HD HYUNDAI ELECTRIC

Essential for Today
Potential for Tomorrow

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
# EXPLOSION PROOF TYPE

| | | | | | |
|---|---|---|---|---|---|
| Catalog No. | IXHHI100-36-405TS | Item No. | | Rev. No. | [ ] |
| Project Name | | Project No. | | Quantity | sets |

## GENERAL SPECIFICATION

| | | |
|---|---|---|
| Frame Size | | 405TS |
| Type | | XJP |
| Enclosure(Protection) | | Totally Enclosed / IP55 |
| Method of Cooling | | IC411(FC) |
| Rated Frequency | | 60 Hz |
| Number of Phases | | 3 |
| Insulation Class | | F |
| Temp. Rise at full load (by resistance method) | | |
| | at 1.0 S.F | 80 deg. C |
| Motor Location | | ☐ Indoor ☐ Outdoor |
| Altitude | | Less than 1,000 meter |
| Relative Humidity | | Less than 80 % |
| Ambient Temp. | | 40 deg. C (Max.) |
| Duty Type | | Continuous ( S1 ) |
| Service Factor | | 1.15 |
| Mounting | | B3 |
| Bearing | Type | Anti-Friction |
| | DE/N-DE | 6313C3 / 6313C3 |
| | Lubricant | Grease(Polyrex-EM) |
| External Thrust | | Not applicable |
| Coupling Method | | ☑ Direct ☐ V-belt |
| Shaft Extension | | Single |
| Terminal Box | Main | Cast Iron |
| | Aux. | No |
| | Location | Refer to Outline Drawing |
| Application | | |
| Area classification | | Hazardous |
| Type of Ex-Protection | | Class I, Division 1 |
| Applicable Standard | | NEMA MG1, CSA C390, UL674 |

## PERFORMANCE DATA

| | | | | |
|---|---|---|---|---|
| Rated Output | | 75 kW | | 100 HP |
| Number of Poles | | 2 | | |
| Rotor Type | | Squirrel Cage | | |
| Starting Method* | | D.O.L | | |
| Rated Voltage | | 575 V | 460 V | 230 V |
| Current | Full Load | 88.1 A | 110.1 A | 220.1 A |
| | Locked-rotor** | 700 % | 700 % | 700 % |
| Efficiency | | | | |
| | 50% Load | 91.5 % | | |
| | 75% Load | 93.5 % | | |
| | 100% Load | 94.5 % | | |
| Power Factor(p.u) | | | | |
| | 50% Load | 0.755 | | |
| | 75% Load | 0.855 | | |
| | 100% Load | 0.905 | | |
| Speed at Full Load | | 3570 r.p.m | | |
| Torque | | | | |
| | Full Load | 148.00 lb.ft | | |
| | Locked-rotor** | 120 % | | |
| | Breakdown** | 220 % | | |
| Moment of Inertia (J) | | | | |
| | Load(Max.) | 214.761 lb.ft2 | | |
| | Motor | 18.450 lb.ft2 | | |
| Sound Pressure Level (No-load & mean value at 1m from motor) | | 87 dB(A) | | |
| Vibration | | 3.8 mm/sec (peak) | | |
| Permissible number of consecutive starts | | Cold 3 times | | |
| | | Hot 2 times | | |
| Paint | Munsell No. | 4.0PB5.4/5.5(VL-451) | | |

## ACCESSORIES

*. W.T.D.(Thermostat, 145°C) : 1EA/Ph.

## SPARE PARTS

## SUBMITTAL DRAWING

| Outline Dimension Drawing | \ Motor Weight(Approx.) | |
|---|---|---|
| B3 | LM-U0405B3SL001 | 1852 lb. |

## REMARK

1. Premium efficiency according to NEMA MG1
2. Inverter Duty @ 1.0 S.F & F Temp. rise & Amb. max 45°C
   -. 10:1 VT (20:1 VT at 50% load)
   -. 10:1 CT (1 hour duty, 4:1 continuous)
   -. CHP up to 1.5 times base speed, NEMA MG1 Part31
3. UL Certification
   -. Class I, Division 1, Group C&D
4. Temperature Code (Sine wave)
   -. T3(200°C) at 40°C Amb. / T2D(215°C) at 55°C Amb.
   -. T4(135°C) with Winding Temperature Detector

| Date | DSND | CHKD | CHKD | APPD |
|---|---|---|---|---|
| 2025-07-30 | 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.

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

# ▣ MAIN NAMEPLATE

4.72

2.36

**CROWN TRITON** Explosion Proof — Premium Efficiency AC 3 Phase Motor

C SA US Energy Verified Only — CC038A — c UL US LISTED

| | | | | | |
|---|---|---|---|---|---|
| 100HP | 2P | 230/460V | Cat. No. | IXHHI100-36-405TS | Amps 220.1/110.1A |
| Model | LATER | | INS. Class | F HD-F1 | Hertz 60Hz |
| Type | XJP | Duty CONT | Code | G | NEMA Nom. Eff. 94.5% |
| Frame | 405TS | Encl. TEFC | S.F. | 1.15 on sine wave power | 3/4 Eff. 93.5% |
| Bearing | Drive 6313C3 | | S.F. | 1.00 on PWM or IGBT power | NEMA Design B |
| | Opp. 6313C3 | | RPM | 3570 | Amb. 40°C |
| Usable at | 50Hz 100HP 380V 134.2A 2962rpm S.F.: 1.0 Eff.: 94.0% Code: E | | | | |
| | 50Hz 100HP 400/415V 127.1/122.4A 2966/2969rpm S.F.: 1.0 Eff.: 94.3/94.5% Code: F/G | | | | |
| UL Certified for | Class I ,Div. 1, Group C&D / Class I ,Zone 1, Group ⅡA & ⅡB<br>10:1VT(20:1 at 50% load) 4:1CT(10:1 1hour duty at lowest RPM)<br>CHP upto 1.5 time base speed,NEMA MGI part 31.Amb max 45°C for inverter duty. | | Temp. Code (sine wave) | T3 at 40°C Amb. / T2D at 55°C Amb.<br>T4 With Thermostat TH01 145°C TH02 | |
| No. - | | | Date - | | Weight 1852 lb |

4M-136067
(NEMA 320~444Fr.)

Made in Korea H1

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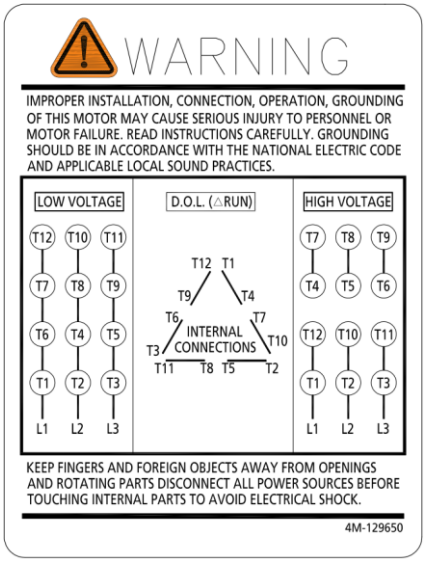
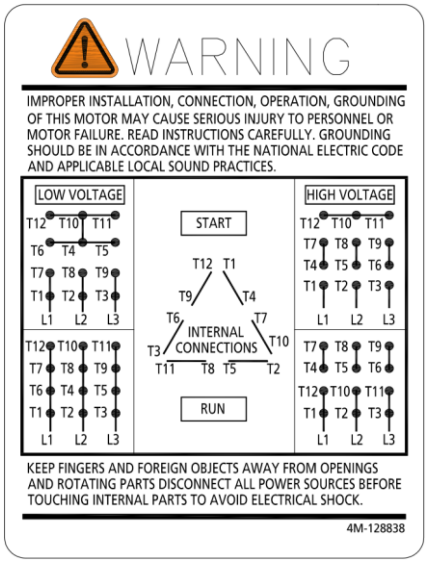
# ▣ WIRING DIAGRAM

## D.O.L (INVERTER & SOFT STARTER)




## WYE-DELTA (Y-D)




| | | | |
|---|---|---|---|
| APPD BY | S.Y.KIM | UNIT | INCH |
| CHKD BY | I.K.KIM | SCALE | NONE |
| CHKD BY | R.G.KIM | PROJEC'N | 3rd Angle |
| DSND BY | S.H.LEE | DATE | 2024.06.07 |

HD HYUNDAI ELECTRIC

| | | | |
|---|---|---|---|
| SUBJECT | UL Class I, Division1 (IXHHI, 320-444) | | DWG SIZE A4 ( 1:1 ) |
| TITLE | NAMEPLATE DRAWING | | |
| REF. NO | 4M-136067 / 4M-129650 | Sheet No. | of |
| DWG NO | NP-IXHHI100-36-405TS | Revision No. | 0 |

HYUNDAI ELECTRIC

# PERFORMANCE CURVE

CURVE NO.

PC-IXHHI100-36-405TS

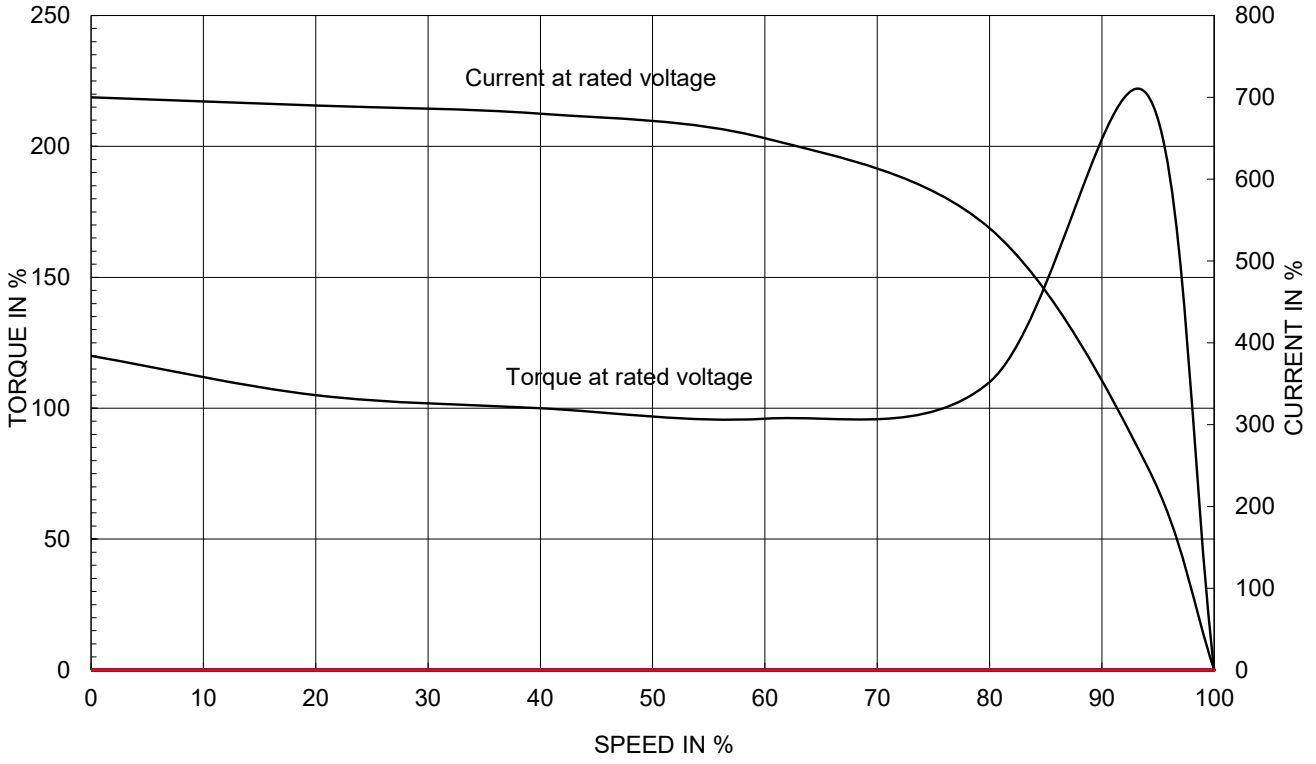
| | | |
|---|---|---|
| Type : | XJP | |
| Full Load Torque : | 148.00 | lb.ft |
| Load moment of Inertia (J) : | 214.761 | lb.ft2 |
| Motor moment of Inertia (J) : | 18.450 | lb.ft2 |

75kW 100HP 2 P 60 Hz

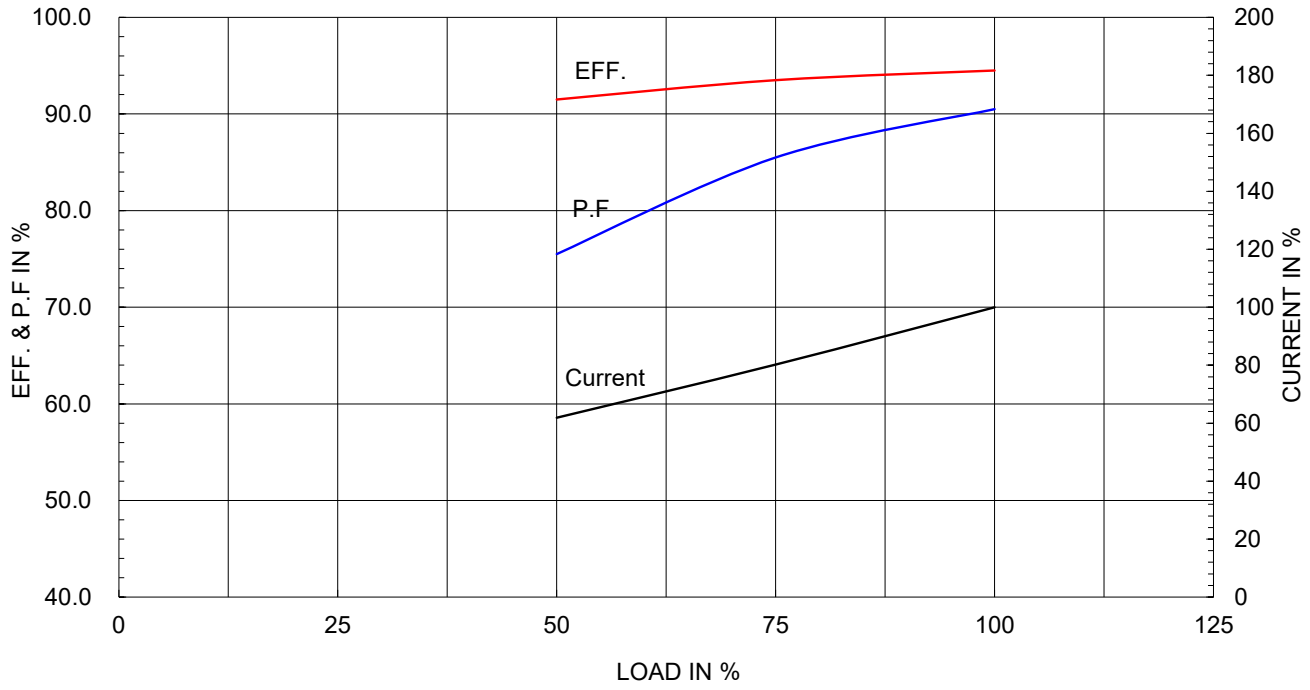
Speed at Full Load : 3570 RPM

| Rated Voltage | 575V | 460V | 230V |
|---|---|---|---|
| Full Load Current | 88.1A | 110.1A | 220.1A |

SPEED VS TORQUE & CURRENT CURVE

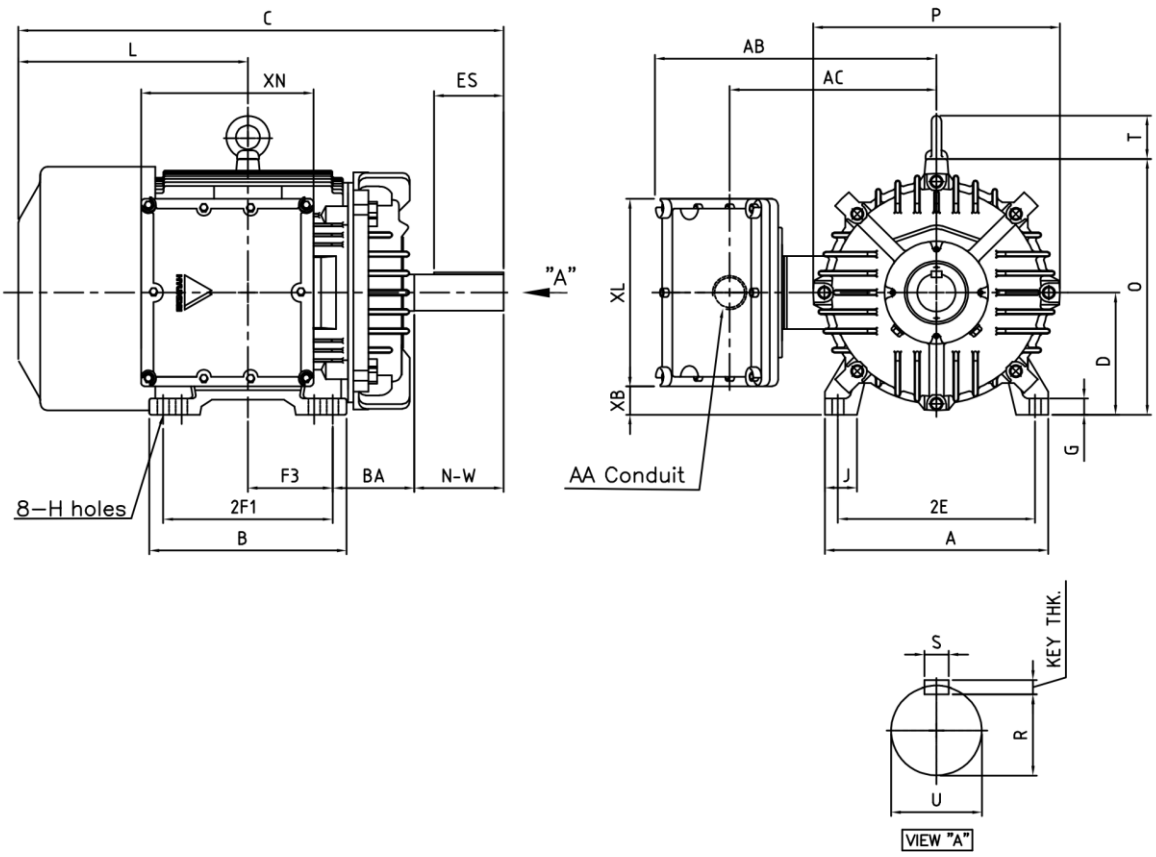



OUTPUT VS EFF., P.F & CURRENT CURVE



| ▽ | 50S | REV | DATE | CONTENTS | REVD BY | CHKD BY | CHKD BY | APPD BY |
|---|---|---|---|---|---|---|---|---|
| ▽▽ | 12.5S | | | | | | | |
| ▽▽▽ | 3.2S | | | | | | | |
| ▽▽▽▽ | 0.4S | | | | | | | |

## Class I Division 1







## DIMENSIONS

| MOUNTING | | | | | | | | | CONDUIT BOX | | | | | | APPROX. WGT.(LB) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | B | 2E | 2F1 | 2F2 | F3 | G | J | H | AA | AB | AC | XB | XL | XN | |
| 18.11 | 15.98 | 16.00 | 13.75 | – | 6.870 | 1.18 | 2.59 | 0.81 | 3.00 | 22.83 | 17.32 | 2.16 | 15.35 | 13.97 | 2P: 1852 or 4P: 1830 or 6P: 1830 |

| OVERALL | | | | | | | SHAFT | | | | | KEY | BEARING | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BA | C | D | L | O | P | T | U | N–W | KEYWAY R | KEYWAY ES | KEYWAY S | THK. | DRIVE END | OPP. DRIVE END |
| 6.62 | 36.33 | 10.00 | 18.60 | 20.94 | 20.00 | 3.55 | 2.125 | 4.25 | 1.845 | 2.80 | 0.500 | 0.500 | 6313C3 | 6313C3 |

NOTE

1. Dimension "D" tolerance : +0.00inch – 0.03inch (143T–365T) ; +0.000inch – 0.06inch (404T–449T)
2. Dimension "U" tolerance : +0.000inch – 0.005inch (143T–215T), +0.000inch – 0.001inch (254T–449T)
3. Dimension "R" tolerance : +0.000inch – 0.015inch

| | | | |
|---|---|---|---|
| APPD BY | S.Y.KIM | UNIT | inch |
| CHKD BY | R.G.KIM | SCALE | 1/15 |
| CHKD BY | | PROJEC'N | 3rd Angle |
| DSND BY | J.H.JEON | DATE | 2021-04-19 |

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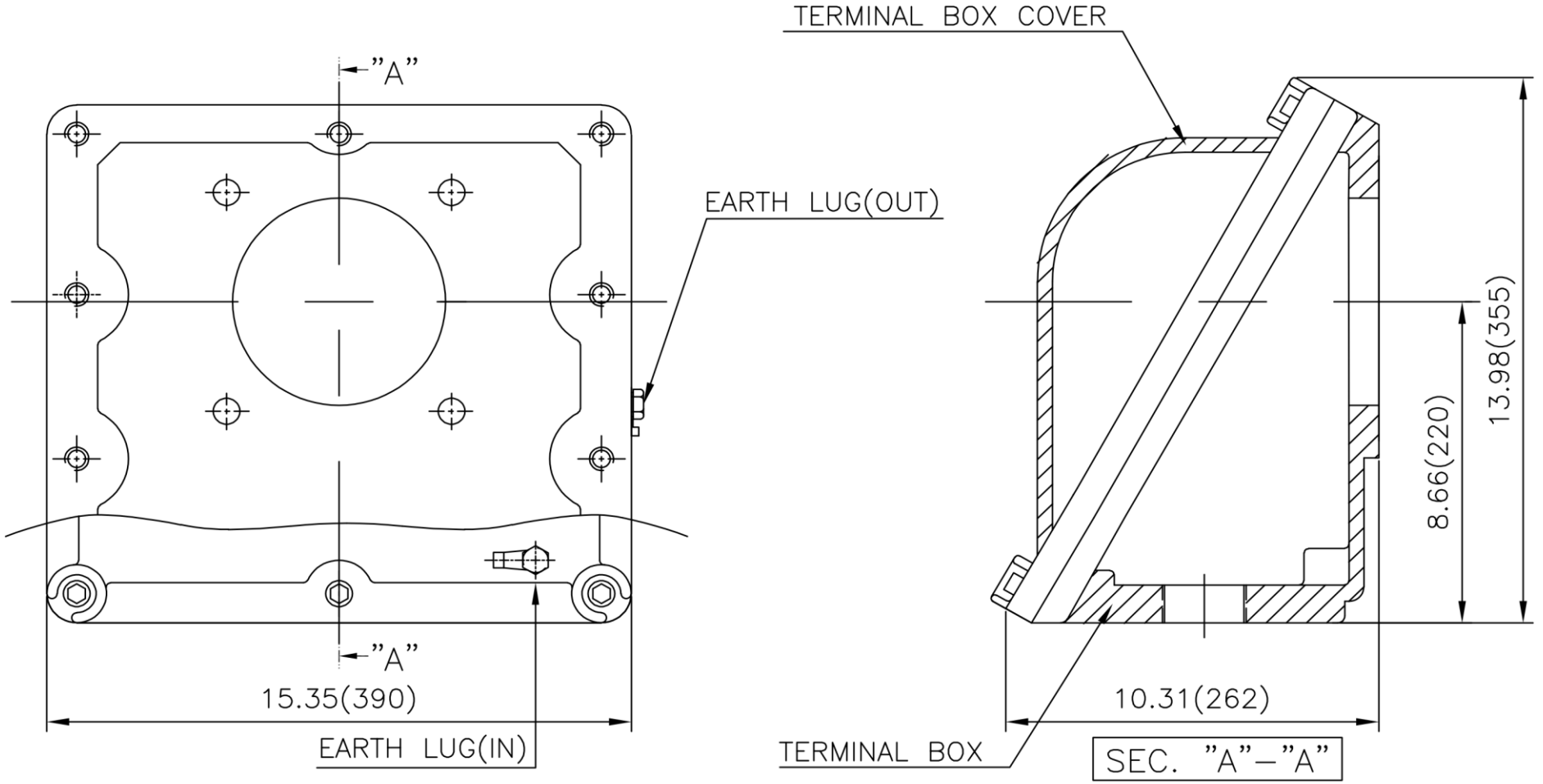
| | | | |
|---|---|---|---|
| SUBJECT | 405TS | DWG SIZE | A4 ( 1:15 ) |
| TITLE | OUTLINE | | |
| REF. NO | | Sheet No. | of |
| DWG NO | LM-U0405B3SL001 | Revision No. | 0 |

# Cls. I Div. 1






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

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

| 일반기공공차 | | 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 | NEMA FR. 400~440(CAST IRON) | DWG SIZE | A3 ( 1:3 ) |
| CHKD BY | R.G.KIM | SCALE | 1/3 | TITLE | MAIN TERMINAL BOX ASS'Y | | |
| CHKD BY | | PROJEC'N | 3rd Angle | | | | |
| DSND BY | 김은진 | DATE | 2023-11-08 | REF. NO | | Sheet No. of | |
| | | | | DWG NO | 3M–248636 | Revision No. 0 | |

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