

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 IEEE 841 NEMA Premium Efficiency Three-Phase Product code : 11943600

|                                      |                                               |
|--------------------------------------|-----------------------------------------------|
| Frame : 444/5T                       | 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> : 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                    | 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]        | 121                     | 107                     | 104                     | 102                     | 145                     | 139                     | 135                     |
| L. R. Amperes [A]        | 725                     | 716                     | 767                     | 809                     | 725                     | 763                     | 812                     |
| LRC [A]                  | 6.0x(Code G)            | 6.7x(Code G)            | 7.4x(Code H)            | 7.9x(Code J)            | 5.0x(Code E)            | 5.5x(Code F)            | 6.0x(Code G)            |
| No load current [A]      | 38.0                    | 37.0                    | 41.0                    | 43.0                    | 38.0                    | 41.0                    | 43.0                    |
| Rated speed [RPM]        | 1189                    | 991                     | 992                     | 993                     | 985                     | 987                     | 988                     |
| Slip [%]                 | 0.92                    | 0.90                    | 0.80                    | 0.70                    | 1.50                    | 1.30                    | 1.20                    |
| Rated torque [kgfm]      | 61.0                    | 54.9                    | 54.9                    | 54.8                    | 73.7                    | 73.5                    | 73.5                    |
| Locked rotor torque [%]  | 220                     | 229                     | 250                     | 270                     | 170                     | 190                     | 200                     |
| Breakdown torque [%]     | 229                     | 250                     | 280                     | 310                     | 180                     | 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        | 36s (cold)<br>20s (hot) | 27s (cold)<br>15s (hot) | 27s (cold)<br>15s (hot) | 27s (cold)<br>15s (hot) | 27s (cold)<br>15s (hot) | 27s (cold)<br>15s (hot) | 27s (cold)<br>15s (hot) |
| Noise level <sup>2</sup> | 69.0 dB(A)              | 65.0 dB(A)              | 65.0 dB(A)              | 65.0 dB(A)              | 65.0 dB(A)              | 65.0 dB(A)              | 65.0 dB(A)              |
| Efficiency (%)           | 25%                     |                         |                         |                         |                         |                         |                         |
|                          | 50%                     | 94.5                    | 93.8                    | 93.8                    | 93.7                    | 94.5                    | 94.5                    |
|                          | 75%                     | 95.0                    | 94.3                    | 94.6                    | 94.6                    | 94.0                    | 94.5                    |
|                          | 100%                    | 95.0                    | 94.2                    | 94.5                    | 94.6                    | 93.6                    | 94.0                    |
| Power Factor             | 25%                     |                         |                         |                         |                         |                         |                         |
|                          | 50%                     | 0.68                    | 0.64                    | 0.60                    | 0.57                    | 0.74                    | 0.68                    |
|                          | 75%                     | 0.78                    | 0.77                    | 0.74                    | 0.71                    | 0.82                    | 0.78                    |
|                          | 100%                    | 0.82                    | 0.83                    | 0.81                    | 0.79                    | 0.84                    | 0.82                    |

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

|            |                |     |     |     |     |     |     |     |
|------------|----------------|-----|-----|-----|-----|-----|-----|-----|
| Losses (%) | P1 (0,9;1,0)   | 5.0 | 5.8 | 5.5 | 5.4 | 6.5 | 6.1 | 6.1 |
|            | P2 (0,5;1,0)   | 3.8 | 4.4 | 4.1 | 4.1 | 4.9 | 4.6 | 4.6 |
|            | P3 (0,25;1,0)  | 3.3 | 3.9 | 3.7 | 3.6 | 4.3 | 4.0 | 4.0 |
|            | P4 (0,9;0,5)   | 2.5 | 2.9 | 2.7 | 2.7 | 3.2 | 3.0 | 3.0 |
|            | P5 (0,5;0,5)   | 1.5 | 1.8 | 1.7 | 1.6 | 2.0 | 1.8 | 1.8 |
|            | P6 (0,5;0,25)  | 1.0 | 1.2 | 1.1 | 1.1 | 1.3 | 1.2 | 1.2 |
|            | P7 (0,25;0,25) | 0.6 | 0.7 | 0.7 | 0.7 | 0.8 | 0.7 | 0.7 |

|                      |                    |                       |                             |
|----------------------|--------------------|-----------------------|-----------------------------|
| Bearing type         | : 6319 C3          | Non drive end 6316 C3 | Foundation loads            |
| Sealing              | : Taconite         | Taconite              | Max. traction : 1413 kgf    |
|                      | Labyrinth          | Labyrinth             | Max. compression : 1413 kgf |
| Lubrication interval | : 13000 h          | 16000 h               |                             |
| Lubricant amount     | : 45 g             | 34 g                  |                             |
| Lubricant type       | : Mobil Polyrex EM |                       |                             |

| Rev.         | Changes Summary | Performed | Checked | Date     |
|--------------|-----------------|-----------|---------|----------|
|              |                 |           |         |          |
| Performed by |                 |           |         |          |
| Checked by   |                 |           | Page    | Revision |
| Date         | 23/10/2024      |           | 1 / 9   |          |

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.

| Rev.         | Changes Summary |  | Performed     | Checked | Date     |
|--------------|-----------------|--|---------------|---------|----------|
|              |                 |  |               |         |          |
| Performed by |                 |  | Page<br>2 / 9 |         | Revision |
| Checked by   |                 |  |               |         |          |
| Date         | 23/10/2024      |  |               |         |          |

# LOAD PERFORMANCE CURVE

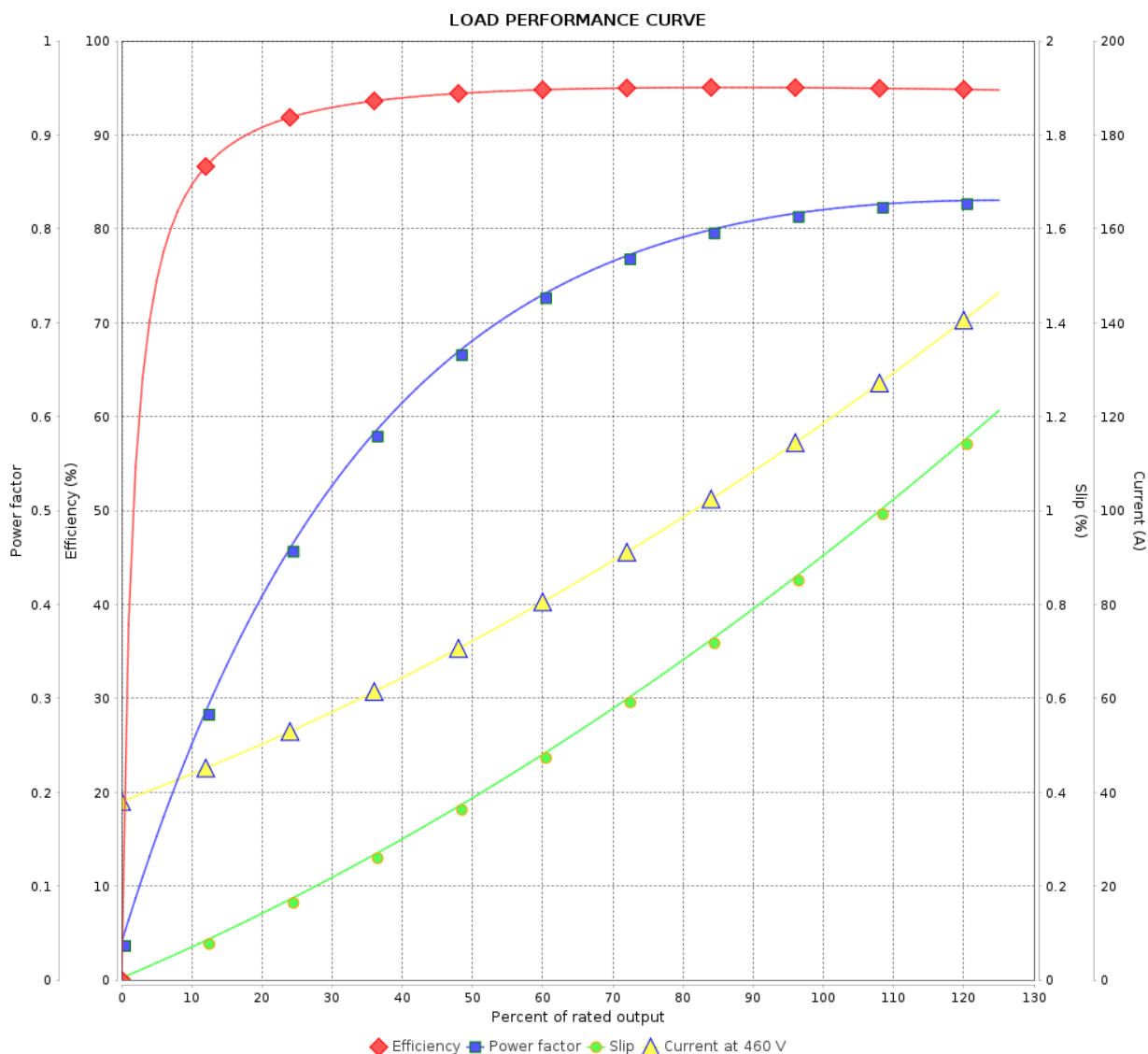
## Three Phase Induction Motor - Squirrel Cage



Customer :

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

Product code : 11943600



Performance : 460 V 60 Hz 6P

Rated current : 121 A  
LRC : 6.0  
Rated torque : 61.0 kgfm  
Locked rotor torque : 220 %  
Breakdown torque : 229 %  
Rated speed : 1189 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

| Rev.         | Changes Summary | Performed             | Checked | Date |
|--------------|-----------------|-----------------------|---------|------|
|              |                 |                       |         |      |
| Performed by |                 | Page<br>3 / 9Revision |         |      |
| Checked by   |                 |                       |         |      |
| Date         | 23/10/2024      |                       |         |      |

# LOAD PERFORMANCE CURVE

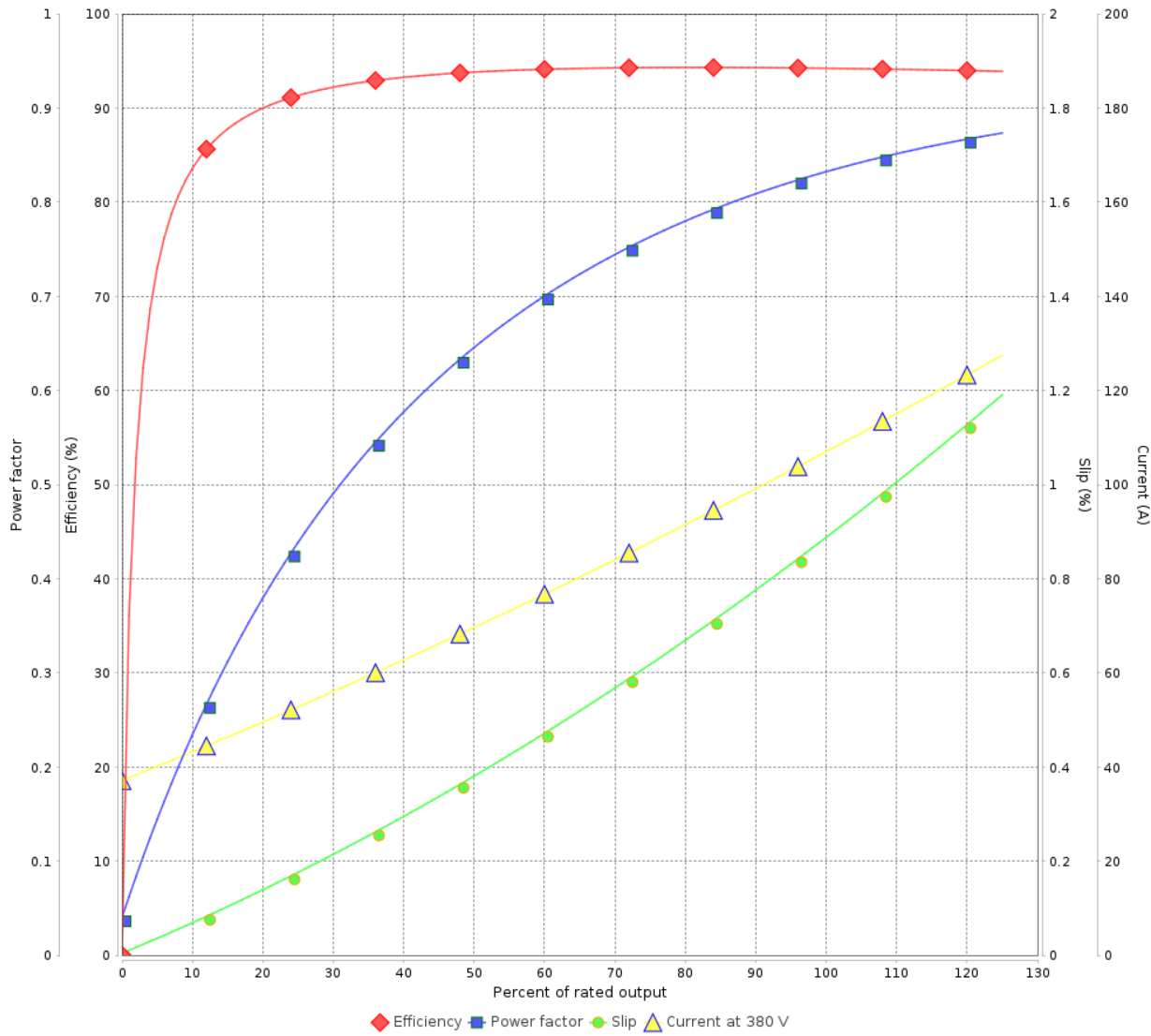
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 IEEE 841 NEMA Premium Efficiency Three-Phase      Product code : 11943600

LOAD PERFORMANCE CURVE



|                                  |             |                       |                         |
|----------------------------------|-------------|-----------------------|-------------------------|
| Performance : 380 V 50 Hz 6P IE3 |             |                       |                         |
| Rated current                    | : 107 A     | Moment of inertia (J) | : 3.68 kgm <sup>2</sup> |
| LRC                              | : 6.7       | Duty cycle            | : Cont.(S1)             |
| Rated torque                     | : 54.9 kgfm | Insulation class      | : F                     |
| Locked rotor torque              | : 229 %     | Service factor        | : 1.00                  |
| Breakdown torque                 | : 250 %     | Temperature rise      | : 80 K                  |
| Rated speed                      | : 991 rpm   | Design                | : B                     |

| Rev.         | Changes Summary |  | Performed | Checked       | Date     |
|--------------|-----------------|--|-----------|---------------|----------|
|              |                 |  |           |               |          |
| Performed by |                 |  |           | Page<br>4 / 9 | Revision |
| Checked by   |                 |  |           |               |          |
| Date         | 23/10/2024      |  |           |               |          |

# LOAD PERFORMANCE CURVE

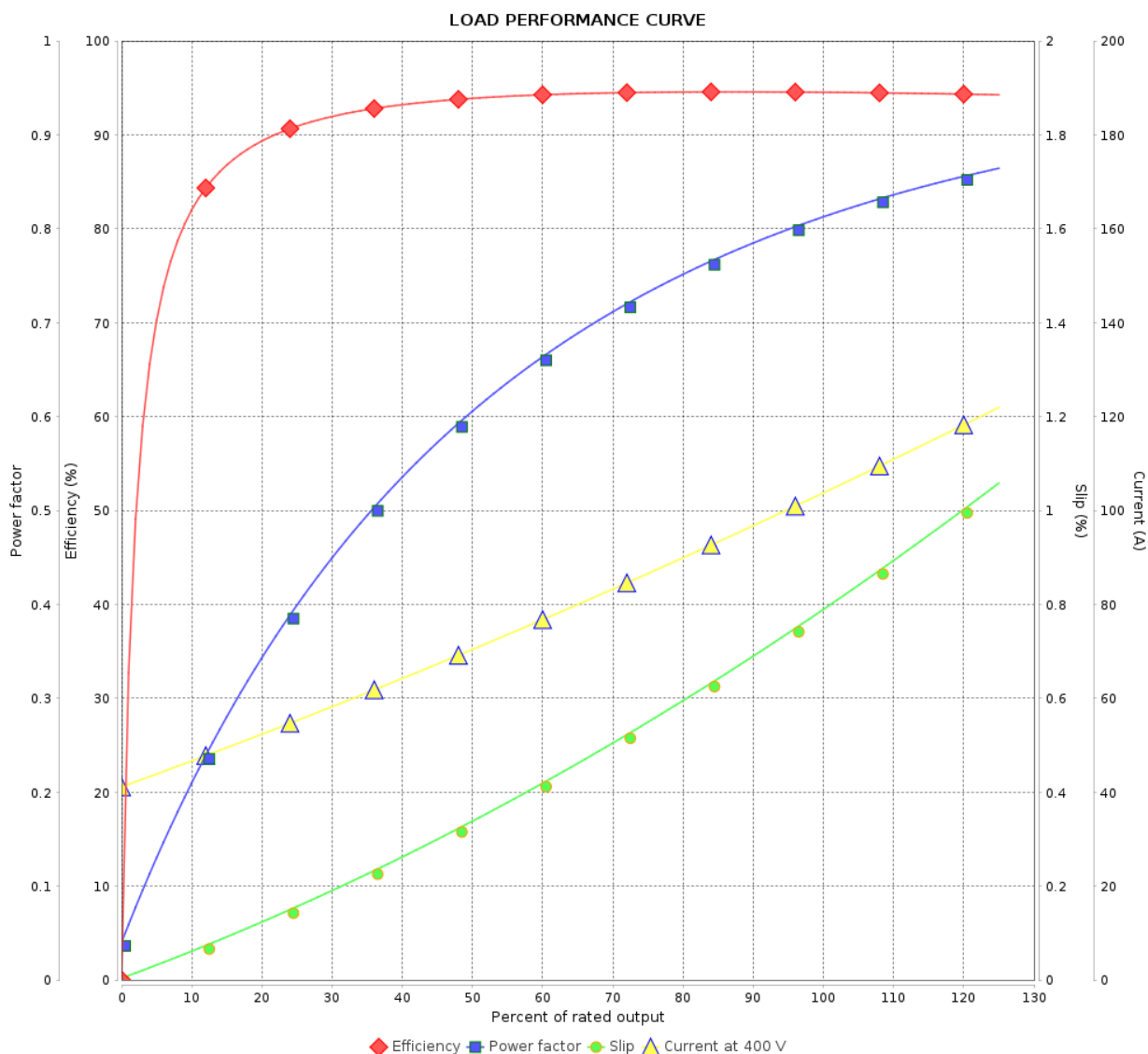
## Three Phase Induction Motor - Squirrel Cage



Customer :

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

Product code : 11943600



Performance : 400 V 50 Hz 6P IE3

Rated current : 104 A  
LRC : 7.4  
Rated torque : 54.9 kgfm  
Locked rotor torque : 250 %  
Breakdown torque : 280 %  
Rated speed : 992 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 |
|--------------|-----------------|------------------------|---------|------|
|              |                 |                        |         |      |
| Performed by |                 | Page 5 / 9<br>Revision |         |      |
| Checked by   |                 |                        |         |      |
| Date         | 23/10/2024      |                        |         |      |

# LOAD PERFORMANCE CURVE

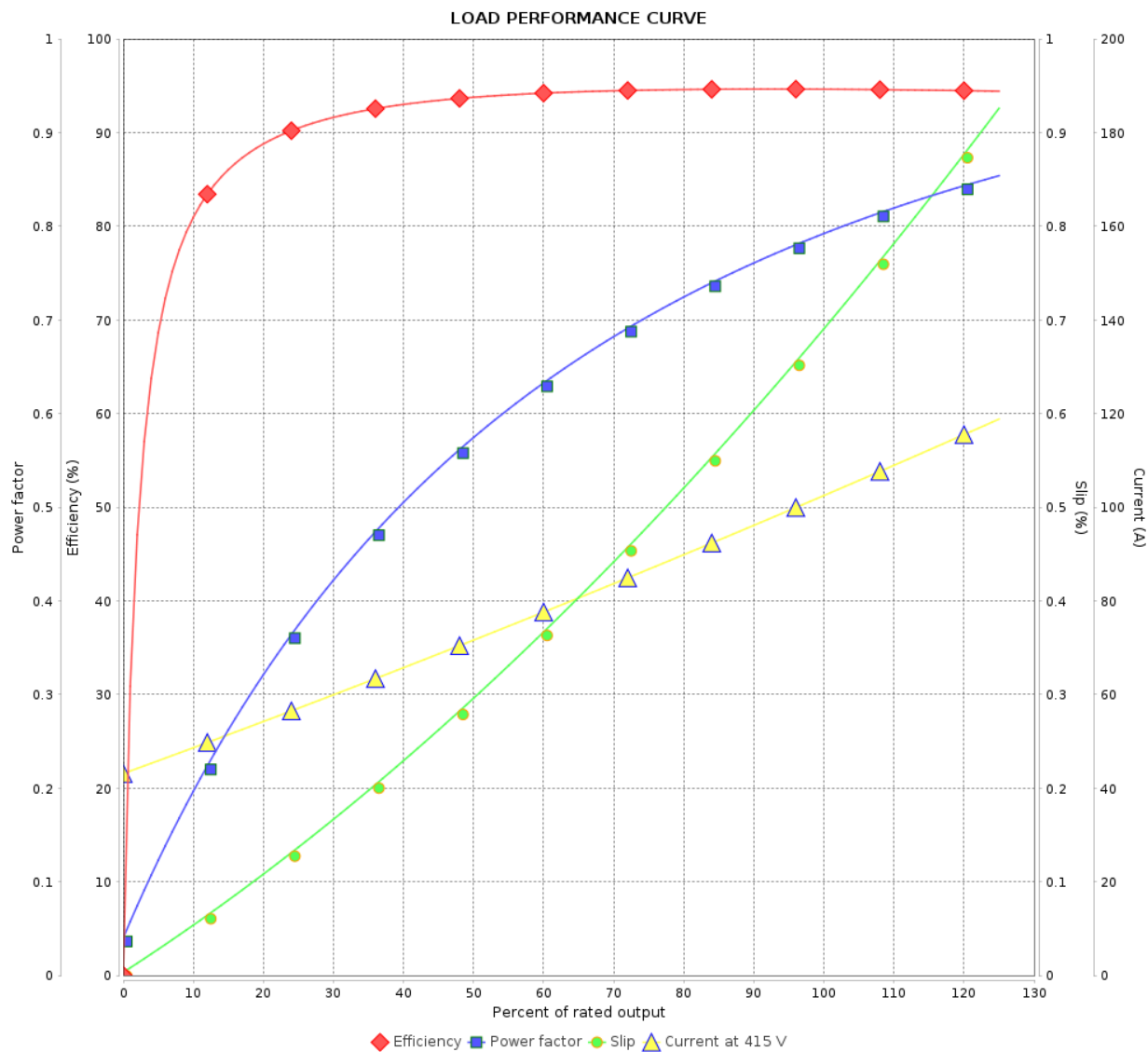
## Three Phase Induction Motor - Squirrel Cage



Customer :

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

Product code : 11943600



Performance : 415 V 50 Hz 6P IE3

Rated current : 102 A  
LRC : 7.9  
Rated torque : 54.8 kgfm  
Locked rotor torque : 270 %  
Breakdown torque : 310 %  
Rated speed : 993 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     |
|--------------|-----------------|--|-----------|---------|----------|
|              |                 |  |           |         |          |
| Performed by |                 |  |           | Page    | Revision |
| Checked by   |                 |  |           | 6 / 9   |          |
| Date         |                 |  |           |         |          |

# LOAD PERFORMANCE CURVE

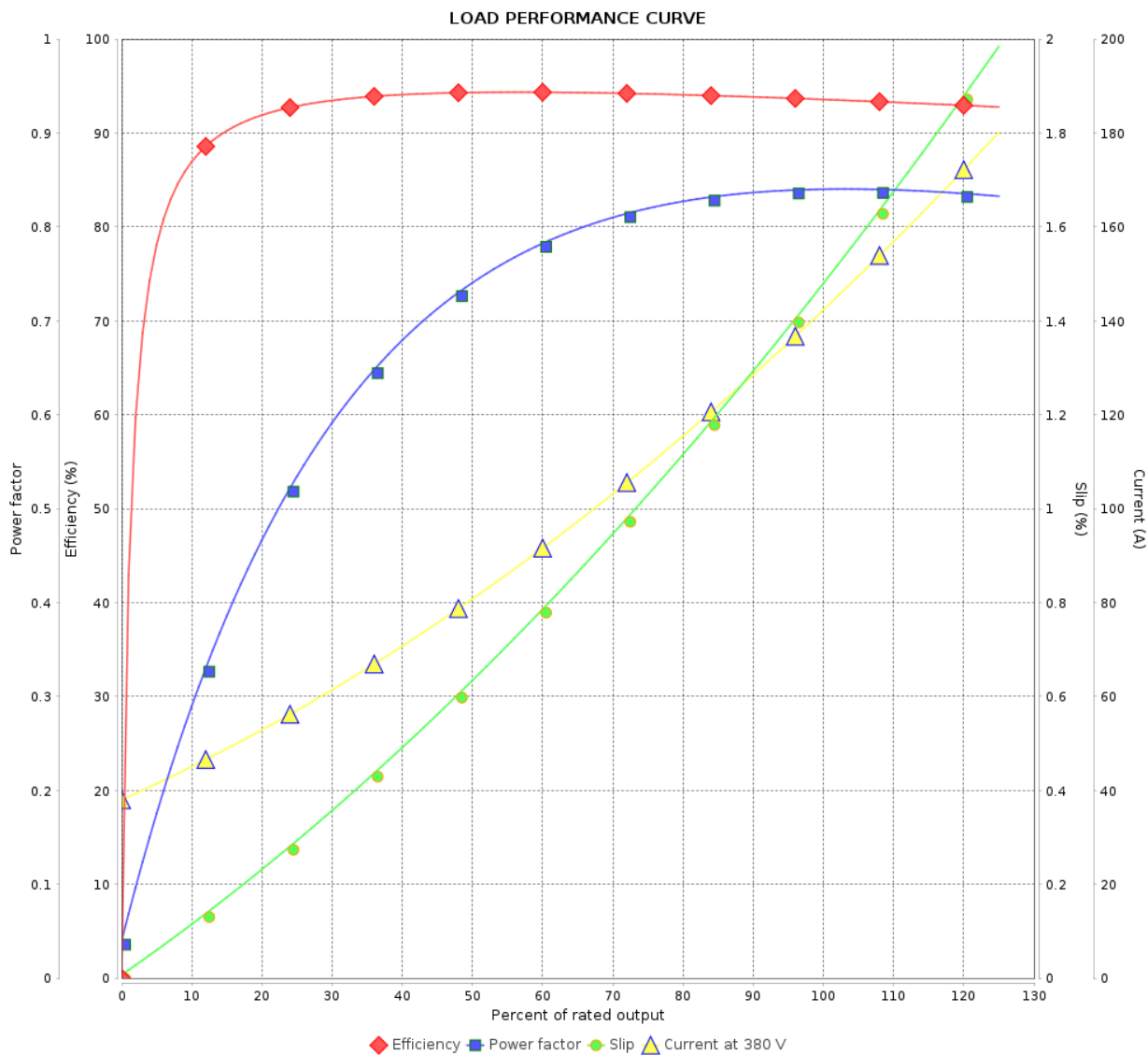
## Three Phase Induction Motor - Squirrel Cage



Customer :

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

Product code : 11943600



Performance : 380 V 50 Hz 6P IE1

Rated current : 145 A  
LRC : 5.0  
Rated torque : 73.7 kgfm  
Locked rotor torque : 170 %  
Breakdown torque : 180 %  
Rated speed : 985 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

| Rev.         | Changes Summary | Performed | Checked | Date |
|--------------|-----------------|-----------|---------|------|
|              |                 |           |         |      |
| Performed by |                 |           |         |      |
| Checked by   |                 |           |         |      |
| Date         | 23/10/2024      |           |         |      |

Page

7 / 9

Revision

# LOAD PERFORMANCE CURVE

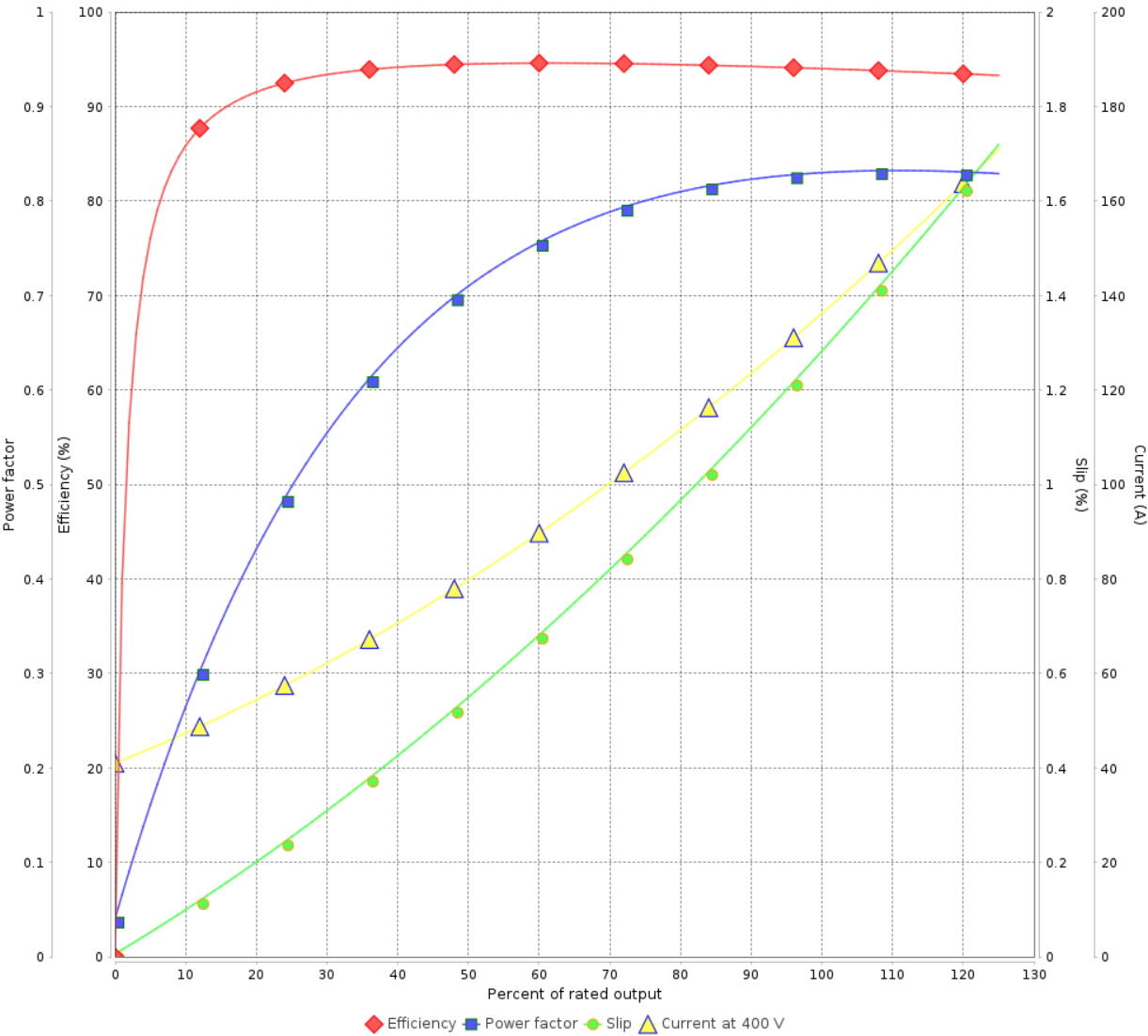
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 IEEE 841 NEMA Premium Efficiency Three-Phase      Product code : 11943600

LOAD PERFORMANCE CURVE



|                                  |             |                       |                         |
|----------------------------------|-------------|-----------------------|-------------------------|
| Performance : 400 V 50 Hz 6P IE2 |             |                       |                         |
| Rated current                    | : 139 A     | Moment of inertia (J) | : 3.68 kgm <sup>2</sup> |
| LRC                              | : 5.5       | Duty cycle            | : Cont.(S1)             |
| Rated torque                     | : 73.5 kgfm | Insulation class      | : F                     |
| Locked rotor torque              | : 190 %     | Service factor        | : 1.00                  |
| Breakdown torque                 | : 200 %     | Temperature rise      | : 105 K                 |
| Rated speed                      | : 987 rpm   | Design                | : B                     |

|              |                 |  |           |               |          |
|--------------|-----------------|--|-----------|---------------|----------|
| Rev.         | Changes Summary |  | Performed | Checked       | Date     |
|              |                 |  |           |               |          |
| Performed by |                 |  |           | Page<br>8 / 9 | Revision |
| Checked by   |                 |  |           |               |          |
| Date         | 23/10/2024      |  |           |               |          |



# LOAD PERFORMANCE CURVE

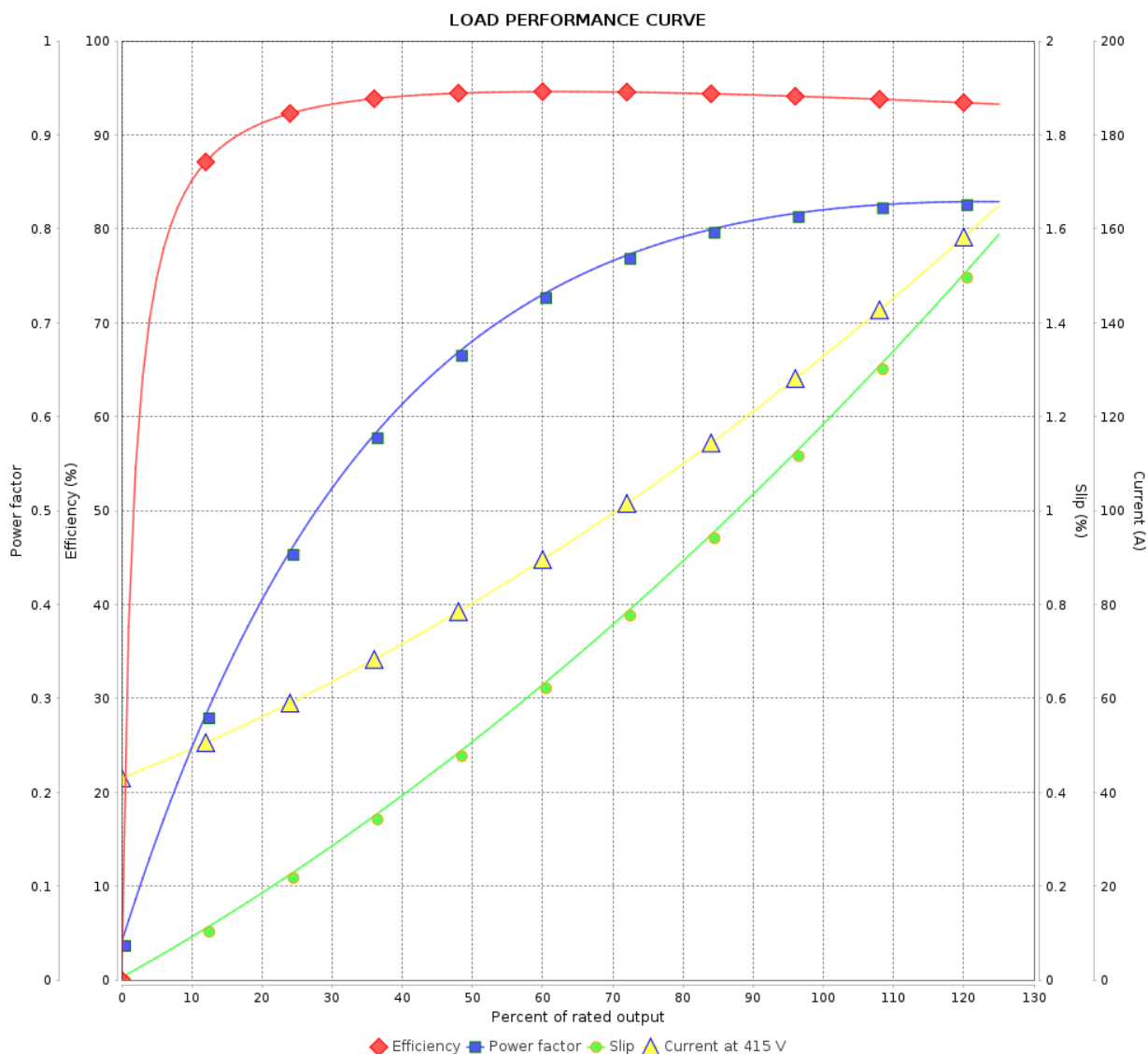
## Three Phase Induction Motor - Squirrel Cage



Customer :

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

Product code : 11943600

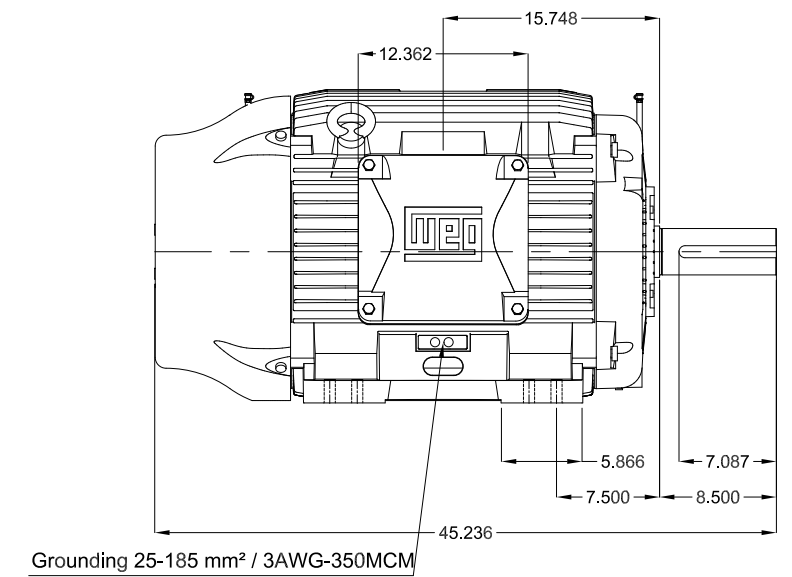
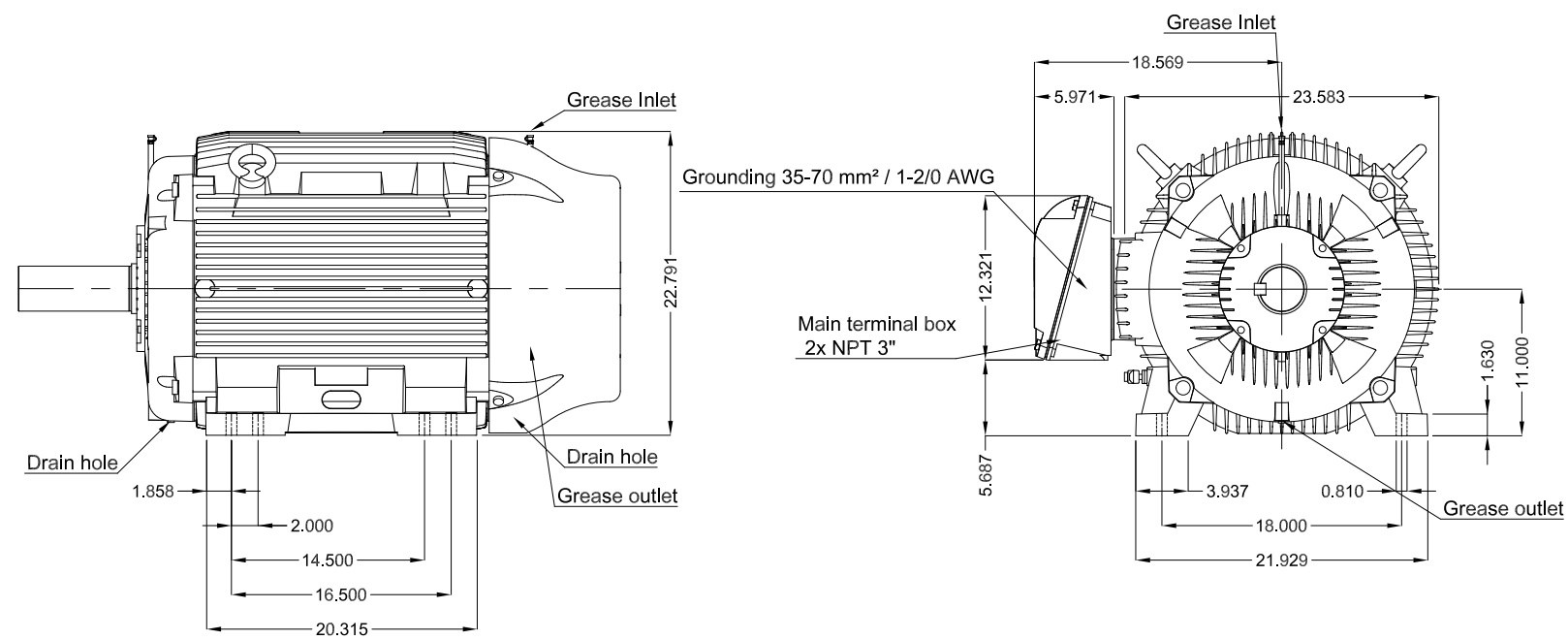


Performance : 415 V 50 Hz 6P IE2

Rated current : 135 A  
LRC : 6.0  
Rated torque : 73.5 kgfm  
Locked rotor torque : 200 %  
Breakdown torque : 220 %  
Rated speed : 988 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

| Rev.         | Changes Summary | Performed             | Checked | Date |
|--------------|-----------------|-----------------------|---------|------|
|              |                 |                       |         |      |
| Performed by |                 | Page<br>9 / 9Revision |         |      |
| Checked by   |                 |                       |         |      |
| Date         | 23/10/2024      |                       |         |      |



|                           |  |            |  |                                                                                                                                                                |            |  |                        |  |                                                                                       |   |
|---------------------------|--|------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--|------------------------|--|---------------------------------------------------------------------------------------|---|
| 100 HP   06 Poles   60 Hz |  |            |  |                                                                                                                                                                |            |  |                        |  |                                                                                       | A |
|                           |  |            |  |                                                                                                                                                                |            |  |                        |  |                                                                                       |   |
|                           |  |            |  |                                                                                                                                                                |            |  |                        |  |                                                                                       |   |
|                           |  |            |  |                                                                                                                                                                | HYBRISUSER |  |                        |  |                                                                                       |   |
| ECM                       |  | LOC        |  | SUMMARY OF MODIFICATIONS                                                                                                                                       |            |  | EXECUTED               |  | CHECKED                                                                               |   |
|                           |  |            |  |                                                                                                                                                                |            |  |                        |  | 00                                                                                    |   |
| EXECUTED                  |  | HYBRISUSER |  |  THREE PH. MOTOR IEEE 841 W22   NEMA PREM. EFF.<br>FRAME 444/5T IP55 TEFC |            |  | PREVIEW<br>WDD      00 |  |  |   |
| CHECKED                   |  |            |  |                                                                                                                                                                |            |  |                        |  |                                                                                       |   |
| RELEASED                  |  |            |  |                                                                                                                                                                |            |  |                        |  |                                                                                       |   |
| REL. DATE                 |  |            |  |                                                                                                                                                                |            |  |                        |  |                                                                                       |   |
|                           |  |            |  |                                                                                                                                                                |            |  | SHEET                  |  | /                                                                                     |   |