



Product

PMSM with BG and BF Series Gearing

Application

Plastic Bottle Blow Moulding Machines

Highlights

IE3 PMSM

- 5.5 kW (size 112) selected due to their small diameter
- Built-in thermistors and attached encoders
- High-efficiency through 2-stage base design
- Enclosure IP 65 as standard, IP66 (optional)

BG and BF Series Gearboxes

- Torques up to 18500 Nm
- High-tensile, case-hardened forged and ground steel gearing
- Custom mounting holes
- Special coating thickness
- Optional radial reinforced bearings on output shafts

A leading global manufacturer of stretch blow moulding machines for PET bottles wanted to upgrade the geared motor efficiency on their line of equipment in order to be prepared for anticipated future increases in efficiency standards. Geared motors are the main drive for the machine's carousel on which PET blanks are inserted into moulds and blown to shape.

The OEM's motor specification required an output power rating of 5.5 kW @ 50 Hz with IE3 efficiency. The geared motors are housed in a tight compartment with limited space and need to withstand the rigors of 24 hour operation.

Bauer 5.5 kW (size 112) IE3 PMSMs (Permanent Magnet Synchronous Motor) were selected due to their small diameter. Competitive 5.5 kW motors are too big (size 132) and would not fit into the constricted space available under the carousel. The Bauer motors featured built-in thermistors and attached encoders.

Depending on the size of the moulding machine, Bauer IE3 PMSM's were mated with either shaft-mounted BF Series or helical BG Series gearboxes. Various units featured optional radial reinforced bearings on the output shafts, custom mounting holes and special coating thickness. All BF and BG Series gearboxes feature high-tensile, case-hardened steel gearing combined with strong, non-flexible pinion shafts and bearings for exact tooth meshing in a vibration-free, high-tensile cast housing. Units are completely enclosed and sealed to protect against oil leakage.

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