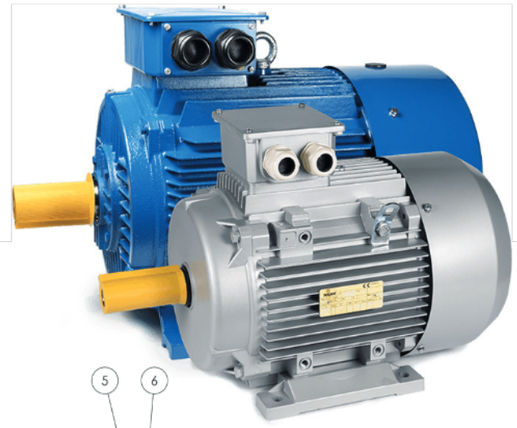
JM-GM
THREE-PHASE MOTORS

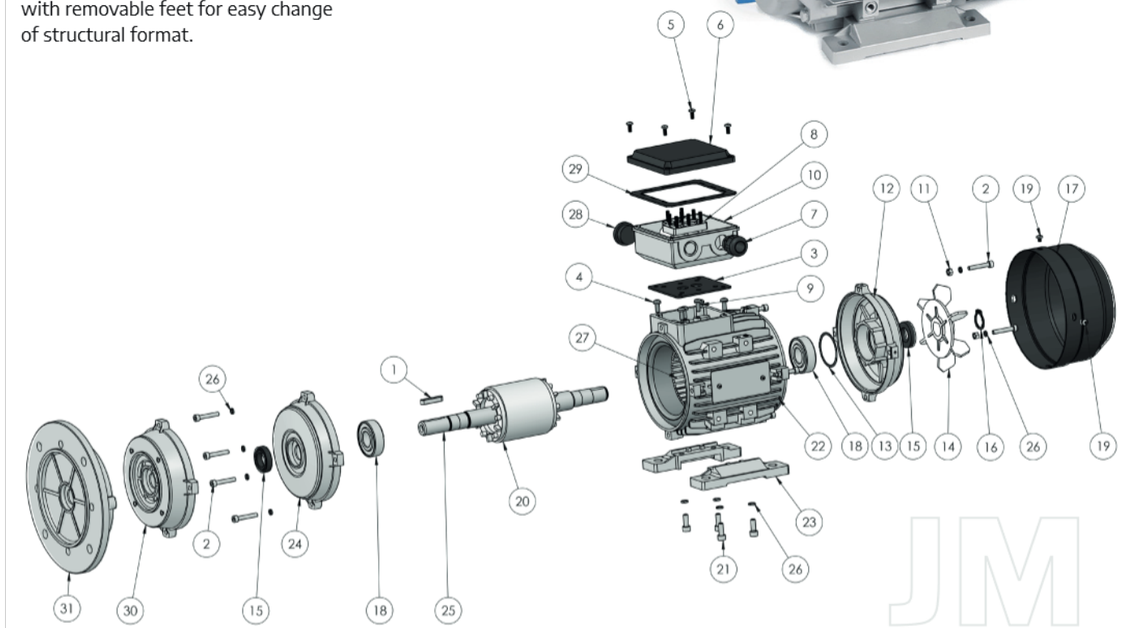
6.

6 JM-GM THREE-PHASE MOTORS

• 6.1 COMPONENTS



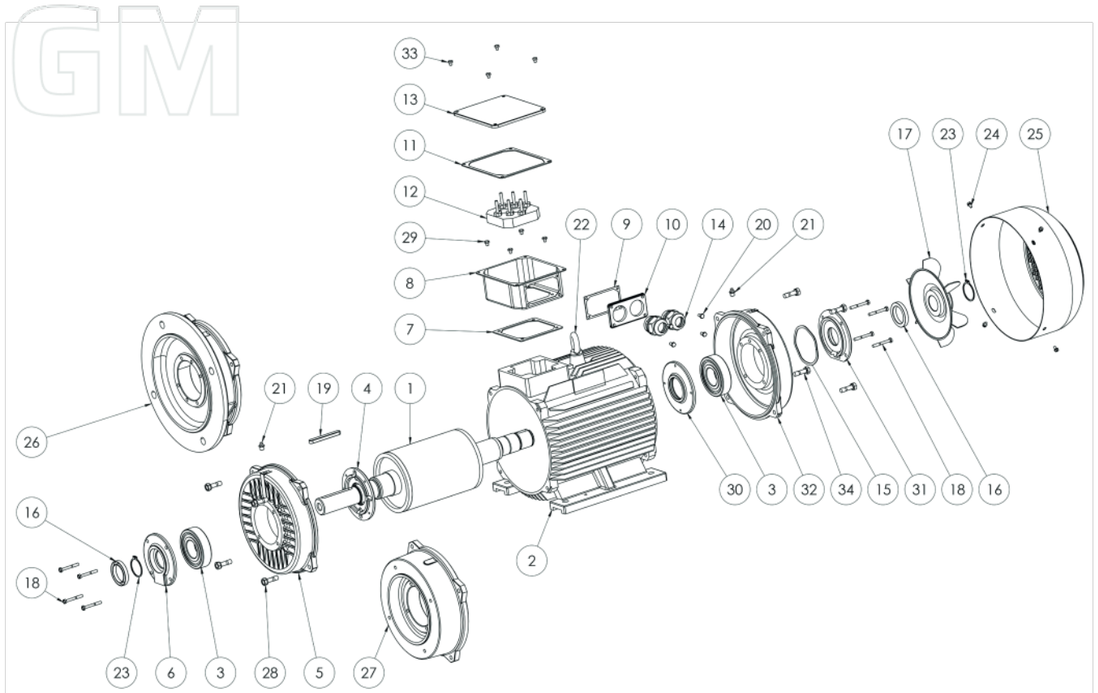
JM SERIES
JM Motors Series size 56 TO 160, in aluminium, with removable feet for easy change of structural format.



1) Key
2) Tie-rod
3) Terminal box gasket
4) Terminal box locking screw
5) Terminal board cover locking screw
6) Terminal board cover
7) Cable gland
8) Terminal board
9) Terminal board locking screw
10) Terminal box
11) Nut
12) Shield B3 side opposite control
13) Preload spring
14) Fan
15) Sealing ring
16) Safety flexible ring
17) Fan cover
18) Bearings
19) Fan cover locking screw
20) Rotor
21) Feet fastening screw for IMB3
22) Housing
23) Foot for IMB3
24) Shield on control side for IMB3
25) Shaft
26) Washer
27) Stator
28) Plug
29) Terminal box cover gasket
30) Flange IMB14
31) Flange IMB5

GM SERIES

GM series motors size 160 to 450, in cast iron,
with fused feet.



1) Shaft with rotor
2) Housing
3) Bearing
4) Control side bearing locking internal flange
5) Shield on control side
6) Control side bearing locking external flange
7) Terminal box gasket
8) Terminal box
9) Terminal box tab gasket
10) Terminal box tab
11) Terminal box cover gasket
12) Terminal board
13) Terminal box cover
14) Cable gland
15) Preload spring
16) Sealing ring
17) Fan
18) Bearing locking external flange fastening screw
19) Key
20) Terminal box tab screw
21) Greaser
22) Lifting eyebolts
23) Safety flexible ring
24) Locking screw
25) Fan cover
26) Flange IMB5
27) Flange IMB14 (size Gm 160 only)
28) Shield locking screw IMB3 on control side
29) Terminal box locking screw
30) Side opposite control bearing locking internal flange
31) Side opposite control bearing locking external flange
32) Shield on side opposite control IMB3
33) Terminal box cover locking screw
34) Shield locking screw IMB3 on side opposite control

• 6.2 ELECTRICAL CONNECTIONS

Single-speed three-phase motor windings can be connected star or delta.

The delta connection is obtained by connecting the end of a phase with the beginning of the next phase.
The phase current I_{ph} and the phase voltage U_{ph} are respectively:
$I_{ph} = I_n / \sqrt{3}$; $U_{ph} = U_n$

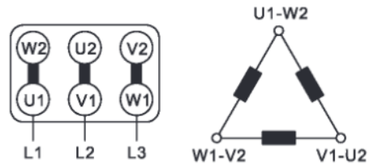
Where I_n is the line current and U_n the voltage relating to the delta connection.

The star connection is obtained by connecting W2, U2 and V2 and powering U1, V1, W1.
The phase current I_{ph} and the phase voltage U_{ph} are respectively:
$I_{ph} = I_n$; $U_{ph} = Un / \sqrt{3}$

Where I_n e U_n refers to the star connection.

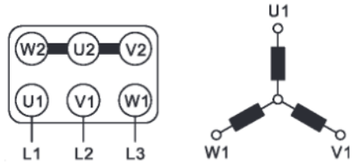
■ **MINIMUM VOLTAGE**
DELTA CONNECTION

Δ



■ **MAXIMUM VOLTAGE**
STAR CONNECTION

Y



Starting of the star-triangle motor allows reduced inrush current by reducing the starting torque, and can therefore only be implemented if the obtained starting torque is higher than the resistant torque.

The inrush current of an asynchronous motor is directly proportional to the square of the voltage, therefore the motors whose nominal delta voltage corresponds to the mains voltage can be started with the star-triangle method