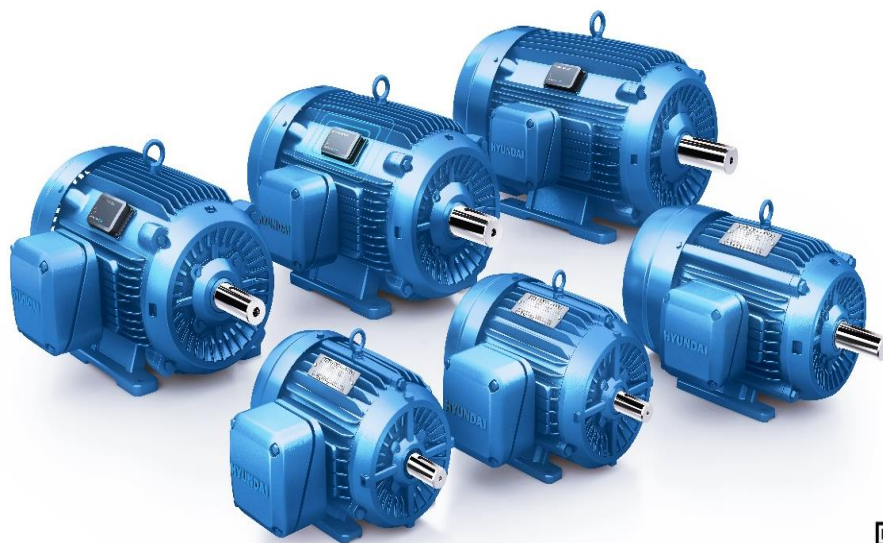


Customer :  
Project Name :  
Project No. :  
Revision No. :

# SPECIFICATION for INDUCTION MOTOR



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

# AC INDUCTION MOTOR DATA SHEET

|                                                |                                                                            |                          |                                                                                                          |                         |                             |          |  |
|------------------------------------------------|----------------------------------------------------------------------------|--------------------------|----------------------------------------------------------------------------------------------------------|-------------------------|-----------------------------|----------|--|
| Catalog No.                                    | HES25-18-180S/M                                                            | Item No.                 |                                                                                                          |                         | Rev. No.                    | [      ] |  |
| Project Name                                   |                                                                            | Project No.              |                                                                                                          |                         | Quantity                    | sets     |  |
| <b>GENERAL SPECIFICATION</b>                   |                                                                            |                          |                                                                                                          | <b>PERFORMANCE DATA</b> |                             |          |  |
| Frame Size                                     | 180M                                                                       |                          | Rated Output                                                                                             | 18.5 kW                 |                             | 25 HP    |  |
| Type                                           | PJP                                                                        |                          | Number of Poles                                                                                          | 4                       |                             |          |  |
| 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                                                                                            |                         | 460 V                       |          |  |
| Number of Phases                               | 3                                                                          |                          | Current                                                                                                  | Full Load               | 30.3 A                      |          |  |
| Insulation Class                               | F                                                                          |                          |                                                                                                          | Locked-rotor**          | 800 %                       |          |  |
| 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                                                                                                 |                         | 90.6 %                      |          |  |
| Altitude                                       | Less than 1,000 meter                                                      |                          | 75% Load                                                                                                 |                         | 92.6 %                      |          |  |
| Relative Humidity                              | Less than 80 %                                                             |                          | 100% Load                                                                                                |                         | 93.6 %                      |          |  |
| Ambient Temp.                                  | 40 deg. C (Max.)                                                           |                          | Power Factor(p.u)                                                                                        |                         |                             |          |  |
| Duty Type                                      | Continuous ( S1 )                                                          |                          | 50% Load                                                                                                 |                         | 0.670                       |          |  |
| Service Factor                                 | 1.15                                                                       |                          | 75% Load                                                                                                 |                         | 0.770                       |          |  |
| Mounting                                       | B3                                                                         |                          | 100% Load                                                                                                |                         | 0.820                       |          |  |
| Bearing                                        | Type                                                                       | Anti-Friction            | Speed at Full Load                                                                                       |                         | 1780 r.p.m                  |          |  |
|                                                | DE/N-DE                                                                    | 6310ZC3 / 6310ZC3        | Torque                                                                                                   |                         |                             |          |  |
|                                                | Lubricant                                                                  | Grease(Polyrex-EM)       | Full Load                                                                                                |                         | 73.22 lb.ft                 |          |  |
| External Thrust                                | Not applicable                                                             |                          | Locked-rotor**                                                                                           |                         | 200 %                       |          |  |
| Coupling Method                                | <input checked="" type="checkbox"/> Direct <input type="checkbox"/> V-belt |                          | Breakdown**                                                                                              |                         | 250 %                       |          |  |
| Shaft Extension                                | Single                                                                     |                          | Moment of Inertia (J)                                                                                    |                         |                             |          |  |
| Terminal                                       | Main                                                                       | Cast Iron                | Load(Max.)                                                                                               |                         | 141.409 lb.ft2              |          |  |
| Box                                            | Aux.                                                                       | No                       | Motor                                                                                                    |                         | 3.939 lb.ft2                |          |  |
|                                                | Location                                                                   | Refer to Outline Drawing | Sound Pressure Level (No-load & mean value at 1m from motor)                                             |                         |                             |          |  |
| Application                                    |                                                                            |                          | 72 dB(A)                                                                                                 |                         |                             |          |  |
| Area classification                            | Hazardous                                                                  |                          | Vibration                                                                                                |                         | 2.8 mm/s (r.m.s)            |          |  |
| Type of Ex-Protection                          | Class I&II, Division 2                                                     |                          | Permissible number of consecutive starts                                                                 |                         | Cold 3 times<br>Hot 2 times |          |  |
| Applicable Standard                            | IEC, CSA C390                                                              |                          | Paint                                                                                                    | PANTONE                 | PANTONE279C                 |          |  |
| <b>ACCESSORIES</b>                             |                                                                            |                          | <b>SUBMITTAL DRAWING</b>                                                                                 |                         |                             |          |  |
|                                                |                                                                            |                          | Outline Dimension Drawing \ Motor Weight(Approx.)                                                        |                         |                             |          |  |
|                                                |                                                                            |                          | B3                                                                                                       |                         | LM-T2183B3PTV09             | 360 lb.  |  |
|                                                |                                                                            |                          |                                                                                                          |                         |                             |          |  |
|                                                |                                                                            |                          |                                                                                                          |                         |                             |          |  |
| <b>SPARE PARTS</b>                             |                                                                            |                          | <b>REMARK</b>                                                                                            |                         |                             |          |  |
|                                                |                                                                            |                          | 1. IE3 (Premium efficiency) according to IEC60034-30-1                                                   |                         |                             |          |  |
|                                                |                                                                            |                          | 2. Inverter Duty @ 1.0 Service Factor & F Temperature rise                                               |                         |                             |          |  |
|                                                |                                                                            |                          | -. 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. CSA Certification                                                                                     |                         |                             |          |  |
|                                                |                                                                            |                          | -. Class I, Division 2, Group A, B, C & D                                                                |                         |                             |          |  |
|                                                |                                                                            |                          | -. Class II, Division 2 Group E, F & G (Group E : up to 200Fr.)                                          |                         |                             |          |  |
|                                                |                                                                            |                          | 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. |                         |                             |          |  |
|                                                |                                                                            |                          | 6. Temp. code : T3C(160°C) at sine wave                                                                  |                         |                             |          |  |
| Date                                           |                                                                            | DSND                     | CHKD                                                                                                     | CHKD                    | APPD                        |          |  |
| 2025-09-19                                     |                                                                            | 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.

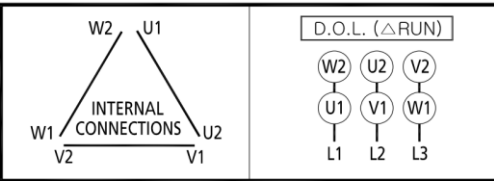
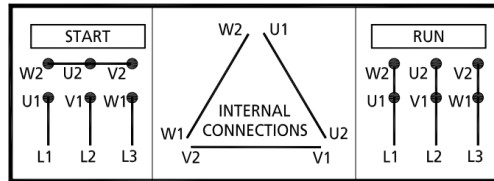
MAIN NAMEPLATE

4.72

2.36

|                                                                                                                                                                                                                                                                                                                                                                        |                                                                                  |                                                                                                                |                                             |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|---------------------------------------------|
| <b>CROWN TRITON G2</b> IEC     |                                                                                  |                                                                                                                |                                             |
| Premium Efficiency AC 3 Phase Motor                                                                                                                                                                                                                                                                                                                                    |                                                                                  | Metric                                                                                                         |                                             |
| 18.5kW (25HP)                                                                                                                                                                                                                                                                                                                                                          | 4P                                                                               | 460V                                                                                                           | Encl. IP55(TEFC)                            |
| UL Model                                                                                                                                                                                                                                                                                                                                                               | HLS183SR288V                                                                     | S.F.                                                                                                           | 1.15                                        |
| Frame                                                                                                                                                                                                                                                                                                                                                                  | 180M                                                                             | Duty                                                                                                           | S1(CONT)                                    |
| UL Type                                                                                                                                                                                                                                                                                                                                                                | HLS                                                                              | Code                                                                                                           | J                                           |
| Bearing                                                                                                                                                                                                                                                                                                                                                                | Drive 6310ZC3                                                                    | Amb.                                                                                                           | 40°C                                        |
|                                                                                                                                                                                                                                                                                                                                                                        | Opp. 6310ZC3                                                                     | S.F.                                                                                                           | 1.00(10:1 C.T., 20:1 V.T., NEMA-MG1 Part31) |
| Usable at                                                                                                                                                                                                                                                                                                                                                              | 50Hz 25HP 380V 36.4A 1480rpm S.F.: 1.15 Eff.: 92.6% Code: J                      |                                                                                                                |                                             |
|                                                                                                                                                                                                                                                                                                                                                                        | 50Hz 25HP 400/415V 34.5/35.0A 1480/1480rpm S.F.: 1.15 Eff.: 92.6/92.6% Code: H/J |                                                                                                                |                                             |
| CSA Certified for                                                                                                                                                                                                                                                                                                                                                      | Model TPO1928918MH004AI0JT300001                                                 | Type                                                                                                           | PJP                                         |
|                                                                                                                                                                                                                                                                                                                                                                        | CLASS I, Div. 2, Gr. A, B, C & D                                                 | CLASS II, Div. 2 Gr. E, F & G                                                                                  | Temp. Code                                  |
|                                                                                                                                                                                                                                                                                                                                                                        | CLASS I, Zone 2, Gr. IIA, IIB, & IIC                                             | (Gr. E: Up to 200FR)                                                                                           | (sine wave)                                 |
| No.                                                                                                                                                                                                                                                                                                                                                                    | -                                                                                | Date                                                                                                           | -                                           |
| 4M-133043 IEC60034-1                                                                                                                                                                                                                                                                                                                                                   |                                                                                  | IEC 60034-30-1(IE3)                                                                                            |                                             |
| Made in Vietnam H4 Designed By HYUNDAI, Korea                                                                                                                                                                                                                                                                                                                          |                                                                                  |  <b>HD HYUNDAI ELECTRIC</b> |                                             |

WIRING DIAGRAM

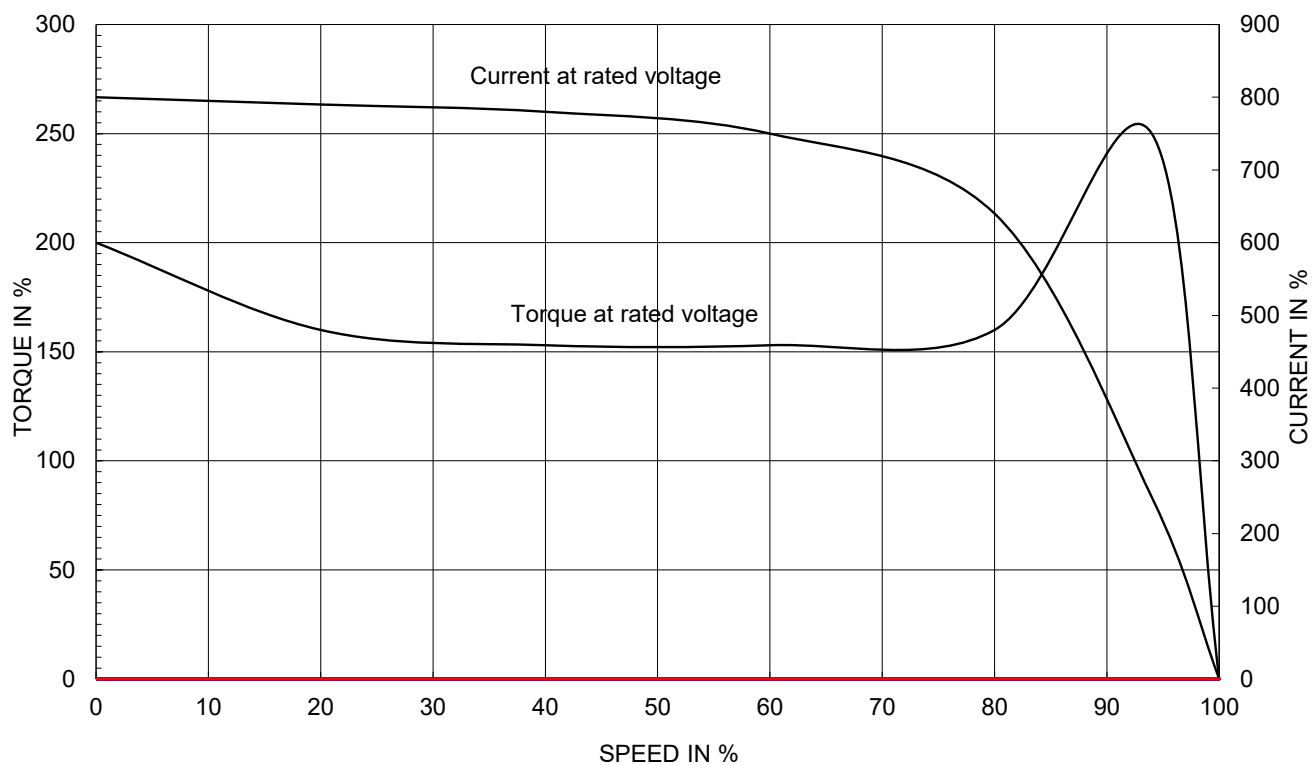
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|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>D.O.L<br/>(INVERTER &amp; SOFT STARTER)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>WYE-DELTA<br/>(Y-D)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|  <b>WARNING</b><br>IMPROPER INSTALLATION, CONNECTION, OPERATION, GROUNDING OF THIS MOTOR MAY CAUSE SERIOUS INJURY TO PERSONNEL OR MOTOR FAILURE. READ INSTRUCTIONS CAREFULLY. GROUNDING SHOULD BE IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE AND APPLICABLE LOCAL SOUND PRACTICES.<br><br>KEEP FINGERS AND FOREIGN OBJECTS AWAY FROM OPENINGS AND ROTATING PARTS DISCONNECT ALL POWER SOURCES BEFORE TOUCHING INTERNAL PARTS TO AVOID ELECTRICAL SHOCK.<br>4M-137622 |  <b>WARNING</b><br>IMPROPER INSTALLATION, CONNECTION, OPERATION, GROUNDING OF THIS MOTOR MAY CAUSE SERIOUS INJURY TO PERSONNEL OR MOTOR FAILURE. READ INSTRUCTIONS CAREFULLY. GROUNDING SHOULD BE IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE AND APPLICABLE LOCAL SOUND PRACTICES.<br><br>KEEP FINGERS AND FOREIGN OBJECTS AWAY FROM OPENINGS AND ROTATING PARTS DISCONNECT ALL POWER SOURCES BEFORE TOUCHING INTERNAL PARTS TO AVOID ELECTRICAL SHOCK.<br>4M-130346 |

|                                                                                                                |         |          |            |                   |                                                   |              |            |
|----------------------------------------------------------------------------------------------------------------|---------|----------|------------|-------------------|---------------------------------------------------|--------------|------------|
| APPD BY                                                                                                        | S.Y.KIM | UNIT     | INCH       | SUBJECT           | CSA Class I, Division2 Severe Duty (IEC, 160-280) | DWG SIZE     | A4 ( 1:1 ) |
| CHKD BY                                                                                                        | I.K.KIM | SCALE    | NONE       | NAMEPLATE DRAWING |                                                   |              |            |
| CHKD BY                                                                                                        | R.G.KIM | PROJEC'N | 3rd Angle  |                   |                                                   |              |            |
| DSND BY                                                                                                        | S.H.LEE | DATE     | 2024.06.07 |                   |                                                   |              |            |
|  <b>HD HYUNDAI ELECTRIC</b> |         |          |            | REF. NO           | 4M-133043 / 4M-137622                             | Sheet No.    | of         |
|                                                                                                                |         |          |            | DWG NO            | NP-HES25-18-180S/M                                | Revision No. | 0          |

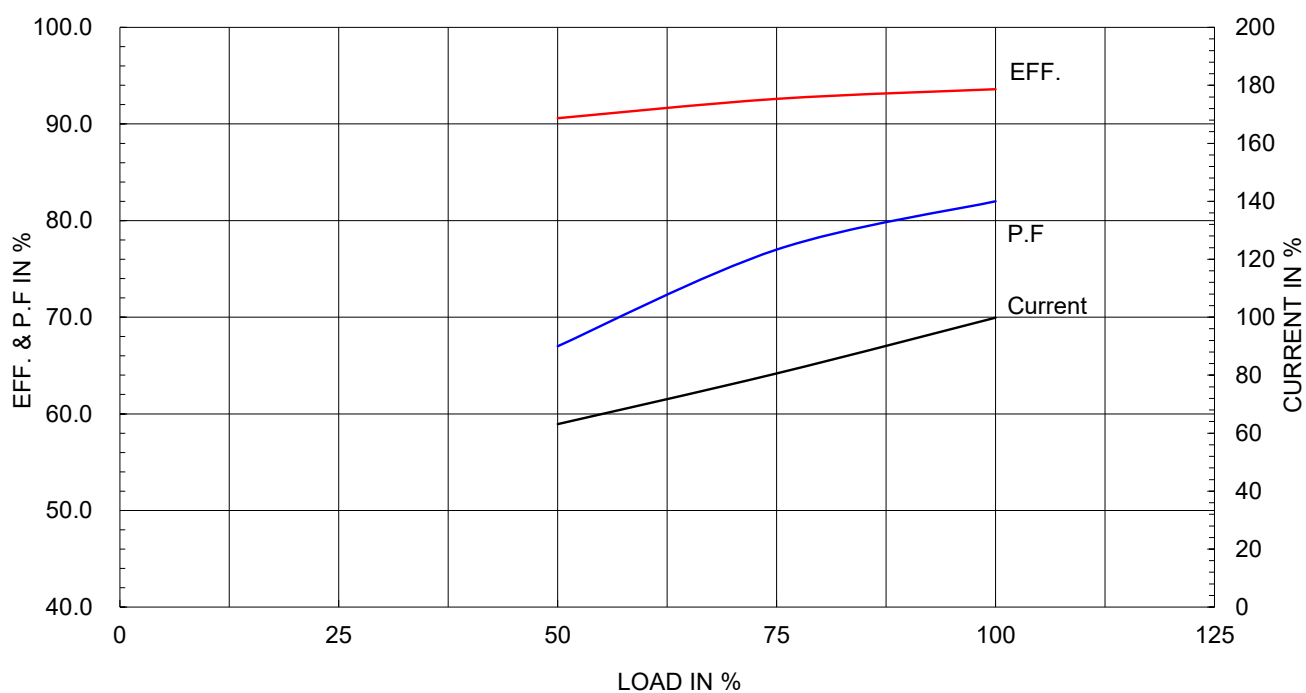
|                               |         |        |
|-------------------------------|---------|--------|
| Type :                        | PJP     |        |
| Full Load Torque :            | 73.22   | lb.ft  |
| Load moment of Inertia (J) :  | 141.409 | lb.ft2 |
| Motor moment of Inertia (J) : | 3.939   | lb.ft2 |

|                      |      |       |          |
|----------------------|------|-------|----------|
| 18.5kW               | 25HP | 4 P   | 60 Hz    |
| Speed at Full Load : |      |       | 1780 RPM |
| Rated Voltage        |      | 460V  |          |
| Full Load Current    |      | 30.3A |          |

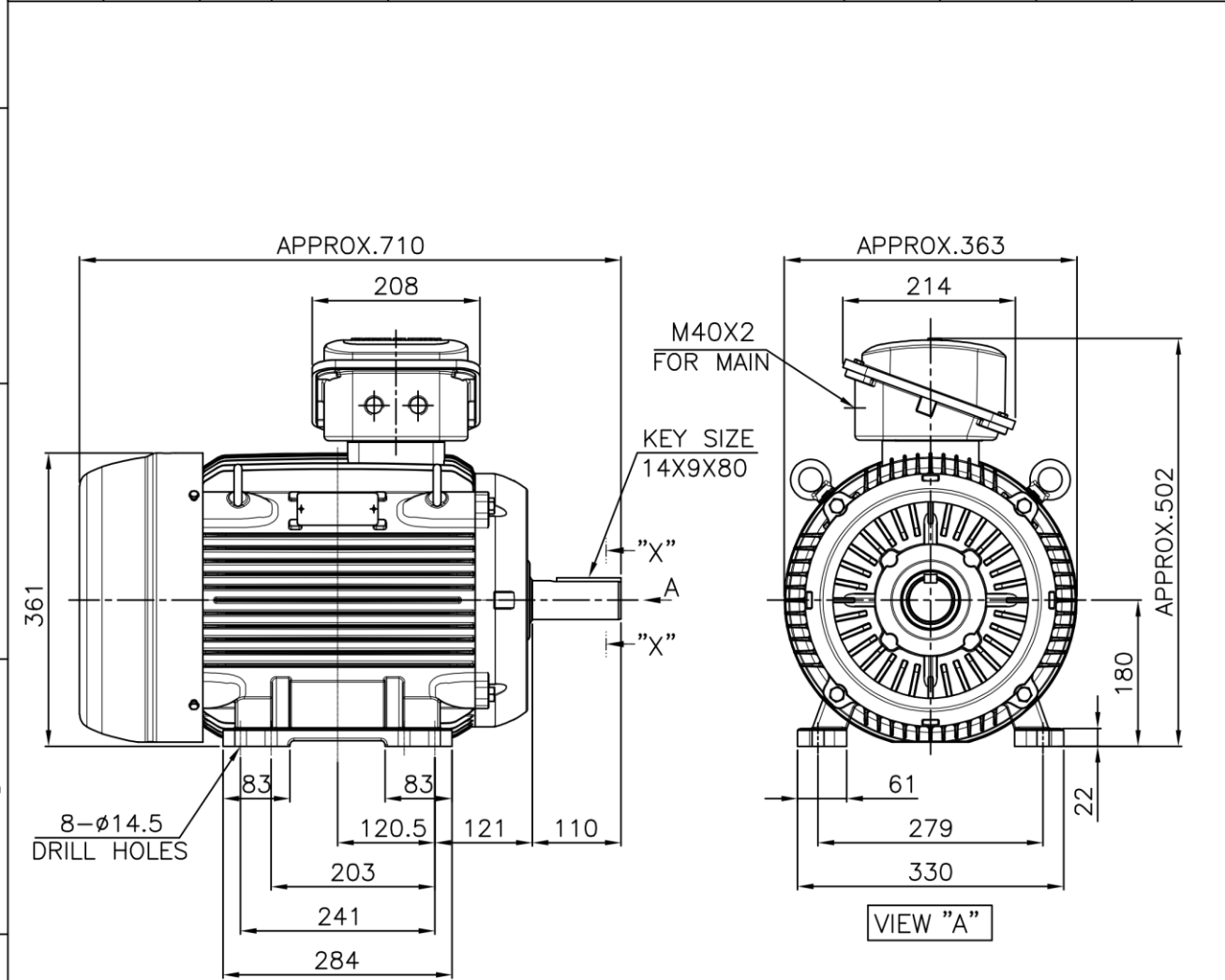
SPEED VS TORQUE & CURRENT CURVE



OUTPUT VS EFF., P.F & CURRENT CURVE



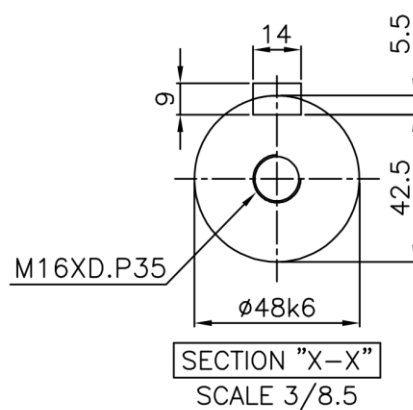
| 1    | 2     | 3   | 4    |
|------|-------|-----|------|
| ▽    | 50S   | REV | DATE |
| ▽▽   | 12.5S |     |      |
| ▽▽▽  | 3.2S  |     |      |
| ▽▽▽▽ | 0.4S  |     |      |



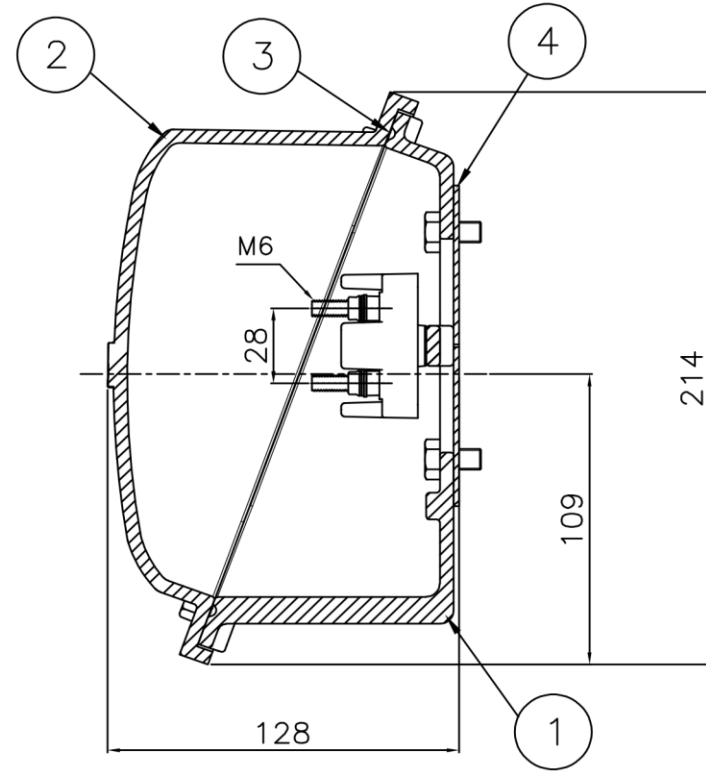
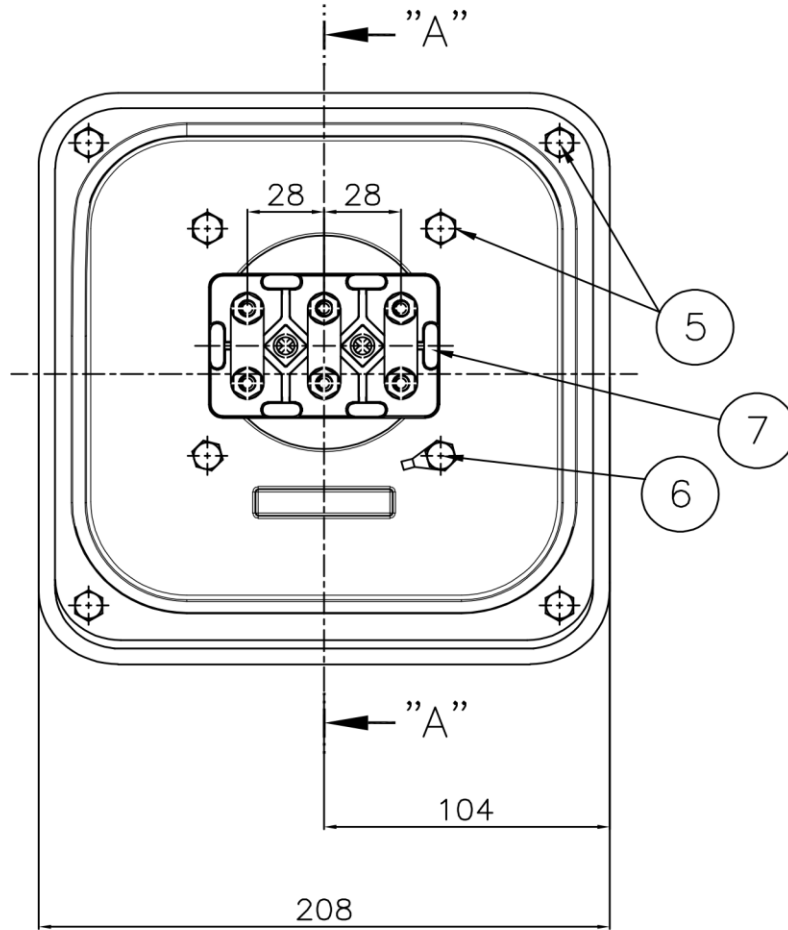
## NOTE

1.TOLERANCE :

|                |             |                                                          |
|----------------|-------------|----------------------------------------------------------|
| CENTER HEIGHT  | 180         | $\begin{smallmatrix} 0 \\ -0.5 \end{smallmatrix}$        |
| BASE HOLES     | $\phi 14.5$ | $\begin{smallmatrix} +0.43 \\ 0 \end{smallmatrix}$       |
| SHAFT DIAMETER | $\phi 48$   | $\begin{smallmatrix} +0.018 \\ +0.002 \end{smallmatrix}$ |
| KEYWAY WIDTH   | 14          | $\begin{smallmatrix} 0 \\ -0.043 \end{smallmatrix}$      |
| KEYWAY DEPTH   | 5.5         | $\begin{smallmatrix} +0.2 \\ 0 \end{smallmatrix}$        |
| KEY WIDTH      | 14          | $\begin{smallmatrix} 0 \\ -0.043 \end{smallmatrix}$      |
| KEY HEIGHT     | 9           | $\begin{smallmatrix} 0 \\ -0.090 \end{smallmatrix}$      |



|         |          |          |            |         |                        |                |
|---------|----------|----------|------------|---------|------------------------|----------------|
| APPD BY | S.Y.KIM  | UNIT     | mm         | SUBJECT | IEC 180S/M (Dual hole) | DWG SIZE       |
| CHKD BY | R.G.KIM  | SCALE    | 1/8.5      | TITLE   | OUTLINE                | A4 ( 1:8.5 )   |
| CHKD BY | -        | PROJEC'N | 3rd Angle  |         |                        |                |
| DSND BY | J.H.JEON | DATE     | 2022.05.25 |         |                        |                |
|         |          |          |            | REF. NO |                        | Sheet No. of   |
|         |          |          |            | DWG NO  | LM-T2183B3PTV09        | Revision No. 0 |



SEC. "A" - "A"

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

| REV | DATE | CONTENTS | REV'D BY | CHK'D BY | CHK'D BY | APP'D BY | 일반기공표                     | 일반계관공표 |
|-----|------|----------|----------|----------|----------|----------|---------------------------|--------|
| 1   |      |          |          |          |          |          | 1-4 ±0.1 6-30 ±0.5        |        |
| 2   |      |          |          |          |          |          | 4-18 ±0.2 30-120 ±0.8     |        |
| 3   |      |          |          |          |          |          | 18-63 ±0.3 120-315 ±1.2   |        |
| 4   |      |          |          |          |          |          | 63-250 ±0.5 315-1000 ±2.0 |        |
| 5   |      |          |          |          |          |          | 250- ±0.8 1000- ±3.0      |        |

|                                                                                       |                        |          |            |                             |                                 |                        |     |   |
|---------------------------------------------------------------------------------------|------------------------|----------|------------|-----------------------------|---------------------------------|------------------------|-----|---|
| 1                                                                                     | TERMINAL BLOCK         | STD      | M6         |                             |                                 |                        |     | 7 |
| 1                                                                                     | GROUND TERMINAL LUG    | CU       | --         |                             |                                 |                        |     | 6 |
| 8                                                                                     | BOX+FRAME HEX BOLT     | S45C     | M6         |                             |                                 |                        |     | 5 |
| 1                                                                                     | BOX GASKET             | NBR      | --         |                             |                                 |                        |     | 4 |
| 1                                                                                     | COVER GASKET (O--RING) | NBR      | --         |                             |                                 |                        |     | 3 |
| 1                                                                                     | CONDUIT BOX COVER      | CAST     | --         |                             |                                 |                        |     | 2 |
| 1                                                                                     | CONDUIT BOX            | CAST     | --         |                             |                                 |                        |     | 1 |
| Q'TY                                                                                  | DESCRIPTION            | MATERIAL | DIMENSION  | WEIGHT                      | PART NO.                        | REMARK                 | NO. |   |
| APPD BY                                                                               | S.Y.KIM                | UNIT     | mm         | SUBJECT                     | FR.160-180 (CAST IRON, T-BLOCK) | DWG SIZE<br>A3 ( 1:2 ) |     |   |
| CHKD BY                                                                               | I.K.KIM                | SCALE    | 1/2        | TITLE<br>TERMINAL BOX ASS'Y |                                 |                        |     |   |
| CHKD BY                                                                               | -                      | PROJEC'N | 3rd Angle  |                             |                                 |                        |     |   |
| DSND BY                                                                               | 주유림                    | DATE     | 2021-12-17 |                             |                                 |                        |     |   |
|  |                        |          |            | REF. NO                     |                                 | Sheet No.              | of  |   |
|                                                                                       |                        |          |            | DWG NO                      | 3M-241780(T)                    | Revision No.           | 0   |   |
| 6                                                                                     |                        | 7        |            | 8                           |                                 | 9                      |     |   |