

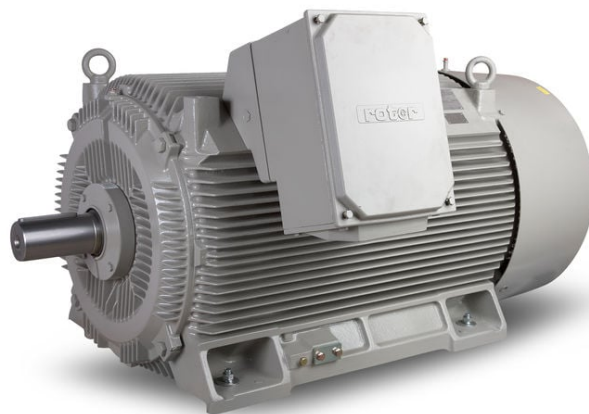
# PRODUCT INFORMATION PACKET

rotor nl<sup>®</sup>

Model No: 6RN225M04E32U461041

Catalog No: 6RN225M04E32U46@1041

45.00 kW General Purpose Low Voltage IEC Motor IE3, 3 phase, 1500 rpm, D400/Y690V 50Hz,  
225M Frame B3, IC411



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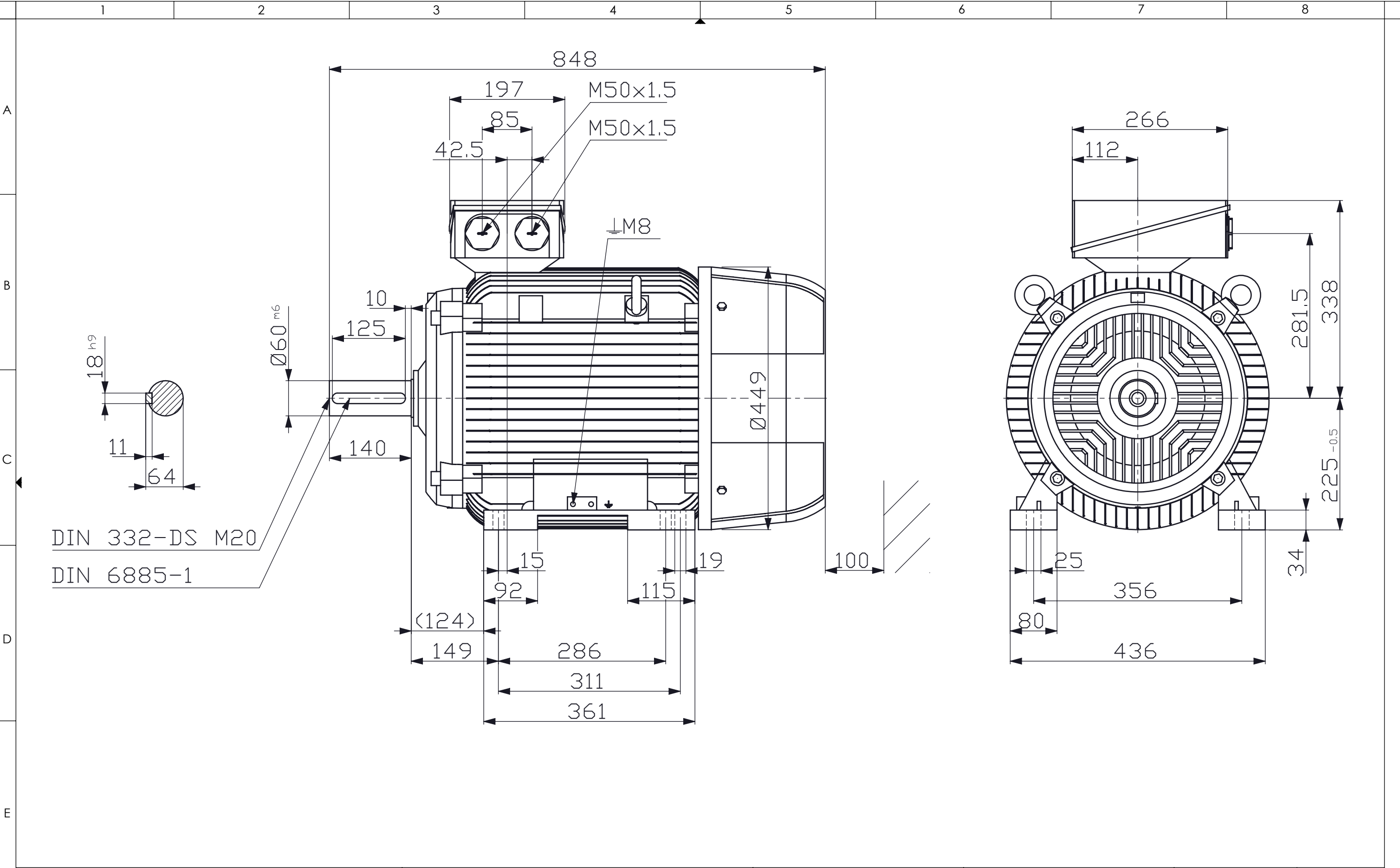
## Nameplate Specifications

|                        |               |                            |                             |
|------------------------|---------------|----------------------------|-----------------------------|
| Output HP              | 60 Hp         | Output KW                  | 45.0 kW                     |
| Frequency              | 50 Hz         | Voltage                    | D400/Y690 V                 |
| Current                | 81.20 A       | Speed                      | 1478 rpm                    |
| Service Factor         | 1             | Phase                      | 3                           |
| Efficiency             | 94.2 %        | Power Factor               | 0.85                        |
| Duty                   | S1            | Insulation Class           | F                           |
| Frame                  | 225M          | Enclosure                  | Totally Enclosed Fan Cooled |
| Thermal Protection     | No Protection | Ambient Temperature        | 40 °C                       |
| Drive End Bearing Size | 6313/C3       | Opp Drive End Bearing Size | 6313/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  | 60 mm               | Shaft Extension   | 140 mm              |
| Outline Drawing | 6RN225M04E32U461041 |                   |                     |

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| REVISIONS |      |             |      |          |  | Mors 2, P.O.box 45<br>7150 AA Eibergen nl<br>Tel:+31(0)545 464640<br>E-mail: info@rotor.nl | MOTORTYPE: 6RN225M04E32<br>MOUNTING: IM1041<br>PROTECTION:<br>COOLING: IC411<br>REMARKS: |            | TITLE: Outline drawing<br>SPECIAL:<br>ART. NR.:<br>REVISION: |             | DRAWN:<br>CHECKED:<br>COMPLETE OR PARTIAL<br>COPYING OR USE OF<br>SPECIFICATIONS IS<br>NOT ALLOWED WITHOUT<br>OUR PERMISSION.<br>SUBJECT TO ALTERATIONS |  |  |
|-----------|------|-------------|------|----------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|------------|--------------------------------------------------------------|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------|
| ZONE      | REV. | DESCRIPTION | DATE | APPROVED |                                                                                      |                                                                                            |                                                                                          |            |                                                              |             |                                                                                                                                                         |  |                                                                                       |
|           |      |             |      |          |                                                                                      |                                                                                            |                                                                                          |            |                                                              |             |                                                                                                                                                         |  |                                                                                       |
|           |      |             |      |          |                                                                                      |                                                                                            |                                                                                          |            |                                                              |             |                                                                                                                                                         |  |                                                                                       |
|           |      |             |      |          |                                                                                      |                                                                                            |                                                                                          |            |                                                              |             |                                                                                                                                                         |  |                                                                                       |
|           |      |             |      |          |                                                                                      |                                                                                            | DIMENSIONS: MM                                                                           | SCALE: 1:6 | PAPER SIZE: A3                                               | PAGE 1 OF 1 |                                                                                                                                                         |  |                                                                                       |

## Datasheet

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Model No. 4-Pole cage motor 6RN 225M 45kW D400V 50Hz IM1041

| 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        | 45        | 60,32     | 81,2     | 1478       | 290       | IE3         | 93,8             | 94,5  | 94,6  | 0,85         | 0,82  | 0,74  | 6,57                                   | 2,55                                   | 2,59                                   |
| 690      | Y             |           |           |           | 46,9     |            |           |             |                  |       |       |              |       |       |                                        |                                        |                                        |
| 460      | D             | 60        | 52        | 69,71     | 80,6     | 1778       | 279       | IE2         | 94,4             | 94,9  | 94,9  | 0,86         | 0,83  | 0,76  | 6,67                                   | 2,47                                   | 2,51                                   |

|                               |                              |
|-------------------------------|------------------------------|
| Motor type                    | 6RN225M04E32                 |
| Enclosure                     | Totally Enclosed Fan Cooling |
| Frame Material                | Cast iron                    |
| Frame size                    | 225M                         |
| Duty                          | S1                           |
| Voltage                       | 400 V                        |
| Frequency                     | 50 Hz                        |
| Power output                  | 45 kW                        |
| Insulation class              | F                            |
| Ambient temperature           | -20 till 40 °C               |
| Temperature rise              | temp.rise acc. B (80K)       |
| Temperature rise winding      | 66 K                         |
| Temperature rise surface      | 39 K                         |
| Altitude above sea level      | 1000 mtr                     |
| Hazardous area classification | Safe area                    |

|                    |               |
|--------------------|---------------|
| Rotor type         | Cage motor    |
| Bearing type       | 6313/C3       |
| Lubrication method | 22gr/10200hrs |
| Type of grease     | Unirex N3     |

|                          |            |
|--------------------------|------------|
| Phase resistance at 20°C | 0,1344 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<br>[A] |
|---------------|-----------------------------------|--------------------------------|------------------------------|--------------------------------|---------------------------|
| @ D 400V 50Hz | 255%                              | 657%                           | 224%                         | 259%                           | 26,8 A                    |
| @ D 460V 60Hz | 247%                              | 667%                           | 215%                         | 251%                           | 25 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.

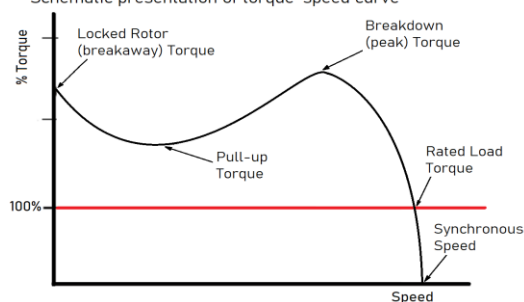
|            |                  |               |
|------------|------------------|---------------|
| Efficiency | Europe           | Global IEC    |
| Standards  | EN-IEC: 60034-30 | IEC: 60034-30 |

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|                                    |                         |
|------------------------------------|-------------------------|
| Degree of protection               | IP55                    |
| Mounting type                      | IM1041                  |
| Cooling method                     | IC411                   |
| Motor weight - approx.             | 330 kg                  |
| Gross weight - approx.             | 340 kg                  |
| Motor inertia                      | 0,4700 kgm <sup>2</sup> |
| Vibration level                    | according IEC60034-14   |
| Noise level (pressure) acc 60034-9 | 57 dB(A)                |

|                       |          |
|-----------------------|----------|
| Direction of rotation | cw / ccw |
|-----------------------|----------|

Schematic presentation of torque-speed curve



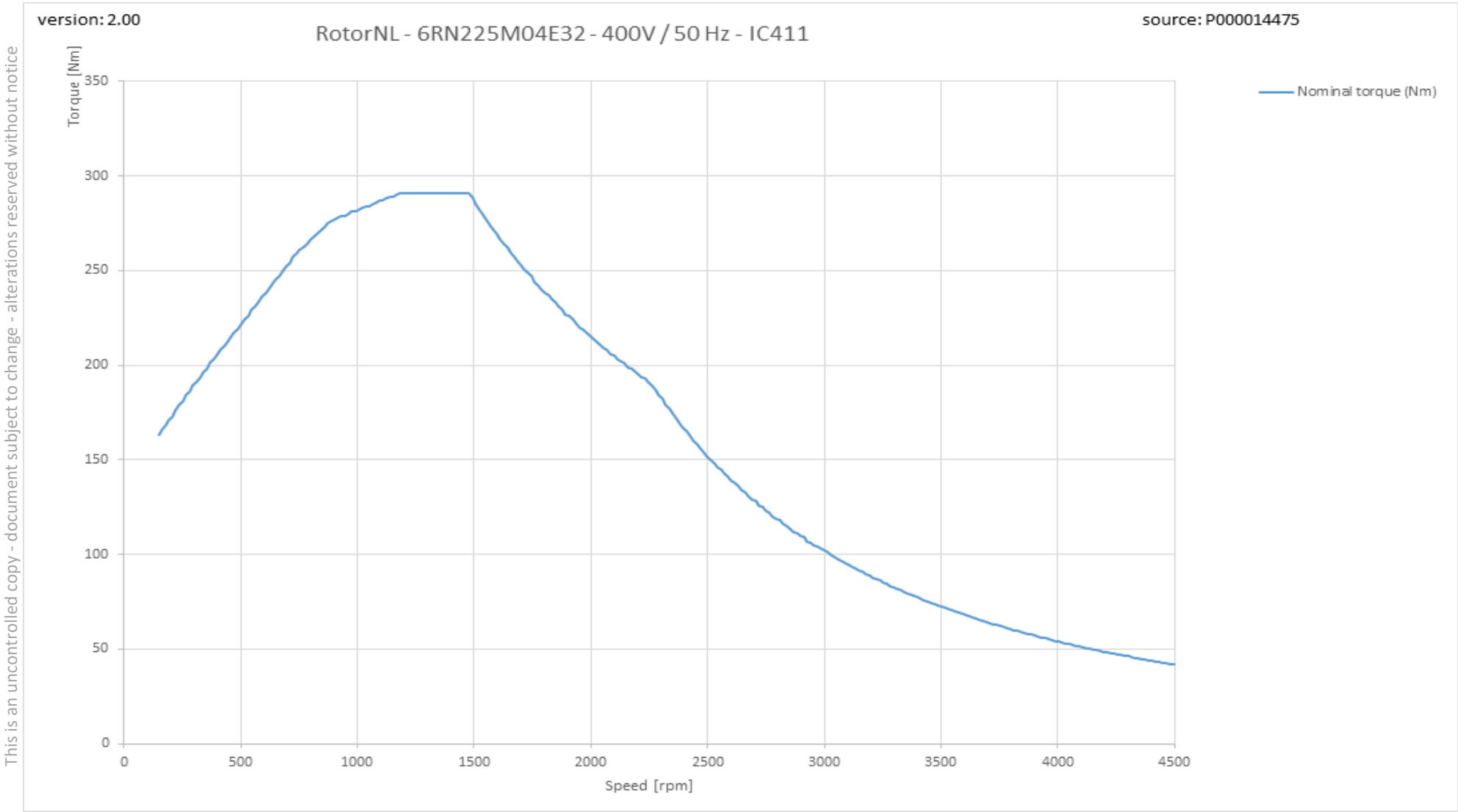
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6RN225M04E32 4-pole 45,00kW D/Y 400/690V 50Hz S1 IC411 IE3

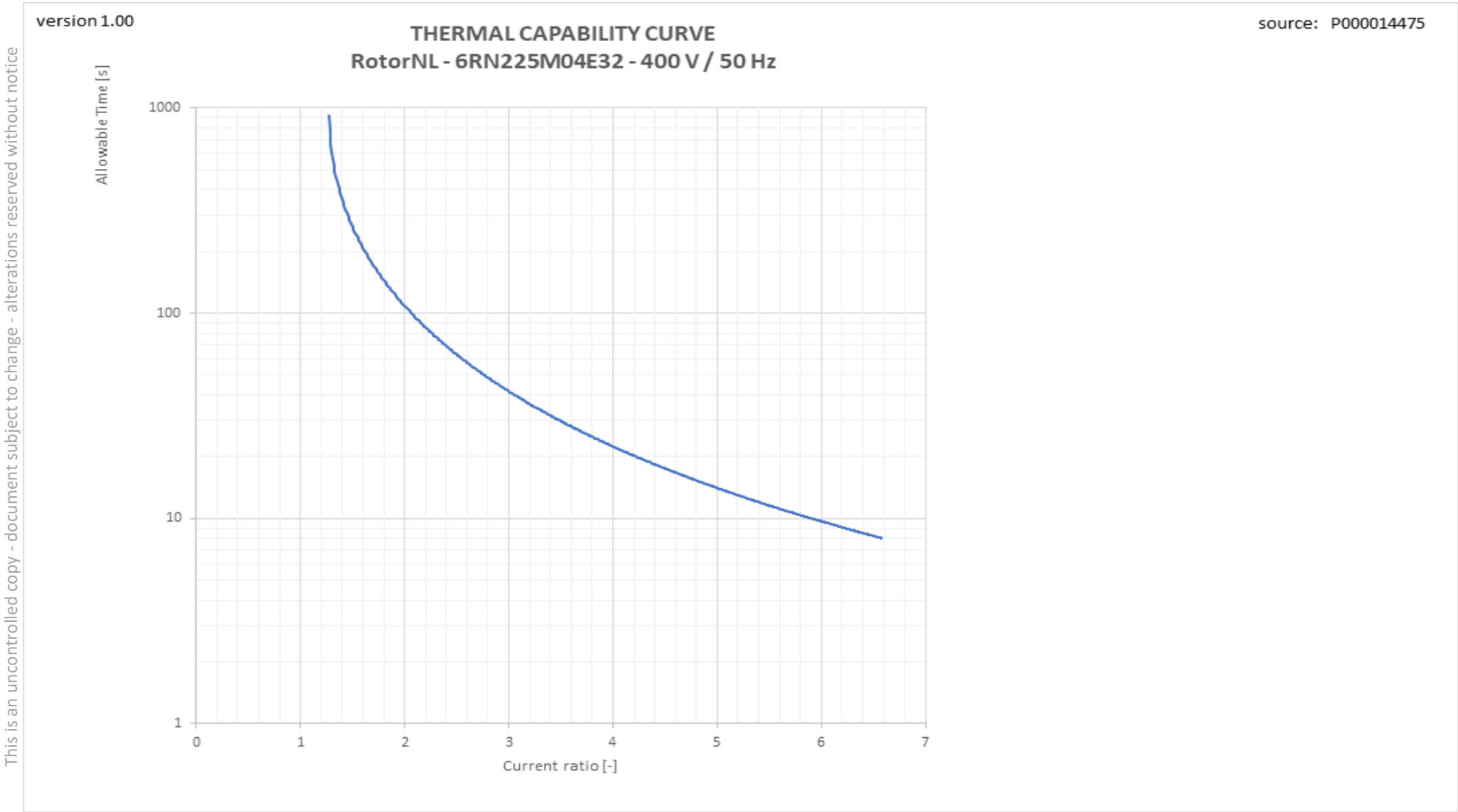


Torque versus Speed curve with variable frequency drive



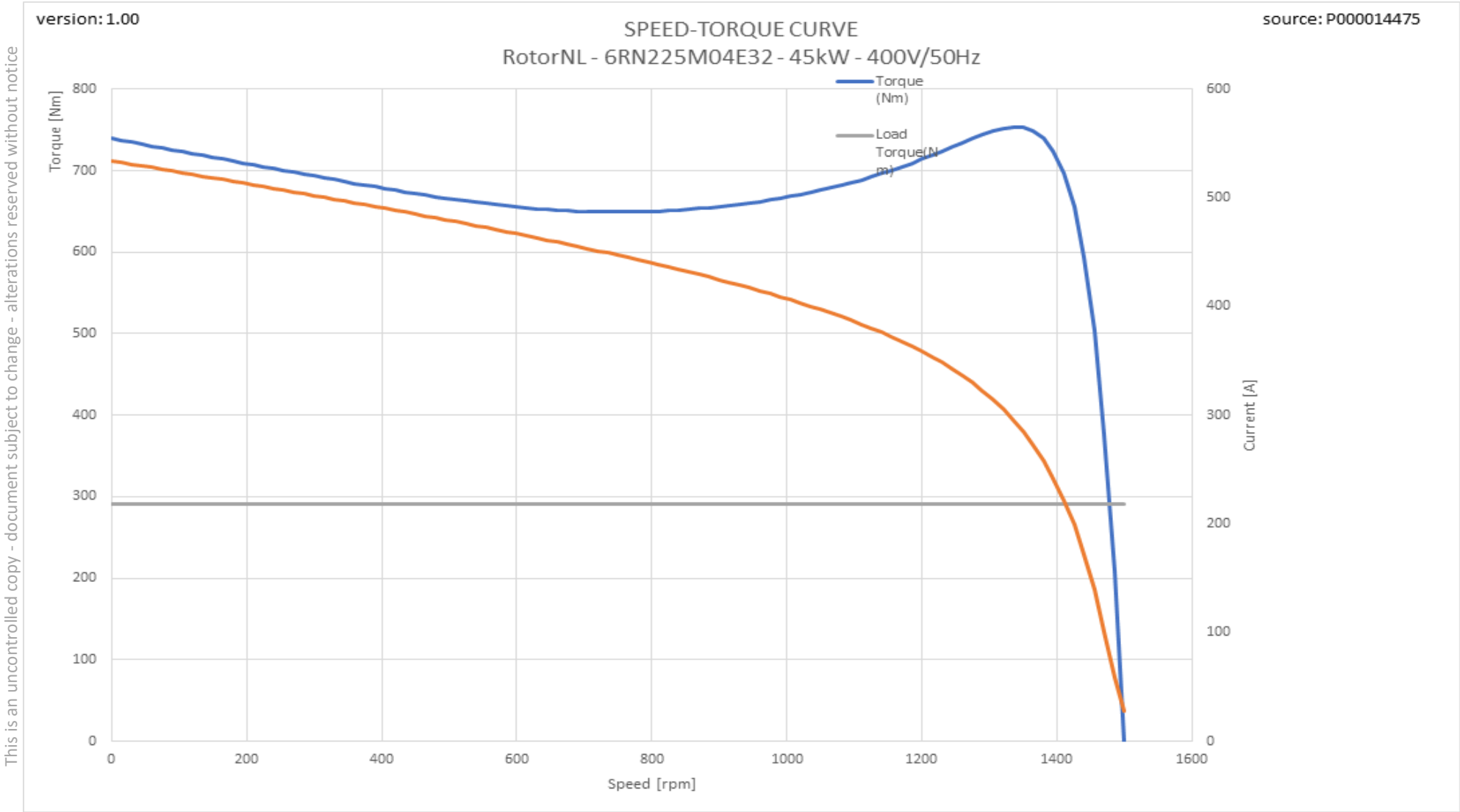
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Therm\_VSD graph



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Tn graph



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