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|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-----------|---------|----------------------------------------|---------|----------------|------------------|--------------------|-------|
| <b>Test Report</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                |           |         | Date of issue: 1.6.2015                |         |                |                  |                    |       |
| Customer:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                |           |         | Serial No.:                            |         |                |                  |                    |       |
| Customer ref.:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                |           |         | Type: M3GP 180MLA 6                    |         |                |                  |                    |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                |           |         | Product Code: 3GGP183410-ADL           |         |                |                  |                    |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                |           |         | Protection type: Ex tb IIIB/C T125C Db |         |                |                  |                    |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                |           |         | Cert. No.: LCIE 13 ATEX 3067 X         |         |                |                  |                    |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                |           |         | IECEx LCIE 13.0047 X                   |         |                |                  |                    |       |
| Rating:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                |           |         |                                        |         |                |                  |                    |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | V              | Hz        | kW      | r/min                                  | A       | cos φ          | Duty             |                    |       |
| 3~Motor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 690            | Y 50      | 15,0    | 979                                    | 17,4    | 0,79           | S1               |                    |       |
| Insul.cl.F                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 400            | D 50      | 15,0    | 979                                    | 30,1    | 0,79           | S1               |                    |       |
| IP65                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 415            | D 50      | 15,0    | 980                                    | 29,6    | 0,77           | S1               |                    |       |
| Eff class IE3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 440            | D 60      | 15,0    | 1180                                   | 27,0    | 0,79           | S1               |                    |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 460            | D 60      | 15,0    | 1182                                   | 26,1    | 0,78           | S1               |                    |       |
| 50Hz: IE3-91,2%(100%)-91,9%(75%)-91,6%(50%)                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                |           |         |                                        |         |                |                  |                    |       |
| 60Hz: IE3-91,7%(100%)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                |           |         |                                        |         |                |                  |                    |       |
| Resistance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                |           |         | Insulation resistance at 80 °C         |         | Overload       |                  |                    |       |
| Line                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Ambient: 24 °C |           | 2000 MΩ |                                        | 1000 V  |                | Torque 160% 15s  |                    |       |
| U <sub>1</sub> - V <sub>1</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 0,37530 Ω      |           |         |                                        |         |                | Speed 120% 120s  |                    |       |
| U <sub>1</sub> - W <sub>1</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 0,37430 Ω      |           |         |                                        |         |                | Current 150% 15s |                    |       |
| V <sub>1</sub> - W <sub>1</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 0,37590 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] | η[r/min]         | cos φ              | η [%] |
| No load test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                | 400,4 D   | 50      | 13,2                                   | 0,44    |                | 998              | 0,05               |       |
| Locked rotor test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                | 102,1 D   | 50      | 30,9                                   | 1,66    |                | 0                | 0,30               |       |
| Thermal test (100% load)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 146,7          | 400,2 D   | 50      | 30,1                                   | 16,4    | 15,0           | 979              | 0,79               | 91,4  |
| Partial load points:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                |           |         |                                        |         |                |                  |                    |       |
| ~75% load                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 110,0          | 400,6 D   | 50      | 24,0                                   | 12,2    | 11,3           | 985              | 0,73               | 92,1  |
| ~50% load                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 73,4           | 400,1 D   | 50      | 18,8                                   | 8,2     | 7,5            | 990              | 0,63               | 91,8  |
| ~25% load                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 36,4           | 400,7 D   | 50      | 14,9                                   | 4,3     | 3,8            | 995              | 0,41               | 88,3  |
| Temperature rise at rated load.                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                |           |         | °C                                     | K       | Method         |                  | Measurement method |       |
| Stator winding :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                |           |         | 48                                     | 1       |                |                  | 1 Resistance       |       |
| Frame :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                |           |         | 23                                     | 2       |                |                  | 2 Thermocouples    |       |
| Bearing D-end :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                |           |         | 24                                     | 2       |                |                  | 3 Thermometer      |       |
| Rotor:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                |           |         | 71                                     | 3       |                |                  |                    |       |
| Ambient Temperature :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                |           |         | 25                                     | 2       |                |                  |                    |       |
| <p>These tests have been carried out on motor no. 3G1P141700180, on date 2014-06-20 which is identical in 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> <p>On behalf of customer</p> <p>On behalf of manufacturer Date of test</p> <p>Tested by Asea Brown Boveri, S.A., Fabrica Motores , 08192 Sant Quirze del Valles , Spain</p> <p>Telephone +34 93 728 85 00<br/>Telefax +34 93 728 85 33</p> |                |           |         |                                        |         |                |                  |                    |       |

Computer print-out valid without signature.