



GAMAK



ELECTRIC MOTORS



Single Phase Motors
0.12 - 4kW



Elit Series Motors
0.25 - 55kW



Medium Voltage Motors
150-3,000kW



Crusher Motors
132 - 355kW



Smoke Extraction Motors
0.25 - 160kW
0.05/0.18 - 37/150kW



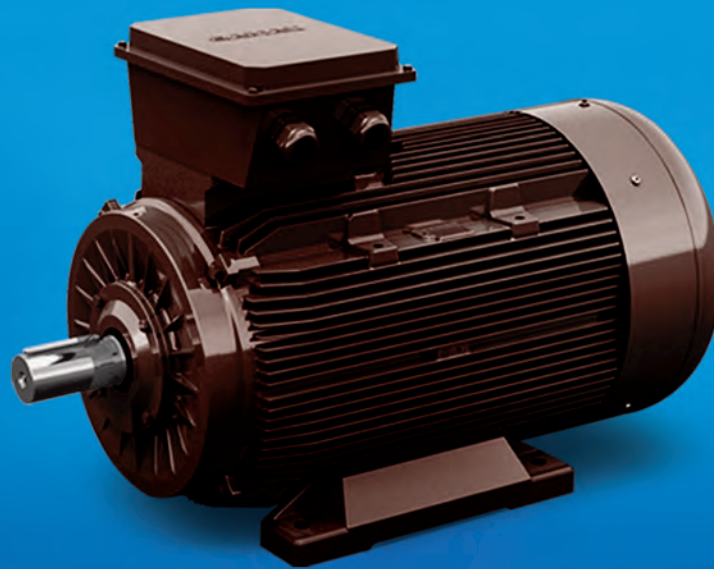
Frameproof Motors-IIC T4 EX d
0.37 - 55kW



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Crusher Motors

IE2
IE3



Our new generation crusher motors designed for heavy duty work environments with increased strength and reduced vibration. The motors show excellent performance with removable feet option that lower the maintenance down time.

Suitable applications

■ Crusher Machines



Features

- TEFC – Totally Enclosed Fan Cooled
- Cast Iron Frame
- Efficiency Class: **IE2* - IE3**
- Duty Type: **S1**
- Insulation class: **H (180°C)**
- Temperature Rise Class: B (80K)
- Protection Class: **IP 65**
- Cooling Type: IC 411
- Color: RAL 3007
- Removable or Fixed Feet Design
- Special Shaft (Increased Strength)
- Special Seal (For Extremely Dusty Environment)
- NU Bearing

*Inverter Duty

Frame Size

315 / 355 - M/L/LH (Fixed Feet)
315 / 355 - MT/LHT (Removable Feet)

Power Range [kW]

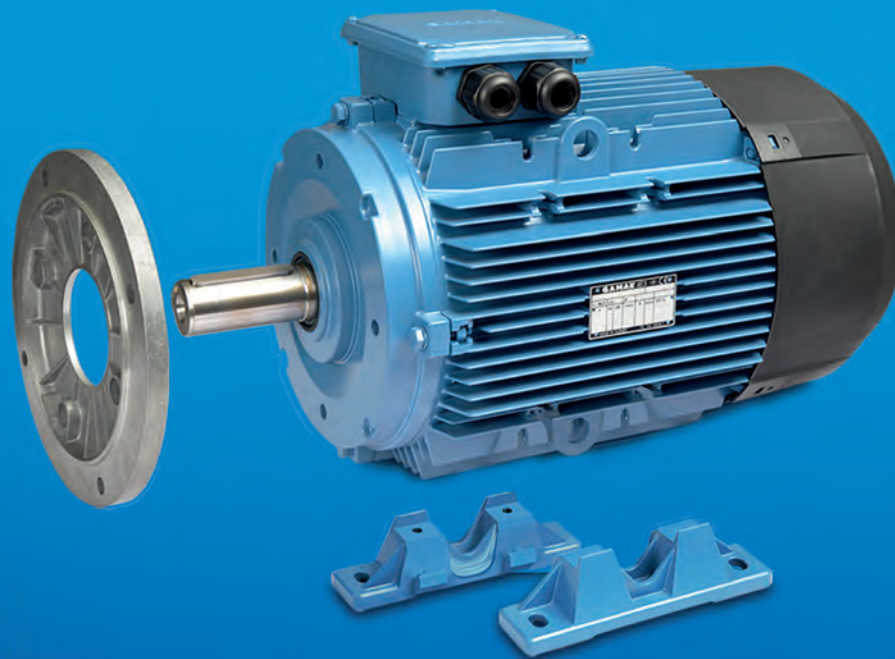
132 - 355

Pole Number

4

Elit Series

IE3
IE2



New design modular Elit Series offer a high performance with unique and flexible options for variable application areas. Different than standard series, Elit series motors have removable feet design for 71-200 frame size. The feet mounting system offers great flexibility and it is very simple allowing change on the mounting configuration without requiring any machining or modification on the motor feet. In addition to this only for 132 aluminum frame motors detachable flange and plastic fan cover will be available.

- **Attachable Flanges (only for 132 frame size):** Mounting design allows the mounting type to be transformed from B3 to B5 or B14 by attaching the suitable flange plate without removing front end shield.
- **Removable Feet (all aluminum types):** Due to the removable feet design motor terminal box can also be rotated at 90 degrees allowing motor leads to be connected on 3 side of the motor.

Features

TEFC – Totally Enclosed Fan Cooled
Aluminum / Cast Iron Frame
Efficiency Class **IE2*** - **IE3** - **IE4**
Insulation Class: F (155 °C)
Temperature Rise Class: B (80K)
Protection Class: IP 55 - IP 56 - IP 65
Cooling Type : IC 411 - IC 416

*Inverter duty

Frame Size

71 - 200 Aluminum Removable Feet
Housing
132 - 450 Cast Iron - Fixed Feet Design

Power Range [kW]

0.25 - 1,000

Pole Number

2, 4, 6, 8

Frame, endshields and flanges

The following table shows the materials of the motor frames, endshields and flanges.

Frame Size	Frame	End Shields	Flanges			Removable Feet		Attachable flange		
			B5	B14 / Small	B14/ Large	Al Housing	CI Housing	Al Housing	CI Housing	
71	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	✓	-	-	-	
80	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum		-	-	-	
90	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum		-	-	-	
100	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum		-	-	-	
112	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum		-	-	-	
132	Aluminum or Cast Iron	Aluminum or Cast Iron	Aluminum or Cast Iron	Cast Iron	Cast Iron		-	✓	x	x
160				-						
180				-	-					
200				-	-					
225				-	-					

In aluminium Elit Series, removable feet are cast separately from motor frames but in cast iron Elit Series feet are cast integrally with frames. Attachable flanges are only available for 132 frame size.

Smoke Extraction Motors

IE3
IE2



GAMAK Smoke Extraction Motors are certified according to **EN 12101-3** standard. The tests are performed in accredited **Applus+** Test Laboratories in Spain. As the test results, Gamak Smoke extraction motors are certified to operate at **300°C** for 2 hours.*

* Once only

The low-voltage motors with squirrel cage rotors for implementation in automatic smoke and heat extraction units to EN 12101-3 are mainly designed for driving smoke extraction fans.

Smoke extraction motors are designed to operate in two modes:

S2: Once only short time rating for emergency duty. The motor operates for the pre-determined period of time and temperature in case of emergency.

S1:+S2: Continuous running at normal ambient, plus once only S2 short time rating for emergency duty – Continuous running is for incoming/outgoing air flow under normal conditions.

Suitable Applications

- Road/Rail Tunnels
- Building Complexes and Atriums
- Industrial Buildings and Warehouses
- Theaters
- Enclosed Car Parks
- Shopping Malls



Features

TEFC – Totally Enclosed Fan Cooled

TEAO – Totally Enclosed Air Over

Suitable for applications directly coupled to fan

Cast Iron Housing

Insulation Class: H

Temperature Rise Class: B

Equipped with high temperature resistant

■ Special Bearing

■ Grease Oil

■ Cable

In case of emergencies, thermistors must be disabled.

Frame Size

71 - 315

Power Range [kW]

0.25 - 160

0.05/0.18 - 37/150

Pole Number

2, 4, 6

4/2, 8/4, 6/4

Single Phase Motors

MD
MKD
MSD



Single phase induction motors require just one power phase for their operation. They are commonly used in low power rating applications, in domestic as well as industrial use. The rotating field which develops the torque of the motors is formed by main and auxiliary windings. Depend on the application, it is possible to use either permanent split capacitor motor or capacitor start/capacitor run motor. Each type has its benefits and limitations as described below

Permanent split capacitor motors (MD)

This type of single phase motors have one capacitor mounted in terminal box, permanently connected in series with the auxiliary winding. Efficiency and power factors are improved. Starting torque is between 50% - 80% of full load torque which makes this design particularly suitable for applications that require a light starting torque.

Capacitor start / Capacitor run motors (MSD / MKD)

This type of single-phase motor have two capacitors, short time rated high value starting capacitor and continuously rated low rated permanent capacitor are mounted in the terminal box. The starting torque is between 200% - 250% of full load torque.

The switching between starting and permanent capacitor in MKD motors is mechanically performed by centrifugal switch and in MSD motors the switching between starting and permanent capacitor is performed by the electronic relay which is located in terminal box.

Frame, endshields and flanges

Motor frames, endshields and flanges are made of aluminum alloy which is pressure die-casting and resistible to corrosion (B14/FT 165 flanges on frame size 112 motors are cast iron).

Suitable Applications

- MD: Circular Saw, drilling machines, polishing machines, lawn mowers, fans and blowers
- MSD / MKD: Compressors, hydraulic pumps, and centrifugal pumps, cranes, mixers

Features

TEFC – Totally Enclosed Fan Cooled
1 Phase 220 V 50 Hz
Aluminum Frame
Insulation Class: F (155 °C)
Temperature Rise Class: B (80K)
Protection Class: IP 55
Cooling Type: IC 411
Color: RAL 7009
Fan Cowl: Plastic (Metal as option)
Renewed and Reinforced Terminal Box Design
With Centrifugal Switch or Electronic Relay Type

Frame Size

63 - 112

Power Range [kW]

0.12 - 4

Pole Number

2, 4