

# 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                                     | 160M                                                                                                                          |                                                                              | Rated Output                                                 | 15 kW 20 HP                                                             |                      |           |           |
| Type                                           | HL-XP                                                                                                                         |                                                                              | Number of Poles                                              | 2                                                                       |                      |           |           |
| Enclosure(Protection)                          | Explosion Proof ( 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 25.1 A                                                        | 29.0 A 50.2 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                                                     | 89.7 %                                                                  |                      |           |           |
| Motor Location                                 | <input checked="" type="checkbox"/> Indoor <input type="checkbox"/> Outdoor                                                   |                                                                              | 75% Load                                                     | 90.7 %                                                                  |                      |           |           |
| Altitude                                       | Less than 1000 meter                                                                                                          |                                                                              | 100% Load                                                    | 90.2 %                                                                  |                      |           |           |
| Relative Humidity                              | Less than 80 %                                                                                                                |                                                                              | Power Factor(p.u)                                            |                                                                         |                      |           |           |
| Ambient Temp.                                  | 40 deg. C (Max.)                                                                                                              |                                                                              | 50% Load                                                     | 0.800                                                                   |                      |           |           |
| Duty Type                                      | Continuos ( S1 )                                                                                                              |                                                                              | 75% Load                                                     | 0.857                                                                   |                      |           |           |
| Service Factor                                 | 1.00                                                                                                                          |                                                                              | 100% Load                                                    | 0.870                                                                   |                      |           |           |
| Mounting                                       | <input type="checkbox"/> B3 <input checked="" type="checkbox"/> B5 <input type="checkbox"/> V1 <input type="checkbox"/> B3/B5 |                                                                              | Speed at Full Load                                           | 3535 r.p.m                                                              |                      |           |           |
| Bearing                                        | Type                                                                                                                          | Anti-Friction                                                                | Torque                                                       |                                                                         |                      |           |           |
|                                                | DE/N-DE                                                                                                                       | 6309ZZC3 / 6309ZZC3                                                          | Full Load                                                    | 4.1 kg·m                                                                |                      |           |           |
|                                                | Lubricant                                                                                                                     | Grease(Polyrex-EM)                                                           | Locked-rotor**                                               | 180 %                                                                   |                      |           |           |
| 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.)                                                   | 2.300 kg·m²                                                             |                      |           |           |
| Terminal Box                                   | Main                                                                                                                          | <input type="checkbox"/> Steel <input checked="" type="checkbox"/> Cast Iron | Motor                                                        | 0.049 kg·m²                                                             |                      |           |           |
|                                                | Aux.                                                                                                                          | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No          | Sound Pressure Level (No-load & mean value at 1m from motor) | 79 dB(A)                                                                |                      |           |           |
|                                                | Location                                                                                                                      | Refer to Outline Drawing                                                     | Vibration                                                    | 2.2 mm/sec (r.m.s)                                                      |                      |           |           |
| Application                                    |                                                                                                                               |                                                                              | Permissible number of consecutive starts                     | Cold 3 times                                                            | Hot 2 times          |           |           |
| Area classification                            | Hazardous                                                                                                                     |                                                                              | Paint                                                        | Munsell No.                                                             | 4.0PB5.4/5.5(VL-451) |           |           |
| Type of Ex-Protection                          | Ex d IIB T4                                                                                                                   |                                                                              | <b>SUBMITTAL DRAWING</b>                                     |                                                                         |                      |           |           |
| Applicable Standard                            | KS,IEC                                                                                                                        |                                                                              | Outline Dimension Drawing \ Motor Weight(Approx.)            |                                                                         |                      |           |           |
| <b>ACCESSORIES</b>                             |                                                                                                                               |                                                                              | B3                                                           |                                                                         | kg                   |           |           |
|                                                |                                                                                                                               |                                                                              | B5                                                           | 227B2022AA05                                                            | 145 kg               |           |           |
|                                                |                                                                                                                               |                                                                              | V1                                                           |                                                                         | kg                   |           |           |
|                                                |                                                                                                                               |                                                                              | B3/B5                                                        |                                                                         | 0 kg                 |           |           |
|                                                |                                                                                                                               |                                                                              | Main T-Box Ass'y                                             | 227B1470LB                                                              |                      |           |           |
| <b>SPARE PARTS</b>                             |                                                                                                                               |                                                                              | <b>REMARK</b>                                                |                                                                         |                      |           |           |
|                                                |                                                                                                                               |                                                                              | High Efficiency                                              |                                                                         |                      |           |           |
|                                                |                                                                                                                               |                                                                              | Date                                                         | DSND                                                                    | CHKD                 | CHKD      | APPD      |
|                                                |                                                                                                                               |                                                                              | 2011-04-14                                                   | W.H.BACK                                                                | S. J. RA             | O. J. KIM | J. H. KIM |
|                                                |                                                                                                                               |                                                                              |                                                              |                                                                         |                      |           |           |

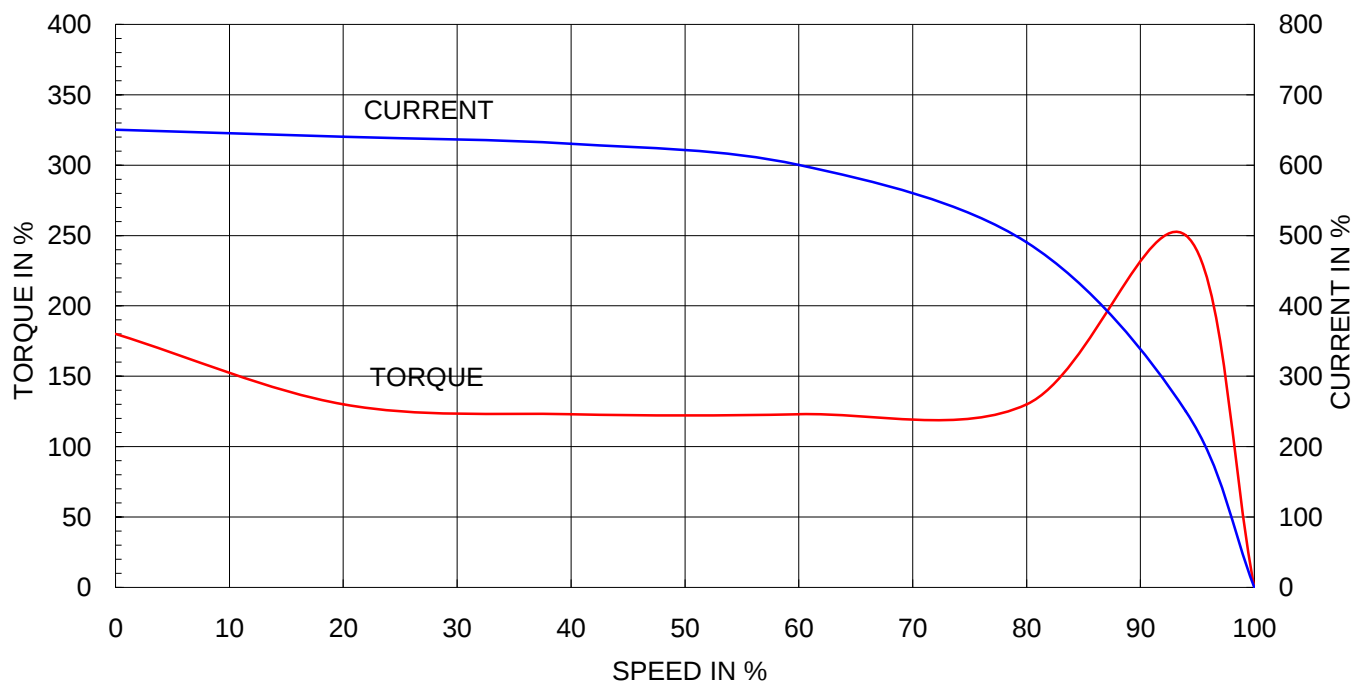
Note: Others not mentioned in this data sheet shall be in accordance with maker standard.  
 Above technical data are only design values and shall be guaranteed with tolerance of applicable standard.  
 Inspection and performance test shall be maker standard, if not mentioned.  
 \* In case of Inverter-Fed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

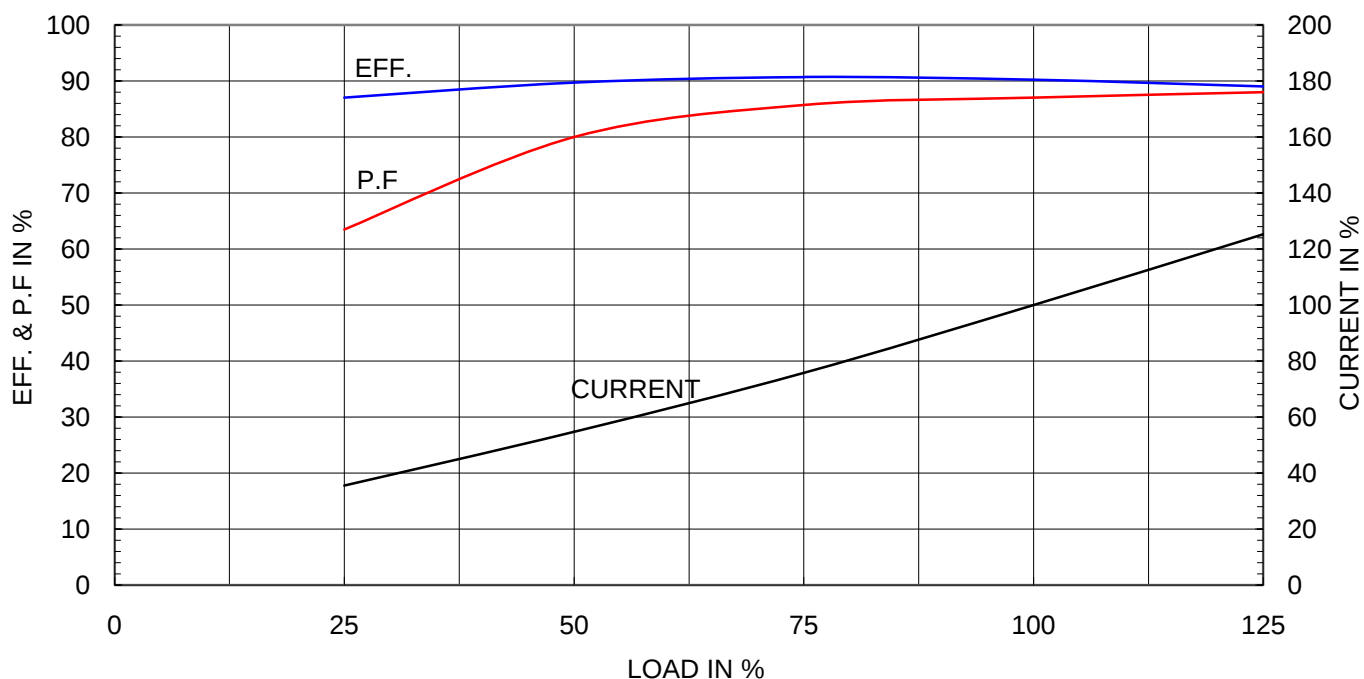
|                             |   |                         |
|-----------------------------|---|-------------------------|
| Type                        | : | HL-XP                   |
| Full Load Torque            | : | 4.1 Kg.m                |
| Motor moment of Inertia (J) | : | 0.049 Kg.m <sup>2</sup> |
| Load moment of Inertia (J)  | : | 2.300 Kg.m <sup>2</sup> |

|                      |       |       |       |          |  |
|----------------------|-------|-------|-------|----------|--|
| 15 kW                |       | 2 P   |       | 60 Hz    |  |
| Speed at Full Load : |       |       |       | 3535 RPM |  |
| Rated Voltage        | 440V  | 380V  | 220V  |          |  |
| Full Load Current    | 25.1A | 29.0A | 50.2A |          |  |

SPEED VS TORQUE & CURRENT CURVE



OUTPUT VS EFF., P.F & CURRENT CURVE





# TEFC

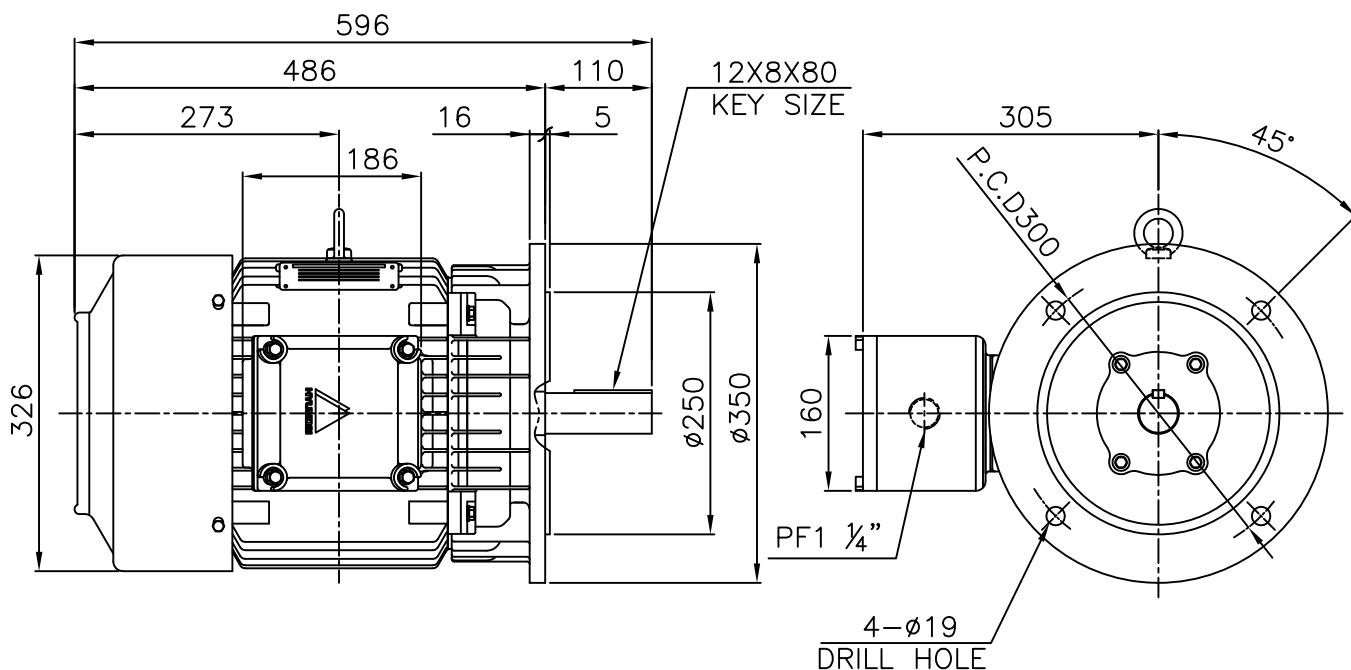
## THREE PHASE INDUCTION MOTOR

**TYPE**

HL, HLS

CAST IRON FRAME

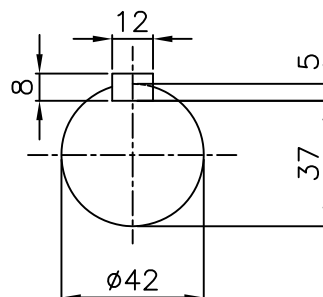
### Exd II



#### NOTE

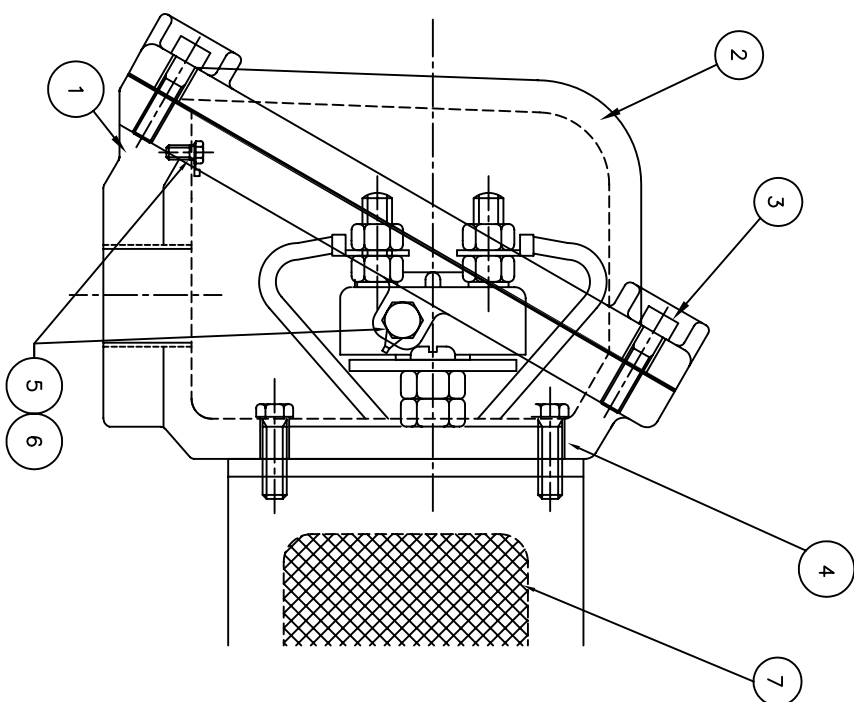
1.TOLERANCE :

|                 |            |                      |
|-----------------|------------|----------------------|
| FLANGE HOLES    | $\phi 19$  | $+0.43$<br>0         |
| RABBET DIAMETER | $\phi 250$ | $+0.016$<br>$-0.013$ |
| SHAFT DIAMETER  | $\phi 42$  | $+0.018$<br>$+0.002$ |
| KEYWAY WIDTH    | 12         | 0<br>$-0.043$        |
| KEYWAY DEPTH    | 5          | $+0.2$<br>0          |



|         |           |          |            |         |              |                 |                  |
|---------|-----------|----------|------------|---------|--------------|-----------------|------------------|
| APPD BY | Y. S. KIM | UNIT     | mm         | SUBJECT | KS 160M      | CAD PROJ \ FILE | XSDNKS\B2022AA05 |
| CHKD BY | K. S. LEE | SCALE    | 1/8        | TITLE   | OUTLINE      |                 |                  |
| CHKD BY | -----     | PROJEC'N | 3rd Angle  | REF. NO | B2022AA05    | Sheet No.       | of               |
| DSND BY | I. K. KIM | DATE     | 2008.10.22 | DWG NO  | 227B2022AA05 | Revision No.    | 0                |



[illegible]