



| Test Report   |             |  |       | Date of issue: 30.11.2015        |         |   |                    |                 |       |  |
|---|-------------|--|-------|----------------------------------|---------|---|--------------------|-----------------|-------|--|
|   |             |  |       | Type: M3GP 225SMA 6              |         |   |                    |                 |       |  |
|   |             |  |       | Product Code: 3GGP223210-ADL     |         |   |                    |                 |       |  |
|   |             |  |       | Protection type: Ex nA IIC T3 Gc |         |   |                    |                 |       |  |
|   |             |  |       | Cert. No.: LCIE 13 ATEX 1034 X/  |         |   |                    |                 |       |  |
|   |             |  |       | IECEX LCIE 13.0047 X             |         |   |                    |                 |       |  |
| Rating:   |             |  |       |                                  |         |   |                    |                 |       |  |
|   |             | V  | Hz    | kW                               | r/min   | A   | cos φ              | Duty            |       |  |
| 3-Motor   |             | 690  | Y 50  | 30                               | 988     | 34,9  | 0,77               | S1              |       |  |
| Insul.cl.F  |             | 400  | D 50  | 30                               | 988     | 60,4  | 0,77               | S1              |       |  |
| IP55  |             | 415  | D 50  | 30                               | 989     | 61,8  | 0,73               | S1              |       |  |
|   |             | 440  | D 60  | 30                               | 1189    | 53,5  | 0,79               | S1              |       |  |
|   |             | 460  | D 60  | 30                               | 1190    | 52,6  | 0,77               | S1              |       |  |
| Eff class IE3   |             | 50Hz: IE3-92,9%(100%)-93,0%(75%)-92,2%(50%)<br>60Hz: IE3-93,4%(100%) |       |                                  |         |   |                    |                 |       |  |
| Resistance  |             |  |       | Insulation resistance at 45 °C   |         |   |                    | Overload        |       |  |
| Line  |             | Ambient: 22 °C   |       | 1600 MΩ                          |         | 1000 V  |                    | Torque 160% 15s |       |  |
| U <sub>1</sub> - V <sub>1</sub>   |             | 0,12629 Ω  |       |                                  |         |   |                    |                 |       |  |
| U <sub>1</sub> - W <sub>1</sub>   |             | 0,12633 Ω  |       |                                  |         |   |                    |                 |       |  |
| V <sub>1</sub> - W <sub>1</sub>   |             | 0,12628 Ω  |       |                                  |         |   |                    |                 |       |  |
|   |             |  |       | High-voltage test winding        |         | 1900 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  |             | 400,0 D  | 50    | 29,1                             | 0,92    |   | 998                | 0,05            |       |  |
| Locked rotor test   |             | 82,6 D   | 50    | 60,8                             | 2,89    |   | 0                  | 0,33            |       |  |
| Thermal test (100% load)  | 290,0       | 400,0 D  | 50    | 60,3                             | 32,3    | 30,0  | 988                | 0,77            | 93,0  |  |
| Partial load points:  |             |  |       |                                  |         |   |                    |                 |       |  |
| -75% load   | 217,4       | 400,0 D  | 50    | 49,2                             | 24,2    | 22,5  | 991                | 0,71            | 93,1  |  |
| -50% load   | 144,8       | 400,0 D  | 50    | 39,6                             | 16,3    | 15,0  | 994                | 0,59            | 92,3  |  |
| -25% load   | 72,4        | 400,0 D  | 50    | 32,3                             | 8,52    | 7,50  | 997                | 0,38            | 88,1  |  |
| Temperature rise at rated load.   |             |  | [°C]  | [K]                              | Method  |   | Measurement method |                 |       |  |
| Stator winding :  |             |  | 63    | 63                               | 1       |   | 1 Resistance       |                 |       |  |
| Frame :   |             |  | 41    | 41                               | 2       |   | 2 Thermocouples    |                 |       |  |
| Bearing D-end :   |             |  | 47    | 47                               | 2       |   | 3 Thermometer      |                 |       |  |
| Rotor :   |             |  | 79    | 79                               | 3       |   |                    |                 |       |  |
| Ambient Temperature :   |             |  | 25    | 25                               | 2       |   |                    |                 |       |  |
| These tests have been carried out on motor no. 3G1P141700189, on date 2014-11-25 which is identical in design with the above. |             |  |       |                                  |         | Starting current (I <sub>S</sub> / I <sub>N</sub> ) : 7,21    |                    |                 |       |  |
|   |             |  |       |                                  |         | Locked rotor torque (T <sub>L</sub> / T <sub>N</sub> ) : 2,90 |                    |                 |       |  |
|   |             |  |       |                                  |         | Pull-up torque (T <sub>U</sub> / T <sub>N</sub> ) : 2,54      |                    |                 |       |  |
|   |             |  |       |                                  |         | Breakdown torque (T <sub>B</sub> / T <sub>N</sub> ) : 3,30    |                    |                 |       |  |
| 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   |             |  |       |                                  |         |   |                    |                 |       |  |
| Tested by ABB Oy, Motors and Generators, Vaasa, Finland   |             |  |       |                                  |         | Telephone +358 10 2211<br>Telefax +358 10 22 47372            |                    |                 |       |  |

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