

# DATA SHEET



## Three Phase Induction Motor - Squirrel Cage

|  |   |  |                         |                         |
|--|---|--|-------------------------|-------------------------|
| Customer :   |   |  |                         |                         |
| Product line   |   | : W21 Explosion Proof NEMA Premium Efficiency Three-Phase  |                         | Product code : 11439868 |
| Frame  | : 404/5T  | 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>  | : 561 kg                |                         |
| Protection degree  | : IP55  | Moment of inertia (J)  | : 1.11 kgm <sup>2</sup> |                         |
| Design   | : B   |  |                         |                         |
| Output [HP]  | 100   | 75   | 75                      | 75                      |
| Poles  | 4   | 4  | 4                       | 4                       |
| Frequency [Hz]   | 60  | 50   | 50                      | 50                      |
| Rated voltage [V]  | 230/460   | 380  | 400                     | 415                     |
| Rated current [A]  | 226/113   | 103  | 100                     | 98.7                    |
| L. R. Amperes [A]  | 1627/814  | 773  | 840                     | 898                     |
| LRC [A]  | 7.2x(Code H)  | 7.5x(Code H)   | 8.4x(Code J)            | 9.1x(Code K)            |
| No load current [A]  | 78.0/39.0   | 39.0   | 42.0                    | 45.0                    |
| Rated speed [RPM]  | 1780  | 1480   | 1485                    | 1485                    |
| Slip [%]   | 1.11  | 1.33   | 1.00                    | 1.00                    |
| Rated torque [kgfm]  | 40.8  | 36.8   | 36.7                    | 36.7                    |
| Locked rotor torque [%]  | 270   | 270  | 300                     | 320                     |
| Breakdown torque [%]   | 280   | 310  | 360                     | 370                     |
| Service factor   | 1.15  | 1.00   | 1.00                    | 1.00                    |
| Temperature rise   | 80 K  | 80 K   | 80 K                    | 80 K                    |
| Locked rotor time  | 23s (cold) 13s (hot)                                    | 21s (cold) 12s (hot)   | 21s (cold) 12s (hot)    | 21s (cold) 12s (hot)    |
| Noise level <sup>2</sup>   | 75.0 dB(A)  | 70.0 dB(A)   | 70.0 dB(A)              | 70.0 dB(A)              |
| Efficiency (%)   | 25%   | 94.0   | 93.9                    | 93.4                    |
|  | 50%   | 94.5   | 94.0                    | 93.6                    |
|  | 75%   | 95.0   | 94.5                    | 94.5                    |
|  | 100%  | 95.4   | 94.5                    | 94.5                    |
| Power Factor   | 25%   | 0.47   | 0.44                    | 0.41                    |
|  | 50%   | 0.72   | 0.69                    | 0.65                    |
|  | 75%   | 0.82   | 0.80                    | 0.77                    |
|  | 100%  | 0.87   | 0.86                    | 0.84                    |
| Bearing type   | : <u>Drive end</u> 6217 C3 <u>Non drive end</u> 6314 C3 | Foundation loads   |                         |                         |
| Sealing  | : Oil Seal Lip Seal                                     | Max. traction  | : 1057 kgf              |                         |
| Lubrication interval   | : 9149 h 9789 h   | Max. compression   | : 1611 kgf              |                         |
| Lubricant amount   | : 21 g 27 g   |  |                         |                         |
| Lubricant type   | : Mobil Polyrex EM                                      |  |                         |                         |
| Notes<br>USABLE @208V 250A SF 1.00 SFA 250A  |   |  |                         |                         |
| This revision replaces and cancel the previous one, which must be eliminated.<br>(1) Looking the motor from the shaft end.<br>(2) Measured at 1m and with tolerance of +3dB(A).<br>(3) Approximate weight subject to changes after manufacturing process.<br>(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                 |
|  |   |  |                         |                         |
| Performed by   |   |  | Page                    | Revision                |
| Checked by   |   |  |                         |                         |
| Date   | 29/10/2024  |  |                         |                         |
|  |   |  | 1 / 6                   |                         |

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## Three Phase Induction Motor - Squirrel Cage



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

### Thermal protection

| ID | Application | Type                 | Quantity  | Sensing Temperature |
|----|-------------|----------------------|-----------|---------------------|
| 1  | Winding     | Thermostat - 2 wires | 1 x Phase | 155 °C              |

| Rev.         | Changes Summary | Performed | Checked | Date     |
|--------------|-----------------|-----------|---------|----------|
| Performed by |                 |           |         |          |
| Checked by   |                 |           | Page    | Revision |
| Date         | 29/10/2024      |           | 2 / 6   |          |

# LOAD PERFORMANCE CURVE

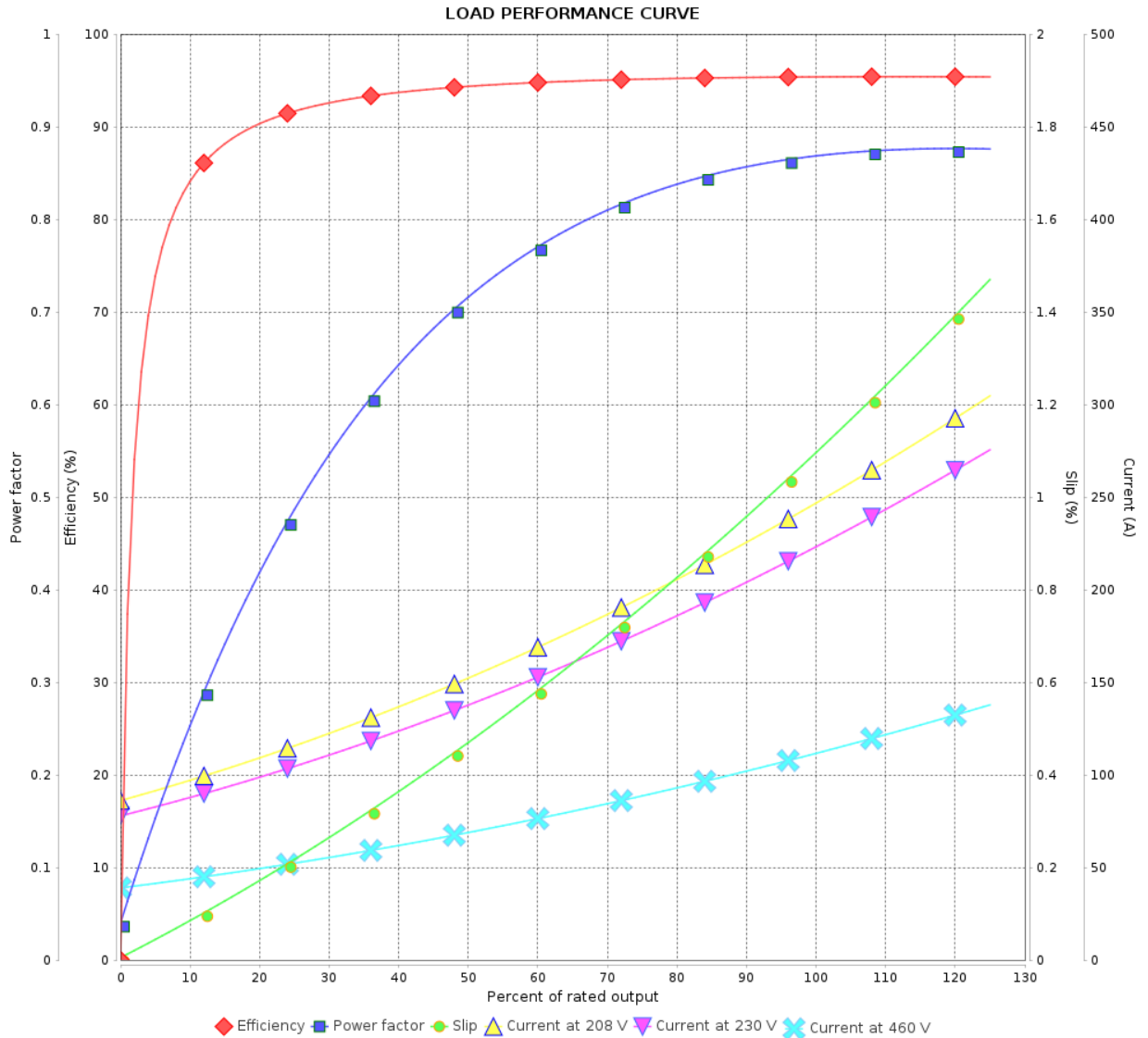
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W21 Explosion Proof NEMA  
Premium Efficiency Three-Phase

Product code : 11439868



Performance : 230/460 V 60 Hz 4P

Rated current : 226/113 A  
 LRC : 7.2  
 Rated torque : 40.8 kgfm  
 Locked rotor torque : 270 %  
 Breakdown torque : 280 %  
 Rated speed : 1780 rpm

Moment of inertia (J) : 1.11 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     |
|--------------|-----------------|-----------|---------|----------|
|              |                 |           |         |          |
| Performed by |                 |           | Page    | Revision |
| Checked by   |                 |           |         |          |
| Date         |                 |           |         |          |

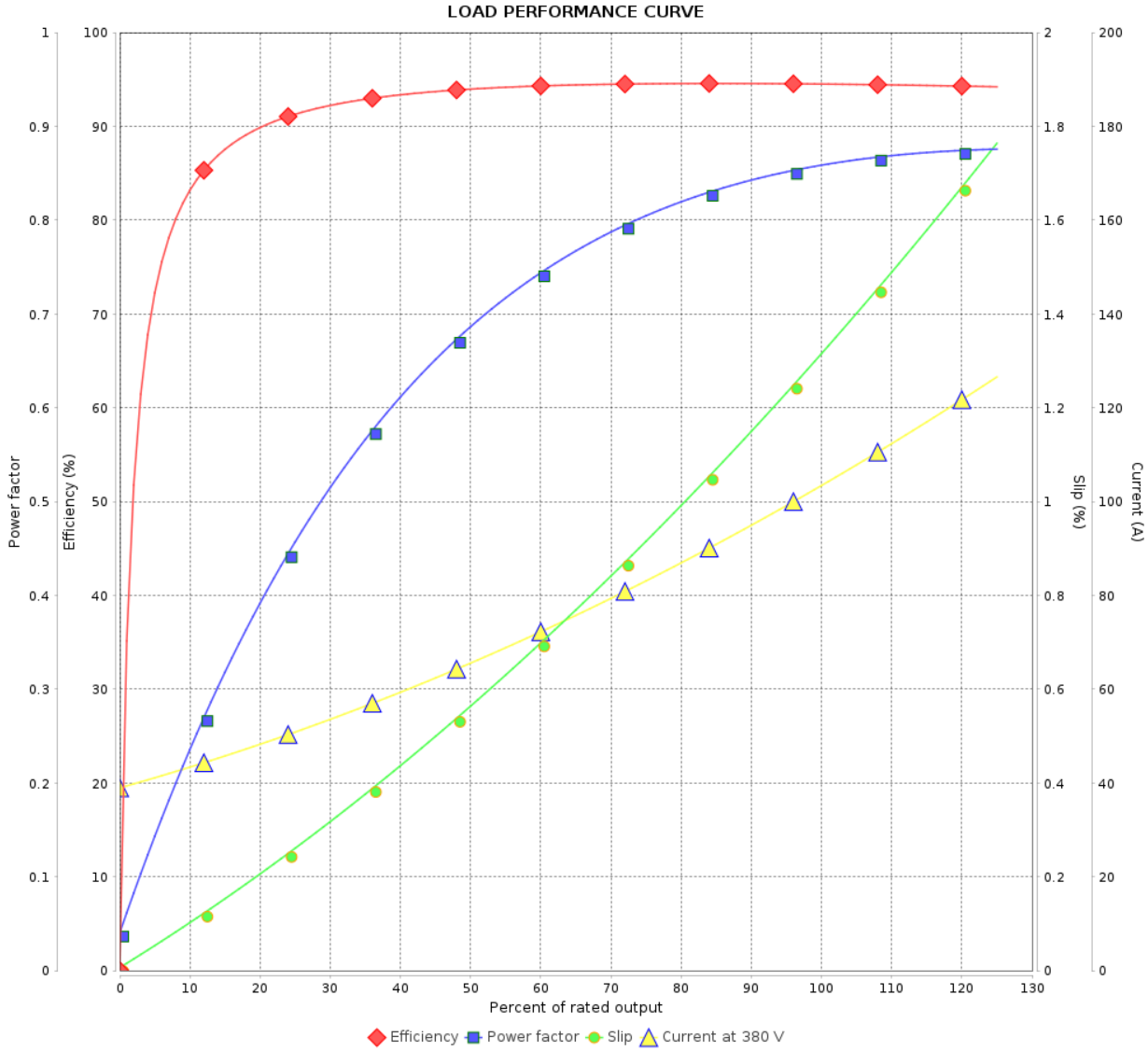
# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W21 Explosion Proof NEMA Premium Efficiency Three-Phase      Product code : 11439868



Performance : 380 V 50 Hz 4P IE2

|                     |             |                       |                         |
|---------------------|-------------|-----------------------|-------------------------|
| Rated current       | : 103 A     | Moment of inertia (J) | : 1.11 kgm <sup>2</sup> |
| LRC                 | : 7.5       | Duty cycle            | : Cont.(S1)             |
| Rated torque        | : 36.8 kgfm | Insulation class      | : F                     |
| Locked rotor torque | : 270 %     | Service factor        | : 1.00                  |
| Breakdown torque    | : 310 %     | Temperature rise      | : 80 K                  |
| Rated speed         | : 1480 rpm  | Design                | : B                     |

| Rev.         | Changes Summary | Performed | Checked       | Date     |
|--------------|-----------------|-----------|---------------|----------|
|              |                 |           |               |          |
| Performed by |                 |           | Page<br>4 / 6 | Revision |
| Checked by   |                 |           |               |          |
| Date         | 29/10/2024      |           |               |          |

# LOAD PERFORMANCE CURVE

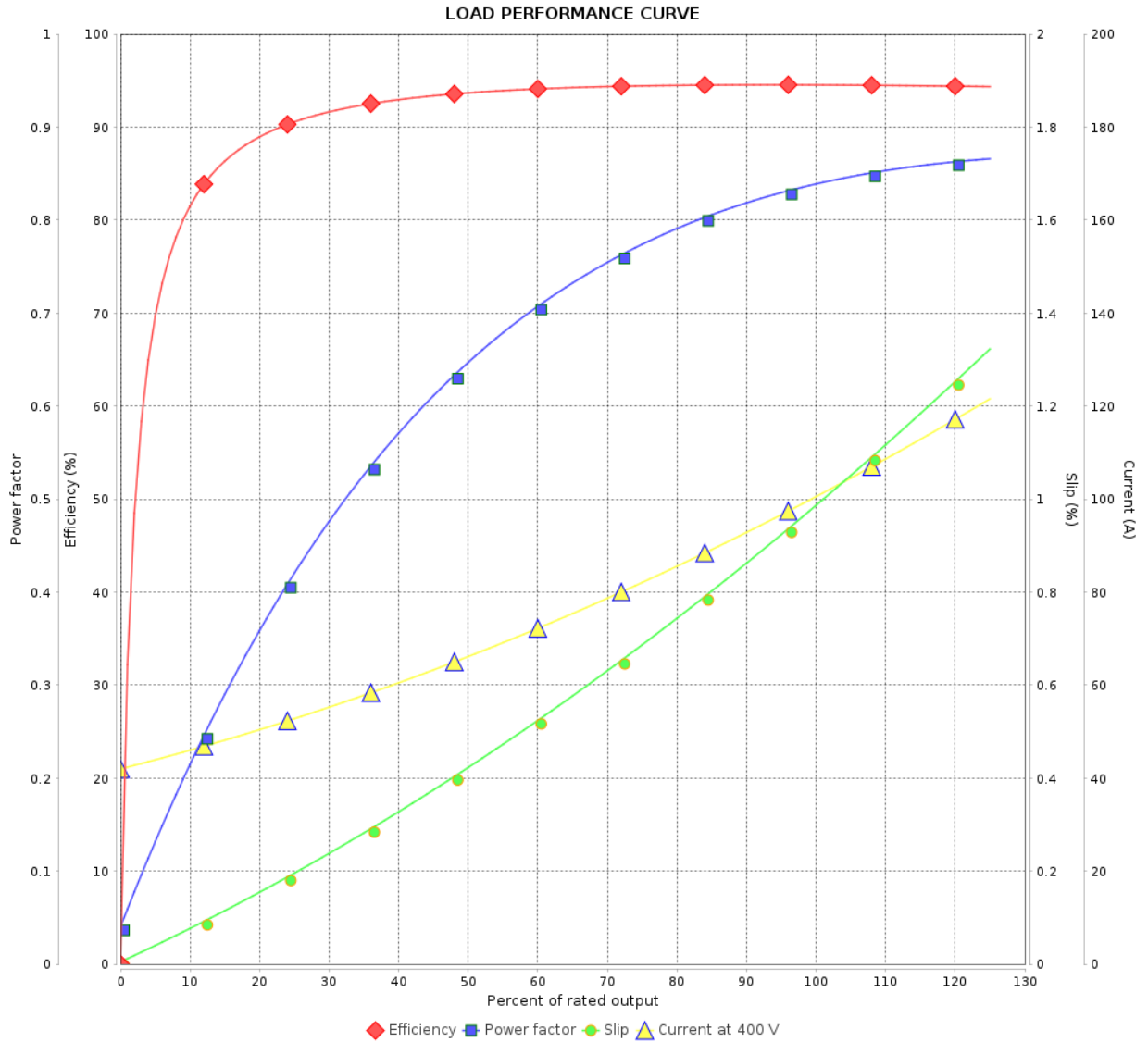
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W21 Explosion Proof NEMA  
Premium Efficiency Three-Phase

Product code : 11439868



Performance : 400 V 50 Hz 4P IE2

Rated current : 100 A  
LRC : 8.4  
Rated torque : 36.7 kgfm  
Locked rotor torque : 300 %  
Breakdown torque : 360 %  
Rated speed : 1485 rpm

Moment of inertia (J) : 1.11 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   |                 |           |         |          |
| Date         |                 |           |         |          |

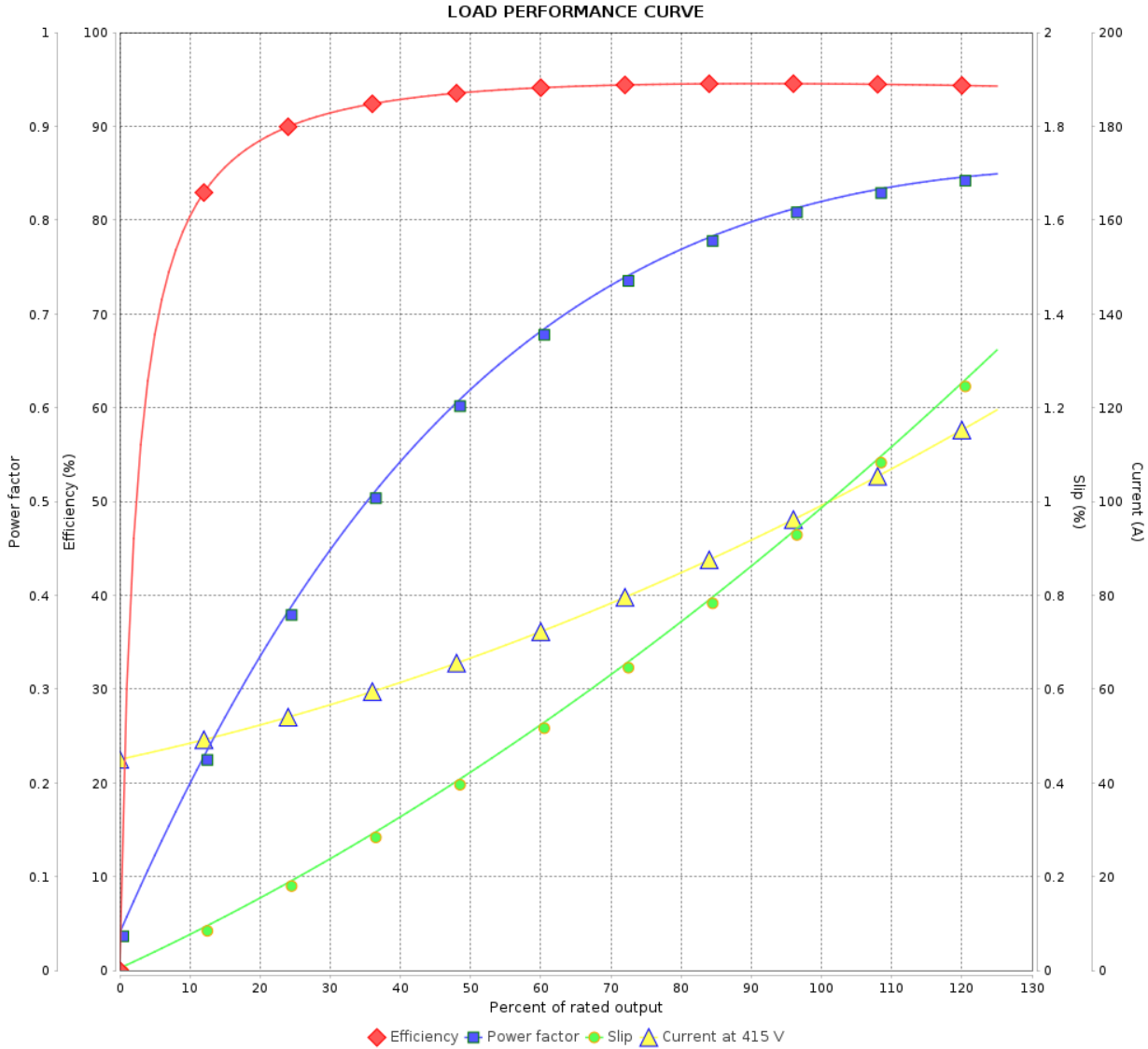
# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



Customer :

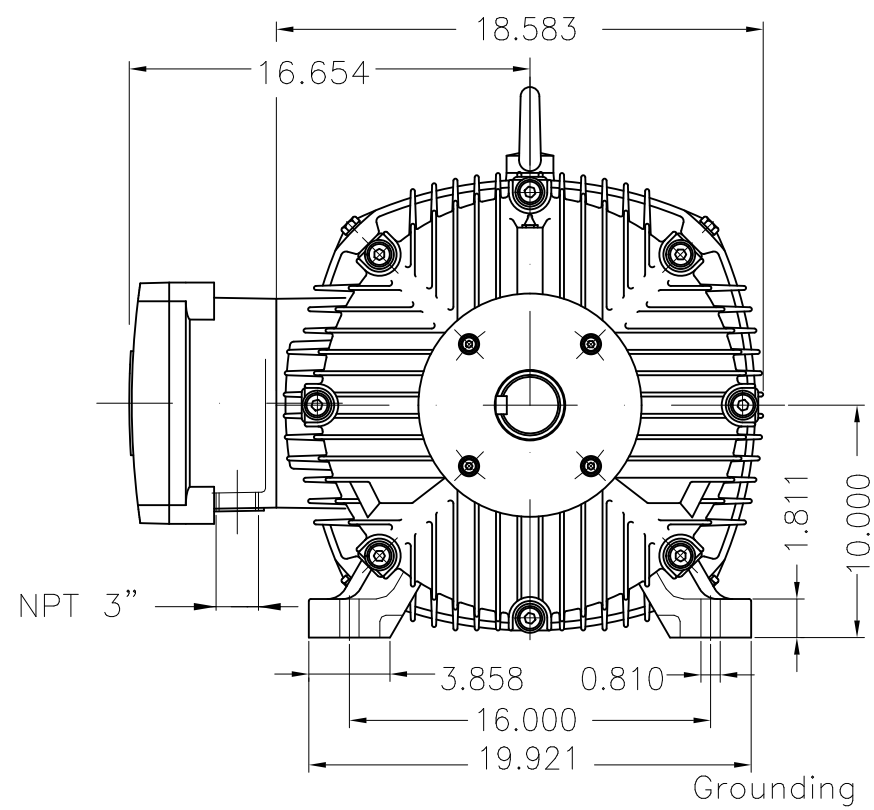
Product line : W21 Explosion Proof NEMA Premium Efficiency Three-Phase      Product code : 11439868



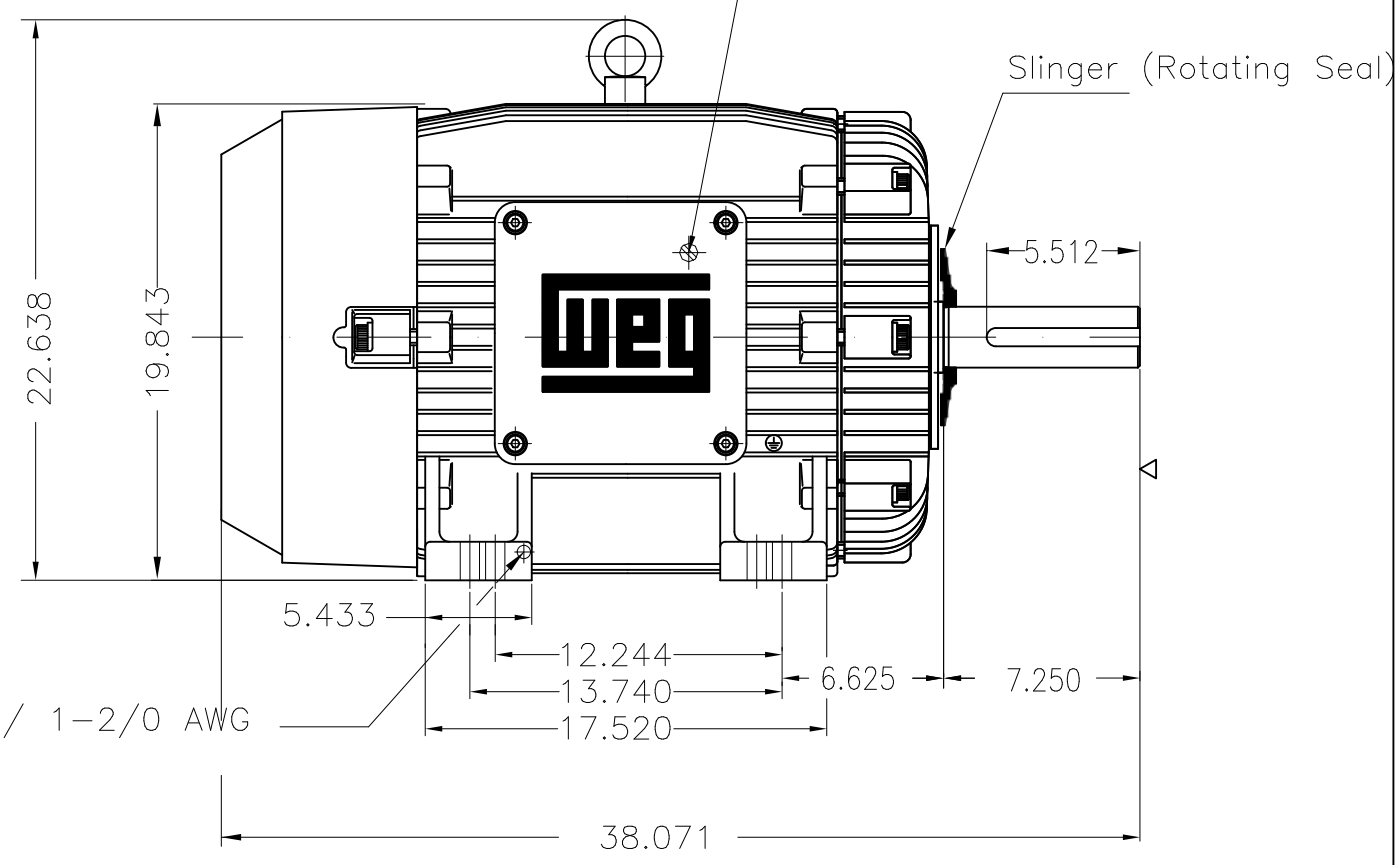
Performance : 415 V 50 Hz 4P IE2

|                     |             |                       |                         |
|---------------------|-------------|-----------------------|-------------------------|
| Rated current       | : 98.7 A    | Moment of inertia (J) | : 1.11 kgm <sup>2</sup> |
| LRC                 | : 9.1       | Duty cycle            | : Cont.(S1)             |
| Rated torque        | : 36.7 kgfm | Insulation class      | : F                     |
| Locked rotor torque | : 320 %     | Service factor        | : 1.00                  |
| Breakdown torque    | : 370 %     | Temperature rise      | : 80 K                  |
| Rated speed         | : 1485 rpm  | Design                | : B                     |

| Rev.         | Changes Summary | Performed | Checked       | Date     |
|--------------|-----------------|-----------|---------------|----------|
|              |                 |           |               |          |
| Performed by |                 |           | Page<br>6 / 6 | Revision |
| Checked by   |                 |           |               |          |
| Date         | 29/10/2024      |           |               |          |



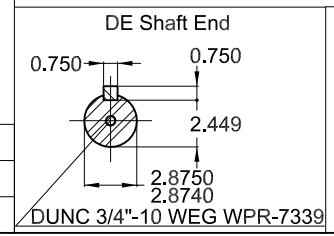
Grounding for leads 25-50 mm<sup>2</sup> / 3-1 AWG



Grounding for leads 35-70 mm<sup>2</sup> / 1-2/0 AWG

|               |                       |   |                     |         |          |      |     |
|---------------|-----------------------|---|---------------------|---------|----------|------|-----|
|               | 100 HP 04 Poles 60 Hz |   |                     |         |          |      |     |
|               | A                     |   |                     |         |          |      |     |
| HYBRISUSER 00 |                       |   |                     |         |          |      |     |
|               |                       | SUMMARY OF MODIFICATIONS                        | EXECUTED            | CHECKED | RELEASED | DATE | VER |
| ECM           | LOC                   |   |                     |         |          |      |     |
| EXECUTED      | HYBRISUSER            | THREE PH. MOTOR EXPLOSION PROOF NEMA PREM. EFF. |                     |         |          |      |     |
| CHECKED       |                       | FRAME 404/5T IP55 TEFC                          |                     |         |          |      |     |
| RELEASED      |                       |   |                     |         |          |      |     |
| REL. DATE     |                       | WMO Jaragua do Sul                              | Product Engineering |         |          |      |     |

Color RAL 5009  
 Painting plan 202P  
 Mounting B3R(D)



PREVIEW

WDD 00

