

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 Close Coupled Pump JM NEMA Premium Efficiency Three-Phase Product code : 11798490

| | | | |
|---------------------|------------------|-----------------------------|---------------------------|
| Frame | : 213/5JM | 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 | : 80.5 kg |
| Protection degree | : IP55 | Moment of inertia (J) | : 0.0268 kgm ² |
| Design | : A | | |

| | | | | | | | |
|--------------------------|-------------------------|-------------------------|-------------------------|-------------------------|------------------------|------------------------|------------------------|
| Output [HP] | 15 | 10 | 10 | 10 | 15 | 15 | 15 |
| Poles | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Frequency [Hz] | 60 | 50 | 50 | 50 | 50 | 50 | 50 |
| Rated voltage [V] | 230/460 | 380 | 400 | 415 | 380 | 400 | 415 |
| Rated current [A] | 34.0/17.0 | 14.5 | 14.1 | 14.0 | 20.6 | 19.7 | 19.3 |
| L. R. Amperes [A] | 269/134 | 125 | 133 | 140 | 134 | 142 | 149 |
| LRC [A] | 7.9x(Code J) | 8.6x(Code K) | 9.4x(Code L) | 10.0x(Code M) | 6.5x(Code G) | 7.2x(Code H) | 7.7x(Code J) |
| No load current [A] | 11.6/5.80 | 5.60 | 6.20 | 6.70 | 5.60 | 6.20 | 6.70 |
| Rated speed [RPM] | 3520 | 2940 | 2945 | 2950 | 2885 | 2900 | 2910 |
| Slip [%] | 2.22 | 2.00 | 1.83 | 1.67 | 3.83 | 3.33 | 3.00 |
| Rated torque [kgfm] | 3.09 | 2.47 | 2.46 | 2.46 | 3.77 | 3.75 | 3.74 |
| Locked rotor torque [%] | 240 | 280 | 320 | 340 | 190 | 220 | 240 |
| Breakdown torque [%] | 280 | 340 | 380 | 420 | 220 | 250 | 280 |
| Service factor | 1.25 | 1.15 | 1.15 | 1.15 | 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 | 21s (cold) 12s (hot) | 21s (cold) 12s (hot) | 21s (cold) 12s (hot) | 21s (cold) 12s (hot) | 10s (cold) 6s (hot) | 12s (cold) 7s (hot) | 12s (cold) 7s (hot) |
| Noise level ² | 68.0 dB(A) | 63.0 dB(A) | 63.0 dB(A) | 63.0 dB(A) | 63.0 dB(A) | 63.0 dB(A) | 63.0 dB(A) |
| Efficiency (%) | 25% | | | | | | |
| | 50% | 90.2 | 89.5 | 89.0 | 88.5 | 88.5 | 89.0 |
| | 75% | 91.0 | 90.1 | 90.1 | 90.1 | 89.0 | 89.5 |
| | 100% | 91.0 | 90.1 | 90.1 | 90.1 | 89.0 | 89.7 |
| Power Factor | 25% | | | | | | |
| | 50% | 0.76 | 0.72 | 0.68 | 0.64 | 0.81 | 0.78 |
| | 75% | 0.85 | 0.82 | 0.79 | 0.77 | 0.88 | 0.86 |
| | 100% | 0.89 | 0.87 | 0.85 | 0.83 | 0.91 | 0.90 |

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

| | | | | | | | |
|------------|----------------|-----|-----|-----|-----|-----|-----|
| Losses (%) | P1 (0,9;1,0) | 9.8 | 9.8 | 9.8 | 9.8 | 9.8 | 9.8 |
| | P2 (0,5;1,0) | 7.9 | 7.9 | 7.9 | 7.9 | 7.9 | 7.9 |
| | P3 (0,25;1,0) | 6.9 | 6.9 | 6.9 | 6.9 | 6.9 | 6.9 |
| | P4 (0,9;0,5) | 4.8 | 4.8 | 4.8 | 4.8 | 4.8 | 4.8 |
| | P5 (0,5;0,5) | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 |
| | P6 (0,5;0,25) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| | P7 (0,25;0,25) | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 |

| | | | | |
|----------------------|--------------------|---------------|-----------|---|
| Bearing type | : 6309 Z C3 | Non drive end | : 6207 ZZ | Foundation loads Max. traction : 153 kgf Max. compression : 234 kgf |
| Sealing | : V'Ring | | : V'Ring | |
| Lubrication interval | : 19000 h | | : 40000 h | |
| Lubricant amount | : 13 g | | : 0 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.

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

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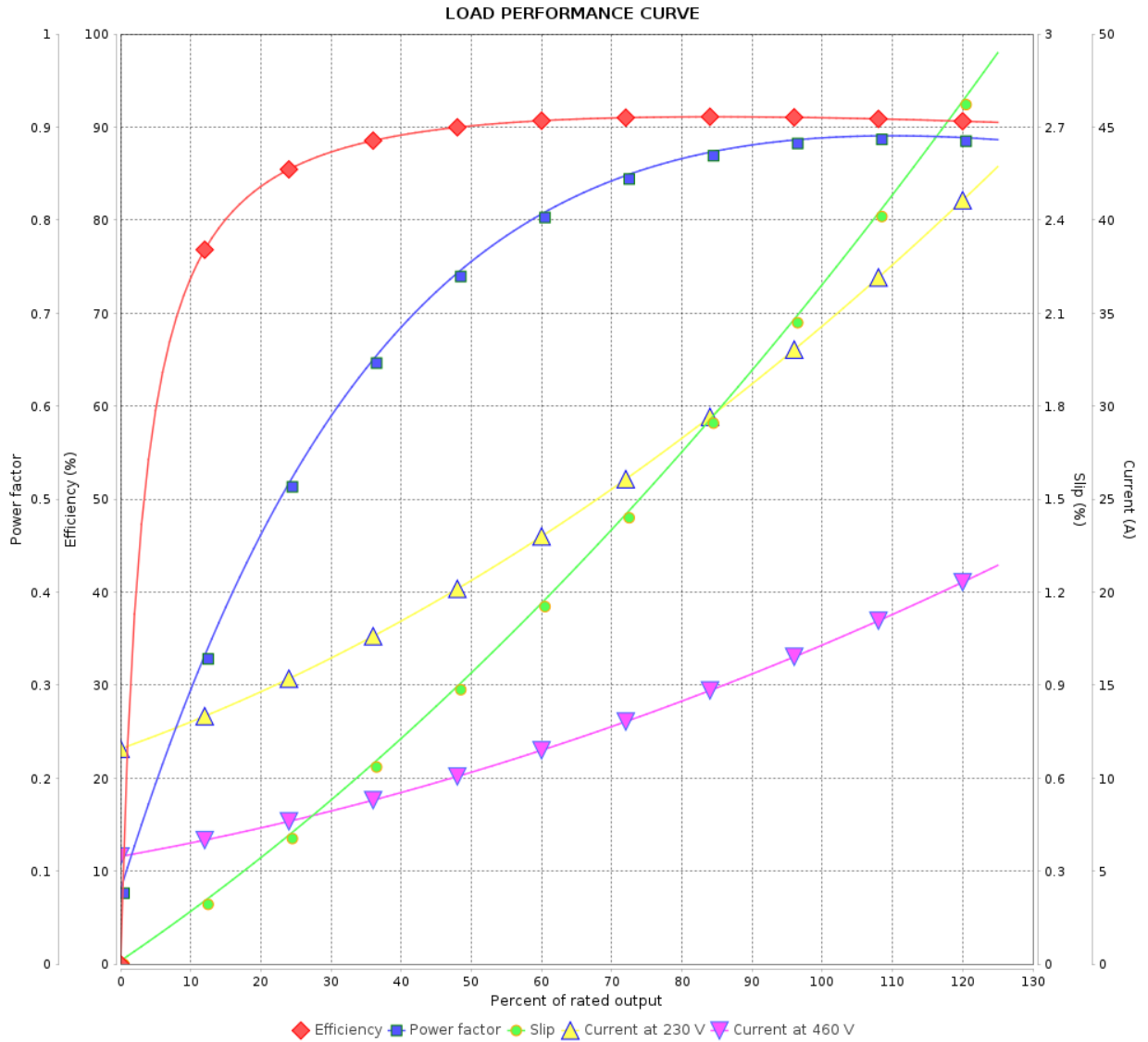
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 Close Coupled Pump JM NEMA
Premium Efficiency Three-Phase

Product code : 11798490



Performance : 230/460 V 60 Hz 2P

Rated current : 34.0/17.0 A
 LRC : 7.9
 Rated torque : 3.09 kgfm
 Locked rotor torque : 240 %
 Breakdown torque : 280 %
 Rated speed : 3520 rpm

Moment of inertia (J) : 0.0268 kgm²
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.25
 Temperature rise : 80 K
 Design : A

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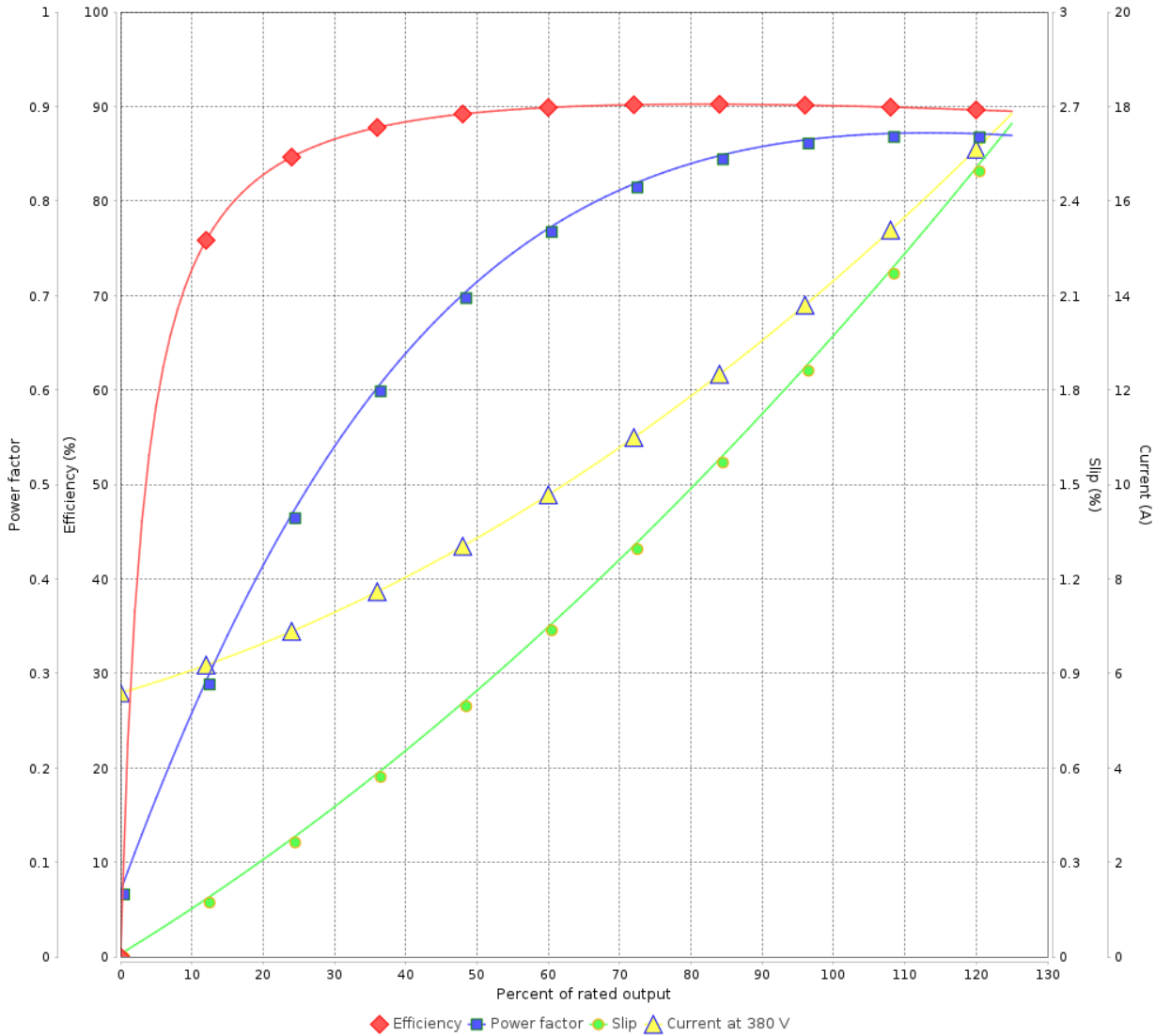


Customer :

Product line : W22 Close Coupled Pump JM NEMA
Premium Efficiency Three-Phase

Product code : 11798490

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Performance : 380 V 50 Hz 2P IE3

Rated current : 14.5 A
LRC : 8.6
Rated torque : 2.47 kgfm
Locked rotor torque : 280 %
Breakdown torque : 340 %
Rated speed : 2940 rpm

Moment of inertia (J) : 0.0268 kgm²
Duty cycle : Cont.(S1)
Insulation class : F
Service factor : 1.15
Temperature rise : 80 K
Design : A

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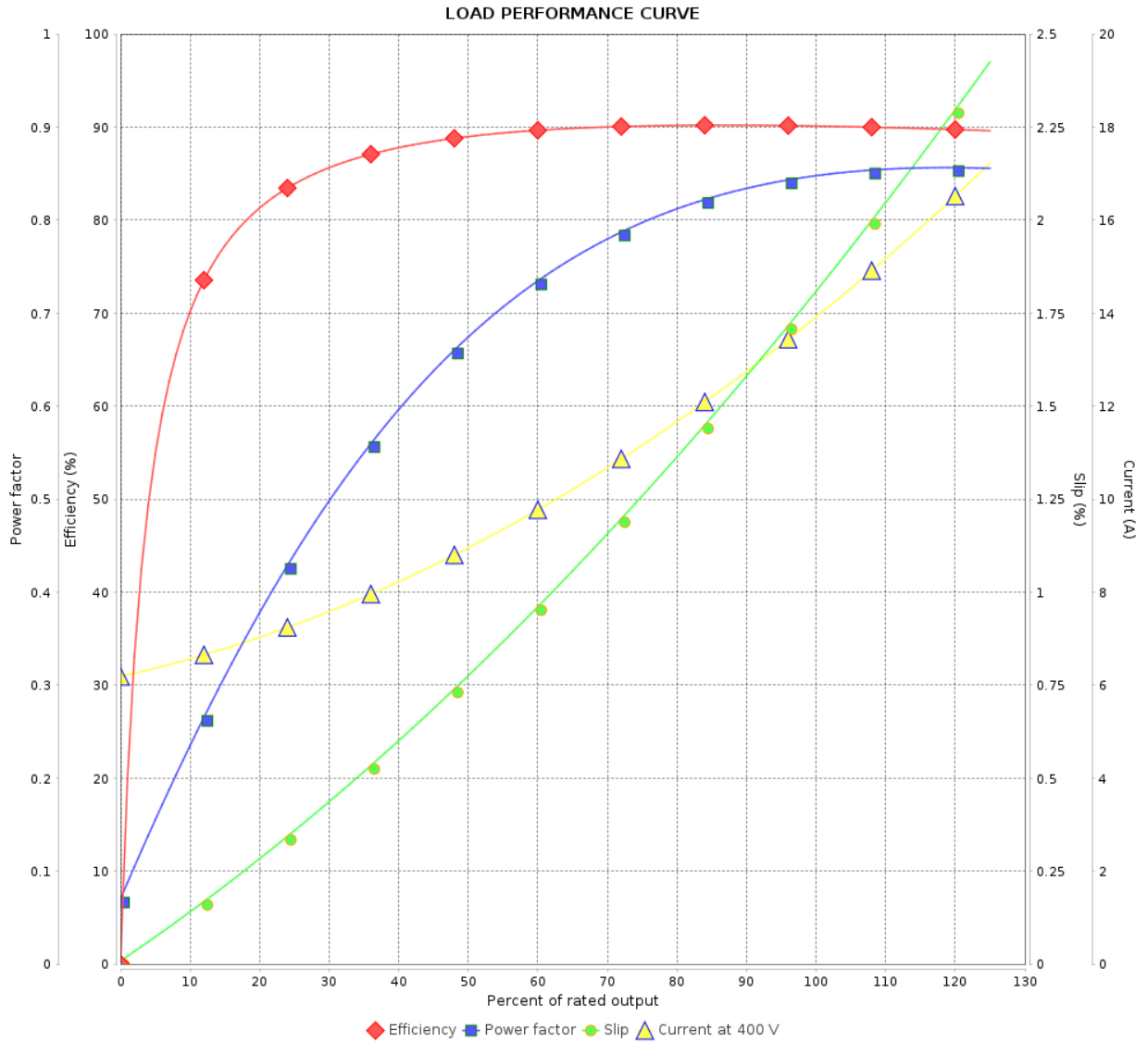
Three Phase Induction Motor - Squirrel Cage



Customer : _____

Product line : W22 Close Coupled Pump JM NEMA
Premium Efficiency Three-Phase

Product code : 11798490



Performance : 400 V 50 Hz 2P IE3

Rated current : 14.1 A
 LRC : 9.4
 Rated torque : 2.46 kgfm
 Locked rotor torque : 320 %
 Breakdown torque : 380 %
 Rated speed : 2945 rpm

Moment of inertia (J) : 0.0268 kgm²
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.15
 Temperature rise : 80 K
 Design : A

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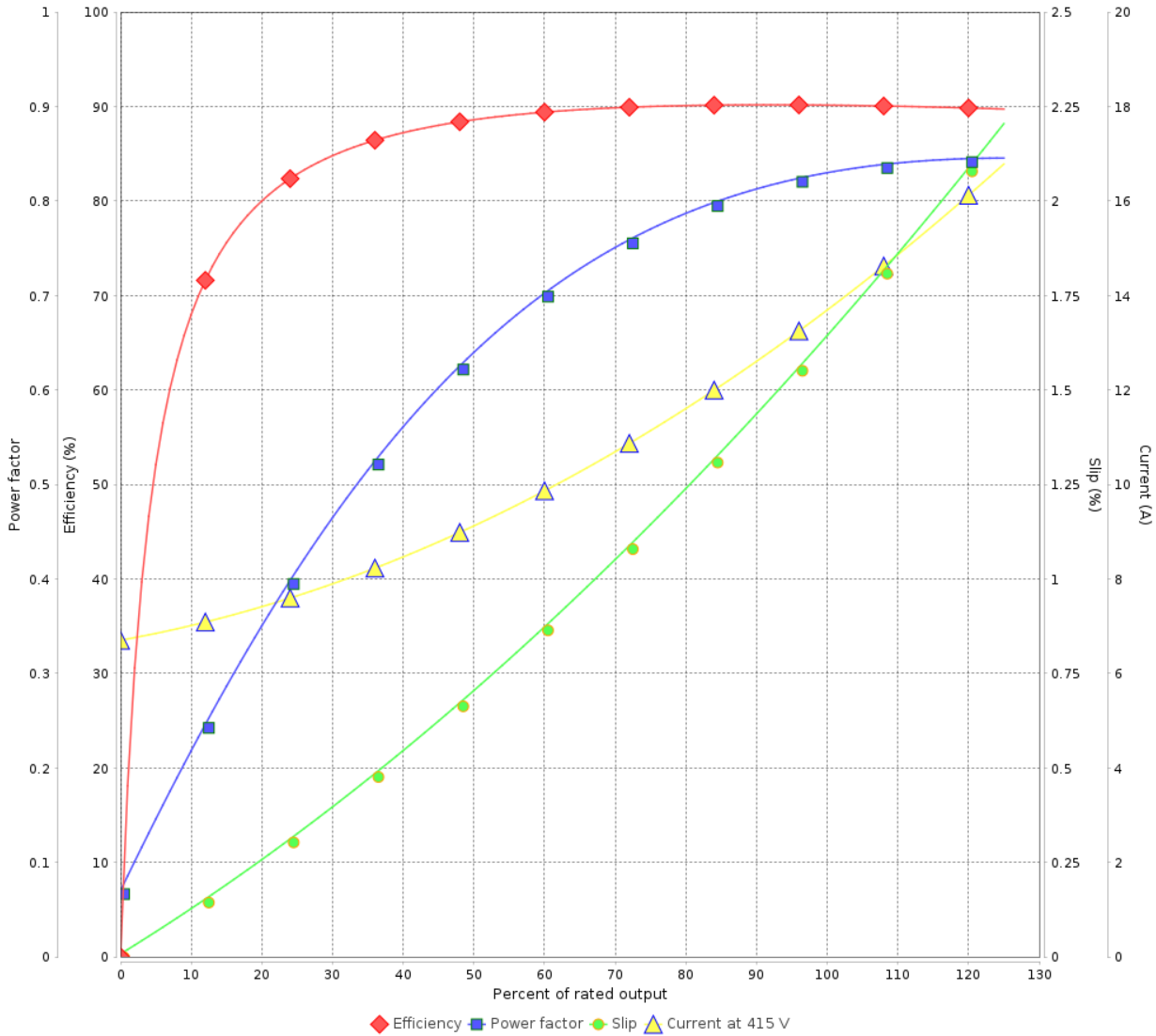


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Premium Efficiency Three-Phase

Product code : 11798490

LOAD PERFORMANCE CURVE



Performance : 415 V 50 Hz 2P IE3

Rated current : 14.0 A
LRC : 10.0
Rated torque : 2.46 kgfm
Locked rotor torque : 340 %
Breakdown torque : 420 %
Rated speed : 2950 rpm

Moment of inertia (J) : 0.0268 kgm²
Duty cycle : Cont.(S1)
Insulation class : F
Service factor : 1.15
Temperature rise : 80 K
Design : A

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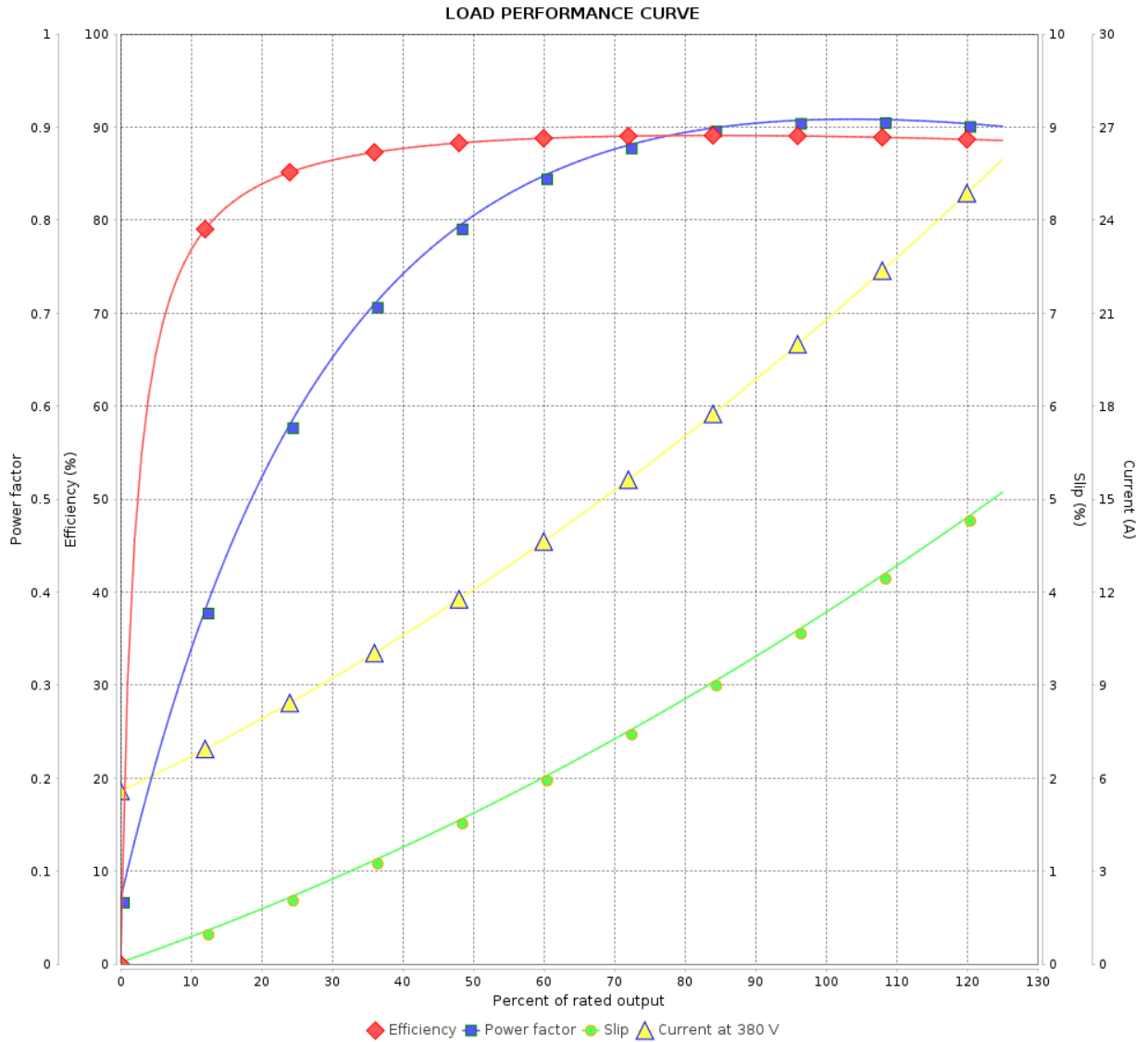
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Customer : _____

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Premium Efficiency Three-Phase

Product code : 11798490



Performance : 380 V 50 Hz 2P IE1

Rated current : 20.6 A
 LRC : 6.5
 Rated torque : 3.77 kgfm
 Locked rotor torque : 190 %
 Breakdown torque : 220 %
 Rated speed : 2885 rpm

Moment of inertia (J) : 0.0268 kgm²
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 105 K
 Design : A

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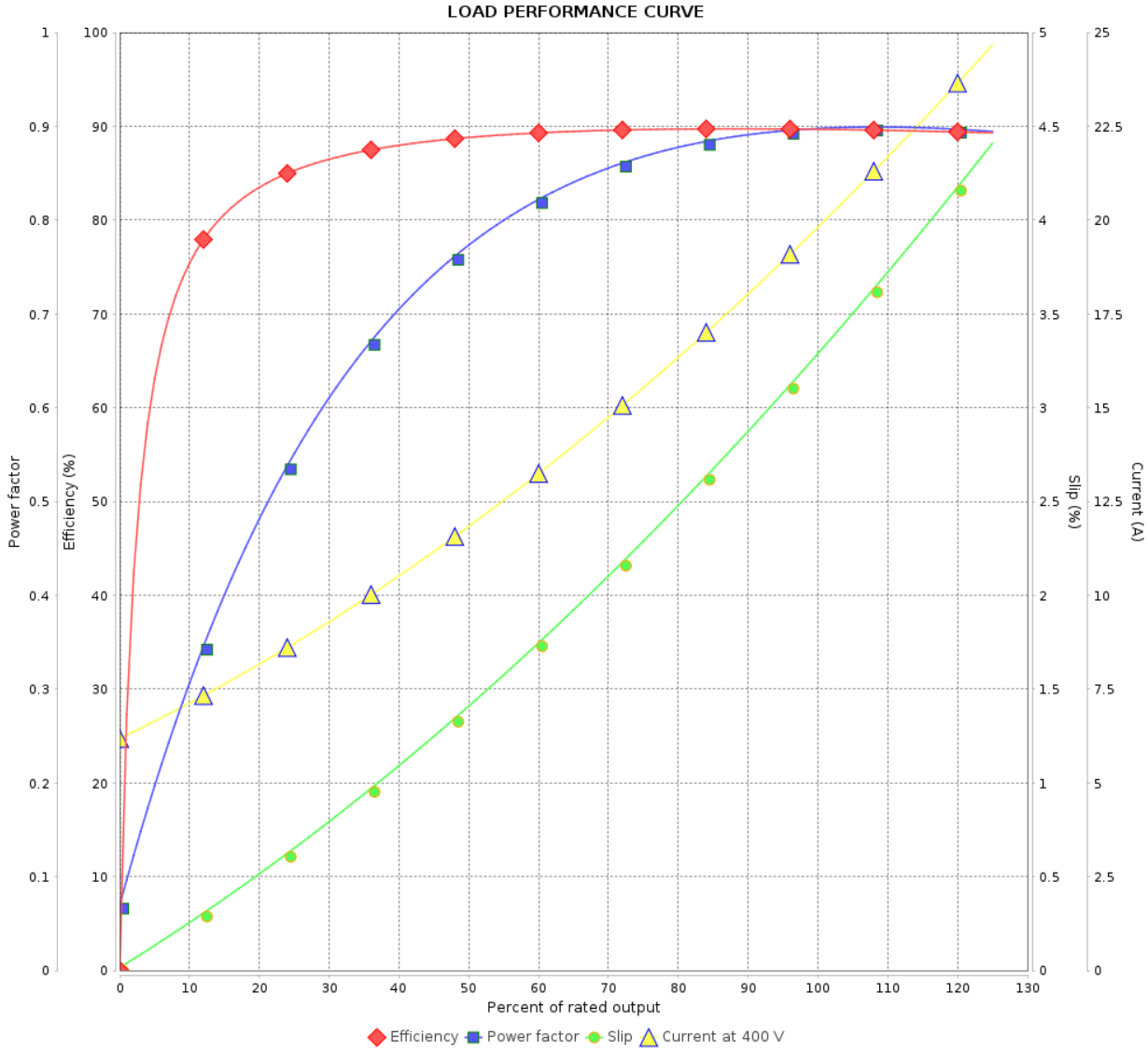
Three Phase Induction Motor - Squirrel Cage



Customer : _____

Product line : W22 Close Coupled Pump JM NEMA
Premium Efficiency Three-Phase

Product code : 11798490



Performance : 400 V 50 Hz 2P IE2

Rated current : 19.7 A
LRC : 7.2
Rated torque : 3.75 kgfm
Locked rotor torque : 220 %
Breakdown torque : 250 %
Rated speed : 2900 rpm

Moment of inertia (J) : 0.0268 kgm²
Duty cycle : Cont.(S1)
Insulation class : F
Service factor : 1.00
Temperature rise : 105 K
Design : A

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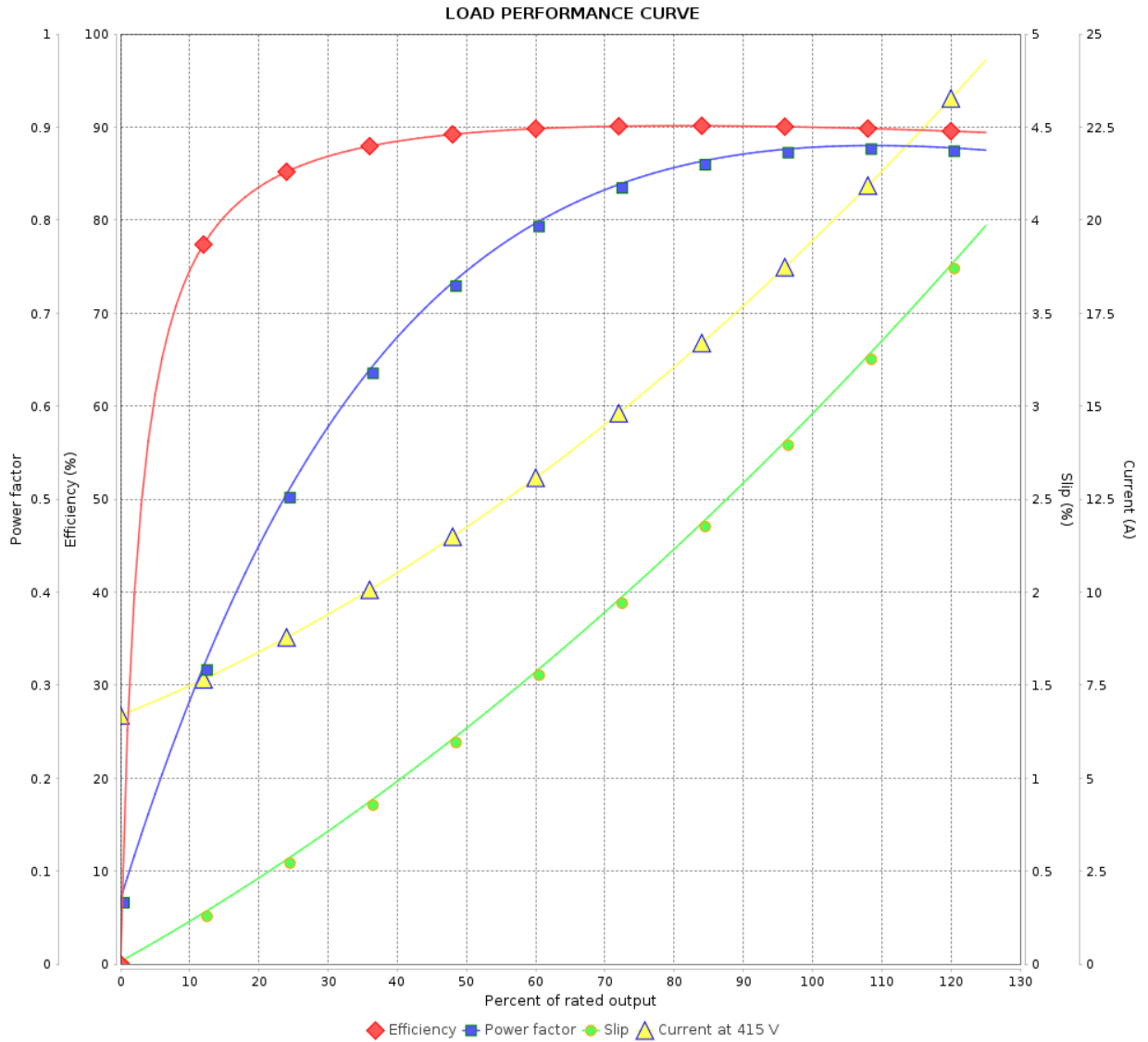
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 Close Coupled Pump JM NEMA
Premium Efficiency Three-Phase

Product code : 11798490



Performance : 415 V 50 Hz 2P IE2

Rated current : 19.3 A
 LRC : 7.7
 Rated torque : 3.74 kgfm
 Locked rotor torque : 240 %
 Breakdown torque : 280 %
 Rated speed : 2910 rpm

Moment of inertia (J) : 0.0268 kgm²
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 105 K
 Design : A

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