

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W21 Explosion Proof NEMA Premium Efficiency Three-Phase Product code : 14325085

|                                      |   |
|--------------------------------------|---|
| Frame : 143/5T                       | 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>3</sup> : 32.4 kg           |
| Protection degree : IP55             | Moment of inertia (J) : 0.0067 kgm <sup>2</sup> |
| Design : B                           |   |

|                          |                      |                      |                      |                      |
|--------------------------|----------------------|----------------------|----------------------|----------------------|
| Output [HP]              | 2                    | 2                    | 2                    | 2                    |
| Poles                    | 4                    | 4                    | 4                    | 4                    |
| Frequency [Hz]           | 60                   | 50                   | 50                   | 50                   |
| Rated voltage [V]        | 230/460              | 380                  | 400                  | 415                  |
| Rated current [A]        | 5.58/2.79            | 3.29                 | 3.18                 | 3.18                 |
| L. R. Amperes [A]        | 49.7/24.8            | 25.0                 | 24.8                 | 24.8                 |
| LRC [A]                  | 8.9x(Code L)         | 7.6x(Code K)         | 7.8x(Code K)         | 7.8x(Code K)         |
| No load current [A]      | 3.20/1.60            | 1.60                 | 1.80                 | 2.00                 |
| Rated speed [RPM]        | 1750                 | 1425                 | 1435                 | 1445                 |
| Slip [%]                 | 2.78                 | 5.00                 | 4.33                 | 3.67                 |
| Rated torque [kgfm]      | 0.829                | 1.02                 | 1.01                 | 1.00                 |
| Locked rotor torque [%]  | 270                  | 190                  | 220                  | 240                  |
| Breakdown torque [%]     | 320                  | 220                  | 250                  | 270                  |
| Service factor           | 1.15                 | 1.00                 | 1.00                 | 1.00                 |
| Temperature rise         | 80 K                 | 80 K                 | 80 K                 | 80 K                 |
| Locked rotor time        | 19s (cold) 11s (hot) | 21s (cold) 12s (hot) | 21s (cold) 12s (hot) | 21s (cold) 12s (hot) |
| Noise level <sup>2</sup> | 51.0 dB(A)           | 49.0 dB(A)           | 49.0 dB(A)           | 49.0 dB(A)           |
| Efficiency (%)           | 25%                  |                      |                      |                      |
|                          | 50%                  | 84.0                 | 84.0                 | 82.5                 |
|                          | 75%                  | 85.5                 | 84.0                 | 84.0                 |
|                          | 100%                 | 86.5                 | 82.5                 | 84.0                 |
| Power Factor             | 25%                  |                      |                      |                      |
|                          | 50%                  | 0.56                 | 0.64                 | 0.59                 |
|                          | 75%                  | 0.70                 | 0.77                 | 0.73                 |
|                          | 100%                 | 0.78                 | 0.84                 | 0.81                 |

|                        |                  |                      |                           |
|------------------------|------------------|----------------------|---------------------------|
|                        | <u>Drive end</u> | <u>Non drive end</u> |                           |
| Bearing type :         | 6205 2RS         | 6204 2RS             | Foundation loads          |
| Sealing :              | Oil Seal         | Lip Seal             | Max. traction : 61 kgf    |
| Lubrication interval : | -                | -                    | Max. compression : 93 kgf |
| Lubricant amount :     | -                | -                    |                           |
| Lubricant type :       | Mobil Polyrex EM |                      |                           |

Notes  
USABLE @208V 6.02A SF 1.15 SFA 6.92A

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 |                 |           |         |      |
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| Date         | 28/10/2024      |           |         |      |

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Revision

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## Three Phase Induction Motor - Squirrel Cage



Customer :

Thermal protection

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

|              |                 |  |           |         |          |
|--------------|-----------------|--|-----------|---------|----------|
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# LOAD PERFORMANCE CURVE

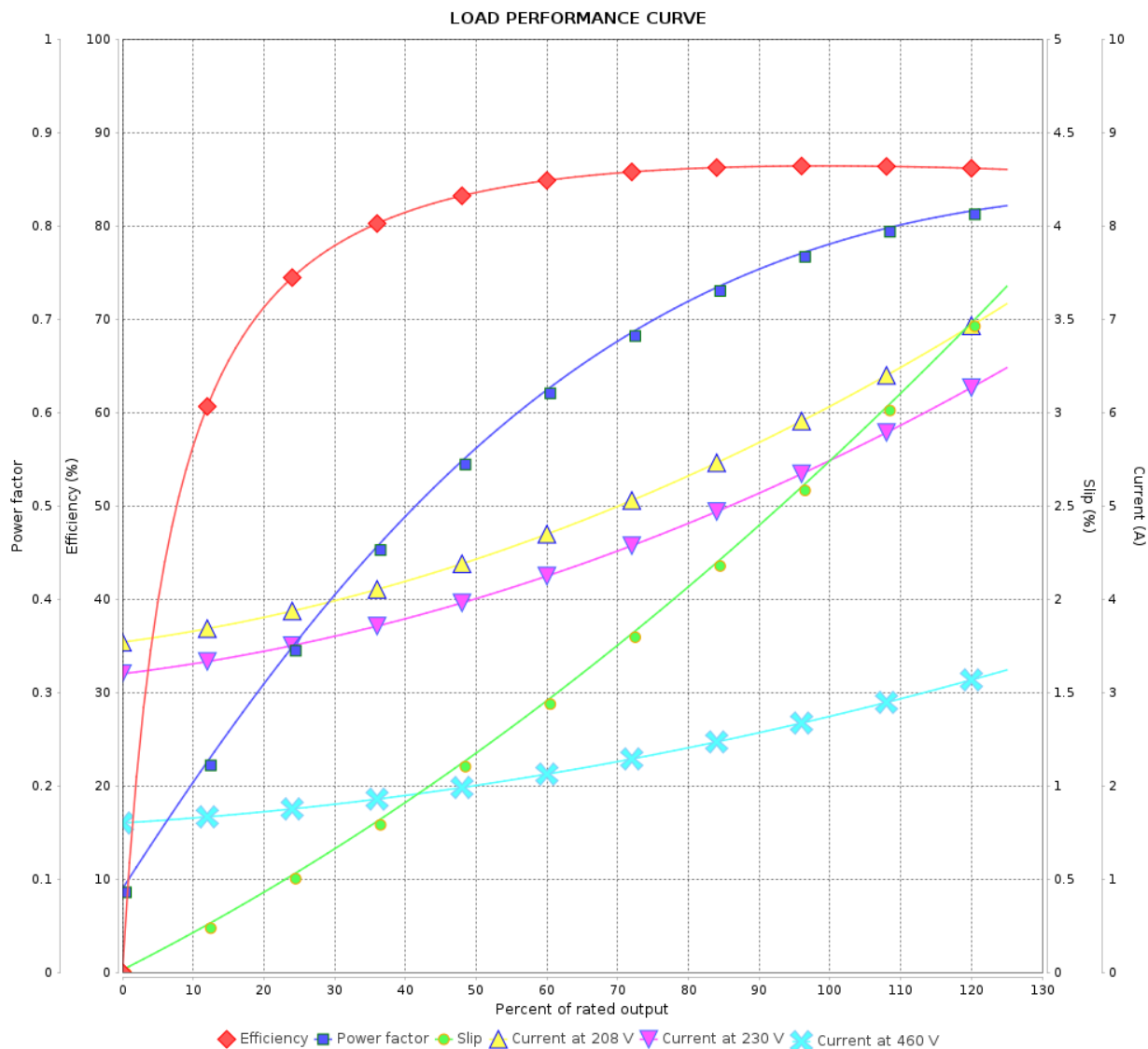
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W21 Explosion Proof NEMA  
Premium Efficiency Three-Phase

Product code : 14325085



Performance : 230/460 V 60 Hz 4P

Rated current : 5.58/2.79 A  
LRC : 8.9  
Rated torque : 0.829 kgfm  
Locked rotor torque : 270 %  
Breakdown torque : 320 %  
Rated speed : 1750 rpm

Moment of inertia (J) : 0.0067 kgm<sup>2</sup>  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.15  
Temperature rise : 80 K  
Design : B

|              |                 |  |           |               |          |
|--------------|-----------------|--|-----------|---------------|----------|
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# LOAD PERFORMANCE CURVE

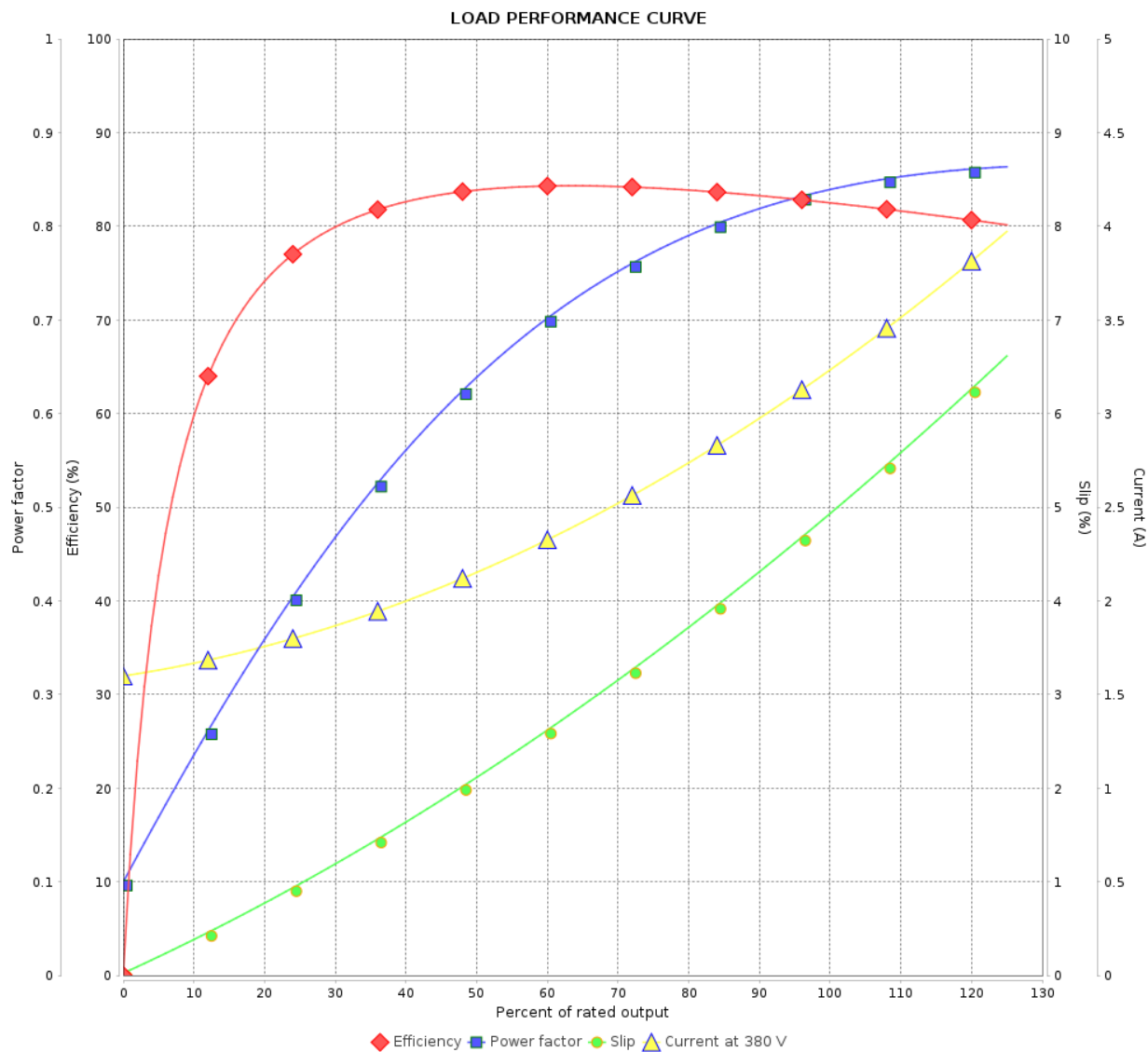
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W21 Explosion Proof NEMA  
Premium Efficiency Three-Phase

Product code : 14325085



Performance : 380 V 50 Hz 4P IE1

Rated current : 3.29 A  
LRC : 7.6  
Rated torque : 1.02 kgfm  
Locked rotor torque : 190 %  
Breakdown torque : 220 %  
Rated speed : 1425 rpm

Moment of inertia (J) : 0.0067 kgm<sup>2</sup>  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.00  
Temperature rise : 80 K  
Design : B

| Rev.         | Changes Summary |  | Performed | Checked       | Date     |
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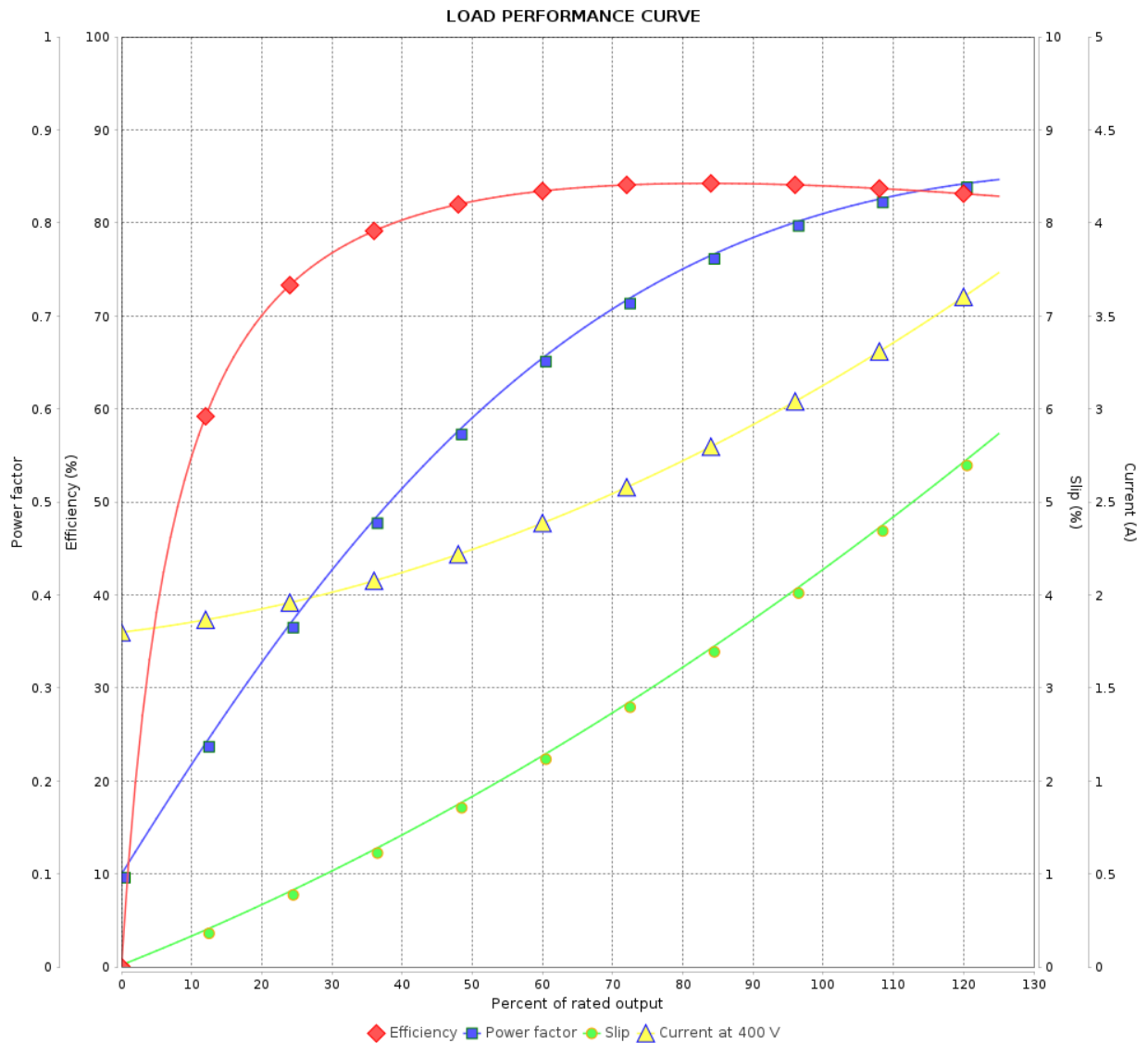
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W21 Explosion Proof NEMA  
Premium Efficiency Three-Phase

Product code : 14325085



Performance : 400 V 50 Hz 4P IE2

Rated current : 3.18 A  
LRC : 7.8  
Rated torque : 1.01 kgfm  
Locked rotor torque : 220 %  
Breakdown torque : 250 %  
Rated speed : 1435 rpm

Moment of inertia (J) : 0.0067 kgm<sup>2</sup>  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.00  
Temperature rise : 80 K  
Design : B

| Rev.         | Changes Summary |  | Performed | Checked       | Date     |
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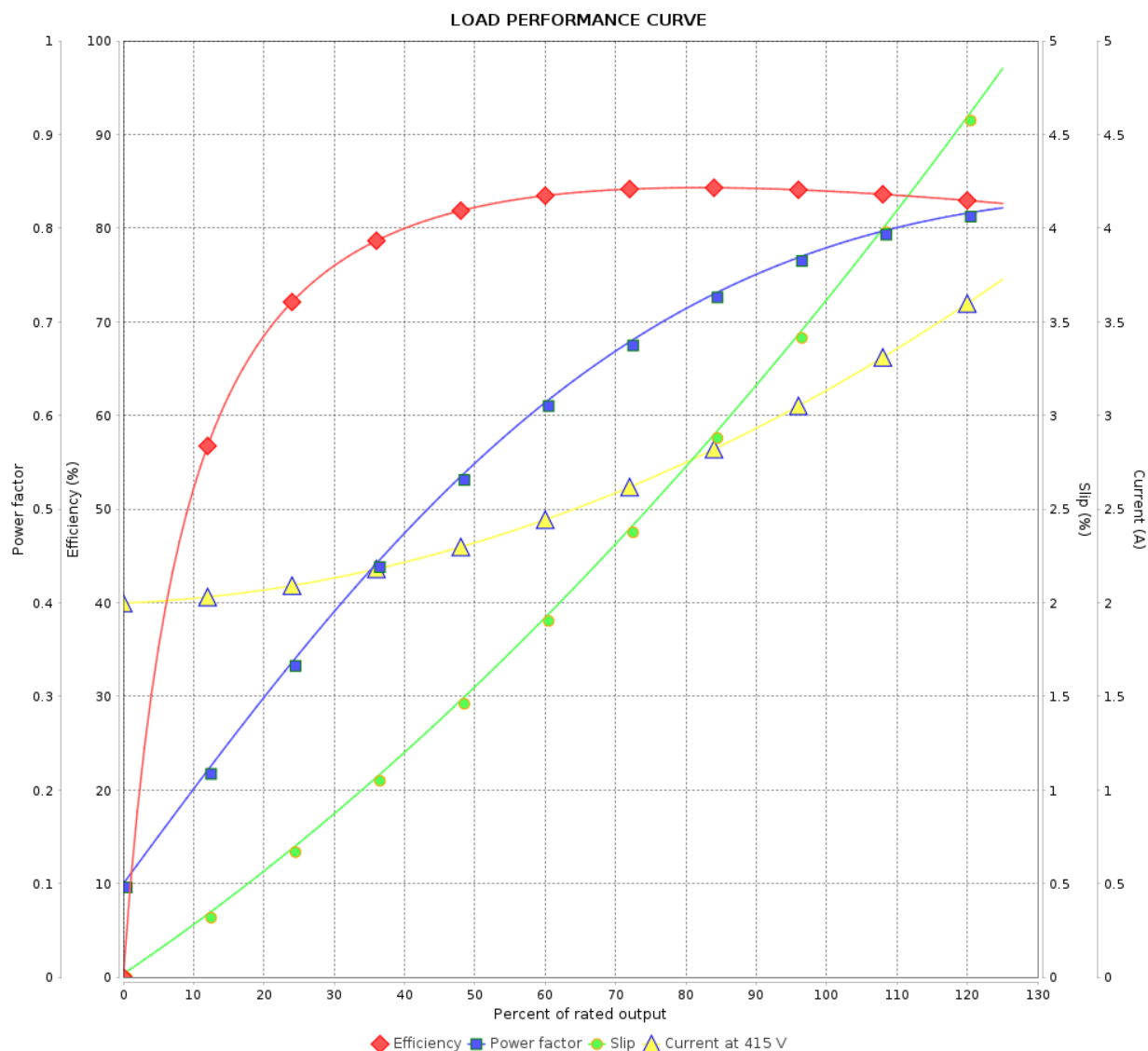
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W21 Explosion Proof NEMA  
Premium Efficiency Three-Phase

Product code : 14325085



Performance : 415 V 50 Hz 4P IE2

Rated current : 3.18 A  
LRC : 7.8  
Rated torque : 1.00 kgfm  
Locked rotor torque : 240 %  
Breakdown torque : 270 %  
Rated speed : 1445 rpm

Moment of inertia (J) : 0.0067 kgm<sup>2</sup>  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.00  
Temperature rise : 80 K  
Design : B

| Rev.         | Changes Summary |  | Performed | Checked       | Date     |
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