

# PRODUCT INFORMATION PACKET



Model No: 6RN160L02E36U461081

Catalog No: 6RN160L02E36U46@1081

22.00 kW General Purpose Low Voltage IEC Motor IE3, 3 phase, 3000 rpm, D400/Y690V 50Hz,  
160L Frame B3, IC411



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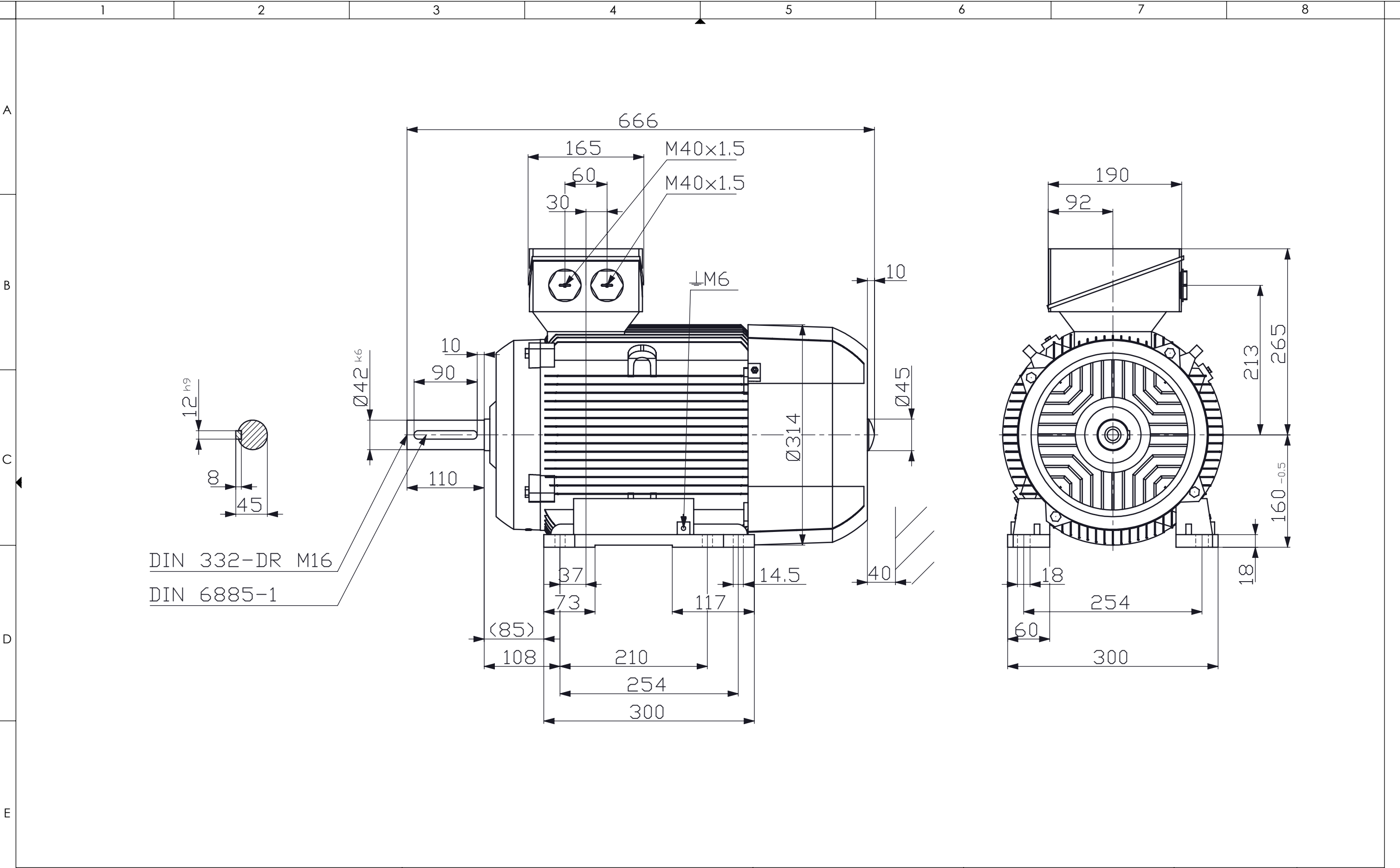
## Nameplate Specifications

|                        |                             |                            |                             |
|------------------------|-----------------------------|----------------------------|-----------------------------|
| Output HP              | 30 Hp                       | Output KW                  | 22.0 kW                     |
| Frequency              | 50 Hz                       | Voltage                    | D400/Y690 V                 |
| Current                | 37.50 A                     | Speed                      | 2950 rpm                    |
| Service Factor         | 1                           | Phase                      | 3                           |
| Efficiency             | 92.7 %                      | Power Factor               | 0.91                        |
| Duty                   | S1                          | Insulation Class           | F                           |
| Frame                  | 160L                        | Enclosure                  | Totally Enclosed Fan Cooled |
| Thermal Protection     | No Protection               | Ambient Temperature        | 40 °C                       |
| Drive End Bearing Size | 6309-2Z/C3WT (-40°C/+160°C) | Opp Drive End Bearing Size | 6309-2Z/C3WT (-40°C/+160°C) |
| UL                     | No                          | CSA                        | Optional                    |
| CE                     | Yes                         | IP Code                    | IP55                        |
| Number of Speeds       | 1                           | Efficiency Class           | IE3                         |

## Technical Specifications

|                 |                     |                   |                     |
|-----------------|---------------------|-------------------|---------------------|
| Electrical Type | Squirrel Cage       | Starting Method   | Direct On Line      |
| Poles           | 2                   | Rotation          | Clockwise Shaft End |
| Mounting        | B3                  | Motor Orientation | Any                 |
| Frame Material  | Cast iron           | Shaft Type        | Keyed               |
| Shaft Diameter  | 42 mm               | Shaft Extension   | 110 mm              |
| Outline Drawing | 6RN160L02E36U461081 |                   |                     |

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| REVISION |      |              |       |           | <div>REAL</div> <div>rotor</div> <div>Mors 2, P.O.box 45<br/>7150 AA Eibergen nl<br/>Tel:+31(0)545 464640<br/>E-mail: info@rotor.nl</div> | MOTORTYPE: 6RN160L02E36 |  | TITLE: Outline drawing |  | DRAWN:                                                                                                  |  | DATE:                                                                                            |  |
|----------|------|--------------|-------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|--|------------------------|--|---------------------------------------------------------------------------------------------------------|--|--------------------------------------------------------------------------------------------------|--|
| ZONE     | REV. | BESCHREIBUNG | DATUM | GENEHMIGT |                                                                                                                                           | MOUNTING: IM1041        |  | SPECIAL:               |  | CHECKED:                                                                                                |  | <div></div> |  |
|          |      |              |       |           |                                                                                                                                           | PROTECTION:             |  | ART. NR.:              |  | COMPLETE OR PARTIAL<br>COPYING OR USE OF<br>SPECIFICATIONS IS<br>NOT ALLOWED WITHOUT<br>OUR PERMISSION. |  |                                                                                                  |  |
|          |      |              |       |           |                                                                                                                                           | COOLING: IC411          |  | REVISION:              |  |                                                                                                         |  |                                                                                                  |  |
|          |      |              |       |           |                                                                                                                                           | REMARKS:                |  |                        |  |                                                                                                         |  |                                                                                                  |  |
|          |      |              |       |           |                                                                                                                                           | DIMENSIONS: MM          |  | SCALE: 1:5             |  | PAPER SIZE: A3                                                                                          |  | PAGE 1 OF 1                                                                                      |  |
|          |      |              |       |           |                                                                                                                                           |                         |  |                        |  | SUBJECT TO ALTERATIONS                                                                                  |  |                                                                                                  |  |

## Datasheet

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Model No. 2-Pole cage motor 6RN 160L 22kW D400V 50Hz IM1081

| U<br>(V) | Δ / Y<br>Conn | f<br>[Hz] | P<br>[kW] | P<br>[hp] | I<br>[A] | n<br>[RPM] | T<br>[Nm] | IE<br>Class | % EFF at __ load<br>FL 3/4FL 1/2FL | PF at __ load<br>FL 3/4FL 1/2FL | I <sub>A</sub> /I <sub>N</sub><br>[pu] | T <sub>A</sub> /T <sub>N</sub><br>[pu] | T <sub>K</sub> /T <sub>N</sub><br>[pu] |
|----------|---------------|-----------|-----------|-----------|----------|------------|-----------|-------------|------------------------------------|---------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|
| 400      | D             | 50        | 22        | 30        | 37,5     | 2950       | 71        | IE3         | 93,0                               | 0,91                            | 9,32                                   | 3,16                                   | 3,91                                   |
| 690      | Y             |           |           |           | 22       |            |           |             |                                    |                                 |                                        |                                        |                                        |
| 460      | D             | 60        | 25,3      | 33,91     | 38       | 3550       | 68,1      | IE3         | 92,8                               | 0,92                            | 9,05                                   | 3,11                                   | 3,80                                   |

|                               |                              |
|-------------------------------|------------------------------|
| Motor type                    | 6RN160L02E36                 |
| Enclosure                     | Totally Enclosed Fan Cooling |
| Frame Material                | Cast iron                    |
| Frame size                    | 160L                         |
| Duty                          | S1                           |
| Voltage                       | 400 V                        |
| Frequency                     | 50 Hz                        |
| Power output                  | 22 kW                        |
| Insulation class              | F                            |
| Ambient temperature           | -20 till 40 °C               |
| Temperature rise              | temp.rise acc. B (80K)       |
| Temperature rise winding      | 61 K                         |
| Temperature rise surface      | 19 K                         |
| Altitude above sea level      | 1000 mtr                     |
| Hazardous area classification | Safe area                    |

|              |              |
|--------------|--------------|
| Rotor type   | Cage motor   |
| Bearing type | 6309-2Z/C3WT |

|                |           |
|----------------|-----------|
| Type of grease | Unirex N3 |
|----------------|-----------|

|                   |    |
|-------------------|----|
| Country of origin | CZ |
|-------------------|----|

| Voltage/Freq  | Locked rotor<br>Torque<br>[% nom] | Starting<br>current<br>[% nom] | Pull-up<br>Torque<br>[% nom] | Breakdown<br>Torque<br>[% nom] | No-load<br>Current<br>[A] |
|---------------|-----------------------------------|--------------------------------|------------------------------|--------------------------------|---------------------------|
| @ D 400V 50Hz | 316%                              | 930%                           | 289%                         | 391%                           | 9,53 A                    |
| @ D 460V 60Hz | 311%                              | 905%                           | 280%                         | 380%                           | 8,92 A                    |

## NOTE

All performance values at rated voltage and frequency.

All performance parameters are subjected to standard tolerance as per IEC 60034-1

Voltage, Frequency are as per IEC60034-1

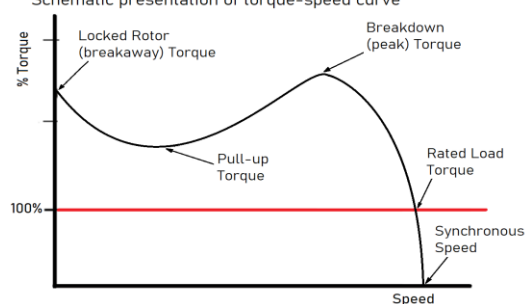
Technical data are subject to change. There may be discrepancies between calculated and name plate values.

|            |                  |               |
|------------|------------------|---------------|
| Efficiency | Europe           | Global IEC    |
| Standards  | EN-IEC: 60034-30 | IEC: 60034-30 |

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|                        |                         |
|------------------------|-------------------------|
| Degree of protection   | IP55                    |
| Mounting type          | IM1081                  |
| Cooling method         | IC411                   |
| Motor weight - approx. | 143 kg                  |
| Gross weight - approx. | 147 kg                  |
| Motor inertia          | 0,0770 kgm <sup>2</sup> |
| Vibration level        | according IEC60034-14   |
| Direction of rotation  | cw / ccw                |

Schematic presentation of torque-speed curve



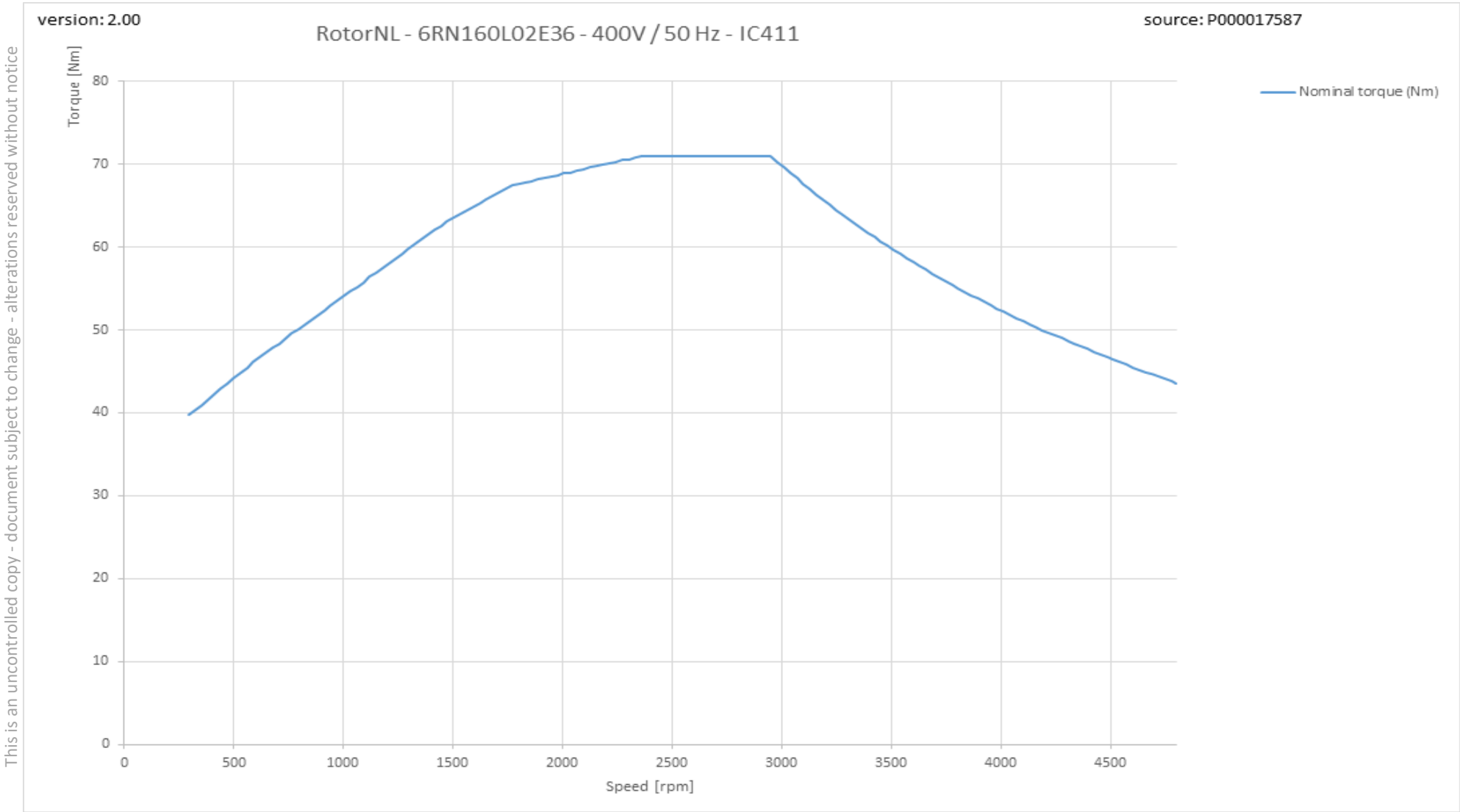
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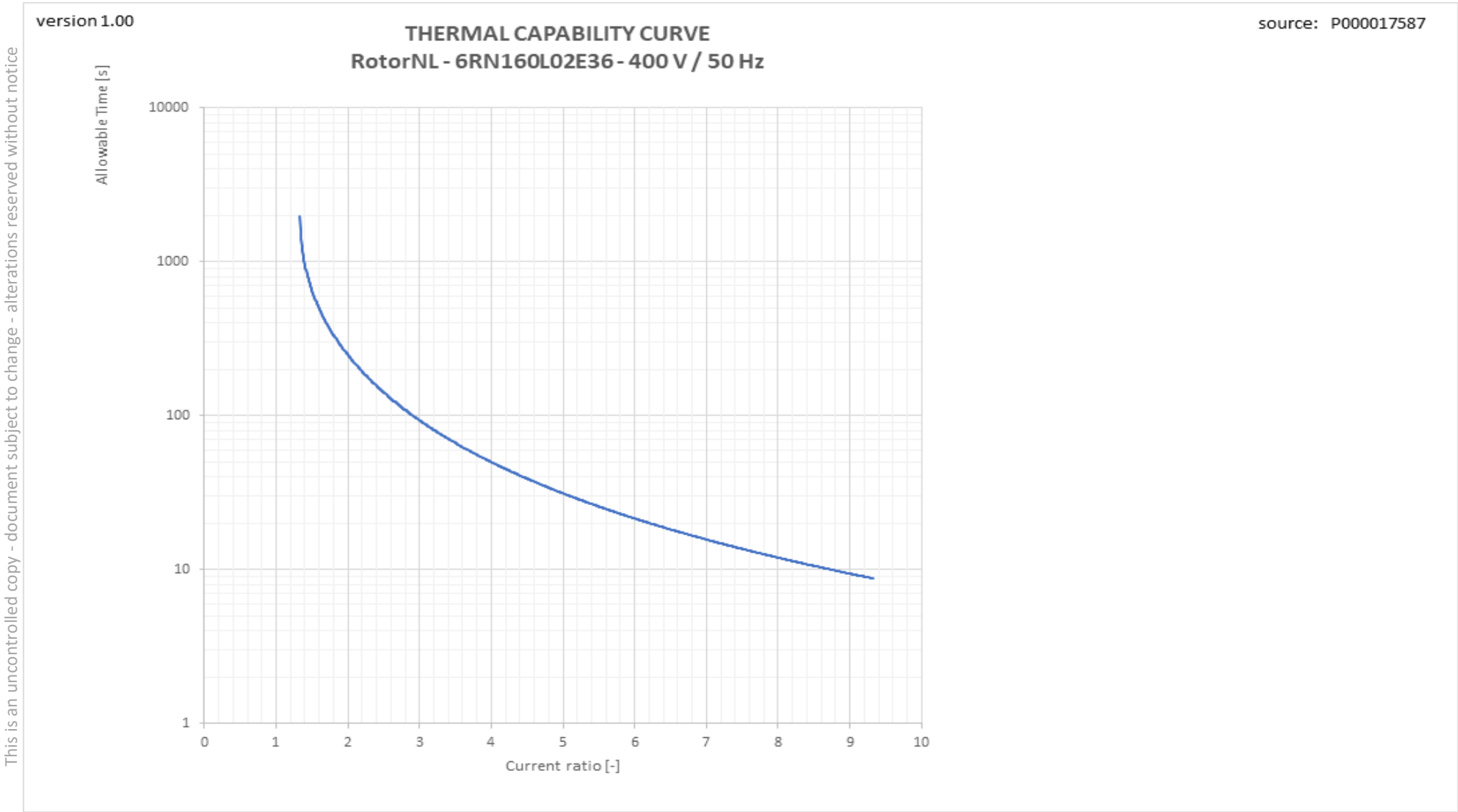
6RN160L02E36 2-pole 22,00kW D/Y 400/690V 50Hz S1 IC411 IE3



Torque versus Speed curve with variable frequency drive



Therm\_VSD graph



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