

A-Y3A SERIES

THREE-PHASE ASYNCHRONOUS MOTOR



PRODUCT INFORMATION

A-Y3A Series three-phase asynchronous motors, developed with new techniques.

A-Y3A series motors are defined as totally enclosed, fan cooled, squirrel cage type and noted for their novel design, beautiful model, compact structured, low noise, high efficiency, large torque, excellent starting performance, easy serving, etc. The motors are adopted with F class insulation and designed with assessing method for insulation system according to international practice, it enhances greatly have reached an international advanced level of the same kind of products at the initial days of the 90s.

A-Y3A series motors can be widely used as driving equipments of various Machineries, such as machine tools, blowers, pumps, compressors, transporters, agricultural and food processing. Pedestal installation size and centre height and other indexes of the motor completely measured by A-Y3A series three-phase asynchronous motor.

SPECIFICATION

Rated Voltage | 380V, 400V, 415V, 440V

Rated Frequency | 50Hz, 60Hz

Connection | Y Star-connection for 4kw or less
whereas and Δ delta-connection.

Duty/Rating | Continuous (S1)

Protections Class | IP55

Insulation Class | F

The temperature rise of the stator winding is examined at 80K (by resistance Method)

Installation Methods | B3/B5/B35/V1/V18

Ambient Temperature | -15°C ~+ 40°C

Altitude | Altitude should be higher than 1000 metres above sea level

Cooling Method | IC411

Note. Data May Change Without Notice

2-Pole, 3000 r/min Synchronous Speed

Motor Type	Rated Power		Rated Speed r/min	Full load current at rated Voltage Amps (A)			Frequency at Constant Power HZ	Direct on line Starting Torque Ratio LRT	Direct on line Starting Torque Ratio LRT	Direct on line Starting Current Ratio RLA	Efficiency η (%)	Power Factor (cos Φ)	Rotor Inertia WK ² J kg.m ² *10 ³
	kW	HP		380V	400V	415V							
561-2	0.09	0.12	2700	0.29	0.27	0.26	50	2.2	2.1	5.2	62.00	0.77	0.18
562-2	0.12	0.16	2700	0.37	0.35	0.33	50	2.2	2.1	5.2	64.00	0.78	0.23
63M1-2	0.18	0.25	2720	0.53	0.5	0.49	50	2.3	2.3	5.5	65.00	0.80	0.31
63M2-2	0.25	0.34	2720	0.69	0.65	0.63	50	2.3	2.3	5.5	68.00	0.81	0.6
71M1-2	0.37	0.5	2755	1.01	0.96	0.92	50	2.2	2.3	6.1	69.00	0.81	0.75
71M2-2	0.55	0.75	2790	1.38	1.3	1.26	50	2.3	2.3	6.1	74.00	0.82	0.9
80M1-2	0.8	1	2840	1.77	1.67	1.6	50	2.3	2.2	6.1	75.00	0.83	1.2
80M2-2	1.1	1.5	2840	2.61	2.34	2.24	50	2.3	2.2	6.9	76.20	0.84	1.4
90S-2	1.5	2	2850	3.46	3.29	3.15	50	2.3	2.2	7.0	78.50	0.84	2.9
90L-2	2.2	3	2855	4.85	4.6	4.4	50	2.3	2.2	7.0	81.00	0.85	5.5
100L-2	3	4	2860	6.34	6.02	5.77	50	2.3	2.2	7.5	82.60	0.87	10.9
112M-2	4	5.5	2880	8.2	7.8	7.46	50	2.3	2.2	7.5	84.20	0.88	12.6
132S1-2	5.5	7.5	2900	11.1	10.5	10.1	50	2.3	2.2	7.5	85.70	0.88	37.7
132S2-2	7.5	10	2900	14.9	14.15	13.56	50	2.3	2.2	7.5	87.00	0.88	49.9
160M1-2	11	15	2930	21.3	20.2	19.4	50	2.3	2.2	7.5	88.00	0.89	55
160M2-2	15	20	2930	28.8	27.4	26.2	50	2.3	2.2	7.5	89.00	0.89	75
160L-2	18.5	25	2930	34.7	32.97	31.6	50	2.3	2.2	7.5	90.00	0.90	124

4-Pole, 1500 r/min Synchronous Speed

Motor Type	Rated Power		Rated Speed r/min	Full load current at rated Voltage Amps (A)			Frequency at Constant Power HZ	Direct on line Starting Torque Ratio LRT	Direct on line Starting Torque Ratio LRT	Direct on line Starting Current Ratio RLA	Efficiency η (%)	Power Factor (cos Φ)	Rotor Inertia WK ² J kg.m ² *10 ³
	kW	HP		380V	400V	415V							
561-4	0.06	0.08	1300	0.23	0.22	0.21	50	2.1	2.0	4.0	56.00	0.70	3
562-4	0.09	0.12	1300	0.33	0.31	0.30	50	2.1	2.0	4.0	58.00	0.72	4
63M1-4	0.12	0.16	1310	0.44	0.42	0.40	50	2.2	2.1	4.4	57.00	0.72	5
63M2-4	0.18	0.25	1310	0.62	0.59	0.56	50	2.2	2.1	4.4	60.00	0.73	6
71M1-4	0.25	0.34	1340	0.79	0.75	0.72	50	2.2	2.1	5.2	65.00	0.74	8
71M2-4	0.37	0.5	1340	1.12	1.1	1.0	50	2.2	2.1	5.2	67.00	0.75	1.3
80M1-4	0.55	0.75	1390	1.52	1.44	1.38	50	2.3	2.4	5.2	71.00	0.75	1.8
80M2-4	0.8	1	1390	1.95	1.85	1.77	50	2.3	2.3	6.0	73.00	0.76	2.1
90S-4	1.1	1.5	1390	2.85	2.7	2.6	50	2.3	2.3	6.0	76.20	0.77	2.3
90L-4	1.5	2	1400	3.72	3.53	3.39	50	2.3	2.3	6.0	78.50	0.78	2.7
100L1-4	2.2	3	1420	5.09	4.83	4.6	50	2.3	2.3	7.0	81.00	0.81	5.4
100L2-4	3	4	1420	6.78	6.4	6.17	50	2.3	2.3	7.0	82.60	0.82	6.7
112M-4	4	5.5	1435	8.8	8.36	8.0	50	2.3	2.3	7.0	84.20	0.82	9.5
132S-4	5.5	7.5	1440	11.7	11.12	10.65	50	2.3	2.3	7.0	85.70	0.83	21.4
132M-4	7.5	10	1450	15.6	14.8	14.2	50	2.3	2.3	7.0	87.00	0.84	29.6
160M-4	11	15	1460	22.3	21.2	20.3	50	2.3	2.3	7.0	88.00	0.85	74.7
160L-4	15	20	1460	30.1	28.6	27.4	50	2.3	2.3	7.0	89.00	0.85	91.8

Note. Data May Change Without Notice

PERFORMANCE PARAMETERS

A-Y3A SERIES

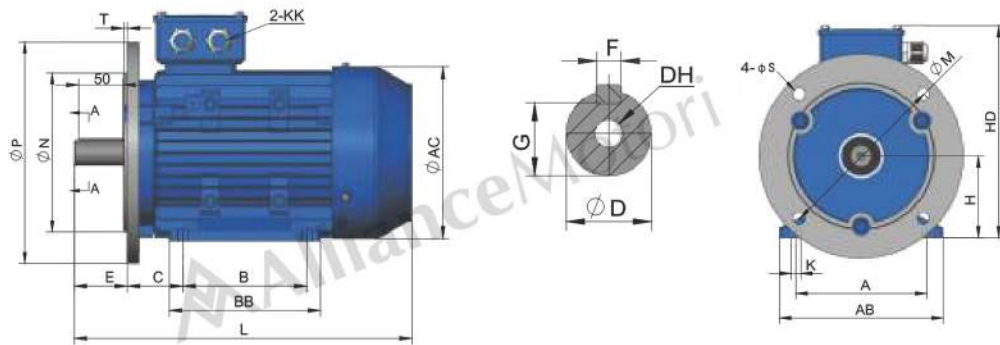
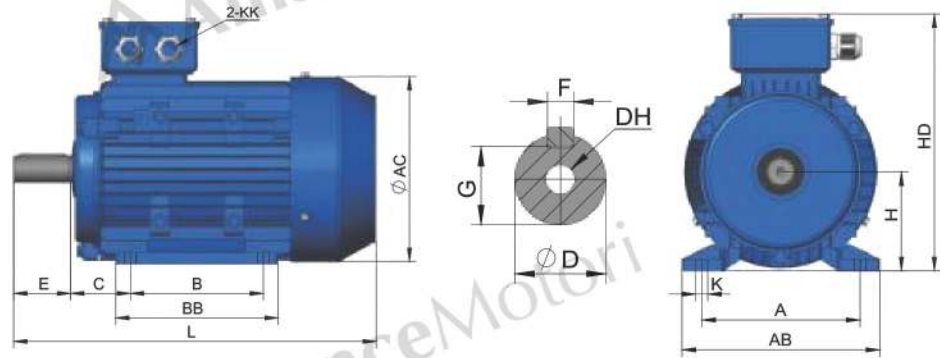
6-Pole, 1000 r/min Synchronous Speed

Motor Type	Rated Power		Rated Speed r/min	Full load current at rated Voltage Amps (A)			Frequency at Constant Power HZ	Direct on line starting torque ratio RLT	Direct on line starting current ratio RLA	Direct on line pull out torque ratio RLT	Efficiency η %	Power Factor cos Φ	Rotor Inertia WK ² J Kg.m ² *10 ³
	kW	HP		380V	400V	415V							
71M1-6	0.18	0.25	870	0.74	0.7	0.67	50	2.0	1.9	4.0	56.00	0.66	1.1
71M2-6	0.25	0.34	870	0.95	0.9	0.86	50	2.0	1.9	4.0	59.00	0.68	1.4
80M1-6	0.37	0.5	880	1.23	1.17	1.12	50	2.0	1.9	4.7	62.00	0.70	1.6
80M2-6	0.55	0.75	880	1.7	1.6	1.55	50	2.1	1.9	4.7	65.00	0.72	1.9
90S-6	0.8	1	905	2.29	2.18	2.08	50	2.1	2.0	5.3	69.00	0.72	2.9
90L-6	1.1	1.5	905	3.18	3.02	2.9	50	2.1	2.0	5.5	72.00	0.73	3.5
100L-6	1.5	2	920	4.0	3.8	3.64	50	2.1	2.0	5.5	76.00	0.76	6.9
112M-6	2.2	3	935	5.6	5.32	5.1	50	2.1	2.0	6.5	79.00	0.76	1.4
132M1-6	3	4	960	7.4	7.03	6.73	50	2.1	2.1	6.5	81.00	0.76	28.6
132S-6	4	5.5	960	9.5	9.03	8.65	50	2.1	2.1	6.5	82.00	0.76	35.7
132M2-6	5.5	7.5	960	12.6	11.97	11.16	50	2.1	2.1	6.5	84.00	0.77	44.9
160M-6	7.5	10	970	16.9	16.1	15.6	50	2.1	2.0	6.5	86.00	0.78	81
160L-6	11	15	970	24.2	22.99	22.02	50	2.1	2.0	6.5	87.50	0.79	11.6

8-Pole, 750 r/min Synchronous Speed

Motor Type	Rated Power		Rated Speed r/min	Full load current at rated Voltage Amps (A)			Frequency at Constant Power HZ	Direct on line starting torque ratio RLT	Direct on line starting current ratio RLA	Direct on line pull out torque ratio RLT	Efficiency η %	Power Factor cos Φ	Rotor Inertia WK ² J Kg.m ² *10 ³
	kW	HP		380V	400V	415V							
80M1-8	0.18	0.25	645	0.85	0.84	0.80	50	1.9	1.8	3.3	51.00	0.61	2.5
80M2-8	0.25	0.34	645	1.15	1.05	1.06	50	1.9	1.8	3.3	54.00	0.61	3
90S-8	0.37	0.5	675	1.49	1.4	1.36	50	1.9	1.8	4.0	62.00	0.61	5.1
90L-8	0.55	0.75	680	2.17	2.06	2.0	50	2.0	1.8	4.0	63.00	0.61	6.5
100L1-8	0.8	1	680	2.43	2.3	2.2	50	2.0	1.8	4.0	70.00	0.67	9.5
100L2-8	1.1	1.5	680	3.36	3.2	3.06	50	2.0	1.8	5.0	72.00	0.69	11
112M-8	1.5	2	690	4.4	4.22	4.04	50	2.0	1.8	5.0	74.00	0.70	24.5
132S-8	2.2	3	710	6.0	5.7	5.46	50	2.0	1.8	6.0	79.00	0.71	31.4
132M-8	3	4	710	7.8	7.4	7.1	50	2.0	1.8	6.0	80.00	0.73	39.5
160M1-8	4	5.5	720	10.3	9.78	9.37	50	2.0	1.9	6.0	81.00	0.73	75.3
160M2-8	5.5	7.5	720	13.6	12.9	12.38	50	2.0	2.0	6.5	83.00	0.74	93.1

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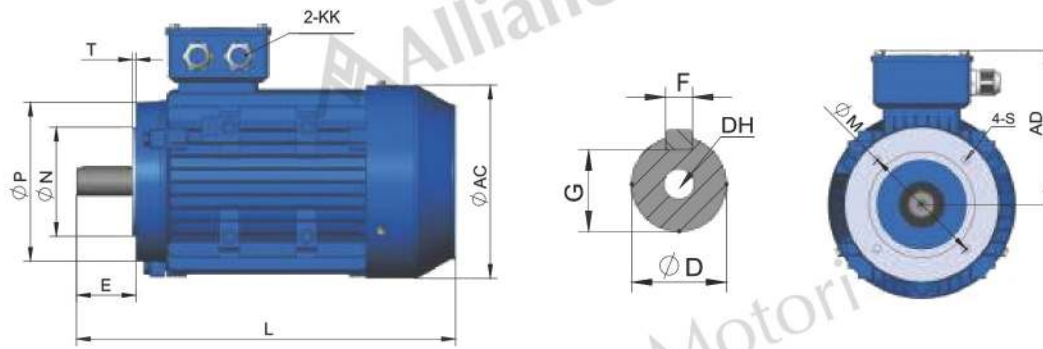
Frame	Mounting Dimensions											Overall Dimensions												
	A	AA	AB	BB	HA	AC	AD	B	C	D	DH	E	F	G	H	K	KK - METRIC	KK - PG	L	M	N	P	S	T
Y3A-56	90	23	115	88	7	110	100	71	36	9	M4 x 12	20	3	7.2	56	5.8	2-M20 x 1.5	2-PG13.5	199	100	80	120	Ø7	3.0
Y3A-63	100	24	137	100	7	123	111	80	40	11	M4 x 12	23	4	8.5	63	7.0	2-M20 x 1.5	2-PG13.5	221	115	95	140	Ø10	3.0
Y3A-71	112	26	138	110	8	137	127	90	45	14	M5 x 12	30	5	11	71	7.0	2-M20 x 1.5	2-PG13.5	247	130	110	160	Ø10	3.5
Y3A-80	125	35	157	125	9	155	136	100	50	19	M6 x 16	40	6	15.5	80	10.0	2-M20 x 1.5	2-PG16	290	165	130	200	Ø12	3.5
Y3A-90S	140	37	175	125	10	175	144	100	56	24	M8 x 19	50	8	20.0	90	10.0	2-M25 x 1.5	2-PG16	315	165	130	200	Ø12	3.5
Y3A-90L	140	37	175	150	10	175	144	125	56	24	M8 x 19	50	8	20.0	90	10.0	2-M25 x 1.5	2-PG16	340	165	130	200	Ø12	3.5
Y3A-100L	160	40	200	172	11	195	160	140	63	28	M10 x 22	60	8	24.0	100	12.0	2-M32 x 1.5	2-PG21	382	215	180	250	Ø15	4.0
Y3A-112M	190	41	226	181	12	220	183	140	70	28	M10 x 22	60	8	24.0	112	12.0	2-M32 x 1.5	2-PG21	400	215	180	250	Ø15	4.0
Y3A-132S	216	51	260	186	14.5	258	198	140	89	38	M12 x 28	80	10	33.0	132	12.0	2-M32 x 1.5	2-PG21	469	265	230	300	Ø15	4.0
Y3A-132M	216	51	260	224	14.5	258	198	178	89	38	M12 x 28	80	10	33.0	132	12.0	2-M32 x 1.5	2-PG21	508	265	230	300	Ø15	4.0
Y3A-160M	254	60	314	260	18	315	255	210	108	42	M16 x 36	110	12	37.0	160	15.0	2-M40 x 1.5	2-PG29	613	300	250	350	Ø19	5.0
Y3A-160L	254	60	314	304	18	315	255	254	108	42	M16 x 36	110	12	37.0	160	15.0	2-M40 x 1.5	2-PG29	658	300	250	350	Ø19	5.0

Note. Data May Change Without Notice

DIMENSIONS MOUNT

A-Y3A SERIES

IM B14A 56-160



IM B14B 56-160



2-8P

Frame	B14A															B14B				
	AC	AD	D	DH	E	F	G	KK - METRIC	KK - PG	L	M	N	P	S	T	M	N	P	S	T
Y3A-56	110	100	9	M4 x 12	20	3	7.2	2-M20 x 1.5	2-PG13.5	199	65	50	80	M5	2.5	85	70	105	M6	2.5
Y3A-63	123	109	11	M4 x 12	23	4	8.5	2-M20 x 1.5	2-PG13.5	221	75	60	90	M5	2.5	100	80	120	M6	2.5
Y3A-71	137	127	14	M5 x 12	30	5	11.0	2-M20 x 1.5	2-PG13.5	247	85	70	105	M6	2.5	115	95	140	M8	3.0
Y3A-80	155	134	19	M6 x 16	40	6	15.5	2-M25 x 1.5	2-PG16	290	100	80	120	M6	3.0	130	110	160	M8	3.5
Y3A-90S	175	140	24	M8 x 19	50	8	20.0	2-M25 x 1.5	2-PG16	315	115	95	140	M8	3.0	130	110	160	M8	3.5
Y3A-90L	175	140	24	M8 x 19	50	8	20.0	2-M25 x 1.5	2-PG16	340	115	95	140	M8	3.0	130	110	160	M8	3.5
Y3A-100L	195	160	28	M10 x 22	60	8	24.0	2-M32 x 1.5	2-PG21	382	130	110	160	M8	3.5	165	130	200	M10	3.5
Y3A-112M	220	178	28	M10 x 22	60	8	24.0	2-M32 x 1.5	2-PG21	400	130	110	160	M8	3.5	165	130	200	M10	3.5
Y3A-132S	258	206	38	M12 x 28	80	10	33.0	2-M32 x 1.5	2-PG21	469	165	130	200	M10	3.5	215	180	250	M12	4.0
Y3A-132M	258	206	38	M12 x 28	80	10	33.0	2-M32 x 1.5	2-PG21	508	165	130	200	M10	3.5	215	180	250	M12	4.0
Y3A-160M	315	255	42	M16 x 36	110	12	37.0	2-M40 x 1.5	2-PG29	613	215	180	150	M12	4.0	265	230	300	M16	5.0
Y3A-160L	315	255	42	M16 x 36	110	12	37.0	2-M40 x 1.5	2-PG29	658	215	180	150	M12	4.0	265	230	300	M16	5.0

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BEARING SIZE & INSTALLATION DRAWING

A-Y3A Series

Frame Size	Poles	Drive End	Non-Drive End
		International Type	International Type
Y3A-56	2 ~ 4	62012RZ	62012RZ
Y3A-63	2 ~ 4	62012RZ	62012RZ
Y3A-71	2 ~ 6	62022RZ	62022RZ
Y3A-80	2 ~ 8	62042RZ	62042RZ
Y3A-90	2 ~ 8	62052RZ	62052RZ
Y3A-100	2 ~ 8	62062RZ	62062RZ
Y3A-112	2 ~ 8	63062RZ	63062RZ
Y3A-132	2 ~ 8	63082RZ	63082RZ
Y3A-160	2 ~ 8	63092ZC3	63092ZC3

MAIN DATA FOR TERMINAL BOX

Classified Number	Frame Size	Max. F. Amps	Entry Hole Size
			International Standard
1	H56-80	2.6	2 X M20 X 1.5
2	H90-100	6.8	2 X M25 X 1.5
3	H112-132	15.4	2 X M32 X 1.5
4	H160-180	42.5	2 X M40 X 1.5
5	H200-225	84.2	2 X M50 X 1.5
6	H250-280	166.6	2 X M63 X 1.5
7	H315	358	2 X M63 X 1.5
8	H355	546	2 X M63 X 1.5
9	H400	600	3 X M63 X 1.5

INSTALLATION DRAWING

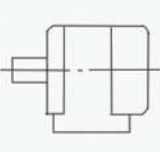



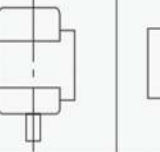



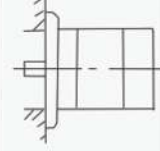
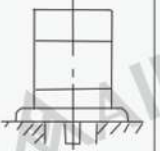
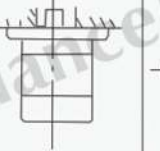
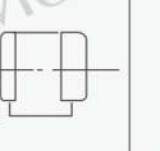
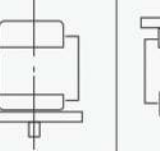

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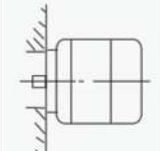
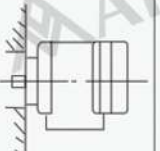
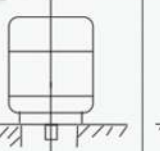
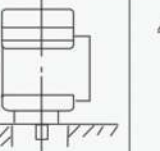
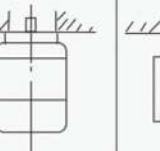
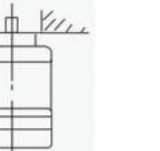
THE MOUNTING ARRANGEMENTS

A-Y3A SERIES

The Mounting arrangements of the motors comply with IEC34-7 Recommendation. Three are four basic arrangements shown as the following tables and figures.

Fundamental arrangement	B3					
Mounting arrangement	B3	B6	B7	B8	V5	V6
Diagram						
Range of Manufacture (framesize)	56-400			56-160		

Fundamental arrangement	B5			B35		
Mounting arrangement	B5	V1	V3	B35	V15	V36
Diagram						
Range of Manufacture (framesize)	56-280	56-355	56-160	56-400	56-160	

Fundamental arrangement	B14					
Mounting arrangement	B14	B34	V18	V58	V19	V69
Diagram						
Range of Manufacture (framesize)	56-132					

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