



| Type Test Report  |             |           |        | Date of issue: 1.9.2015                                  |        |  |   |             |            |  |
|---|-------------|-----------|--------|--|--------|--|---|-------------|------------|--|
| Customer ref.:  |             |           |        | Motor Type: M3AA180MLA-2<br>Product Code: 3GAA181410-ADG |        |  |   |             |            |  |
| Rating:<br>3-Motor<br>Insul.cl.F<br>IP55<br><br>Eff class IE2   | V           | Hz        | kW     | r/min  | A      | $\eta$ [%]   | Duty  |             |            |  |
|   | 690         | Y         | 50     | 22   | 2952   | 22,90  | S1  |             |            |  |
|   | 400         | D         | 50     | 22   | 2952   | 39,5   | S1  |             |            |  |
|   | 415         | D         | 50     | 22   | 2956   | 39,0   | S1  |             |            |  |
|   | 440         | D         | 60     | 22   | 3554   | 35,5   | S1  |             |            |  |
|   | 460         | D         | 60     | 22   | 3559   | 34,3   | S1  |             |            |  |
| 50Hz : IE2 - 92,2%(100%) - 92,7%(75%) - 92,2%(50%)<br>60Hz : IE3 - 92,2%(100%)  |             |           |        |  |        |  |   |             |            |  |
| Resistance<br>Line Ambient: 20,0 °C<br>0,21 $\Omega$  |             |           |        | Insulation resistans at 26 °C<br>R>2000Mohm 1000V        |        |  | Overload<br>Volts 130 % 60s<br>Amp 160 % 120s<br>rpm 120 % 120s |             |            |  |
|   |             |           |        | High-voltage test winding 2400V 60s                      |        |  |   |             |            |  |
| Test  | Torque [Nm] | Line U[V] | f [Hz] | Input I[A]   | P1[kW] | Output P2[kW]  | $n$ [r/min]   | $\cos \rho$ | $\eta$ [%] |  |
| No load test  |             | 401 D     | 50     | 12,8   | 0,63   |  | 3000  | 0,07        |            |  |
| Locked rotor test   |             | 401 D     | 38,23  | 7,1  | 1,57   |  | 0   | 0,39        |            |  |
| Thermal test (100% load)  |             | 400 D     | 50     | 7,3  | 4,66   | 4,00   | 2870  | 0,92        | 93,16      |  |
| Partial load points:  |             |           |        |  |        |  |   |             |            |  |
| ~75% load   |             | 400 D     | 50     | 30,4   | 17,64  | 16,32  | 2967  |             | 92,53      |  |
| ~50%load  |             | 400 D     | 50     | 22,8   | 11,91  | 10,96  | 2976  |             | 92,07      |  |
| ~25%load  |             | 400 D     | 50     | 15,9   | 5,85   | 5,14   | 2990  |             | 87,84      |  |
| Temperature rise at rated load.   |             | [°C]      |        | [K]  | Method |  | Measurement method  |             |            |  |
| Stator winding* :   |             | 62,8      |        |  | 1      |  | 1 Resistance  |             |            |  |
| Frame :   |             | 42        |        |  | 2      |  | 2 Thermometer   |             |            |  |
| Bearing D-end :   |             | 49,7      |        |  | 2      |  | 3 Thermocouples   |             |            |  |
| Ambient Temperature :   |             | 21        |        |  | 2      |  |   |             |            |  |
| These tests have been carried out on motor no. 3GV1110799264006, on date 2012-12-01 which is identical in electrical design with the above. |             |           |        |  |        |  |   |             |            |  |
| Manufactured 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   |             |           |        |  |        |  |   |             |            |  |
| Tested by ABB AB, LV Motors, 721 70 Västerås, Sweden  |             |           |        |  |        | Telephone +46 (0)21 32 90 00<br>Telefax +46 (0)21 32 90 22 |   |             |            |  |

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