

# PRODUCT INFORMATION PACKET



Model No: 6RN315L04E34U46B1001-Uni

Catalog No: 6RN315L04E34U46B@1001-Uni

160.00 kW General Purpose Low Voltage IEC Motor IE3, 3 phase, 1500 rpm, D400/Y690V 50Hz,  
315L Frame B3, IC411



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## Nameplate Specifications

|                        |               |                            |                             |
|------------------------|---------------|----------------------------|-----------------------------|
| Output HP              | 215.00 Hp     | Output KW                  | 160.0 kW                    |
| Frequency              | 50 Hz         | Voltage                    | D400/Y690 V                 |
| Current                | 275.80 A      | Speed                      | 1490 rpm                    |
| Service Factor         | 1             | Phase                      | 3                           |
| Efficiency             | 95.8 %        | Power Factor               | 0.87                        |
| Duty                   | S1            | Insulation Class           | F                           |
| Frame                  | 315L          | Enclosure                  | Totally Enclosed Fan Cooled |
| Thermal Protection     | No Protection | Ambient Temperature        | 40 °C                       |
| Drive End Bearing Size | 6319/C3       | Opp Drive End Bearing Size | 6319/C3                     |
| 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           | 4                 | Rotation          | Clockwise Shaft End |
| Mounting        | B3                | Motor Orientation | Any                 |
| Frame Material  | Cast iron         | Shaft Type        | Keyed               |
| Shaft Diameter  | 80 mm             | Shaft Extension   | 170 mm              |
| Outline Drawing | 6RN315L04E34_1041 |                   |                     |

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## Datasheet

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**Model No.** 4-Pole cage motor 6RN 315L 160kW D400V 50Hz IM1001

| 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 |       |       | PF at __load |       |       | 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] |
|----------|---------------|-----------|-----------|-----------|----------|------------|-----------|-------------|------------------|-------|-------|--------------|-------|-------|----------------------------------------|----------------------------------------|----------------------------------------|
|          |               |           |           |           |          |            |           |             | FL               | 3/4FL | 1/2FL | FL           | 3/4FL | 1/2FL |                                        |                                        |                                        |
| 400      | D             | 50        | 160       | 215       | 275      | 1490       | 1020      | IE3         | 96,0             | 96,4  | 96,3  | 0,87         | 0,85  | 0,77  | 7,83                                   | 2,77                                   | 2,99                                   |
| 690      | Y             |           |           |           | 159      |            |           |             |                  |       |       |              |       |       |                                        |                                        |                                        |
| 460      | D             | 60        | 186       | 249,3     | 273      | 1788       | 982       | IE3         | 96,2             | 96,4  | 96,2  | 0,88         | 0,86  | 0,79  | 7,70                                   | 2,81                                   | 2,86                                   |

|                               |                              |
|-------------------------------|------------------------------|
| Motor type                    | 6RN315L04E34                 |
| Enclosure                     | Totally Enclosed Fan Cooling |
| Frame Material                | Cast iron                    |
| Frame size                    | 315L                         |
| Duty                          | S1                           |
| Voltage                       | 400 V                        |
| Frequency                     | 50 Hz                        |
| Power output                  | 160 kW                       |
| Insulation class              | F                            |
| Ambient temperature           | -20 till 40 °C               |
| Temperature rise              | temp.rise acc. B (80K)       |
| Temperature rise winding      | 69 K                         |
| Temperature rise surface      | 38 K                         |
| Altitude above sea level      | 1000 mtr                     |
| Hazardous area classification | Safe area                    |

|                    |                   |
|--------------------|-------------------|
| Rotor type         | Cage motor        |
| Bearing type       | 6319/C3 - 6319/C3 |
| Lubrication method | 40gr/6000hrs      |
| Type of grease     | Unirex N3         |

|                          |            |
|--------------------------|------------|
| Phase resistance at 20°C | 0,0228 Ohm |
| 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 [A] |
|---------------|-----------------------------------|--------------------------------|------------------------------|--------------------------------|------------------------|
| @ D 400V 50Hz | 277%                              | 781%                           | 233%                         | 299%                           | 85,3 A                 |
| @ D 460V 60Hz | 281%                              | 769%                           | 217%                         | 286%                           | 79,3 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 |

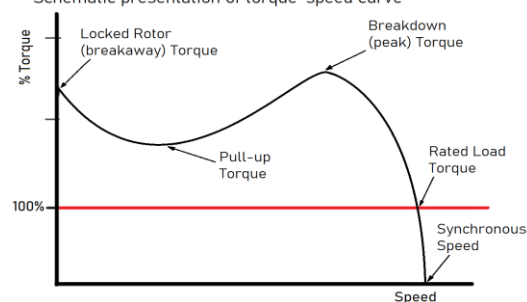
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|                                    |                         |
|------------------------------------|-------------------------|
| Degree of protection               | IP55                    |
| Mounting type                      | IM1001                  |
| Cooling method                     | IC411                   |
| Motor weight - approx.             | 990 kg                  |
| Gross weight - approx.             | 1020 kg                 |
| Motor inertia                      | 3,1000 kgm <sup>2</sup> |
| Vibration level                    | according IEC60034-14   |
| Noise level (pressure) acc 60034-9 | 65 dB(A)                |

Direction of rotation cw /ccw

PTC 150°C

Schematic presentation of torque-speed curve



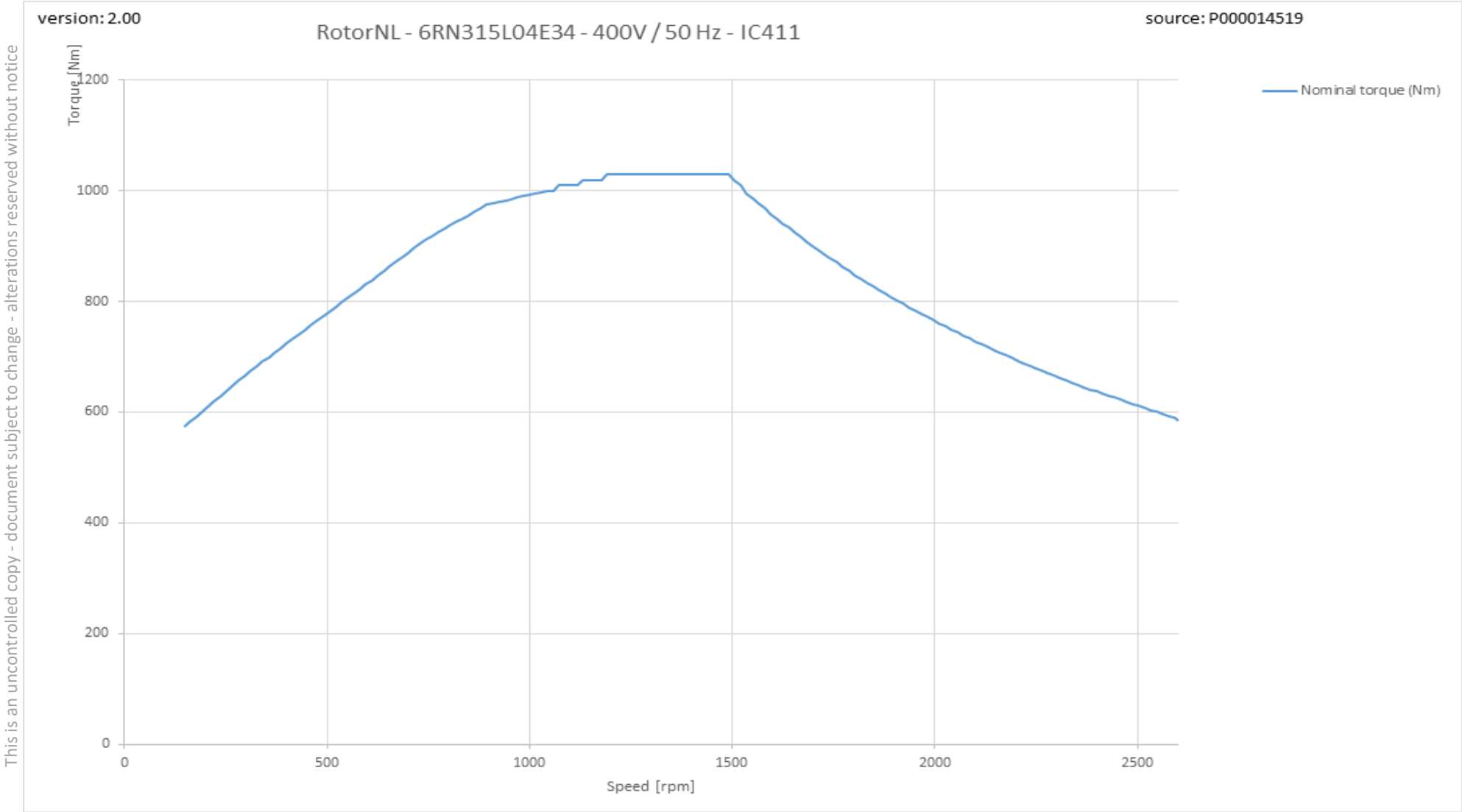
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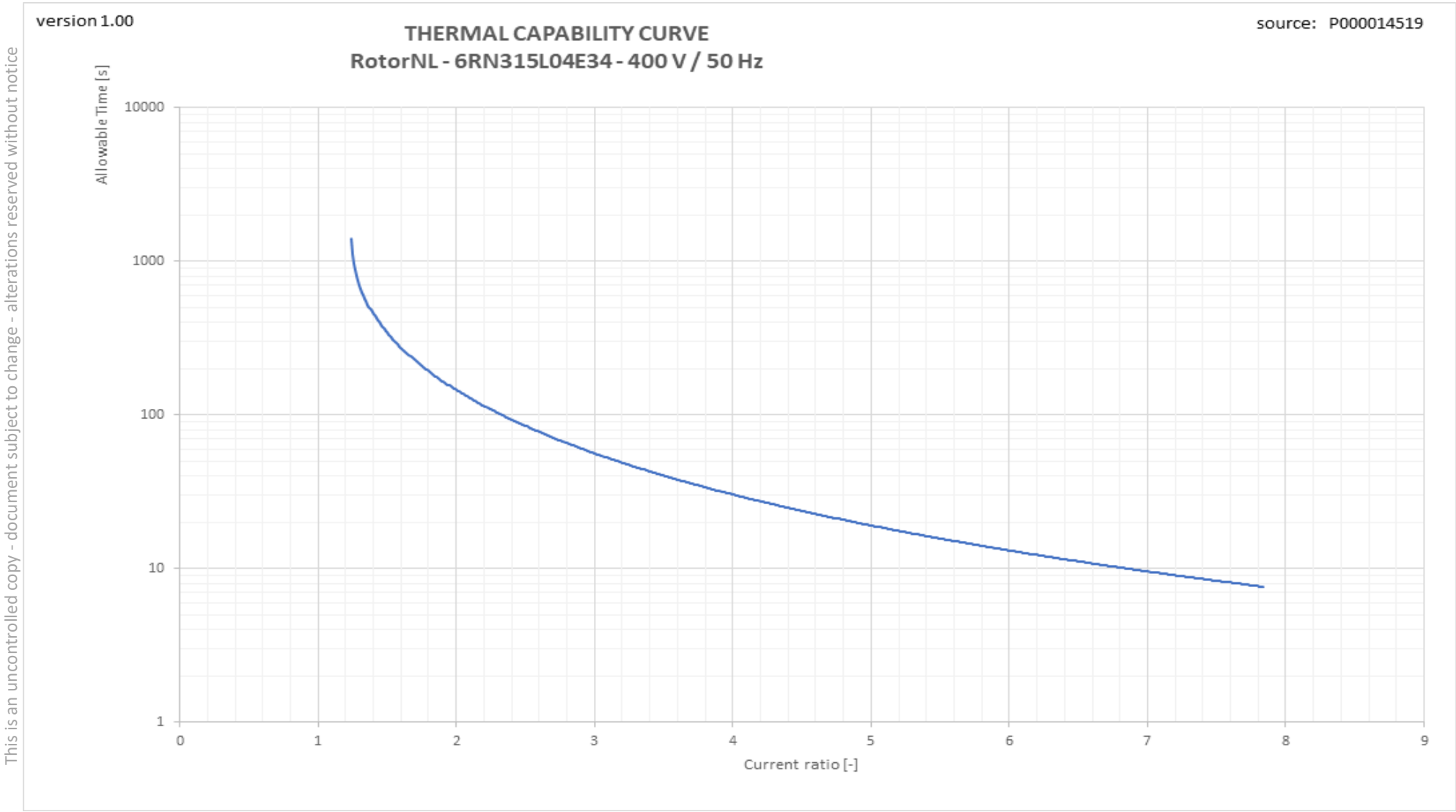
6RN315L04E34 4-pole 160,00kW D/Y 400/690V 50Hz S1 IC411 IE3



Torque versus Speed curve with variable frequency drive

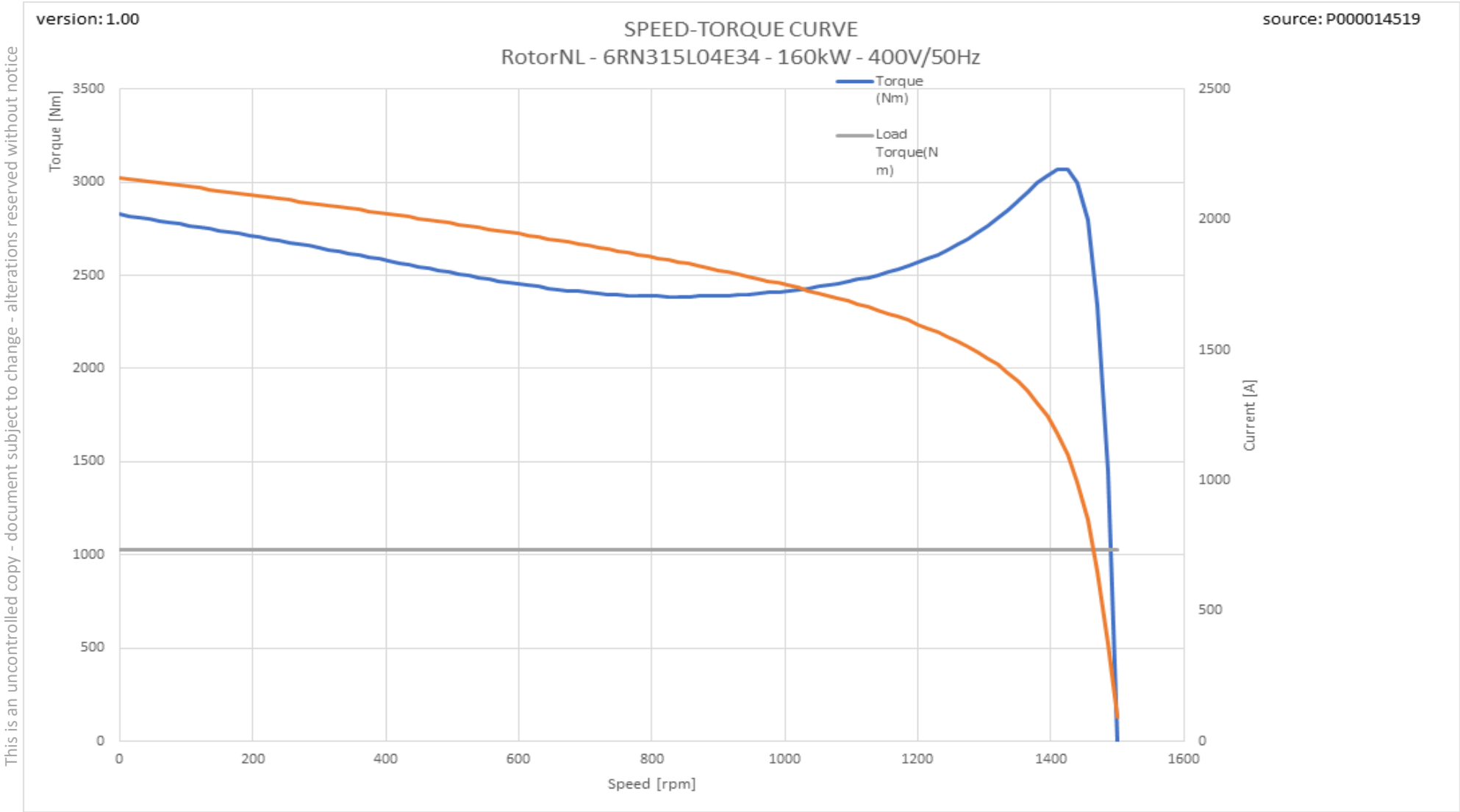


Therm\_VSD graph



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Tn graph



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