

SPECIAL
SERIES

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CRUSHER
MOTORS

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Gamak crusher motors are designed to withstand the heavy operating conditions required by the industry from 132 kW to 355 kW in 315 and 355 types. Crusher motors designed in fixed base cast iron bodies can also be supplied attachable feet housings in 315 types with HT code structure upon request.

IP65 protection, which is especially needed in extremely dusty environments, is provided with a special seal and bearing design. Standard features include lubricated NU bearing used in the pulley shaft output, Class H insulation, shaft design with increased resistance to excessive fatigue and torsion (shaft diameter 100 millimeters), impact and drop resistant cast iron body structure, thermistor protection. Thanks to its electrical design suitable for working with the driver, it also responds to speed control needs. The following are the basic application areas for the motor:

- Stone Crushing
- Feeders and Feeder Conveyors
- Crushers
- Sieves
- Demolishers
- Vibration



CRUSHER MOTORS - TECHNICAL CHARACTERISTICS HIGH EFFICENCY MOTORS

IE2

OPERATIONAL CHARACTERISTICS
3 Phase, 400 V, 50 Hz | Type of Operation: S1 (Continuous Operation)
Protection Degree: IP 65 | Insulation Class H (180°C)
Heat Increase Limit: B (80K)

CAST IRON FRAME

Nominal Power	Type	At Nominal Power							At Start-up				Tilting Moment Ratio	Moment of Inertia	Approx. Weight
		Speed	Current	Torque	Power Coefficient Cos φ	Efficiency η			Current Ratio		Torque Ratio				
kW		RPM	A	Nm		4/4	3/4	1/2	Direct	Y/Δ	Direct	Y/Δ			

4 poles (1500 RPM), with Fixed Feet Housing

132	GM2E 315 M 4b	1485	230	848,9	0,87	94,7	94,5	93,8	7,4	2,5	2,1	0,7	3	2,5	861
160	GM2E 315 M 4c	1485	280	1029	0,87	94,9	94,9	94	7	2,3	2	0,7	2,9	2,8	882
185	GMM2E 315 L 4d	1485	323	1189,7	0,87	95,1	95,1	94,2	7,4	2,5	2,2	0,7	3	2,9	962
200	GMM2E 315 L 4e	1485	350	1286,2	0,87	95,1	95,4	94,2	8	2,7	2,5	0,8	3	3,1	1015
250	GM2E 315 H 4f	1485	425	1607,1	0,89	95,1	95,1	94,2	8,1	2,7	2,3	0,8	3	3,5	1200
250	GMM2E 355 M 4a	1485	445	1607,7	0,85	95,1	95,1	94,2	6,4	2,1	2,1	0,7	2,8	5,5	1378
315	GMM2E 355 M 4b	1490	560	2019	0,85	95,1	95,1	94,5	6,4	2,1	2	0,7	2,8	6	1400
355	GMM2E 355 M 4c	1490	630	2275,3	0,86	95,1	95,4	94,2	7	2,3	2	0,7	2,8	6,5	1438

Attachable Feet Housings, 4 poles (1500 RPM)

185	GM2E 315 HT 4d	1485	323	1189,7	0,87	95,1	95,1	94,2	7,4	2,5	2,2	0,7	3	2,9	1040
200	GM2E 315 HT 4e	1485	350	1286,2	0,87	95,1	95,4	94,2	8	2,7	2,5	0,8	3	3,1	1150
250	GM2E 315 HT 4f	1485	425	1607,1	0,89	95,1	95,1	94,2	8,1	2,7	2,3	0,8	3	3,5	1200

Efficiency values are calculated by the indirect measurement method in accordance with IEC 60034-2-1: 2014 standard. Additional losses are assessed based on test results performed at variable load values.

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CRUSHER MOTORS - TECHNICAL CHARACTERISTICS HIGH EFFICENCY MOTORS

Crusher Motors

IE3

OPERATIONAL CHARACTERISTICS
3 Phase, 400 V, 50 Hz | Type of Operation: S1 (Continuous Operation)
Protection Degree: IP 65 | Insulation Class H (180°C)
Heat Increase Limit: B (80K)

CAST IRON FRAME

Nominal Power	Type	At Nominal Power							At Start-up				Tilting Moment Ratio	Moment of Inertia	Approx. Weight
		Speed	Current	Torque	Power Coefficient Cos φ	Efficiency η			Current Ratio		Torque Ratio				
kW		RPM	A	Nm		4/4	3/4	1/2	Direct	Y/Δ	Direct	Y/Δ			

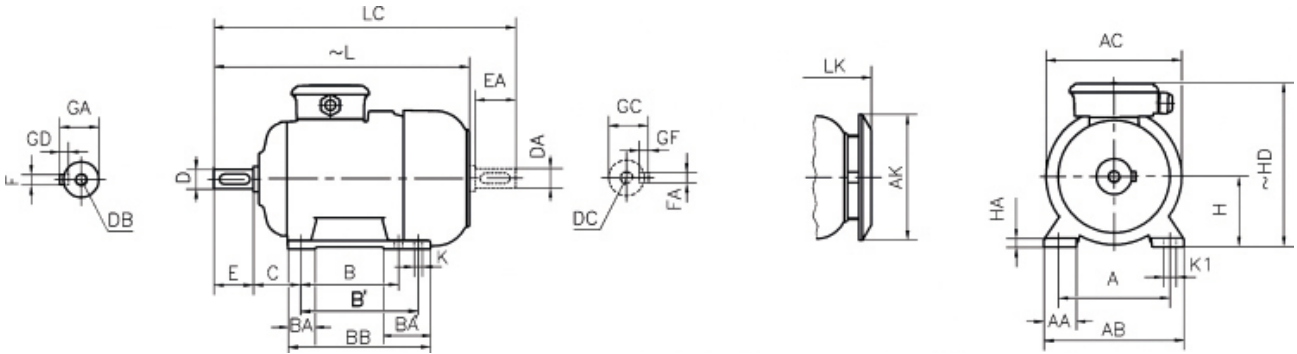
4 poles (1500 RPM), with Fixed Feet Housing

132	GM3E 315 M 4b	1490	226	846	0,88	95,6	95,4	95,3	7,4	2,5	2,4	0,8	3	2,8	882
160	GM3E 315 L 4c	1490	275	1025,5	0,88	95,8	95,6	95,6	6,9	2,3	2,2	0,7	2,9	3	930
185	GMM3E 315 L 4d	1490	321	1185,7	0,87	96	96	95,8	6,9	2,3	2,2	0,7	2,9	3,1	1015
200	GM3E 315 H 4e	1490	350	1281,9	0,86	96	95,8	95,8	7,5	2,5	2,5	0,8	3,1	3,3	1100
250	GM3E 315 H 4f	1490	435	1602,3	0,86	96	95,8	95,8	7,6	2,5	2,3	0,8	3,1	3,5	1200
250	GMM3E 355 M 4a	1490	430	1602,3	0,87	96	96	96	7,2	2,4	2,2	0,7	3	6	1400
315	GMM3E 355 M 4b	1490	540	2019	0,88	96	96	95,9	7,2	2,4	2,2	0,7	3	6,5	1438

Attachable Feet Housings, 4 poles (1500 RPM)

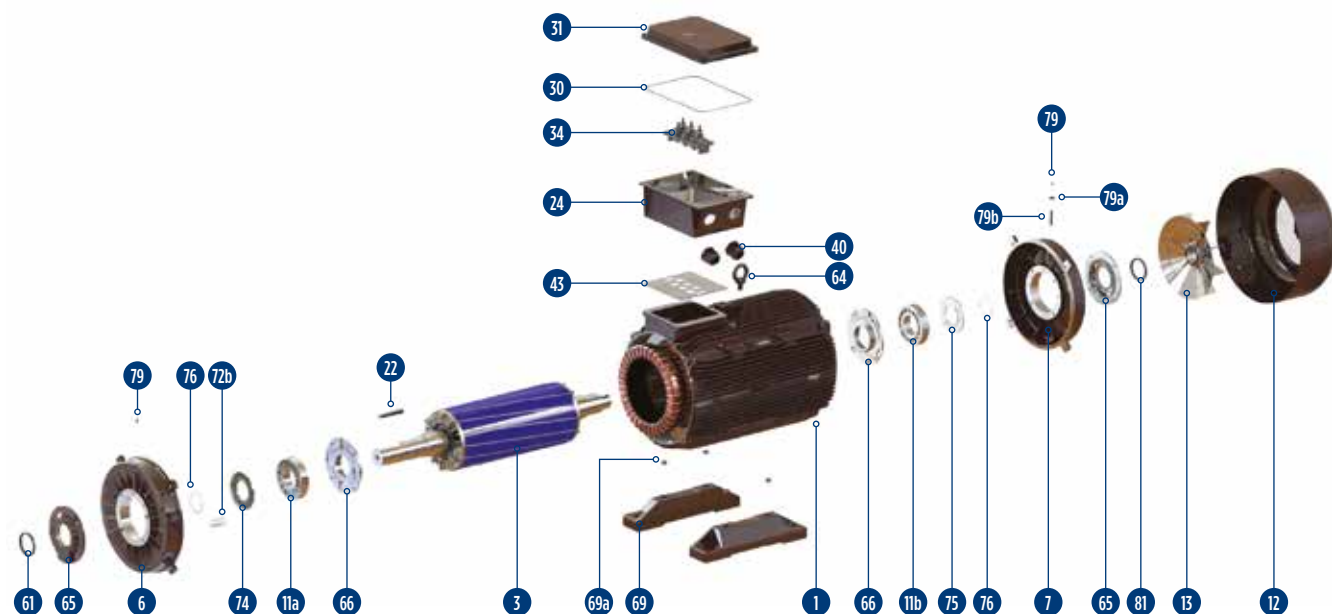
160	GM3E 315 HT 4c	1490	275	1025,5	0,88	95,8	95,6	95,6	6,9	2,3	2,2	0,7	2,9	3	980
185	GM3E 315 HT 4d	1490	321	1185,7	0,87	96	96	95,8	6,9	2,3	2,2	0,7	2,9	3,1	1040
200	GM3E 315 HT 4e	1490	350	1281,9	0,86	96	95,8	95,8	7,5	2,5	2,5	0,8	3,1	3,3	1150
250	GM3E 315 HT 4f	1490	435	1602,3	0,86	96	95,8	95,8	7,6	2,5	2,3	0,8	3,1	3,5	1200

Crusher Motors



Sizes of foot mounted motor: Frame Forms B3, B6, B7, B8, B15, V5, V6																													
Frame Size	No of Poles	H	HD-	HA	A	AA	AC	ACØ	AKØ	K	B	B'	BA	BA'	BB	L~	LC	LK~	C	EEA	DB DC	DØ DAØ	GA GC	FxGD FxGF					
315	M	4	315	50	508	125	620	614	571	28	406	-	115	166	550	1150	1330	1227	216	210	M24	100	106	28x16					
	L															-	457	125	-						600	1220	1400	1297	
	HT / H		855													508	-	150	-							1381	1561	1297	228
355	M		355	980		610	150	740	732		560	-	140	-	680	1377	1597	1454	254										

Efficiency values are calculated by the indirect measurement method in accordance with IEC 60034-2-1: 2014 standard. Additional losses are assessed based on test results performed at variable load values.



- 1 Stator with Complete Windings: Varnished and installed to the body
- 3 Complete Rotor: With balanced, shaft, machined (excluding keys)
- 6 Front cover
- 7 Rear cover
- 11a Front bearing (Cylindrical Roller)
- 11b Rear bearing
- 12 Fan housing (63...450)
- 13 Cooling fan
- 22 Shaft end wedge
- 30 Seal (Between terminal box and cover)
- 31 Terminal box cover
- 34 End plate - Terminal (including bridge, nuts and washers)
- 40 Cable entry gland
- 43 Seal (between end terminal box and motor frame)
- 64 Lifting eye (200...450)
- 65 Bearing holder outer cover (for motors with lubrication nipple)
- 66 Bearing holder inner cover (for motors with lubrication nipple)
- 69 Attachable feet housings
- 69a Centering bush
- 72b Coil spring (315...450)
- 75 Oil retaining disc (for motors with lubrication nipple)
- 76 Outer snap ring; For fixing the bearing and oil holding disc
- 79 (For motors with lubrication nipple at the front and rear, 160...280 at the rear)
- 79a Greaser pipe holder
- 79b Greaser spacer
- 81 Rubber dust seal (V-ring) or optionally oil seal
- 81 Rubber dust seal (V-ring) or optionally oil seal

