

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase Product code : 12445774

|                                      |   |
|--------------------------------------|---|
| Frame : 254/6T                       | 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> : 117 kg            |
| Protection degree : IP55             | Moment of inertia (J) : 0.1436 kgm <sup>2</sup> |
| Design : B                           |   |

|                          |                      |                      |                      |                      |
|--------------------------|----------------------|----------------------|----------------------|----------------------|
| Output [HP]              | 5                    | 5                    | 5                    | 5                    |
| Poles                    | 8                    | 8                    | 8                    | 8                    |
| Frequency [Hz]           | 60                   | 50                   | 50                   | 50                   |
| Rated voltage [V]        | 230/460              | 380                  | 400                  | 415                  |
| Rated current [A]        | 15.4/7.69            | 8.96                 | 8.92                 | 8.85                 |
| L. R. Amperes [A]        | 81.5/40.8            | 44.8                 | 45.5                 | 46.9                 |
| LRC [A]                  | 5.3x(Code H)         | 5.0x(Code G)         | 5.1x(Code H)         | 5.3x(Code H)         |
| No load current [A]      | 10.8/5.40            | 5.20                 | 5.70                 | 6.20                 |
| Rated speed [RPM]        | 883                  | 725                  | 730                  | 730                  |
| Slip [%]                 | 1.89                 | 3.33                 | 2.67                 | 2.67                 |
| Rated torque [kgfm]      | 4.11                 | 5.01                 | 4.99                 | 4.97                 |
| Locked rotor torque [%]  | 250                  | 180                  | 200                  | 229                  |
| Breakdown torque [%]     | 280                  | 190                  | 229                  | 260                  |
| Service factor           | 1.25                 | 1.15                 | 1.15                 | 1.15                 |
| Temperature rise         | 80 K                 | 80 K                 | 80 K                 | 80 K                 |
| Locked rotor time        | 77s (cold) 43s (hot) | 59s (cold) 33s (hot) | 59s (cold) 33s (hot) | 55s (cold) 31s (hot) |
| Noise level <sup>2</sup> | 54.0 dB(A)           | 51.0 dB(A)           | 51.0 dB(A)           | 51.0 dB(A)           |
| Efficiency (%)           | 25%                  |                      |                      |                      |
|                          | 50%                  | 84.7                 | 84.0                 | 82.0                 |
|                          | 75%                  | 87.0                 | 84.8                 | 85.5                 |
|                          | 100%                 | 87.5                 | 84.8                 | 85.5                 |
| Power Factor             | 25%                  |                      |                      |                      |
|                          | 50%                  | 0.48                 | 0.55                 | 0.46                 |
|                          | 75%                  | 0.61                 | 0.67                 | 0.59                 |
|                          | 100%                 | 0.69                 | 0.74                 | 0.68                 |

Losses at normative operating points (speed;torque), in percentage of rated output power

|            |                |      |      |      |      |
|------------|----------------|------|------|------|------|
| Losses (%) | P1 (0,9;1,0)   | 13.7 | 13.7 | 13.7 | 13.7 |
|            | P2 (0,5;1,0)   | 11.9 | 11.9 | 11.9 | 11.9 |
|            | P3 (0,25;1,0)  | 12.0 | 12.0 | 12.0 | 12.0 |
|            | P4 (0,9;0,5)   | 7.8  | 7.8  | 7.8  | 7.8  |
|            | P5 (0,5;0,5)   | 5.9  | 5.9  | 5.9  | 5.9  |
|            | P6 (0,5;0,25)  | 4.6  | 4.6  | 4.6  | 4.6  |
|            | P7 (0,25;0,25) | 3.6  | 3.6  | 3.6  | 3.6  |

|                        |                  |                      |                            |
|------------------------|------------------|----------------------|----------------------------|
|                        | <u>Drive end</u> | <u>Non drive end</u> | Foundation loads           |
| Bearing type :         | 6309 C3          | 6209 C3              | Max. traction : 145 kgf    |
| Sealing :              | V'Ring           | V'Ring               | Max. compression : 261 kgf |
| Lubrication interval : | 20000 h          | 20000 h              |                            |
| Lubricant amount :     | 13 g             | 9 g                  |                            |
| Lubricant type :       | Mobil Polyrex EM |                      |                            |

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.

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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## Three Phase Induction Motor - Squirrel Cage



Customer : \_\_\_\_\_

Notes  
USABLE @208V 16.8A SF 1.15 SFA 19.3A

| Rev.         | Changes Summary |  | Performed     | Checked | Date     |
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# LOAD PERFORMANCE CURVE

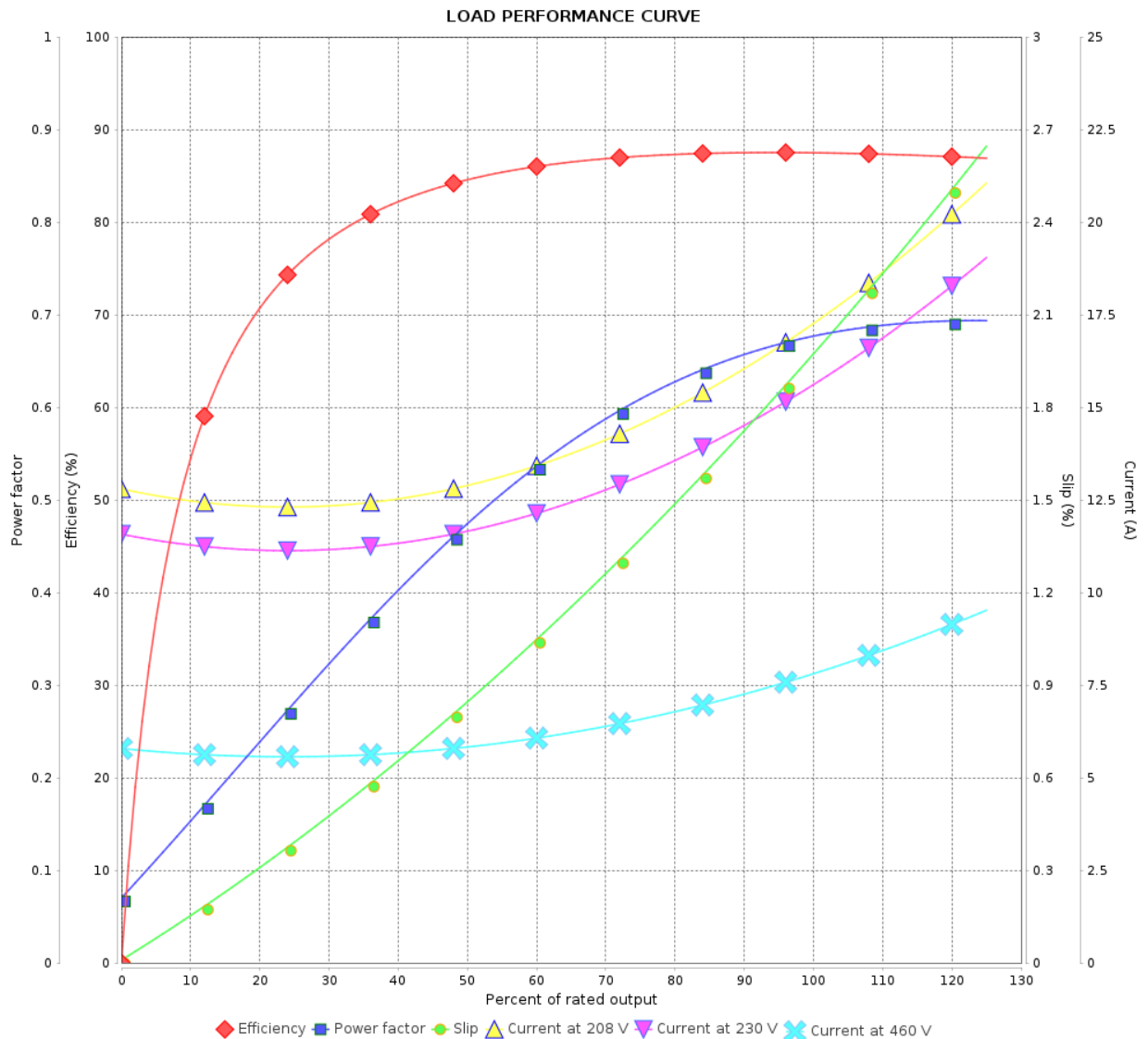
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency  
Three-Phase

Product code : 12445774



Performance : 230/460 V 60 Hz 8P

Rated current : 15.4/7.69 A  
LRC : 5.3  
Rated torque : 4.11 kgfm  
Locked rotor torque : 250 %  
Breakdown torque : 280 %  
Rated speed : 883 rpm

Moment of inertia (J) : 0.1436 kgm<sup>2</sup>  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.25  
Temperature rise : 80 K  
Design : B

| Rev.         | Changes Summary | Performed | Checked | Date |
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# LOAD PERFORMANCE CURVE

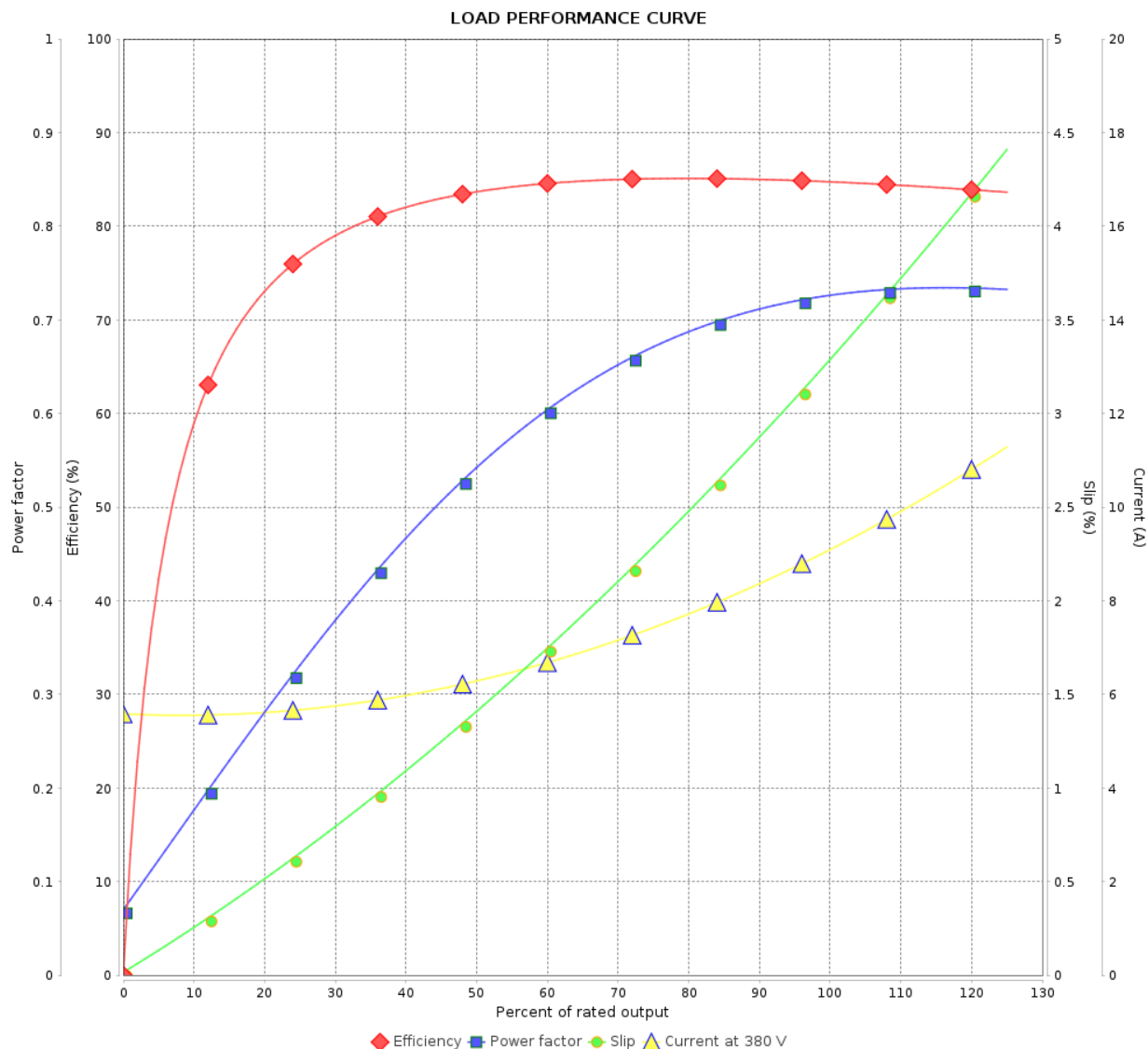
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency  
Three-Phase

Product code : 12445774



Performance : 380 V 50 Hz 8P IE3

Rated current : 8.96 A  
LRC : 5.0  
Rated torque : 5.01 kgfm  
Locked rotor torque : 180 %  
Breakdown torque : 190 %  
Rated speed : 725 rpm

Moment of inertia (J) : 0.1436 kgm<sup>2</sup>  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.15  
Temperature rise : 80 K  
Design : B

| Rev.         | Changes Summary |  | Performed | Checked | Date     |
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# LOAD PERFORMANCE CURVE

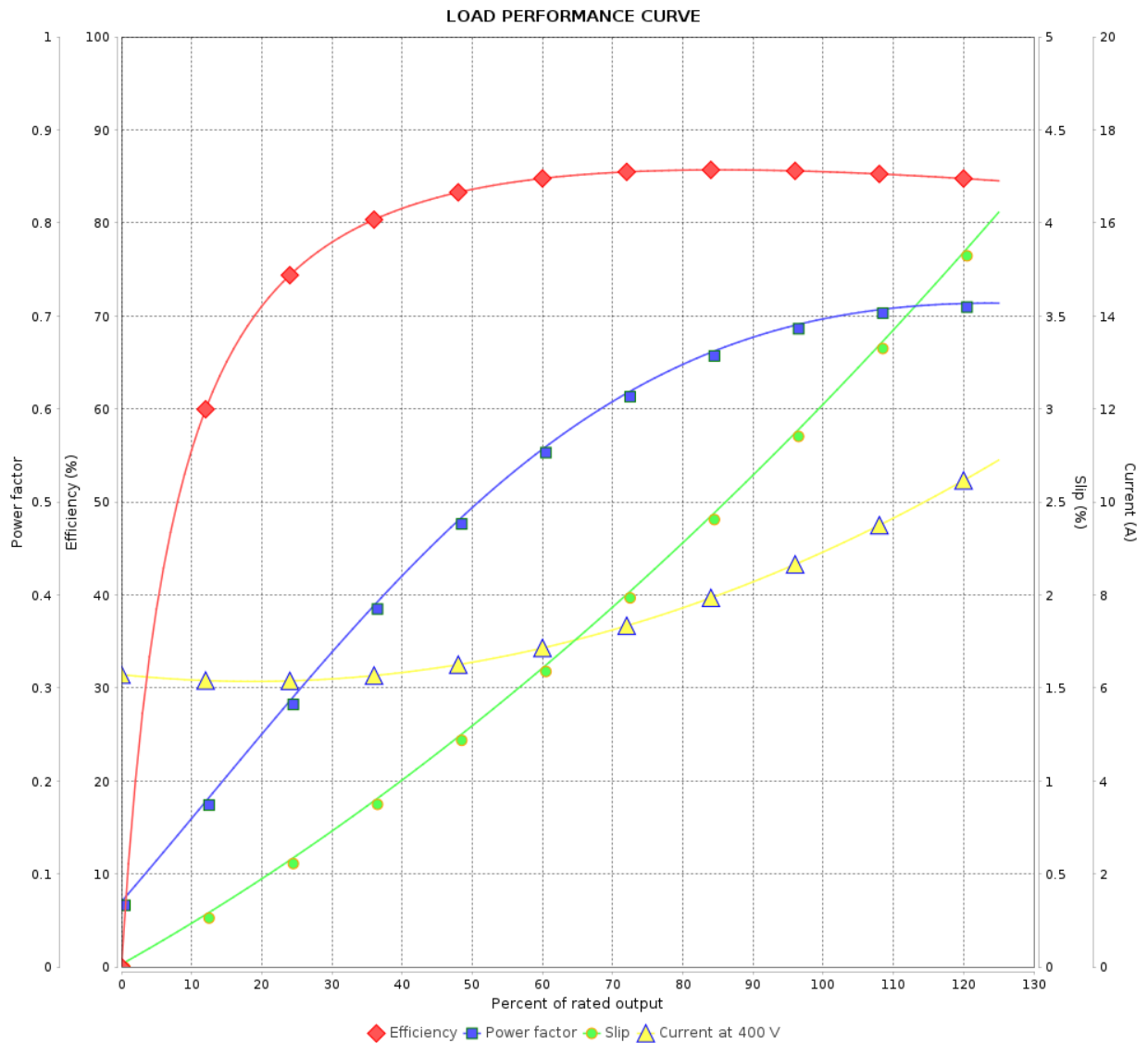
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency  
Three-Phase

Product code : 12445774



Performance : 400 V 50 Hz 8P IE3

Rated current : 8.92 A  
LRC : 5.1  
Rated torque : 4.99 kgfm  
Locked rotor torque : 200 %  
Breakdown torque : 229 %  
Rated speed : 730 rpm

Moment of inertia (J) : 0.1436 kgm<sup>2</sup>  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.15  
Temperature rise : 80 K  
Design : B

| Rev.         | Changes Summary |  | Performed | Checked               | Date |
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# LOAD PERFORMANCE CURVE

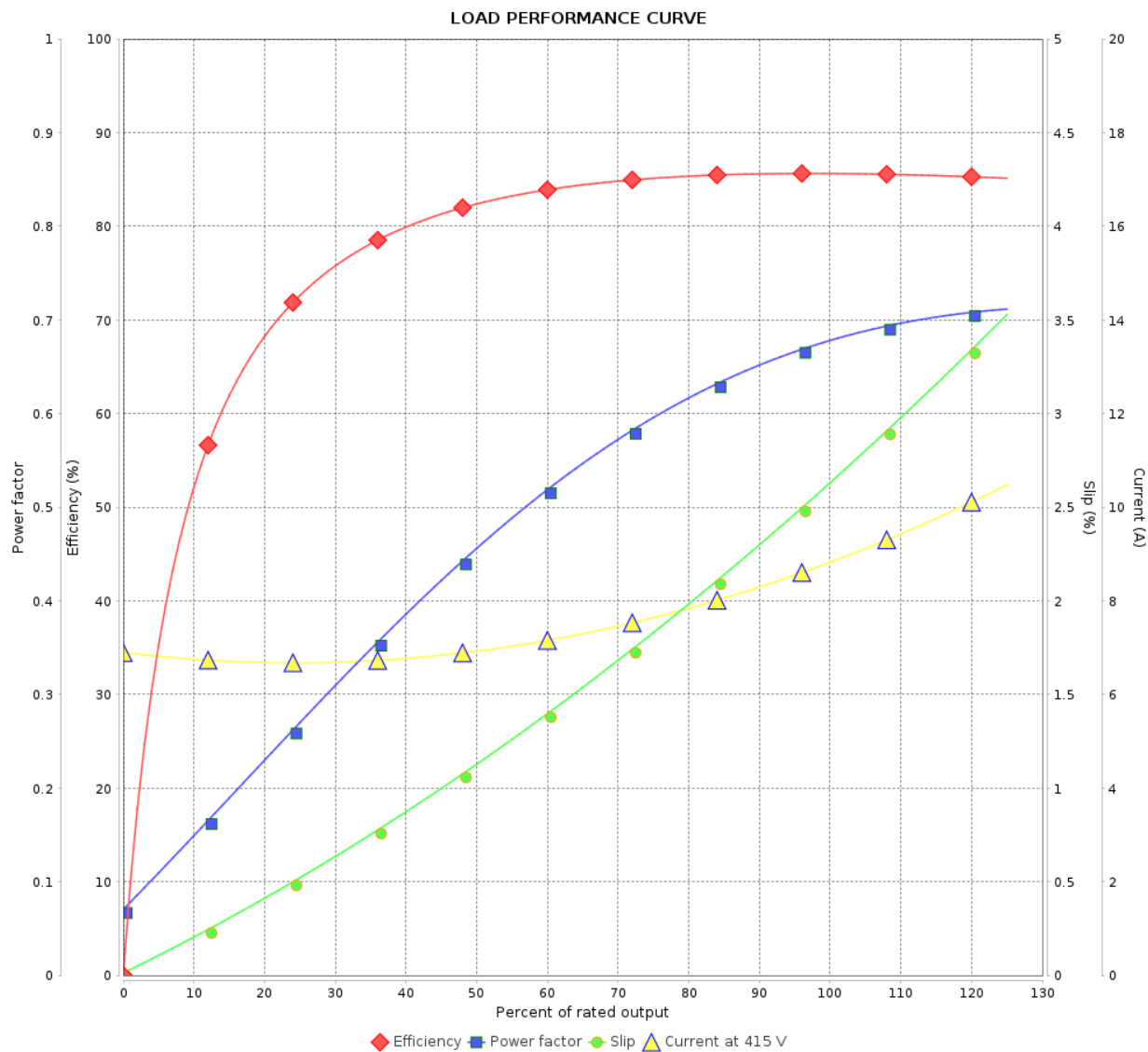
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency  
Three-Phase

Product code : 12445774



Performance : 415 V 50 Hz 8P IE3

Rated current : 8.85 A  
LRC : 5.3  
Rated torque : 4.97 kgfm  
Locked rotor torque : 229 %  
Breakdown torque : 260 %  
Rated speed : 730 rpm

Moment of inertia (J) : 0.1436 kgm<sup>2</sup>  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.15  
Temperature rise : 80 K  
Design : B

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