

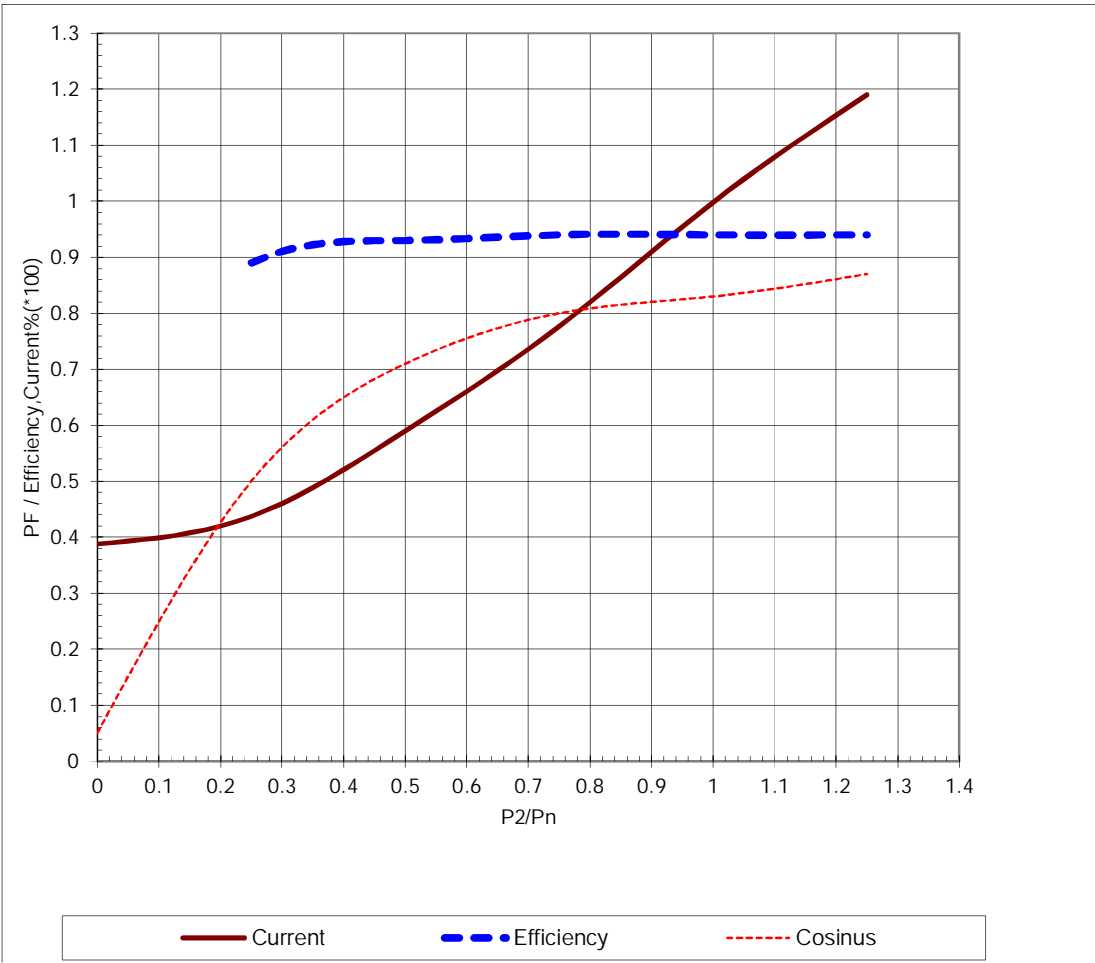

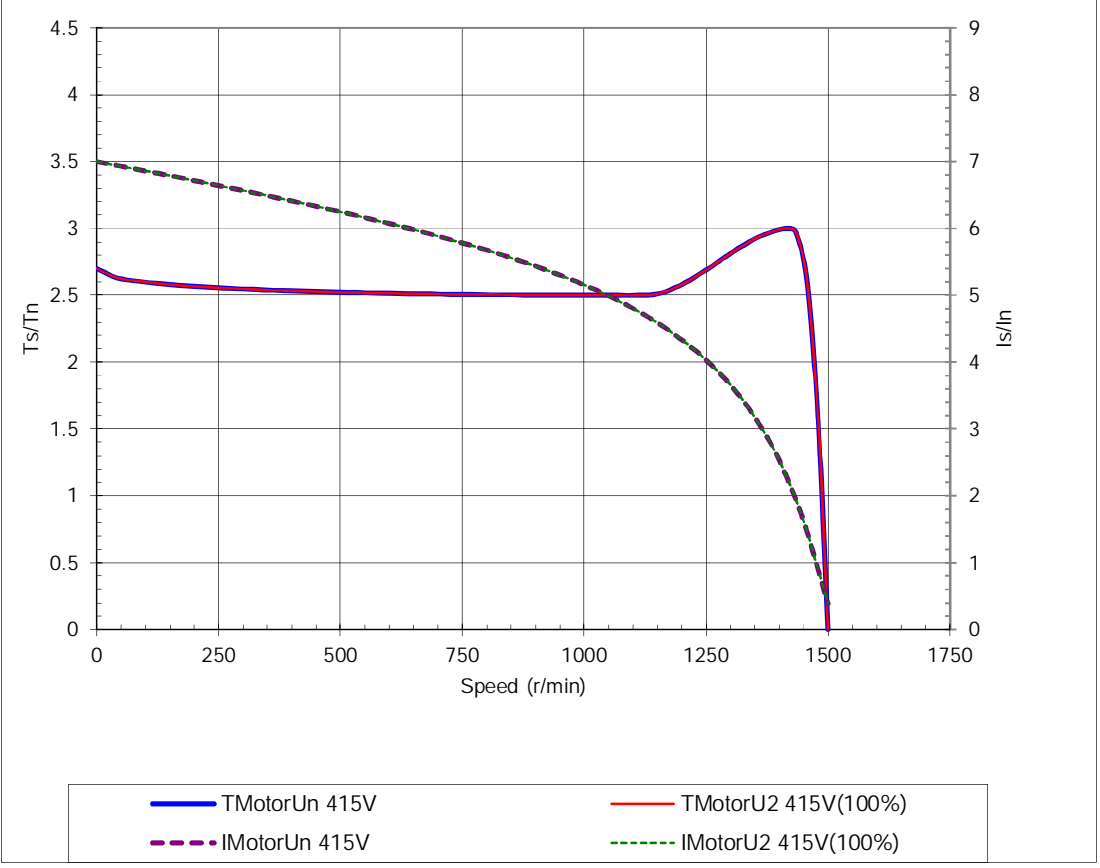

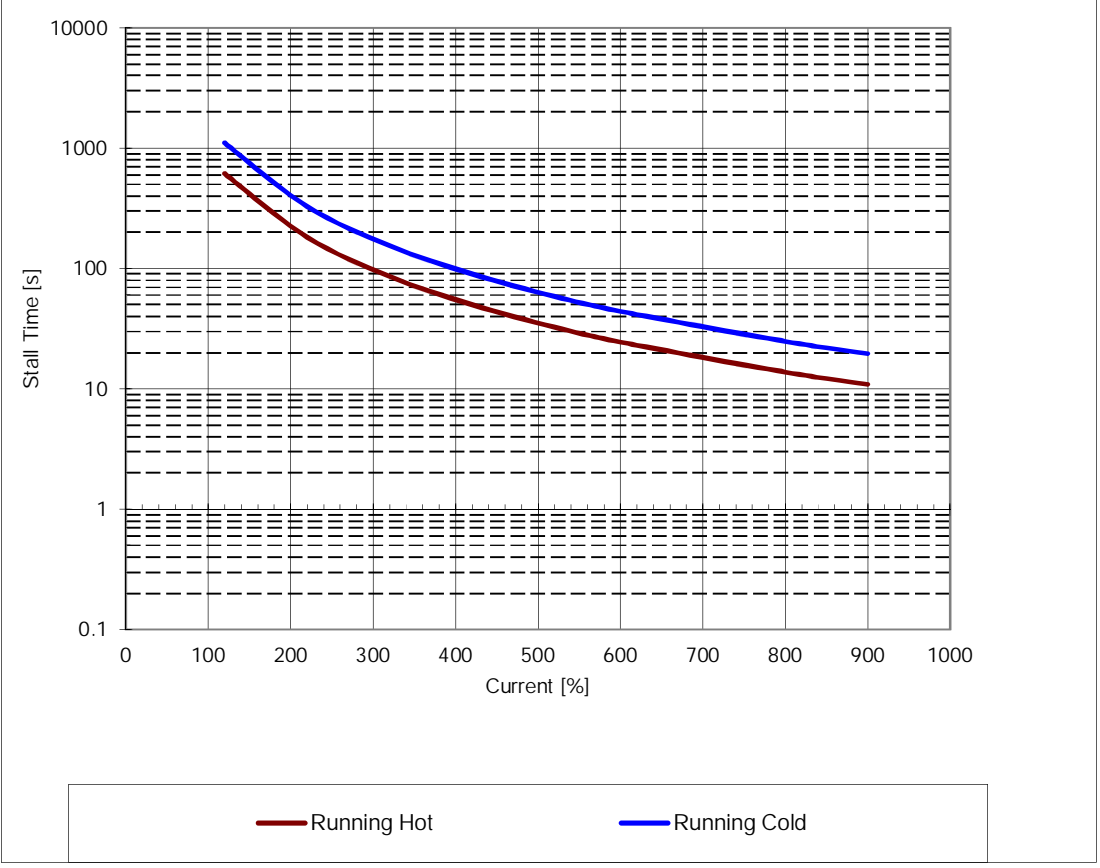


| ABB Motors and Generators | | Technical Data Sheet | | |  |
|--|--|---|----------------------------------|-------------------|---|
| | | Project | Location | | |
| Department/Author | Customer name | Customer ref. | | Item name | |
| Our ref. | Rev/Changed by | Date of issue | Saving ident | Pages | |
| | A | 6/15/2019 | m2bax_ie2_2_4_6_8p_foot cum flar | 1(3) | |
| No. | Definition | Data | Unit | Remarks | |
| 1 | Product | TEFC, 3-phase, squirrel cage induction motor | | | |
| 2 | Product code | 3GBA 282 110-HDCIN | | | |
| 3 | Type/Frame | M2BAX 280SA 4 | | | |
| 4 | Mounting | IM2001, B35(foot-flange) | | | |
| 5 | Rated output P _N | 75 | kW | | |
| 6 | Service factor | 1 | | | |
| 7 | Type of duty | S1 100% | | | |
| 8 | Rated voltage U _N | 415 | VD | +10, -10 % | |
| 9 | Rated frequency f _N | 50 | Hz | +5, -5 % | |
| 10 | Rated speed n _N | 1488 | r/min | | |
| 11 | Rated current I _N | 134 | A | | |
| 12 | Method of Starting | DOL | | | |
| 13 | Starting current I _s /I _N | 7 | | | |
| 14 | Nominal torque T _N | 481 | Nm | | |
| 15 | Locked rotor torque T _s /T _N | 2.7 | | | |
| 16 | Maximum torque T _{max} /T _N | 3 | | | |
| 17 | | | | | |
| 18 | | | | | |
| Load characteristics | | Load % | Current A | Efficiency % | Power factor |
| 19 | PLL determined from residual loss | 100 | 134 | 94.0 / IE2 | 0.83 |
| 20 | | 75 | 104 | 94 | 0.8 |
| 21 | | 50 | 79 | 93 | 0.71 |
| 22 | | | | | |
| 23 | Thermal withstand time hot | 19 | s | | |
| 24 | Thermal withstand time cold | 33 | s | | |
| 25 | Insulation class / Temperature class | F / B | | | |
| 26 | Ambient temperature | 50 | °C | | |
| 27 | Altitude | 1000 | m.a.s.l. | | |
| 28 | Degree of protection | IP55 | | | |
| 29 | Cooling system | IC411 | | | |
| 30 | Bearing DE/NDE | 6316/C3 - 6316/C3 | | | |
| 31 | Sound pressure level (LP dB(A) 1m) | 85 | dB(A) | at no-load | |
| 32 | Moment of inertia J = ¼ GD2 | 1.25 | kg-m2 | | |
| 33 | Position of terminal box | Top | | | |
| 34 | Direction of rotation | Bi-directional | | | |
| 35 | Weight of rotor | 132 | kg | | |
| 36 | Total weight of motor | 531 | kg | | |
| 37 | | | | | |
| 38 | | | | | |
| 39 | | | | | |
| 40 | | | | | |
| 41 | | | | | |
| 42 | | | | | |
| 43 | | | | | |
| 44 | | | | | |
| 45 | | | | | |
| Ex-motors | | | | | |
| 46 | | | | | |
| 47 | | | | | |
| 48 | | | | | |
| Option Variant Codes / Definition | | | | | |
| 49 | Application check not made in absence of load details. | | | | |
| 50 | Efficiency level : IE2 as per IS12615 2018. | | | | |
| 51 | | | | | |
| 52 | | | | | |
| Remarks: | | | | | |
| Applicable standards: IS 12615 2018 | | | | | |

All performance values are subject to IS/IEC tolerances

| | | | |
|---|---|-----------------------------------|---|
| ABB Motors and Generators | Load Curves | |  |
| | Project | Location | |
| Department/Author | Customer name | Customer ref. | Item name 2.00001 |
| Our ref. | Rev/Changed by A | Date of issue 6/15/2019 | Saving ident m2bax_ie2_2_4_6_8p_foot cum flang |
| Pages 2(3) | | | |
| Product | TEFC, 3-phase, squirrel cage induction motor | | |
| Type/Frame | M2BAX 280SA 4 | | |
| Product code | 3GBA 282 110-HDCIN | | |
| Rated output P _N | 75 | kW | |
| Type of duty | S1 100% | | |
| Voltage (V) | 415 | Current I _N (A) | 134 |
| Frequency (Hz) | 50 | Speed (r/min) | 1488 |
| | | Power factor at P _N | 0.83 |
| | | Efficiency (%) at P _N | 94 |
|  | | | |
| <p>Applicable standards: IS 12615 2018 28.7.2015</p> | | | |

| | | | |
|---|---|---|---|
| ABB Motors and Generators | Starting Curves | |  |
| | Project | Location | |
| Department/Author | Customer name | Customer ref. | Item name |
| Our ref. | Rev/Changed b Date of issue | Saving ident | Pages |
| | A 6/15/2019 | m2bax_ie2_2_4_6_8p_foot cum flar | 3(3) |
| Type of product | TEFC, 3-phase, squirrel cage induction motor | | |
| Type/Frame | M2BAX 280SA 4 | | |
| Product code | 3GBA 282 110-HDCIN | Frequency (Hz) | 50 |
| Rated output P _N | 75 kW | Rated current I _N | 134 A |
| Type of duty | S1 100% | | |
| J _{motor} (kgm ²) | 1.3 | Voltage (V) 100% | 415 Voltage (V) 415V(100%) |
| J _{load} (kgm ²) | | T _{start} /T _N | 2.7 T _{start} /T _N 2.7 |
| Speed (r/min) | 1488 | Starting time (s) | |
| T _N (Nm) | 481 | Speed (r/min) | |
| T _{load} (Nm) | | I _s /I _N | 7 I _s /I _N 7 |
| | | T _{max} /T _n | 3 T _{max} /T _n 3 |
|  <p>The graph plots torque ratios (Ts/Tn) and current ratios (Is/In) against speed in r/min. The x-axis ranges from 0 to 1750 r/min. The left y-axis (Ts/Tn) ranges from 0 to 4.5, and the right y-axis (Is/In) ranges from 0 to 9. Two torque curves are shown: a solid blue line for 415V (T_{MotorUn}) and a solid red line for 415V(100%) (T_{MotorU2}). Two current curves are shown: a dashed purple line for 415V (I_{MotorUn}) and a dashed green line for 415V(100%) (I_{MotorU2}). The 415V(100%) torque curve shows a peak of 3 at approximately 1488 r/min. The 415V(100%) current curve peaks at 7 at the same speed. The 415V curves are generally lower and flatter than the 415V(100%) curves.</p> | | | |
| Applicable standards: IS 12615 2018 28.7.2015 | | | |

| | | | |
|---|---|---|---|
| ABB Motors and Generators | Thermal Withstand Curve | |  |
| | Project | Location | |
| Department/Author | Customer name | Customer ref. | Item name 2.00001 |
| Our ref. | Rev/Changed b Date of issue A 6/15/2019 | Saving ident m2bax_ie2_2_4_6_8p_foot cum flar | Pages 5(3) |
| Type of product | TEFC, 3-phase, squirrel cage induction motor | | |
| Type/Frame | M2BAX 280SA 4 | | |
| Product code | 3GBA 282 110-HDCIN | Frequency (Hz) | 50 |
| Rated output P _N | 75 kW | Rated current I _N | 134 A |
| Type of duty | S1 100% | | |
| J _{motor} (kgm ²) | 1.3 | Voltage (V) 100% | 415 Voltage (V) 415V(100%) |
| J _{load} (kgm ²) | | T _{start} /T _N | 2.7 T _{start} /T _N 2.7 |
| Speed (r/min) | 1488 | Speed (r/min) | |
| T _N (Nm) | 481 | I _s /I _n | 7 I _s /I _n 7 |
| T _{load} (Nm) | | T _{max} /T _n | 3 T _{max} /T _n 3 |
|  <p>The graph plots Stall Time [s] on a logarithmic y-axis (0.1 to 10000) against Current [%] on a linear x-axis (0 to 1000). Two curves are shown: a blue line for 'Running Cold' and a red line for 'Running Hot'. Both curves show a decrease in stall time as current increases. The 'Running Cold' curve starts at approximately 1000s at 100% current and drops to about 20s at 900% current. The 'Running Hot' curve starts at approximately 600s at 100% current and drops to about 10s at 900% current.</p> | | | |
| <p>Applicable standards: IS 12615 2018 28.7.2015</p> | | | |