

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 IEEE 841 NEMA Premium Efficiency  
Three-Phase

Product code : 11432056

Catalog # : 02012ST3QIE286T-W22

|                       |                 |                             |                        |
|-----------------------|-----------------|-----------------------------|------------------------|
| Frame                 | : 284/6T        | Locked rotor time           | : 28s (cold) 16s (hot) |
| Output                | : 20 HP (15 kW) | Temperature rise            | : 80 K                 |
| Poles                 | : 6             | Duty cycle                  | : Cont.(S1)            |
| Frequency             | : 60 Hz         | Ambient temperature         | : -20°C to +40°C       |
| Rated voltage         | : 460 V         | Altitude                    | : 1000 m.a.s.l.        |
| Rated current         | : 24.2 A        | Protection degree           | : IP56                 |
| L. R. Amperes         | : 143 A         | Cooling method              | : IC411 - TEFC         |
| LRC                   | : 5.9x(Code G)  | Mounting                    | : F-1                  |
| No load current       | : 8.30 A        | Rotation <sup>1</sup>       | : Both (CW and CCW)    |
| Rated speed           | : 1175 rpm      | Noise level <sup>2</sup>    | : 59.0 dB(A)           |
| Slip                  | : 2.08 %        | Starting method             | : Direct On Line       |
| Rated torque          | : 89.4 ft.lb    | Approx. weight <sup>3</sup> | : 447 lb               |
| Locked rotor torque   | : 220 %         |                             |                        |
| Breakdown torque      | : 250 %         |                             |                        |
| Insulation class      | : F             |                             |                        |
| Service factor        | : 1.25          |                             |                        |
| Moment of inertia (J) | : 9.16 sq.ft.lb |                             |                        |
| Design                | : B             |                             |                        |

| Output         | 25%  |      | 50%  |      | 75%  |      | 100% |      | Foundation loads |           |
|----------------|------|------|------|------|------|------|------|------|------------------|-----------|
| Efficiency (%) | 90.8 | 89.8 | 91.0 | 90.0 | 91.7 | 90.3 | 91.7 | 90.3 | Max. traction    | : 857 lb  |
|                | 89.0 | 88.9 | 89.3 | 89.3 | 90.3 | 90.6 | 90.3 | 90.8 |                  |           |
|                | 91.5 | 90.6 | 90.2 | 90.2 | 90.2 | 90.2 | 88.5 | 89.5 |                  |           |
|                | 90.7 |      | 90.2 |      | 91.0 |      | 90.2 |      |                  |           |
| Power Factor   | 0.46 | 0.43 | 0.70 | 0.66 | 0.80 | 0.79 | 0.85 | 0.85 | Max. compression | : 1304 lb |
|                | 0.40 | 0.37 | 0.63 | 0.60 | 0.76 | 0.73 | 0.83 | 0.81 |                  |           |
|                | 0.53 | 0.49 | 0.76 | 0.73 | 0.84 | 0.82 | 0.87 | 0.86 |                  |           |
|                | 0.46 |      | 0.70 |      | 0.80 |      | 0.85 |      |                  |           |

Losses at normative operating points (speed;torque), in percentage of rated output power

|            |                |     |      |      |      |      |      |      |
|------------|----------------|-----|------|------|------|------|------|------|
| Losses (%) | P1 (0,9;1,0)   | 9.9 | 11.9 | 11.9 | 11.2 | 14.5 | 13.0 | 12.0 |
|            | P2 (0,5;1,0)   | 8.5 | 10.4 | 10.4 | 9.7  | 13.0 | 11.5 | 10.5 |
|            | P3 (0,25;1,0)  | 7.9 | 9.8  | 9.8  | 9.2  | 12.4 | 11.0 | 10.0 |
|            | P4 (0,9;0,5)   | 5.2 | 6.0  | 6.0  | 5.7  | 7.2  | 6.5  | 6.1  |
|            | P5 (0,5;0,5)   | 3.7 | 4.4  | 4.4  | 4.1  | 5.4  | 4.8  | 4.4  |
|            | P6 (0,5;0,25)  | 2.6 | 3.1  | 3.1  | 2.9  | 3.8  | 3.4  | 3.2  |
|            | P7 (0,25;0,25) | 1.8 | 2.3  | 2.3  | 2.1  | 2.9  | 2.5  | 2.3  |

|                      |   |                  |                      |
|----------------------|---|------------------|----------------------|
|                      |   | <u>Drive end</u> | <u>Non drive end</u> |
| Bearing type         | : | 6311 C3          | 6211 C3              |
| Sealing              | : | Inpro/Seal       | Inpro/Seal           |
| Lubrication interval | : | 20000 h          | 20000 h              |
| Lubricant amount     | : | 18 g             | 11 g                 |
| Lubricant type       | : | Mobil Polyrex EM |                      |

Notes:

This revision replaces and cancel the previous one, which must be eliminated.

- (1) Looking the motor from the shaft end.
- (2) Measured at 1m and with tolerance of +3dB(A).
- (3) Approximate weight subject to changes after manufacturing process.
- (4) At 100% of full load.

These are average values based on tests with sinusoidal power supply, subject to the tolerances stipulated in NEMA MG-1.

| Rev.         | Changes Summary | Performed | Checked | Date     |
|--------------|-----------------|-----------|---------|----------|
|              |                 |           |         |          |
| Performed by |                 |           |         |          |
| Checked by   |                 |           |         |          |
| Date         | 25/03/2024      |           |         |          |
|              |                 |           | Page    | Revision |
|              |                 |           | 1 / 1   |          |