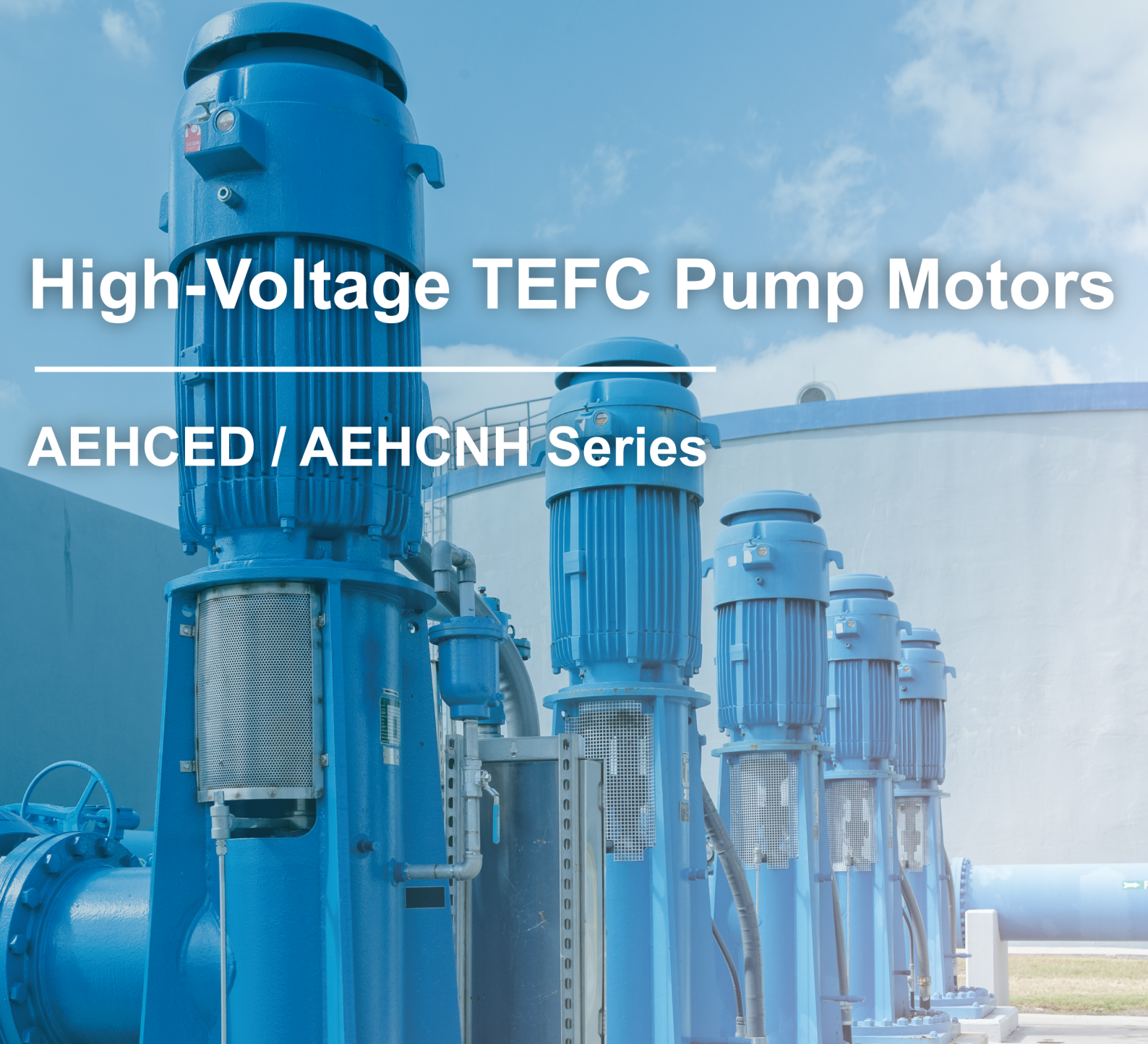


# High-Voltage TEFC Pump Motors

AEHCED / AEHCNH Series



**TECO** 

together, we empower the Future 



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## *High-Voltage TEFC Pump Motor*

Designed for demanding pump applications, the AEHC series high-voltage TEFC pump motors deliver exceptional reliability, efficiency, and thrust-handling capability. Built in accordance with NEMA MG-1 standards, these squirrel-cage induction motors are specifically engineered for vertical pump systems, including deep well turbine pumps.

With a totally enclosed fan-cooled (TEFC) construction and robust mechanical design, the motors provide superior protection in harsh outdoor environments. The high-thrust bearing design ensures stable operation under heavy axial loads, while premium efficiency performance minimizes energy consumption across a wide operating range.

Supporting both across-the-line and reduced voltage starting, as well as VFD operation, the AEHC series offers flexibility for modern pump system integration.

- High Thrust Capacity for Reliable Vertical Pump Operation
- Premium Efficiency Design for Reduced Energy Consumption
- Rugged TEFC Construction for Harsh Environment Protection

## *Reasons for AEHC series*

High Thrust  
Capacity  
Design

Premium  
Efficiency  
Performance

Robust  
TEFC  
Enclosure  
(IP54)

Wide  
Voltage  
&  
Power  
Range

VFD  
Compatible  
&  
Flexible  
Operation

## *Industries & Applications*

### Deep Well Turbine Pumps



### Water Supply & Municipal Infrastructure



### Industrial Process Pumping



### Irrigation & Agricultural Systems



## Product Information

R A T I N G	Kind of Motors	Squirrel-Cage Induction Motor (SCIM), VSS(AEHCED) / VHS(AEHCNH)
	Design Standard	NEMA MG-1, Premium Efficiency
	Voltages	2300/4000V
	Frequency	60 Hz
	Output Range	125 – 700 HP
	R.P.M	1800 – 900 R.P.M (4–8 poles)
	Time Duty	Continuous S.F. 1.15 (S1, MCR) VFD: Continuous S.F. 1.0 (S1, MCR)
	Frame Size	449VP ~ 5810
	Protection Enclosure	Totally Enclosed IP44 (449VP) · Totally Enclosed IP54 (5009 ~ 5810)
	Cooling Method	Self External Fan, Surface Cooling ( IC 411 )
	Mounting	Flange Mounting ( IM3011 )
A P P L I C A T I O N	Power Condition	Voltage: $\pm 10\%$ , Frequency $\pm 5\%$ , and 10% max. of combined voltage and frequency, but frequency variation does not exceed $\pm 5\%$
	Designed Primarily	For deep well turbine pump
	Environment Conditions	Outdoor, non-hazardous, CSA Class I, Div. 2, Group, B, C, D T3 (option)
	Ambient Temperature	-15°C ~ 40°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
C O N S T R U C T I O N	Dimensions	AS DWG
	Frame	High grade cast iron
	Flange Bracket	High grade cast iron or steel plate fabricated
	Upper Bracket	High grade cast iron or steel plate fabricated, including oil tank
	Internal Fan	Steel plate fabricated
	External Fan	Standard : aluminum alloy fabricated Optional : integral cast bronze

C O N S T R U C T I O N	Fan Cover	Steel plate fabricated
	Vertical Splash Cover	Integral cast aluminum or steel plate fabricated
	Shaft	Carbon steel or chrome-molybdenum steel, cylindrical, single extension with keyway and key; hollow type in carbon steel.
	Thrust Bearing (upper)	Oversized angular contact thrust bearing Angular contact thrust bearing or spherical roller thrust
	Guide Bearing (lower)	Bracket mounting, vacuum de-gassed high quality Deep-groove ball bearing with regrease provision
	Lubricant	Thrust bearing : turbine oil which viscosity is 300 S.S.U. at 100 °F Guide bearing : mineral oil, polyurea-thickened grease(Mobil Polyrex EM grease)
	Shaft opening shield	Metal flinger at flange bracket end
	Terminal Housing	Steel plate, larger size , threaded for external conduit entrance
	Lead Terminal	3 or 6 leads, with solderless lug terminals
	Iron Core	High grade, insulated, cold-rolled electro-magnetic steel plate Continuous , S.F. 1.15 ( S1, MCR )
	Stator Winding	Mica insulated formed wound coil
	Stator Insulation	Class F insulation system
	Varnish Treatment	VPI treatment of solventless epoxy varnish
	Rotor Winding	Squirrel-cage, aluminum conductor with end-ring and wafer blades integral cast(449VP) Squirrel-cage, copper or copper alloy bar brazed with end-ring(5009 ~ 5810)
	Painting	Alkyd resin with rust proof base, plus polyurethane surface finish painting in blue-gray color (Munsell 7.5B 3.5/0.5)
	Nameplate	Stainless steel plate
	Bolt Thread	CSA ClassD I , DIV. 2, Group, B, C, D T3 (option) ISO metric system
	Grounding Terminal	Be set inside of terminal housing and on the flange bracket
	Coil Winding	Per TECO, MG-1 and IEEE-522 and MG-1 part 31.4.4.2 & MG-1.14.32.2 form coil
P E R F O R M A N C E	Test Procedure	IEEE-112 Method B or F
	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 $\leq$ 200HP (4 pole) 120% syn. R.P.M. for two min while horsepower > 200HP (4 pole) 150% syn. R.P.M. for two min while horsepower $\leq$ 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 AEHCED - Frame 449VP(EHV) 2300V 60Hz

HP	FULL LOAD RPM	FRAME NO. (EHV)	EFFICIENCY				POWER FACTOR			CURRENT		TORQUE			ROTOR WR <sup>2</sup> lb-ft <sup>2</sup>	DOWN THRUST LBS	APPROX. ROTOR WEIGHT LBS	APPROX. WEIGHT LBS	REED FREQ. Hz
			FULL LOAD %		3/4 LOAD NOM.	1/2 LOAD NOM.	FULL LOAD %	3/4 LOAD %	1/2 LOAD %	FULL LOAD A	LOCKED ROTOR A	FULL LOAD lb-ft	LOCKED ROTOR & FLT	BREAK DOWN %FLT					
			NOM.	MIN.															
125	1185	449VP	94.6	93.6	94.5	93.6	79.7	73.8	62.1	31	198	554.1	80	200	68.7	11400	710	2750	38
	883	449VP	93.7	92.5	93.6	93.1	76.9	71.3	60.1	32	198	743.7	80	210	97.8	12700	870	3130	35
150	1780	449VP	95.0	94.1	94.6	93.5	83.6	80.2	71.7	35	237	442.7	110	210	58.1	10000	640	2660	38
	1185	449VP	95.0	94.1	94.7	93.9	80.1	74.5	62.7	36	237	665.0	80	200	84.1	11400	790	2950	36
200	1780	449VP	95.0	94.1	94.8	93.9	82.9	79.1	69.5	47	316	590.2	110	210	71.7	10000	710	2830	37
	1185	449VP	95.0	94.1	94.8	94.2	76.2	69.1	56.2	51	316	886.6	80	200	94.2	11400	840	3120	35
250	1780	449VP	95.0	94.1	94.9	94.2	83.7	79.8	70.7	58	395	737.8	110	210	83.0	10000	760	3010	36

**NOTE:**

- The above are typical values based on tests according to ANSI/IEEE Standard 112 Method B.
- Breakdown and locked rotor torques are shown as average expected values.
- Efficiency, power factor, speed, and torque are the same for other voltages. Current values vary inversely with voltage.
- Declared efficiency has not taken into account thrust load losses.
- Tolerance according to NEMA MG1-12 & IEC 34-1.
- Thrust load losses estimated for angular contact ball bearings as follows (according to NEMA Standard MG1-12.7):

Frame size	Loss HP/100RPM/1000 LB THRUST
449VP	0.0194

- Reducing the thrust load will increase bearing life as follows:

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

- Data subject to change without notice.

# Performance Data AEHCED - Frame 5009 ~ 5810(EGV) 2300V 60Hz

HP	FULL LOAD RPM	FRAME NO. (EGV)	EFFICIENCY				POWER FACTOR			CURRENT		TORQUE			ROTOR WR <sup>2</sup> lb-ft <sup>2</sup>	DOWN THRUST LBS	APPROX. ROTOR WEIGHT LBS	APPROX. WEIGHT LBS	REED FREQ. Hz
			FULL LOAD %		3/4 LOAD NOM.	1/2 LOAD NOM.	FULL LOAD %	3/4 LOAD %	1/2 LOAD %	FULL LOAD A	LOCKED ROTOR A	FULL LOAD lb-ft	LOCKED ROTOR & FLT	BREAK DOWN %FLT					
			NOM.	MIN.															
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 tests according to ANSI/IEEE Standard 112 Method B.
- 2.Breakdown and 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 has not taken into account thrust load losses.
- 5.Tolerance according to NEMA MG1-12 & IEC 34-1.
- 6.Thrust load losses estimated for angular contact ball bearings as follows (according to NEMA Standard MG1-12.7):

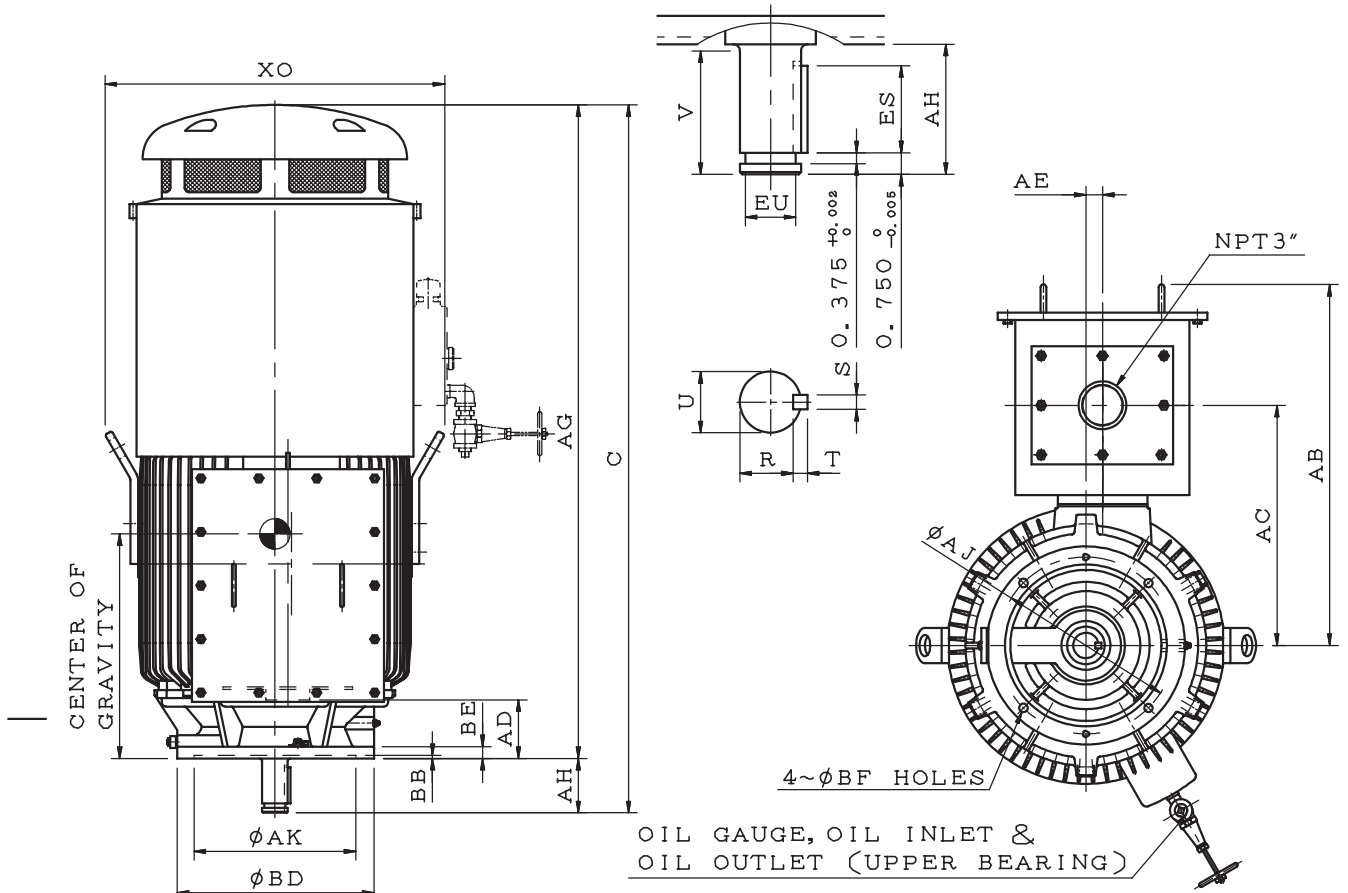
Frame size	Loss HP/100RPM/1000 LB THRUST
5009~5810	0.0208

- 7.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 Dimension Sheet **AEHCED - Frame 449VP**

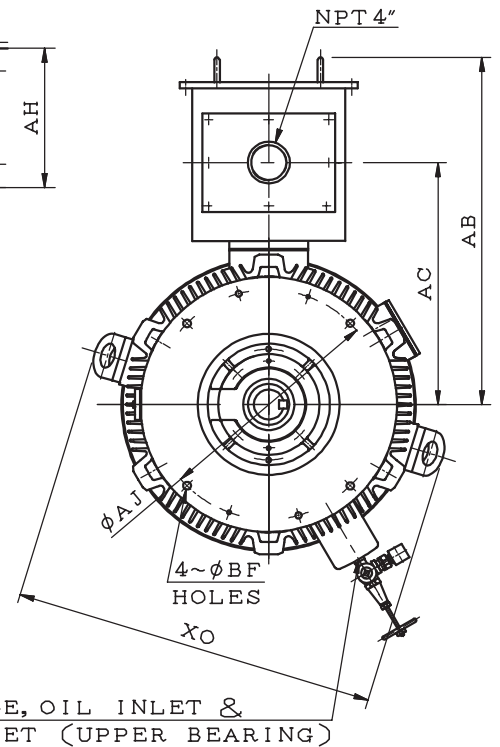
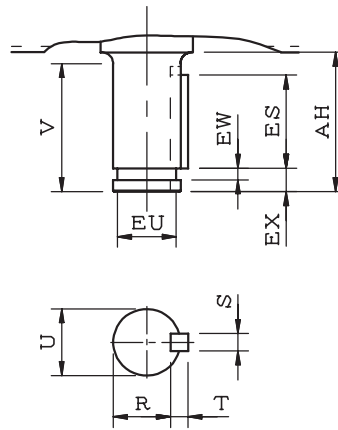
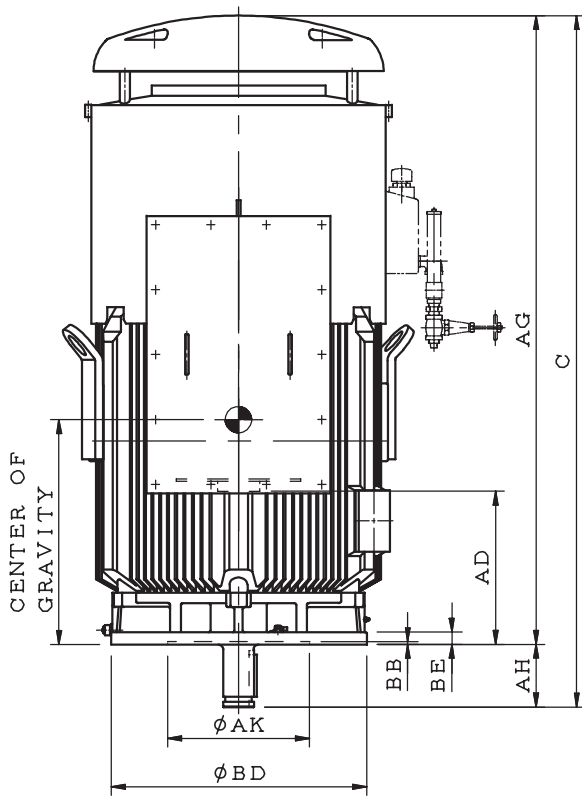


(Dimensions in inches)

FRAME SIZE (EHV)	MOUNTING						C	AG	XO	U	AH	V	EU	R
	AK	AJ	BD	BF	BB	BE								
449VP	13.50	14.75	20.00	0.69	0.25	1.20	69.06	64.06	30.55	2.625	5.00	4.75	2.250	2.275

FRAME SIZE (EHV)	ES	S	T	TERMINAL HOUSING				CENTER OF GRAVITY	BEARINGS	
				AB	AC	AD	AE		UPPER END	LOWER END
449VP	3.50	0.625	0.625	31.10	21.00	6.00	1.20	22.6	7326B	6318C3

- NOTE: 1.Dimension AK tolerance: +0.005 inch, -0.000 inch  
 2.Dimension U tolerance: +0.000 inch, -0.001 inch  
 3.Dimension R tolerance: +0.000 inch, -0.015 inch  
 4.Dimension E/U tolerance: +0.000 inch, -0.005 inch  
 5.Dimension AH tolerance: +0.06 inch, -0.06 inch  
 6.Face runout and permissible eccentricity of mounting rabbet: 0.007 inch indicator reading  
 7.Permissible shaft runout: 0.003 inch indicator reading  
 8.Usable shaft length for V



OIL GAUGE, OIL INLET &  
OIL OUTLET (UPPER BEARING)

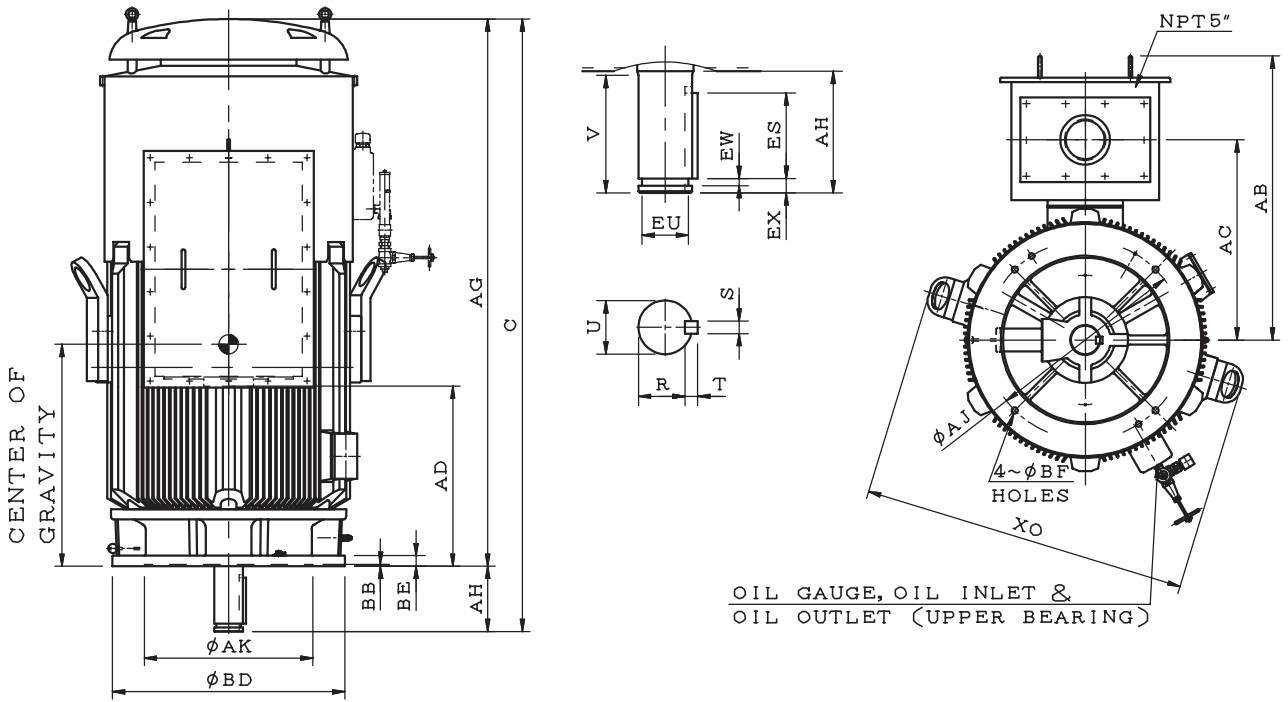
(Dimensions in inches)

FRAME SIZE (EGV)	MOUNTING						U	AH	V	R	EU	EW
	BD	AK	AJ	BF	BB	BE						
5009	20.00	13.50	14.75	0.69	0.25	1.18	2.875	6.00	5.50	2.450	2.500	0.500
	*24.50	13.50	14.75	0.69								
			22.00	0.94								
	30.50	22.0	26.00	0.81								

FRAME SIZE (EGV)	EX	ES	S	T	TERMINAL HOUSING			AG		
					AB	AC	AD	4P	6P	8P
5009	1.000	4.00	0.750	0.750	33.30	23.20	20.60	65.98	66.38	66.38

FRAME SIZE (EGV)	C			XO	CENTER OF GRAVITY	BEARING	
	4P	6P	8P			UPPER END	LOWER END
5009	71.98	72.38	72.38	34.65	24.5	7328B	6220C3

- NOTE: 1. Dimension D tolerance: +0.00 inch, -0.06 inch  
 2. Dimension U tolerance: +0.000 inch, -0.001 inch  
 3. Dimension R tolerance: +0.000 inch, -0.015 inch  
 4. Dimension V is the length of straight part of shaft  
 5. For direct flexible coupling



(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 (EG)	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: 1. 13.50~22.00 inches: +0.005 inch, -0.000 inch : 2. 26.00 inch: +0.007 inch, -0.000 inch  
 2. DIMENSION U TOLERANCE: +0.000 INCH, -0.001 INCH  
 3. DIMENSION R TOLERANCE: +0.000 INCH, -0.015 INCH  
 4. Dimension EU tolerance: +0.000 inch, -0.010 inch  
 5. Dimension AH tolerance: +0.06 inch, -0.06 inch  
 6. Dimension EW tolerance: +0.003 inch, -0.000 inch  
 7. Dimension EX tolerance: +0.000 inch, -0.010 inch  
 8. Usable shaft length for V  
 9. With ball type non-reverse ratchet mechanism

# Performance Data AEHCNH - Frame 449TP(EHV) 2300V 60Hz

HP	FULL LOAD RPM	FRAME NO. (EHV)	EFFICIENCY				POWER FACTOR			CURRENT		TORQUE			ROTOR WR <sup>2</sup> lb-ft <sup>2</sup>	DOWN THRUST LBS	APPROX. ROTOR WEIGHT LBS	APPROX. WEIGHT LBS	REED FREQ. Hz
			FULL LOAD %		3/4 LOAD NOM.	1/2 LOAD NOM.	FULL LOAD %	3/4 LOAD %	1/2 LOAD %	FULL LOAD A	LOCKED ROTOR A	FULL LOAD lb-ft	LOCKED ROTOR & FLT	BREAK DOWN %FLT					
			NOM.	MIN.															
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:**

- The above are typical values based on tests according to ANSI/IEEE Standard 112 Method B.
- Breakdown and locked rotor torques are shown as average expected values.
- Efficiency, power factor, speed, and torque are the same for other voltages. Current values vary inversely with voltage.
- Declared efficiency has not taken into account thrust load losses.
- Tolerance according to NEMA MG1-12 & IEC 34-1.
- Thrust load losses estimated for angular contact ball bearings as follows (according to NEMA Standard MG1-12.7):

Frame size	Loss HP/100RPM/1000 LB THRUST
449TP	0.0194

- Reducing the thrust load will increase bearing life as follows:

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

- Data subject to change without notice.

# Performance Data AEHCNH - Frame 5009 ~ 5810(EGV) 2300V 60Hz

HP	FULL LOAD RPM	FRAME NO. (EGV)	EFFICIENCY				POWER FACTOR			CURRENT		TORQUE			ROTOR WR <sup>2</sup> lb-ft <sup>2</sup>	DOWN THRUST LBS	APPROX. ROTOR WEIGHT LBS	APPROX. WEIGHT LBS	REED FREQ. Hz
			FULL LOAD %		3/4 LOAD NOM.	1/2 LOAD NOM.	FULL LOAD %	3/4 LOAD %	1/2 LOAD %	FULL LOAD A	LOCKED ROTOR A	FULL LOAD lb-ft	LOCKED ROTOR & FLT	BREAK DOWN %FLT					
			NOM.	MIN.															
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	1080	3940	36
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	1260	4320	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	1080	4250	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	1440	4690	33
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	1010	4130	35
	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	1210	4530	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	1670	6300	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	1090	4330	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	1510	6000	45
	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	1830	6640	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	1130	4430	34
	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	1630	6290	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	1980	6980	41
450	1785	5808	95.4	94.5	95.2	94.4	83.8	80.5	72.1	105	712	1324.3	100	200	270.8	9700	1360	6020	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	1730	6530	43
	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	2160	7580	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	1360	6070	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	1900	7090	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	2250	7790	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	1620	6930	41
	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	2100	7590	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	1760	7250	40

**NOTE:**

- 1.The above are typical values based on tests according to ANSI/IEEE Standard 112 Method B.
- 2.Breakdown and 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 has not taken into account thrust load losses.
- 5.Tolerance according to NEMA MG1-12 & IEC 34-1.
- 6.Thrust load losses estimated for angular contact ball bearings as follows (according to NEMA Standard MG1-12.7):

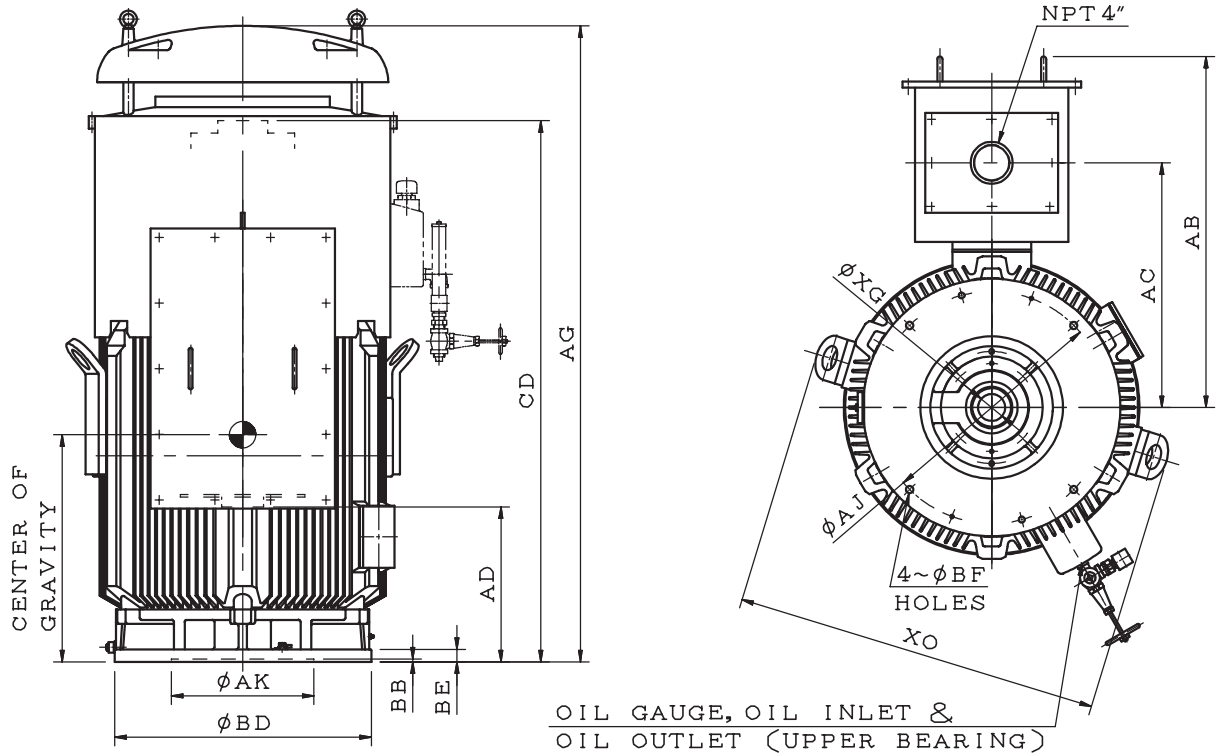
Frame size	Loss HP/100RPM/1000 LB THRUST
5009~5810	0.0208

- 7.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 Dimension Sheet **AEHCNH - Frame 5009(315C)**



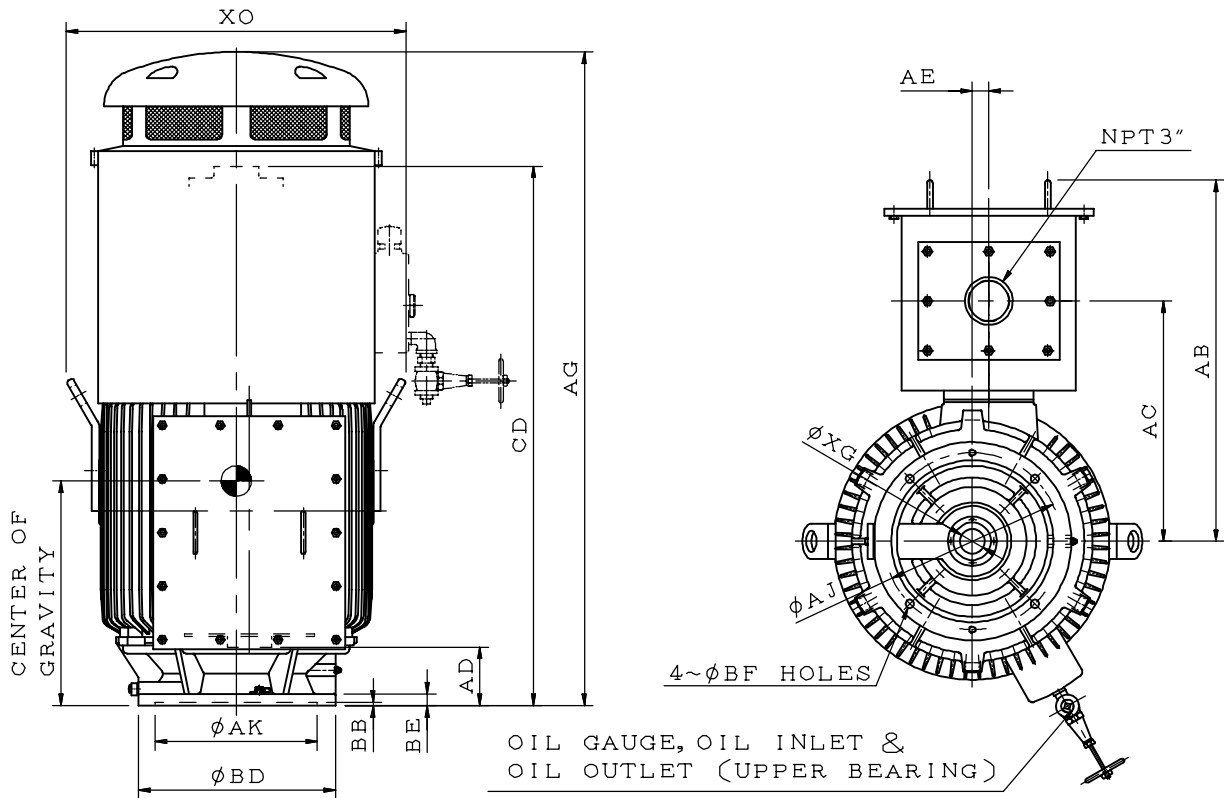
(Dimensions in inches)

FRAME SIZE (EGV)	MOUNTING						XG	XO	CD	AG		
	BD	AK	AJ	BF	BB	BE				4P	6P	8P
5009	20.00	13.50	14.75	0.69	0.25	1.18	2.559	34.65	57.20	65.98	66.38	66.38
	*24.50	13.50	14.75	0.69								
			22.00	0.94								
	30.50	22.00	26.00	0.81								

FRAME SIZE (EGV)	TERMINAL HOUSING			CENTER OF GRAVITY	BEARING	
	AB	AC	AD		UPPER END	LOWER END
5009	33.30	23.20	20.60	24.5	7328B	6220C3

- NOTE: 1. Dimension AK tolerance: +0.005 inch, -0.000 inch  
 2. With ball type non-reverse ratchet mechanism  
 3. Rotating direction: counter clockwise (view from coupling end)

Outline Dimension Sheet **AEHCNH - Frame 5009(449TP)**



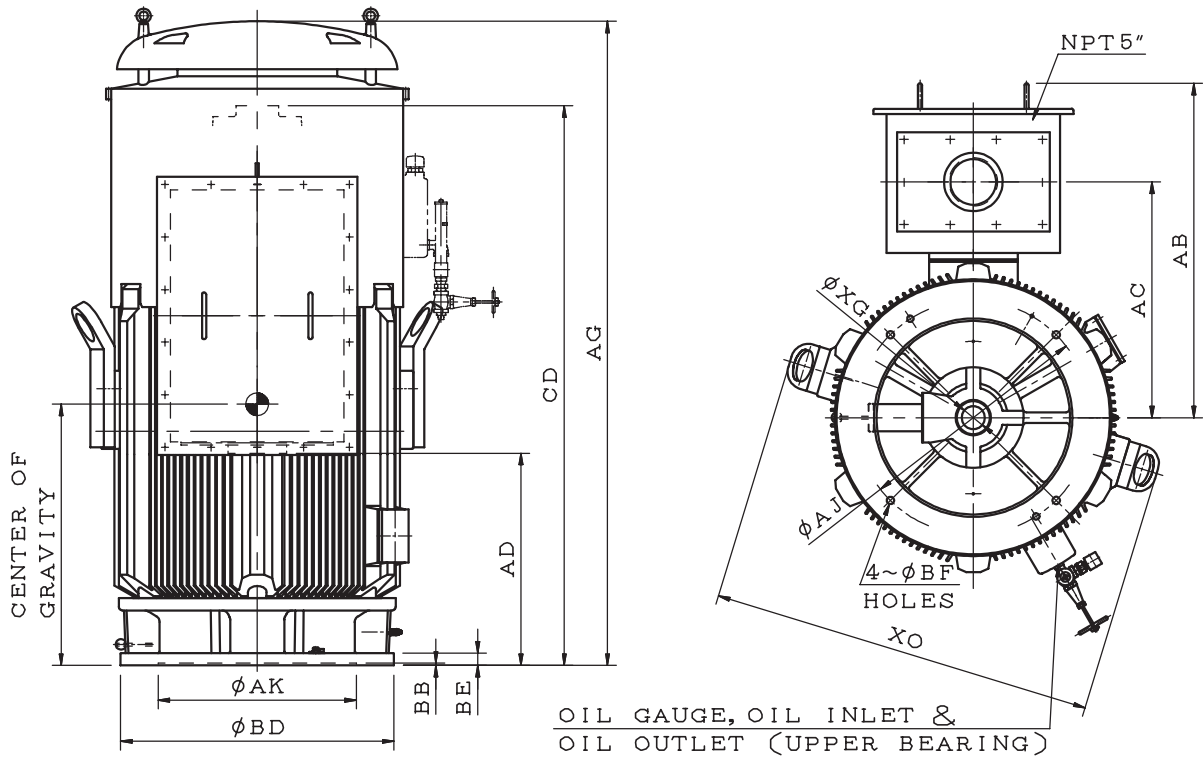
(Dimensions in inches)

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 (EGV)	XG	AG	XO	TERMINAL HOUSING				CENTER OF GRAVITY	BEARING	
				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. With ball type non-reverse ratchet mechanism  
 3. Rotating direction: counter clockwise (view from coupling end)

Outline Dimension Sheet **AEHCNH - Frame 5808 ~ 5810**



(Dimensions in inches)

FRAME SIZE (EGV)	MOUNTING							XG	XO
	BD	AK	AJ	BF	QTY. OP BF HOLES	BB	BE		
5800	24.50	13.50	14.75	0.69	4	0.25	1.38	2.559	42.52
			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)	CD	AG			TERMINAL HOUSING			CENTER OF GRAVITY	UPPER BEARING		LOWER BEARING
		4P	6P	8P	AB	AC	AD		4P	6P & 8P	
5808	62.09	70.87	70.67	70.87	37.10	26.15	23.55	29.0	7328B	29330 +6028	6320C3
5810	67.20	75.98	75.78	75.98			28.65	31.5			

- NOTE: 1. Tolerance on AK dimension  
 13.50~22.00 inches: +0.005 inch, -0.000 inch  
 26.00 inch: +0.007 inch, -0.000 inch  
 2. For coupling as DWG No. 4B0498529E  
 3. With ball type non-reverse ratchet mechanism  
 4. Rotating direction: counter clockwise  
 (view from coupling end)  
 5. \* Marked table applied to standard size  
 (BD=30.50, AK=22.00, AJ=26.00, BF=0.81),  
 for reed frequency as DWG No. 3A057M086E



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