

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase Product code : 11441768

|                                      |                                                 |
|--------------------------------------|-------------------------------------------------|
| Frame : 213/5T                       | 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> : 72.5 kg           |
| Protection degree : IP55             | Moment of inertia (J) : 0.0268 kgm <sup>2</sup> |
| Design : B                           |                                                 |

|                          |                         |                         |                         |                         |                         |                         |                         |
|--------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Output [HP]              | 10                      | 7.5                     | 7.5                     | 7.5                     | 10                      | 10                      | 10                      |
| 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]        | 23.2/11.6               | 10.5                    | 10.1                    | 9.91                    | 14.2                    | 13.6                    | 13.1                    |
| L. R. Amperes [A]        | 167/83.5                | 82.9                    | 87.7                    | 90.2                    | 79.2                    | 87.0                    | 90.4                    |
| LRC [A]                  | 7.2x(Code H)            | 7.9x(Code J)            | 8.7x(Code K)            | 9.1x(Code K)            | 5.6x(Code F)            | 6.4x(Code G)            | 6.9x(Code H)            |
| No load current [A]      | 7.00/3.50               | 3.50                    | 3.70                    | 3.90                    | 3.50                    | 3.70                    | 3.90                    |
| Rated speed [RPM]        | 3530                    | 2935                    | 2945                    | 2945                    | 2910                    | 2920                    | 2925                    |
| Slip [%]                 | 1.94                    | 2.17                    | 1.83                    | 1.83                    | 3.00                    | 2.67                    | 2.50                    |
| Rated torque [kgfm]      | 2.06                    | 1.85                    | 1.85                    | 1.85                    | 2.49                    | 2.49                    | 2.48                    |
| Locked rotor torque [%]  | 220                     | 220                     | 240                     | 260                     | 170                     | 180                     | 200                     |
| Breakdown torque [%]     | 290                     | 300                     | 340                     | 360                     | 220                     | 250                     | 270                     |
| Service factor           | 1.25                    | 1.25                    | 1.25                    | 1.25                    | 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)<br>15s (hot) | 30s (cold)<br>17s (hot) | 25s (cold)<br>14s (hot) | 27s (cold)<br>15s (hot) | 21s (cold)<br>12s (hot) | 19s (cold)<br>11s (hot) | 19s (cold)<br>11s (hot) |
| Noise level <sup>2</sup> | 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%                     | 89.5                    | 88.6                    | 88.4                    | 87.7                    | 89.5                    | 89.5                    |
|                          | 75%                     | 90.2                    | 89.6                    | 89.6                    | 89.5                    | 89.5                    | 89.5                    |
|                          | 100%                    | 90.2                    | 89.5                    | 89.5                    | 89.8                    | 88.5                    | 88.5                    |
| Power Factor             | 25%                     |                         |                         |                         |                         |                         |                         |
|                          | 50%                     | 0.79                    | 0.75                    | 0.72                    | 0.70                    | 0.83                    | 0.81                    |
|                          | 75%                     | 0.87                    | 0.86                    | 0.83                    | 0.82                    | 0.90                    | 0.88                    |
|                          | 100%                    | 0.90                    | 0.89                    | 0.88                    | 0.86                    | 0.91                    | 0.90                    |

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

|            |                |      |      |      |      |      |      |      |
|------------|----------------|------|------|------|------|------|------|------|
| Losses (%) | P1 (0,9;1,0)   | 10.6 | 11.5 | 11.5 | 11.1 | 12.7 | 12.7 | 12.7 |
|            | P2 (0,5;1,0)   | 8.9  | 9.6  | 9.6  | 9.3  | 10.6 | 10.6 | 10.6 |
|            | P3 (0,25;1,0)  | 8.2  | 8.8  | 8.8  | 8.5  | 9.8  | 9.8  | 9.8  |
|            | P4 (0,9;0,5)   | 5.1  | 5.5  | 5.5  | 5.3  | 6.1  | 6.1  | 6.1  |
|            | P5 (0,5;0,5)   | 3.3  | 3.5  | 3.5  | 3.4  | 3.9  | 3.9  | 3.9  |
|            | P6 (0,5;0,25)  | 2.0  | 2.2  | 2.2  | 2.1  | 2.4  | 2.4  | 2.4  |
|            | P7 (0,25;0,25) | 1.3  | 1.4  | 1.4  | 1.3  | 1.5  | 1.5  | 1.5  |

|                                   |                         |                            |
|-----------------------------------|-------------------------|----------------------------|
| Bearing type : 6308 ZZ            | Non drive end : 6207 ZZ | Foundation loads           |
| Sealing : V'Ring                  | V'Ring                  | Max. traction : 87 kgf     |
| Lubrication interval : -          | -                       | Max. compression : 160 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.

|              |                 |           |            |          |
|--------------|-----------------|-----------|------------|----------|
| Rev.         | Changes Summary | Performed | Checked    | Date     |
| Performed by |                 |           |            |          |
| Checked by   |                 |           |            |          |
| Date         | 20/10/2024      |           | Page 1 / 9 | Revision |

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



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

Notes  
USABLE @208V 25.7A SF 1.15 SFA 29.5A

| Rev.         | Changes Summary |  | Performed     | Checked | Date     |
|--------------|-----------------|--|---------------|---------|----------|
|              |                 |  |               |         |          |
| Performed by |                 |  | Page<br>2 / 9 |         | Revision |
| Checked by   |                 |  |               |         |          |
| Date         | 20/10/2024      |  |               |         |          |

# LOAD PERFORMANCE CURVE

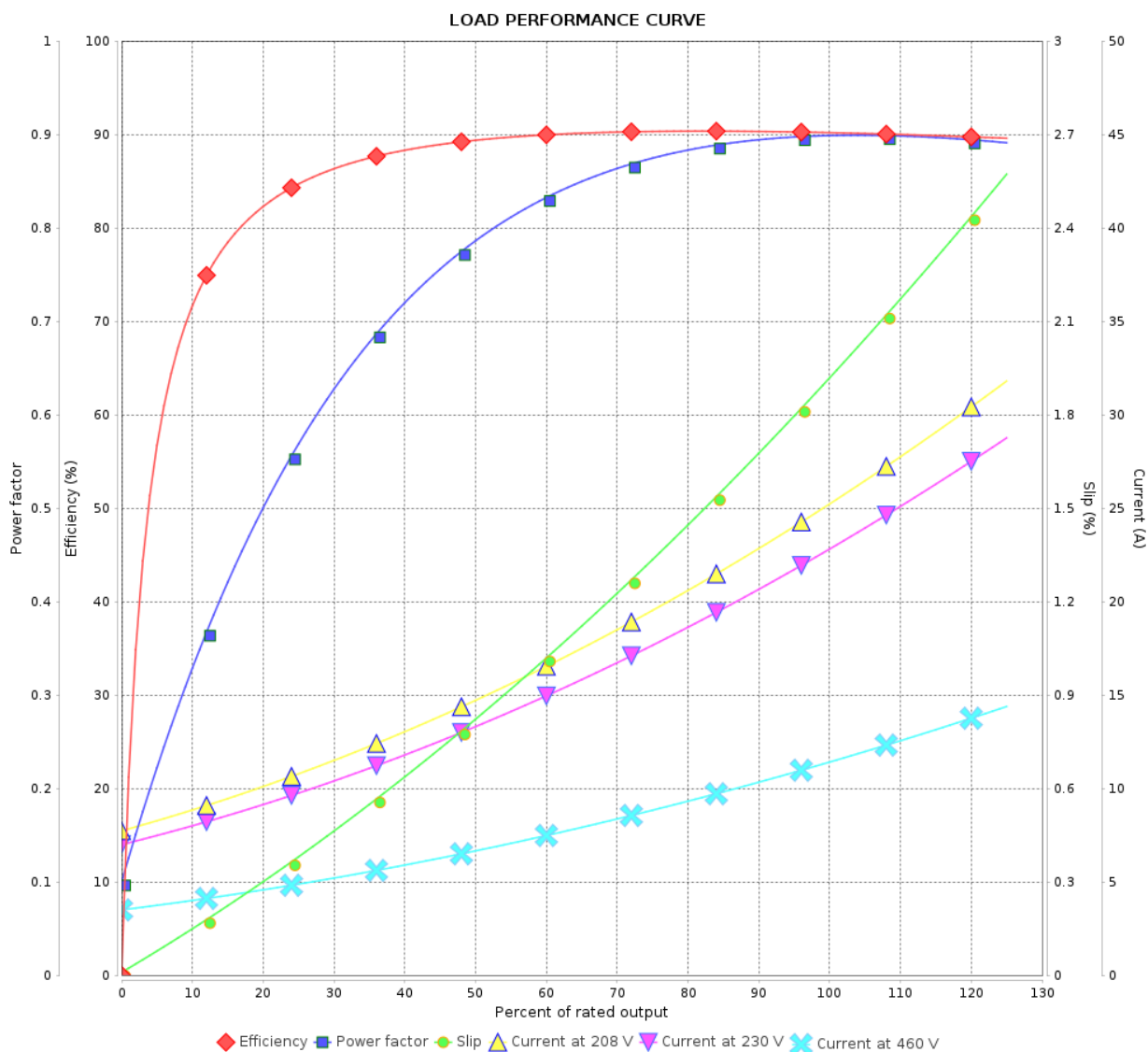
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency  
Three-Phase

Product code : 11441768



Performance : 230/460 V 60 Hz 2P

Rated current : 23.2/11.6 A  
LRC : 7.2  
Rated torque : 2.06 kgfm  
Locked rotor torque : 220 %  
Breakdown torque : 290 %  
Rated speed : 3530 rpm

Moment of inertia (J) : 0.0268 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 |
|--------------|-----------------|-----------------------|-----------|---------|------|
|              |                 |                       |           |         |      |
| Performed by |                 | Page<br>3 / 9Revision |           |         |      |
| Checked by   |                 |                       |           |         |      |
| Date         | 20/10/2024      |                       |           |         |      |

# LOAD PERFORMANCE CURVE

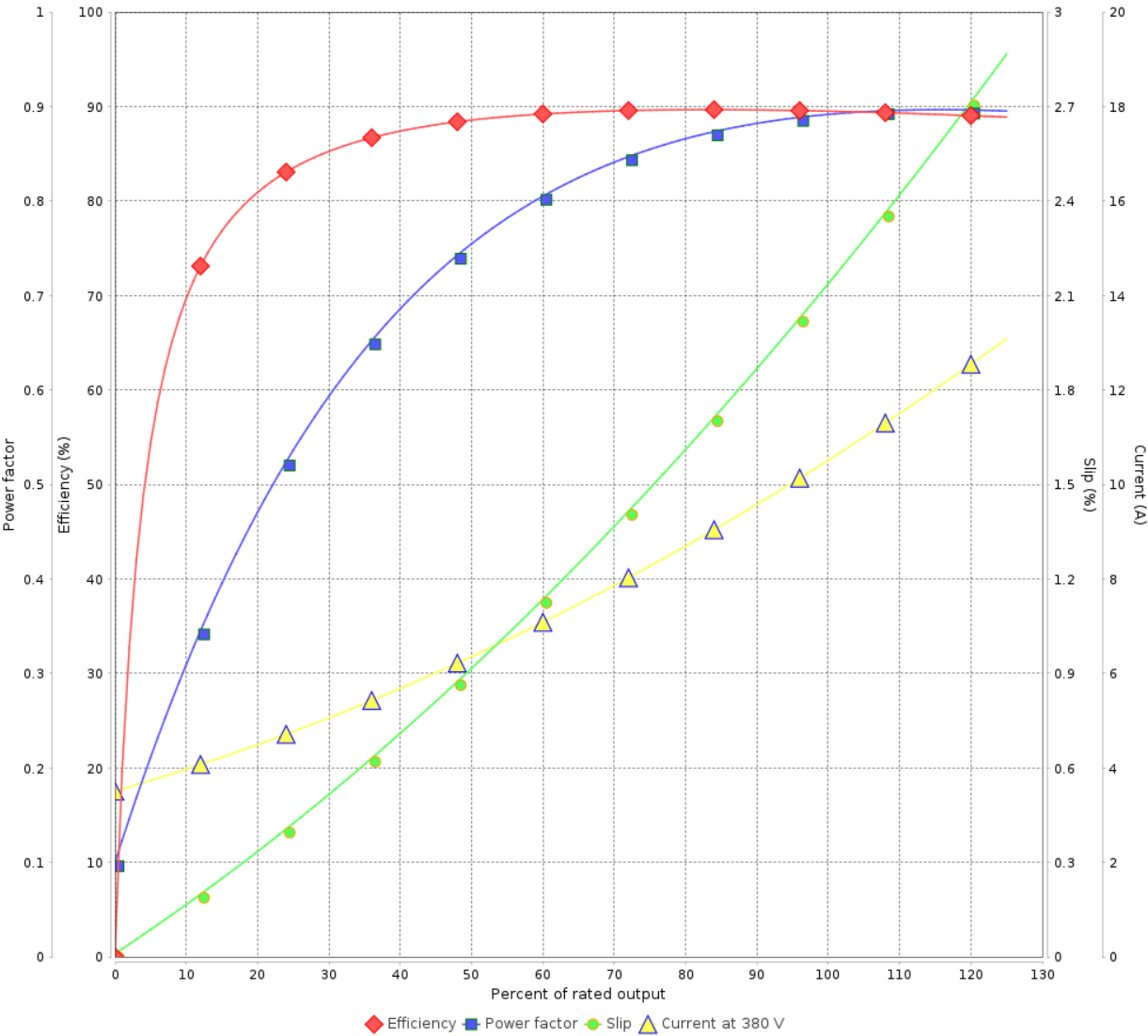
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase      Product code : 11441768

LOAD PERFORMANCE CURVE



Performance : 380 V 50 Hz 2P IE3

|                     |             |                       |                           |
|---------------------|-------------|-----------------------|---------------------------|
| Rated current       | : 10.5 A    | Moment of inertia (J) | : 0.0268 kgm <sup>2</sup> |
| LRC                 | : 7.9       | Duty cycle            | : Cont.(S1)               |
| Rated torque        | : 1.85 kgfm | Insulation class      | : F                       |
| Locked rotor torque | : 220 %     | Service factor        | : 1.25                    |
| Breakdown torque    | : 300 %     | Temperature rise      | : 80 K                    |
| Rated speed         | : 2935 rpm  | Design                | : B                       |

| Rev.         | Changes Summary |                          | Performed | Checked | Date |
|--------------|-----------------|--------------------------|-----------|---------|------|
|              |                 |                          |           |         |      |
| Performed by |                 | Page 4 / 9      Revision |           |         |      |
| Checked by   |                 |                          |           |         |      |
| Date         | 20/10/2024      |                          |           |         |      |

# LOAD PERFORMANCE CURVE

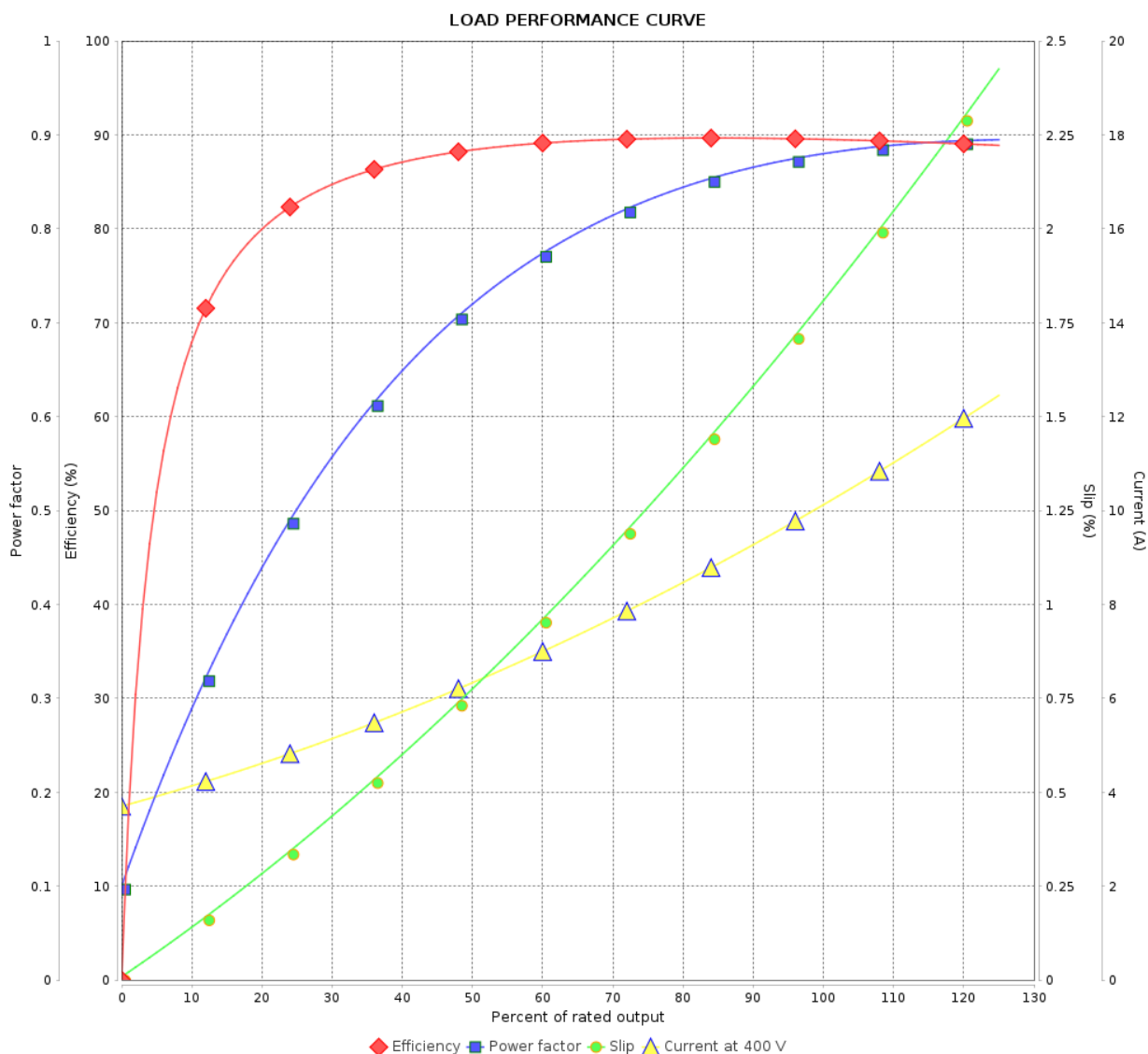
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency  
Three-Phase

Product code : 11441768



Performance : 400 V 50 Hz 2P IE3

Rated current : 10.1 A  
LRC : 8.7  
Rated torque : 1.85 kgfm  
Locked rotor torque : 240 %  
Breakdown torque : 340 %  
Rated speed : 2945 rpm

Moment of inertia (J) : 0.0268 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     |
|              |                 |  |           |               |          |
| Performed by |                 |  |           | Page<br>5 / 9 | Revision |
| Checked by   |                 |  |           |               |          |
| Date         | 20/10/2024      |  |           |               |          |

LOAD PERFORMANCE CURVE

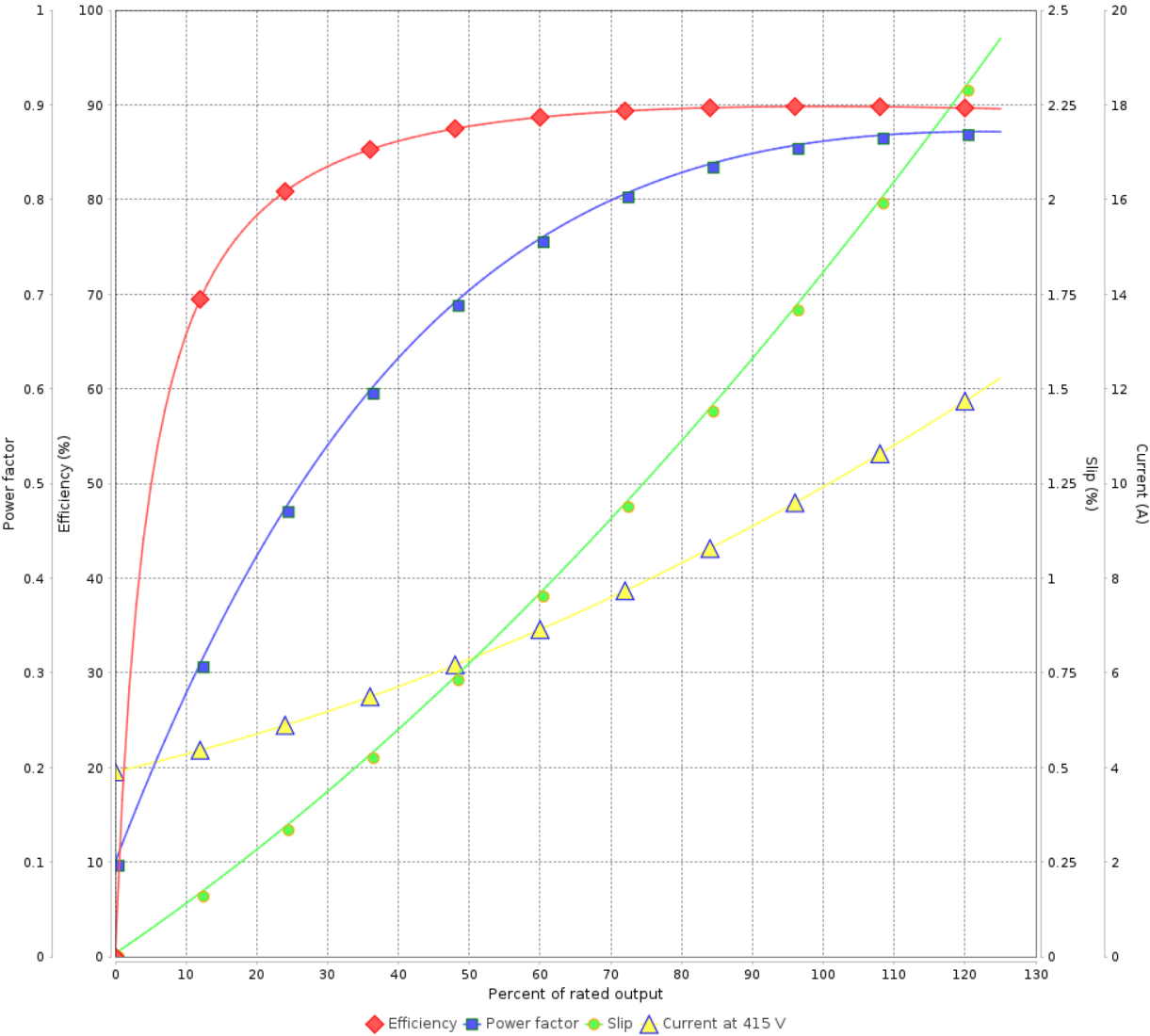
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase      Product code : 11441768

LOAD PERFORMANCE CURVE



|                                  |             |                       |               |
|----------------------------------|-------------|-----------------------|---------------|
| Performance : 415 V 50 Hz 2P IE3 |             |                       |               |
| Rated current                    | : 9.91 A    | Moment of inertia (J) | : 0.0268 kgm² |
| LRC                              | : 9.1       | Duty cycle            | : Cont.(S1)   |
| Rated torque                     | : 1.85 kgfm | Insulation class      | : F           |
| Locked rotor torque              | : 260 %     | Service factor        | : 1.25        |
| Breakdown torque                 | : 360 %     | Temperature rise      | : 80 K        |
| Rated speed                      | : 2945 rpm  | Design                | : B           |

| Rev.         | Changes Summary |  | Performed | Checked       | Date     |
|--------------|-----------------|--|-----------|---------------|----------|
|              |                 |  |           |               |          |
| Performed by |                 |  |           | Page<br>6 / 9 | Revision |
| Checked by   |                 |  |           |               |          |
| Date         | 20/10/2024      |  |           |               |          |

# LOAD PERFORMANCE CURVE

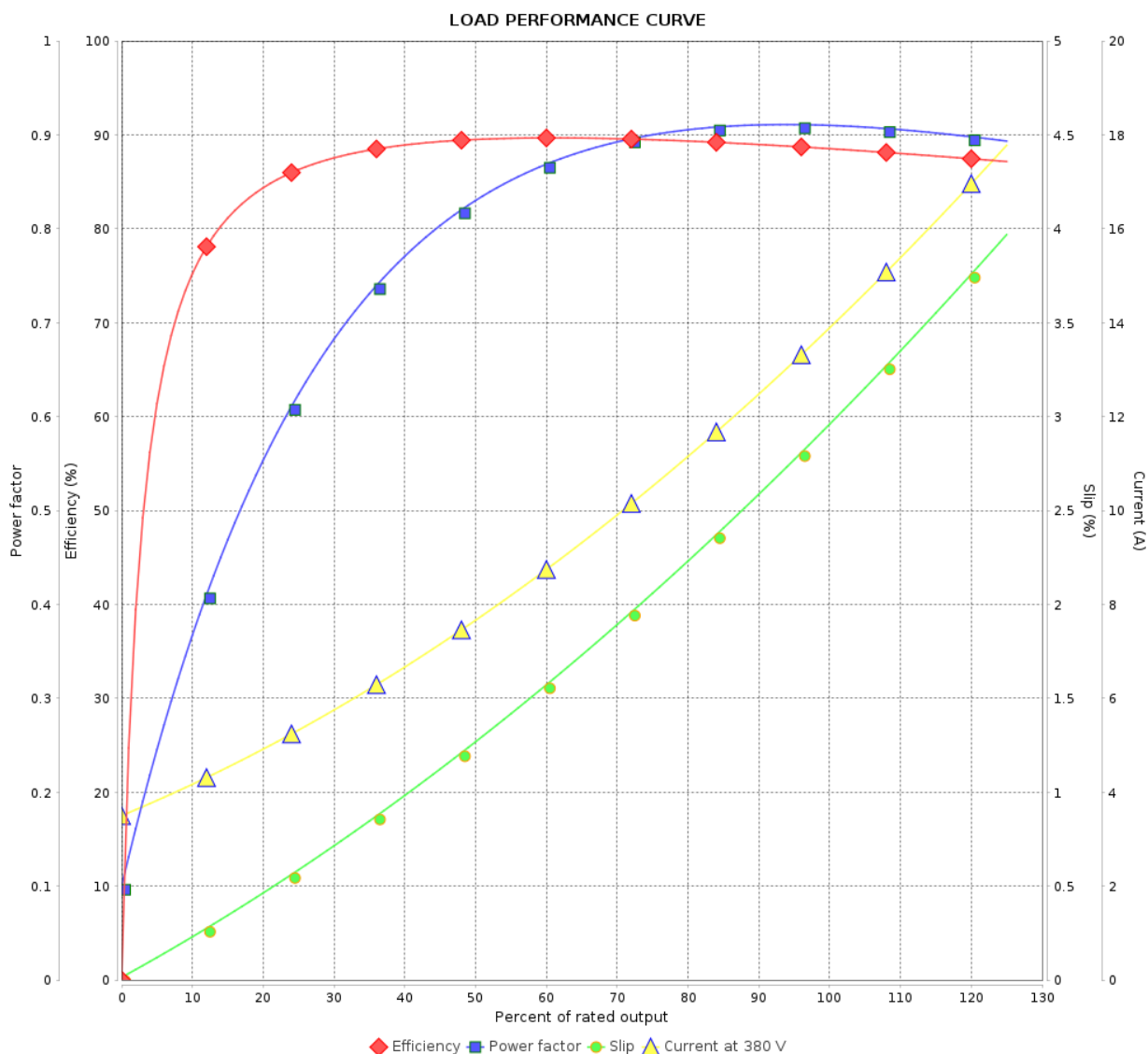
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency  
Three-Phase

Product code : 11441768



Performance : 380 V 50 Hz 2P IE2

Rated current : 14.2 A  
LRC : 5.6  
Rated torque : 2.49 kgfm  
Locked rotor torque : 170 %  
Breakdown torque : 220 %  
Rated speed : 2910 rpm

Moment of inertia (J) : 0.0268 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     |
|              |                 |  |           |               |          |
| Performed by |                 |  |           | Page<br>7 / 9 | Revision |
| Checked by   |                 |  |           |               |          |
| Date         | 20/10/2024      |  |           |               |          |

# LOAD PERFORMANCE CURVE

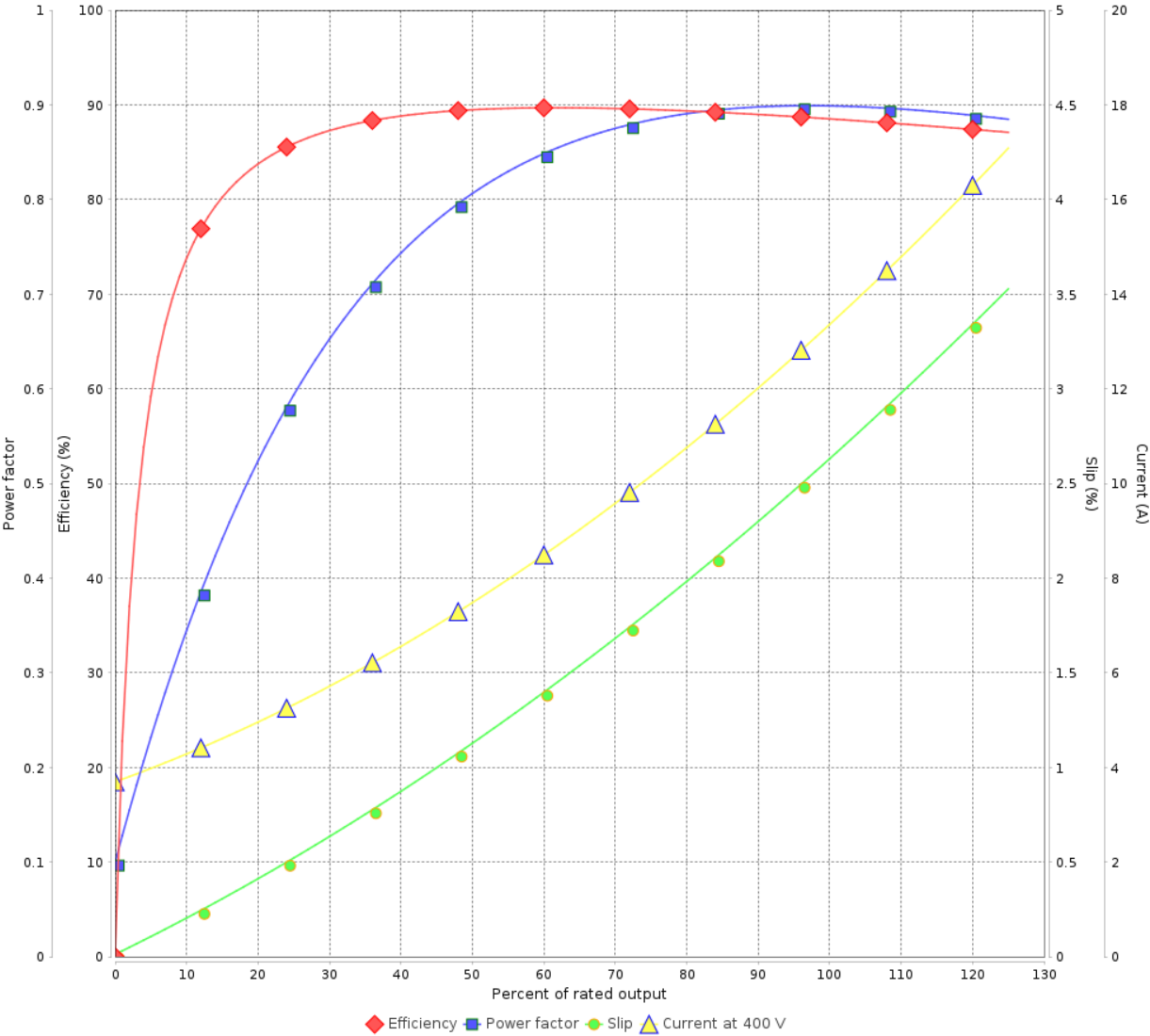
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase      Product code : 11441768

LOAD PERFORMANCE CURVE



|                                  |             |                       |               |
|----------------------------------|-------------|-----------------------|---------------|
| Performance : 400 V 50 Hz 2P IE2 |             |                       |               |
| Rated current                    | : 13.6 A    | Moment of inertia (J) | : 0.0268 kgm² |
| LRC                              | : 6.4       | Duty cycle            | : Cont.(S1)   |
| Rated torque                     | : 2.49 kgfm | Insulation class      | : F           |
| Locked rotor torque              | : 180 %     | Service factor        | : 1.00        |
| Breakdown torque                 | : 250 %     | Temperature rise      | : 105 K       |
| Rated speed                      | : 2920 rpm  | Design                | : B           |

| Rev.         | Changes Summary |  | Performed | Checked       | Date     |
|--------------|-----------------|--|-----------|---------------|----------|
|              |                 |  |           |               |          |
| Performed by |                 |  |           | Page<br>8 / 9 | Revision |
| Checked by   |                 |  |           |               |          |
| Date         | 20/10/2024      |  |           |               |          |



# LOAD PERFORMANCE CURVE

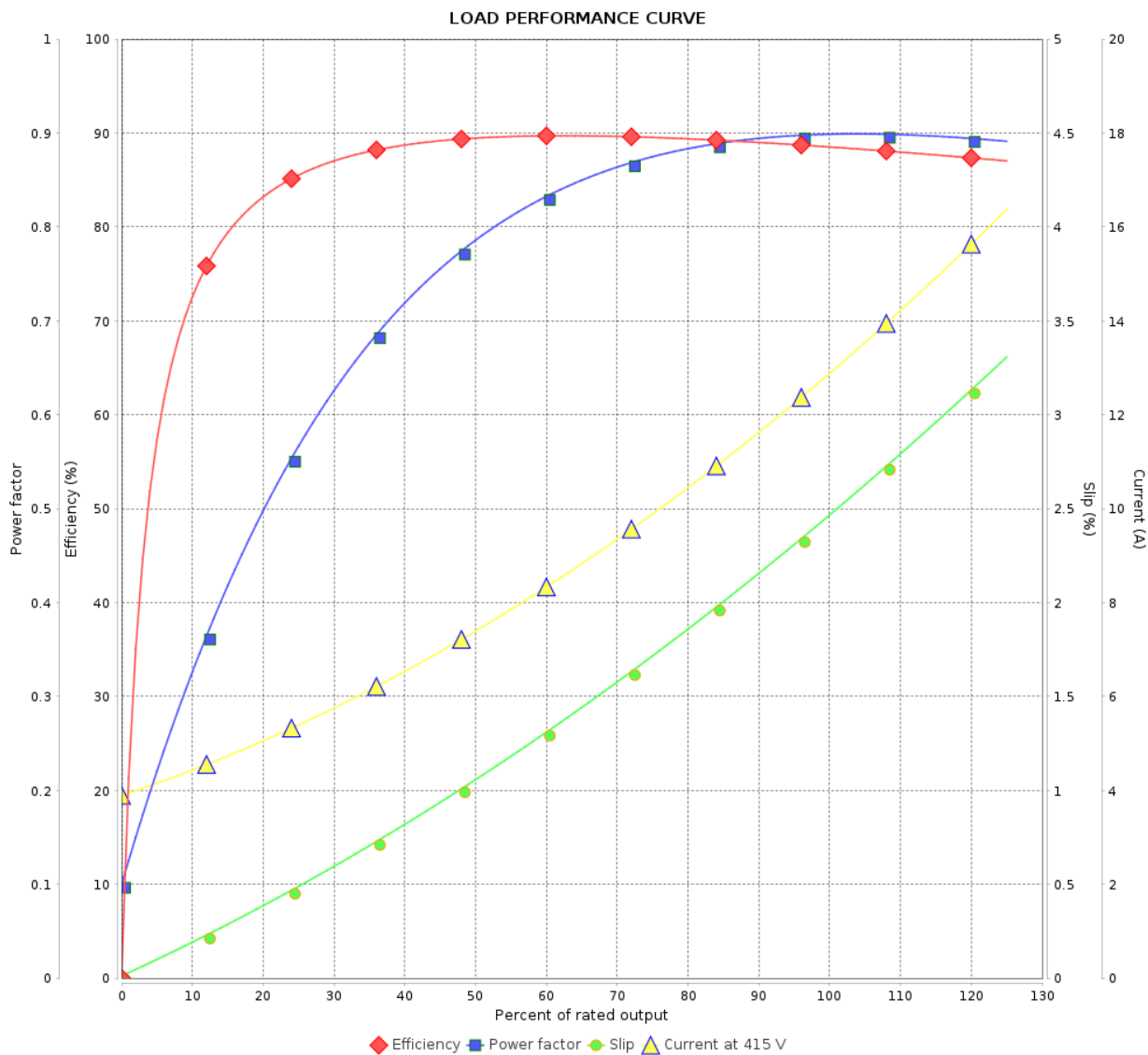
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency  
Three-Phase

Product code : 11441768



Performance : 415 V 50 Hz 2P IE2

Rated current : 13.1 A  
LRC : 6.9  
Rated torque : 2.48 kgfm  
Locked rotor torque : 200 %  
Breakdown torque : 270 %  
Rated speed : 2925 rpm

Moment of inertia (J) : 0.0268 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 |
|--------------|-----------------|-----------------------|---------|------|
|              |                 |                       |         |      |
| Performed by |                 | Page<br>9 / 9Revision |         |      |
| Checked by   |                 |                       |         |      |
| Date         | 20/10/2024      |                       |         |      |