

## AC INDUCTION MOTOR DATA SHEET

|                                                |                                                                                                                               |                                                                              |                                                              |                                                                         |                       |
|------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|--------------------------------------------------------------|-------------------------------------------------------------------------|-----------------------|
| Model No.or RFQ No.                            |                                                                                                                               | Item No.                                                                     |                                                              | Rev. No. [ 0 ]                                                          |                       |
| Project Name                                   |                                                                                                                               | Project No.                                                                  |                                                              | Quantity sets                                                           |                       |
| <b>GENERAL SPECIFICATION</b>                   |                                                                                                                               |                                                                              | <b>PERFORMANCE DATA</b>                                      |                                                                         |                       |
| Frame Size                                     | 180L                                                                                                                          |                                                                              | Rated Output                                                 | 30 kW 40 HP                                                             |                       |
| Type                                           | HS                                                                                                                            |                                                                              | Number of Poles                                              | 4                                                                       |                       |
| Enclosure(Protection)                          | Totally Enclosed ( IP55 )                                                                                                     |                                                                              | Rotor Type                                                   | Squirrel Cage                                                           |                       |
| Method of Cooling                              | IC411(FC)                                                                                                                     |                                                                              | Starting Method*                                             | <input type="checkbox"/> D.O.L <input checked="" type="checkbox"/> Y- Δ |                       |
| Rated Frequency                                | 60 Hz                                                                                                                         |                                                                              | Rated Voltage                                                | 440 V                                                                   | 380 V 220 V           |
| Number of Phases                               | 3                                                                                                                             |                                                                              | Current                                                      | Full Load                                                               | 50.7 A 58.7 A 101.4 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 92.5 %                                              |                                                                         |                       |
| Motor Location                                 | <input checked="" type="checkbox"/> Indoor <input type="checkbox"/> Outdoor                                                   |                                                                              | 75% Load 93.2 %                                              |                                                                         |                       |
| Altitude                                       | Less than 1000 meter                                                                                                          |                                                                              | 100% Load 93.0 %                                             |                                                                         |                       |
| Relative Humidity                              | Less than 80 %                                                                                                                |                                                                              | Power Factor(p.u)                                            |                                                                         |                       |
| Ambient Temp.                                  | 40 deg. C (Max.)                                                                                                              |                                                                              | 50% Load 0.726                                               |                                                                         |                       |
| Duty Type                                      | Continuos ( S1 )                                                                                                              |                                                                              | 75% Load 0.795                                               |                                                                         |                       |
| Service Factor                                 | 1.15                                                                                                                          |                                                                              | 100% Load 0.835                                              |                                                                         |                       |
| Mounting                                       | <input type="checkbox"/> B3 <input checked="" type="checkbox"/> B5 <input type="checkbox"/> V1 <input type="checkbox"/> B3/B5 |                                                                              | Speed at Full Load 1780 r.p.m                                |                                                                         |                       |
| Bearing                                        | Type                                                                                                                          | Anti-Friction                                                                | Torque                                                       |                                                                         |                       |
|                                                | DE/N-DE                                                                                                                       | 6312ZZC3 / 6310ZZC3                                                          | Full Load 16.4 kg·m                                          |                                                                         |                       |
|                                                | Lubricant                                                                                                                     | Grease(Polyrex-EM)                                                           | Locked-rotor** 160 %                                         |                                                                         |                       |
| External Thrust                                | Not applicable                                                                                                                |                                                                              | Breakdown** 220 %                                            |                                                                         |                       |
| 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.) 17.250 kg·m²                                      |                                                                         |                       |
| Terminal                                       | Main                                                                                                                          | <input type="checkbox"/> Steel <input checked="" type="checkbox"/> Cast Iron | Motor 0.190 kg·m²                                            |                                                                         |                       |
| Box                                            | 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                                                     | 77 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                                                  |                                                                         |                       |
|                                                |                                                                                                                               |                                                                              | Paint                                                        | Munsell No.                                                             | 4.0PB5.4/5.5(VL-451)  |
| <b>ACCESSORIES</b>                             |                                                                                                                               |                                                                              | <b>SUBMITTAL DRAWING</b>                                     |                                                                         |                       |
|                                                |                                                                                                                               |                                                                              | Outline Dimension Drawing \ Motor Weight(Approx.)            |                                                                         |                       |
|                                                |                                                                                                                               |                                                                              | B3                                                           |                                                                         | kg                    |
|                                                |                                                                                                                               |                                                                              | B5                                                           | 227B2020AB08                                                            | 194 kg                |
|                                                |                                                                                                                               |                                                                              | V1                                                           |                                                                         | kg                    |
|                                                |                                                                                                                               |                                                                              | B3/B5                                                        |                                                                         | kg                    |
|                                                |                                                                                                                               |                                                                              | Main T-Box Ass'y 227B8008LA2                                 |                                                                         |                       |
|                                                |                                                                                                                               |                                                                              |                                                              |                                                                         |                       |
|                                                |                                                                                                                               |                                                                              |                                                              |                                                                         |                       |
|                                                |                                                                                                                               |                                                                              |                                                              |                                                                         |                       |
|                                                |                                                                                                                               |                                                                              |                                                              |                                                                         |                       |
|                                                |                                                                                                                               |                                                                              |                                                              |                                                                         |                       |
| <b>SPARE PARTS</b>                             |                                                                                                                               |                                                                              | <b>REMARK</b>                                                |                                                                         |                       |
|                                                |                                                                                                                               |                                                                              | <b>High Efficiency</b>                                       |                                                                         |                       |
|                                                |                                                                                                                               |                                                                              | * For use on PWM VFD 10:1VT, 3:1CT@1.0S.F&F Temp. rise       |                                                                         |                       |
|                                                |                                                                                                                               |                                                                              |                                                              |                                                                         |                       |
|                                                |                                                                                                                               |                                                                              | Date                                                         | DSND                                                                    | CHKD                  |
|                                                |                                                                                                                               |                                                                              | 2011-04-14                                                   | W.H.BACK                                                                | S. J. RA              |
|                                                |                                                                                                                               |                                                                              |                                                              |                                                                         | CHKD                  |
|                                                |                                                                                                                               |                                                                              |                                                              |                                                                         | APPD                  |
|                                                |                                                                                                                               |                                                                              |                                                              |                                                                         | J. H. KIM             |

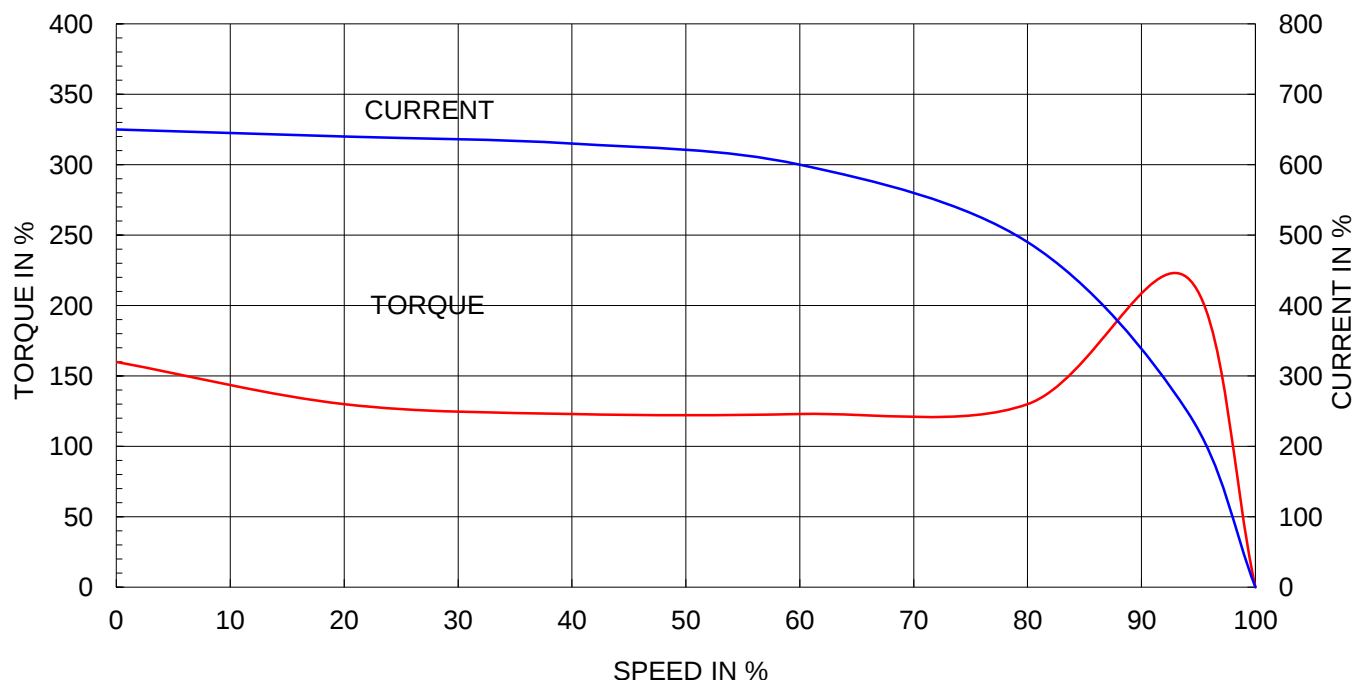
Note: Others not mentioned in this data sheet shall be in accordance with maker standard.  
 Above technical data are only design values and shall be guaranteed with tolerance of applicable standard.  
 Inspection and performance test shall be maker standard, if not mentioned.  
 \* In case of Inverter-Fed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

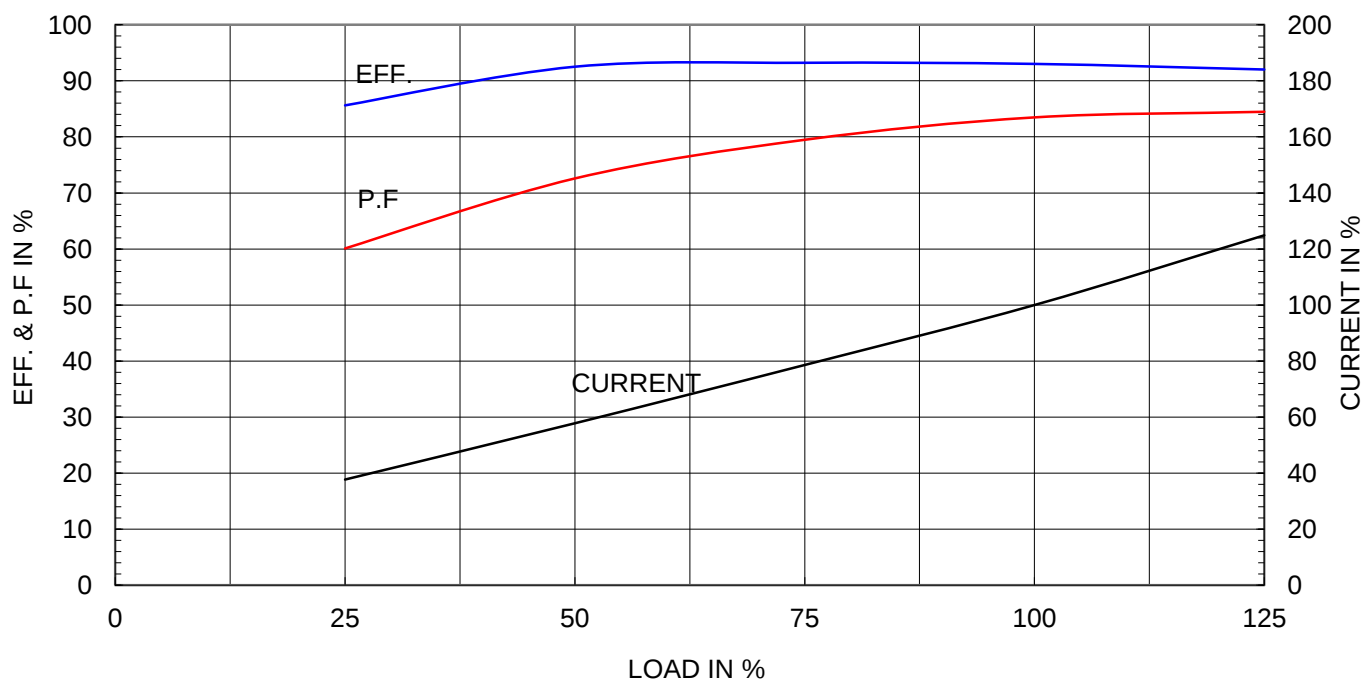
|                             |   |                          |
|-----------------------------|---|--------------------------|
| Type                        | : | HS                       |
| Full Load Torque            | : | 16.4 Kg.m                |
| Motor moment of Inertia (J) | : | 0.190 Kg.m <sup>2</sup>  |
| Load moment of Inertia (J)  | : | 17.250 Kg.m <sup>2</sup> |

|                      |       |       |        |          |  |
|----------------------|-------|-------|--------|----------|--|
| 30 kW                |       | 4 P   |        | 60 Hz    |  |
| Speed at Full Load : |       |       |        | 1780 RPM |  |
| Rated Voltage        | 440V  | 380V  | 220V   |          |  |
| Full Load Current    | 50.7A | 58.7A | 101.4A |          |  |

SPEED VS TORQUE & CURRENT CURVE



OUTPUT VS EFF., P.F & CURRENT CURVE



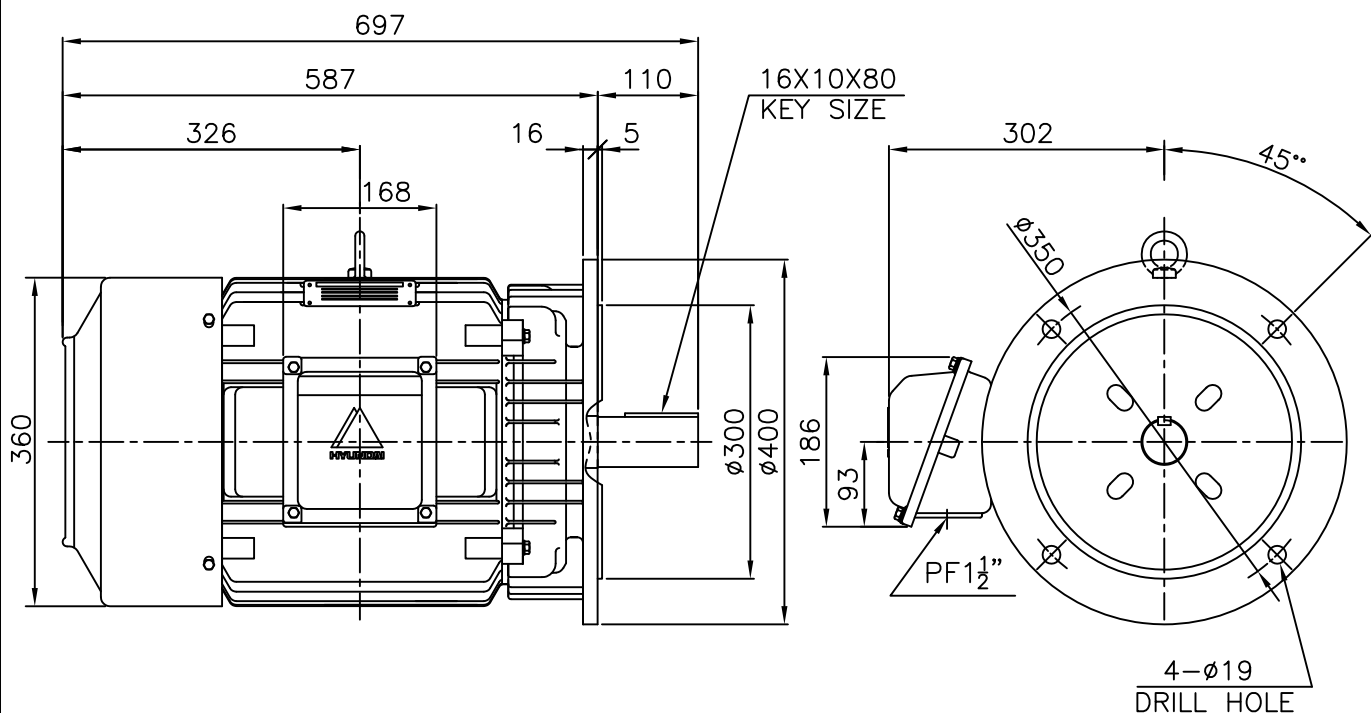


HEAVY INDUSTRIES CO., LTD.

**TEFC****THREE PHASE INDUCTION MOTOR****TYPE**

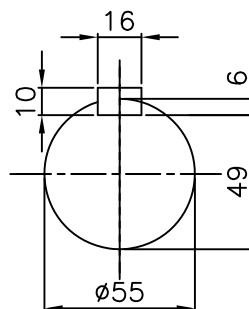
HL, HLS

CAST IRON FRAME

**NOTE**

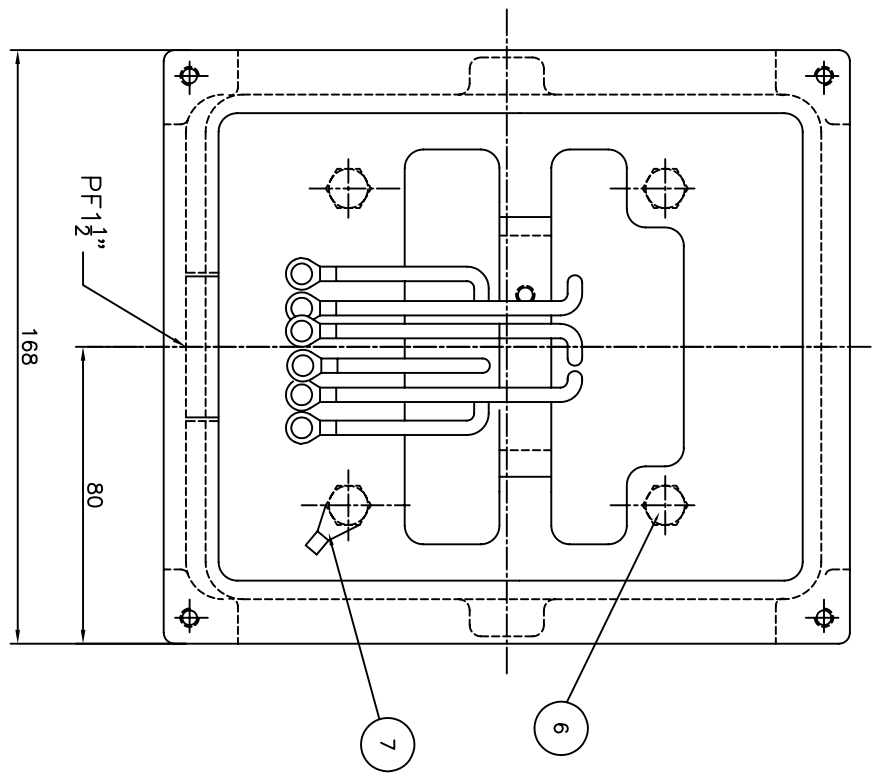
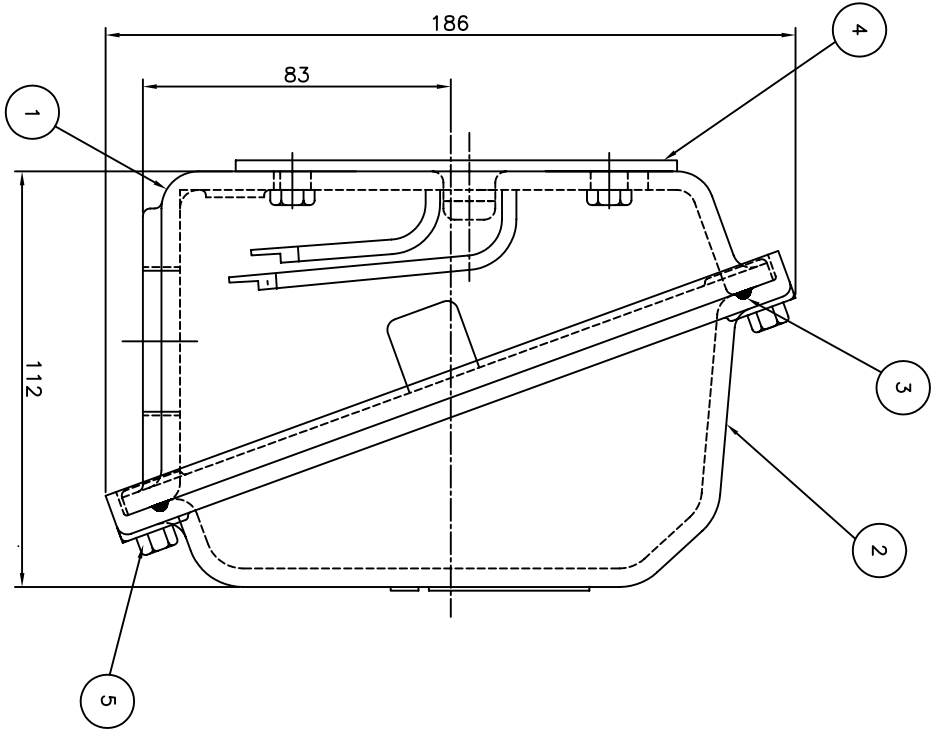
1.TOLERANCE :

|                 |            |                      |
|-----------------|------------|----------------------|
| FLANGE HOLES    | $\phi 19$  | $+0.43$<br>0         |
| RABBET DIAMETER | $\phi 300$ | $+0.016$<br>$-0.013$ |
| SHAFT DIAMETER  | $\phi 55$  | $+0.030$<br>$+0.011$ |
| KEYWAY WIDTH    | 16         | $-0.043$<br>0        |
| KEYWAY DEPTH    | 6          | $+0.2$<br>0          |



\*CAST IRON CONDUIT BOX

|                                                                    |           |          |            |         |              |                  |
|--------------------------------------------------------------------|-----------|----------|------------|---------|--------------|------------------|
| APPD BY                                                            | J. H. KIM | UNIT     | mm         | SUBJECT | KS 180L      | CAD PROJ \ FILE  |
| CHKD BY                                                            | Y. S. KIM | SCALE    | 1/8        |         |              | XSDNKS\B2020AB08 |
| CHKD BY                                                            | S. H. KO  | PROJEC'N | 3rd Angle  | OUTLINE |              |                  |
| DSND BY                                                            | I. K. KIM | DATE     | 2002.10.29 |         |              |                  |
| <br>HEAVY INDUSTRIES CO., LTD.<br>Electro-Electric System Division |           |          |            | REF. NO | B2020AB08    | Sheet No. of     |
|                                                                    |           |          |            | DWG NO  | 227B2020AB08 | Revision No. 0   |



| PT | DESCRIPTION         | MATERIAL | DIMENSION | Q'TY |
|----|---------------------|----------|-----------|------|
| 1  | CONDUIT BOX         | FC15     | ---       | 1    |
| 2  | CONDUIT BOX COVER   | FC15     | ---       | 1    |
| 3  | O-RING / COVER      | EPDM     | φ4        | 1    |
| 4  | BOX GASKET          | NBR      | ---       | 1    |
| 5  | COVER+BOX HEX BOLT  | S45C     | M6 X L20  | 4    |
| 6  | BOX+FRAME HEX BOLT  | S45C     | M8 X L20  | 4    |
| 7  | GROUND TERMINAL LUG | CU       | ---       | 1    |

| REV | DATE | CONTENTS | REV'D BY | CHK'D BY | CHK'D BY | APP'D BY |
|-----|------|----------|----------|----------|----------|----------|
| 1   |      |          |          |          |          |          |
|     |      |          |          |          |          |          |
|     |      |          |          |          |          |          |
|     |      |          |          |          |          |          |

| Q'TY                  | DESCRIPTION | MATERIAL | DIMENSION        | WEIGHT   | PART NO.    | REMARK       | NO. |
|-----------------------|-------------|----------|------------------|----------|-------------|--------------|-----|
| APP'D BY              | KIM.Y.S     | UNIT     | MM               |          |             |              |     |
| CHK'D BY              | KO.S.H      | SCALE    | 1:1              |          |             |              |     |
| CHK'D BY              | ---         | PROJEC'N | 3-4# (3rd Angle) |          |             |              |     |
| DSND BY               | Y.J.HWANG   | DATE     | 2005.02.16       |          |             |              |     |
| TITLE                 |             |          |                  | REF. NO. | 227B8008LA2 | Sheet No. of |     |
| TERMINAL BOX ASSEMBLY |             |          |                  | DWG NO.  | 227B8008LA2 | Revision No. | 0   |