



| Type Test Report                                                                                                         |             |                                                                                                                                              |    | Date of issue: 2015-06-10                           |            |                                  |                    |                                                         |       |       |
|--------------------------------------------------------------------------------------------------------------------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------|----|-----------------------------------------------------|------------|----------------------------------|--------------------|---------------------------------------------------------|-------|-------|
| Customer:                                                                                                                |             |                                                                                                                                              |    | Serial No.: 3G1S14461451750001                      |            |                                  |                    |                                                         |       |       |
|                                                                                                                          |             |                                                                                                                                              |    | Type: M3AA 200MLB 2<br>Product Code: 3GAA201052-ADL |            |                                  |                    |                                                         |       |       |
| Customer ref.:                                                                                                           |             |                                                                                                                                              |    |                                                     |            |                                  |                    |                                                         |       |       |
| Rating:                                                                                                                  |             |                                                                                                                                              |    |                                                     |            |                                  |                    |                                                         |       |       |
|                                                                                                                          |             | V                                                                                                                                            | Hz | kW                                                  | r/min      | A                                | cos φ              | Duty                                                    |       |       |
| 3-Motor                                                                                                                  |             | 400                                                                                                                                          | D  | 50                                                  | 37,0       | 2952                             | 64,7               | 0,88                                                    | S1    |       |
| Insul.cl.F                                                                                                               |             | 690                                                                                                                                          | Y  | 50                                                  | 37,0       | 2952                             | 37,5               | 0,88                                                    | S1    |       |
| IP55                                                                                                                     |             | 415                                                                                                                                          | D  | 50                                                  | 37,0       | 2956                             | 63,8               | 0,86                                                    | S1    |       |
| Eff class IE3                                                                                                            |             | 50Hz : IE3 - 93,7(100%) - 94,4(75%) - 94,2(50%)                                                                                              |    |                                                     |            |                                  |                    |                                                         |       |       |
| Resistance                                                                                                               |             | Ambient: 22,8 °C                                                                                                                             |    |                                                     |            | Insulation resistance at 21,6 °C |                    | Overload                                                |       |       |
| Line                                                                                                                     |             | U <sub>1</sub> - V <sub>1</sub><br>0,10399 Ω<br>U <sub>1</sub> - W <sub>1</sub><br>0,10325 Ω<br>V <sub>1</sub> - W <sub>1</sub><br>0,10351 Ω |    |                                                     |            | R > 2000 Mohm 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]                                                                                                                                    | D  | f[Hz]                                               | Input I[A] | P1 [kW]                          | Output P2 [kW]     | n[r/min]                                                | cos φ | η [%] |
| No load test                                                                                                             |             | 401,3                                                                                                                                        | D  | 50                                                  | 20,4       | 0,78                             |                    | 3000                                                    | 0,05  |       |
| Locked rotor test                                                                                                        |             | 60,3                                                                                                                                         | D  | 50                                                  | 67,1       | 2,96                             |                    |                                                         | 0,42  |       |
| Thermal test ( 100% load )                                                                                               | 119,6       | 400                                                                                                                                          | D  | 50                                                  | 65,1       | 39,61                            | 37,00              | 2955                                                    | 0,88  | 93,4  |
| Partial load points:                                                                                                     |             |                                                                                                                                              |    |                                                     |            |                                  |                    |                                                         |       |       |
| ~75% load                                                                                                                | 89,3        | 400                                                                                                                                          | D  | 50                                                  | 50,3       | 29,53                            | 27,75              | 2968                                                    | 0,85  | 94,0  |
| ~50% load                                                                                                                | 59,3        | 400                                                                                                                                          | D  | 50                                                  | 36,8       | 19,71                            | 18,50              | 2980                                                    | 0,77  | 93,9  |
| ~25% load                                                                                                                | 29,5        | 400                                                                                                                                          | D  | 50                                                  | 25,8       | 10,13                            | 9,25               | 2991                                                    | 0,57  | 91,3  |
| Temperature rise at rated load.                                                                                          |             |                                                                                                                                              |    | °C                                                  | [K]        | Method                           | Measurement method |                                                         |       |       |
| Stator winding :                                                                                                         |             |                                                                                                                                              |    |                                                     | 72,2       | 1                                | 1 Resistance       |                                                         |       |       |
| Frame :                                                                                                                  |             |                                                                                                                                              |    |                                                     | 41,1       | 2                                | 2 Thermometer      |                                                         |       |       |
| Bearing D-end :                                                                                                          |             |                                                                                                                                              |    |                                                     | 42,4       | 2                                | 3 Thermocouples    |                                                         |       |       |
| Ambient Temperature :                                                                                                    |             |                                                                                                                                              |    | 22                                                  |            | 2                                |                    |                                                         |       |       |
| 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                                                                                                                                 |    | 2014-09-19                                          |            |                                  |                    |                                                         |       |       |
| Tested by ABB AB, LV Motors, 721 70 Västerås, Sweder                                                                     |             |                                                                                                                                              |    |                                                     |            | Telephone                        |                    | +46 (0)21 32 90 00                                      |       |       |
|                                                                                                                          |             |                                                                                                                                              |    |                                                     |            | Telefax                          |                    | +46 (0)21 32 90 22                                      |       |       |

Computer print-out valid without signature.