

# Data sheet for three-phase Squirrel-Cage-Motors SIMOTICS

**Motor type:** SD200 NEMA Premium Next Generation **FS: 509S - 4p - 400 hp -**

|                  |                 |           |
|------------------|-----------------|-----------|
| Client order no. | Item-No.        | Offer no. |
| Order no.        | Consignment no. | Project   |

Remarks

**Electrical data** **Class I Division 2 Gr. A, B, C or D T3**

| U [V] | $\Delta/Y$      | f [Hz] | P [HP] | P [kW] | n [rpm] | I Load [Amps] |        |        |        |        | Nom. Eff Load [%] |      |      | Pwr. Factor Load [%] |      |      | Torque [lb-ft] | T <sub>A</sub> /T <sub>N</sub> LRT [%] | T <sub>k</sub> /T <sub>N</sub> BDT [%] |
|-------|-----------------|--------|--------|--------|---------|---------------|--------|--------|--------|--------|-------------------|------|------|----------------------|------|------|----------------|--|--|
|       |                 |        |        |        |         | 4/4           | 3/4    | 1/2    | 0      | LRC    | 4/4               | 3/4  | 2/4  | 4/4                  | 3/4  | 2/4  |                |  |  |
| 460   | $\Delta \Delta$ | 60     | 400.00 | 298.40 | 1,790   | 460           | 355.10 | 255.10 | 140.00 | 2900.0 | 96.5              | 96.7 | 96.2 | 84.4                 | 81.8 | 76.3 | 1174.6         | 230                                    | 250                                    |

|                  |   |                                       |                                       |              |            |
|------------------|---|---------------------------------------|---------------------------------------|--------------|------------|
| Frame Type: 509S | Type of constr.: (A) Foot Mounted Horizontal (IMB3) | Ins. Cl.: Standard Class H Insulation | Motor Prot.: A: No Winding Protection | NEMA Des.: B | S.F.: 1.15 |
| Mtr. WT: 4,105   |   | Temp. Rise Cl.: B                     | Amb. Temp.: + 40 to °C @1000 m        | kVA: G       | IP 55      |

**Mechanical data**

|                                      |                           |      |      |              |      |      |                       |                         |                              |
|--------------------------------------|---------------------------|------|------|--------------|------|------|-----------------------|-------------------------|------------------------------|
| Sound level (SPL / SWL) at 60 Hz     | 81.0 dB(A) / 94.0 dB(A)   |      |      |              |      |      |                       | Thickener               | Polyurea                     |
| Octave Band Center Frequencies Hertz |                           |      |      |              |      |      |                       | Safe Stall Time Hot     | 19 s                         |
|                                      | 250                       | 500  | 1000 | 2000         | 4000 | 8000 | Hz                    | Safe Stall Time Cold    | 23 s                         |
| SPL@3                                | 77.0                      | 75.0 | 72.0 | 67.0         | 62.0 | 58.0 | dB(A)                 | Frame material          | Cast iron                    |
| Moment of inertia                    | 128.0 Lb-ft <sup>2</sup>  |      |      |              |      |      |                       | Color, paint shade      | RAL 7030                     |
| Ext Load Inertia Capability:         | 1550.0 Lb ft <sup>2</sup> |      |      |              |      |      |                       | Coating (paint finish)  | Standard Alkyed + Epoxy (C2) |
| <b>Bearings</b>                      |                           |      |      |              |      |      |                       | <b>Ventilation Type</b> |                              |
| Bearing DE   NDE                     | 6322 Z C3 S0              |      |      | 6322 Z C3 S0 |      |      | Method of cooling     | TEFC                    |                              |
| Bearing_Type                         | Ball Bearing              |      |      | Ball Bearing |      |      | Direction of rotation | Bi-Directional          |                              |
| AFBMA:                               | 110BC03JP3                |      |      | 110BC03JP3   |      |      | Fan Material          | Polypropylene ESD       |                              |
| <b>Grease</b>                        |                           |      |      |              |      |      |                       | VFD                     | CT: 4:1 VT: 20:1             |
| Capacity                             | 17 oz                     |      |      | 17 oz        |      |      | Space heaters         | without                 |                              |
| Grease Type:                         | Exxon Mobil EM            |      |      |              |      |      |                       | Brake:                  | -/-                          |

**Terminal box**

|                      |                                |              |               |                    |                 |                          |  |
|----------------------|--------------------------------|--------------|---------------|--------------------|-----------------|--------------------------|--|
| Lead Wire Connection | 12 TERMINAL - Connection DELTA |              |               |                    |                 | Terminal box position    | (1) LHS Mount - View From DE (F-1) - DE or Center of Motor |
| Voltage              | L1                             | L1           | L1            | Connected together |                 | Material of terminal box | Cast Iron  |
| ---                  | ---                            | ---          | ---           | ---                | -               | Cable entry              | (1) 5" NPT   |
| RUN                  | T12-T7-T6-T1                   | T10-T8-T4-T2 | T11-T9-T5-T13 | ---                | $\Delta \Delta$ |                          |  |

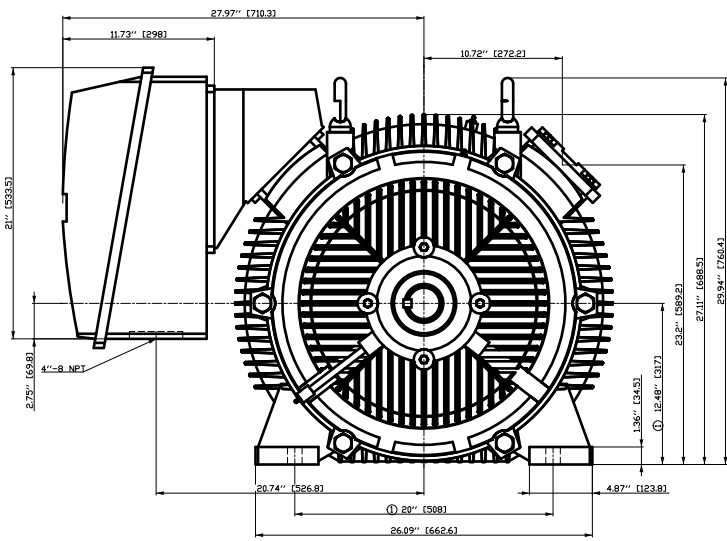
Notes:

I<sub>L</sub>/I<sub>N</sub> = locked rotor current / current nominal  
M<sub>L</sub>/M<sub>N</sub> = locked rotor torque / torque nominal  
M<sub>L</sub>/M<sub>N</sub> = break down torque / nominal torque

3) Value is valid only for DOL operation with motor design IC411  
2) at rated power / at full load

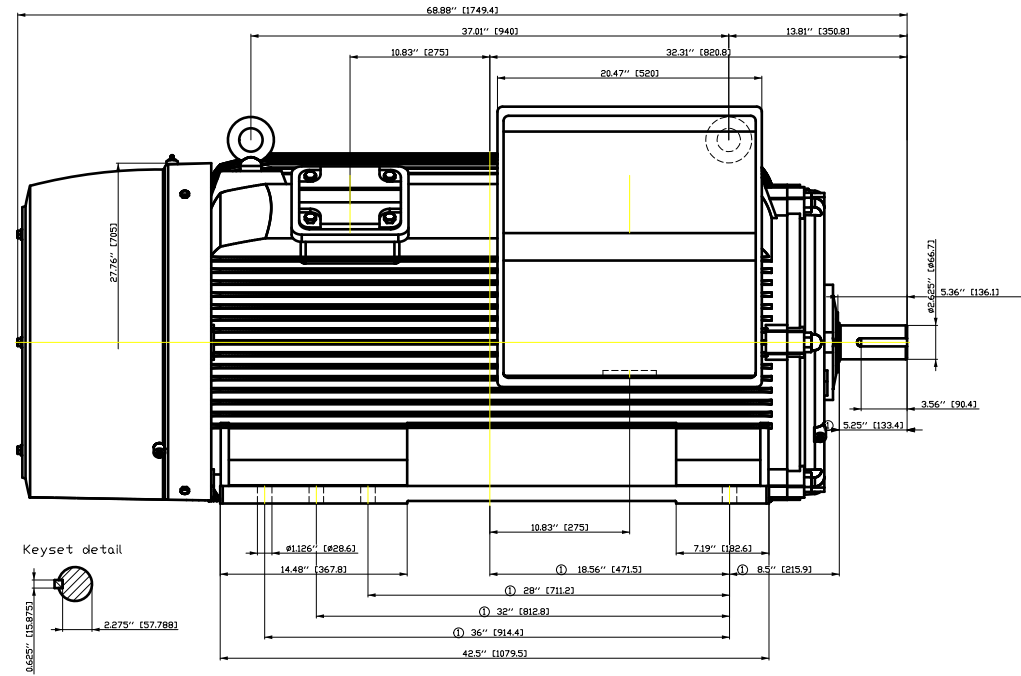
|                  |                     |                 |             |  |
|------------------|---------------------|-----------------|-------------|--|
| responsible dep. | technical reference | created by      | approved by | <i>Technical data are subject to change! There may be discrepancies between software and hardware versions</i> |
| DI MC LVM        |                     | DT Configurator |             |  |

|                   |                    |                 |                  |          |      |
|-------------------|--------------------|-----------------|------------------|----------|------|
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① Tolerances according to NEMA std.

All dimensions corresponding to assemblies and castings shall have a tolerance as per ISO 8062-3 DCTG 12.



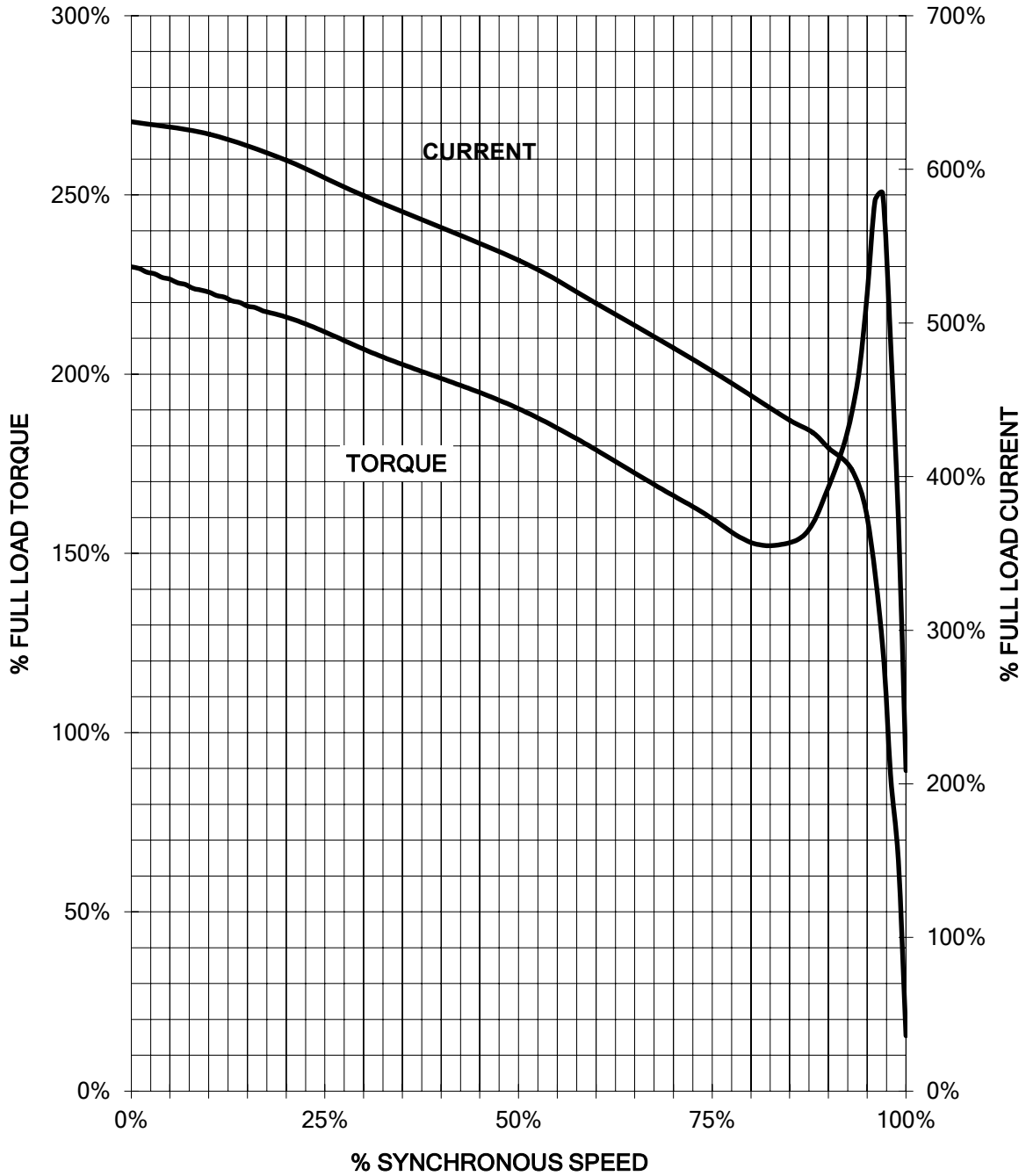
Keyset detail

|                              |   |                        |                            |  |
|------------------------------|---|------------------------|----------------------------|--|
| Tolerance                    | Surface   | Material               | Weight<br>É                | Scale<br>{ }   |
| FŠÖĪ HGFE ÓOFFÉÓDÉF<br>É     | Author<br>Creator<br>Approval<br>Department<br>Change Order | ÖVS<br>T æ : ^æ@` } *  |                            |  |
|                              | Doc. State<br>Revision                                      | I ð BGG<br>Index<br>RS | MFB<br>Item No.<br>Doc No. | Doc Type<br>Paper Size<br>1st Language<br>2nd Language |
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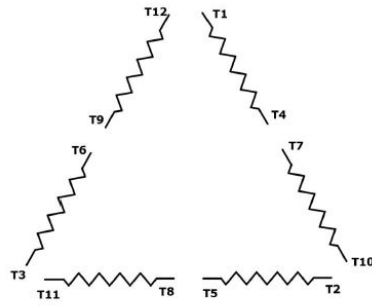
HP 400 VOLTS 460 RPM 1790 TYPE SD200  
HZ 60 PHASE 3 FRAME 509 NEMA B

## TORQUE & CURRENT VS. SPEED



Unrestricted CUSTOMER: \_\_\_\_\_ ORDER#: \_\_\_\_\_

Main terminal diagram



| 12 LEAD DELTA |                    |       |
|---------------|--------------------|-------|
| LINES         | CONNECT TOGETHER   | CONN. |
| L1            | T12 - T7 - T6 - T1 | ΔΔ    |
| L2            | T10 - T8 - T4 - T2 |       |
| L2            | T11 - T9 - T5 - T3 |       |

|                               |                                 |                         |                             |                               |
|-------------------------------|---------------------------------|-------------------------|-----------------------------|-------------------------------|
| responsible dep.<br>DI MC LVM | technical reference             | created by              | approved by                 | Project                       |
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