# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage

| | |
|---|---|
| Customer | : |
| Product line | : W22 - Nema Premium Efficiency (Derating) |
| Product code | : 12710807 |

| | | | |
|---|---|---|---|
| Frame | : 143/5TC | 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 | : 18.5 kg |
| Protection degree | : IP55 | Moment of inertia (J) | : 0.002 kgm² |
| Design | : B | | |

| Output | | 1.5 HP (1.1 | 1.5 HP (1.1 | 1.5 HP (1.1 | 1.5 HP (1.1 | 1 HP (0.75 kW) | 1 HP (0.75 kW) | 1 HP (0.75 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 | | 4.10/2.05 A | 2.41 A | 2.35 A | 2.32 A | 1.80 A | 1.80 A | 1.84 A |
| L. R. Amperes | | 36.5/18.2 A | 16.4 A | 17.6 A | 18.3 A | 16.6 A | 17.6 A | 19.0 A |
| LRC | | 8.9 Code L | 6.8 Code J | 7.5 Code K | 7.9 Code K | 9.2 Code M | 9.8 Code N | 10.3 Code P |
| No load current | | 2.20/1.10 A | 1.10 A | 1.20 A | 1.30 A | 1.10 A | 1.20 A | 1.30 A |
| Rated speed | | 3510 rpm | 2885 rpm | 2900 rpm | 2910 rpm | 2930 rpm | 2935 rpm | 2940 rpm |
| Slip | | 2.50 % | 3.83 % | 3.33 % | 3.00 % | 2.33 % | 2.17 % | 2.00 % |
| Rated torque | | 0.310 kgfm | 0.377 kgfm | 0.375 kgfm | 0.374 kgfm | 0.248 kgfm | 0.247 kgfm | 0.247 kgfm |
| Locked rotor torque | | 270 % | 210 % | 240 % | 250 % | 310 % | 330 % | 360 % |
| Breakdown torque | | 370 % | 260 % | 290 % | 310 % | 390 % | 440 % | 480 % |
| Service factor | | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 |
| Temperature rise | | 80 K | 80 K | 80 K | 80 K | 80 K | 80 K | 80 K |
| Noise level | | 68 dB(A) | - | - | - | - | - | - |
| Locked rotor time | | 13 s (hot) 23 s (cold) | 13 s (hot) 23 s (cold) | 12 s (hot) 22 s (cold) | 12 s (hot) 22 s (cold) | 15 s (hot) 27 s (cold) | 14 s (hot) 25 s (cold) | 12 s (hot) 22 s (cold) |
| Efficiency (%) | 50% | 81.0 | 81.0 | 82.0 | 81.0 | 78.0 | 78.0 | 76.5 |
| | 75% | 84.0 | 81.5 | 82.5 | 82.5 | 83.2 | 82.8 | 82.0 |
| | 100% | 84.0 | 81.5 | 82.5 | 82.5 | 83.4 | 83.4 | 83.4 |
| Power Factor | Start | 0.65 | 0.65 | 0.65 | 0.65 | 0.65 | 0.65 | 0.65 |
| | 50% | 0.60 | 0.67 | 0.62 | 0.59 | 0.55 | 0.50 | 0.47 |
| | 75% | 0.72 | 0.78 | 0.75 | 0.71 | 0.68 | 0.62 | 0.59 |
| | 100% | 0.8 | 0.85 | 0.82 | 0.8 | 0.76 | 0.72 | 0.68 |
| Losses at normative operating points (speed;torque), in percentage of rated output power | | | | | | | | |
| P1 (0,9;1,0) | | 17.31 | 20.63 | 19.28 | 19.28 | 18.09 | 18.09 | 18.09 |
| P2 (0,5;1,0) | | 12.87 | 15.33 | 14.33 | 14.33 | 13.45 | 13.45 | 13.45 |
| P3 (0,25;1,0) | | 12.91 | 15.39 | 14.38 | 14.38 | 13.49 | 13.49 | 13.49 |
| P4 (0,9;0,5) | | 11.08 | 13.21 | 12.34 | 12.34 | 11.58 | 11.58 | 11.58 |
| P5 (0,5;0,5) | | 6.59 | 7.85 | 7.34 | 7.34 | 6.89 | 6.89 | 6.89 |
| P6 (0,5;0,25) | | 5.28 | 6.29 | 5.88 | 5.88 | 5.51 | 5.51 | 5.51 |
| P7 (0,25;0,25) | | 3.52 | 4.20 | 3.92 | 3.92 | 3.68 | 3.68 | 3.68 |

| | Drive end | Non drive end |
|---|---|---|
| Bearing type | 6205-ZZ | 6204-ZZ |
| Lubrication interval | - | - |
| Lubricant amount | - | - |
| Lubricant type | MOBIL POLYREX EM | |

Foundation loads
Max. traction : 24 kgf
Max. compression : 43 kgf

Notes:

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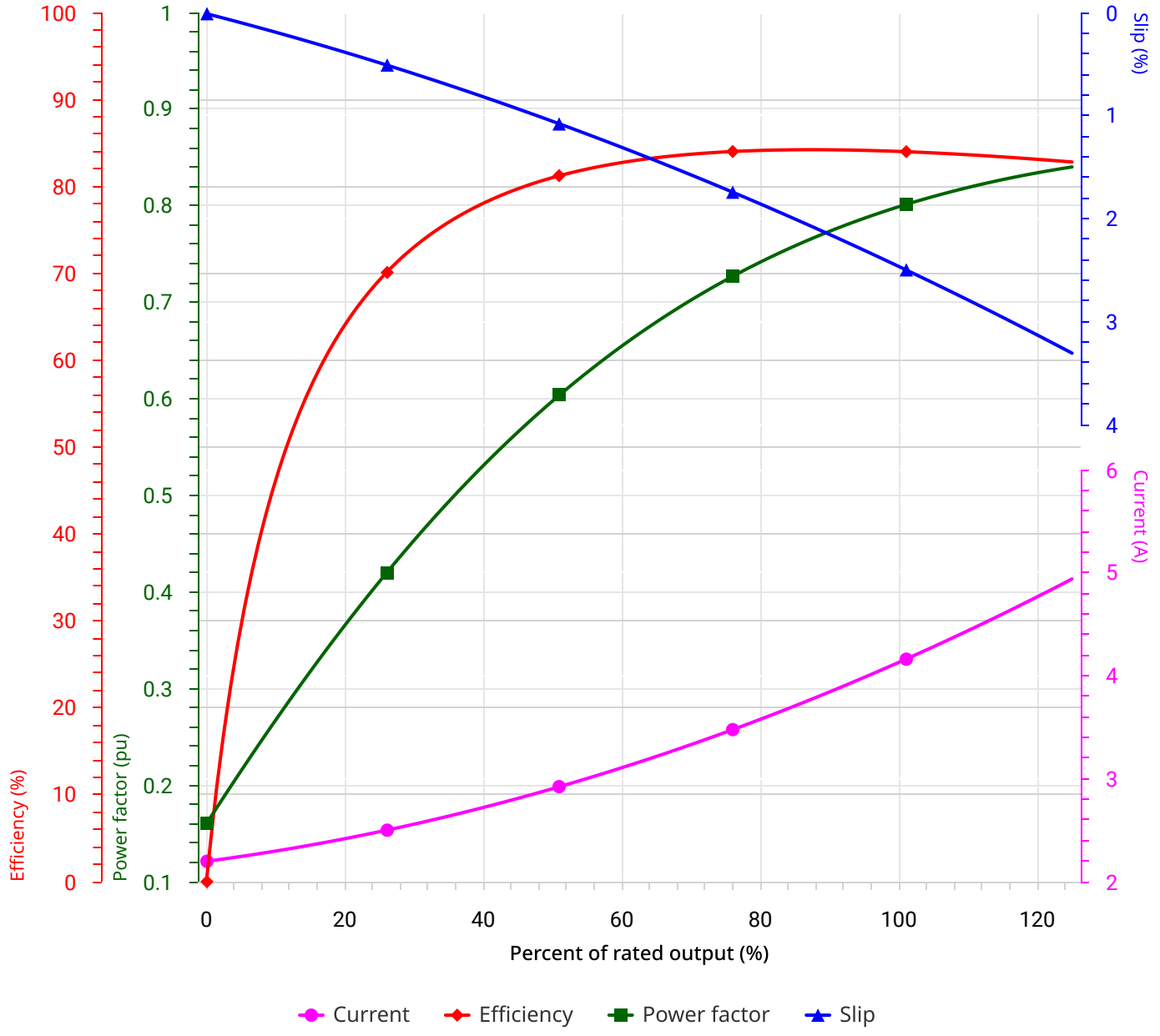
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## LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage

| | |
|---|---|
| Customer | : |
| Product line | : W22 - Nema Premium Efficiency (Derating) |
| Product code | : 12710807 |




| | | | |
|---|---|---|---|
| Performance | : 1.5 HP (1.1 kW) 208/230/460V 60Hz 2P 143/5TC | | |
| Rated current | : 4.20/4.10/2.05 A | Moment of inertia (J) | : 0.002 kgm² |
| LRC | : 8.9 Code L | Duty cycle | : Cont.(S1) |
| Rated torque | : 0.310 kgfm | Insulation class | : F |
| Locked rotor torque | : 270 % | Service factor | : 1.25 |
| Breakdown torque | : 370 % | Temperature rise | : 80 K |
| Rated speed | : 3510 rpm | Design | : B |

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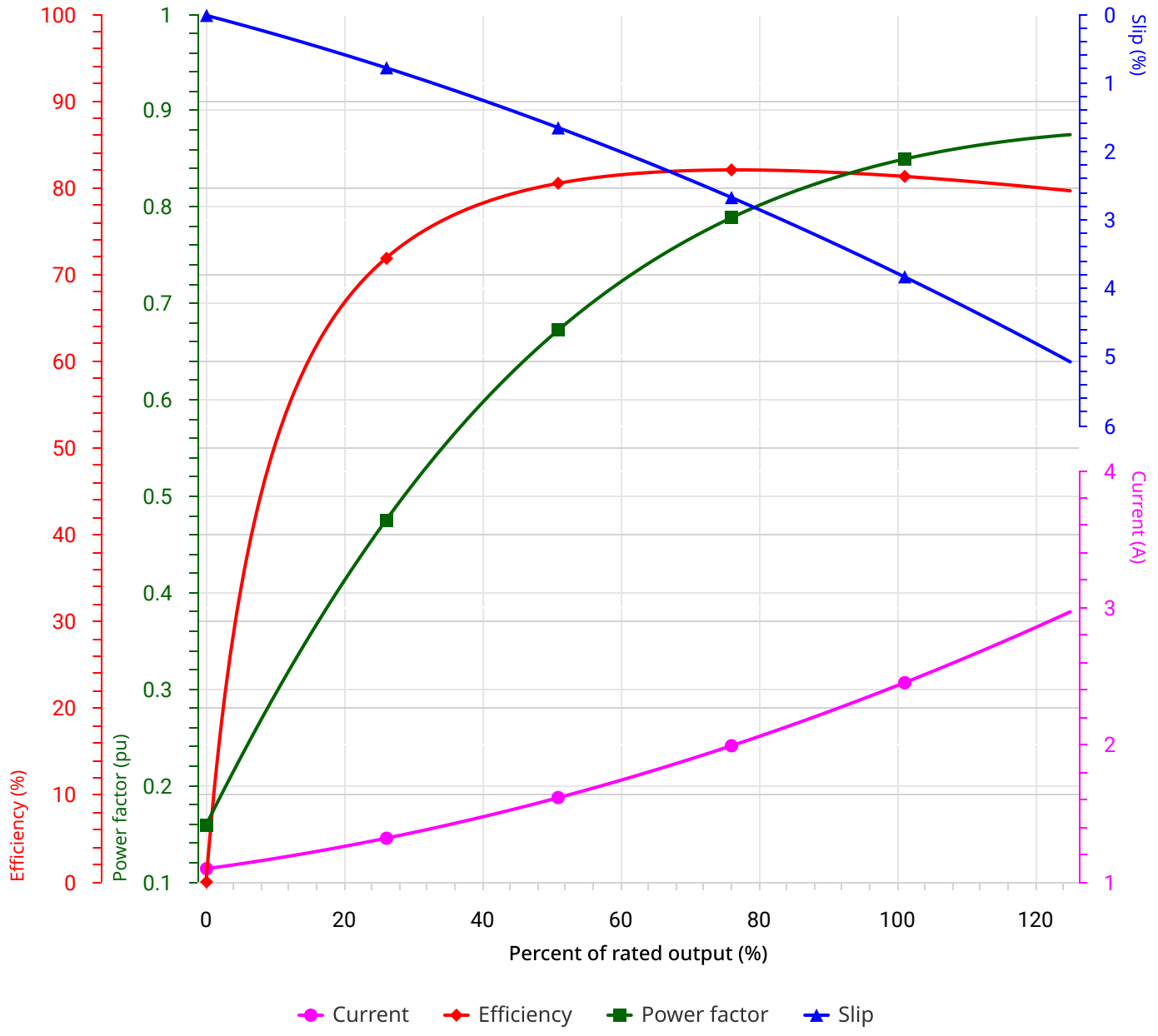
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Three Phase Induction Motor - Squirrel Cage

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|---|---|
| Customer | : |
| Product line | : W22 - Nema Premium Efficiency (Derating) |
| Product code | : 12710807 |




| | | | |
|---|---|---|---|
| Performance | : 1.5 HP (1.1 kW) 380V 50Hz 2P 143/5TC | | |
| Rated current | : 2.41 A | Moment of inertia (J) | : 0.002 kgm² |
| LRC | : 6.8 Code J | Duty cycle | : Cont.(S1) |
| Rated torque | : 0.377 kgfm | Insulation class | : F |
| Locked rotor torque | : 210 % | Service factor | : 1.25 |
| Breakdown torque | : 260 % | Temperature rise | : 80 K |
| Rated speed | : 2885 rpm | Design | : B |

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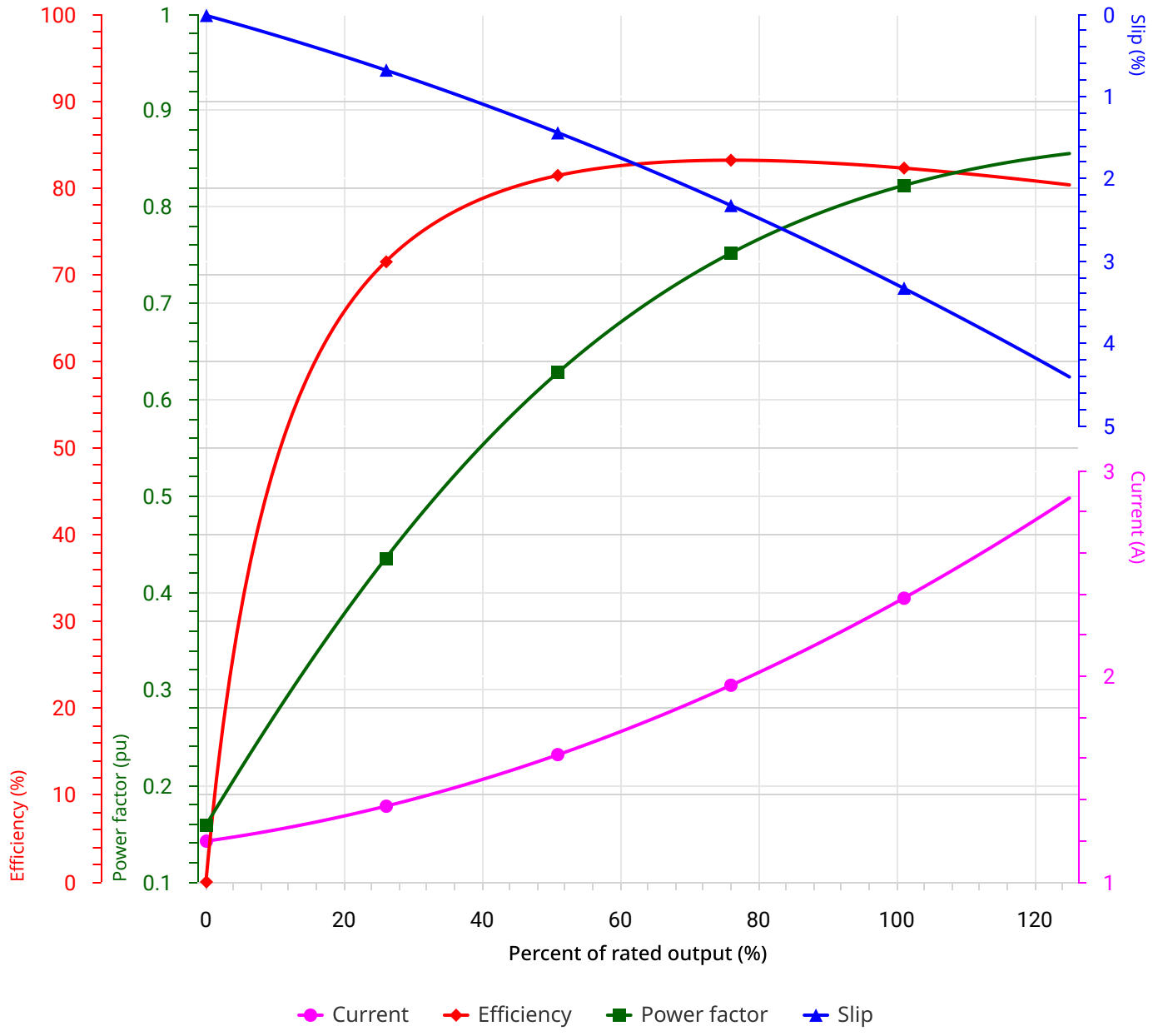
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| Customer | : |
| Product line | : W22 - Nema Premium Efficiency (Derating) |
| Product code | : 12710807 |




| | |
|---|---|
| Performance | : 1.5 HP (1.1 kW) 400V 50Hz 2P 143/5TC |

| | | | |
|---|---|---|---|
| Rated current | : 2.35 A | Moment of inertia (J) | : 0.002 kgm² |
| LRC | : 7.5 Code K | Duty cycle | : Cont.(S1) |
| Rated torque | : 0.375 kgfm | Insulation class | : F |
| Locked rotor torque | : 240 % | Service factor | : 1.25 |
| Breakdown torque | : 290 % | Temperature rise | : 80 K |
| Rated speed | : 2900 rpm | Design | : B |

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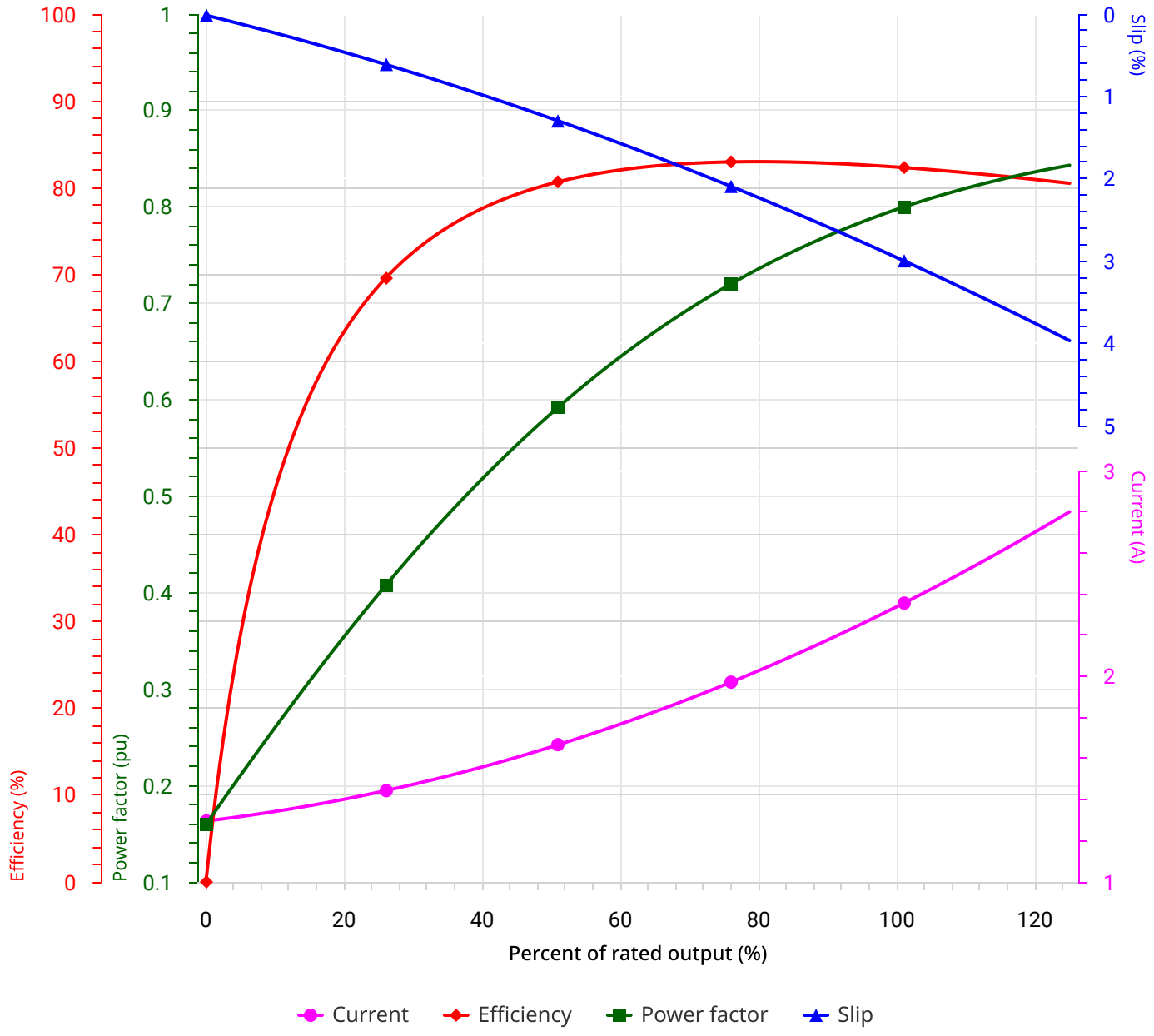
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| | |
|---|---|
| Performance | : 1.5 HP (1.1 kW) 415V 50Hz 2P 143/5TC |

| | | | |
|---|---|---|---|
| Rated current | : 2.32 A | Moment of inertia (J) | : 0.002 kgm² |
| LRC | : 7.9 Code K | Duty cycle | : Cont.(S1) |
| Rated torque | : 0.374 kgfm | Insulation class | : F |
| Locked rotor torque | : 250 % | Service factor | : 1.25 |
| Breakdown torque | : 310 % | Temperature rise | : 80 K |
| Rated speed | : 2910 rpm | Design | : B |

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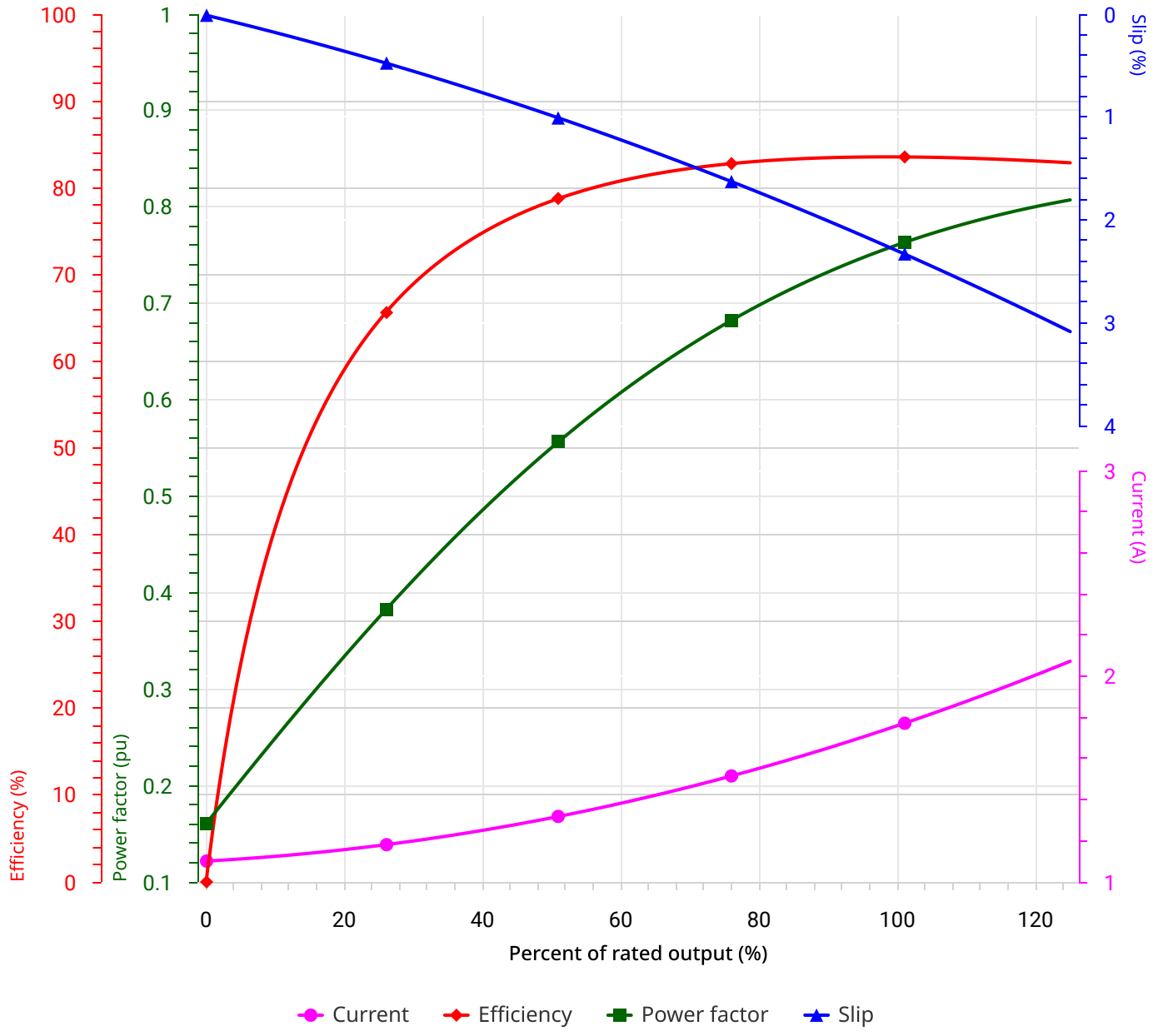
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|---|---|
| Customer | : |
| Product line | : W22 - Nema Premium Efficiency (Derating) |
| Product code | : 12710807 |




| | |
|---|---|
| Performance | : 1 HP (0.75 kW) 380V 50Hz 2P 143/5TC |

| | | | |
|---|---|---|---|
| Rated current | : 1.80 A | Moment of inertia (J) | : 0.002 kgm² |
| LRC | : 9.2 Code M | Duty cycle | : Cont.(S1) |
| Rated torque | : 0.248 kgfm | Insulation class | : F |
| Locked rotor torque | : 310 % | Service factor | : 1.25 |
| Breakdown torque | : 390 % | Temperature rise | : 80 K |
| Rated speed | : 2930 rpm | Design | : B |

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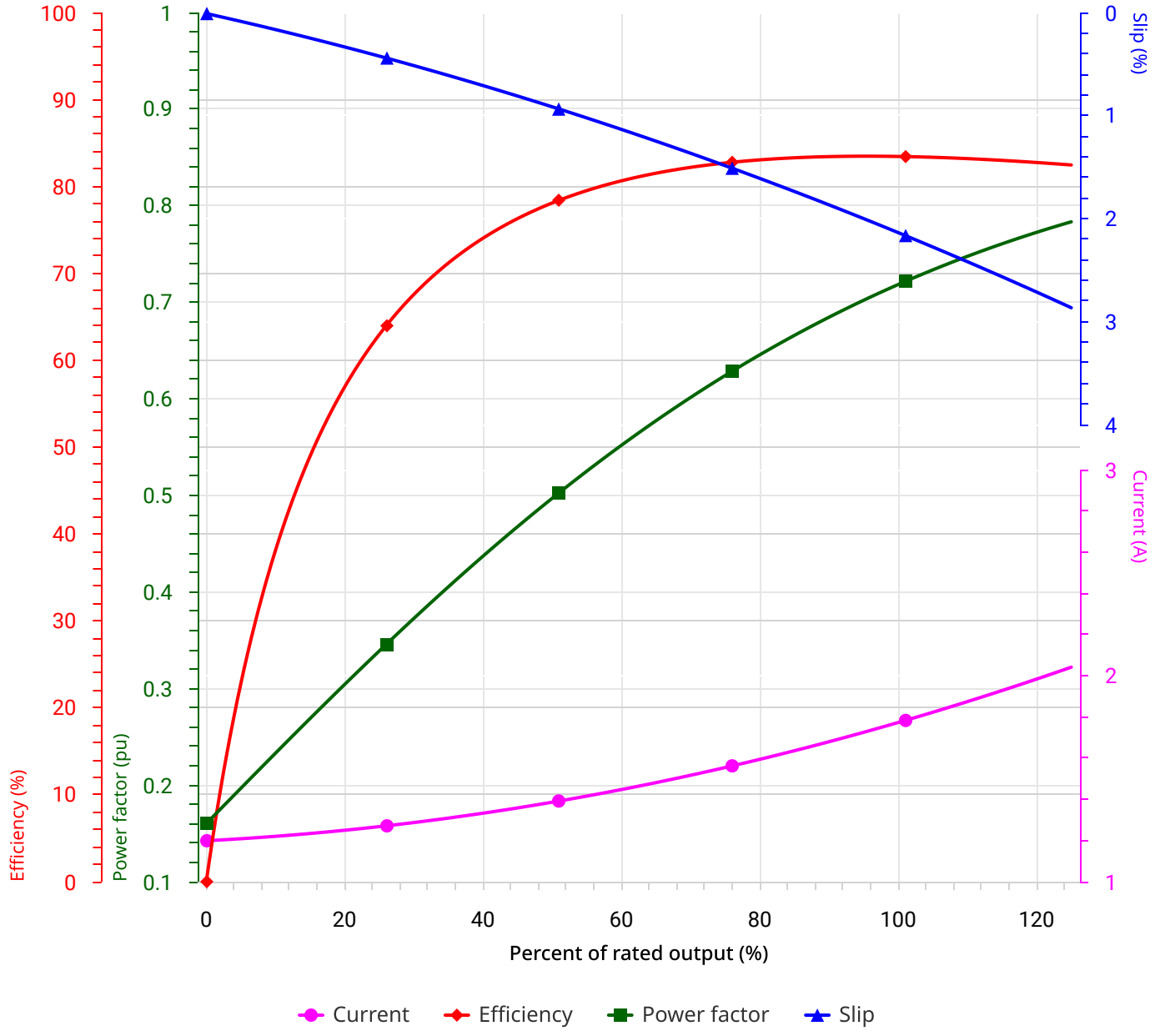
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| Product code | : 12710807 |




| | | | |
|---|---|---|---|
| Performance | : 1 HP (0.75 kW) 400V 50Hz 2P 143/5TC | | |
| Rated current | : 1.80 A | Moment of inertia (J) | : 0.002 kgm² |
| LRC | : 9.8 Code N | Duty cycle | : Cont.(S1) |
| Rated torque | : 0.247 kgfm | Insulation class | : F |
| Locked rotor torque | : 330 % | Service factor | : 1.25 |
| Breakdown torque | : 440 % | Temperature rise | : 80 K |
| Rated speed | : 2935 rpm | Design | : B |

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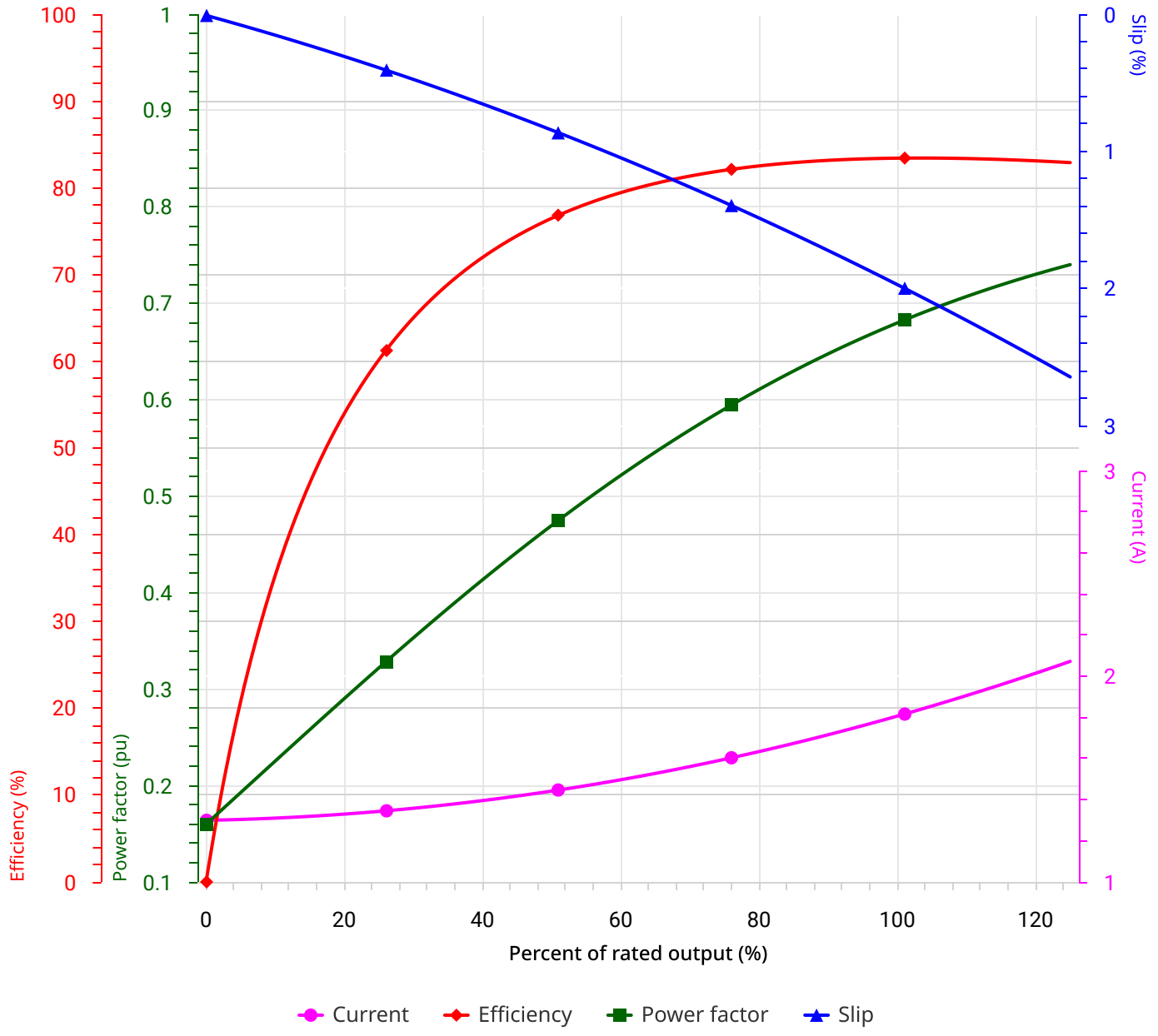
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|---|---|
| Customer | : |
| Product line | : W22 - Nema Premium Efficiency (Derating) |
| Product code | : 12710807 |




| | | | |
|---|---|---|---|
| Performance | : 1 HP (0.75 kW) 415V 50Hz 2P 143/5TC | | |
| Rated current | : 1.84 A | Moment of inertia (J) | : 0.002 kgm² |
| LRC | : 10.3 Code P | Duty cycle | : Cont.(S1) |
| Rated torque | : 0.247 kgfm | Insulation class | : F |
| Locked rotor torque | : 360 % | Service factor | : 1.25 |
| Breakdown torque | : 480 % | Temperature rise | : 80 K |
| Rated speed | : 2940 rpm | Design | : B |

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