



| Type Test Report | | | | Date of issue: 1.9.2015 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|-------------|-----------|-------|--|--|--------------------|----------|--------------------|-------|----|-------|---|-------|------|---------|-------|----|------|-----|------|---------|------------|-------|----|------|-----|------|---------|------|-------|----|------|-----|------|---------|--|-------|----|------|------|------|---------|--|-------|----|------|------|------|---------|
| Customer: | | | | Serial No.: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Customer ref.: | | | | Type: M3AA 250SMB 6 Product Code: 3GAA253220-ADG | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rating: | | | | <table border="1" style="width:100%; border-collapse: collapse;"> <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>3-Motor</td> <td>690 Y</td> <td>50</td> <td>45,0</td> <td>989</td> <td>48,5</td> <td>0,83 S1</td> </tr> <tr> <td>Insul.cl.F</td> <td>400 D</td> <td>50</td> <td>45,0</td> <td>989</td> <td>83,7</td> <td>0,83 S1</td> </tr> <tr> <td>IP55</td> <td>415 D</td> <td>50</td> <td>45,0</td> <td>990</td> <td>81,7</td> <td>0,82 S1</td> </tr> <tr> <td></td> <td>440 D</td> <td>60</td> <td>45,0</td> <td>1190</td> <td>75,9</td> <td>0,83 S1</td> </tr> <tr> <td></td> <td>460 D</td> <td>60</td> <td>45,0</td> <td>1191</td> <td>73,3</td> <td>0,82 S1</td> </tr> </tbody> </table> | | | | V | Hz | kW | r/min | A | cos φ | Duty | 3-Motor | 690 Y | 50 | 45,0 | 989 | 48,5 | 0,83 S1 | Insul.cl.F | 400 D | 50 | 45,0 | 989 | 83,7 | 0,83 S1 | IP55 | 415 D | 50 | 45,0 | 990 | 81,7 | 0,82 S1 | | 440 D | 60 | 45,0 | 1190 | 75,9 | 0,83 S1 | | 460 D | 60 | 45,0 | 1191 | 73,3 | 0,82 S1 |
| V | Hz | kW | r/min | A | cos φ | Duty | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3-Motor | 690 Y | 50 | 45,0 | 989 | 48,5 | 0,83 S1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Insul.cl.F | 400 D | 50 | 45,0 | 989 | 83,7 | 0,83 S1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| IP55 | 415 D | 50 | 45,0 | 990 | 81,7 | 0,82 S1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 440 D | 60 | 45,0 | 1190 | 75,9 | 0,83 S1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 460 D | 60 | 45,0 | 1191 | 73,3 | 0,82 S1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Eff class IE2 | | | | 50Hz : IE2 - 93,4(100%) - 94,1(75%) - 93,9(50%) 60Hz : IE2 - 93,7(100%) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Resistance | | | | Insulation resistance at 22,1 °C | | Overload | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Line | | | | R > 2000 Mohm 1000 V | | Current 150 % 120s | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| U ₁ - V ₁ | | | | Ambient: 22,1 °C | | Torque 160 % 15s | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| U ₁ - W ₁ | | | | 0,09374 Ω | | Speed 120 % 120s | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| V ₁ - W ₁ | | | | 0,09356 Ω | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | 0,09369 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 | | 401,2 D | 50 | 32,3 | 0,82 | | 1000 | 0,04 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Locked rotor test | | 89,8 D | 50 | 90,0 | 5,00 | | 0 | 0,36 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Thermal test (100% load) | 434,3 | 400 D | 50 | 85,5 | 47,93 | 45,00 | 989 | 0,81 | 93,89 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Partial load points: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ~75% load | 328,3 | 400 D | 50 | 67,7 | 36,12 | 34,13 | 993 | 0,77 | 94,48 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ~50% load | 219,4 | 400 D | 50 | 51,3 | 24,20 | 22,87 | 995 | 0,68 | 94,51 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ~25% load | 110,7 | 400 D | 50 | 38,7 | 12,51 | 11,57 | 998 | 0,47 | 92,49 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Temperature rise at rated load. | | | | °C | [K] | Method | | Measurement method | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Stator winding : | | | | 69,2 | 1 | | | 1 Resistance | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Frame : | | | | 35,0 | 2 | | | 2 Thermometer | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bearing D-end : | | | | 41,1 | 2 | | | 3 Thermocouples | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ambient Temperature : | | | | 22 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>These tests have been carried out on motor no. 3GV1110849870001, on date 2012-01-05 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 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Tested by ABB AB, LV Motors, 721 70 Västerås, Sweden | | | | | Telephone +46 (0)21 32 90 00 Telefax +46 (0)21 32 90 22 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Computer print-out valid without signature.