

DATA SHEET



Three Phase Induction Motor - Squirrel Cage

Customer : _____

Product line : W22 NEMA Premium Efficiency Three-Phase Product code : 11610485

| | | | |
|---------------------|------------------|-----------------------------|---------------------------|
| Frame | : 254/6TC | Cooling method | : IC411 - TEFC |
| Insulation class | : F | Mounting | : F-1 |
| Duty cycle | : Cont.(S1) | Rotation ¹ | : Both (CW and CCW) |
| Ambient temperature | : -20°C to +40°C | Starting method | : Direct On Line |
| Altitude | : 1000 m.a.s.l. | Approx. weight ³ | : 152 kg |
| Protection degree | : IP55 | Moment of inertia (J) | : 0.1305 kgm ² |
| Design | : B | | |

| | | | | | | | |
|--------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Output [HP] | 20 | 15 | 15 | 15 | 20 | 20 | 20 |
| 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] | 48.2/24.1 | 21.8 | 21.2 | 20.6 | 29.4 | 28.0 | 27.1 |
| L. R. Amperes [A] | 333/166 | 161 | 167 | 173 | 168 | 174 | 179 |
| LRC [A] | 6.9x(Code H) | 7.4x(Code H) | 7.9x(Code J) | 8.4x(Code K) | 5.7x(Code F) | 6.2x(Code G) | 6.6x(Code H) |
| No load current [A] | 19.2/9.60 | 9.90 | 10.5 | 11.0 | 9.90 | 10.5 | 11.0 |
| Rated speed [RPM] | 1770 | 1473 | 1475 | 1477 | 1455 | 1460 | 1465 |
| Slip [%] | 1.67 | 1.80 | 1.67 | 1.53 | 3.00 | 2.67 | 2.33 |
| Rated torque [kgfm] | 8.20 | 7.39 | 7.38 | 7.37 | 9.98 | 9.94 | 9.91 |
| Locked rotor torque [%] | 240 | 250 | 280 | 300 | 190 | 210 | 229 |
| Breakdown torque [%] | 260 | 290 | 320 | 340 | 210 | 229 | 260 |
| Service factor | 1.25 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Temperature rise | 80 K | 80 K | 80 K | 80 K | 105 K | 105 K | 105 K |
| Locked rotor time | 54s (cold) 30s (hot) | 59s (cold) 33s (hot) | 55s (cold) 31s (hot) | 52s (cold) 29s (hot) | 39s (cold) 22s (hot) | 37s (cold) 21s (hot) | 36s (cold) 20s (hot) |
| Noise level ² | 64.0 dB(A) | 61.0 dB(A) | 61.0 dB(A) | 61.0 dB(A) | 61.0 dB(A) | 61.0 dB(A) | 61.0 dB(A) |
| Efficiency (%) | 25% | | | | | | |
| | 50% | 91.7 | 91.0 | 89.8 | 89.8 | 91.7 | 91.0 |
| | 75% | 92.4 | 91.5 | 91.0 | 91.3 | 91.0 | 91.7 |
| | 100% | 93.0 | 91.4 | 91.4 | 91.7 | 90.2 | 91.7 |
| Power Factor | 25% | | | | | | |
| | 50% | 0.68 | 0.65 | 0.62 | 0.60 | 0.75 | 0.72 |
| | 75% | 0.79 | 0.78 | 0.75 | 0.73 | 0.83 | 0.81 |
| | 100% | 0.84 | 0.84 | 0.82 | 0.81 | 0.86 | 0.84 |

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

| | | | | | | | |
|------------|----------------|-----|-----|-----|-----|-----|-----|
| Losses (%) | P1 (0,9;1,0) | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 |
| | P2 (0,5;1,0) | 6.4 | 6.4 | 6.4 | 6.4 | 6.4 | 6.4 |
| | P3 (0,25;1,0) | 5.8 | 5.8 | 5.8 | 5.8 | 5.8 | 5.8 |
| | P4 (0,9;0,5) | 3.6 | 3.6 | 3.6 | 3.6 | 3.6 | 3.6 |
| | P5 (0,5;0,5) | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 |
| | P6 (0,5;0,25) | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 |
| | P7 (0,25;0,25) | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 |

| | | | | |
|--------------|--------------------|---------------|----------------------------|------------------|
| Bearing type | : 6309 C3 | Non drive end | 6209 C3 | Foundation loads |
| | : V'Ring | | V'Ring | |
| | : 20000 h | | 20000 h | |
| | : 13 g | | 9 g | |
| | : Mobil Polyrex EM | | | |
| | | | | |
| | | | Max. compression : 481 kgf | |

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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Three Phase Induction Motor - Squirrel Cage



Customer : _____

Notes
USABLE @208V 53.3A SF 1.15 SFA 61.3A

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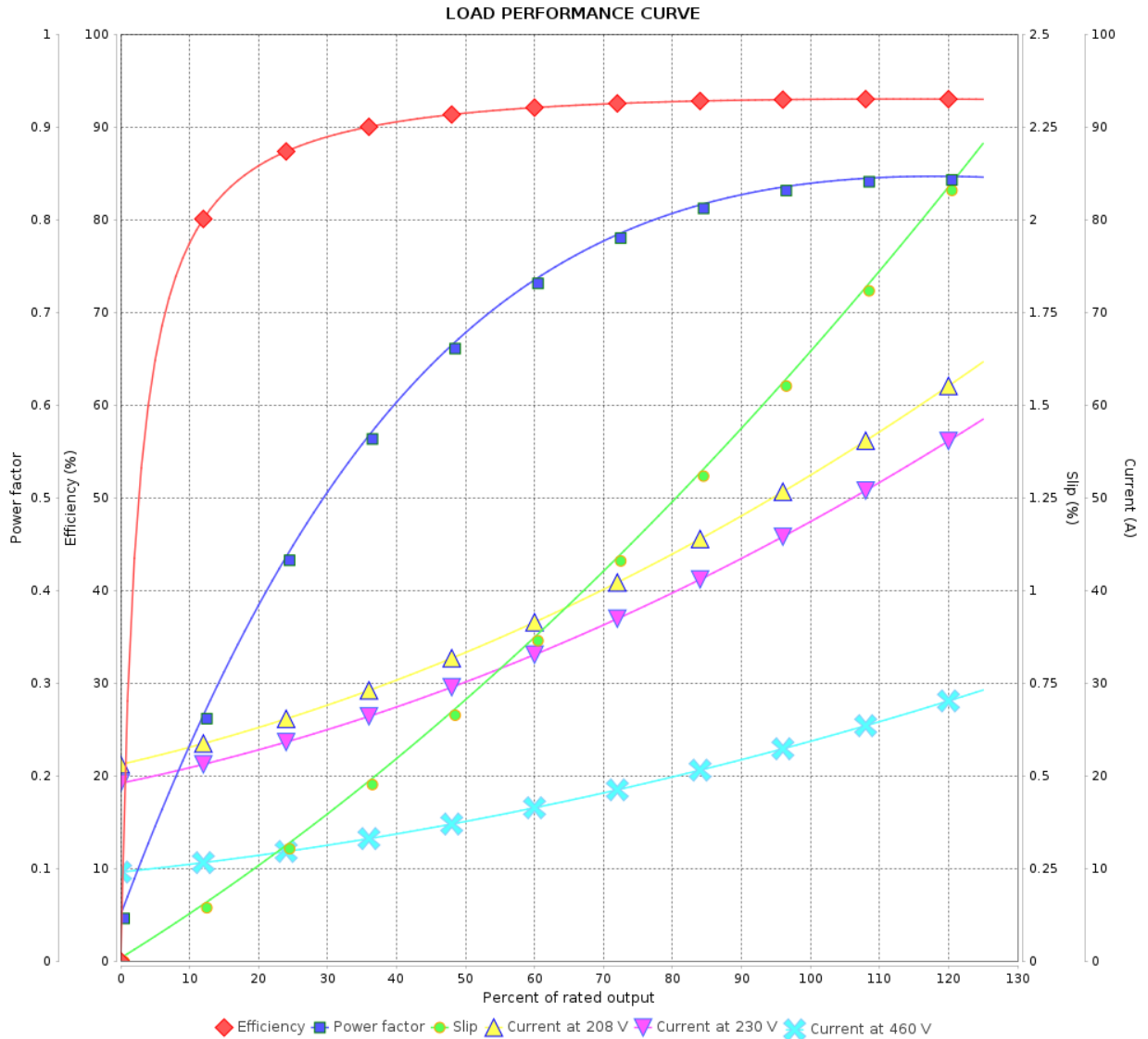
Three Phase Induction Motor - Squirrel Cage



Customer : _____

Product line : W22 NEMA Premium Efficiency Three-Phase

Product code : 11610485



Performance : 230/460 V 60 Hz 4P

Rated current : 48.2/24.1 A
 LRC : 6.9
 Rated torque : 8.20 kgfm
 Locked rotor torque : 240 %
 Breakdown torque : 260 %
 Rated speed : 1770 rpm

Moment of inertia (J) : 0.1305 kgm²
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.25
 Temperature rise : 80 K
 Design : B

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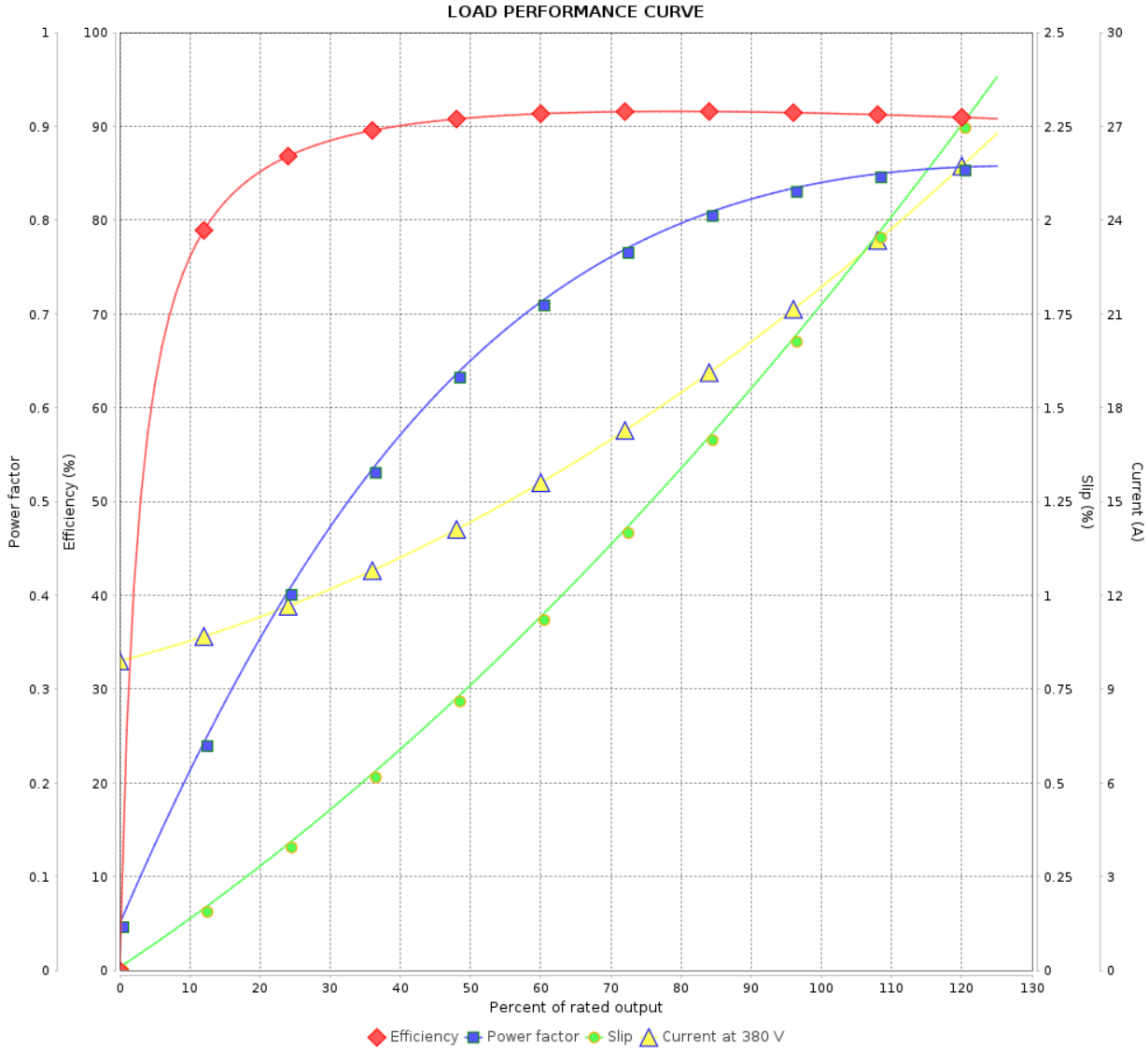
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase

Product code : 11610485



Performance : 380 V 50 Hz 4P IE3

Rated current : 21.8 A
 LRC : 7.4
 Rated torque : 7.39 kgfm
 Locked rotor torque : 250 %
 Breakdown torque : 290 %
 Rated speed : 1473 rpm

Moment of inertia (J) : 0.1305 kgm²
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

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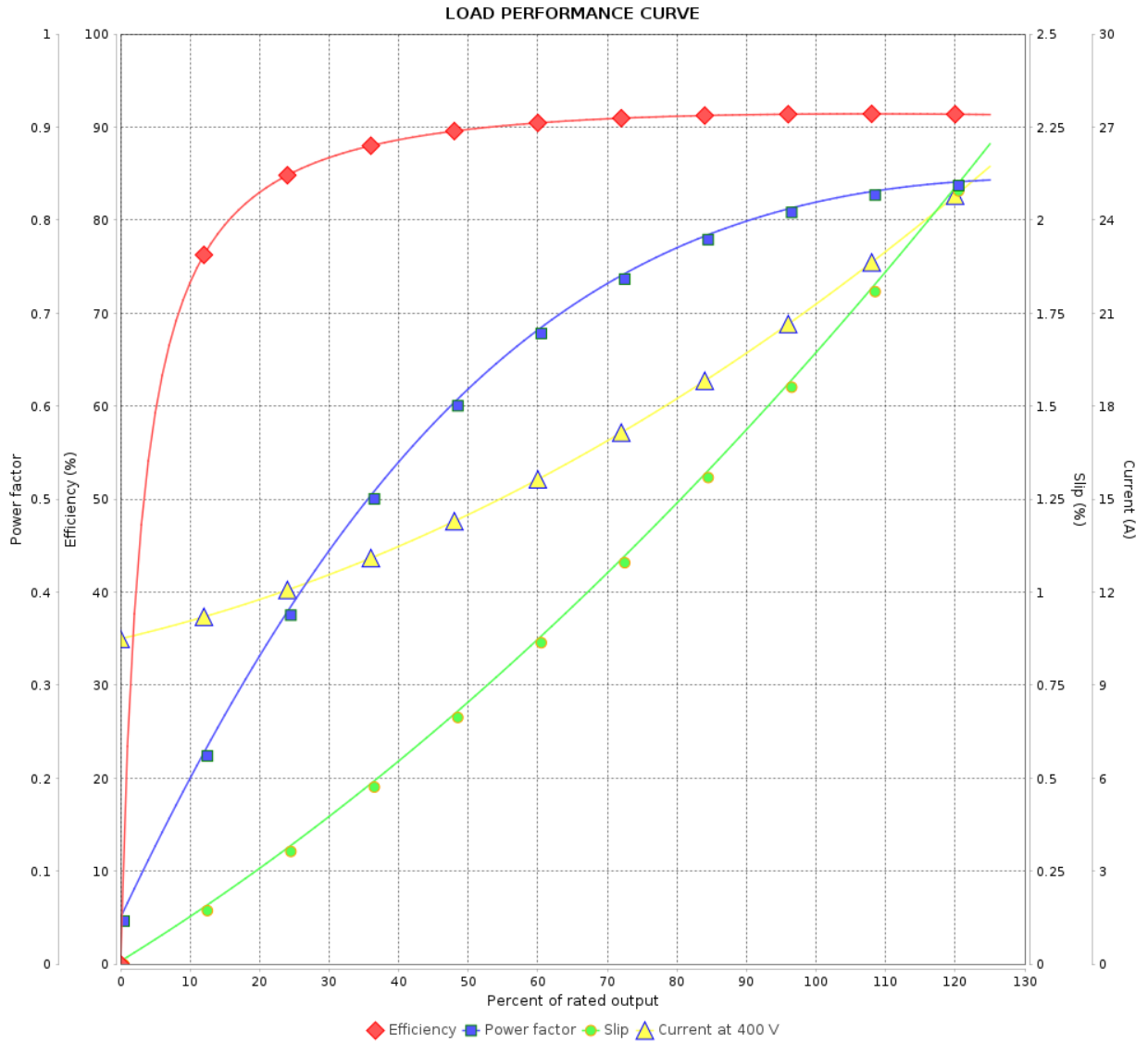
Three Phase Induction Motor - Squirrel Cage



Customer : _____

Product line : W22 NEMA Premium Efficiency Three-Phase

Product code : 11610485



Performance : 400 V 50 Hz 4P IE3

Rated current : 21.2 A
 LRC : 7.9
 Rated torque : 7.38 kgfm
 Locked rotor torque : 280 %
 Breakdown torque : 320 %
 Rated speed : 1475 rpm

Moment of inertia (J) : 0.1305 kgm²
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

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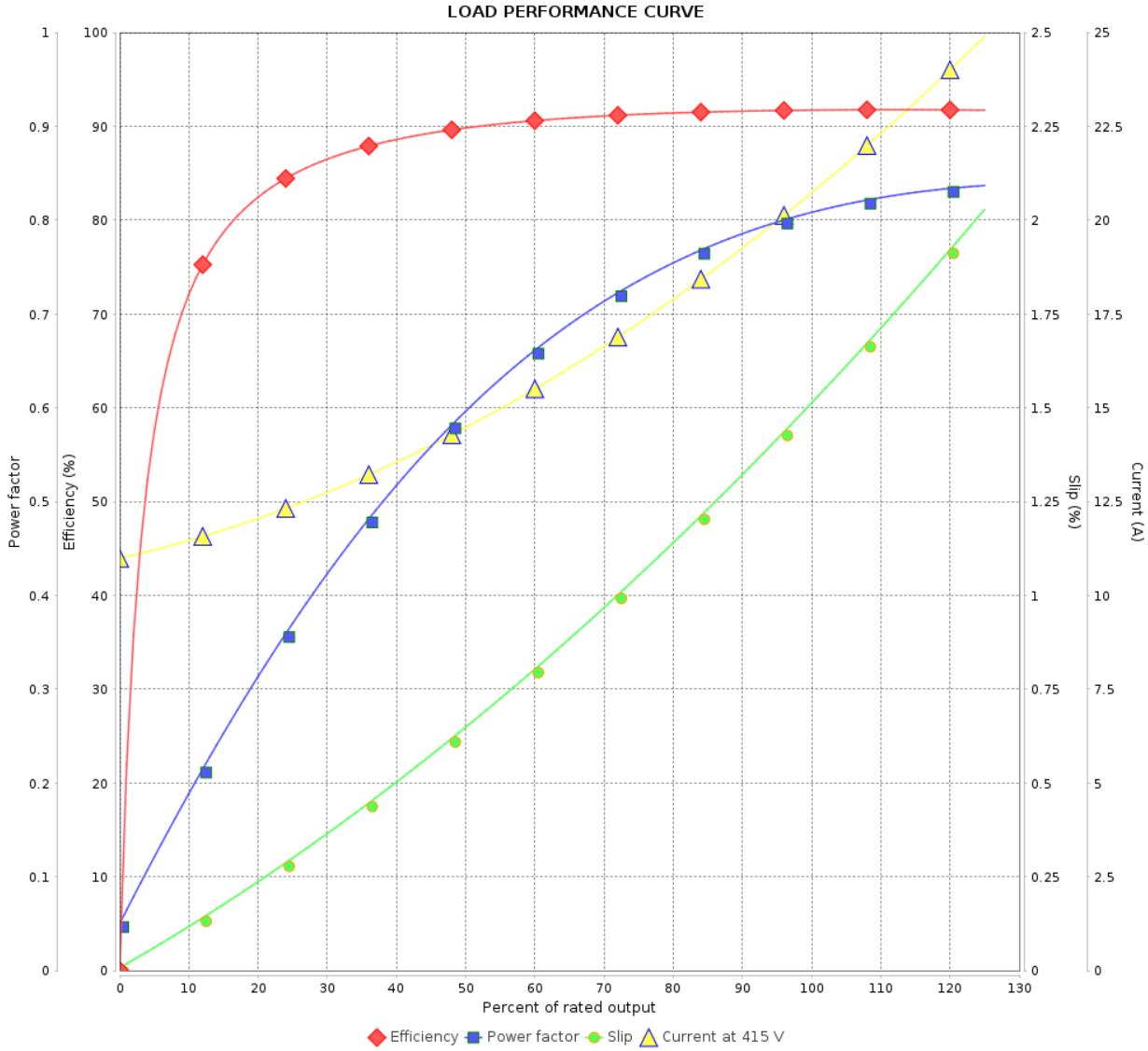
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase

Product code : 11610485



Performance : 415 V 50 Hz 4P IE3

Rated current : 20.6 A
 LRC : 8.4
 Rated torque : 7.37 kgfm
 Locked rotor torque : 300 %
 Breakdown torque : 340 %
 Rated speed : 1477 rpm

Moment of inertia (J) : 0.1305 kgm²
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

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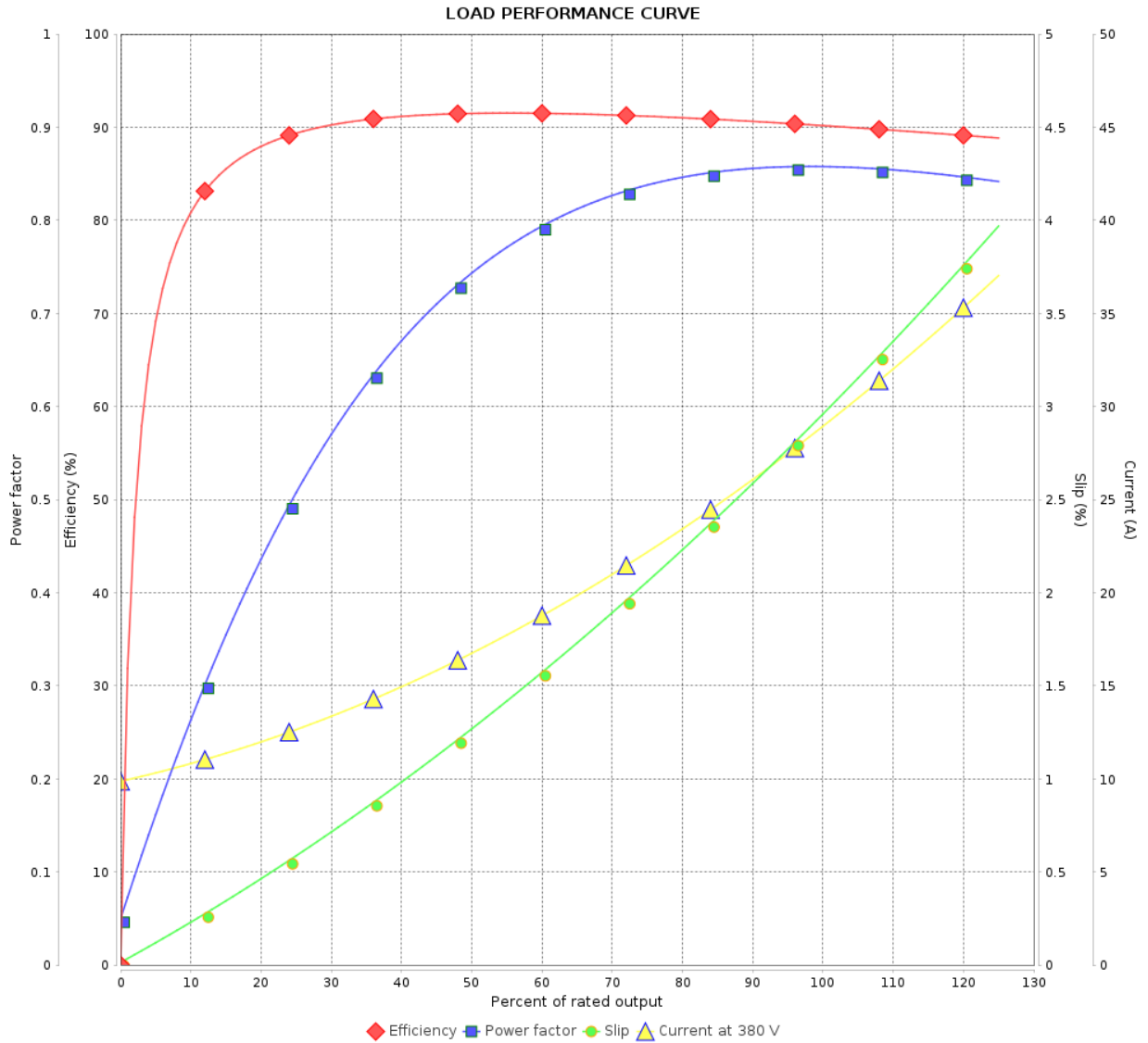
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase

Product code : 11610485



Performance : 380 V 50 Hz 4P IE1

Rated current : 29.4 A
 LRC : 5.7
 Rated torque : 9.98 kgfm
 Locked rotor torque : 190 %
 Breakdown torque : 210 %
 Rated speed : 1455 rpm

Moment of inertia (J) : 0.1305 kgm²
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 105 K
 Design : B

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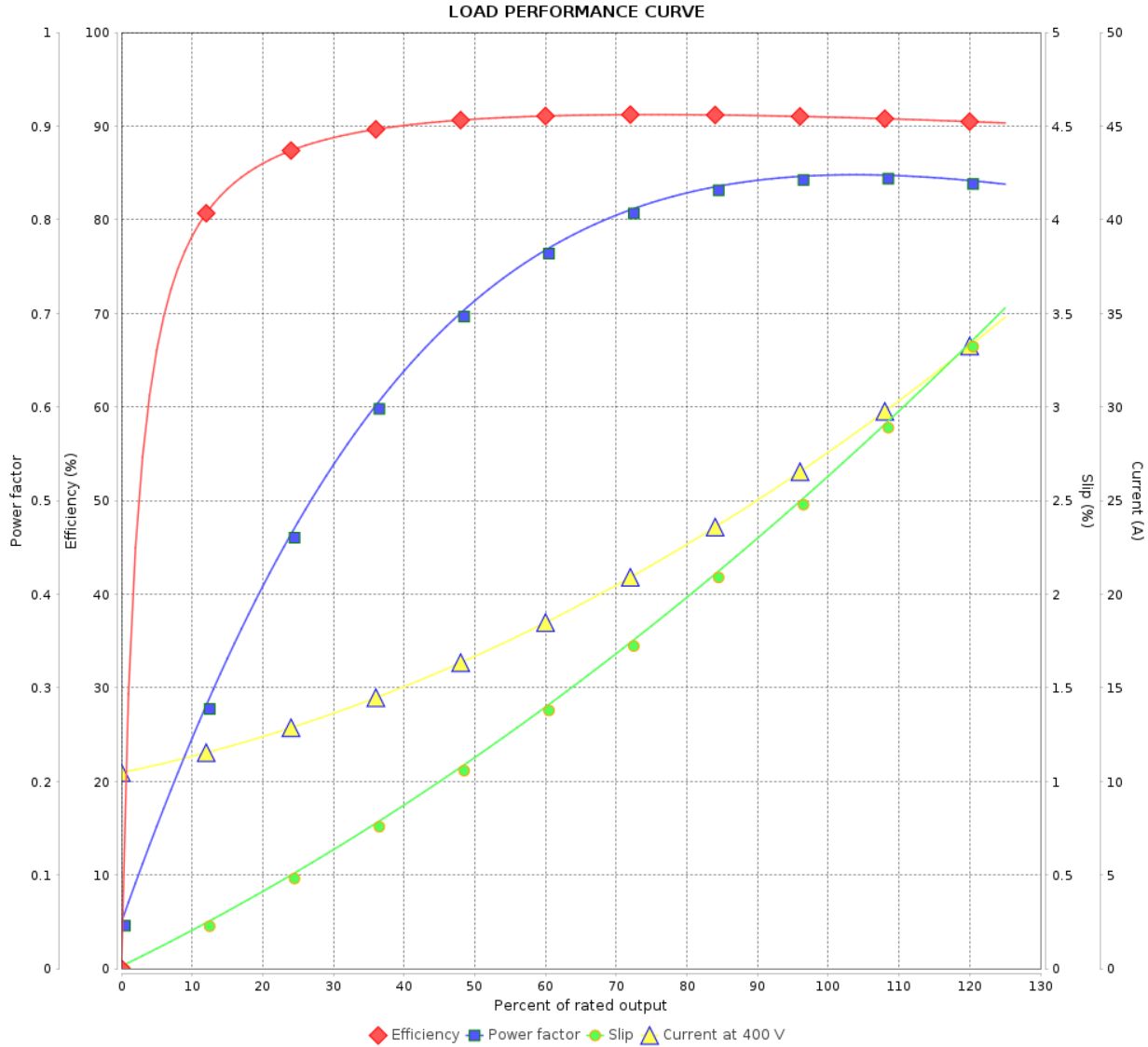
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase

Product code : 11610485



Performance : 400 V 50 Hz 4P IE2

Rated current : 28.0 A
 LRC : 6.2
 Rated torque : 9.94 kgfm
 Locked rotor torque : 210 %
 Breakdown torque : 229 %
 Rated speed : 1460 rpm

Moment of inertia (J) : 0.1305 kgm²
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 105 K
 Design : B

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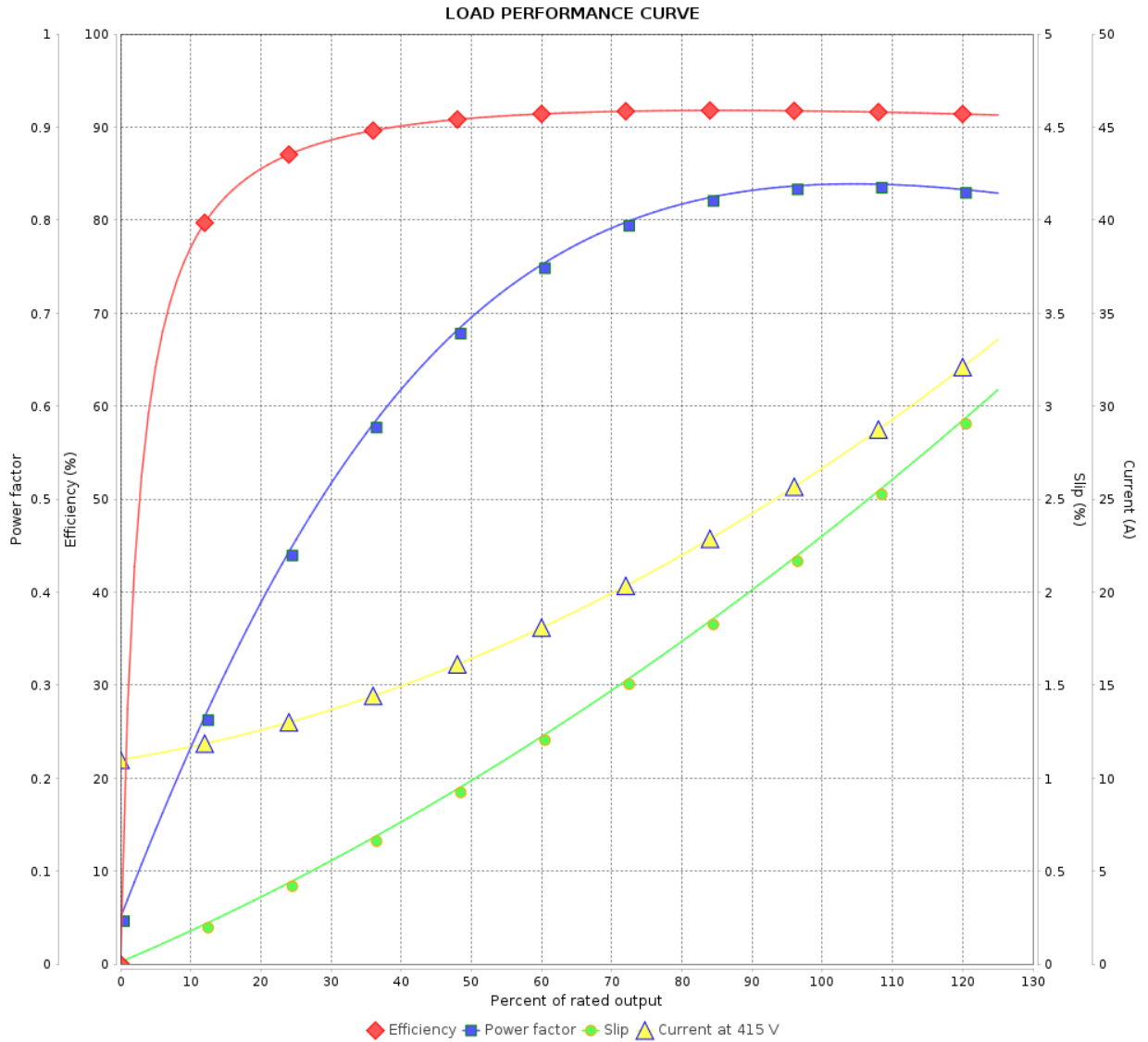
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase

Product code : 11610485



Performance : 415 V 50 Hz 4P IE2

Rated current : 27.1 A
 LRC : 6.6
 Rated torque : 9.91 kgfm
 Locked rotor torque : 229 %
 Breakdown torque : 260 %
 Rated speed : 1465 rpm

Moment of inertia (J) : 0.1305 kgm²
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 105 K
 Design : B

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