

marathon®
Motors



QCA (IE4) Series Ultra High Efficiency Motor

REGAL®

ABOUT REGAL AND MARATHON MOTORS



Regal Beloit Corporation has locations in
27 countries
70 manufacturing bases
16 technical centers
more than **23,000** employees
over **100,000** customers
global low-voltage motor
market share **No.4** in 2016
global sales **3.4** billion dollars
in 2017

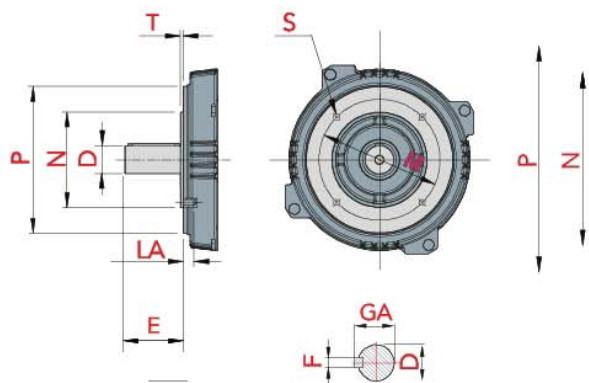
Marathon motors, founded in 1913, is the famous industrial motor brand of Regal Beloit Corporation. Marathon motors has been a widely used manufacturer in the world of commercial and industrial motor design and high technology products. Marathon motors joined Regal Beloit Corporation in 1997. The main products include high efficiency low voltage motor, low voltage variable frequency motor, high voltage motor, explosion-proof motor and custom-made motor, which are widely used in compressor, pump, petrochemical, paper making and water treatment and other industries.

Regal Beloit (Wuxi) Co., Ltd founded in 1958, focusing on motor R & D and manufacturing, is a national large industrial enterprise, national key high-tech enterprise. Regal Wuxi joined Regal Beloit Corporation in 2008, and is one of the major industrial motor manufacturing enterprises in Regal Beloit Corporation. Regal Wuxi has a total asset of 80 million US dollars, more than 700 employees, over 400 sets of main equipments, annual output of 6 million kW, has the test capacity up to 5000kW.

BASIC DIMENSIONS

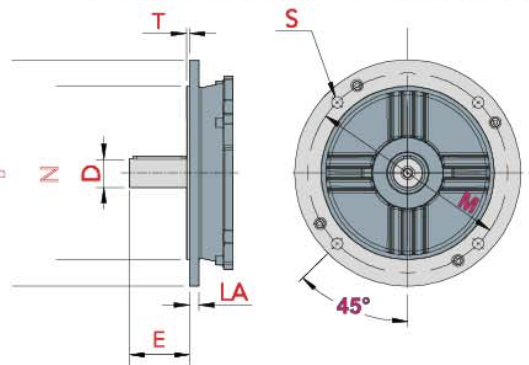
B14A - flange ("C" face)

The flange is smaller than the motor frame.
The holes are tapped.
Available for frame sizes 63 to 160 mm.



B5 - flange ("D" flange)

The flange is bigger than the motor frame.
The holes are not tapped.
B5 flanges are available for all motor sizes.



B14B - flange

The flange is bigger than B14A but smaller than B5 flange.
The holes are tapped. Available for frame sizes 63 to 160 mm.

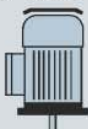


Rating Plate

All nameplates are made of stainless steel, with all information printed by laser. A nameplate contains a lot of useful and important information, such as the motor typenumber, the rated output, the rated voltage, the rated current, frequency, degree of protection, power factor, insulation method and bearing types.

SIZE	Shaft				B5 FLANGE ("D" flange)				B14A FLANGE ("C" face)				B14B FLANGE			
	Diameter		Length		PCD	Spigot	Diameter	Hole Dia	PCD	Spigot	Diameter	Hole	PCD	Spigot	Diameter	Hole
	D		E		M	N	P	S	M	N	P	S	M	N	P	S
63 frame	11		23		115	95	140	10	75	60	90	M5	100	80	120	M6
71 frame	14		30		130	110	160	10	85	70	105	M6	115	95	140	M8
80 frame	19		40		165	130	200	12	100	80	120	M6	130	110	160	M8
90 frame	24		50		165	130	200	12	115	95	140	M8	130	110	160	M8
100 frame	28		60		215	180	250	14.5	130	110	160	M8	165	130	200	M10
112 frame	28		60		215	180	250	14.5	130	110	160	M8	165	130	200	M10
132 frame	38		80		265	230	300	14.5	165	130	200	M10	215	180	215	M12
160 frame	42		110		300	250	350	18.5	215	180	250	M12	265	230	300	M12
180 frame	48		110		300	250	350	18.5	--	--	--	--	--	--	--	--
200 frame	55		110		350	300	400	18.5	--	--	--	--	--	--	--	--
Poles	2p	4-8p	2p	4-8p												
225 frame	55	60	110	140	400	350	450	18.5	--	--	--	--	--	--	--	--
250 frame	60	65		140	500	450	550	18.5	--	--	--	--	--	--	--	--
280 frame	65	75		140	500	450	550	18.5	--	--	--	--	--	--	--	--
315 frame	65	80	140	170	600	550	660	24	--	--	--	--	--	--	--	--
355 frame	75	95	140	170	740	680	800	24	--	--	--	--	--	--	--	--

MOUNTING POSITIONS

1st digit		IM1... Foot mounted		IM2... Foot & Flange mounted			IM3... Flange mounted		
2nd digit		IM10		IM20	IM21	IM21	IM30	IM36	IM36
3rd digit		0	IM1001	IM2001	IM2101	IM2101	IM3001	IM3601	IM3601
4th digit			B3	B3/B5	B3/B14A	B3/B14B	B5	B14A	B14B
1: Standard IECshaft 2: 2nd shaft end 3: Conical shaft at DE 4: Special shaft end(s)		1	IM1011	IM2011	IM2111	IM2111	IM3011	IM3611	IM3611
			V5	V15	V15	V15	V1	V18	V18
		3	IM1031	IM2031	IM2131	IM2131	IM3031	IM3631	IM3631
Vertical motors with shaft down are to be specified as Motor without Canopy  Motor with Canopy 			V6	V36	V36	V36	V3	V19	V19
		5	IM1051	IM2051	IM2151	IM2151			
		6	IM1061	IM2061	IM2161	IM2161			
  No motor should be exposed to direct sunlight!			B6						
		7	IM1071	IM2071	IM2171	IM2171			
			B7						
			B8						

The specified mounting is to be mentioned when ordering an electric motor. The actual motor mounting may influence the protection class and bearing design. Flange-mounted electric motors need further specification of the required pitch circle diameter of the fixing holes in the flange (FF or FT type of flange + Dimension M).

FF (Flange Free holes) - B5 flanges,
FT (Flange Tapped holes) - B14A & B14B flanges
The pitch circle diameter (M) is specified in the Standard

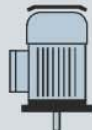
Abbreviated mounting positions:
IM B35 B3/B5
IM B34A B3/B14A
IM B34B B3/B14B

Vertical motors with shaft down are to be specified as

Motor without Canopy



Motor with Canopy



No motor should be exposed to direct sunlight!

The specified mounting is to be mentioned when ordering an electric motor. The actual motor mounting may influence the protection class and bearing design. Flange-mounted electric motors need further specification of the required pitch circle diameter of the fixing holes in the flange (FF or FT type of flange + Dimension M).

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Abbreviated mounting positions:

IM B35 B3/B5
 IM B34A B3/B14A
 IM B34B B3/B14B

PAINT SPECIFICATION

Universal (standard paint finish)

Motor coating for non-special anti-corrosion requirements.

Motor coating for motors installed indoor and in general outdoor areas (max. temperature <150°C) with no industry gas concentration.

TH (optional paint finish available on request)

Motor coating for motors installed outdoor areas of tropical and humid environment with high humidity and temperature (max. temperature <150°C) and sunshine exposure as well as in areas with chemical gas pollution, but not severe industry gas concentration.

Surface Pre-treatment:

Universal

The surface of motor components must be clean, dry, de-greased, free of dirt and impurities, with roughness $\leq 25\mu\text{m}$. If there is small defect on the surface, such as a small pit, then sanding of the surface is carried out and then the surface is filled with filler (G07-5 perchloroethylene filler) in max thickness $\leq 100\mu\text{m}$. The filler is then sanded down after it has hardened and is cleaned.

TH

All outer parts made of cast iron and/or steel are sand blasted or ball blasted. Any surface imperfections such as burr, sand burning, welding slag etc is removed. The surface must be clean and smooth with no visual imperfections, like oxidation, rust, grease or dust deposits, etc. The surface of motor components must be clean, dry, de-greased, free of dirt and impurities. The primer paint must be dry before the intermediate and top coats are applied.

Anticorrosion requirement	Thickness of primer (m)	Primer Material	Thickness of intermediate coat (m)	Intermediate coat Material	Thickness of top coat (m)	Top coat Material	Total thickness (m)
[Universal] Suitable for both indoor & outdoor installation Medium anti-corrosion protection	30-50	iron red epoxy resin ester	n/a	n/a	20-50	water based polyurethane paint	70-100
[TH] Installation in tropical and humid environment	35-50	epoxy zinc rich primer	35-50	water based epoxy mio barrier paint	30-50		120-150

FEET TIGHTENING TORQUE & BEARING SIZES

Frame-poles	Hole in the foot K [mm]	Bolt size
56	6	M5
63	7	M6
71	7	M6
80	10	M8
90	10	M8
100	12	M10
112	12	M10
132	12	M10
160	15	M12
180-2	15	M12
180-4/6/8	15	M12
200-2	19	M16
200-4/6/8	19	M16
225-2	19	M16
225-4/6/8	19	M16
250-2	24	M20
250-4/6/8	24	M20
280-2	24	M20
280-4/6/8	24	M20
315-2	28	M24
315-4/6/8	28	M24
355-2	28	M24
355-4/6/8	28	M24

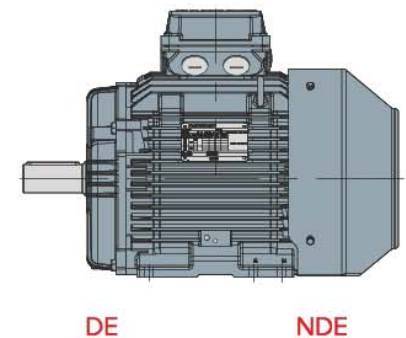
Bolt Size	Grade<8.8 Tightening Torque Nm	Grade≥8.8 Tightening Torque Nm
M4	1.3 Nm	3 Nm
M5	2.6 Nm	5 Nm
M6	4.5 Nm	8 Nm
M8	10 Nm	20 Nm
M10	20 Nm	40 Nm
M12	34 Nm	70 Nm
M16	83 Nm	170 Nm
M20	160 Nm	340 Nm
M24	280 Nm	600 Nm
M30	570 Nm	1200 Nm



Bearing Sizes

These bearing sizes are listed for standard motor execution! Customer specific motors can be fitted with a different bearing arrangement (such as roller bearing at DE and/or insulated bearing at NDE). Always check the motor's nameplate for correct bearing. More information (such as re-lubrication periods) can be found in Maintenance Manual which is available for download in a number of different languages from our website.

Standard Bearing sizes			
Frame Size	Stadard Execution		Optional
	Ball Bearings		Roller bearing
	DE	NDE	DE
80	6204 2Z	6204 2Z	—
90	6205 2Z	6205 2Z	
100	6206 2Z	6206 2Z	
112	6306 2Z	6206 2Z	
132	6308 2Z	6208 2Z	
160	6309 2Z	6209 2Z	NU309
180	6311 2Z	6211 2Z	NU311
200	6312	6212	NU312
225	6313	6213	NU313
250	6314	6314	NU314
280 2p	6314	6314	NU314
280 4-8p	6317	6317	NU317
315 2p	6316	6316	NU316
315 4-8p	6319	6319	NU319
355 2p	6317	6317	NU317
355 4-8p	6322	6322	NU322

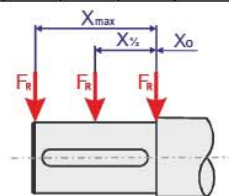


PERMISSIBLE SHAFT FORCES

Standard Ball Bearing				
Maximum Radial Forces Fr [N]				
Size	Poles	Xo	X1/2	Xmax
80	2	709	629	575
	4	664	598	544
90	2	705	633	571
	4	655	589	531
100	2	829	745	673
	4	1084	963	865
112	2	1003	892	803
	4	1182	1052	945
132	2	1311	1168	1052
	4	1579	1409	1271
160	2	1467	1311	1186
	4	1735	1552	1400
180	2	1917	1717	1547
	4	2314	2060	1855
200	2	2149	1908	1721
	4	2488	2212	1989
225	2	2769	2461	2216
	4	2903	2568	2305
250	2	2675	2377	2127
	4	3059	2711	2435
280	2	3451	3059	2747
	4	4018	3630	3304
315	2	3714	3358	3059
	4	4272	3857	3514
355	2	4718	4263	3888
	4	5168	4678	4272
400	2	4941	4499	4125
	4	5222	4646	4174
450	2	5801	5159	4637
	4	6042	5601	5226
500	2	6078	5850	5610
	4	7955	7286	6720
560	2	9043	8285	7647
	4	9302	8642	8062
630	2	10751	9984	9324
	4	10751	9984	9324



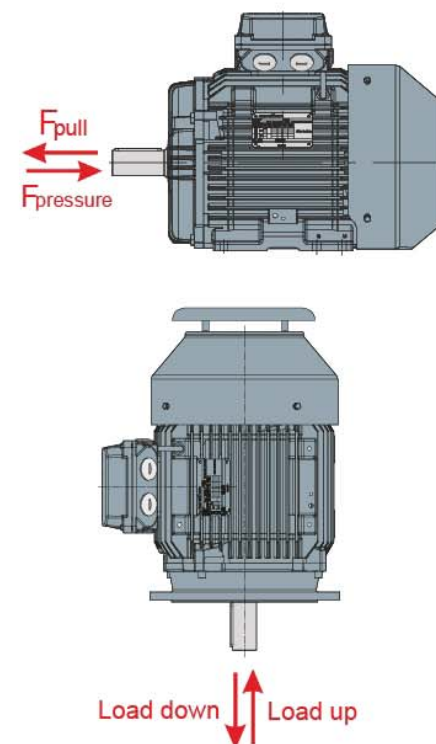
Optional Roller Bearing				
Maximum Radial Forces Fr [N]				
Size	Poles	Xo	X1/2	Xmax
160	2	7514	6666	5993
	4	7295	6466	5806
180	2	8231	7295	6550
	4	9047	8017	7201
200	2	10639	9623	8780
	4	10095	9128	8330
225	2	11696	10577	9654
	4	12762	11540	10532
250	2	11036	9988	9123
	4	10983	9944	9079
280	2	12454	11273	10296
	4	13596	12303	11237
315	2	13738	12530	11522
	4	13235	11785	10622
355	2	15143	13489	12155
	4	16548	14737	13284
400	2	15232	13725	12485
	4	14479	13074	11910
450	2	16731	15107	13761
	4	18041	16294	14853
500	2	15183	13930	12847
	4	21484	19687	18184
560	2	24440	22420	20699
	4	26777	24561	22674
630	2	19263	17903	16722
	4	24543	22492	20757
710	2	28048	25693	23713
	4	30830	28248	26077
800	2	21627	20333	19183
	4	33523	31142	29073
900	2	37193	34540	32262
	4	41220	38268	35753



The table shows the Permissible Radial Forces in [N], assuming zero axial force and standard ball bearings or optional roller bearings when higher radial forces are required. The values are based on normal conditions at 50Hz and calculated for 20,000 working hours for 2pole motors and 40,000 working hours for 4, 6 & 8p motors. Reduce the values by 10% for 60Hz speeds.

Maximum Axial Forces [N]					
Frame size	Poles	Fpressure	Fpull	V1 Load up	V1 Load down
80	2	659	392	694	369
	4	633	375	691	339
90	2	785	334	847	294
	4	763	312	843	290
100	2	865	415	954	361
	4	997	553	1084	495
112	2	959	513	1097	419
	4	1117	669	1244	584
132	2	1240	794	1378	709
	4	1356	908	1454	847
160	2	1302	856	1458	758
	4	1534	1088	1682	1003
180	2	1712	1266	1877	1173
	4	1922	1333	2105	1215
200	2	1842	1249	2145	1057
	4	2149	1565	2439	1382
225	2	2421	1824	2698	1654
	4	2234	1833	2693	1543
250	2	2123	1721	2751	1320
	4	2488	2087	3193	1650
280	2	2840	2439	3523	2020
	4	2939	2493	3523	2123
315	2	2796	2350	3554	1873
	4	3300	2854	4227	2274
355	2	3759	3313	4629	2778
	4	3166	2720	4004	2180
400	2	3099	2653	4183	1958
	4	3692	3246	4901	2484
450	2	4169	3723	5525	2885
	4	3723	3077	4851	2350
500	2	3500	2836	4909	1944
	4	4165	3514	5792	2484
560	2	4704	4053	6341	3037
	4	4085	3434	5663	2426
630	2	4165	3068	6055	1565
	4	4486	3839	6992	2256
710	2	5039	4383	7705	2711
	4	3933	3277	6171	1855
800	2	4646	3755	8017	1552
	4	5560	4655	9123	2368
900	2	6314	5413	10033	3050
	4	4562	3679	7897	1516
1000	2	5204	4000	9623	1079
	4	6252	5048	10889	2042
1120	2	7143	5931	11750	2988
	4	4522	3621	9498	375
1250	2	6403	5003	13547	2725*
	4	7326	5922	15241	3665*
1400	2	8432	7028	16343	5262*
	4	8432	7028	16343	5262*

The table shows the Permissible Axial Forces in [N] (assuming zero radial force) when standard ball bearings are fitted. When higher Axial Forces are required Angular Contact Bearings should be fitted. The values are based on normal conditions at 50Hz and calculated at 20,000 working hours for 2pole motors and 40,000 hours for 4, 6 & 8pole motors. Reduce the values by 10% for 60Hz speeds. Fpressure is calculated for fixed bearing at the DE.



* Valid for 20K hours of Bearing life

TECHNICAL DATA - 2 POLE MOTORS

3000rpm, 2-pole, 50Hz, IP55, Insulation F/B

Part No (B3)	TYPE	Output	Frame Size	Speed	Rated current	Power Factor	Efficiency	Rated	Ratios			Moment of Inertia	Weight
		Nominal		rpm	380 V	100%Load	100%Load	torque	Starting	Starting	B/down		
		kW			A	cosφ	%	Nm	current	torque	torque		
QCAP751AF111GAA002	QCA 80MA02	0.75	80M	2880	1.64	0.83	83.5	2.49	7.4	2.5	3.2	0.0016	20.5
QCA1P11AF111GAA002	QCA 80MB02	1.1	80M	2880	2.36	0.83	85.2	3.65	7.8	2.7	3.3	0.0018	21.5
QCA1P51AF111GAA002	QCA 90S02	1.5	90S	2900	3.17	0.83	86.5	4.94	8.7	2.4	3.2	0.0024	26.0
QCA2P21AF111GAA002	QCA 90L02	2.2	90L	2895	4.47	0.85	88	7.26	8.9	2.5	3.3	0.003	29.0
QCA0031AF111GAA002	QCA 100LA02	3	100L	2885	5.88	0.87	89.1	9.93	8.9	2.8	3.2	0.0052	42.5
QCA0041AF111GAA002	QCA 112M02	4	112M	2925	7.59	0.89	90	13.1	8.9	2.3	3.2	0.0126	52.5
QCA5P51AF111GAA002	QCA 132SA02	5.5	132S	2940	10.6	0.87	90.9	17.9	8.6	2.4	3.2	0.0199	79.5
QCA7P51AF111GAA002	QCA 132SB02	7.5	132S	2940	14.0	0.89	91.7	24.4	8.8	2.4	3.2	0.0252	89.0
QCA0111AF111GAA002	QCA 160MB02	11	160M	2960	20.5	0.88	92.6	35.5	8.8	2.4	3.2	0.0839	158
QCA0151AF111GAA002	QCA 160MC02	15	160M	2955	27.4	0.89	93.3	48.5	8.9	2.5	3.2	0.0966	171
QCA18P1AF111GAA002	QCA 160LA02	18.5	160L	2955	33.3	0.90	93.7	59.8	8.8	2.4	3.2	0.1077	188
QCA0221AF111GAA002	QCA 180M02	22	180M	2963	40.4	0.88	94.0	70.9	7.4	2.2	3.3	0.1801	247
QCA0301AF111GAA002	QCA 200LA02	30	200L	2973	55.4	0.87	94.5	96.4	7.4	2.1	3.1	0.3060	307
QCA0371AF111GAA002	QCA 200LB02	37	200L	2973	67.4	0.88	94.8	119	7.4	2.2	3.1	0.3502	333
QCA0451AF111GAA002	QCA 225MA02	45	225M	2978	80.9	0.89	95.0	144	8.2	2.6	3.2	0.4855	435
QCA0551AF111GAA002	QCA 250MA02	55	250M	2980	98.5	0.89	95.3	176	7.9	2.3	3.4	0.7846	564
QCA0751AF111GAA002	QCA 280S02	75	280S	2982	134	0.89	95.6	240	8	2.3	3.2	1.3925	787
QCA0901AF111GAA002	QCA 280MA02	90	280M	2980	160	0.89	95.8	288	7.5	2.2	3.1	1.5530	856
QCA1101AF111GAA002	QCA 315S02	110	315S	2982	196	0.89	96	352	7.1	2.0	3.2	2.3582	1028
QCA1321AF111GAA002	QCA 315MB02	132	315M	2982	234	0.89	96.2	423	7.2	2.1	3.2	2.5544	1073
QCA1601AF111GAA002	QCA 315LA02	160	315L	2982	284	0.89	96.3	512	7.2	2.1	3.3	2.8294	1182
QCA1801AF111GAA002	QCA 315LB02	180	315L	2982	319	0.89	96.4	576	7.3	2.1	3.3	3.0982	1245
QCA2001AF111GAA002	QCA 315LC02	200	315L	2982	354	0.89	96.5	641	7.2	2.2	3.3	3.2219	1278
QCA2251AF111GAA002	QCA 355MA02	225	355M	2985	394	0.90	96.5	720	8.3	2.0	3.3	4.9895	1935
QCA2501AF111GAA002	QCA 355M02	250	355M	2984	437	0.90	96.5	800	8.3	2.0	3.3	5.1256	1965
QCA2801AF111GAA002	QCA 355LA02	280	355L	2985	490	0.90	96.5	896	8.4	2.0	3.0	5.5168	2002

cast iron motors

TECHNICAL DATA - 2 POLE MOTORS

3000rpm, 2-pole, 50Hz, IP55, Insulation F/B

Part No (B3)	TYPE	Output	Frame Size	Speed rpm	Rated current	Power Factor	Efficiency	Rated torque Nm	Ratios			Moment of Inertia kgm ²	Weight kg
		Nominal kW			380 V A	100%Load cos ϕ	100%Load %		Starting current	Starting torque	B/down torque		
QCA3151AF111GAA002	QCA 355LB02	315	355L	2985	551	0.90	96.5	1008	8.5	2.3	3.3	5.9870	2147
QCA3551AF111GAA002	QCA 355LC02	355	355L	2985	621	0.90	96.5	1136	7.9	2.0	3.0	5.9870	2147
QCA3751AF111GAA002	QCA 355LD02	375	355L	2984	656	0.90	96.5	1200	7.6	1.8	2.8	5.9870	2147

Standard voltages

Up to 3kW inclusive – 220V Delta / 380V Star $\pm 10\%$ 3ph 50Hz

From 4kW
– 380V Delta / 660V Star $\pm 10\%$ 3ph 50Hz
– 460V Delta $\pm 5\%$ 3ph 60Hz

Insulation class F/B – inverter ready
3x PTCs in winding as standard
Ambient temperature -20°C to +40°C
Altitude up to 1000m
Continuous duty cycle - S1



TECHNICAL DATA - 4 POLE MOTORS

1500rpm, 4-pole, 50Hz, IP55, Insulation F/B

Part No (B3)	TYPE	Output	Frame Size	Speed rpm	Rated current	Power Factor	Efficiency	Rated	Ratios			Moment of Inertia kgm ²	Weight kg
		Nominal			380 V	100%Load	100%Load	torque	Starting	Starting	B/down		
		kW			A	cosφ	%	Nm	current	torque	torque		
QCAP752AF111GAA002	QCA 80MB04	0.75	80M	1440	1.80	0.74	85.7	4.97	6.7	2.5	3.2	0.0030	24.5
QCA1P12AF111GAA002	QCA 90S04	1.1	90S	1450	2.52	0.76	87.2	7.24	7.3	2.6	3.2	0.0052	29.5
QCA1P52AF111GAA002	QCA 90L04	1.5	90L	1455	3.45	0.75	88.2	9.85	8.1	2.8	3.2	0.0063	32.5
QCA2P22AF111GAA002	QCA 100LA04	2.2	100L	1460	4.79	0.78	89.5	14.4	8.2	2.4	3.2	0.0125	41.0
QCA0032AF111GAA002	QCA 100LB04	3	100L	1460	6.30	0.80	90.4	19.6	8.8	2.5	3.2	0.0169	48.5
QCA0042AF111GAA002	QCA 112MB04	4	112M	1460	8.24	0.81	91.1	26.2	8.8	2.2	3.2	0.0249	63.5
QCA5P52AF111GAA002	QCA 132S04	5.5	132S	1470	11.4	0.80	91.9	35.7	7.4	2.3	3.1	0.0476	87.0
QCA7P52AF111GAA002	QCA 132M04	7.5	132M	1470	15.4	0.80	92.6	48.7	7.5	2.4	3.2	0.0579	97.0
QCA0112AF111GAA002	QCA 160MB04	11	160M	1475	21.8	0.82	93.3	71.2	8.2	2.5	3.2	0.1331	157
QCA0152AF111GAA002	QCA 160LA04	15	160L	1475	28.9	0.84	93.9	97.1	8.4	2.5	3.2	0.1792	192
QCA18P2AF111GAA002	QCA 180M04	18.5	180M	1479	35.9	0.83	94.2	119	7.6	2.3	3.1	0.2410	231
QCA0222AF111GAA002	QCA 180LA04	22	180L	1480	42.6	0.83	94.5	142	8.2	2.5	3.2	0.2767	257
QCA0302AF111GAA002	QCA 200LA04	30	200L	1485	56.5	0.85	94.9	193	8.8	2.5	3.2	0.5982	317
QCA0372AF111GAA002	QCA 225S04	37	225S	1485	70.3	0.84	95.2	238	8.4	2.5	3.1	0.7702	414
QCA0452AF111GAA002	QCA 225MA04	45	225M	1485	84.3	0.85	95.4	289	8.4	2.5	3.1	0.8148	427
QCA0552AF111GAA002	QCA 250MA04	55	250M	1488	103	0.85	95.7	353	8.0	2.4	3.1	1.6850	598
QCA0752AF111GAA002	QCA 280S04	75	280S	1490	136	0.87	96.0	481	6.9	2.2	3.0	2.6005	785
QCA0902AF111GAA002	QCA 280MA04	90	280M	1490	164	0.87	96.1	577	6.9	2.2	3.0	2.8284	837
QCA1102AF111GAA002	QCA 315S04	110	315S	1490	202	0.86	96.3	705	7.9	2.3	3.1	4.0682	1063
QCA1322AF111GAA002	QCA 315MB04	132	315M	1490	242	0.86	96.4	846	7.8	2.3	3.1	4.3265	1103
QCA1602AF111GAA002	QCA 315LA04	160	315L	1490	289	0.87	96.6	1026	7.9	2.3	3.1	5.3723	1298
QCA1802AF111GAA002	QCA 315LB04	180	315L	1490	325	0.87	96.6	1154	7.7	2.3	3.1	5.4756	1317
QCA2002AF111GAA002	QCA 315LC04	200	315L	1489	361	0.87	96.7	1283	7.3	2.2	3	5.4756	1317
QCA2252AF111GAA002	QCA 355MA04	225	355M	1491	402	0.88	96.7	1441	7.4	2.0	2.8	9.0207	1838
QCA2502AF111GAA002	QCA 355M04	250	355M	1491	446	0.88	96.7	1601	7.4	2.0	2.8	9.5981	1873
QCA2802AF111GAA002	QCA 355LA04	280	355L	1491	500	0.88	96.7	1793	7.4	2.0	2.8	9.9830	1914

cast iron motors

TECHNICAL DATA - 4 POLE MOTORS

1500rpm, 4-pole, 50Hz, IP55, Insulation F/B

Part No (B3)	TYPE	Output	Frame Size	Speed	Rated current	Power Factor	Efficiency	Rated	Ratios			Moment of Inertia	Weight
		Nominal		rpm	380 V	100%Load	100%Load	torque	Starting	Starting	B/down	kgm ²	kg
		kW			A	cos ϕ	%	Nm	current	torque	torque		
QCA3152AF111GAA002	QCA 355LB04	315	355L	1490	562	0.88	96.7	2019	6.9	1.9	2.5	9.9830	1914
QCA3552AF111GAA002	QCA 355LC04	355	355L	1491	627	0.89	96.7	2274	7.4	2.0	2.8	11.5226	2065
QCA3552AF111GAA002	QCA 355LD04	375	355L	1491	662	0.89	96.7	2402	7.4	2.0	2.7	12.2923	2095

Standard voltages

Up to 3kW inclusive – 220V Delta / 380V Star $\pm 10\%$ 3ph 50Hz

From 4kW
 – 380V Delta / 660V Star $\pm 10\%$ 3ph 50Hz
 – 460V Delta $\pm 5\%$ 3ph 60Hz

Insulation class F/B – inverter ready
 3x PTCs in winding as standard
 Ambient temperature -20°C to +40°C
 Altitude up to 1000m
 Continuous duty cycle - S1



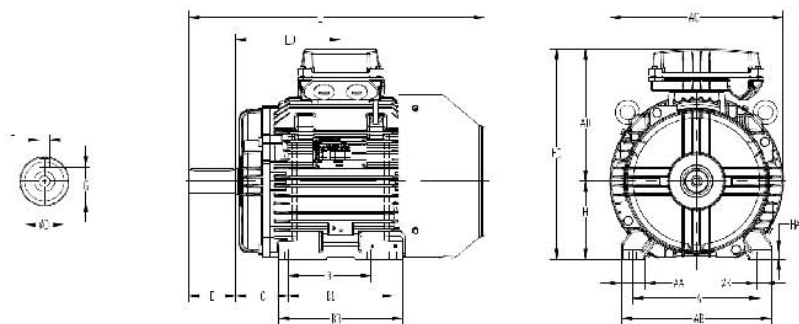
TECHNICAL DATA - 6 POLE MOTORS

1000rpm, 6-pole, 50Hz, IP55, Insulation F/B

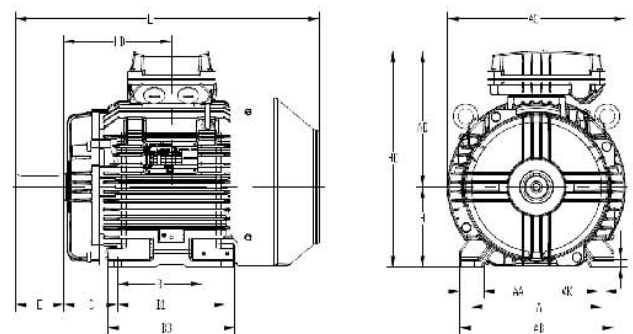
Part No (B3)		Output	Frame Size	Speed	Rated current	Power Factor	Efficiency	Rated	Ratios			Moment of Inertia	Weight
	TYPE	Nominal		rpm	380 V	100%Load	100%Load	torque	Starting	Starting	B/down	kgm ²	kg
		kW			A	cosφ	%	Nm	current	torque	torque		
QCAP753AF111GAA002	QCA 90S06	0.75	90S	946	2.03	0.68	82.7	7.57	5.6	2.5	3.0	0.0052	29.0
QCA1P13AF111GAA002	QCA 90L06	1.1	90L	945	2.91	0.68	84.5	11.1	5.6	2.5	3.0	0.0068	33.5
QCA1P53AF111GAA002	QCA 100L06	1.5	100L	970	3.68	0.72	85.9	14.8	6.9	2.2	2.8	0.0241	46.5
QCA2P23AF111GAA002	QCA 112M06	2.2	112M	965	5.31	0.72	87.4	21.8	7.6	2.5	2.8	0.0226	57.0
QCA0033AF111GAA002	QCA 132SA06	3	132S	975	6.95	0.74	88.6	29.4	7.2	2.0	2.5	0.0536	77.0
QCA0043AF111GAA002	QCA 132MA06	4	132M	975	9.30	0.73	89.5	39.2	7.4	2.0	2.5	0.0660	85.0
QCA5P53AF111GAA002	QCA 132MB06	5.5	132M	980	12.5	0.74	90.5	53.6	7.6	2.1	2.6	0.0868	100.0
QCA7P53AF111GAA002	QCA 160M06	7.5	160M	980	15.8	0.79	91.3	73.1	6.8	2.1	2.6	0.1626	149
QCA0113AF111GAA002	QCA 160LB06	11	160L	980	23.5	0.77	92.3	107	7.7	2.4	2.8	0.2398	190
QCA0153AF111GAA002	QCA 180LA06	15	180L	985	31.1	0.79	92.9	145	7.8	2.4	3.0	0.4279	268
QCA18P3AF111GAA002	QCA 200LA06	18.5	200L	985	37.6	0.80	93.4	179	6.8	2.2	2.6	0.6664	293
QCA0223AF111GAA002	QCA 200LB06	22	200L	985	44.6	0.80	93.7	213	6.8	2.1	2.5	0.7703	319
QCA0303AF111GAA002	QCA 225MA06	30	225M	988	59.7	0.81	94.2	290	8.0	2.5	3.2	1.2532	447
QCA0373AF111GAA002	QCA 250MA06	37	250M	988	73.4	0.81	94.5	358	7.3	2.5	3.0	1.9403	519
QCA0453AF111GAA002	QCA 280S06	45	280S	990	88.0	0.82	94.8	434	7.3	2.2	2.8	2.7750	671
QCA0553AF111GAA002	QCA 280MA06	55	280M	990	105	0.84	95.1	531	7.5	2.2	2.8	3.2641	743
QCA0753AF111GAA002	QCA 315S06	75	315S	990	144	0.83	95.4	723	6.9	1.9	2.5	3.9975	890
QCA0903AF111GAA002	QCA 315MA06	90	315M	990	172	0.83	95.6	868	6.9	2.1	2.6	4.6216	963
QCA1103AF111GAA002	QCA 315LA06	110	315L	990	210	0.83	95.8	1061	6.9	2.1	2.6	5.6743	1110
QCA1323AF111GAA002	QCA 315LC06	132	315L	992	252	0.83	96.0	1271	6.9	2.1	2.6	6.5064	1197
QCA1603AF111GAA002	QCA 355MA06	160	355M	992	301	0.84	96.2	1540	6.9	1.9	2.8	9.9148	1737
QCA1803AF111GAA002	QCA 355M06	180	355M	992	338	0.84	96.2	1733	7.3	2.1	2.8	11.5959	1877
QCA2003AF111GAA002	QCA 355MB06	200	355M	992	376	0.84	96.3	1925	7.1	2.2	2.8	11.5959	1877
QCA2253AF111GAA002	QCA 355LA06	225	355L	992	417	0.85	96.4	2166	7.3	2.1	2.8	13.2769	2040
QCA2503AF111GAA002	QCA 355LB06	250	355L	992	463	0.85	96.5	2407	7.3	2.1	2.8	15.0701	2180
QCA2803AF111GAA002	QCA 355LC06	280	355L	992	518	0.85	96.6	2696	7.3	2.1	2.8	15.0701	2180

cast iron motors

MOUNTING AND OVERALL DIMENSIONS



H80-H132



H160-H355

Frame size		Poles	KW	Mounting dimensions (mm)										Overall dimensions (mm)								
				A	B	B1	C	D	E	F	G	H	K	AA	AB	AC	AD	HA	HD	BB	LD	L
80MA	QCA	2	0.75	125	100	-	50	19	40	6	15.5	80	10	30	152	182	161	9	241	125	100	282
80MB	QCA	2	1.1	125	100	-	50	19	40	6	15.5	80	10	30	152	182	161	9	241	125	100	282
80MB	QCA	4	0.75	125	100	-	50	19	40	6	15.5	80	10	30	152	182	161	9	241	150	112.5	307
90S	QCA	2	1.5	140	100	125	56	24	50	8	20	90	10	35	165	199	169	9	259	150	119	332
90L	QCA	2	2.2	140	125	-	56	24	50	8	20	90	10	35	165	199	169	9	259	182	135	364
90S	QCA	4	1.1	140	100	125	56	24	50	8	20	90	10	35	165	199	169	9	259	150	119	332
90L	QCA	4	1.5	140	125	-	56	24	50	8	20	90	10	35	165	199	169	9	259	182	135	364
90S	QCA	6	0.75	140	100	125	56	24	50	8	20	90	10	35	165	199	169	9	259	150	119	332
90L	QCA	6	1.1	140	125	-	56	24	50	8	20	90	10	35	165	199	169	9	259	182	135	364
100LA	QCA	2	3	160	140	-	63	28	60	8	24	100	12	32	192	229	183	13	283	170	133	398
100LA	QCA	4	2.2	160	140	-	63	28	60	8	24	100	12	32	192	229	183	13	283	170	133	398
100LB	QCA	4	3	160	140	-	63	28	60	8	24	100	12	32	192	229	183	13	283	210	153	438
100L	QCA	6	1.5	160	140	-	63	28	60	8	24	100	12	32	192	229	183	13	283	210	153	438
112M	QCA	2	4	190	140	-	70	28	60	8	24	112	12	38	222	256	194	12	306	170	140	399
112MB	QCA	4	4	190	140	-	70	28	60	8	24	112	12	38	222	256	194	12	306	226	178	475
112M	QCA	6	2.2	190	140	-	70	28	60	8	24	112	12	38	222	256	194	12	306	226	178	475
132SA	QCA	2	5.5	216	140	-	89	38	80	10	33	132	12	40	255	295	227	13	359	172	159	465
132SB	QCA	2	7.5	216	140	178	89	38	80	10	33	132	12	40	255	295	227	13	359	210	178	503

MOUNTING AND OVERALL DIMENSIONS

Frame size		Ploes	KW	Mounting dimensions (mm)										Overall dimensions (mm)									
				A	B	B1	C	D	E	F	G	H	K	AA	AB	AC	AD	HA	HD	BB	LD	L	
132S	QCA	4	5.5	216	140	178	89	38	80	10	33	132	12	40	255	295	227	13	359	210	178	503	
132M	QCA	4	7.5	216	140	178	89	38	80	10	33	132	12	40	255	295	227	13	359	235	178	553	
132SA	QCA	6	3	216	140	-	89	38	80	10	33	132	12	40	255	295	227	13	359	172	159	465	
132MA	QCA	6	4	216	140	178	89	38	80	10	33	132	12	40	255	295	227	13	359	210	178	503	
132MB	QCA	6	5.5	216	140	178	89	38	80	10	33	132	12	40	255	295	227	13	359	235	178	553	
160MB	QCA	2	11	254	210	-	108	42	110	12	37	160	14.5	65	315	352	260	22	420	288	235.5	622	
160MC	QCA	2	15	254	210	254	108	42	110	12	37	160	14.5	65	315	352	260	22	420	288	235.5	666	
160LA	QCA	2	18.5	254	210	254	108	42	110	12	37	160	14.5	65	315	352	260	22	420	288	235.5	686	
160MB	QCA	4	11	254	210	-	108	42	110	12	37	160	14.5	65	315	352	260	22	420	288	235.5	622	
160LA	QCA	4	15	254	210	254	108	42	110	12	37	160	14.5	65	315	352	260	22	420	288	235.5	666	
160M	QCA	6	7.5	254	210	-	108	42	110	12	37	160	14.5	65	315	352	260	22	420	288	235.5	622	
160LB	QCA	6	11	254	210	254	108	42	110	12	37	160	14.5	65	315	352	260	22	420	288	235.5	666	
180M	QCA	2	22	279	241	279	121	48	110	14	42.5	180	14.5	75	354	399	281	28	461	360	188.5	750	
180M	QCA	4	18.5	279	241	279	121	48	110	14	42.5	180	14.5	75	354	399	281	28	461	360	188.5	750	
180LA	QCA	4	22	279	241	279	121	48	110	14	42.5	180	14.5	75	354	399	281	28	461	360	188.5	775	
180LA	QCA	6	15	279	241	279	121	48	110	14	42.5	180	14.5	75	354	399	281	28	461	360	188.5	775	
200LA	QCA	2	30	318	305	-	133	55	110	16	49	200	18.5	80	398	446	330	26	530	361	186.5	769	
200LB	QCA	2	37	318	305	-	133	55	110	16	49	200	18.5	80	398	446	330	26	530	361	186.5	789	
200LA	QCA	4	30	318	305	-	133	55	110	16	49	200	18.5	80	398	446	330	26	530	361	186.5	789	
200LA	QCA	6	18.5	318	305	-	133	55	110	16	49	200	18.5	80	398	446	330	26	530	361	186.5	769	
200LB	QCA	6	22	318	305	-	133	55	110	16	49	200	18.5	80	398	446	330	26	530	361	186.5	769	
225MA	QCA	2	45	356	286	311	149	55	110	16	49	225	18.5	90	446	491	355	28	580	405	195.5	876.5	
225S	QCA	4	37	356	286	311	149	60	140	18	53	225	18.5	90	446	491	355	28	580	405	195.5	862	
225MA	QCA	4	45	356	286	311	149	60	140	18	53	225	18.5	90	446	491	355	28	580	405	195.5	862	
225MA	QCA	6	30	356	286	311	149	60	140	18	53	225	18.5	90	446	491	355	28	580	405	195.5	862	
250MA	QCA	2	55	406	349	-	168	60	140	18	53	250	24	100	506	542	398	35	648	428	211	941	
250MA	QCA	4	55	406	349	-	168	65	140	18	58	250	24	100	506	542	398	35	648	428	211	970	
250MA	QCA	6	37	406	349	-	168	65	140	18	58	250	24	100	506	542	398	35	648	428	211	941	
280S	QCA	2	75	457	368	-	190	65	140	18	58	280	24	100	557	595	421	37.5	701	519	211	1060	
280MA	QCA	2	90	457	368	419	190	65	140	18	58	280	24	100	557	595	421	37.5	701	570	226.5	1111	
280S	QCA	4	75	457	368	-	190	75	140	20	67.5	280	24	100	557	595	421	37.5	701	519	226.5	1060	
280MA	QCA	4	90	457	368	419	190	75	140	20	67.5	280	24	100	557	595	421	37.5	701	570	226.5	1111	
280S	QCA	6	45	457	368	-	190	75	140	20	67.5	280	24	100	557	595	421	37.5	701	519	226.5	1060	

MOUNTING AND OVERALL DIMENSIONS

Frame size		Ploes	KW	Mounting dimensions (mm)										Overall dimensions (mm)								
				A	B	B1	C	D	E	F	G	H	K	AA	AB	AC	AD	HA	HD	BB	LD	L
280MA	QCA	6	55	457	368	419	190	75	140	20	67.5	280	24	100	557	595	421	37.5	701	570	226.5	1111
315S	QCA	2	110	508	406	457	216	65	140	18	58	315	28	120	628	652	519	48.5	834	607	236	1176
315MB	QCA	2	132	508	406	457	216	65	140	18	58	315	28	120	628	652	519	48.5	834	607	236	1176
315LA	QCA	2	160	508	457	508	216	65	140	18	58	315	28	120	628	652	519	48.5	834	718	236	1287
315LB	QCA	2	200	508	457	508	216	65	140	18	58	315	28	120	628	652	519	48.5	834	718	236	1287
315S	QCA	4	110	508	406	457	216	80	170	22	71	315	28	120	628	652	519	48.5	834	607	236	1206
315MB	QCA	4	132	508	406	457	216	80	170	22	71	315	28	120	628	652	519	48.5	834	607	236	1206
315LA	QCA	4	160	508	457	508	216	80	170	22	71	315	28	120	628	652	519	48.5	834	718	236	1317
315LB	QCA	4	200	508	457	508	216	80	170	22	71	315	28	120	628	652	519	48.5	834	718	236	1317
315S	QCA	6	75	508	406	457	216	80	170	22	71	315	28	120	628	652	519	48.5	834	607	236	1206
315MB	QCA	6	90	508	406	457	216	80	170	22	71	315	28	120	628	652	519	48.5	834	607	236	1206
315LA	QCA	6	110	508	457	508	216	80	170	22	71	315	28	120	628	652	519	48.5	834	718	236	1317
315LC	QCA	6	132	508	457	508	216	80	170	22	71	315	28	120	628	652	519	48.5	834	718	236	1317
355M/L	QCA	2	225~375	610	560	630	254	75	140	20	67.5	355	28	120	730	762	642	48	997	770	291.5	1512
355M/L	QCA	468	160~375	610	560	630	254	95	170	25	86	355	28	120	730	762	642	48	997	770	291.5	1542

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