

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.	HSDE450-18-5009C-IBSH	Item No.	Rev. No. []
Project Name		Project No.	Quantity sets

GENERAL SPECIFICATION		PERFORMANCE DATA			
Frame Size	5009C	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
Insulation Class	F		Locked-rotor**	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	B35	Speed at Full Load	1785 r.p.m		
Bearing	Type	Anti-Friction			
	DE/N-DE	6324C3 / 6320C3-INS.			
	Lubricant	Grease(Polyrex-EM)			
External Thrust	Not applicable				
Coupling Method	<input checked="" type="checkbox"/> Direct <input type="checkbox"/> V-belt	Torque			
Shaft Extension	Single			Full Load	1,322.2 lb.ft
Terminal Box	Main	Cast Iron			
	Aux.	Yes			
	Location	Refer to Outline Drawing			
Application		Moment of Inertia (J)			
Area classification	Hazardous			Load(Max.)	1,710.000 lb.ft2
Type of Ex-Protection	Class I&II, Division 2			Motor	158.058 lb.ft2
Applicable Standard	NEMA MG1, CSA C390	Sound Pressure Level (No-load & mean value at 1m from motor)			
		85 dB(A)			
		Vibration			
		3.8 mm/sec (peak)			
		Permissible number of consecutive starts		Cold	2 times
				Hot	1 time
		Paint	Munsell No.	4.0PB5.4/5.5(VL-451)	

ACCESSORIES
*. Space Heater : 1EA/Motor

SPARE PARTS

SUBMITTAL DRAWING		
Outline Dimension Drawing	Motor Weight(Approx.)	
B35	LM-T0509C4PE001	4110 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
2024-09-10	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.

1	2	3	4
REV	DATE	CONTENTS	REVD BY

4.72

CROWN TRITON
Premium Efficiency AC 3 Phase Motor

450HP 4P 460V	Cat. No. HSDE450-18-5009C-IBSH	INS. Class F	Amps 491.1
Model LATER	Code G	Amb. 40°C	Hertz 60Hz
Type PJP	Duty CONT	S.F. 1.15	RPM 1785
Frame 5009C	Encl. TEFC	NEMA Nom. Eff. 96.2%	3/4 Eff. 95.2%
Bearing Drive 6324C3	S.F.1.00 (10:1 C.T., 20:1 V.T., NEMA-MG1 Part31)	NEMA Design B	
Opp. 6320C3-INS.			
Usable at 50Hz 335HP 380V 449.62A 1485rpm S.F.: 1.15 Eff.: 96% Code: H	50Hz 335HP 400/415V 426.69/416A 1486/1487rpm S.F.: 1.15 Eff.: 96.1/96.1% Code: J/K		
CSA Certified for CLASS I, Div. 2, Gr. A, B, C & D CLASS I, Zone 2, Gr. IIA, IIB, & IIC	CLASS II, Div. 2, Gr. F & G	Temp. Code (sine wave)	Frame L440FR - 500FR
		Amb. 40°C T3 (200°C)	Amb. 55°C T3 (200°C)
No. -	Date -	Weight 4110 lb	

4M-136053
MARINE DUTY IEEE45

Made in Korea H1

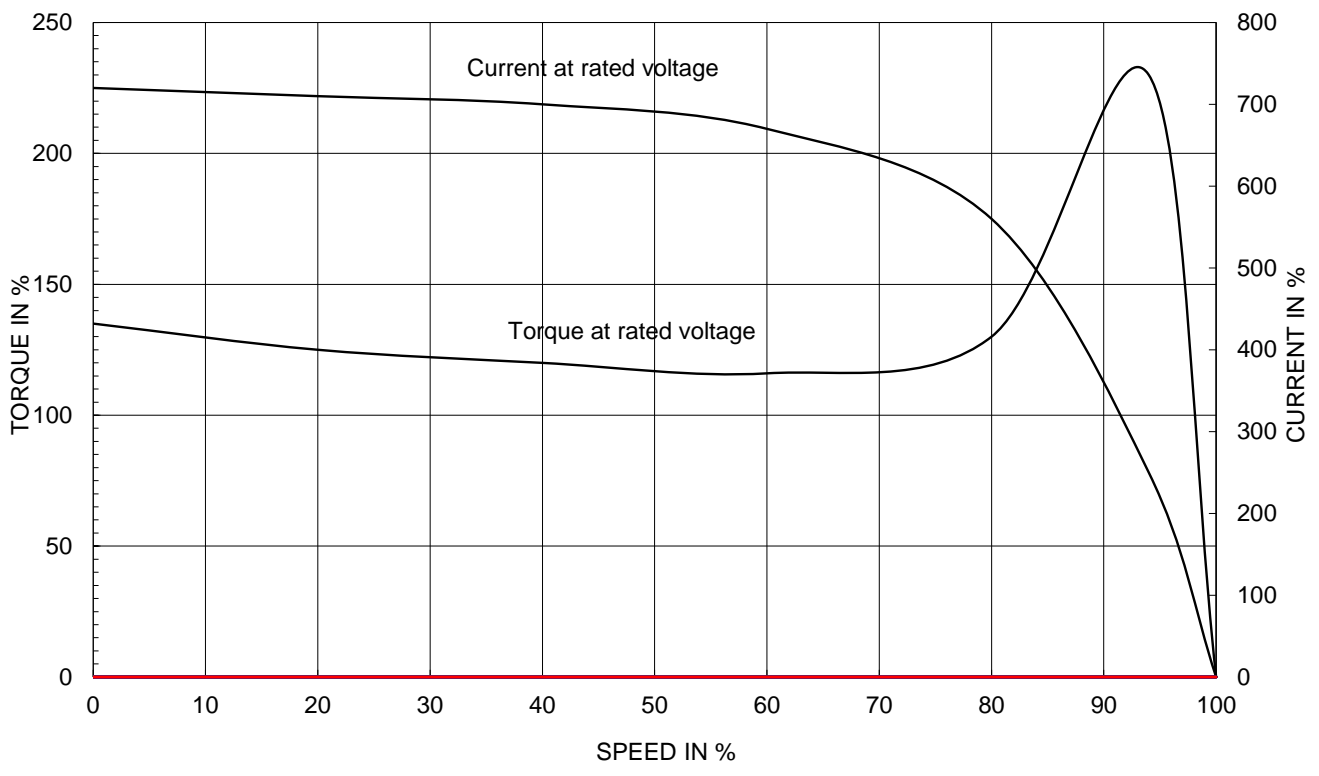
2.36

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	TITLE	NAMEPLATE DRAWING	A4 (1:1)
CHKD BY	R.G.KIM	PROJEC'N	3rd Angle			
DSND BY	S.H.LEE	DATE	2024.06.07			
				REF. NO	4M-136053	Sheet No. of
				DWG NO	NP-HSDE450-18-5009C-IBSH	Revision No. 0

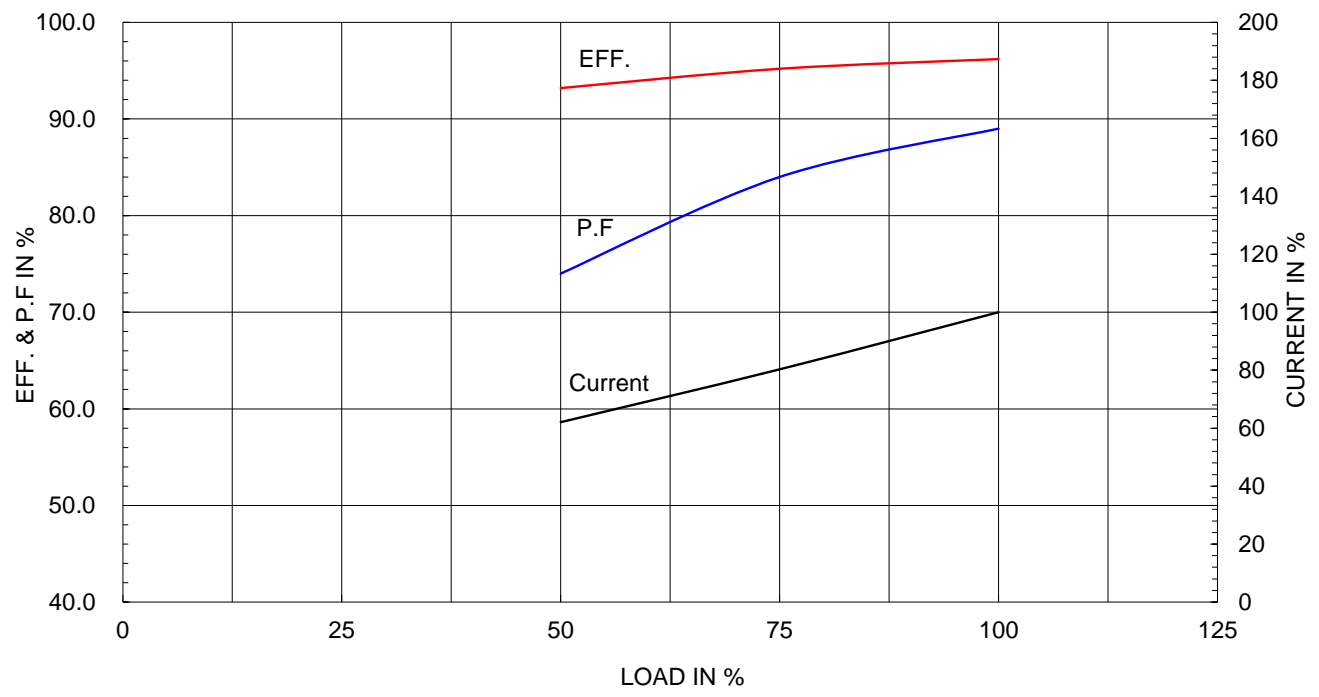
Type :	PJP
Full Load Torque :	1322.2 lb.ft
Load moment of Inertia (J) :	1710.000 lb.ft2
Motor moment of Inertia (J) :	158.058 lb.ft2

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



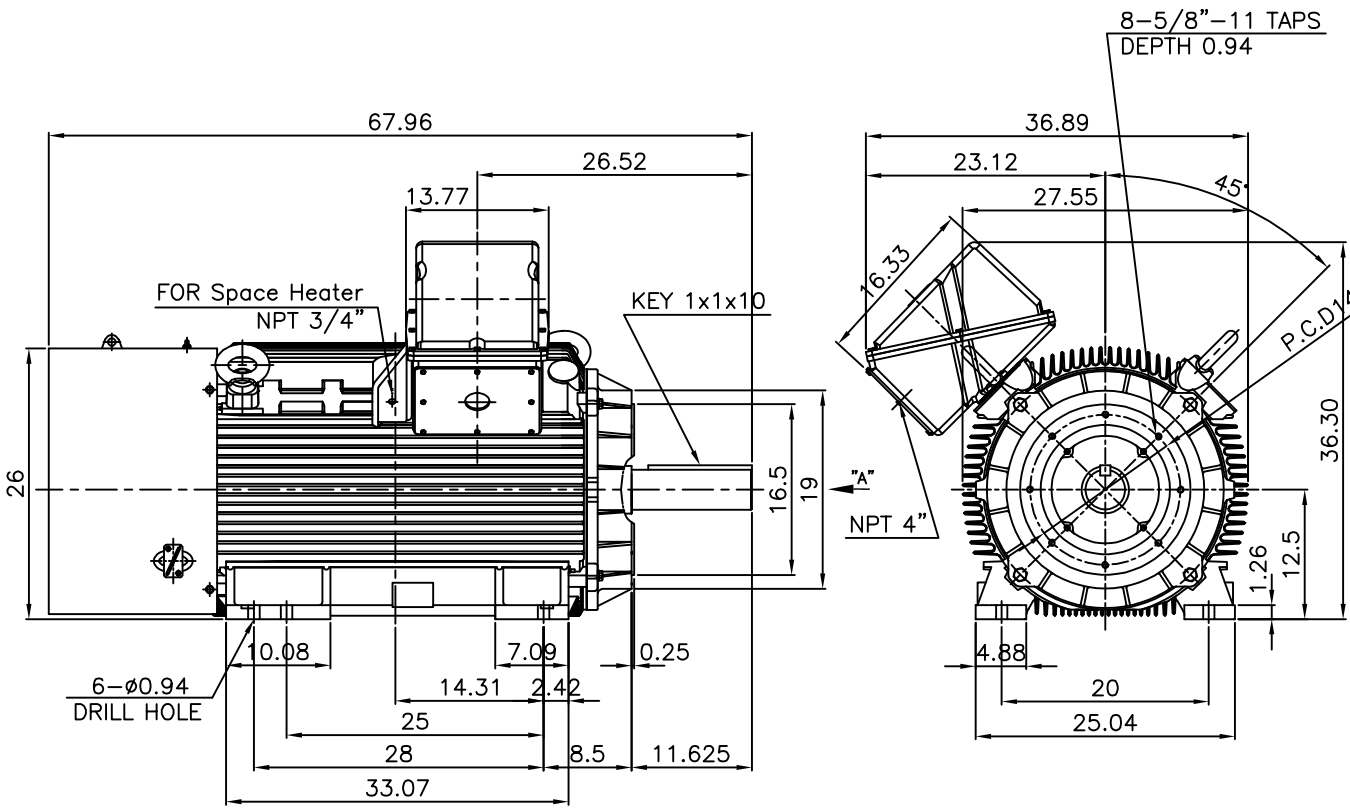
OUTPUT VS EFF., P.F & CURRENT CURVE



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

THIS DRAWING IS PROPRIETARY TO HYUNDAI ELECTRIC. NO PART OF THIS DRAWING MAYBE REPRODUCED WITHOUT THE PERMISSION OF HYUNDAI ELECTRIC.

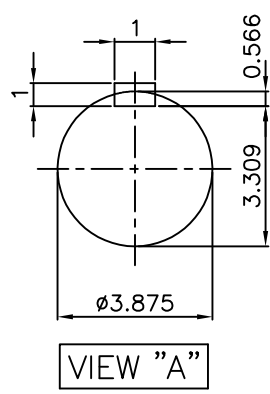
▽	50S	REV	DATE	CONTENTS	REVD BY	CHKD BY	CHKD BY	APPD BY
▽▽	12.5S							
▽▽▽	3.2S							
▽▽▽▽	0.4S							



NOTE

1.TOLERANCE :

CENTER HEIGHT	12.5	+0.000	-0.060
RABBET DIAMETER	ø16.5	+0.000	-0.005
SHAFT DIAMETER	ø3.875	+0.000	-0.001
KEYWAY WIDTH	1	+0.003	-0.000



APPD BY	S.Y.KIM	UNIT	INCH	SUBJECT	Fr.5008/5009C	DWG SIZE
CHKD BY	O.J.KIM	SCALE	1/19			A4 (1:19)
CHKD BY	R.G.KIM	PROJEC'N	3각법(3rd Angle)	TITLE OUTLINE		
DSND BY	H.K.LEE	DATE	2021-04-27			



REF. NO		Sheet No.	of
DWG NO	LM-T0509C4PE001	Revision No.	0

**Cls. I&II, Div. 2
IEEE 841**

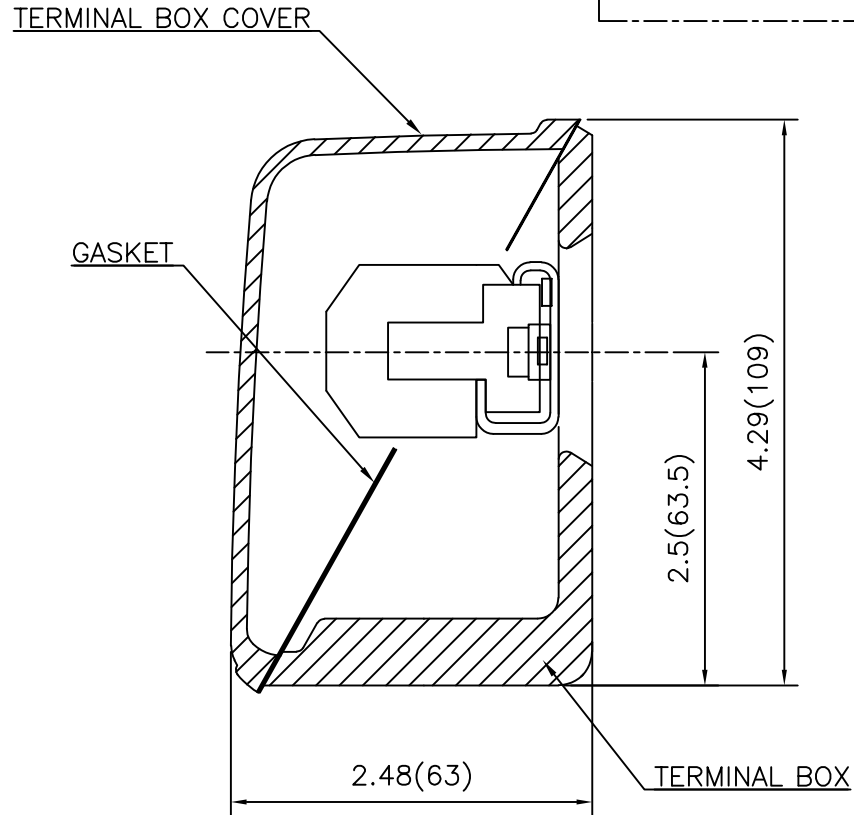


SEC. "A" - "A"

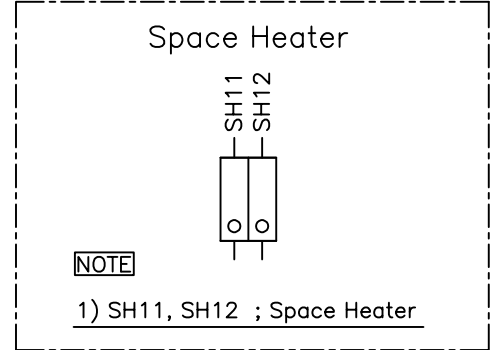
REV	DATE	CONTENTS	REVD BY	CHKD BY	CHKD BY	APPD BY

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

**Cls. I&II, Div. 2
IEEE 841**



SEC. "A" - "A"



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