

# 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                                     | 250M  |  | Rated Output   | 90 kW 120 HP  |          |
| Type   | HLP-90/4  |  | Number of Poles  | 4   |          |
| 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 143.1 A 165.7 A 286.2 A                                       |          |
| Insulation Class                               | <input checked="" type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> H                                   |  | Locked-rotor**   | 770 % 770 % 770 %   |          |
| Temp. Rise at full load (by resistance method) |   |  | Efficiency   |   |          |
| at 1.0 S.F 80 deg. C                           |   |  | 50% Load 94.6 %  |   |          |
| Motor Location                                 | <input checked="" type="checkbox"/> Indoor <input type="checkbox"/> Outdoor   |  | 75% Load 95.5 %  |   |          |
| Altitude                                       | Less than 1000 meter  |  | 100% Load 95.4 %   |   |          |
| Relative Humidity                              | Less than 80 %  |  | Power Factor(p.u)  |   |          |
| Ambient Temp.                                  | 40 deg. C (Max.)  |  | 50% Load 0.784   |   |          |
| Duty Type                                      | Continuous ( S1 )   |  | 75% Load 0.845   |   |          |
| Service Factor                                 | 1.15  |  | 100% Load 0.865  |   |          |
| Mounting                                       | <input checked="" type="checkbox"/> B3 <input type="checkbox"/> B5 <input type="checkbox"/> V1 <input type="checkbox"/> B3/B5 |  | Speed at Full Load 1785 r.p.m                                |   |          |
| Bearing  | Type  | Anti-Friction  | Torque   |   |          |
|  | DE/N-DE   | 6316C3 / 6313C3  | Full Load 49.1 kg·m  |   |          |
|  | Lubricant   | Grease(Gadus S2 V 100 2)   | Locked-rotor** 150 %   |   |          |
| External Thrust                                | Not applicable  |  | Breakdown** 230 %  |   |          |
| 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.) 63.530 kg·m²                                      |   |          |
| Terminal Box                                   | Main  | <input type="checkbox"/> Steel <input checked="" type="checkbox"/> Cast Iron | Motor 1.940 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   | 82 dB(A)   |   |          |
| Application                                    |   |  | Vibration 2.2 mm/sec (r.m.s)                                 |   |          |
| Area classification                            | Non-Hazardous   |  | Permissible number of  |   |          |
| Type of Ex-Protection                          | Not applicable  |  | Cold 3 times   |   |          |
| Applicable Standard                            | KS,IEC, NEMA MG1 Part30(Vpeak)  |  | Hot 2 times  |   |          |
| ACCESSORIES                                    |   |  | Paint  | Munsell No. 4.4PB5.5/5.6(VL-451)  |          |
|  | SUBMITTAL DRAWING   |  |  |   |          |
|  | Outline Dimension Drawing \ Motor Weight(Approx.)   |  |  |   |          |
|  | B3  | LM-T1253B3PL001  | 530  | kg  |          |
|  | B5  | LM-T1250B5PL001  | 570  | kg  |          |
|  | V1  | LM-T1250V1PL001  | 570  | kg  |          |
|  | B3/B5   | LM-T1253B4PL001  | 550  | kg  |          |
|  | Main T-Box Ass'y 3M-016882  |  |  |   |          |
|  |   |  |  |   |          |
|  |   |  |  |   |          |
| SPARE PARTS                                    |   | REMARK   |  |   |          |
|  |   | Premium Efficiency   |  |   |          |
|  |   | *. For use on PWM VFD 10:1VT, 3:1CT@1.0S.F&F Temp. rise                      |  |   |          |
|  |   | Date   | DSND   | CHKD  | CHKD     |
|  |   | 2015-09-05   | R.G. KIM   | -   | O.J. KIM |
|  |   |  |  |   | APPD     |
|  |   |  |  |   | S.H. GO  |

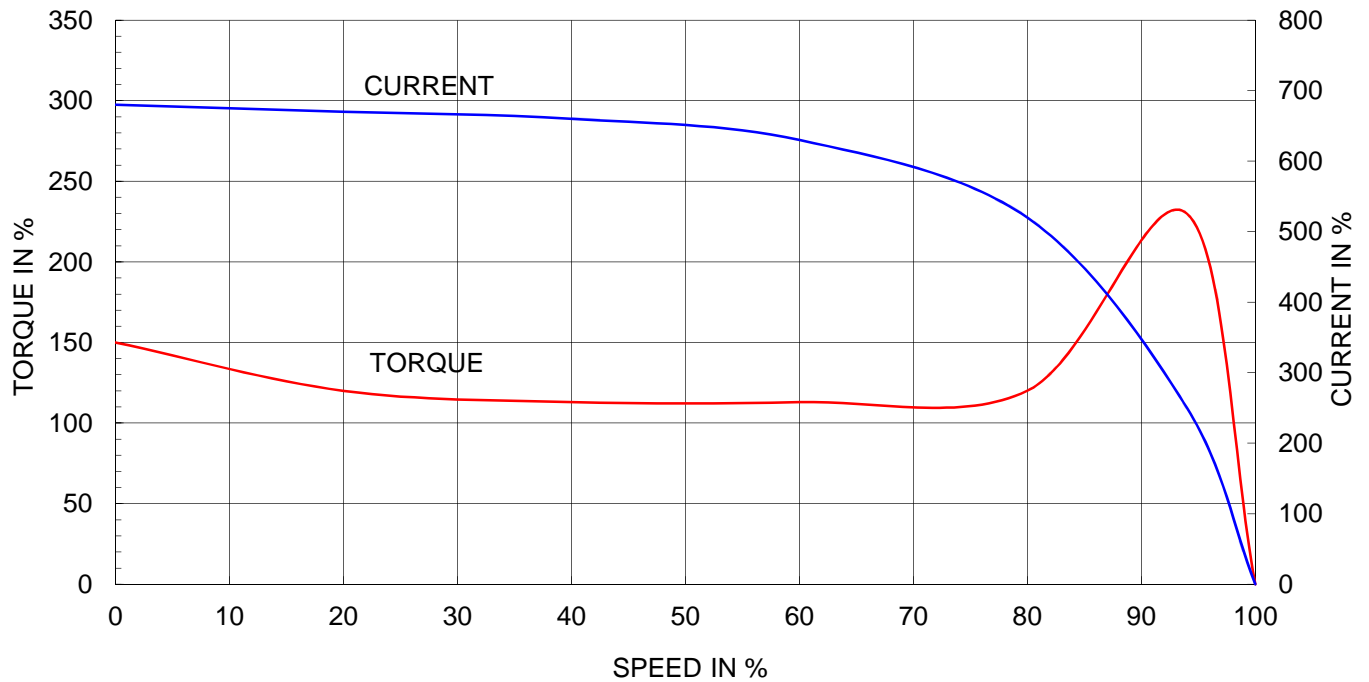
Note: Others not mentioned in this data sheet shall be in accordance with maker standard.  
 Above technical data are only design values and shall be guaranteed with tolerance of applicable standard.  
 Inspection and performance test shall be maker standard, if not mentioned.  
 \* In case of Inverter-Fed 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)

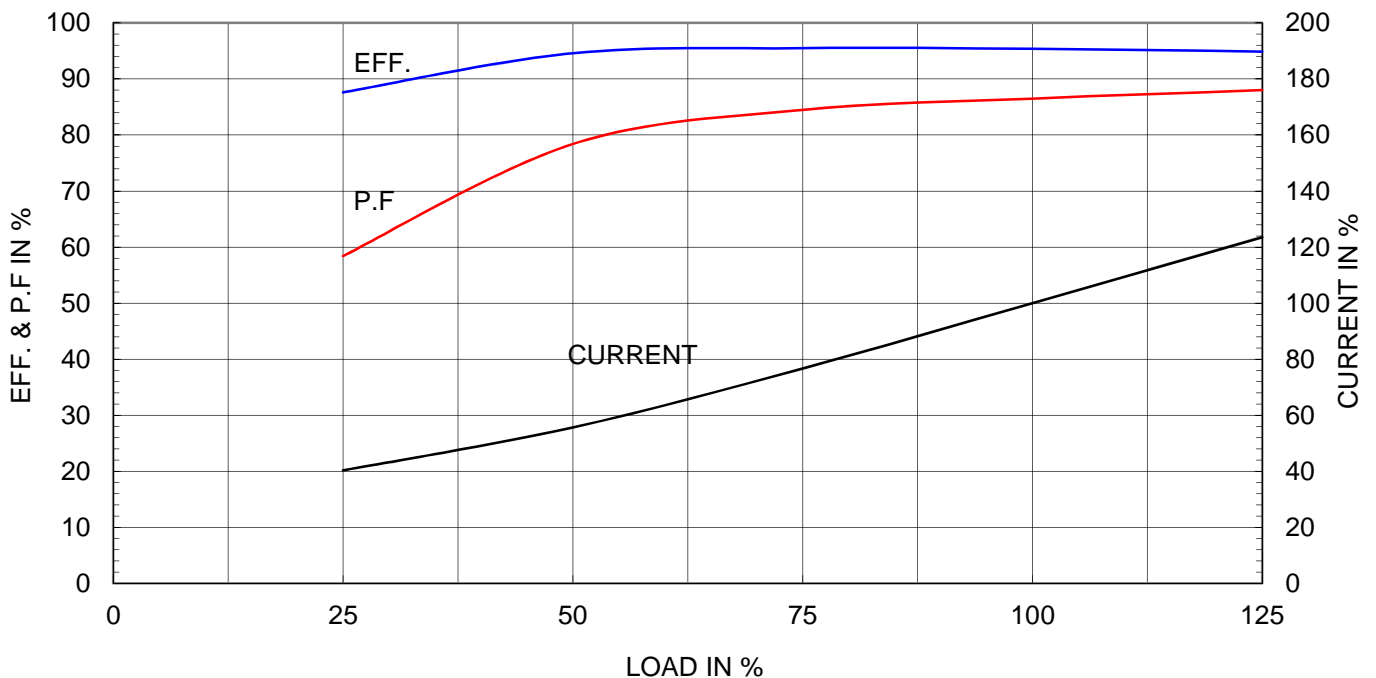
|                             |   |                          |
|-----------------------------|---|--------------------------|
| Type                        | : | HLP-90/4                 |
| Full Load Torque            | : | 49.1 Kg.m                |
| Motor moment of Inertia (J) | : | 1.940 Kg.m <sup>2</sup>  |
| Load moment of Inertia (J)  | : | 63.530 Kg.m <sup>2</sup> |


|                      |        |        |        |          |  |
|----------------------|--------|--------|--------|----------|--|
| 90 kW                |        | 4 P    |        | 60 Hz    |  |
| Speed at Full Load : |        |        |        | 1785 RPM |  |
| Rated Voltage        | 440V   | 380V   | 220V   |          |  |
| Full Load Current    | 143.1A | 165.7A | 286.2A |          |  |

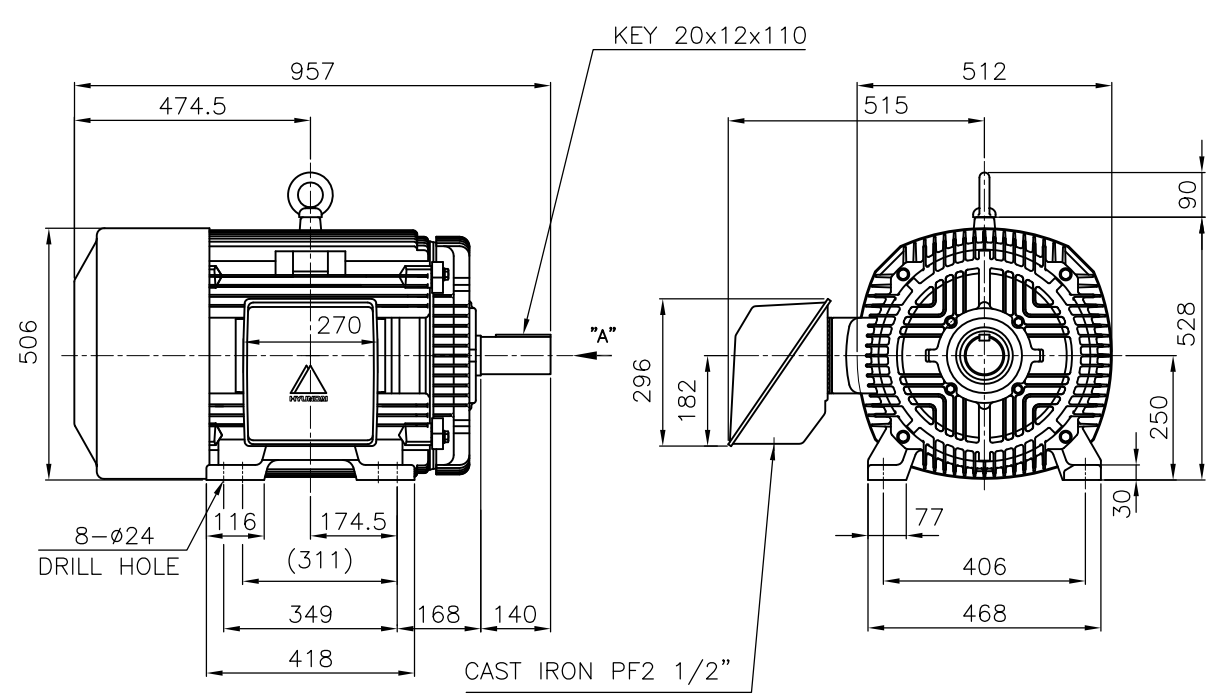
SPEED VS TORQUE & CURRENT CURVE



OUTPUT VS EFF., P.F & CURRENT CURVE



|  |  |   |  |   |  |             |                          |  |  |
|--|--|---|--|---|--|-------------|--------------------------|--|--|
| 1  |  | 2   |  | 3 |  | 4           |                          |  |  |
| <br><b>HYUNDAI</b><br>HEAVY INDUSTRIES CO., LTD. |  | <b>TEFC</b><br><br><b>THREE PHASE INDUCTION MOTOR</b> |  |   |  | <b>TYPE</b> | <sup>(1)</sup> TNB , TDB |  |  |
|  |  |   |  |   |  |             | CAST IRON FRAME          |  |  |

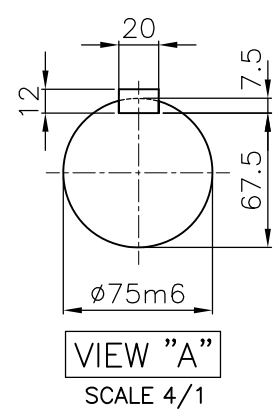



**NOTE**

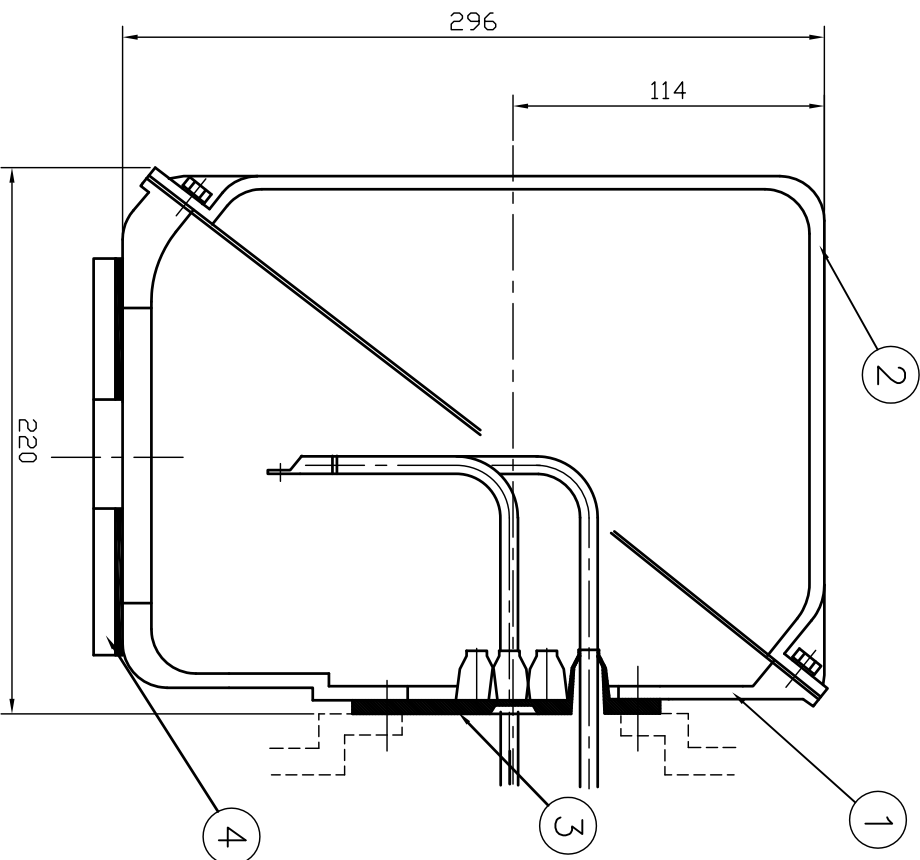
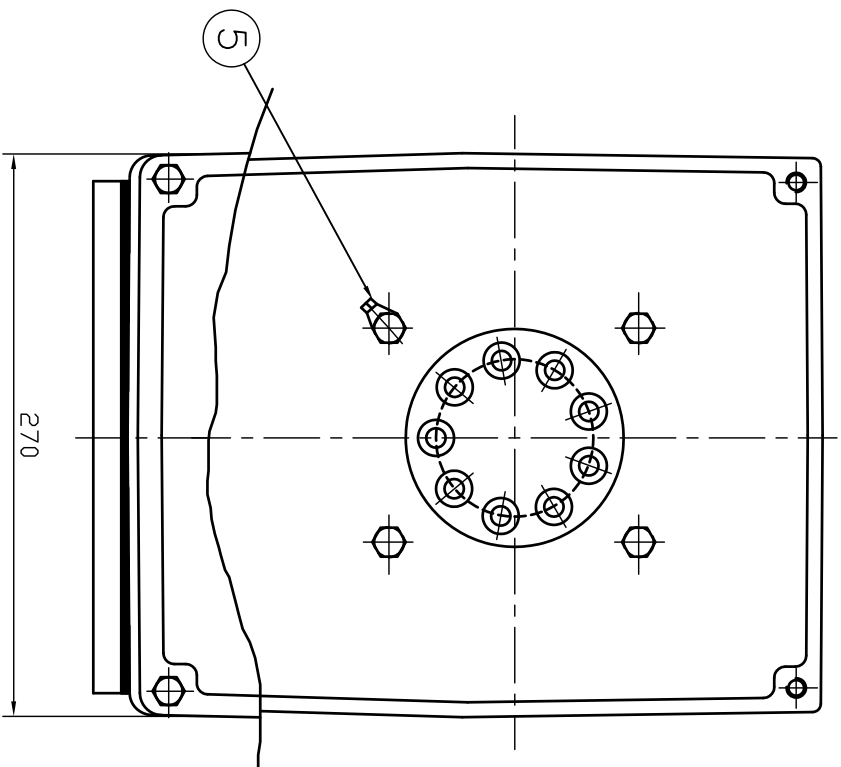
1.TOLERANCE :

|                |   |
|----------------|---|
| CENTER HEIGHT  | 250 <sup>0</sup> <sub>-0.5</sub>        |
| BASE HILE      | ø24 <sup>+0.43</sup> <sub>0</sub>       |
| SHAFT DIAMETER | ø75 <sup>+0.030</sup> <sub>+0.011</sub> |
| KEYWAY WIDTH   | 20 <sup>-0.022</sup> <sub>-0.074</sub>  |
| KEYWAY DEPTH   | 7.5 <sup>+0.2</sup> <sub>0</sub>        |
| KEY WIDTH      | 20 <sup>0</sup> <sub>-0.052</sub>       |
| KEY HEIGHT     | 12 <sup>0</sup> <sub>-0.110</sub>       |

2.The type (1)-"TNB , TDB" is for HHI's standard products and it can be changed for customer's requirements or detail designing.



|  |               |          |            |  |                    |
|--|---------------|----------|------------|--|--------------------|
|  |               |          |            | TEFC STANDARD                          |                    |
| APPD BY  | KANG K.J.     | UNIT     | MM         | SUBJECT                                | KS Fr.250M-4P TEFC |
| CHKD BY  | KIM O.J.      | SCALE    | 1/15       | TITLE                                  | CAD PROJ \ FILE    |
| CHKD BY  | LEE N.D.      | PROJEC'N | 3rd Angle  |  | MMSTDMTJR/TJ5MAP51 |
| DSND BY  | KIM RYANG GYU | DATE     | 2007.03.23 |  |                    |
| <br>HYUNDAI<br>HEAVY INDUSTRIES CO., LTD.<br>INDUSTRIAL & POWER SYSTEMS |               |          |            | REF. NO                                | L2-Series          |
|  |               |          |            | DWG NO                                 | LM-T1253B3PL001    |
|  |               |          |            | OUTLINE<br>THREE-PHASE INDUCTION MOTOR |                    |
|  |               |          |            | Sheet No.                              | of                 |
|  |               |          |            | Revision No.                           | 0                  |



| REV | DATE | CONTENTS | REV'D BY | CHK'D BY | Q.P. CHK | APP'D BY |
|-----|------|----------|----------|----------|----------|----------|
| 1   |      |          |          |          |          |          |

| 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.         |
| APP'D BY | 김진오                | UNIT      | MM            |         |                   |                    |
| Q.P. CHK | 주영걸                | SCALE     | NONE          |         |                   |                    |
| CHK'D BY | 권오철                | PROJEC'T  | 3번(3rd Angle) |         |                   |                    |
| DSND BY  | 김헌태                | DATE      | 92.06.05      |         |                   |                    |
|          |                    |           |               | SUBJECT | HLA6 - 250,280Fr. | CAD PROJ. & FILE & |
|          |                    |           |               | TITLE   | (CAST IRON)       | T-BOX-M \ 38016882 |
|          |                    |           |               | REF. NO | 3M-016882         | Sheet No. of       |
|          |                    |           |               | DWG NO  | 3M-016882         | Revision No.       |