HYUNDAI HEAVY INDUSTRIES CO.,LTD.

AC INDUCTION MOTOR DATA SHEET

Model No.or RFQ No.		Item No.		Rev. No.	[0]
Project Name		Project No.		Quantity	sets

GENERAL SPECIFICATION

Frame Size		250M
Type		HS-90/4
Enclosure(Protection)		Totally Enclosed (IP55)
Method of Cooling		IC411(FC)
Rated Frequency		60 Hz
Number of Phases		3
Insulation Class		■ F ☐ B ☐ H
Temp. Rise at full load (by resistance method)		
	at 1.0 S.F	80 deg. C
Motor Location		■ Indoor ☐ Outdoor
Altitude		Less than 1000 meter
Relative Humidity		Less than 80 %
Ambient Temp.		40 deg. C (Max.)
Duty Type		Continuous (S1)
Service Factor		1.15
Mounting		■ B3 ☐ B5 ☐ V1 ☐ B3/B5
Bearing	Type	Anti-Friction
	DE/N-DE	6316C3 / 6313C3
	Lubricant	Grease(Gadus S2 V 100 2)
External Thrust		Not applicable
Coupling Method		■ Direct ☐ V-Belt
Shaft Extension		■ Single ☐ Double
Terminal Box	Main	☐ Steel ■ Cast Iron
	Aux.	☐ Yes ■ No
	Location	Refer to Outline Drawing
Application		
Area classification		Non-Hazardous
Type of Ex-Protection		Not applicable
Applicable Standard		KS,IEC,NEMA MG1 Part30(Vpeak)

PERFORMANCE DATA

Rated Output		90 kW	120 HP	
Number of Poles		4		
Rotor Type		Squirrel Cage		
Starting Method*		■		
Rated Voltage				220 V
Current	Full Load			288.9 A
	Locked-rotor**			670 %
Efficiency				
	50% Load	94.2 %		
	75% Load	94.6 %		
	100% Load	94.5 %		
Power Factor(p.u)				
	50% Load	0.830		
	75% Load	0.860		
	100% Load	0.865		
Speed at Full Load		1785 r.p.m		
Torque				
	Full Load	49.1 kg·m		
	Locked-rotor**	150 %		
	Breakdown**	230 %		
Moment of Inertia (J)				
	Load(Max.)	63.525 kg·m²		
	Motor	1.940 kg·m²		
Sound Pressure Level (No-load & mean value at 1m from motor)		82 dB(A)		
Vibration		2.2 mm/sec (r.m.s)		
Permissible number of consecutive starts		Cold 3 times		
		Hot 2 times		
Paint	Munsell No.	4.0PB5.4/5.5(VL-451)		

ACCESSORIES

SUBMITTAL DRAWING

Outline Dimension Drawing \ Motor Weight(Approx.)			
	B3	TJ5MAP51	530 kg
	B5		kg
	V1		kg
	B3/B5		kg
Main T-Box Ass'y		3M-016882	

SPARE PARTS

REMARK

High Efficiency

*. For use on PWM VFD 10:1VT, 3:1CT@1.0S.F&F Temp. rise

Date	DSND	CHKD	CHKD	APPD
2010-05-28	R.G. KIM	O.J. KIM	J.H. KIM	K.J. KANG

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 maker standard, if not mentioned.
* In case of Inverter-Fed Motor, performance data is based on sine wave tests.
** Data is based on when the motor is supplied at rated voltage & frequency. and the data is expressed as a percentage of full-load value.

HYUNDAI HEAVY INDUSTRIES CO.,LTD.

PERFORMANCE CURVE

CURVE NO.

P-HS-90/4

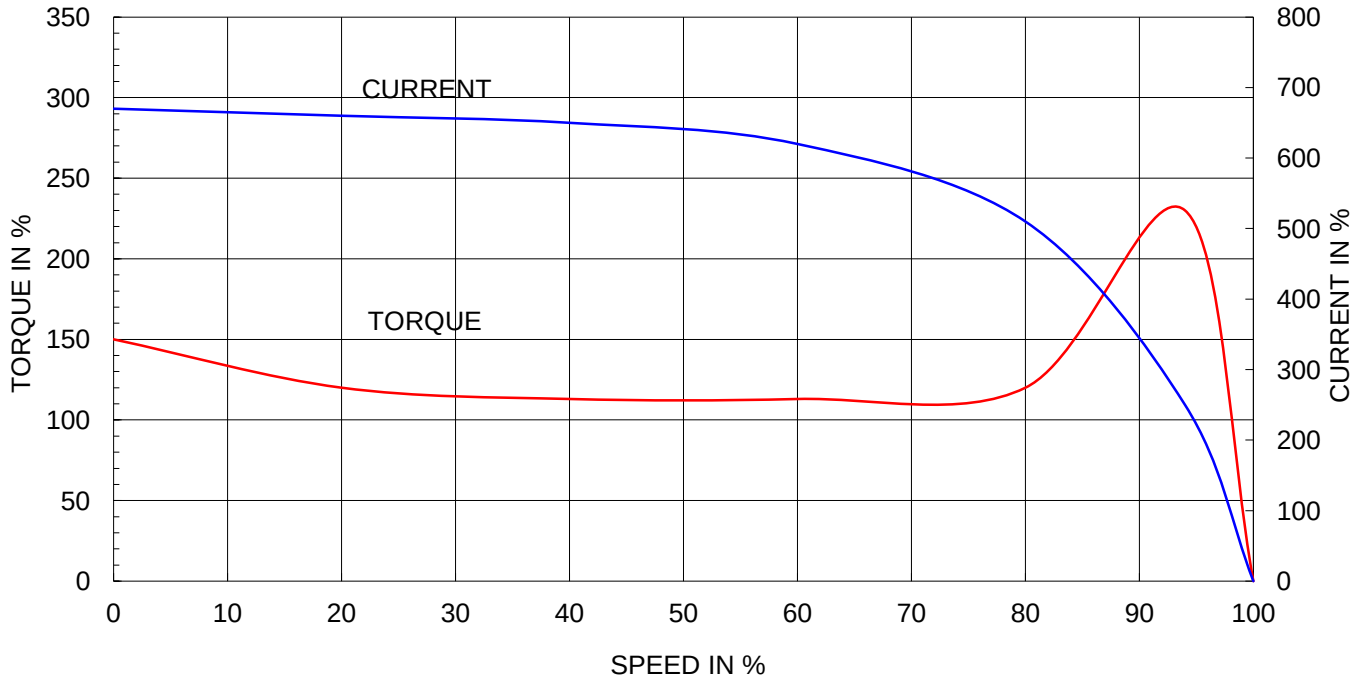
Type :	HS	
Full Load Torque :	49.1	Kg.m
Motor moment of Inertia (J) :	1.940	$Kg.m^2$
Load moment of Inertia (J) :	63.525	$Kg.m^2$

90 kW 4 P 60 Hz

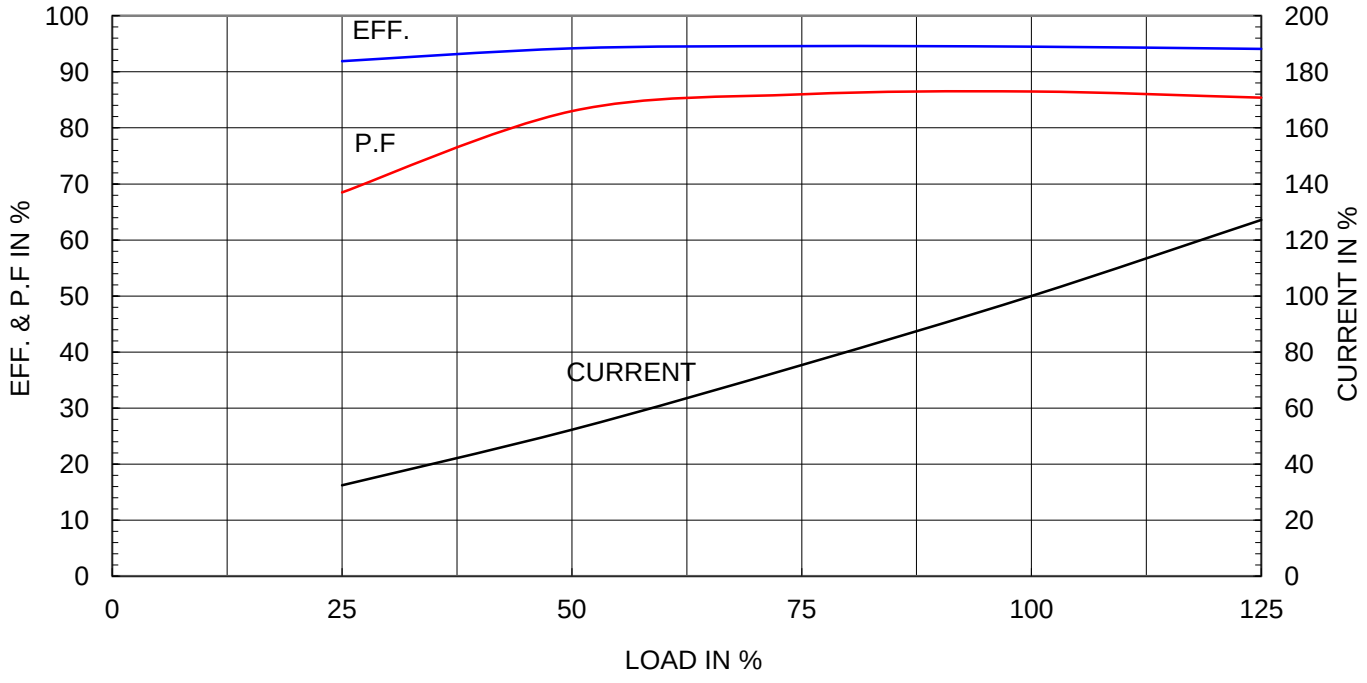
Speed at Full Load : 1785 RPM

Rated Voltage	440V	380V	220V	
Full Load Current	144.5A	167.3A	288.9A	

SPEED VS TORQUE & CURRENT CURVE



OUTPUT VS EFF., P.F & CURRENT CURVE

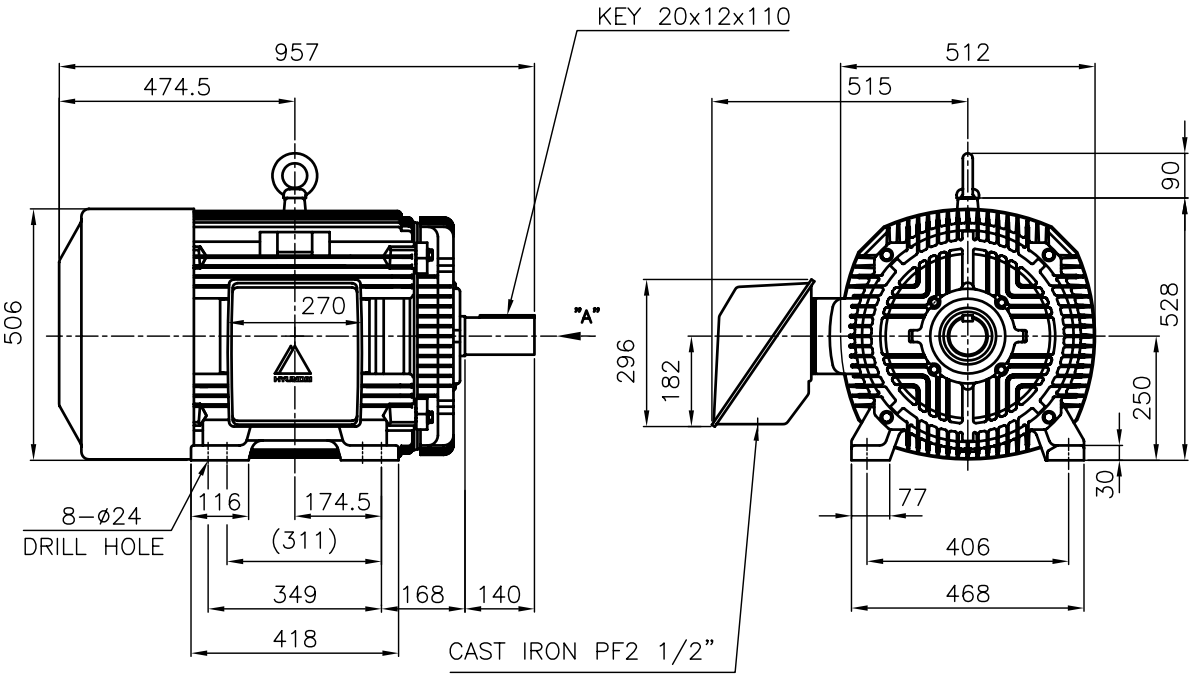


HYUNDAI HEAVY INDUSTRIES CO., LTD.

TEFC

THREE PHASE INDUCTION MOTOR

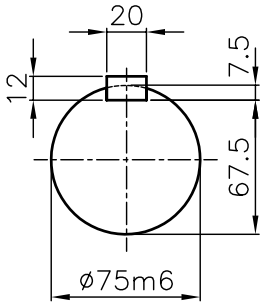
TYPE CAST IRON FRAME



NOTE

1.TOLERANCE :

CENTER HEIGHT	$250^{0}_{-0.5}$
BASE HILE	$ø24^{+0.43}_{0}$
SHAFT DIAMETER	$ø75^{+0.030}_{+0.011}$
KEYWAY WIDTH	$20^{-0.022}_{-0.074}$
KEYWAY DEPTH	$7.5^{+0.2}_{0}$
KEY WIDTH	$20^{0}_{-0.052}$
KEY HEIGHT	$12^{0}_{-0.110}$



VIEW "A"
SCALE 4/1

APPD BY	KANG K.J.	UNIT	MM
CHKD BY	KIM O.J.	SCALE	1/15
CHKD BY	LEE N.D.	PROJEC'N	3rd Angle
DSND BY	KIM RYANG GYU	DATE	2007.03.23

SUBJECT	KS Fr.250M TEFC
TITLE	OUTLINE THREE–PHASE INDUCTION MOTOR

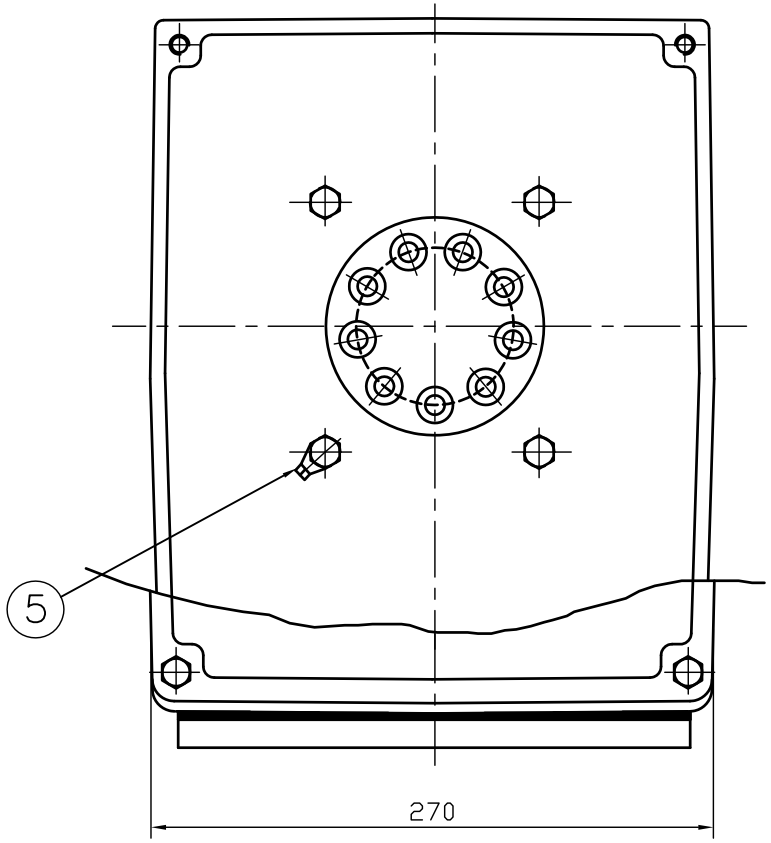
TEFC STANDARD

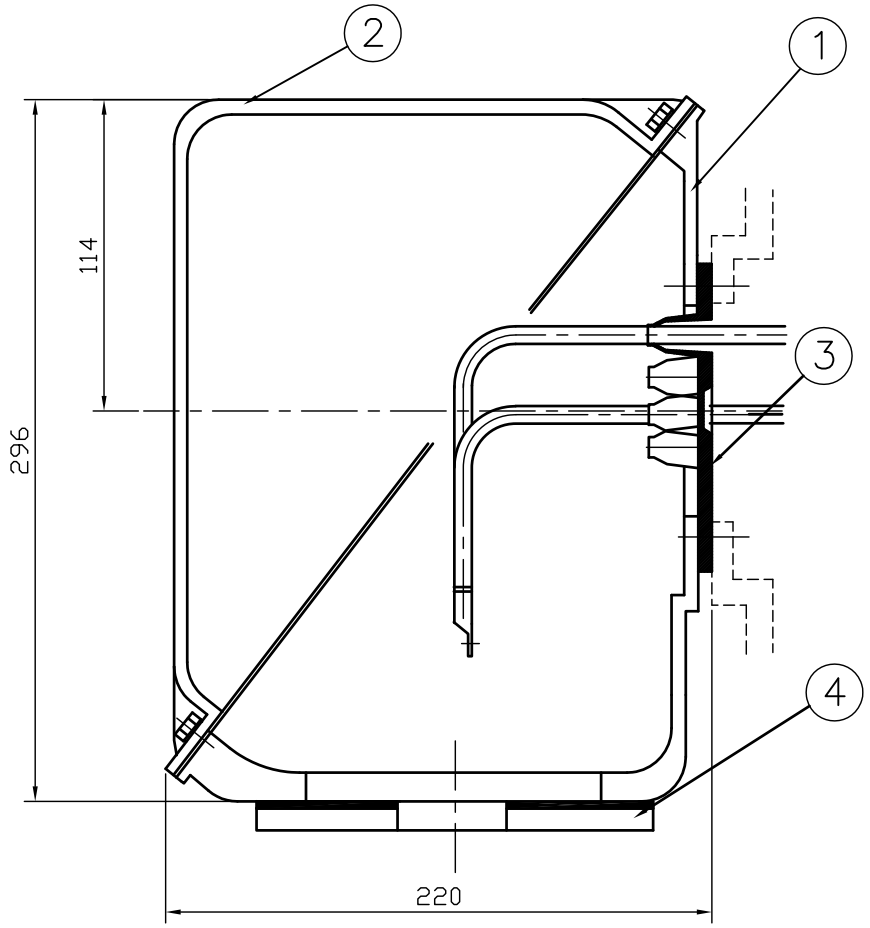
CAD PROJ \ FILE

MMSTDMTR/TJ5MAP51

HYUNDAI HEAVY INDUSTRIES CO., LTD.
INDUSTRIAL & POWER SYSTEMS

REF. NO	L2–Series	Sheet No. of
DWG NO	TJ5MAP51	Revision No. 0





Q'TY	DESCRIPTION	MATERIAL	DIMENSION	WEIGHT	PART NO.	REMARK	NO.
1	EARTH TERMINAL LUG						5
1	CABLE ENTRY PLATE						4
1	GASKET	NBR					3
1	TERMINAL BOX COVER	CAST IRON					2
1	TERMINAL BOX BODY	CAST IRON					1

APPD BY	김 진 오	UNIT	MM	SUBJECT	HLA6 – 250,280Fr.	CAD PROJ 명 \ FILE 명	
Q.P CHK	주 영 걸	SCALE	NONE			T–BOX–M \ 3R016882	
CHKD BY	권 오 철	PROJEC'N	3 각법(3rd Angle)	TITLE	(CAST IRON) TERMINAL BOX ASS'Y		
DSND BY	김 현 태	DATE	92.06.05				
HYUNDAI ELECTRICAL ENGINEERING CO., LTD.				REF. NO		Sheet No. of	
				DWG NO	3M–016882	Revision No.	

REV	DATE	CONTENTS	REVD BY	CHKD BY	Q.P CHK	APPD BY