

# DATA SHEET



## Three Phase Induction Motor - Squirrel Cage

|                                                                                                                                                                                                                                                                                                               |                           |                                                                                                                            |                         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|----------------------------------------------------------------------------------------------------------------------------|-------------------------|
| Customer                                                                                                                                                                                                                                                                                                      |                           | : IDS                                                                                                                      |                         |
| Product line                                                                                                                                                                                                                                                                                                  |                           | : W22 IE3 Three-Phase                                                                                                      | Product code : 12862394 |
| Frame                                                                                                                                                                                                                                                                                                         | : 160L                    | Locked rotor time                                                                                                          | : 10s (cold) 6s (hot)   |
| Output                                                                                                                                                                                                                                                                                                        | : 18.5 kW                 | Temperature rise                                                                                                           | : 80 K                  |
| Poles                                                                                                                                                                                                                                                                                                         | : 2                       | Duty cycle                                                                                                                 | : S1                    |
| Frequency                                                                                                                                                                                                                                                                                                     | : 50 Hz                   | Ambient temperature                                                                                                        | : -20°C to +40°C        |
| Rated voltage                                                                                                                                                                                                                                                                                                 | : 400/690 V               | Altitude                                                                                                                   | : 1000 m.a.s.l.         |
| Rated current                                                                                                                                                                                                                                                                                                 | : 33.9/19.7 A             | Protection degree                                                                                                          | : IP55                  |
| L. R. Amperes                                                                                                                                                                                                                                                                                                 | : 292/169 A               | Cooling method                                                                                                             | : IC411 - TEFC          |
| LRC                                                                                                                                                                                                                                                                                                           | : 8.6                     | Mounting                                                                                                                   | : B3T                   |
| No load current                                                                                                                                                                                                                                                                                               | : 15.2/8.79 A             | Rotation <sup>1</sup>                                                                                                      | : Both (CW and CCW)     |
| Rated speed                                                                                                                                                                                                                                                                                                   | : 2945 rpm                | Noise level <sup>2</sup>                                                                                                   | : 67.0 dB(A)            |
| Slip                                                                                                                                                                                                                                                                                                          | : 1.83 %                  | Starting method                                                                                                            | : Direct On Line        |
| Rated torque                                                                                                                                                                                                                                                                                                  | : 6.12 kgfm               | Approx. weight <sup>3</sup>                                                                                                | : 137 kg                |
| Locked rotor torque                                                                                                                                                                                                                                                                                           | : 310 %                   |                                                                                                                            |                         |
| Breakdown torque                                                                                                                                                                                                                                                                                              | : 370 %                   |                                                                                                                            |                         |
| Insulation class                                                                                                                                                                                                                                                                                              | : F                       |                                                                                                                            |                         |
| Service factor                                                                                                                                                                                                                                                                                                | : 1.00                    |                                                                                                                            |                         |
| Moment of inertia (J)                                                                                                                                                                                                                                                                                         | : 0.0663 kgm <sup>2</sup> |                                                                                                                            |                         |
| Design                                                                                                                                                                                                                                                                                                        | : N                       |                                                                                                                            |                         |
| Output                                                                                                                                                                                                                                                                                                        | 50%                       | 75%                                                                                                                        | 100%                    |
| Efficiency (%)                                                                                                                                                                                                                                                                                                | 91.5                      | 92.3                                                                                                                       | 92.6                    |
| Power Factor                                                                                                                                                                                                                                                                                                  | 0.69                      | 0.80                                                                                                                       | 0.85                    |
| Foundation loads                                                                                                                                                                                                                                                                                              |                           |                                                                                                                            |                         |
| Max. traction                                                                                                                                                                                                                                                                                                 |                           | : 274 kgf                                                                                                                  |                         |
| Max. compression                                                                                                                                                                                                                                                                                              |                           | : 411 kgf                                                                                                                  |                         |
| Bearing type                                                                                                                                                                                                                                                                                                  |                           | Drive end                                                                                                                  | Non drive end           |
| Sealing                                                                                                                                                                                                                                                                                                       |                           | 6309 C3                                                                                                                    | 6209 Z C3               |
| Lubrication interval                                                                                                                                                                                                                                                                                          |                           | V'Ring                                                                                                                     | V'Ring                  |
| Lubricant amount                                                                                                                                                                                                                                                                                              |                           | 20000 h                                                                                                                    | 20000 h                 |
| Lubricant type                                                                                                                                                                                                                                                                                                |                           | 13 g                                                                                                                       | 9 g                     |
|                                                                                                                                                                                                                                                                                                               |                           | 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> |                           |                                                                                                                            |                         |
| This revision replaces and cancel the previous one, which must be eliminated.                                                                                                                                                                                                                                 |                           | These are average values based on tests with sinusoidal power supply, subject to the tolerances stipulated in IEC 60034-1. |                         |
| Rev.                                                                                                                                                                                                                                                                                                          | Changes Summary           |                                                                                                                            | Date                    |
| Performed by                                                                                                                                                                                                                                                                                                  |                           |                                                                                                                            | Page                    |
| Checked by                                                                                                                                                                                                                                                                                                    |                           |                                                                                                                            | Revision                |
| Date                                                                                                                                                                                                                                                                                                          | 25/06/2019                |                                                                                                                            | 1 / 3                   |

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Customer : IDS

### Thermal protection

| ID | Application | Type                 | Quantity  | Sensing Temperature |
|----|-------------|----------------------|-----------|---------------------|
| 1  | Winding     | Thermistor - 2 wires | 1 x Phase | 155 °C              |

| Rev.         | Changes Summary |  | Performed | Checked | Date     |
|--------------|-----------------|--|-----------|---------|----------|
|              |                 |  |           |         |          |
| Performed by |                 |  |           | Page    | Revision |
| Checked by   |                 |  |           | 2 / 3   |          |
| Date         | 25/06/2019      |  |           |         |          |

# VFD OPERATION CURVE

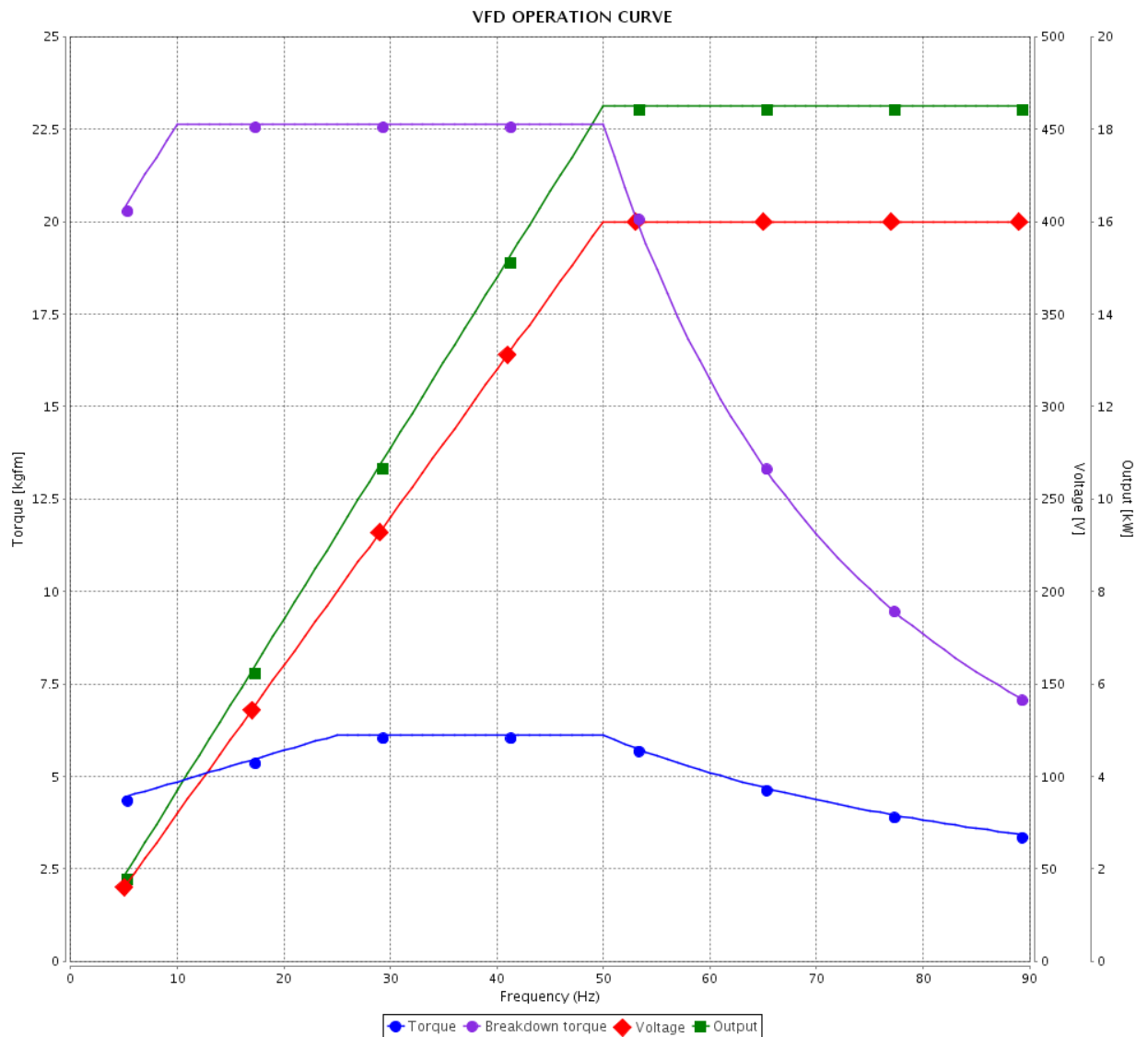
Three Phase Induction Motor - Squirrel Cage



Customer : IDS

Product line : W22 IE3 Three-Phase

Product code : 12862394



Performance : 400/690 V 50 Hz 2P

Rated current : 33.9/19.7 A  
 LRC : 8.6  
 Rated torque : 6.12 kgfm  
 Locked rotor torque : 310 %  
 Breakdown torque : 370 %  
 Rated speed : 2945 rpm

Moment of inertia (J) : 0.0663 kgm<sup>2</sup>  
 Duty cycle : S1  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K  
 Design : N

| Rev.         | Changes Summary | Performed             | Checked | Date |
|--------------|-----------------|-----------------------|---------|------|
|              |                 |                       |         |      |
| Performed by |                 | Page<br>3 / 3Revision |         |      |
| Checked by   |                 |                       |         |      |
| Date         | 25/06/2019      |                       |         |      |

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