TECO

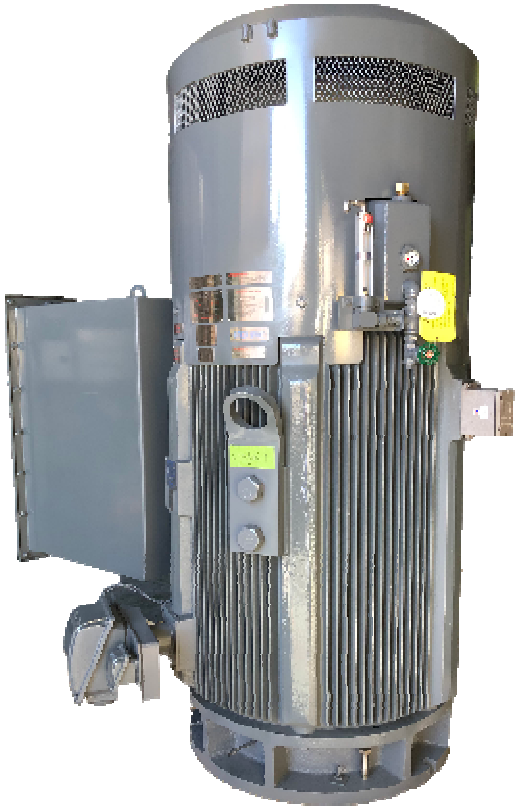
高壓全密型TEFC泵浦用馬達(實心軸)

MODEL : AEHCED

HIGH THRUST SOLIDSHAFT PUMP MOTORS

MEDIUM VOLTAGE SQUIRREL CAGE

FRAME SIZE (EGV) 5009~5810



DWG NO.

3A057M081E

REV. 00

SPECIFICATION TABLE

HIGH THRUST SOLIDSHAFT PUMP MOTORS
MEDIUM VOLTAGE SQUIRREL CAGE

MODEL **AEHCED**

	ITEM	STANDARD SPECIFICATION
RATING	KIND OF MOTOR	SQUIRREL-CAGE INDUCTION MOTOR (SCIM), VSS, TEFC
	DESIGN STANDARD	NEMA MG-1, PREMIUM EFFICIENCY
	VOLTAGE	2300V/4000V, 4160V
	FREQUENCY	60HZ
	OUTPUT RANGE	150 ~ 700HP
	R.P.M. (SYN.)	1800 ~ 900 R.P.M. (4 ~ 8 POLE)
	TIME DUTY	CONTINUOUS , S.F. 1.15 (S1, MCR) VFD:CONTINUOUS S.F. 1.0 (S1, MCR)
	FRAME SIZE (EGV)	5009 ~ 5810
	PROTECTION ENCLOSURE	TOTALLY ENCLOSED (IP54)
	COOLING METHOD	SELF EXTERNAL FAN, SURFACE COOLING (IC 411)
	MOUNTING	FLANGE MOUNTING (IM3011)
APPLICATION	POWER CONDITION	VOLTAGE : ±10%, FREQUENCY : ±5%, AND ±10% MAX. OF COMBINED VOLTAGE AND FREQUENCY, BUT FREQUENCY VARIATION DOES NOT EXCEED ±5%
	DESIGNED PRIMARILY	FOR DEEP WELL TURBINE PUMP
	ENVIRONMENT CONDITIONS	PLACE : OUTDOOR, NON-HAZARDOUS, CSA CLASS Ⅰ, DIV. 2, GROUP, B, C, D T3 (OPTION) AMBIENT TEMPERATURE : -15℃ ~ 40℃, RELATIVE HUMIDITY : LESS THAN 90% RH (NON-CONDENSATION), ALTITUDE : LESS THAN 3,300 ft
	DRIVE METHOD	DIRECT COUPLING
	DIRECTION OF ROTATION	COUNTER-CLOCK-WISE FACING THE COUPLING END
	METHOD OF STARTING	ACROSS THE LINE OR REDUCED VOLTAGE STARTING
PERFORMANCE	TEST PROCEDURE	IEEE-112 METHOD B or F
	TYPICAL PERFORMANCE	AS DWG NO. 3A057M083E
	TEMPERATURE RISE	NOT TO EXCEED 105℃ FOR S.F. 1.15 OR 80℃ FOR S.F. 1.0 BY RESISTANCE METHOD
	OVER SPEED	120% SYN. R.P.M. FOR TWO MIN WHILE HORSEPOWER > 200HP(4 POLE) 150% SYN. R.P.M. FOR TWO MIN WHILE HORSEPOWER ≦200HP(6 & 8 POLE) 125% SYN. R.P.M. FOR TWO MIN WHILE HORSEPOWER > 200HP(6 & 8 POLE)
	SPEED RANGE	VARIABLE TORQUE : 10 : 1 · CONSTANT TORQUE : 3 : 1
	OVER TORQUE	160% RATED TORQUE FOR 15 SEC

PERFORMANCE DATA

MODEL
AEHCED

HIGH THRUST SOLIDSHAFT PUMP MOTORS
MEDIUM VOLTAGE SQUIRREL CAGE

NEMA Premium™

TEFC, NEMA DESIGN B, CODE G, CLASS F, 40℃ AMBIENT,
CONTINUOUS DUTY, 1.15 S.F. 2300/4000V, 3300V, 4160V 60HZ

TYPICAL PERFORMANCE (2300V)

HP	FULL LOAD RPM	FRAME SIZE (EGV)	EFFICIENCY FULL LOAD % NOM.	EFFICIENCY FULL LOAD % MIN.	EFFICIENCY 3/4 LOAD NOM.	EFFICIENCY 1/2 LOAD NOM.	POWER FACTOR FULL LOAD %	POWER FACTOR 3/4 LOAD %	POWER FACTOR 1/2 LOAD %	CURRENT FULL LOAD A	CURRENT LOCKED ROTOR A	TORQUE FULL LOAD lb-ft	TORQUE LOCKED ROTOR %FLT	TORQUE BREAK-DOWN %FLT	ROTOR WR^2 lb-ft^2	DOWN THRUST LBS	APPROX. ROTOR WEIGHT LBS	APPROX. WEIGHT LBS	REED FREQ. Hz
150	890	5009	93.9	92.8	93.8	93.2	80.3	74.5	62.3	37	315	885.4	80	210	146.8	13200	1190	4050	35
200	890	5009	94.1	93.0	94.0	93.5	80.8	75.1	63.5	49	316	1180.5	80	210	194.3	13200	1370	4440	34
250	1188	5009	95.0	94.1	94.9	94.4	81.9	76.7	66.0	60	395	1105.5	90	210	149.3	12100	1200	4360	34
	890	5009	95.0	94.1	94.9	94.4	79.8	73.5	61.1	61	395	1475.6	90	210	241.7	13200	1550	4800	32
300	1785	5009	95.4	94.5	95.2	94.5	85.8	81.7	72.3	68	474	882.9	80	210	130.4	10500	1120	4240	34
	1188	5009	95.0	94.1	94.9	94.5	82.4	77.5	66.9	71	474	1326.6	90	210	177.2	12100	1320	4640	33
	890	5808	95.0	94.1	94.9	94.1	77.3	71.0	58.5	76	474	1770.7	80	200	334.8	24300	1800	6440	43
350	1785	5009	95.4	94.5	95.3	94.6	86.1	82.2	73.1	79	554	1030.0	80	210	147.5	10500	1200	4440	34
	1190	5808	95.2	94.3	95.0	94.3	80.4	75.2	64.2	85	554	1545.1	90	200	283.2	22300	1640	6130	44
	890	5808	95.0	94.1	94.9	94.2	77.2	70.6	58.1	89	554	2065.9	80	200	392.8	24300	1970	6780	42
400	1785	5009	95.4	94.5	95.3	94.7	85.7	81.5	71.9	91	633	1177.2	80	210	158.2	10500	1250	4540	33
	1190	5808	95.4	94.5	95.2	94.6	80.8	75.9	65.3	97	633	1765.8	90	200	327.1	22300	1770	6430	43
	890	5808	95.0	94.1	94.9	94.3	77.3	70.6	58.1	101	633	2361.0	80	200	443.8	24300	2120	7120	41
450	1785	5808	95.4	94.5	95.2	94.4	83.8	80.5	72.1	105	712	1324.3	100	200	237.6	9700	1500	6160	44
	1190	5808	95.6	94.8	95.5	94.9	80.9	75.9	65.1	108	712	1986.5	90	200	363.2	22300	1870	6670	42
	890	5810	95.0	94.1	94.9	94.3	77.1	70.3	57.7	115	712	2656.1	90	200	487.6	24300	2260	7680	39
500	1785	5808	95.5	94.6	95.3	94.5	82.6	78.7	69.3	118	791	1471.5	100	210	237.6	9700	1500	6200	44
	1190	5810	95.8	95.0	95.7	95.1	81.6	77.0	66.9	119	791	2207.2	90	210	399.3	22300	1990	7190	40
	890	5810	95.4	94.5	95.3	94.7	76.8	70.0	57.3	127	791	2951.2	90	200	516.7	24300	2340	7890	38
600	1785	5810	95.7	94.9	95.6	94.9	84.3	81.0	72.8	139	949	1765.8	100	210	303.4	9700	1750	7060	40
	1190	5810	96.0	95.2	95.9	95.4	81.3	76.4	65.8	143	949	2648.7	100	210	472.2	22300	2200	7680	39
700	1785	5810	95.9	95.1	95.8	95.2	84.6	81.4	73.5	161	1107	2060.1	100	210	344.8	9700	1890	7380	39

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. DECLARED EFFICIENCY HAVN`T TAKEN INTO ACCOUNT OF THRUST LOAD LOSSES

5. TOLERANCE ACCORDING TO NEMA MG1-12& IEC 34-1

6. THRUST LOAD LOSSES ESTIMATED OF ANGULAR CONTACT BALL BEARING AS FOLLOWS : (ACCORDING TO NEMA STANDARD MG1-12.7)

FRAME SIZE	LOSS HP /100 RPM RPM/1000 LB THRUST
5009~5810	0.0208

REDUCING THE THRUST LOAD WILL INCREASE BEARING LIFE AS FOLLOWS :

ANGULAR CONTACT BALL BEARING	THRUST(%)	100	80	70	58	51
	BEARING LIFE(Hrs.)	8800	15000	20000	30000	40000
SPHERICAL ROLLER THRUST BEARING	THRUST(%)	100	82	73	62	55
	BEARING LIFE(Hrs.)	30000	50000	20000	110000	150000

8. DATA SUBJECT TO CHANGE WITHOUT NOTICE

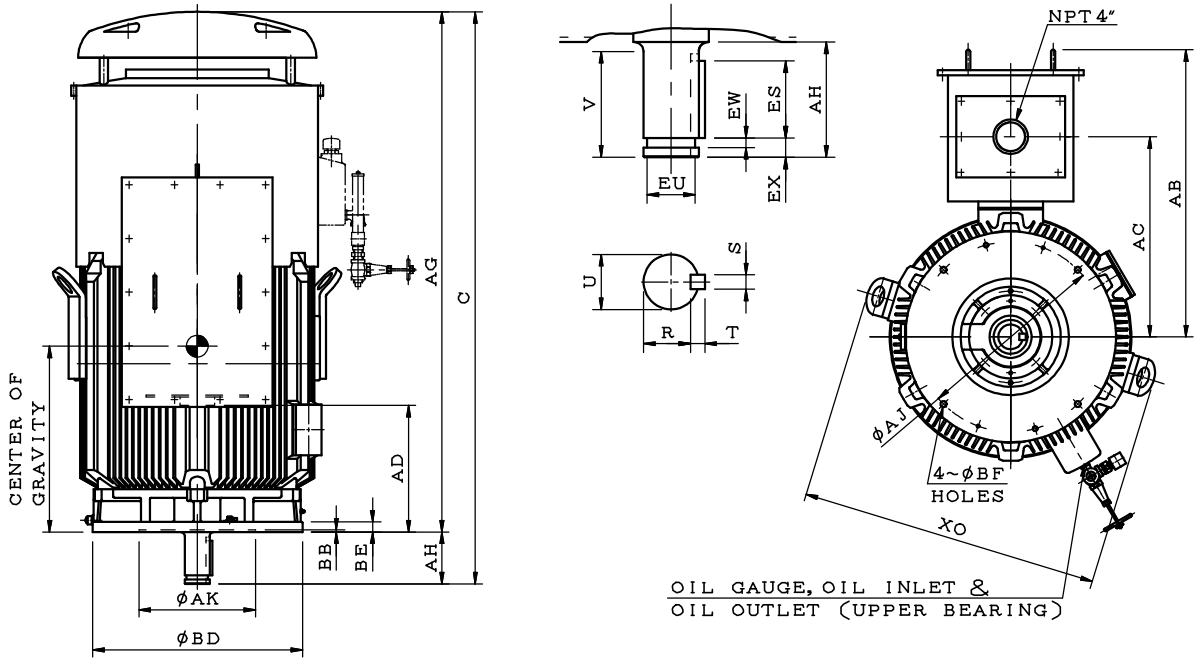
OUTLINE DIMENSIONS SHEET

HIGH THRUST SOLIDSHAFT PUMP MOTORS

FRAME SIZE (EGV) 5009

MODEL **AEHCED**

TOTALLY ENCLOSED FAN COOLED SQUIRREL CAGE



DIMENSIONS IN INCHES

FRAME SIZE (EGV)	MOUNTING					
	BD	AK	AJ	BF	BB	BE
5009	20.00	13.50	14.75	0.69	0.25	1.18
	✳24.50	13.50	14.75	0.69		
			22.00	0.94		
	30.50	22.00	26.00	0.81		

FRAME SIZE (EGV)	BEARING	
	UPPER END	LOWER END
5009	7328B	6220C3

FRAME SIZE (EGV)	U	AH	V	R	EU	EW	EX	ES	S	T
5009	2.875	6.00	5.50	2.450	2.500	0.500	1.000	4.00	0.750	0.750

FRAME SIZE (EGV)	TERMINAL HOUSING			AG			C			XO	CENTER OF GRAVITY
	AB	AC	AD	4P	6P	8P	4P	6P	8P		
5009	33.30	23.20	20.60	65.98	66.38	66.38	71.98	72.38	72.38	34.65	24.5

NOTE:
1. DIMENSION AK TOLERANCE: +0.005INCH, −0.000INCH
2. DIMENSION U TOLERANCE: +0.000INCH, −0.001INCH
3. DIMENSION R TOLERANCE: +0.000INCH, −0.015INCH
4. DIMENSION EU TOLERANCE: +0.000INCH, −0.010INCH
5. DIMENSION AH TOLERANCE: +0.06INCH, −0.06INCH
6. DIMENSION EW TOLERANCE: +0.003INCH, −0.000INCH
7. DIMENSION EX TOLERANCE: +0.000INCH, −0.010INCH
8. USABLE SHAFT LENGTH FOR V
9. WITH BALL TYPE NON−REVERSE RATCHET MECHANISM
10. ✳ MARKED TABLE APPLIED TO STANDARD SIZE (BD=24.50, AK=13.50, AJ=14.75 & 22.00, BF=0.69 & 0.94), FOR REED FREQUENCY AS DWG NO. 3A057M089E

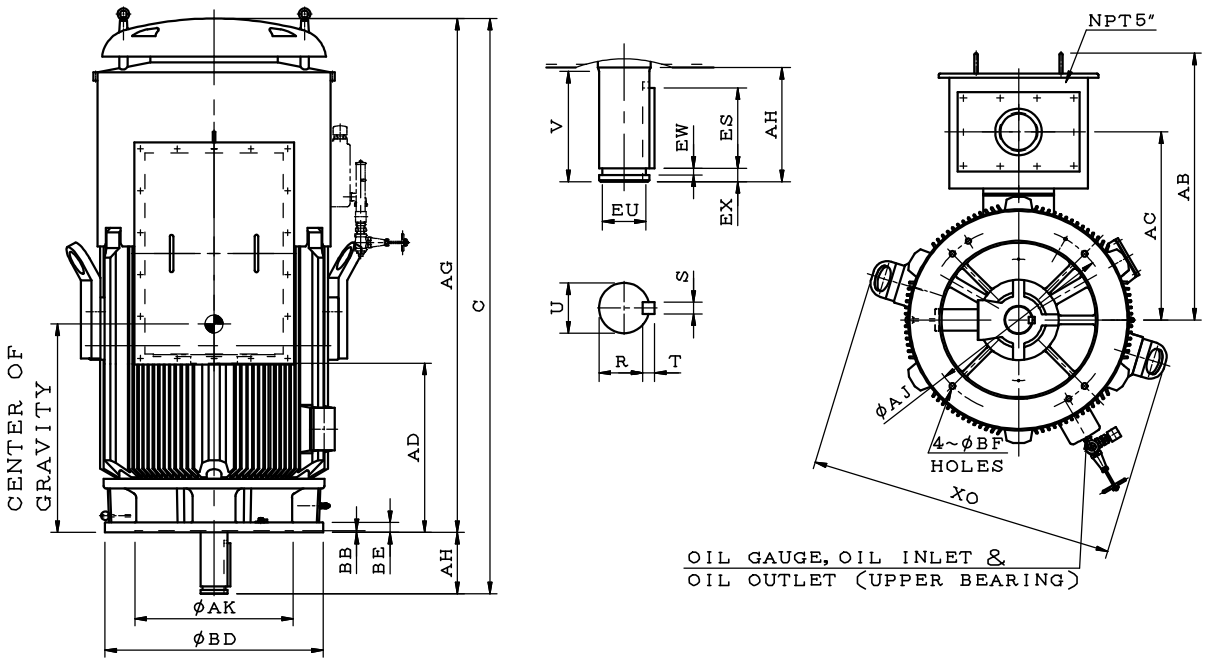
OUTLINE DIMENSIONS SHEET

HIGH THRUST SOLIDSHAFT PUMP MOTORS

FRAME SIZE (EGV) 5808 ~ 5810

MODEL **AEHCED**

TOTALLY ENCLOSED FAN COOLED SQUIRREL CAGE



DIMENSIONS IN INCHES

FRAME SIZE (EGV)	MOUNTING							UPPER BEARING		LOWER BEARING
	BD	AK	AJ	BF	QTY. OF BF HOLES	BB	BE	4P	6&8P	
5800	24.50	13.50	14.75	0.69	4	0.25	1.38	7328B	29330 +6028	6320C3
			22.00	0.94	4					
	✳30.50	22.00	26.00	0.81	4					
	36.00	26.00	32.00	1.00	8					

FRAME SIZE (EGV)	U	AH	V	R	EU	EW	EX	ES	S	T
5800	3.750	8.50	8.00	3.261	3.250	0.500	1.000	6.00	0.875	0.875

FRAME SIZE (EGV)	TERMINAL HOUSING			AG			C			XO	CENTER OF GRAVITY
	AB	AC	AD	4P	6P	8P	4P	6P	8P		
5808	37.10	26.15	23.55	70.87	70.67	70.87	79.37	79.17	79.37	42.52	29.0
5810			28.65	75.98	75.78	75.98	84.48	84.28	84.48		31.5

NOTE:
1. TOLERANCE ON AK DIMENSION
   13.50~22.00 INCHES:+0.005INCH,—0.000INCH
   26.00 INCH: +0.007INCH,—0.000INCH
2. DIMENSION U TOLERANCE: +0.000INCH, —0.001INCH
3. DIMENSION R TOLERANCE: +0.000INCH, —0.015INCH
4. DIMENSION EU TOLERANCE: +0.000INCH, —0.010INCH
5. DIMENSION AH TOLERANCE: +0.06INCH, —0.06INCH
6. DIMENSION EW TOLERANCE: +0.003INCH, —0.000INCH
7. DIMENSION EX TOLERANCE: +0.000INCH, —0.010INCH
8. USABLE SHAFT LENGTH FOR V
9. WITH BALL TYPE NON—REVERSE RATCHET MECHANISM
10. ✳ MARKED TABLE APPLIED TO STANDARD SIZE (BD=30.50, AK=22.00, AJ=26.00, BF=0.81), FOR REED FREQUENCY AS DWG NO. 3A057M089E