

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 High Efficiency Three-Phase Product code : 11466769

|                       |                 |                             |                        |
|-----------------------|-----------------|-----------------------------|------------------------|
| Frame                 | : 254/6T        | Locked rotor time           | : 27s (cold) 15s (hot) |
| Output                | : 20 HP (15 kW) | Temperature rise            | : 80 K                 |
| Poles                 | : 4             | Duty cycle                  | : Cont.(S1)            |
| Frequency             | : 60 Hz         | Ambient temperature         | : -20°C to +40°C       |
| Rated voltage         | : 230/460 V     | Altitude                    | : 1000 m.a.s.l.        |
| Rated current         | : 48.6/24.3 A   | Protection degree           | : IP55                 |
| L. R. Amperes         | : 292/146 A     | Cooling method              | : IC411 - TEFC         |
| LRC                   | : 6.0x(Code G)  | Mounting                    | : F-1                  |
| No load current       | : 18.0/9.00 A   | Rotation <sup>1</sup>       | : Both (CW and CCW)    |
| Rated speed           | : 1765 rpm      | Noise level <sup>2</sup>    | : 64.0 dB(A)           |
| Slip                  | : 1.94 %        | Starting method             | : Direct On Line       |
| Rated torque          | : 59.5 ft.lb    | Approx. weight <sup>3</sup> | : 262 lb               |
| Locked rotor torque   | : 200 %         |                             |                        |
| Breakdown torque      | : 240 %         |                             |                        |
| Insulation class      | : F             |                             |                        |
| Service factor        | : 1.25          |                             |                        |
| Moment of inertia (J) | : 2.86 sq.ft.lb |                             |                        |
| Design                | : B             |                             |                        |

|                |      |      |      |                  |          |
|----------------|------|------|------|------------------|----------|
| Output         | 50%  | 75%  | 100% | Foundation loads |          |
| Efficiency (%) | 90.2 | 91.0 | 91.0 | Max. traction    | : 590 lb |
| Power Factor   | 0.72 | 0.81 | 0.85 | Max. compression | : 928 lb |

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

| P1 (0,9;1,0) | P2 (0,5;1,0) | P3 (0,25;1,0) | P4 (0,9;0,5) | P5 (0,5;0,5) | P6 (0,5;0,25) | P7 (0,25;0,25) |
|--------------|--------------|---------------|--------------|--------------|---------------|----------------|
| 10.0         | 9.1          | 8.1           | 4.5          | 3.3          | 2.0           | 1.5            |

|                      | Drive end        | Non drive end |
|----------------------|------------------|---------------|
| Bearing type         | : 6309 C3        | 6209 C3       |
| Sealing              | : V'Ring         | V'Ring        |
| Lubrication interval | : 20000 h        | 20000 h       |
| Lubricant amount     | : 13 g           | 9 g           |
| Lubricant type       | Mobil Polyrex EM |               |

### Notes

USABLE @208V 53.7A SF 1.10 SFA 59.1A

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 |                 |           |         |          |
| Checked by   |                 |           |         |          |
| Date         | 28/07/2026      |           |         |          |
|              |                 | Page      |         | Revision |
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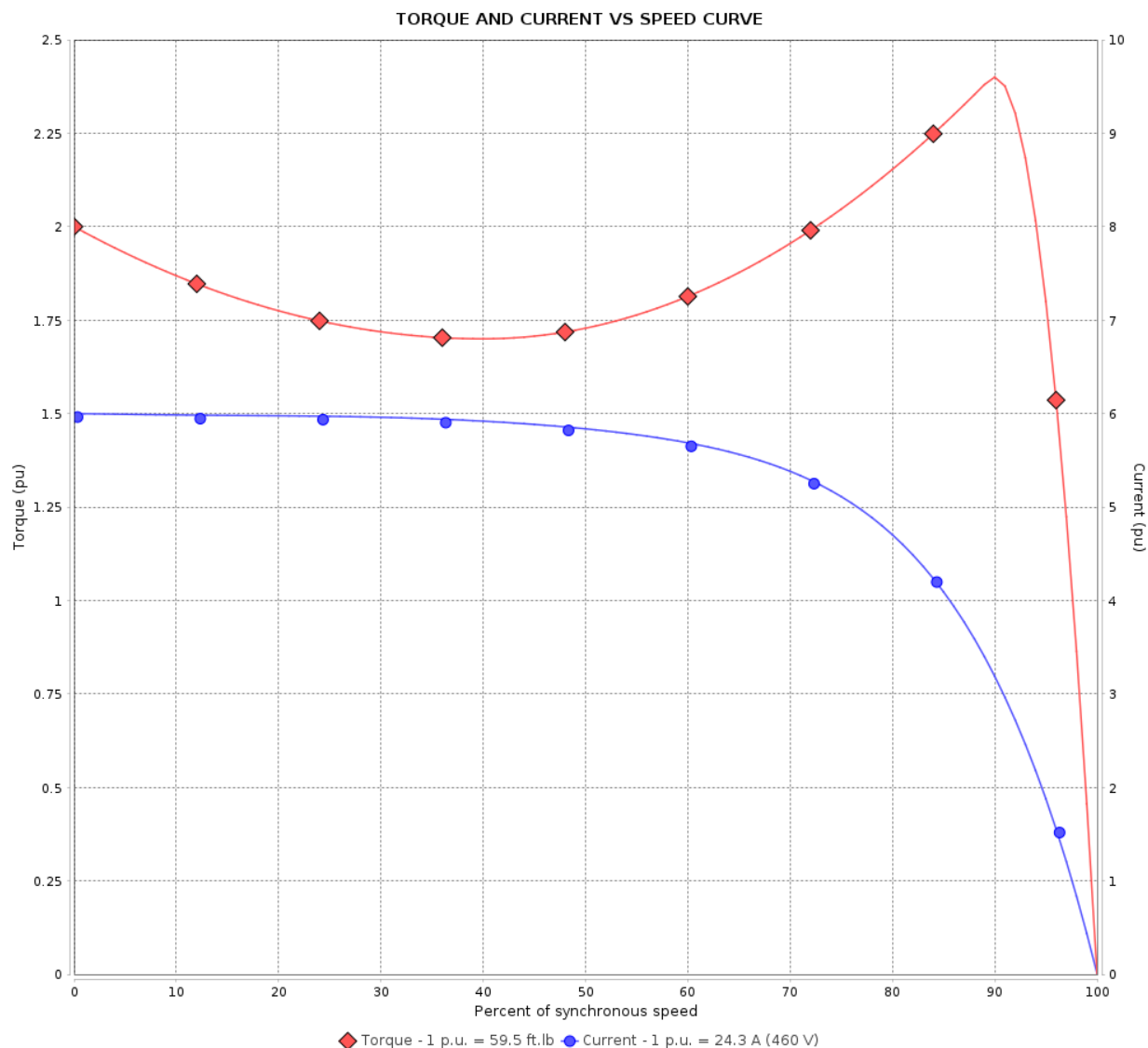
# TORQUE AND CURRENT VS SPEED CURVE

## Three Phase Induction Motor - Squirrel Cage



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LRC : 6.0  
Rated torque : 59.5 ft.lb  
Locked rotor torque : 200 %  
Breakdown torque : 240 %  
Rated speed : 1765 rpm

Moment of inertia (J) : 2.86 sq.ft.lb  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.25  
Temperature rise : 80 K  
Design : B

Locked rotor time : 27s (cold) 15s (hot)

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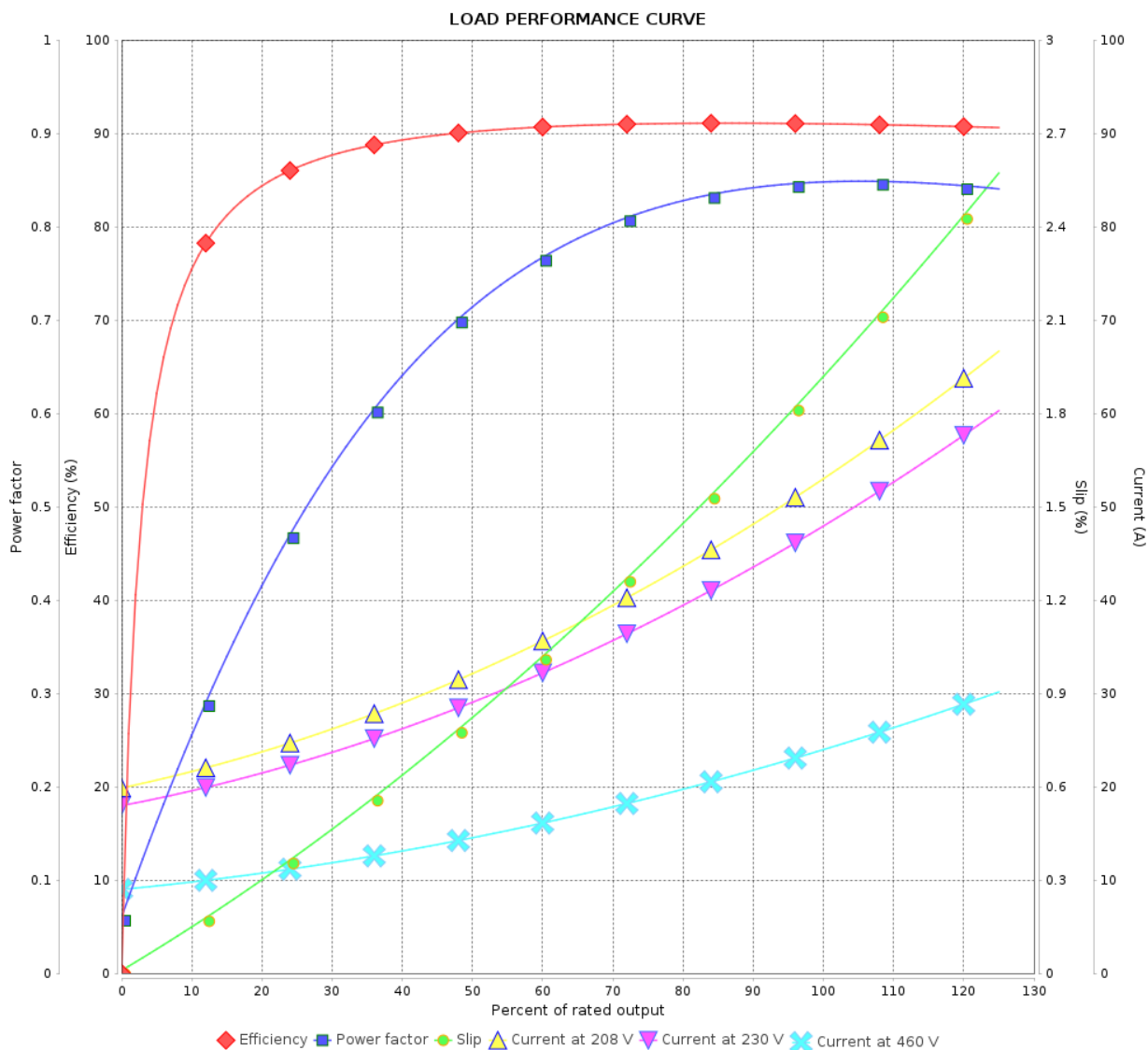
# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage



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Insulation class : F  
Service factor : 1.25  
Temperature rise : 80 K  
Design : B

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|--------------|-----------------|-----------------------|---------|------|
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| Checked by   |                 |                       |         |      |
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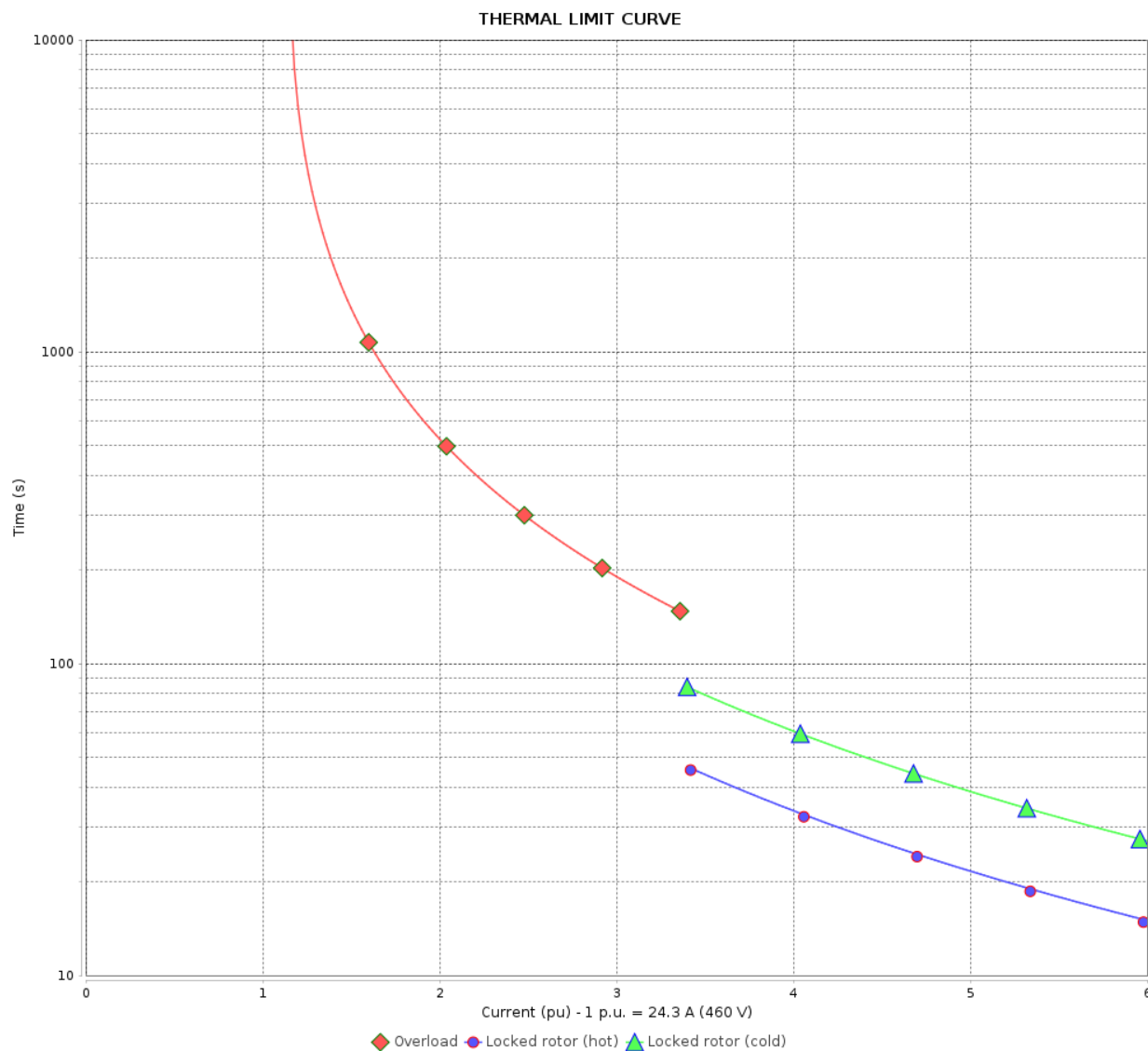
# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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Locked rotor torque : 200 %  
Breakdown torque : 240 %  
Rated speed : 1765 rpm

Moment of inertia (J) : 2.86 sq.ft.lb  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.25  
Temperature rise : 80 K  
Design : B

Heating constant

Cooling constant

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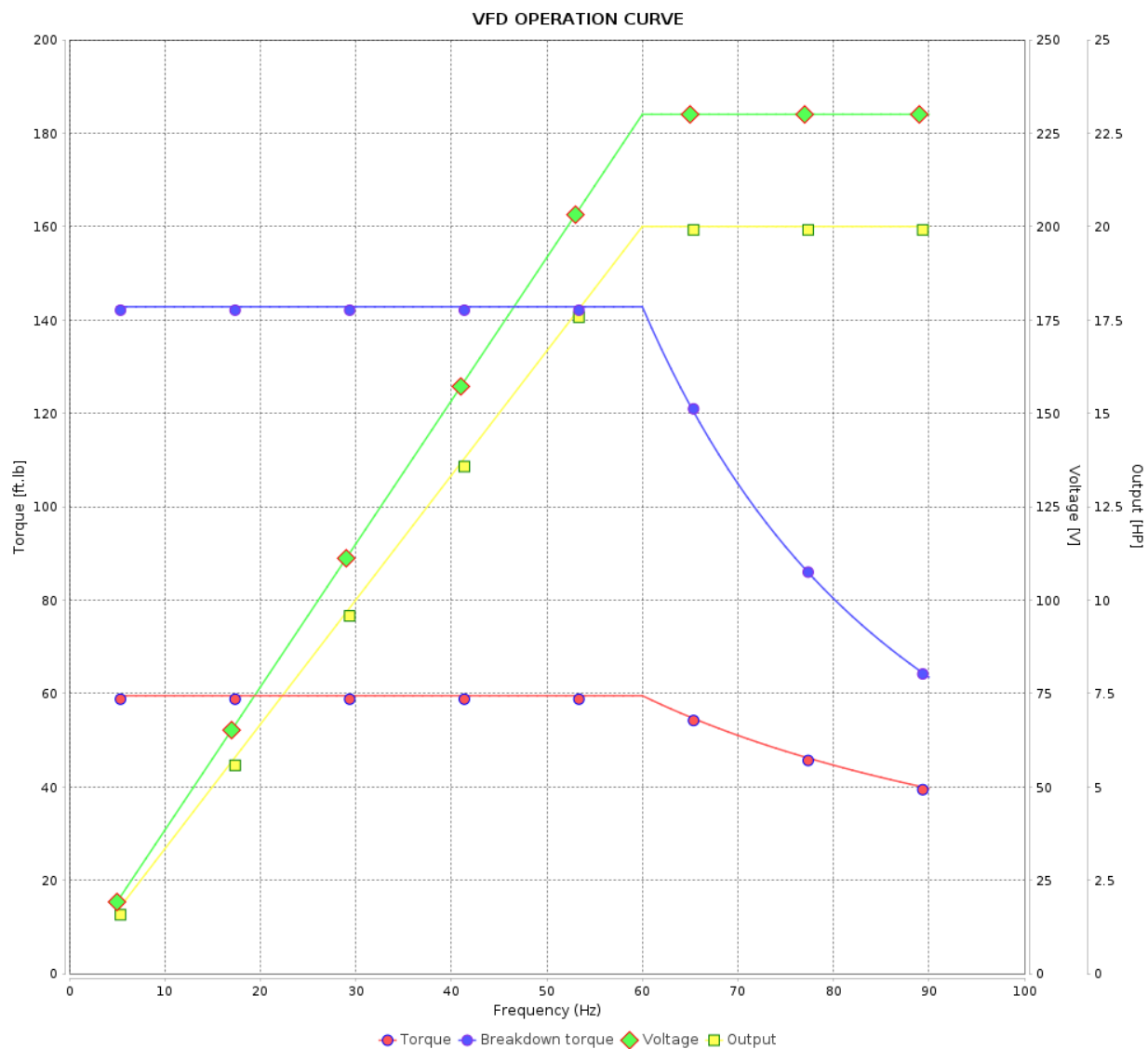
# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



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Locked rotor torque : 200 %  
Breakdown torque : 240 %  
Rated speed : 1765 rpm

Moment of inertia (J) : 2.86 sq.ft.lb  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.25  
Temperature rise : 80 K  
Design : B

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|--------------|-----------------|------------|-----------|---------|----------|
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