# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage

| | |
|---|---|
| Customer | : |
| Product line | : W22 - Nema Premium Efficiency (Derating) |
| Product code | : 11440690 |

| | | | |
|---|---|---|---|
| Frame | : 324/6TSC | Cooling method | : IC411 - TEFC |
| Insulation class | : F | Mounting | : B34R(D) |
| Duty cycle | : S1 | Rotation | : Both |
| Ambient temperature | : -20 °C to +40 °C | Starting method | : Direct On Line |
| Altitude | : 1000 m | Approx. weight | : 265 kg |
| Protection degree | : IP55 | Moment of inertia (J) | : 0.2422 kgm² |
| Design | : B | | |

| Output | | 50 HP (37 kW) | 50 HP (37 kW) | 50 HP (37 kW) | 50 HP (37 kW) | 40 HP (30 kW) | 40 HP (30 kW) | 40 HP (30 kW) |
|---|---|---|---|---|---|---|---|---|
| Poles | | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Frequency | | 60 Hz | 50 Hz | 50 Hz | 50 Hz | 50 Hz | 50 Hz | 50 Hz |
| Rated voltage | | 230/460 V | 380 V | 400 V | 415 V | 380 V | 400 V | 415 V |
| Rated current | | 115/57.4 A | 69.4 A | 66.2 A | 64.0 A | 55.7 A | 53.4 A | 52.6 A |
| L. R. Amperes | | 723/362 A | 361 A | 371 A | 403 A | 368 A | 379 A | 405 A |
| LRC | | 6.3 Code G | 5.2 Code E | 5.6 Code F | 6.3 Code G | 6.6 Code G | 7.1 Code H | 7.7 Code J |
| No load current | | 31.8/15.9 A | 14.8 A | 16.5 A | 18.0 A | 14.8 A | 16.5 A | 18.0 A |
| Rated speed | | 3560 rpm | 2950 rpm | 2955 rpm | 2957 rpm | 2960 rpm | 2965 rpm | 2969 rpm |
| Slip | | 1.11 % | 1.67 % | 1.50 % | 1.43 % | 1.33 % | 1.17 % | 1.03 % |
| Rated torque | | 10.2 kgfm | 12.3 kgfm | 12.3 kgfm | 12.3 kgfm | 9.81 kgfm | 9.79 kgfm | 9.78 kgfm |
| Locked rotor torque | | 240 % | 190 % | 210 % | 220 % | 240 % | 260 % | 280 % |
| Breakdown torque | | 240 % | 200 % | 200 % | 250 % | 230 % | 250 % | 280 % |
| Service factor | | 1.25 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Temperature rise | | 80 K | 105 K | 105 K | 105 K | 80 K | 80 K | 80 K |
| Noise level | | 76 dB(A) | 72 dB(A) | 72 dB(A) | 72 dB(A) | 72 dB(A) | 72 dB(A) | 72 dB(A) |
| Locked rotor time | | 20 s (hot) 36 s (cold) | 12 s (hot) 22 s (cold) | 13 s (hot) 23 s (cold) | 12 s (hot) 22 s (cold) | 18 s (hot) 32 s (cold) | 18 s (hot) 32 s (cold) | 17 s (hot) 31 s (cold) |
| Efficiency (%) | 50% | 93.0 | 93.0 | 93.0 | 93.0 | 92.8 | 92.2 | 92.2 |
| | 75% | 93.0 | 92.4 | 92.4 | 93.0 | 92.9 | 92.8 | 93.1 |
| | 100% | 93.0 | 91.0 | 91.7 | 92.4 | 93.0 | 93.3 | 93.3 |
| Power Factor | Start | 0.43 | 0.43 | 0.43 | 0.43 | 0.43 | 0.43 | 0.43 |
| | 50% | 0.78 | 0.84 | 0.80 | 0.78 | 0.80 | 0.75 | 0.72 |
| | 75% | 0.85 | 0.88 | 0.86 | 0.85 | 0.86 | 0.83 | 0.81 |
| | 100% | 0.87 | 0.89 | 0.88 | 0.87 | 0.88 | 0.87 | 0.85 |
| Losses at normative operating points (speed;torque), in percentage of rated output power | | | | | | | | |
| P1 (0,9;1,0) | | 6.98 | 9.18 | 8.40 | 7.63 | 6.98 | 6.66 | 6.66 |
| P2 (0,5;1,0) | | 5.10 | 6.70 | 6.13 | 5.57 | 5.10 | 4.86 | 4.86 |
| P3 (0,25;1,0) | | 4.61 | 6.06 | 5.55 | 5.04 | 4.61 | 4.40 | 4.40 |
| P4 (0,9;0,5) | | 3.77 | 4.96 | 4.54 | 4.12 | 3.77 | 3.60 | 3.60 |
| P5 (0,5;0,5) | | 2.07 | 2.72 | 2.49 | 2.26 | 2.07 | 1.97 | 1.97 |
| P6 (0,5;0,25) | | 1.38 | 1.81 | 1.66 | 1.51 | 1.38 | 1.32 | 1.32 |
| P7 (0,25;0,25) | | 0.77 | 1.02 | 0.93 | 0.84 | 0.77 | 0.74 | 0.74 |

| | Drive end | Non drive end |
|---|---|---|
| Bearing type | 6312-C3 | 6212-C3 |
| Lubrication interval | 12000 h | 15000 h |
| Lubricant amount | 21 g | 13 g |
| Lubricant type | MOBIL POLYREX EM | |

Foundation loads
Max. traction : 249 kgf
Max. compression : 514 kgf

Notes:
Naval Certification Organism: NOT APPLICABLE
Naval Service: NOT APPLICABLE

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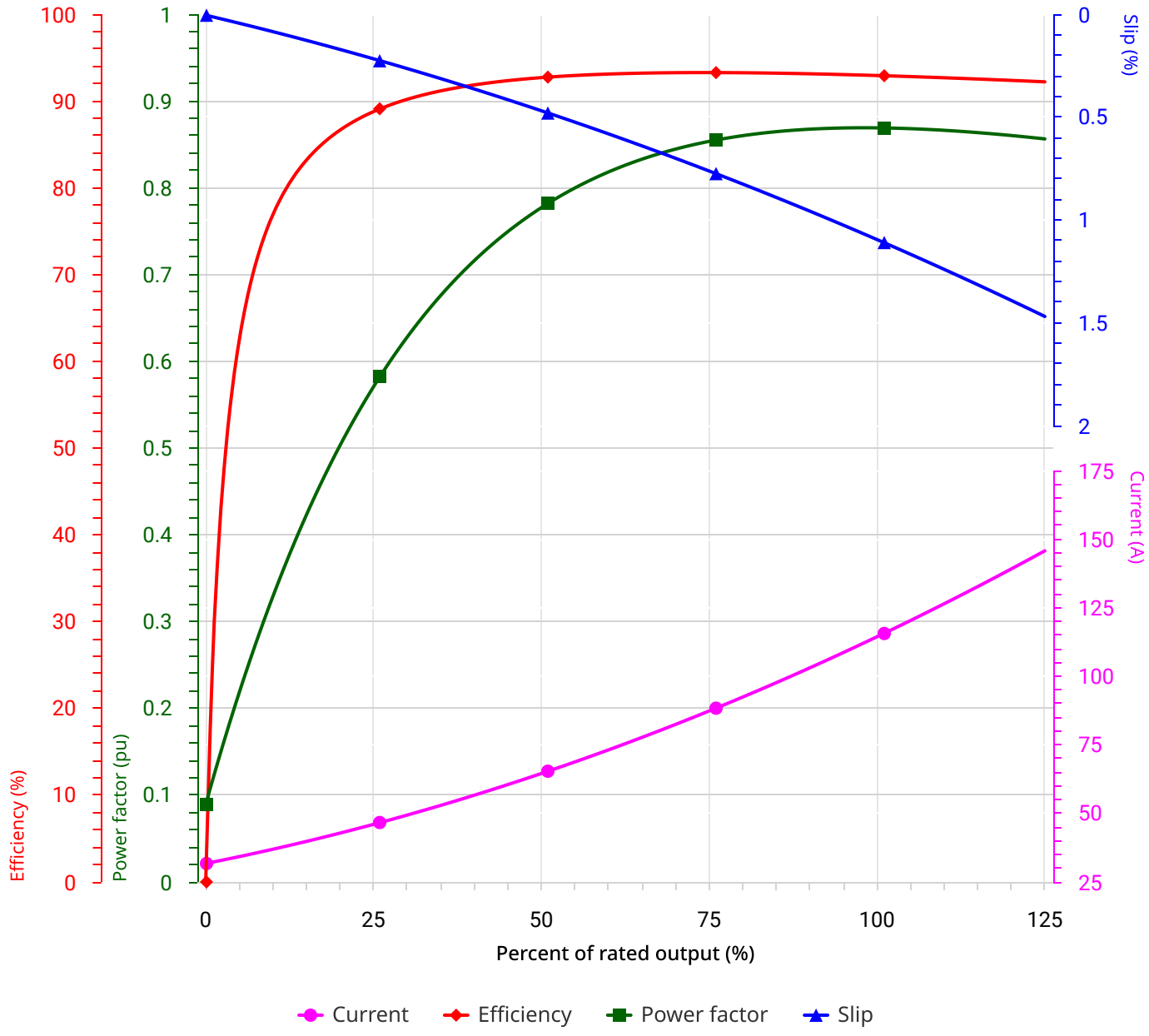
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## LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage

| | |
|---|---|
| Customer | : |
| Product line | : W22 - Nema Premium Efficiency (Derating) |
| Product code | : 11440690 |




| | |
|---|---|
| Performance | : 50 HP (37 kW) 208/230/460V 60Hz 2P 324/6TSC |

| | | | |
|---|---|---|---|
| Rated current | : 124/115/57.4 A | Moment of inertia (J) | : 0.2422 kgm² |
| LRC | : 6.3 Code G | Duty cycle | : Cont.(S1) |
| Rated torque | : 10.2 kgfm | Insulation class | : F |
| Locked rotor torque | : 240 % | Service factor | : 1.25 |
| Breakdown torque | : 240 % | Temperature rise | : 80 K |
| Rated speed | : 3560 rpm | Design | : B |

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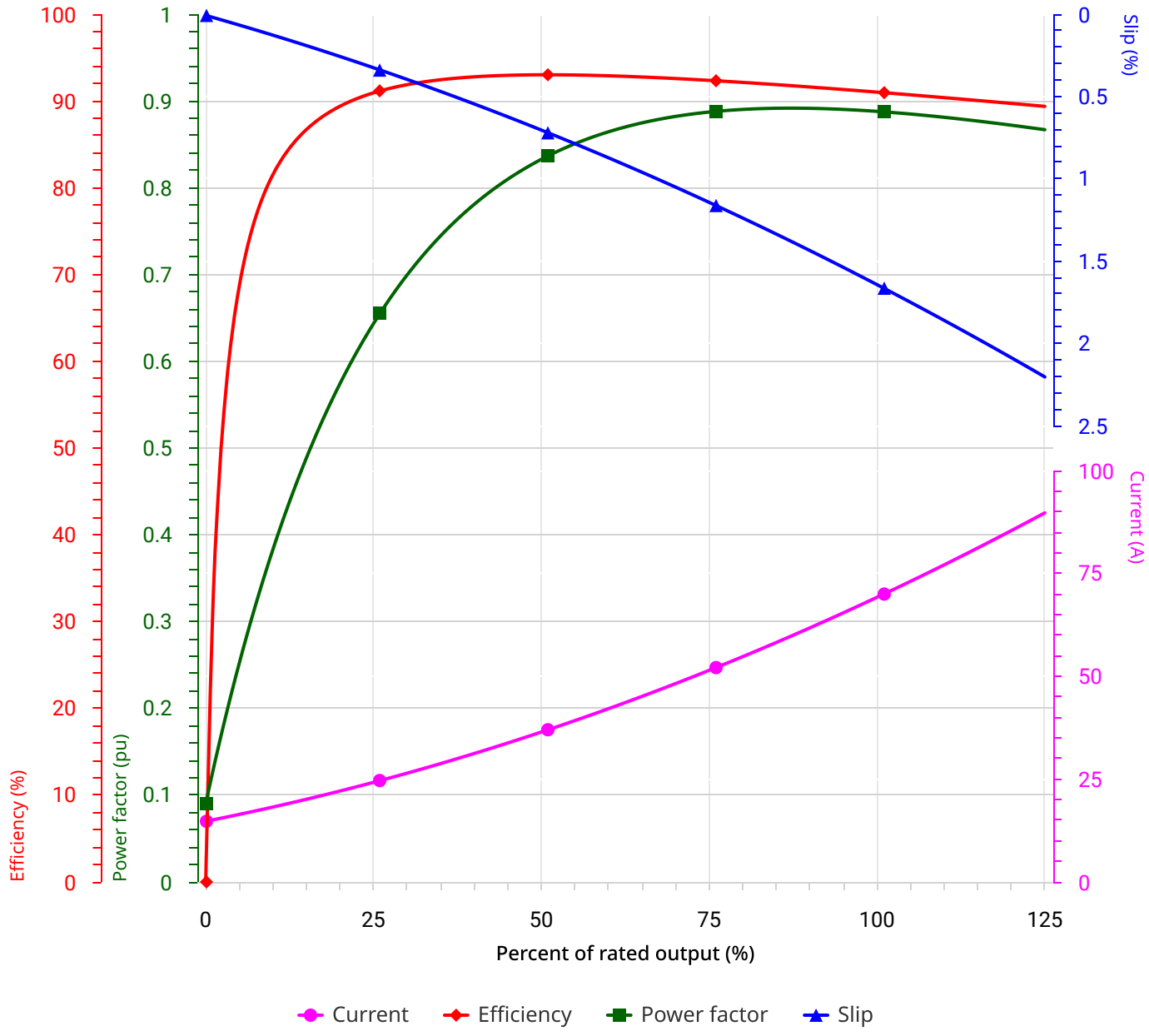
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## LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage

| | |
|---|---|
| Customer | : |
| Product line | : W22 - Nema Premium Efficiency (Derating) |
| Product code | : 11440690 |




| | |
|---|---|
| Performance | : 50 HP (37 kW) 380V 50Hz 2P 324/6TSC |

| | | | |
|---|---|---|---|
| Rated current | : 69.4 A | Moment of inertia (J) | : 0.2422 kgm² |
| LRC | : 5.2 Code E | Duty cycle | : Cont.(S1) |
| Rated torque | : 12.3 kgfm | Insulation class | : F |
| Locked rotor torque | : 190 % | Service factor | : 1.00 |
| Breakdown torque | : 200 % | Temperature rise | : 105 K |
| Rated speed | : 2950 rpm | Design | : B |

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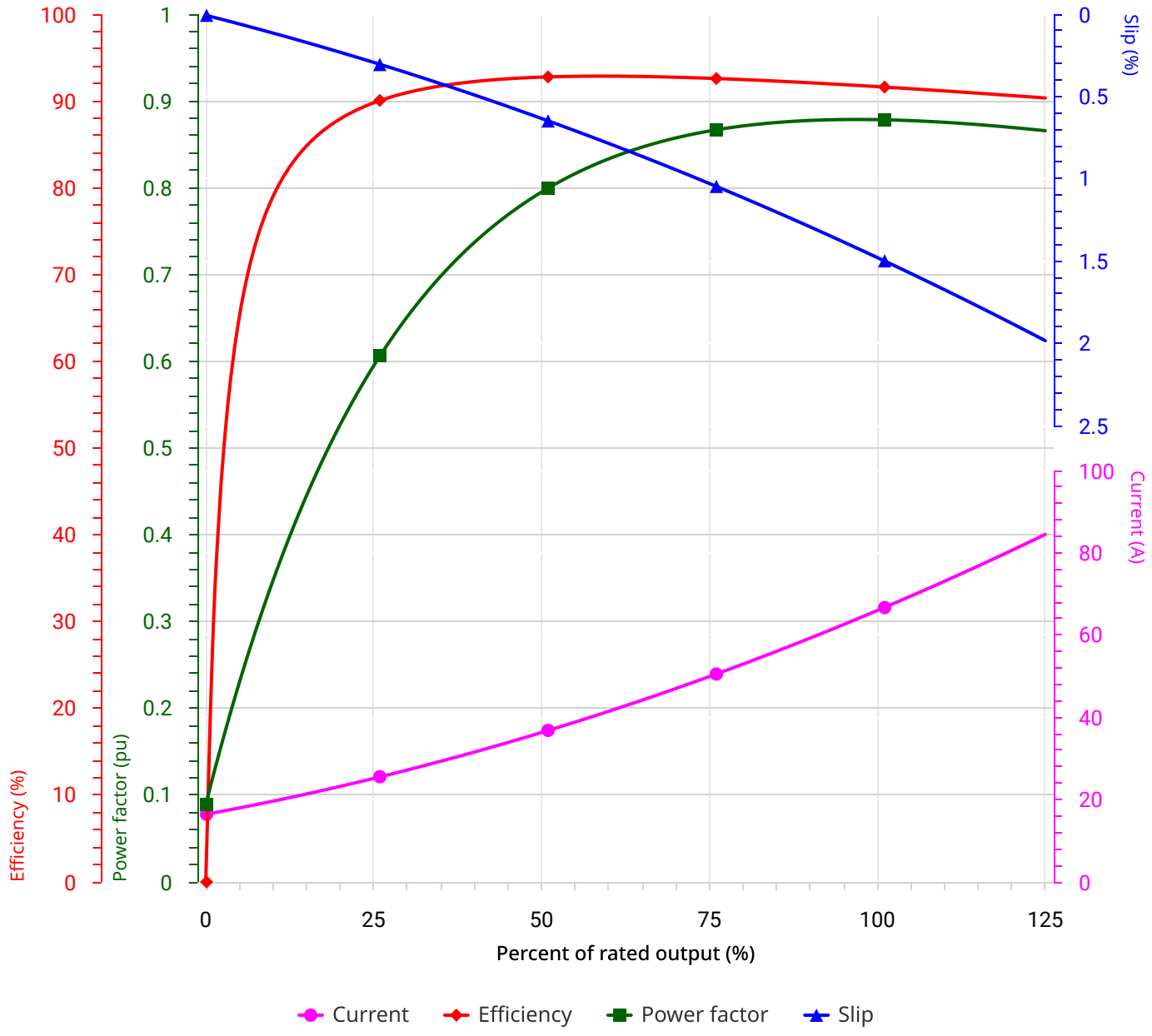
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|---|---|
| Customer | : |
| Product line | : W22 - Nema Premium Efficiency (Derating) |
| Product code | : 11440690 |




| | |
|---|---|
| Performance | : 50 HP (37 kW) 400V 50Hz 2P 324/6TSC |

| | | | |
|---|---|---|---|
| Rated current | : 66.2 A | Moment of inertia (J) | : 0.2422 kgm² |
| LRC | : 5.6 Code F | Duty cycle | : Cont.(S1) |
| Rated torque | : 12.3 kgfm | Insulation class | : F |
| Locked rotor torque | : 210 % | Service factor | : 1.00 |
| Breakdown torque | : 200 % | Temperature rise | : 105 K |
| Rated speed | : 2955 rpm | Design | : B |

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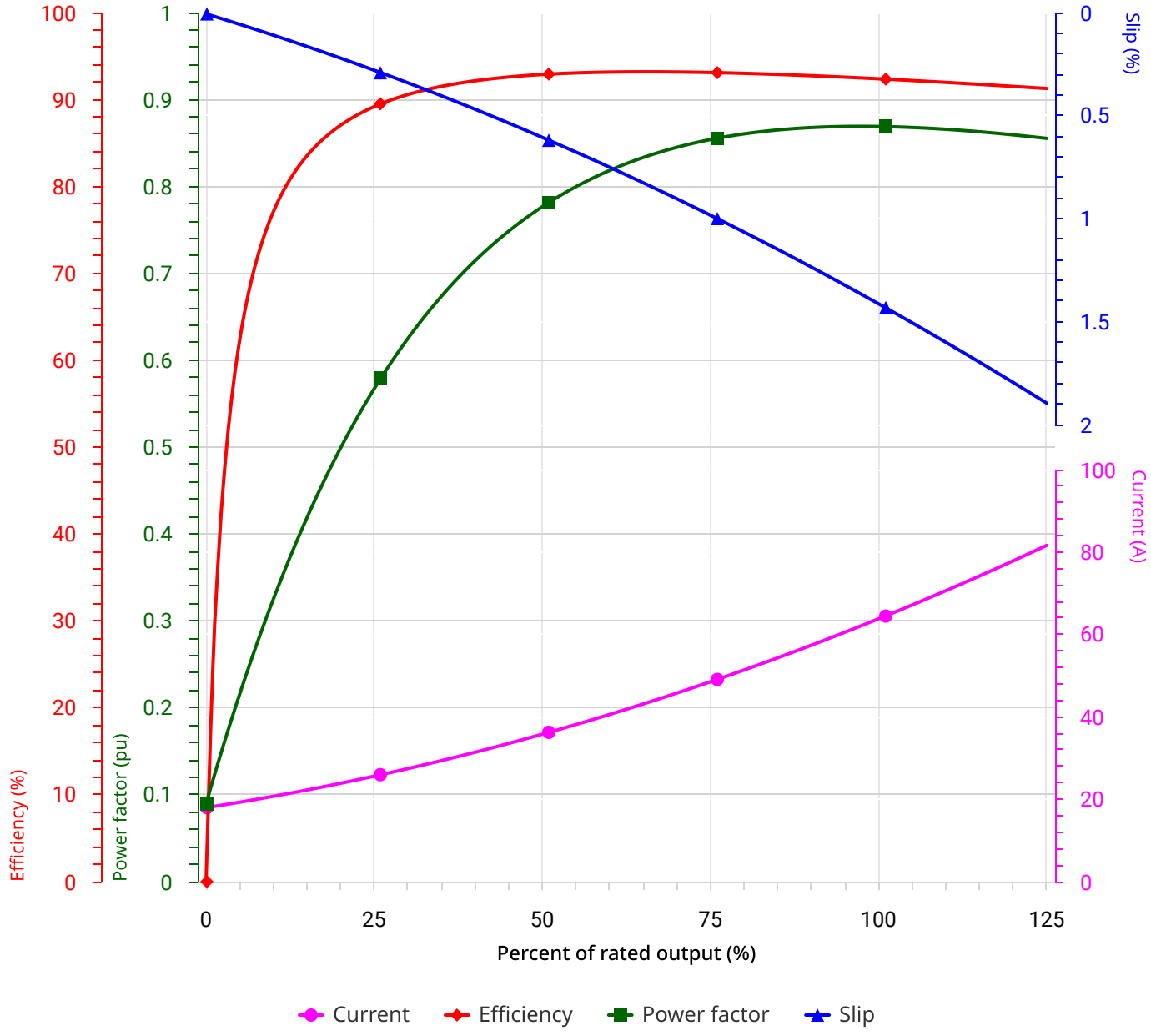
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Three Phase Induction Motor - Squirrel Cage

| | |
|---|---|
| Customer | : |
| Product line | : W22 - Nema Premium Efficiency (Derating) |
| Product code | : 11440690 |




| | |
|---|---|
| Performance | : 50 HP (37 kW) 415V 50Hz 2P 324/6TSC |

| | | | |
|---|---|---|---|
| Rated current | : 64.0 A | Moment of inertia (J) | : 0.2422 kgm² |
| LRC | : 6.3 Code G | Duty cycle | : Cont.(S1) |
| Rated torque | : 12.3 kgfm | Insulation class | : F |
| Locked rotor torque | : 220 % | Service factor | : 1.00 |
| Breakdown torque | : 250 % | Temperature rise | : 105 K |
| Rated speed | : 2957 rpm | Design | : B |

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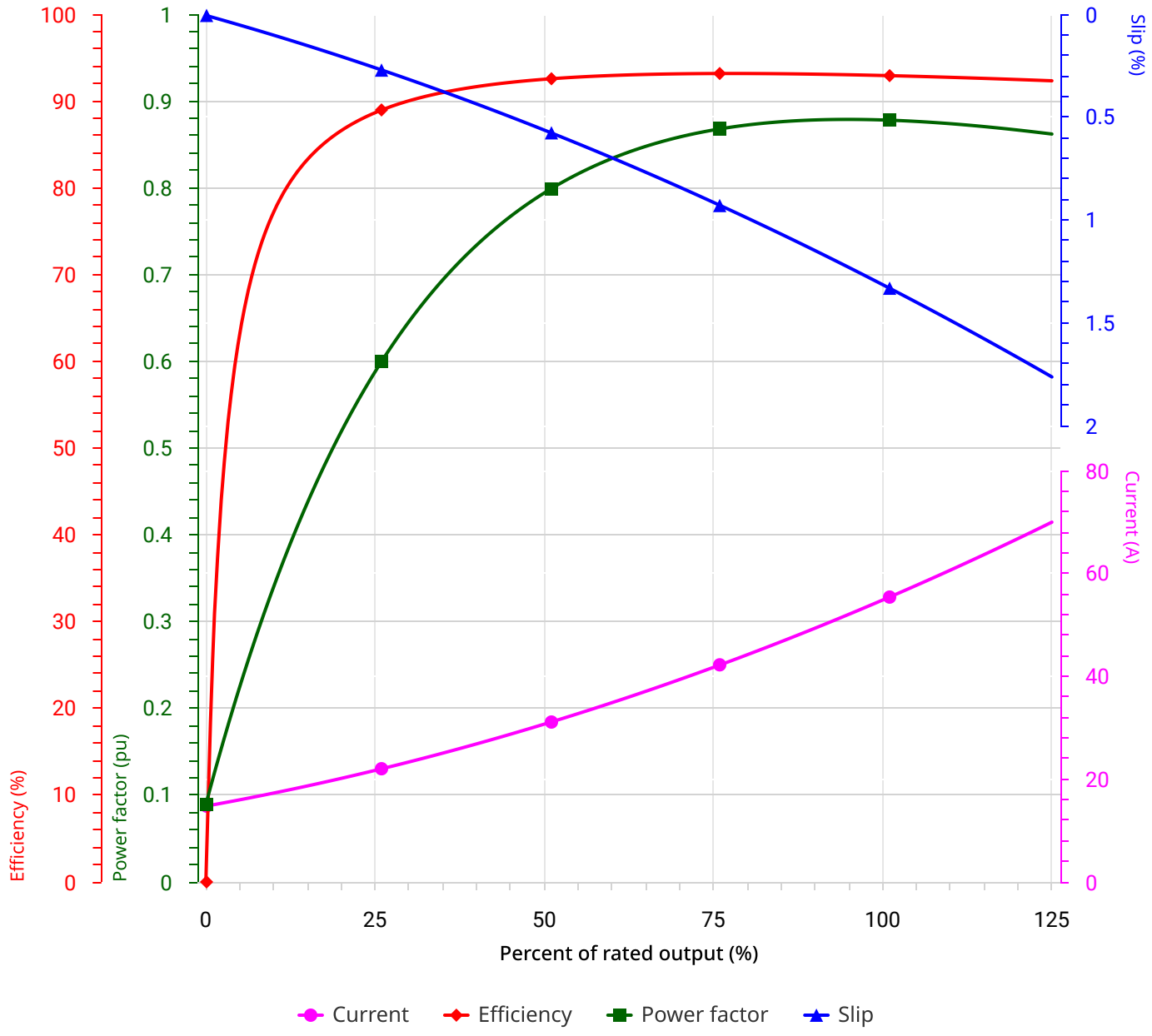
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## LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage

| | |
|---|---|
| Customer | : |
| Product line | : W22 - Nema Premium Efficiency (Derating) |
| Product code | : 11440690 |




| | |
|---|---|
| Performance | : 40 HP (30 kW) 380V 50Hz 2P 324/6TSC |

| | | | |
|---|---|---|---|
| Rated current | : 55.7 A | Moment of inertia (J) | : 0.2422 kgm² |
| LRC | : 6.6 Code G | Duty cycle | : Cont.(S1) |
| Rated torque | : 9.81 kgfm | Insulation class | : F |
| Locked rotor torque | : 240 % | Service factor | : 1.00 |
| Breakdown torque | : 230 % | Temperature rise | : 80 K |
| Rated speed | : 2960 rpm | Design | : B |

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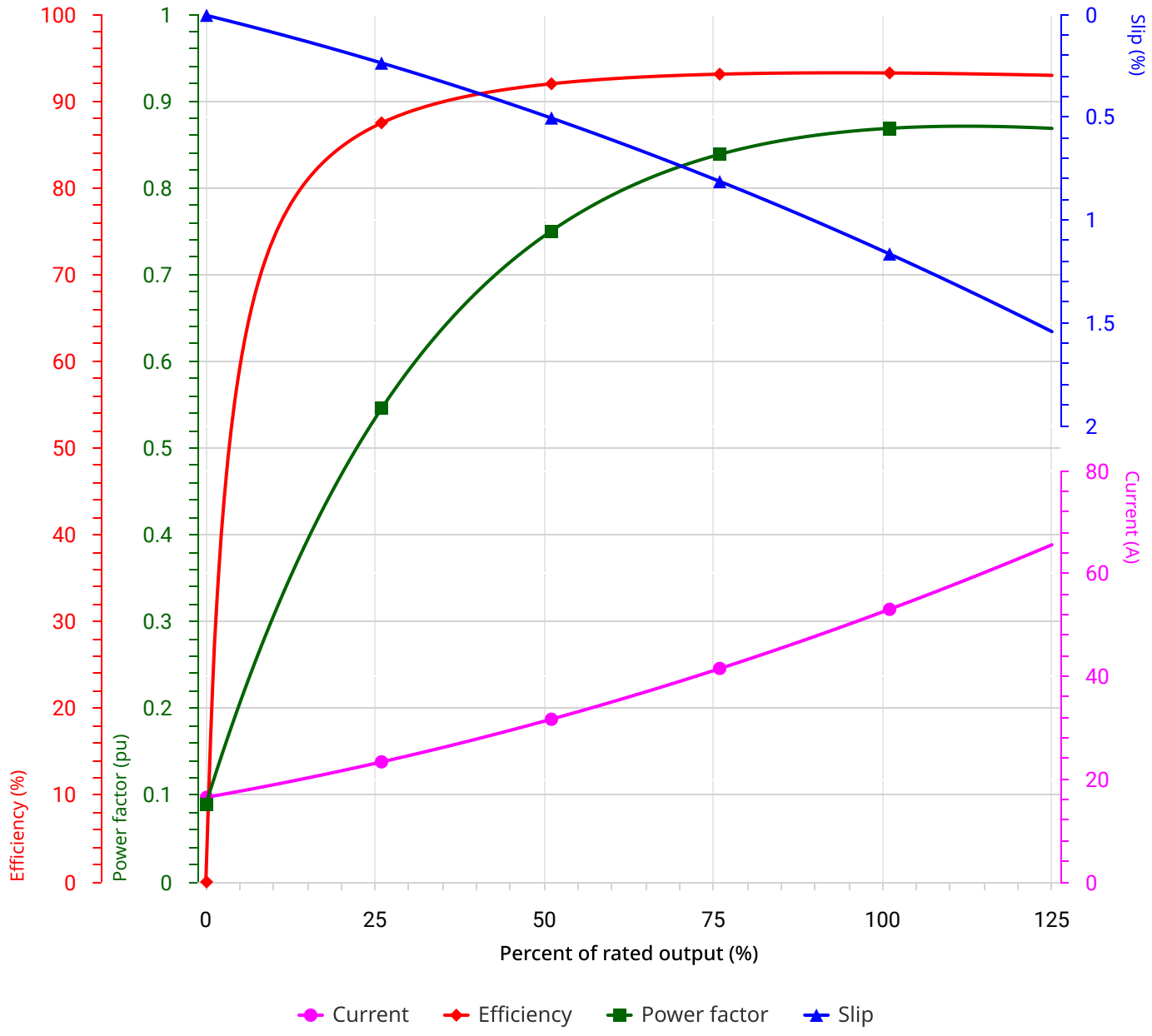
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| | |
|---|---|
| Customer | : |
| Product line | : W22 - Nema Premium Efficiency (Derating) |
| Product code | : 11440690 |




| | |
|---|---|
| Performance | : 40 HP (30 kW) 400V 50Hz 2P 324/6TSC |

| | | | |
|---|---|---|---|
| Rated current | : 53.4 A | Moment of inertia (J) | : 0.2422 kgm² |
| LRC | : 7.1 Code H | Duty cycle | : Cont.(S1) |
| Rated torque | : 9.79 kgfm | Insulation class | : F |
| Locked rotor torque | : 260 % | Service factor | : 1.00 |
| Breakdown torque | : 250 % | Temperature rise | : 80 K |
| Rated speed | : 2965 rpm | Design | : B |

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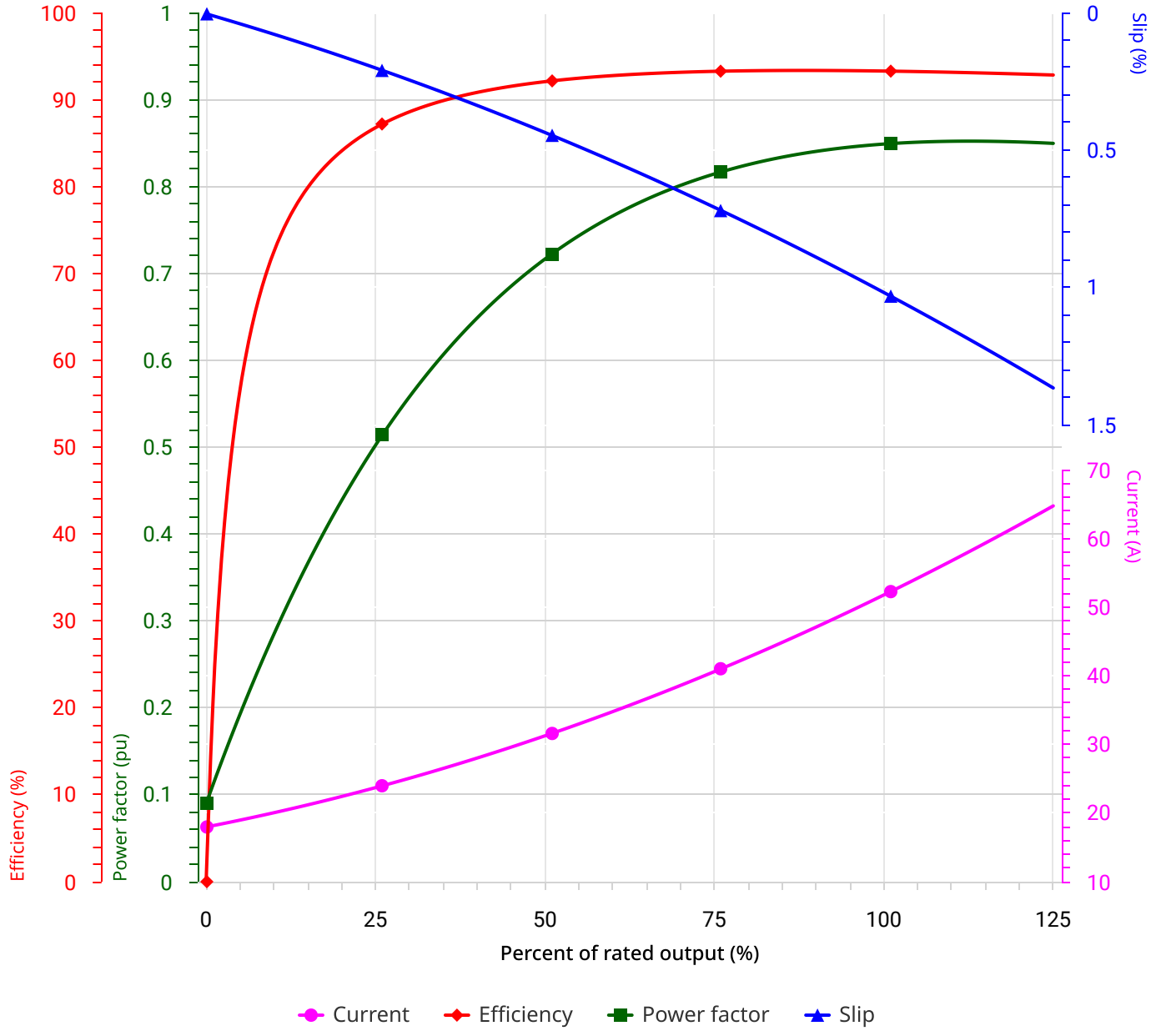
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Three Phase Induction Motor - Squirrel Cage

| | |
|---|---|
| Customer | : |
| Product line | : W22 - Nema Premium Efficiency (Derating) |
| Product code | : 11440690 |




| | |
|---|---|
| Performance | : 40 HP (30 kW) 415V 50Hz 2P 324/6TSC |

| | | | |
|---|---|---|---|
| Rated current | : 52.6 A | Moment of inertia (J) | : 0.2422 kgm² |
| LRC | : 7.7 Code J | Duty cycle | : Cont.(S1) |
| Rated torque | : 9.78 kgfm | Insulation class | : F |
| Locked rotor torque | : 280 % | Service factor | : 1.00 |
| Breakdown torque | : 280 % | Temperature rise | : 80 K |
| Rated speed | : 2969 rpm | Design | : B |

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