



| Test Report | | | | Date of issue: 29.5.2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|-------------|-----------|--------|----------------------------------|---------|----------------|----------|-------------------|-------|--|--|------|-----|--------|--------------------|------------------|-------|------|---------|--------------|---------|------|------|------|---------------|-----------------|------------|-----|------|-----------------|-----------------------|------|------|----|------|-----|------|------|------|------|------|----|--|-----|------|------|------|-------|------|----|--|-----|------|------|------|------|------|----|--|-----|------|------|------|------|------|----|
| Customer: | | | | Serial No.: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Customer ref.: | | | | Order No.: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | Type: M3GP 250SMA 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | Product Code: 3GGP252210-ADK | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | Protection type: Ex nA IIC T3 Gc | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | Cert. No.: LCIE 13 ATEX 1034 X/ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | IECEx LCIE 13.0047 X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rating: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th></th> <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>3-Motor</td> <td>690</td> <td>Y 50</td> <td>55,0</td> <td>1485</td> <td>56,7</td> <td>0,85</td> <td>S1</td> </tr> <tr> <td>Insul.cl.F</td> <td>400</td> <td>D 50</td> <td>55,0</td> <td>1485</td> <td>97,8</td> <td>0,85</td> <td>S1</td> </tr> <tr> <td>IP55</td> <td>660</td> <td>Y 50</td> <td>55,0</td> <td>1482</td> <td>58,8</td> <td>0,86</td> <td>S1</td> </tr> <tr> <td></td> <td>380</td> <td>D 50</td> <td>55,0</td> <td>1482</td> <td>102,0</td> <td>0,86</td> <td>S1</td> </tr> <tr> <td></td> <td>415</td> <td>D 50</td> <td>55,0</td> <td>1486</td> <td>95,2</td> <td>0,88</td> <td>S1</td> </tr> <tr> <td></td> <td>460</td> <td>D 60</td> <td>55,0</td> <td>1787</td> <td>85,8</td> <td>0,89</td> <td>S1</td> </tr> </tbody> </table> | | | | | | | | | | | | V | Hz | kW | r/min | A | cos φ | Duty | 3-Motor | 690 | Y 50 | 55,0 | 1485 | 56,7 | 0,85 | S1 | Insul.cl.F | 400 | D 50 | 55,0 | 1485 | 97,8 | 0,85 | S1 | IP55 | 660 | Y 50 | 55,0 | 1482 | 58,8 | 0,86 | S1 | | 380 | D 50 | 55,0 | 1482 | 102,0 | 0,86 | S1 | | 415 | D 50 | 55,0 | 1486 | 95,2 | 0,88 | S1 | | 460 | D 60 | 55,0 | 1787 | 85,8 | 0,89 | S1 |
| | V | Hz | kW | r/min | A | cos φ | Duty | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3-Motor | 690 | Y 50 | 55,0 | 1485 | 56,7 | 0,85 | S1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Insul.cl.F | 400 | D 50 | 55,0 | 1485 | 97,8 | 0,85 | S1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| IP55 | 660 | Y 50 | 55,0 | 1482 | 58,8 | 0,86 | S1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 380 | D 50 | 55,0 | 1482 | 102,0 | 0,86 | S1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 415 | D 50 | 55,0 | 1486 | 95,2 | 0,88 | S1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 460 | D 60 | 55,0 | 1787 | 85,8 | 0,89 | S1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Eff class IE3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50Hz : IE3-95,4(100%)-95,9(75%)-95,7(50%) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 60Hz : IE3-95,7(100%) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Resistance | | | | Insulation resistance at 22,3 °C | | | | Overload | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Line | | | | R > 2000 Mohm 1000 V | | | | Curren 150 % 120s | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| U ₁ - V ₁ | | | | Ambient: 22,1 °C | | | | Torque 160 % 15s | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| U ₁ - W ₁ | | | | 0,04910 Ω | | | | Speed 120 % 120s | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| V ₁ - W ₁ | | | | 0,04895 Ω | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | 0,04915 Ω | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | High-voltage test winding 2400 V | | | | 60 s | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Torque [Nm] | Line U[V] | f[Hz] | Input I[A] | P1 [kW] | Output P2 [kW] | n[r/min] | cos φ | η [%] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| No load test | | 401,8 D | 50 | 39,1 | 1,08 | | 1500 | 0,04 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Locked rotor test | | 70,6 D | 50 | 104,5 | 4,61 | | 0 | 0,36 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Thermal test (100% load) | 353,7 | 400 D | 50 | 98,9 | 57,52 | 55,00 | 1485 | 0,84 | 95,62 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Partial load points: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ~75% load | 267,0 | 400 D | 50 | 78,7 | 43,44 | 41,63 | 1489 | 0,80 | 95,83 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ~50% load | 177,0 | 400 D | 50 | 60,1 | 28,99 | 27,67 | 1493 | 0,70 | 95,46 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ~25% load | 89,9 | 400 D | 50 | 46,5 | 15,26 | 14,09 | 1497 | 0,47 | 92,30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Temperature rise at rated load. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th></th> <th>[°C]</th> <th>[K]</th> <th>Method</th> <th>Measurement method</th> </tr> </thead> <tbody> <tr> <td>Stator winding :</td> <td>52,1</td> <td>1</td> <td></td> <td>1 Resistance</td> </tr> <tr> <td>Frame :</td> <td>35,3</td> <td>2</td> <td></td> <td>2 Thermometer</td> </tr> <tr> <td>Bearing D-end :</td> <td>37,2</td> <td>2</td> <td></td> <td>3 Thermocouples</td> </tr> <tr> <td>Ambient Temperature :</td> <td>22</td> <td></td> <td>2</td> <td></td> </tr> </tbody> </table> | | | | | | | | | | | | [°C] | [K] | Method | Measurement method | Stator winding : | 52,1 | 1 | | 1 Resistance | Frame : | 35,3 | 2 | | 2 Thermometer | Bearing D-end : | 37,2 | 2 | | 3 Thermocouples | Ambient Temperature : | 22 | | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | [°C] | [K] | Method | Measurement method | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Stator winding : | 52,1 | 1 | | 1 Resistance | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Frame : | 35,3 | 2 | | 2 Thermometer | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bearing D-end : | 37,2 | 2 | | 3 Thermocouples | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ambient Temperature : | 22 | | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>These tests have been carried out on motor no. 3GV1110649673003, on date 2011-01-21 which is identical in electrical design with the above.</p> <p>Manufactured and tested in accordance with rules of IEC 60034-1 and IEC 60034-2-1. PLL determined from residual loss.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| On behalf of customer | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| On behalf of manufacturer | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Date of test | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Telephone +46 (0)21 32 90 00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Tested by ABB AB, LV Motors, 721 70 Västerås, Sweden | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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Computer print-out valid without signature.