

# DATA SHEET



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W22 IEEE 841 NEMA Premium Efficiency Three-Phase Product code : 11941736

|                     |                  |                             |                           |
|---------------------|------------------|-----------------------------|---------------------------|
| Frame               | : 324TC          | 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>2</sup> | : 0.0 kg                  |
| Protection degree   | : IP55           | Moment of inertia (J)       | : 0.4843 kgm <sup>2</sup> |
| Design              | : B              |                             |                           |

|                          |                         |                         |                         |                         |                         |                         |                         |
|--------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Output [HP]              | 25                      | 20                      | 20                      | 20                      | 25                      | 25                      | 25                      |
| Poles                    | 6                       | 6                       | 6                       | 6                       | 6                       | 6                       | 6                       |
| Frequency [Hz]           | 60                      | 50                      | 50                      | 50                      | 50                      | 50                      | 50                      |
| Rated voltage [V]        | 460                     | 380                     | 400                     | 415                     | 380                     | 400                     | 415                     |
| Rated current [A]        | 30.4                    | 30.0                    | 29.4                    | 28.6                    | 36.3                    | 35.1                    | 34.2                    |
| L. R. Amperes [A]        | 182                     | 174                     | 185                     | 194                     | 171                     | 183                     | 192                     |
| LRC [A]                  | 6.0x(Code G)            | 5.8x(Code G)            | 6.3x(Code H)            | 6.8x(Code H)            | 4.7x(Code D)            | 5.2x(Code F)            | 5.6x(Code F)            |
| No load current [A]      | 12.5                    | 12.3                    | 13.3                    | 14.2                    | 12.3                    | 13.3                    | 14.2                    |
| Rated speed [RPM]        | 1175                    | 970                     | 975                     | 980                     | 965                     | 970                     | 975                     |
| Slip [%]                 | 2.08                    | 3.00                    | 2.50                    | 2.00                    | 3.50                    | 3.00                    | 2.50                    |
| Rated torque [kgfm]      | 15.4                    | 15.0                    | 14.9                    | 14.8                    | 18.8                    | 18.7                    | 18.6                    |
| Locked rotor torque [%]  | 210                     | 200                     | 229                     | 250                     | 160                     | 180                     | 190                     |
| Breakdown torque [%]     | 250                     | 240                     | 280                     | 300                     | 190                     | 220                     | 240                     |
| Service factor           | 1.25                    | 1.00                    | 1.15                    | 1.15                    | 1.00                    | 1.15                    | 1.15                    |
| Temperature rise         | 80 K                    | 80 K                    | 80 K                    | 80 K                    | 80 K                    | 80 K                    | 80 K                    |
| Locked rotor time        | 46s (cold)<br>26s (hot) | 32s (cold)<br>18s (hot) | 32s (cold)<br>18s (hot) | 32s (cold)<br>18s (hot) | 32s (cold)<br>18s (hot) | 32s (cold)<br>18s (hot) | 32s (cold)<br>18s (hot) |
| Noise level <sup>2</sup> | 62.0 dB(A)              | 60.0 dB(A)              | 60.0 dB(A)              | 60.0 dB(A)              | 60.0 dB(A)              | 60.0 dB(A)              | 60.0 dB(A)              |
| Efficiency (%)           | 25%                     |                         |                         |                         |                         |                         |                         |
|                          | 50%                     | 91.7                    | 91.1                    | 91.1                    | 91.1                    | 91.7                    | 91.7                    |
|                          | 75%                     | 93.0                    | 91.8                    | 92.2                    | 92.2                    | 91.7                    | 92.4                    |
|                          | 100%                    | 93.0                    | 91.6                    | 92.2                    | 92.2                    | 91.0                    | 91.7                    |
| Power Factor             | 25%                     |                         |                         |                         |                         |                         |                         |
|                          | 50%                     | 0.65                    | 0.63                    | 0.60                    | 0.57                    | 0.71                    | 0.68                    |
|                          | 75%                     | 0.77                    | 0.76                    | 0.74                    | 0.71                    | 0.81                    | 0.79                    |
|                          | 100%                    | 0.82                    | 0.83                    | 0.80                    | 0.79                    | 0.85                    | 0.83                    |

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

|            |                |     |      |     |     |      |     |     |
|------------|----------------|-----|------|-----|-----|------|-----|-----|
| Losses (%) | P1 (0,9;1,0)   | 8.2 | 10.1 | 9.3 | 9.3 | 10.9 | 9.9 | 9.9 |
|            | P2 (0,5;1,0)   | 6.8 | 8.6  | 7.8 | 7.8 | 9.4  | 8.5 | 8.5 |
|            | P3 (0,25;1,0)  | 6.3 | 8.1  | 7.3 | 7.3 | 8.9  | 7.9 | 7.9 |
|            | P4 (0,9;0,5)   | 4.4 | 5.2  | 4.9 | 4.9 | 5.6  | 5.2 | 5.2 |
|            | P5 (0,5;0,5)   | 3.0 | 3.7  | 3.4 | 3.4 | 4.0  | 3.7 | 3.7 |
|            | P6 (0,5;0,25)  | 2.2 | 2.7  | 2.5 | 2.5 | 2.9  | 2.6 | 2.6 |
|            | P7 (0,25;0,25) | 1.5 | 1.9  | 1.7 | 1.7 | 2.0  | 1.8 | 1.8 |

|                      |   |   |
|----------------------|---|---|
| Bearing type         | : Drive end 6312 C3 Non drive end 6212 C3 | Foundation loads<br>Max. traction : 562 kgf<br>Max. compression : 562 kgf |
| Sealing              | : Taconite Labyrinth Labyrinth            |   |
| Lubrication interval | : 20000 h 20000 h                         |   |
| Lubricant amount     | : 21 g 13 g                               |   |
| Lubricant type       | : Mobil Polyrex EM                        |   |

|              |                 |           |         |          |
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# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



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

Notes

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# LOAD PERFORMANCE CURVE

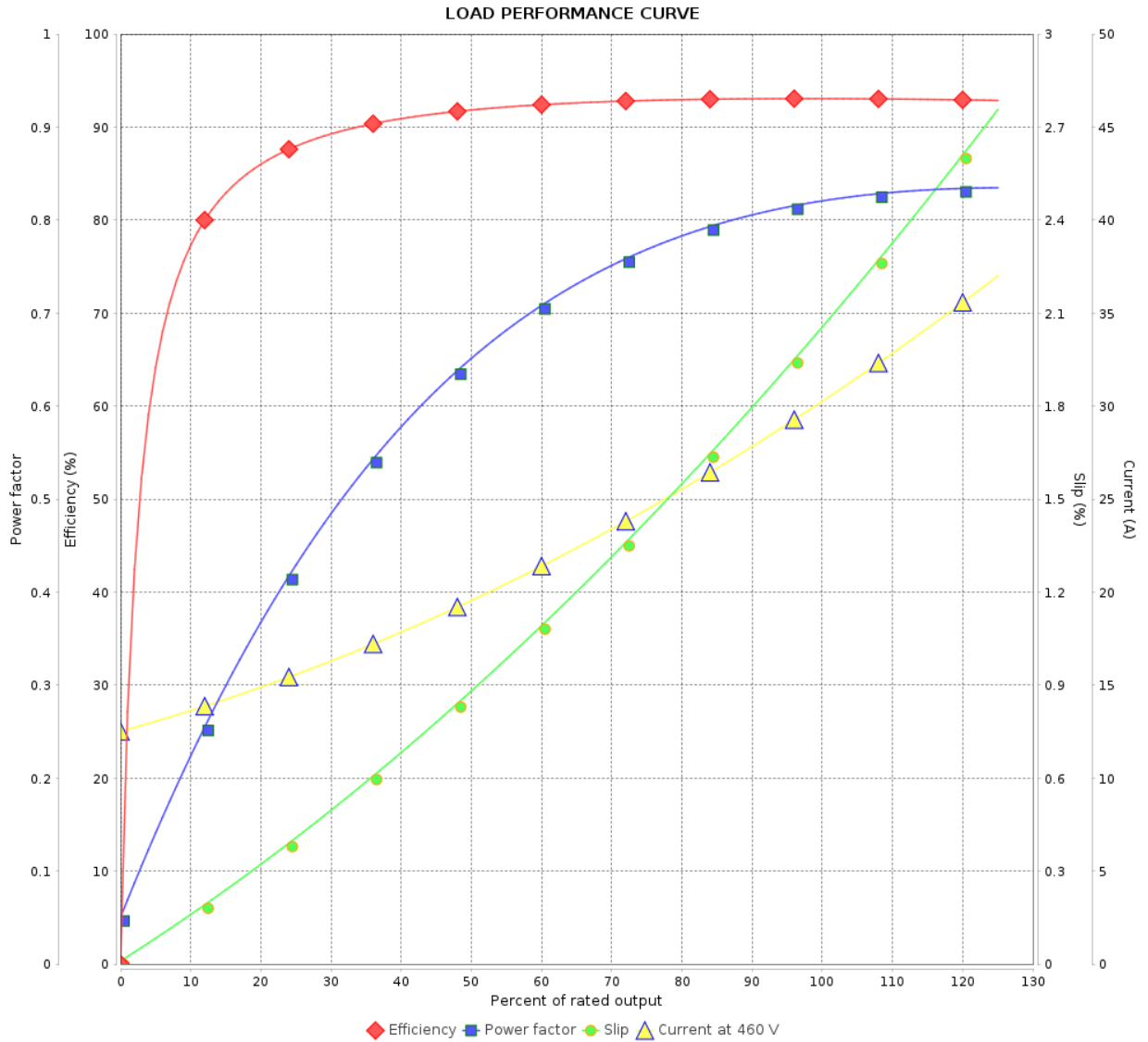
## Three Phase Induction Motor - Squirrel Cage



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

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

Product code : 11941736



Performance : 460 V 60 Hz 6P

Rated current : 30.4 A  
 LRC : 6.0  
 Rated torque : 15.4 kgfm  
 Locked rotor torque : 210 %  
 Breakdown torque : 250 %  
 Rated speed : 1175 rpm

Moment of inertia (J) : 0.4843 kgm<sup>2</sup>  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.25  
 Temperature rise : 80 K  
 Design : B

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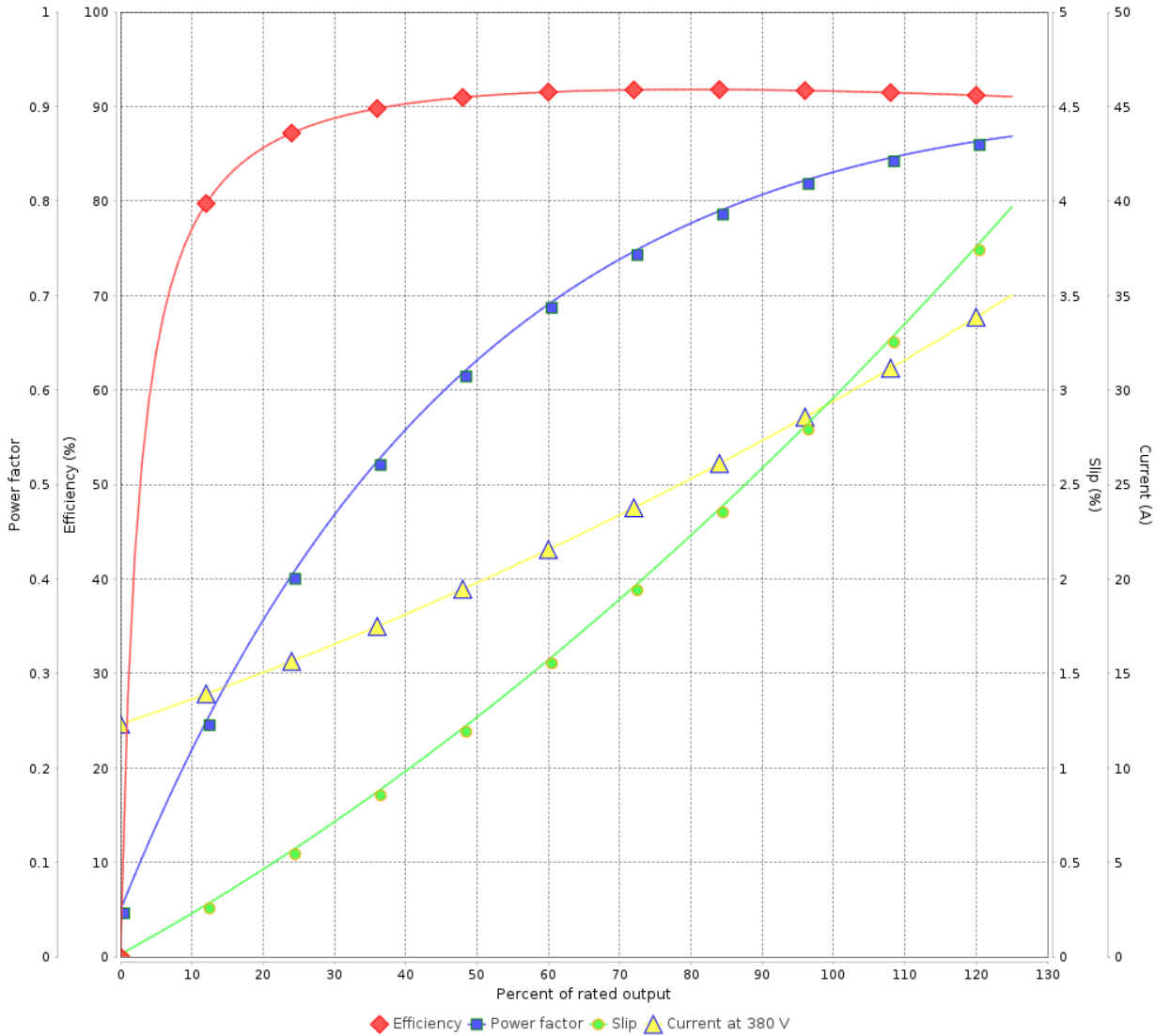
Three Phase Induction Motor - Squirrel Cage



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

Product line : W22 IEEE 841 NEMA Premium Efficiency Three-Phase      Product code : 11941736

LOAD PERFORMANCE CURVE



Performance : 380 V 50 Hz 6P IE3

|                     |             |                       |                           |
|---------------------|-------------|-----------------------|---------------------------|
| Rated current       | : 30.0 A    | Moment of inertia (J) | : 0.4843 kgm <sup>2</sup> |
| LRC                 | : 5.8       | Duty cycle            | : Cont.(S1)               |
| Rated torque        | : 15.0 kgfm | Insulation class      | : F                       |
| Locked rotor torque | : 200 %     | Service factor        | : 1.00                    |
| Breakdown torque    | : 240 %     | Temperature rise      | : 80 K                    |
| Rated speed         | : 970 rpm   | Design                | : B                       |

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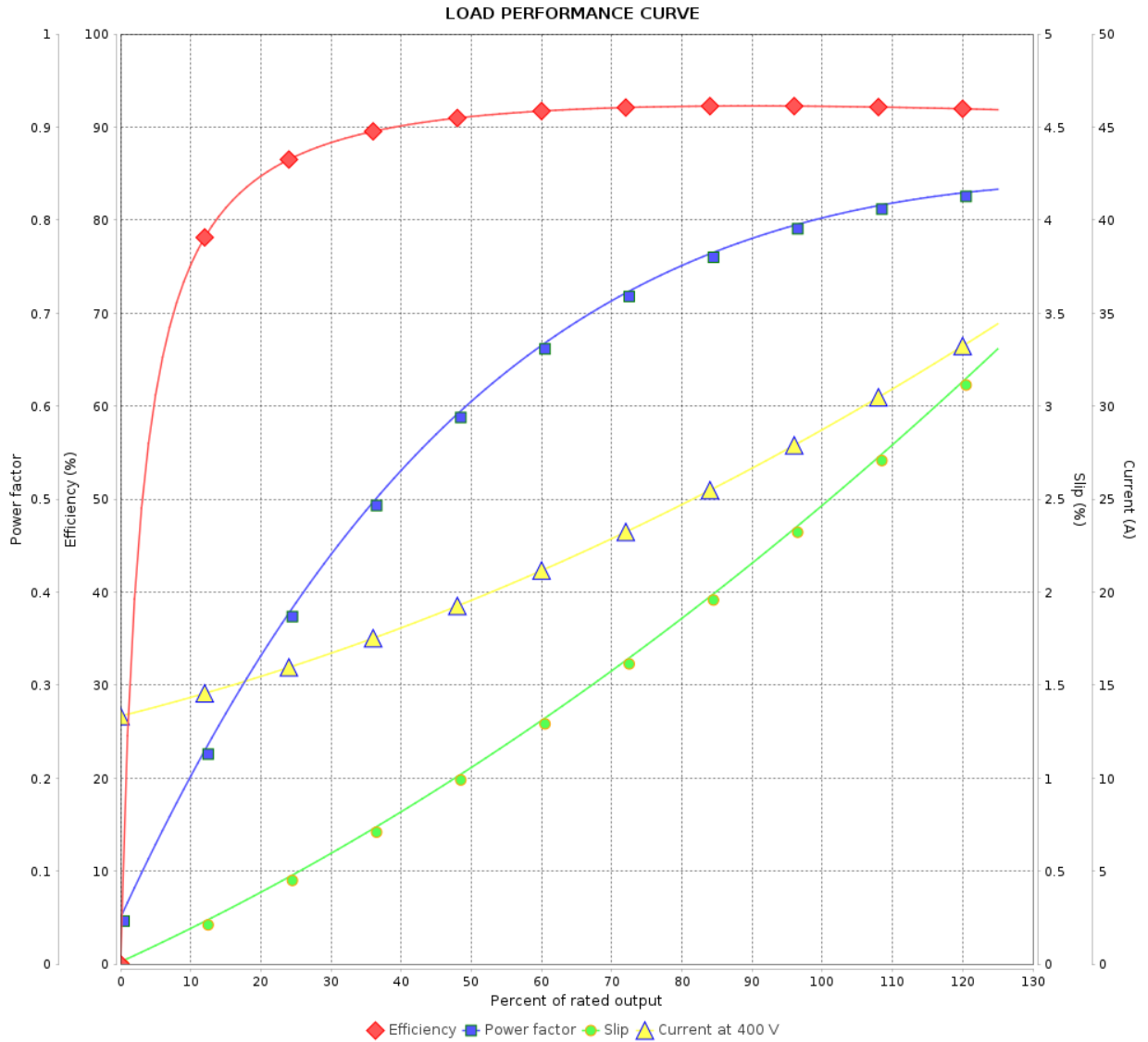
# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 IEEE 841 NEMA Premium Efficiency Three-Phase      Product code : 11941736



Performance : 400 V 50 Hz 6P IE3

|                     |             |                       |                           |
|---------------------|-------------|-----------------------|---------------------------|
| Rated current       | : 29.4 A    | Moment of inertia (J) | : 0.4843 kgm <sup>2</sup> |
| LRC                 | : 6.3       | Duty cycle            | : Cont.(S1)               |
| Rated torque        | : 14.9 kgfm | Insulation class      | : F                       |
| Locked rotor torque | : 229 %     | Service factor        | : 1.15                    |
| Breakdown torque    | : 280 %     | Temperature rise      | : 80 K                    |
| Rated speed         | : 975 rpm   | Design                | : B                       |

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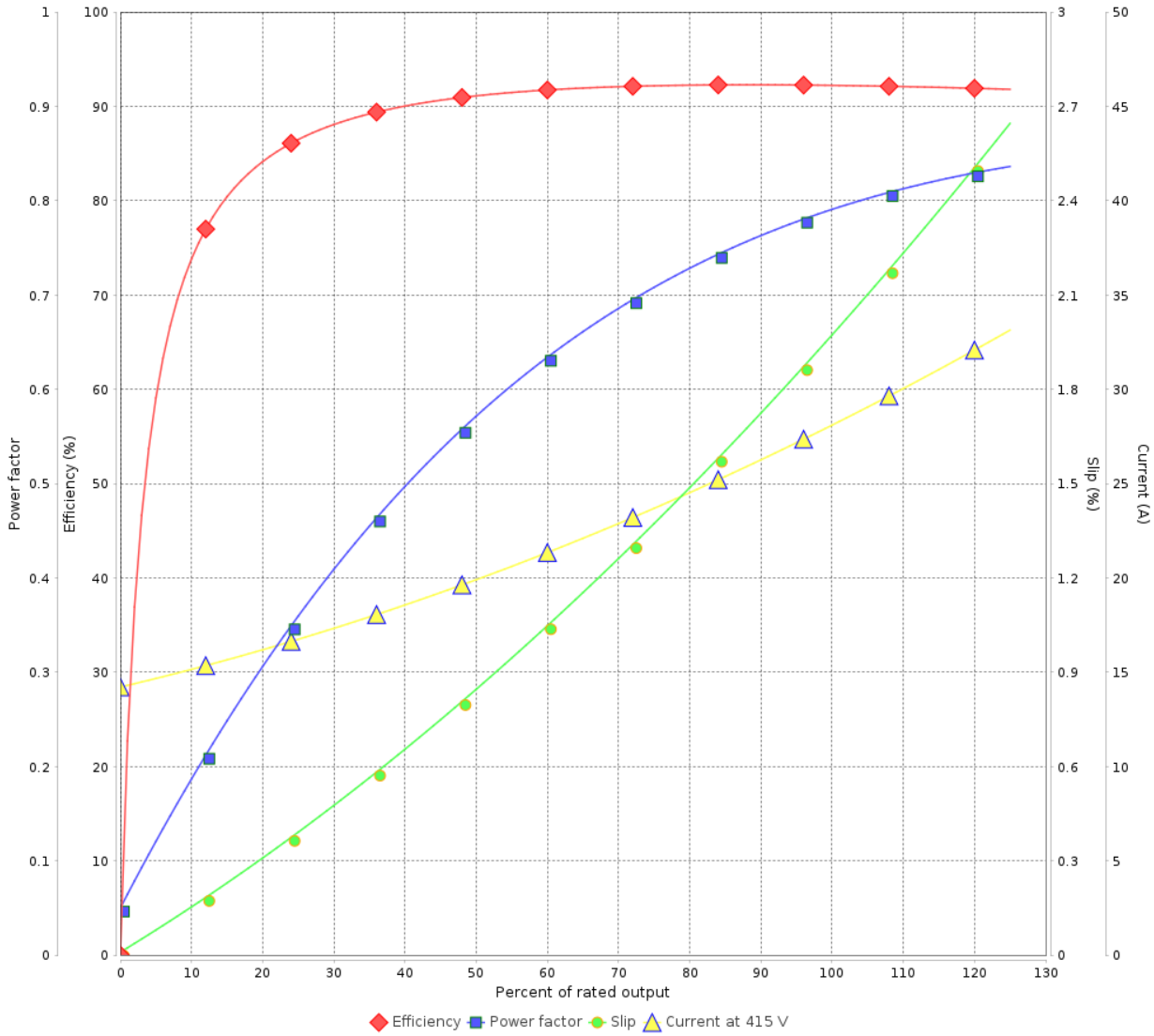
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 IEEE 841 NEMA Premium Efficiency Three-Phase      Product code : 11941736

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Performance : 415 V 50 Hz 6P IE3

|                     |             |                       |                           |
|---------------------|-------------|-----------------------|---------------------------|
| Rated current       | : 28.6 A    | Moment of inertia (J) | : 0.4843 kgm <sup>2</sup> |
| LRC                 | : 6.8       | Duty cycle            | : Cont.(S1)               |
| Rated torque        | : 14.8 kgfm | Insulation class      | : F                       |
| Locked rotor torque | : 250 %     | Service factor        | : 1.15                    |
| Breakdown torque    | : 300 %     | Temperature rise      | : 80 K                    |
| Rated speed         | : 980 rpm   | Design                | : B                       |

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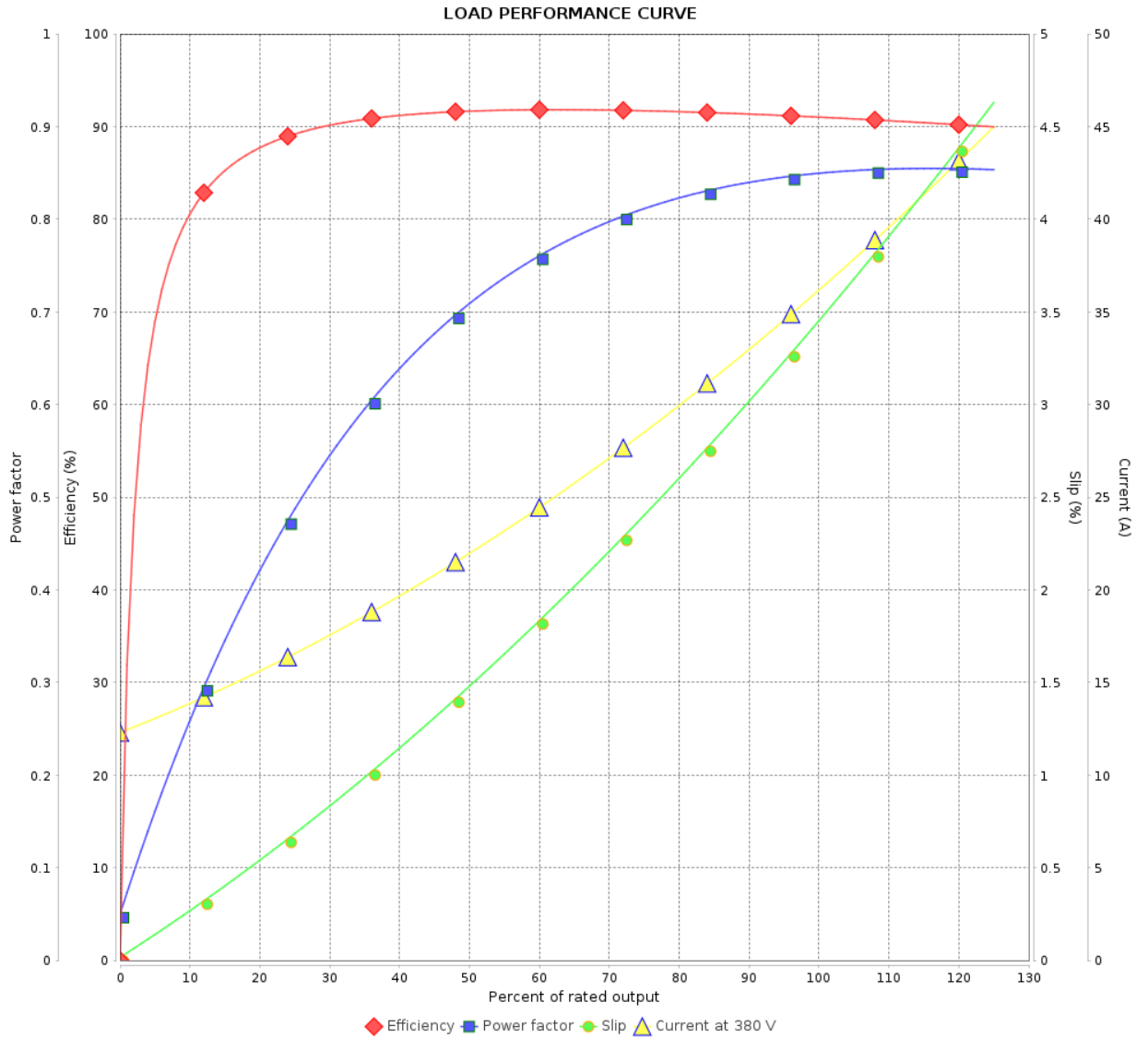
## Three Phase Induction Motor - Squirrel Cage



Customer :

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

Product code : 11941736



Performance : 380 V 50 Hz 6P IE2

Rated current : 36.3 A  
 LRC : 4.7  
 Rated torque : 18.8 kgfm  
 Locked rotor torque : 160 %  
 Breakdown torque : 190 %  
 Rated speed : 965 rpm

Moment of inertia (J) : 0.4843 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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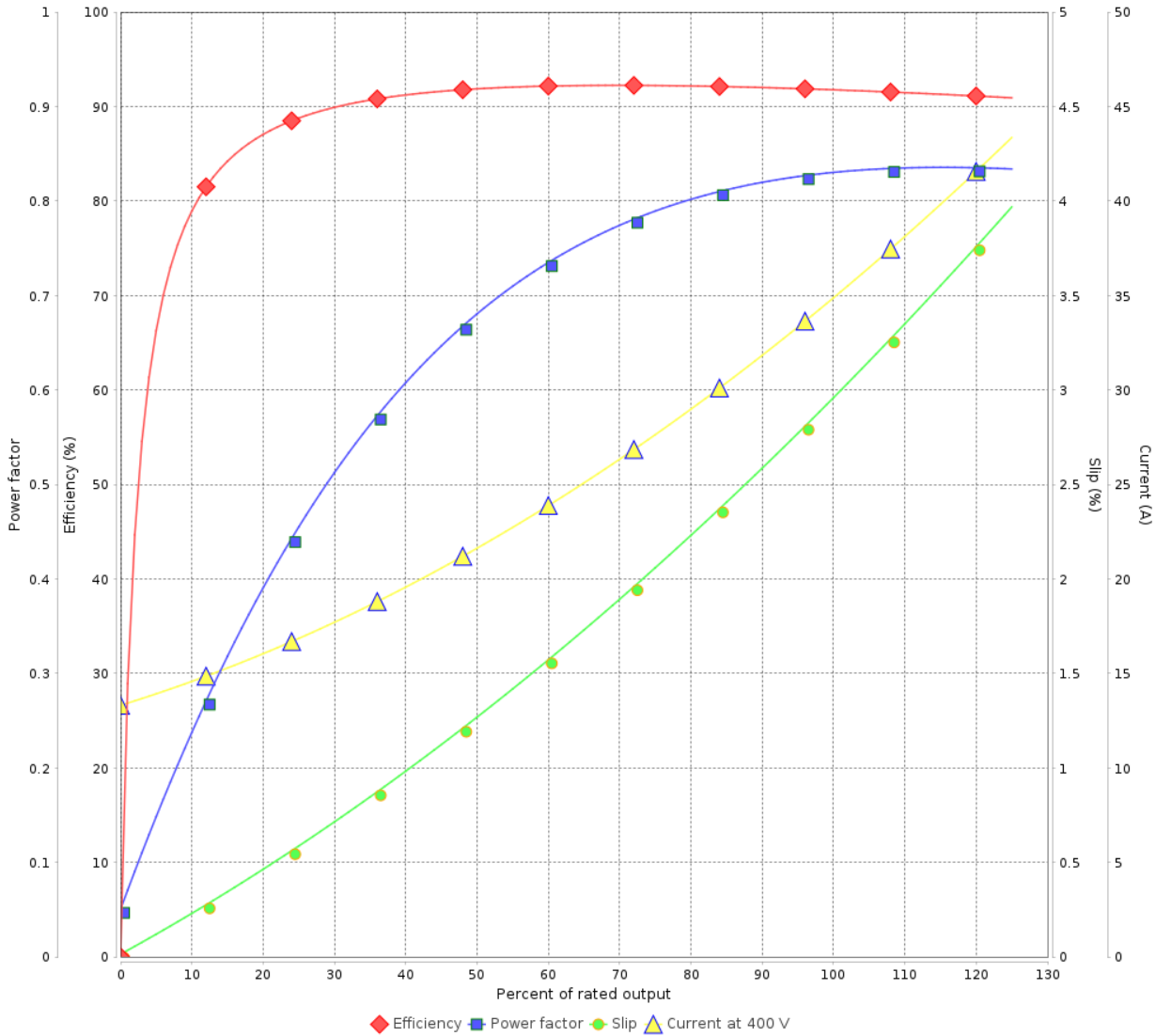
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 IEEE 841 NEMA Premium Efficiency Three-Phase      Product code : 11941736

LOAD PERFORMANCE CURVE



Performance : 400 V 50 Hz 6P IE3

|                     |             |                       |                           |
|---------------------|-------------|-----------------------|---------------------------|
| Rated current       | : 35.1 A    | Moment of inertia (J) | : 0.4843 kgm <sup>2</sup> |
| LRC                 | : 5.2       | Duty cycle            | : Cont.(S1)               |
| Rated torque        | : 18.7 kgfm | Insulation class      | : F                       |
| Locked rotor torque | : 180 %     | Service factor        | : 1.15                    |
| Breakdown torque    | : 220 %     | Temperature rise      | : 80 K                    |
| Rated speed         | : 970 rpm   | Design                | : B                       |

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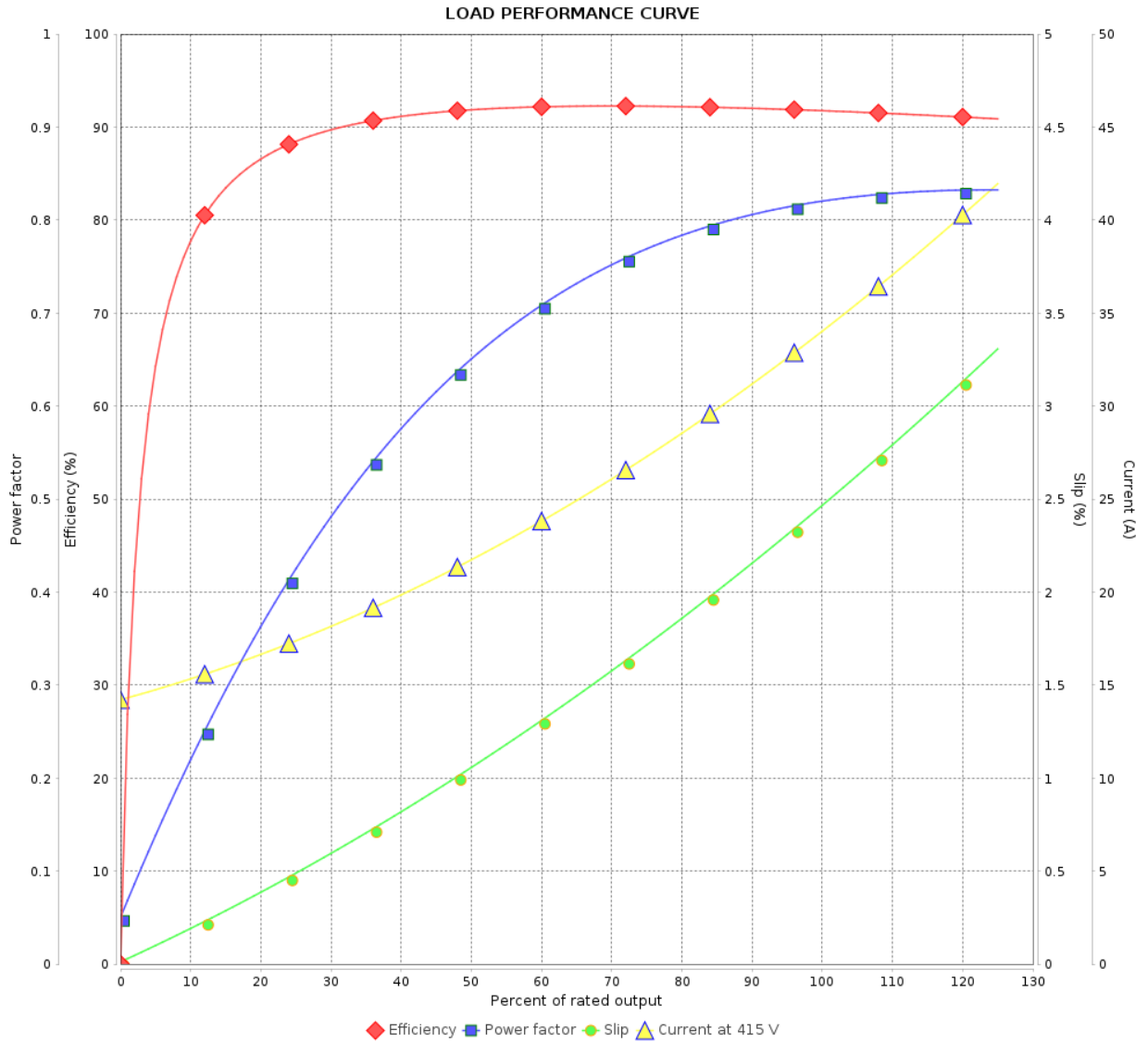
## Three Phase Induction Motor - Squirrel Cage



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

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

Product code : 11941736



Performance : 415 V 50 Hz 6P IE3

Rated current : 34.2 A  
 LRC : 5.6  
 Rated torque : 18.6 kgfm  
 Locked rotor torque : 190 %  
 Breakdown torque : 240 %  
 Rated speed : 975 rpm

Moment of inertia (J) : 0.4843 kgm<sup>2</sup>  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : B

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