

高壓全密型TEFC泵浦用馬達(空心軸)

MODEL : AEHCNH

HIGH THRUST HOLLOWSHAFT PUMP MOTORS

MEDIUM VOLTAGE SQUIRREL CAGE

FRAME SIZE (EHV) 449TP



DWG NO.

3A057M090E

REV. 00

1/1

		SPECIFICATION TABLE	MODEL
		HIGH THRUST HOLLOWSHAFT PUMP MOTORS MEDIUM VOLTAGE SQUIRREL CAGE	AEHCNH
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	125 ~ 250HP	
	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)	449TP	
	PROTECTION ENCLOSURE	TOTALLY ENCLOSED (IPW44)	
	COOLING METHOD	SELF EXTERNAL FAN, SURFACE COOLING (IC 411)	
	MOUNTING	FLANGE MOUNTING (IM3011)	
APPLICATION	POWER CONDITION	VOLTAGE : $\pm 10\%$, FREQUENCY : $\pm 5\%$, AND $\pm 10\%$ MAX. OF COMBINED VOLTAGE AND FREQUENCY, BUT FREQUENCY VARIATION DOES NOT EXCEED $\pm 5\%$	
	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 : $-15^{\circ}\text{C} \sim 40^{\circ}\text{C}$, 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	
	TYPICAL PERFORMANCE	AS DWG NO. 3A057M092E	
	TEMPERATURE RISE	NOT TO EXCEED 105°C FOR S.F. 1.15 OR 80°C FOR S.F. 1.0 BY RESISTANCE METHOD	
	OVER SPEED	125% SYN. R.P.M. FOR TWO MIN WHILE HORSEPOWER $\leq 200\text{HP}$ (4 POLE) 120% SYN. R.P.M. FOR TWO MIN WHILE HORSEPOWER $> 200\text{HP}$ (4 POLE) 150% SYN. R.P.M. FOR TWO MIN WHILE HORSEPOWER $\leq 200\text{HP}$ (6 & 8 POLE)	
	SPEED RANGE	VARIABLE TORQUE : 10 : 1, CONSTANT TORQUE : 3 : 1	
	OVER TORQUE	160% RATED TORQUE FOR 15 SEC	

PERFORMANCE DATA

MODEL
AEHCNH

HIGH THRUST HOLLOWSHAFT PUMP MOTORS MEDIUM VOLTAGE SQUIRREL CAGE



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

TYPICAL PERFORMANCE

(2300V)

HP	FULL LOAD RPM	FRAME SIZE (EHV)	EFFICIENCY						POWER FACTOR			CURRENT		TORQUE			ROTOR WR ² lb-ft ²	DOWN THRUST LBS	APPROX. ROTOR WEIGHT LBS	APPROX. WEIGHT LBS	REED FREQ. Hz
			FULL LOAD %		3/4 LOAD	1/2 LOAD	FULL LOAD	3/4 LOAD	1/2 LOAD	FULL LOAD	LOCKED ROTOR	FULL LOAD	LOCKED ROTOR	BREAK- DOWN							
			NOM.	MIN.	NOM.	NOM.	%	%	%	A	A	lb-ft	%FLT	%FLT							
125	1185	449TP	94.6	93.6	94.5	93.6	79.7	73.8	62.1	31	198	554.1	80	200	68.7	11400	610	2650	38		
	883	449TP	93.7	92.5	93.6	93.1	76.9	71.3	60.1	32	198	743.7	80	210	97.8	12700	760	3030	36		
150	1780	449TP	95.0	94.1	94.6	93.5	83.6	80.2	71.7	35	237	442.7	110	210	58.1	10000	540	2560	39		
	1185	449TP	95.0	94.1	94.7	93.9	80.1	74.5	62.7	36	237	665.0	80	200	84.1	11400	690	2850	37		
200	1780	449TP	95.0	94.1	94.8	93.9	82.9	79.1	69.5	47	316	590.2	110	210	71.7	10000	600	2720	38		
	1185	449TP	95.0	94.1	94.8	94.2	76.2	69.1	56.2	51	316	886.6	80	200	94.2	11400	740	3020	36		
250	1780	449TP	95.0	94.1	94.9	94.2	83.7	79.8	70.7	58	395	737.8	110	210	83.0	10000	660	2910	37		

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
449TP	0.0194

7. REDUCING THE THRUST LOAD WILL INCREASE BEARING LIFE AS FOLLOWS :

THRUST(%)	100	80	70	58	51
BEARING LIFE(Hrs.)	8800	15000	20000	30000	40000

8. DATA SUBJECT TO CHANGE WITHOUT NOTICE

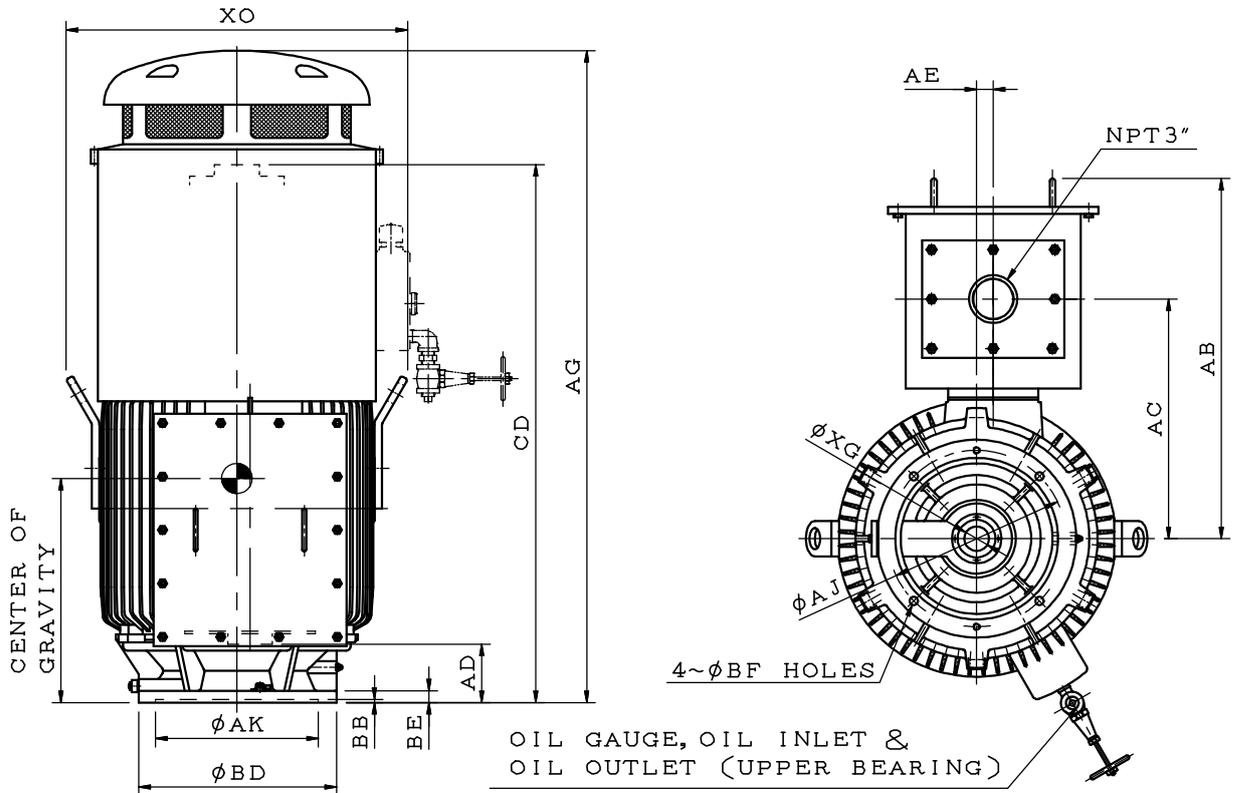
OUTLINE DIMENSIONS SHEET

MODEL

AEHCNH

HIGH THRUST HOLLOWSHAFT PUMP MOTORS
FRAME SIZE (EHV) 449TP

TOTALLY ENCLOSED FAN COOLED SQUIRREL CAGE



DIMENSIONS IN INCHES

OUTPUT (HP)			FRAME SIZE (EHV)	MOUNTING						CD
4P	6P	8P		AK	AJ	BD	BF	BB	BE	
250	200	150	449TP	13.50	14.75	20.00	0.69	0.25	1.20	53.94

FRAME SIZE (EHV)	XG	AG	XO	TERMINAL HOUSING				CENTER OF GRAVITY	BEARINGS	
				AB	AC	AD	AE		UPPER END	LOWER END
449TP	2.559	64.06	30.55	31.10	21.00	6.00	1.20	22.6	7326B	6318C3

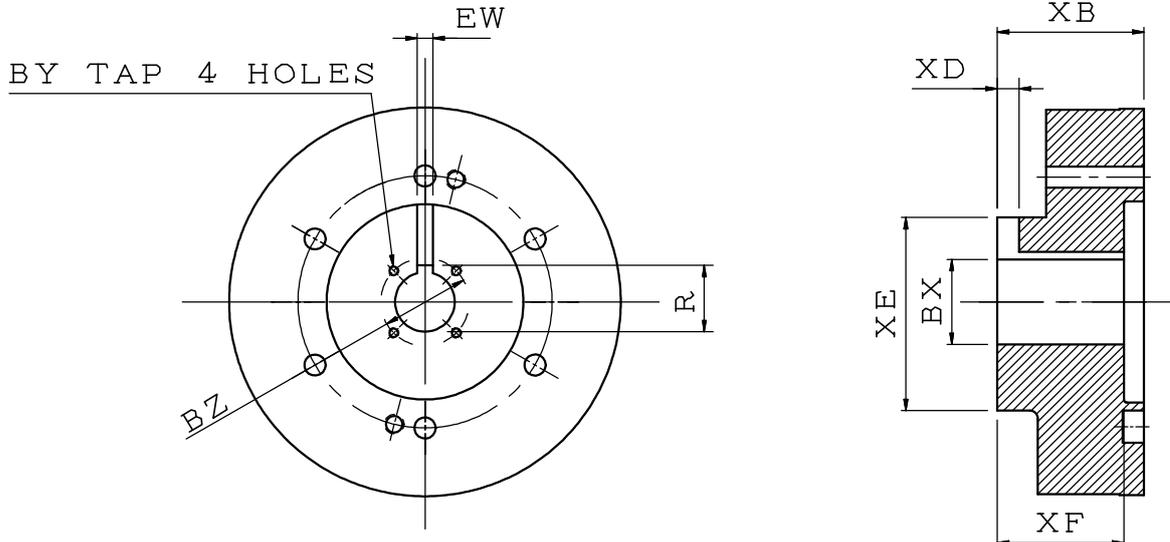
- NOTE: 1. DIMENSION AK TOLERANCE: +0.005 INCH, -0.000 INCH
 2. FOR COUPLING AS DWG NO. 4B049R528E
 3. WITH NON-REVERSE RATCHET MECHANISM
 4. ROTATING DIRECTION: COUNTER CLOCK-WISE (VIEW FROM COUPLING END)

OUTLINE DIMENSIONS SHEET

MODEL

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DRIVE COUPLING FOR HOLLOWSHAFT PUMP MOTOR
FRAME SIZE (EHV) 449TP



DIMENSIONS IN INCHES

FRAME SIZE	BX	BY	BZ	EW	R	XB	XD	XE	XF
449TP	1.438	1/4-20	2.125	0.375	1.605	3.559	0.531	4.724	3.071
	1.501	1/4-20	2.125	0.375	1.669	3.559	0.531	4.724	3.071
	1.688	1/4-20	2.500	0.375	1.859	3.559	0.531	4.724	3.071
	1.751	1/4-20	2.500	0.375	1.922	3.559	0.531	4.724	3.071
	1.938	1/4-20	2.500	0.500	2.160	3.559	0.689	4.724	3.071
	2.001	3/8-16	3.250	0.500	2.223	3.559	0.689	4.724	3.071
	2.063	3/8-16	3.250	0.500	2.287	3.559	0.689	4.724	3.071
	2.126*	3/8-16	3.250	0.500	2.350	3.559	0.689	4.724	3.071
	2.188	3/8-16	3.250	0.500	2.414	3.559	0.689	4.724	3.071
	2.251	3/8-16	3.250	0.500	2.477	3.559	0.689	4.724	3.071
	2.376	3/8-16	3.250	0.625	2.651	3.559	0.815	4.724	3.071
	2.438	3/8-16	3.250	0.625	2.714	3.559	0.815	4.724	3.071
2.501	3/8-16	3.250	0.625	2.778	3.559	0.815	4.724	3.071	

NOTE: 1. TOLERANCE ON BX DIMENSION AS FOLLOWS UP TO 1.500 INCHES: +0.001INCH, -0.000INCH
LARGER THAN 1.500 INCHES: +0.0015INCH, -0.000INCH
2. DIMENSION EW TOLERANCE: +0.002INCH, -0.000INCH
3. DIMENSION R TOLERANCE: +0.010INCH, -0.000INCH
4. * MARKED TABLE APPLIED TO STANDARD SIZE
449TP: BX=2.126

OUTLINE DIMENSIONS SHEET

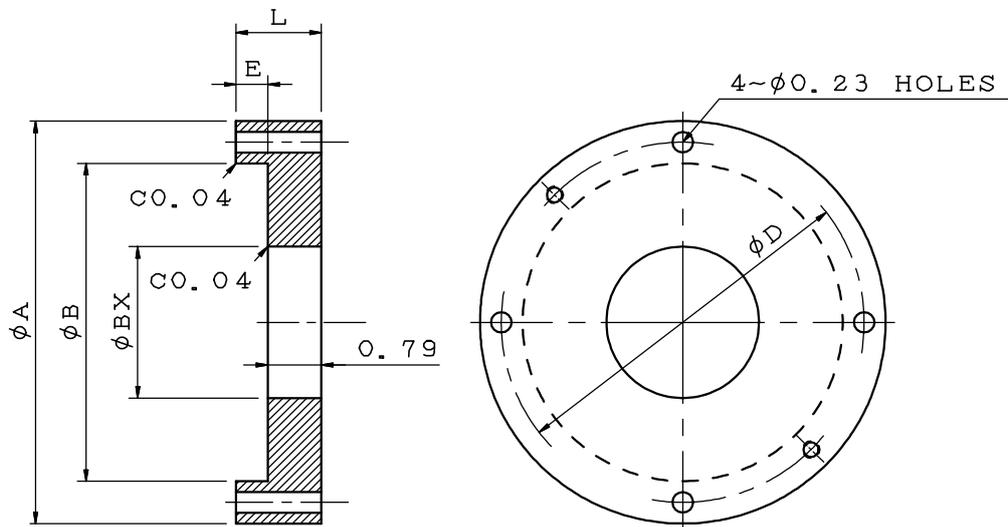
MODEL

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STEADY BUSH FOR HOLLOW SHAFT PUMP MOTOR

FRAME SIZE (EHV) 449TP

OPTIONAL



DIMENSIONS IN INCHES

FRAME SIZE	BX	A	B	D	E	L
449TP	1.438	4.49	3.54	4.02	0.47	1.26
	1.501					
	1.688					
	1.751					
	1.938					
	2.001					
	2.063					
	2.126*					
	2.188					
	2.251					
	2.376					
	2.438					
	2.501					

NOTE: 1. TOLERANCE ON BX DIMENSION AS FOLLOWS UP TO 1.500 INCHES: +0.001INCH, -0.000INCH
 LARGER THAN 1.500 INCHES: +0.0015INCH, -0.000INCH
 2. * MARKED TABLE APPLIED TO STANDARD SIZE
 449TP: BX=2.126