

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

Motor type: **SD100** FS: 256T - 2p - 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

| 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   | Y          | 60     | 20.00  | 15.00  | 3,560   | 22.50         | 17.30 | 12.10 | 5.50  | 145.0 | 92.4 | 92.5              | 92.0 | 88.0 | 88.0                 | 84.0 | 29.0 | 214            | 255                                    |  |
| 230   | YY         | 60     | 20.00  | 15.00  | 3,560   | 45.00         | 34.51 | 24.23 | 11.00 | 290.0 | 92.4 | 92.5              | 92.0 | 88.0 | 88.0                 | 84.0 | 29.0 | 214            | 255                                    |  |

|                  |  |                                       |                                     |              |            |
|------------------|--|---------------------------------------|-------------------------------------|--------------|------------|
| Frame Type: 256T | Type of constr.: ( G ) Round body - C-Face | Ins. Cl.: Standard Class F Insulation | Motor Prot.: (A) Without Protection | NEMA Des.: B | S.F.: 1.15 |
| Mtr. WT: 333     |  | Temp. Rise Cl.: B                     | Amb. Temp.: + 40 to -20 °C @1000 m  | kVA: G       | I.P.: 55   |

## Mechanical data

|                                      |                         |      |      |              |      |      |       |                         |   |
|--------------------------------------|-------------------------|------|------|--------------|------|------|-------|-------------------------|---|
| Sound level (SPL / SWL) at 60 Hz     | dB(A) / 79.0 dB(A)      |      |      |              |      |      |       | Thickener               | Polyurea  |
| Octave Band Center Frequencies Hertz |                         |      |      |              |      |      |       | Safe Stall Time Hot     | 34 s  |
|                                      | 250                     | 500  | 1000 | 2000         | 4000 | 8000 | Hz    | Safe Stall Time Cold    | 75 s  |
| SPL@3                                | 54.0                    | 56.0 | 63.0 | 62.0         | 60.0 | 48.0 | dB(A) | Frame material          | cast iron                                       |
| Moment of inertia                    | 1.9 Lb-ft <sup>2</sup>  |      |      |              |      |      |       | Color, paint shade      | Standard Paint - RAL7030                        |
| Ext Load Inertia Capability:         | 21.0 Lb ft <sup>2</sup> |      |      |              |      |      |       | Coating (paint finish)  | 3 Part Epoxy Paint (Coastal-Offshore High Salt) |
| <b>Bearings</b>                      |                         |      |      |              |      |      |       | <b>Ventilation Type</b> |   |
| Bearing DE   NDE                     | 6309 Z C3 S0            |      |      | 6309 Z C3 S0 |      |      |       | Method of cooling       | TEFC  |
| Bearing_Type                         | Ball Bearing            |      |      | Ball Bearing |      |      |       | Direction of rotation   | Bidirectional                                   |
| AFBMA:                               | 45BC03JP30              |      |      | 45BC03JP30   |      |      |       | Fan Material            | Polypropylen ESD                                |
| <b>Grease</b>                        |                         |      |      |              |      |      |       | VFD                     | CT: 4:1 VT: 20:1                                |
| Capacity                             | 0.50 oz                 |      |      | 0.50 oz      |      |      |       | Space heaters           | without   |
| Grease Type:                         | Exxon Mobile EM         |      |      |              |      |      |       | Brake:                  | without   |

## Terminal box


|                      |              |       |       |                    |                          |   |
|----------------------|--------------|-------|-------|--------------------|--------------------------|---|
| Lead Wire Connection | 9 LEAD - WYE |       |       |                    | Terminal box position    | (3) F-1, Standard Floor Mount, T. Box LHS |
| Voltage              | L1           | L1    | L1    | Connected together | Material of terminal box | Cast Iron                                 |
| LOW                  | T1 T7        | T2 T8 | T3 T9 | T4 T5 T6           | Cable entry              | 1.25" NPT                                 |
| HIGH                 | T1           | T2    | T3    | T4 T7-T5 T8-T6 T9  |                          |   |

## Notes:

I<sub>r</sub>/I<sub>N</sub> = locked rotor current / current nominal  
M<sub>r</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> |
|-------------------------------|---------------------|-------------------------------|-------------|--|

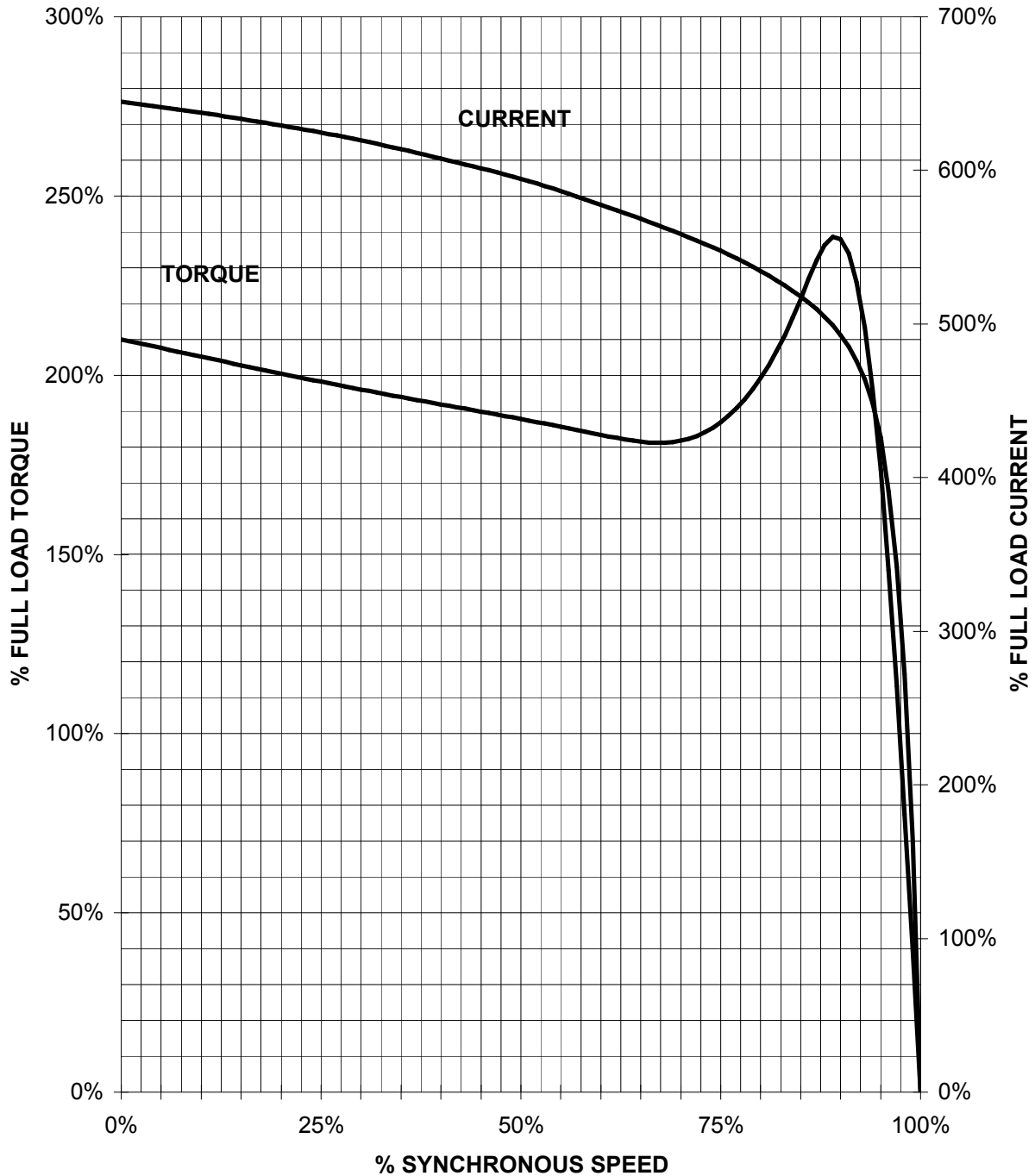
|  |                             |                                   |                |             |
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# SIEMENS INDUSTRY INC.

HP 20HP VOLTS < 600V RPM 3600 TYPE SD100 NPP  
HZ 60 PHASE 3 FRAME 256T NEMA B

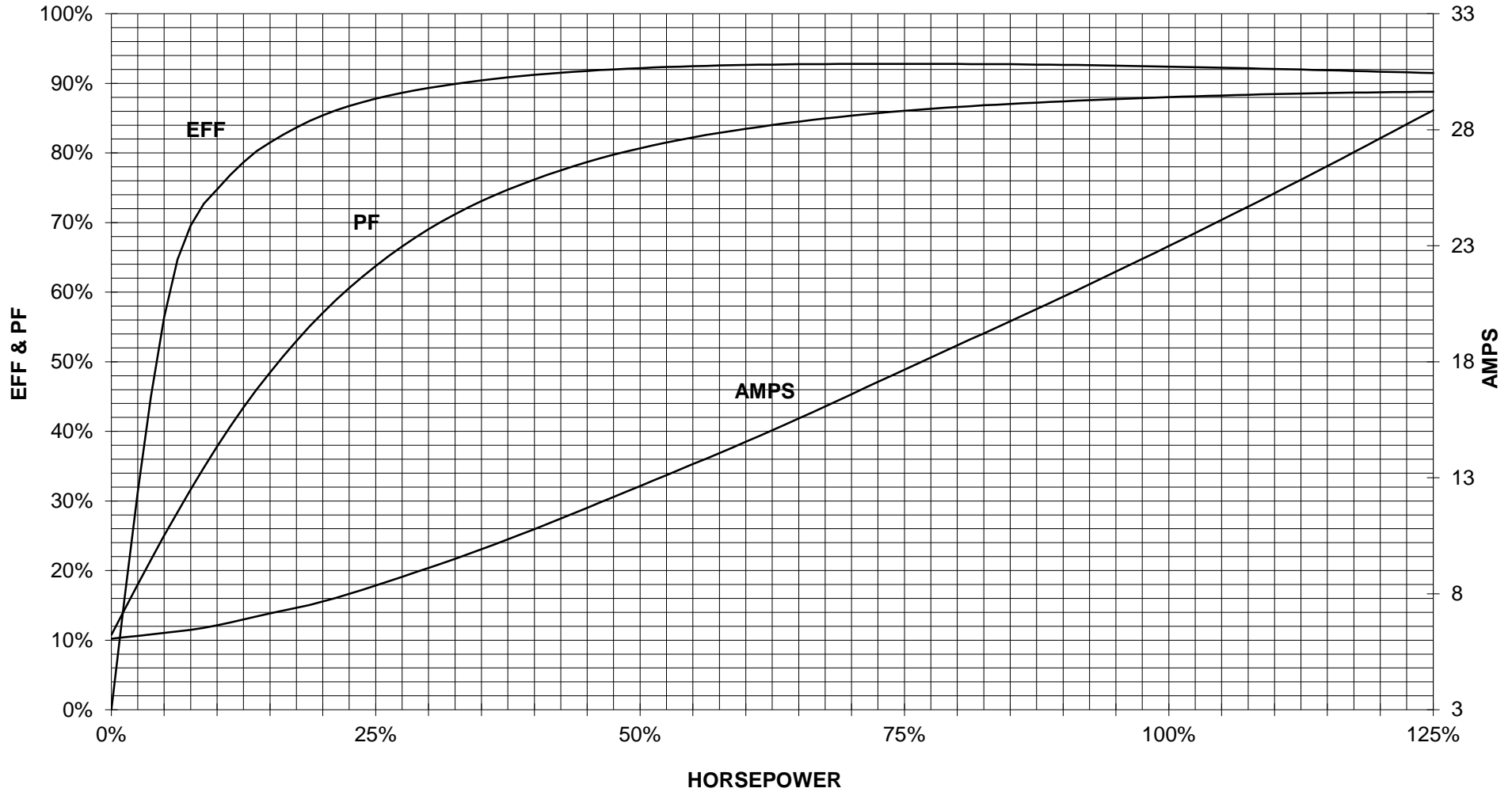
## TORQUE & CURRENT VS. SPEED



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

20 HP 3600 RPM 256T FRAME 460 VOLTS 3 PHASE NEMA DESIGN B

**SIEMENS INDUSTRY, INC.**  
**PERFORMANCE CURVE**  
**SD100 NPP**



CUSTOMER \_\_\_\_\_ ORDER # \_\_\_\_\_ PO # \_\_\_\_\_

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

REV. 1

Main terminal diagram



| 9 LEAD WYE |          |          |          |                    |       |  |
|------------|----------|----------|----------|--------------------|-------|--|
| Volts      | LINES    |          |          | CONNECTED TOGETHER | CONN. |  |
|            | L1       | L2       | L3       |                    |       |  |
| LOW        | T1<br>T7 | T2<br>T6 | T3<br>T9 | T4 T5 T6           | YY    |  |
| HIGH       | T1       | T2       | T3       | T4 T7-T5 T8-T6 T9  | Y     |  |

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