

**Totally enclosed squirrel cage
three phase motors, cast iron frame
IP 55 IC 411**

400 V 50 Hz

Output kW	Motortype	Product code	Speed r/min	Effi- ciency %	Power factor cos φ	Current		Torque				
						I_N A	$\frac{I_s}{I_N}$	T_N Nm	$\frac{T_s}{T_N}$	$\frac{T_{max}}{T_N}$		
750 r/min = 8 poles Basic design												
4	M2BA 160 MA	3GBA 164 310-••D	715	84.1	0.69	10	5.2	54	2.1	2.4		
5.5	160 M	164 300-••D	710	84.7	0.70	13.4	5.4	74	2.4	2.6		
7.5	160 L	164 500-••D	715	86.3	0.70	18.1	5.4	100	2.4	2.8		
11	180 L	184 500-••D	720	88.7	0.76	23.5	5.9	146	2.4	2.6		
15	200 MLA	204 410-••D	740	91.1	0.82	29	7.4	194	1.8	3.0		
18.5	225 SMA	224 210-••D	730	91.1	0.79	37	6.2	242	1.9	2.7		
22	225 SMB	224 220-••D	730	91.5	0.77	45	6.0	288	1.9	2.7		
30	250 SMA	254 210-••D	735	92.8	0.79	59	6.9	390	1.9	2.9		
37	280 SMA	284 210-••A	741	93.4	0.78	74	7.3	477	1.8	3.1		
45	280 SMB	284 220-••A	741	94.0	0.78	90	7.6	580	1.9	3.2		
55	315 SMA	314 210-••A	740	94.3	0.81	104	7.1	710	1.6	2.7		
75	315 SMB	314 220-••A	740	94.8	0.82	140	7.1	968	1.7	2.7		
90	315 SMC	314 230-••A	740	95.1	0.82	167	7.4	1161	1.8	2.7		
110	315 MLA	314 410-••A	740	95.2	0.83	202	7.3	1420	1.8	2.7		
132	355 S	354 100-••A	742	95.0	0.80	250	5.8	1699	1.5	2.3		
160	355 SMA	354 210-••A	742	95.2	0.80	305	6.3	2059	1.7	2.4		
200	355 MLA	354 410-••A	743	95.5	0.77	395	6.6	2571	1.8	2.7		
250	355 MLC	354 430-••A	744	95.7	0.80	470	6.6	3209	1.5	3.0		
200	400 M	404 300-••A	743	95.5	0.77	395	6.6	2571	1.8	2.7		
250	400 MA	404 310-••A	744	95.7	0.80	470	6.6	3209	1.5	3.0		
315	400 LKA	404 510-••A	744	96.0	0.79	605	6.3	4043	1.4	2.6		
355	400 LKB	404 520-••A	744	96.2	0.79	680	6.6	4557	1.5	2.7		

750 r/min = 8 poles High-output design												
8.5	¹⁾ M2BA 160 LB	3GBA 164 520-••D	700	83.5	0.70	21	5.1	115	2.4	2.5		
15	¹⁾ 180 LB	184 520-••D	720	88.0	0.76	32.5	6.0	199	2.5	2.6		
18.5	200 MLB	204 420-••D	745	91.4	0.81	36	6.7	237	1.7	2.8		
30	225 SMC	224 230-••D	735	91.8	0.79	60	7.2	390	2.1	3.3		
37	250 SMB	254 220-••D	735	93.2	0.81	71	7.2	481	2.0	2.9		
55	280 SMC	284 230-••A	741	94.4	0.79	108	7.8	709	1.9	3.2		

The two bullets in the product code indicate choice of mounting arrangement (page 15, pos 12), voltage and frequency (below).

Code letters for supplementing the product code for voltage and frequency:

A	B	D	E	F	H
380 VY 50 Hz	380 VΔ 50 Hz	380-420 VΔ 50 Hz 660-690 VY 50 Hz 440-480 VΔ 60 Hz	500 VΔ 50 Hz 575 VΔ 60 Hz	500 VY 50 Hz 575 VY 60 Hz	415 VΔ 50 Hz
S	T	U	X	Other rated voltage, connection or frequency, max. 690 V	
220-240 VΔ 50 Hz 380-420 VY 50 Hz 440-480 VY 60 Hz	660 VΔ 50 Hz	690 VΔ 50 Hz			

Insulation class F Temperature rise class B

		380 V 50 Hz					415 V 50 Hz						
Output kW	Motor type	Speed r/min	Effi- ciency %	Power factor cos φ	Current I _N A	Speed r/min	Effi- ciency %	Power factor cos φ	Current I _N A	Moment of inertia J = ¼ GD ² kgm ²	Weight kg	Sound pressure level	
												L _p dB(A)	
750 r/min = 8 poles		Basic design											
4	M2BA 160 MA	710	83.8	0.71	10.2	720	84.5	0.66	9.9	0.071	100	73	
5.5	160 M	705	84.0	0.72	13.8	715	85.0	0.68	13.3	0.09	113	73	
7.5	160 L	710	85.7	0.72	18.6	715	86.6	0.68	17.8	0.121	126	73	
11	180 L	715	88.2	0.77	24.5	720	89.0	0.75	23	0.223	177	65	
15	200 MLA	735	91.0	0.83	30	740	91.2	0.79	29	0.45	250	71	
18.5	225 SMA	730	91.0	0.79	39	735	91.3	0.76	36	0.61	305	73	
22	225 SMB	730	91.4	0.81	45	735	91.5	0.76	44	0.68	320	73	
30	250 SMA	735	92.6	0.81	61	740	92.9	0.77	58	1.25	415	68	
37	280 SMA	740	93.2	0.80	75	742	93.4	0.76	73	1.85	570	65	
45	280 SMB	740	93.8	0.80	92	742	94.0	0.75	90	2.2	610	65	
55	315 SMA	739	94.2	0.83	108	741	94.4	0.80	102	3.2	820	62	
75	315 SMB	739	94.6	0.84	146	741	94.9	0.81	137	4.1	910	62	
90	315 SMC	739	94.9	0.84	173	741	95.1	0.81	164	4.9	980	64	
110	315 MLA	739	95.0	0.84	209	741	95.3	0.82	196	5.8	1100	72	
132	355 S	741	94.8	0.81	260	743	95.0	0.79	245	10.4	1550	75	
160	355 SMA	741	95.1	0.81	315	743	95.2	0.79	295	12.5	1800	75	
200	355 MLA	742	95.5	0.79	410	744	95.5	0.75	390	14.6	2100	75	
250	355 MLC	743	95.7	0.82	485	744	95.7	0.78	470	15.8	2100	75	
200	400 M	742	95.5	0.79	410	744	95.5	0.75	390	14.6	2150	75	
250	400 MA	743	95.7	0.82	485	744	95.7	0.78	470	15.8	2150	75	
315	400 LKA	743	96.0	0.81	615	744	96.0	0.78	590	16.5	2800	80	
355	400 LKB	743	96.2	0.81	690	744	96.2	0.77	675	19	3050	80	
750 r/min = 8 poles		High-output design											
8.5	¹⁾ M2BA 160 LB	695	81.7	0.73	21.5	705	83.8	0.68	21	0.13	128	73	
13.5	¹⁾ 180 LB	715	87.6	0.78	33.5	720	88.3	0.74	32	0.239	185	65	
18.5	200 MLB	735	91.2	0.83	37	735	91.6	0.79	35	0.54	275	70	
30	225 SMC	730	91.7	0.80	62	735	91.9	0.77	61	0.8	345	73	
37	250 SMB	735	92.5	0.82	74	735	93.2	0.81	71	1.52	460	68	
55	280 SMC	740	94.2	0.81	110	742	94.4	0.77	106	2.85	690	62	

¹⁾ Temperature rise class F.

Further details or special designs on request.

Please note that the frequency converter application in critical conditions may require special rotor design within 355 and 400 frame motors. We therefore recommend a separate checking.

Data for motor sizes 71 to 132 on request.