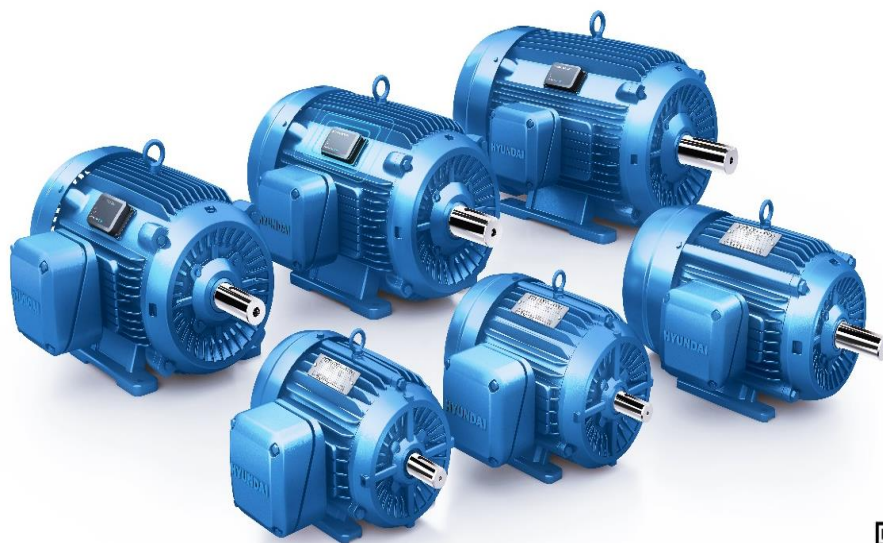


Customer :  
Project Name :  
Project No. :  
Revision No. :

# SPECIFICATION for INDUCTION MOTOR



| 0   |      | For Bidding |             |            |             |
|-----|------|-------------|-------------|------------|-------------|
| No. | DATE | DESCRIPTION | PREPARED BY | CHECKED BY | APPROVED BY |

# AC INDUCTION MOTOR DATA SHEET

|                                                |                                                                            |                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                |                         |                             |          |         |  |
|------------------------------------------------|----------------------------------------------------------------------------|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-------------------------|-----------------------------|----------|---------|--|
| Catalog No.                                    | HES30-12-326TC                                                             | Item No.                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                |                         | Rev. No.                    | [      ] |         |  |
| Project Name                                   |                                                                            | Project No.              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                |                         | Quantity                    | sets     |         |  |
| <b>GENERAL SPECIFICATION</b>                   |                                                                            |                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                | <b>PERFORMANCE DATA</b> |                             |          |         |  |
| Frame Size                                     | 326TC                                                                      |                          | Rated Output                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 22 kW          |                         | 30 HP                       |          |         |  |
| Type                                           | PJP                                                                        |                          | Number of Poles                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 6              |                         |                             |          |         |  |
| Enclosure(Protection)                          | Totally Enclosed / IP55                                                    |                          | Rotor Type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Squirrel Cage  |                         |                             |          |         |  |
| Method of Cooling                              | IC411(FC)                                                                  |                          | Starting Method*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | D.O.L          |                         |                             |          |         |  |
| Rated Frequency                                | 60 Hz                                                                      |                          | Rated Voltage                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 575 V          | 460 V                   | 230 V                       |          |         |  |
| Number of Phases                               | 3                                                                          |                          | Current                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Full Load      | 29.7 A                  | 37.1 A                      | 74.2 A   |         |  |
| Insulation Class                               | F                                                                          |                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Locked-rotor** | 830 %                   | 830 %                       | 830 %    |         |  |
| Temp. Rise at full load (by resistance method) |                                                                            |                          | Efficiency                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                |                         |                             |          |         |  |
| at 1.0 S.F                                     |                                                                            |                          | 80 deg. C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                |                         |                             |          |         |  |
| Motor Location                                 | <input type="checkbox"/> Indoor <input type="checkbox"/> Outdoor           |                          | 50% Load                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                |                         | 90.0 %                      |          |         |  |
| Altitude                                       | Less than 1,000 meter                                                      |                          | 75% Load                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                |                         | 92.0 %                      |          |         |  |
| Relative Humidity                              | Less than 80 %                                                             |                          | 100% Load                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                |                         | 93.0 %                      |          |         |  |
| Ambient Temp.                                  | 40 deg. C (Max.)                                                           |                          | Power Factor(p.u)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                |                         |                             |          |         |  |
| Duty Type                                      | Continuous ( S1 )                                                          |                          | 50% Load                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                |                         | 0.650                       |          |         |  |
| Service Factor                                 | 1.15                                                                       |                          | 75% Load                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                |                         | 0.750                       |          |         |  |
| Mounting                                       | B35                                                                        |                          | 100% Load                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                |                         | 0.800                       |          |         |  |
| Bearing                                        | Type                                                                       | Anti-Friction            | Speed at Full Load                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                |                         | 1175 r.p.m                  |          |         |  |
|                                                | DE/N-DE                                                                    | 6313ZC3 / 6212ZC3        | Torque                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                |                         |                             |          |         |  |
|                                                | Lubricant                                                                  | Grease(Polyrex-EM)       | Full Load                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                |                         | 131.91 lb.ft                |          |         |  |
| External Thrust                                | Not applicable                                                             |                          | Locked-rotor**                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                |                         | 170 %                       |          |         |  |
| Coupling Method                                | <input checked="" type="checkbox"/> Direct <input type="checkbox"/> V-belt |                          | Breakdown**                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                |                         | 210 %                       |          |         |  |
| Shaft Extension                                | Single                                                                     |                          | Moment of Inertia (J)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                |                         |                             |          |         |  |
| Terminal                                       | Main                                                                       | Cast Iron                | Load(Max.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                |                         | 442.185 lb.ft2              |          |         |  |
| Box                                            | Aux.                                                                       | No                       | Motor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                |                         | 10.443 lb.ft2               |          |         |  |
|                                                | Location                                                                   | Refer to Outline Drawing | Sound Pressure Level (No-load & mean value at 1m from motor)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                |                         |                             |          |         |  |
| Application                                    |                                                                            |                          | 68 dB(A)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                |                         |                             |          |         |  |
| Area classification                            | Hazardous                                                                  |                          | Vibration                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                |                         | 3.8 mm/sec (peak)           |          |         |  |
| Type of Ex-Protection                          | Class I&II, Division 2                                                     |                          | Permissible number of consecutive starts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                |                         | Cold 3 times<br>Hot 2 times |          |         |  |
| Applicable Standard                            | NEMA MG1, CSA C390                                                         |                          | Paint                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Munsell No.    | 4.0PB5.4/5.5(VL-451)    |                             |          |         |  |
| <b>ACCESSORIES</b>                             |                                                                            |                          | <b>SUBMITTAL DRAWING</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                |                         |                             |          |         |  |
|                                                |                                                                            |                          | Outline Dimension Drawing \ Motor Weight(Approx.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                |                         |                             |          |         |  |
|                                                |                                                                            |                          | B35                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                |                         | LM-T2326C4PLV23             |          | 580 lb. |  |
|                                                |                                                                            |                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                |                         |                             |          |         |  |
|                                                |                                                                            |                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                |                         |                             |          |         |  |
| <b>SPARE PARTS</b>                             |                                                                            |                          | <b>REMARK</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                |                         |                             |          |         |  |
|                                                |                                                                            |                          | 1. Premium efficiency according to NEMA MG1<br>2. Inverter Duty @ 1.0 Service Factor & F Temperature rise<br>-. 10:1 VT (20:1 VT at 50% load)<br>-. 10:1 CT (1 hour duty, 4:1 continuous)<br>-. CHP up to 1.5 times base speed, NEMA MG1 Part31<br>3. CSA Certification<br>-. Class I, Division 2, Group A, B, C & D<br>-. Class II, Division 2 Group E, F & G (Group E : up to 320Fr.)<br>4. Service Factor 1.15 and Temperature rise B are applicable under the condition of sine wave power.<br>5. Service Factor 1.25 is applicable to motors of 100HP or less with temperature rise F & Non-Hazardous.<br>6. Temp. code : T3C(160°C) at sine wave |                |                         |                             |          |         |  |
|                                                |                                                                            |                          | Date                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | DSND           | CHKD                    | CHKD                        | APPD     |         |  |
|                                                |                                                                            |                          | 2025-07-22                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | S.H. LEE       | I.K. KIM                | R.G. KIM                    | S.W. 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 done according to maker standard, if not mentioned.

\* In case of Inverter-Fed Motor, performance data is based on sine wave tests. It may be different from test data of Inverter combined motor.

\*\* Data is based on rated voltage & frequency and is expressed as a percentage of full-load value.

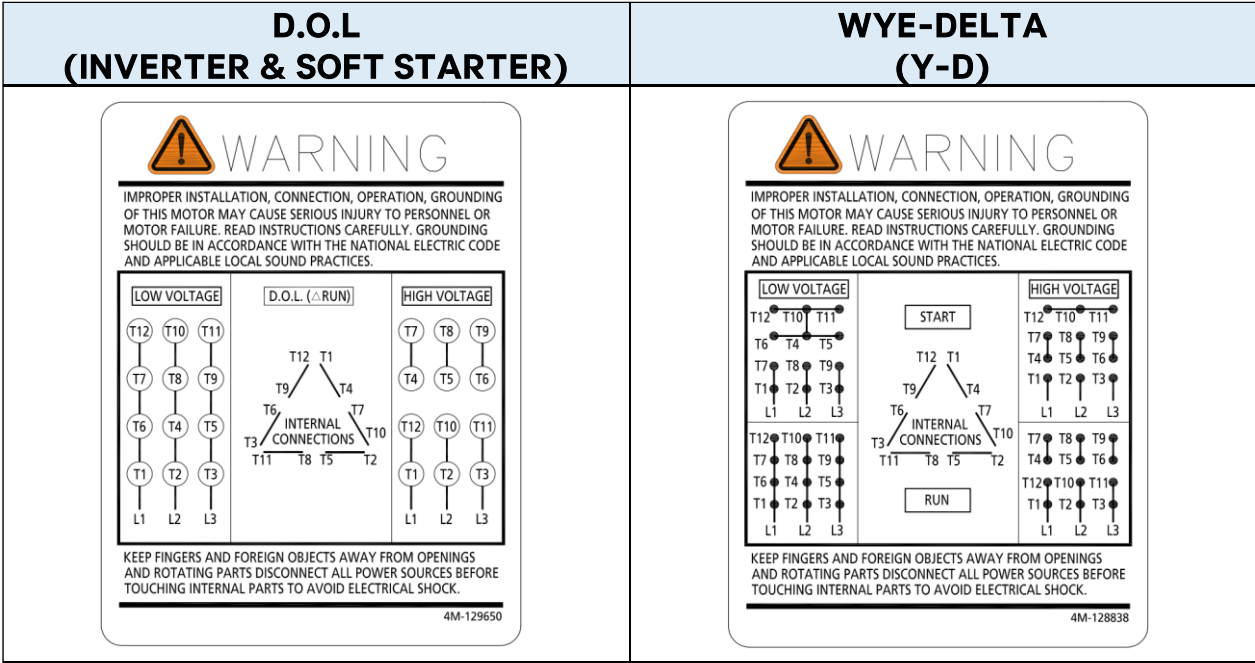
MAIN NAMEPLATE

4.72

|                    |                                                                                |         |                                                     |                    |                                                            |             |                            |                |            |
|--------------------|--------------------------------------------------------------------------------|---------|-----------------------------------------------------|--------------------|------------------------------------------------------------|-------------|----------------------------|----------------|------------|
| 30HP               |                                                                                | 6P      | 230/460V                                            | Cat. No.           | HES30-12-326TC                                             |             |                            |                |            |
| Model              | HLS326PR335V                                                                   |         |                                                     | INS. Class         | F                                                          | HD-F1       | Amps                       | 74.2/37.1A     |            |
| Type               | HLS                                                                            | Duty    | CONT                                                | Code               | K                                                          | Amb.        | 40°C                       | Hertz          | 60Hz       |
| Frame              | 326TC                                                                          | Encl.   | TEFC                                                | S.F.               | 1.15                                                       | RPM         | 1175                       | NEMA Nom. Eff. | 93.0%      |
| Bearing            | Drive                                                                          | 6313ZC3 |                                                     |                    | S.F.1.25 (When 100HP or less, Temp Rise F & Non-Hazardous) |             |                            | 3/4 Eff.       | 92.0%      |
|                    | Opp.                                                                           | 6212ZC3 |                                                     |                    | S.F.1.00 (10:1 C.T., 20:1 V.T., NEMA-MG1 Part31)           |             |                            | NEMA Design    | B Torque   |
| Usable at          | 50Hz 30HP 380V 49.4A 980rpm S.F.: 1.15 Eff.: 91.7% Code: J                     |         |                                                     |                    |                                                            |             |                            |                |            |
|                    | 50Hz 30HP 400/415V 47.8/46.9A 985/985rpm S.F.: 1.15 Eff.: 91.7/91.7% Code: K/L |         |                                                     |                    |                                                            |             |                            |                |            |
| CSA Certified for  | Model                                                                          | LATER   | Type                                                | PJP                | Temp. Code                                                 | Frame       | 140~320FR                  | 360~400FR      | 440FR      |
|                    | CLASS I, Div. 2, Gr. A, B, C & D                                               |         | CLASS II, Div. 2 Gr. E, F & G (Gr. E : Up to 320FR) |                    | Amb. 40°C                                                  | T3C (160°C) | T3B (165°C)                | T3A (180°C)    | T3 (200°C) |
| No.                | -                                                                              |         |                                                     | Date               | -                                                          |             |                            | Weight         | 580 lb     |
| 4M-136024          |                                                                                |         |                                                     | Made in Vietnam H4 |                                                            |             | Designed By HYUNDAI, Korea |                |            |
| MARINE DUTY IEEE45 |                                                                                |         |                                                     |                    |                                                            |             | HD HYUNDAI ELECTRIC        |                |            |

2.36

WIRING DIAGRAM



|                     |         |          |            |                            |                                                   |              |          |            |
|---------------------|---------|----------|------------|----------------------------|---------------------------------------------------|--------------|----------|------------|
| APPD BY             | S.Y.KIM | UNIT     | INCH       | SUBJECT                    | CSA Class I, Division2 Severe Duty (HES, 254-326) |              | DWG SIZE |            |
| CHKD BY             | I.K.KIM | SCALE    | NONE       | TITLE<br>NAMEPLATE DRAWING |                                                   |              |          | A4 ( 1:1 ) |
| CHKD BY             | R.G.KIM | PROJEC'N | 3rd Angle  |                            |                                                   |              |          |            |
| DSND BY             | S.H.LEE | DATE     | 2024.06.07 |                            |                                                   |              |          |            |
| HD HYUNDAI ELECTRIC |         |          |            | REF. NO                    | 4M-136024 / 4M-129650                             | Sheet No.    | of       |            |
|                     |         |          |            | DWG NO                     | NP-HES30-12-326TC                                 | Revision No. | 0        |            |

Type : PJP

22kW 30HP 6 P 60 Hz

Full Load Torque : 131.91 lb.ft

Speed at Full Load : 1175 RPM

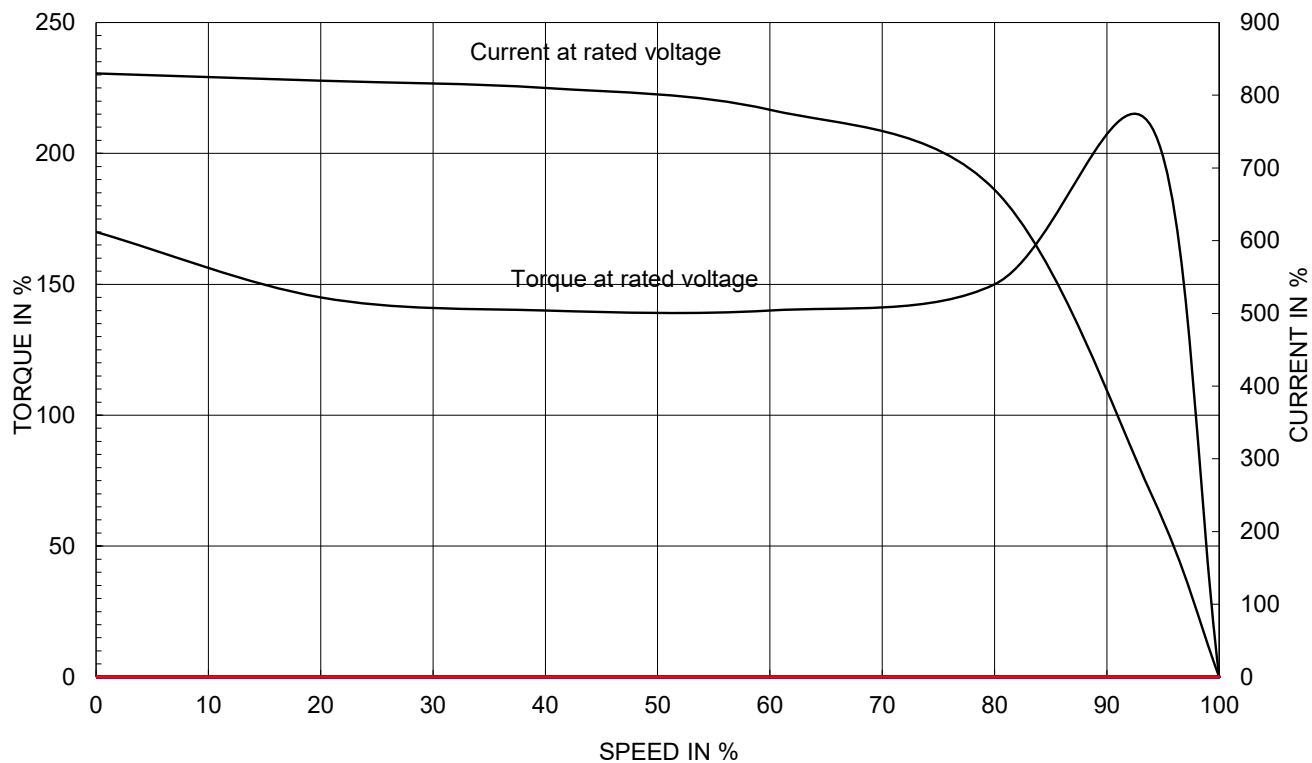
Load moment of Inertia (J) : 442.185 lb.ft<sup>2</sup>

|               |      |      |      |
|---------------|------|------|------|
| Rated Voltage | 575V | 460V | 230V |
|---------------|------|------|------|

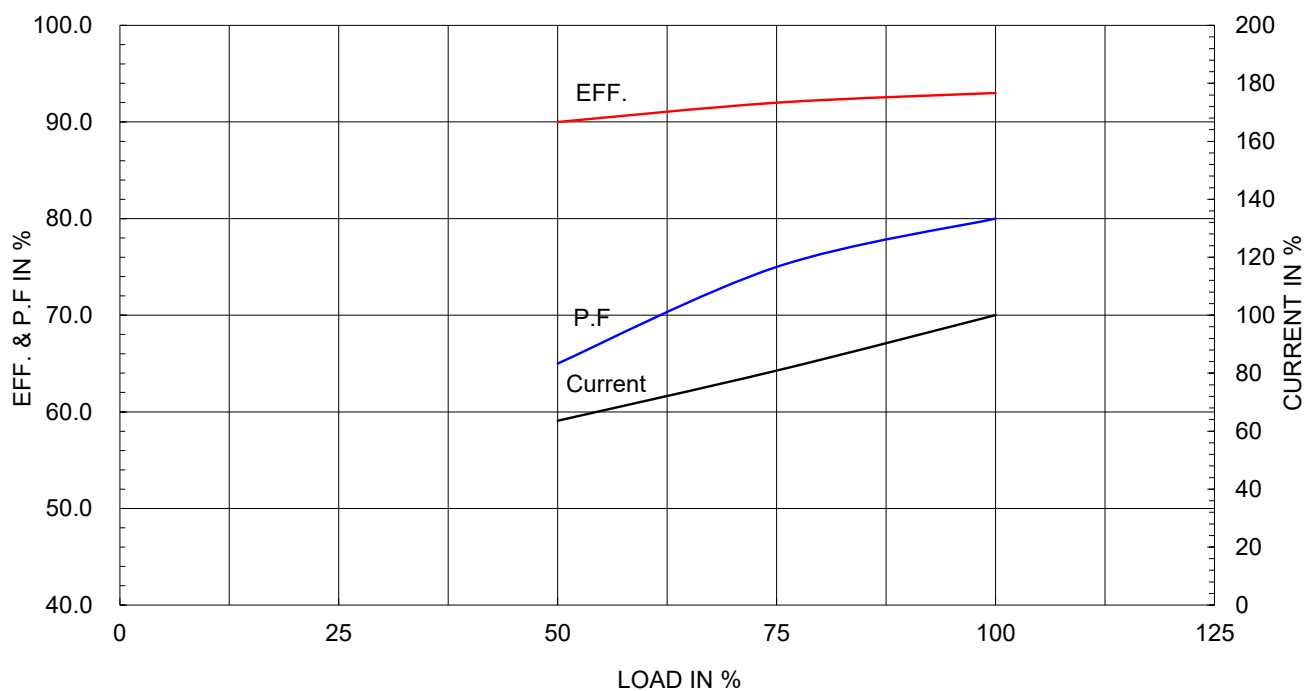
Motor moment of Inertia (J) : 10.443 lb.ft<sup>2</sup>

|                   |       |       |       |
|-------------------|-------|-------|-------|
| Full Load Current | 29.7A | 37.1A | 74.2A |
|-------------------|-------|-------|-------|

## SPEED VS TORQUE & CURRENT CURVE



## OUTPUT VS EFF., P.F & CURRENT CURVE



| 1    | 2     | 3   | 4    |
|------|-------|-----|------|
| ▽    | 50S   | REV | DATE |
| ▽▽   | 12.5S |     |      |
| ▽▽▽  | 3.2S  |     |      |
| ▽▽▽▽ | 0.4S  |     |      |

G

F

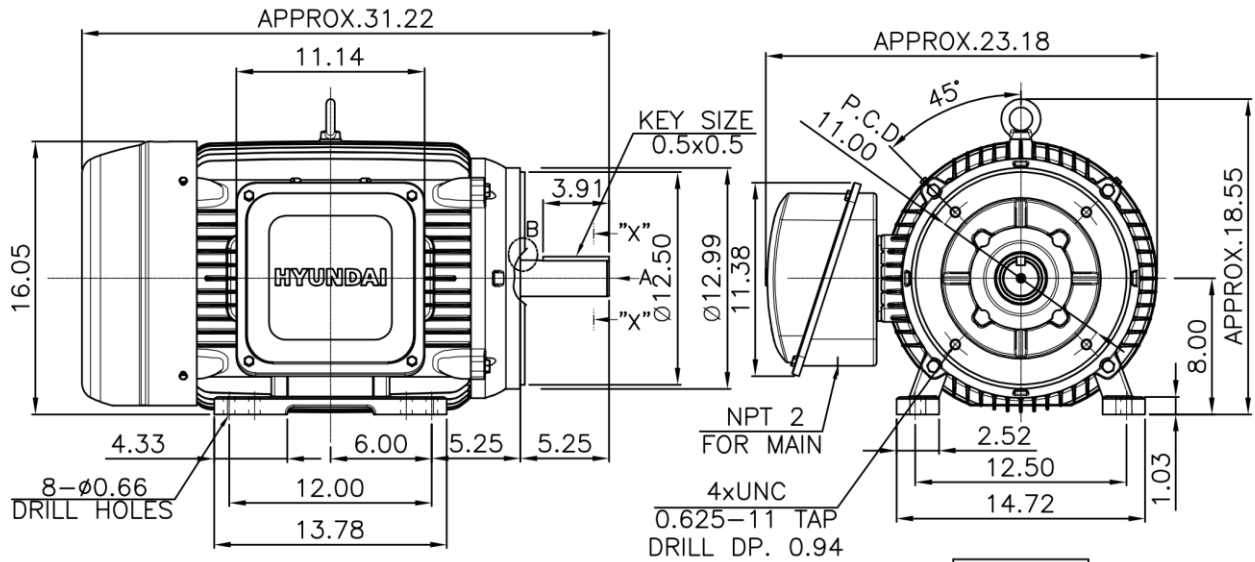
E

D

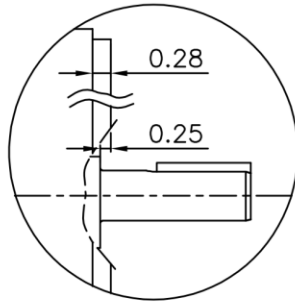
C

B

A



VIEW "A"

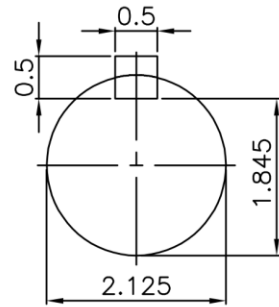


DETAIL - B

NOTE

[TOLERANCE]

- CENTER HEIGHT : +0.00inch - 0.03inch
- SHAFT DIAMETER : +0.000inch - 0.001inch
- KEYWAY DEPTH : +0.000inch - 0.015inch

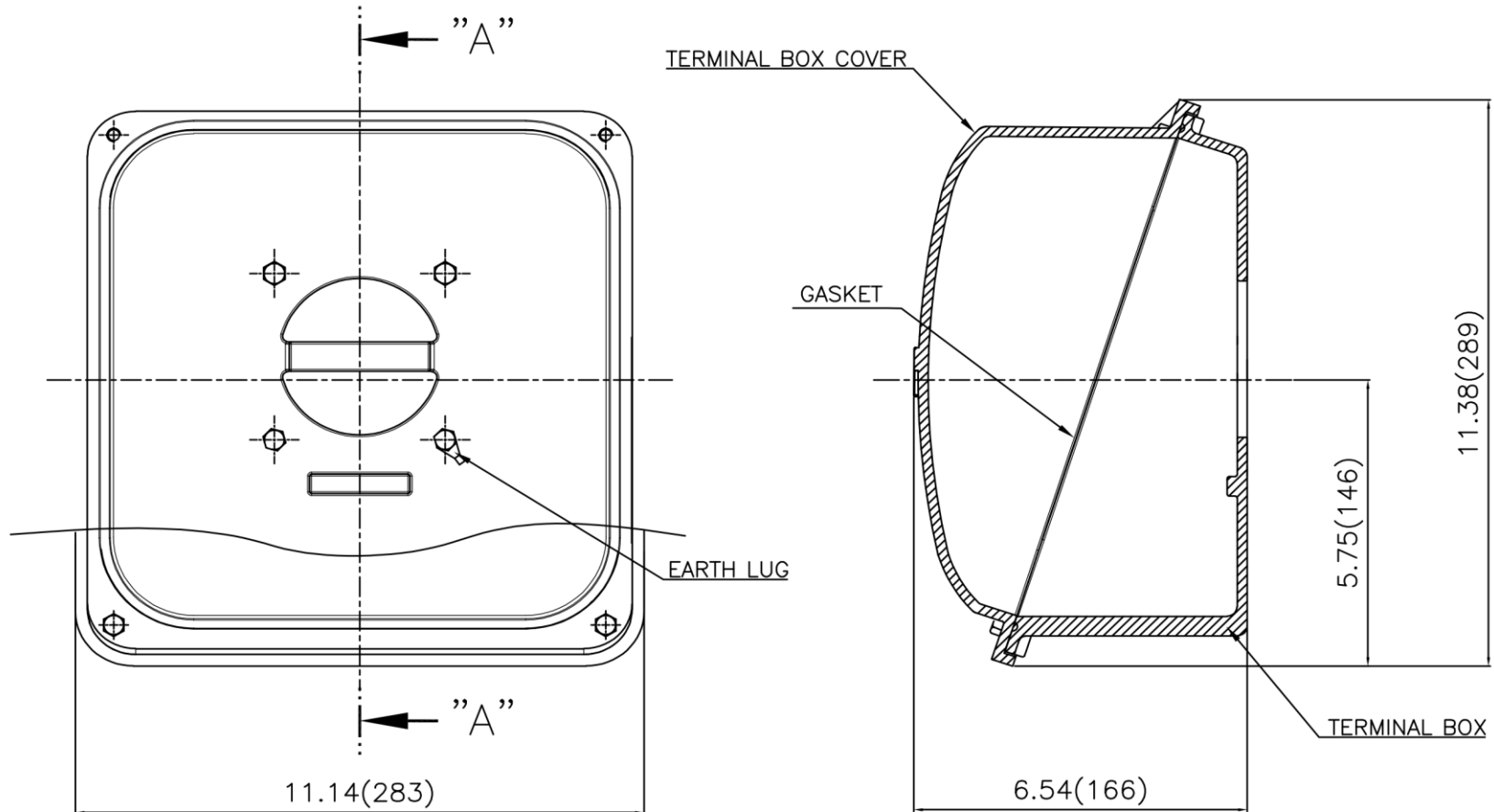


SECTION "X-X"  
SCALE 5/11

|         |         |          |            |         |                 |                |
|---------|---------|----------|------------|---------|-----------------|----------------|
| APPD BY | S.Y.KIM | UNIT     | inch       | SUBJECT | NEMA 326TC      | DWG SIZE       |
| CHKD BY | R.G.KIM | SCALE    | 1/11       |         |                 | A4 ( 1:11 )    |
| CHKD BY |         | PROJEC'N | 3rd Angle  | TITLE   | OUTLINE         |                |
| DSND BY | 주유림     | DATE     | 2021-04-29 | REF. NO |                 | Sheet No. of   |
|         |         |          |            | DWG NO  | LM-T2326C4PLV23 | Revision No. 0 |

# Cls. I&II, Div. 2

## IEEE 841



|      |       |
|------|-------|
| ▽    | 50S   |
| ▽▽   | 12.5S |
| ▽▽▽  | 3.2S  |
| ▽▽▽▽ | 0.4S  |

| REV | DATE | CONTENTS | REVD BY | CHKD BY | CHKD BY | APPD BY |
|-----|------|----------|---------|---------|---------|---------|
|     |      |          |         |         |         |         |

| 일반가공공차 |      | 일반계관공차   |      |
|--------|------|----------|------|
| 1-4    | ±0.1 | 6-30     | ±0.5 |
| 4-18   | ±0.2 | 30-120   | ±0.8 |
| 18-63  | ±0.3 | 120-315  | ±1.2 |
| 63-250 | ±0.5 | 315-1000 | ±2.0 |
| 250-   | ±0.8 | 1000-    | ±3.0 |

| Q'TY    | DESCRIPTION | MATERIAL | DIMENSION  | WEIGHT  | PART NO.            | REMARK       | NO.        |
|---------|-------------|----------|------------|---------|---------------------|--------------|------------|
| APPD BY | S.Y.KIM     | UNIT     | inch(mm)   | SUBJECT | FR. 320 (CAST IRON) | DWG SIZE     | A3 (1:2.5) |
| CHKD BY |             | SCALE    | 1/2.5      | TITLE   | TERMINAL BOX ASS'Y  |              |            |
| CHKD BY | R.G.KIM     | PROJEC'N | 3rd Angle  | REF. NO |                     | Sheet No.    | of         |
| DSND BY | 네슬의         | DATE     | 2023-10-19 | DWG NO  | 3M-248459           | Revision No. | 0          |