ELK MOTOR SAN. ve TİC. A.Ş.
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DATASHEET

THREE PHASE INDUCTION MOTOR - SQUIRREL CAGE

IE3

Type : 3EL160L2D-PD-BA-000 **Date** : 01.06.2024

Power [kW]	: 18.5	Efficiency Class	: IE3
Input Voltage [V]	: 400	Duty Cycle	: S1
Connection Type [Δ / Y]	: Δ	Service Factor	: 1.20
Frequency [Hz]	: 50	Frame Size	: 160L
Pole Number	: 2	Weight [kg]	: 96.8
Nominal Speed [rpm]	: 2945	Insulation Class	: F [155°C]
Nominal Current [A]	: 31.7	Temperature Rise	: B [80°K]
Nominal Moment [Nm]	: 60	Protection Class	: IP55
Nominal Efficiency [η]	: 92.4	Vibration Severity Grade	: A
Power Factor [cosφ]	: 0.91	Method of Cooling	: IC411 (TEFC)
Locked Rotor Current [Ia/In]	: 8.9	Direction of Rotation	: Bidirectional
Locked Rotor Torque [Ma/Mn]	: 3.1	Balance	: Half Key
Breakdown Torque [Mk/Mn]	: 4.2	Motor Thermal Protection	: PTC
Motor Color	: RAL 7031	Altitude Above Sea Level	: 1000m
Ambient Temperature	: -15°C / +40°C	Sound Pressure Level [dBA]	: 69

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	18.5	2945	31.7	92.4	92.7	92.3	0.91	IE3
Y	690	50	18.5	2945	18.3	92.4	92.7	92.3	0.91	IE3
Δ	460	60	18.5	3545	27.5	92.5	92.7	92.4	0.91	IE3
Δ	460	60	21.5	3535	31.6	92.6	92.8	92.5	0.92	IE3

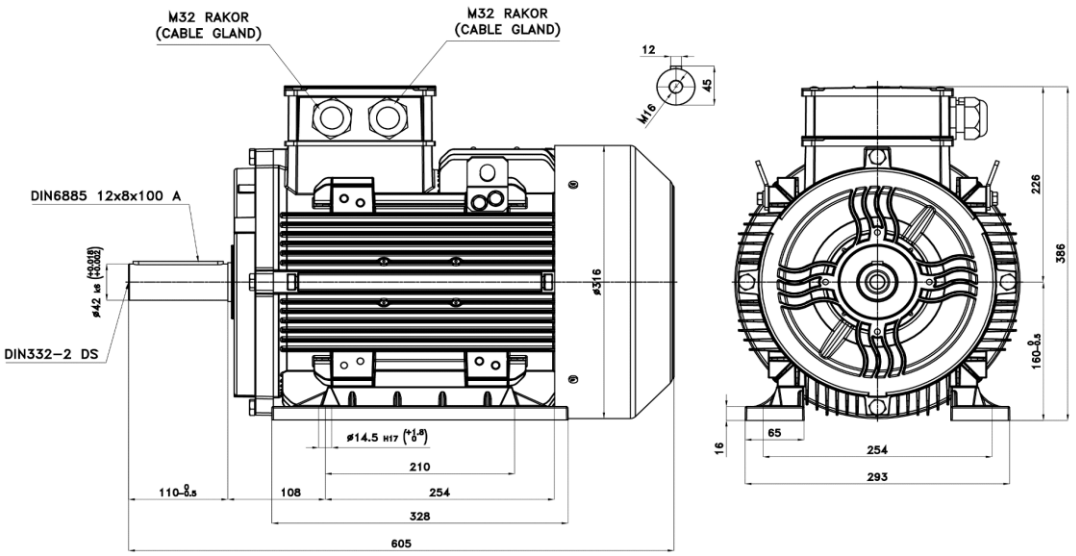
MECHANICAL DATA

Moment of Inertia [kgm^2]	: 0.04409
Bearing [DS / NS]	: 6309ZZ C3 / 6209ZZ 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	: 2xM32x1.5
Terminal Box Blind Cap	: --
Contact Screw Thread	: M6

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

THREE PHASE INDUCTION MOTOR - SQUIRREL CAGE

Type : 3EL160L2D-PD-BA-000 **Date** : 01.06.2024

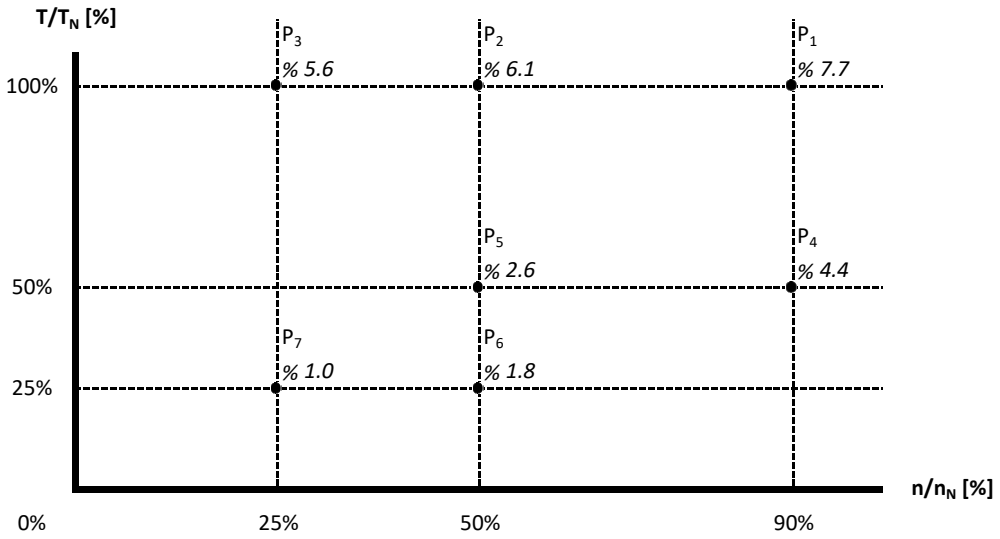
NAMEPLATE DATA

Power [kW]	: 18.5	Nominal Speed [rpm]	: 2945
Nominal Voltage [V]	: 400	Nominal Current [A]	: 31.7
Connection Type [Δ / Y]	: Δ	Nominal Moment [Nm]	: 60
Nominal Frequency [Hz]	: 50	Nominal Efficiency [η%]	: 92.4

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	7.7	92.1
P_2	50	100	6.1	89.1
P_3	25	100	5.6	81.8
P_4	90	50	4.4	91.1
P_5	50	50	2.6	90.5
P_6	50	25	1.8	87.4
P_7	25	25	1.0	85.9

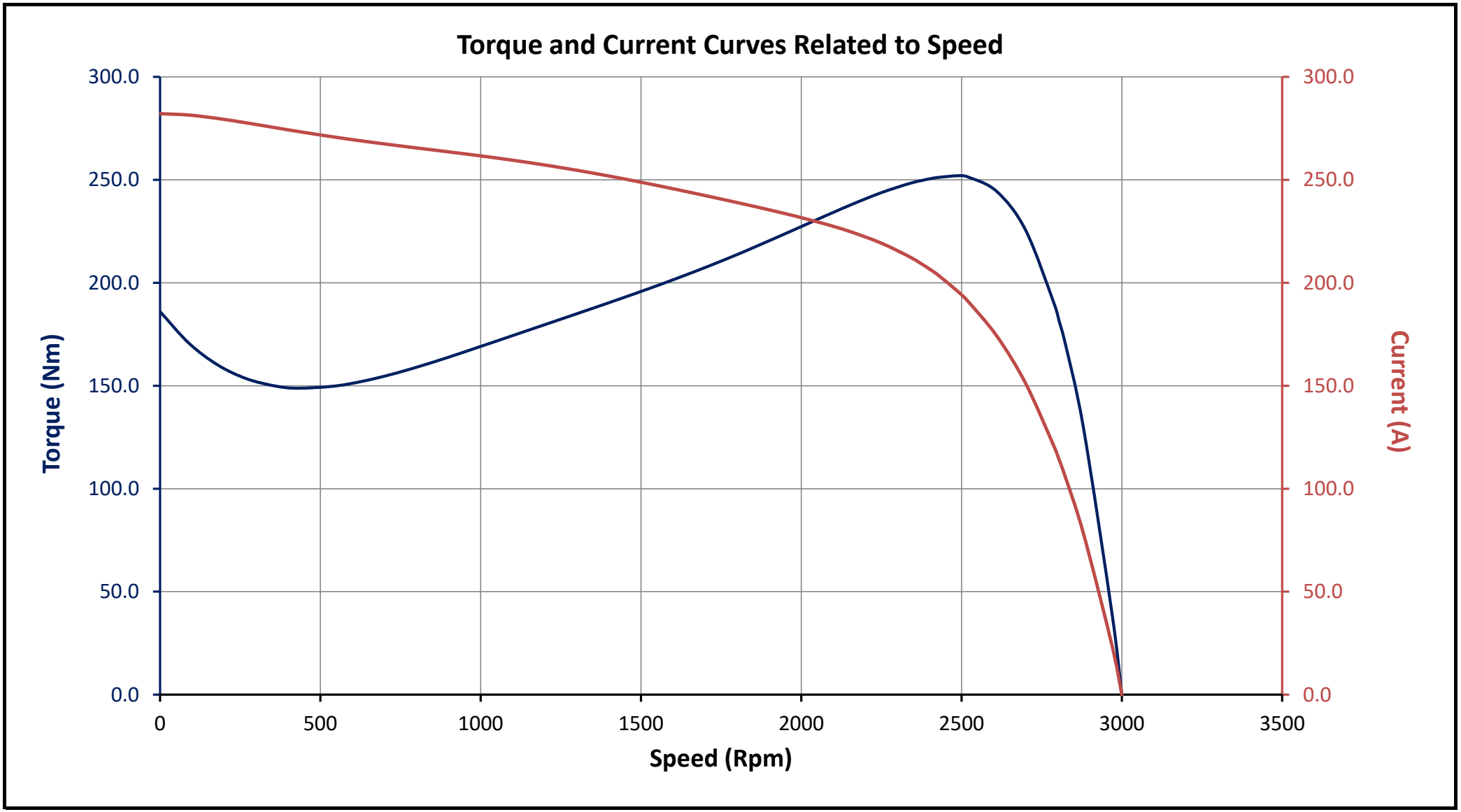
MAP OF RELATIVE POWER LOSSES P_L/P_N [%]



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Motor Code : 3EL160L2D-PD-BA-000



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