



| Type Test Report   |             |              |       | Date of issue: 2013.03.12  |         |                                  |          |  |       |    |       |   |       |      |     |   |    |      |      |       |         |     |   |    |      |      |       |         |
|--|-------------|--------------|-------|--|---------|----------------------------------|----------|--|-------|----|-------|---|-------|------|-----|---|----|------|------|-------|---------|-----|---|----|------|------|-------|---------|
| Customer:  |             |              |       | Serial No.: 3GH092013T5504   |         |                                  |          |  |       |    |       |   |       |      |     |   |    |      |      |       |         |     |   |    |      |      |       |         |
| Customer ref.:   |             |              |       | Type: M3GP 132SMB 4<br>Product Code: 3GGP132322-_SB<br>Protection Type: Ex nA IIC T3<br>Cert. No.: VTT 12 ATEX 050X / IECEx VTT 12.0010X   |         |                                  |          |  |       |    |       |   |       |      |     |   |    |      |      |       |         |     |   |    |      |      |       |         |
| Rating:  |             |              |       | <table border="1"> <thead> <tr> <th>V</th> <th>Hz</th> <th>kW</th> <th>r/min</th> <th>A</th> <th>cos φ</th> <th>Duty</th> </tr> </thead> <tbody> <tr> <td>230</td> <td>D</td> <td>50</td> <td>5,50</td> <td>1460</td> <td>19,20</td> <td>0,80 S1</td> </tr> <tr> <td>400</td> <td>Y</td> <td>50</td> <td>5,50</td> <td>1460</td> <td>11,10</td> <td>0,80 S1</td> </tr> </tbody> </table> |         |                                  |          | V  | Hz    | kW | r/min | A | cos φ | Duty | 230 | D | 50 | 5,50 | 1460 | 19,20 | 0,80 S1 | 400 | Y | 50 | 5,50 | 1460 | 11,10 | 0,80 S1 |
| V  | Hz          | kW           | r/min | A  | cos φ   | Duty                             |          |  |       |    |       |   |       |      |     |   |    |      |      |       |         |     |   |    |      |      |       |         |
| 230  | D           | 50           | 5,50  | 1460   | 19,20   | 0,80 S1                          |          |  |       |    |       |   |       |      |     |   |    |      |      |       |         |     |   |    |      |      |       |         |
| 400  | Y           | 50           | 5,50  | 1460   | 11,10   | 0,80 S1                          |          |  |       |    |       |   |       |      |     |   |    |      |      |       |         |     |   |    |      |      |       |         |
| 3-Motor<br>Insul.cl.F<br>IP55<br>Eff class IE2   |             |              |       | 50Hz : IE2 - 89,0(100%) - 89,8(75%) - 88,9(50%)  |         |                                  |          |  |       |    |       |   |       |      |     |   |    |      |      |       |         |     |   |    |      |      |       |         |
| Resistance<br>Line   |             |              |       | Ambient: 30,3 °C   |         | Insulation resistance at 26,2 °C |          | Overload   |       |    |       |   |       |      |     |   |    |      |      |       |         |     |   |    |      |      |       |         |
| U <sub>1</sub> - V <sub>1</sub><br>U <sub>1</sub> - W <sub>1</sub><br>V <sub>1</sub> - W <sub>1</sub>                    |             |              |       | 1,28800 Ω<br>1,28400 Ω<br>1,28800 Ω  |         | R > 2000 Mohm<br>1000 V          |          | Current 150 % 120s<br>Torque 160 % 15s<br>Speed 120 % 120s |       |    |       |   |       |      |     |   |    |      |      |       |         |     |   |    |      |      |       |         |
|  |             |              |       | High-voltage test winding  |         | 2400 V                           |          | 60 s   |       |    |       |   |       |      |     |   |    |      |      |       |         |     |   |    |      |      |       |         |
| Test   | Torque [Nm] | Line U[V]    | f[Hz] | Input I[A]   | P1 [kW] | Output P2 [kW]                   | η[r/min] | cos φ  | η [%] |    |       |   |       |      |     |   |    |      |      |       |         |     |   |    |      |      |       |         |
| No load test   |             | 400 Y        | 50    | 4,8  | 0,26    |                                  | 1500     | 0,08   |       |    |       |   |       |      |     |   |    |      |      |       |         |     |   |    |      |      |       |         |
| Locked rotor test  |             | 97,5 Y       | 50    | 11,5   | 0,67    |                                  | 0        | 0,34   |       |    |       |   |       |      |     |   |    |      |      |       |         |     |   |    |      |      |       |         |
| Thermal test ( 100% load )   | 36,0        | 400 Y        | 50    | 10,7   | 6,21    | 5,50                             | 1460     | 0,83   | 88,50 |    |       |   |       |      |     |   |    |      |      |       |         |     |   |    |      |      |       |         |
| Partial load points:   |             |              |       |  |         |                                  |          |  |       |    |       |   |       |      |     |   |    |      |      |       |         |     |   |    |      |      |       |         |
| ~75% load  | 26,8        | 400 Y        | 50    | 8,2  | 4,62    | 4,13                             | 1470     | 0,81   | 89,30 |    |       |   |       |      |     |   |    |      |      |       |         |     |   |    |      |      |       |         |
| ~50% load  | 17,7        | 400 Y        | 50    | 6,6  | 3,11    | 2,75                             | 1480     | 0,67   | 88,40 |    |       |   |       |      |     |   |    |      |      |       |         |     |   |    |      |      |       |         |
| ~25% load  | 8,9         | 400 Y        | 50    | 4,2  | 1,61    | 1,38                             | 1487     | 0,55   | 85,70 |    |       |   |       |      |     |   |    |      |      |       |         |     |   |    |      |      |       |         |
| Temperature rise at rated load.  |             |              |       | °C   | K       | Method                           |          | Measurement method   |       |    |       |   |       |      |     |   |    |      |      |       |         |     |   |    |      |      |       |         |
| Stator winding :   |             |              |       | 41,9   | 3       | 1 Resistance                     |          | 1 Resistance   |       |    |       |   |       |      |     |   |    |      |      |       |         |     |   |    |      |      |       |         |
| Frame :  |             |              |       | 8,4  | 3       | 2 Thermometer                    |          | 2 Thermometer  |       |    |       |   |       |      |     |   |    |      |      |       |         |     |   |    |      |      |       |         |
| Bearing D-end :  |             |              |       | 26,1   | 3       | 3 Thermocouples                  |          | 3 Thermocouples  |       |    |       |   |       |      |     |   |    |      |      |       |         |     |   |    |      |      |       |         |
| Ambient Temperature :  |             |              |       | 25   | 3       |                                  |          |  |       |    |       |   |       |      |     |   |    |      |      |       |         |     |   |    |      |      |       |         |
| Manufactured and tested in accordance with rules of IEC 60034-1 and IEC 60034-2-1.<br>PLL determined from residual loss. |             |              |       |  |         |                                  |          |  |       |    |       |   |       |      |     |   |    |      |      |       |         |     |   |    |      |      |       |         |
| On behalf of customer  |             |              |       |  |         |                                  |          |  |       |    |       |   |       |      |     |   |    |      |      |       |         |     |   |    |      |      |       |         |
| On behalf of manufacturer  |             | Date of test |       | 3.6.2009   |         |                                  |          |  |       |    |       |   |       |      |     |   |    |      |      |       |         |     |   |    |      |      |       |         |
| Tested by Asea Brown Boveri, S.A., Fabrica Motores , 08192 Sant Quirze del Valles , Spain                                |             |              |       |  |         | Telephone +34 93 728 85 00       |          | Telefax +34 93 728 85 33                                   |       |    |       |   |       |      |     |   |    |      |      |       |         |     |   |    |      |      |       |         |

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