



**GE INDUSTRIAL MOTORS**  
a **WOLONG** company

# Product Technical Information

February 17, 2023

Data shown is for the current revision model #. Ensure your nameplate model # matches.

<b>Model Number:</b>	<b>5KS513DAJ6021</b>
<b>Catalog Number:</b>	<b>V972</b>
<b>Instruction Manual:</b>	GEI-M1045
<b>Connection Diagram:</b>	GEM2034E-FIG23
<b>Outline Drawing:</b>	148CB53VMKKGPA0001

## Accessory Connection Diagrams

<b>Bearing Thermocouple:</b>	None	<b>Heater:</b>	3027JE-1C
<b>RTD:</b>	None	<b>Thermistor:</b>	None
<b>Thermostat:</b>	3027JE-2A	<b>Winding Thermocouple:</b>	None
<b>Bearing RTD:</b>	None		

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**Marks:**

<b>MODEL NUMBER:</b>	<b>5KS513DAJ6021</b>	<b>Estimated Weight:</b>	5926 Lbs
<b>Outline Drawing:</b>	148CB53VMKKGPA0001	<b>Time Rating:</b>	CONT
<b>Connection Diagram:</b>	GEM2034E-FIG23	<b>Enclosure:</b>	WPI
<b>Instruction Book:</b>	GEI-M1045	<b>Encl Construction:</b>	OPEN
<b>Design Code:</b>	50ED1444A	<b>Ambient Max(°C):</b>	40
<b>Type:</b>	KS	<b>Alt Ambient Max(°C):</b>	--
<b>Frame:</b>	B5013TP24	<b>Insulation Class:</b>	F
<b>Phases:</b>	3	<b>NEMA Design:</b>	-
<b>Poles:</b>	4	<b>Nominal Efficiency:</b>	95.0 %
<b>Output Power:</b>	700HP 518KW	<b>Guaranteed Efficiency:</b>	94.1 %
<b>RPM:</b>	1775	<b>3/4 Load Efficiency:</b>	--
<b>Voltage:</b>	460	<b>KVA Code:</b>	F
<b>Hertz:</b>	60	<b>Max KVAR:</b>	75.8
<b>Amps - FL:</b>	746.0	<b>Power Factor:</b>	92.5
<b>Service Factor:</b>	1.15	<b>Bearing - DE:</b>	6219ZC3
<b>Alt Service Factor:</b>	--	<b>Bearing - ODE:</b>	29330

**Enclosure is Weather Protected One**

**Stamped Nameplate Notes:**

NEMA ENCLOSURE WP-I, CSA ENCL DP  
 VIBRATION LIMIT = 0.055 IN/SEC  
 THERMOSTAT LEADS TB1-TB2:TRIP  
 HTR LDS HE1-HE2 115V 350W  
 UPPER BRG LUBE OIL: 10.82 QTS; 6 DEG C TO 40 DEG C :ISO 150(MINERAL OR SYNTHETIC)  
 -15 DEG C TO 5 DEG C : ISO 68 SYNTHETIC  
 LOWER BRG LUBE OIL: 2.5 QTS; 0 DEG C TO 40 DEG C : ISO 32(MINERAL OR SYNTHETIC)  
 -15 DEG C TO 0 DEG C : ISO 32 SYNTHETIC  
 ROT CCW FACING TOP LEAD/PH SEQ 1-2-3/1-2-3  
 2750 LBS MIN CONTINUOUS DOWNTHRUST REQ"D  
 SHAFT GROUND RING AT LOWER END BRG CAP  
 INSULATED BEARING SYSTEM AT UPPER END  
 VERTICAL NPI  
 INVERTER DUTY PER NEMA MG1 PART 31  
 ALTERNATE RATING FOR PWM CONTROL  
 1.0 SF. VAR TORQUE RANGE 5-60 HZ

**Additional Information:**

NOTE TO MANUFACTURING:  
STAMP TAG NUMBERS AS PER SAP NOTES  
4 POLE, VERT HS HT NPI (1D)  
STEADY BUSHING  
NON-REVERSE COUPLING, BX=2.188  
VIBRATION LIMIT-PRECISION  
(3)NC TRIP CL F T"STAT LDS TO CONDUIT BOX  
115V HEATER LEADS TO MAIN CONDUIT BOX  
RCF=1378 CPM CG=35.9 IN STAT DEF=0.0185 IN  
C/B GRD PLATE  
BEARING LIFE >200000 HRS AT 13512LB THRUST  
BEARING LIFE 8760 HOURS AT 30588 LB THRUST  
5700 Cu. In. CBOX



**Performance Characteristics**

1st Winding 1st Connection

**Design: 50ED1444A**

**Marks:**

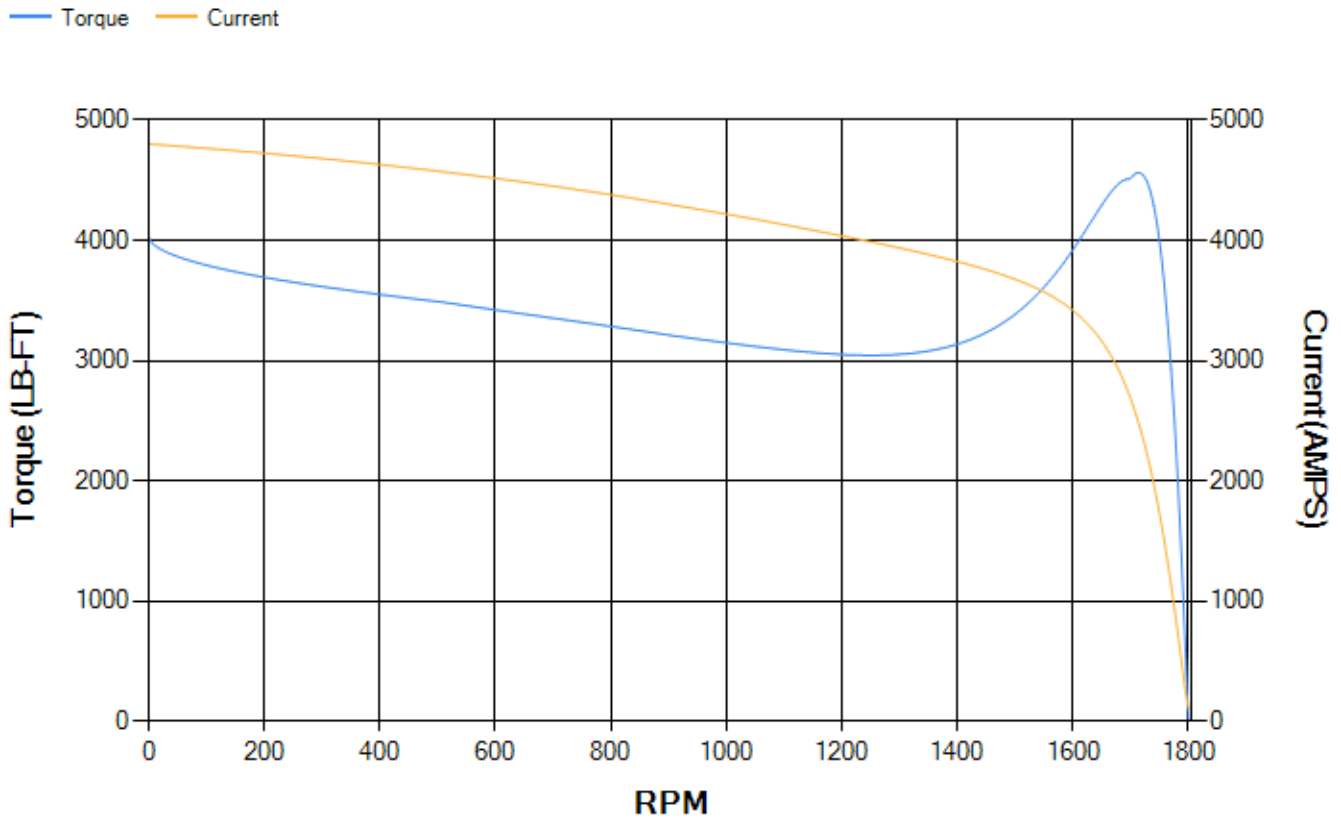
LOAD %	125.0	115.0	100.0	75.0	50.0	25.0	0.0
% EFF	93.91	94.24	94.84	95.03	94.82	92.52	0.00
% PF	91.16	91.76	93.04	92.69	91.06	81.68	10.41
AMPS	956.58	871.27	741.38	557.84	379.4	216.73	105.75

<b>TORQ(FL)#FT</b>	2070.32	<b>TORQ(LR)%FL</b>	194.93	<b>TORQ(BD)%FL</b>	217.38
<b>AMPS(LR)</b>	4802.15	<b>PF AT START</b>	0.3		

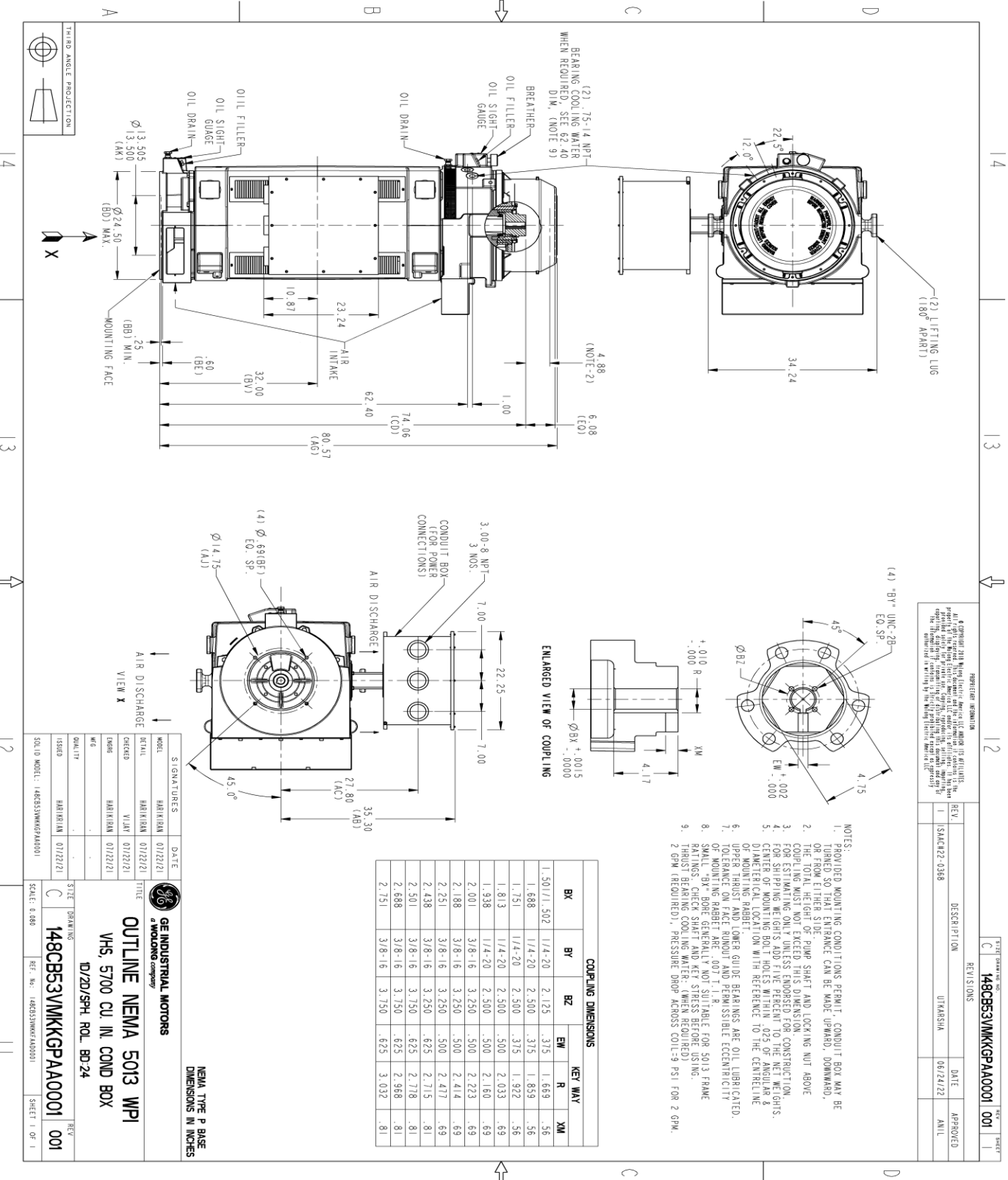
This motor is capable of two cold or one hot start with a maximum connected load inertia of 7621 Lb-Ft Sq (320.84 Kg-meter Sq)at 100% voltage, where the load torque varies with the square of the speed. Acceleration time with maximum inertia and the above load type is 17 seconds. Safe stall time at 100% voltage is 32 seconds cold, 20 seconds hot. Rotor inertia is 242.43 Lb-Ft Sq (10.21 Kg-meter Sq).

<b>Open Circuit A-C:</b>	1.395	<b>Short Circuit D-C:</b>	0.026
<b>Short Circuit A-C:</b>	0.028	<b>X/R Ratio:</b>	9.886
<b>Stator Slots:</b>	72	<b>Rotor Slots:</b>	56

**Speed Torque Current Curve (First Connection, First Speed)**



Marks:



REVISION INFORMATION

REV.	DESCRIPTION	DATE	APPROVED
1	ISAK#R2-0388	06/24/22	ANIL

148CB53VMKGPAA0001 001

- NOTES:
1. PROVIDED MOUNTING CONDITIONS PERMIT, CONDUIT BOX MAY BE MOUNTED ON EITHER END OF MOTOR. TOTAL CLEARANCE CAN BE MADE UPWARD, DOWNWARD, OR SIDEWAYS.
  2. COUPLING MUST NOT EXCEED THIS DIMENSION.
  3. FOR ESTIMATING WEIGHTS ADD FIVE PERCENT TO THE NET WEIGHTS.
  4. CENTER OF MOUNTING BOLT HOLES WITHIN .025 OF ANGULAR & DIAMETRIC LOCATION WITH REFERENCE TO THE CENTERLINE.
  5. UPPER THRUST AND LOWER GUIDE BEARINGS ARE OIL LUBRICATED.
  6. TOLERANCE ON FACE ROUNDT AND PERMISSIBLE ECCENTRICITY OF MOUNTING RABBIT ARE .007 T. I. R.
  7. SMALL "BX" BORE GENERALLY NOT SUITABLE FOR 5013 FRAME RATINGS. CHECK SHAFT AND KEY STRESS BEFORE USING.
  8. THRUST BEARING COOLING WATER: (WHEN REQUIRED) 2 GPM (REQUIRED), PRESSURE DROP ACROSS COIL: 9 PSI FOR 2 GPM.

COUPLING DIMENSIONS					KEY WAY		
BX	BY	BZ	EW	R	XM		
1.50/1.502	1/4-20	2.125	.375	1.659	.56		
1.688	1/4-20	2.500	.375	1.859	.56		
1.751	1/4-20	2.500	.375	1.922	.56		
1.813	1/4-20	2.500	.500	2.033	.69		
1.938	1/4-20	2.500	.500	2.160	.69		
2.001	3/8-16	3.250	.500	2.273	.69		
2.188	3/8-16	3.250	.500	2.414	.69		
2.251	3/8-16	3.250	.500	2.477	.69		
2.438	3/8-16	3.250	.625	2.715	.81		
2.501	3/8-16	3.750	.625	2.718	.81		
2.688	3/8-16	3.750	.625	2.968	.81		
2.751	3/8-16	3.750	.625	3.032	.81		

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OUTLINE NEMA 5013 WPI  
VHS, 5700 CU IN COND BOX  
D/2D/SPH. ROL. BD-24

148CB53VMKGPAA0001

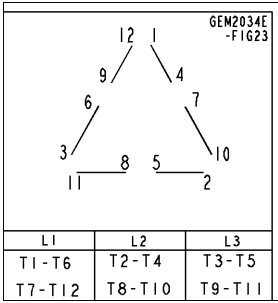
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REV. 001

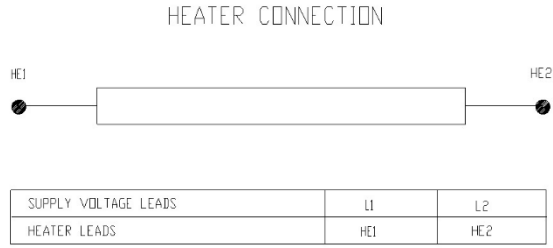
SHEET 1 OF 1

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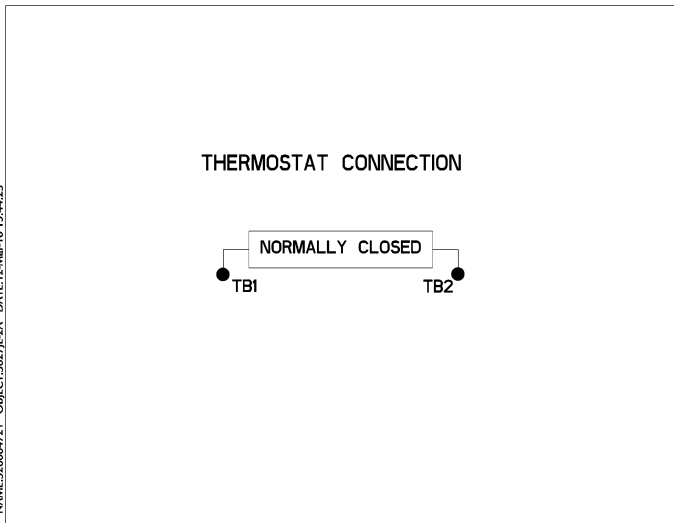
**Connection Diagram**  
**GEM2034E-FIG23**



**Heater Connection**  
**3027JE-1C**



**Thermostat Connection**  
**3027JE-2A**



NAME:32000471 OBJECT:3027JE-2A DATE:12-Mar-10 15:44:23

