

|                                        |                              |        |            |
|----------------------------------------|------------------------------|--------|------------|
| <b>HICO</b><br>3 PHASE INDUCTION MOTOR | <b>PERFORMANCE DATASHEET</b> | ISSUED | 01/15/2026 |
|                                        |                              | MODEL  | 20HP 2P    |

| NAMEPLATE INFORMATION |             |          |                                     |    |            |                |      |            |        |            |
|-----------------------|-------------|----------|-------------------------------------|----|------------|----------------|------|------------|--------|------------|
| OUTPUT                |             | RPM      | VOLTS                               | Hz | FRAME SIZE | ENCLOSURE TYPE | S.F. | INS. CALSS | RATING | AMB. TEMP. |
| HP                    | kW          |          |                                     |    |            |                |      |            |        |            |
| 20                    | 15          | 3540     | 575                                 | 60 | 256T       | TEFC           | 1.25 | F          | CONT.  | 40°C       |
| TEMP. RISE            | NEMA DESIGN | kVA CODE | Class/Division Hazardous Location   |    |            |                |      |            |        |            |
| B                     | B           | F        | Class I, Division 2, Group B, C & D |    |            |                |      |            |        |            |

| TYPICAL PERFORMANCE DATA |      |          |          |                  |          |          |
|--------------------------|------|----------|----------|------------------|----------|----------|
| EFFICIENCY (%)           |      |          |          | POWER FACTOR (%) |          |          |
| FULL LOAD                |      | 3/4 LOAD | 1/2 LOAD | FULL LOAD        | 3/4 LOAD | 1/2 LOAD |
| MIN.                     | NOM. |          |          |                  |          |          |
| 89.5                     | 91   | 91.2     | 90.3     | 85.4             | 79.9     | 68.5     |

| CURRENT        |               |               |              |                       |                        |
|----------------|---------------|---------------|--------------|-----------------------|------------------------|
| FULL LOAD AMPS | 3/4 LOAD AMPS | 1/2 LOAD AMPS | NO LOAD AMPS | STARTING CURRENT AMPS | STARTING CURRENT % FLC |
| 19.3           | 15.4          | 12.1          | 7.0          | 108.1                 | 560                    |

| TORQUE            |                    |                  |               | ALLOWABLE STARTS PER HOUR |     |
|-------------------|--------------------|------------------|---------------|---------------------------|-----|
| FULL LOAD (lb-ft) | LOCKED ROTOR % FLT | BREAK DOWN % FLT | PULL UP % FLT | COLD                      | HOT |
| 29.7              | 190                | 285              | 152           | 2                         | 1   |

| MECHANICAL DATA                             |                                                 |                                                     |                                     |                  |              |
|---------------------------------------------|-------------------------------------------------|-----------------------------------------------------|-------------------------------------|------------------|--------------|
| INERTIA                                     |                                                 |                                                     | SOUND PRESSURE LEVEL @ 3 ft (dB(A)) | PROTECTION GRADE | WEIGHT (Lbs) |
| ROTOR WR <sup>2</sup> (lb-ft <sup>2</sup> ) | NEMA LOAD WK <sup>2</sup> (lb-ft <sup>2</sup> ) | MAX ALLOWABLE WK <sup>2</sup> (lb-ft <sup>2</sup> ) |                                     |                  |              |
| 1.151                                       | 21                                              | 78                                                  | 72                                  | 55               | 288          |

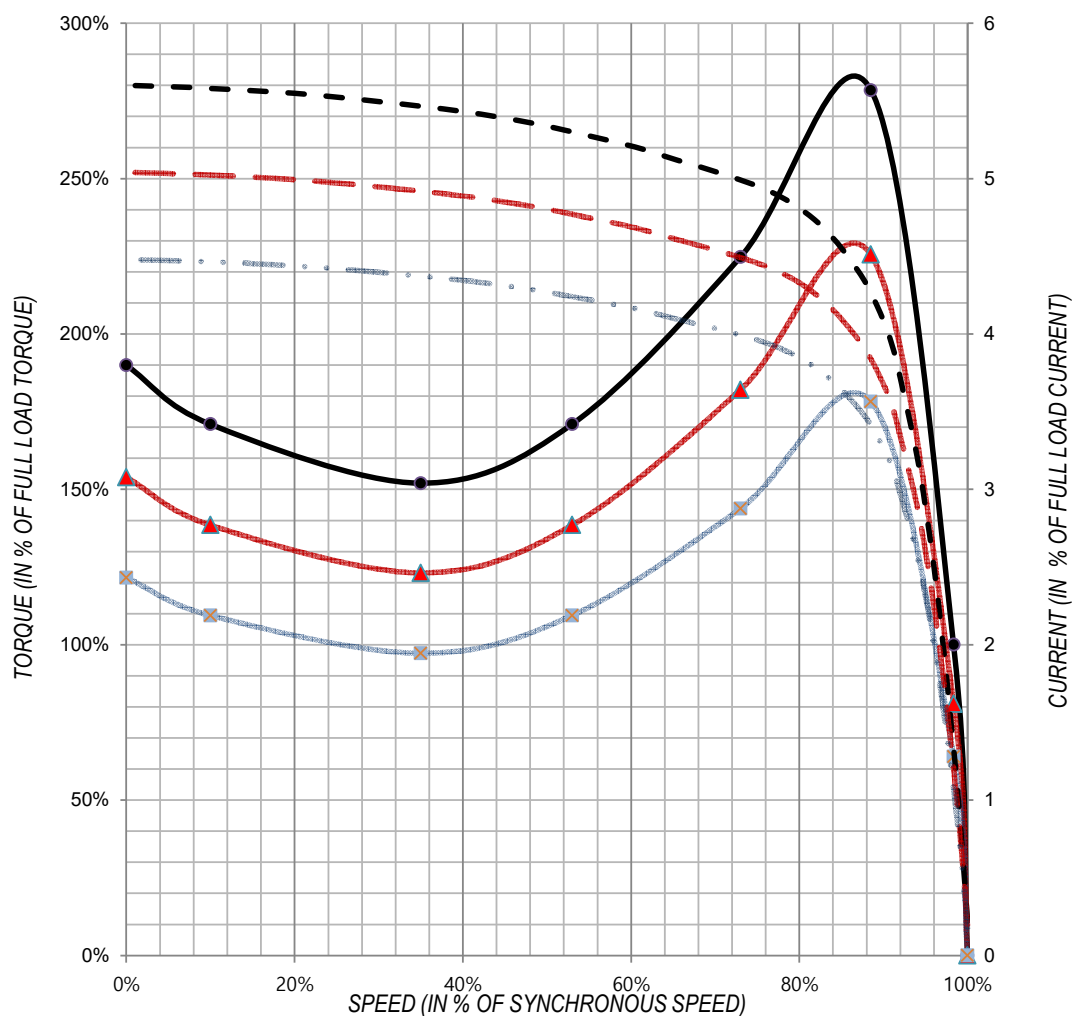
| BEARING |        | GREASE | MOUNTING             |                     |
|---------|--------|--------|----------------------|---------------------|
| DE      | ODE    |        | TYPE OF CONSTRUCTION | TERMINAL BOX DESIGN |
| 6309ZZ  | 6309ZZ | N/A    | RIGID MOUNTING       | NEMA                |

| INVERTER DUTY DATA |       |           |           |               |                                    |
|--------------------|-------|-----------|-----------|---------------|------------------------------------|
| TYPE               | HZ    | HP        | RPM       | TORQUE(LB-FT) | NOTE                               |
| VARIABLE TORQUE    | 3~60  | 0.0025~20 | 180~3600  | 0.074~29.7    | WITH TEMP. RISE CLASS F & S.F. 1.0 |
| CONSTANT TORQUE    | 6~60  | 2~20      | 360~3600  | 29.7          |                                    |
| CONSTANT HP        | 60~90 | 20        | 3600~5400 | 29.7~19.8     |                                    |

| DRAWING NO. | ES1AS180408 | REVISION | 0.1 |
|-------------|-------------|----------|-----|
|-------------|-------------|----------|-----|

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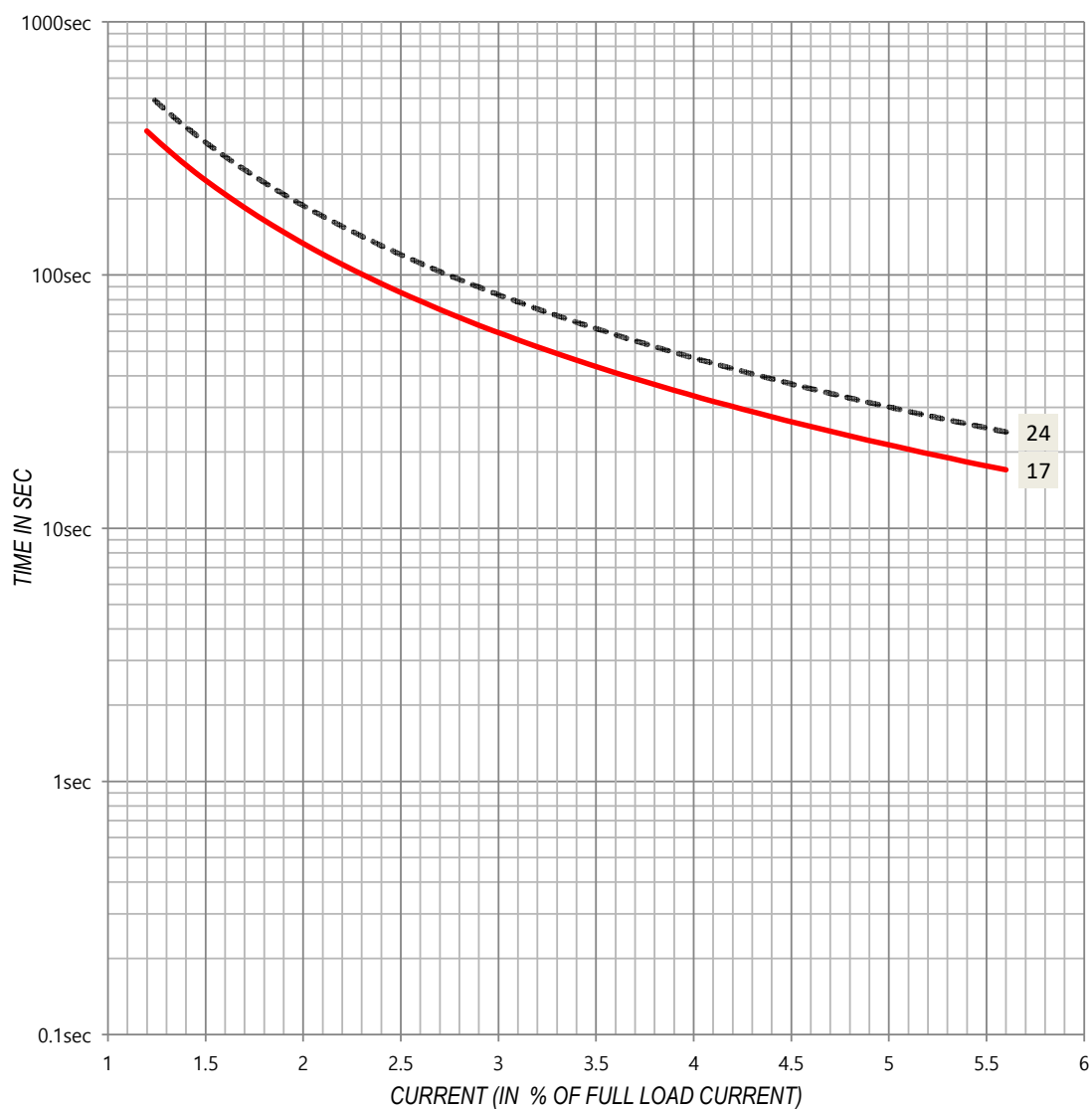
| <div> <div>HICO</div> <div>3 PHASE INDUCTION MOTOR</div> </div> | SPEED - TORQUE & CURRENT CURVE |                    |                          | Curve No. |                    |
|-----------------------------------------------------------------|--------------------------------|--------------------|--------------------------|-----------|--------------------|
|                                                                 |                                |                    |                          | 1ST       |                    |
| OUTPUT                                                          | 20                             | HP                 | POLES                    | 2         | P                  |
| VOLTAGE                                                         | 575                            | V                  | FREQUENCY                | 60        | Hz                 |
| FULL LOAD TORQUE                                                | 29.7                           | lb-ft              | FULL LOAD CURRENT        | 19.3      | A                  |
| LOCKED ROTOR TORQUE                                             | 190                            | %                  | LOCKED-ROTOR CURRENT     | 560       | %                  |
| BREAKDOWN TORQUE                                                | 285                            | %                  | SPEED (at FULL LOAD)     | 3540      | RPM                |
| GD <sup>2</sup> of LOAD :                                       | -                              | lb-ft <sup>2</sup> | GD <sup>2</sup> of MOTOR | 1.151     | lb-ft <sup>2</sup> |



**NOTE**

- A : SPEED-TORQUE CURVE AT 100% RATED VOLTAGE
- ▲ B : SPEED-TORQUE CURVE AT 90% RATED VOLTAGE
- C : SPEED-TORQUE CURVE AT 80% RATED VOLTAGE
- D : SPEED-CURRENT CURVE AT 100% RATED VOLTAGE
- E : SPEED-CURRENT CURVE AT 90% RATED VOLTAGE
- F : SPEED-CURRENT CURVE AT 80% RATED VOLTAGE

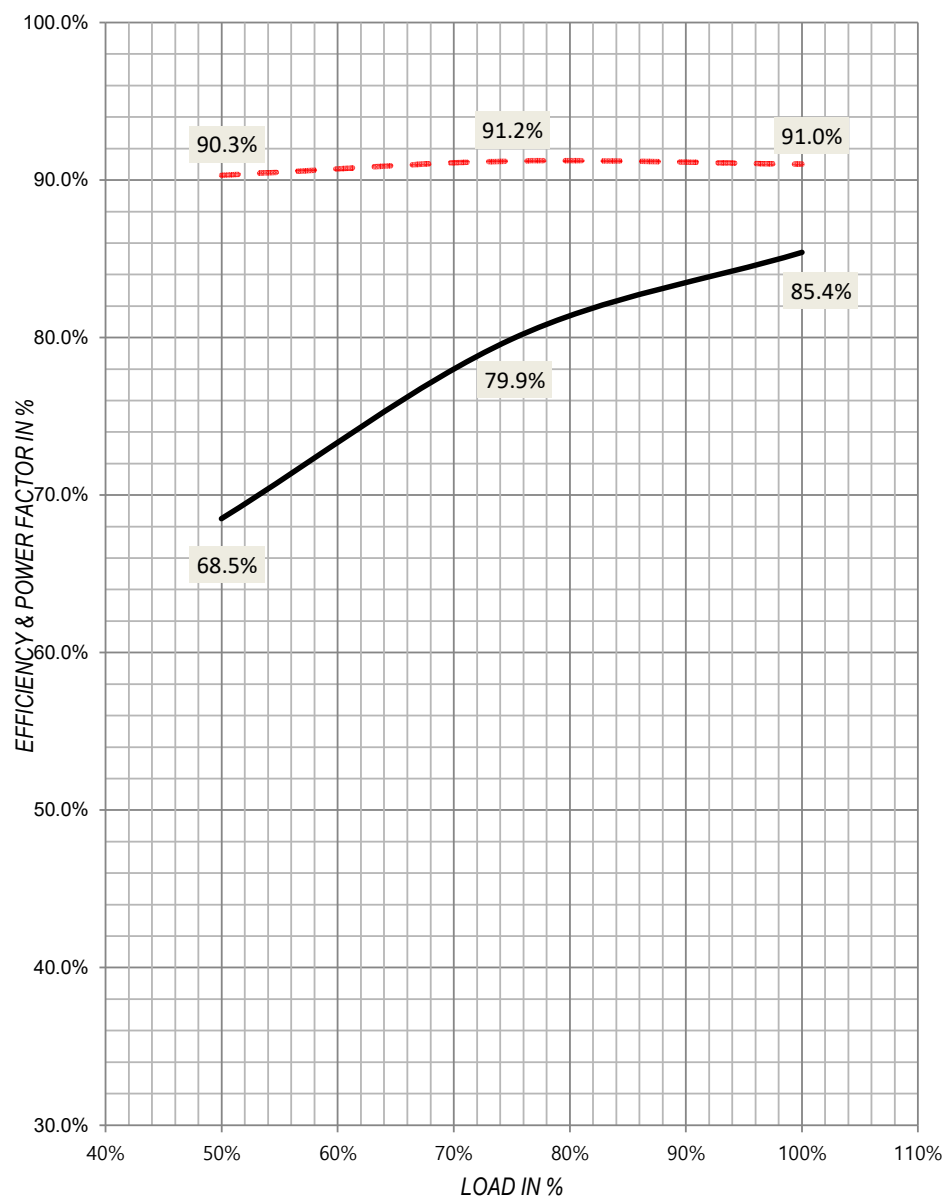
| <div> <div>HICO</div> <div>3 PHASE INDUCTION MOTOR</div> </div> | THERMAL LIMIT & TIME - CURRENT CURVE |                    |                          |       | Curve No.          |
|-----------------------------------------------------------------|--------------------------------------|--------------------|--------------------------|-------|--------------------|
|                                                                 |                                      |                    |                          |       | 1TL                |
| OUTPUT                                                          | 20                                   | HP                 | POLES                    | 2     | P                  |
| VOLTAGE                                                         | 575                                  | V                  | FREQUENCY                | 60    | Hz                 |
| FULL LOAD TORQUE                                                | 29.7                                 | lb-ft              | FULL LOAD CURRENT        | 19.3  | A                  |
| LOCKED ROTOR TORQUE                                             | 190                                  | %                  | LOCKED-ROTOR CURRENT     | 560   | %                  |
| BREAKDOWN TORQUE                                                | 285                                  | %                  | SPEED (at FULL LOAD)     | 3540  | RPM                |
| GD <sup>2</sup> of LOAD :                                       | -                                    | lb-ft <sup>2</sup> | GD <sup>2</sup> of MOTOR | 1.151 | lb-ft <sup>2</sup> |



**NOTE**

- A : THERMAL LIMIT CURVE AT HOT CONDITION
- - - - - B : THERMAL LIMIT CURVE AT COLD CONDITION
- — — — — C : ※TIME-CURRENT CURVES(C,D,E) NEED BELOW DATA TO BE DRAWN
- - - - - D : \* LOAD GD<sup>2</sup> AT MOTOR SHAFT
- - - - - E : \* SPEED-TORQUE CURVE OF LOAD

| <div> <div>HICO</div> <div>3 PHASE INDUCTION MOTOR</div> </div> | LOAD - POWER FACTOR & EFFICIENCY CURVE |                    |                          |       | Curve No.          |
|-----------------------------------------------------------------|----------------------------------------|--------------------|--------------------------|-------|--------------------|
|                                                                 |                                        |                    |                          |       | 1PE                |
| OUTPUT                                                          | 20                                     | HP                 | POLES                    | 2     | P                  |
| VOLTAGE                                                         | 575                                    | V                  | FREQUENCY                | 60    | Hz                 |
| FULL LOAD TORQUE                                                | 29.7                                   | lb-ft              | FULL LOAD CURRENT        | 19.3  | A                  |
| LOCKED ROTOR TORQUE                                             | 190                                    | %                  | LOCKED-ROTOR CURRENT     | 560   | %                  |
| BREAKDOWN TORQUE                                                | 285                                    | %                  | SPEED (at FULL LOAD)     | 3540  | RPM                |
| GD <sup>2</sup> of LOAD :                                       | -                                      | lb-ft <sup>2</sup> | GD <sup>2</sup> of MOTOR | 1.151 | lb-ft <sup>2</sup> |



**NOTE**

- A : LOAD - POWER FACTOR CURVE  
 - - - B : LOAD - EFFICIENCY CURVE

# HICO

3 PHASE INDUCTION MOTOR

## CONNECTION DIAGRAM

ISSUED

12/01/2024

| DOUBLE VOLTAGE<br>DELTA CONNECTION |                 | DOUBLE VOLTAGE<br>STAR CONNECTION |                 | SINGLE VOLTAGE<br>STAR-DELTA CONNECTION |                     | DOUBLE VOLTAGE-STAR-DELTA CONNECTION |             |                               |             |
|------------------------------------|-----------------|-----------------------------------|-----------------|-----------------------------------------|---------------------|--------------------------------------|-------------|-------------------------------|-------------|
| LOW<br>VOLTAGE                     | HIGH<br>VOLTAGE | LOW<br>VOLTAGE                    | HIGH<br>VOLTAGE | STAR<br>CONNECTION                      | DELTA<br>CONNECTION | LOW VOLTAGE                          |             | HIGH VOLTAGE                  |             |
|                                    |                 |                                   |                 |                                         |                     | STAR CONN.                           | DELTA CONN. | STAR CONN.                    | DELTA CONN. |
|                                    |                 |                                   |                 |                                         |                     |                                      |             |                               |             |
|                                    |                 |                                   |                 | <b>DIRECT-ON-LINE<br/>STARTING</b>      |                     | <b>DIRECT-ON-LINE<br/>STARTING</b>   |             | <b>WYE-DELTA<br/>STARTING</b> |             |

| SINGLE VOLTAGE PART-<br>WINDING CONNECTION |     | DOUBLE VOLTAGE<br>PART WINDING CONNECTION                                                 |     |                 | DOUBLE VOLTAGE-STAR-DELTA AND<br>PART WINDING (at LOW VOLTAGE) CONNECTION                            |                        |     |                        |     |
|--------------------------------------------|-----|-------------------------------------------------------------------------------------------|-----|-----------------|------------------------------------------------------------------------------------------------------|------------------------|-----|------------------------|-----|
| PART<br>WINDING<br>CONNECTION              | RUN | LOW VOLTAGE                                                                               |     | HIGH<br>VOLTAGE | LOW VOLTAGE                                                                                          |                        |     | HIGH VOLTAGE           |     |
|                                            |     | STARTING                                                                                  | RUN |                 | PART-WINDING<br>STARTING                                                                             | STAR-DELTA<br>STARTING | RUN | STAR-DELTA<br>STARTING | RUN |
|                                            |     |                                                                                           |     |                 |                                                                                                      |                        |     |                        |     |
|                                            |     |                                                                                           |     |                 |                                                                                                      |                        |     |                        |     |
| <b>PART-WINDING<br/>STARTING</b>           |     | <b>LOW VOLTAGE<br/>PART-WINDING STARTING<br/>HIGH VOLTAGE<br/>DIRECT-ON-LINE STARTING</b> |     |                 | <b>LOW VOLTAGE<br/>PART-WINDING/STAR-DELTA STARTING<br/>HIGH VOLTAGE<br/>DIRECT-ON-LINE STARTING</b> |                        |     |                        |     |

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