

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



|  |   |                             |                        |  |               |                   |                        |         |                 |                  |        |                      |     |            |             |                  |         |                     |                  |                |                    |          |                 |               |          |                   |        |               |         |                |                |     |                |          |       |                 |          |                       |                     |             |            |                          |              |      |          |                 |                  |              |              |                             |          |                     |         |  |  |                  |         |  |  |                  |     |  |  |                |        |  |  |                       |                 |  |  |
|--|---|-----------------------------|------------------------|--|---------------|-------------------|------------------------|---------|-----------------|------------------|--------|----------------------|-----|------------|-------------|------------------|---------|---------------------|------------------|----------------|--------------------|----------|-----------------|---------------|----------|-------------------|--------|---------------|---------|----------------|----------------|-----|----------------|----------|-------|-----------------|----------|-----------------------|---------------------|-------------|------------|--------------------------|--------------|------|----------|-----------------|------------------|--------------|--------------|-----------------------------|----------|---------------------|---------|--|--|------------------|---------|--|--|------------------|-----|--|--|----------------|--------|--|--|-----------------------|-----------------|--|--|
| Customer :   |   |                             |                        |  |               |                   |                        |         |                 |                  |        |                      |     |            |             |                  |         |                     |                  |                |                    |          |                 |               |          |                   |        |               |         |                |                |     |                |          |       |                 |          |                       |                     |             |            |                          |              |      |          |                 |                  |              |              |                             |          |                     |         |  |  |                  |         |  |  |                  |     |  |  |                |        |  |  |                       |                 |  |  |
| Product line   | : W22 Cooling Tower High Efficiency Three-Phase |                             | Product code :         | 12173193   |               |                   |                        |         |                 |                  |        |                      |     |            |             |                  |         |                     |                  |                |                    |          |                 |               |          |                   |        |               |         |                |                |     |                |          |       |                 |          |                       |                     |             |            |                          |              |      |          |                 |                  |              |              |                             |          |                     |         |  |  |                  |         |  |  |                  |     |  |  |                |        |  |  |                       |                 |  |  |
|  |   |                             | Catalog # :            | 01589EP3QCT284V2F1-W   |               |                   |                        |         |                 |                  |        |                      |     |            |             |                  |         |                     |                  |                |                    |          |                 |               |          |                   |        |               |         |                |                |     |                |          |       |                 |          |                       |                     |             |            |                          |              |      |          |                 |                  |              |              |                             |          |                     |         |  |  |                  |         |  |  |                  |     |  |  |                |        |  |  |                       |                 |  |  |
| <table> <tr> <td>Frame</td><td>: 284T</td> <td>Locked rotor time</td><td>: 25s (cold) 14s (hot)</td> </tr> <tr> <td>Output</td><td>: 15 HP (11 kW)</td><td>Temperature rise</td><td>: 80 K</td> </tr> <tr> <td>Poles</td><td>: 4</td><td>Duty cycle</td><td>: Cont.(S1)</td> </tr> <tr> <td>Frequency</td><td>: 60 Hz</td><td>Ambient temperature</td><td>: -20°C to +40°C</td> </tr> <tr> <td>Rated voltage</td><td>: 460 V</td><td>Altitude</td><td>: 1000 m.a.s.l.</td> </tr> <tr> <td>Rated current</td><td>: 18.2 A</td><td>Protection degree</td><td>: IP55</td> </tr> <tr> <td>L. R. Amperes</td><td>: 146 A</td><td>Cooling method</td><td>: IC411 - TEFC</td> </tr> <tr> <td>LRC</td><td>: 8.0x(Code J)</td><td>Mounting</td><td>: F-1</td> </tr> <tr> <td>No load current</td><td>: 7.75 A</td><td>Rotation<sup>1</sup></td><td>: Both (CW and CCW)</td> </tr> <tr> <td>Rated speed</td><td>: 1781 rpm</td><td>Noise level<sup>2</sup></td><td>: 64.0 dB(A)</td> </tr> <tr> <td>Slip</td><td>: 1.06 %</td><td>Starting method</td><td>: Direct On Line</td> </tr> <tr> <td>Rated torque</td><td>: 44.2 ft.lb</td><td>Approx. weight<sup>3</sup></td><td>: 405 lb</td> </tr> <tr> <td>Locked rotor torque</td><td>: 210 %</td><td></td><td></td> </tr> <tr> <td>Breakdown torque</td><td>: 260 %</td><td></td><td></td> </tr> <tr> <td>Insulation class</td><td>: F</td><td></td><td></td> </tr> <tr> <td>Service factor</td><td>: 1.15</td><td></td><td></td> </tr> <tr> <td>Moment of inertia (J)</td><td>: 4.68 sq.ft.lb</td><td></td><td></td> </tr> </table> |   |                             |                        | Frame  | : 284T        | Locked rotor time | : 25s (cold) 14s (hot) | Output  | : 15 HP (11 kW) | Temperature rise | : 80 K | Poles                | : 4 | 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 | : 18.2 A | Protection degree | : IP55 | L. R. Amperes | : 146 A | Cooling method | : IC411 - TEFC | LRC | : 8.0x(Code J) | Mounting | : F-1 | No load current | : 7.75 A | Rotation <sup>1</sup> | : Both (CW and CCW) | Rated speed | : 1781 rpm | Noise level <sup>2</sup> | : 64.0 dB(A) | Slip | : 1.06 % | Starting method | : Direct On Line | Rated torque | : 44.2 ft.lb | Approx. weight <sup>3</sup> | : 405 lb | Locked rotor torque | : 210 % |  |  | Breakdown torque | : 260 % |  |  | Insulation class | : F |  |  | Service factor | : 1.15 |  |  | Moment of inertia (J) | : 4.68 sq.ft.lb |  |  |
| Frame  | : 284T  | Locked rotor time           | : 25s (cold) 14s (hot) |  |               |                   |                        |         |                 |                  |        |                      |     |            |             |                  |         |                     |                  |                |                    |          |                 |               |          |                   |        |               |         |                |                |     |                |          |       |                 |          |                       |                     |             |            |                          |              |      |          |                 |                  |              |              |                             |          |                     |         |  |  |                  |         |  |  |                  |     |  |  |                |        |  |  |                       |                 |  |  |
| Output   | : 15 HP (11 kW)                                 | Temperature rise            | : 80 K                 |  |               |                   |                        |         |                 |                  |        |                      |     |            |             |                  |         |                     |                  |                |                    |          |                 |               |          |                   |        |               |         |                |                |     |                |          |       |                 |          |                       |                     |             |            |                          |              |      |          |                 |                  |              |              |                             |          |                     |         |  |  |                  |         |  |  |                  |     |  |  |                |        |  |  |                       |                 |  |  |
| Poles  | : 4   | 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  | : 18.2 A  | Protection degree           | : IP55                 |  |               |                   |                        |         |                 |                  |        |                      |     |            |             |                  |         |                     |                  |                |                    |          |                 |               |          |                   |        |               |         |                |                |     |                |          |       |                 |          |                       |                     |             |            |                          |              |      |          |                 |                  |              |              |                             |          |                     |         |  |  |                  |         |  |  |                  |     |  |  |                |        |  |  |                       |                 |  |  |
| L. R. Amperes  | : 146 A   | Cooling method              | : IC411 - TEFC         |  |               |                   |                        |         |                 |                  |        |                      |     |            |             |                  |         |                     |                  |                |                    |          |                 |               |          |                   |        |               |         |                |                |     |                |          |       |                 |          |                       |                     |             |            |                          |              |      |          |                 |                  |              |              |                             |          |                     |         |  |  |                  |         |  |  |                  |     |  |  |                |        |  |  |                       |                 |  |  |
| LRC  | : 8.0x(Code J)                                  | Mounting                    | : F-1                  |  |               |                   |                        |         |                 |                  |        |                      |     |            |             |                  |         |                     |                  |                |                    |          |                 |               |          |                   |        |               |         |                |                |     |                |          |       |                 |          |                       |                     |             |            |                          |              |      |          |                 |                  |              |              |                             |          |                     |         |  |  |                  |         |  |  |                  |     |  |  |                |        |  |  |                       |                 |  |  |
| No load current  | : 7.75 A  | Rotation <sup>1</sup>       | : Both (CW and CCW)    |  |               |                   |                        |         |                 |                  |        |                      |     |            |             |                  |         |                     |                  |                |                    |          |                 |               |          |                   |        |               |         |                |                |     |                |          |       |                 |          |                       |                     |             |            |                          |              |      |          |                 |                  |              |              |                             |          |                     |         |  |  |                  |         |  |  |                  |     |  |  |                |        |  |  |                       |                 |  |  |
| Rated speed  | : 1781 rpm                                      | Noise level <sup>2</sup>    | : 64.0 dB(A)           |  |               |                   |                        |         |                 |                  |        |                      |     |            |             |                  |         |                     |                  |                |                    |          |                 |               |          |                   |        |               |         |                |                |     |                |          |       |                 |          |                       |                     |             |            |                          |              |      |          |                 |                  |              |              |                             |          |                     |         |  |  |                  |         |  |  |                  |     |  |  |                |        |  |  |                       |                 |  |  |
| Slip   | : 1.06 %  | Starting method             | : Direct On Line       |  |               |                   |                        |         |                 |                  |        |                      |     |            |             |                  |         |                     |                  |                |                    |          |                 |               |          |                   |        |               |         |                |                |     |                |          |       |                 |          |                       |                     |             |            |                          |              |      |          |                 |                  |              |              |                             |          |                     |         |  |  |                  |         |  |  |                  |     |  |  |                |        |  |  |                       |                 |  |  |
| Rated torque   | : 44.2 ft.lb                                    | Approx. weight <sup>3</sup> | : 405 lb               |  |               |                   |                        |         |                 |                  |        |                      |     |            |             |                  |         |                     |                  |                |                    |          |                 |               |          |                   |        |               |         |                |                |     |                |          |       |                 |          |                       |                     |             |            |                          |              |      |          |                 |                  |              |              |                             |          |                     |         |  |  |                  |         |  |  |                  |     |  |  |                |        |  |  |                       |                 |  |  |
| Locked rotor torque  | : 210 %   |                             |                        |  |               |                   |                        |         |                 |                  |        |                      |     |            |             |                  |         |                     |                  |                |                    |          |                 |               |          |                   |        |               |         |                |                |     |                |          |       |                 |          |                       |                     |             |            |                          |              |      |          |                 |                  |              |              |                             |          |                     |         |  |  |                  |         |  |  |                  |     |  |  |                |        |  |  |                       |                 |  |  |
| Breakdown torque   | : 260 %   |                             |                        |  |               |                   |                        |         |                 |                  |        |                      |     |            |             |                  |         |                     |                  |                |                    |          |                 |               |          |                   |        |               |         |                |                |     |                |          |       |                 |          |                       |                     |             |            |                          |              |      |          |                 |                  |              |              |                             |          |                     |         |  |  |                  |         |  |  |                  |     |  |  |                |        |  |  |                       |                 |  |  |
| Insulation class   | : F   |                             |                        |  |               |                   |                        |         |                 |                  |        |                      |     |            |             |                  |         |                     |                  |                |                    |          |                 |               |          |                   |        |               |         |                |                |     |                |          |       |                 |          |                       |                     |             |            |                          |              |      |          |                 |                  |              |              |                             |          |                     |         |  |  |                  |         |  |  |                  |     |  |  |                |        |  |  |                       |                 |  |  |
| Service factor   | : 1.15  |                             |                        |  |               |                   |                        |         |                 |                  |        |                      |     |            |             |                  |         |                     |                  |                |                    |          |                 |               |          |                   |        |               |         |                |                |     |                |          |       |                 |          |                       |                     |             |            |                          |              |      |          |                 |                  |              |              |                             |          |                     |         |  |  |                  |         |  |  |                  |     |  |  |                |        |  |  |                       |                 |  |  |
| Moment of inertia (J)  | : 4.68 sq.ft.lb                                 |                             |                        |  |               |                   |                        |         |                 |                  |        |                      |     |            |             |                  |         |                     |                  |                |                    |          |                 |               |          |                   |        |               |         |                |                |     |                |          |       |                 |          |                       |                     |             |            |                          |              |      |          |                 |                  |              |              |                             |          |                     |         |  |  |                  |         |  |  |                  |     |  |  |                |        |  |  |                       |                 |  |  |
| Output   | 25%   | 50%                         | 75%                    | 100%   |               |                   |                        |         |                 |                  |        |                      |     |            |             |                  |         |                     |                  |                |                    |          |                 |               |          |                   |        |               |         |                |                |     |                |          |       |                 |          |                       |                     |             |            |                          |              |      |          |                 |                  |              |              |                             |          |                     |         |  |  |                  |         |  |  |                  |     |  |  |                |        |  |  |                       |                 |  |  |
| Efficiency (%)   | 85.9  | 69.0                        | 87.5                   | 71.0   | 88.5          | 77.0              | 90.2                   | 79.0    |                 |                  |        |                      |     |            |             |                  |         |                     |                  |                |                    |          |                 |               |          |                   |        |               |         |                |                |     |                |          |       |                 |          |                       |                     |             |            |                          |              |      |          |                 |                  |              |              |                             |          |                     |         |  |  |                  |         |  |  |                  |     |  |  |                |        |  |  |                       |                 |  |  |
| Power Factor   | 0.44  | 0.18                        | 0.71                   | 0.35   | 0.80          | 0.42              | 0.84                   | 0.52    |                 |                  |        |                      |     |            |             |                  |         |                     |                  |                |                    |          |                 |               |          |                   |        |               |         |                |                |     |                |          |       |                 |          |                       |                     |             |            |                          |              |      |          |                 |                  |              |              |                             |          |                     |         |  |  |                  |         |  |  |                  |     |  |  |                |        |  |  |                       |                 |  |  |
| <table> <tr> <td>Bearing type</td><td>: 6311 2RS C3</td> <td>Drive end</td><td>Non drive end</td> </tr> <tr> <td>Sealing</td><td>: V'Ring</td><td>6211 2RS C3</td><td>V'Ring</td> </tr> <tr> <td>Lubrication interval</td><td>: -</td><td></td><td>-</td> </tr> <tr> <td>Lubricant amount</td><td>: -</td><td></td><td>-</td> </tr> <tr> <td>Lubricant type</td><td>: Mobil Polyrex EM</td><td></td><td></td> </tr> </table>   |   |                             |                        | Bearing type   | : 6311 2RS C3 | Drive end         | Non drive end          | Sealing | : V'Ring        | 6211 2RS C3      | V'Ring | Lubrication interval | : - |            | -           | Lubricant amount | : -     |                     | -                | Lubricant type | : Mobil Polyrex EM |          |                 |               |          |                   |        |               |         |                |                |     |                |          |       |                 |          |                       |                     |             |            |                          |              |      |          |                 |                  |              |              |                             |          |                     |         |  |  |                  |         |  |  |                  |     |  |  |                |        |  |  |                       |                 |  |  |
| Bearing type   | : 6311 2RS C3                                   | Drive end                   | Non drive end          |  |               |                   |                        |         |                 |                  |        |                      |     |            |             |                  |         |                     |                  |                |                    |          |                 |               |          |                   |        |               |         |                |                |     |                |          |       |                 |          |                       |                     |             |            |                          |              |      |          |                 |                  |              |              |                             |          |                     |         |  |  |                  |         |  |  |                  |     |  |  |                |        |  |  |                       |                 |  |  |
| Sealing  | : V'Ring  | 6211 2RS C3                 | V'Ring                 |  |               |                   |                        |         |                 |                  |        |                      |     |            |             |                  |         |                     |                  |                |                    |          |                 |               |          |                   |        |               |         |                |                |     |                |          |       |                 |          |                       |                     |             |            |                          |              |      |          |                 |                  |              |              |                             |          |                     |         |  |  |                  |         |  |  |                  |     |  |  |                |        |  |  |                       |                 |  |  |
| Lubrication interval   | : -   |                             | -                      |  |               |                   |                        |         |                 |                  |        |                      |     |            |             |                  |         |                     |                  |                |                    |          |                 |               |          |                   |        |               |         |                |                |     |                |          |       |                 |          |                       |                     |             |            |                          |              |      |          |                 |                  |              |              |                             |          |                     |         |  |  |                  |         |  |  |                  |     |  |  |                |        |  |  |                       |                 |  |  |
| Lubricant amount   | : -   |                             | -                      |  |               |                   |                        |         |                 |                  |        |                      |     |            |             |                  |         |                     |                  |                |                    |          |                 |               |          |                   |        |               |         |                |                |     |                |          |       |                 |          |                       |                     |             |            |                          |              |      |          |                 |                  |              |              |                             |          |                     |         |  |  |                  |         |  |  |                  |     |  |  |                |        |  |  |                       |                 |  |  |
| Lubricant type   | : Mobil Polyrex EM                              |                             |                        |  |               |                   |                        |         |                 |                  |        |                      |     |            |             |                  |         |                     |                  |                |                    |          |                 |               |          |                   |        |               |         |                |                |     |                |          |       |                 |          |                       |                     |             |            |                          |              |      |          |                 |                  |              |              |                             |          |                     |         |  |  |                  |         |  |  |                  |     |  |  |                |        |  |  |                       |                 |  |  |
| Notes:   |   |                             |                        |  |               |                   |                        |         |                 |                  |        |                      |     |            |             |                  |         |                     |                  |                |                    |          |                 |               |          |                   |        |               |         |                |                |     |                |          |       |                 |          |                       |                     |             |            |                          |              |      |          |                 |                  |              |              |                             |          |                     |         |  |  |                  |         |  |  |                  |     |  |  |                |        |  |  |                       |                 |  |  |
| <p>This revision replaces and cancel the previous one, which must be eliminated.</p> <p>(1) Looking the motor from the shaft end.</p> <p>(2) Measured at 1m and with tolerance of +3dB(A).</p> <p>(3) Approximate weight subject to changes after manufacturing process.</p> <p>(4) At 100% of full load.</p>  |   |                             |                        | 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   |   |                             |                        |  | Page          | Revision          |                        |         |                 |                  |        |                      |     |            |             |                  |         |                     |                  |                |                    |          |                 |               |          |                   |        |               |         |                |                |     |                |          |       |                 |          |                       |                     |             |            |                          |              |      |          |                 |                  |              |              |                             |          |                     |         |  |  |                  |         |  |  |                  |     |  |  |                |        |  |  |                       |                 |  |  |
| Checked by   |   |                             |                        |  |               |                   |                        |         |                 |                  |        |                      |     |            |             |                  |         |                     |                  |                |                    |          |                 |               |          |                   |        |               |         |                |                |     |                |          |       |                 |          |                       |                     |             |            |                          |              |      |          |                 |                  |              |              |                             |          |                     |         |  |  |                  |         |  |  |                  |     |  |  |                |        |  |  |                       |                 |  |  |
| Date   | 28/03/2024                                      |                             |                        |  | 1 / 2         |                   |                        |         |                 |                  |        |                      |     |            |             |                  |         |                     |                  |                |                    |          |                 |               |          |                   |        |               |         |                |                |     |                |          |       |                 |          |                       |                     |             |            |                          |              |      |          |                 |                  |              |              |                             |          |                     |         |  |  |                  |         |  |  |                  |     |  |  |                |        |  |  |                       |                 |  |  |

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :

### Space heater information

Voltage: 110-127/200-240 V

| Rev.         | Changes Summary |  | Performed | Checked | Date     |
|--------------|-----------------|--|-----------|---------|----------|
|              |                 |  |           |         |          |
| Performed by |                 |  |           |         |          |
| Checked by   |                 |  |           | Page    | Revision |
| Date         | 28/03/2024      |  |           | 2 / 2   |          |