

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.	HES20-12-286TCRD	Item No.		Rev. No.	[     ]
Project Name		Project No.		Quantity	sets

GENERAL SPECIFICATION			PERFORMANCE DATA			
Frame Size	286TC		Rated Output	15 kW      20 HP		
Type	PJP		Number of Poles	6		
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	21.3 A	26.7 A
Insulation Class	F			Locked-rotor**	650 %	650 %
Temp. Rise at full load (by resistance method)			Efficiency			
at 1.0 S.F			80 deg. C			
Motor Location	<input type="checkbox"/> Indoor <input type="checkbox"/> Outdoor		50% Load		88.7 %	
Altitude	Less than 1,000 meter		75% Load		90.7 %	
Relative Humidity	Less than 80 %		100% Load		91.7 %	
Ambient Temp.	40 deg. C (Max.)		Power Factor(p.u)			
Duty Type	Continuous ( S1 )		50% Load		0.620	
Service Factor	1.15		75% Load		0.720	
Mounting	B5		100% Load		0.770	
Bearing	Type	Anti-Friction	Speed at Full Load			
	DE/N-DE	6310ZC3 / 6310ZC3	1175 r.p.m			
	Lubricant	Grease(Polyrex-EM)	Torque			
External Thrust	Not applicable		Full Load		89.9 lb.ft	
Coupling Method	<input checked="" type="checkbox"/> Direct <input type="checkbox"/> V-belt		Locked-rotor**		150 %	
Shaft Extension	Single		Breakdown**		230 %	
Terminal Box	Main	Cast Iron	Moment of Inertia (J)			
	Aux.	No	Load(Max.)		336.373 lb.ft2	
Location	Refer to Outline Drawing		Motor		6.100 lb.ft2	
			Sound Pressure Level (No-load & mean value at 1m from motor)			
Application			65 dB(A)			
Area classification	Hazardous		Vibration			
Type of Ex-Protection	Class I&II, Division 2		3.8 mm/sec (peak)			
Applicable Standard	NEMA MG1, CSA C390		Permissible number of consecutive starts		Cold    3 times	
ACCESSORIES			SUBMITTAL DRAWING			
			Outline Dimension Drawing		Motor Weight(Approx.)	
SPARE PARTS			B5		LM-T2286C5PLV23	420 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. CSA Certification -. Class I, Division 2, Group A, B, C & D -. Class II, Division 2 Group E, F & G (Group E : up to 320Fr.) 4. Service Factor 1.15 and Temperature rise B are applicable under the condition of sine wave power. 5. Service Factor 1.25 is applicable to motors of 100HP or less with temperature rise F & Non-Hazardous.						
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 CHKD BY CHKD BY APPD BY

4.72

**CROWN TRITON G2**

**Premium Efficiency AC 3 Phase Motor**

20HP	6P	230/460V	Cat. No.	HES20-12-286TCRD						
Model	HLS286PR33		INS. Class	F	HD-F1	Amps	53.3/26.7			
Type	HLS	Duty	CONT	Code	H	Amb.	40°C	Hertz	60Hz	
Frame	286TC	Encl.	TEFC	S.F.	1.15	RPM	1175	NEMA Nom. Eff.	91.7%	
Bearing	Drive	6310ZC3		S.F.1.25 (When 100HP or less, Temp Rise F & Non-Hazardous)		3/4 Eff.	90.7%			
	Opp.	6310ZC3		S.F.1.00 (10:1 C.T., 20:1 V.T., NEMA-MG1 Part31)		NEMA Design	B Torque			
Usable at	50Hz 20HP 380V 34.36A 970rpm S.F.: 1 Eff.: 90.2% Code: G									
	50Hz 20HP 400/415V 34.01/34.25A 975/975rpm S.F.: 1 Eff.: 90.2/90.2% Code: H/J									
CSA Certified for	Model	LATER		Type	PJP	Temp. Code	Frame	140~320FR	360~400FR	440FR
	CLASS I, Div. 2, Gr. A, B, C & D		CLASS II, Div. 2 Gr. E, F & G (Gr. E: Up to 320FR)			(sine wave)	Amb. 40°C	T3C (160°C)	T3B (165°C)	T3A (180°C)
CLASS I, Zone 2, Gr. IIA, IIB, & IIC						Amb. 55°C	T3A (180°C)	T3A (180°C)	T3 (200°C)	
No.	-			Date	-		Weight	420 lb		

4M-136024

MARINE DUTY IEEE45

Made in Vietnam H4  
Designed By HYUNDAI, Korea

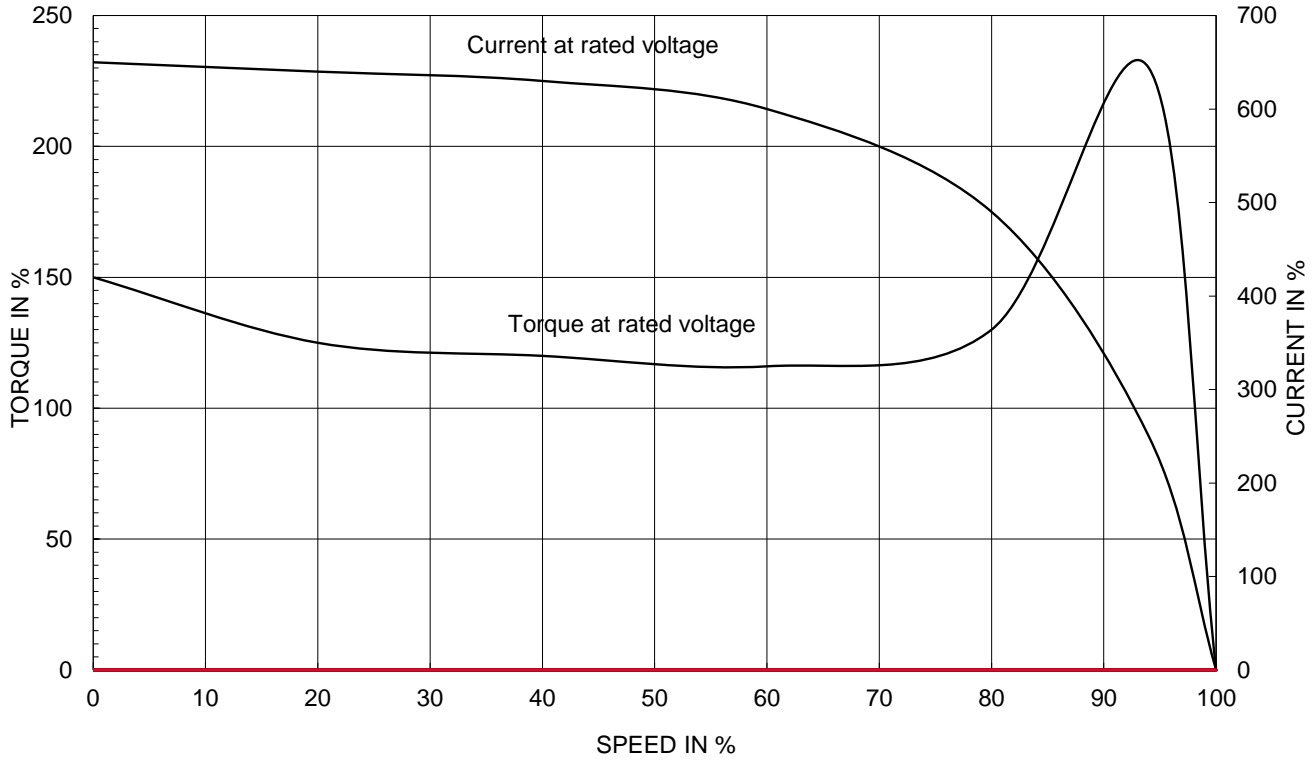
2.36

APPD BY	S.Y.KIM	UNIT	INCH	SUBJECT	CSA Class I, Division2 Severe Duty (HES, 254-326)	DWG SIZE
CHKD BY	I.K.KIM	SCALE	NONE			A4 ( 1:1 )
CHKD BY	R.G.KIM	PROJEC'N	3rd Angle	NAMEPLATE DRAWING		
DSND BY	S.H.LEE	DATE	2024.06.07			
				REF. NO	4M-136024	Sheet No. of
				DWG NO	NP-HES20-12-286TCRD	Revision No. 0

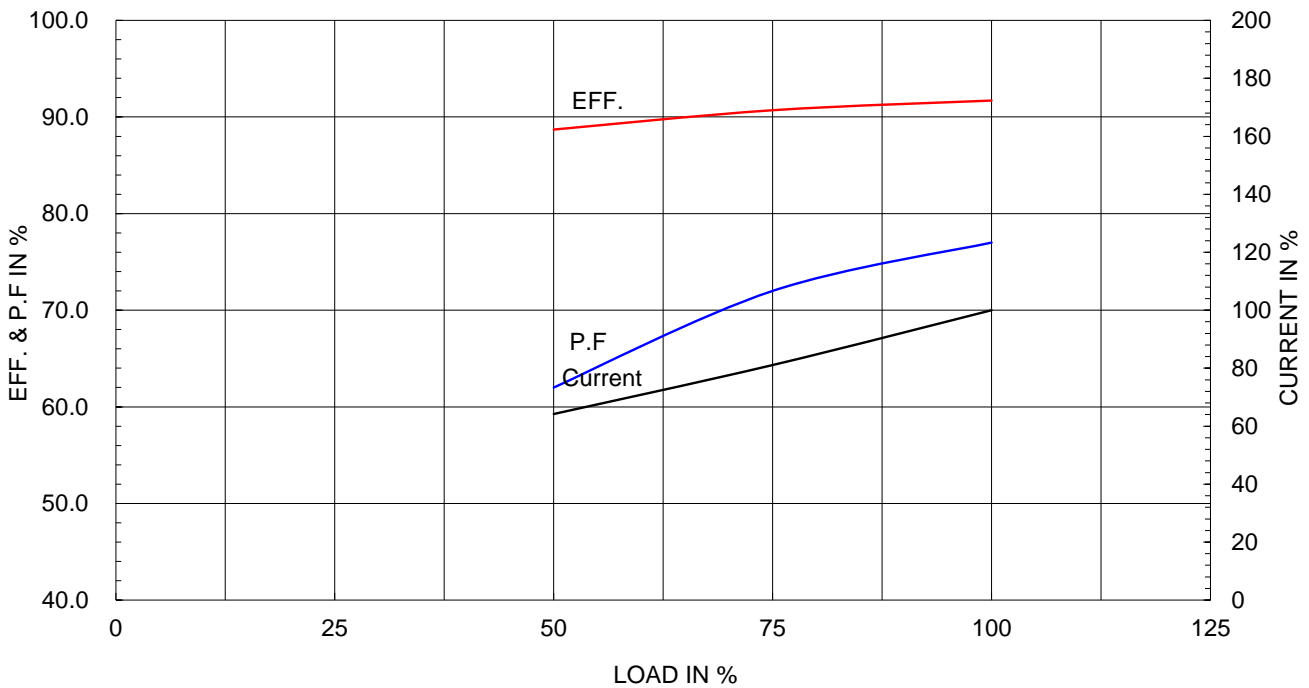
Type :	PJP
Full Load Torque :	89.9 lb.ft
Load moment of Inertia (J) :	336.373 lb.ft <sup>2</sup>
Motor moment of Inertia (J) :	6.100 lb.ft <sup>2</sup>

15kW	20HP	6 P	60 Hz
Speed at Full Load :			1175 RPM
Rated Voltage	575V	460V	230V
Full Load Current	21.3A	26.7A	53.3A

SPEED VS TORQUE & CURRENT CURVE



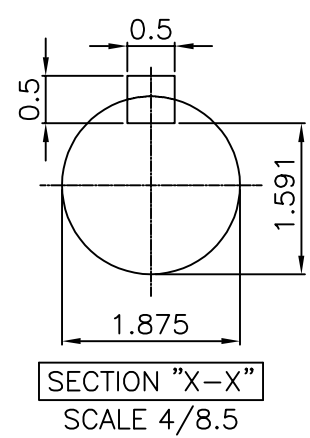
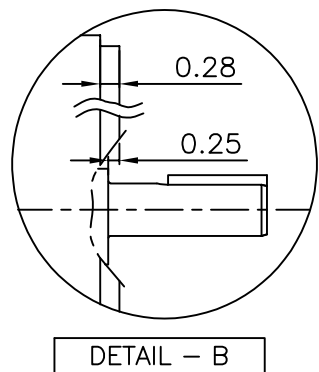
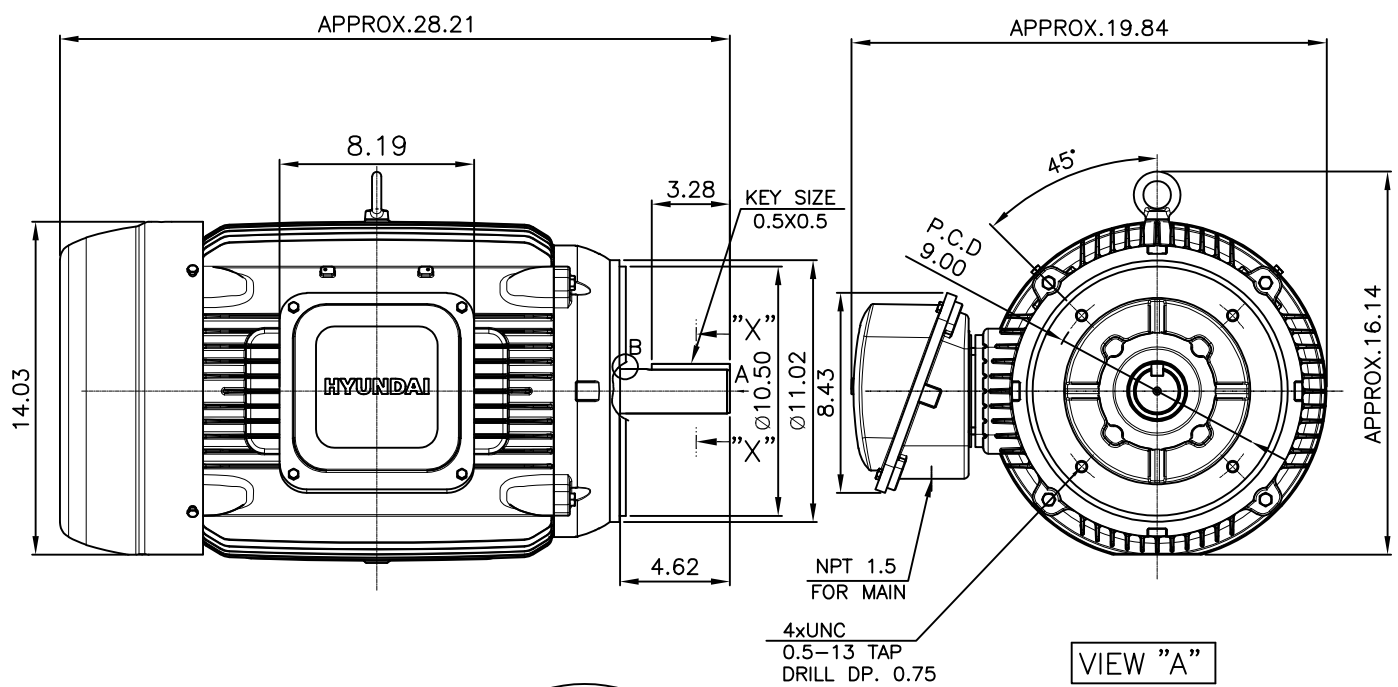
OUTPUT VS EFF., P.F & CURRENT CURVE



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

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



**NOTE**  
[TOLERANCE]

1. CENTER HEIGHT : +0.00inch - 0.03inch
2. SHAFT DIAMETER : +0.000inch - 0.001inch
3. KEYWAY DEPTH : +0.000inch - 0.015inch

APPD BY	S.Y.KIM	UNIT	inch	SUBJECT	NEMA 286TC	DWG SIZE	A4 ( 18.5 )	
CHKD BY	R.G.KIM	SCALE	1/8.5	TITLE	OUTLINE			
CHKD BY		PROJEC'N	3rd Angle					
DSND BY	주유람	DATE	2021-04-30					
				REF. NO	.	Sheet No.	of	
				DWG NO	LM-T2286C5PLV23	Revision No.	0	



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



▽	50S
▽▽	12.5S
▽▽▽	3.2S
▽▽▽▽	0.4S

REV	DATE	CONTENTS	REVD BY	CHKD BY	CHKD BY	APPD BY

일반가공공차		일반제관공차	
1-4	±0.1	6-30	±0.5
4-18	±0.2	30-120	±0.8
18-63	±0.3	120-315	±1.2
63-250	±0.5	315-1000	±2.0
250-	±0.8	1000-	±3.0

Q'TY	DESCRIPTION	MATERIAL	DIMENSION	WEIGHT	PART NO.	REMARK	NO.
APPD BY	S.Y.KIM	UNIT	inch(mm)	SUBJECT	FR. 250-280 (CAST IRON)	DWG SIZE	
CHKD BY		SCALE	1/2	TITLE		A3 ( 1:2 )	
CHKD BY	R.G.KIM	PROJEC'N	3rd Angle	TERMINAL BOX ASS'Y			
DSND BY	배승희	DATE	2023-10-19	REF. NO		Sheet No.	of
				DWG NO	3M-248458	Revision No.	0