Lenze MDERA | Speed 3000rpm 400V 2-pole 50Hz

Type MDERA	Power Pr (kW)	Rated speed n_r (r/min)	Rated current Ir (A) 230V	400V	Efficiency η (%) 100%	75%	50%	Power factor Cos ψ 100%	75%	50%	Rated torque M_r (Nm)	Ts/Tn	Tmax/Tn	Is/In	Inertia J (kgm²)	Noise Lw (dB)	Weight M (Kg)
Aluminium framed																	
056-11	0.09	2750	0.47	0.27	62.0	61.0	57.0	0.77	0.71	0.64	0.31	2.1	2.2	5.2	0.0002	57	3.6
056-21	0.12	2750	0.61	0.35	64.0	63.5	59.0	0.78	0.73	0.65	0.41	2.1	2.2	5.2	0.0002	57	3.9
063-11	0.18	2720	0.87	0.50	65.0	64.0	60.0	0.80	0.73	0.66	0.61	2.2	2.3	5.5	0.0003	58	4.8
063-31	0.25	2720	1.1	0.66	68.0	68.5	66.0	0.81	0.74	0.67	0.96	2.2	2.3	5.5	0.0004	58	5.1
071-11	0.37	2740	1.62	0.94	70.0	71.0	68.5	0.81	0.75	0.66	1.26	2.2	2.3	6.1	0.00055	61	6.0
071-31	0.55	2740	2.30	1.33	73.0	73.0	69.5	0.82	0.76	0.69	1.88	2.2	2.3	6.1	0.0006	61	6.5
080-11	0.75	2840	2.99	1.73	75.0	75.7	72.3	0.83	0.78	0.67	2.54	2.2	2.3	6.1	0.00075	64	8.7
080-31	1.1	2840	4.00	2.30	78.0	80.0	78.2	0.84	0.82	0.72	3.72	2.2	2.3	7.0	0.0009	64	9.5
090-11	1.5	2840	5.02	2.90	80.4	80.2	77.3	0.84	0.80	0.70	5.04	2.2	2.3	7.0	0.0012	69	11.8
090-31	2.2	2840	7.10	4.10	82.0	82.7	81.6	0.85	0.84	0.74	7.40	2.2	2.3	7.0	0.0014	69	13.5
100-11	3.0	2860	9.53	5.50	83.5	83.4	81.3	0.88	0.85	0.76	9.95	2.2	2.3	7.5	0.0029	73	21.0
112-21	4.0	2880		7.10	85.7	85.5	83.5	0.88	0.85	0.76	13.2	2.2	2.3	7.5	0.0055	74	28.0
132-11	5.5	2900		9.70	86.9	84.5	81.5	0.88	0.88	0.82	18.1	2.2	2.3	7.5	0.011	77	39.0
132-21	7.5	2900		12.9	88.0	86.9	85.3	0.88	0.89	0.84	24.7	2.2	2.3	7.5	0.013	77	44.5
Cast iron framed																	
160-11	11	2930		20.2	88.4	87.4	85.3	0.89	0.87	0.83	35.9	2.2	2.3	7.5	0.0377	86	110
160-21	15	2930		27.4	89.4	88.5	86.2	0.89	0.88	0.83	18.9	2.2	2.3	7.5	0.0499	86	120
160-31	18.5	2930		32.9	90.5	92.2	88.6	0.91	0.90	0.87	60.3	2.0	2.3	7.5	0.055	86	135
180-21	22	2940		38.9	90.5	89.9	87.7	0.90	0.89	0.85	71.5	2.0	2.3	7.5	0.075	89	165
200-31	30	2950		52.7	91.4	90.3	87.7	0.85	0.83	0.75	97.1	2.0	2.3	7.5	0.124	92	218
200-41	37	2950		64.5	92.0	91.2	89.3	0.89	0.87	0.81	119	2.0	2.3	7.5	0.139	92	230
225-21	45	2970		78.2	92.5	90.9	88.4	0.89	0.88	0.84	145	2.0	2.3	7.5	0.233	92	280
250-21	55	2970		95.9	93.0	91.9	89.2	0.89	0.84	0.78	177	2.0	2.3	7.5	0.312	93	365
280-11	75	2970		127	93.6	93.1	81.5	0.86	0.88	0.84	241	2.0	2.3	7.5	0.579	94	495
280-21	90	2970		152	94.1	93.1	92.1	0.90	0.87	0.85	289	2.0	2.3	7.1	0.675	94	565
315-11	110	2980		185	94.4	93.9	92.4	0.90	0.87	0.82	353	1.8	2.2	7.1	1.18	96	890
315-21	132	2980		221	94.8	94.3	92.8	0.90	0.85	0.80	423	1.8	2.2	7.1	1.82	96	980
315-31	160	2980		265	95.0	94.5	93.0	0.88	0.88	0.82	513	1.8	2.2	7.1	2.08	99	1055
315-41	200	2980		330	95.0	94.5	93.0	0.91	0.88	0.82	641	1.8	2.2	7.1	2.38	99	1110
355-21	250	2985		411	95.0	94.0	92.5	0.90	0.88	0.81	800	1.8	2.2	7.1	3.00	103	1900
355-31	315	2985		517	95.2	95.2	94.0	0.91	0.89	0.81	1008	1.8	2.2	7.1	3.50	103	2300

Notes

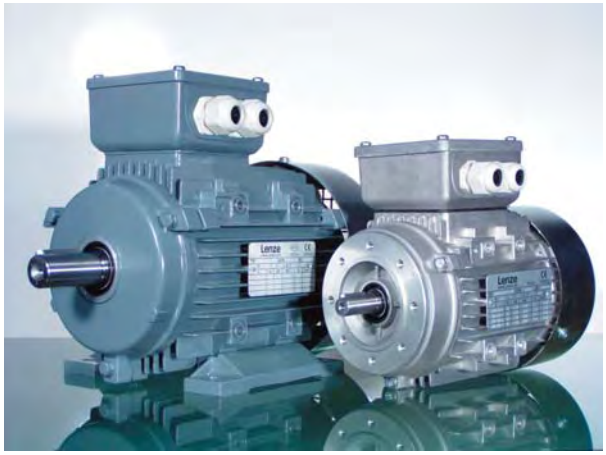
In	Rated current
Ts/Tn	Ratio of stall torque to nominal torque, denotes torque at zero speed.
Tmax/Tn	Ratio of maximum torque to nominal torque, denotes the acceleration torque available from a dynamic motor.
Is/In	Ratio of current at stall to nominal current.

The efficiency of motors depends on the amount of load applied. For maximum efficiency, motors should run at 100% load. Data is given at 100%, 75% and 50% loadings.

Significant savings are possible where motors run under variable load conditions by varying the speed to match the load, for example with pumps and fans. Lenze frequency inverters are ideal to achieve this.

Lenze MDERA | Speed 1500rpm 400V 4-pole 50Hz

Type MDERA	Power Pr (kW)	Rated speed n_r (r/min)	Rated current Ir (A) 230V	400V	Efficiency η (%) 100%	75%	50%	Power factor Cos ψ 100%	75%	50%	Rated torque M_r (Nm)	Ts/Tn	Tmax/Tn	Is/In	Inertia J (kgm²)	Noise Lw (dB)	Weight M (Kg)
Aluminium framed																	
056-12	0.06	1325	0.38	0.22	56.0	55.6	52.0	0.70	0.61	0.54	0.43	2.0	2.1	4.0	0.0003	48	3.6
056-22	0.09	1325	0.54	0.31	58.0	58.2	54.5	0.72	0.62	0.55	0.64	2.0	2.1	4.0	0.0004	48	3.9
063-12	0.12	1310	0.69	0.40	57.0	58.2	54.0	0.72	0.63	0.57	0.84	2.1	2.2	4.4	0.0005	48	4.8
063-32	0.18	1310	1.04	0.60	60.0	60.9	55.5	0.73	0.65	0.57	1.26	2.1	2.2	4.4	0.0006	48	5.1
071-12	0.25	1330	1.21	0.70	65.0	65.4	60.0	0.74	0.65	0.58	1.73	2.1	2.2	5.2	0.0008	53	6.0
071-32	0.37	1330	1.84	1.06	67.0	71.0	68.4	0.75	0.65	0.52	2.56	2.1	2.2	5.2	0.0013	53	6.3
080-12	0.55	1390	2.58	1.49	71.0	72.6	69.0	0.75	0.66	0.55	3.75	2.3	2.3	5.2	0.0018	58	9.4
080-32	0.75	1390	3.34	1.93	73.0	74.2	70.0	0.76	0.65	0.54	5.11	2.3	2.3	6.0	0.0021	58	10.8
090-12	1.1	1390	3.98	2.30	77.0	77.8	75.0	0.77	0.70	0.57	7.50	2.3	2.3	6.0	0.0023	59	12.0
090-32	1.5	1390	5.37	3.10	80.3	78.1	76.7	0.79	0.75	0.64	10.23	2.3	2.3	6.0	0.0027	59	13.8
100-12	2.2	1410	7.62	4.40	81.8	83.0	81.1	0.81	0.76	0.65	14.80	2.3	2.3	7.0	0.0054	61	20.8
100-32	3.0	1410	10.0	5.80	83.4	83.2	81.6	0.82	0.78	0.66	20.18	2.3	2.3	7.0	0.0067	61	23.5
112-22	4.0	1435		7.80	84.9	84.8	82.7	0.82	0.76	0.64	26.53	2.3	2.3	7.0	0.0095	62	29.5
132-12	5.5	1440		10.7	86.5	86.8	85.6	0.83	0.81	0.71	36.48	2.3	2.3	7.0	0.0214	69	41.0
132-22	7.5	1440		14.4	87.8	88.2	87.2	0.84	0.83	0.74	49.7	2.3	2.3	7.0	0.0296	69	47.5
Cast iron framed																	
160-22	11	1460		21.1	89.2	89.2	87.8	0.85	0.83	0.75	71.6	2.2	2.3	7.0	0.0747	75	118
160-32	15	1470		28.6	89.7	89.7	88.4	0.85	0.82	0.75	98.1	2.2	2.3	7.5	0.0918	75	132
180-22	18.5	1470		34.6	90.7	90.6	89.2	0.89	0.86	0.77	120	2.2	2.3	7.5	0.139	76	164
180-32	22	1480		41.0	91.6	91.7	90.7	0.88	0.85	0.75	143	2.2	2.3	7.5	0.158	76	182
200-32	30	1480		54.7	92.6	92.4	91.6	0.87	0.84	0.75	161	2.2	2.3	7.2	0.262	79	245
225-12	37	1480		66.4	92.8	92.7	91.5	0.87	0.84	0.75	199	2.2	2.3	7.2	0.406	81	258
225-22	45	1480		80.4	93.4	93.3	92.5	0.89	0.87	0.81	290	2.2	2.3	7.2	0.469	81	290
250-22	55	1480		97.8	94.0	94.2	93.6	0.89	0.88	0.82	355	2.2	2.3	7.2	0.66	83	388
280-12	75	1480		133	94.0	93.5	92.0	0.91	0.89	0.84	484	2.2	2.3	7.2	1.12	86	510
280-22	90	1485		159	94.0	93.5	91.8	0.88	0.86	0.80	579	2.2	2.3	7.2	1.46	86	606
315-12	110	1485		191	94.4	93.5	91.4	0.88	0.87	0.81	707	2.1	2.2	6.9	3.11	93	910
315-22	132	1485		228	94.8	94.8	93.3	0.91	0.88	0.82	849	2.1	2.2	6.9	3.62	93	1000
315-32	160	1485		273	95.0	64.5	93.5	0.88	0.85	0.78	1029	2.1	2.2	6.9	4.13	97	1055
315-42	200	1485		341	95.0	94.1	92.7	0.89	0.87	0.81	1286	2.1	2.2	6.9	4.73	97	1128
355-22	250	1490		421	95.0	94.4	93.4	0.89	0.87	0.79	1602	2.1	2.2	6.9	6.5	101	1700
355-32	315	1490		528	95.0	95.0	93.8	0.88	0.86	0.79	2019	2.1	2.2	6.9	8.2	101	1900



B3 foot and B14 face mounted motors

Lenze MDERA | Speed 1000rpm 400V 6-pole 50Hz

Type MDERA	Power Pr (kW)	Rated speed n_r (r/min)	Rated current Ir (A) 230V	400V	Efficiency η (%) 100%	75%	50%	Power factor Cos ψ 100%	75%	50%	Rated torque M_r (Nm)	Ts/Tn	Tmax/Tn	Is/In	Inertia J (kgm²)	Noise Lw (dB)	Weight M (Kg)
Aluminium framed																	
063-13	0.09	840	0.87	0.50	44.0	43.0	39.0	0.60	0.53	0.44	1.80	1.8	1.9	3.5	0.00025	48	4.8
063-33	0.12	840	1.02	0.59	48.0	47.0	42.0	0.60	0.53	0.44	2.25	1.8	1.9	3.5	0.00040	48	5.1
071-13	0.18	850	1.21	0.70	56.0	56.0	52.0	0.66	0.58	0.47	1.91	1.9	2.0	4.0	0.00110	49	6.0
071-33	0.25	850	1.56	0.90	59.0	59.0	55.0	0.68	0.58	0.47	2.65	1.9	2.0	4.0	0.00140	49	6.3
080-13	0.37	885	2.15	1.24	62.0	62.0	59.0	0.70	0.60	0.48	3.9	1.9	2.0	4.7	0.00160	51	8.9
080-33	0.55	885	2.94	1.70	65.0	67.0	65.0	0.72	0.64	0.51	5.8	1.9	2.1	4.7	0.00190	51	10.4
090-13	0.75	910	3.78	2.18	69.0	71.0	69.0	0.72	0.64	0.51	7.9	2.0	2.1	5.5	0.0029	54	12.1
090-33	1.1	910	5.25	3.03	72.0	74.0	73.0	0.73	0.65	0.52	11.5	2.0	2.1	5.5	0.0035	54	13.7
100-13	1.5	920	6.50	3.75	76.0	77.0	75.0	0.75	0.69	0.55	15.2	2.0	2.1	5.5	0.0069	58	23.0
112-23	2.2	935	9.18	5.30	79.0	81.0	80.0	0.76	0.69	0.56	22.3	2.1	2.1	6.5	0.0140	62	28.2
132-13	3.0	960	12.1	7.00	81.0	82.5	80.0	0.76	0.67	0.54	29.8	2.1	2.1	6.5	0.0286	66	40.3
132-23	4.0	960		9.30	82.0	84.0	83.0	0.76	0.70	0.57	39.8	2.1	2.1	6.5	0.0357	66	43.0
132-33	5.5	960		12.0	84.0	85.0	84.0	0.77	0.72	0.60	54.7	2.1	2.1	6.5	0.0449	66	47.2
Cast iron framed																	
160-23	7.5	970		16.1	87.0	87.0	85.5	0.76	0.71	0.60	73.8	2.0	2.1	6.5	0.081	73	118
160-33	11	970		22.9	89.0	89.5	89.0	0.78	0.73	0.70	108	2.0	2.1	6.5	0.116	73	145
180-33	15	970		30.0	89.1	89.1	87.8	0.84	0.79	0.67	148	2.1	2.1	7.0	0.207	73	178
200-33	18.5	970		36.6	90.0	90.2	88.9	0.82	0.78	0.67	182	2.1	2.0	7.0	0.315	76	200
200-43	22	970		42.4	90.1	90.1	88.6	0.83	0.78	0.71	217	2.1	2.0	7.0	0.36	76	228
225-23	30	980		56.3	91.1	91.5	90.2	0.88	0.79	0.79	292	2.0	2.0	7.0	0.547	76	265
250-23	37	980		67.4	92.8	92.8	91.8	0.86	0.86	0.76	361	2.1	2.0	7.0	0.843	78	370
280-13	45	980		81.7	93.0	92.5	91.5	0.87	0.83	0.77	439	2.1	2.0	7.0	1.39	80	490
280-23	55	980		99.8	93.0	92.5	91.5	0.88	0.85	0.78	536	2.1	2.0	7.0	1.65	80	540
315-13	75	980		134	94.0	93.5	92.0	0.88	0.85	0.78	731	2.0	2.0	7.0	4.11	85	900
315-23	90	985		161	94.0	93.5	92.0	0.86	0.85	0.78	873	2.0	2.0	6.7	4.78	85	980
315-33	110	985		196	94.3	93.9	92.5	0.86	0.84	0.77	1066	2.0	2.0	6.7	5.45	85	1045
315-43	132	985		232	94.7	94.2	93.0	0.87	0.84	0.77	1280	2.0	2.0	6.7	6.12	85	1100
355-13	160	990		277	94.9	94.2	93.0	0.87	0.87	0.82	1543	1.9	2.0	6.7	9.5	95	1550
355-23	200	990		347	94.9	94.5	93.7	0.89	0.87	0.83	1913	1.9	2.0	6.7	10.4	95	1700
355-33	250	990		432	95.0	95.0	94.0	0.88	0.86	0.80	2412	1.9	2.0	6.7	12.4	94	1700

Notes

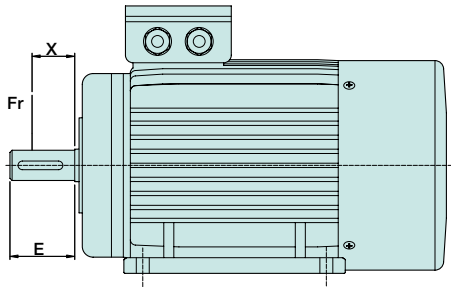
In	Rated current
Ts/Tn	Ratio of stall torque to nominal torque, denotes torque at zero speed.
Tmax/Tn	Ratio of maximum torque to nominal torque, denotes the acceleration torque available from a dynamic motor.
Is/In	Ratio of current at stall to nominal current.

The efficiency of motors depends on the amount of load applied. For maximum efficiency, motors should run at 100% load. Data is given at 100%, 75% and 50% loadings.

Significant savings are possible where motors run under variable load conditions by varying the speed to match the load, for example with pumps and fans. Lenze frequency inverters are ideal to achieve this.

Radial and axial forces should not be applied together at their maximum values.

Forces are given in N.



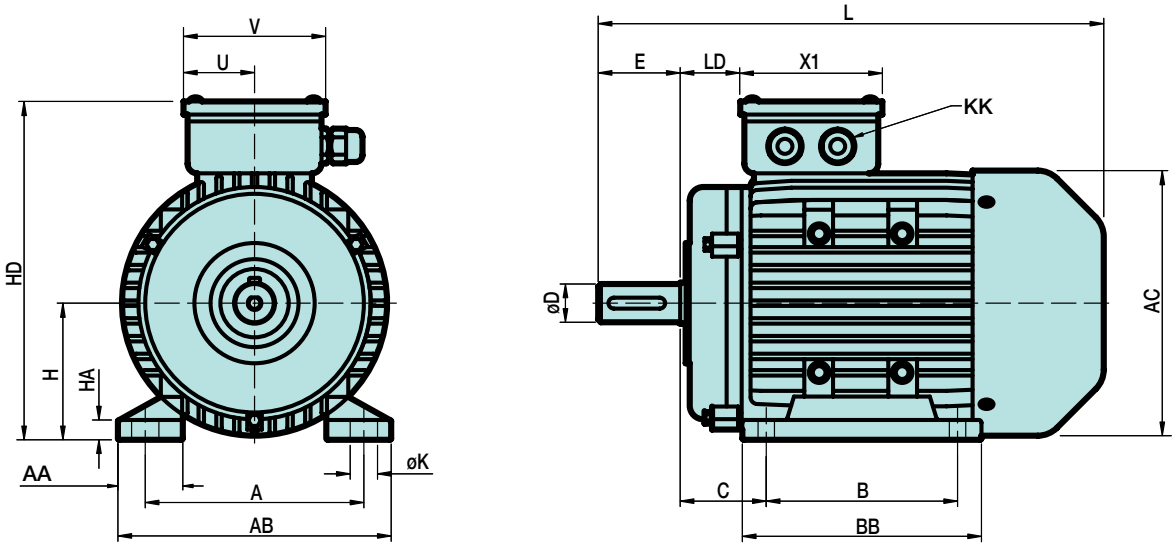
Aluminium framed				
Frame MDERA	Poles	Fr max x = E	Fr max x = 0	Fa max
056	2	250	300	250
	4	325	400	350
063	2	275	325	350
	4	350	400	350
071	2	300	375	300
	4	375	450	400
080	2	500	625	475
	4	625	775	625
090-1	2	525	675	500
	4	675	875	675
	6	775	1000	825
090-3	2	550	700	500
	4	700	875	675
	6	825	1025	825
100	2	775	7000	700
	4	1000	1250	950
	6	1150	1425	1125
112	2	775	975	700
	4	975	1225	950
	6	1125	1400	1125
132-1	2	1150	1475	1075
	4	1450	1850	1450
	6	1650	2125	1725
132-2,3	2	1200	1500	1075
	4	1500	1900	1450
	6	1725	2175	1725

Cast iron framed				
Frame MDERA	Poles	Fr max x = E	Fr max x = 0	Fa max
160-2	2	2000	2600	2150
	4	2525	3275	2850
	6	2900	3750	2850
160-3	2	2100	2650	2150
	4	2650	3350	2850
	6	3025	3850	2850
180-2	2	2925	3675	2900
	4	3700	4650	3800
180-3	4	3800	4700	3800
	6	4350	5375	4525
200	2	3450	4200	3325
	4	4350	5300	4350
	6	4975	6075	5150
225-1	4	4600	5875	4900
225-2	2	3875	4700	3725
	4	4675	5925	4900
	6	5350	6775	5775
250	2	4325	5350	4175
	4	5450	6750	5500
	6	6250	7725	6500
280-1	2	4350	5300	4175
	4	7025	8550	6900
	6	8250	9800	9125
280-2	2	4475	5375	4175
	4	7200	8650	6900
	6	8250	9925	8125
315-1	2	5850	6875	5175
	4	10000	21000	7875
	6	10000	24000	9225
315-2,3,4	2	6050	7000	5175
	4	9000	22000	7875
	6	9000	24000	9225
355	2	7250	8175	5875
	4	11500	27000	10075
	6	11500	27000	11950

Bearing size (at both ends)

Aluminium framed		
Frame	Bearings	
56,63	6201	2RS-C3
71	6202	2RS-C3
80	6204	2RS-C3
90	6205	2RS-C3
100	6206	2RS-C3
112	6206	2RS-C3
132	6208	2RS-C3

Cast iron framed	
Frame	Bearings
160	6309-C3
180	6311-C3
200	6312-C3
225	6313-C3
250	6314-C3
280 2 pole	6314-C3
280 4, 6 pole	6317-C3
larger sizes on request	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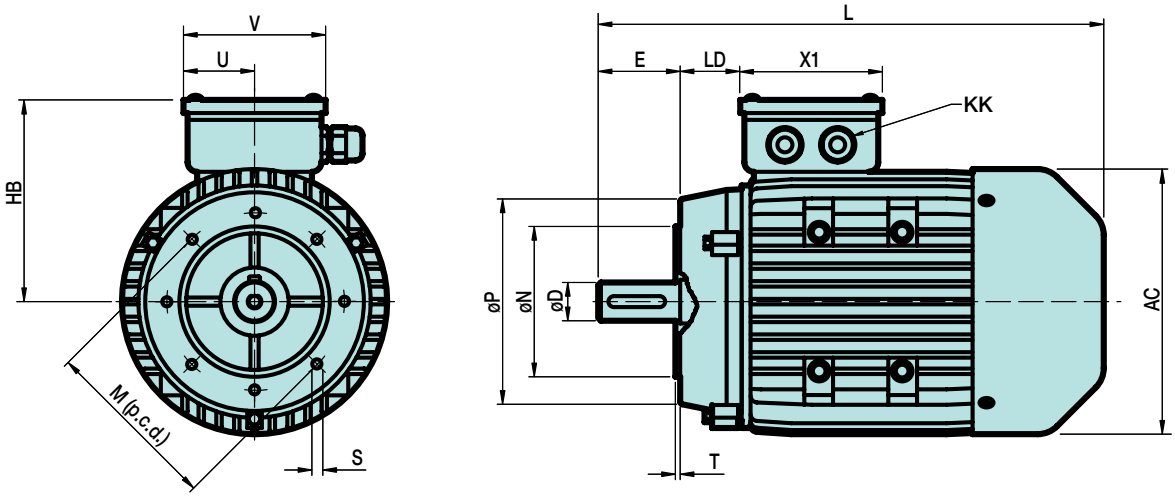
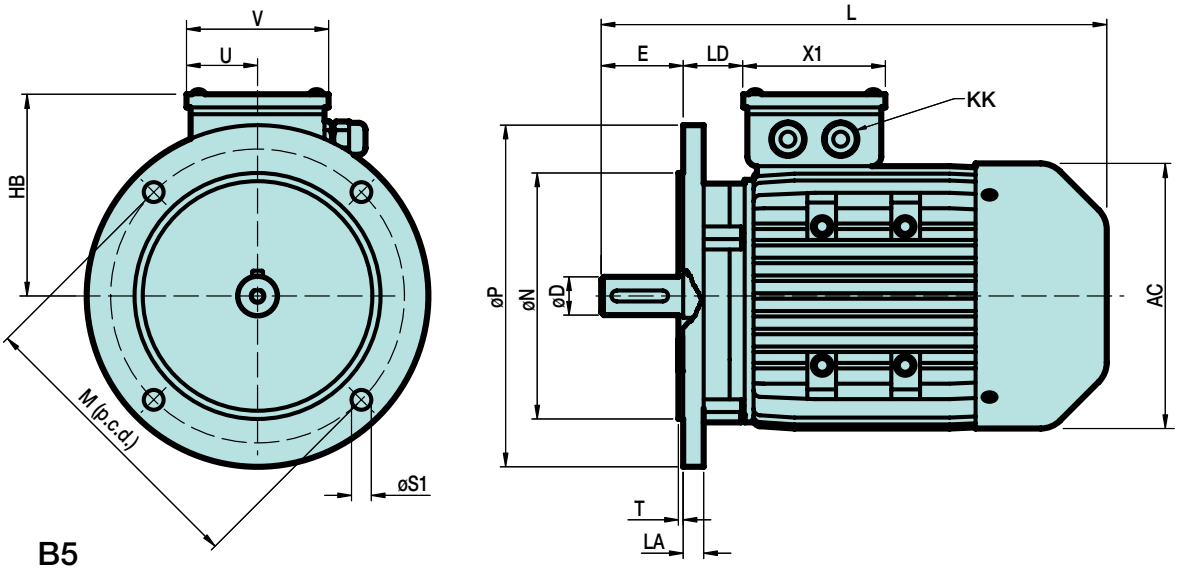
BB

B3


V
U
HB
M (p.c.d.)
S
L
E
LD
X1
KK
øP
øN
øD
AC
T

B14


V
U
HB
M (p.c.d.)
øS1
L
E
LD
X1
KK
øP
øN
øD
AC
T
LA

B5

Frame	General					Feet								Terminal box						
	ac	D	E	H	L	A	AA	AB	B	BB	C	HA	K	HB	HD	LD	X1	U	V	KK
056	112	9	20	56	170	90	23	115	71	88	36	7	5.8	100	156	23	80	40	80	M20x1.5
063	120	11	23	63	225	100	24	135	80	100	40	7	7.0	115	178	29	87	43.5	87	M20x1.5
071	136	14	30	71	250	112	26	150	90	110	45	8	7.0	120	191	37	87	43.5	87	M20x1.5
080	155	19	40	80	295	125	35	165	100	125	50	9	10.0	145	225	34.5	87	43.5	87	M25x1.5
090-1x 090-3x	175	24	50	90	315 340	140	37	180	100 125	125 150	56	10	10.0	155	245	33	106	53	87	M25x1.5
100	195	28	60	100	385	160	40	205	140	172	63	11	12.0	180	280	30.5	106	53	106	M32x1.5
112	220	28	60	112	400	190	41	230	140	181	70	12	12.0	190	302	37.5	114	57	114	M32x1.5
132-1x 132-21	260	38	80	132	470	216	51	270	140	186	89	15	12.0	210	342	46	114	57	114	M32x1.5
132-22 132-23 132-33	260	38	80	132	510	216	51	270	178	224	89	15	12.0	210	342	46	114	57	114	M32x1.5

Frame	B5 mounting						B14 mounting					Alternative B14 mounting*				
	M	N	P	S	T	LA	M	N	P	S	T	M	N	P	S	T
056	100	80	120	7	3	8	65	50	80	M5	2.5	85	70	105	M6	2.5
063	115	95	140	10	3	10	75	60	90	M5	2.5	85	70	105	M6	2.5
071	130	110	160	10	3.5	10	85	70	105	M6	2.5	115	95	140	M8	3.0
080	165	130	200	12	3.5	12	100	80	120	M6	3.0	130	110	160	M8	3.5
090	165	130	200	12	3.5	12	115	95	140	M8	3.0	130	110	160	M8	3.5
100	215	180	250	15	4	13	130	110	160	M8	3.5	165	130	200	M10	3.5
112	215	180	250	15	4	14	130	110	160	M8	3.5	165	130	200	M10	3.5
132	265	230	300	15	4	14	165	130	200	M10	3.5	215	180	250	M12	4.0

* available on request

Frame	Shaft and keyway					
	D	E	F	G	GD	DH
056	9	20	3	7.2	3	M4x12
063	11	23	4	8.5	4	M4x12
071	14	30	5	11	5	M5x12
080	19	40	6	15.5	6	M6x16
090	24	50	8	20.0	7	M8x19
100 112	28	60	8	24.0	7	M10x22
132	38	80	10	33.0	8	M12x28