

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :

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

Product code : 14325711

Catalog # : 10009ST3QIERB445T-W2

Frame : 444/5T  
Output : 100 HP (75 kW)  
Poles : 8  
Frequency : 60 Hz  
Rated voltage : 460 V  
Rated current : 127 A  
L. R. Amperes : 762 A  
LRC : 6.0x(Code G)  
No load current : 56.0 A  
Rated speed : 890 rpm  
Slip : 1.11 %  
Rated torque : 590 ft.lb  
Locked rotor torque : 190 %  
Breakdown torque : 220 %  
Insulation class : F  
Service factor : 1.25  
Moment of inertia (J) : 87.3 sq.ft.lb  
Design : B

Locked rotor time : 27s (cold) 15s (hot)  
Temperature rise : 80 K  
Duty cycle : Cont.(S1)  
Ambient temperature : -20°C to +40°C  
Altitude : 1000 m.a.s.l.  
Protection degree : IP56  
Cooling method : IC411 - TEFC  
Mounting : F-1  
Rotation<sup>1</sup> : Both (CW and CCW)  
Noise level<sup>2</sup> : 63.0 dB(A)  
Starting method : Direct On Line  
Approx. weight<sup>3</sup> : 1773 lb

| Output         | 25%  |      | 50%  |      | 75%  |      | 100% |      |
|----------------|------|------|------|------|------|------|------|------|
| Efficiency (%) | 93.5 | 92.9 | 93.6 | 92.9 | 94.1 | 93.4 | 94.1 | 93.2 |
|                | 91.5 | 90.6 | 91.9 | 91.2 | 93.0 | 92.6 | 93.2 | 93.1 |
|                | 94.0 | 92.9 | 93.6 | 93.0 | 93.0 | 93.0 | 92.4 | 93.0 |
|                | 92.2 | 92.4 |      |      | 93.0 |      | 93.0 |      |
| Power Factor   | 0.38 | 0.36 | 0.63 | 0.59 | 0.74 | 0.72 | 0.79 | 0.78 |
|                | 0.32 | 0.29 | 0.55 | 0.51 | 0.68 | 0.65 | 0.75 | 0.73 |
|                | 0.44 | 0.40 | 0.69 | 0.65 | 0.78 | 0.75 | 0.81 | 0.79 |
|                | 0.37 |      | 0.61 |      | 0.73 |      | 0.78 |      |

Foundation loads  
Max. traction : 3275 lb  
Max. compression : 5048 lb

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

| Losses (%) | P1 (0,9;1,0)   | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 |
|------------|----------------|-----|-----|-----|-----|-----|-----|-----|
|            | P2 (0,5;1,0)   | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 |
|            | P3 (0,25;1,0)  | 4.4 | 4.4 | 4.4 | 4.4 | 4.4 | 4.4 | 4.4 |
|            | P4 (0,9;0,5)   | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
|            | P5 (0,5;0,5)   | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
|            | P6 (0,5;0,25)  | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 |
|            | P7 (0,25;0,25) | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 |

|                      |   |                  |                      |
|----------------------|---|------------------|----------------------|
|                      |   | <u>Drive end</u> | <u>Non drive end</u> |
| Bearing type         | : | NU-319 C3        | 6316 C3              |
| Sealing              | : | Inpro/Seal       | Inpro/Seal           |
| Lubrication interval | : | 15000 h          | 20000 h              |
| Lubricant amount     | : | 45 g             | 34 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   |          |