

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

**Motor type:** SD661 **FS: 286T - 6p - 20 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] |       |       |       |       | LRC  | 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     | 4/4   |      | 3/4               | 2/4  | 4/4  | 3/4                  | 2/4  |      |                |  |  |
| 460   | $\Delta$     | 60     | 20.00  | 15.00  | 1,200   | 27.00         | 22.10 | 18.00 | 13.00 | 145.0 | 91.7 | 92.0              | 91.2 | 76.0 | 69.0                 | 57.0 | 89.0 | 149            | 240                                    |  |

|                  |  |                                       |                                     |              |            |
|------------------|--|---------------------------------------|-------------------------------------|--------------|------------|
| Frame Type: 286T | Type of constr.: (A) Foot mounted - End shield | Ins. Cl.: Standard Class F Insulation | Motor Prot.: (A) Without Protection | NEMA Des.: B | S.F.: 1.15 |
| Mtr. WT: 462     |  | Temp. Rise Cl.: B                     | Amb. Temp.: + 40 to -20 °C @1000 m  | kVA: G       | IP 56      |

## Mechanical data

|                                      |                          |      |      |              |      |      |       |                         |                              |
|--------------------------------------|--------------------------|------|------|--------------|------|------|-------|-------------------------|------------------------------|
| Sound level (SPL / SWL) at 60 Hz     | 61.0 dB(A) / 72.0 dB(A)  |      |      |              |      |      |       | Thickener               | Polyurea                     |
| Octave Band Center Frequencies Hertz |                          |      |      |              |      |      |       | Safe Stall Time Hot     | 20 s                         |
|                                      | 250                      | 500  | 1000 | 2000         | 4000 | 8000 | Hz    | Safe Stall Time Cold    | 45 s                         |
| SPL@3                                | 49.0                     | 55.0 | 52.0 | 54.0         | 56.0 | 50.0 | dB(A) | Frame material          | cast iron                    |
| Moment of inertia                    | 4.5 Lb-ft <sup>2</sup>   |      |      |              |      |      |       | Color, paint shade      | Standard Paint - RAL7030     |
| Ext Load Inertia Capability:         | 262.0 Lb ft <sup>2</sup> |      |      |              |      |      |       | Coating (paint finish)  | Standard Alkyed + Epoxy (C2) |
| <b>Bearings</b>                      |                          |      |      |              |      |      |       | <b>Ventilation Type</b> |                              |
| Bearing DE   NDE                     | NU 310                   |      |      | 6310 Z C3 S0 |      |      |       | Method of cooling       | TEFC                         |
| Bearing_Type                         | Roller Bearing           |      |      | Ball Bearing |      |      |       | Direction of rotation   | Bidirectional                |
| AFBMA:                               | 50RU03M0                 |      |      | 50BC03JP30   |      |      |       | Fan Material            | Polypropylen ESD             |
| <b>Grease</b>                        |                          |      |      |              |      |      |       | VFD                     | CT: 4:1 VT: 20:1             |
| Capacity                             | 2.6 oz                   |      |      | 2.6 oz       |      |      |       | Space heaters           | without                      |
| Grease Type:                         | Exxon Mobile EM          |      |      |              |      |      |       | Brake:                  | without                      |


## Terminal box

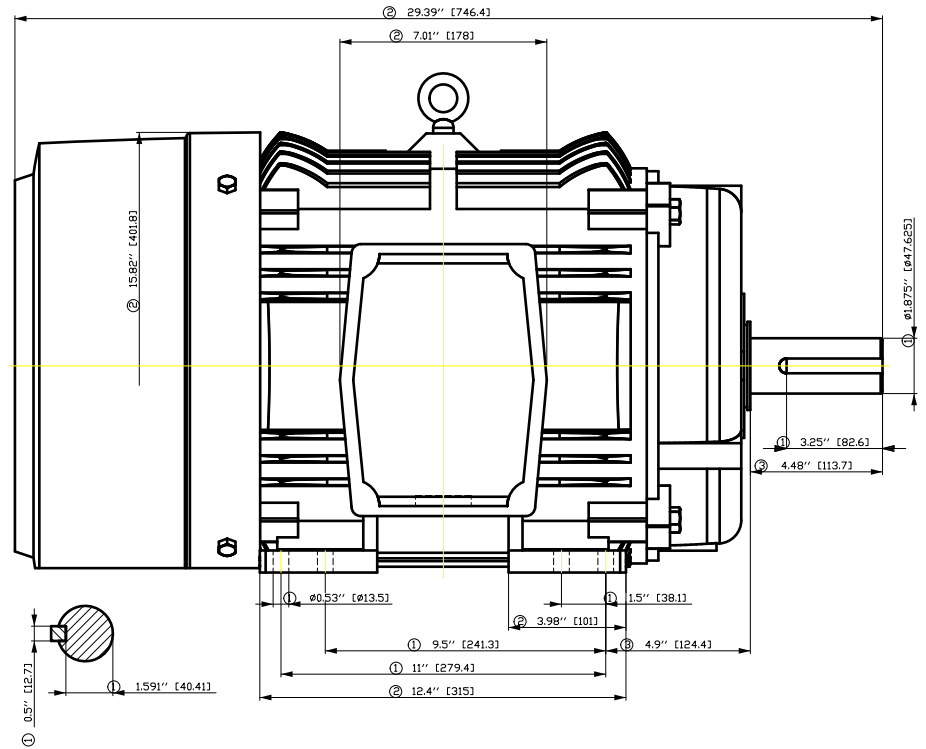
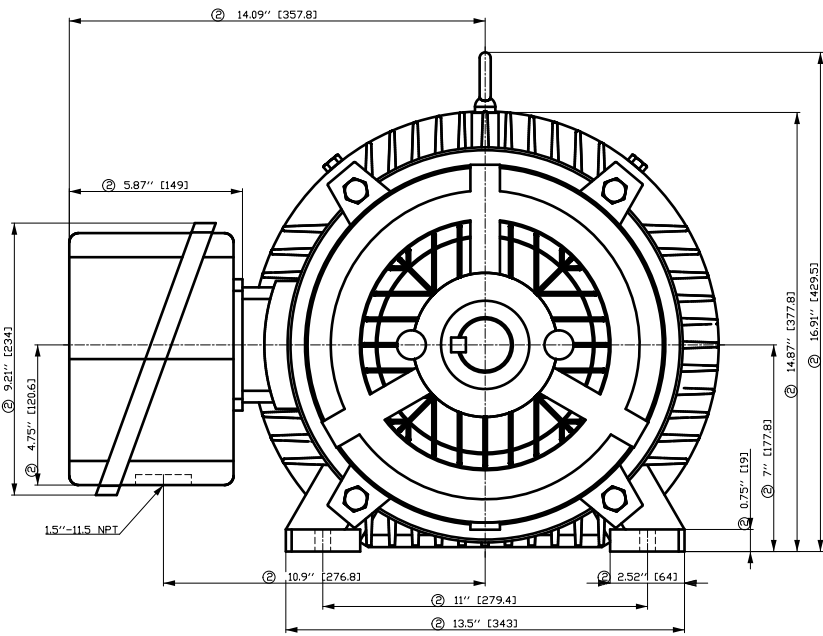
|                      |      |      |      |                    |                |  |  |  |  |                          |   |  |  |  |  |
|----------------------|------|------|------|--------------------|----------------|--|--|--|--|--------------------------|---|--|--|--|--|
| Lead Wire Connection |      |      |      |                    | 3 LEAD - DELTA |  |  |  |  | Terminal box position    | (3) F-1, Standard Floor Mount, T. Box LHS |  |  |  |  |
| Voltage              | L1   | L1   | L1   | Connected together |                |  |  |  |  | Material of terminal box | Cast Iron                                 |  |  |  |  |
| ----                 | ---- | ---- | ---- | ----               |                |  |  |  |  | Cable entry              | 1.5" NPT                                  |  |  |  |  |
| ----                 | T1   | T2   | T3   | ----               |                |  |  |  |  |                          |   |  |  |  |  |

### 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>B</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.<br>DI MC LVM  | technical reference         | created by<br>DT Configurator     | approved by    | <i>Technical data are subject to change! There may be discrepancies between software and hardware versions</i> |  |  |  |
|  | document type<br>datasheet  | document status<br>released       |                | customer   |  |  |  |
|  | title<br>1LE2422-2CC21-2AA3 | document number                   |                |  |  |  |  |
| © Siemens AG 2022  | rev.<br>01                  | creation date<br>2022-04-08 20:56 | language<br>en | Page<br>1/1  |  |  |  |



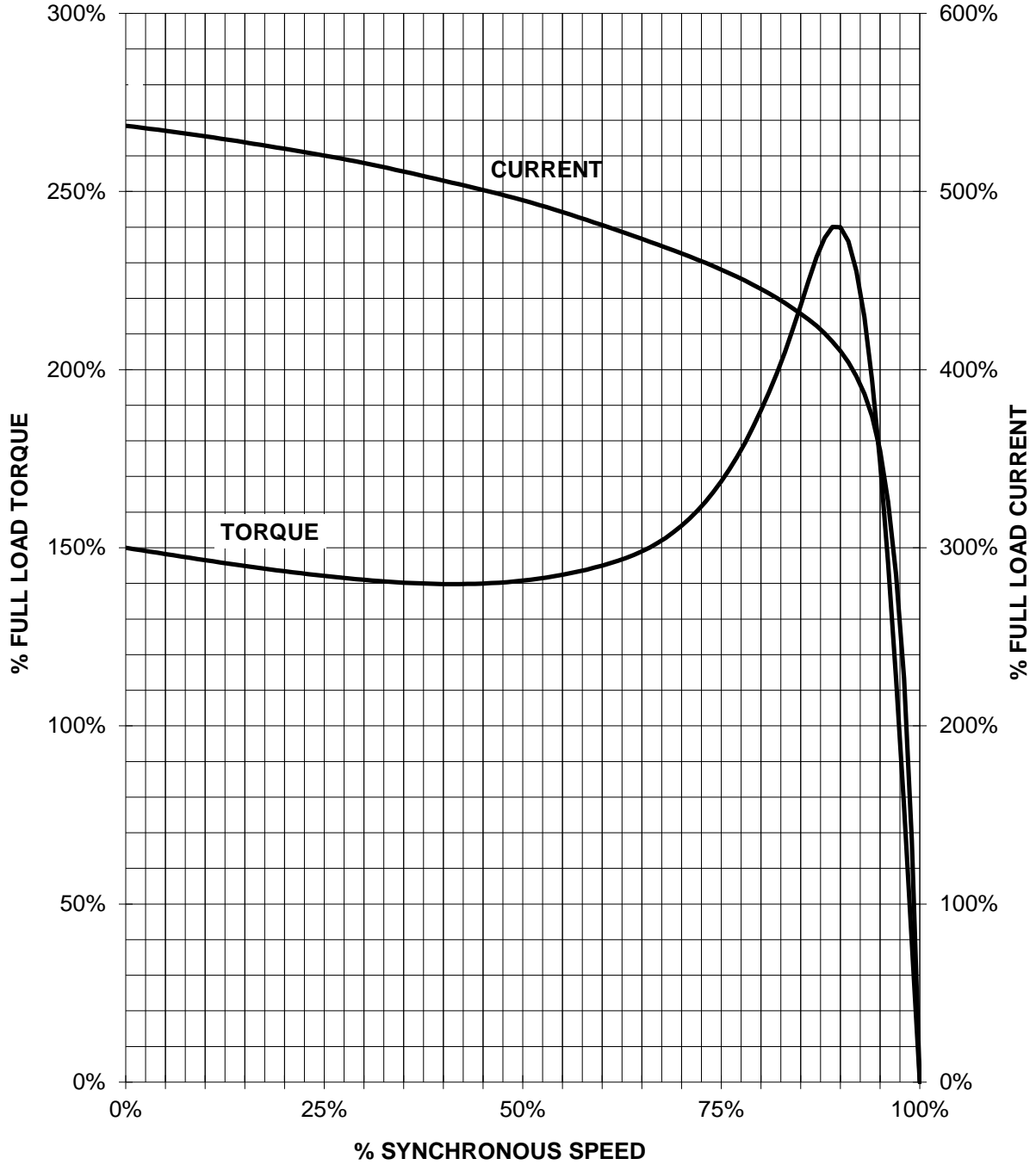
- ① Tolerances according to NEMA std.
- ② All these dimensions corresponding to assemblies and castings shall have a tolerance as per DIN standard 1686-GTB 19.
- ③ Not according to NEMA std.

| Tolerance           | Surface   | Material             | Weight   | Scale                        |
|---------------------|---|----------------------|----------|------------------------------|
| F50G G3E0GF00H<br>E | Author<br>Creator<br>Approval<br>Department<br>Change Order | ÖVS<br>T æ : ^æ@ } * | E        | { {                          |
| SIEMENS             | Doc. State  | Item No              | Doc Type | Paper Size                   |
|                     | Revision  | Index                | Doc No   | 1st Language<br>2nd Language |
| © Siemens AG 2018   | Project No  | Ref No               | Sheet    | F of F                       |

# SIEMENS INDUSTRY, INC.

HP 20    VOLTS <600    RPM 1200    TYPE SD661 IEEE841  
HZ 60    PHASE 3    FRAME 286T    NEMA B

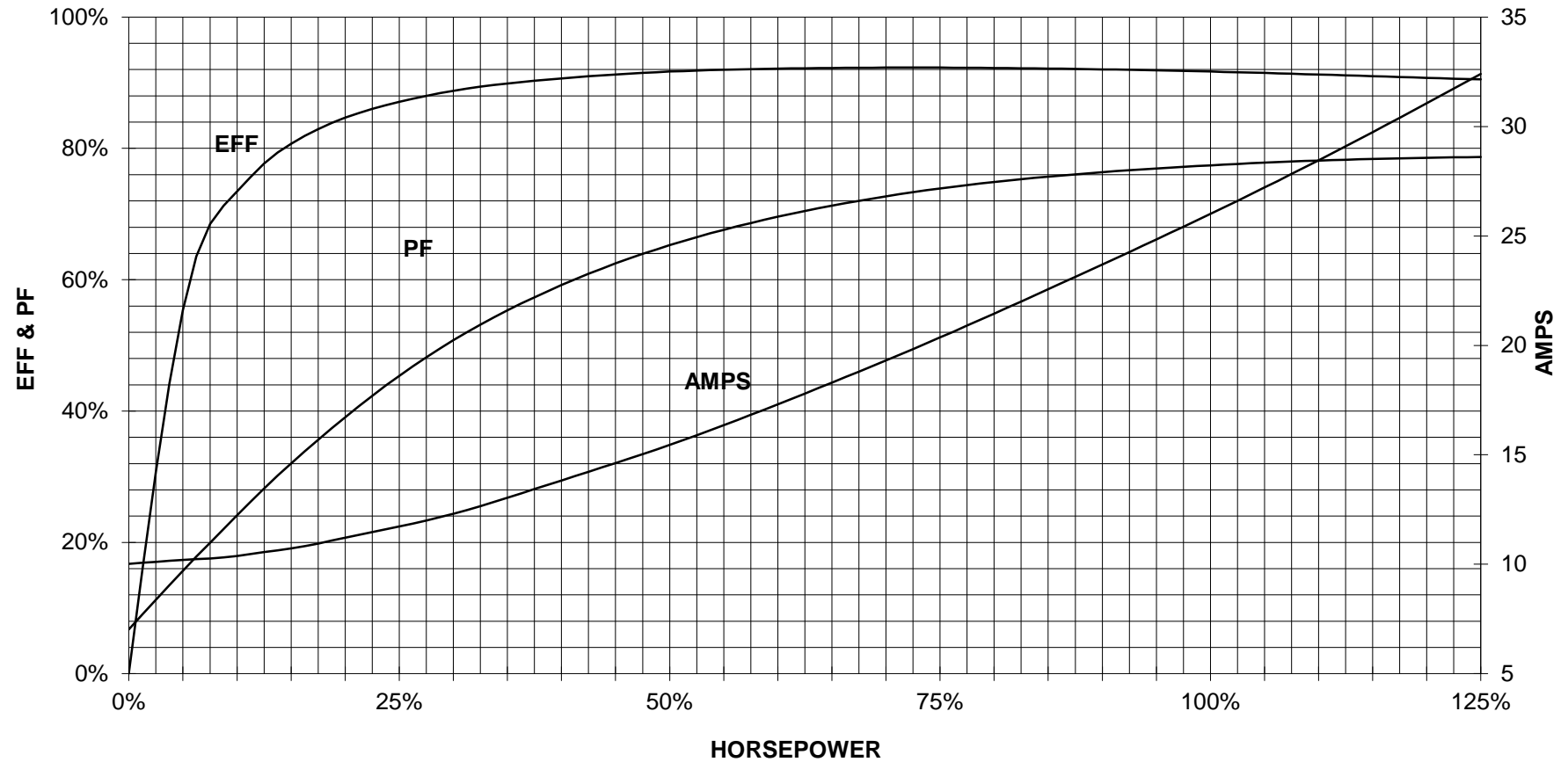
## TORQUE & CURRENT VS. SPEED



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

20 HP 1200 RPM 286T FRAME 460 VOLTS 3 PHASE NEMA DESIGN B

**SIEMENS INDUSTRY, INC.**  
**PERFORMANCE CURVE**  
**SD661 IEEE841**



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


PERFORMANCE BASED ON DESIGN CALCULATIONS. SUBJECT TO CHANGE WITHOUT NOTICE.

REV. 1

Main terminal diagram



| 3 LEAD DELTA |    |    |       |
|--------------|----|----|-------|
| LINES        |    |    | CONN. |
| L1           | L2 | L3 |       |
| T1           | T2 | T3 | Δ     |

|  |                                 |            |                         |                             |                |             |
|--|---------------------------------|------------|-------------------------|-----------------------------|----------------|-------------|
| responsible dep.<br>DI MC LVM  | technical reference             | created by | approved by             | Project                     |                |             |
|  | document type<br>Wiring Diagram |            | document status<br>free |                             | customer       |             |
|  | title<br>1LE2422-2CC21-2AA3     |            | document number         |                             |                |             |
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