

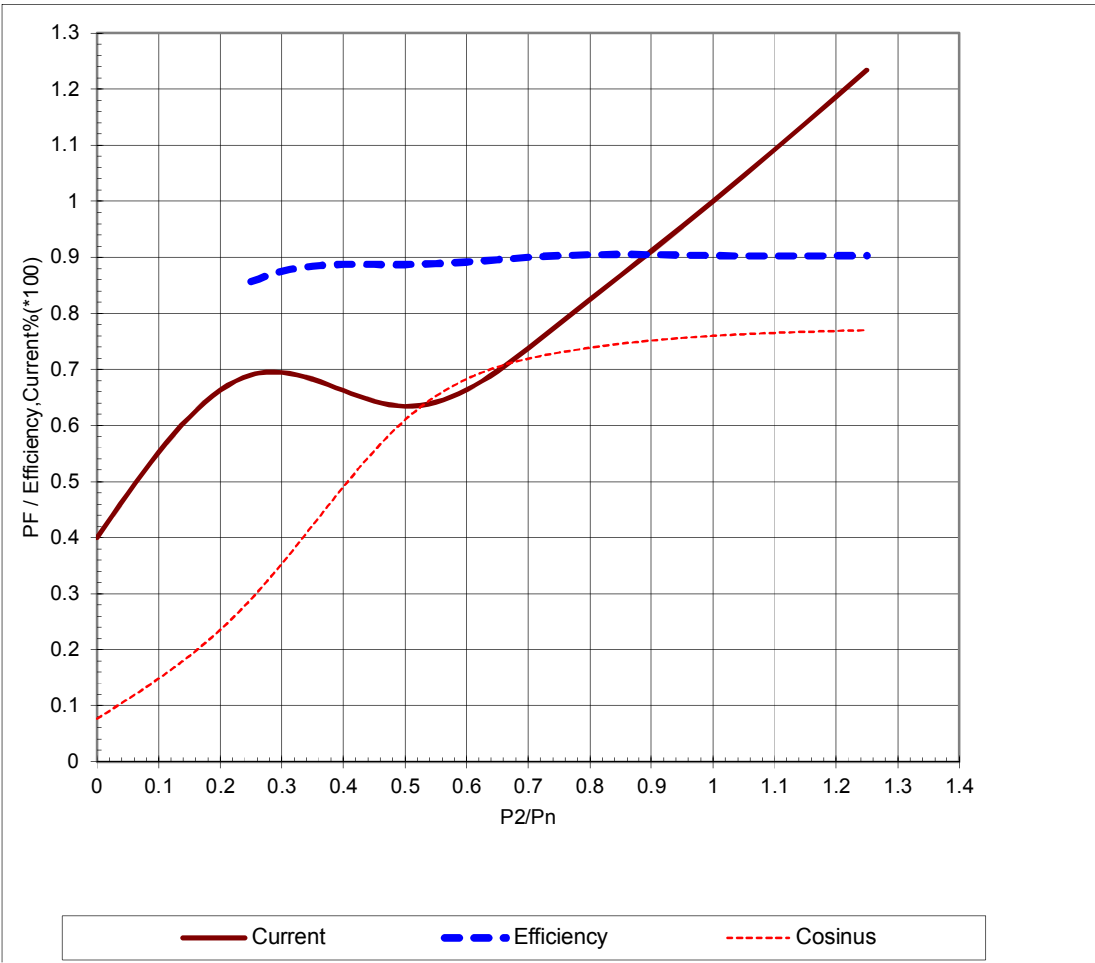



| ABB Motors and Generators | | Technical Data Sheet | | |  |
|--|---|---|---------------------|----------------|---|
| | | Project | Location | | |
| Department/Author | Customer name | Customer ref. | | Item name | |
| | | | | 1.00001 | |
| Our ref. | Rev/Changed by | Date of issue | Saving ident | Pages | |
| | A | 1/17/2019 | untitled.xls | 1(3) | |
| No. | Definition | Data | Unit | Remarks | |
| 1 | Product | TEFC, 3-phase, squirrel cage induction motor | | | |
| 2 | Product code | E2HX280SMB8 | | | |
| 3 | Type/Frame | E2HX280SMB8 | | | |
| 4 | Mounting | IM1001, B3(foot) | | | |
| 5 | Rated output P _N | 37 | 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 | 740 | r/min | | |
| 11 | Rated current I _N | 75 | A | | |
| 12 | Method of starting | DOL | | | |
| 13 | Starting current I _s /I _N | 7 | | | |
| 14 | Nominal torque T _N | 477 | Nm | | |
| 15 | Locked rotor torque T _S /T _N | 2.1 | | | |
| 16 | Maximum torque T _{max} /T _N | 2.3 | | | |
| 17 | | | | | |
| 18 | | | | | |
| | Load characteristics | Load % | Current A | Efficiency % | Power factor |
| 19 | PLL determined from residual loss | 100 | 75 | 90.3 | 0.76 |
| 20 | | 75 | 58.6 | 90.3 | 0.73 |
| 21 | | 50 | 47.6 | 88.7 | 0.61 |
| 22 | | | | | |
| 23 | Thermal withstand time hot | 20 | s | | |
| 24 | Thermal withstand time cold | 46 | 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 self ventilated | | | |
| 30 | Bearing DE/NDE | 6316/C3 - 6315/C3 | | | |
| 31 | Sound pressure level (LP dB(A) 1m) | 85 | dB(A) | at no-load | |
| 32 | Moment of inertia J = ¼ GD ² | 1.91 | kg-m ² | | |
| 33 | Position of terminal box | Top | | | |
| 34 | Direction of rotation | Bi-directional | | | |
| 35 | Total weight of motor | 590 | kg | | |
| 36 | | | | | |
| 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 IS 12615 2018 | | | | |
| 51 | | | | | |
| 52 | | | | | |
| Remarks: | | | | | |
| Data based on situation 9/4/2014 | | | | | |

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 1.00001 |
| Our ref. | Rev/Changed by A | Date of issue 1/17/2019 | Saving ident untitled.xls |
| | | | Pages 2(3) |
| Product | TEFC, 3-phase, squirrel cage induction motor | | |
| Type/Frame | E2HX280SMB8 | | |
| Product code | E2HX280SMB8 | | |
| Rated output P _N | 37 | kW | |
| Type of duty | S1 100% | | |
| Voltage (V) | 415 | Current I _N (A) | 75 |
| Frequency (Hz) | 50 | Speed (r/min) | 740 |
| | | Power factor at P _N | 0.76 |
| | | Efficiency (%) at P _N | 90.3 |
|  | | | |
| <p>Data based on situation 9/4/2014</p> <p style="text-align: center;">All data subject to tolerances in accordance with IS/IEC 60034-1 : 2004</p> | | | |

| ABB Motors and Generators | Starting Curves | |  |
|--|---|-------------------------------------|---|
| | Project | Location | |
| Department/Author | Customer name | Customer ref. | Item name 1.00001 |
| Our ref. | Rev/Changed b Date of issue A 1/17/2019 | Saving ident untitled.xls | Pages 3(3) |
| Type of product | TEFC, 3-phase, squirrel cage induction motor | | |
| Type/Frame | E2HX280SMB8 | | |
| Product code | E2HX280SMB8 | Frequency (Hz) | 50 |
| Rated output P _N | 37 kW | Rated current I _N | 75 A |
| Type of duty | S1 100% | | |
| J _{motor} (kgm ²) | 1.9 | Voltage (V) 100% | 415 |
| J _{load} (kgm ²) | | Voltage (V) | 332V(80%) |
| Speed (r/min) | 740 | T _{start} /T _N | 2.1 |
| T _N (Nm) | 477 | T _{start} /T _N | 1.2 |
| T _{load} (Nm) | 477 | Starting time (s) | 0.2 |
| | | Starting time (s) | 0.4 |
| | | Speed (r/min) | 739 |
| | | Speed (r/min) | 730 |
| | | I _s /I _N | 7 |
| | | I _s /I _N | 5.4 |
| | | T _{max} /T _N | 2.3 |
| | | T _{max} /T _N | 1.4 |

The graph plots normalized torque (Ts/Tn) and normalized current (Is/In) against speed (r/min) from 0 to 1000. The left y-axis represents Ts/Tn (0 to 4.5) and the right y-axis represents Is/In (0 to 9). The x-axis represents Speed (r/min) (0 to 1000). The legend indicates: Torque load (solid red), TMotorUn 415V (solid blue), TMotorU2 332V(80%) (solid orange), IMotorUn 415V (dashed purple), and IMotorU2 332V(80%) (dashed green).

Data based on situation 9/4/2014


All data subject to tolerances in accordance with IS/IEC 60034-1 : 2004

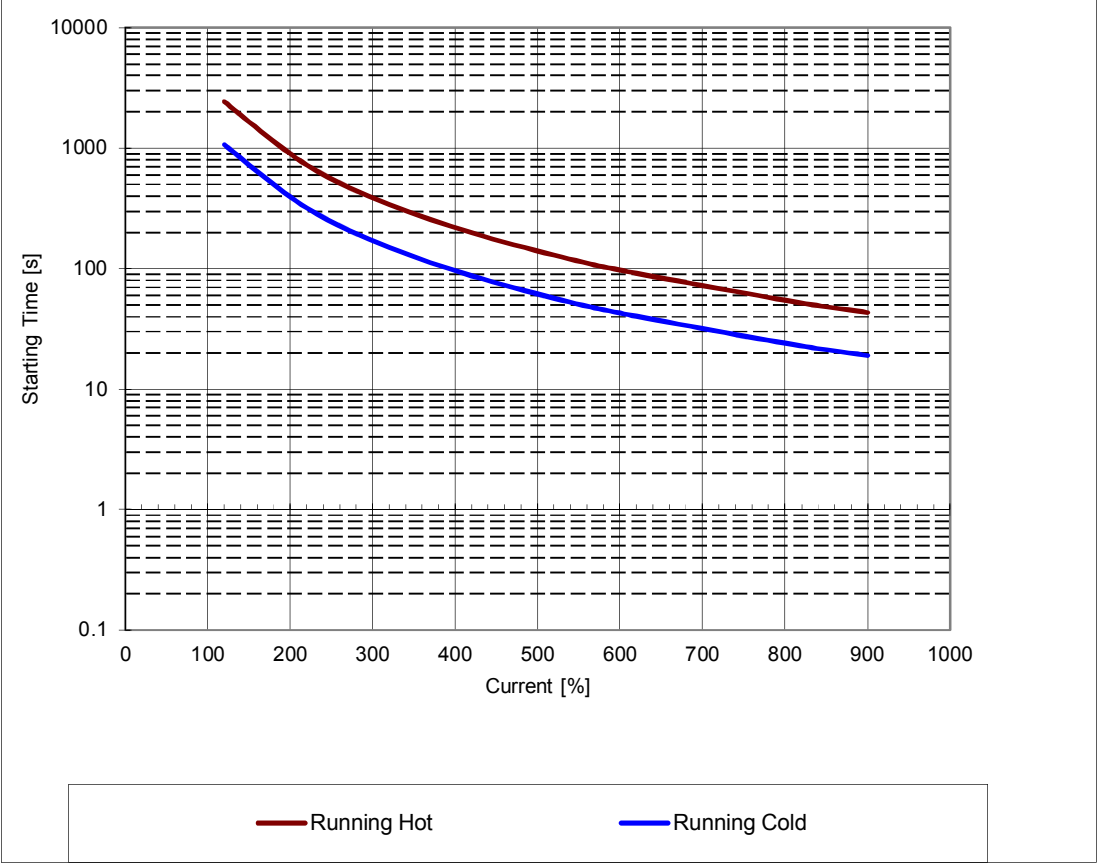
| ABB Motors and Generators | Current & Speed Vs Time | | |  |
|---------------------------------|---|---------------------|---------------------|---|
| | Project | Location | | |
| Department/Author | Customer name | Customer ref. | | Item name 1.00001 |
| Our ref. | Rev/Changed b | Date of issue | Saving ident | Pages |
| | A | 1/17/2019 | untitled.xls | 4(3) |
| Type of product | TEFC, 3-phase, squirrel cage induction motor | | | |
| Type/Frame | E2HX280SMB8 | | | |
| Product code | E2HX280SMB8 | Frequency (Hz) | 50 | |
| Rated output P_N | 37 kW | Rated current I_N | 75 | A |
| Type of duty | S1 100% | | | |
| J_{motor} (kgm ²) | 1.9 | Voltage (V) 100% | 415 | Voltage (V) 332V(80%) |
| J_{load} (kgm ²) | | T_{start}/T_N | 2.1 | T_{start}/T_N 1.2 |
| Speed (r/min) | 740 | Starting time (s) | 0.2 | Starting time (s) 0.4 |
| T_N (Nm) | 477 | Speed (r/min) | 739 | Speed (r/min) 730 |
| T_{load} (Nm) | 477 | I_s/I_N | 7 | I_s/I_N 5.4 |
| | | T_{max}/T_N | 2.3 | T_{max}/T_N 1.4 |

| Starting Time [s] | Speed [rpm] | Current [A] |
|-------------------|-------------|-------------|
| 0.00 | 0 | 700 |
| 0.02 | 100 | 650 |
| 0.04 | 200 | 600 |
| 0.06 | 300 | 550 |
| 0.08 | 400 | 500 |
| 0.10 | 500 | 450 |
| 0.12 | 600 | 400 |
| 0.14 | 700 | 350 |
| 0.16 | 750 | 250 |
| 0.18 | 750 | 150 |
| 0.20 | 750 | 50 |

Data based on situation 9/4/2014

All data subject to tolerances in accordance with IS/IEC 60034-1 : 2004

| | | | | |
|--|---|------------------------------------|---------------------|---|
| ABB Motors and Generators | Thermal Withstand Curve | | |  |
| | Project | Location | | |
| Department/Author | Customer name | Customer ref. | | Item name 1.00001 |
| Our ref. | Rev/Changed b | Date of issue | Saving ident | Pages |
| | A | 1/17/2019 | untitled.xls | 5(3) |
| Type of product | TEFC, 3-phase, squirrel cage induction motor | | | |
| Type/Frame | E2HX280SMB8 | | | |
| Product code | E2HX280SMB8 | Frequency (Hz) | 50 | |
| Rated output P _N | 37 kW | Rated current I _N | 75 | A |
| Type of duty | S1 100% | | | |
| J _{motor} (kgm ²) | 1.9 | Voltage (V) 100% | 415 | Voltage (V) 332V(80%) |
| J _{load} (kgm ²) | | T _{start} /T _N | 2.1 | T _{start} /T _N 1.2 |
| Speed (r/min) | 740 | Starting time (s) | 0.2 | Starting time (s) 0.4 |
| T _N (Nm) | 477 | Speed (r/min) | 739 | Speed (r/min) 730 |
| T _{load} (Nm) | 477 | I _s /I _n | 7 | I _s /I _n 5.4 |
| | | T _{max} /T _n | 2.3 | T _{max} /T _n 1.4 |



The graph shows the starting time in seconds on a logarithmic y-axis (0.1 to 10000) versus the current percentage on a linear x-axis (0 to 1000). Two curves are shown: a red line for 'Running Hot' and a blue line for 'Running Cold'. Both curves show a decrease in starting 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 2000s at 100% current and drops to about 50s at 900% current.

Data based on situation 9/4/2014
All data subject to tolerances in accordance with IS/IEC 60034-1 : 2004