ELK MOTOR SAN. ve TİC. A.Ş.
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# DATASHEET

**THREE PHASE INDUCTION MOTOR - SQUIRREL CAGE**

**IE4**

**Type** : 4EG280M2D-PD-BA-000 **Date** : 01.06.2024

| | | | |
|---|---|---|---|
| Power [kW] | : 90.0 | Efficiency Class | : IE4 |
| Input Voltage [V] | : 400 | Duty Cycle | : S1 |
| Connection Type [Δ / Y] | : Δ | Service Factor | : 1.25 |
| Frequency [Hz] | : 50 | Frame Size | : 280M |
| Pole Number | : 2 | Weight [kg] | : 720 |
| Nominal Speed [rpm] | : 2985 | Insulation Class | : F [155°C] |
| Nominal Current [A] | : 151 | Temperature Rise | : B [80°K] |
| Nominal Moment [Nm] | : 288 | Protection Class | : IP55 |
| Nominal Efficiency [η] | : 95.8 | Vibration Severity Grade | : A |
| Power Factor [cosφ] | : 0.90 | Method of Cooling | : IC411 (TEFC) |
| Locked Rotor Current [Ia/In] | : 7.7 | Direction of Rotation | : Bidirectional |
| Locked Rotor Torque [Ma/Mn] | : 2.8 | Balance | : Half Key |
| Breakdown Torque [Mk/Mn] | : 3.5 | Motor Thermal Protection | : PTC |
| Motor Color | : RAL 7031 | Altitude Above Sea Level | : 1000m |
| Ambient Temperature | : -15°C / +40°C | Sound Pressure Level [dBA] | : 77 |

## ELECTRICAL DATA

| Δ / Y | U [V] | f [Hz] | P [kW] | n [rpm] | I [A] | η [%100] | η [%75] | η [%50] | Cosφ | Cl |
|---|---|---|---|---|---|---|---|---|---|---|
| Δ | 400 | 50 | 90.0 | 2985 | 151 | 95.8 | 95.9 | 95.0 | 0.90 | IE4 |
| Y | 690 | 50 | 90.0 | 2985 | 87.3 | 95.8 | 95.9 | 95.0 | 0.90 | IE4 |
| Δ | 460 | 60 | 90.0 | 3577 | 132 | 95.4 | 95.0 | 94.3 | 0.90 | IE4 |
| Δ | 460 | 60 | 104 | 3575 | 150 | 95.4 | 95.5 | 94.6 | 0.91 | IE4 |

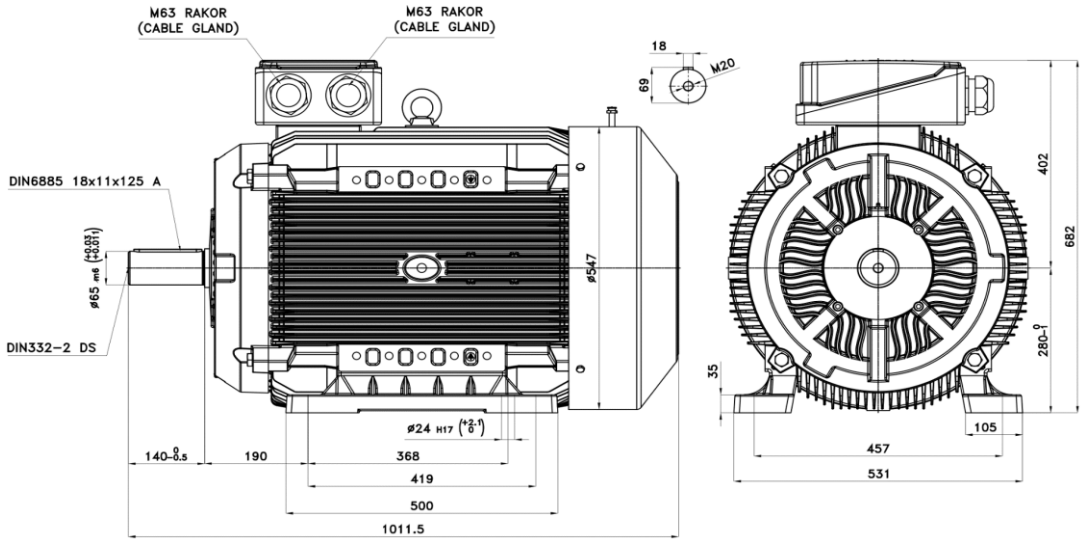
## MECHANICAL DATA

| | |
|---|---|
| Moment of Inertia [kgm$^2$] | : 1.10000 |
| Bearing [DS / NS] | : 6315 C3 / 6315 C3 |
| Frame Material | : Cast Iron |
| Flange Type / Material | : B3 / Cast Iron |
| Cooling Fan Material | : Plastic |
| End Shield Material | : Cast Iron |
| Lubrication of Bearings [DS / NS] | : 3200h-30gr / 3200h-30gr MOBIL Polyrex EM |

## TERMINAL BOX

| | |
|---|---|
| Terminal Box Material | : Cast Iron |
| Terminal Box Position | : Top |
| Terminal Box Cable Entry | : 2xM63x1.5 |
| Terminal Box Blind Cap | : -- |
| Contact Screw Thread | : M10 |

## MECHANICAL DIMENSIONS




Manufactured and tested in accordance with IEC 60034

FR.AG.010 REV.NO: 04 REV.DATE: 01.01.2023

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*ELK Motor has right to change all the data without prior notice.

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# TECHNICAL DATASHEET ACCORDING TO COMMISSION REGULATION (EU) 2019/1781

## THREE PHASE INDUCTION MOTOR - SQUIRREL CAGE

**Type** : 4EG280M2D-PD-BA-000 **Date** : 01.06.2024

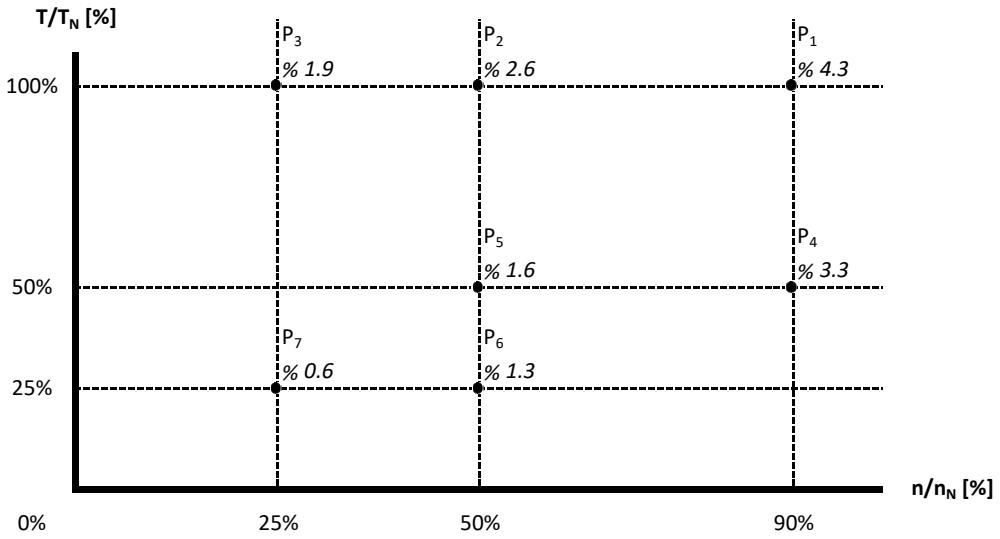
### NAMEPLATE DATA

| | | | |
|---|---|---|---|
| Power [kW] | : 90.0 | Nominal Speed [rpm] | : 2985 |
| Nominal Voltage [V] | : 400 | Nominal Current [A] | : 151 |
| Connection Type [Δ / Y] | : Δ | Nominal Moment [Nm] | : 288 |
| Nominal Frequency [Hz] | : 50 | Nominal Efficiency [η%] | : 95.8 |

### THE POWER LOSSES AT SEVEN OPERATING POINTS ACCORDING TO COMMISSION REGULATION (EU) 2019/1781

| Operating Point Number | Speed $n/n_N$ [%] | Torque $T/T_N$ [%] | Relative Power Losses $P_L/P_N$ [%] | Efficiency η [%] |
|---|---|---|---|---|
| $P_1$ | 90 | 100 | 4.3 | 95.5 |
| $P_2$ | 50 | 100 | 2.6 | 95.0 |
| $P_3$ | 25 | 100 | 1.9 | 92.8 |
| $P_4$ | 90 | 50 | 3.3 | 93.3 |
| $P_5$ | 50 | 50 | 1.6 | 94.1 |
| $P_6$ | 50 | 25 | 1.3 | 90.6 |
| $P_7$ | 25 | 25 | 0.6 | 91.3 |

### MAP OF RELATIVE POWER LOSSES $P_L/P_N$ [%]

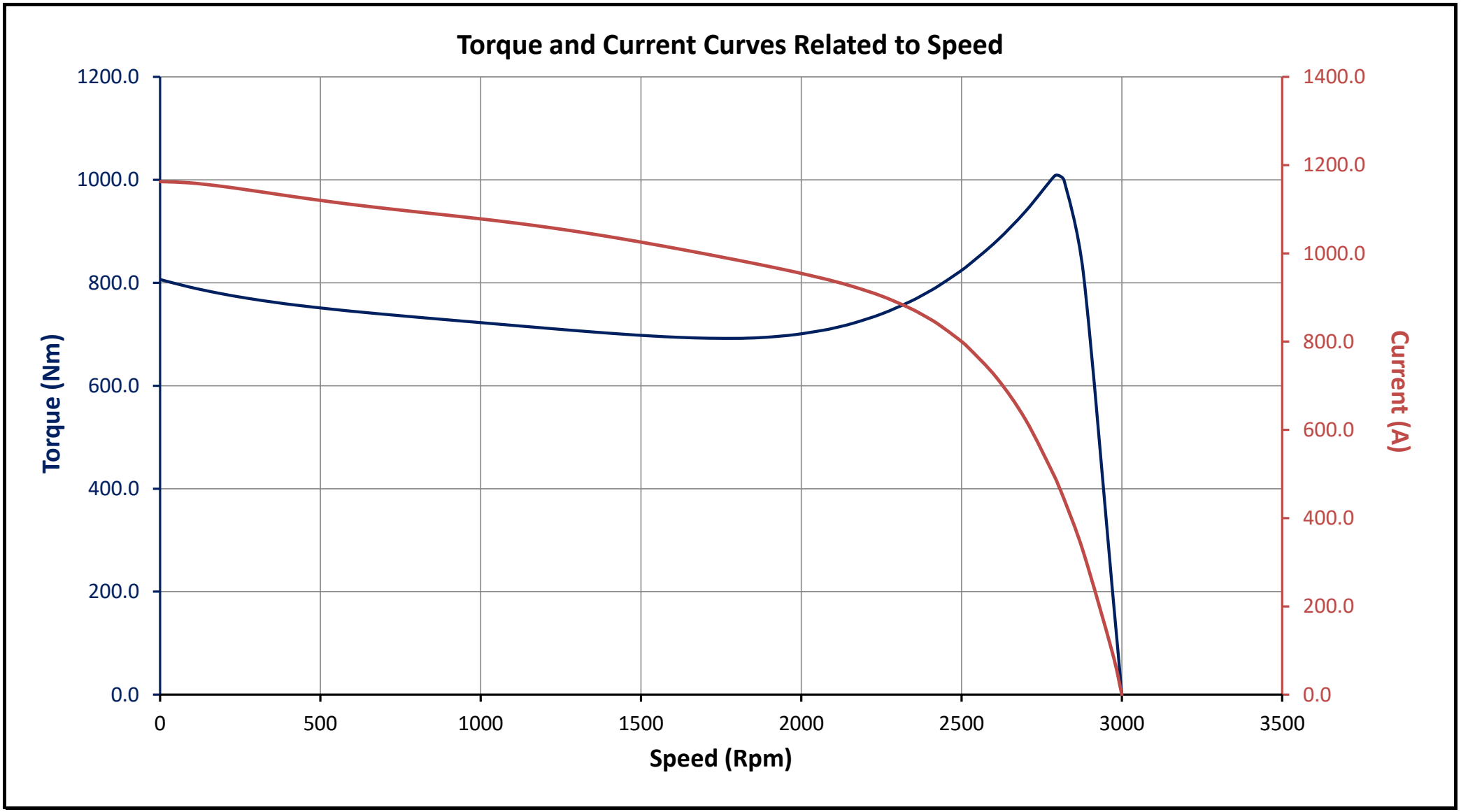



Manufactured and tested in accordance with IEC 60034



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**Motor Code :** 4EG280M2D-PD-BA-000



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