

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 P Base NEMA Premium Efficiency Three-Phase Product code : 13181313

|                     |                  |                             |                           |
|---------------------|------------------|-----------------------------|---------------------------|
| Frame               | : 284HPH         | Cooling method              | : IC411 - TEFC            |
| Insulation class    | : F              | Mounting                    | : W-6                     |
| 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> | : 176 kg                  |
| Protection degree   | : IP55           | Moment of inertia (J)       | : 0.2153 kgm <sup>2</sup> |
| Design              | : B              |                             |                           |

|                          |                         |                         |                         |                         |                         |                         |                         |
|--------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Output [HP]              | 25                      | 20                      | 20                      | 20                      | 25                      | 25                      | 25                      |
| 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]        | 59.0/29.5               | 29.1                    | 28.2                    | 27.5                    | 35.9                    | 34.3                    | 33.2                    |
| L. R. Amperes [A]        | 366/183                 | 175                     | 189                     | 198                     | 190                     | 189                     | 196                     |
| LRC [A]                  | 6.2x(Code G)            | 6.0x(Code G)            | 6.7x(Code H)            | 7.2x(Code J)            | 5.3x(Code F)            | 5.5x(Code F)            | 5.9x(Code G)            |
| No load current [A]      | 22.0/11.0               | 11.0                    | 11.7                    | 12.4                    | 11.0                    | 11.7                    | 12.4                    |
| Rated speed [RPM]        | 1770                    | 1470                    | 1473                    | 1475                    | 1455                    | 1460                    | 1465                    |
| Slip [%]                 | 1.67                    | 2.00                    | 1.80                    | 1.67                    | 3.00                    | 2.67                    | 2.33                    |
| Rated torque [kgfm]      | 10.3                    | 9.87                    | 9.85                    | 9.84                    | 12.5                    | 12.4                    | 12.4                    |
| Locked rotor torque [%]  | 240                     | 229                     | 250                     | 270                     | 180                     | 200                     | 220                     |
| Breakdown torque [%]     | 270                     | 260                     | 300                     | 330                     | 210                     | 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        | 43s (cold)<br>24s (hot) | 32s (cold)<br>18s (hot) | 32s (cold)<br>18s (hot) | 32s (cold)<br>18s (hot) | 25s (cold)<br>14s (hot) | 25s (cold)<br>14s (hot) | 25s (cold)<br>14s (hot) |
| Noise level <sup>2</sup> | 63.0 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%                     | 92.4                    | 91.3                    | 91.3                    | 91.2                    | 92.4                    | 92.4                    |
|                          | 75%                     | 93.0                    | 92.1                    | 92.5                    | 92.5                    | 91.7                    | 92.4                    |
|                          | 100%                    | 93.6                    | 92.1                    | 92.6                    | 92.7                    | 91.0                    | 92.4                    |
| Power Factor             | 25%                     |                         |                         |                         |                         |                         |                         |
|                          | 50%                     | 0.70                    | 0.69                    | 0.65                    | 0.62                    | 0.76                    | 0.70                    |
|                          | 75%                     | 0.80                    | 0.80                    | 0.78                    | 0.75                    | 0.84                    | 0.80                    |
|                          | 100%                    | 0.84                    | 0.85                    | 0.83                    | 0.82                    | 0.86                    | 0.84                    |

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

|            |                |     |     |     |     |     |     |
|------------|----------------|-----|-----|-----|-----|-----|-----|
| Losses (%) | P1 (0,9;1,0)   | 6.8 | 6.8 | 6.8 | 6.8 | 6.8 | 6.8 |
|            | P2 (0,5;1,0)   | 5.8 | 5.8 | 5.8 | 5.8 | 5.8 | 5.8 |
|            | P3 (0,25;1,0)  | 5.3 | 5.3 | 5.3 | 5.3 | 5.3 | 5.3 |
|            | P4 (0,9;0,5)   | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 |
|            | P5 (0,5;0,5)   | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 |
|            | P6 (0,5;0,25)  | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 |
|            | P7 (0,25;0,25) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |

|                      |                    |               |         |                  |         |
|----------------------|--------------------|---------------|---------|------------------|---------|
| Bearing type         | : 6314 C3          | Non drive end | 6211 C3 | Foundation loads |         |
| Sealing              | : V'Ring           |               | V'Ring  | Max. traction    | : 0 kgf |
| Lubrication interval | : 12000 h          |               | 17000 h | Max. compression | : 0 kgf |
| Lubricant amount     | : 27 g             |               | 11 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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# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



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

Notes  
USABLE @208V 65.2A SF 1.15 SFA 75.0A

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# LOAD PERFORMANCE CURVE

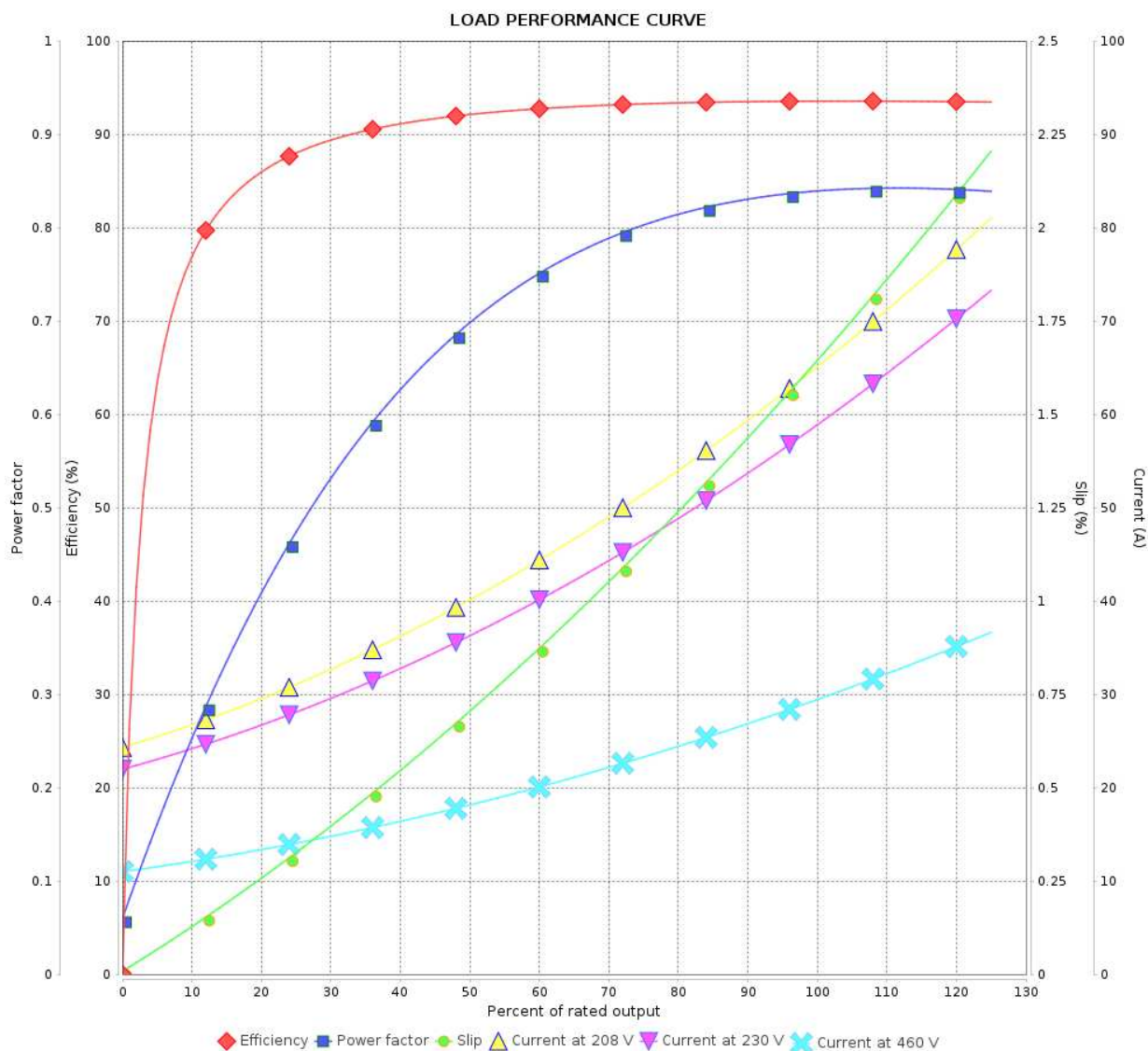
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 P Base NEMA Premium  
Efficiency Three-Phase

Product code : 13181313



Performance : 230/460 V 60 Hz 4P

Rated current : 59.0/29.5 A  
LRC : 6.2  
Rated torque : 10.3 kgfm  
Locked rotor torque : 240 %  
Breakdown torque : 270 %  
Rated speed : 1770 rpm

Moment of inertia (J) : 0.2153 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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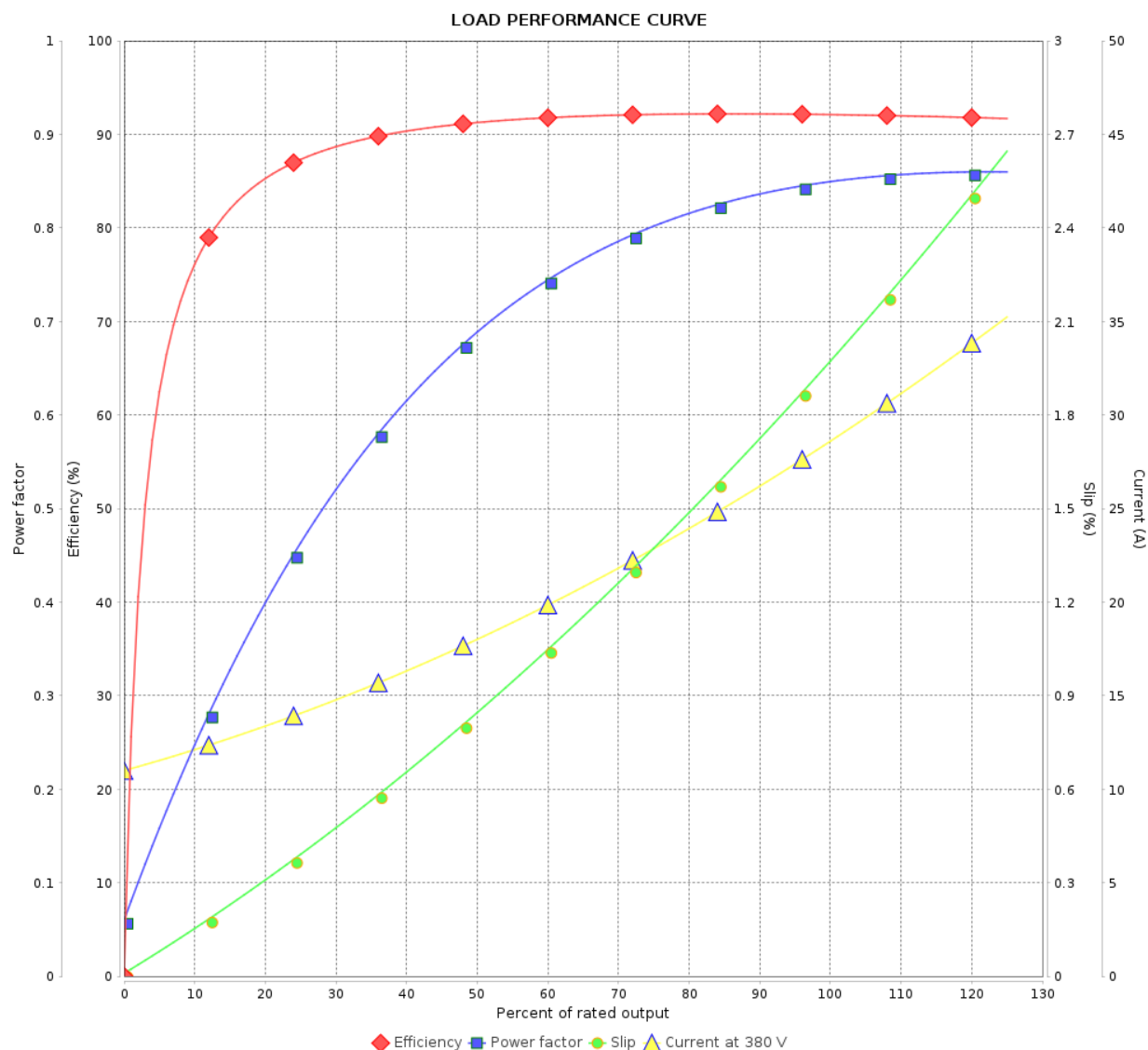
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 P Base NEMA Premium  
Efficiency Three-Phase

Product code : 13181313



Performance : 380 V 50 Hz 4P IE3

Rated current : 29.1 A  
LRC : 6.0  
Rated torque : 9.87 kgfm  
Locked rotor torque : 229 %  
Breakdown torque : 260 %  
Rated speed : 1470 rpm

Moment of inertia (J) : 0.2153 kgm<sup>2</sup>  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.00  
Temperature rise : 80 K  
Design : B

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

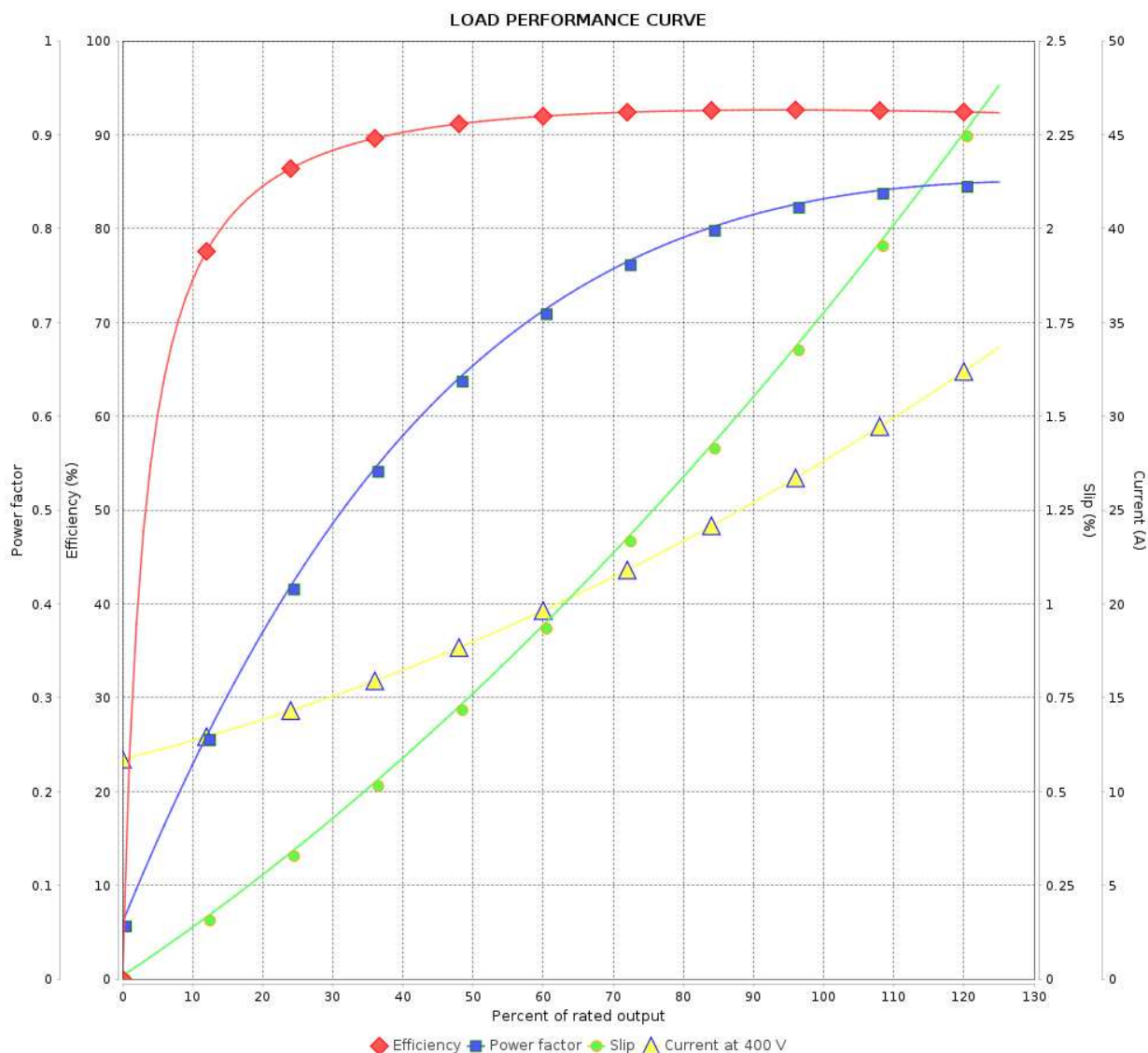
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 P Base NEMA Premium  
Efficiency Three-Phase

Product code : 13181313



Performance : 400 V 50 Hz 4P IE3

Rated current : 28.2 A  
LRC : 6.7  
Rated torque : 9.85 kgfm  
Locked rotor torque : 250 %  
Breakdown torque : 300 %  
Rated speed : 1473 rpm

Moment of inertia (J) : 0.2153 kgm<sup>2</sup>  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.00  
Temperature rise : 80 K  
Design : B

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# LOAD PERFORMANCE CURVE

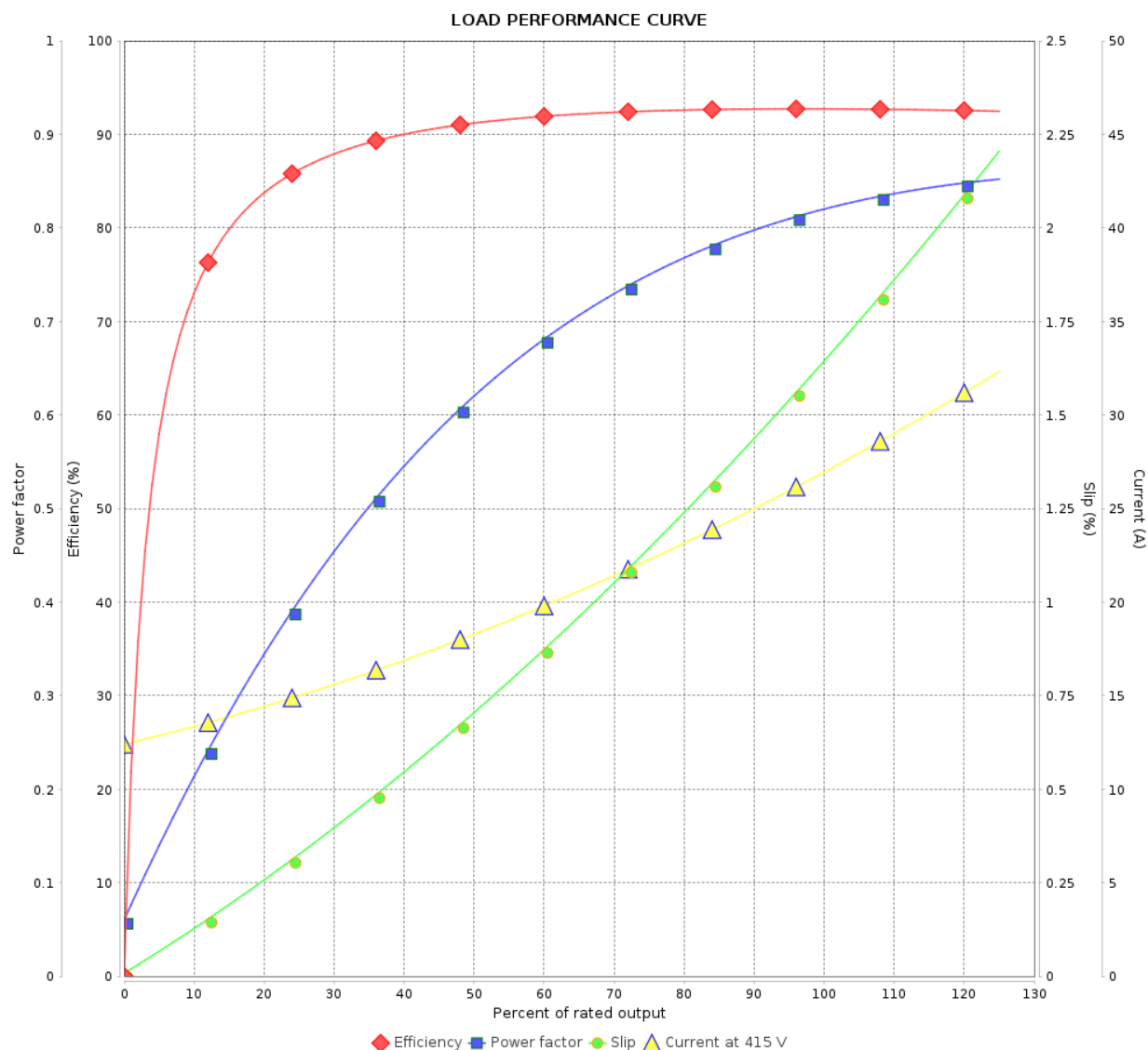
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 P Base NEMA Premium  
Efficiency Three-Phase

Product code : 13181313



Performance : 415 V 50 Hz 4P IE3

Rated current : 27.5 A  
LRC : 7.2  
Rated torque : 9.84 kgfm  
Locked rotor torque : 270 %  
Breakdown torque : 330 %  
Rated speed : 1475 rpm

Moment of inertia (J) : 0.2153 kgm<sup>2</sup>  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.00  
Temperature rise : 80 K  
Design : B

| Rev.         | Changes Summary |  | Performed | Checked       | Date     |
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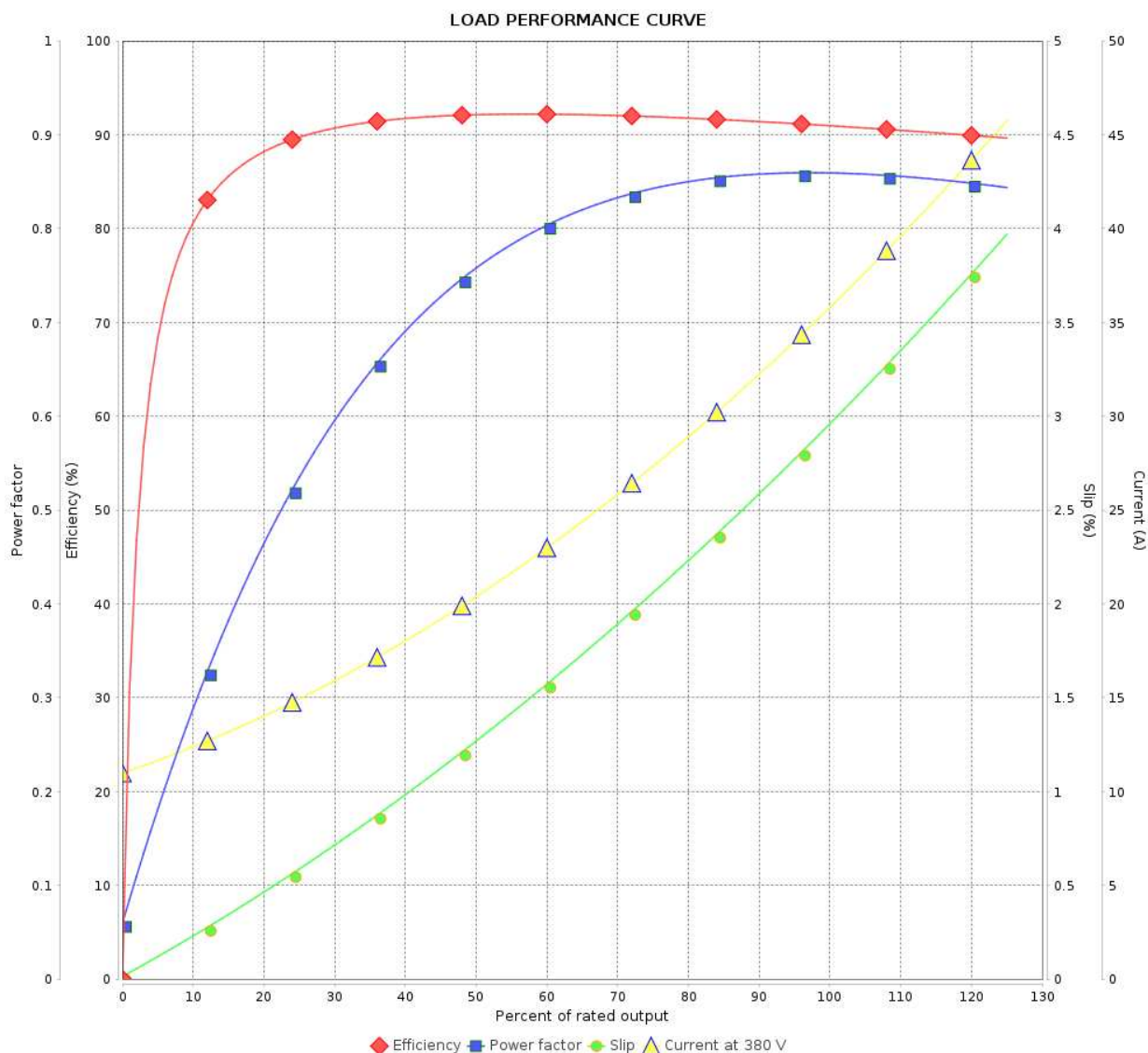
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 P Base NEMA Premium  
Efficiency Three-Phase

Product code : 13181313



Performance : 380 V 50 Hz 4P IE1

Rated current : 35.9 A  
LRC : 5.3  
Rated torque : 12.5 kgfm  
Locked rotor torque : 180 %  
Breakdown torque : 210 %  
Rated speed : 1455 rpm

Moment of inertia (J) : 0.2153 kgm<sup>2</sup>  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.00  
Temperature rise : 105 K  
Design : B

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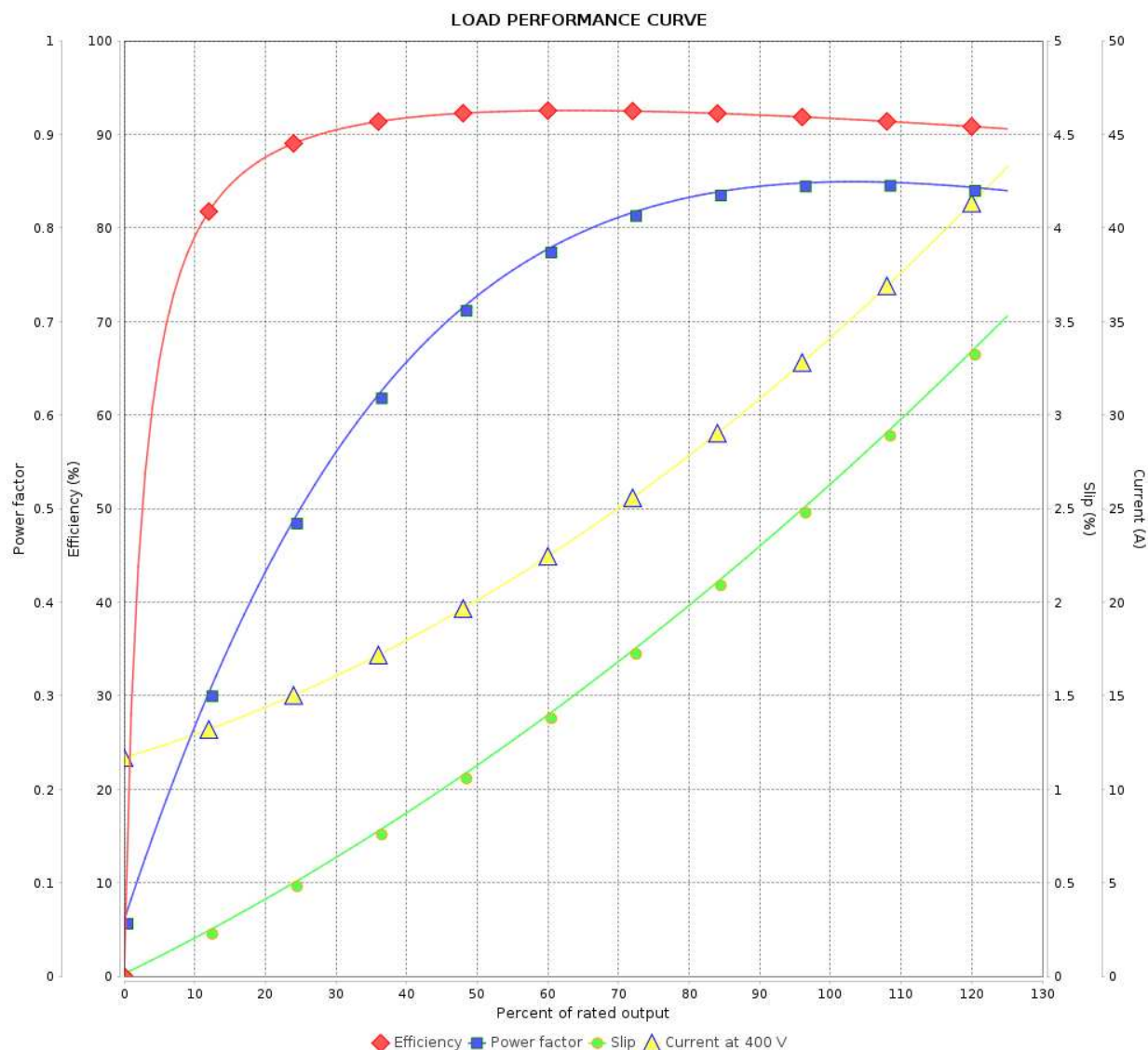
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 P Base NEMA Premium  
Efficiency Three-Phase

Product code : 13181313



Performance : 400 V 50 Hz 4P IE2

Rated current : 34.3 A  
LRC : 5.5  
Rated torque : 12.4 kgfm  
Locked rotor torque : 200 %  
Breakdown torque : 240 %  
Rated speed : 1460 rpm

Moment of inertia (J) : 0.2153 kgm<sup>2</sup>  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.00  
Temperature rise : 105 K  
Design : B

| Rev.         | Changes Summary |  | Performed | Checked | Date     |
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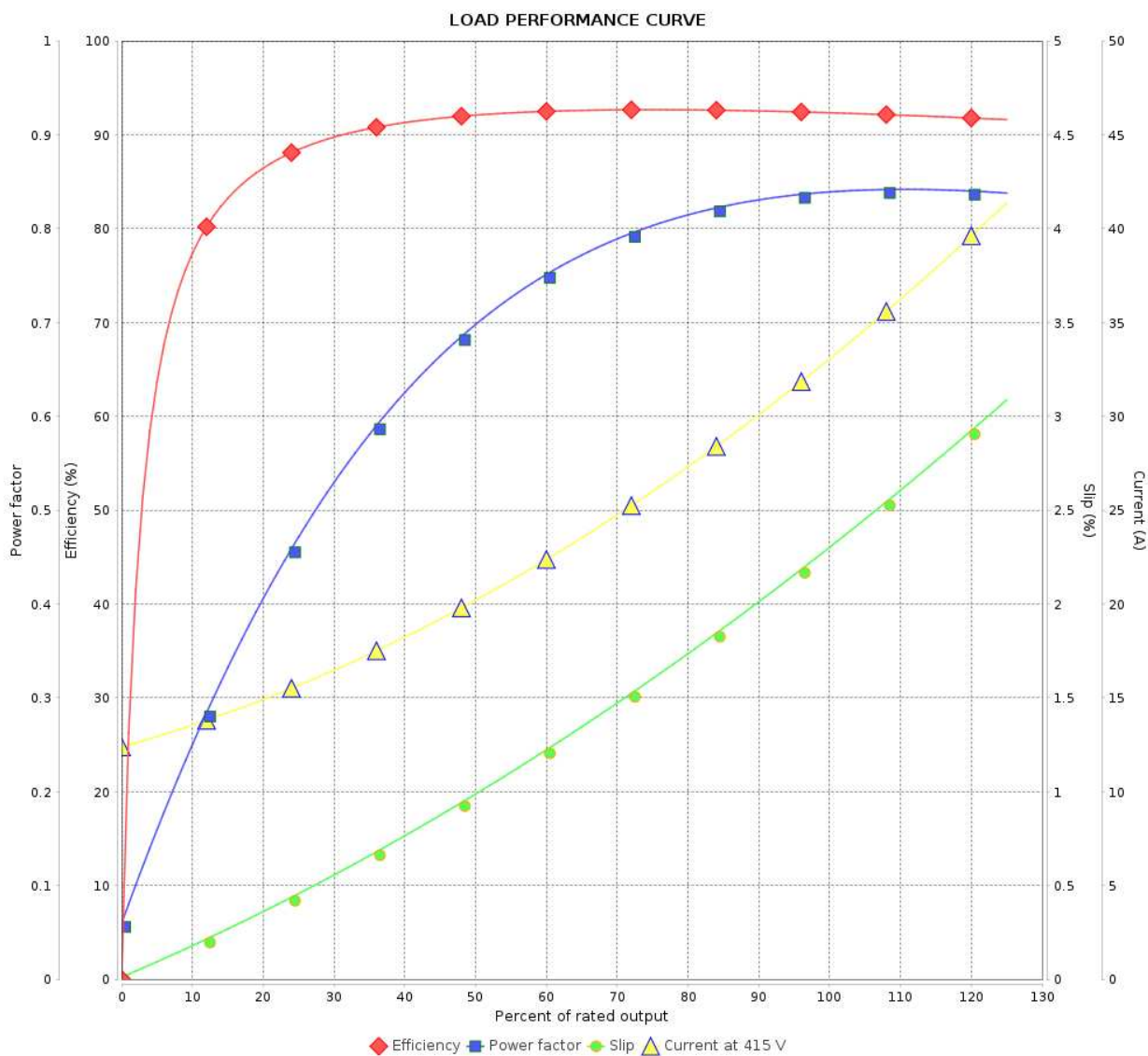
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 P Base NEMA Premium  
Efficiency Three-Phase

Product code : 13181313



Performance : 415 V 50 Hz 4P IE2

Rated current : 33.2 A  
LRC : 5.9  
Rated torque : 12.4 kgfm  
Locked rotor torque : 220 %  
Breakdown torque : 260 %  
Rated speed : 1465 rpm

Moment of inertia (J) : 0.2153 kgm<sup>2</sup>  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.00  
Temperature rise : 105 K  
Design : B

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