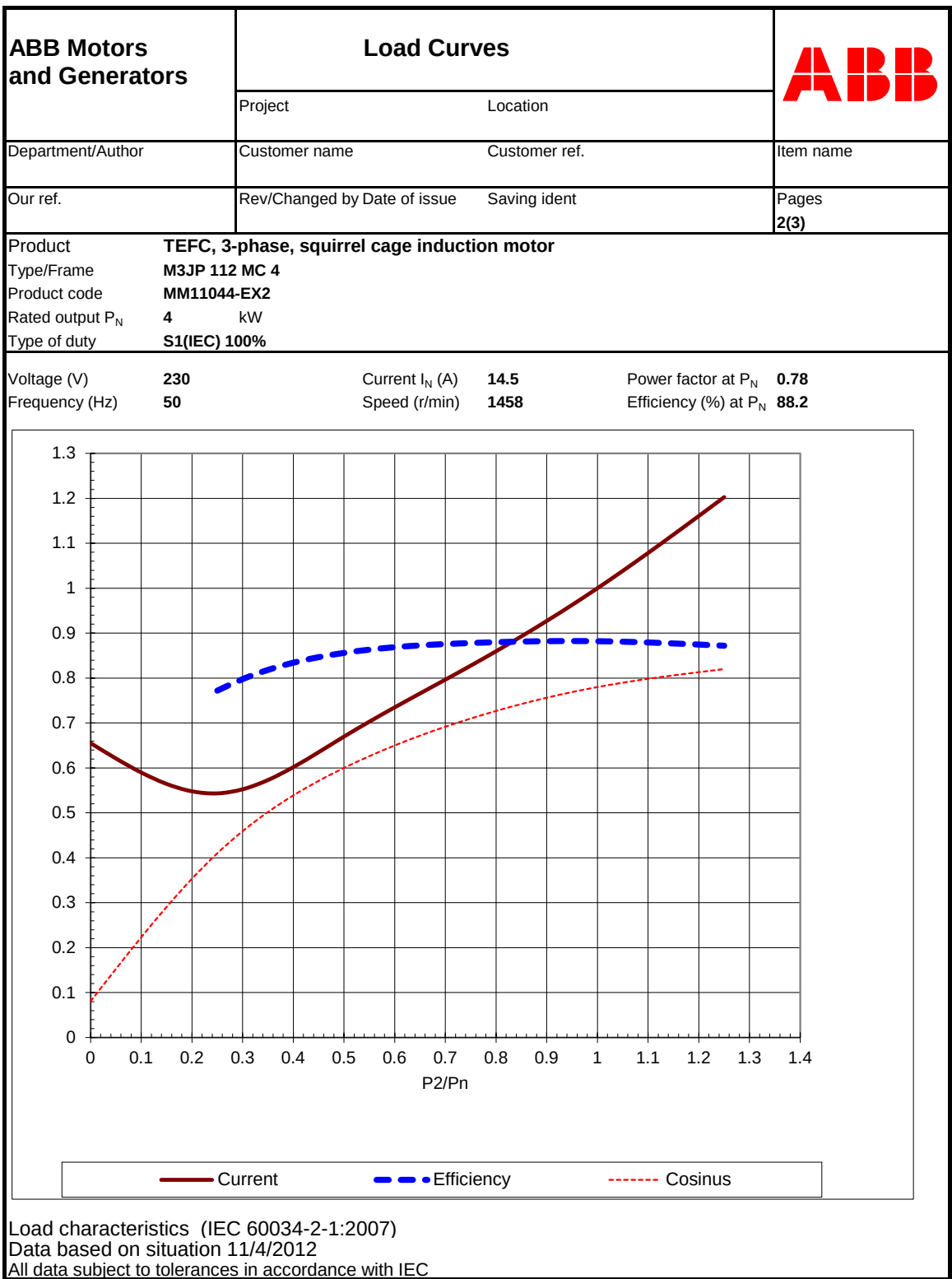
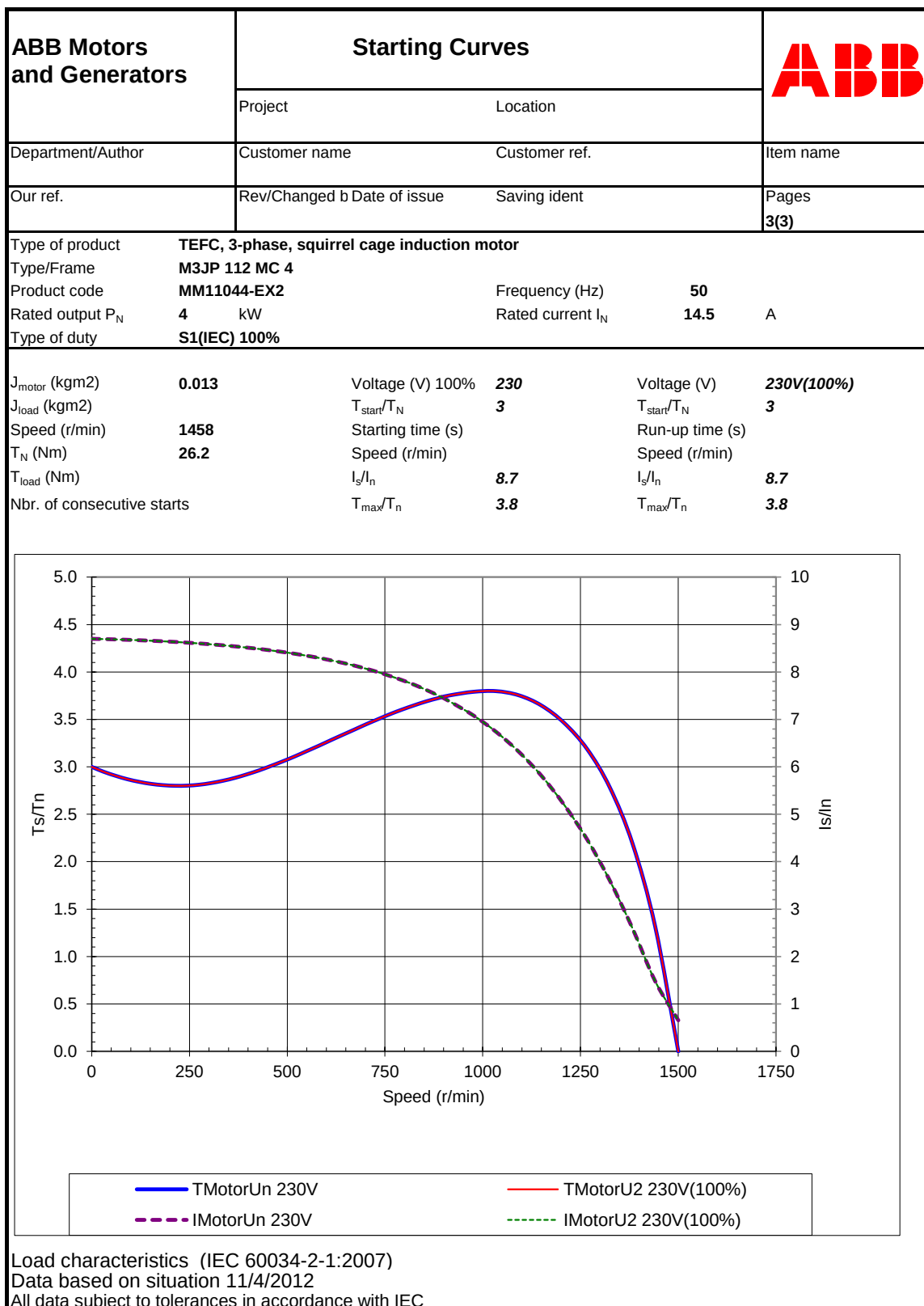
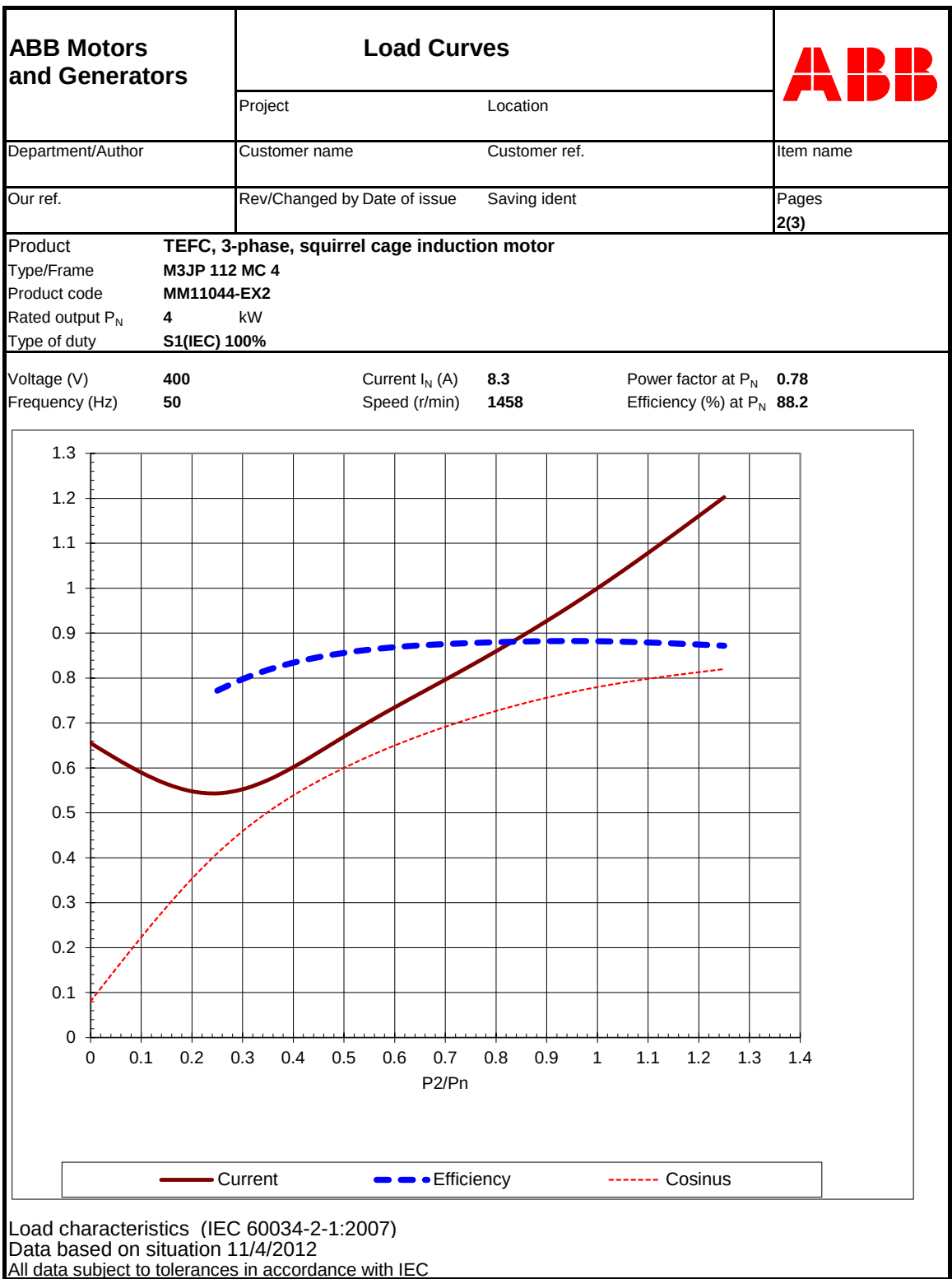


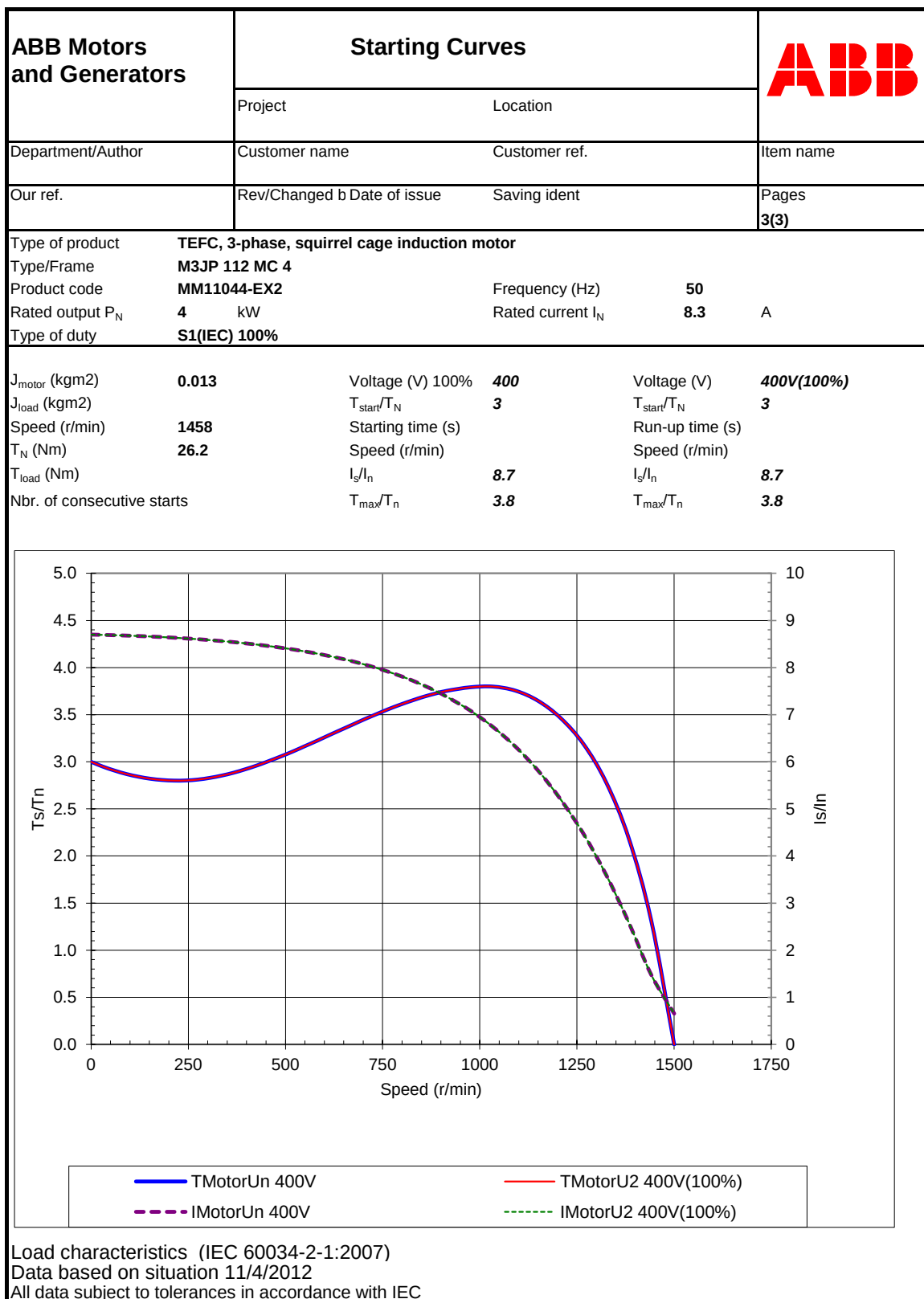
| ABB Motors and Generators                                                                         |                                                    | Technical Data Sheet - DOL                          |               |  |              |
|---------------------------------------------------------------------------------------------------|----------------------------------------------------|-----------------------------------------------------|---------------|-------------------------------------------------------------------------------------|--------------|
|                                                                                                   |                                                    | Project                                             | Location      |                                                                                     |              |
| Department/Author                                                                                 | Customer name                                      |                                                     | Customer ref. |                                                                                     | Item name    |
| Our ref.                                                                                          | Rev/Changed by                                     | Date of issue                                       | Saving ident  |                                                                                     | Pages 1(3)   |
| No.                                                                                               | Definition                                         | Data                                                | Unit          | Remarks                                                                             |              |
| 1                                                                                                 | Product                                            | <b>TEFC, 3-phase, squirrel cage induction motor</b> |               |                                                                                     |              |
| 2                                                                                                 | Product code                                       | <b>MM11044-EX2 (3GJP112330-ASH+332+461)</b>         |               |                                                                                     |              |
| 3                                                                                                 | Type/Frame                                         | <b>M3JP 112 MC 4</b>                                |               |                                                                                     |              |
| 4                                                                                                 | Mounting                                           | <b>IM1001, B3(foot)</b>                             |               |                                                                                     |              |
| 5                                                                                                 | Rated output P <sub>N</sub>                        | <b>4</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>230</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>1458</b>                                         | r/min         |                                                                                     |              |
| 11                                                                                                | Rated current I <sub>N</sub>                       | <b>14.5</b>                                         | A             |                                                                                     |              |
| 12                                                                                                | No-load current                                    | <b>9.6</b>                                          | A             |                                                                                     |              |
| 13                                                                                                | Starting current I <sub>s</sub> /I <sub>N</sub>    | <b>8.7</b>                                          |               | Fullfilled IEC 60034-12 design N,H                                                  |              |
| 14                                                                                                | Nominal torque T <sub>N</sub>                      | <b>26.2</b>                                         | Nm            |                                                                                     |              |
| 15                                                                                                | Locked rotor torque T <sub>S</sub> /T <sub>N</sub> | <b>3</b>                                            |               |                                                                                     |              |
| 16                                                                                                | Maximum torque T <sub>max</sub> /T <sub>N</sub>    | <b>3.8</b>                                          |               |                                                                                     |              |
| 17                                                                                                | Minimum torque T <sub>min</sub> /T <sub>N</sub>    | <b>2.8</b>                                          |               |                                                                                     |              |
| 18                                                                                                | Speed at minimum torque                            | <b>225</b>                                          | r/min         |                                                                                     |              |
| 19                                                                                                | Load characteristics (IEC 60034-2-1:2007)          | Load %                                              | Current A     | Efficiency %                                                                        | Power factor |
| 20                                                                                                | PLL determined from residual loss                  | <b>100</b>                                          | <b>14.5</b>   | <b>88.2 / IE2</b>                                                                   | <b>0.78</b>  |
| 21                                                                                                |                                                    | <b>75</b>                                           | <b>12</b>     | <b>87.8</b>                                                                         | <b>0.71</b>  |
| 22                                                                                                |                                                    | <b>50</b>                                           | <b>9.7</b>    | <b>85.6</b>                                                                         | <b>0.6</b>   |
| 23                                                                                                |                                                    | <b>Start</b>                                        | <b>126</b>    |                                                                                     | <b>0.51</b>  |
| 24                                                                                                | Maximum starting time from hot                     | <b>15</b>                                           | s             |                                                                                     |              |
| 25                                                                                                | Maximum starting time from cold                    | <b>27</b>                                           | s             |                                                                                     |              |
| 26                                                                                                | Insulation class / Temperature class               | <b>F / B</b>                                        |               |                                                                                     |              |
| 27                                                                                                | Ambient temperature                                | <b>40</b>                                           | °C            |                                                                                     |              |
| 28                                                                                                | Altitude                                           | <b>1000</b>                                         | m.a.s.l.      |                                                                                     |              |
| 29                                                                                                | Enclosure                                          | <b>IP55</b>                                         |               |                                                                                     |              |
| 30                                                                                                | Cooling system                                     | <b>IC411 self ventilated</b>                        |               |                                                                                     |              |
| 31                                                                                                | Bearing DE/NDE                                     | <b>6206-2Z/C3 - 6206-2Z/C3</b>                      |               |                                                                                     |              |
| 32                                                                                                | Type of Grease                                     | <b>Greased for life</b>                             |               |                                                                                     |              |
| 33                                                                                                | Sound pressure level (LP dB(A) 1m)                 | <b>52</b>                                           | dB(A)         | at load                                                                             |              |
| 34                                                                                                | Moment of inertia J = ¼ GD2                        | <b>0.013</b>                                        | kg-m2         |                                                                                     |              |
| 35                                                                                                | Balancing                                          | <b>Half Key</b>                                     |               |                                                                                     |              |
| 36                                                                                                | Vibration class                                    | <b>Grade A</b>                                      |               |                                                                                     |              |
| 37                                                                                                | Position of terminal box                           | <b>Top</b>                                          |               |                                                                                     |              |
| 38                                                                                                | Terminal box entries; no, dims.                    | <b>2xM32x1.5 + 1xM20x1.5</b>                        |               |                                                                                     |              |
| 39                                                                                                | Number of power terminals                          | <b>6</b>                                            |               |                                                                                     |              |
| 40                                                                                                | Direction of rotation                              | <b>CW or CCW</b>                                    |               |                                                                                     |              |
| 41                                                                                                | Weight of rotor                                    | <b>9</b>                                            | kg            |                                                                                     |              |
| 42                                                                                                | Total weight of motor                              | <b>81</b>                                           | kg            |                                                                                     |              |
| 43                                                                                                |                                                    |                                                     |               |                                                                                     |              |
| Ex-motors                                                                                         |                                                    |                                                     |               |                                                                                     |              |
| 44                                                                                                | Type of protection                                 | <b>*Ex d IIC T4</b>                                 |               |                                                                                     |              |
| 45                                                                                                |                                                    |                                                     |               |                                                                                     |              |
| Variant Codes / Definition                                                                        |                                                    |                                                     |               |                                                                                     |              |
|                                                                                                   | 332 = Baldor catalog number                        |                                                     |               |                                                                                     |              |
|                                                                                                   | 461 = Exd design, group IIC                        |                                                     |               |                                                                                     |              |
| Remarks:                                                                                          |                                                    |                                                     |               |                                                                                     |              |
| Data based on situation 11/4/2012                                                                 |                                                    |                                                     |               |                                                                                     |              |
| All data subject to tolerances in accordance with IEC                                             |                                                    |                                                     |               |                                                                                     |              |
| Guaranteed values on request                                                                      |                                                    |                                                     |               |                                                                                     |              |
| * For more information on the Atex/IECEx rating, please contact your local Baldor representative. |                                                    |                                                     |               |                                                                                     |              |





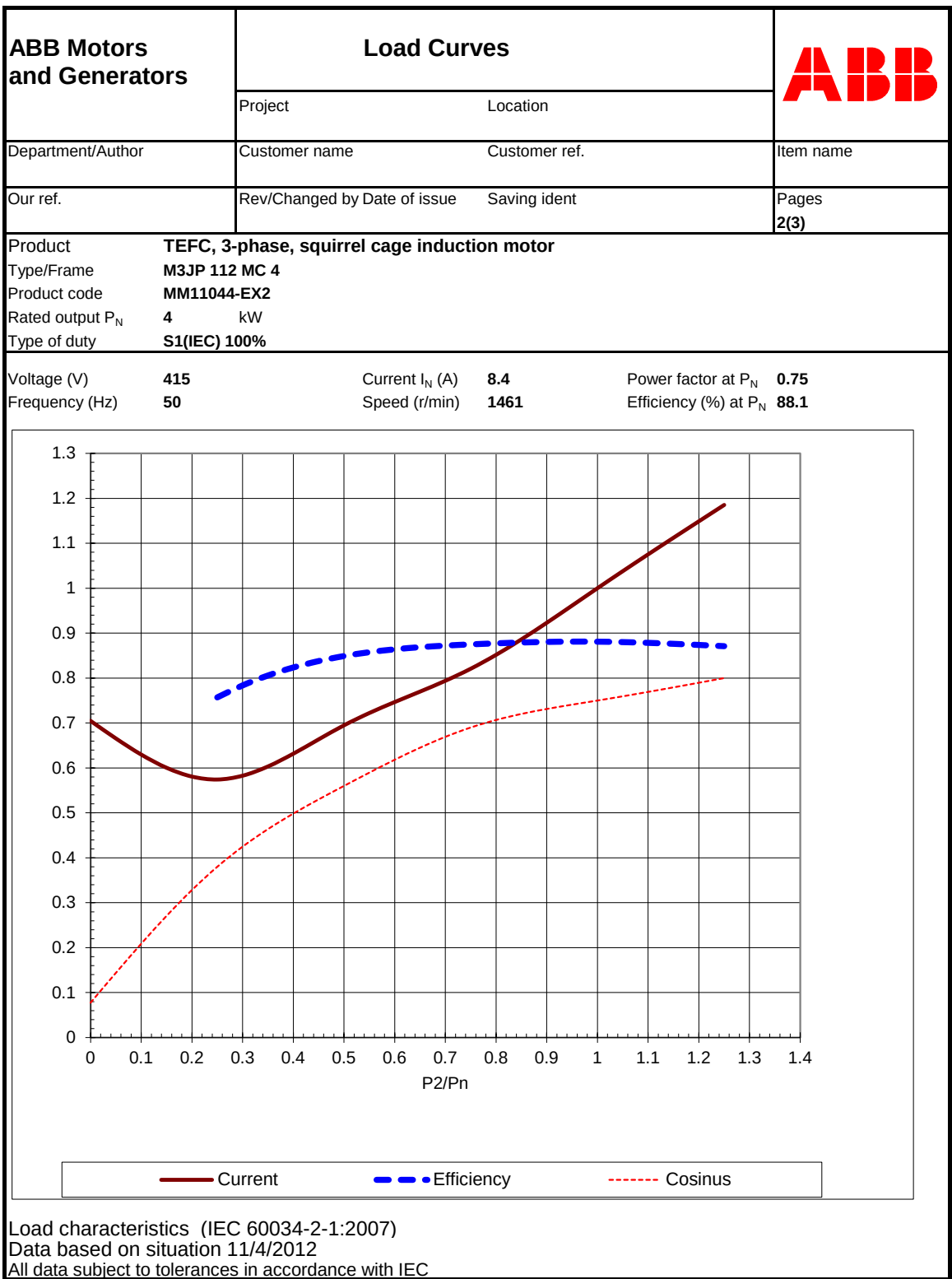
| ABB Motors and Generators                                                                         |                                                    | Technical Data Sheet - DOL                          |               |  |              |
|---------------------------------------------------------------------------------------------------|----------------------------------------------------|-----------------------------------------------------|---------------|-------------------------------------------------------------------------------------|--------------|
|                                                                                                   |                                                    | Project                                             | Location      |                                                                                     |              |
| Department/Author                                                                                 | Customer name                                      |                                                     | Customer ref. |                                                                                     | Item name    |
| Our ref.                                                                                          | Rev/Changed by                                     | Date of issue                                       | Saving ident  |                                                                                     | Pages 1(3)   |
| No.                                                                                               | Definition                                         | Data                                                | Unit          | Remarks                                                                             |              |
| 1                                                                                                 | Product                                            | <b>TEFC, 3-phase, squirrel cage induction motor</b> |               |                                                                                     |              |
| 2                                                                                                 | Product code                                       | <b>MM11044-EX2 (3GJP112330-ASH+332+461)</b>         |               |                                                                                     |              |
| 3                                                                                                 | Type/Frame                                         | <b>M3JP 112 MC 4</b>                                |               |                                                                                     |              |
| 4                                                                                                 | Mounting                                           | <b>IM1001, B3(foot)</b>                             |               |                                                                                     |              |
| 5                                                                                                 | Rated output P <sub>N</sub>                        | <b>4</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>                                          | VY            | ± 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>1458</b>                                         | r/min         |                                                                                     |              |
| 11                                                                                                | Rated current I <sub>N</sub>                       | <b>8.3</b>                                          | A             |                                                                                     |              |
| 12                                                                                                | No-load current                                    | <b>5.5</b>                                          | A             |                                                                                     |              |
| 13                                                                                                | Starting current I <sub>s</sub> /I <sub>N</sub>    | <b>8.7</b>                                          |               | Fullfilled IEC 60034-12 design N,H                                                  |              |
| 14                                                                                                | Nominal torque T <sub>N</sub>                      | <b>26.2</b>                                         | Nm            |                                                                                     |              |
| 15                                                                                                | Locked rotor torque T <sub>S</sub> /T <sub>N</sub> | <b>3</b>                                            |               |                                                                                     |              |
| 16                                                                                                | Maximum torque T <sub>max</sub> /T <sub>N</sub>    | <b>3.8</b>                                          |               |                                                                                     |              |
| 17                                                                                                | Minimum torque T <sub>min</sub> /T <sub>N</sub>    | <b>2.8</b>                                          |               |                                                                                     |              |
| 18                                                                                                | Speed at minimum torque                            | <b>225</b>                                          | r/min         |                                                                                     |              |
| 19                                                                                                | Load characteristics (IEC 60034-2-1:2007)          | Load %                                              | Current A     | Efficiency %                                                                        | Power factor |
| 20                                                                                                | PLL determined from residual loss                  | <b>100</b>                                          | <b>8.3</b>    | <b>88.2 / IE2</b>                                                                   | <b>0.78</b>  |
| 21                                                                                                |                                                    | <b>75</b>                                           | <b>6.9</b>    | <b>87.8</b>                                                                         | <b>0.71</b>  |
| 22                                                                                                |                                                    | <b>50</b>                                           | <b>5.6</b>    | <b>85.6</b>                                                                         | <b>0.6</b>   |
| 23                                                                                                |                                                    | <b>Start</b>                                        | <b>73</b>     |                                                                                     | <b>0.51</b>  |
| 24                                                                                                | Maximum starting time from hot                     | <b>15</b>                                           | s             |                                                                                     |              |
| 25                                                                                                | Maximum starting time from cold                    | <b>27</b>                                           | s             |                                                                                     |              |
| 26                                                                                                | Insulation class / Temperature class               | <b>F / B</b>                                        |               |                                                                                     |              |
| 27                                                                                                | Ambient temperature                                | <b>40</b>                                           | °C            |                                                                                     |              |
| 28                                                                                                | Altitude                                           | <b>1000</b>                                         | m.a.s.l.      |                                                                                     |              |
| 29                                                                                                | Enclosure                                          | <b>IP55</b>                                         |               |                                                                                     |              |
| 30                                                                                                | Cooling system                                     | <b>IC411 self ventilated</b>                        |               |                                                                                     |              |
| 31                                                                                                | Bearing DE/NDE                                     | <b>6206-2Z/C3 - 6206-2Z/C3</b>                      |               |                                                                                     |              |
| 32                                                                                                | Type of Grease                                     | <b>Greased for life</b>                             |               |                                                                                     |              |
| 33                                                                                                | Sound pressure level (LP dB(A) 1m)                 | <b>52</b>                                           | dB(A)         | at load                                                                             |              |
| 34                                                                                                | Moment of inertia J = ¼ GD2                        | <b>0.013</b>                                        | kg-m2         |                                                                                     |              |
| 35                                                                                                | Balancing                                          | <b>Half Key</b>                                     |               |                                                                                     |              |
| 36                                                                                                | Vibration class                                    | <b>Grade A</b>                                      |               |                                                                                     |              |
| 37                                                                                                | Position of terminal box                           | <b>Top</b>                                          |               |                                                                                     |              |
| 38                                                                                                | Terminal box entries; no, dims.                    | <b>2xM32x1.5 + 1xM20x1.5</b>                        |               |                                                                                     |              |
| 39                                                                                                | Number of power terminals                          | <b>6</b>                                            |               |                                                                                     |              |
| 40                                                                                                | Direction of rotation                              | <b>CW or CCW</b>                                    |               |                                                                                     |              |
| 41                                                                                                | Weight of rotor                                    | <b>9</b>                                            | kg            |                                                                                     |              |
| 42                                                                                                | Total weight of motor                              | <b>81</b>                                           | kg            |                                                                                     |              |
| 43                                                                                                |                                                    |                                                     |               |                                                                                     |              |
| Ex-motors                                                                                         |                                                    |                                                     |               |                                                                                     |              |
| 44                                                                                                | Type of protection                                 | <b>*Ex d IIC T4</b>                                 |               |                                                                                     |              |
| 45                                                                                                |                                                    |                                                     |               |                                                                                     |              |
| Variant Codes / Definition                                                                        |                                                    |                                                     |               |                                                                                     |              |
|                                                                                                   | 332 = Baldor catalog number                        |                                                     |               |                                                                                     |              |
|                                                                                                   | 461 = Exd design, group IIC                        |                                                     |               |                                                                                     |              |
| Remarks:                                                                                          |                                                    |                                                     |               |                                                                                     |              |
| Data based on situation 11/4/2012                                                                 |                                                    |                                                     |               |                                                                                     |              |
| All data subject to tolerances in accordance with IEC                                             |                                                    |                                                     |               |                                                                                     |              |
| Guaranteed values on request                                                                      |                                                    |                                                     |               |                                                                                     |              |
| * For more information on the Atex/IECEx rating, please contact your local Baldor representative. |                                                    |                                                     |               |                                                                                     |              |





|                              |  |                            |               |               |                                                                                     |
|------------------------------|--|----------------------------|---------------|---------------|-------------------------------------------------------------------------------------|
| ABB Motors<br>and Generators |  | Technical Data Sheet - DOL |               |               |  |
|                              |  | Project                    |               | Location      |                                                                                     |
| Department/Author            |  | Customer name              |               | Customer ref. | Item name                                                                           |
| Our ref.                     |  | Rev/Changed by             | Date of issue | Saving ident  | Pages<br>1(3)                                                                       |

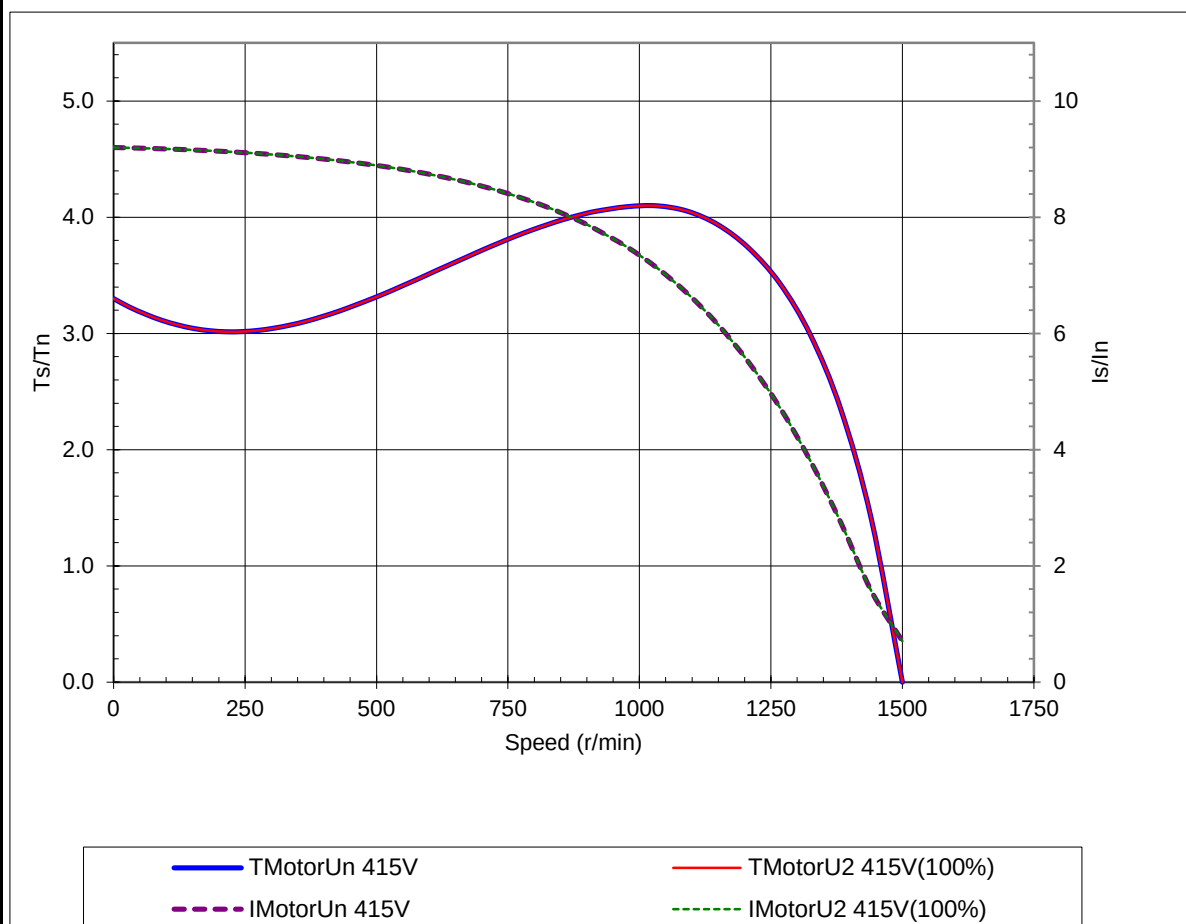
| No.                                                                                               | Definition                                         | Data                                                | Unit       | Remarks                            |              |
|---------------------------------------------------------------------------------------------------|----------------------------------------------------|-----------------------------------------------------|------------|------------------------------------|--------------|
| 1                                                                                                 | Product                                            | <b>TEFC, 3-phase, squirrel cage induction motor</b> |            |                                    |              |
| 2                                                                                                 | Product code                                       | <b>MM11044-EX2 (3GJP112330-ASH+332+461)</b>         |            |                                    |              |
| 3                                                                                                 | Type/Frame                                         | <b>M3JP 112 MC 4</b>                                |            |                                    |              |
| 4                                                                                                 | Mounting                                           | <b>IM1001, B3(foot)</b>                             |            |                                    |              |
| 5                                                                                                 | Rated output P <sub>N</sub>                        | <b>4</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>415</b>                                          | VY         | ± 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>1461</b>                                         | r/min      |                                    |              |
| 11                                                                                                | Rated current I <sub>N</sub>                       | <b>8.4</b>                                          | A          |                                    |              |
| 12                                                                                                | No-load current                                    | <b>5.9</b>                                          | A          |                                    |              |
| 13                                                                                                | Starting current I <sub>s</sub> /I <sub>N</sub>    | <b>9.2</b>                                          |            | Fullfilled IEC 60034-12 design N,H |              |
| 14                                                                                                | Nominal torque T <sub>N</sub>                      | <b>26.1</b>                                         | Nm         |                                    |              |
| 15                                                                                                | Locked rotor torque T <sub>s</sub> /T <sub>N</sub> | <b>3.3</b>                                          |            |                                    |              |
| 16                                                                                                | Maximum torque T <sub>max</sub> /T <sub>N</sub>    | <b>4.1</b>                                          |            |                                    |              |
| 17                                                                                                | Minimum torque T <sub>min</sub> /T <sub>N</sub>    | <b>3</b>                                            |            |                                    |              |
| 18                                                                                                | Speed at minimum torque                            | <b>225</b>                                          | r/min      |                                    |              |
| 19                                                                                                | Load characteristics (IEC 60034-2-1:2007)          | Load %                                              | Current A  | Efficiency %                       | Power factor |
| 20                                                                                                | PLL determined from residual loss                  | <b>100</b>                                          | <b>8.4</b> | <b>88.1 / IE2</b>                  | <b>0.75</b>  |
| 21                                                                                                |                                                    | <b>75</b>                                           | <b>6.9</b> | <b>87.5</b>                        | <b>0.69</b>  |
| 22                                                                                                |                                                    | <b>50</b>                                           | <b>5.8</b> | <b>84.9</b>                        | <b>0.56</b>  |
| 23                                                                                                |                                                    | <b>Start</b>                                        | <b>77</b>  |                                    | <b>0.52</b>  |
| 24                                                                                                | Maximum starting time from hot                     | <b>15</b>                                           | s          |                                    |              |
| 25                                                                                                | Maximum starting time from cold                    | <b>30</b>                                           | s          |                                    |              |
| 26                                                                                                | Insulation class / Temperature class               | <b>F / B</b>                                        |            |                                    |              |
| 27                                                                                                | Ambient temperature                                | <b>40</b>                                           | °C         |                                    |              |
| 28                                                                                                | Altitude                                           | <b>1000</b>                                         | m.a.s.l.   |                                    |              |
| 29                                                                                                | Enclosure                                          | <b>IP55</b>                                         |            |                                    |              |
| 30                                                                                                | Cooling system                                     | <b>IC411 self ventilated</b>                        |            |                                    |              |
| 31                                                                                                | Bearing DE/NDE                                     | <b>6206-2Z/C3 - 6206-2Z/C3</b>                      |            |                                    |              |
| 32                                                                                                | Type of Grease                                     | <b>Greased for life</b>                             |            |                                    |              |
| 33                                                                                                | Sound pressure level (LP dB(A) 1m)                 | <b>52</b>                                           | dB(A)      | at load                            |              |
| 34                                                                                                | Moment of inertia J = ¼ GD2                        | <b>0.013</b>                                        | kg-m2      |                                    |              |
| 35                                                                                                | Balancing                                          | <b>Half Key</b>                                     |            |                                    |              |
| 36                                                                                                | Vibration class                                    | <b>Grade A</b>                                      |            |                                    |              |
| 37                                                                                                | Position of terminal box                           | <b>Top</b>                                          |            |                                    |              |
| 38                                                                                                | Terminal box entries; no, dims.                    | <b>2xM32x1.5 + 1xM20x1.5</b>                        |            |                                    |              |
| 39                                                                                                | Number of power terminals                          | <b>6</b>                                            |            |                                    |              |
| 40                                                                                                | Direction of rotation                              | <b>CW or CCW</b>                                    |            |                                    |              |
| 41                                                                                                | Weight of rotor                                    | <b>9</b>                                            | kg         |                                    |              |
| 42                                                                                                | Total weight of motor                              | <b>81</b>                                           | kg         |                                    |              |
| 43                                                                                                |                                                    |                                                     |            |                                    |              |
| Ex-motors                                                                                         |                                                    |                                                     |            |                                    |              |
| 44                                                                                                | Type of protection                                 | <b>*Ex d IIC T4</b>                                 |            |                                    |              |
| 45                                                                                                |                                                    |                                                     |            |                                    |              |
| Variant Codes / Definition                                                                        |                                                    |                                                     |            |                                    |              |
|                                                                                                   | 332 = Baldor catalog number                        |                                                     |            |                                    |              |
|                                                                                                   | 461 = Exd design, group IIC                        |                                                     |            |                                    |              |
|                                                                                                   |                                                    |                                                     |            |                                    |              |
|                                                                                                   |                                                    |                                                     |            |                                    |              |
|                                                                                                   |                                                    |                                                     |            |                                    |              |
| Remarks:                                                                                          |                                                    |                                                     |            |                                    |              |
| Data based on situation 11/4/2012                                                                 |                                                    |                                                     |            |                                    |              |
| All data subject to tolerances in accordance with IEC                                             |                                                    |                                                     |            |                                    |              |
| Guaranteed values on request                                                                      |                                                    |                                                     |            |                                    |              |
| * For more information on the Atex/IECEx rating, please contact your local Baldor representative. |                                                    |                                                     |            |                                    |              |



|                                      |                             |               |                      |
|--------------------------------------|-----------------------------|---------------|----------------------|
| <b>ABB Motors<br/>and Generators</b> | <b>Starting Curves</b>      |               | <b>ABB</b>           |
|                                      | Project                     | Location      |                      |
| Department/Author                    | Customer name               | Customer ref. | Item name            |
| Our ref.                             | Rev/Changed b Date of issue | Saving ident  | Pages<br><b>3(3)</b> |

|                    |                                                     |                     |              |
|--------------------|-----------------------------------------------------|---------------------|--------------|
| Type of product    | <b>TEFC, 3-phase, squirrel cage induction motor</b> |                     |              |
| Type/Frame         | <b>M3JP 112 MC 4</b>                                |                     |              |
| Product code       | <b>MM11044-EX2</b>                                  | Frequency (Hz)      | <b>50</b>    |
| Rated output $P_N$ | <b>4</b> kW                                         | Rated current $I_N$ | <b>8.4</b> A |
| Type of duty       | <b>S1(IEC) 100%</b>                                 |                     |              |

|                                 |              |                   |            |                 |                   |
|---------------------------------|--------------|-------------------|------------|-----------------|-------------------|
| $J_{motor}$ (kgm <sup>2</sup> ) | <b>0.013</b> | Voltage (V) 100%  | <b>415</b> | Voltage (V)     | <b>415V(100%)</b> |
| $J_{load}$ (kgm <sup>2</sup> )  |              | $T_{start}/T_N$   | <b>3.3</b> | $T_{start}/T_N$ | <b>3.3</b>        |
| Speed (r/min)                   | <b>1461</b>  | Starting time (s) |            | Run-up time (s) |                   |
| $T_N$ (Nm)                      | <b>26.1</b>  | Speed (r/min)     |            | Speed (r/min)   |                   |
| $T_{load}$ (Nm)                 |              | $I_s/I_n$         | <b>9.2</b> | $I_s/I_n$       | <b>9.2</b>        |
| Nbr. of consecutive starts      |              | $T_{max}/T_n$     | <b>4.1</b> | $T_{max}/T_n$   | <b>4.1</b>        |



Load characteristics (IEC 60034-2-1:2007)  
Data based on situation 11/4/2012  
All data subject to tolerances in accordance with IEC