

**Type** : 3EL090S2B-PD-A0-000**Date** : 12/08/2025

Power [kW] : 1.50  
Input Voltage [V] : 400  
Connection Type [ $\Delta$  / Y] : Y  
Frequency [Hz] : 50  
Pole Number : 2  
Nominal Speed [rpm] : 2900  
Nominal Current [A] : 2.97  
Nominal Moment [Nm] : 4.93  
Nominal Efficiency [ $\eta$ ] : 84.8  
Power Factor [ $\cos\phi$ ] : 0.86  
Locked Rotor Current [ $I_a/I_n$ ] : 7.6  
Locked Rotor Torque [ $M_a/M_n$ ] : 3.1  
Breakdown Torque [ $M_k/M_n$ ] : 3.9  
Motor Color : RAL 7031  
Ambient Temperature : -15°C / +40°C

Efficiency Class : IE3  
Duty Cycle : S1  
Service Factor : 1.20  
Frame Size : 090S  
Weight [kg] : 15.6  
Insulation Class : F [155°C]  
Temperature Rise : B [80°K]  
Protection Class : IP55  
Vibration Severity Grade : A  
Method of Cooling : IC411 (TEFC)  
Direction of Rotation : Bidirectional  
Balance : Half Key  
Motor Thermal Protection : --  
Altitude Above Sea Level : 1000m  
Sound Pressure Level [dBA] : 59

**ELECTRICAL DATA**

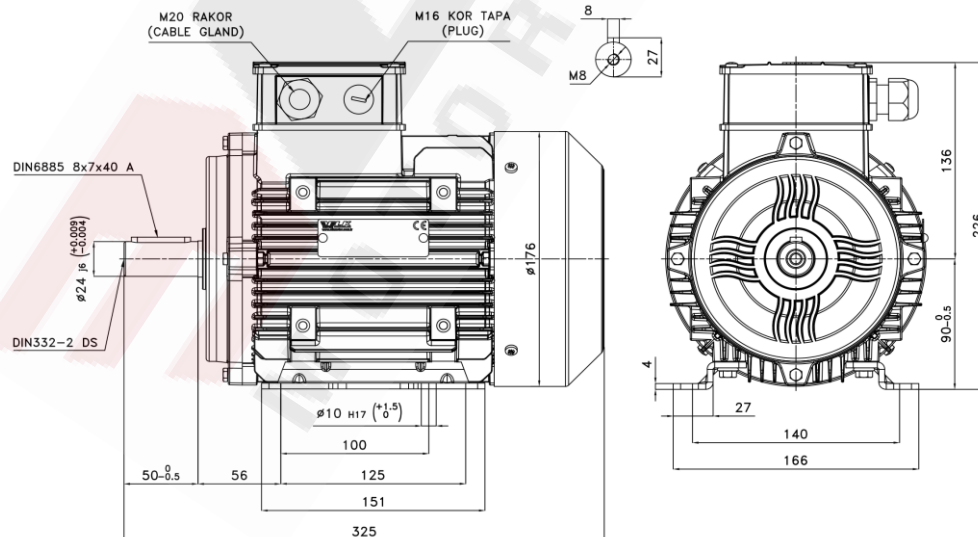
| $\Delta$ / Y | U [V] | f [Hz] | P [kW] | n [rpm] | I [A] | $\eta$ [%100] | $\eta$ [%75] | $\eta$ [%50] | $\cos\phi$ | CI  |
|--------------|-------|--------|--------|---------|-------|---------------|--------------|--------------|------------|-----|
| $\Delta$     | 230   | 50     | 1.50   | 2900    | 5.14  | 84.8          | 85.4         | 84.2         | 0.86       | IE3 |
| Y            | 400   | 50     | 1.50   | 2900    | 2.97  | 84.8          | 85.4         | 84.2         | 0.86       | IE3 |
| Y            | 460   | 60     | 1.50   | 3500    | 2.59  | 85.5          | 85.7         | 84.1         | 0.85       | IE3 |
| Y            | 460   | 60     | 1.74   | 3490    | 2.93  | 85.7          | 85.9         | 84.3         | 0.87       | IE3 |

**MECHANICAL DATA**

Moment of Inertia [ $\text{kgm}^2$ ] : 0.00178  
Bearing [DS / NS] : 6205ZZ C3 / 6205ZZ C3  
Frame Material : Aluminum  
Flange Type / Material : B3 / Aluminum  
Cooling Fan Material : Plastic  
End Shield Material : Aluminum

**TERMINAL BOX**

Terminal Box Material : Aluminum  
Terminal Box Position : Top  
Terminal Box Cable Entry : M20x1.5  
Terminal Box Blind Cap : M16x1.5  
Contact Screw Thread : M4

**MECHANICAL DIMENSIONS**

Manufactured and tested in accordance with IEC 60034

\*Technical data are subject to change! There may be discrepancies between calculated and rating plate values.

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

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



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TECHNICAL DATASHEET ACCORDING TO  
COMMISSION REGULATION (EU) 2019/1781  
THREE PHASE INDUCTION MOTOR - SQUIRREL CAGE

Type : 3EL090S2B-PD-A0-000

Date : 12/08/2025

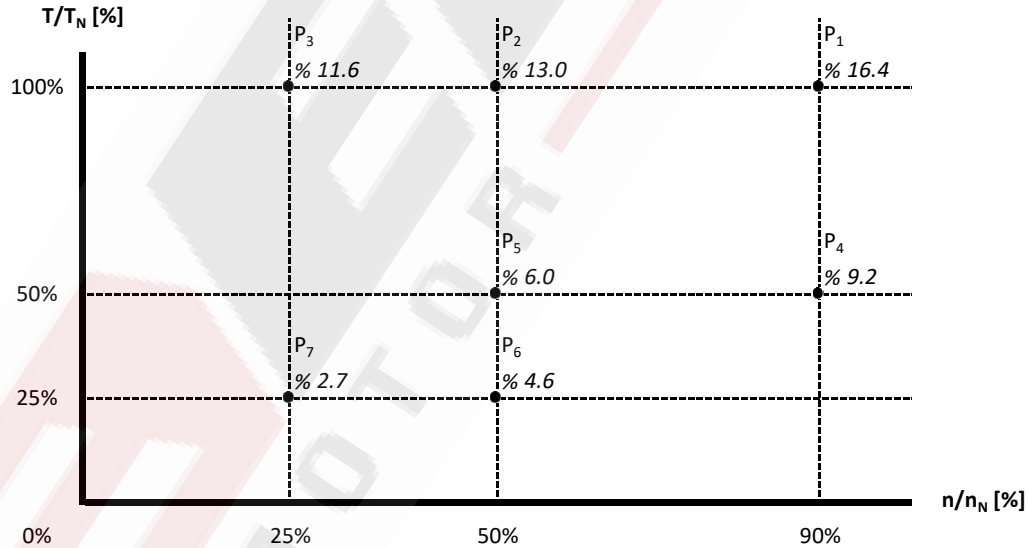
NAMEPLATE DATA

|                                 |        |                                |        |
|---------------------------------|--------|--------------------------------|--------|
| Power [kW]                      | : 1.50 | Nominal Speed [rpm]            | : 2900 |
| Nominal Voltage [V]             | : 400  | Nominal Current [A]            | : 2.97 |
| Connection Type [ $\Delta$ / Y] | : Y    | Nominal Moment [Nm]            | : 4.93 |
| Nominal Frequency [Hz]          | : 50   | Nominal Efficiency [ $\eta$ %] | : 84.8 |

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 $\eta$ [%] |
|------------------------|-------------------|--------------------|-------------------------------------|-----------------------|
| P <sub>1</sub>         | 90                | 100                | 16.4                                | 84.6                  |
| P <sub>2</sub>         | 50                | 100                | 13.0                                | 79.4                  |
| P <sub>3</sub>         | 25                | 100                | 11.6                                | 68.3                  |
| P <sub>4</sub>         | 90                | 50                 | 9.2                                 | 83.0                  |
| P <sub>5</sub>         | 50                | 50                 | 6.0                                 | 80.7                  |
| P <sub>6</sub>         | 50                | 25                 | 4.6                                 | 73.1                  |
| P <sub>7</sub>         | 25                | 25                 | 2.7                                 | 69.8                  |

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



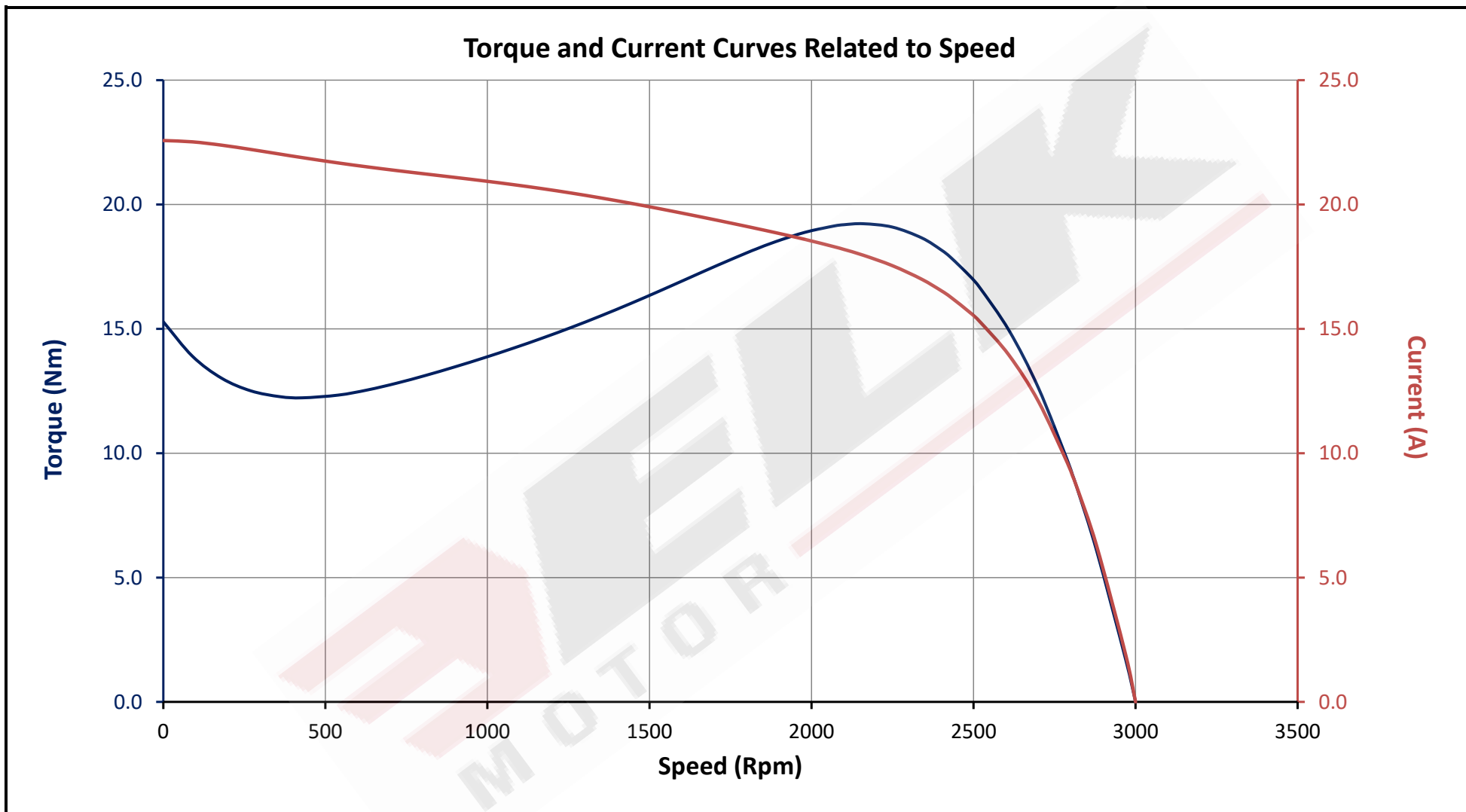
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Performance Curves Related to Rated Output

