

# AC INDUCTION MOTOR DATA SHEET

|                                                                                                                                        |                                                                                             |                                                                              |                                                         |                                                                         |                         |
|----------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------|-------------------------------------------------------------------------|-------------------------|
| Model No.or RFQ No.                                                                                                                    |                                                                                             | Item No.                                                                     |                                                         | Rev. No. [ 0 ]                                                          |                         |
| Project Name                                                                                                                           |                                                                                             | Project No.                                                                  |                                                         | Quantity sets                                                           |                         |
| GENERAL SPECIFICATION                                                                                                                  |                                                                                             |                                                                              | PERFORMANCE DATA                                        |                                                                         |                         |
| Frame Size                                                                                                                             | 250S                                                                                        |                                                                              | Rated Output                                            | 75 kW 100 HP                                                            |                         |
| Type                                                                                                                                   | HS-75/2                                                                                     |                                                                              | Number of Poles                                         | 2                                                                       |                         |
| Enclosure(Protection)                                                                                                                  | Totally Enclosed ( IP55 )                                                                   |                                                                              | Rotor Type                                              | Squirrel Cage                                                           |                         |
| Method of Cooling                                                                                                                      | IC411(FC)                                                                                   |                                                                              | Starting Method*                                        | <input checked="" type="checkbox"/> D.O.L <input type="checkbox"/> Y- Δ |                         |
| Rated Frequency                                                                                                                        | 60 Hz                                                                                       |                                                                              | Rated Voltage                                           | 440 V                                                                   | 380 V 220 V             |
| Number of Phases                                                                                                                       | 3                                                                                           |                                                                              | Current                                                 | Full Load                                                               | 116.2 A 134.5 A 232.4 A |
| Insulation Class                                                                                                                       | <input checked="" type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> H |                                                                              | Locked-rotor**                                          | 650 %                                                                   | 650 % 650 %             |
| Temp. Rise at full load (by resistance method)                                                                                         |                                                                                             |                                                                              | Efficiency                                              |                                                                         |                         |
| at 1.0 S.F 80 deg. C                                                                                                                   |                                                                                             |                                                                              | 50% Load 91.8 %                                         |                                                                         |                         |
| Motor Location <input type="checkbox"/> Indoor <input checked="" type="checkbox"/> Outdoor                                             |                                                                                             |                                                                              | 75% Load 93.2 %                                         |                                                                         |                         |
| Altitude Less than 1000 meter                                                                                                          |                                                                                             |                                                                              | 100% Load 93.6 %                                        |                                                                         |                         |
| Relative Humidity Less than 80 %                                                                                                       |                                                                                             |                                                                              | Power Factor(p.u)                                       |                                                                         |                         |
| Ambient Temp. 40 deg. C (Max.)                                                                                                         |                                                                                             |                                                                              | 50% Load 0.879                                          |                                                                         |                         |
| Duty Type Continuous ( S1 )                                                                                                            |                                                                                             |                                                                              | 75% Load 0.901                                          |                                                                         |                         |
| Service Factor 1.15                                                                                                                    |                                                                                             |                                                                              | 100% Load 0.905                                         |                                                                         |                         |
| Mounting <input type="checkbox"/> B3 <input type="checkbox"/> B5 <input checked="" type="checkbox"/> V1 <input type="checkbox"/> B3/B5 |                                                                                             |                                                                              | Speed at Full Load 3570 r.p.m                           |                                                                         |                         |
| Bearing                                                                                                                                | Type                                                                                        | Anti-Friction                                                                |                                                         | Torque                                                                  |                         |
|                                                                                                                                        | DE/N-DE                                                                                     | 6313C3 / 6313C3                                                              |                                                         | Full Load 20.5 kg·m                                                     |                         |
| Lubricant                                                                                                                              |                                                                                             | Grease(Gadus S2 V 100 2)                                                     |                                                         | Locked-rotor** 150 %                                                    |                         |
| External Thrust Not applicable                                                                                                         |                                                                                             |                                                                              | Breakdown** 250 %                                       |                                                                         |                         |
| Coupling Method <input checked="" type="checkbox"/> Direct <input type="checkbox"/> V-Belt                                             |                                                                                             |                                                                              | Moment of Inertia (J)                                   |                                                                         |                         |
| Shaft Extension <input checked="" type="checkbox"/> Single <input type="checkbox"/> Double                                             |                                                                                             |                                                                              | Load(Max.) 9.050 kg·m²                                  |                                                                         |                         |
| Terminal Box                                                                                                                           | Main                                                                                        | <input type="checkbox"/> Steel <input checked="" type="checkbox"/> Cast Iron |                                                         | Motor 1.053 kg·m²                                                       |                         |
|                                                                                                                                        | Aux.                                                                                        | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No          |                                                         | Sound Pressure Level (No-load & mean value at 1m from motor)            |                         |
| Location Refer to Outline Drawing                                                                                                      |                                                                                             |                                                                              | 87 dB(A)                                                |                                                                         |                         |
| Application                                                                                                                            |                                                                                             |                                                                              | Vibration 2.2 mm/sec (r.m.s)                            |                                                                         |                         |
| Area classification Non-Hazardous                                                                                                      |                                                                                             |                                                                              | Permissible number of                                   |                                                                         |                         |
| Type of Ex-Protection Not applicable                                                                                                   |                                                                                             |                                                                              | consecutive starts Cold 3 times                         |                                                                         |                         |
| Applicable Standard KS,IEC,NEMA MG1 Part30(Vpeak)                                                                                      |                                                                                             |                                                                              | Hot 2 times                                             |                                                                         |                         |
|                                                                                                                                        |                                                                                             |                                                                              | Paint                                                   | Munsell No.                                                             | 4.0PB5.4/5.5(VL-451)    |
| ACCESSORIES                                                                                                                            |                                                                                             |                                                                              | SUBMITTAL DRAWING                                       |                                                                         |                         |
|                                                                                                                                        |                                                                                             |                                                                              | Outline Dimension Drawing \ Motor Weight(Approx.)       |                                                                         |                         |
|                                                                                                                                        |                                                                                             |                                                                              | B3                                                      |                                                                         | kg                      |
|                                                                                                                                        |                                                                                             |                                                                              | B5                                                      |                                                                         | kg                      |
|                                                                                                                                        |                                                                                             |                                                                              | V1                                                      |                                                                         | TJ50PC50 540 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                    |
|                                                                                                                                        |                                                                                             |                                                                              | 2010-05-28                                              | R.G. KIM                                                                | O.J. KIM                |
|                                                                                                                                        |                                                                                             |                                                                              |                                                         |                                                                         | CHKD                    |
|                                                                                                                                        |                                                                                             |                                                                              |                                                         |                                                                         | APPD                    |
|                                                                                                                                        |                                                                                             |                                                                              |                                                         |                                                                         | 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.

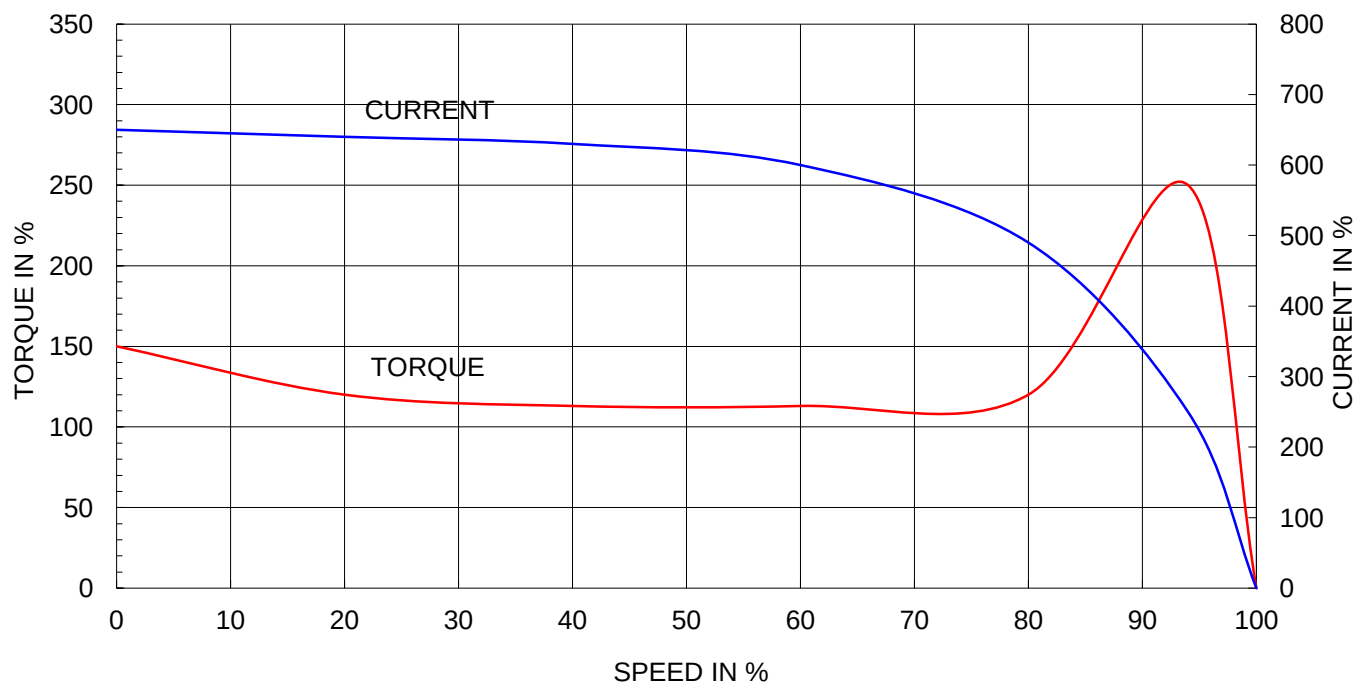
\*\* Data is based on when the motor is supplied at rated voltage & frequency. and the data is expressed as a percentage of full-load value.

HHI W230-131-1 \* In case of Inverter or V.V.V.F Motor:Performance data is based on sine wave tests. A4(210mm X 297mm)

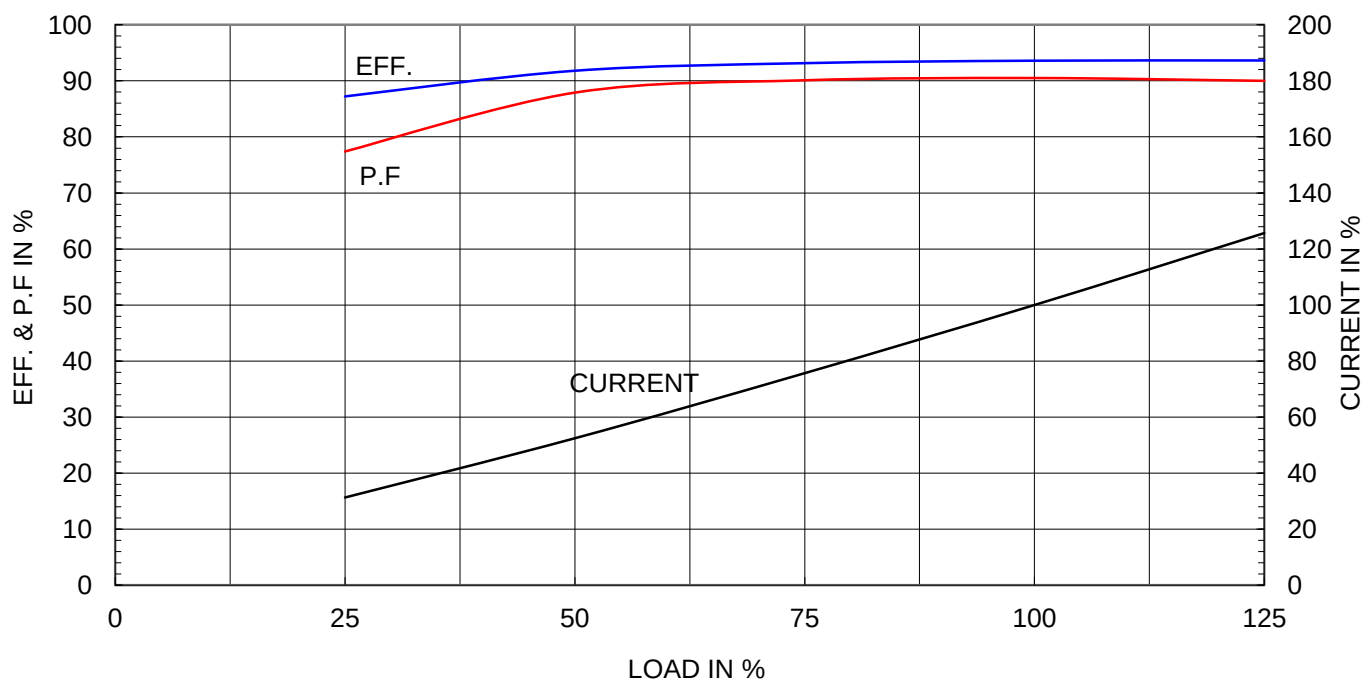
|                             |   |                         |
|-----------------------------|---|-------------------------|
| Type                        | : | HS                      |
| Full Load Torque            | : | 20.5 Kg.m               |
| Motor moment of Inertia (J) | : | 1.053 Kg.m <sup>2</sup> |
| Load moment of Inertia (J)  | : | 9.050 Kg.m <sup>2</sup> |

|                      |        |        |        |          |  |
|----------------------|--------|--------|--------|----------|--|
| 75 kW                |        | 2 P    |        | 60 Hz    |  |
| Speed at Full Load : |        |        |        | 3570 RPM |  |
| Rated Voltage        | 440V   | 380V   | 220V   |          |  |
| Full Load Current    | 116.2A | 134.5A | 232.4A |          |  |

SPEED VS TORQUE & CURRENT CURVE



OUTPUT VS EFF., P.F & CURRENT CURVE





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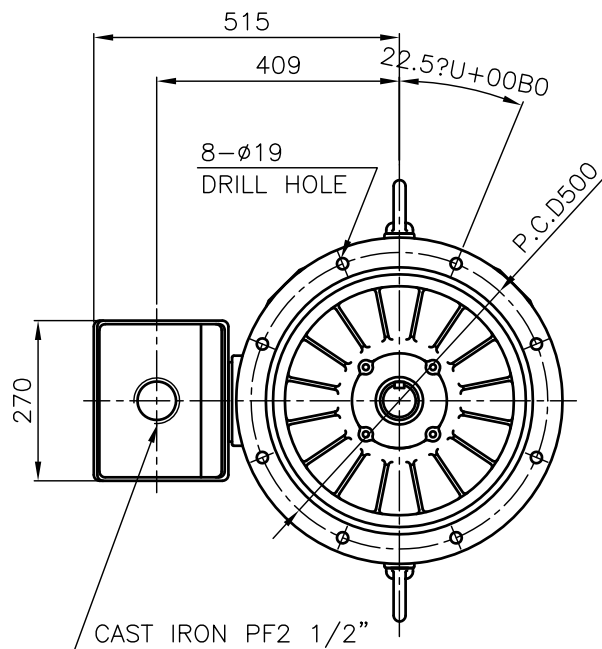
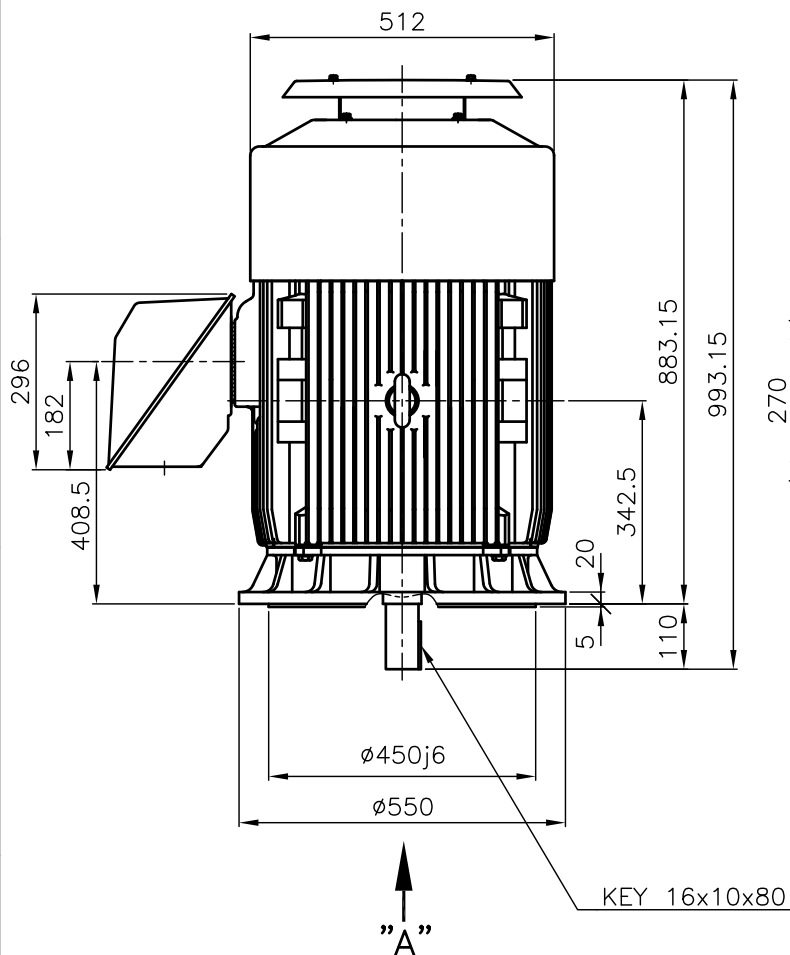
**TEFC**

## THREE PHASE INDUCTION MOTOR

## TYPE

(1) TNB , TDB

CAST IRON FRAME

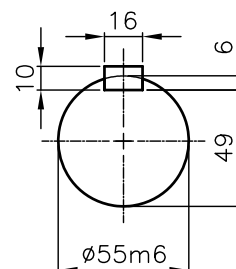


NOTE

1.TOLERANCE :

|                 |        |                                                |
|-----------------|--------|------------------------------------------------|
| RABBET DIAMETER | ø450j6 | ±0.020                                         |
| SHAFT DIAMETER  | ø55m6  | $\begin{matrix} +0.030 \\ -0.011 \end{matrix}$ |
| KEYWAY WIDTH    | 16P9   | $\begin{matrix} -0.018 \\ -0.061 \end{matrix}$ |
| KEYWAY DEPTH    | 6      | $\begin{matrix} +0.2 \\ 0 \end{matrix}$        |

2.The type (1)–“TNB, TDB” is for HHI’s standard products and it can be changed for customer’s requirements or detail designing.



VIEW "A"  
SCALE 4/1

|                   |
|-------------------|
| TEFC STANDARD     |
| CAD PROJ \ FILE   |
| MMSTDMTR/TJ50PC50 |

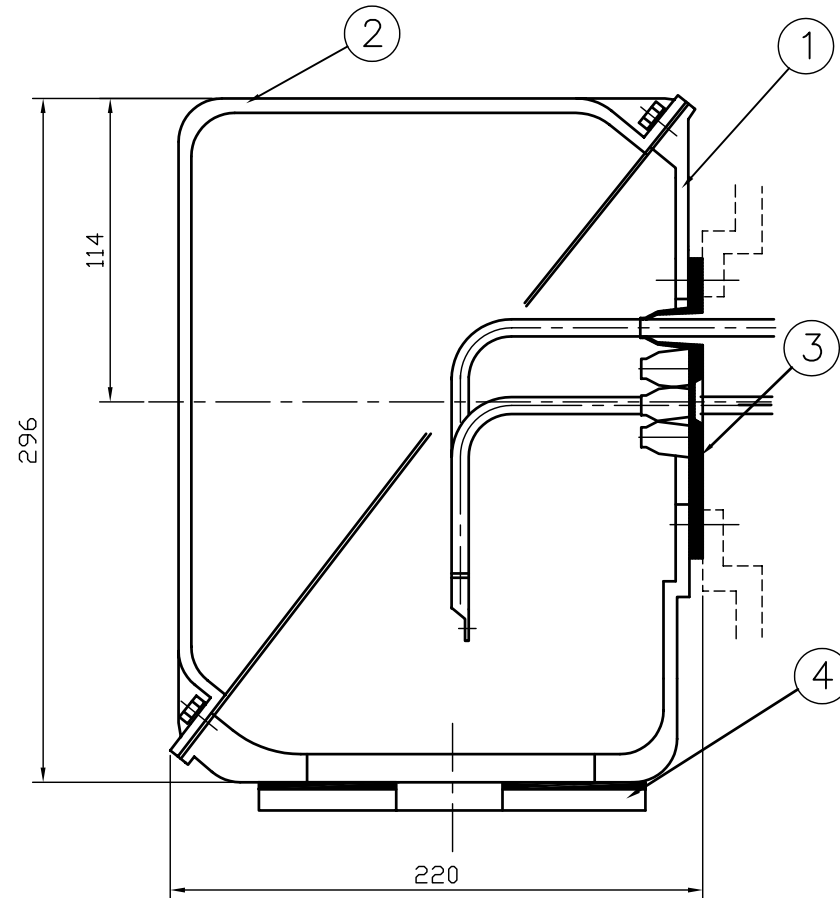
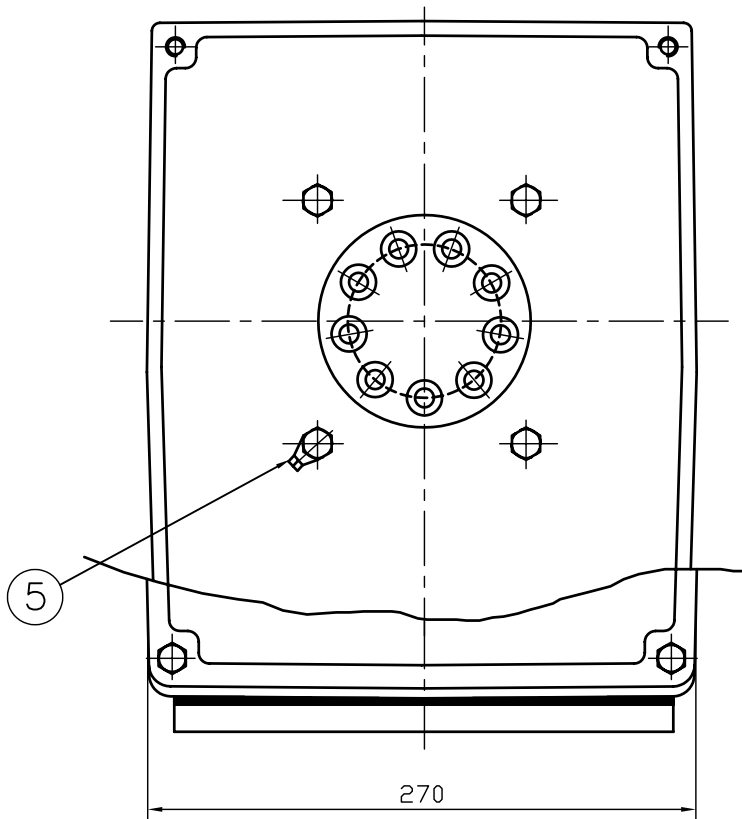
|   |         |               |          |            |
|---|---------|---------------|----------|------------|
| A | APPD BY | KANG K.J.     | UNIT     | MM         |
|   | CHKD BY | KIM O.J.      | SCALE    | 1/13       |
|   | CHKD BY | LEE N.D.      | PROJEC'N | 3rd Angle  |
|   | DSND BY | KIM RYANG GYU | DATE     | 2007.03.23 |



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

|         |           |                   |
|---------|-----------|-------------------|
| REF. NO | L3-SERIES | Sheet No.    of   |
| DWG NO  | TJ50PC50  | Revision No.    0 |

본 도면은 현대중공업(주) 재산이므로 허가없이  
복사할 수 없음 (도면제출 시 유의하시기 바랍니다.)



|                                                                                                                                          |                    |           |                  |                                         |                   |                     |     |
|------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------|------------------|-----------------------------------------|-------------------|---------------------|-----|
| 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   |
| Q'TY                                                                                                                                     | DESCRIPTION        | MATERIAL  | DIMENSION        | WEIGHT                                  | PART NO.          | REMARK              | NO. |
| APPD BY                                                                                                                                  | 김 진 오              | UNIT      | MM               | SUBJECT                                 | HLA6 - 250,280Fr. | CAD PROJ ㉠ \ FILE ㉠ |     |
| Q.P. CHK                                                                                                                                 | 주 영 겅              | SCALE     | NONE             |                                         |                   | T-BOX-M \ 3R016882  |     |
| CHKD BY                                                                                                                                  | 권 오 철              | PROJEC'N  | 3 각법 (3rd Angle) | TITLE (CAST IRON)<br>TERMINAL BOX ASS'Y |                   |                     |     |
| DSND BY                                                                                                                                  | 김 현 태              | DATE      | 92.06.05         |                                         |                   |                     |     |
|  <b>HYUNDAI</b><br>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 |
|-----|------|----------|---------|---------|----------|---------|
| 1   |      |          |         |         |          |         |
| 2   |      |          |         |         |          |         |
| 3   |      |          |         |         |          |         |
| 4   |      |          |         |         |          |         |