

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase Product code : 12809164  
Catalog # : 02018ET3EID256TC-W22

|                                      |                                           |
|--------------------------------------|-------------------------------------------|
| Frame : 254/6TC                      | Cooling method : IC411 - TEFC             |
| Insulation class : F                 | Mounting : F-1                            |
| Duty cycle : Cont.(S1)               | Rotation <sup>1</sup> : Both (CW and CCW) |
| Ambient temperature : -20°C to +40°C | Starting method : Direct On Line          |
| Altitude : 1000 m.a.s.l.             | Approx. weight <sup>2</sup> : 366 lb      |
| Protection degree : IP55             | Moment of inertia (J) : 3.10 sq.ft.lb     |
| Design : B                           |                                           |

|                          |                         |                         |                         |                         |                         |                         |                         |
|--------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Output [HP]              | 20                      | 15                      | 15                      | 15                      | 20                      | 20                      | 20                      |
| Poles                    | 4                       | 4                       | 4                       | 4                       | 4                       | 4                       | 4                       |
| Frequency [Hz]           | 60                      | 50                      | 50                      | 50                      | 50                      | 50                      | 50                      |
| Rated voltage [V]        | 208-230/460             | 380                     | 400                     | 415                     | 380                     | 400                     | 415                     |
| Rated current [A]        | 53.3-48.2/24.1          | 21.8                    | 21.2                    | 20.6                    | 29.4                    | 28.0                    | 27.1                    |
| L. R. Amperes [A]        | 368-333/166             | 161                     | 167                     | 173                     | 168                     | 174                     | 179                     |
| LRC [A]                  | 6.9x(Code H)            | 7.4x(Code H)            | 7.9x(Code J)            | 8.4x(Code K)            | 5.7x(Code F)            | 6.2x(Code G)            | 6.6x(Code H)            |
| No load current [A]      | 17.2-20.0/10.0          | 9.90                    | 10.5                    | 11.0                    | 9.90                    | 10.5                    | 11.0                    |
| Rated speed [RPM]        | 1765                    | 1465                    | 1470                    | 1470                    | 1450                    | 1460                    | 1460                    |
| Slip [%]                 | 1.94                    | 2.33                    | 2.00                    | 2.00                    | 3.33                    | 2.67                    | 2.67                    |
| Rated torque [ft.lb]     | 58.7                    | 53.0                    | 52.9                    | 52.9                    | 71.5                    | 71.0                    | 71.0                    |
| Locked rotor torque [%]  | 229                     | 229                     | 270                     | 280                     | 170                     | 200                     | 210                     |
| Breakdown torque [%]     | 270                     | 280                     | 310                     | 340                     | 210                     | 229                     | 250                     |
| Service factor           | 1.25                    | 1.00                    | 1.00                    | 1.00                    | 1.00                    | 1.00                    | 1.00                    |
| Temperature rise         | 80 K                    | 80 K                    | 80 K                    | 80 K                    | 105 K                   | 105 K                   | 105 K                   |
| Locked rotor time        | 27s (cold)<br>15s (hot) | 21s (cold)<br>12s (hot) | 25s (cold)<br>14s (hot) | 25s (cold)<br>14s (hot) | 21s (cold)<br>12s (hot) | 25s (cold)<br>14s (hot) | 25s (cold)<br>14s (hot) |
| Noise level <sup>2</sup> | 64.0 dB(A)              | 61.0 dB(A)              | 61.0 dB(A)              | 61.0 dB(A)              | 61.0 dB(A)              | 61.0 dB(A)              | 61.0 dB(A)              |
| Efficiency (%)           | 25%                     | 91.0                    | 90.9                    | 89.2                    | 89.2                    | 92.2                    | 90.8                    |
|                          | 50%                     | 91.7                    | 91.0                    | 89.8                    | 89.8                    | 91.7                    | 91.0                    |
|                          | 75%                     | 92.4                    | 91.5                    | 91.0                    | 91.3                    | 91.0                    | 91.0                    |
|                          | 100%                    | 93.0                    | 91.4                    | 91.4                    | 91.7                    | 90.2                    | 91.0                    |
| Power Factor             | 25%                     | 0.43                    | 0.40                    | 0.37                    | 0.35                    | 0.49                    | 0.44                    |
|                          | 50%                     | 0.68                    | 0.65                    | 0.62                    | 0.60                    | 0.75                    | 0.72                    |
|                          | 75%                     | 0.79                    | 0.78                    | 0.75                    | 0.73                    | 0.83                    | 0.81                    |
|                          | 100%                    | 0.84                    | 0.84                    | 0.82                    | 0.81                    | 0.86                    | 0.85                    |

|                        |                  |                      |                            |
|------------------------|------------------|----------------------|----------------------------|
|                        | <u>Drive end</u> | <u>Non drive end</u> | Foundation loads           |
| Bearing type :         | 6309 C3          | 6209 C3              | Max. traction : 679 lb     |
| Sealing :              | V'Ring           | V'Ring               | Max. compression : 1046 lb |
| Lubrication interval : | 20000 h          | 20000 h              |                            |
| Lubricant amount :     | 13 g             | 9 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         | 19/01/2018      |           |         |      |

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