

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 IEEE 841 NEMA Premium Efficiency Three-Phase      Product code : 11943606

|                     |                  |                             |                         |
|---------------------|------------------|-----------------------------|-------------------------|
| Frame               | : 444/5TC        | 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> | : 0.0 kg                |
| Protection degree   | : IP55           | Moment of inertia (J)       | : 3.68 kgm <sup>2</sup> |
| Design              | : B              |                             |                         |

|                          |                         |                         |                         |                         |                         |                         |                         |
|--------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Output [HP]              | 100                     | 75                      | 75                      | 75                      | 100                     | 100                     | 100                     |
| Poles                    | 8                       | 8                       | 8                       | 8                       | 8                       | 8                       | 8                       |
| Frequency [Hz]           | 60                      | 50                      | 50                      | 50                      | 50                      | 50                      | 50                      |
| Rated voltage [V]        | 460                     | 380                     | 400                     | 415                     | 380                     | 400                     | 415                     |
| Rated current [A]        | 127                     | 118                     | 116                     | 115                     | 152                     | 147                     | 144                     |
| L. R. Amperes [A]        | 762                     | 717                     | 778                     | 806                     | 714                     | 779                     | 806                     |
| LRC [A]                  | 6.0x(Code G)            | 6.1x(Code G)            | 6.7x(Code J)            | 7.0x(Code J)            | 4.7x(Code E)            | 5.3x(Code F)            | 5.6x(Code G)            |
| No load current [A]      | 56.0                    | 55.0                    | 61.0                    | 67.0                    | 55.0                    | 61.0                    | 67.0                    |
| Rated speed [RPM]        | 890                     | 740                     | 740                     | 740                     | 735                     | 740                     | 740                     |
| Slip [%]                 | 1.11                    | 1.33                    | 1.33                    | 1.33                    | 2.00                    | 1.33                    | 1.33                    |
| Rated torque [kgfm]      | 81.5                    | 73.6                    | 73.6                    | 73.6                    | 98.7                    | 98.1                    | 98.1                    |
| Locked rotor torque [%]  | 190                     | 200                     | 229                     | 250                     | 150                     | 170                     | 190                     |
| Breakdown torque [%]     | 220                     | 229                     | 270                     | 290                     | 170                     | 200                     | 220                     |
| 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)<br>15s (hot) | 21s (cold)<br>12s (hot) | 21s (cold)<br>12s (hot) | 21s (cold)<br>12s (hot) | 21s (cold)<br>12s (hot) | 21s (cold)<br>12s (hot) | 21s (cold)<br>12s (hot) |
| Noise level <sup>2</sup> | 63.0 dB(A)              | 59.0 dB(A)              | 59.0 dB(A)              | 59.0 dB(A)              | 59.0 dB(A)              | 59.0 dB(A)              | 59.0 dB(A)              |
| Efficiency (%)           | 25%                     |                         |                         |                         |                         |                         |                         |
|                          | 50%                     | 93.6                    | 92.9                    | 91.9                    | 91.2                    | 93.6                    | 92.4                    |
|                          | 75%                     | 94.1                    | 93.4                    | 93.0                    | 92.6                    | 93.0                    | 93.0                    |
|                          | 100%                    | 94.1                    | 93.2                    | 93.2                    | 93.1                    | 92.4                    | 93.0                    |
| Power Factor             | 25%                     |                         |                         |                         |                         |                         |                         |
|                          | 50%                     | 0.63                    | 0.59                    | 0.55                    | 0.51                    | 0.69                    | 0.61                    |
|                          | 75%                     | 0.74                    | 0.72                    | 0.68                    | 0.65                    | 0.78                    | 0.73                    |
|                          | 100%                    | 0.79                    | 0.78                    | 0.75                    | 0.73                    | 0.81                    | 0.78                    |

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

|            |                |     |     |     |     |     |     |
|------------|----------------|-----|-----|-----|-----|-----|-----|
| Losses (%) | P1 (0,9;1,0)   | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 |
|            | P2 (0,5;1,0)   | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 |
|            | P3 (0,25;1,0)  | 4.4 | 4.4 | 4.4 | 4.4 | 4.4 | 4.4 |
|            | P4 (0,9;0,5)   | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
|            | P5 (0,5;0,5)   | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
|            | P6 (0,5;0,25)  | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 |
|            | P7 (0,25;0,25) | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 |

|                      |                    |               |           |                  |            |
|----------------------|--------------------|---------------|-----------|------------------|------------|
| Bearing type         | : 6319 C3          | Non drive end | 6316 C3   | Foundation loads |            |
| Sealing              | : Taconite         |               | Taconite  | Max. traction    | : 1887 kgf |
|                      | : Labyrinth        |               | Labyrinth | Max. compression | : 1887 kgf |
| Lubrication interval | : 17000 h          |               | 20000 h   |                  |            |
| Lubricant amount     | : 45 g             |               | 34 g      |                  |            |
| Lubricant type       | : Mobil Polyrex EM |               |           |                  |            |

|              |                 |           |         |          |
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# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



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

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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| Checked by   |                 |  |           |         |          |
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# LOAD PERFORMANCE CURVE

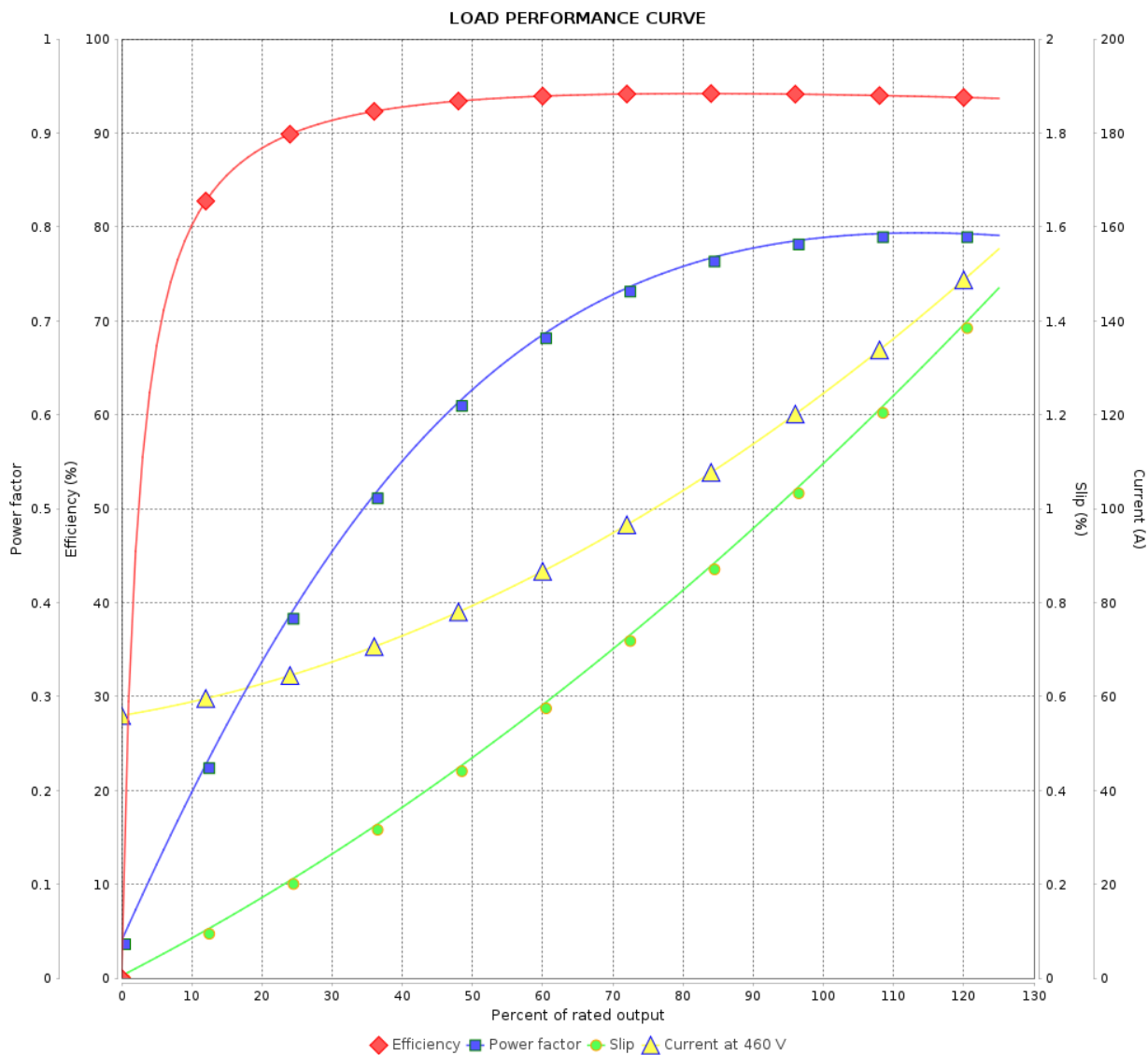
## Three Phase Induction Motor - Squirrel Cage



Customer :

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

Product code : 11943606



Performance : 460 V 60 Hz 8P

Rated current : 127 A  
LRC : 6.0  
Rated torque : 81.5 kgfm  
Locked rotor torque : 190 %  
Breakdown torque : 220 %  
Rated speed : 890 rpm

Moment of inertia (J) : 3.68 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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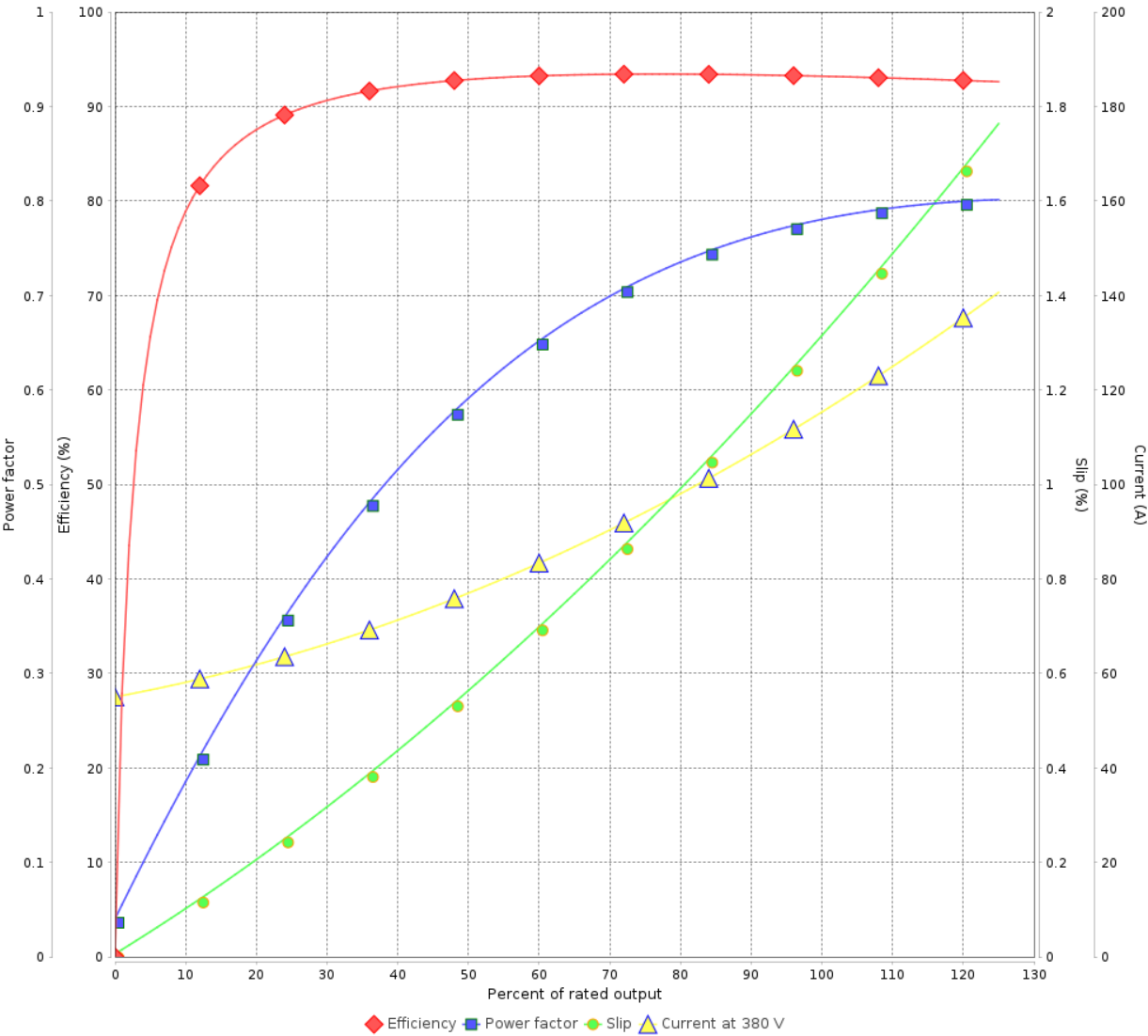
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 IEEE 841 NEMA Premium Efficiency Three-Phase      Product code : 11943606

LOAD PERFORMANCE CURVE



|                                  |             |                       |                         |
|----------------------------------|-------------|-----------------------|-------------------------|
| Performance : 380 V 50 Hz 8P IE3 |             |                       |                         |
| Rated current                    | : 118 A     | Moment of inertia (J) | : 3.68 kgm <sup>2</sup> |
| LRC                              | : 6.1       | Duty cycle            | : Cont.(S1)             |
| Rated torque                     | : 73.6 kgfm | Insulation class      | : F                     |
| Locked rotor torque              | : 200 %     | Service factor        | : 1.00                  |
| Breakdown torque                 | : 229 %     | Temperature rise      | : 80 K                  |
| Rated speed                      | : 740 rpm   | Design                | : B                     |

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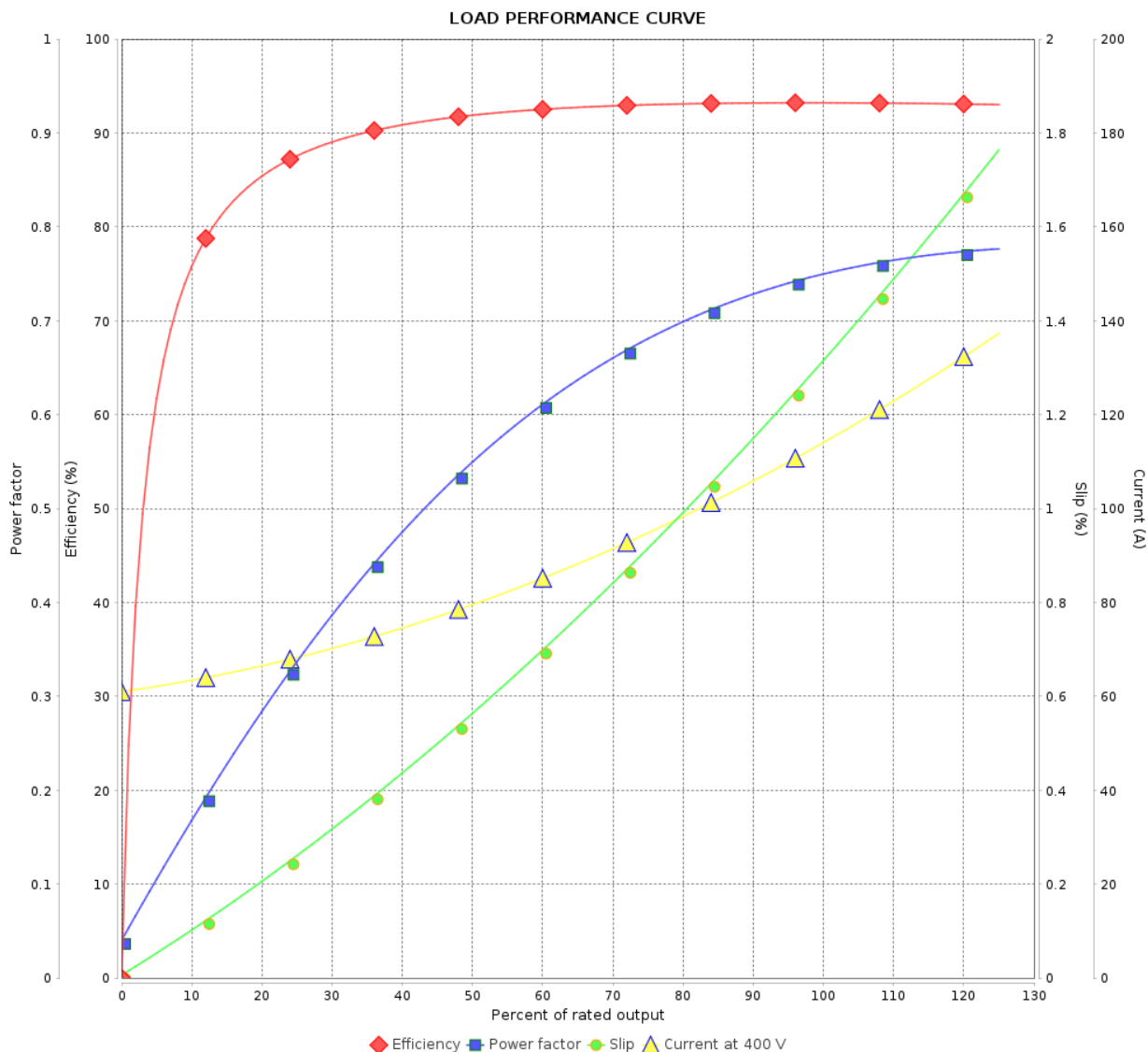
## Three Phase Induction Motor - Squirrel Cage



Customer :

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

Product code : 11943606



Performance : 400 V 50 Hz 8P IE3

Rated current : 116 A  
LRC : 6.7  
Rated torque : 73.6 kgfm  
Locked rotor torque : 229 %  
Breakdown torque : 270 %  
Rated speed : 740 rpm

Moment of inertia (J) : 3.68 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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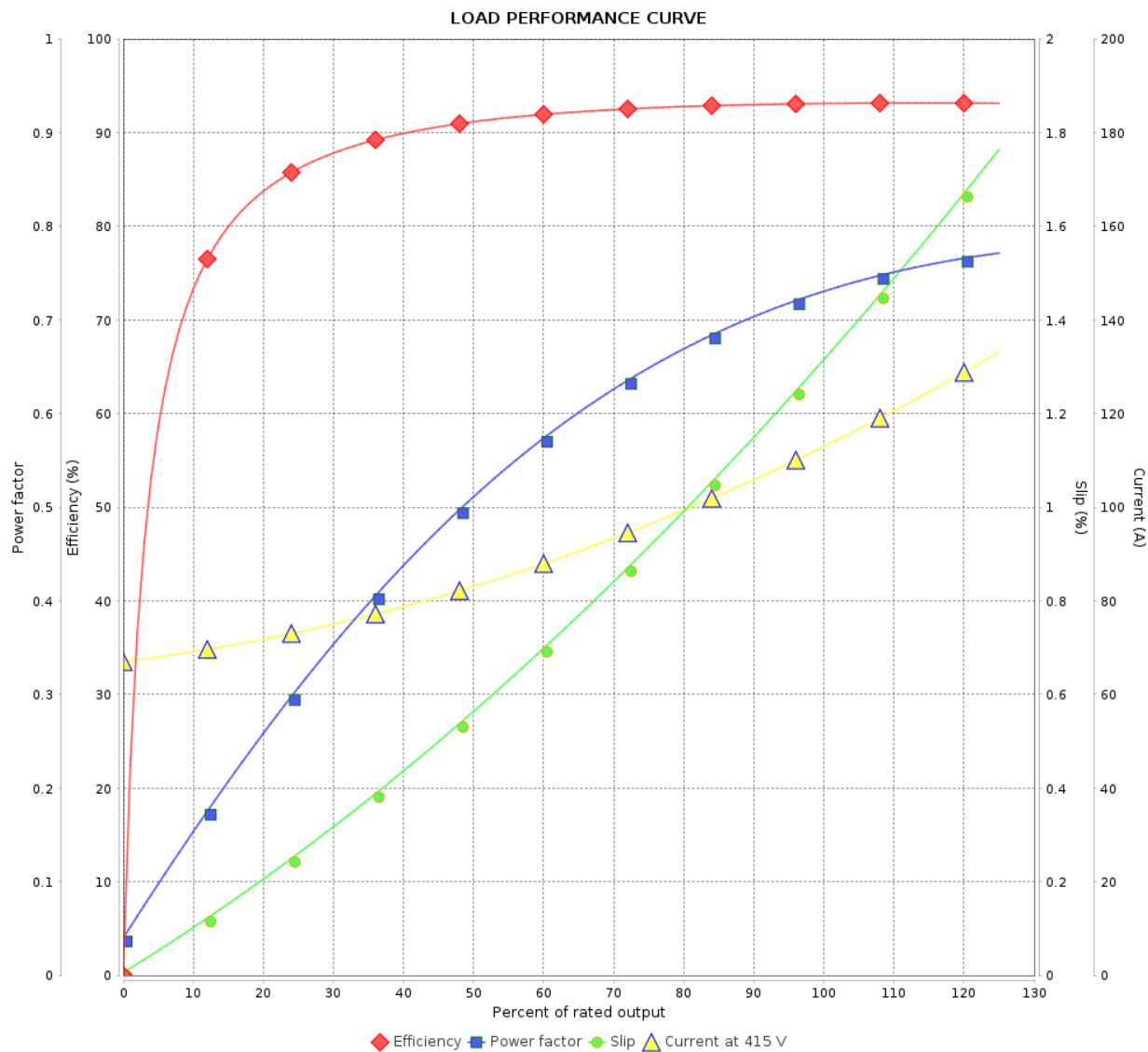
## Three Phase Induction Motor - Squirrel Cage



Customer :

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

Product code : 11943606



Performance : 415 V 50 Hz 8P IE3

Rated current : 115 A  
LRC : 7.0  
Rated torque : 73.6 kgfm  
Locked rotor torque : 250 %  
Breakdown torque : 290 %  
Rated speed : 740 rpm

Moment of inertia (J) : 3.68 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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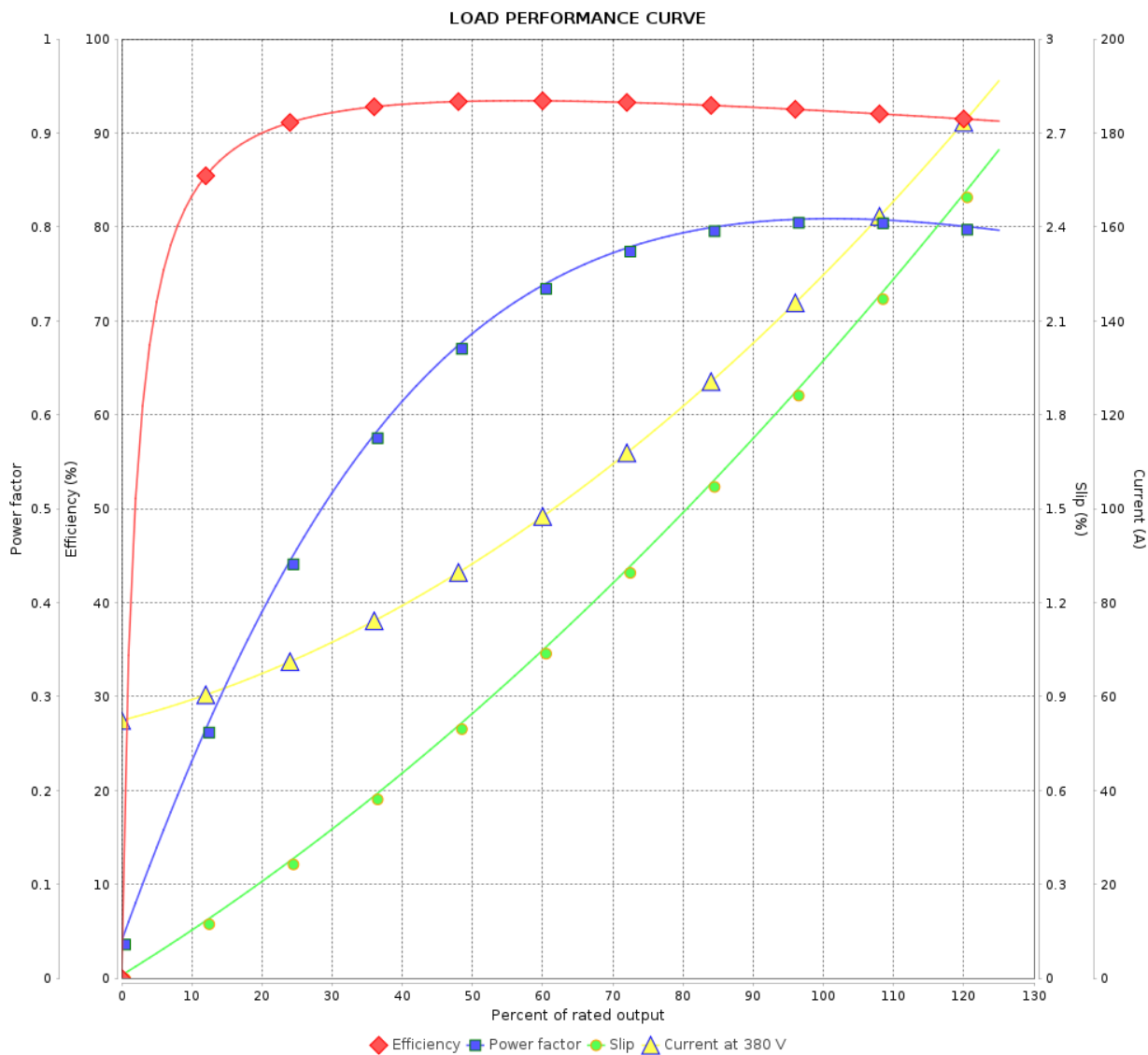
## Three Phase Induction Motor - Squirrel Cage



Customer :

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

Product code : 11943606



Performance : 380 V 50 Hz 8P IE2

Rated current : 152 A  
LRC : 4.7  
Rated torque : 98.7 kgfm  
Locked rotor torque : 150 %  
Breakdown torque : 170 %  
Rated speed : 735 rpm

Moment of inertia (J) : 3.68 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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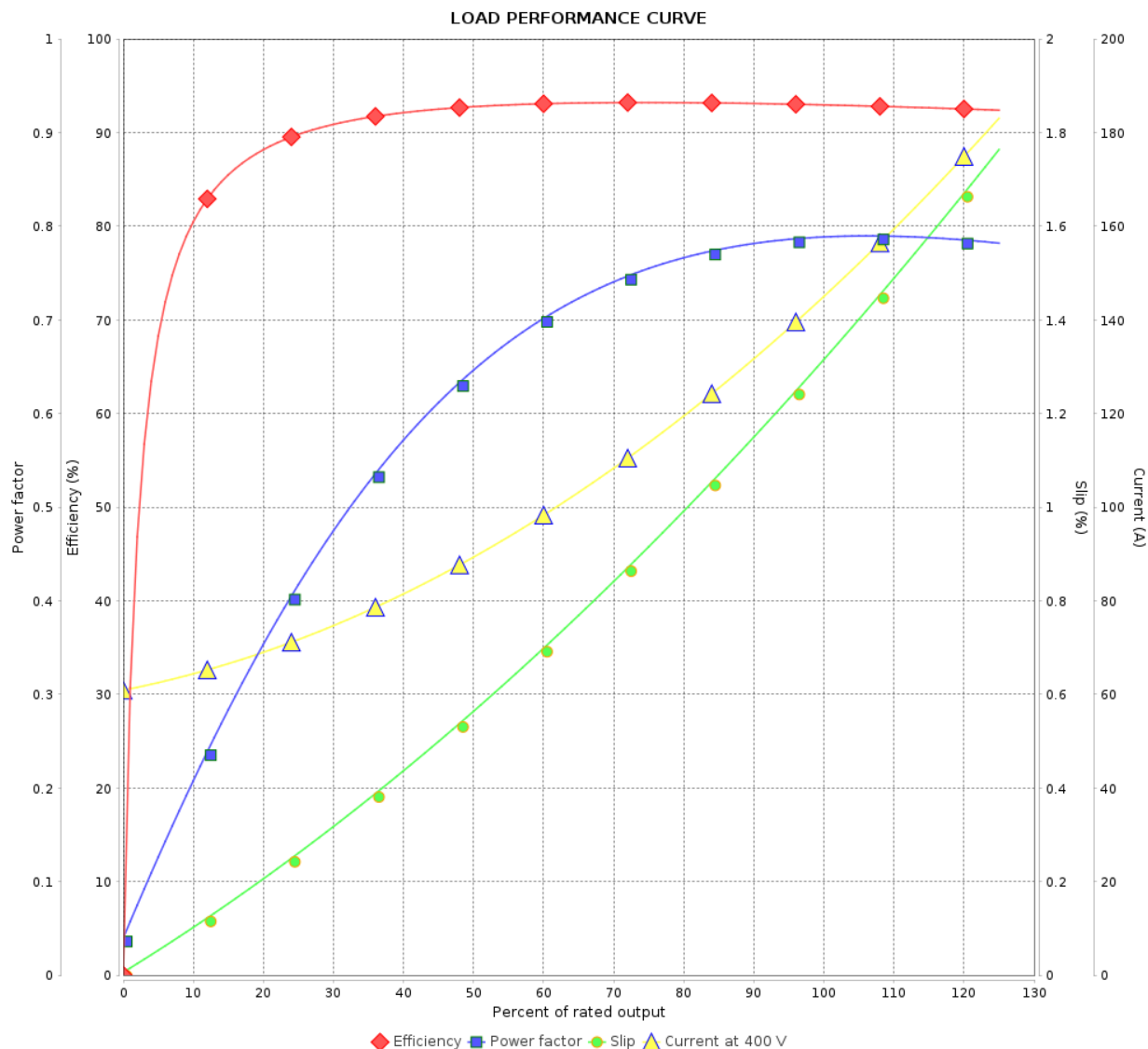
## Three Phase Induction Motor - Squirrel Cage



Customer :

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

Product code : 11943606



Performance : 400 V 50 Hz 8P IE2

|                     |             |                       |                         |
|---------------------|-------------|-----------------------|-------------------------|
| Rated current       | : 147 A     | Moment of inertia (J) | : 3.68 kgm <sup>2</sup> |
| LRC                 | : 5.3       | Duty cycle            | : Cont.(S1)             |
| Rated torque        | : 98.1 kgfm | Insulation class      | : F                     |
| Locked rotor torque | : 170 %     | Service factor        | : 1.00                  |
| Breakdown torque    | : 200 %     | Temperature rise      | : 105 K                 |
| Rated speed         | : 740 rpm   | Design                | : B                     |

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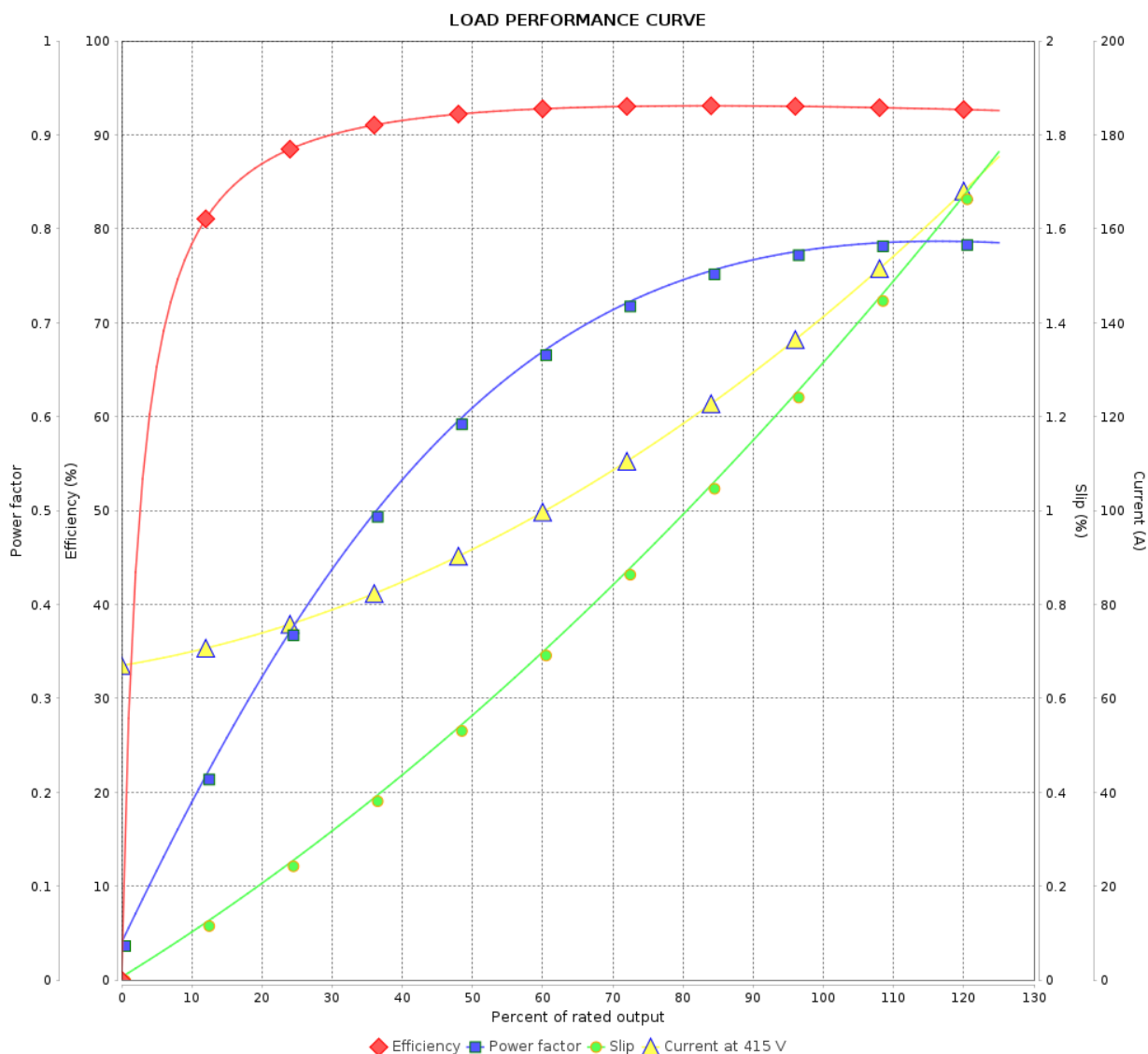
## Three Phase Induction Motor - Squirrel Cage



Customer :

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

Product code : 11943606



Performance : 415 V 50 Hz 8P IE2

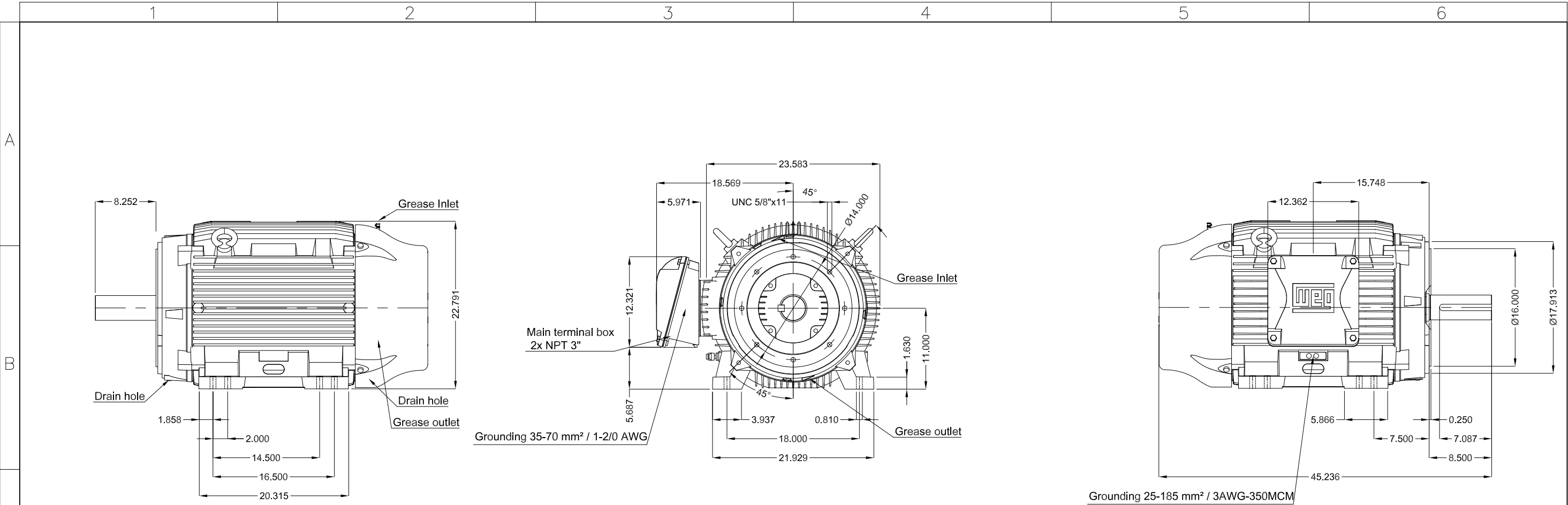
Rated current : 144 A  
LRC : 5.6  
Rated torque : 98.1 kgfm  
Locked rotor torque : 190 %  
Breakdown torque : 220 %  
Rated speed : 740 rpm

Moment of inertia (J) : 3.68 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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|                             |  |                                |  |                                              |  |                                    |  |                |  |                    |  |                  |  |                                                                                           |  |                       |  |    |  |
|-----------------------------|--|--------------------------------|--|----------------------------------------------|--|------------------------------------|--|----------------|--|--------------------|--|------------------|--|-------------------------------------------------------------------------------------------|--|-----------------------|--|----|--|
| Without vertical jackscrews |  | Stainless Steel Grease fitting |  | Sealing - Taconite labyrinth                 |  | Grease outlet according to IEEE841 |  | Color RAL 5009 |  | Painting plan 222E |  | Mounting B34R(D) |  | DE Shaft End<br>0.875<br>0.875<br>3.3750<br>3.3740<br>12.878<br>DUNC 3/4"-10 WEG WPR-7339 |  | 100 HP 08 Poles 60 Hz |  | A  |  |
|                             |  |                                |  |                                              |  |                                    |  |                |  |                    |  |                  |  |                                                                                           |  |                       |  |    |  |
|                             |  |                                |  |                                              |  |                                    |  |                |  |                    |  |                  |  |                                                                                           |  |                       |  |    |  |
|                             |  |                                |  |                                              |  |                                    |  |                |  |                    |  |                  |  |                                                                                           |  |                       |  |    |  |
| ECM                         |  | LOC                            |  | SUMMARY OF MODIFICATIONS                     |  | EXECUTED                           |  | CHECKED        |  | RELEASED           |  | DATE             |  | VER                                                                                       |  | HYBRISUSER            |  | 00 |  |
| EXECUTED                    |  | HYBRISUSER                     |  | THREE PH. MOTOR IEEE 841 W22 NEMA PREM. EFF. |  | PREVIEW                            |  | WDD            |  | 00                 |  | SHEET            |  | /                                                                                         |  | WEG                   |  |    |  |
| CHECKED                     |  |                                |  | FRAME 444/5TC IP55 TEFC                      |  |                                    |  |                |  |                    |  |                  |  |                                                                                           |  |                       |  |    |  |
| RELEASED                    |  |                                |  |                                              |  |                                    |  |                |  |                    |  |                  |  |                                                                                           |  |                       |  |    |  |
| REL. DATE                   |  |                                |  |                                              |  |                                    |  |                |  |                    |  |                  |  |                                                                                           |  |                       |  |    |  |