

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.  | HES2-36-145TC | Item No.    |  | Rev. No. | [      ] |
| Project Name |               | Project No. |  | Quantity | sets     |

| GENERAL SPECIFICATION                          |  |                     | PERFORMANCE DATA   |                |                             |        |
|--|--|---------------------|--|----------------|-----------------------------|--------|
| Frame Size                                     | 145TC  |                     | Rated Output   | 1.5 kW         |                             | 2 HP   |
| Type   | PJP  |                     | Number of Poles  | 2              |                             |        |
| 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      | 2.07 A                      | 2.59 A |
| Insulation Class                               | F  |                     |  | Locked-rotor** | 950 %                       | 950 %  |
| Temp. Rise at full load (by resistance method) |  |                     | Efficiency   |                |                             |        |
| at 1.0 S.F                                     | 80 deg. C  |                     | 50% Load   |                | 82.5 %                      |        |
| Motor Location                                 | <input type="checkbox"/> Indoor <input type="checkbox"/> Outdoor           |                     | 75% Load   |                | 84.5 %                      |        |
| Altitude                                       | Less than 1,000 meter  |                     | 100% Load  |                | 85.5 %                      |        |
| Relative Humidity                              | Less than 80 %   |                     | Power Factor(p.u)  |                |                             |        |
| Ambient Temp.                                  | 40 deg. C (Max.)   |                     | 50% Load   |                | 0.700                       |        |
| Duty Type                                      | Continuous ( S1 )  |                     | 75% Load   |                | 0.800                       |        |
| Service Factor                                 | 1.15   |                     | 100% Load  |                | 0.850                       |        |
| Mounting                                       | B35  |                     | Speed at Full Load   | 3480 r.p.m     |                             |        |
| Bearing  | Type   | Anti-Friction       | Torque   |                |                             |        |
|  | DE/N-DE  | 6205ZZC3 / 6204ZZC3 | Full Load  | 3.0 lb.ft      |                             |        |
|  | 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                                | Single   |                     | Load(Max.)   | 2.729 lb.ft2   |                             |        |
| Terminal Box                                   | Main   | Cast Iron           | Motor  | 0.042 lb.ft2   |                             |        |
|  | Aux.   | No                  | Sound Pressure Level (No-load & mean value at 1m from motor) |                |                             |        |
| Location                                       | Refer to Outline Drawing   |                     |  |                | 69 dB(A)                    |        |
| Application                                    |  |                     | Vibration  |                | 3.8 mm/sec (peak)           |        |
| Area classification                            | Hazardous  |                     | Permissible number of consecutive starts                     |                | Cold 3 times<br>Hot 2 times |        |
| Type of Ex-Protection                          | Class I&II, Division 2   |                     | Paint  | Munsell No.    | 4.0PB5.4/5.5(VL-451)        |        |
| Applicable Standard                            | NEMA MG1, CSA C390   |                     |  |                |                             |        |

| ACCESSORIES |
|-------------|
|             |

| SUBMITTAL DRAWING         |                 |                       |  |
|---------------------------|-----------------|-----------------------|--|
| Outline Dimension Drawing |                 | Motor Weight(Approx.) |  |
| B35                       | LM-T2145C4PLV23 | 65 lb.                |  |
|                           |                 |                       |  |

**REMARK**

1. Premium efficiency according to NEMA MG1
2. Inverter Duty @ 1.0 Service Factor & F Temperature rise
  - 10:1 VT (20:1 VT at 50% load)
  - 10:1 CT
  - CHP up to 1.5 times base speed, NEMA MG1 Part31
3. CSA Certification
  - Class I, Division 2, Group A, B, C & D
  - Class II, Division 2 Group E, F & G (Group E : up to 320Fr.)
4. Service Factor 1.15 and Temperature rise B are applicable under the condition of sine wave power.
5. Service Factor 1.25 is applicable to motors of 100HP or less with temperature rise F & Non-Hazardous.

| SPARE PARTS |
|-------------|
|             |

|            |          |          |          |          |
|------------|----------|----------|----------|----------|
| Date       | DSND     | CHKD     | CHKD     | APPD     |
| 2024-07-13 | 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.

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| REV | DATE | CONTENTS | REVD BY |
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|     |      |          |         |

3.94

**CROWN TRITON G2** Premium Efficiency AC 3 Phase Motor Cat. No. HES2-36-145TC

|                   |  |                    |  |  |             |                     |             |                      |
|-------------------|--|--------------------|--|--|-------------|---------------------|-------------|----------------------|
| 2HP               | 2P   | 230/460V           | Amps   | 5.18/2.59  | Type        | HLS                 | Amb.        | 40°C                 |
| Frame             | 145TC  | Duty               | CONT   | Encl.  | TEFC        | Model               | HLS145PL135 | NEMA Nom. Eff.       |
| RPM               | 3480   | Hertz              | 60Hz   | S.F.   | 1.15        | INS. Class          | F HD-F1     | 3/4 Eff.             |
|                   |  |                    |  |  |             |                     |             | 84.5%                |
| Bearing           | Drive  | 6205ZZC3           | S.F.1.25 (When 100HP or less, Temp Rise F & Non-Hazardous) |  |             |                     | NEMA Design | B                    |
|                   | Opp.   | 6204ZZC3           | S.F.1.00 (10:1 C.T., 20:1 V.T., NEMA-MG1 Part31)           |  |             |                     | Code        | L                    |
| Usable at         | 50Hz 1.5HP 380V 2.7A 2890rpm S.F.: 1.0 Eff.: 79.6% Code: L                     |                    |  |  |             |                     |             |                      |
|                   | 50Hz 1.5HP 400/415V 2.6/2.6A 2900/2905rpm S.F.: 1.0 Eff.: 79.6/79.6% Code: L/L |                    |  |  |             |                     |             |                      |
| CSA Certified for | Model  | LATER              | Type   | PJP  | Temp. Code  | Frame               | 140-320FR   | CE                   |
|                   | CLASS I, Div. 2, Gr. A, B, C & D   |                    | CLASS II, Div. 2, Gr. E, F & G                             |  | (Sine Wave) | Amb.40°C            | T3C (160°C) |                      |
|                   | CLASS I, Zone 2, Gr. IIA, IIB & IIC  |                    | (Gr. E: up to 320FR)                                       |  |             | Amb.55°C            | T3A (180°C) |                      |
| No.               | -  | Date               | -  | Weight   | 65 lb       |                     |             |                      |
| 4M-136021         |  | MARINE DUTY IEEE45 |  | Made in Vietnam H4<br>Designed By HYUNDAI, Korea |             | HD HYUNDAI ELECTRIC |             | ABS APPROVED PRODUCT |

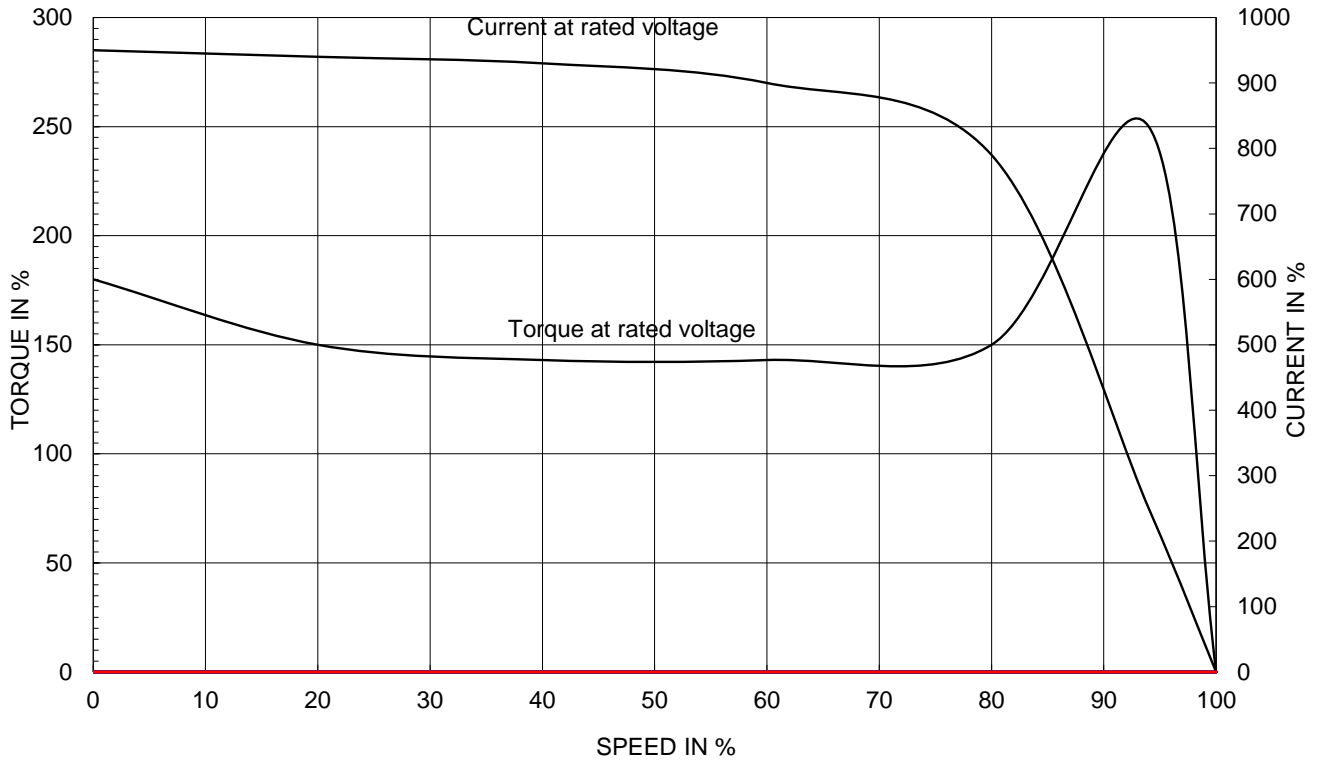
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|         |         |          |            |                                   |   |              |            |
|---------|---------|----------|------------|-----------------------------------|---|--------------|------------|
| APPD BY | S.Y.KIM | UNIT     | INCH       | SUBJECT                           | CSA Class I, Division2 Severe Duty (HES, 143-215) | DWG SIZE     | A4 ( 1:1 ) |
| CHKD BY | I.K.KIM | SCALE    | NONE       |                                   |   |              |            |
| CHKD BY | R.G.KIM | PROJEC'N | 3rd Angle  | TITLE<br><b>NAMEPLATE DRAWING</b> |   |              |            |
| DSND BY | S.H.LEE | DATE     | 2024.06.07 |                                   |   |              |            |
|         |         |          |            | REF. NO                           | <b>4M-136021</b>                                  | Sheet No.    | of         |
|         |         |          |            | DWG NO                            | <b>NP-HES2-36-145TC</b>                           | Revision No. | <b>0</b>   |

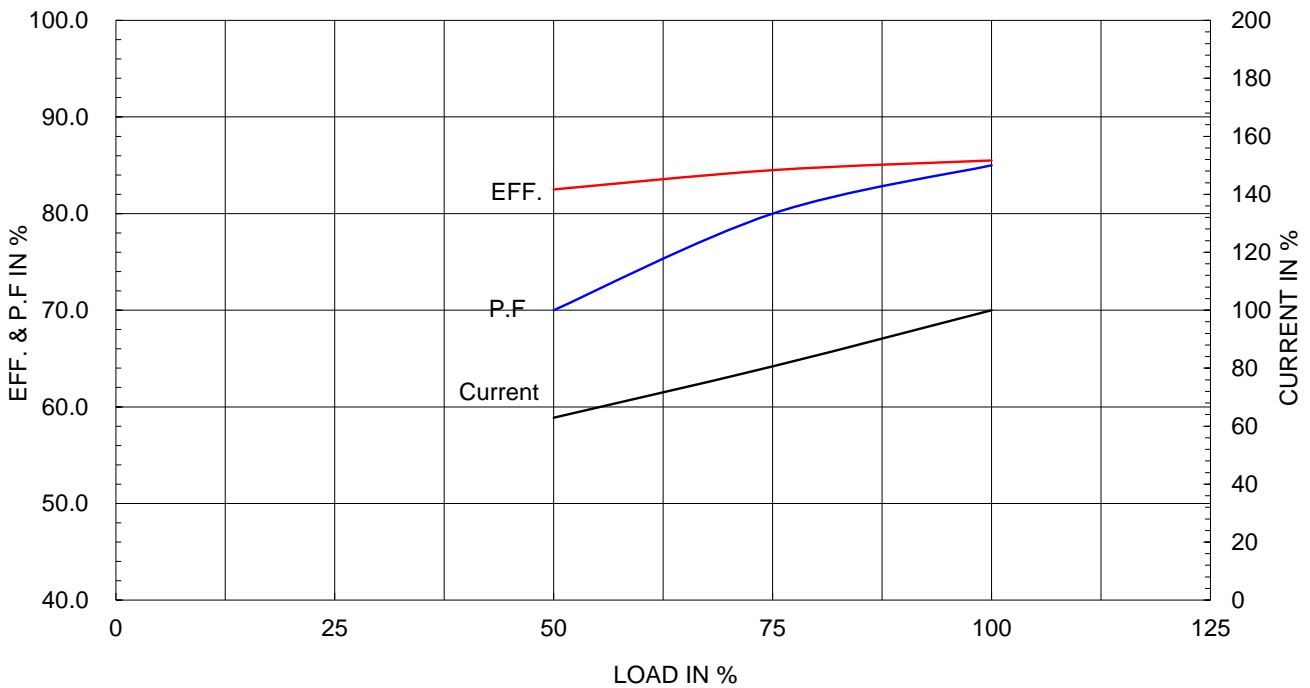
|                               |              |
|-------------------------------|--------------|
| Type :                        | PJP          |
| Full Load Torque :            | 3.0 lb.ft    |
| Load moment of Inertia (J) :  | 2.729 lb.ft2 |
| Motor moment of Inertia (J) : | 0.042 lb.ft2 |

|                      |      |      |          |
|----------------------|------|------|----------|
| 1.5kW                | 2HP  | 2 P  | 60 Hz    |
| Speed at Full Load : |      |      | 3480 RPM |
| Rated Voltage        | 575V | 460V | 230V     |
| Full Load Current    | 2.1A | 2.6A | 5.2A     |

SPEED VS TORQUE & CURRENT CURVE



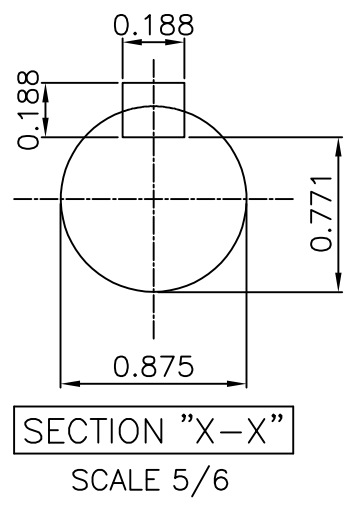
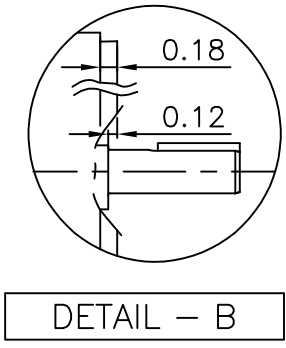
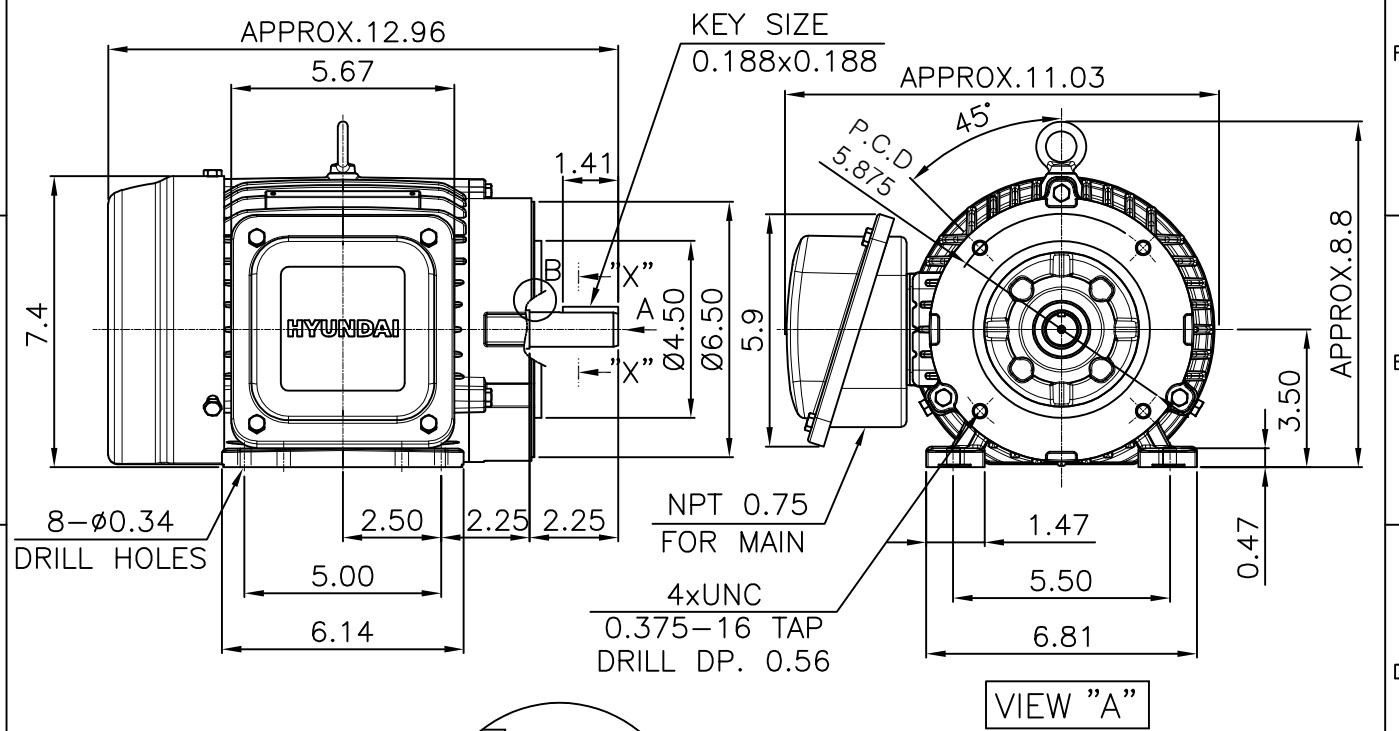
OUTPUT VS EFF., P.F & CURRENT CURVE



본 도면은 HD현대일렉트릭(주) 재산이며 허가없이 복사할 수 없음 (취급유의)

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| ▽    | 50S   | REV | DATE |
| ▽▽   | 12.5S |     |      |
| ▽▽▽  | 3.2S  |     |      |
| ▽▽▽▽ | 0.4S  |     |      |

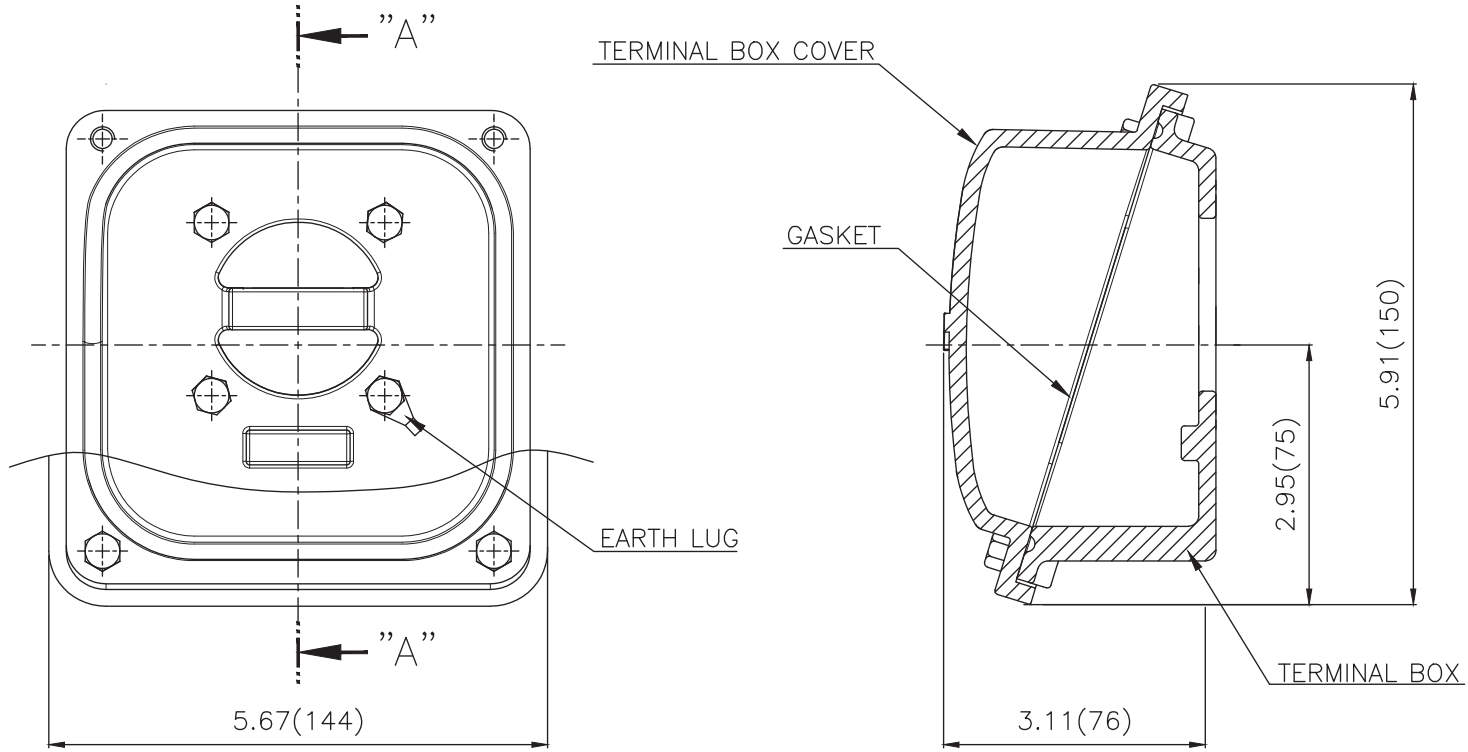


- NOTE**  
[TOLERANCE]
- 1. CENTER HEIGHT : +0.00inch - 0.03inch
  - 2. SHAFT DIAMETER : +0.000inch - 0.0005inch
  - 3. KEYWAY DEPTH : +0.000inch - 0.015inch

|         |         |          |            |         |                 |              |    |
|---------|---------|----------|------------|---------|-----------------|--------------|----|
| APPD BY | S.Y.KIM | UNIT     | mm         | SUBJECT | NEMA 145TC      | DWG SIZE     |    |
| CHKD BY | R.G.KIM | SCALE    | 1/5        | TITLE   | OUTLINE         | A4 ( 15 )    |    |
| CHKD BY |         | PROJEC'N | 3rd Angle  |         |                 |              |    |
| DSND BY | 주유림     | DATE     | 2021-04-29 |         |                 |              |    |
|         |         |          |            | REF. NO |                 | Sheet No.    | of |
|         |         |          |            | DWG NO  | LM-T2145C4PLV23 | Revision No. | 0  |



**Cls. I&II, Div. 2  
IEEE 841**



SEC. "A"-"A"

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

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| 일반가공공차 |      | 일반제관공차   |      |
|--------|------|----------|------|
| 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. 140-180 (CAST IRON) | DWG SIZE     | A3 (1:1.5) |
| CHKD BY |             | SCALE    | 1/1.5      | TITLE              |                         |              |            |
| CHKD BY | R.G.KIM     | PROJEC'N | 3rd Angle  | TERMINAL BOX ASS'Y |                         |              |            |
| DSND BY | 배승희         | DATE     | 2023-10-19 | REF. NO            |                         | Sheet No.    | of         |
|         |             |          |            | DWG NO             | 3M-248456               | Revision No. | 0          |

