

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



|   |                         |                             |                         |
|---|-------------------------|-----------------------------|-------------------------|
| Customer  |                         | : IDS                       |                         |
| Product line  |                         | : W22 IE3 Three-Phase       | Product code : 13052244 |
| Frame   | : 315S/M                | Locked rotor time           | : 50s (cold) 28s (hot)  |
| Output  | : 160 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   | : 271/157 A             | Protection degree           | : IP55                  |
| L. R. Amperes   | : 2005/1163 A           | Cooling method              | : IC411 - TEFC          |
| LRC   | : 7.4                   | Mounting                    | : B35T                  |
| No load current   | : 82.5/47.8 A           | Rotation <sup>1</sup>       | : Both (CW and CCW)     |
| Rated speed   | : 2980 rpm              | Noise level <sup>2</sup>    | : 77.0 dB(A)            |
| Slip  | : 0.67 %                | Starting method             | : Direct On Line        |
| Rated torque  | : 52.3 kgfm             | Approx. weight <sup>3</sup> | : 1108 kg               |
| Locked rotor torque   | : 200 %                 |                             |                         |
| Breakdown torque  | : 290 %                 |                             |                         |
| Insulation class  | : F                     |                             |                         |
| Service factor  | : 1.00                  |                             |                         |
| Moment of inertia (J)   | : 2.24 kgm <sup>2</sup> |                             |                         |
| Design  | : N                     |                             |                         |
| Output  | 50%                     | 75%                         | 100%                    |
| Efficiency (%)  | 95.1                    | 95.8                        | 95.8                    |
| Power Factor  | 0.79                    | 0.86                        | 0.89                    |
| Foundation loads  |                         |                             |                         |
| Max. traction   |                         | : 542 kgf                   |                         |
| Max. compression  |                         | : 1650 kgf                  |                         |
|   |                         | <u>Drive end</u>            | <u>Non drive end</u>    |
| Bearing type  | :                       | 6314 C3                     | 6314 C3                 |
| Sealing   | :                       | WSeal                       | WSeal                   |
| Lubrication interval  | :                       | 5000 h                      | 5000 h                  |
| Lubricant amount  | :                       | 27 g                        | 27 g                    |
| 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> |                         |                             |                         |
| <p>These are average values based on tests with sinusoidal power supply, subject to the tolerances stipulated in IEC 60034-1.</p>   |                         |                             |                         |
| Rev.  | Changes Summary         |                             | Performed               |
|   |                         |                             | Checked                 |
|   |                         |                             | Date                    |
| Performed by  |                         |                             |                         |
| Checked by  |                         |                             |                         |
| Date  | 10/07/2019              |                             |                         |
|   |                         | Page                        | Revision                |
|   |                         | 1 / 3                       |                         |

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



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         | 10/07/2019      |  |           |         |          |

# VFD OPERATION CURVE

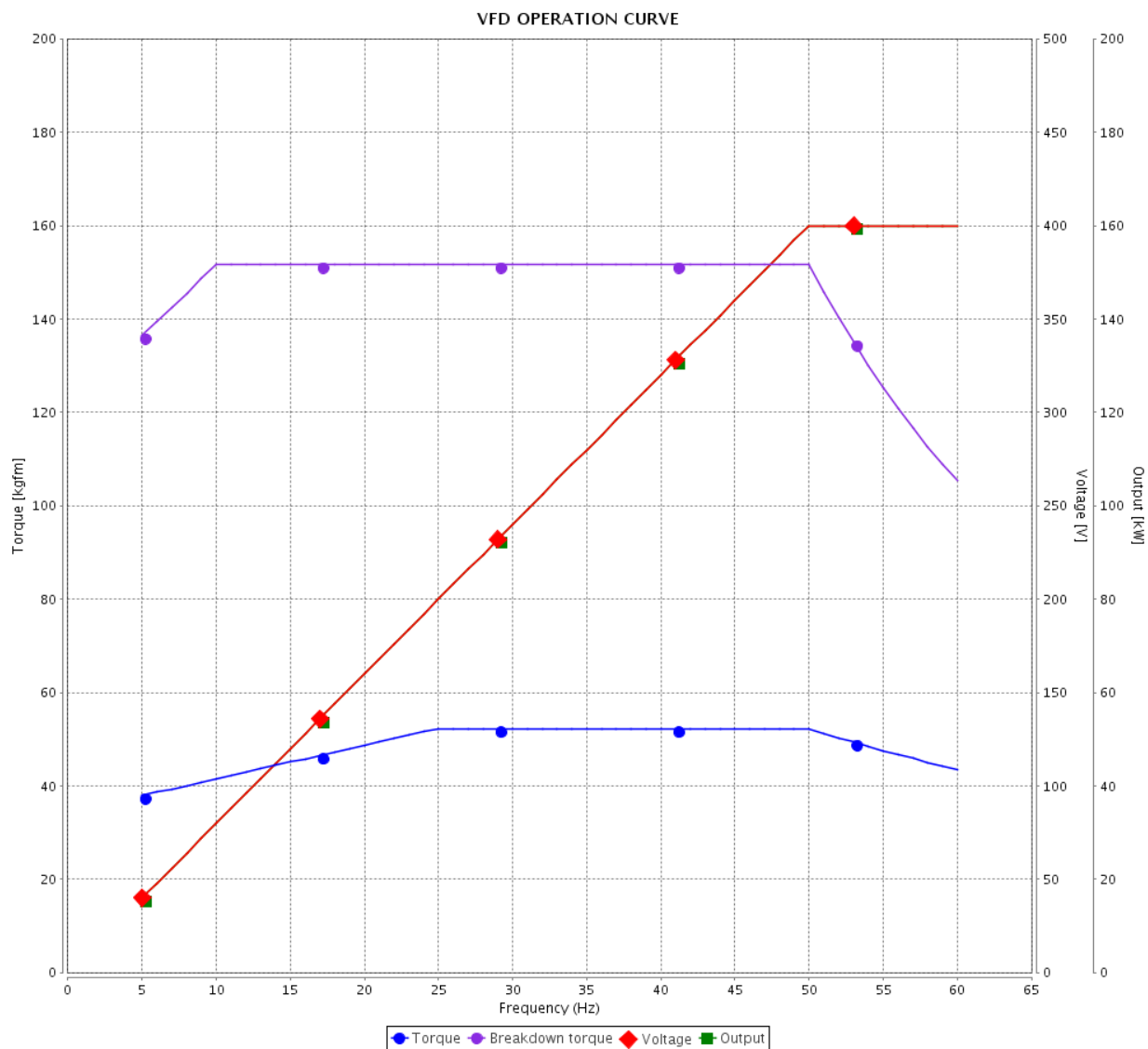
Three Phase Induction Motor - Squirrel Cage



Customer : IDS

Product line : W22 IE3 Three-Phase

Product code : 13052244



Performance : 400/690 V 50 Hz 2P

Rated current : 271/157 A  
 LRC : 7.4  
 Rated torque : 52.3 kgfm  
 Locked rotor torque : 200 %  
 Breakdown torque : 290 %  
 Rated speed : 2980 rpm

Moment of inertia (J) : 2.24 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 / 3 |          |      |
| Checked by   |                 |               |          |      |
| Date         | 10/07/2019      |               |          |      |
|              |                 |               | Revision |      |