

marathon[™]
Motors

**Marathon Low Voltage
Smoke Spill Motor**



TCS Motor

A Regal Brand

REGAL

Regal Beloit Wuxi Introduction

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 is one of the major industrial motor manufacturing enterprises in Regal Group.

Regal Wuxi has a total asset of 80 million US dollars, more than 800 employees, over 400 sets of main equipments, annual output of 6Million kW, has the test capacity up to 5000KW. The company has passed ISO9001:2012 quality system certification.

The Marathon motors which use USA technology, has a hundred year history. It is Regal-Beloit Group's famous motor brand. Marathon motors produced by Regal Wuxi comply with IEC standards and USA NEMA standards . Relying on technology innovation, the marathon has become a leader in the field of electric motor with its outstanding quality, excellent performance and high efficiency and energy saving.



Marathon Electric History

Marathon Electric has been a widely used manufacturer in the world of commercial and industrial motor design and high technology products since 1913.

The marathon is the world's leading AC frequency conversion motor drive equipment manufacturers' favor. MicroMax, Blue Max and Black MAX is widely used in motor control pump, drive fan and fan, transmission machine operation areas, even many fields need higher requirements of high performance and reliability. Marathon electrical join RegalBeloit Corporation in 1997.

Marathon, Wausau corporate was founded in 1913



Headquarter of Marathon USA



Marathon Motors Features

- ◆ USA technology, a hundred years of manufacturing history
- ◆ Cast iron and steel structure
- ◆ The junction box can be amplified, oil bearing structure
- ◆ Class F/H insulation, unique insulation system, VPI process
- ◆ International brand bearings, high quality silicon steel sheet
- ◆ High efficient energy-saving environmental protection type motor, can provide NEMA Premium TM ultra high performance products
- ◆ Available customized products

Marathon-A Global Electric Motors Manufacturing and Logistics



Main Features

HT200 gray cast iron shell
H grade insulation class
Excellent stator dipping process
IE3 efficiency
Paint color fire red RAL3001
Comply with standard GA211,EN12101-3

Design Highlights

2 meters long wire, metal screw sets
Flexible structure, providing junction box, self cooling fan optional
B3, B5, B35 installation form, 80-132 provides B34, B14 installation
Reliable insulation system
High temperature bearing

Product Range

Frame size 80-355, 0.75kW-355kW

Applicable Environment and Operating Conditions

Short-time high temperature operation

Frame size	Environment temperature	Duration	Insulation level
80-355	300°	2小时	H

Normal condition

- Altitude: less than 1000m above sea level
- Ambient temperature: below 40°C
- Working voltage and rated frequency:
220~240V; 380~420V 50Hz
380~420V; 660~690V 50Hz

Basic

Protection level: IP55

Cooling mode: IC410/IC411

Installation: B5 B35 B14 B34 B3

Color: RAL3001

Supply Power

Voltage variable +5%,

Frequency variable +2%,

Combined voltage and frequency variable +5%

Information for Ordering

Please specify the motor rated output, synchronous speed, voltage, frequency, mounting type, rotation (seeing from shaft extension). If any special requirement, for example, non-standard output, non-standard voltage, non-standard frequency, non-standard mounting dimension ect. Please specify when in enquiry or directly consult with Regal Wuxi.

Bearing

Deep groove ball bearings, C3 or C4 clearance,
high temperature grease




Junction Box

Standard design does not include the junction box,
but it can be optional.

TTCS Motor Summary

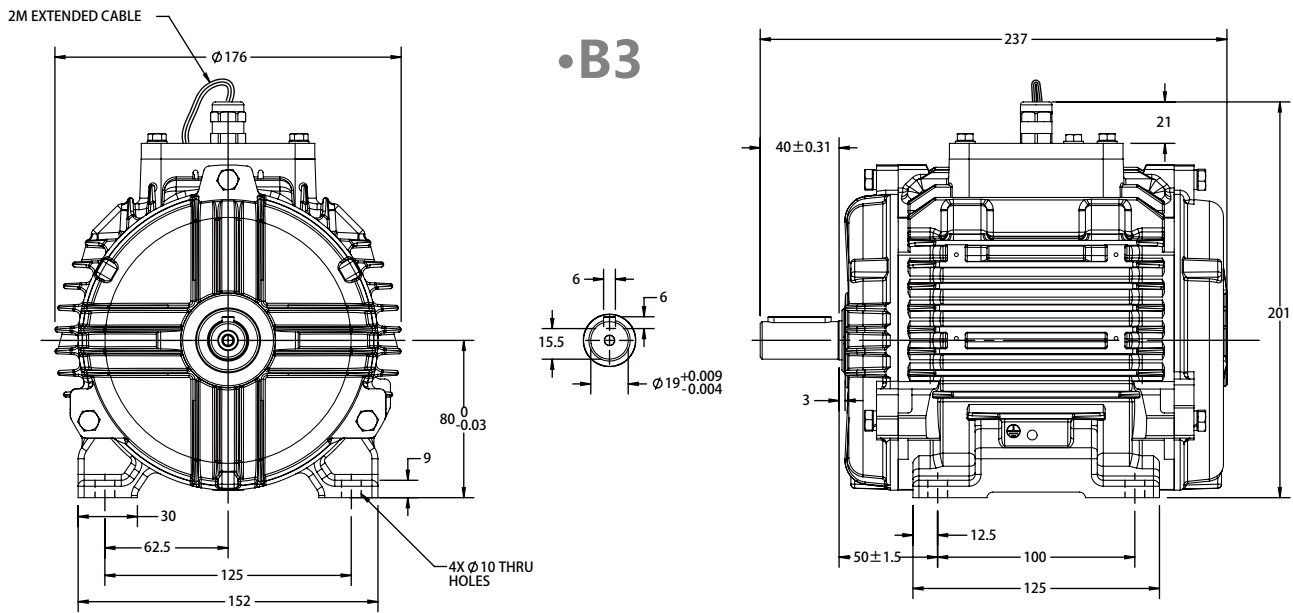
Rating Plate

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 type number, the rated output, the rated voltage, the rated current, frequency, degree of protection, power factor, insulation method and bearing types.

marathon™ Motors		Terra MAX™								
1 3~Mot.Ser.No. 1505C0202				Part No. TCS7P52AF111002						
3 Type TCS 132M04		IP5 55	Ins.cl: 8 H	IC 410	SF 1.0	Duty 6 S1				
9 Volts	Conn ¹⁴	Hz ¹⁰	kW ¹¹	A ¹²	r/min ¹⁵	cosφ ¹³	η% ¹⁶	IE-CL	IM ⁴	B3
380	Δ	50	7.5	15.2	1462	0.83	90.4%	IE3		
660	Y	50	7.5	8.74	1462	0.83	90.4%	IE3		
GB 18613-2012 class 2						300°C 2hrs				
Brgs.	17 6308 ZZ/C3			6208 ZZ/C3 18		YOM 2015.07				
Relub.						7 79.8	kg			
					2 IEC60034					

- 1 Three phase asynchronous motor number
- 2 IEC Standard number
- 3 Motor type number
- 4 Installation method
- 5 Protection Class
- 6 Duty
- 7 Motor weight
- 8 Insulation class
- 9 Rated voltage
- 10 Frequency (Hz)
- 11 Rated output(kW)
- 12 Rated current(A)
- 13 Power factor(cosφ)
- 14 Connection method
- 15 Rated speed
- 16 Efficiency
- 17 Bearing at the drive end
- 18 Bearing at the non-drive end

TCS Motor Summary

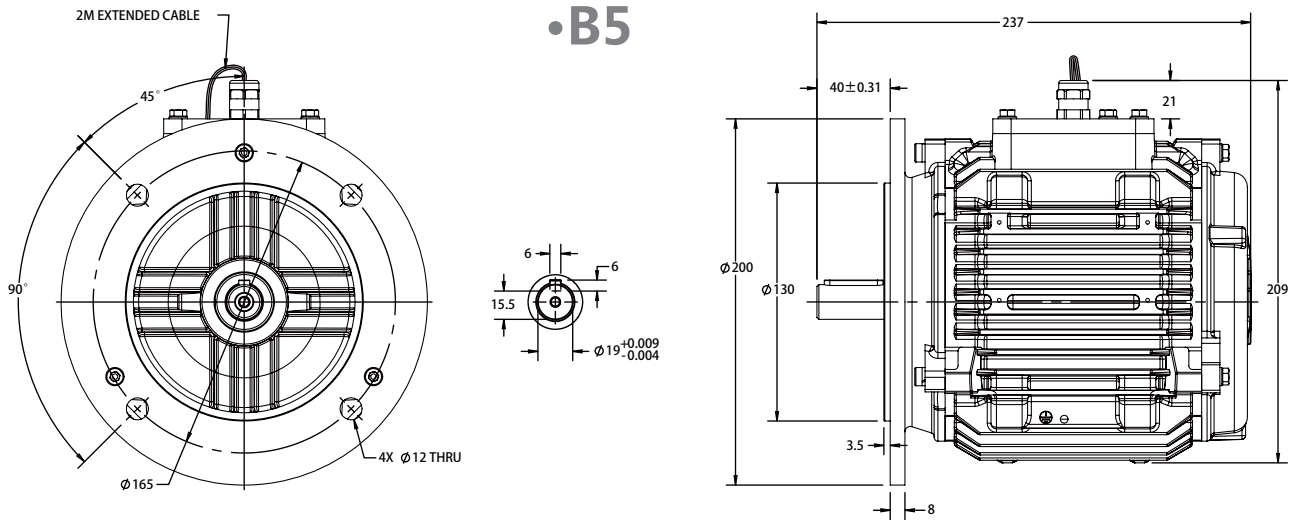


B3 Mounting dimensions (mm)

Frame Size	Poles	Mounting dimensions (mm)									
		A	B	B1	C	D	E	F	G	H	K
80	2~4	125	100	—	50	19	40	6	15.5	80	10
90S	2~6	140	100	—	56	24	50	8	20	90	10
90L	2~6	140	100	—	56	24	50	8	20	90	10
100L	2~6	160	140	—	63	28	60	8	24	100	12
112M	2~6	190	140	—	70	28	60	8	24	112	12
132S	2~6	216	140	—	89	38	80	10	33	132	12
132M	2~6	216	140	—	89	38	80	10	33	132	12
160M	2~6	254	210	—	108	42	110	12	37	160	14.5
160L	2~6	254	210	—	108	42	110	12	37	160	14.5
180M	2~4	279	241	—	121	48	110	14	42.5	180	14.5
180L	4~6	279	241	—	121	48	110	14	42.5	180	14.5
200L	2~6	318	305	—	133	55	110	16	49	200	18.5
225S	4	356	286	—	149	60	140	18	53	225	18.5
225M	2	356	311	—	149	55	110	16	49	225	18.5
	4~6	356	311	—	149	60	140	18	53	225	18.5
250M	2	406	311	349	168	60	140	18	53	250	24
	4~6	406	311	349	168	65	140	18	58	250	24
280S	2	457	368	—	190	65	140	18	58	280	24
	4~6	457	368	—	190	75	140	18	67.3	280	24
280M	2	457	368	419	190	65	140	18	58	280	24
	4~6	457	368	419	190	75	140	18	67.5	280	24
315S- M	2	508	406	457	216	65	140	18	58	315	28
	4~6	508	406	457	216	80	170	22	71	315	28
315M- L	2	508	457	508	216	65	140	18	58	315	28
	4~6	508	457	508	216	80	170	22	71	315	28
355M- L	2	610	560	630	254	75	140	20	67.5	355	28
	4~6	610	560	630	254	95	170	25	86	355	28

B3 Overall dimensions (mm)

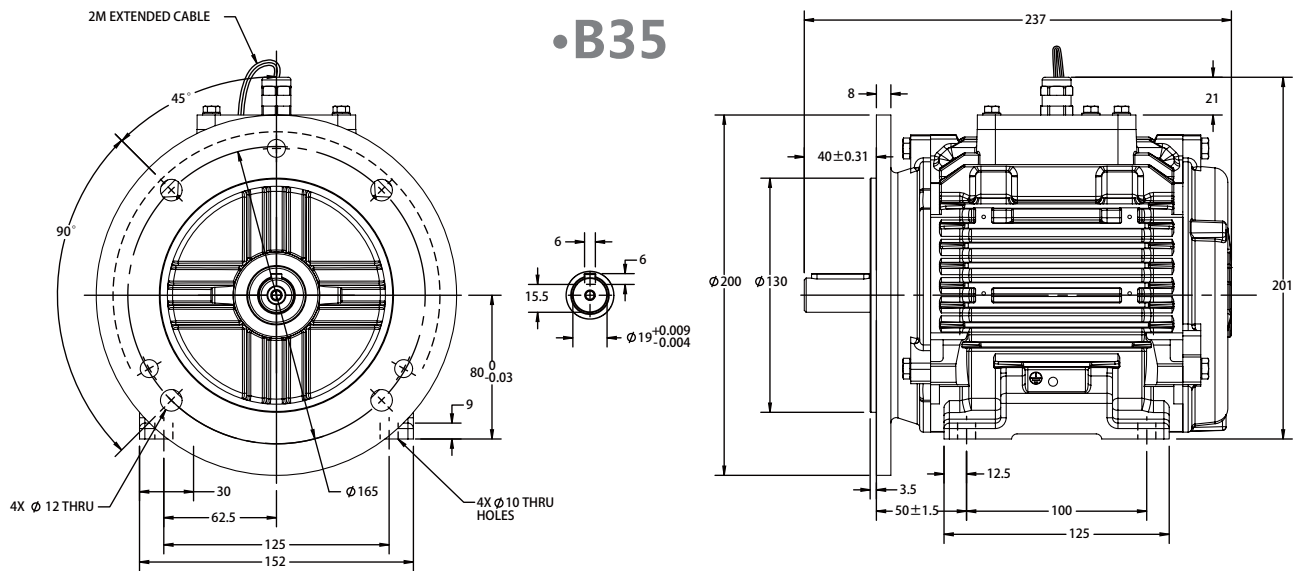
Frame Size	Poles	Overall dimensions (mm)					
		AA	AB	HD	BB	HA	L
80	2~4	30	152	201	125	9	237
90S	2~6	35	165	219	125	9	257
90L	2~6	35	165	219	125	9	282
100L	2~6	32	192	243	170	13	321
112M	2~6	38	222	271	170	12	335
132S	2~6	40	255	313	172	13	393
132M	2~6	40	255	313	172	13	431
160M	2~6	65	315	372	244	22	530
160L	2~6	65	315	372	244	22	574
180M	2~4	75	354	414	322	28	625
180L	4~6	75	354	414	322	28	663
200L	2~6	80	398	478	361	26	690
225S	4	90	446	528	380	28	747
225M	2	90	446	528	405	28	742
	4~6	90	446	528	405	28	772
250M	2	100	506	579	428	35	828
	4~6	100	506	579	428	35	828
280S	2	100	557	633	519	37.5	945
	4~6	100	557	633	519	37.5	945
280M	2	100	557	633	570	37.5	996
	4~6	100	557	633	570	37.5	996
315S, M	2	120	628	682	607	48.5	1036
	4~6	120	628	682	607	48.5	1066
315M, L	2	120	628	682	718	48.5	1147
	4~6	120	628	682	718	48.5	1177
355M, L	2	120	730	784	770	48	1333
	4~6	120	730	784	770	48	1366



B5 Mounting\Overall dimensions (mm)

Frame Size	Poles	Mounting Overall dimensions (mm)											
		D	E	F	G	M	N	P	S	T	HD	LA	L
80	2~4	19	40	6	15.5	165	130	200	4-Φ12	3.5	209	8	237
90S	2~6	24	50	8	20	165	130	200	4-Φ12	3.5	223	8	257
90L	2~6	24	50	8	20	165	130	200	4-Φ12	3.5	223	8	282
100L	2~6	28	60	8	24	215	180	250	4-Φ14.5	4	254	11	321
112M	2~6	28	60	8	24	215	180	250	4-Φ14.5	4	284	11	335
132S	2~6	38	80	10	33	265	230	300	4-Φ15	4	323	12	393
132M	2~6	38	80	10	33	265	230	300	4-Φ15	4	323	12	431
160M	2~6	42	110	12	37	300	250	350	4-Φ18.5	5	382	16	530
160L	2~6	42	110	12	37	300	250	350	4-Φ18.5	5	382	16	574
180M	2~4	48	110	14	42.5	300	250	350	4-Φ18.5	5	429	16	625
180L	4~6	48	110	14	42.5	300	250	350	4-Φ18.5	5	429	16	663
200L	2~6	55	110	16	49	350	300	400	4-Φ18.5	5	495	18	690
225S	4	60	140	18	53	400	350	450	8-Φ18.5	5	545	18	747
225M	2	55	110	16	49	400	350	450	8-Φ18.5	5	545	18	742
	4~6	60	140	18	53	400	350	450	8-Φ18.5	5	545	18	772
250M	2	60	140	18	53	500	450	550	8-Φ18.5	5	596	18	828
	4~6	65	140	18	58	500	450	550	8-Φ18.5	5	596	18	828
280S	2	65	140	18	58	500	450	550	8-Φ18.5	5	642	18	945
	4~6	75	140	20	67.5	500	450	550	8-Φ18.5	5	642	18	945
280M	2	65	140	18	58	500	450	550	8-Φ18.5	5	642	18	996
	4~6	75	140	20	67.5	500	450	550	8-Φ18.5	5	642	18	996
315S- M	2	65	140	18	58	600	550	660	8-Φ24	6	698	22	1036
	4~6	80	170	22	71	600	550	660	8-Φ24	6	698	22	1066
315M- L	2	65	140	18	58	600	550	660	8-Φ24	6	698	22	1147
	4~6	80	170	22	71	600	550	660	8-Φ24	6	698	22	1177
355M- L	2	75	140	20	67.5	740	680	800	8-Φ24	6	819	22	1333
	4~6	95	170	25	86	740	680	800	8-Φ24	6	819	22	1366

TCS Motor Summary



B35 Mounting dimensions (mm)

机座号 Frame Size	极数 Poles	安装尺寸 Mounting dimensions (mm)															
		A	B	B1	C	D	E	F	G	H	K	M	N	P	S	T	
80	2~4	125	100	—	50	19	40	6	15.5	80	10	165	130	200	4-Ø12	3.5	
90S	2~6	140	100	—	56	24	50	8	20	90	10	165	130	200	4-Ø12	3.5	
90L	2~6	140	100	—	56	24	50	8	20	90	10	165	130	200	4-Ø12	3.5	
100L	2~6	160	140	—	63	28	60	8	24	100	12	215	180	250	4-Ø14.5	4	
112M	2~6	190	140	—	70	28	60	8	24	112	12	215	180	250	4-Ø14.5	4	
132S	2~6	216	140	—	89	38	80	10	33	132	12	265	230	300	4-Ø15	4	
132M	2~6	216	140	—	89	38	80	10	33	132	12	265	230	300	4-Ø15	4	
160M	2~6	254	210	—	108	42	110	12	37	160	14.5	300	250	350	4-Ø18.5	5	
160L	2~6	254	210	—	108	42	110	12	37	160	14.5	300	250	350	4-Ø18.5	5	
180M	2~4	279	241	—	121	48	110	14	42.5	180	14.5	300	250	350	4-Ø18.5	5	
180L	4~6	279	241	—	121	48	110	14	42.5	180	14.5	300	250	350	4-Ø18.5	5	
200L	2~6	318	305	—	133	55	110	16	49	200	18.5	350	300	400	4-Ø18.5	5	
225S	4	356	286	—	149	60	140	18	53	225	18.5	400	350	450	8-Ø18.5	5	
225M	2	356	311	—	149	55	110	16	49	225	18.5	400	350	450	8-Ø18.5	5	
	4~6	356	311	—	149	60	140	18	53	225	18.5	400	350	450	8-Ø18.5	5	
250M	2	406	311	349	168	60	140	18	53	250	24	500	450	550	8-Ø18.5	5	
	4~6	406	311	349	168	65	140	18	58	250	24	500	450	550	8-Ø18.5	5	
280S	2	457	368	—	190	65	140	18	58	280	24	500	450	550	8-Ø18.5	5	
	4~6	457	368	—	190	75	140	18	67.3	280	24	500	450	550	8-Ø18.5	5	
280M	2	457	368	419	190	65	140	18	58	280	24	500	450	550	8-Ø18.5	5	
	4~6	457	368	419	190	75	140	18	67.5	280	24	500	450	550	8-Ø18.5	5	
315S-M	2	508	406	457	216	65	140	18	58	315	28	600	550	660	8-Ø24	6	
	4~6	508	406	457	216	80	170	22	71	315	28	600	550	660	8-Ø24	6	
315M-L	2	508	457	508	216	65	140	18	58	315	28	600	550	660	8-Ø24	6	
	4~6	508	457	508	216	80	170	22	71	315	28	600	550	660	8-Ø24	6	
355M-L	2	610	560	630	254	75	140	20	67.5	355	28	740	680	800	8-Ø24	6	
	4~6	610	560	630	254	95	170	25	86	355	28	740	680	800	8-Ø24	6	

B35 Overall dimensions (mm)

Frame Size	Poles	Overall dimensions (mm)						
		AA	AB	HD	BB	HA	LA	L
80	2~4	30	152	201	125	9	8	237
90S	2~6	35	165	219	125	9	8	257
90L	2~6	35	165	219	125	9	8	282
100L	2~6	32	192	243	170	13	11	321
112M	2~6	38	222	271	170	12	11	335
132S	2~6	40	255	313	172	13	12	393
132M	2~6	40	255	313	172	13	12	431
160M	2~6	65	315	372	244	22	16	530
160L	2~6	65	315	372	244	22	16	574
180M	2~4	75	354	414	322	28	16	625
180L	4~6	75	354	414	322	28	16	663
200L	2~6	80	398	478	361	26	18	690
225S	4	90	446	528	380	28	18	747
	2	90	446	528	405	28	18	742
225M	4~6	90	446	528	405	28	18	772
	2	100	506	579	428	35	18	828
250M	4~6	100	506	579	428	35	18	828
	2	100	557	633	519	37.5	18	945
280S	4~6	100	557	633	519	37.5	18	945
	2	100	557	633	570	37.5	18	996
280M	4~6	100	557	633	570	37.5	18	996
	2	120	628	682	607	48.5	22	1036
315S-M	4~6	120	628	682	607	48.5	22	1066
	2	120	628	682	718	48.5	22	1147
315M-L	4~6	120	628	682	718	48.5	22	1177
	2	120	730	784	770	48	22	1333
355M-L	4~6	120	730	784	770	48	22	1366

TCS Motor Summary

TCS Series IE3 300°C 2hrs

Material	TYPE	Material		Frame Size	Rated Current (A)	Mounting
		Nominal 50Hz kW	voltage V			
3000rpm, 2-pole, 50Hz, IP55, Insulation H						
	TCS 80MA02	0.75	380	80M	1.68	B3/B5/B35
	TCS 80MB02	1.1	380	80M	2.43	B3/B5/B35
	TCS 90S02	1.5	380	90S	3.20	B3/B5/B35
	TCS 90L02	2.2	380	90L	4.56	B3/B5/B35
	TCS 100LA02	3	380	100L	6.04	B3/B5/B35
	TCS 112M02	4	380	112M	7.65	B3/B5/B35
	TCS 132SA02	5.5	380	132S	10.7	B3/B5/B35
	TCS 132SB02	7.5	380	132S	14.2	B3/B5/B35
	TCS 160MB02	11	380	160M	21.0	B3/B5/B35
	TCS 160MC02	15	380	160M	27.8	B3/B5/B35
	TCS 160LA02	18.5	380	160L	33.7	B3/B5/B35
	TCS 180M02	22	380	180M	40.8	B3/B5/B35
	TCS 200LA02	30	380	200L	57.2	B3/B5/B35
	TCS 200LB02	37	380	200L	69.0	B3/B5/B35
	TCS 225MA02	45	380	225M	82.0	B3/B5/B35
	TCS 250MA02	55	380	250M	98.2	B3/B5/B35
	TCS 280S02	75	380	280S	133	B3/B5/B35
	TCS 280MA02	90	380	280M	159	B3/B5/B35
	TCS 315S02	110	380	315S	196	B3/B5/B35
	TCS 315MB02	132	380	315M	235	B3/B5/B35
	TCS 315LA02	160	380	315L	284	B3/B5/B35
	TCS 315LC02	200	380	315L	356	B3/B5/B35
	TCS 355M02	250	380	355M	443	B3/B5/B35
	TCS 355LB02	315	380	355L	554	B3/B5/B35
	TCS 355LC02	355	380	355L	626	B3/B5/B35
1500rpm, 4-pole, 50Hz, IP55, Insulation H						
	TCS 80MB04	0.75	380	80M	1.79	B3/B5/B35
	TCS 90S04	1.1	380	90S	2.55	B3/B5/B35
	TCS 90L04	1.5	380	90L	3.40	B3/B5/B35
	TCS 100LA04	2.2	380	100L	4.75	B3/B5/B35
	TCS 100LB04	3	380	100L	6.28	B3/B5/B35
	TCS 112MB04	4	380	112M	8.36	B3/B5/B35
	TCS 132S04	5.5	380	132S	11.4	B3/B5/B35
	TCS 132M04	7.5	380	132M	15.2	B3/B5/B35
	TCS 160MB04	11	380	160M	21.7	B3/B5/B35
	TCS 160LA04	15	380	160L	29.2	B3/B5/B35
	TCS 180M04	18.5	380	180M	36.8	B3/B5/B35

TCS Series IE3 300°C 2hrs

Material	TYPE	Material		Frame Size	Rated Current (A)	Mounting
		Nominal 50Hz kW	voltage V			
	TCS 180LA04	22	380	180L	43.8	B3/B5/B35
	TCS 200LA04	30	380	200L	57.1	B3/B5/B35
	TCS 225S04	37	380	225S	70.8	B3/B5/B35
	TCS 225MA04	45	380	225M	85.0	B3/B5/B35
	TCS 250MA04	55	380	250M	103	B3/B5/B35
	TCS 280S04	75	380	280S	137	B3/B5/B35
	TCS 280MA04	90	380	280M	163	B3/B5/B35
	TCS 315S04	110	380	315S	204	B3/B5/B35
	TCS 315MB04	132	380	315M	243	B3/B5/B35
	TCS 315LA04	160	380	315L	290	B3/B5/B35
	TCS 315LC04	200	380	315L	363	B3/B5/B35
	TCS 355M04	250	380	355M	446	B3/B5/B35
	TCS 355LB04	315	380	355L	557	B3/B5/B35
	TCS 355LC04	355	380	355L	629	B3/B5/B35
1500rpm, 4-pole, 50Hz, IP55, Insulation H						
	TCS 90S06	0.75	380	90S	2.10	B3/B5/B35
	TCS 90L06	1.1	380	90L	2.99	B3/B5/B35
	TCS 100L06	1.5	380	100L	3.82	B3/B5/B35
	TCS 112M06	2.2	380	112M	5.31	B3/B5/B35
	TCS 132SA06	3	380	132S	6.95	B3/B5/B35
	TCS 132MA06	4	380	132M	9.14	B3/B5/B35
	TCS 132MB06	5.5	380	132M	12.4	B3/B5/B35
	TCS 160M06	7.5	380	160M	15.7	B3/B5/B35
	TCS 160LB06	11	380	160L	23.0	B3/B5/B35
	TCS 180LA06	15	380	180L	31.9	B3/B5/B35
	TCS 200LA06	18.5	380	200L	38.6	B3/B5/B35
	TCS 200LB06	22	380	200L	45.3	B3/B5/B35
	TCS 225MA06	30	380	225M	58.8	B3/B5/B35
	TCS 250MA06	37	380	250M	72.0	B3/B5/B35
	TCS 280S06	45	380	280S	88.6	B3/B5/B35
	TCS 280MA06	55	380	280M	106	B3/B5/B35
	TCS 315S06	75	380	315S	147	B3/B5/B35
	TCS 315MA06	90	380	315M	176	B3/B5/B35
	TCS 315LA06	110	380	315L	214	B3/B5/B35
	TCS 315LC06	132	380	315L	257	B3/B5/B35
	TCS 355MA06	160	380	355M	302	B3/B5/B35
	TCS 355MB06	200	380	355M	378	B3/B5/B35
	TCS 355LB06	250	380	355L	470	B3/B5/B35

Selection Reference Table

Variant	Frame Size																		
	63	71	80	90	100	112	132	160	180	200	225	250	280	315	355	400	450	500	560
1) Mounting arrangements																			
B3			S	S	S	S	S	S	S	S	S	S	S	S	S				
V1			R	R	R	R	R	R	R	R	R	R	R	R	R				
B35			R	R	R	R	R	R	R	R	R	R	R	R	R				
B5			R	R	R	R	R	R	R	R	R	R	R	R	R				
B34			R	R	R	R	R												
B14			R	R	R	R	R												
2) Paint																			
RAL 3001			S	S	S	S	S	S	S	S	S	S	S	S	S				
			R	R	R	R	R	R	R	R	R	R	R	R	R				
3) Protection class																			
IP55			S	S	S	S	S	S	S	S	S	S	S	S	S				
IP56			R	R	R	R	R	R	R	R	R	R	R	R	R				
4) 2m			S	S	S	S	S	S	S	S	S	S	S	S	S				
Terminal box			R	R	R	R	R	R	R	R	R	R	R	R	R				
5) Shaft																			
Balance: normal(N)			S	S	S	S	S	S	S	S	S	S	S	S	S				
Balance: updated(R)			R	R	R	R	R	R	R	R	R	R	R	R	R				
Balance: precise(S)			R	R	R	R	R	R	R	R	R	R	R	R	R				
Double-shaft			R	R	R	R	R	R	R	R	R	R	R	R	R				
Stainless steel shaft			R	R	R	R	R	R	R	R	R	R	R	R	R				
Special extended shaft			R	R	R	R	R	R	R	R	R	R	R	R	R				
Shaft with changed diameter and length/taper shaft			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA				
6) Bearing																			
Ball bearing			S	S	S	S	S	S	S	S	S	S	S	S	S				
7) Fan & Fan cowl			S	S	S	S	S	S	S	S	S	S	S	S	S				
8) Electrical characteristics			R	R	R	R	R	R	R	R	R	R	R	R	R				
Non-standard V/HZ			R	R	R	R	R	R	R	R	R	R	R	R	R				
Insulation class H			S	S	S	S	S	S	S	S	S	S	S	S	S				

* *S=Included as standard
R=On request

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