

東元低壓**Class I Division 1**防爆馬達
(NEMA)

MODEL : AEHHXV

EXPLOSION PROOF MOTORS
LOW VOLTAGE SQUIRREL CAGE
FRAME SIZE (EX) : 143T ~ 256T



DWG NO.

31057H728

REV. 04

		SPECIFICATION TABLE				MODEL AEHHXV		
		3-PHASE INDUCTION MOTORS LOW VOLTAGE SQUIRREL CAGE						
ITEM		STANDARD SPECIFICATION						
R A T I N G	Kind of Motors	Squirrel Cage Induction Motors (SCIM)						
	Design Standards	UL674; NEMA MG-1, MG-13; CSA 22.2 No.145						
	Voltages	230/460V (208V De - Rating Operation)						
	Frequency	60Hz (Rated Sinusoidal or PWM Power Source)						
	Output Range	1HP ~ 20HP						
	R.P.M. (Syn.)	3600 ~ 900 R.P.M.(2~8 Poles)						
	Time Duty	Continuous, S.F. 1.15 (S1)						
	Frame Size (EX)	143T ~ 256T						
	Protection Enclosure	Totally Enclosed Fan Cooled, UL Explosion Proof, CSA 22.2 No.145.						
	Cooling Method	Self External Fan, Surface Cooling(IC 411).						
	Mounting	Horizontal Foot Mounting F-1 (IM 1001).						
A P P L I C A T I O N	Power Condition	Voltage : $\pm 10\%$, Frequency : $\pm 5\%$, and $\pm 10\%$ of Combined Voltage and Frequency, But Frequency Variation does not Exceed $\pm 5\%$.						
	Environment Conditions	Place : Shadow, Non - Hazardous. Ambient Temperature : $-15^{\circ}\text{C} \sim 40^{\circ}\text{C}$ Relative Humidity : Less Than 90%RH (Non - Condensation). Altitude : Less Than 3,300ft						
	Hazardous Location	Suitable For Division 1 , Class I , Group C and D , Class II , Group E. F. and G.						
	Drive Method	Belt Service.						
	Direction of Rotation	Bi - Directional						
	Method of Starting	Full Voltage Direct On Line, For 7.5HP and up Y- Δ be Available.						
P E R F O R M A N C E	Test Procedure for Explosion Proof	According to UL674.						
	Test Procedure	IEEE - 112 Method B and Full Voltage Measuring Starting Performance.						
	Temperature Rise	Not to Exceed 90°C for S.F.1.15 (B class) by Resistance Method.						
	External Surface Temperature	Comply with Operating Temperature Code T3B for Class I Group C and D, Class II Group E, F, and G of Table 37.1 of UL674, Limited by Built in Normal Close Thermostats, One Per Phase.						
	Over Speed	125% Syn. R.P.M. for 2 Minutes. (2,4 Poles) 150% Syn. R.P.M. for 2 Minutes. (the others)						
	Over Torque	160% Rated Torque for 15 Sec.						
	Inverter Duty Frequency Range	Certification List	Frame	HZ Range				Temp. code
				VT	CT	CHP		
		CSA Certification	143T~184T	3~60	12~60	60~90	T3B (165 $^{\circ}\text{C}$)	
			213T~215T	3~60	6~60	60~90		
254T~256T			3~60	6~60	60~90			
UL Certification	143T~215T	3~60	10~60	60~90	T3B (165 $^{\circ}\text{C}$)			
	254T~256T	3~60	13~60	60~90				

PERFORMANCE DATA

MODEL
AEHHXV

3-PHASE SQUIRREL CAGE
PREMIUM EFFICIENCY INDUCTION MOTORS

ee C C 0 0 2 A

TEFC , NEMA , T-FRAME , DESIGN - B or C ,
CLASS F , 40°C AMBIENT , CONTINUOUS DUTY ,
S.F. 1.15, 230/460V 60HZ



TYPICAL PERFORMANCE

(230 V)

HP	FULL LOAD RPM	FRAME NO.	EFFICIENCY				POWER FACTOR			CURRENT		TORQUE				ROTOR WK ² lb-ft ²	NEMA CODE LETTER	APPROX. WEIGHT LBS
			FULL LOAD		3/4 LOAD	1/2 LOAD	FULL LOAD (%)	3/4 LOAD (%)	1/2 LOAD (%)	FULL LOAD (A)	LOCKED ROTOR (A)	FULL LOAD lb-ft	LOCKED ROTOR %FLT	PULL UP %FLT	BREAK DOWN %FLT			
			NOM.	MIN.	NOM.	NOM.												
1	1755	143T	85.5	82.5	84.0	80.5	68.0	58.5	45.0	3.22	30	2.992	350	325	450	0.075	N	64
	1145	145T	82.5	80.0	82.0	79.5	66.0	57.0	45.0	3.44	30	4.668	250	235	305	0.122	N	75
	860	182T	77.0	74.0	75.5	70.0	58.5	49.5	38.0	4.16	30	6.215	200	130	260	0.239	N	81
1.5	3505	143T	84.0	81.5	84.0	81.0	84.0	77.0	64.5	3.98	40	2.247	310	255	395	0.052	M	66
	1740	145T	86.5	84.0	87.0	85.5	75.5	67.0	53.5	4.30	40	4.526	300	305	375	0.103	M	73
	1170	182T	87.5	85.5	87.0	83.5	63.0	54.0	42.0	5.10	40	6.731	230	225	370	0.313	M	110
	860	184T	78.5	75.5	75.5	70.0	60.5	51.5	39.5	5.91	40	9.322	185	130	250	0.275	M	113
2	3490	145T	85.5	82.5	86.0	84.5	87.0	81.5	71.0	5.03	50	3.009	280	225	360	0.064	L	68
	1740	145T	86.5	84.0	87.0	86.0	78.0	70.5	57.0	5.55	50	6.035	280	255	350	0.108	L	73
	1165	184T	88.5	86.5	89.0	87.0	69.0	62.0	50.0	6.13	50	9.014	180	150	275	0.423	L	123
	865	213T	84.0	81.5	84.0	82.5	64.0	55.0	42.5	6.97	50	12.36	225	200	275	0.586	L	161
3	3505	182T	87.5	85.5	88.5	87.0	90.0	87.0	79.5	7.13	64	4.494	295	245	340	0.190	K	106
	1755	182T	89.5	87.5	90.0	89.5	81.0	75.0	63.5	7.75	64	8.975	255	230	345	0.312	K	108
	1170	213T	89.5	87.5	90.0	88.0	80.0	73.5	61.0	7.85	64	13.46	200	155	315	0.836	K	185
	865	215T	85.5	82.5	84.0	82.5	66.0	57.0	44.5	9.96	64	18.54	240	230	305	0.821	K	190
5	3490	184T	88.5	86.5	90.0	90.0	91.0	89.5	83.5	11.6	92	7.522	260	210	305	0.249	J	121
	1745	184T	89.5	87.5	91.0	91.0	84.0	80.0	70.0	12.5	92	15.04	205	185	285	0.422	J	125
	1170	215T	90.2	88.5	90.5	90.0	81.0	76.0	65.5	12.8	92	22.44	190	140	280	1.122	J	211
	870	254T	86.5	84.0	86.5	85.5	72.0	64.0	51.5	15.0	92	30.72	190	185	240	1.660	J	295
7.5	3535	213T	89.5	87.5	90.0	89.5	87.0	84.0	76.0	18.0	127	11.14	245	230	305	0.412	H	180
	1760	213T	91.7	90.2	92.0	91.0	86.5	83.0	75.0	17.7	127	22.37	280	230	310	0.731	H	189
	1170	254T	91.0	89.5	91.5	91.0	82.0	77.0	66.5	18.8	127	33.66	240	195	260	2.158	H	319
	865	256T	86.5	84.0	85.5	84.0	71.5	63.5	50.0	22.7	127	46.34	200	190	240	2.042	H	356
10	3515	215T	90.2	88.5	91.0	90.5	87.0	85.0	79.0	23.9	162	14.94	205	165	260	0.511	H	209
	1750	215T	91.7	90.2	92.0	92.0	87.5	85.0	78.5	23.3	162	30.00	260	210	280	0.924	H	218
	1170	256T	91.0	89.5	92.0	91.0	81.5	76.5	65.0	25.2	162	44.88	260	210	280	2.872	H	372
15	3530	254T	91.0	89.5	91.5	90.5	92.0	91.0	87.0	33.6	232	22.31	235	185	285	1.088	G	341
	1770	254T	92.4	91.0	92.5	92.0	85.0	82.0	73.0	35.8	232	44.50	200	145	275	2.179	G	350
20	3520	256T	91.0	89.5	92.0	92.0	92.0	91.5	88.0	44.7	290	29.83	230	180	260	1.407	G	383
	1765	256T	93.0	91.7	93.0	93.0	85.5	83.0	75.5	47.1	290	59.50	200	135	255	2.741	G	403

- NOTE :
1. The above are typical values based on test according to ANSI/IEEE standard 112 method B.
 2. Breakdown & locked rotor torques are shown as average expected values.
 3. Efficiency, power factor, speed and torque are the same for other voltages.
Current values vary inversely with voltage.
 4. Tolerance According to NEMA MG1-12 & IEC 60034-1.
 5. Data subject to change without notice.

OUTLINE DIMENSIONS SHEET

MODEL

AEHHXV

EXPLOSION PROOF MOTORS
FRAME SIZE(EX) 143T ~ 184T

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

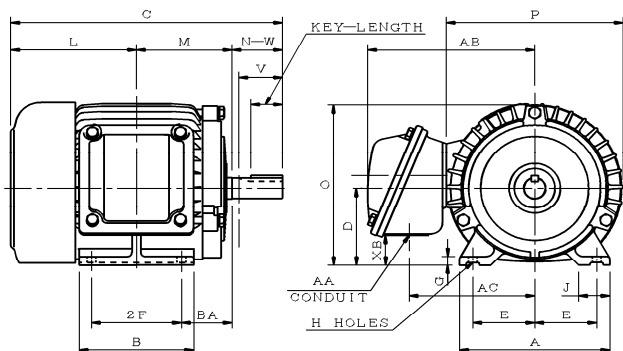


FIG. 1

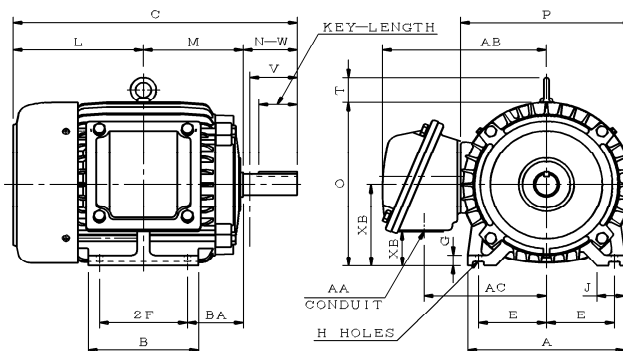
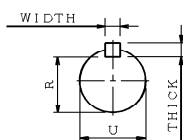
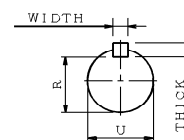


FIG. 2



Dimension in inches

Output (HP)				FRAME SIZE	FIG. NO.	Mounting				A	B	C	D	G	J	L	M	O
2P	4P	6P	8P			E	2F	H	BA									
1.5	1	0.75	—	143T	1	2.75	4.00	0.34	2.25	6.70	5.10	12.56	3.50	0.35	1.40	6.06	4.05	7.50
2	1.5 2	1	—	145T		2.75	5.00	0.34	2.25	6.70	5.90	13.54	3.50	0.35	1.40	6.54	4.55	7.50
3	3	1.5	1	182T	2	3.75	4.50	0.41	2.75	8.80	5.90	14.89	4.50	0.65	1.75	7.14	4.90	9.35
5	5	2	1.5	184T		3.75	5.50	0.41	2.75	8.80	6.90	15.91	4.50	0.65	1.75	7.66	5.41	9.35

FRAME SIZE	P	T	Key			Keyseat	Shaft Extension			Terminal Housing				Bearings	
			WIDTH	THICK	LENGTH	R	N-W	U	V	AA	AB	AC	XB	DRIVE END	OPPOSITE DRIVE END
143T	7.97	--	0.188	0.188	1.41	0.771	2.25	0.875	2.20	3/4	8.03	5.70	1.33	6205ZZ	6205ZZ
145T	7.97	--	0.188	0.188	1.41	0.771	2.25	0.875	2.20	3/4	8.03	5.70	1.33	6205ZZ	6205ZZ
182T	9.60	1.15	0.250	0.250	1.78	0.986	2.75	1.125	2.70	3/4	8.78	6.45	2.33	6306ZZ	6306ZZ
184T	9.60	1.15	0.250	0.250	1.78	0.986	2.75	1.125	2.70	3/4	8.78	6.45	2.33	6306ZZ	6306ZZ

Note :

1. Dimension D tolerance : +0.00 inch, -0.03 inch.
2. Dimension U tolerance : +0.000 inch, -0.0005 inch.
3. Dimension R tolerance : +0.000 inch, -0.015 inch.
4. Dimension V is length of straight part of shaft.

OUTLINE DIMENSIONS SHEET

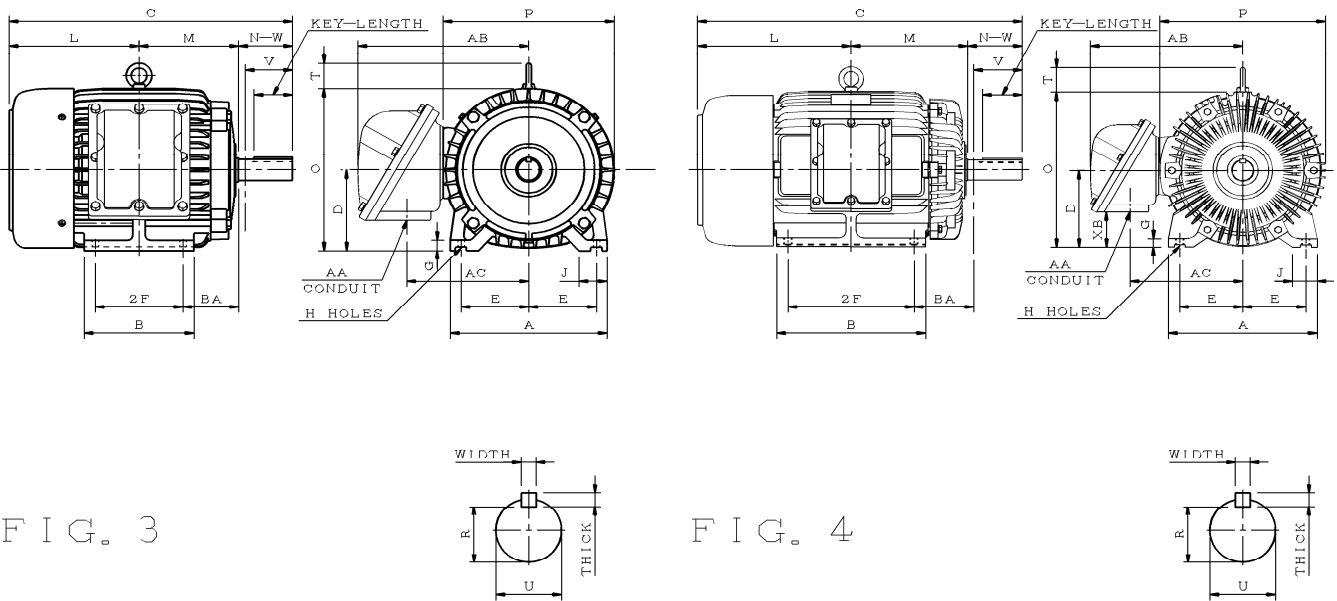
MODEL

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EXPLOSION PROOF MOTORS

FRAME SIZE(EX) 213T ~ 256T

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



Dimension in inches

Output (HP)				FRAME SIZE	FIG. NO.	Mounting				A	B	C	D	G	J	L	M	O	P
2P	4P	6P	8P			E	2F	H	BA										
7.5	7.5	3	2	213T	3	4.25	5.50	0.41	3.50	9.85	6.90	18.26	5.25	0.70	1.75	8.63	6.02	10.80	11.10
10	10	5	3	215T		4.25	7.00	0.41	3.50	9.85	8.35	19.76	5.25	0.70	1.75	9.38	6.77	10.80	11.10
15	15	7.5	5	254T	4	5.00	8.25	0.53	4.25	11.80	9.85	23.70	6.25	0.65	1.95	11.33	8.26	12.80	13.15
20	20	10	7.5	256T		5.00	10.00	0.53	4.25	11.80	11.80	25.44	6.25	0.65	1.95	12.19	9.13	12.80	13.15

FRAME SIZE	T	Key			Keyseat R	Shaft Extension			Terminal Housing				Bearings	
		WIDTH	THICK	LENGTH		N-W	U	V	AA	AB	AC	XB	DRIVE END	OPPOSITE DRIVE END
213T	1.45	0.312	0.312	2.41	1.201	3.38	1.375	3.30	1	10.73	7.45	1.94	6308ZZ	6306ZZ
215T	1.45	0.312	0.312	2.41	1.201	3.38	1.375	3.30	1	10.73	7.45	1.94	6308ZZ	6306ZZ
254T	2.00	0.375	0.375	2.910	1.416	4.00	1.625	3.90	1 1/4	12.24	8.94	2.83	6309ZZ	6307ZZ
256T	2.00	0.375	0.375	2.910	1.416	4.00	1.625	3.90					6309ZZ	6307ZZ

Note :

1. Dimension D tolerance : +0.00 inch, -0.03 inch.
2. Dimension U tolerance :
 On Frames 213T ~ 215T +0.000 inch, -0.0005 inch.
 On Frames 254T ~ 256T +0.000 inch, -0.001 inch.
3. Dimension R tolerance : +0.000 inch, -0.015 inch.
4. Dimension V is length of straight part of shaft.