

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 IEEE 841 NEMA Premium Efficiency Three-Phase Product code : 11943172

| | | | |
|---------------------|------------------|-----------------------------|---------------------------|
| Frame | : 324/6T | 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 | : 275 kg |
| Protection degree | : IP55 | Moment of inertia (J) | : 0.3861 kgm ² |
| Design | : B | | |

| | | | | | | | |
|--------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Output [HP] | 50 | 40 | 40 | 40 | 50 | 50 | 50 |
| Poles | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Frequency [Hz] | 60 | 50 | 50 | 50 | 50 | 50 | 50 |
| Rated voltage [V] | 460 | 380 | 400 | 415 | 380 | 400 | 415 |
| Rated current [A] | 59.2 | 58.7 | 57.1 | 56.4 | 71.6 | 68.4 | 66.3 |
| L. R. Amperes [A] | 367 | 376 | 400 | 417 | 372 | 397 | 411 |
| LRC [A] | 6.2x(Code G) | 6.4x(Code G) | 7.0x(Code H) | 7.4x(Code J) | 5.2x(Code E) | 5.8x(Code F) | 6.2x(Code G) |
| No load current [A] | 23.5 | 23.0 | 24.0 | 25.0 | 23.0 | 24.0 | 25.0 |
| Rated speed [RPM] | 1775 | 1475 | 1477 | 1478 | 1460 | 1465 | 1470 |
| Slip [%] | 1.39 | 1.67 | 1.53 | 1.47 | 2.67 | 2.33 | 2.00 |
| Rated torque [kgfm] | 20.4 | 19.7 | 19.7 | 19.6 | 24.9 | 24.8 | 24.7 |
| Locked rotor torque [%] | 229 | 229 | 250 | 260 | 180 | 200 | 210 |
| Breakdown torque [%] | 270 | 260 | 300 | 330 | 200 | 240 | 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 | 27s (cold) 15s (hot) | 19s (cold) 11s (hot) | 19s (cold) 11s (hot) | 19s (cold) 11s (hot) | 19s (cold) 11s (hot) | 19s (cold) 11s (hot) | 19s (cold) 11s (hot) |
| Noise level ² | 70.0 dB(A) | 67.0 dB(A) | 67.0 dB(A) | 67.0 dB(A) | 67.0 dB(A) | 67.0 dB(A) | 67.0 dB(A) |
| Efficiency (%) | 25% | | | | | | |
| | 50% | 93.0 | 92.5 | 91.5 | 91.1 | 93.0 | 92.4 |
| | 75% | 94.1 | 93.1 | 92.8 | 93.0 | 93.0 | 93.0 |
| | 100% | 94.5 | 93.6 | 93.6 | 93.6 | 92.4 | 93.5 |
| Power Factor | 25% | | | | | | |
| | 50% | 0.66 | 0.64 | 0.60 | 0.57 | 0.72 | 0.68 |
| | 75% | 0.77 | 0.77 | 0.73 | 0.70 | 0.81 | 0.79 |
| | 100% | 0.83 | 0.83 | 0.81 | 0.79 | 0.85 | 0.84 |

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

| | | | | | | | |
|------------|----------------|-----|-----|-----|-----|-----|-----|
| Losses (%) | P1 (0,9;1,0) | 5.7 | 5.7 | 5.7 | 5.7 | 5.7 | 5.7 |
| | P2 (0,5;1,0) | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 |
| | P3 (0,25;1,0) | 4.7 | 4.7 | 4.7 | 4.7 | 4.7 | 4.7 |
| | P4 (0,9;0,5) | 2.7 | 2.7 | 2.7 | 2.7 | 2.7 | 2.7 |
| | P5 (0,5;0,5) | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 |
| | P6 (0,5;0,25) | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 |
| | P7 (0,25;0,25) | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 |

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|----------------------|--------------------|---------------|-----------|------------------|-----------|
| Bearing type | : 6312 C3 | Non drive end | 6212 C3 | Foundation loads | |
| Sealing | : Taconite | | Taconite | Max. traction | : 671 kgf |
| | Labyrinth | | Labyrinth | Max. compression | : 946 kgf |
| Lubrication interval | : 20000 h | | 20000 h | | |
| Lubricant amount | : 21 g | | 13 g | | |
| Lubricant type | : Mobil Polyrex EM | | | | |

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Customer

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Notes

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.

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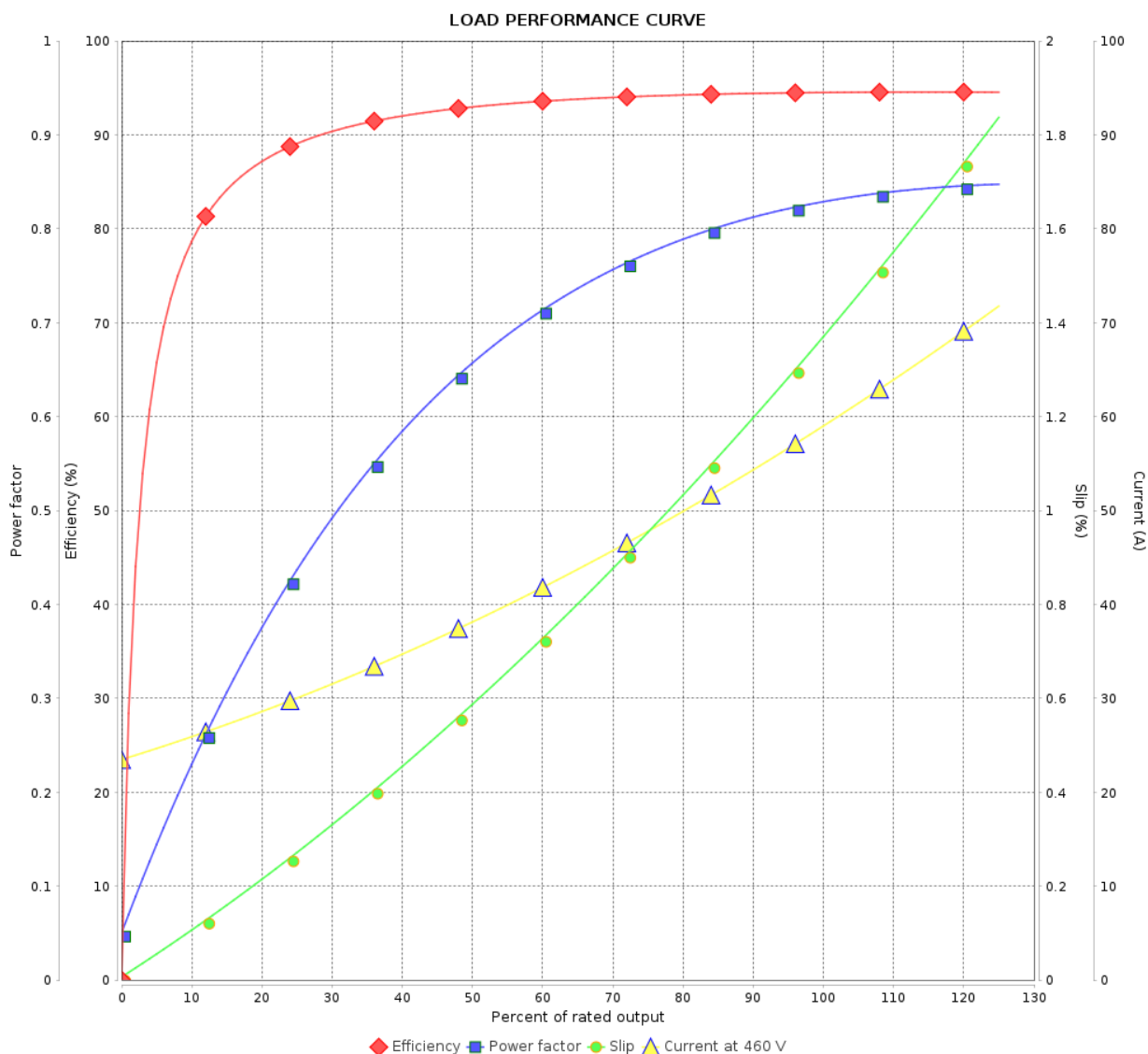
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 IEEE 841 NEMA Premium
Efficiency Three-Phase

Product code : 11943172



Performance : 460 V 60 Hz 4P

Rated current : 59.2 A
LRC : 6.2
Rated torque : 20.4 kgfm
Locked rotor torque : 229 %
Breakdown torque : 270 %
Rated speed : 1775 rpm

Moment of inertia (J) : 0.3861 kgm²
Duty cycle : Cont.(S1)
Insulation class : F
Service factor : 1.25
Temperature rise : 80 K
Design : B

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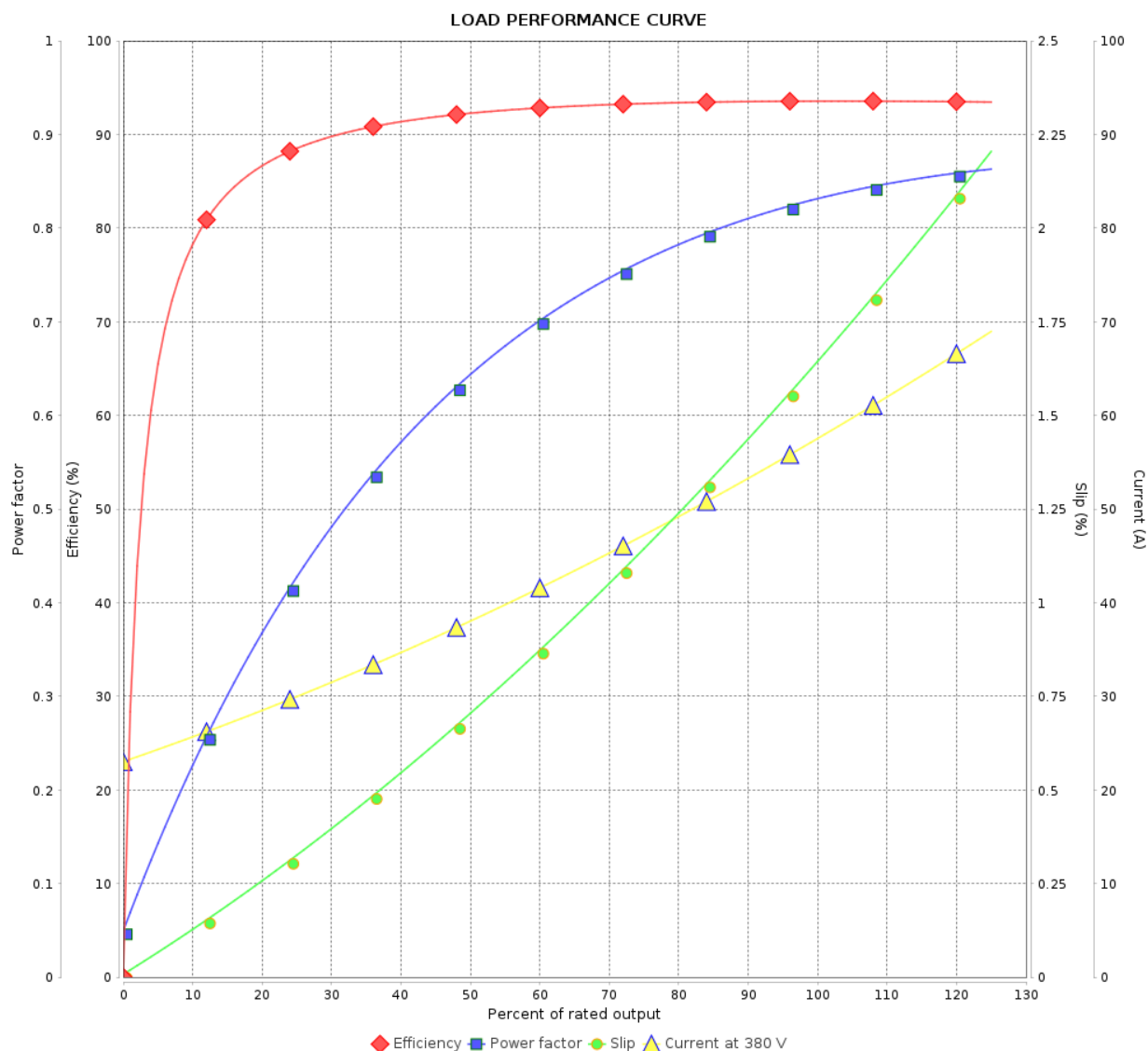
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 IEEE 841 NEMA Premium
Efficiency Three-Phase

Product code : 11943172



Performance : 380 V 50 Hz 4P IE3

Rated current : 58.7 A
LRC : 6.4
Rated torque : 19.7 kgfm
Locked rotor torque : 229 %
Breakdown torque : 260 %
Rated speed : 1475 rpm

Moment of inertia (J) : 0.3861 kgm²
Duty cycle : Cont.(S1)
Insulation class : F
Service factor : 1.00
Temperature rise : 80 K
Design : B

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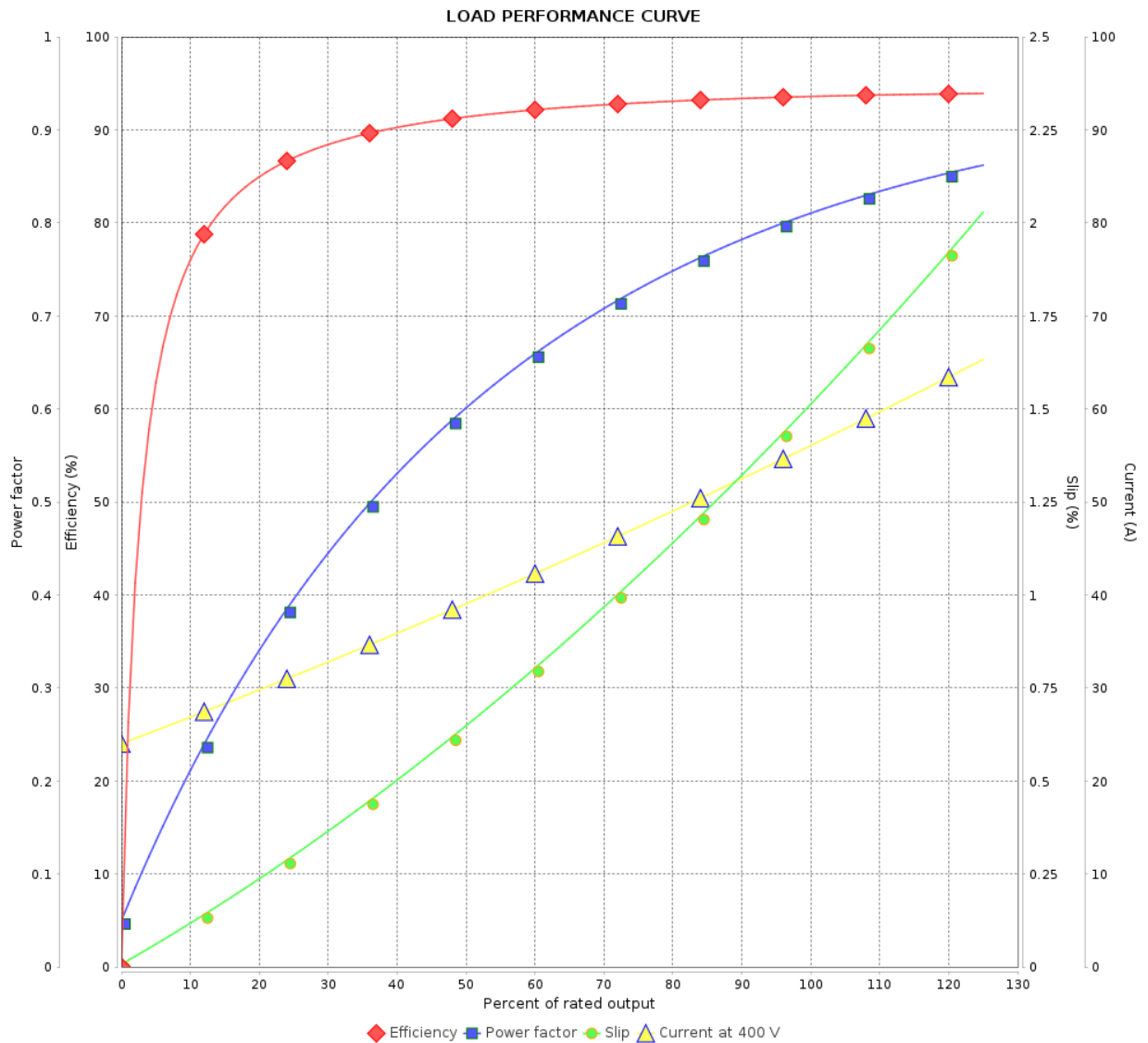
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 IEEE 841 NEMA Premium
Efficiency Three-Phase

Product code : 11943172



Performance : 400 V 50 Hz 4P IE3

Rated current : 57.1 A
LRC : 7.0
Rated torque : 19.7 kgfm
Locked rotor torque : 250 %
Breakdown torque : 300 %
Rated speed : 1477 rpm

Moment of inertia (J) : 0.3861 kgm²
Duty cycle : Cont.(S1)
Insulation class : F
Service factor : 1.00
Temperature rise : 80 K
Design : B

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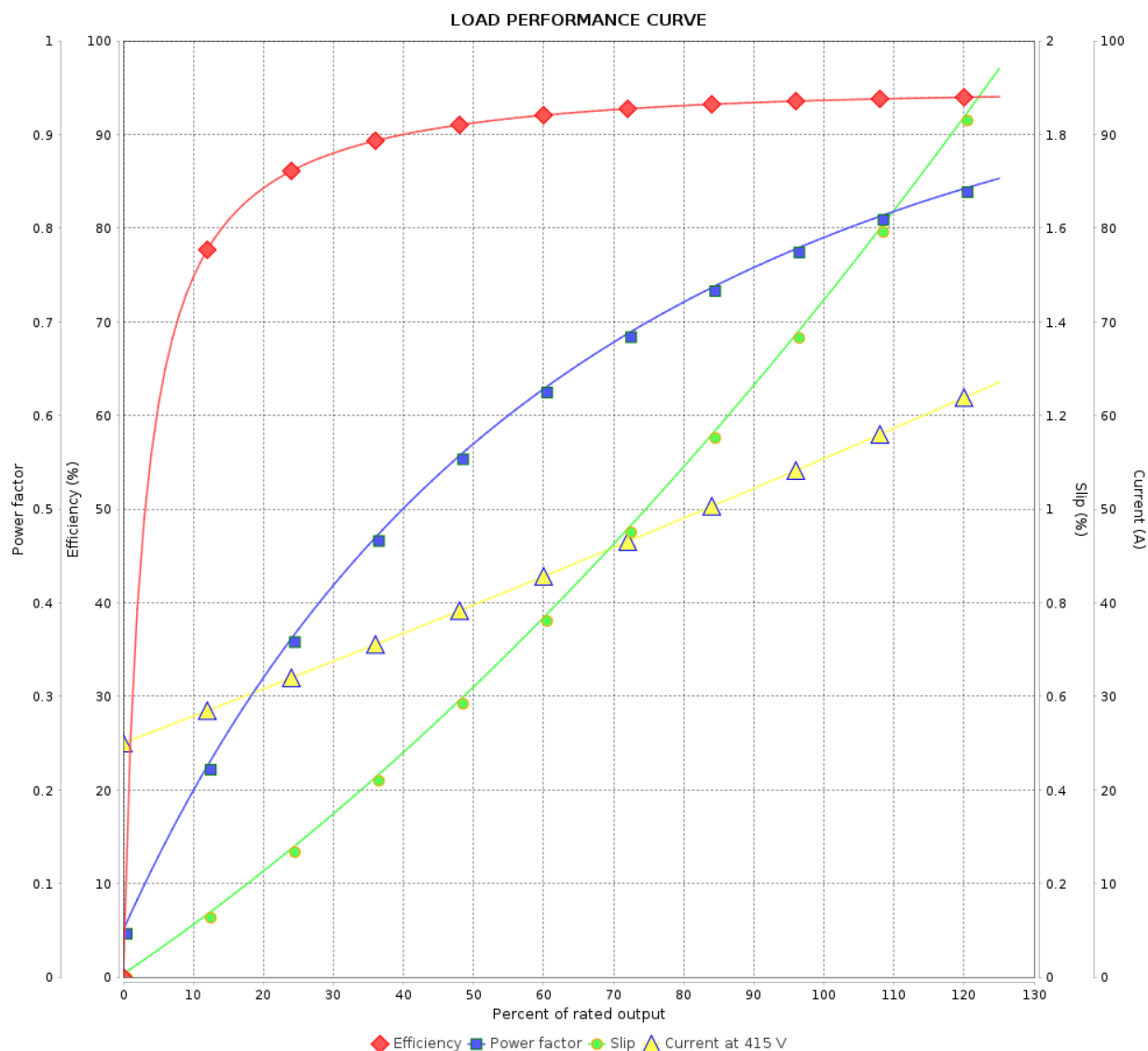
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 IEEE 841 NEMA Premium
Efficiency Three-Phase

Product code : 11943172



Performance : 415 V 50 Hz 4P IE3

Rated current : 56.4 A
LRC : 7.4
Rated torque : 19.6 kgfm
Locked rotor torque : 260 %
Breakdown torque : 330 %
Rated speed : 1478 rpm

Moment of inertia (J) : 0.3861 kgm²
Duty cycle : Cont.(S1)
Insulation class : F
Service factor : 1.00
Temperature rise : 80 K
Design : B

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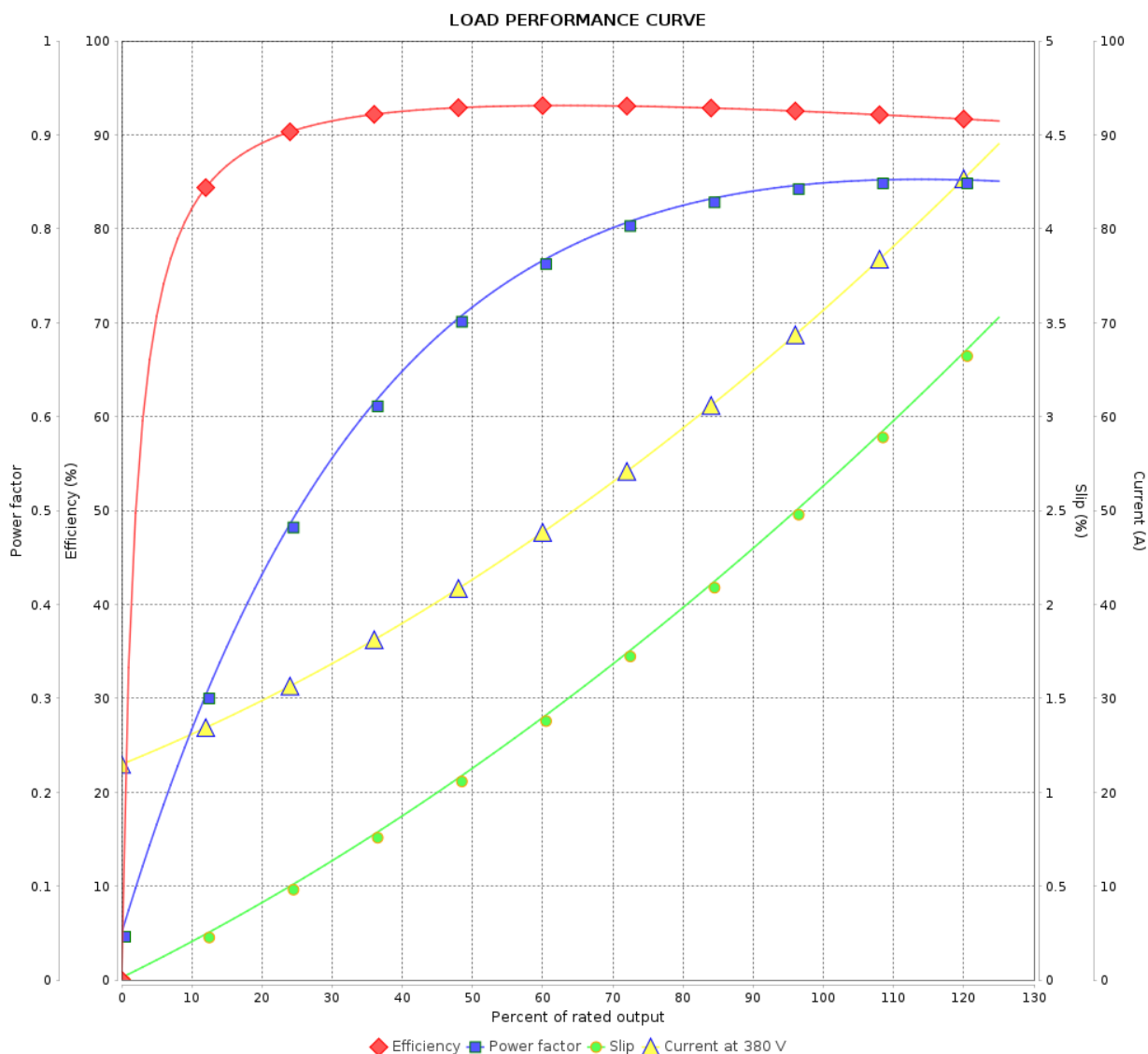
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 IEEE 841 NEMA Premium
Efficiency Three-Phase

Product code : 11943172



Performance : 380 V 50 Hz 4P IE1

Rated current : 71.6 A
LRC : 5.2
Rated torque : 24.9 kgfm
Locked rotor torque : 180 %
Breakdown torque : 200 %
Rated speed : 1460 rpm

Moment of inertia (J) : 0.3861 kgm²
Duty cycle : Cont.(S1)
Insulation class : F
Service factor : 1.00
Temperature rise : 105 K
Design : B

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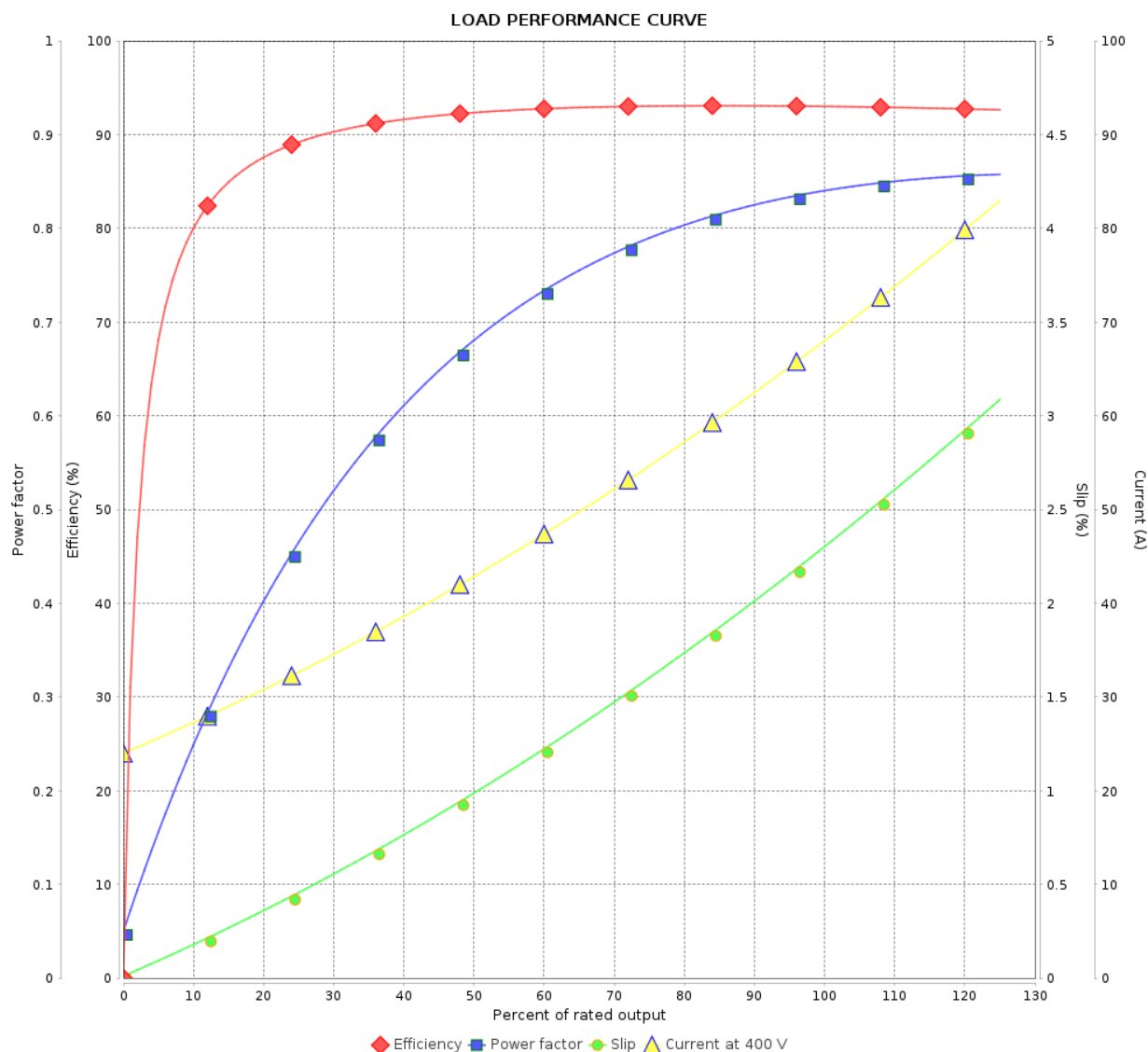
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 IEEE 841 NEMA Premium
Efficiency Three-Phase

Product code : 11943172



Performance : 400 V 50 Hz 4P IE2

Rated current : 68.4 A
LRC : 5.8
Rated torque : 24.8 kgfm
Locked rotor torque : 200 %
Breakdown torque : 240 %
Rated speed : 1465 rpm

Moment of inertia (J) : 0.3861 kgm²
Duty cycle : Cont.(S1)
Insulation class : F
Service factor : 1.00
Temperature rise : 105 K
Design : B

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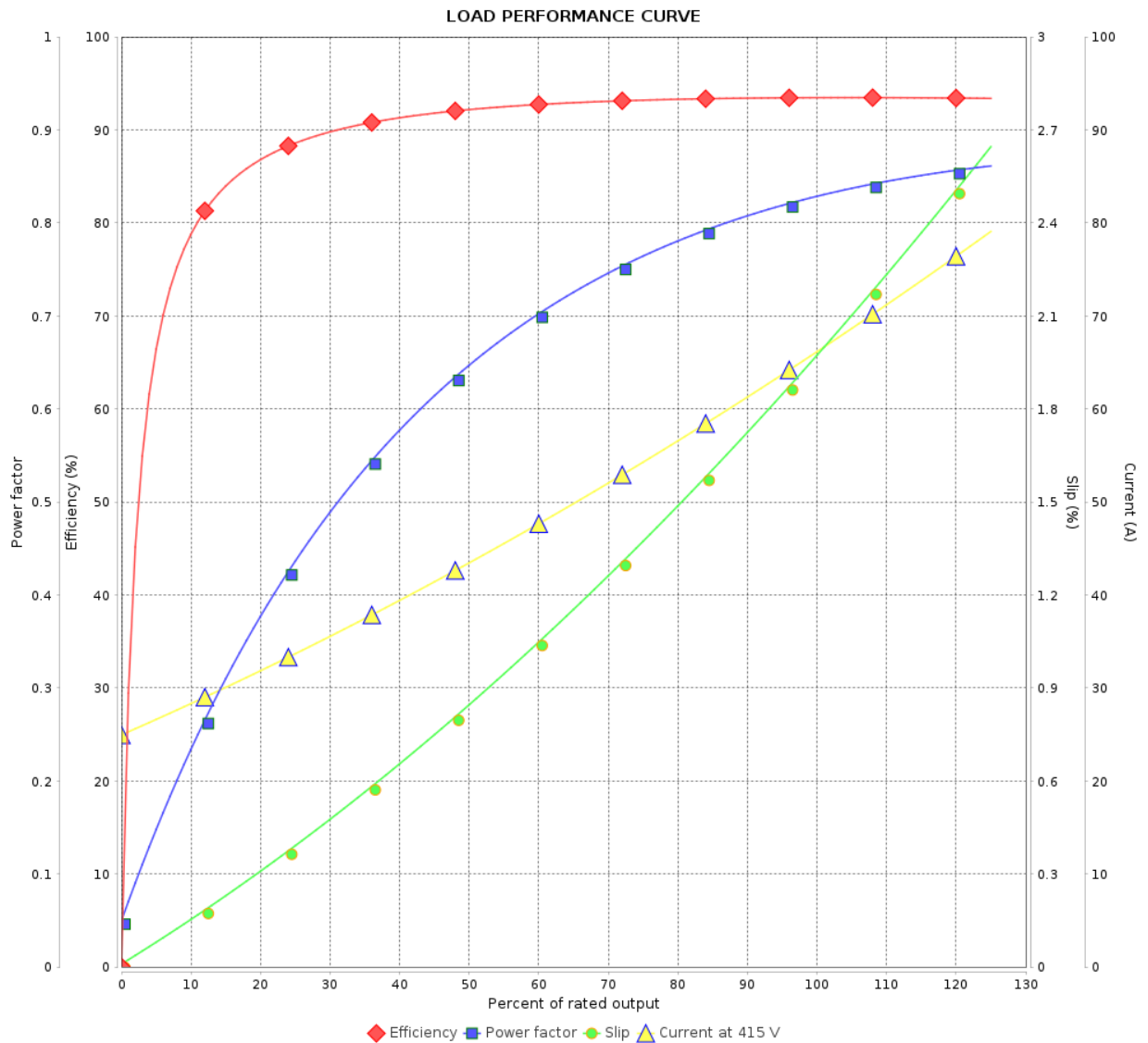
Three Phase Induction Motor - Squirrel Cage



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Product line : W22 IEEE 841 NEMA Premium
Efficiency Three-Phase

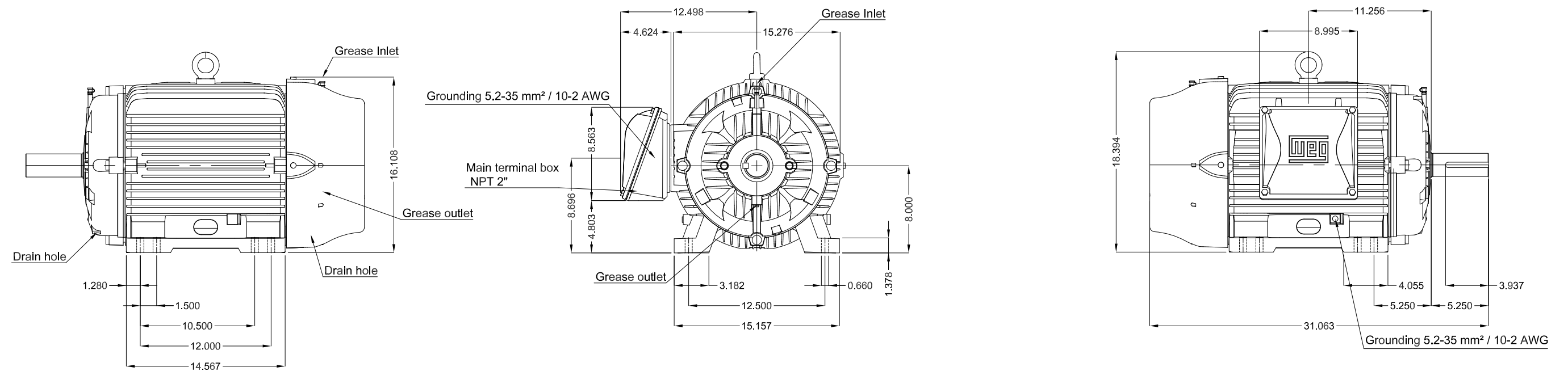
Product code : 11943172





Performance : 415 V 50 Hz 4P IE2

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|---------------------|-------------|-----------------------|---------------------------|
| Rated current | : 66.3 A | Moment of inertia (J) | : 0.3861 kgm ² |
| LRC | : 6.2 | Duty cycle | : Cont.(S1) |
| Rated torque | : 24.7 kgfm | Insulation class | : F |
| Locked rotor torque | : 210 % | Service factor | : 1.00 |
| Breakdown torque | : 260 % | Temperature rise | : 105 K |
| Rated speed | : 1470 rpm | Design | : B |

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| 50 HP 04 Poles 60 Hz | | | | | | | | | | A | |
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| ECM | | LOC | SUMMARY OF MODIFICATIONS | | | | EXECUTED | CHECKED | RELEASED | DATE | VER |
| EXECUTED | HYBRISUSER |  | THREE PH. MOTOR IEEE 841 W22 NEMA PREM. EFF. FRAME 324/6T IP55 TEFC | | | | | PREVIEW | |  | |
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