

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase Product code : 11165651

|                     |                  |                             |                         |
|---------------------|------------------|-----------------------------|-------------------------|
| 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> | : 823 kg                |
| Protection degree   | : IP55           | Moment of inertia (J)       | : 4.37 kgm <sup>2</sup> |
| Design              | : B              |                             |                         |

|                          |                         |                         |                         |                         |                         |                         |                         |
|--------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Output [HP]              | 125                     | 100                     | 100                     | 100                     | 125                     | 125                     | 125                     |
| Poles                    | 6                       | 6                       | 6                       | 6                       | 6                       | 6                       | 6                       |
| Frequency [Hz]           | 60                      | 50                      | 50                      | 50                      | 50                      | 50                      | 50                      |
| Rated voltage [V]        | 230/460                 | 380                     | 400                     | 415                     | 380                     | 400                     | 415                     |
| Rated current [A]        | 290/145                 | 147                     | 141                     | 138                     | 174                     | 169                     | 162                     |
| L. R. Amperes [A]        | 1856/928                | 940                     | 1003                    | 1004                    | 887                     | 965                     | 1006                    |
| LRC [A]                  | 6.4x(Code G)            | 6.4x(Code G)            | 7.1x(Code H)            | 7.3x(Code J)            | 5.1x(Code E)            | 5.7x(Code F)            | 6.2x(Code G)            |
| No load current [A]      | 116/58.0                | 57.0                    | 62.0                    | 65.0                    | 58.0                    | 62.0                    | 65.0                    |
| Rated speed [RPM]        | 1188                    | 988                     | 990                     | 990                     | 984                     | 986                     | 987                     |
| Slip [%]                 | 1.00                    | 1.20                    | 1.00                    | 1.00                    | 1.60                    | 1.40                    | 1.30                    |
| Rated torque [kgfm]      | 76.4                    | 73.5                    | 73.3                    | 73.3                    | 92.2                    | 92.0                    | 91.9                    |
| Locked rotor torque [%]  | 210                     | 200                     | 229                     | 250                     | 160                     | 180                     | 200                     |
| Breakdown torque [%]     | 240                     | 240                     | 260                     | 290                     | 190                     | 210                     | 229                     |
| Service factor           | 1.15                    | 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        | 34s (cold)<br>19s (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%                     | 95.0                    | 94.8                    | 94.7                    | 94.7                    | 95.0                    | 95.0                    |
|                          | 75%                     | 95.4                    | 94.9                    | 94.9                    | 95.1                    | 94.5                    | 95.0                    |
|                          | 100%                    | 95.0                    | 94.6                    | 94.6                    | 94.8                    | 93.6                    | 94.1                    |
| Power Factor             | 25%                     |                         |                         |                         |                         |                         |                         |
|                          | 50%                     | 0.70                    | 0.68                    | 0.65                    | 0.62                    | 0.73                    | 0.69                    |
|                          | 75%                     | 0.79                    | 0.78                    | 0.76                    | 0.74                    | 0.81                    | 0.78                    |
|                          | 100%                    | 0.82                    | 0.82                    | 0.81                    | 0.80                    | 0.84                    | 0.82                    |

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

|            |                |     |     |     |     |     |     |     |
|------------|----------------|-----|-----|-----|-----|-----|-----|-----|
| Losses (%) | P1 (0,9;1,0)   | 5.2 | 5.6 | 5.6 | 5.4 | 6.7 | 6.7 | 6.1 |
|            | P2 (0,5;1,0)   | 4.1 | 4.5 | 4.5 | 4.3 | 5.4 | 5.4 | 4.9 |
|            | P3 (0,25;1,0)  | 3.8 | 4.1 | 4.1 | 4.0 | 5.0 | 5.0 | 4.5 |
|            | P4 (0,9;0,5)   | 2.7 | 2.9 | 2.9 | 2.8 | 3.4 | 3.4 | 3.2 |
|            | P5 (0,5;0,5)   | 1.8 | 1.9 | 1.9 | 1.8 | 2.3 | 2.3 | 2.1 |
|            | P6 (0,5;0,25)  | 1.2 | 1.3 | 1.3 | 1.3 | 1.6 | 1.6 | 1.5 |
|            | P7 (0,25;0,25) | 0.8 | 0.9 | 0.9 | 0.9 | 1.1 | 1.1 | 1.0 |

|                      |                    |               |         |                  |            |
|----------------------|--------------------|---------------|---------|------------------|------------|
| Bearing type         | : NU-319 C3        | Non drive end | 6316 C3 | Foundation loads |            |
| Sealing              | : WSeal            | WSeal         |         | Max. traction    | : 1438 kgf |
| Lubrication interval | : 9000 h           | 16000 h       |         | Max. compression | : 2260 kgf |
| Lubricant amount     | : 45 g             | 34 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.

|              |                 |           |         |      |
|--------------|-----------------|-----------|---------|------|
| Rev.         | Changes Summary | Performed | Checked | Date |
|              |                 |           |         |      |
| Performed by |                 |           |         |      |
| Checked by   |                 |           |         |      |
| Date         | 21/10/2024      |           |         |      |

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



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

Notes  
USABLE @208V 316A SF 1.00 SFA 316A

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

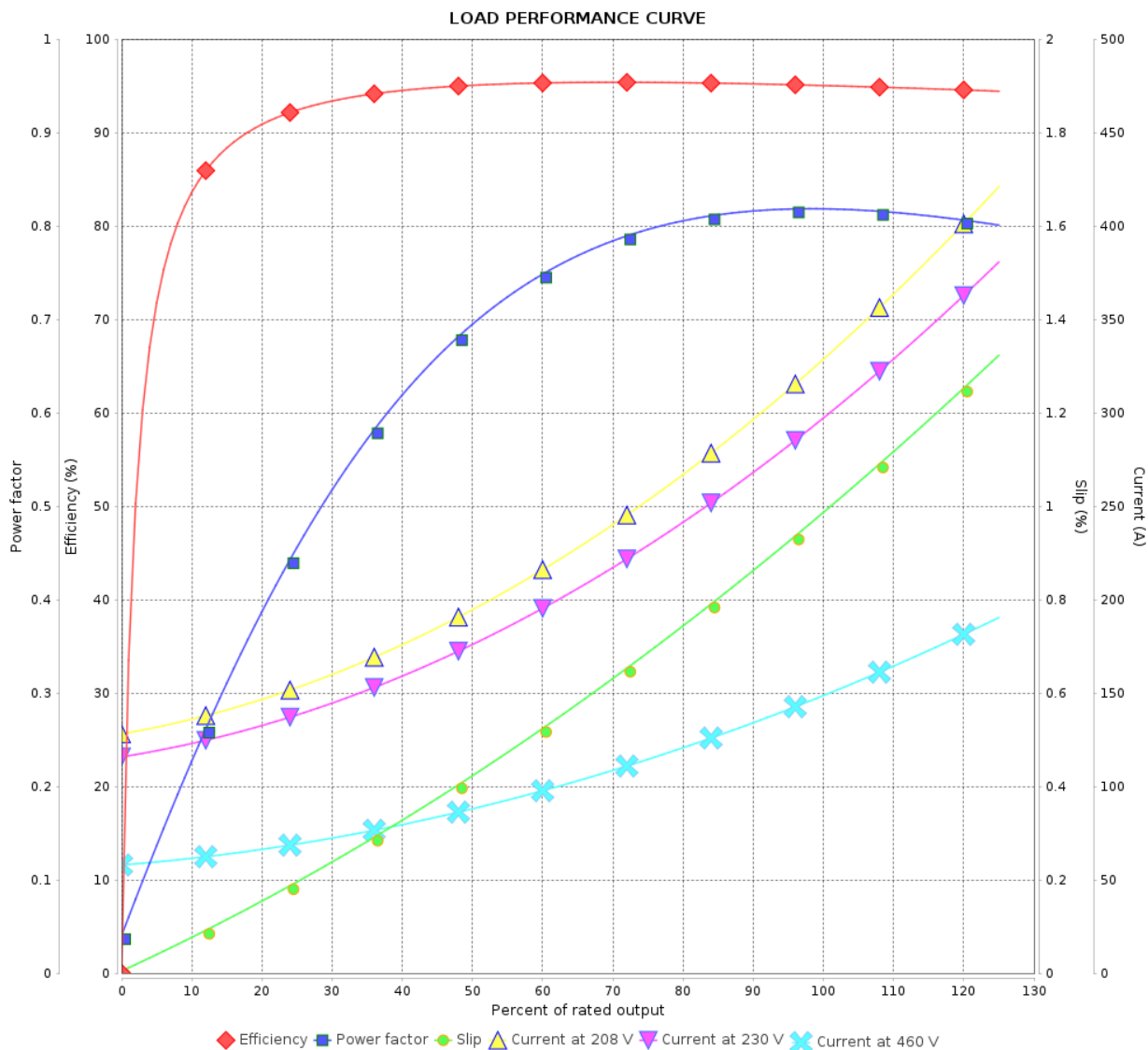
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency  
Three-Phase

Product code : 11165651



Performance : 230/460 V 60 Hz 6P

Rated current : 290/145 A  
LRC : 6.4  
Rated torque : 76.4 kgfm  
Locked rotor torque : 210 %  
Breakdown torque : 240 %  
Rated speed : 1188 rpm

Moment of inertia (J) : 4.37 kgm<sup>2</sup>  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.15  
Temperature rise : 80 K  
Design : B

| Rev.         | Changes Summary |  | Performed     | Checked | Date     |
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| Date         |                 |  |               |         |          |
|              | 21/10/2024      |  |               |         |          |

# LOAD PERFORMANCE CURVE

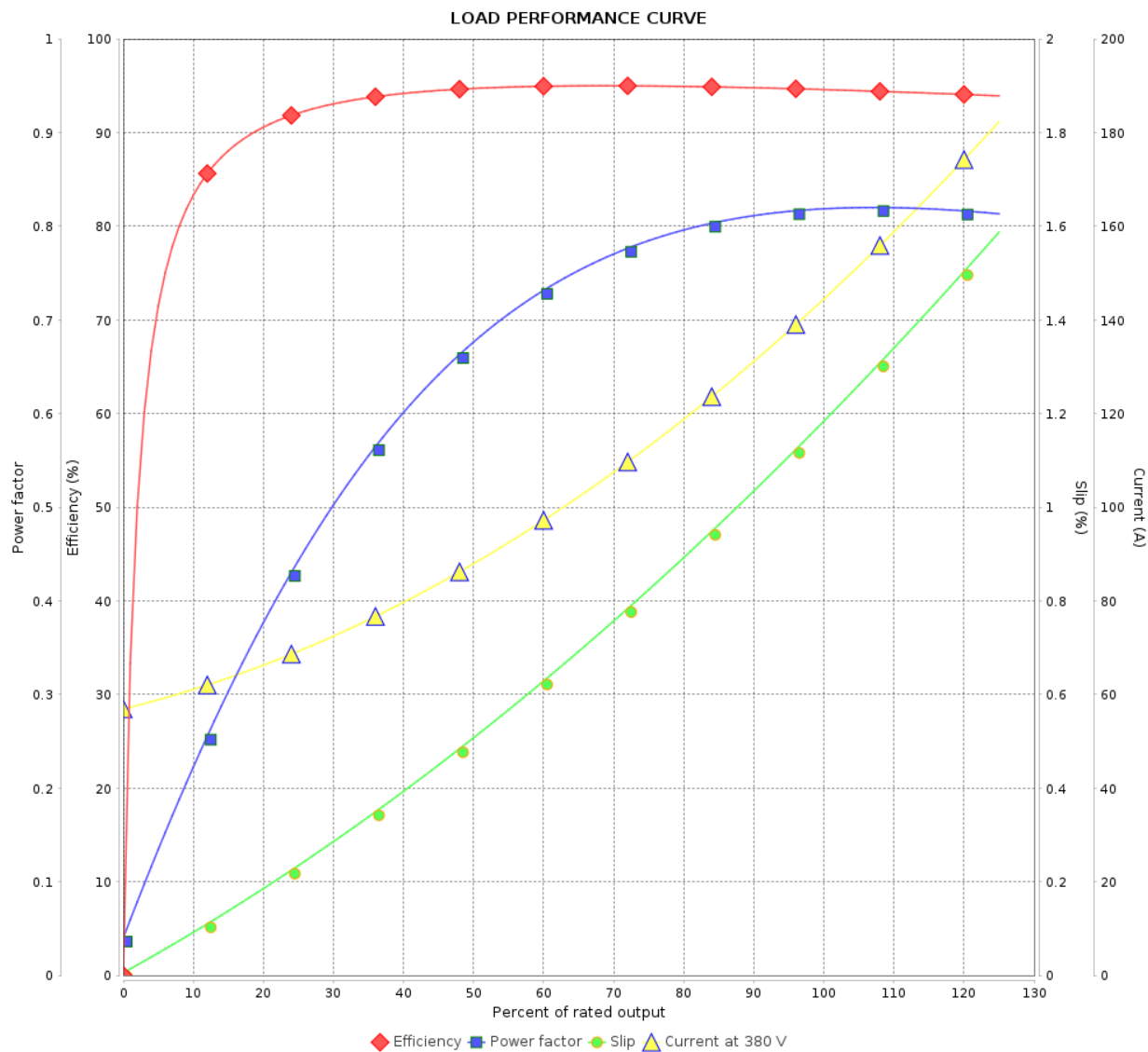
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency  
Three-Phase

Product code : 11165651



Performance : 380 V 50 Hz 6P IE3

Rated current : 147 A  
LRC : 6.4  
Rated torque : 73.5 kgfm  
Locked rotor torque : 200 %  
Breakdown torque : 240 %  
Rated speed : 988 rpm

Moment of inertia (J) : 4.37 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

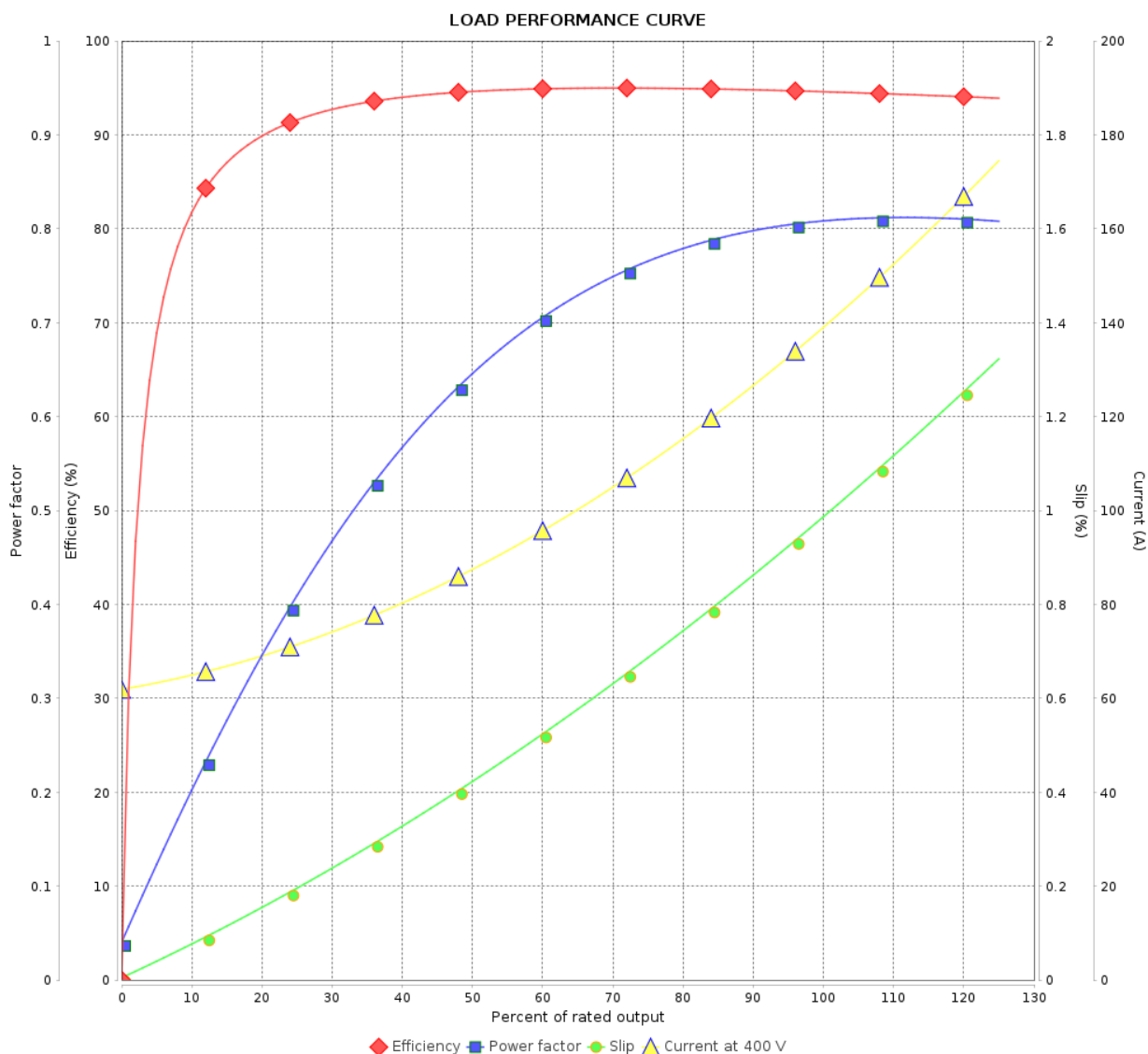
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency  
Three-Phase

Product code : 11165651



Performance : 400 V 50 Hz 6P IE3

Rated current : 141 A  
LRC : 7.1  
Rated torque : 73.3 kgfm  
Locked rotor torque : 229 %  
Breakdown torque : 260 %  
Rated speed : 990 rpm

Moment of inertia (J) : 4.37 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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| Checked by   |                 |                       |         |      |
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# LOAD PERFORMANCE CURVE

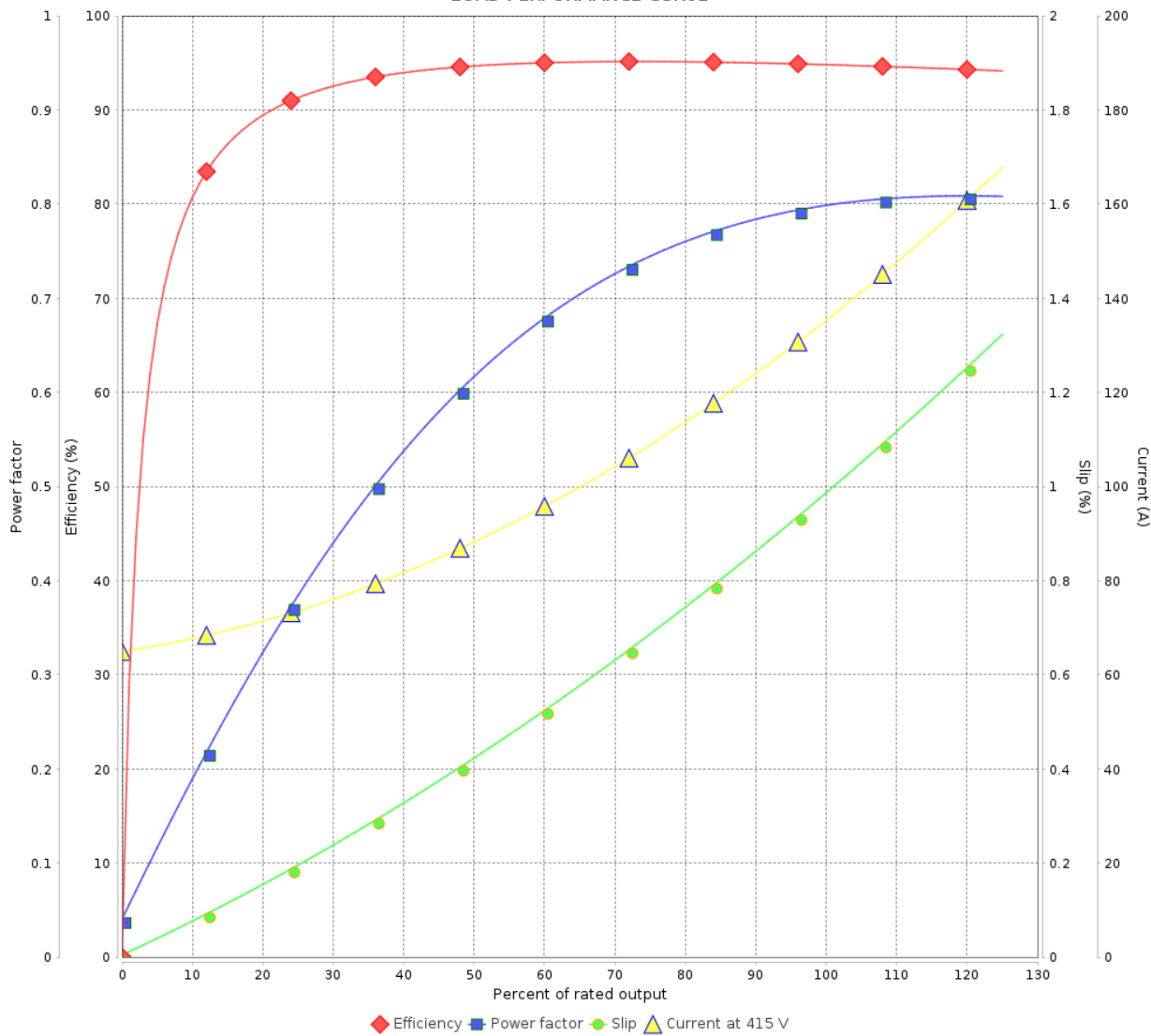
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase      Product code : 11165651

LOAD PERFORMANCE CURVE



Performance : 415 V 50 Hz 6P IE3

|                     |             |                       |                         |
|---------------------|-------------|-----------------------|-------------------------|
| Rated current       | : 138 A     | Moment of inertia (J) | : 4.37 kgm <sup>2</sup> |
| LRC                 | : 7.3       | Duty cycle            | : Cont.(S1)             |
| Rated torque        | : 73.3 kgfm | Insulation class      | : F                     |
| Locked rotor torque | : 250 %     | Service factor        | : 1.00                  |
| Breakdown torque    | : 290 %     | Temperature rise      | : 80 K                  |
| Rated speed         | : 990 rpm   | Design                | : B                     |

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

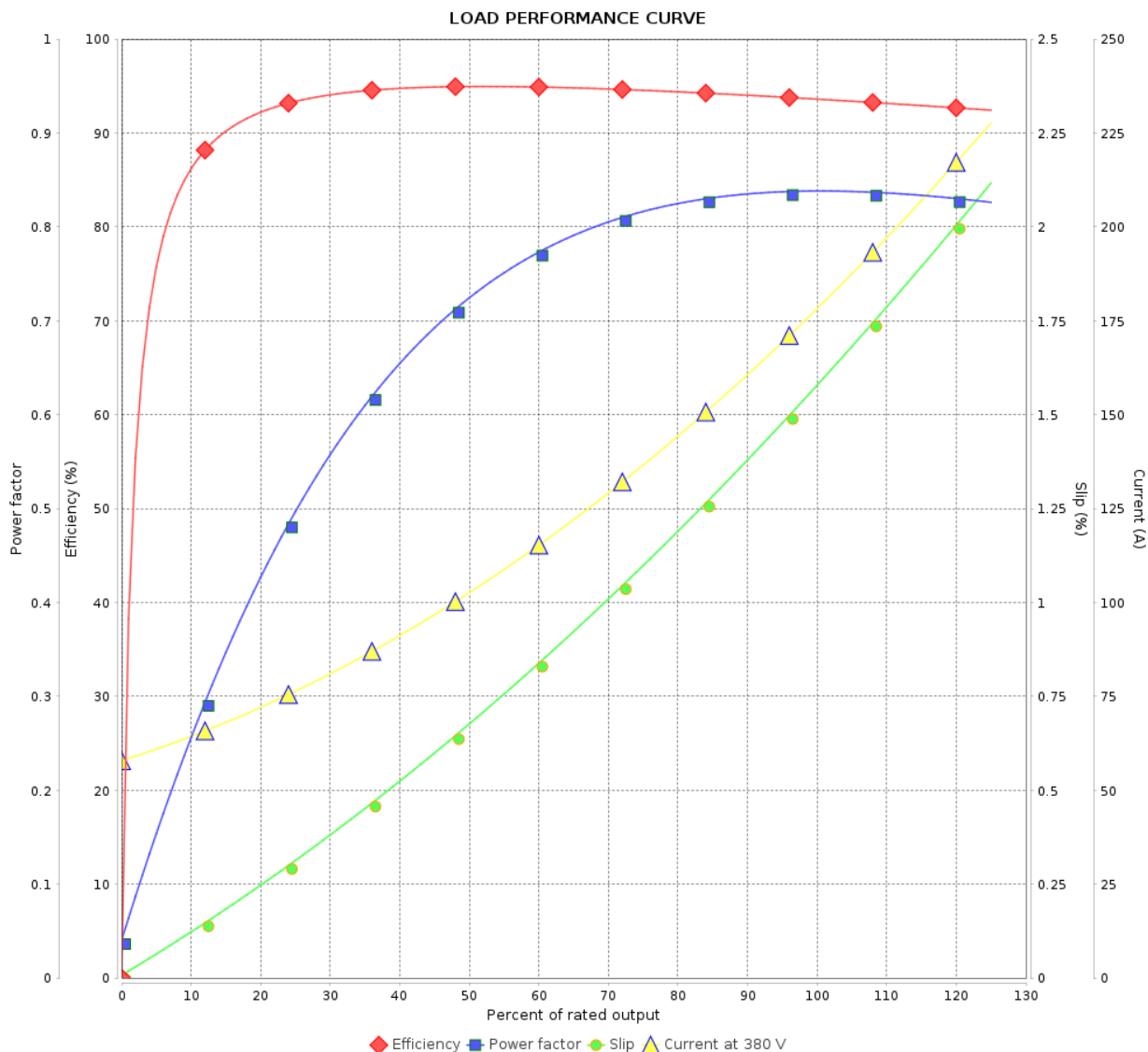
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency  
Three-Phase

Product code : 11165651



Performance : 380 V 50 Hz 6P IE1

Rated current : 174 A  
LRC : 5.1  
Rated torque : 92.2 kgfm  
Locked rotor torque : 160 %  
Breakdown torque : 190 %  
Rated speed : 984 rpm

Moment of inertia (J) : 4.37 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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|--------------|-----------------|-----------------------|---------|------|
|              |                 |                       |         |      |
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| Checked by   |                 |                       |         |      |
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# LOAD PERFORMANCE CURVE

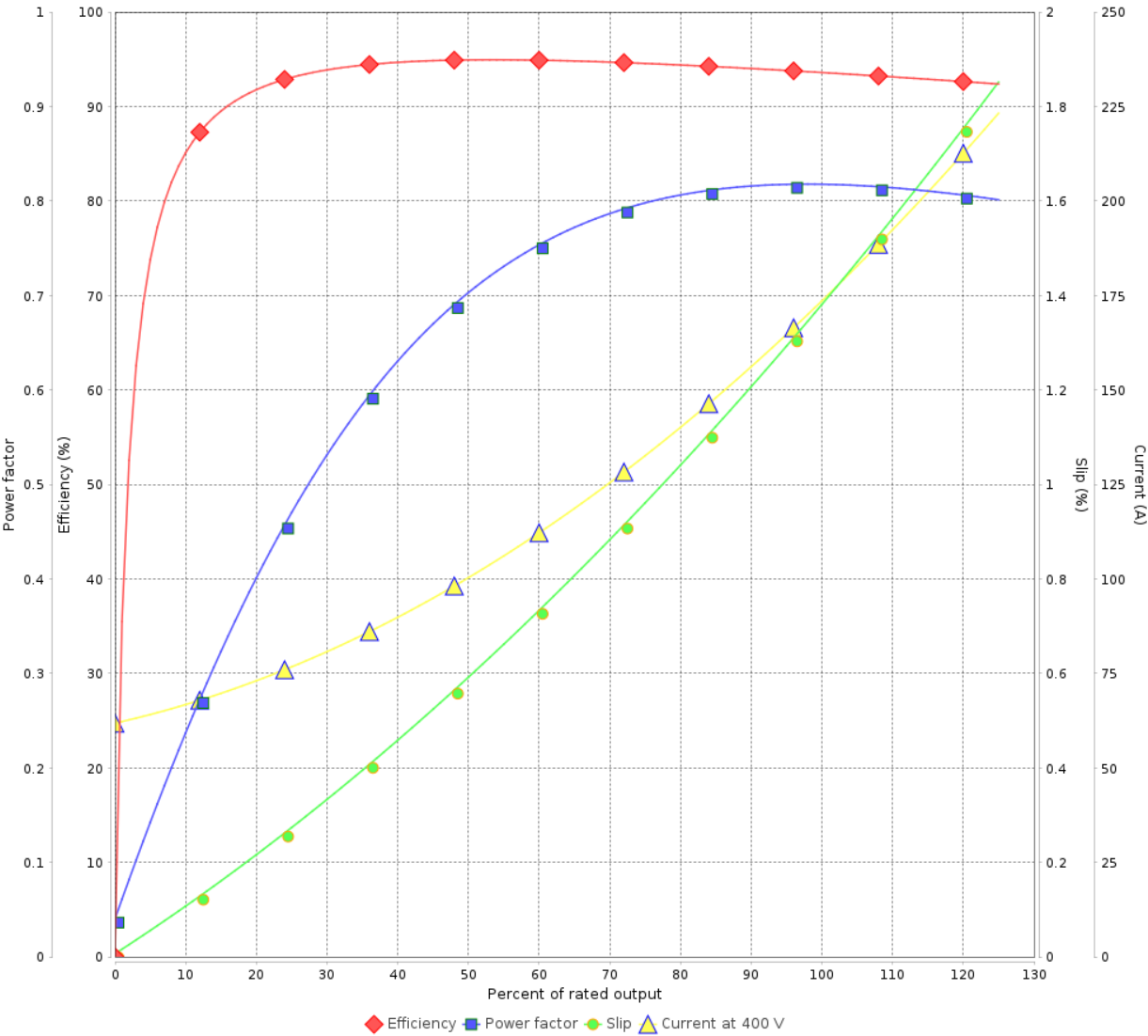
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase      Product code : 11165651

LOAD PERFORMANCE CURVE



|                                  |             |                       |                         |
|----------------------------------|-------------|-----------------------|-------------------------|
| Performance : 400 V 50 Hz 6P IE1 |             |                       |                         |
| Rated current                    | : 169 A     | Moment of inertia (J) | : 4.37 kgm <sup>2</sup> |
| LRC                              | : 5.7       | Duty cycle            | : Cont.(S1)             |
| Rated torque                     | : 92.0 kgfm | Insulation class      | : F                     |
| Locked rotor torque              | : 180 %     | Service factor        | : 1.00                  |
| Breakdown torque                 | : 210 %     | Temperature rise      | : 105 K                 |
| Rated speed                      | : 986 rpm   | Design                | : B                     |

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

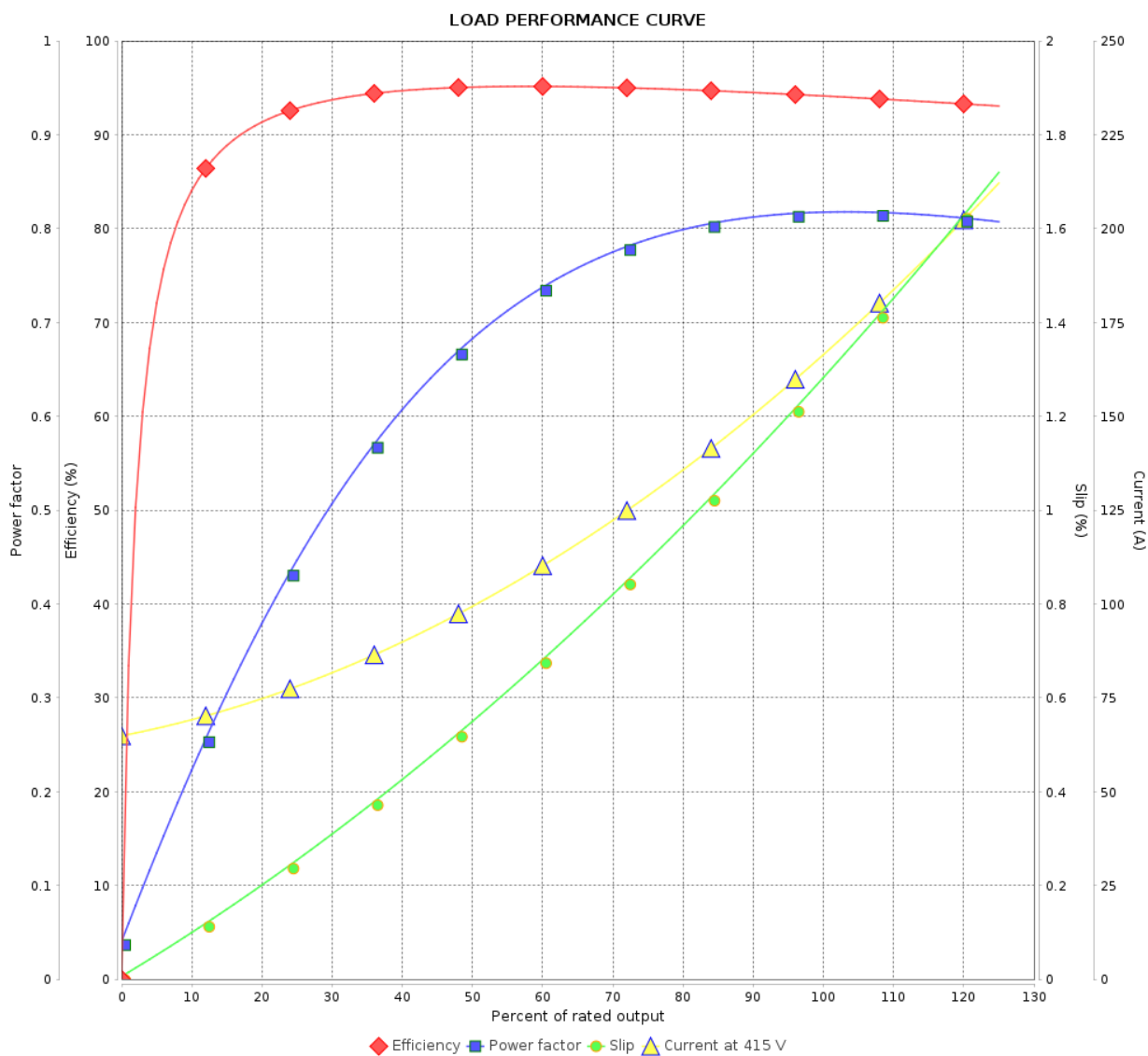
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency  
Three-Phase

Product code : 11165651

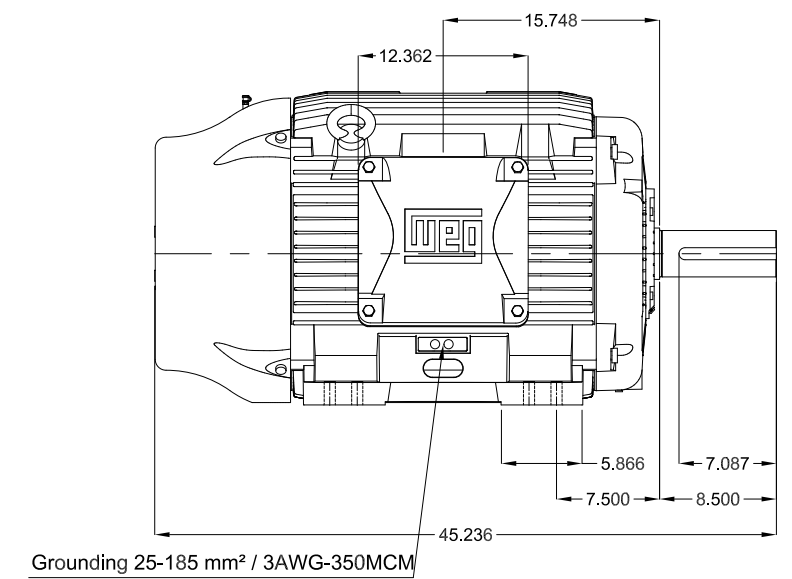
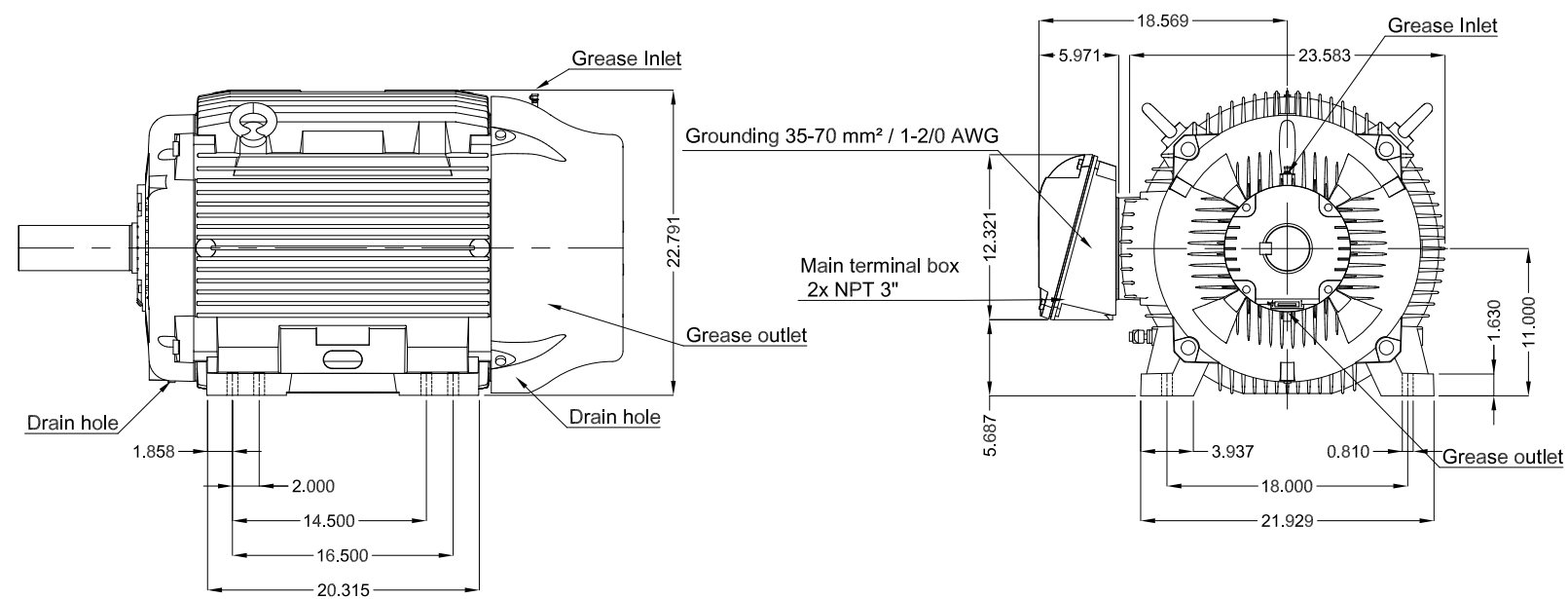


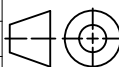
Performance : 415 V 50 Hz 6P IE2

Rated current : 162 A  
LRC : 6.2  
Rated torque : 91.9 kgfm  
Locked rotor torque : 200 %  
Breakdown torque : 229 %  
Rated speed : 987 rpm

Moment of inertia (J) : 4.37 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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|                           |  |            |  |                                                                                       |  |                                                               |            |   |                     |   |                                                                                       |  |
|---------------------------|--|------------|--|---------------------------------------------------------------------------------------|--|---------------------------------------------------------------|------------|---|---------------------|---|---------------------------------------------------------------------------------------|--|
| 125 HP   06 Poles   60 Hz |  |            |  |                                                                                       |  |                                                               |            |   |                     | A |                                                                                       |  |
|                           |  |            |  |                                                                                       |  |                                                               |            |   |                     |   |                                                                                       |  |
|                           |  |            |  |                                                                                       |  |                                                               |            |   |                     |   |                                                                                       |  |
|                           |  |            |  |                                                                                       |  |                                                               |            |   |                     |   |                                                                                       |  |
|                           |  |            |  |                                                                                       |  |                                                               | HYBRISUSER |   |                     |   |                                                                                       |  |
|                           |  |            |  |                                                                                       |  |                                                               |            |   | 00                  |   |                                                                                       |  |
| ECM                       |  | LOC        |  | SUMMARY OF MODIFICATIONS                                                              |  |                                                               | EXECUTED   |   | CHECKED             |   |                                                                                       |  |
|                           |  |            |  |                                                                                       |  |                                                               | RELEASED   |   | DATE                |   |                                                                                       |  |
|                           |  |            |  |                                                                                       |  |                                                               |            |   | VER                 |   |                                                                                       |  |
| EXECUTED                  |  | HYBRISUSER |  |  |  | THREE PH. MOTOR W22 NEMA PREM. EFF.<br>FRAME 444/5T IP55 TEFC |            |   | PREVIEW<br>WDD   00 |   |  |  |
| CHECKED                   |  |            |  |                                                                                       |  |                                                               |            |   |                     |   |                                                                                       |  |
| RELEASED                  |  |            |  |                                                                                       |  |                                                               |            |   |                     |   |                                                                                       |  |
| REL. DATE                 |  |            |  |                                                                                       |  |                                                               |            |   |                     |   |                                                                                       |  |
|                           |  |            |  |                                                                                       |  | SHEET                                                         |            | / |                     |   |                                                                                       |  |