


| ABB Motors and Generators                             |  | Technical Data Sheet - DOL                          |                                    |  |  |
|---|--|---|------------------------------------|--|---|
|   |  | Project   | Location                           |  |   |
| Department/Author                                     |  | Customer name                                       | Customer ref.                      |  | Item name<br><b>1.00049</b>   |
| Our ref.  |  | Rev/Changed by<br><b>A</b>                          | Date of issue<br><b>21/11/2017</b> | Saving ident<br><b>wimes stock.do2.xls</b> | Pages<br><b>1(3)</b>  |
| No.   | Definition   | Data  | Unit                               | Remarks                                    |   |
| 1   | Product  | <b>TEFC, 3-phase, squirrel cage induction motor</b> |                                    |  |   |
| 2   | Product code                                       | <b>3GBA 312 240-ADM</b>                             |                                    | Calc. ref.                                 | 3GZF021031-532  |
| 3   | Type/Frame   | <b>M2BAX 315SMD 4</b>                               |                                    |  |   |
| 4   | Mounting   | <b>IM1001, B3(foot)</b>                             |                                    |  |   |
| 5   | Rated output P <sub>N</sub>                        | <b>160</b>  | kW                                 |  |   |
| 6   | Service factor                                     | <b>1</b>  |                                    |  |   |
| 7   | Type of duty                                       | <b>S1(IEC) 100%</b>                                 |                                    |  |   |
| 8   | Rated voltage U <sub>N</sub>                       | <b>400</b>  | VD                                 | ± 5 % (IEC 60034-1)                        |   |
| 9   | Rated frequency f <sub>N</sub>                     | <b>50</b>   | Hz                                 | ± 2 % (IEC 60034-1)                        |   |
| 10  | Rated speed n <sub>N</sub>                         | <b>1488</b>   | r/min                              |  |   |
| 11  | Rated current I <sub>N</sub>                       | <b>282</b>  | A                                  |  |   |
| 12  | No-load current                                    | <b>100</b>  | A                                  |  |   |
| 13  | Starting current I <sub>s</sub> /I <sub>N</sub>    | <b>6.9</b>  |                                    | Fulfilled IEC 60034-12 design N,H          |   |
| 14  | Nominal torque T <sub>N</sub>                      | <b>1027</b>   | Nm                                 |  |   |
| 15  | Locked rotor torque T <sub>s</sub> /T <sub>N</sub> | <b>2.2</b>  |                                    |  |   |
| 16  | Maximum torque T <sub>max</sub> /T <sub>N</sub>    | <b>3</b>  |                                    |  |   |
| 17  | Minimum torque T <sub>min</sub> /T <sub>N</sub>    | <b>2</b>  |                                    |  |   |
| 18  | Speed at minimum torque                            | <b>1200</b>   | r/min                              |  |   |
| Load characteristics (IEC 60034-2-1:2014)             |  | Load %  | Current A                          | Efficiency %                               | Power factor  |
| 19  | PLL determined from residual loss                  | <b>100</b>  | <b>282</b>                         | <b>95.8 / IE3</b>                          | <b>0.85</b>   |
| 20  |  | <b>75</b>   | <b>220</b>                         | <b>96</b>                                  | <b>0.82</b>   |
| 21  |  | <b>50</b>   | <b>163</b>                         | <b>95.8</b>                                | <b>0.74</b>   |
| 22  |  | <b>Start</b>  | <b>1946</b>                        |  | <b>0.33</b>   |
| 23  | Maximum starting time from hot                     | <b>18</b>   | s                                  |  |   |
| 24  | Maximum starting time from cold                    | <b>33</b>   | s                                  |  |   |
| 25  | Insulation class / Temperature class               | <b>F / B</b>  |                                    |  |   |
| 26  | Ambient temperature                                | <b>40</b>   | °C                                 |  |   |
| 27  | Altitude   | <b>1000</b>   | m.a.s.l.                           |  |   |
| 28  | Enclosure  | <b>IP55</b>   |                                    |  |   |
| 29  | Cooling system                                     | <b>IC411 self ventilated</b>                        |                                    |  |   |
| 30  | Bearing DE/NDE                                     | <b>6219/C3 - 6217/C3</b>                            |                                    |  |   |
| 31  | Type of Grease                                     |   |                                    |  |   |
| 32  | Sound pressure level (LP dB(A) 1m)                 | <b>71</b>   | dB(A)                              | at load                                    |   |
| 33  | Moment of inertia J = ¼ GD <sup>2</sup>            | <b>3.2</b>  | kg-m <sup>2</sup>                  |  |   |
| 34  | Balancing  |   |                                    |  |   |
| 35  | Vibration class                                    |   |                                    |  |   |
| 36  | Position of terminal box                           | <b>Top</b>  |                                    |  |   |
| 37  | Terminal box entries; no, dimens.                  |   |                                    |  |   |
| 38  | Number of power terminals                          |   |                                    |  |   |
| 39  | Direction of rotation                              | <b>CW or CCW</b>                                    |                                    |  |   |
| 40  | Weight of rotor                                    | <b>248</b>  | kg                                 |  |   |
| 41  | Total weight of motor                              | <b>933</b>  | kg                                 |  |   |
| 42  | Dimension drawing no.                              |   |                                    |  |   |
| 43  |  |   |                                    |  |   |
| 44  |  |   |                                    |  |   |
| 45  |  |   |                                    |  |   |
| Ex-motors   |  |   |                                    |  |   |
| 46  |  |   |                                    |  |   |
| 47  |  |   |                                    |  |   |
| 48  |  |   |                                    |  |   |
| Option Variant Codes / Definition                     |  |   |                                    |  |   |
| 49  |  |   |                                    |  |   |
| 50  |  |   |                                    |  |   |
| 51  |  |   |                                    |  |   |
| 52  |  |   |                                    |  |   |
| Remarks:  |  |   |                                    |  |   |
| Data based on situation 17/03/2016                    |  |   |                                    |  |   |
| All data subject to tolerances in accordance with IEC |  |   |                                    |  |   |
| Guaranteed values on request                          |  |   |                                    |  |   |

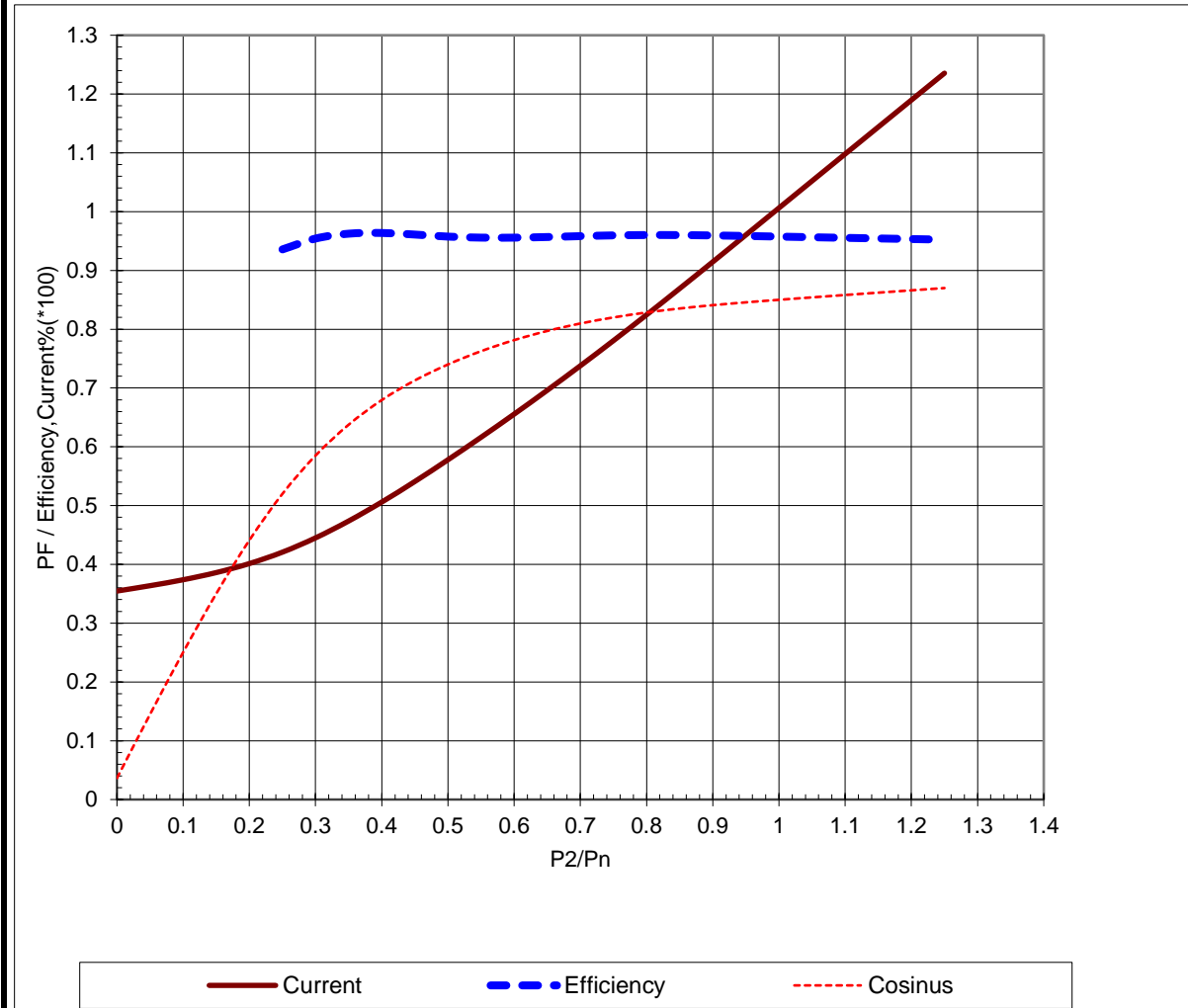
|         |          |
|---------|----------|
| Project | Location |
|---------|----------|

|                   |               |               |                             |
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|          |                |                   |                            |             |
|----------|----------------|-------------------|----------------------------|-------------|
| Our ref. | Rev/Changed by | Date of issue     | Saving ident               | Pages       |
|          | <b>A</b>       | <b>21/11/2017</b> | <b>wimes stock.do2.xls</b> | <b>2(3)</b> |

|                             |   |            |                       |
|-----------------------------|---|------------|-----------------------|
| Product                     | <b>TEFC, 3-phase, squirrel cage induction motor</b> |            |                       |
| Type/Frame                  | <b>M2BAX 315SMD 4</b>                               | Calc. ref. | <b>3GZF021031-532</b> |
| Product code                | <b>3GBA 312 240-ADM</b>                             |            |                       |
| Rated output P <sub>N</sub> | <b>160</b>  | kW         |                       |
| Type of duty                | <b>S1(IEC) 100%</b>                                 |            |                       |

|                |            |                            |             |                                  |             |
|----------------|------------|----------------------------|-------------|----------------------------------|-------------|
| Voltage (V)    | <b>400</b> | Current I <sub>N</sub> (A) | <b>282</b>  | Power factor at P <sub>N</sub>   | <b>0.85</b> |
| Frequency (Hz) | <b>50</b>  | Speed (r/min)              | <b>1488</b> | Efficiency (%) at P <sub>N</sub> | <b>95.8</b> |



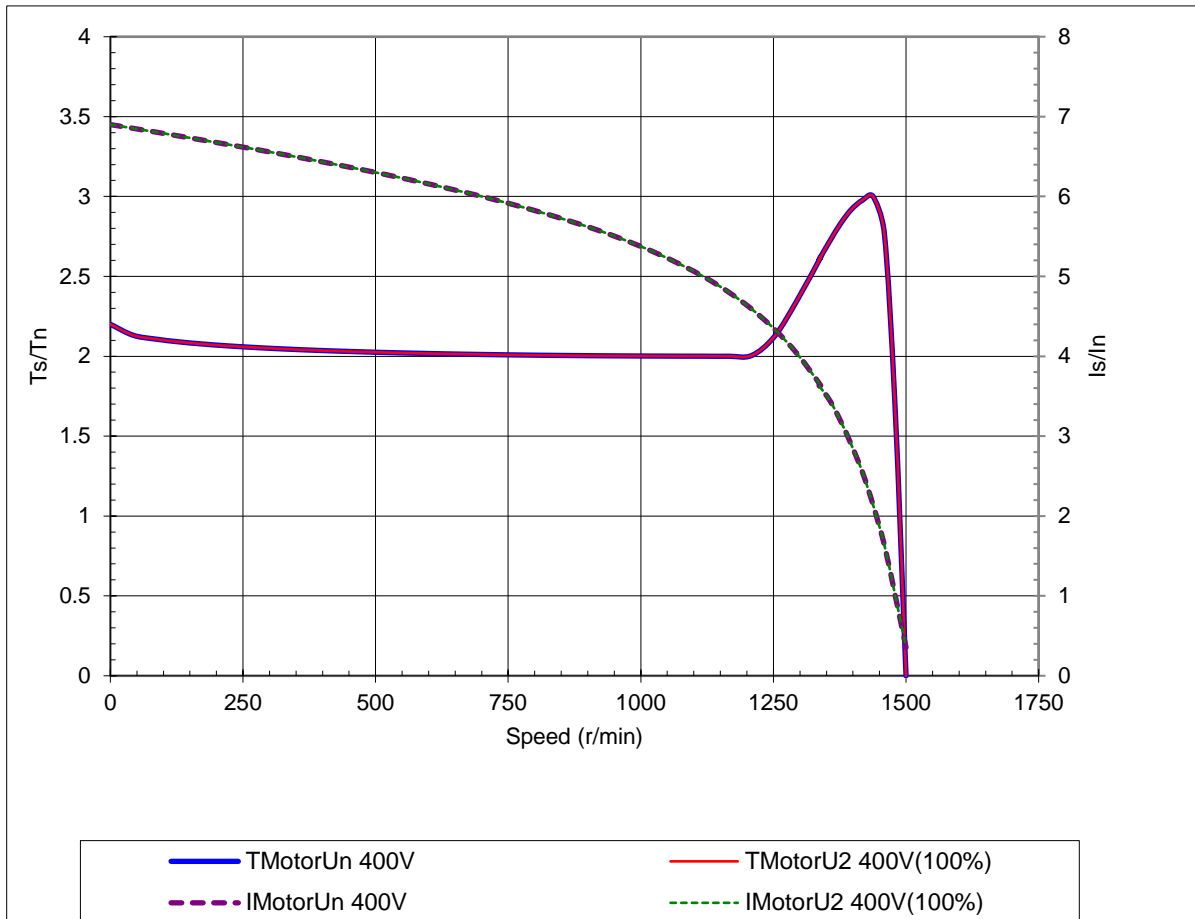
Load characteristics (IEC 60034-2-1:2014)  
Data based on situation 17/03/2016

All data subject to tolerances in accordance with IEC

|                   |  |  |                             |
|-------------------|--|--|-----------------------------|
|                   | Project  | Location                                   |                             |
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| Product code                | <b>3GBA 312 240-ADM</b>                             | Frequency (Hz)               | <b>50</b>      |
| Rated output P <sub>N</sub> | <b>160 kW</b>                                       | Rated current I <sub>N</sub> | <b>282 A</b>   |
| Type of duty                | <b>S1(IEC) 100%</b>                                 |                              |                |

|  |             |                                    |            |                                    |                   |
|--|-------------|------------------------------------|------------|------------------------------------|-------------------|
| J <sub>motor</sub> (kgm <sup>2</sup> ) | <b>3.2</b>  | Voltage (V) 100%                   | <b>400</b> | Voltage (V)                        | <b>400V(100%)</b> |
| J <sub>load</sub> (kgm <sup>2</sup> )  |             | T <sub>start</sub> /T <sub>N</sub> | <b>2.2</b> | T <sub>start</sub> /T <sub>N</sub> | <b>2.2</b>        |
| Speed (r/min)                          | <b>1488</b> | Starting time (s)                  |            | Starting time (s)                  |                   |
| T <sub>N</sub> (Nm)                    | <b>1027</b> | Speed (r/min)                      |            | Speed (r/min)                      |                   |
| T <sub>load</sub> (Nm)                 |             | I <sub>s</sub> /I <sub>n</sub>     | <b>6.9</b> | I <sub>s</sub> /I <sub>n</sub>     | <b>6.9</b>        |
| Nbr. of Consecutive Starts at UN       |             | T <sub>max</sub> /T <sub>n</sub>   | <b>3</b>   | T <sub>max</sub> /T <sub>n</sub>   | <b>3</b>          |



Load characteristics (IEC 60034-2-1:2014)  
Data based on situation 17/03/2016

All data subject to tolerances in accordance with IEC