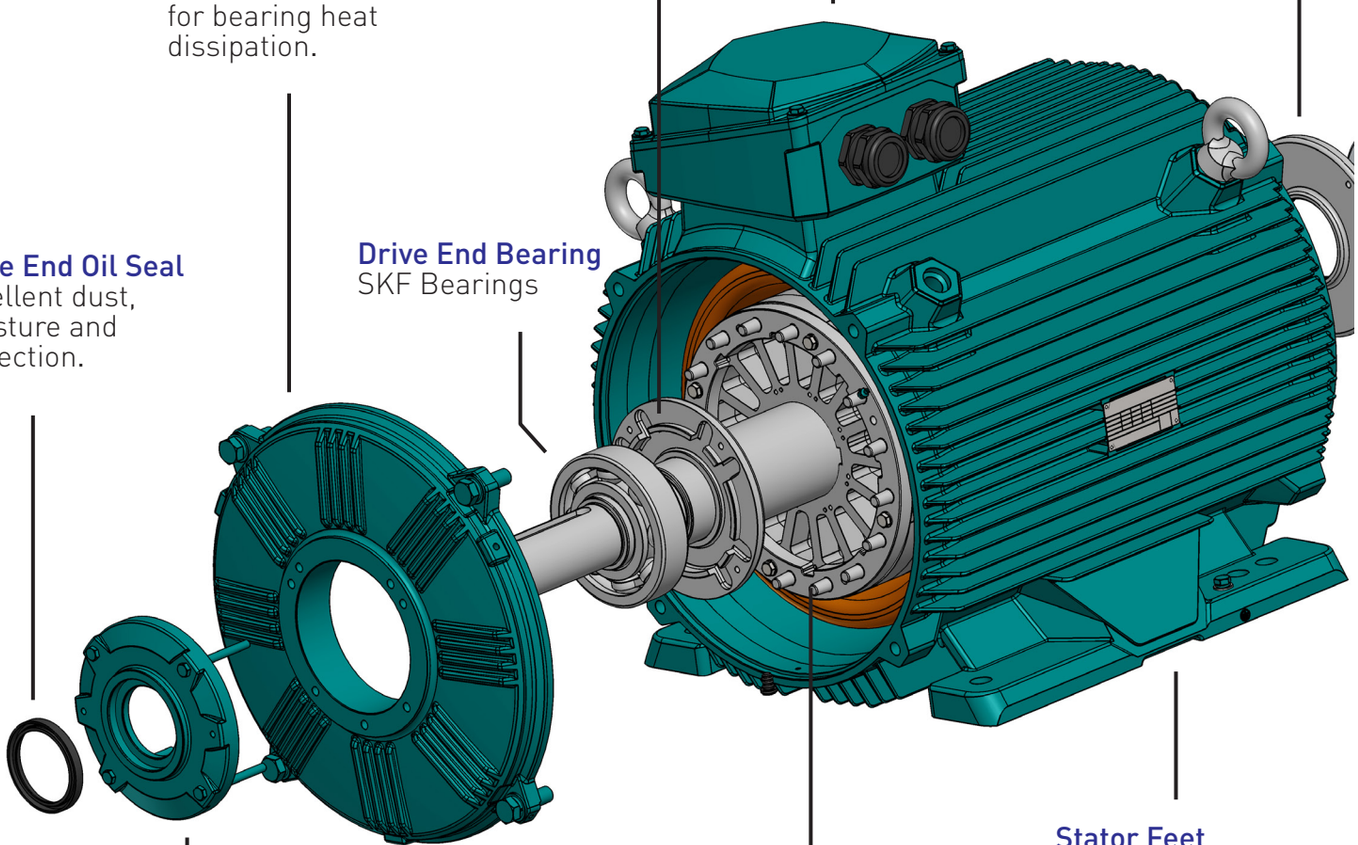


Efficiency and power factor curves of fan & pump under frequency conversion operation





WEPM(A)
Exploded view



Drive End Inner Bearing Cap

Non-Drive End Inner Bearing Cap

Terminal Box
Ergonomically designed for installation.

Drive End Endshield
Ribbed surface for bearing heat dissipation.

Drive End Oil Seal
Excellent dust, moisture and protection.

Drive End Bearing
SKF Bearings

Drive End Bearing Cap
Simple screw assembly.

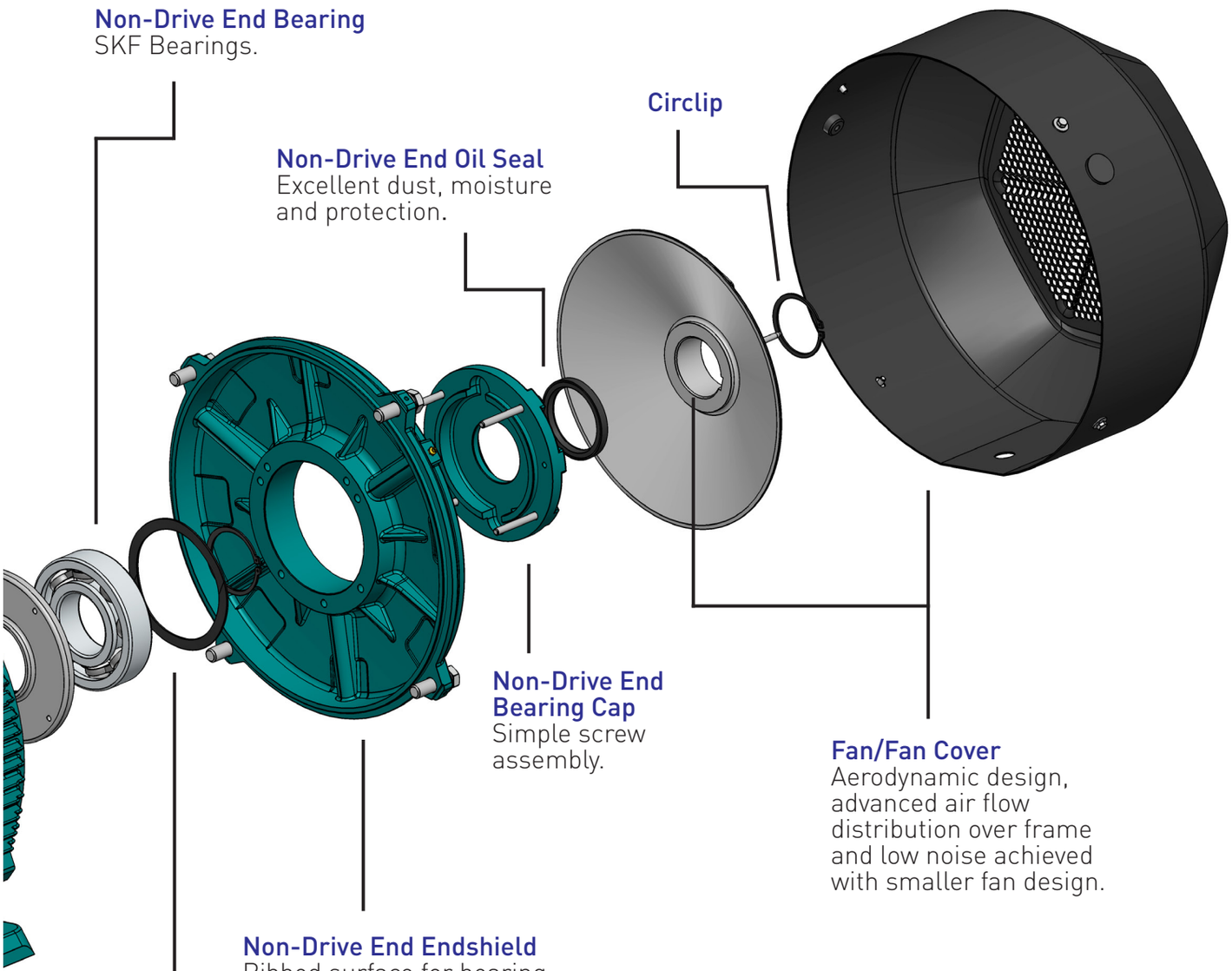
Rotor Design
Permanent Magnet synchronous rotor design.

Stator Feet
Flexi-mount on aluminium frame.

Non-Drive End Bearing
SKF Bearings.

Circlip

Non-Drive End Oil Seal
Excellent dust, moisture and protection.



Non-Drive End Bearing Cap
Simple screw assembly.

Fan/Fan Cover
Aerodynamic design, advanced air flow distribution over frame and low noise achieved with smaller fan design.

Non-Drive End Endshield
Ribbed surface for bearing heat dissipation.

Preload Washer

WEPM(A) IE5

Product Overview

Frame Size:
63 - 315

Output Range:
0.18kW - 315kW

Mountings:
B3, B5, B35, V1

Duty:
S1

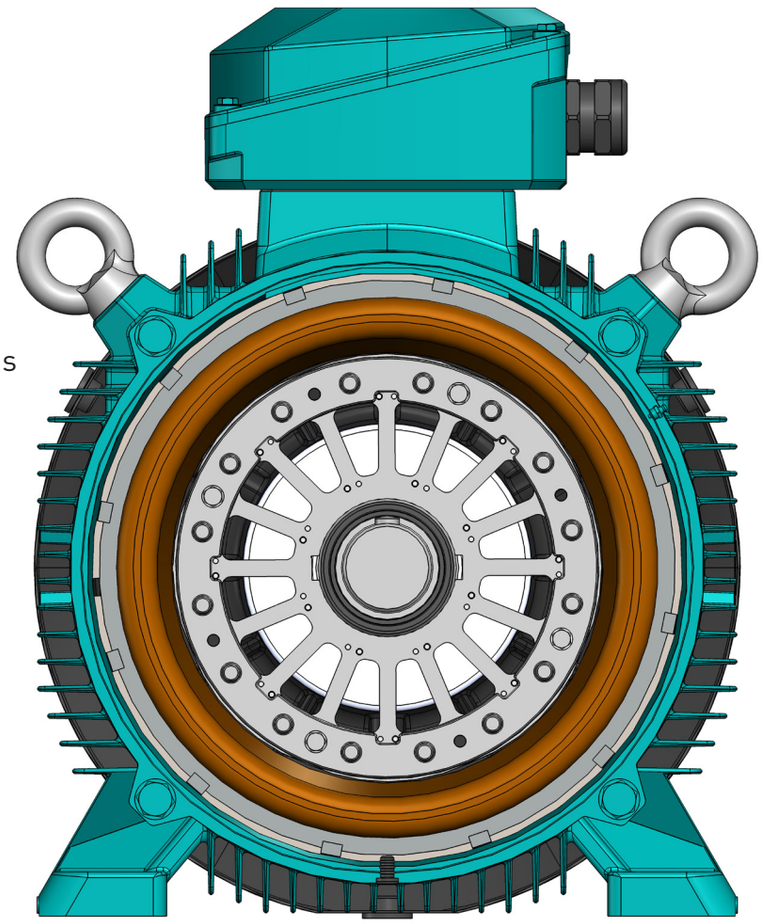
Bearings:
160 and below - sealed for life bearings
180 and above - regreasing

Efficiency Level:
IEC TS-60034-30-2 IE5

Construction:
56 - 160 Aluminium (WEPMA)
80 - 315 Cast Iron (WEPM)

Protection:
IP55

Cooling Method:
IC411, IC416



Advantages:
Permanent Magnet Technology

High Torque and High Power Density in reduced frame sizes

C3 Corrosion Protection Level

Case Studies

WEPM5 37kW 1500rpm Vs. 30kW IE3 Induction Motor

Industry
Leisure Centres

Application
Air Handling Unit

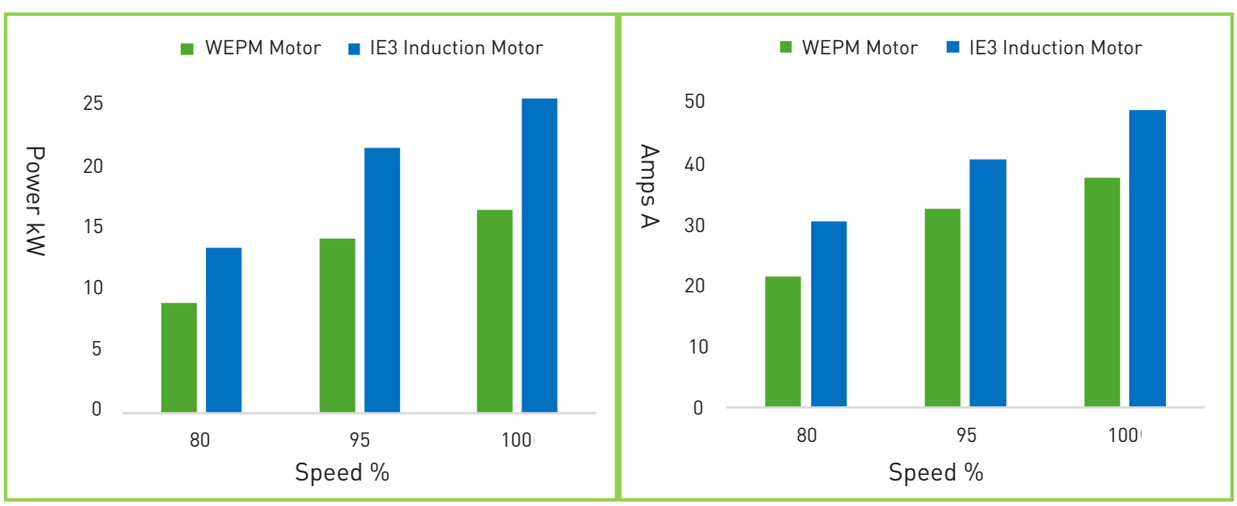
* images for illustration purpose only

Solution

WEPM5 37kW 1500rpm IE5 Permanent Magnet Motor

Energy Saving Results

> 35 - 44% energy savings
> Reduction in kW and amps
> Within 12 months return on investment
> 15 - 30% carbon reduction



BROOK CROMPTON
Keeping Industry Turning

Telephone:
+44 (0) 1484 557200

Email:
sales@brookcrompton.com

Website:
www.brookcrompton.com

oh2434/*/**/08/25 2434 WEPM