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|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------------------------------------------------------------------|-------|----------------------------------|---------|--------------------|----------|--------------------|-------|
| <b>Test Report</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |             |                                                                    |       | Date of issue: 29.5.2015         |         |                    |          |                    |       |
| Customer:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                                                                    |       | Serial No.:                      |         |                    |          |                    |       |
| Customer ref.:                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |             |                                                                    |       | Order No.:                       |         |                    |          |                    |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |             |                                                                    |       | Type: M3BP 225SMB 4              |         |                    |          |                    |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |             |                                                                    |       | Product Code: 3GBP222220-ADK     |         |                    |          |                    |       |
| Rating:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                    |       |                                  |         |                    |          |                    |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |             | V                                                                  | Hz    | kW                               | r/min   | A                  | cos φ    | Duty               |       |
| 3-Motor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             | 690                                                                | Y 50  | 45,0                             | 1482    | 46,5               | 0,85     | S1                 |       |
| Insul.cl.F                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |             | 400                                                                | D 50  | 45,0                             | 1482    | 80,2               | 0,85     | S1                 |       |
| IP55                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |             | 660                                                                | Y 50  | 45,0                             | 1479    | 48,3               | 0,86     | S1                 |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |             | 380                                                                | D 50  | 45,0                             | 1479    | 83,9               | 0,86     | S1                 |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |             | 415                                                                | D 50  | 45,0                             | 1483    | 78,3               | 0,84     | S1                 |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |             | 460                                                                | D 60  | 45,0                             | 1483    | 70,5               | 0,84     | S1                 |       |
| Eff class IE3                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |             | 50Hz : IE3-95,2(100%)-95,6(75%)-95,5(50%)<br>60Hz : IE3-95,3(100%) |       |                                  |         |                    |          |                    |       |
| Resistance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |             |                                                                    |       | Insulation resistance at 24 °C   |         | Overload           |          |                    |       |
| Line                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |             | Ambient: 24,2 °C                                                   |       | R > 2000 Mohm 1000 V             |         | Current 150 % 120s |          |                    |       |
| U <sub>1</sub> - V <sub>1</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                                           |             | 0,06776 Ω                                                          |       |                                  |         | Torque 160 % 15s   |          |                    |       |
| U <sub>1</sub> - W <sub>1</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                                           |             | 0,06779 Ω                                                          |       |                                  |         | Speed 120 % 120s   |          |                    |       |
| V <sub>1</sub> - W <sub>1</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                                           |             | 0,06779 Ω                                                          |       |                                  |         |                    |          |                    |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |             |                                                                    |       | High-voltage test winding 2400 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |             | 398,9 D                                                            | 50    | 28,7                             | 0,64    |                    | 1500     | 0,03               |       |
| Locked rotor test                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |             | 71,3 D                                                             | 50    | 80,6                             | 3,36    |                    | 0        | 0,34               |       |
| Thermal test ( 100% load )                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 290,2       | 400 D                                                              | 50    | 80,4                             | 47,27   | 45,00              | 1481     | 0,85               | 95,19 |
| Partial load points:                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |             |                                                                    |       |                                  |         |                    |          |                    |       |
| ~75% load                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 219,1       | 400 D                                                              | 50    | 63,4                             | 35,66   | 34,09              | 1486     | 0,81               | 95,61 |
| ~50% load                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 147,1       | 400 D                                                              | 50    | 47,7                             | 24,04   | 22,97              | 1491     | 0,73               | 95,55 |
| ~25% load                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 74,9        | 400 D                                                              | 50    | 35,1                             | 12,51   | 11,73              | 1496     | 0,51               | 93,82 |
| Temperature rise at rated load.                                                                                                                                                                                                                                                                                                                                                                                                                                                           |             |                                                                    |       | °C                               | K       | Method             |          | Measurement method |       |
| Stator winding :                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |             |                                                                    |       | 68,6                             | 1       |                    |          | 1 Resistance       |       |
| Frame :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                    |       | 54,3                             | 2       |                    |          | 2 Thermometer      |       |
| Bearing D-end :                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |             |                                                                    |       | 46,4                             | 2       |                    |          | 3 Thermocouples    |       |
| Ambient Temperature :                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |             |                                                                    |       | 25                               | 2       |                    |          |                    |       |
| <p>These tests have been carried out on motor no. 3GV1110796900001, on date 2011-09-20 which is identical in electrical 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 ABB AB, LV Motors, 721 70 Västerås, Sweden</p> <p>Telephone +46 (0)21 32 90 00<br/>Telefax +46 (0)21 32 90 22</p> |             |                                                                    |       |                                  |         |                    |          |                    |       |

Computer print-out valid without signature.