



V6.0.1 - 1.0.7455.19842

| Type Test Report                                                                                                                            |             |                                                                          |       | Date of Issue: 18.6.2020                           |         |                |                    |            |            |       |
|---------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------------------------------------------------------------------------|-------|----------------------------------------------------|---------|----------------|--------------------|------------|------------|-------|
| Tests have been carried out for motor no. 3G1F1951646056, which is identical in electrical design with motor type(s) stated in this report. |             |                                                                          |       | Type: M3BP 90SLC 8<br>Product Code: 3GBP094103-_SB |         |                |                    |            |            |       |
| Rating:                                                                                                                                     |             |                                                                          |       |                                                    |         |                |                    |            |            |       |
|                                                                                                                                             |             | V                                                                        | Hz    | kW                                                 | r/min   | A              | cos $\phi$         | Duty       |            |       |
| 3~Motor                                                                                                                                     |             | 400                                                                      | Y 50  | 0,55                                               | 673     | 2,08           | 0,61               | S1         |            |       |
| Ins. Class F                                                                                                                                |             | 230                                                                      | D 50  | 0,55                                               | 673     | 3,61           | 0,61               | S1         |            |       |
|                                                                                                                                             |             | 460                                                                      | Y 60  | 0,55                                               | 841     | 1,83           | 0,54               | S1         |            |       |
| Eff class IE2                                                                                                                               |             | 50Hz: IE2 - 61.7(100%) - 63.6(75%) - 59.8(50%)<br>60Hz: IE2 - 62.0(100%) |       |                                                    |         |                |                    |            |            |       |
| Winding resistance                                                                                                                          |             | Measured at 23 °C                                                        |       | Calculated at 20 °C                                |         |                |                    |            |            |       |
| U <sub>1</sub> - V <sub>1</sub>                                                                                                             |             | 25,591 $\Omega$                                                          |       | 25,343 $\Omega$                                    |         |                |                    |            |            |       |
| U <sub>1</sub> - W <sub>1</sub>                                                                                                             |             | 25,622 $\Omega$                                                          |       | 25,373 $\Omega$                                    |         |                |                    |            |            |       |
| V <sub>1</sub> - W <sub>1</sub>                                                                                                             |             | 25,625 $\Omega$                                                          |       | 25,376 $\Omega$                                    |         |                |                    |            |            |       |
|                                                                                                                                             |             |                                                                          |       | Withstand voltage test for winding 2409 V 1 s      |         |                |                    |            |            |       |
| Test                                                                                                                                        | Torque [Nm] | Line U[V]                                                                | f[Hz] | Input I[A]                                         | P1 [kW] | Output P2 [kW] | n[r/min]           | cos $\phi$ | $\eta$ [%] | s [%] |
| No-load test                                                                                                                                |             | 400,0 Y                                                                  | 50    | 1,66                                               | 0,15    |                |                    | 0,13       |            |       |
| Short circuit test                                                                                                                          |             | 187,2 Y                                                                  | 50    | 2,00                                               | 0,39    |                |                    | 0,60       |            |       |
| Temp. rise test S1                                                                                                                          | 7,7         | 400,1 Y                                                                  | 50    | 2,06                                               | 0,86    | 0,54           | 673                | 0,60       | 62,9       | 10,22 |
| Partial load points:                                                                                                                        |             |                                                                          |       |                                                    |         |                |                    |            |            |       |
| ~75% load                                                                                                                                   | 5,8         | 400,2 Y                                                                  | 50    | 1,84                                               | 0,66    | 0,43           | 698                | 0,52       | 64,6       | 6,99  |
| ~50% load                                                                                                                                   | 3,9         | 400,2 Y                                                                  | 50    | 1,70                                               | 0,48    | 0,29           | 717                | 0,41       | 61,0       | 4,37  |
| ~25% load                                                                                                                                   | 2,0         | 400,3 Y                                                                  | 50    | 1,63                                               | 0,32    | 0,15           | 734                | 0,28       | 47,8       | 2,13  |
| Temperature rise at rated load.                                                                                                             |             | [°C]                                                                     |       | [K]                                                | Method  |                | Measurement method |            |            |       |
| Stator winding :                                                                                                                            |             | 64                                                                       |       | 1                                                  |         |                | 1 Resistance       |            |            |       |
| Frame :                                                                                                                                     |             | 47                                                                       |       | 2                                                  |         |                | 2 Thermocouples    |            |            |       |
| Bearing D-end :                                                                                                                             |             | 37                                                                       |       | 2                                                  |         |                | 3 Thermometer      |            |            |       |
| Rotor :                                                                                                                                     |             | 62                                                                       |       | 3                                                  |         |                |                    |            |            |       |
| Ambient Temperature :                                                                                                                       |             | 21                                                                       |       | 2                                                  |         |                |                    |            |            |       |
| Starting current ( $I_s / I_N$ ) : 2,73<br>Locked rotor torque ( $T_L / T_N$ ) : 1,52<br><br>Current unbalance at full load: 0,33 %         |             |                                                                          |       |                                                    |         |                |                    |            |            |       |
| Manufactured and tested acc. to IEC/EN 60034-1:2017 and IEC/EN 60034-2-1:2014 Method 2-1-1B.                                                |             |                                                                          |       |                                                    |         |                |                    |            |            |       |
| On behalf of customer                                                                                                                       |             |                                                                          |       |                                                    |         |                |                    |            |            |       |
| On behalf of manufacturer Date of test: 9.2.2020                                                                                            |             |                                                                          |       |                                                    |         |                |                    |            |            |       |
| Tested by ABB Oy, Motors and Generators, Vaasa, Finland<br>Test laboratory has been certified acc. to ISO/IEC 17025:2005                    |             |                                                                          |       |                                                    |         |                |                    |            |            |       |
| Tommi Pantti, Test Floor Manager                                                                                                            |             |                                                                          |       |                                                    |         |                |                    |            |            |       |