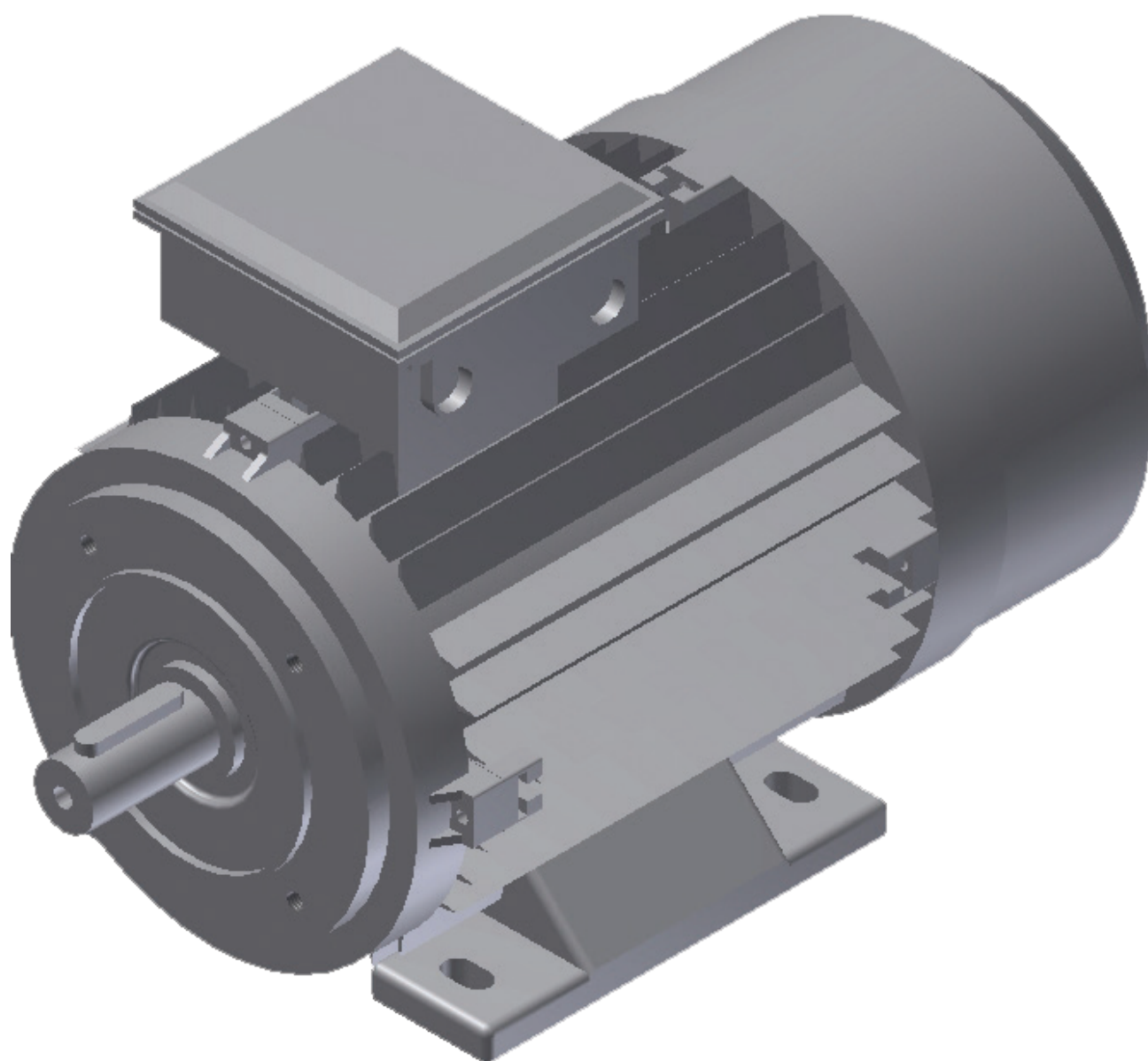


KLEE drive®

AC motors IE1/IE2/IE3





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MS: <0.55 kW MS2: 0.75kW> class IE2

2-, 4- and 6-pole motors with housing made from aluminum.

Efficiency class IE2. Output 50 Hz.

Voltage:

For motors ≤4 kW: 3 x230/400V.

For motors 5.5 kW ≥ 3x400/690V. Also 3x230/400V.



Electrical data for 2-pole MS/MS2

Type/frame	Output kW	Current 400V	Speed rpm	Efficiency %*	Power factor cos Φ	Starting torque Mn/Nm	Starting current Ia/In	Noise dB(A)	Weight kg
MS 561-2	0.09	0.36	2710	53	0.72	2.2	4.0	58	2.6
MS 562-2	0.12	0.40	2700	61	0.72	2.2	4.0	58	3.0
MS 631-2	0.18	0.55	2710	63	0.75	2.2	6.0	61	4.0
MS 632-2	0.25	0.71	2710	65	0.78	2.2	6.0	61	4.2
MS 711-2	0.37	0.97	2730	70	0.79	2.2	6.0	64	5.2
MS 712-2	0.55	1.42	2760	71	0.79	2.2	6.0	64	6.0
MS2 801-2	0.75	1.75	2840	77.4	0.80	2.9	5.8	N.A.	8.7
MS2 802-2	1.1	2.42	2850	80	0.82	3.5	6.8	N.A.	10.5
MS2 90S-2	1.5	3.20	2850	81.4	0.83	3.5	6.9	N.A.	13.1
MS2 90L-2	2.2	4.54	2860	83.2	0.84	4.1	7.9	N.A.	15.0
MS2 100L-2	3	5.88	2880	84.6	0.87	3.4	7.8	N.A.	24.2
MS2 112M-2	4	7.54	2890	86	0.89	2.7	7.5	N.A.	25.8
MS2 132S1-2	5.5	10.2	2900	87.2	0.89	2.4	7.7	N.A.	43.8
MS2 132S2-2	7.5	13.8	2910	88.1	0.89	2.6	8.4	N.A.	48.0
MS2 160M1-2	11	19.9	2930	89.4	0.89	2.4	7.6	N.A.	77.5
MS2 160M2-2	15	26.9	2930	90.3	0.89	2.6	8.0	N.A.	92.3
MS2 160L-2	18.5	32.6	2940	90.9	0.90	3	9.0	N.A.	104.3
MS2 180M-2	22	38.6	2950	91.3	0.90	2.6	8.5	N.A.	126.4
MS2 200L1-2	30	52.3	2950	92	0.90	2.4	8.0	N.A.	144.0
MS2 200L2-2	37	64.1	2950	92.5	0.90	2.5	8.5	N.A.	151.0

*Minimum value for IE and IE2 motors

MS: <0.55 kW MS2: 0.75kW> class IE2

2-, 4- and 6-pole motors with housing made from aluminum.

Efficiency class IE2. Output 50 Hz.

Voltage:

For motors ≤4 kW: 3 x230/400V.

For motors 5.5 kW ≥ 3x400/690V. Also 3x230/400V.



Electrical data for 4-pole

Type/frame	Output kW	Current 400V	Speed rpm	Efficiency %*	Power factor cos Φ	Starting torque Mn/Nm	Starting current Ia/In	Noise dB(A)	Weight kg
MS 561-4	0.06	0.35	1360	50	0.56	2.3	4.0	50	2.9
MS 562-4	0.09	0.45	1360	52	0.59	2.3	4.0	50	3.2
MS 631-4	0.12	0.55	1360	52	0.64	2.2	4.0	52	3.7
MS 632-4	0.18	0.70	1310	57	0.65	2.2	4.0	52	4.2
MS 711-4	0.25	0.84	1350	60	0.72	2.2	6.0	55	5.0
MS 712-4	0.37	1.11	1370	65	0.74	2.2	6.0	55	5.8
MS 801-4	0.55	1.58	1370	67	0.75	2.2	6.0	57	6.5
MS2 802-4	0.75	1.79	1410	79.6	0.76	2.8	5.3	N.A.	10.5
MS2 90S-4	1.1	2.50	1420	81.4	0.78	3.8	6.7	N.A.	14.5
MS2 90L-4	1.5	3.31	1420	82.8	0.79	4	7.2	N.A.	17.6
MS2 100L1-4	2.2	4.83	1440	84.3	0.78	3.6	7.4	N.A.	20.0
MS2 100L2-4	3	6.33	1440	85.5	0.80	3.8	7.8	N.A.	21.1
MS2 112M-4	4	8.23	1440	86.6	0.81	3.1	7.1	N.A.	30.8
MS2 132S-4	5.5	10.9	1450	87.9	0.83	2.6	7.4	N.A.	43.0
MS2 132M-4	7.5	14.5	1450	88.7	0.84	2.8	7.7	N.A.	52.6
MS2 160M-4	11	21.6	1450	89.8	0.82	2.7	7.7	N.A.	83.0
MS2 160L-4	15	28.4	1450	90.6	0.84	2.4	7.3	N.A.	102.5
MS2 180M-4	18.5	34.4	1460	91.4	0.85	2.2	7.4	N.A.	118.7
MS2 180L-4	22	40.3	1460	91.7	0.86	2.3	7.5	N.A.	128.2
MS2 200L-4	30	55.2	1470	92.3	0.86	2.8	7.6	N.A.	158.5

*Minimum value for IE and IE2 motors

MS: <0.55 kW MS2: 0.75kW> class IE2

2-, 4- and 6-pole motors with housing made from aluminum.
Efficiency class IE2. Output 50 Hz.

Voltage:

For motors ≤4 kW: 3 x230/400V.

For motors 5.5 kW ≥ 3x400/690V. Also 3x230/400V.



Electrical data for 6-pole

Type/frame	Output kW	Current 400V	Speed rpm	Efficiency %*	Power factor cos Φ	Starting torque Mn/Nm	Starting current Ia/In	Noise dB(A)	Weight kg
MS 631-6	0.09	0.51	840	42	0.61	2.0	3.6	50	4.2
MS 632-6	0.12	0.62	850	45	0.62	2.0	3.5	50	4.5
MS 711-6	0.18	0.70	880	56	0.66	1.6	4.0	52	5.6
MS 712-6	0.25	0.87	900	59	0.70	2.1	4.0	52	6.0
MS 801-6	0.37	1.23	900	62	0.70	1.9	4.0	56	8.1
MS 802-6	0.55	1.65	900	67	0.72	2.0	4.0	56	9.6
MS2 90S-6	0.75	2.01	925	76.2	0.71	3.1	4.7	N.A.	12.1
MS2 90L-6	1.1	2.82	930	78.1	0.72	3.2	5	N.A.	16.6
MS2 100L-6	1.5	3.71	940	80.0	0.73	3.1	5.9	N.A.	21.8
MS2 112M-6	2.2	5.17	945	81.8	0.75	2.6	5.5	N.A.	29.5
MS2 132S-6	3	6.84	960	83.3	0.76	2.2	5.7	N.A.	35.0
MS2 132M1-6	4	8.86	960	84.6	0.77	2.4	6.2	N.A.	49.7
MS2 132M2-6	5.5	12.0	960	86	0.77	2.6	6.7	N.A.	54.7
MS2 160M-6	7.5	16.1	970	87.5	0.77	2	5.6	N.A.	72.2
MS2 160L-6	11	22.9	970	89.0	0.78	2	5.8	N.A.	87.3
MS2 180L-6	15	28.9	975	90.1	0.83	1.9	7.5	N.A.	12.7
MS2 200L1-6	18.5	35.6	975	90.4	0.83	2.2	6.3	N.A.	132.0
MS2 200L2-6	22	41.6	975	90.9	0.84	2.3	6.2	N.A.	152.0

Electrical data for 8-pole

Type/frame	Output kW	Current 400V	Speed rpm	Efficiency %*	Power factor cos Φ	Starting torque Mn/Nm	Starting current Ia/In	Noise dB(A)	Weight kg
MS 711-8	0.09	0.48	680	48	0.56	1.5	3.0	50	5.6
MS 712-8	0.12	0.58	690	51	0.59	1.6	2.7	50	6.0
MS 801-8	0.18	0.84	680	51	0.61	1.5	2.8	52	9.4
MS 802-8	0.25	1.06	680	56	0.61	1.6	2.7	52	10.1
MS 90S-8	0.37	1.35	680	63	0.63	1.6	2.8	56	12.5
MS 90L-8	0.55	1.85	680	66	0.65	1.6	3.0	56	15.3
MS 100L1-8	0.75	2.45	710	66	0.67	1.7	3.5	59	17.2
MS 100L2-8	1.1	3.20	710	72	0.69	1.7	3.5	59	19.5
MS 112M-8	1.5	4.30	710	74	0.68	1.8	4.2	61	25.5
MS 132S-8	2.2	5.96	720	75	0.71	2.0	5.5	64	34.2
MS 132M-8	3	7.70	720	77	0.73	2.0	5.5	64	40.0
MS 160M1-8	4	9.89	730	80	0.73	1.9	6.0	68	59.0
MS 160M2-8	5.5	12.9	720	83.5	0.74	2.0	6.0	68	69.0
MS 160L-8	7.5	17.0	720	85	0.75	1.9	6.0	68	87.0
MS 180L-8	11	25.1	715	87.4	0.73	1.9	6.0	78	125.0
MS 200L-8	15	32.4	725	88.0	0.76	1.9	6.0	80	151.0

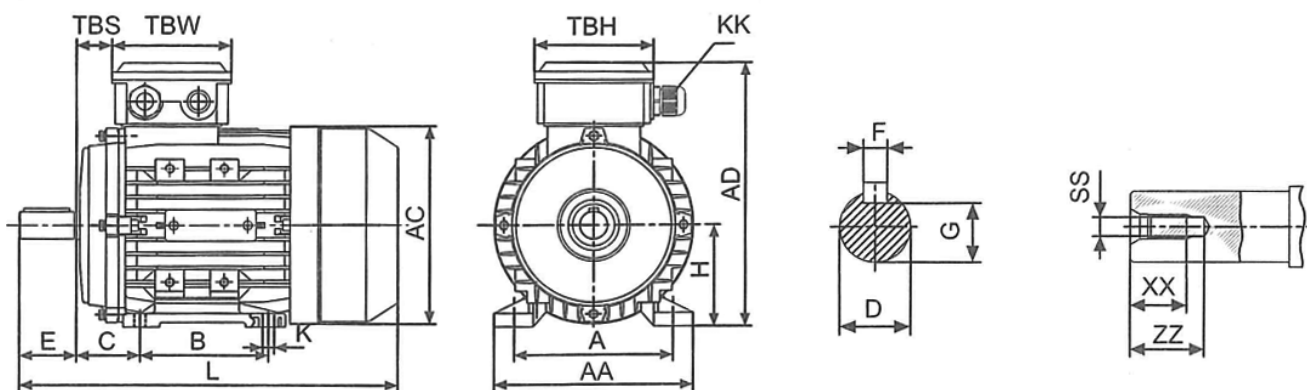
*Minimum value for IE and IE2 motors

Basic dimensions

Size/frame	AC	L	KK	TBS	TBW	TBH
56	Ø117	196	1-M16x1.5	14	88	88
63	Ø130	220	1-M16x1.5	14	94	94
71*	Ø147	241(255)	1-M20x1.5	20	94	94
80	Ø163	290	1-M20x1.5	27	105	105
90S	Ø183	312	1-M20x1.5	30	105	105
90L1/L2	Ø183	337/367	1-M20x1.5	30	105	105
100*	Ø205	369(387)	2-M20x1.5	26	105	105
112	Ø229	395	2-M25x1.5	32	112	112
132S	Ø265	437	2-M25x1.5	38	112	112
132M/L	Ø265	475/501	2-M25x1.5	38	112	112
160M/L	Ø325	640	2-M32x1.5	64	143	143
180M/L	Ø368	730	2-M32x1.5	73	190	190
200L	Ø368	745	2-M40x1.5	85	190	190

* This version comes with two dimensions. The shown data are for the normal version, while the data inside the parenthesis is for the type with increased power.

Basic dimensions B3 foot mounted motor

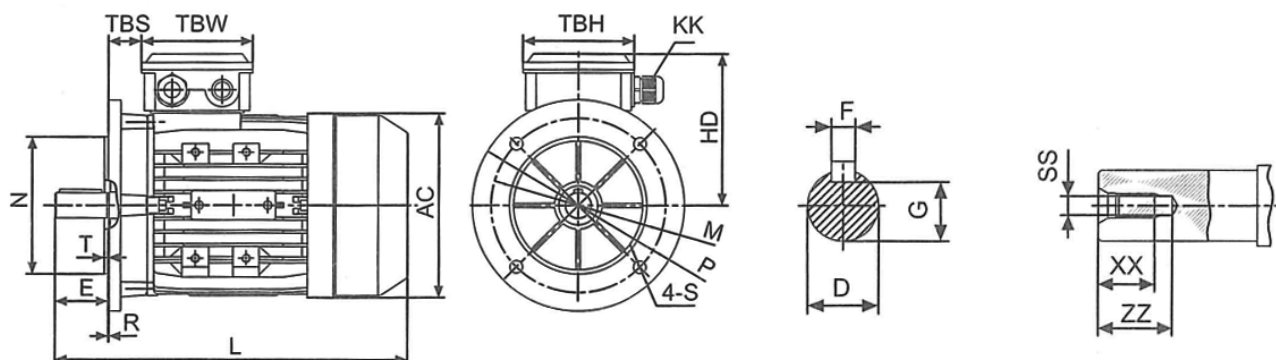


See table above for dimensions KK, TBS and TBH for terminal box as well as motor dimensions AC and L.

Dimensions B3 foot mounted motor

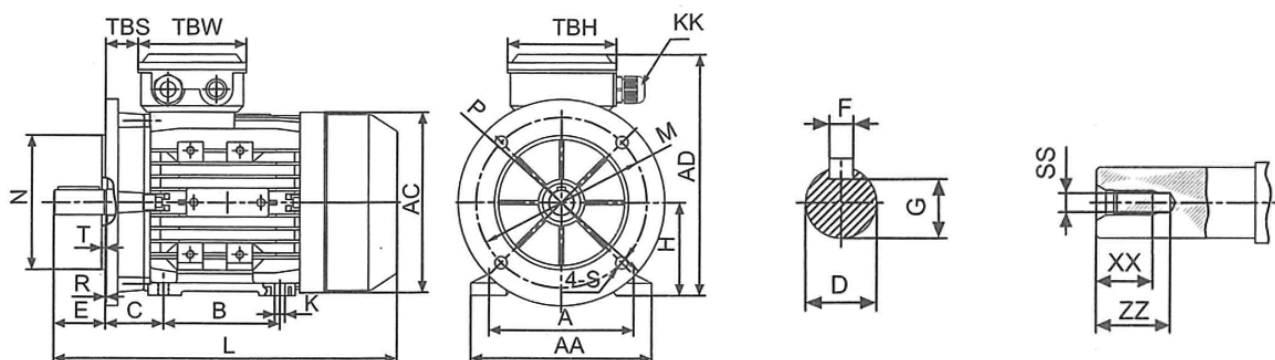
Size/frame	Foot mounting							Shaft						
	H	AD	A	AA	B	C	K	D	E	F	G	SS	XX	ZZ
56	56	156	90	110	71	36	5.5x8.8	Ø9	20	3	7.2	M3	9	12
63	63	171	100	120	80	40	7x10	Ø11	23	4	8.5	M4	10	14
71	71	186	112	132	90	45	7x10	Ø14	30	5	11	M5	12	17
80	80	213	125	160	100	50	10x13	Ø19	40	6	15.5	M6	16	21
90S	90	229	140	175	100	56	10x13	Ø24	50	8	20	M8	19	25
90L1/L2	90	229	140	175	125	56	10x13	Ø24	50	8	20	M8	19	25
100	100	252	160	198	140	63	12x15	Ø28	60	8	24	M10	22	30
112	112	279	190	220	140	70	12x15	Ø28	60	8	24	M10	22	30
132S	132	318	216	252	140	89	12x15	Ø38	80	10	33	M12	28	37
132M/L	132	318	216	252	178	89	12x15	Ø38	80	10	33	M12	28	37
160M/L	160	384	254	290	210/254	108	15x19	Ø42	110	12	37	M16	36	45
180M/L	180	440	279	340	241/279	121	15x25	Ø48	110	14	42.5	M16	36	45
200L	200	460	318	390	305	133	19x29	Ø55	110	16	49	M20	42	53

Basic dimensions B5 flange version



See table on page 7 for dimensions regarding KK, TBS, TBW and TBH as well as for motor dimensions AC and L.

Basic dimensions B35 foot/flange version (For B35 see data foot mounted motor B3.)

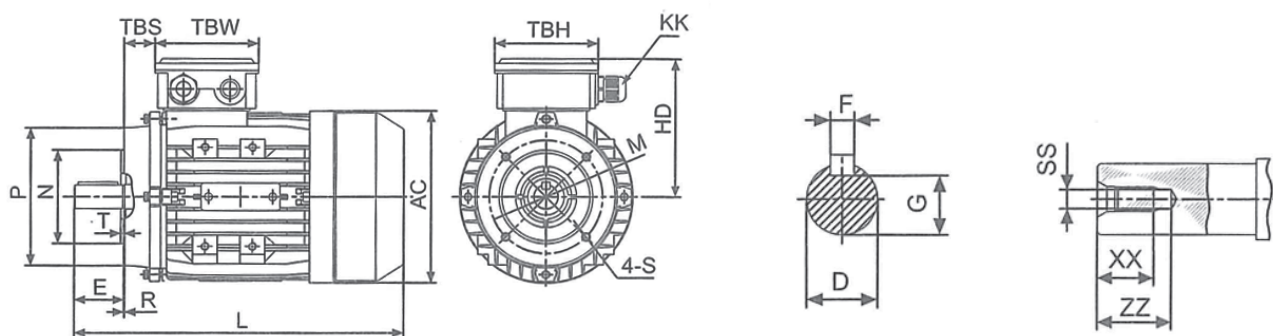


See table on page 7 for dimensions regarding KK, TBS, TBW and TBH as well as for motor dimensions AC and L.

Dimensions flange version

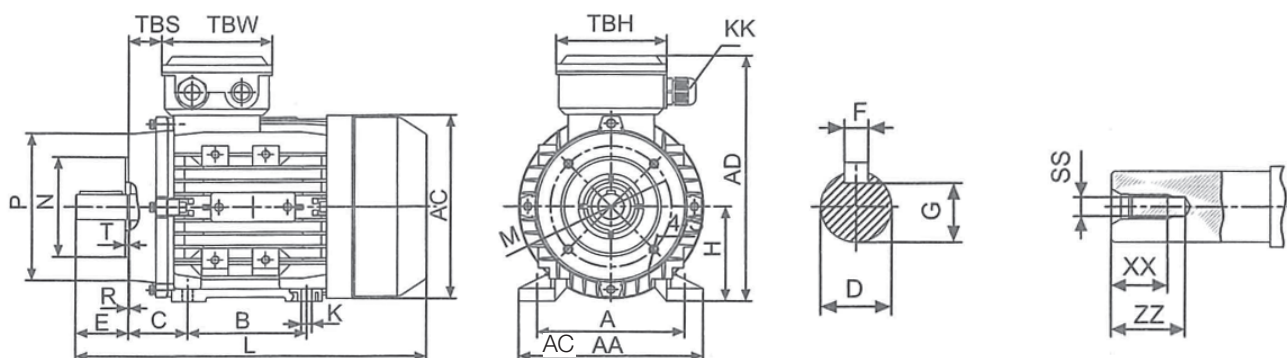
Size / frame	Flange						Shaft						
	M	N	P	T	S	HD	D	E	F	G	SS	XX	ZZ
56	Ø100	Ø80	Ø120	3.0	Ø7	100	Ø9	20	3	7.2	M3	9	12
63	Ø115	Ø95	Ø140	3.0	Ø10	108	Ø11	23	4	8.5	M4	10	14
71	Ø130	Ø110	Ø160	3.5	Ø10	115	Ø14	30	5	11	M5	12	17
80	Ø165	Ø130	Ø200	3.5	Ø12	133	Ø19	40	6	15.5	M6	16	21
90S	Ø165	Ø130	Ø200	3.5	Ø12	139	Ø24	50	8	20	M8	19	25
90L1/L2	Ø165	Ø130	Ø200	3.5	Ø12	139	Ø24	50	8	20	M8	19	25
100	Ø215	Ø180	Ø250	4.0	Ø15	152	Ø28	60	8	24	M10	22	30
112	Ø215	Ø180	Ø250	4.0	Ø15	167	Ø28	60	8	24	M10	22	30
132S	Ø265	Ø230	Ø300	4.0	Ø15	186	Ø38	80	10	33	M12	28	37
132M/L	Ø265	Ø230	Ø300	4.0	Ø15	186	Ø38	80	10	33	M12	28	37
160M/L	Ø300	Ø250	Ø350	5.0	Ø19	224	Ø42	110	12	37	M16	36	45
180M/L	Ø300	Ø250	Ø350	5.0	Ø19	260	Ø48	110	14	42.5	M16	36	45
200L	Ø350	Ø300	Ø400	5.0	Ø19	260	Ø55	110	16	49	M20	42	53

Basic dimensions B14 flange version



See table on page 7 for dimensions regarding KK, TBS, TBW and TBH as well as for motor dimensions AC and L.

Basic dimensions B34 foot/flange version (For B34 see data foot mounted motor B3.)

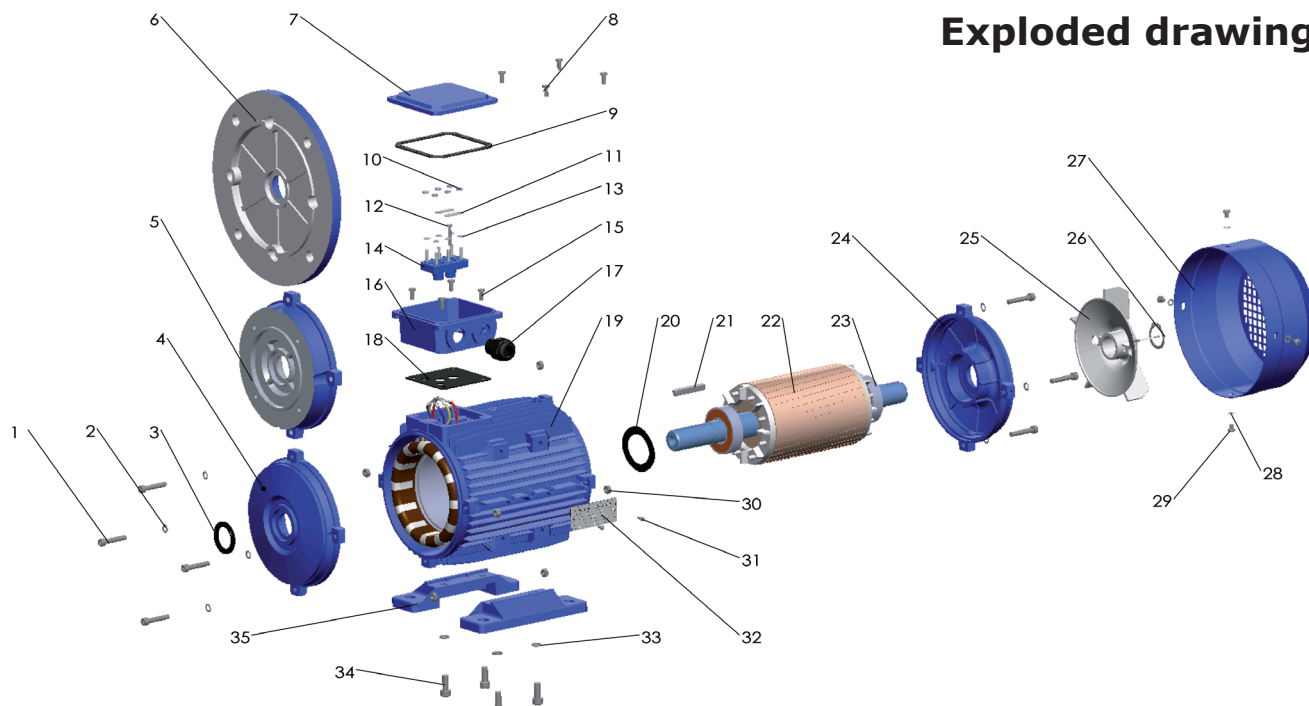


See table on page 7 for dimensions regarding KK, TBS, TBW and TBH as well as for motor dimensions AC and L.

Dimensions B14 flange version

Size/ frame	Flange						Shaft						
	M	N	P	T	S	HD	D	E	F	G	SS	XX	ZZ
56	Ø50	Ø65	Ø80	2.5	M5	100	Ø9	20	3	7.2	M3	9	12
63	Ø60	Ø75	Ø90	2.5	M5	108	Ø11	23	4	8.5	M4	10	14
71	Ø70	Ø85	Ø105	2.5	M6	115	Ø14	30	5	11	M5	12	17
80	Ø80	Ø100	Ø120	3.0	M6	133	Ø19	40	6	15.5	M6	16	21
90S	Ø95	Ø115	Ø140	3.0	M8	139	Ø24	50	8	20	M8	19	25
90L1/L2	Ø95	Ø115	Ø140	3.0	M8	139	Ø24	50	8	20	M8	19	25
100	Ø110	Ø130	Ø160	3.5	M8	152	Ø28	60	8	24	M10	22	30
112	Ø110	Ø130	Ø160	3.5	M8	167	Ø28	60	8	24	M10	22	30
132S	Ø130	Ø165	Ø200	4.0	M10	186	Ø38	80	10	33	M12	28	37
132M/L	Ø130	Ø165	Ø200	4.0	M10	186	Ø38	80	10	33	M12	28	37
160M/L	Ø180	Ø215	Ø200	4.0	M12	224	Ø42	110	12	37	M16	36	45

Exploded drawing



Part

1	Screw
2	Gasket
3	Oil seal
4	Front endshield
5	B14 flange
6	B5 flange
7	Terminal box lid
8	Fixing screws for terminal box
9	Upper gasket terminal box
10	Terminal board fixing nut
11	Terminal bridge
12	Terminal pin

13	Terminal shim
14	Terminal board
15	Fixing screws terminal box
16	Terminal box base
17	Cable gland
18	Bottom gasket terminal box
19	Frame
20	Preload washer
21	Key
22	Rotor
23	Bearing
24	NDE endshield

25	Cooling fan
26	Fan circlip
27	Fan cover
28	Fan cover fixing shim
29	Fan cover fixing screws
30	Endshield fixing nut
31	Rivet
32	Name plate
33	Foot fixing nut
34	Foot fixing screws
35	Foot

Bearings and oil seals

Size/Frame	Bearing		Oil seal	
	Shaft end	Fan end	Shaft end	Fan end
56	6201	6201	12x22x5	12x22x5
63	6201	6201	12x24x5	12x24x5
71	6202	6202	15x25x7	15x25x7
80	6204	6204	20x34x7	20x34x7
90S	6205	6205	25x37x7	25x37x7
90L	6205	6205	15x37x7	25x37x7
100L	6206	6206	30x44x7	30x44x7
112M	6306	6206	30x44x7	30x44x7
132S	6308	6208	40x58x7	40x58x7
132M/L	6308	6208	40x58x7	40x58x7
160M	6309	6309	45x65x8	45x65x8
160L	6309	6309	45x65x8	45x65x8
180M	6311	6211	55x72x8	55x72x8
180L	6311	6211	55x72x8	55x72x8
200L	6312	6212	60x80x8	60x80x8

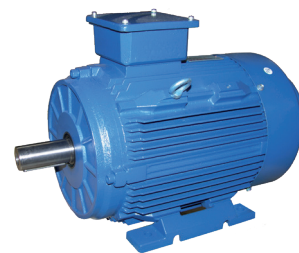
We use NSK bearings and oil seals in both shaft end and fan end.

T2C class IE2

2-pole cast iron motors.

Efficiency class IE2. Output 50 Hz.

All motors as standard in insulation class F. Protection class IP55.



Voltage:

For motors ≤ 4 kW: 3 x 230/400V.

For motors $5.5 \text{ kW} \geq 3 \times 400/690\text{V}$. Also $3 \times 230/400\text{V}$.

Electrical data for 2-pole

Type/frame	Output kW	Current 400V	Speed rpm	Efficiency %*	Power factor cos Φ	Starting torque Mn/Nm	Starting current Ia/In	Noise dB(A)	Weight kg
T2C 801-2	0.75	1.86	2848	77.4	0.75	2.7	6.0	71	16.0
T2C 802-2	1.1	2.52	2846	79.6	0.79	2.7	6.7	71	18.0
T2C 90S-2	1.5	3.17	2852	81.3	0.84	2.3	6.1	75	21.0
T2C 90L-2	2.2	4.54	2845	83.2	0.84	2.6	7.0	75	24.0
T2C 100L-2	3	5.75	2851	84.6	0.89	2.5	7.6	79	33.5
T2C 112M-2	4	7.56	2910	85.8	0.89	2.5	7.8	79	48.0
T2C 132S1-2	5.5	10.25	2905	87	0.89	2.4	7.8	83	63.0
T2C 132S2-2	7.5	13.96	2910	88.1	0.88	2.7	7.9	83	69.0
T2C 160M1-2	11	19.73	2920	89.4	0.90	2.2	7.9	87	118.0
T2C 160M2-2	15	26.35	2918	90.3	0.91	2.3	7.9	87	134.0
T2C 160L-2	18.5	31.93	2922	90.9	0.92	2.4	8.0	87	143.0
T2C 180M-2	22	39.08	2930	91.3	0.89	2.3	7.5	92	170.0
T2C 200L1-2	30	53.49	2925	92	0.88	2.4	6.7	95	245.0
T2C 200L2-2	37	64.15	2930	92.5	0.90	2.3	6.3	95	240.0
T2C 225M-2	45	79.45	2930	92.9	0.88	2.3	6.9	97	305.0
T2C 250M-2	55	96.80	2940	93.2	0.88	2.3	8.0	97	410.0
T2C 280S-2	75	125.45	2940	93.8	0.92	2.2	8.0	99	580.0
T2C 280M-2	90	150.06	2940	94.1	0.92	2.2	7.7	104	630.0
T2C 315S-2	110	187.08	2940	94.3	0.90	2.0	7.7	104	981.0
T2C 315M-2	132	221.33	2940	94.6	0.91	2.0	7.6	104	1100.0
T2C 315L1-2	160	270.68	2945	94.8	0.90	2.0	7.8	104	1055.0
T2C 315L2-2	200	341.44	2945	95.0	0.89	2.0	7.9	104	1080.0
T2C 355M-2	250	422.05	2945	95.0	0.90	2.0	7.8	111	1770.0
T2C 355L-2	315	537.76	2945	95.0	0.89	2.0	7.8	111	1990.0

*Minimum value for IE2 motors.

T2C class IE2

4-pole cast iron motors.

Efficiency class IE2. Output 50 Hz.

All motors as standard in insulation class F. Protection class IP55.

Voltage:

For motors ≤4 kW: 3 x230/400V.

For motors 5.5 kW ≥ 3x400/690V. Also 3x230/400V.



Electrical data for 4-pole

Type/frame	Output kW	Current 400V	Spd rpm	Efficiency %*	Power factor cos Φ	Starting torque Mn/Nm	Starting current Ia/In	Noise dB(A)	Weight kg
T2C 802-4	0.75	1.79	1420	79.6	0.76	2.3	5.4	67	14.5
T2C 90S-4	1.1	2.50	1425	81.4	0.78	2.3	5.9	67	16.0
T2C 90L-4	1.5	3.31	1420	82.8	0.79	2.4	6.4	67	21.8
T2C 100L1-4	2.2	4.59	1430	84.3	0.82	2.4	6.6	70	36.0
T2C 100L2-4	3	6.33	1430	85.5	0.8	2.4	6.9	70	36.0
T2C 112M-4	4	8.44	1435	86.6	0.79	2.5	7.9	74	47.0
T2C 132S-4	5.5	11.04	1430	87.7	0.82	2.3	7.1	78	65.0
T2C 132M-4	7.5	14.70	1430	88.7	0.83	2.3	7.8	78	78.5
T2C 160M-4	11	19.43	1440	89.8	0.91	2.5	7.9	82	126.0
T2C 160L-4	15	25.92	1445	90.8	0.92	2.4	7.8	82	140.5
T2C 180M-4	18.5	33.66	1445	91.2	0.87	2.4	7.8	82	165.0
T2C 180L-4	22	38.95	1460	91.6	0.89	2.3	7.5	82	185.0
T2C 200L-4	30	53.31	1460	92.3	0.88	2.4	7.9	84	244.0
T2C 225S-4	37	72.02	1470	92.7	0.80	2.4	6.7	84	345.0
T2C 225M-4	45	87.21	1480	93.1	0.80	2.3	7.0	84	355.0
T2C 250M-4	55	96.49	1480	93.5	0.88	2.4	7.4	86	425.0
T2C 280S-4	75	126.56	1480	94.0	0.91	2.2	7.5	90	560.0
T2C 280M-4	90	149.90	1480	94.2	0.92	2.2	7.7	90	670.0
T2C 315S-4	110	186.69	1480	94.5	0.90	2.0	7.8	98	905.0
T2C 315M-4	132	221.09	1480	94.7	0.91	2.0	7.8	101	1016.0
T2C 315L1-4	160	267.43	1480	94.9	0.91	2.0	7.9	101	1108.0
T2C 315L2-4	200	337.29	1480	95.1	0.90	2.0	7.7	101	1210.0
T2C 355M-4	250	426.35	1480	95.1	0.89	2.0	7.9	106	1700.0
T2C 355L-4	315	531.23	1480	95.1	0.90	2.0	7.8	108	1890.0

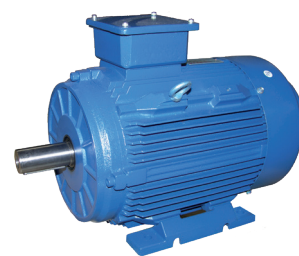
*Minimum value for IE2 motors.

T2C class IE2

4-pole cast iron motors.

Efficiency class IE2. Output 50 Hz.

All motors as standard in insulation class F. Protection class IP55.



Voltage:

For motors ≤ 4 kW: 3 x 230/400V.

For motors $5.5 \text{ kW} \geq 3 \times 400/690\text{V}$. Also $3 \times 230/400\text{V}$.

Electrical data for 6-pole

Type/frame	Output kW	Current 400V	Speed rpm	Efficiency %*	Power factor cos Φ	Starting torque Mn/Nm	Starting current Ia/In	Noise dB(A)	Weight kg
T2C 90S-6	0.75	1.88	935	75.9	0.76	2.2	6.2	65	15.6
T2C 90L-6	1.1	2.54	935	78.1	0.80	2.3	6.0	65	23.5
T2C 100L-6	1.5	3.31	940	79.8	0.82	2.3	5.8	67	32.0
T2C 112M-6	2.2	4.85	940	81.8	0.80	2.3	6.4	67	43.0
T2C 132S-6	3	6.26	940	83.3	0.83	2.4	6.3	71	60.0
T2C 132M1-6	4	8.12	945	84.6	0.84	2.5	6.2	71	64.5
T2C 132M2-6	5.5	11.26	945	86	0.82	2.3	6.8	71	66.0
T2C 160M-6	7.5	14.78	955	87.2	0.84	2.4	7.0	75	124.0
T2C 160L-6	11	21.06	960	88.7	0.85	2.5	7.3	75	134.0
T2C 180L-6	15	29.08	960	89.7	0.83	2.3	7.8	78	180.0
T2C 200L1-6	18.5	34.75	965	90.4	0.85	2.4	7.8	78	240.0
T2C 200L2-6	22	40.62	965	90.9	0.86	2.3	7.9	78	238.0
T2C 225M-6	30	55.56	975	91.7	0.85	2.2	7.9	81	301.0
T2C 250M-6	37	69.79	975	92.2	0.83	2.3	7.5	81	398.0
T2C 280S-6	45	81.48	980	92.7	0.86	2.3	7.2	84	505.0
T2C 280M1-6	55	99.15	980	93.1	0.86	2.2	7.7	84	650.0
T2C 315S-6	75	129.81	980	93.7	0.89	2.1	7.9	92	824.0
T2C 315M-6	90	153.56	980	94	0.90	2.0	8.0	92	1050.0
T2C 315L1-6	110	187.08	980	94.3	0.90	2.0	7.7	92	1200.0
T2C 315L2-6	132	226.30	980	94.6	0.89	2.0	8.0	92	1350.0
T2C 355M1-6	160	267.71	980	94.8	0.91	2.0	7.6	102	1590.0
T2C 355M2-6	200	337.64	980	95	0.90	2.0	7.8	102	1750.0
T2C 355L-6	250	426.79	980	95	0.89	2.0	7.8	105	1990.0

*Minimum value for IE2 motors.

T3C class IE3

2-pole cast iron motors.

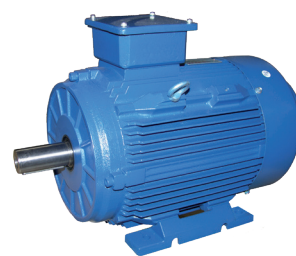
Efficiency class IE3. Output 50 Hz.

All motors as standard in insulation class F. Protection class IP55.

Voltage:

For motors ≤ 4 kW: 3 x 230/400V.

For motors 5.5 kW ≥ 3 x 400/690V. Also 3 x 230/400V.



Electrical data for 2-pole

Type/frame	Output kW	Current 400V	Speed rpm	Efficiency %*	Power factor cos Φ	Starting torque Mn/Nm	Starting current Ia/In	Noise dB(A)	Weight kg
T3C 801-2	0.75	1.79	2848	80.7	0.75	2.7	6.0	71	N.A.
T3C 802-2	1.1	2.43	2846	82.7	0.79	2.7	6.7	71	N.A.
T3C 90S-2	1.5	3.06	2852	84.2	0.84	2.3	6.1	75	N.A.
T3C 90L-2	2.2	4.40	2845	85.9	0.84	2.6	7.0	75	N.A.
T3C 100L-2	3	5.59	2851	87.1	0.89	2.5	7.6	79	N.A.
T3C 112M-2	4	7.36	2910	88.1	0.89	2.5	7.8	79	N.A.
T3C 132S1-2	5.5	10.00	2905	89.2	0.89	2.4	7.8	83	N.A.
T3C 132S2-2	7.5	13.65	2910	90.1	0.88	2.7	7.9	83	N.A.
T3C 160M1-2	11	19.34	2920	91.2	0.90	2.2	7.9	87	N.A.
T3C 160M2-2	15	25.89	2918	91.9	0.91	2.3	7.9	87	N.A.
T3C 160L-2	18.5	31.41	2922	92.4	0.92	2.4	8.0	87	N.A.
T3C 180M-2	22	38.49	2930	92.7	0.89	2.3	7.5	92	N.A.
T3C 200L1-2	30	52.74	2925	93.3	0.88	2.4	6.7	95	N.A.
T3C 200L2-2	37	63.33	2930	93.7	0.90	2.3	6.3	95	N.A.
T3C 225M-2	45	78.52	2930	94.0	0.88	2.3	6.9	97	N.A.
T3C 250M-2	55	95.67	2940	94.3	0.88	2.3	8.0	97	N.A.
T3C 280S-2	75	124.26	2940	94.7	0.92	2.2	8.0	99	N.A.
T3C 280M-2	90	148.64	2940	95.0	0.92	2.2	7.7	104	N.A.
T3C 315S-2	110	185.31	2940	95.5	0.90	2.0	7.7	104	N.A.
T3C 315M-2	132	219.47	2940	95.4	0.91	2.0	7.6	104	N.A.
T3C 315L1-2	160	267.86	2945	95.8	0.90	2.0	7.8	104	N.A.
T3C 315L2-2	200	338.58	2945	95.8	0.89	2.0	7.9	104	N.A.
T3C 355M-2	250	418.53	2945	95.8	0.90	2.0	7.8	111	N.A.
T3C 355L-2	315	533.27	2945	95.8	0.89	2.0	7.8	111	N.A.

*Minimum value for IE3 motors.

T3C class IE3

4-pole cast iron motors.

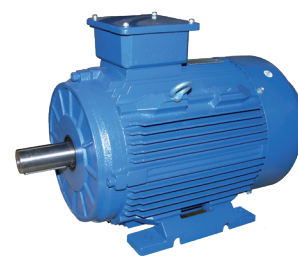
Efficiency class IE3. Output 50 Hz.

All motors as standard in insulation class F. Protection class IP55.

Voltage:

For motors ≤ 4 kW: 3 x 230/400V.

For motors $5.5 \text{ kW} \geq 3 \times 400/690\text{V}$. Also 3x230/400V.



Electrical data for 4-pole

Type/frame	Output kW	Current 400V	Speed rpm	Efficiency %*	Power factor cos Φ	Starting torque Mn/Nm	Starting current Ia/In	Noise dB(A)	Weight kg
T3C 802-4	0.75	1.73	1420	82.5	0.76	2.3	5.4	67	N.A.
T3C 90S-4	1.1	2.42	1425	84.1	0.78	2.3	5.9	67	N.A.
T3C 90L-4	1.5	3.21	1420	85.3	0.79	2.4	6.4	67	N.A.
T3C 100L1-4	2.2	4.47	1430	86.7	0.82	2.4	6.6	70	N.A.
T3C 200L2-4	3	6.17	1430	87.7	0.80	2.4	6.9	70	N.A.
T3C 112M-4	4	8.25	1435	88.6	0.79	2.5	7.9	74	N.A.
T3C 132S-4	5.5	10.81	1430	89.6	0.82	2.3	7.1	78	N.A.
T3C 132M-4	7.5	14.43	1430	90.4	0.83	2.3	7.8	78	N.A.
T3C 160M-4	11	19.09	1440	91.4	0.91	2.5	7.9	82	N.A.
T3C 160L-4	15	25.55	1445	92.1	0.92	2.4	7.8	82	N.A.
T3C 180M-4	18.5	33.15	1445	92.6	0.87	2.4	7.8	82	N.A.
T3C 180L-4	22	38.37	1460	93	0.89	2.3	7.5	82	N.A.
T3C 200L-4	30	52.57	1460	93.6	0.88	2.4	7.9	84	N.A.
T3C 225S-4	37	71.09	1470	93.9	0.80	2.4	6.7	84	N.A.
T3C 225M-4	45	86.19	1480	94.2	0.80	2.3	7	84	N.A.
T3C 250M-4	55	95.36	1480	94.6	0.88	2.4	7.4	86	N.A.
T3C 280S-4	75	125.22	1480	95	0.91	2.2	7.5	90	N.A.
T3C 280M-4	90	148.32	1480	95.2	0.92	2.2	7.7	90	N.A.
T3C 315S-4	110	184.92	1480	95.4	0.90	2	7.8	98	N.A.
T3C 315M-4	132	219.01	1480	95.6	0.91	2	7.8	101	N.A.
T3C 315L1-4	160	264.91	1480	95.8	0.91	2	7.9	101	N.A.
T3C 315L2-4	200	334.12	1480	96	0.90	2	7.7	101	N.A.
T3C 355M-4	250	422.35	1480	96	0.89	2	7.9	106	N.A.
T3C 355L-4	315	526.25	1480	96	0.90	2	7.8	108	N.A.

*Minimum value for IE3 motors.

T3C class IE3

6-pole cast iron motors.

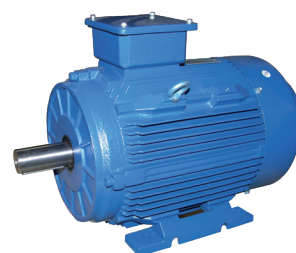
Efficiency class IE3. Output 50 Hz.

All motors as standard in insulation class F. Protection class IP55.

Voltage:

For motors ≤ 4 kW: 3 x 230/400V.

For motors 5.5 kW ≥ 3 x 400/690V. Also 3 x 230/400V.



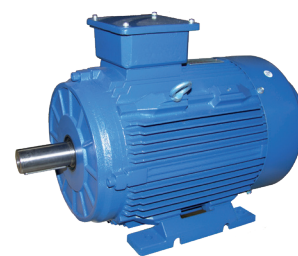
Electrical data for 6-pole

Type/frame	Output kW	Current 400V	Speed rpm	Efficiency %	Power factor cos Φ	Starting torque Mn/Nm	Starting current Ia/In	Noise dB(A)	Weight kg
T3C 90S-6	0.75	1.81	935	78.9	0.76	2.2	6.2	65	N.A.
T3C 90L-6	1.1	2.45	935	81	0.80	2.3	6	65	N.A.
T3C 100L-6	1.5	3.20	940	82.5	0.82	2.3	5.8	67	N.A.
T3C 112M-6	2.2	4.71	940	84.3	0.80	2.3	6.4	67	N.A.
T3C 132S-6	3	6.09	940	85.6	0.83	2.4	6.3	71	N.A.
T3C 132M1-6	4	7.92	945	86.8	0.84	2.5	6.2	71	N.A.
T3C 132M2-6	5.5	11.00	945	88	0.82	2.3	6.8	71	N.A.
T3C 160M-6	7.5	14.46	955	89.1	0.84	2.4	7	75	N.A.
T3C 160L-6	11	20.69	960	90.3	0.85	2.5	7.3	75	N.A.
T3C 180L-6	15	28.60	960	91.2	0.83	2.3	7.8	78	N.A.
T3C 200L1-6	18.5	34.26	965	91.7	0.85	2.4	7.8	78	N.A.
T3C 200L2-6	22	40.05	965	92.2	0.86	2.3	7.9	78	N.A.
T3C 225M-6	30	54.84	975	92.9	0.85	2.2	7.9	81	N.A.
T3C 250M-6	37	68.97	975	93.9	0.83	2.3	7.5	81	N.A.
T3C 280S-6	45	80.61	980	93.7	0.86	2.3	7.2	84	N.A.
T3C 280M1-6	55	98.10	980	94.1	0.86	2.2	7.7	84	N.A.
T3C 315S-6	75	128.58	980	94.6	0.89	2.1	7.9	92	N.A.
T3C 315M-6	90	152.10	980	94.9	0.90	2	8	92	N.A.
T3C 315L1-6	110	185.51	980	95.1	0.90	2	7.7	92	N.A.
T3C 315L2-6	132	224.40	980	95.4	0.89	2	8	92	N.A.
T3C 355M1-6	160	265.47	980	95.6	0.91	2	7.6	102	N.A.
T3C 355M2-6	200	334.82	980	95.8	0.90	2	7.8	102	N.A.
T3C 355L-6	250	422.23	980	95.8	0.89	2	7.8	105	N.A.

*Minimum value for IE3 motors.

MS2 and T2A class IE2

2-, 4- and 6-pole motors with housing made from aluminum.
Efficiency class IE2. Output 50 Hz.
All motors as standard in insulation class F. Protection class IP55.



Voltage:

For motors ≤4 kW: 3 x230/400V.

For motors 5.5 kW ≥ 3x400/690V. Also 3x230/400V.

Electrical data for 2-pole

Type/frame	Output kW	Current 400V	Speed rpm	Efficiency %*	Power factor cos Φ	Starting torque Mn/Nm	Starting current Ia/In	Noise dB(A)	Weight kg
MS 563-2	0.18	0.55	2710	63	0.75	2.2	6	61	4.0
MS 633-2	0.37	1.05	2710	65	0.78	2.2	6	62	4.7
MS 713-2	0.75	1.83	2730	72	0.82	2.2	6	65	7.0
MS2 803-2	1.5	3.32	2800	81.3	0.80	4.1	7.8	70	13
MS 90L2-2	3	6.19	2880	84.6	0.83	4.5	9.8	74	20
MS2 100L2-2	4	7.60	2890	85.8	0.88	3.6	9.5	77	26
MS2 112L-2	5.5	10.3	2915	87.0	0.87	3.6	10.5	78	32.1
T2A 132M2-2	11	19.8	2930	89.4	0.90	4.0	12.5	83	58.5
MS2 160L2-2	22	38.6	2940	91.4	0.90	3.0	11	91	105
MS2 180L2-2	30	51.7	2950	92.0	0.91	3.4	10	94	135

Electrical data for 4-pole

Type/frame	Output kW	Current 400V	Speed rpm	Efficiency %*	Power factor cos Φ	Starting torque Mn/Nm	Starting current Ia/In	Noise dB(A)	Weight kg
MS 563-4	0.12	0.55	1360	52	0.64	2.2	4	52	3.7
MS 633-4	0.25	0.91	1340	60	0.66	2.2	4	54	5.0
MS 713-4	0.55	1.58	1370	67	0.75	2.2	6	58	6.5
T2A 803-4	1.1	2.7	1420	81.4	0.72	2.7	6	60	12.3
T2A 90L2-4	2.2	5.0	1420	84.3	0.76	3.3	6.5	63	18.8
T2A 100L3-4	4	8.4	1445	86.6	0.80	2.8	7.2	65	28.6
T2A 112M2-4	5.5	11.4	1445	87.7	0.80	3.7	8.3	68	36.7
T2A 132M3-4	11	21.1	1460	89.8	0.85	3.2	9.3	74	68
MS2 160L2-4	18.5	34.4	1460	91.2	0.85	2.8	8.2	78	114.5
MS2 180L2-4	30	54.5	1470	92.3	0.86	3.1	9.5	83	134

Electrical data for 6-pole

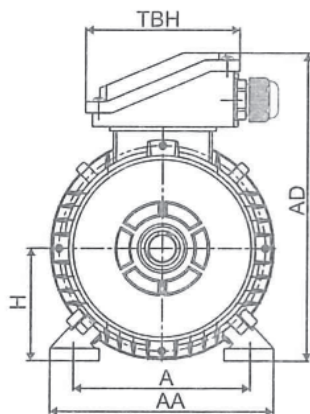
Type/frame	Output kW	Current 400V	Speed rpm	Efficiency %*	Power factor cos Φ	Starting torque Mn/Nm	Starting current Ia/In	Noise dB(A)	Weight kg
MS 713-6	0.37	1.27	890	61	0.69	2.0	4	54	6.8
T2A 803-6	0.75	2.2	930	75.9	0.64	3.0	4.6	58	12.3
T2A 90L2-6	1.5	3.9	935	79.8	0.70	2.7	5.2	60	18.2
T2A 100L2-6	2.2	5.4	950	81.8	0.72	2.5	5.6	63	25
MS2 112L-6	3.0	7.12	940	83.3	0.73	2.8	6	64	32.5
MS2 132L-6	7.5	16.6	970	87.2	0.75	3.6	8.2	68	66

*Minimum value for IE2 motors.

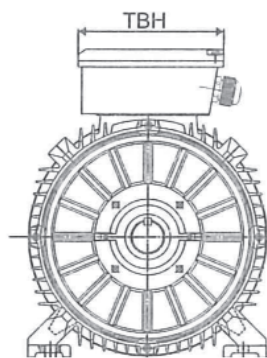
Dimensions for MS2 aluminum motor: See pages 7-9

Dimensions for T2A aluminum motors: See pages 18-22

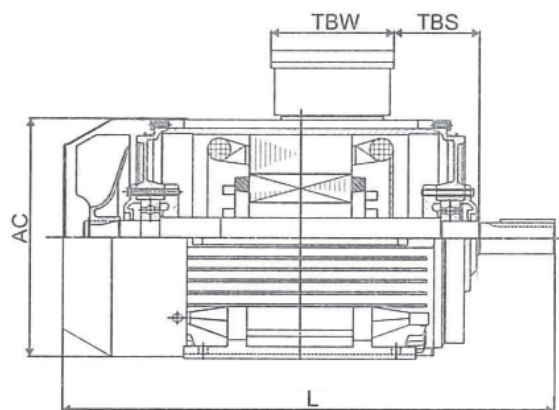
Basic dimensions T1C/T2C/T2A/T3C



Aluminum



Cast iron

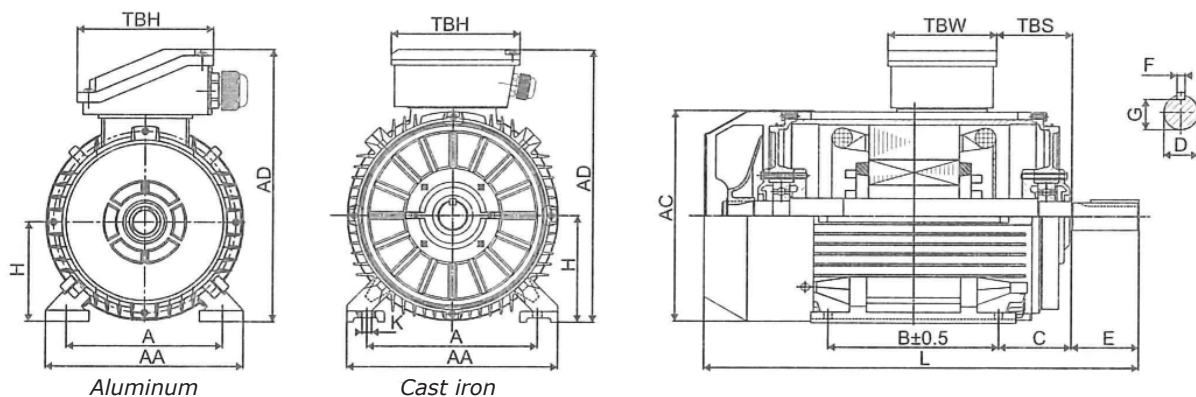


Basic dimensions

Size/frame	AC	L	Gland	TBS	TBW	TBH
80	Ø158	280	1-M20x1.5	16	97	97
90S/L	Ø176	325/350	1-M20x1.5	16	97	97
100	Ø199	388	1-M20x1.5	20	118	118
112	Ø220	405	2-M25x1.5	29	118	118
132S/M	Ø259	467/505	2-M25x1.5	29	118	118
160M/L	Ø313	605/650	2-M32x1.5	91	162	187
180M/L	Ø360	687/725	2-M32x1.5	160/180	162	187
200L	Ø399	768	2-M40x1.5	192	186	233
225S - 4-. 8-pole	Ø465	814	2-M50x1.5	190	186	233
225M - 2-pole	Ø465	809	2-M50x1.5	202	186	233
225M - 4-. 6-. 8-pole	Ø465	839	2-M50x1.5	202	186	233
250M - 2-pole	Ø506	918	2-M50x1.5	233	218	260
250M - 4-. 6-. 8-pole	Ø506	918	2-M50x1.5	233	218	260
280S/M - 2-pole	Ø559	984/1035	2-M50x1.5	265	218	260
280S/M - 4-. 6-. 8-pole	Ø559	984/1035	2-M50x1.5	265	218	260
315S - 2-pole	Ø680	1160	2-M63x1.5	130	350	430
315S - 4-. 6-. 8-pole	Ø680	1190	2-M63x1.5	130	350	430
315M/L - 2-pole	Ø680	1310	2-M63x1.5	130	350	430
315M/L - 4-. 6-. 8-pole	Ø680	1340	2-M63x1.5	130	350	430
355M/L - 2-pole	Ø820	1770	2-M63x1.5	180	350	430
355M/L - 4-. 6-. 8-pole	Ø820	1840	2-M63x1.5	180	350	430

Other dimensions: Please see the following pages.

Basic dimensions B3 foot mounted motor

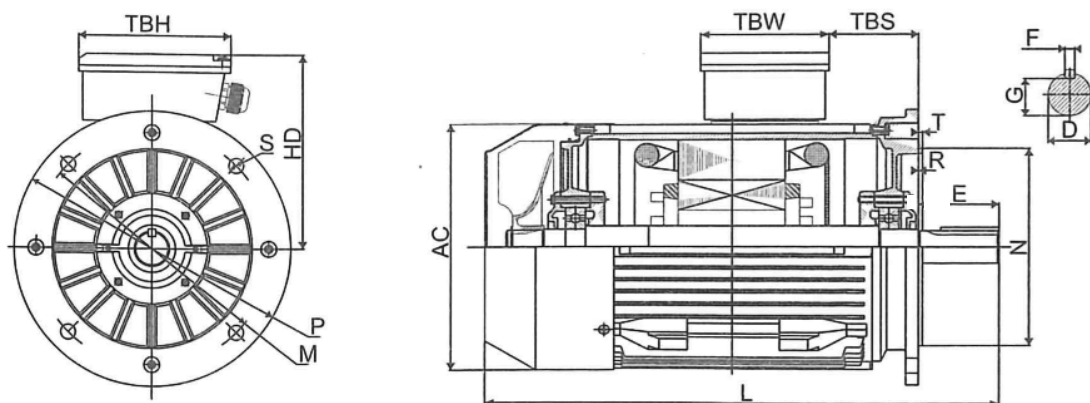


As standard foot mounted motors have removable feet up to frame size 200.

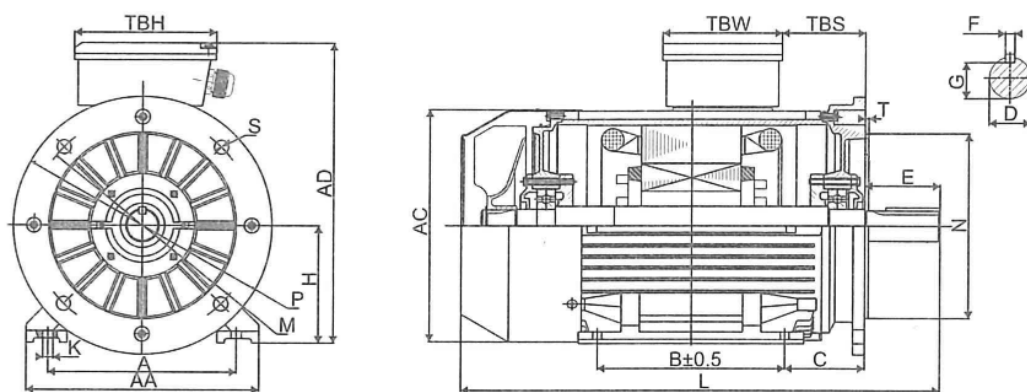
Dimensions B3 foot mounted motor

Size/frame	Foot mounting						Shaft				
	H	AD	AA	A	B	C	D	E	F	G	K
80	80	220	160	125	100	50	Ø19	40	6	15.5	Ø9
90S/L	90	240	175	140	100/125	56	Ø24	50	8	20	Ø10
100	100	265	200	160	140	63	Ø28	60	8	24	Ø12
112	112	291	230	190	140	70	Ø28	60	8	24	Ø12
132S/M	132	332	255	216	140/178	89	Ø38	80	10	33	Ø12
160M/L	160	402	314	254	210/254	108	Ø42	110	12	37	Ø15
180M/L	180	439	348	279	241/279	121	Ø48	110	14	42.5	Ø15
200L	200	497	388	318	305	133	Ø55	110	16	49	Ø19
225S - 4-. 8-pole	225	553	436	356	286	149	Ø60	140	18	53	Ø19
225M - 2-pole	225	553	436	356	311	149	Ø55	110	16	49	Ø19
225M - 4-. 6-. 8-pole	225	553	436	356	311	149	Ø60	140	18	53	Ø19
250M - 2-pole	250	616	484	406	349	168	Ø60	140	18	53	Ø24
250M - 4-. 6-. 8-pole	250	616	484	406	349	168	Ø65	140	18	58	Ø24
280S/M - 2-pole	280	668	557	457	368/419	190	Ø65	140	18	58	Ø24
280S/M - 4-. 6-. 8-pole	280	668	557	457	368/419	190	Ø75	140	20	67.5	Ø24
315S - 2-pole	315	840	630	508	406	216	Ø65	140	18	58	Ø28
315S - 4-. 6-. 8-pole	315	840	630	508	406	216	Ø80	170	22	71	Ø28
315M/L - 2-pole	315	840	630	508	457/508	216	Ø65	140	18	58	Ø28
315M/L - 4-. 6-. 8-pole	315	840	630	508	457/508	216	Ø80	170	22	71	Ø28
355M/L - 2-pole	355	920	740	610	560/630	254	Ø75	140	20	67.5	Ø28
355M/L - 4-. 6-. 8-pole	355	920	740	610	560/630	254	Ø95	170	25	86	Ø28

Basic dimensions B5 flange version



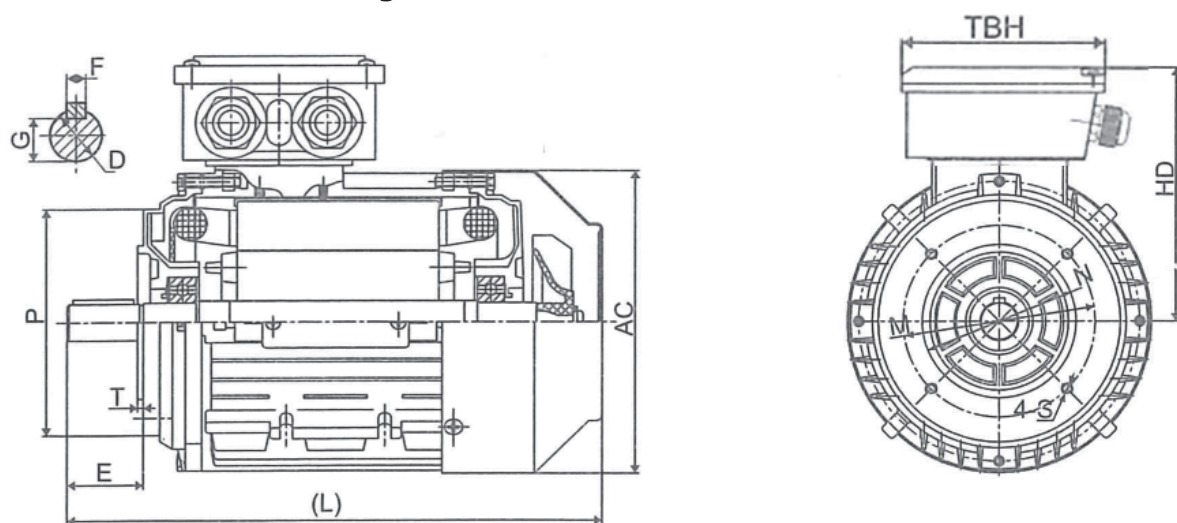
Basic dimensions B35 foot/flange version (For B35 see data foot mounted motor B3 page 19)



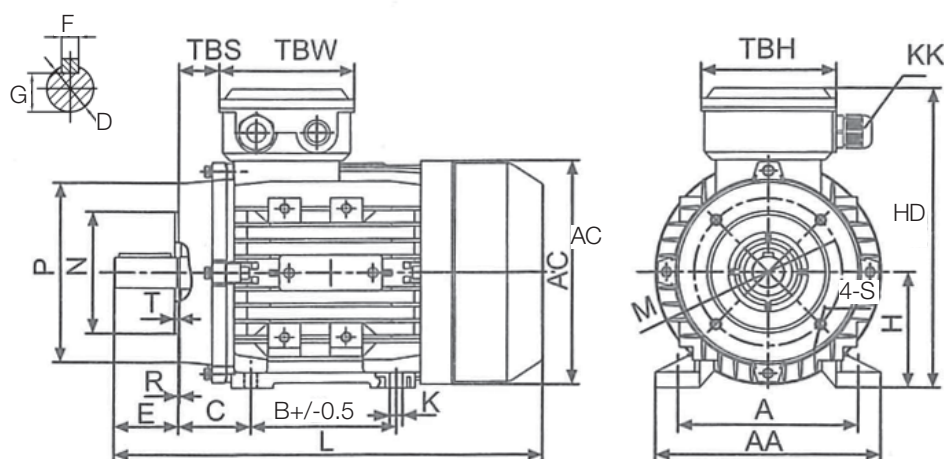
Dimensions F5 flange version

Size/frame	Flange						Shaft				
	N	M	P	S	T	HD	D	E	F	G	K
80	Ø130	Ø165	Ø200	4-Ø12	3.5	140	Ø19	40	6	15.5	Ø9
90S/L	Ø130	Ø165	Ø200	4-Ø12	3.5	150	Ø24	50	8	20	Ø10
100	Ø180	Ø215	Ø250	4-Ø15	4	165	Ø28	60	8	24	Ø12
112	Ø180	Ø215	Ø250	4-Ø15	4	179	Ø28	60	8	24	Ø12
132S/M	Ø230	Ø265	Ø300	4-Ø15	4	200	Ø38	80	10	33	Ø12
160M/L	Ø250	Ø300	Ø350	4-Ø19	5	242	Ø42	110	12	37	Ø15
180M/L	Ø250	Ø300	Ø350	4-Ø19	5	259	Ø48	110	14	42.5	Ø15
200L	Ø300	Ø350	Ø400	4-Ø19	5	297	Ø55	110	16	49	Ø19
225S - 4-. 8-pole	Ø350	Ø400	Ø450	8-Ø19	5	328	Ø60	140	18	53	Ø19
225M - 2-pole	Ø350	Ø400	Ø450	8-Ø19	5	328	Ø55	110	16	49	Ø19
225M - 4-. 6-. 8-pole	Ø350	Ø400	Ø450	8-Ø19	5	328	Ø60	140	18	53	Ø19
250M - 2-pole	Ø450	Ø500	Ø550	8-Ø19	5	366	Ø60	140	18	53	Ø24
250M - 4-. 6-. 8-pole	Ø450	Ø500	Ø550	8-Ø19	5	366	Ø65	140	18	58	Ø24
280S/M - 2-pole	Ø450	Ø500	Ø550	8-Ø19	5	388	Ø65	140	18	58	Ø24
280S/M - 4-. 6-. 8-pole	Ø450	Ø500	Ø550	8-Ø19	5	388	Ø75	140	20	67.5	Ø24
315S - 2-pole	Ø550	Ø600	Ø660	8-Ø24	6	525	Ø65	140	18	58	Ø28
315S - 4-. 6-. 8-pole	Ø550	Ø600	Ø660	8-Ø24	6	525	Ø80	170	22	71	Ø28
315M/L - 2-pole	Ø550	Ø600	Ø660	8-Ø24	6	525	Ø65	140	18	58	Ø28
315M/L - 4-. 6-. 8-pole	Ø550	Ø600	Ø660	8-Ø24	6	525	Ø80	170	22	71	Ø28
355M/L - 2-pole	Ø680	Ø740	Ø800	8-Ø24	6	565	Ø75	140	20	67.5	Ø28
355M/L - 4-. 6-. 8-pole	Ø680	Ø740	Ø800	8-Ø24	6	565	Ø95	170	25	86	Ø28

Basic dimensions B14 flange version



Basic dimensions B34 foot/flange version (For B34 see data footmounted motor B3 page 19)



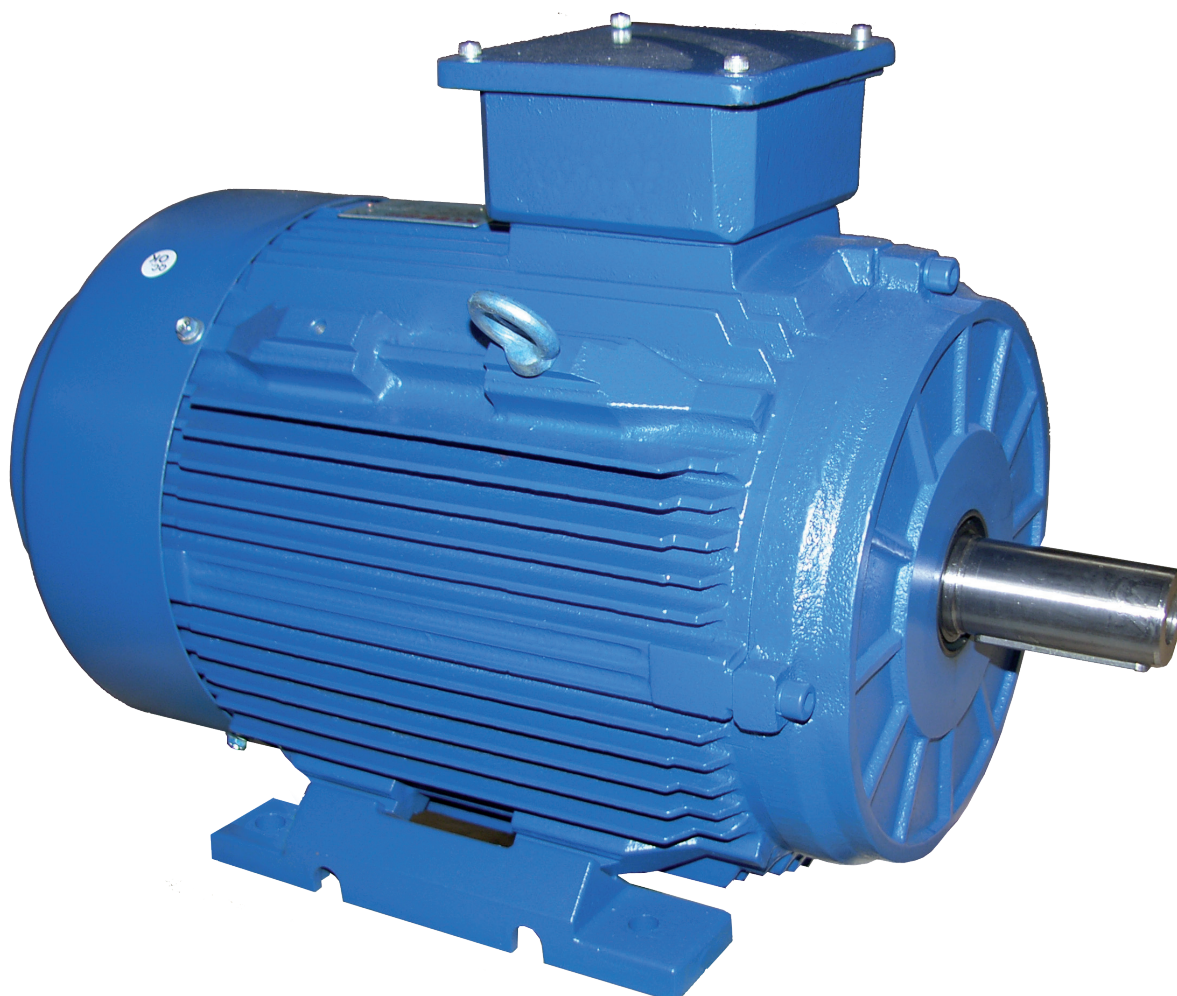
Basic dimensions B14 flange version

Size/frame	Flange						Shaft				
	N	M	P	S	T	HD	D	E	F	G	K
80	Ø80	Ø100	Ø120	M6	3	140	Ø19	40	6	15.5	Ø9
90S/L	Ø95	Ø115	Ø140	M8	3	150	Ø24	50	8	20	Ø10
100	Ø110	Ø130	Ø160	M8	3.5	165	Ø28	60	8	24	Ø12
112	Ø110	Ø130	Ø160	M8	3.5	179	Ø28	60	8	24	Ø12
132S/M	Ø130	Ø165	Ø200	M10	3.5	200	Ø38	80	10	33	Ø12

Bearings

Size/frame	Bearing	
	Shaft end	Fan end
80	6204ZZ	6204ZZ
90S/L	6205ZZ	6205ZZ
100	6206ZZ	6206ZZ
112	6306ZZ	6306ZZ
132S/M	6308ZZ	6308ZZ
160M/L	6309C3	6309C3
180M/L	6311C3	6311C3
200L	6312C3	6312C3
225S - 4-. 8-pole	6313C3	6313C3
225M - 2-pole	6313C3	6313C3
225M - 4-. 6-. 8-pole	6313C3	6313C3
250M - 2-pole	6314C3	6314C3
250M - 4-. 6-. 8-pole	6314C3	6314C3
280S/M - 2-pole	6316C3	6313C3
280S/M - 4-. 6-. 8-pole	6316C3	6316C3
315S - 2-pole	6314C3	6314C3
315S - 4-. 6-. 8-pole	NU319	6319C3
315M/L - 2-pole	6314C3	6314C3
315M/L - 4-. 6-. 8-pole	NU319	6319C3
355M/L - 2-pole	6319C3	6319C3
355M/L - 4-. 6-. 8-pole	NU322	6322C3

We use NSK bearings and oil seals in both shaft end and fan end.



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