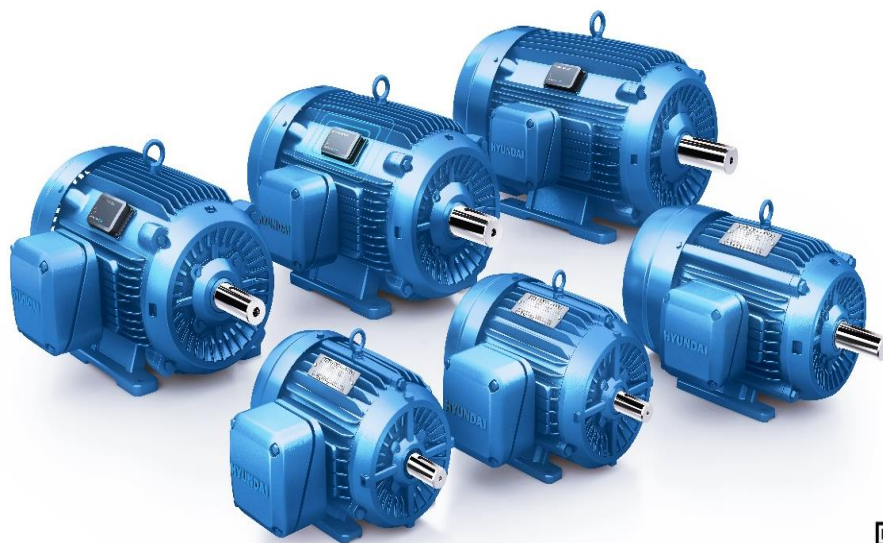


Customer :
Project Name :
Project No. :
Revision No. :

SPECIFICATION for INDUCTION MOTOR



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

AC INDUCTION MOTOR DATA SHEET

Catalog No.	HES20-36-160S/M	Item No.		Rev. No.	[]
Project Name		Project No.		Quantity	sets

GENERAL SPECIFICATION			PERFORMANCE DATA			
Frame Size		160M	Rated Output		15 kW 20 HP	
Type		PJP	Number of Poles		2	
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			460 V
Number of Phases		3	Current	Full Load		23.5 A
Insulation Class		F		Locked-rotor**		870 %
Temp. Rise at full load (by resistance method)			Efficiency			
	at 1.0 S.F	80 deg. C		50% Load	88.0 %	
Motor Location		☐ Indoor ☐ Outdoor		75% Load	90.0 %	
Altitude		Less than 1,000 meter		100% Load	91.0 %	
Relative Humidity		Less than 80 %	Power Factor(p.u)			
Ambient Temp.		40 deg. C (Max.)		50% Load	0.730	
Duty Type		Continuous (S1)		75% Load	0.830	
Service Factor		1.15		100% Load	0.880	
Mounting		B3	Speed at Full Load		3535 r.p.m	
Bearing	Type	Anti-Friction	Torque			
	DE/N-DE	6309ZC3 / 6309ZC3		Full Load	29.89 lb.ft	
	Lubricant	Grease(Polyrex-EM)		Locked-rotor**	180 %	
External Thrust		Not applicable		Breakdown**	250 %	
Coupling Method		☒ Direct ☐ V-belt	Moment of Inertia (J)			
Shaft Extension		Single		Load(Max.)	15.591 lb.ft2	
Terminal Box	Main	Cast Iron		Motor	0.925 lb.ft2	
	Aux.	No	Sound Pressure Level (No-load & mean value at 1m from motor)			
	Location	Refer to Outline Drawing			77 dB(A)	
Application			Vibration		2.8 mm/s (r.m.s)	
Area classification		Hazardous	Permissible number of consecutive starts		Cold	3 times
Type of Ex-Protection		Class I&II, Division 2			Hot	2 times
Applicable Standard		IEC, CSA C390	Paint	PANTONE	PANTONE279C	

ACCESSORIES	SUBMITTAL DRAWING
	Outline Dimension Drawing \ Motor Weight(Approx.)
	B3 LM-T2163B3PTV09 240 lb.

REMARK
1. IE3 (Premium efficiency) according to IEC60034-30-1 2. Inverter Duty @ 1.0 Service Factor & F Temperature rise -. 10:1 VT (20:1 VT at 50% load) -. 10:1 CT (1 hour duty, 4:1 continuous) -. 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 200Fr.) 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. 6. Temp. code : T3C(160°C) at sine wave
Date DSND CHKD CHKD APPD
2025-09-19 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.

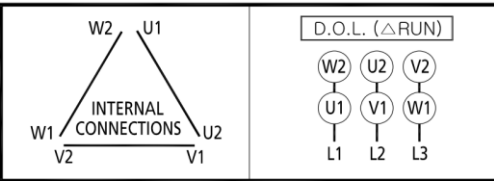
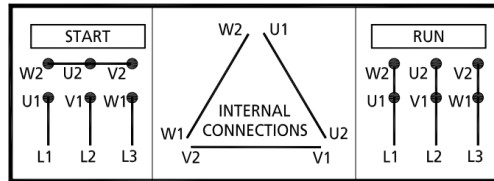
MAIN NAMEPLATE

4.72

2.36

CROWN TRITON G2 IEC    			
Premium Efficiency AC 3 Phase Motor		Metric	
15kW (20HP)	2P	460V	Encl. IP55(TEFC)
UL Model	HLS163SR188HPV	S.F.	1.15
Frame	160M	Duty	S1(CONT)
UL Type	HLS	Code	K
Bearing	Drive 6309ZC3	Amb.	40°C
	Opp. 6309ZC3	S.F.	1.00(10:1 C.T., 20:1 V.T., NEMA-MG1 Part31)
Usable at	50Hz 20HP 380V 28.0A 2935rpm S.F.: 1.15 Eff.: 91.9% Code: K		
	50Hz 20HP 400/415V 26.7/25.7A 2935/2935rpm S.F.: 1.15 Eff.: 91.9/91.9% Code: J/J		
CSA Certified for	Model TPO1518916MH004AI0JT300001	Type	PJP
	CLASS I, Div. 2, Gr. A, B, C & D	CLASS II, Div. 2 Gr. E, F & G	Temp. Code
	CLASS I, Zone 2, Gr. IIA, IIB, & IIC	(Gr. E: Up to 200FR)	(sine wave)
No.	-	Date	-
4M-133043 IEC60034-1		IEC 60034-30-1(IE3)	
Made in Vietnam H4 Designed By HYUNDAI, Korea		 HD HYUNDAI ELECTRIC	

WIRING DIAGRAM

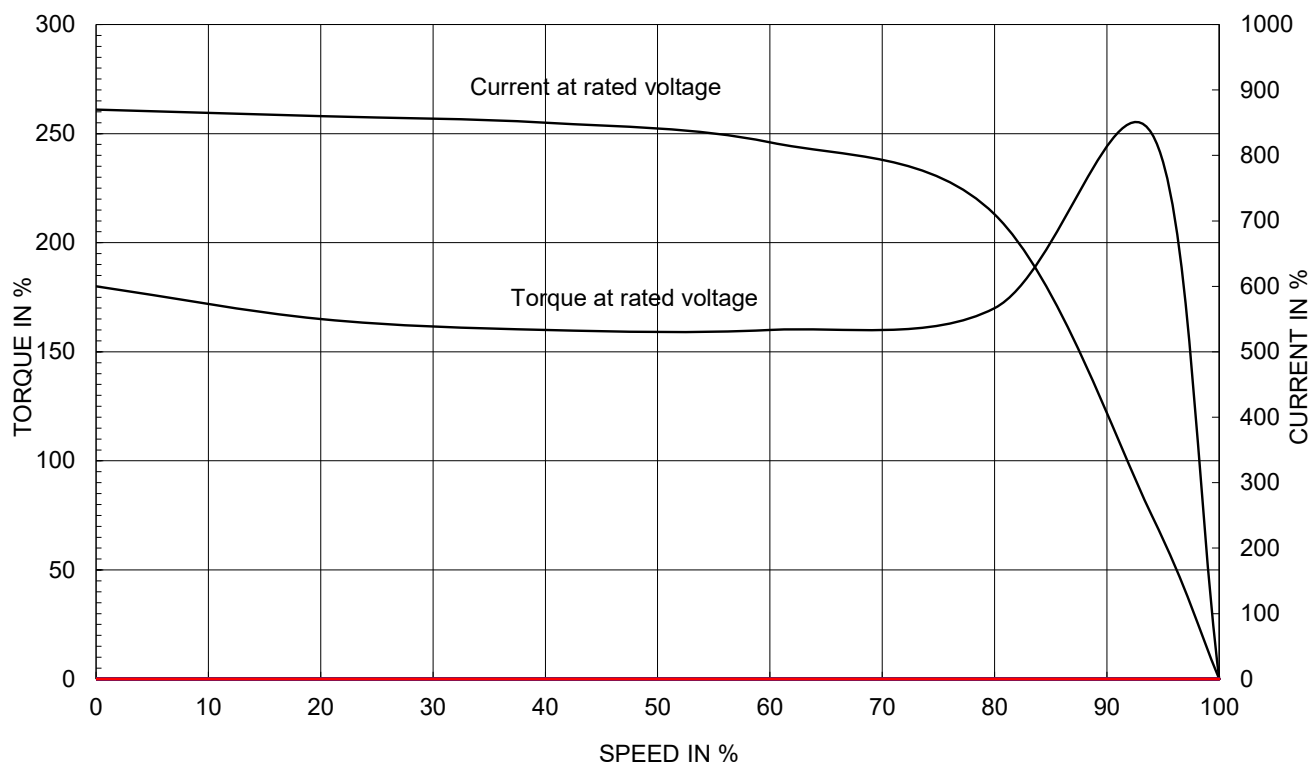
D.O.L (INVERTER & SOFT STARTER)	WYE-DELTA (Y-D)
 WARNING IMPROPER INSTALLATION, CONNECTION, OPERATION, GROUNDING OF THIS MOTOR MAY CAUSE SERIOUS INJURY TO PERSONNEL OR MOTOR FAILURE. READ INSTRUCTIONS CAREFULLY. GROUNDING SHOULD BE IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE AND APPLICABLE LOCAL SOUND PRACTICES.  KEEP FINGERS AND FOREIGN OBJECTS AWAY FROM OPENINGS AND ROTATING PARTS DISCONNECT ALL POWER SOURCES BEFORE TOUCHING INTERNAL PARTS TO AVOID ELECTRICAL SHOCK. 4M-137622	 WARNING IMPROPER INSTALLATION, CONNECTION, OPERATION, GROUNDING OF THIS MOTOR MAY CAUSE SERIOUS INJURY TO PERSONNEL OR MOTOR FAILURE. READ INSTRUCTIONS CAREFULLY. GROUNDING SHOULD BE IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE AND APPLICABLE LOCAL SOUND PRACTICES.  KEEP FINGERS AND FOREIGN OBJECTS AWAY FROM OPENINGS AND ROTATING PARTS DISCONNECT ALL POWER SOURCES BEFORE TOUCHING INTERNAL PARTS TO AVOID ELECTRICAL SHOCK. 4M-130346

APPD BY	S.Y.KIM	UNIT	INCH	SUBJECT	CSA Class I, Division2 Severe Duty (IEC, 160-280)	DWG SIZE	A4 (1:1)
CHKD BY	I.K.KIM	SCALE	NONE	NAMEPLATE DRAWING			
CHKD BY	R.G.KIM	PROJEC'N	3rd Angle				
DSND BY	S.H.LEE	DATE	2024.06.07				
 HD HYUNDAI ELECTRIC				REF. NO	4M-133043 / 4M-137622	Sheet No.	of
				DWG NO	NP-HES20-36-160S/M	Revision No.	0

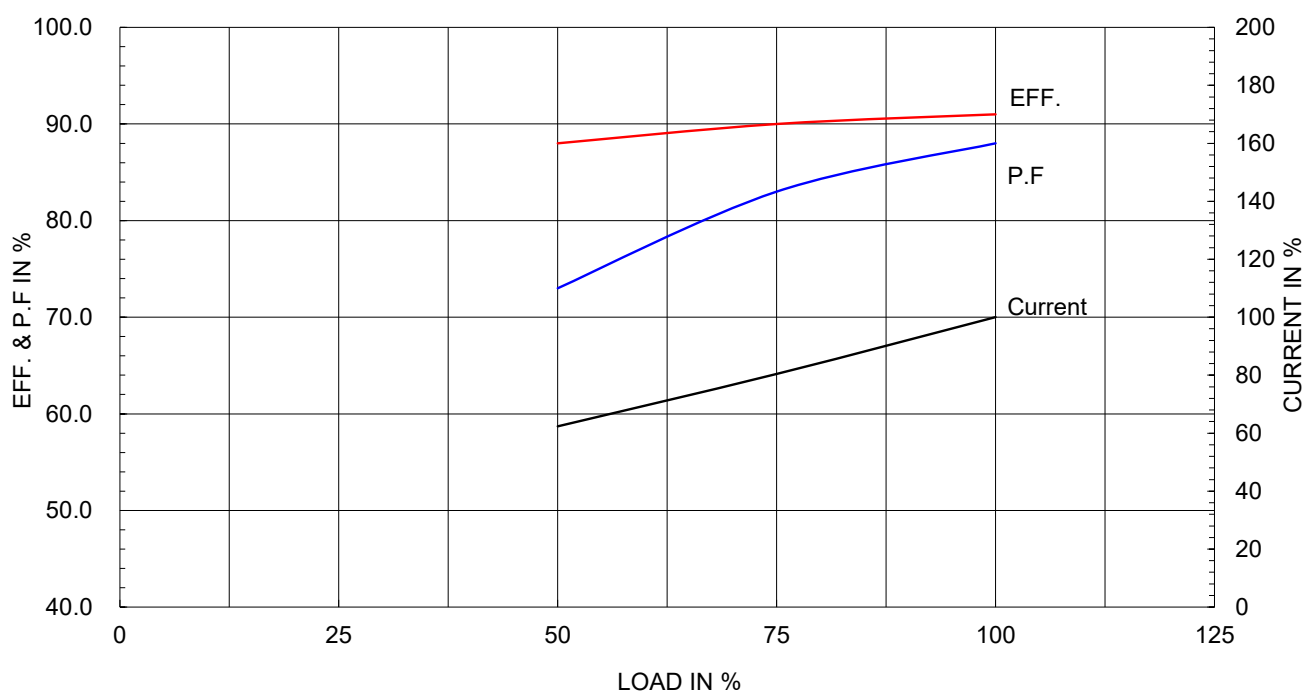
Type :	PJP	
Full Load Torque :	29.89	lb.ft
Load moment of Inertia (J) :	15.591	lb.ft2
Motor moment of Inertia (J) :	0.925	lb.ft2

15kW	20HP	2 P	60 Hz
Speed at Full Load :			3535 RPM
Rated Voltage		460V	
Full Load Current		23.5A	

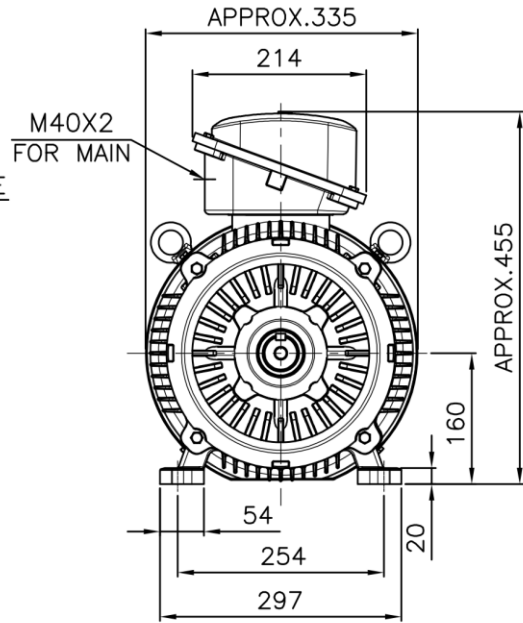
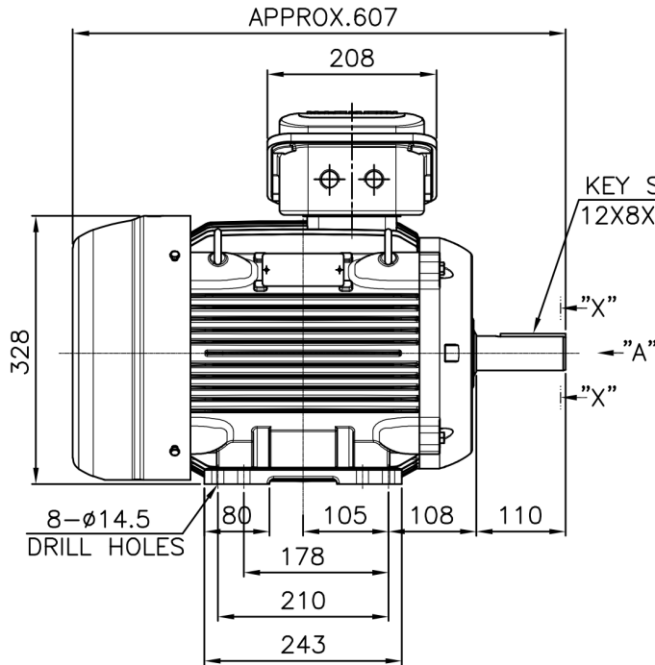
SPEED VS TORQUE & CURRENT CURVE



OUTPUT VS EFF., P.F & CURRENT CURVE



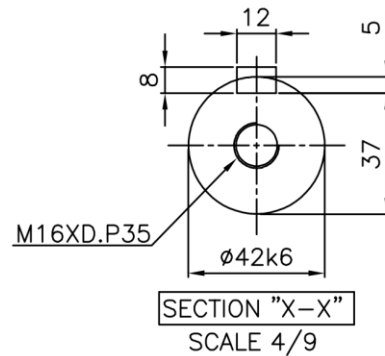
1	2	3	4
▽	50S	REV	DATE
▽▽	12.5S		
▽▽▽	3.2S		
▽▽▽▽	0.4S		



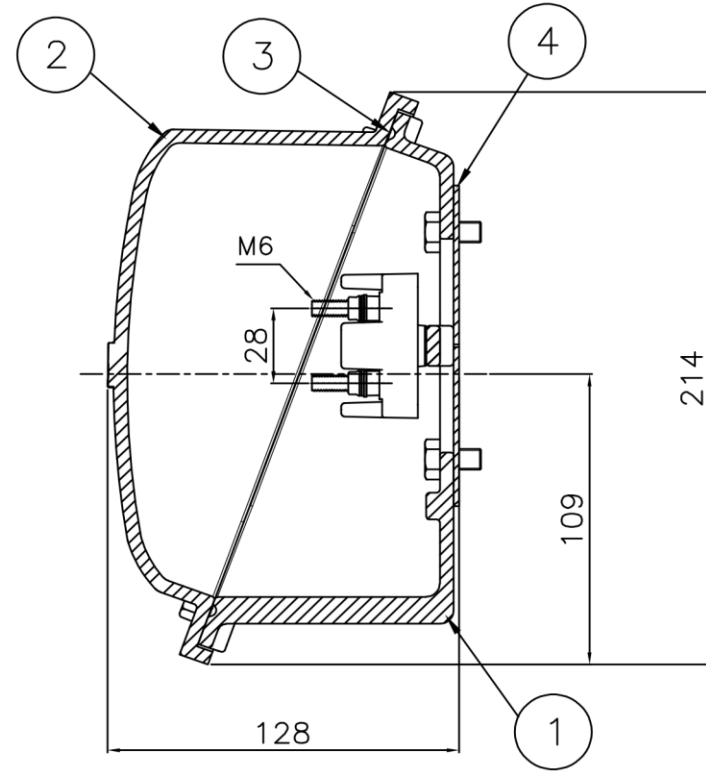
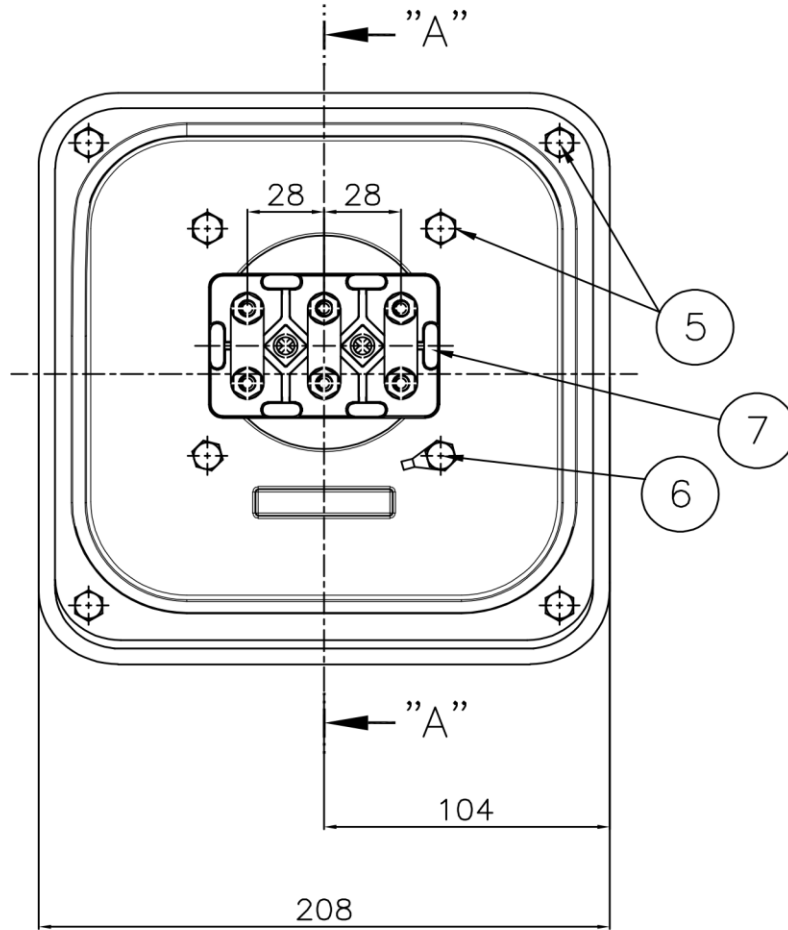
NOTE

1.TOLERANCE :

CENTER HEIGHT	160	$\begin{smallmatrix} 0 \\ -0.5 \end{smallmatrix}$
BASE HOLES	$\phi 14.5$	$\begin{smallmatrix} +0.43 \\ 0 \end{smallmatrix}$
SHAFT DIAMETER	$\phi 42$	$\begin{smallmatrix} +0.018 \\ +0.002 \end{smallmatrix}$
KEYWAY WIDTH	12	$\begin{smallmatrix} 0 \\ -0.043 \end{smallmatrix}$
KEYWAY DEPTH	5	$\begin{smallmatrix} +0.2 \\ 0 \end{smallmatrix}$
KEY WIDTH	12	$\begin{smallmatrix} 0 \\ -0.043 \end{smallmatrix}$
KEY HEIGHT	8	$\begin{smallmatrix} 0 \\ -0.090 \end{smallmatrix}$



APPD BY	S.Y.KIM	UNIT	mm	SUBJECT	IEC 160S/M (Dual hole)	DWG SIZE
CHKD BY	R.G.KIM	SCALE	1/9			A4 (19)
CHKD BY		PROJEC'N	3rd Angle	TITLE	OUTLINE	
DSND BY	J.H.JEON	DATE	2022.05.25	REF. NO		Sheet No. of
				DWG NO	LM-T2163B3PTV09	Revision No. 0



SEC. "A" - "A"

▽	50S
▽▽	12.5S
▽▽▽	3.2S
▽▽▽▽	0.4S

REV	DATE	CONTENTS	REV'D BY	CHK'D BY	CHK'D BY	APP'D BY	일반기공표	일반계관공표
1							1-4 ±0.1 6-30 ±0.5	
2							4-18 ±0.2 30-120 ±0.8	
3							18-63 ±0.3 120-315 ±1.2	
4							63-250 ±0.5 315-1000 ±2.0	
5							250- ±0.8 1000- ±3.0	

1	TERMINAL BLOCK	STD	M6					7
1	GROUND TERMINAL LUG	CU	--					6
8	BOX+FRAME HEX BOLT	S45C	M6					5
1	BOX GASKET	NBR	--					4
1	COVER GASKET (O--RING)	NBR	--					3
1	CONDUIT BOX COVER	CAST	--					2
1	CONDUIT BOX	CAST	--					1
Q'TY	DESCRIPTION	MATERIAL	DIMENSION	WEIGHT	PART NO.	REMARK	NO.	
APPD BY	S.Y.KIM	UNIT	mm	SUBJECT	FR.160-180 (CAST IRON, T-BLOCK)		DWG SIZE	
CHKD BY	I.K.KIM	SCALE	1/2	TITLE TERMINAL BOX ASS'Y				A3 (1:2)
CHKD BY	-	PROJEC'N	3rd Angle					
DSND BY	주유림	DATE	2021-12-17					
 HD HYUNDAI ELECTRIC				REF. NO		Sheet No.	of	
				DWG NO	3M-241780(T)	Revision No.	0	