

|   |                |                         |   |                             |                          |                  |  |                      |
|---|----------------|-------------------------|---|-----------------------------|--------------------------|------------------|--|----------------------|
| Producer: <b>Siemens Standard Motors Ltd.</b>   |                |                         |   |                             |                          |                  |  |                      |
| Address :<br>No. 110, West Street<br>Qingshan Town Yizheng City<br>Jiangsu Province 211417, P.R.China |                |                         |   |                             |                          |                  |  |                      |
| TYPE TEST CERTIFICATE OF INDUCTION MOTOR  |                |                         |   |                             |                          |                  |  |                      |
| TEST No...Probe Nr. :   |                |                         |   |                             |                          |                  |  |                      |
| TYPE... : <b>1LG0313-6AB</b>  |                | SERIAL-No: <b>15073</b> |   | spec.: 3                    |                          |                  |  |                      |
| <b>90 kW</b>  | <b>400 V</b>   | <b>D</b>                | <b>161 A</b>                            | <b>989 /min</b>             | <b>50 Hz</b>             |                  |  |                      |
| <b>S1</b>   | <b>IP55</b>    | <b>Isol. F</b>          | <b>40 °C</b>                            | <b>IM B3</b>                | <b>895 kg</b>            |                  |  |                      |
| WINDING RESISTANCE - cold   |                |                         |   | $R_{f20} = 0.046792 \Omega$ |                          |                  |  |                      |
| TERMINALS:  |                | U-V                     | U-W                                     | V-W                         | $R_{isol} > 0.5 G\Omega$ |                  |  |                      |
| $\theta = 18 \text{ °C}$  | $R (\Omega) :$ | <b>0.03095</b>          | <b>0.03095</b>                          | <b>0.03095</b>              |                          |                  |  |                      |
| $M_N = 872.6 \text{ Nm}$  | LOAD TEST      |                         |   |                             |                          |                  | 1. MEASURING                                       |                      |
|   | 1.             | 2.                      | 3.                                      | 4.                          | 5.                       | 6.               |  |                      |
| $P_{in} (W)$  | 97000          | <b>95937</b>            |   |                             |                          |                  | 2. CORRECTED for Pn                                |                      |
| $P (W)$   | 90986          | <b>90000</b>            | 90000                                   |                             |                          | <b>90000</b>     |  |                      |
| $U (V)$   | 400            |                         |   |                             |                          | <b>400</b>       |  |                      |
| $I (A)$   | 161.9          | <b>161.0</b>            | 161.0                                   |                             |                          | <b>161</b>       |  |                      |
| $f (Hz)$  | 50             | <b>50</b>               | 50                                      |                             |                          | <b>50</b>        |  |                      |
| SPEED (1/min)   | 989            | <b>989</b>              | 989                                     |                             |                          | <b>989</b>       | 3. CORRECTED FOR $T_{REF}$<br>according EN 60034-2 |                      |
| Torque (Nm)   | 869.2          |                         |   |                             |                          |                  |  |                      |
| $\eta (\%)$   | 93.80          | 93.81                   | 93.8                                    |                             |                          | <b>92.9</b>      |  |                      |
| $\cos \varphi (-)$  | 0.857          | 0.857                   |   |                             |                          | <b>0.86</b>      |  |                      |
| $M_{ST} / M_N \diamond M_A / M_N (-)$   | 2.1            | <b>2.1</b>              |   |                             |                          | <b>2.0</b>       |  |                      |
| $I_{ST} / I_N \diamond I_A / I_N (-)$   | 7.1            | <b>7.1</b>              |   |                             |                          | <b>7.0</b>       | 4. CORRECTED FOR $T_{REF}$<br>according CEMEP      |                      |
| $M_{MAX} / M_N \diamond M_K / M_N (-)$  | 2.23           | <b>2.23</b>             |   |                             |                          | <b>2.0</b>       |  |                      |
| SLIP ... (%)  | 1.40           | <b>1.38</b>             |   |                             |                          | <b>1.50</b>      |  |                      |
| WINDING - $\Delta \theta (K)$   | 68.3<br>(90 s) | <b>67.2</b><br>(90 s)   | EN 60034-2<br>$T_{ref} = 95 \text{ °C}$ |                             |                          | <b>80</b>        |  |                      |
| $\theta_a (\text{°C})$  | 22             | 22                      |   |                             |                          |                  |  |                      |
| FRAME - $\Delta \theta (K)$   | 39             | 38.4                    |   |                             |                          |                  | 5. MEASURING at 75% Pn                             |                      |
| TIME ... (min)  | 270            |                         |   |                             |                          |                  |  |                      |
| BEARING_D - $\Delta \theta (K)$   | 33             | <b>32.5</b>             |   |                             |                          |                  |  |                      |
| RESISTANCE - warm   | 0.03980        | 0.03966                 | ... U-V                                 |                             |                          |                  | 6. GUARANTED                                       |                      |
| ( $\Omega$ )  | 0.03980        | 0.03966                 | ... U-W $R_{isol} = 0.2 G\Omega$        |                             |                          |                  |  |                      |
|   | 0.03980        | 0.03966                 | ... V-W                                 |                             |                          |                  |  |                      |
| NO-LOAD TEST  |                |                         |   | LOCKED ROTOR TEST           |                          |                  |  |                      |
| VOLTAGE   | CURRENT        | POWER INPUT             | POWER FACTOR                            | VOLTAGE                     | CURRENT                  | TORQUE           | POWER INPUT  | POWER FACTOR         |
| $U_o (V)$   | $I_o (A)$      | $P_o (W)$               | $\cos \varphi_o (-)$                    | $U_A (V)$                   | $I_A (A)$                | $M_A (N.m.)$     | $P_A (W)$  | $\cos \varphi_A (-)$ |
| <b>400</b>  | <b>55.583</b>  | <b>2658</b>             | <b>0.069</b>                            | <b>400</b>                  | <b>1155</b>              | <b>1838.3</b>    | <b>295496</b>                                      | <b>0.373</b>         |
| COIL TEST   |                | HIGH-SPEED TEST         |   | HIGH POTENCIAL TEST         |                          |                  |  |                      |
| 130% $U_N$ - 3 min.   |                | 120% $n_{MAX}$ - 2 min. |   | 2500 V - 1 min.             |                          |                  |  |                      |
| TESTS CONFORM to the ... <b>EN 60034</b>  |                |                         |   |                             |                          |                  |  |                      |
| NOTE  |                |                         |   |                             |                          |                  | order:   |                      |
| A&D SD MF QM  |                | DATE...<br>22/4/2009    |   | PAGE...<br>1 / 6            |                          | SIGNATURE<br>LAZ |  |                      |