

**NEMA**

Model **GRA0022D-TD-01**  
MFG PN: T145T2U2B

# Model **GRA0022D-TD-01**

## Product Data Package



| MODEL          | HP | RPM  | VOLTAGE | PHASE | Hz | FRAME | MOUNT          | ENCLOSURE |
|----------------|----|------|---------|-------|----|-------|----------------|-----------|
| GRA0022D-TD-01 | 2  | 3500 | 230/460 | 3     | 60 | 145TD | Rigid/D-Flange | TEFC      |

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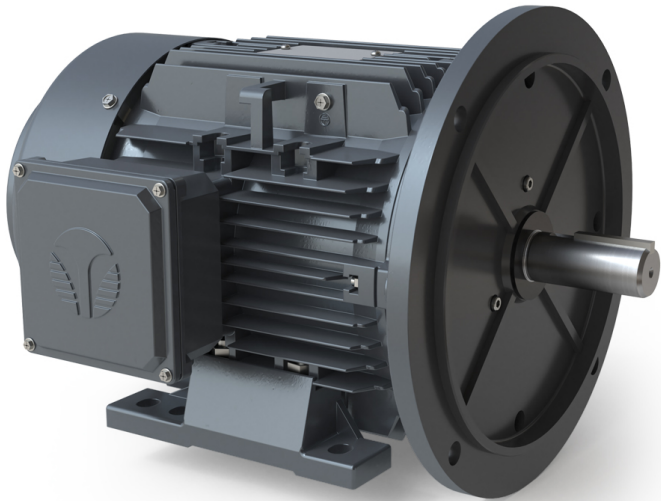
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### Index

|                               |     |
|-------------------------------|-----|
| Motor General Data Sheet      | P 2 |
| Nameplate Information         | P 3 |
| Technical Performance Data    | P 4 |
| Motor General Wiring Diagram  | P 5 |
| Motor General Outline Drawing | P 6 |

# NEMA

**Model GRA0022D-TD-01**  
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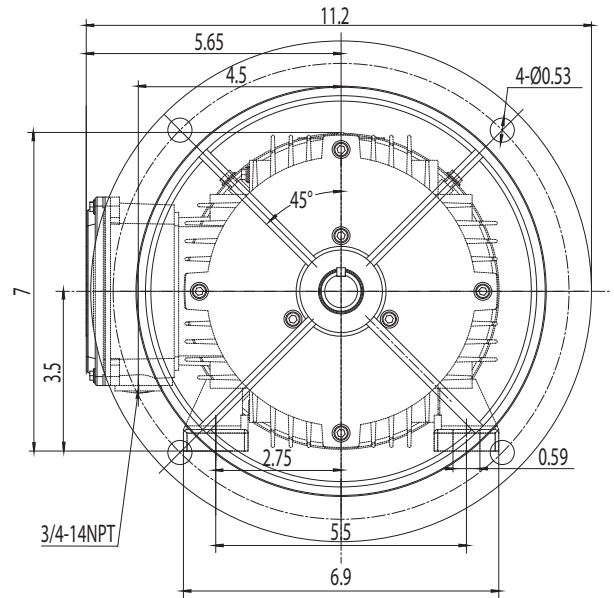
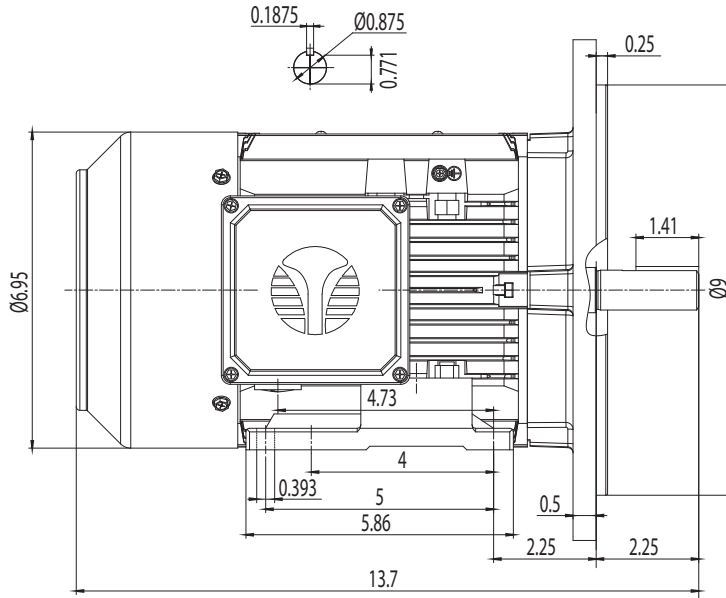
| ELECTRICAL DATA                     |           |                            |
|-------------------------------------|-----------|----------------------------|
| Rated Motor Output Power            | 2         | HP                         |
|                                     | -         | kW                         |
| Rated Motor Speed                   | 3500      | r/min 60Hz                 |
|                                     | 2880      | r/min 50Hz                 |
| Rated Motor Voltage (+/-10%)        | 230/460   | V/60Hz                     |
|                                     | 190/380   | V/50Hz                     |
| Rated Motor Current                 | 5.18/2.59 | A (I <sub>n</sub> ) @ 60Hz |
|                                     | 6.16/3.08 | A (I <sub>n</sub> ) @ 50Hz |
| Phase                               | 3         | Ø                          |
| Locked Rotor Current @ High Voltage | 23.6      | A (I <sub>n</sub> ) @ 60Hz |
| FI Current @ 208V                   | 5.58      | A (I <sub>n</sub> ) @ 60Hz |
| Service Factor                      | 1.25      | @ 60Hz                     |
|                                     | 1         | @ 50Hz                     |
| KVA Code                            | L         | 60Hz                       |
|                                     | H         | 50Hz                       |
| Nominal Efficiency                  | 85.5      | % @ 60Hz                   |
| Nominal Power Factor                | 0.85      | cosΦ @ 60Hz                |
| Leads (Qty, Size)                   | 9         | 18                         |
| Connection                          | YY/Y      | -                          |
| Coil Resistance                     | -         | Ω                          |
| Start Capacitor                     | -         | µF/V                       |
| Run Capacitor                       | -         | µF/V                       |
| VFD DUTY (S.F. 1.0)                 | RATIO     | Hz                         |
| Variable Torque                     | 30:1      | 2 - 60                     |
| Constant Torque                     | 15:1      | 4 - 60                     |
| FULL LOAD TEMPERATURE RISE          |           |                            |
| Full Load Temperature Rise          | 47        | °C @ 60Hz                  |
|                                     | 68        | °C @ 50Hz                  |

| GENERAL DATA                        |                  |       |
|-------------------------------------|------------------|-------|
| Frame Size                          | 145TD            |       |
| Enclosure                           | TEFC             |       |
| Mounting                            | Rigid/D-Flange   |       |
| Approximate Weight (lbs.)           | 29.5 lbs.        |       |
| Casing Material / Fan Cover         | Cast Aluminum    | Steel |
| Shaft Material                      | 1045             |       |
| NEMA Design                         | B                |       |
| Degree of Protection (IP)           | 55               |       |
| Insulation Class / Temp Rise (60Hz) | F                | B     |
| Tropicalization                     | YES              |       |
| Duty                                | Cont. / S1       |       |
| Conduit Box Location                | F1               |       |
| Feet Removable / Double Drilled     | YES              | YES   |
| Paintwork                           | 7024             |       |
|                                     | Graphite Gray    |       |
| MECHANICAL DATA                     |                  |       |
| Bearing DE Side                     | 6205 ZZ          |       |
| Bearing ODE Side                    | 6205 ZZ          |       |
| Grease Type                         | Mobil Polyrex EM |       |
| Compensation Ring (wavy washer)     | NDE              |       |
| Moment of Inertia (lb-ft²)          | -                |       |
| Sound Pressure @ 3 FT dBA           | 77.2             |       |
| SITE CONDITIONS                     |                  |       |
| Ambient Temperature (°C)            | 40               |       |
| Meters Above Sea Level (MASL)       | 1000             |       |
| HAZARDOUS LOCATIONS                 |                  |       |
| CSA Certified                       | A, B, C & D      |       |
| Temperature Code                    | T2D              | -     |

**Questions? Call 1.888.286.1820**

**NEMA**

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MFG PN: T145T2U2B



| NAMEPLATE DATA             | 60Hz       | 50Hz      |
|----------------------------|------------|-----------|
| Horse Power                | 2          | 2         |
| RPM                        | 3500       | 2880      |
| Voltage                    | 230/460    | 190/380   |
| Full Load Amps             | 5.18/2.59  | 6.16/3.08 |
| Service Factor             | 1.25       | 1         |
| KVA Code                   | L          | H         |
| Full Load Amps (208V)      | 5.58       | -         |
| Nominal Efficiency         | 85.5       | 83.8      |
| Nominal Power Factor       | 0.85       | -         |
| Design                     | B          |           |
| Frame                      | 145TD      |           |
| Enclosure Type             | TEFC       |           |
| IP Rating                  | 55         |           |
| Duty                       | Cont. / S1 |           |
| Insulation Class           | F          |           |
| Ambient Rating             | 40         |           |
| Drive End Bearing          | 6205 ZZ    |           |
| Opposite Drive End Bearing | 6205 ZZ    |           |
| Weight (lbs)               | 29.5       |           |

NAMEPLATE LAYOUT

|                                      |  |                                                                        |         |
|--------------------------------------|--|------------------------------------------------------------------------|---------|
| <b>TECHTOP</b>                       |  | INDUSTRIAL THREE PHASE MOTOR<br>INVERTER DUTY 15:1 CT 30:1 VT - 1.0 SF |         |
| MODEL                                |  | MFG PN                                                                 |         |
| 60Hz 50Hz                            |  | MFG DATE                                                               |         |
| HP                                   |  | SER #                                                                  |         |
| RPM                                  |  | DESIGN                                                                 |         |
| VOLT                                 |  | FRAME                                                                  |         |
| FLA                                  |  | ENCL / IP                                                              | TEFC 55 |
| SF                                   |  | DUTY                                                                   |         |
| KVA CODE                             |  | INS CL                                                                 |         |
| NOM.EFF                              |  | AMB                                                                    |         |
| EFF 75%                              |  | DE                                                                     |         |
| PF                                   |  | ODE                                                                    |         |
| USABLE AT 208V                       |  | WEIGHT                                                                 | lbs     |
| NEMA Premium®<br>TECHTOPCANADA.COM   |  | CC088A<br>E323353<br>UL<br>C224653<br>SP<br>Energy Verified Only       |         |
| CLASS 1, DIV 2, GROUPS A, B, C AND D |  | MADE IN CHINA                                                          |         |

| VFD DUTY (S.F. 1.0) | RATIO | Hz*    |
|---------------------|-------|--------|
| Variable Torque     | 30:1  | 2 - 60 |
| Constant Torque     | 15:1  | 4 - 60 |

\*For max speed please contact Techtop Canada

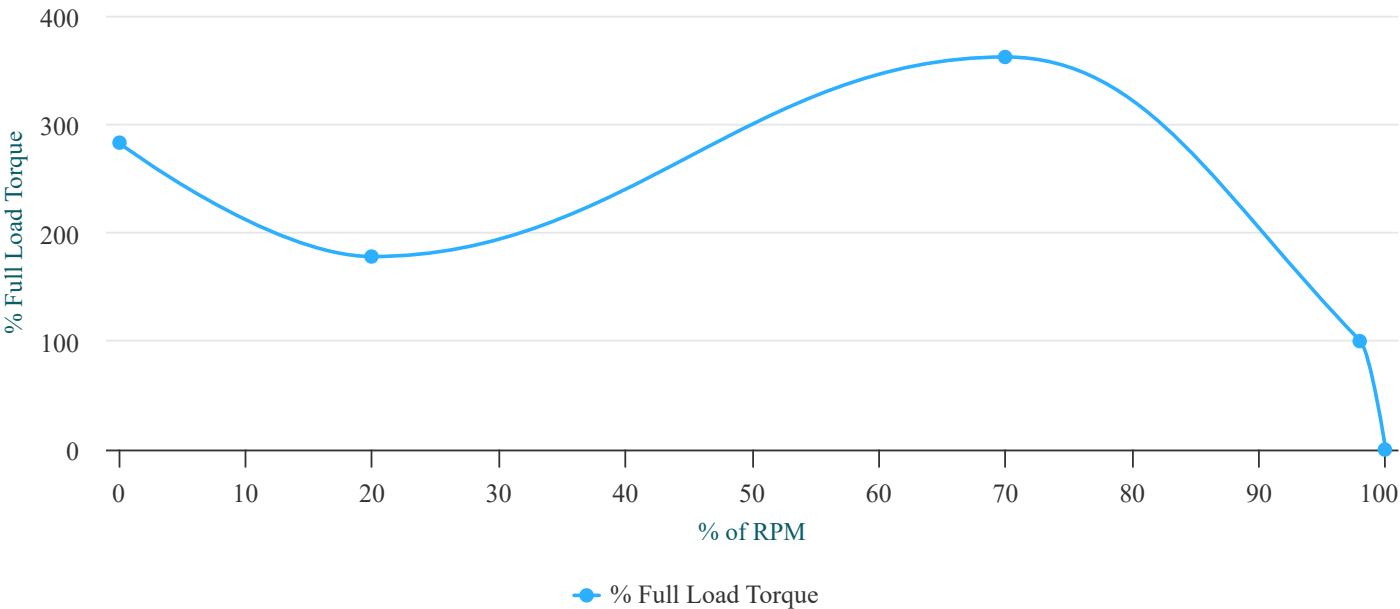
| HAZARDOUS LOCATIONS | CSA CERTIFIED   |
|---------------------|-----------------|
| Class / Division    | Class I, Div. 2 |
| Groups              | A, B, C & D     |

Questions? Call 1.888.286.1820

**NEMA**

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**Torque Speed (T-n) Curve**



**PERFORMANCE LOAD VALUES, HIGH VOLTAGE, 60Hz**

| TORQUE VALUES       | TORQUE (lb-ft) | TORQUE (% FULL LOAD) | PERFORMANCE VALUES   |      |
|---------------------|----------------|----------------------|----------------------|------|
| Locked Rotor Torque | 8.5            | 283                  | Start Configuration  | DOL  |
| Pull-Up Torque      | 5.3            | 178                  | Starting Current (A) | 23.6 |
| Breakdown Torque    | 10.9           | 362                  | No-Load Current (A)  | 1.3  |
| Full Load Torque    | 3              | 100                  | No-Load Power Factor | 0.12 |

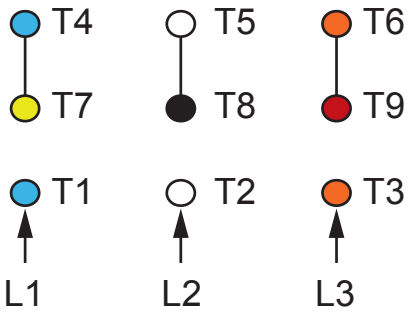
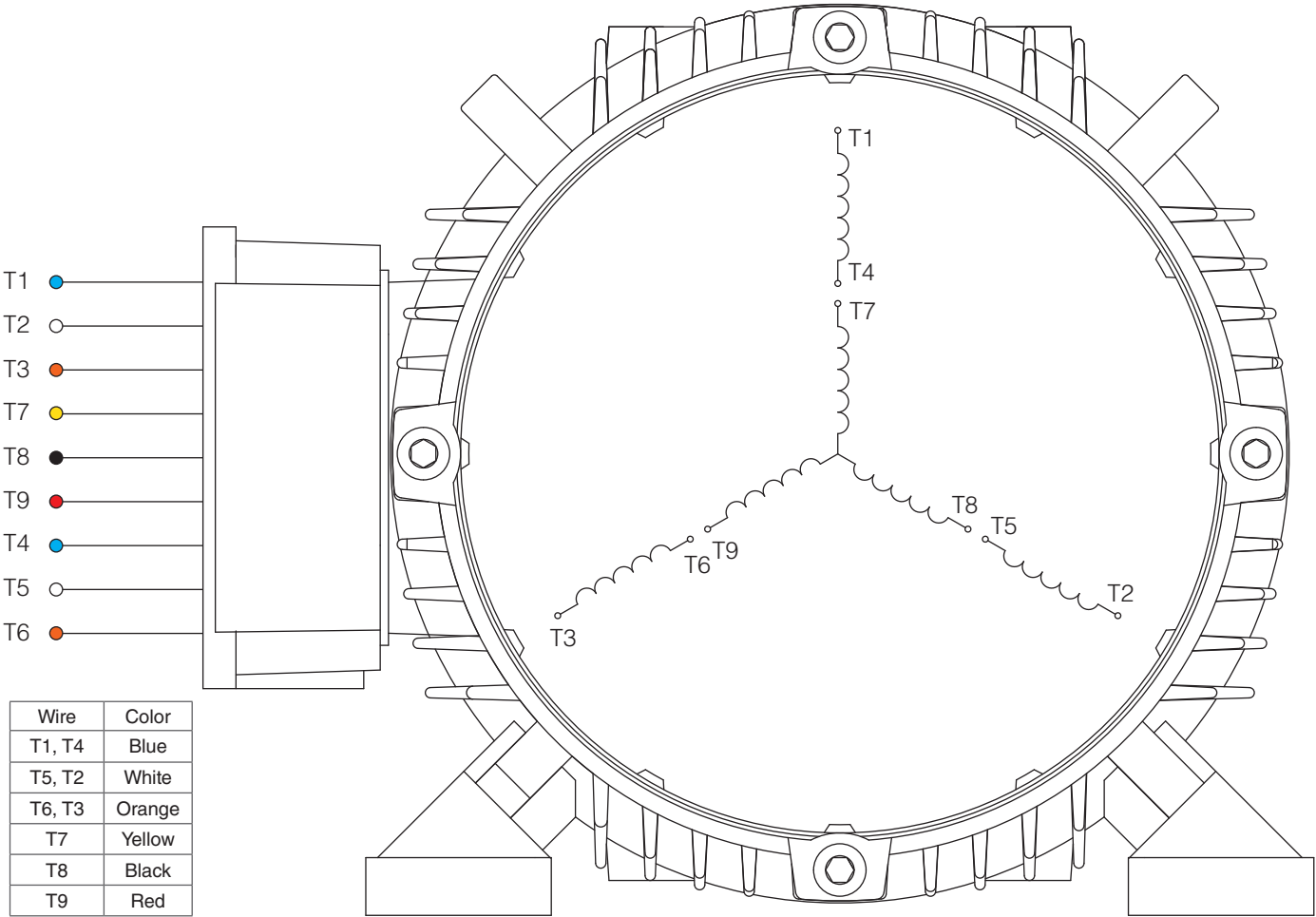
**TYPICAL PERFORMANCE - NOT GUARANTEED VALUES**

| % OF RATED LOAD     | 25   | 50   | 75   | 100  | 125  | S.F. 1.25 |
|---------------------|------|------|------|------|------|-----------|
| Line Amperes (A)    | 1.4  | 1.7  | 2.1  | 2.6  | 3.1  | 3.1       |
| Efficiency (%)      | 74.8 | 83.3 | 85.7 | 86   | 85.3 | 85.3      |
| Speed (r/min)       | 3575 | 3556 | 3534 | 3509 | 3482 | 3482      |
| Power Factor (cosΦ) | 0.46 | 0.67 | 0.79 | 0.85 | 0.88 | 0.88      |
| Input Power (kW)    | 0.5  | 0.9  | 1.31 | 1.75 | 2.2  | 2.2       |

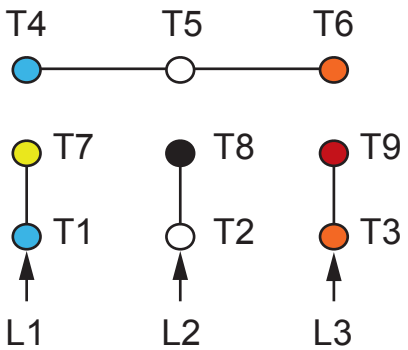
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HIGH VOLTAGE  
(Y)



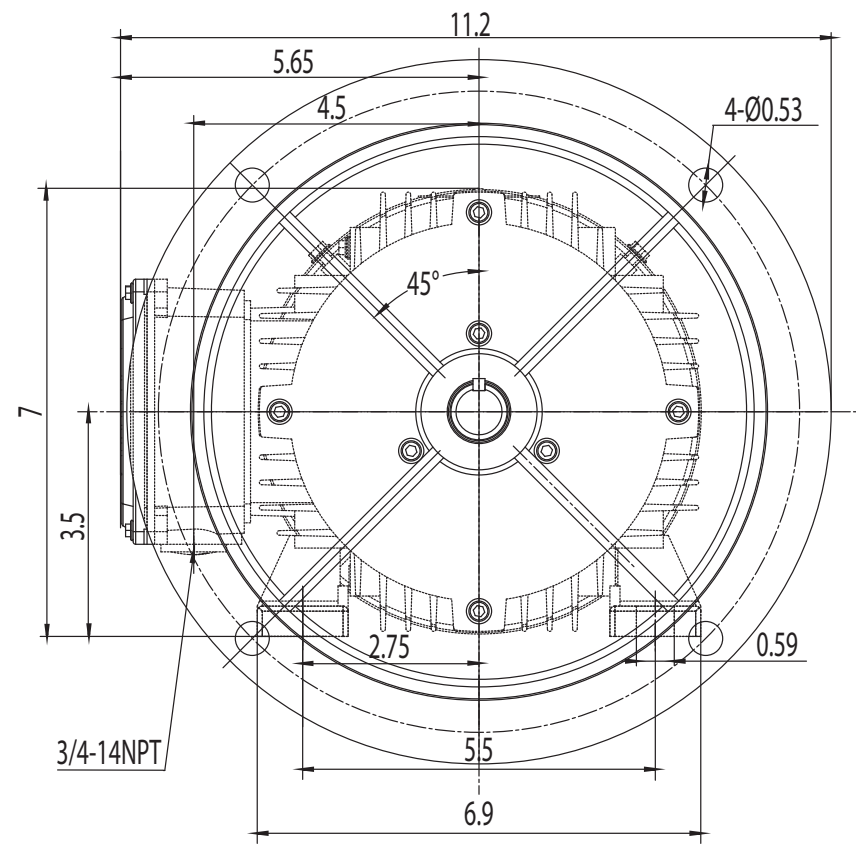
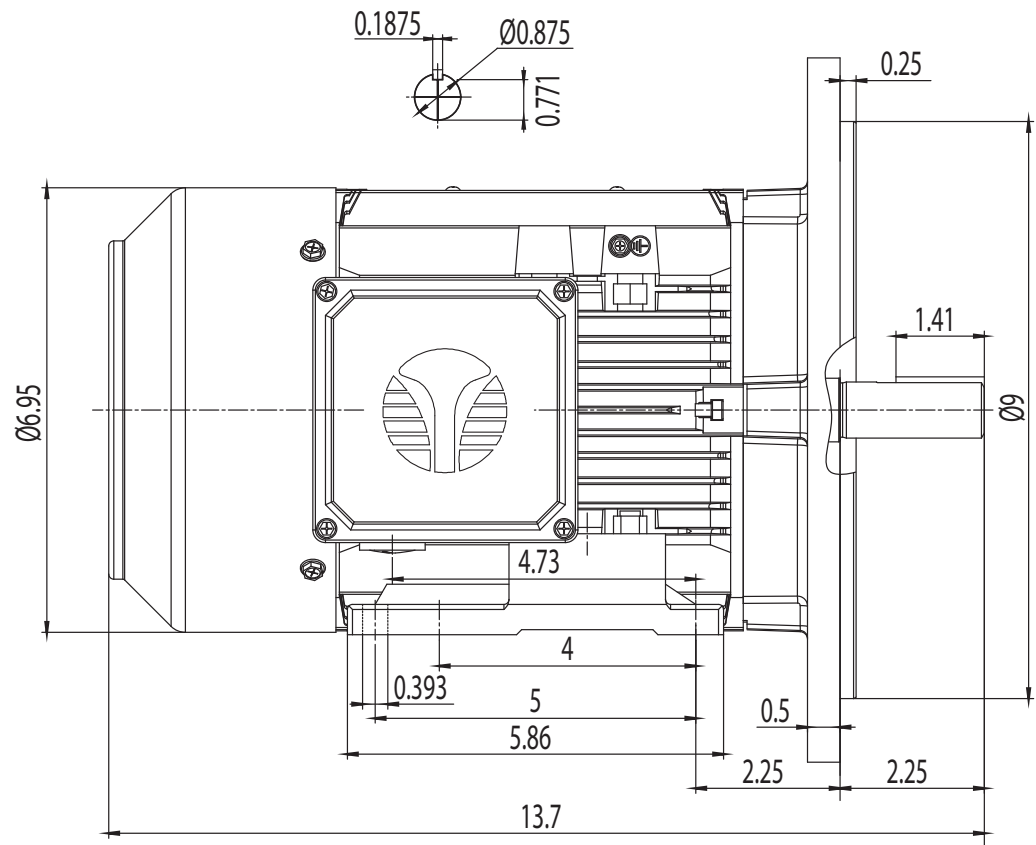
LOW VOLTAGE  
(YY)

- NOTES:
- 1. CCW ROTATION FACING ODE FOR CONNECTIONS SHOWN
  - 2. TO REVERSE ROTATION, SWAP ANY TWO INPUT LINES
  - 3. WHEN MOTOR IS IN F1 POSITION, LEADS INDICATED WITH “\*” EXIT THE CASING ABOVE THE CENTER LINE OF THE MOTOR, THE REMAINING LEADS EXIT BELOW THE CENTER LINE
  - 4. LEADS MUST BE NUMBERED AND COLORED AS SHOWN
  - 5. DIAGRAMS FOR REFERENCE ONLY



NEMA 3Ø YY/Y 9-Lead Dual Voltage

|                     |               |                                 |          |
|---------------------|---------------|---------------------------------|----------|
| DRAWING NUMBER:     | NEMA-3-9-YY-Y | ISSUED DATE                     | 16/01/25 |
| CONNECTION:         | YY/Y          | PREMIUM T-FRAME ALUMINUM MOTORS |          |
| NUMBER OF LEADS:    | 9             |                                 |          |
| THERMAL PROTECTION: | -             |                                 |          |



NEMA Premium TEFC 145TD

|                  |                    |                                 |          |
|------------------|--------------------|---------------------------------|----------|
| DRAWING NUMBER:  | GR3-AL-TF-140TD-01 | ISSUED DATE                     | 16/01/25 |
| DIMENSIONS:      | Inches             | PREMIUM T-FRAME ALUMINUM MOTORS |          |
| MOUNTING:        | Rigid/D-Flange     |                                 |          |
| CASING MATERIAL: | Cast Aluminum      |                                 |          |