

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase Product code : 11611205

|                                      |                                                 |
|--------------------------------------|-------------------------------------------------|
| 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> : 23.4 kg           |
| Protection degree : IP55             | Moment of inertia (J) : 0.0066 kgm <sup>2</sup> |
| Design : B                           |                                                 |

|                          |                         |                         |                         |                         |                         |                         |                         |
|--------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Output [HP]              | 2                       | 1.5                     | 1.5                     | 1.5                     | 2                       | 2                       | 2                       |
| Poles                    | 4                       | 4                       | 4                       | 4                       | 4                       | 4                       | 4                       |
| Frequency [Hz]           | 60                      | 50                      | 50                      | 50                      | 50                      | 50                      | 50                      |
| Rated voltage [V]        | 230/460                 | 380                     | 400                     | 415                     | 380                     | 400                     | 415                     |
| Rated current [A]        | 5.58/2.79               | 2.57                    | 2.57                    | 2.56                    | 3.33                    | 3.22                    | 3.14                    |
| L. R. Amperes [A]        | 46.3/23.2               | 21.1                    | 22.4                    | 21.5                    | 20.0                    | 21.3                    | 22.9                    |
| LRC [A]                  | 8.3x(Code L)            | 8.2x(Code L)            | 8.7x(Code M)            | 8.4x(Code M)            | 6.0x(Code H)            | 6.6x(Code J)            | 7.3x(Code K)            |
| No load current [A]      | 3.26/1.63               | 1.61                    | 1.80                    | 1.97                    | 1.61                    | 1.80                    | 1.97                    |
| Rated speed [RPM]        | 1750                    | 1460                    | 1465                    | 1465                    | 1435                    | 1440                    | 1450                    |
| Slip [%]                 | 2.78                    | 2.67                    | 2.33                    | 2.33                    | 4.33                    | 4.00                    | 3.33                    |
| Rated torque [kgfm]      | 0.829                   | 0.746                   | 0.743                   | 0.743                   | 1.01                    | 1.01                    | 1.00                    |
| Locked rotor torque [%]  | 270                     | 290                     | 320                     | 350                     | 220                     | 229                     | 250                     |
| Breakdown torque [%]     | 320                     | 330                     | 380                     | 409                     | 240                     | 260                     | 290                     |
| Service factor           | 1.25                    | 1.25                    | 1.25                    | 1.25                    | 1.25                    | 1.25                    | 1.25                    |
| Temperature rise         | 80 K                    | 80 K                    | 80 K                    | 80 K                    | 80 K                    | 80 K                    | 80 K                    |
| Locked rotor time        | 18s (cold)<br>10s (hot) | 32s (cold)<br>18s (hot) | 28s (cold)<br>16s (hot) | 27s (cold)<br>15s (hot) | 23s (cold)<br>13s (hot) | 21s (cold)<br>12s (hot) | 21s (cold)<br>12s (hot) |
| Noise level <sup>2</sup> | 51.0 dB(A)              | 49.0 dB(A)              | 49.0 dB(A)              | 49.0 dB(A)              | 49.0 dB(A)              | 49.0 dB(A)              | 49.0 dB(A)              |
| Efficiency (%)           | 25%                     |                         |                         |                         |                         |                         |                         |
|                          | 50%                     | 85.5                    | 84.0                    | 82.0                    | 81.4                    | 85.5                    | 84.0                    |
|                          | 75%                     | 86.5                    | 84.2                    | 83.5                    | 83.1                    | 84.0                    | 84.0                    |
|                          | 100%                    | 86.5                    | 84.5                    | 84.5                    | 84.1                    | 82.5                    | 84.0                    |
| Power Factor             | 25%                     |                         |                         |                         |                         |                         |                         |
|                          | 50%                     | 0.57                    | 0.55                    | 0.50                    | 0.47                    | 0.66                    | 0.62                    |
|                          | 75%                     | 0.70                    | 0.69                    | 0.64                    | 0.61                    | 0.78                    | 0.74                    |
|                          | 100%                    | 0.78                    | 0.77                    | 0.73                    | 0.71                    | 0.83                    | 0.80                    |

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

|            |                |      |      |      |      |      |      |
|------------|----------------|------|------|------|------|------|------|
| Losses (%) | P1 (0,9;1,0)   | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
|            | P2 (0,5;1,0)   | 12.8 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8 |
|            | P3 (0,25;1,0)  | 12.1 | 12.1 | 12.1 | 12.1 | 12.1 | 12.1 |
|            | P4 (0,9;0,5)   | 8.4  | 8.4  | 8.4  | 8.4  | 8.4  | 8.4  |
|            | P5 (0,5;0,5)   | 6.0  | 6.0  | 6.0  | 6.0  | 6.0  | 6.0  |
|            | P6 (0,5;0,25)  | 4.7  | 4.7  | 4.7  | 4.7  | 4.7  | 4.7  |
|            | P7 (0,25;0,25) | 3.5  | 3.5  | 3.5  | 3.5  | 3.5  | 3.5  |

|                                   |                         |                           |
|-----------------------------------|-------------------------|---------------------------|
| Bearing type : 6205 ZZ            | Non drive end : 6204 ZZ | Foundation loads          |
| Sealing : V'Ring                  | V'Ring                  | Max. traction : 71 kgf    |
| Lubrication interval : -          | -                       | Max. compression : 94 kgf |
| Lubricant amount : -              | -                       |                           |
| 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.

These are average values based on tests with sinusoidal power supply, subject to the tolerances stipulated in NEMA MG-1.

|              |                 |           |               |          |
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# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :

Notes  
USABLE @208V 5.85A SF 1.15 SFA 6.73A

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# LOAD PERFORMANCE CURVE

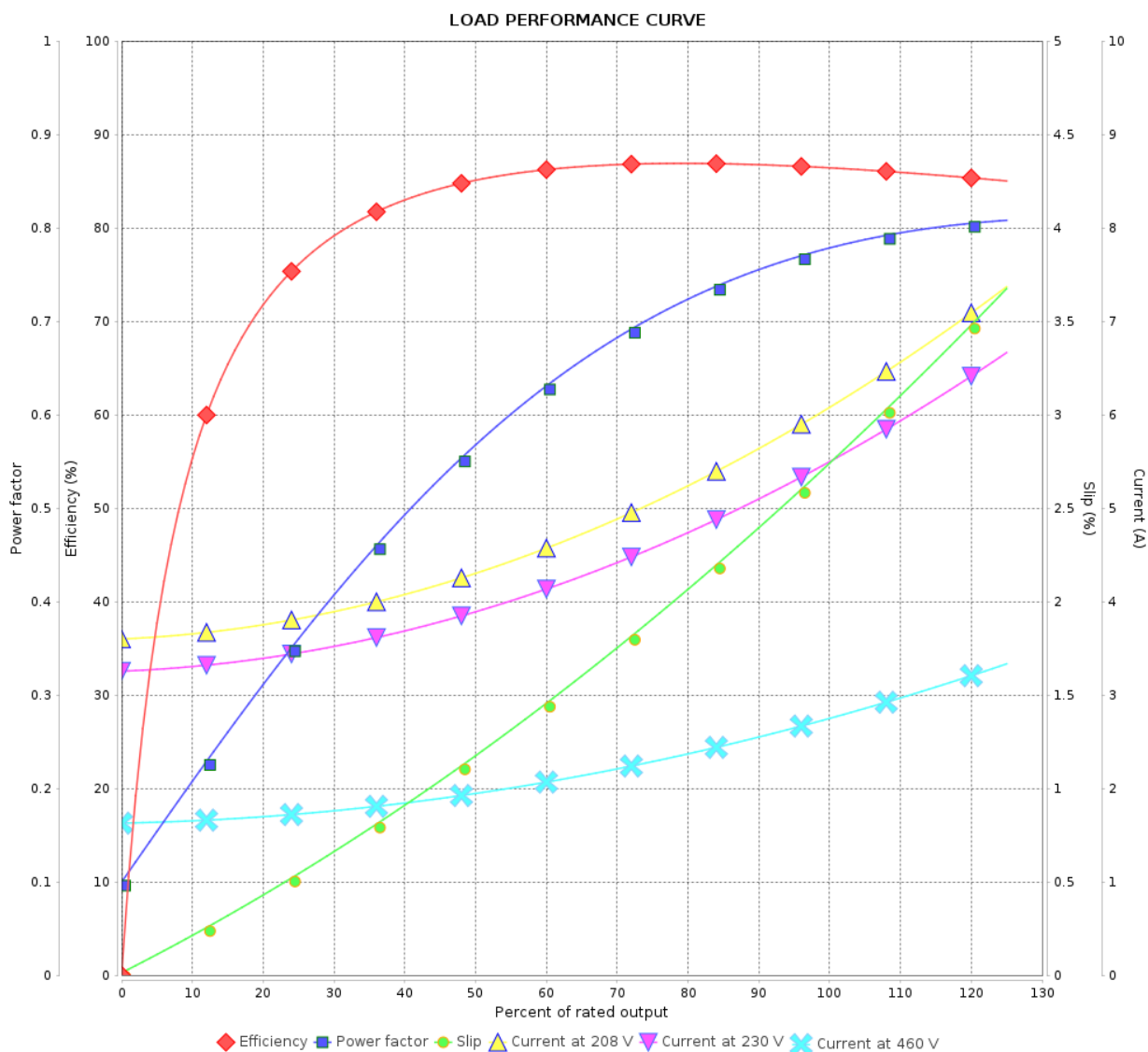
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency  
Three-Phase

Product code : 11611205



Performance : 230/460 V 60 Hz 4P

Rated current : 5.58/2.79 A  
LRC : 8.3  
Rated torque : 0.829 kgfm  
Locked rotor torque : 270 %  
Breakdown torque : 320 %  
Rated speed : 1750 rpm

Moment of inertia (J) : 0.0066 kgm<sup>2</sup>  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.25  
Temperature rise : 80 K  
Design : B

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# LOAD PERFORMANCE CURVE

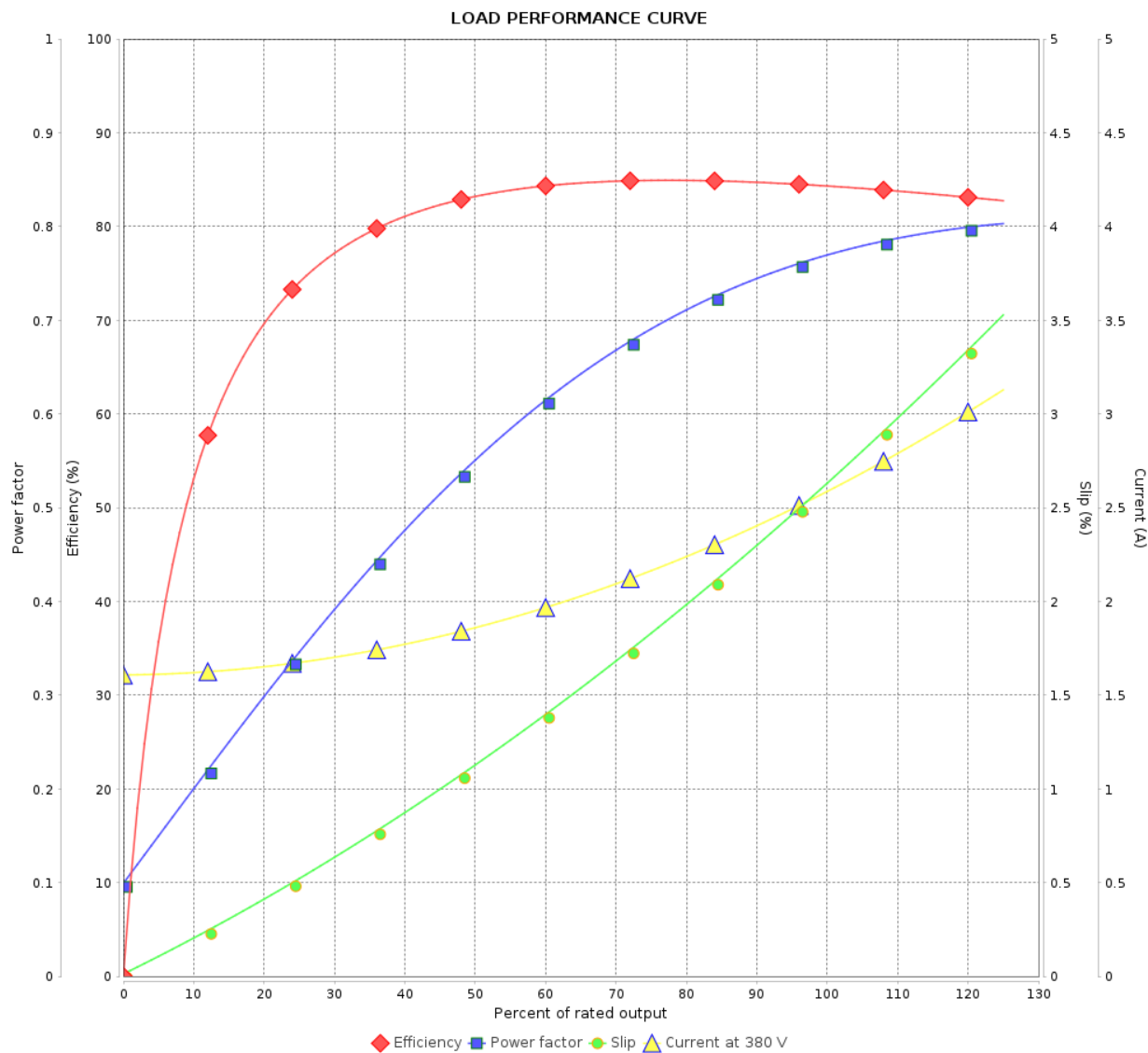
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency  
Three-Phase

Product code : 11611205



Performance : 380 V 50 Hz 4P IE3

Rated current : 2.57 A  
LRC : 8.2  
Rated torque : 0.746 kgfm  
Locked rotor torque : 290 %  
Breakdown torque : 330 %  
Rated speed : 1460 rpm

Moment of inertia (J) : 0.0066 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

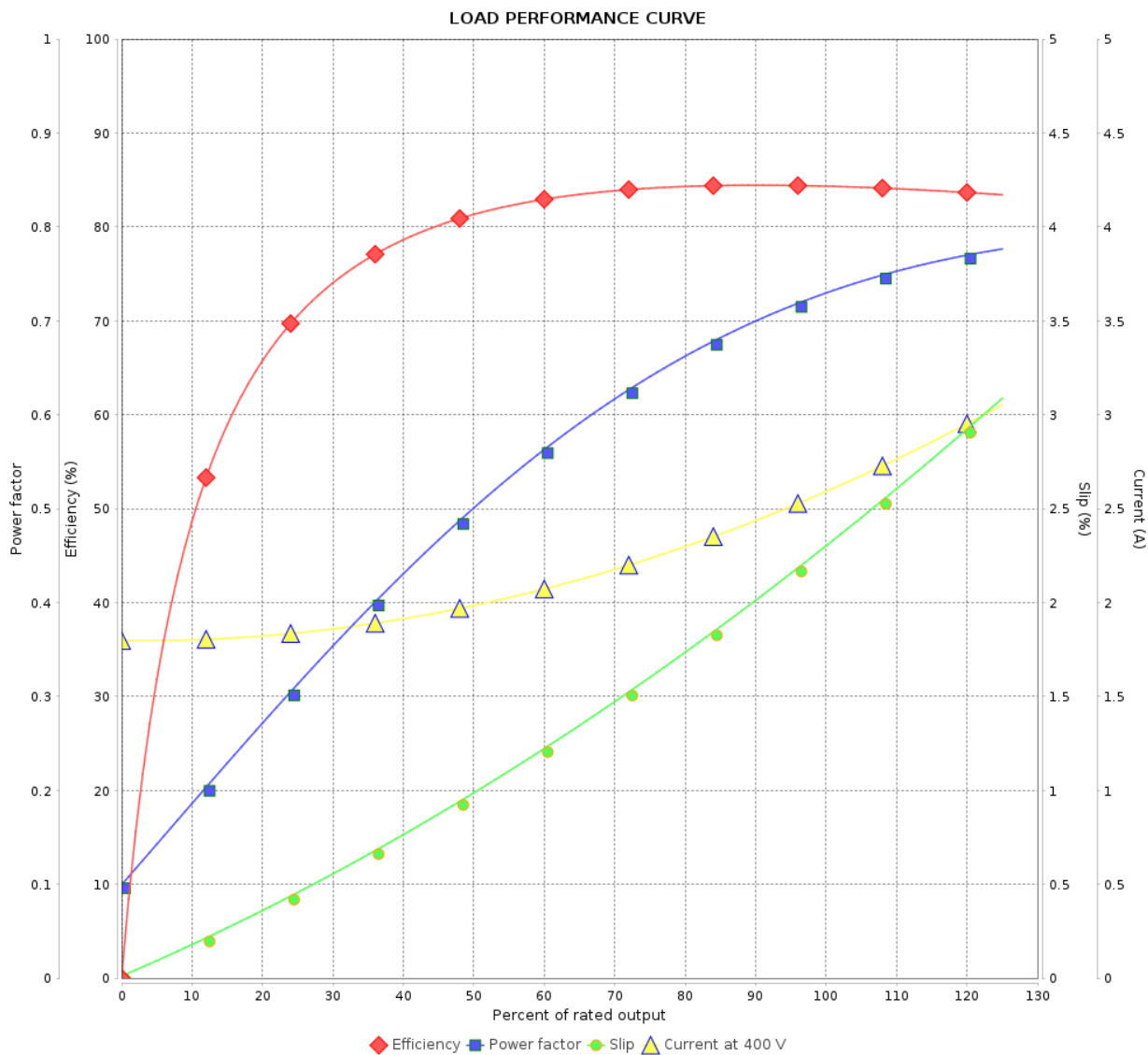
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency  
Three-Phase

Product code : 11611205



Performance : 400 V 50 Hz 4P IE3

Rated current : 2.57 A  
LRC : 8.7  
Rated torque : 0.743 kgfm  
Locked rotor torque : 320 %  
Breakdown torque : 380 %  
Rated speed : 1465 rpm

Moment of inertia (J) : 0.0066 kgm<sup>2</sup>  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.25  
Temperature rise : 80 K  
Design : B

|              |                 |  |           |               |          |
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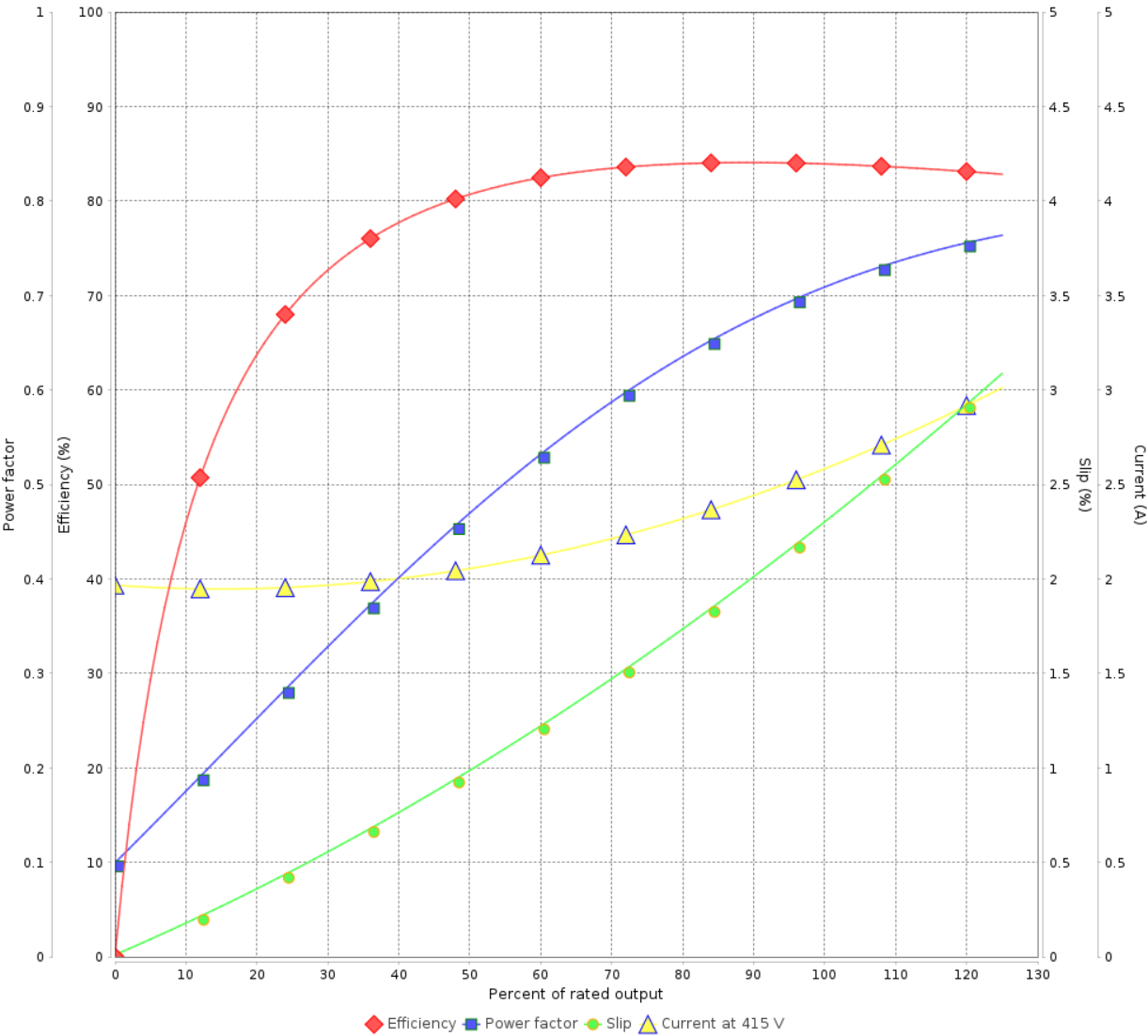
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase      Product code : 11611205

LOAD PERFORMANCE CURVE



|                                  |              |                       |                           |
|----------------------------------|--------------|-----------------------|---------------------------|
| Performance : 415 V 50 Hz 4P IE3 |              |                       |                           |
| Rated current                    | : 2.56 A     | Moment of inertia (J) | : 0.0066 kgm <sup>2</sup> |
| LRC                              | : 8.4        | Duty cycle            | : Cont.(S1)               |
| Rated torque                     | : 0.743 kgfm | Insulation class      | : F                       |
| Locked rotor torque              | : 350 %      | Service factor        | : 1.25                    |
| Breakdown torque                 | : 409 %      | Temperature rise      | : 80 K                    |
| Rated speed                      | : 1465 rpm   | Design                | : B                       |

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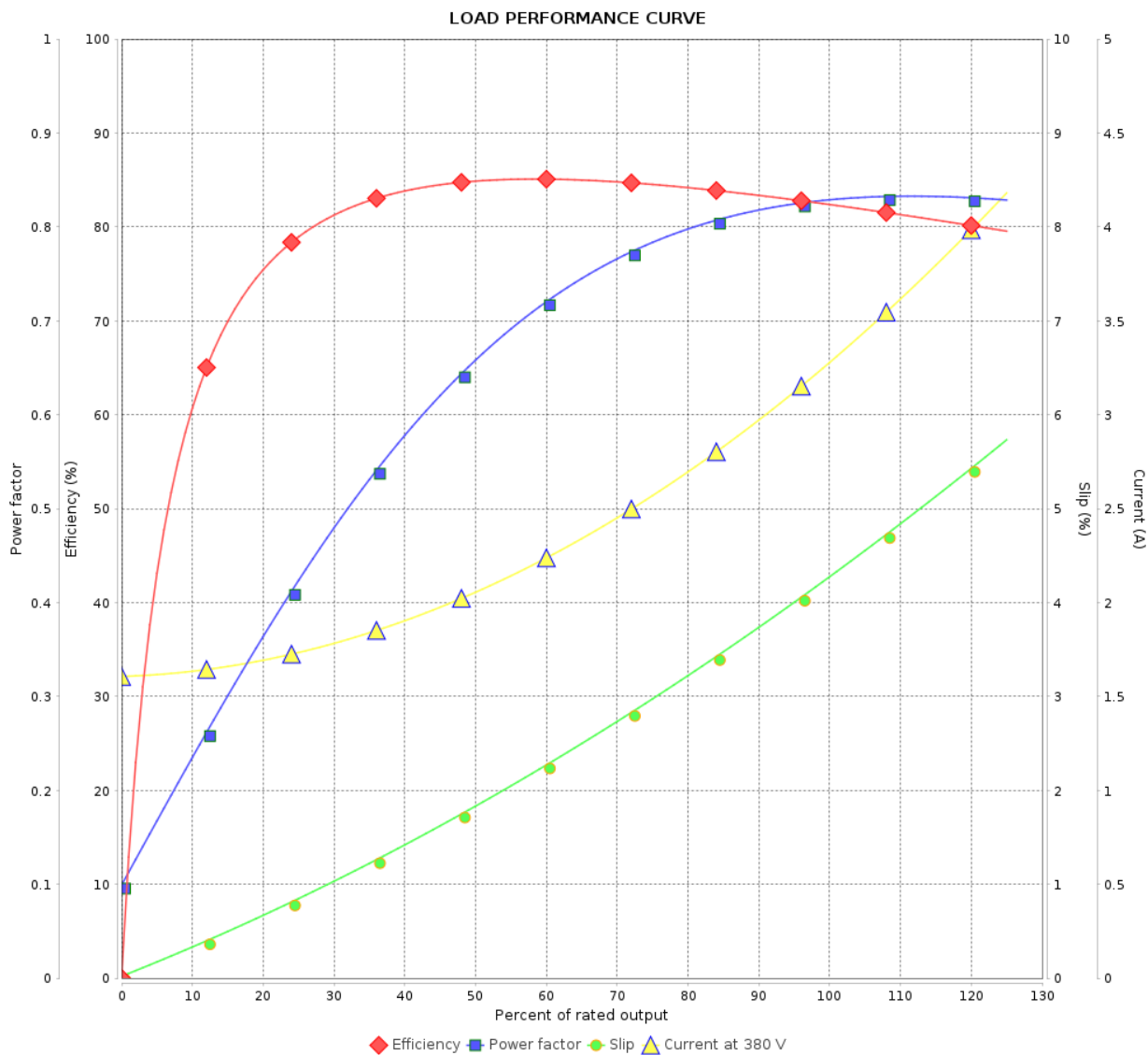
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency  
Three-Phase

Product code : 11611205



Performance : 380 V 50 Hz 4P IE1

Rated current : 3.33 A  
LRC : 6.0  
Rated torque : 1.01 kgfm  
Locked rotor torque : 220 %  
Breakdown torque : 240 %  
Rated speed : 1435 rpm

Moment of inertia (J) : 0.0066 kgm<sup>2</sup>  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.25  
Temperature rise : 80 K  
Design : B

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# LOAD PERFORMANCE CURVE

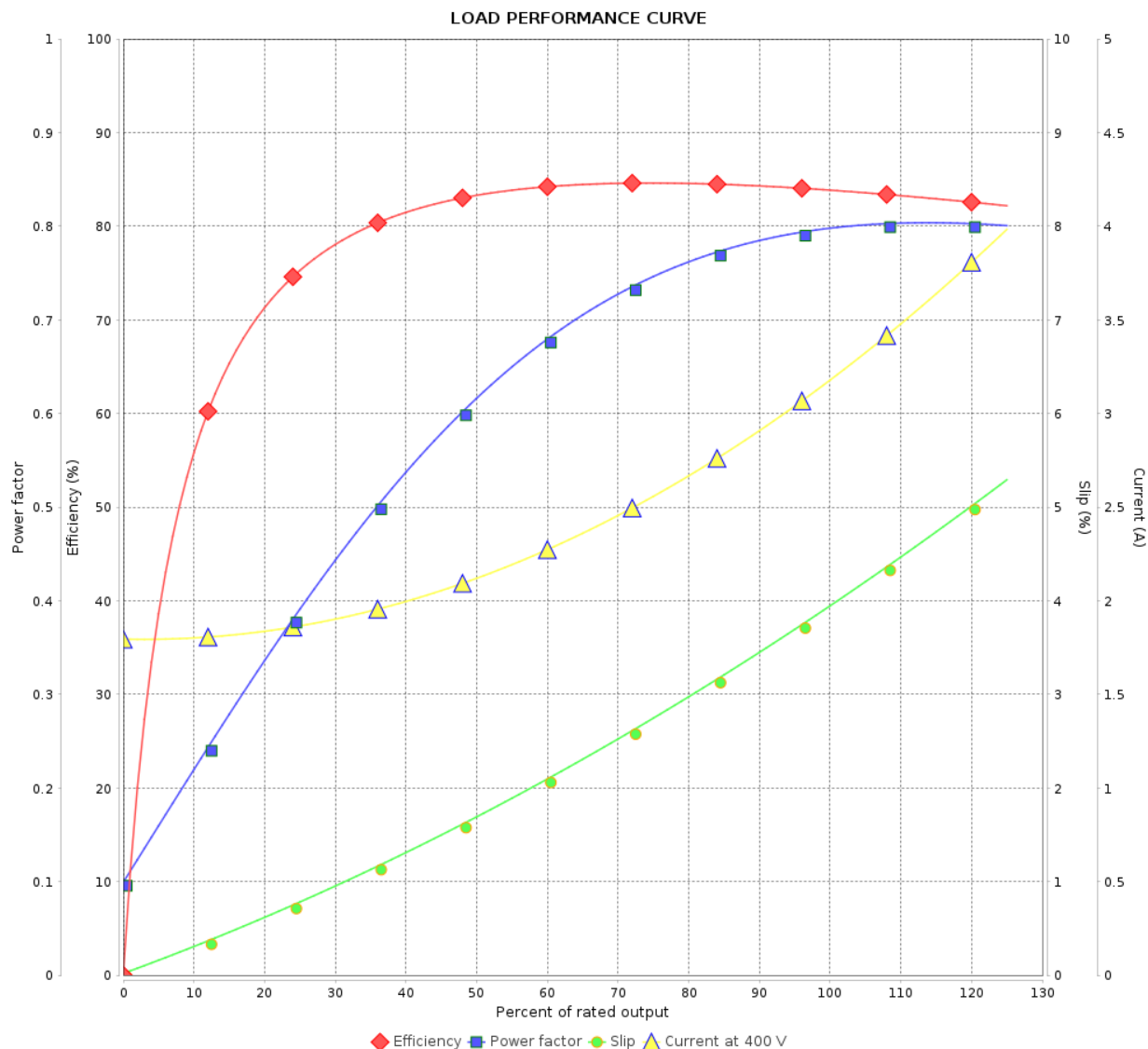
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency  
Three-Phase

Product code : 11611205



Performance : 400 V 50 Hz 4P IE2

Rated current : 3.22 A  
LRC : 6.6  
Rated torque : 1.01 kgfm  
Locked rotor torque : 229 %  
Breakdown torque : 260 %  
Rated speed : 1440 rpm

Moment of inertia (J) : 0.0066 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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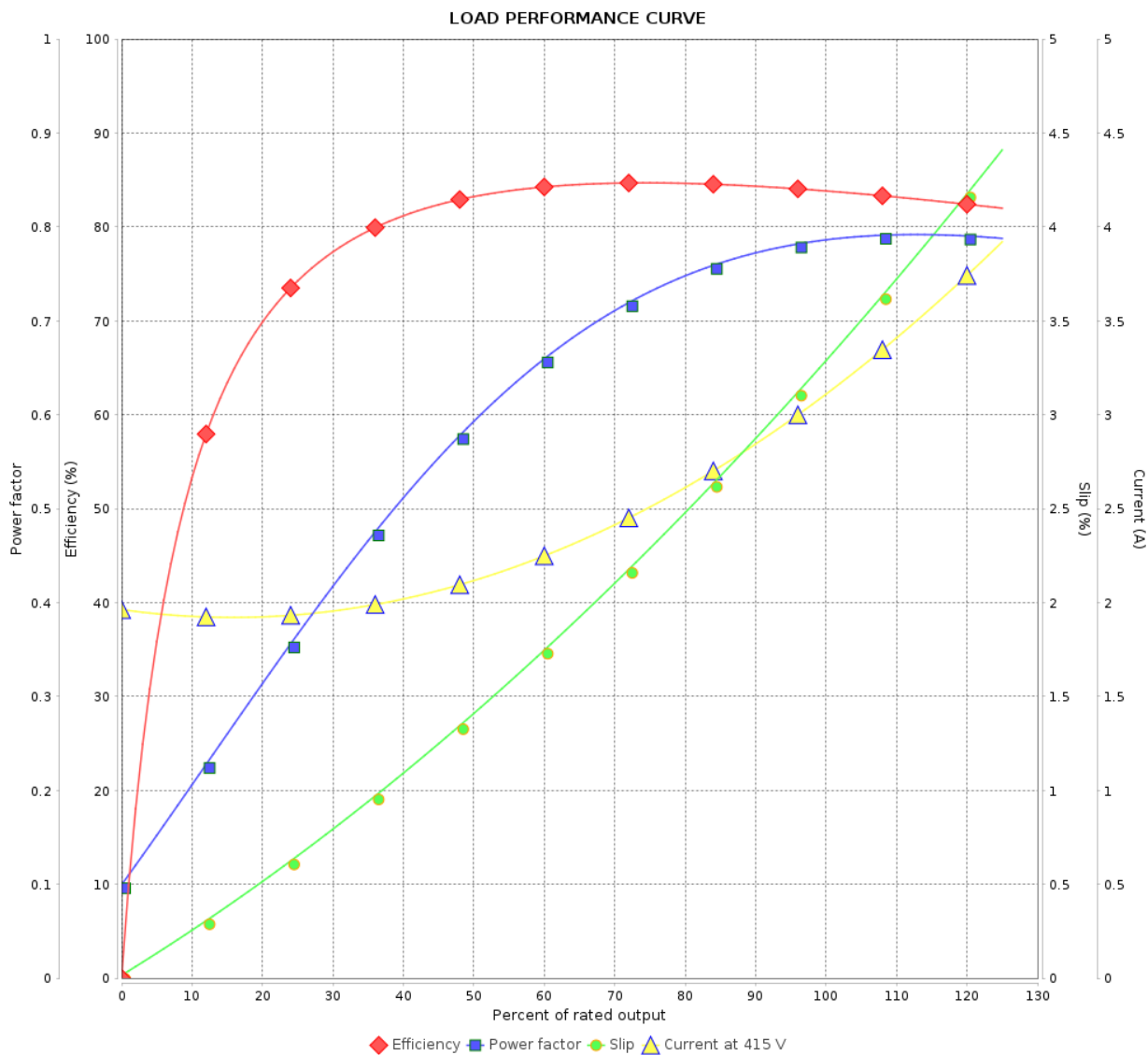
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency  
Three-Phase

Product code : 11611205



Performance : 415 V 50 Hz 4P IE2

Rated current : 3.14 A  
LRC : 7.3  
Rated torque : 1.00 kgfm  
Locked rotor torque : 250 %  
Breakdown torque : 290 %  
Rated speed : 1450 rpm

Moment of inertia (J) : 0.0066 kgm<sup>2</sup>  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.25  
Temperature rise : 80 K  
Design : B

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