

Customer :
Project Name :
Project No. :
Revision No. :

SPECIFICATION for INDUCTION MOTOR



0		For Bidding			
No.	DATE	DESCRIPTION	PREPARED BY	CHECKED BY	APPROVED BY



AC INDUCTION MOTOR DATA SHEET

Catalog No.	HSDE450-18-5009-IBBRSRSH	Item No.		Rev. No.	[]
Project Name		Project No.		Quantity	sets

GENERAL SPECIFICATION			PERFORMANCE DATA			
Frame Size	5009		Rated Output	335 kW 450 HP		
Type	PJP		Number of Poles	4		
Enclosure(Protection)	Totally Enclosed	/ IP55	Rotor Type	Squirrel Cage		
Method of Cooling	IC411(FC)		Starting Method*	D.O.L		
Rated Frequency	60 Hz		Rated Voltage	575 V	460 V	230 V
Number of Phases	3		Current	Full Load	392.9 A	491.1 A 982.2 A
Insulation Class	F			Locked-rotor**	720 %	720 % 720 %
Temp. Rise at full load (by resistance method)			Efficiency			
at 1.0 S.F	80 deg. C		50% Load		93.2 %	
Motor Location	<input type="checkbox"/> Indoor <input type="checkbox"/> Outdoor		75% Load		95.2 %	
Altitude	Less than 1,000 meter		100% Load		96.2 %	
Relative Humidity	Less than 80 %		Power Factor(p.u)			
Ambient Temp.	40 deg. C (Max.)		50% Load		0.740	
Duty Type	Continuous (S1)		75% Load		0.840	
Service Factor	1.15		100% Load		0.890	
Mounting	B3		Speed at Full Load	1785 r.p.m		
Bearing	Type	Anti-Friction	Torque			
	DE/N-DE	NU324 / 6320C3-INS.	Full Load	1,322.2 lb.ft		
	Lubricant	Grease(Polyrex-EM)	Locked-rotor**	135 %		
External Thrust	Not applicable		Breakdown**	230 %		
Coupling Method	<input type="checkbox"/> Direct <input type="checkbox"/> V-belt		Moment of Inertia (J)			
Shaft Extension	Single		Load(Max.)	1,710.000 lb.ft2		
Terminal Box	Main	Cast Iron	Motor	158.058 lb.ft2		
	Aux.	Yes	Sound Pressure Level (No-load & mean value at 1m from motor)			
Location	Refer to Outline Drawing				85 dB(A)	
Application			Vibration		3.8 mm/sec (peak)	
Area classification	Hazardous		Permissible number of consecutive starts		Cold 2 times Hot 1 time	
Type of Ex-Protection	Class I&II, Division 2		Paint	Munsell No.	4.0PB5.4/5.5(VL-451)	
Applicable Standard	NEMA MG1, CSA C390					

ACCESSORIES
*. B.T.D.(Pt 100 Ω at 0°C,Single) : 2EA/Motor
*. W.T.D.(Pt 100 Ω at 0°C) : 2EA/Ph.
*. Space Heater : 1EA/Motor

SPARE PARTS

SUBMITTAL DRAWING		
Outline Dimension Drawing	Motor Weight(Approx.)	
B3	LM-T0509B3P7001	3970 lb.

REMARK
1. Premium efficiency according to NEMA MG1
2. Inverter Duty @ 1.0 Service Factor & F Temperature rise
-. 10:1 VT (20:1 VT at 50% load)
-. 10:1 CT
-. CHp up to 1.5 times base speed, NEMA MG1 Part31
3. NDE side : Insulated bearing
4. CSA Certification
-. Class I, Division 2, Group A, B, C & D; Temp code : T3
-. Class II, Division 2 Group F & G; Temp code : T3
5. Shaft material : AISI4140

Date	DSND	CHKD	CHKD	APPD
2024-07-13	S.H. Lee	I.K. Kim	R.G. Kim	S.W. Kim

[Note] Others not mentioned in this data sheet shall be in accordance with maker standard.
 Above technical data are only design values and shall be guaranteed with tolerance of applicable standard.
 Inspection and performance test shall be done according to maker standard, if not mentioned.
 * In case of Inverter-Fed Motor, performance data is based on sine wave tests. It may be different from test data of Inverter combined motor.
 ** Data is based on rated voltage & frequency and is expressed as a percentage of full-load value.

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REV	DATE	CONTENTS	REVD BY CHKD BY CHKD BY APPD BY

4.72

450HP 4P 460V		Cat. No. HSDE450-18-5009-IBBRSRSH	
Model	LATER	INS. Class	F
Type	PJP	Duty	CONT
Frame	5009	Encl.	TEFC
Bearing	Drive	NU324	S.F.1.00 (10:1 C.T., 20:1 V.T., NEMA-MG1 Part31)
	Opp.	6320C3-INS.	
Usable at			
CSA Certified for	CLASS I, Div. 2, Gr. A, B, C & D	CLASS II, Div. 2, Gr. F & G	Temp. Code (sine wave)
	CLASS I, Zone 2, Gr. IIA, IIB, & IIC		Frame L440FR - 500FR
			Amb. 40°C T3 (200°C)
No.	-	Date	-
4M-136053		Weight 3970 lb	

MARINE DUTY IEEE45 Made in Korea H1 **HD HYUNDAI ELECTRIC**

2.36

APPD BY	S.Y.KIM	UNIT	INCH	SUBJECT	CSA Class I, Division2 Severe Duty (HSDE ,L449-500)	DWG SIZE
CHKD BY	I.K.KIM	SCALE	NONE			A4 (1:1)
CHKD BY	R.G.KIM	PROJEC'N	3rd Angle	TITLE NAMEPLATE DRAWING		
DSND BY	S.H.LEE	DATE	2024.06.07			

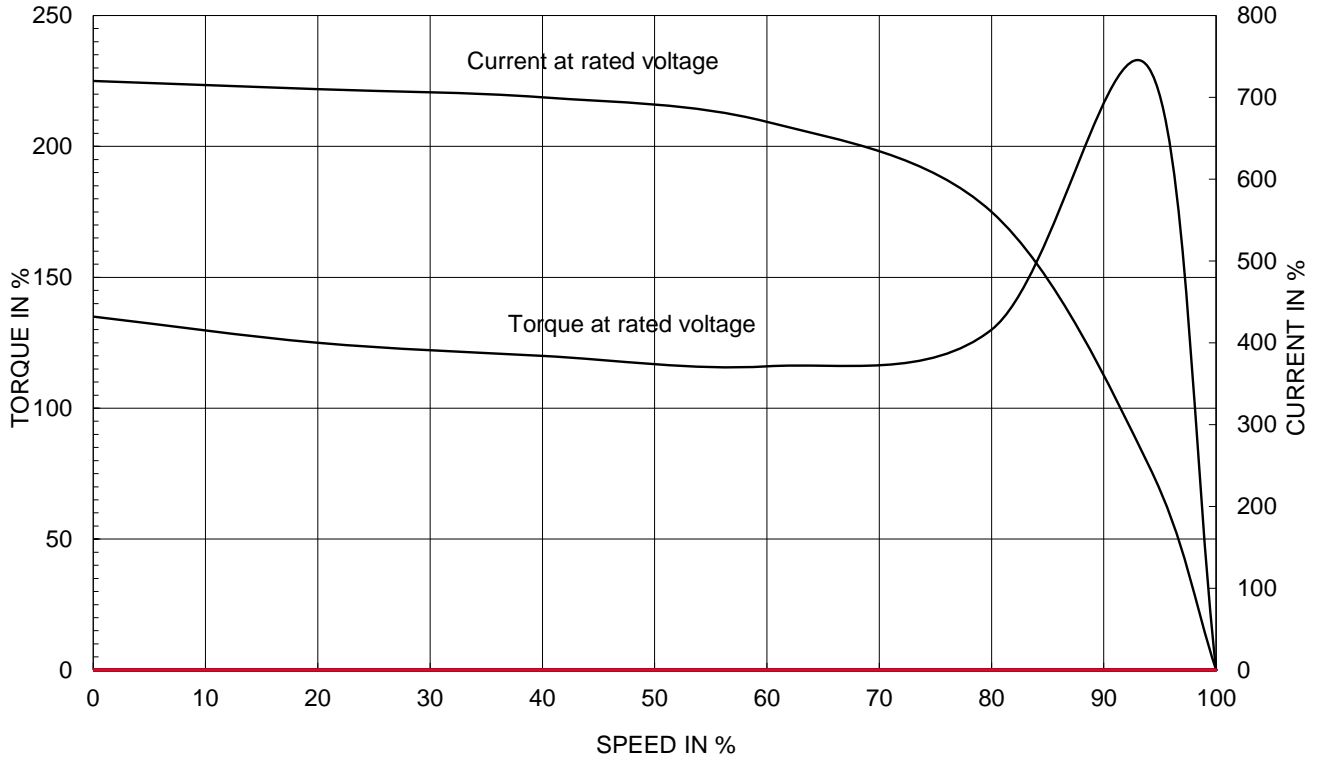


REF. NO	4M-136053	Sheet No.	of
DWG NO	NP-HSDE450-18-5009-IBBRSRSH	Revision No.	0

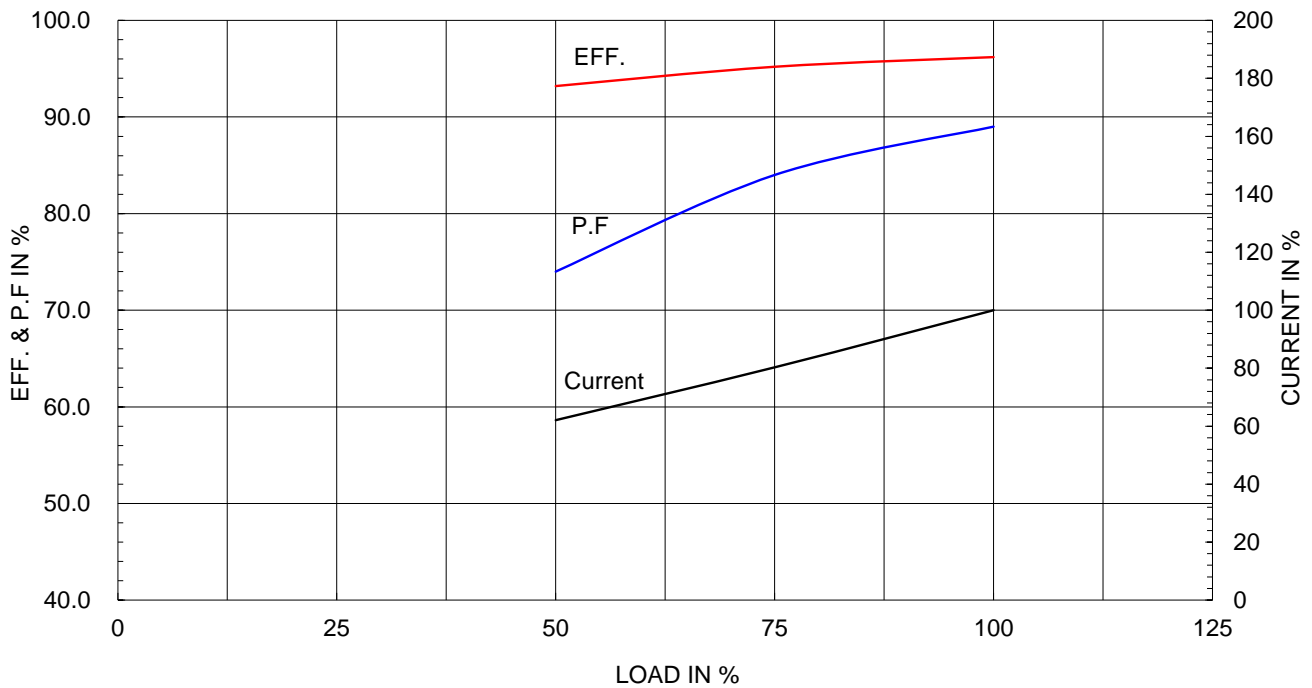
Type :	PJP
Full Load Torque :	1322.2 lb.ft
Load moment of Inertia (J) :	1710.000 lb.ft2
Motor moment of Inertia (J) :	158.058 lb.ft2

335kW 450HP	4 P	60 Hz
Speed at Full Load :		1785 RPM
Rated Voltage	575V	460V 230V
Full Load Current	392.9A	491.1A 982.2A

SPEED VS TORQUE & CURRENT CURVE



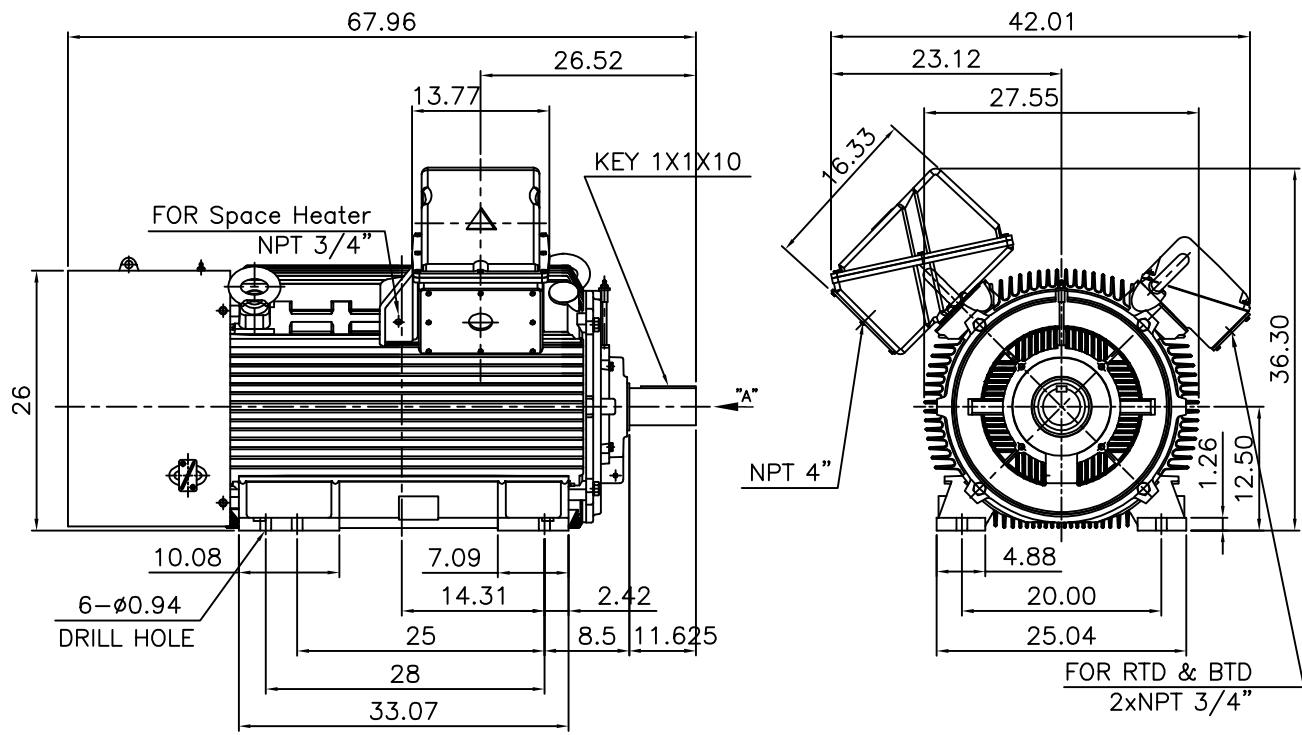
OUTPUT VS EFF., P.F & CURRENT CURVE



본 도면은 HD현대일렉트릭(주) 재산이며 허가없이 복사할 수 없음 (취급주의)

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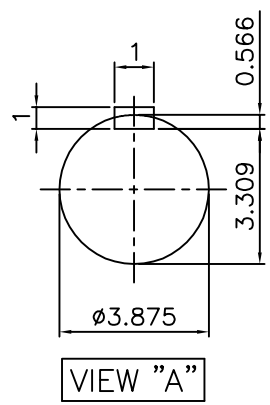
1		2		3		4	
▽	50S	REV	DATE	CONTENTS		REVD BY	CHKD BY
▽▽	12.5S						
▽▽▽	3.2S						
▽▽▽▽	0.4S						



NOTE

1.TOLERANCE :

CENTER HEIGHT	12.5	+0.000	-0.060
SHAFT DIAMETER	ø3.875	+0.000	-0.001
KEYWAY WIDTH	1	+0.003	-0.000



APPD BY	S.Y.KIM	UNIT	INCH	SUBJECT	Fr.5008/5009T	DWG SIZE	A4 (1:19)
CHKD BY	O.J.KIM	SCALE	1/19	TITLE	CAST IRON T-BOX		
CHKD BY	R.G.KIM	PROJEC'N	3각법 (3rd Angle)	OUTLINE			
DSND BY	H.K.LEE	DATE	2021-04-27				
				REF. NO		Sheet No.	of
				DWG NO	LM-T0509B3P7001	Revision No.	0

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SEC. "A" - "A"

REV	DATE	CONTENTS	REVD BY	CHKD BY	CHKD BY	APPD BY

APPD BY	S.Y.KIM	UNIT	inch(mm)	SUBJECT	FR. L440 (CAST IRON)	DWG SIZE
CHKD BY		SCALE	1/3.5	TITLE	MAIN TERMINAL BOX ASS'Y	A3 (1:3.5)
CHKD BY	R.G.KIM	PROJEC'N	3rd Angle			
DSND BY	최승희	DATE	2023-10-19	REF. NO		Sheet No. of
				DWG NO	3M-248452	Revision No. 0

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REV	DATE	CONTENTS	REVD BY	CHKD BY	CHKD BY	APPD BY

APPD BY	S.Y.KIM	UNIT	inch(mm)	SUBJECT	FR.360 (CAST IRON)	DWG SIZE	A3 (1:2.2)
CHKD BY		SCALE	1/1	TITLE	AUX. TERMINAL BOX ASS'Y		
CHKD BY	R.G.KIM	PROJEC'N	3rd Angle	REF. NO		Sheet No.	of
DSND BY	배승희	DATE	2024-01-18	DWG NO	3M-165277	Revision No.	0



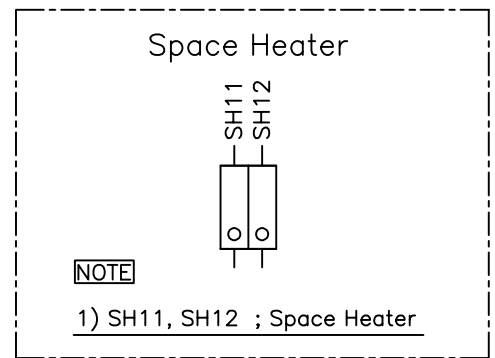
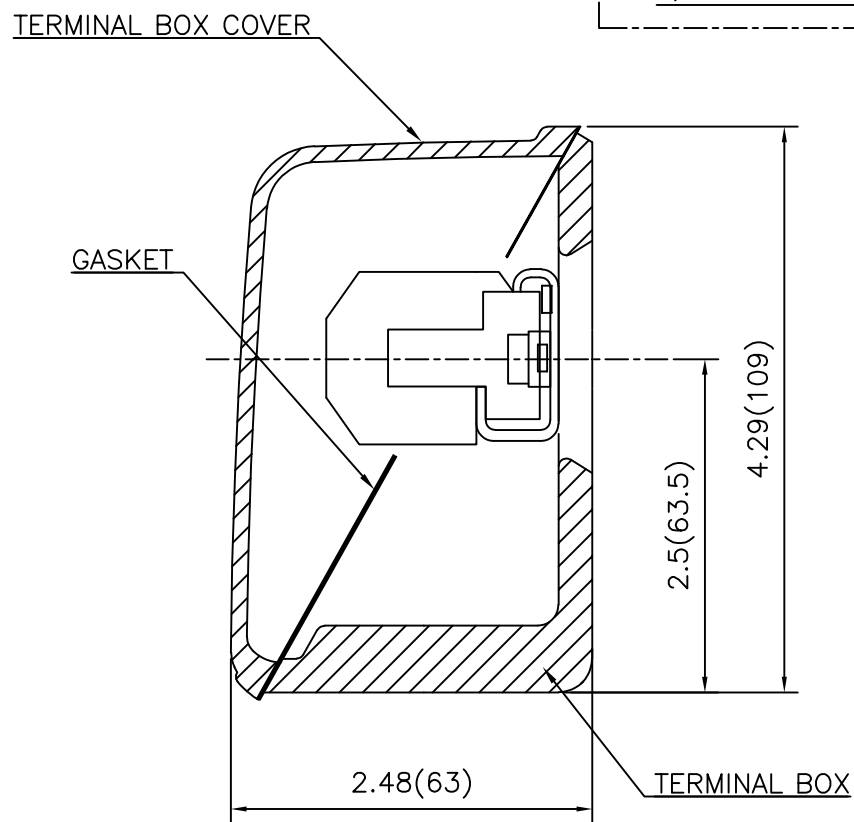
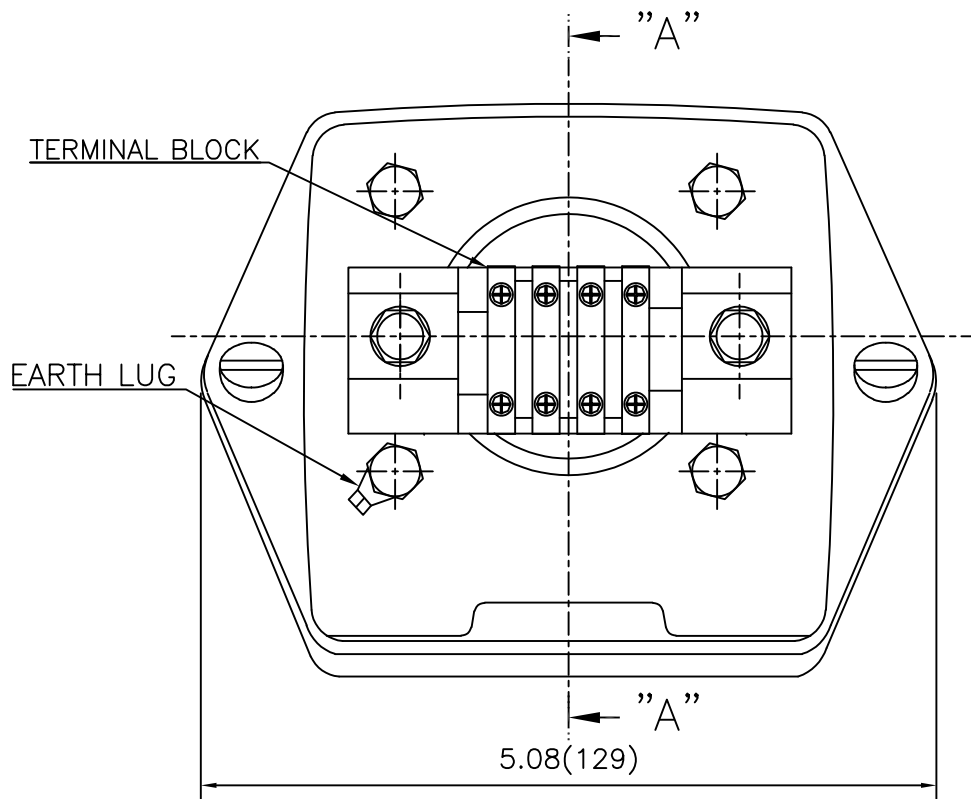
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REV	DATE	CONTENTS	REVD BY	CHKD BY	CHKD BY	APPD BY

APPD BY	S.Y.KIM	UNIT	inch(mm)	SUBJECT	FR.180 (CAST IRON)	DWG SIZE
CHKD BY		SCALE	1/1	TITLE	SUB. TERMINAL BOX ASS'Y	A3 (1:1.1)
CHKD BY	R.G.KIM	PROJEC'N	3rd Angle			
DSND BY	배승희	DATE	2024-01-18			
				REF. NO		Sheet No. of
				DWG NO	3M-165277	Revision No. 0