IE3 全密型鋁殼馬達

(For CNS)

MODEL : AERV3C / AEQV3C

ALUMINIUM FRAME
IE3 EFFICIENCY 3-PHASE INDUCTION MOTOR
LOW VOLTAGE SQUIRREL CAGE TEFC
FRAME SIZE： 80M ~ 160L

31049J90154
REV. 02

SPECIFICATION TABLE

IE3 EFFICIENCY 3-PHASE INDUCTION MOTOR
LOW VOLTAGE SQUIRREL CAGE

MODEL
AERV3C / AEQV3C

ITEM		STANDARD SPECIFICATION
RATING	Kind of Motor	Squirrel - Cage Induction Motor (SCIM) .
	Design Standards	IEC 60034, CNS14400 .
	Voltages	220V, 380V, 440V .
	Frequency	50Hz or 60Hz.
	Output Range	0.75 kW ~ 18.5 kW .
	R.P.M. (Syn.)	3000 ~ 1000 R.P.M. (2 ~ 6 Poles , 50Hz). 3600 ~ 1200 R.P.M. (2 ~ 6 Poles , 60Hz).
	Time Duty	Continuous S1, SF 1.15 at 60Hz (SF 1.0 at 50Hz)
	Frame Size	80M ~ 160L
	Protection Enclosure	Totally Enclosed (IP 55) .
	Cooling Method	Self External Fan, Surface Cooling (IC 411) .
	Mounting	AERV3C : Horizontal Foot Mounted B3 (IM 1001) . AEQV3C : Horizontal Flange Mounted B5 (IM 3001) .
APPLICATION	Environment Conditions	Place : Shadow, Non-Hazardous. Ambient Temperature : -20 ~ 40℃ . Relative Humidity : Less Than 90%RH (Non-Condensation) . Altitude : Less Than 1,000 Meters .
	Power Source Conditions	Voltage：±10% , Frequency：±5% , and 10% Max. of Combined Voltage and Frequency . But Frequency Variation Does Not Exceed ±5% .
	Method of Starting	Full Voltage Direct On Line or Y - △ Starting .
	Drive Method	Coupling or Belt Service Are Available for All Range Depends on Bearing Capacity.
	Direction of Rotation	Clock-Wise Facing the Drive End Per IEC Standard, Available for Bi-Directional.
PERFORMANCE	Test Procedure	CNS 14400 C4482、IEEE-112 Method B And Full Voltage Measuring Starting Performance .
	Temperature Rise	Not to Exceed 80 ℃ Rise by Resistance Method at S.F 1.0 Operation .
	Over Speed	120% Syn. R.P.M. for 2 Minutes .
	Over Torque	160% Rated Torque for 15 Sec .

PERFORMANCE DATA

IE3 EFFICIENCY 3-PHASE INDUCTION MOTOR

LOW VOLTAGE SQUIRREL CAGE

MODEL

AERV3C/ AEQV3C

TEFC, CLASS F INSULATION , DESIGN N
40℃ AMBIENT TEMP. CONTINUOUS DUTY
220/ 380V 60HZ

IE3

TYPICAL PERFORMANCE

OUTPUT		FULL	FRAME	EFFICIENCY			POWER FACTOR			CURRENT(220V		CURRENT(380V		TORQUE				ROTOR
HP	kW	LOAD rpm	SIZE	FULL LOAD (%)	3/4 LOAD (%)	2/4 LOAD (%)	FULL LOAD (%)	3/4 LOAD (%)	2/4 LOAD (%)	FULL LOAD (A)	LOCKED ROTOR (A)	FULL LOAD (A)	LOCKED ROTOR (A)	FULL LOAD kg-m	LOCKED ROTOR %FLT	PULL UP %FLT	BREAK DOWN %FLT	GD^2 $kg\text{-}m^2$
1	0.75	3470	80M	81.5	81.0	77.0	81.0	74.5	61.0	2.98	25.0	1.73	14.5	0.211	365	310	365	0.003
		1755	80M	85.5	85.0	82.0	64.0	55.0	43.0	3.60	35.0	2.08	20.3	0.416	355	290	380	0.013
		1150	90S	82.5	79.0	76.0	59.0	50.0	38.0	4.04	25.0	2.34	14.5	0.636	275	260	300	0.016
1.5	1.1	3435	80M	84.0	83.5	81.0	87.0	83.0	71.0	3.95	30.0	2.29	17.4	0.312	285	240	290	0.004
		1735	90S	86.5	86.0	84.5	76.0	67.0	53.0	4.39	40.0	2.54	23.1	0.618	305	250	355	0.017
		1160	100L	86.5	86.0	84.0	78.0	71.0	59.0	4.28	30.0	2.48	17.4	0.924	200	175	280	0.048
2	1.5	3465	90S	85.5	85.5	84.5	86.0	80.0	69.0	5.35	45.3	3.10	26.2	0.422	320	235	335	0.008
		1735	90L	86.5	86.0	85.0	75.5	67.0	52.5	6.03	55.0	3.49	31.8	0.842	315	255	360	0.019
		1160	112M	88.5	87.0	85.0	73.0	65.0	52.0	6.09	50.0	3.53	28.9	1.260	200	130	325	0.086
3	2.2	3470	90L	86.5	86.5	85.5	85.0	78.0	65.5	7.85	75.0	4.55	43.4	0.618	275	240	355	0.010
		1760	100L	89.5	89.0	88.0	79.5	72.0	60.0	8.11	80.0	4.70	46.3	1.218	220	180	340	0.045
		1165	132S	89.5	89.0	87.5	74.0	66.5	53.0	8.72	70.0	5.05	40.5	1.840	225	205	280	0.114
5	3.7	3530	112M	88.5	88.0	86.0	85.0	81.0	71.0	12.9	125	7.47	72.4	1.021	225	190	370	0.030
		1740	112M	89.5	89.0	88.5	82.0	76.5	65.0	13.2	125	7.66	72.5	2.072	300	245	315	0.060
		1160	132S	89.5	89.0	88.5	76.5	70.0	57.0	14.2	105	8.21	60.8	3.108	200	150	250	0.142
7.5	5.5	3540	132S	89.5	89.0	88.0	85.0	81.0	73.0	19.0	180	11.0	104	1.514	270	190	340	0.066
		1760	132S	91.7	91.5	91.0	82.5	77.5	66.0	19.1	165	11.0	95.5	3.045	275	240	310	0.132
		1165	132M	91.0	91.0	90.5	78.0	72.0	60.0	20.3	155	11.8	89.7	4.601	200	150	305	0.216
10	7.5	3530	132S	90.2	90.0	89.5	86.0	83.0	76.0	25.4	210	14.7	122	2.070	240	170	300	0.075
		1760	132M	91.7	91.5	91.0	83.5	79.0	68.5	25.7	210	14.9	122	4.153	270	230	300	0.162
		1170	160M	91.0	91.0	90.5	78.0	72.5	60.5	27.7	210	16.1	122	6.247	285	150	270	0.475
15	11	3545	160M	91.0	91.0	90.0	91.0	89.0	84.0	34.9	310	20.2	179	3.024	245	185	300	0.173
		1770	160M	92.4	92.0	92.0	86.0	82.0	73.0	36.3	325	21.0	188	6.056	290	215	305	0.366
		1170	160L	91.7	92.0	91.0	79.0	73.5	61.5	39.8	340	23.1	197	9.162	330	140	300	0.628
20	15	3545	160M	91.0	91.0	90.0	92.5	91.5	84.0	46.8	470	27.1	272	4.123	280	190	315	0.192
		1770	160L	93.0	92.5	92.0	87.5	84.5	77.0	48.4	390	28.0	226	8.258	245	200	270	0.460
25	18.5	3540	160L	91.7	91.5	90.5	92.0	90.0	85.0	57.5	540	33.3	313	5.093	275	195	310	0.237

NOTE :
1. The above are typical values based on test according to ANSI/IEEE standard 112 method B.
2. Breakdown & Locked rotor torques are show as average expected values.
3. Tolerance according to IEC 60034-1.
4. Efficiency, power factor, speed and torque are the same for other voltages. Current values vary inversely with voltage.
5. Data subject to change without notice.

OUTLINE DIMENSION SHEET

MODEL **AERV3C**

IE3 EFFICIENCY 3-PHASE INDUCTION MOTOR

FRAME SIZE 80M ~ 132M / B3 (IM1001)

Totally Enclosed Fan - Cooled Type, Squirrel - Cage Rotor.

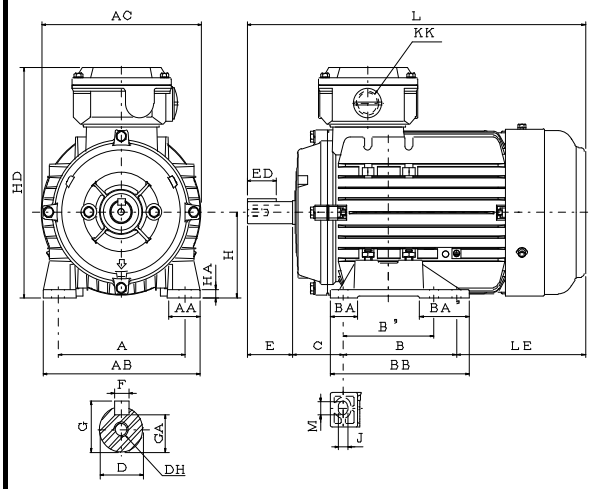

FIG.1

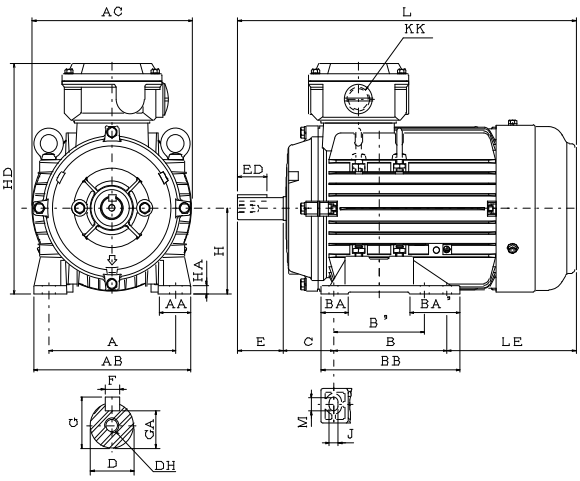

FIG.2

Dimension in mm

Output (kW)			FRAME	FIG.	A	AA	AB	AC	B	B'	BA	BA'	BB	C	H	HA	HD	J
2P	4P	6P	SIZE	NO.														
0.75	0.75	-	80M	1	125	35	163	156.5	100	-	30	30	128	50	80	8	225.5	10
1.5	—	0.75	90S	1	140	35	173	176.5	100	—	30	30	128	56	90	9	243	10
2.2	1.5	—	90L	1					125	100	30	55	153					
-	2.2	-	100L	2	160	36.5	195	197	140	-	40	40	177	63	100	12	277	12
3.7	3.7	1.5	112M	2	190	48	225	219	140	—	40	40	177	70	112	12	296	12
5.5 7.5	5.5	2.2 3.7	132S	2	216	44.5	250	261	140	-	40	40	177	89	132	12	338	12
-	7.5	5.5	132M	2					178	140	40	78	215					

FRAME	KK	L	LE	M	SHAFT EXTENSION							BEARING		APPROX. WEIGHT KGS
SIZE					D	E	ED	F	G	GA	DH	DRIVE END	OPPOSITE DRIVE END	
80M	M25X1.5	326.5	136.5	14	19	40	25	6	15.5	21.5	M6X12	6204ZZ	6204ZZ	15
90S		348	142	14	24	50	32	8	20	27	M8X16	6205ZZ	6205ZZ	16.5
90L		373												21
100L	M32X1.5	398.5	135.5	16	28	60	40	8	24	31	M10X20	6206ZZ	6206ZZ	28
112M		425	155	16	28	60	40	8	24	31	M10X20	6306ZZ	6306ZZ	35
132S		464	155	16	38	80	64	10	33	41	M12X24	6308ZZ	6306ZZ	50
132M		502	155											63

Note : 1. Tolerance of Shaft End Diameter D : 1) F#80M~112M : j6 .

2) F#132 : k6 .

2. Tolerance of Shaft Center Height H : +0, -0.5 .

OUTLINE DIMENSION SHEET

IE3 EFFICIENCY 3-PHASE INDUCTION MOTOR

FRAME SIZE 160M ~ 160L / B3 (IM1001)

MODEL

AERV3C

Totally Enclosed Fan - Cooled Type, Squirrel - Cage Rotor.

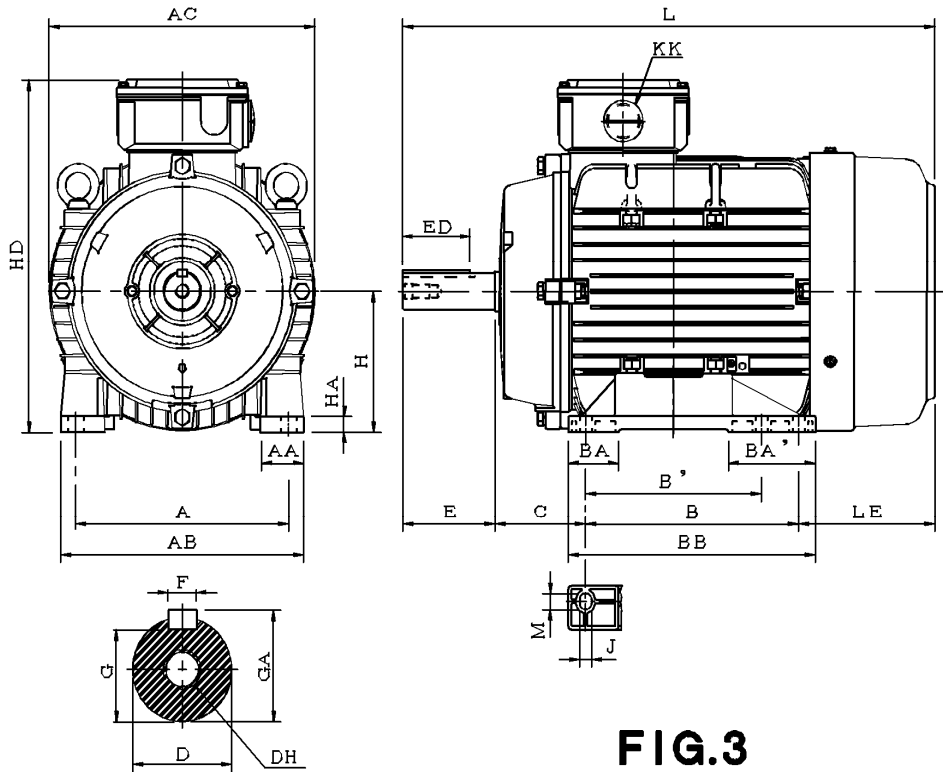

FIG.3

Dimension in mm

Output (kW)			FRAME	FIG.	A	AA	AB	AC	B	B'	BA	BA'	BB	C	H	HA	HD	J
2P	4P	6P	SIZE	NO.														
11 15	11	7.5	160M	3	254	50	290	317	210	-	60	60	251	108	160	18	401	14.5
18.5	15	11	160L						254	210	60	104	295					

FRAME SIZE	KK	L	LE	M	SHAFT EXTENSION							BEARING		APPROX. WEIGHT KGS
					D	E	ED	F	G	GA	DH	DRIVE END	OPPOSITE DRIVE END	
160M	M40X1.5	591	163	18.5	42	110	80	12	37	45	M16X32	6309ZZ	6307ZZ	82
160L		635												106

Note : 1. Tolerance of Shaft End Diameter D : k6.

2. Tolerance of Shaft Center Height H : +0, -0.5 .

OUTLINE DIMENSION SHEET

MODEL

AEQV3C

IE3 EFFICIENCY 3-PHASE INDUCTION MOTOR

FRAME SIZE 80M ~ 132M / B5 (IM3001)

Totally Enclosed Fan - Cooled Type, Squirrel - Cage Rotor.

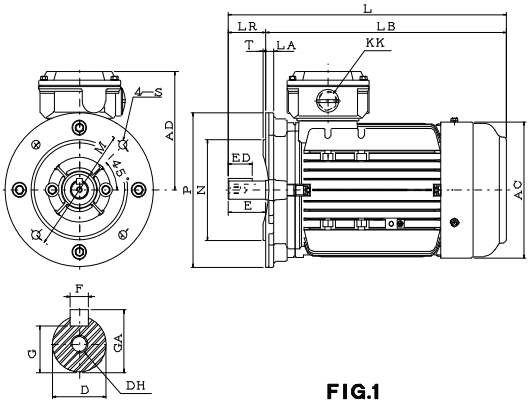

FIG.1

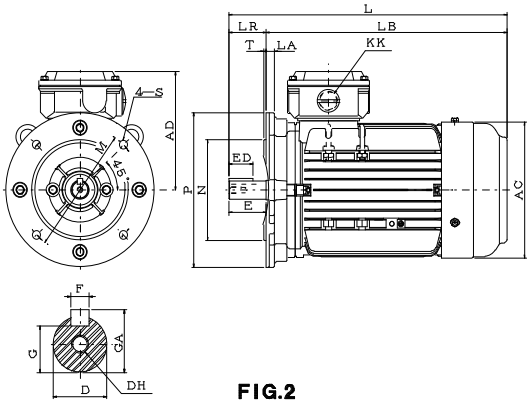

FIG.2

Dimension in mm

Output (kW)			FRAME	FIG.	AC	AD	KK	L	LA	LB	LR	M	N	P
2P	4P	6P	SIZE	NO.										
0.75	0.55	-	80M	1	156.5	145.5	M25X1.5	326.5	10	286.5	40	165	130	200
1.5	—	0.75	90S		176.5	153		348	11	298	50	165	130	200
2.2	1.5	—	90L					373		323				
-	2.2	-	100L	2	197	177	M32X1.5	398.5	14	338.5	60	215	180	250
3.7	3.7	1.5	112M		219	184		425	14	365	60	215	180	250
5.5 7.5	5.5	2.2 3.7	132S		261	206		464	16	384	80	265	230	300
—	7.5	5.5	132M					502		422				

FRAME SIZE	S	T	SHAFT EXTENSION							BEARING		APPROX. WEIGHT KGS
			D	E	ED	F	G	GA	DH	DRIVE END	OPPOSITE DRIVE END	
80M	ϕ12	3.5	19	40	25	6	15.5	21.5	M6X12	6204ZZ	6204ZZ	15
90S			24	50	32	8	20	27	M8X16	6205ZZ	6205ZZ	16.5
90L												21
100L	ϕ14.5	4	28	60	40	8	24	31	M10X20	6206ZZ	6206ZZ	28
112M			28	60	40	8	24	31	M10X20	6306ZZ	6306ZZ	35
132S			38	80	64	10	33	41	M12X24	6308ZZ	6306ZZ	50
132M												63

Note : 1. Tolerance of Shaft End Diameter D : 1) F#80M~112M : j6 .

2) F#132 : k6 .

2. Tolerance of N : j6 .

OUTLINE DIMENSION SHEET

IE3 EFFICIENCY 3-PHASE INDUCTION MOTORS
FRAME SIZE 160 / B5 (IM3001)

MODEL
AEQV3C

Totally Enclosed Fan - Cooled Type, Squirrel - Cage Rotor.

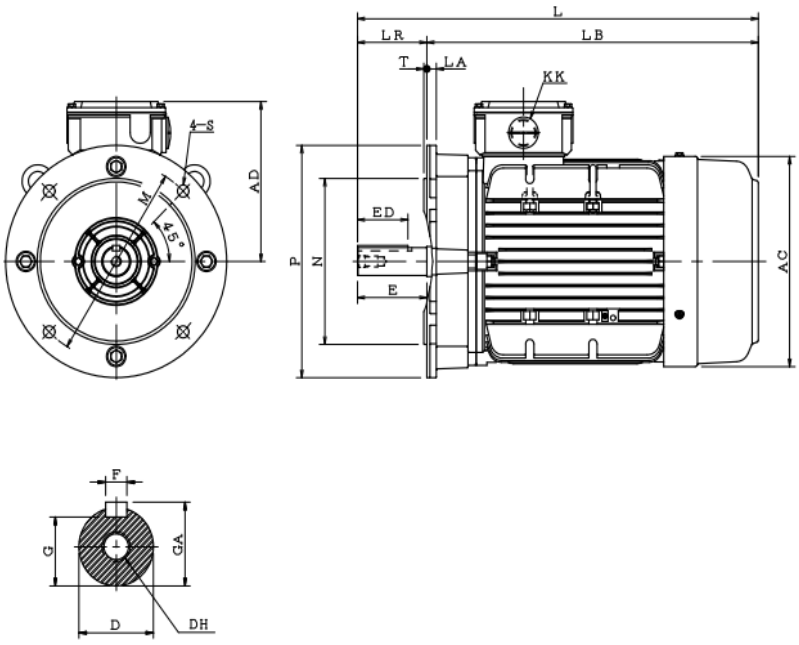

FIG.3

Dimension in mm

Output (kW)			FRAME	FIG.	AC	AD	KK	L	LA	LB	LR	M	N	P
2P	4P	6P	SIZE	NO.										
11 15	11	7.5	160M	3	317	241	M40XP1.5	591	17	481	110	300	250	350
18.5	15	11	160L					635		525				

FRAME SIZE	S	T	SHAFT EXTENSION							BEARING		APPROX. WEIGHT KGS
			D	E	ED	F	G	GA	DH	DRIVE END	OPPOSITE DRIVE END	
160M	18.5	5	42	110	80	12	37	45	M16X32	6309ZZ	6307ZZ	82
160L												106

Note : 1. Tolerance of Shaft End Diameter D : k6 .

2. Tolerance of N : j6 .