

Type : 4EL180M4D-PA-BA-000**Date** : 01.01.2023

Power [kW] : 18.5
Input Voltage [V] : 400
Connection Type [Δ / Y] : Δ
Frequency [Hz] : 50
Pole Number : 4
Nominal Speed [rpm] : 1475
Nominal Current [A] : 34.6
Nominal Moment [Nm] : 120
Nominal Efficiency [η] : 94.2
Power Factor [$\cos\phi$] : 0.82
Locked Rotor Current [I_a/I_n] : 8.0
Locked Rotor Torque [Ma/Mn] : 3.1
Breakdown Torque [Mk/Mn] : 3.5
Motor Color : RAL 7031
Ambient Temperature : -15°C / +40°C

Efficiency Class : IE4
Duty Cycle : S1
Service Factor : 1.25
Frame Size : 180M
Weight [kg] : 142
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 : PTC
Altitude Above Sea Level : 1000m
Sound Pressure Level [dBA] : 64

ELECTRICAL DATA

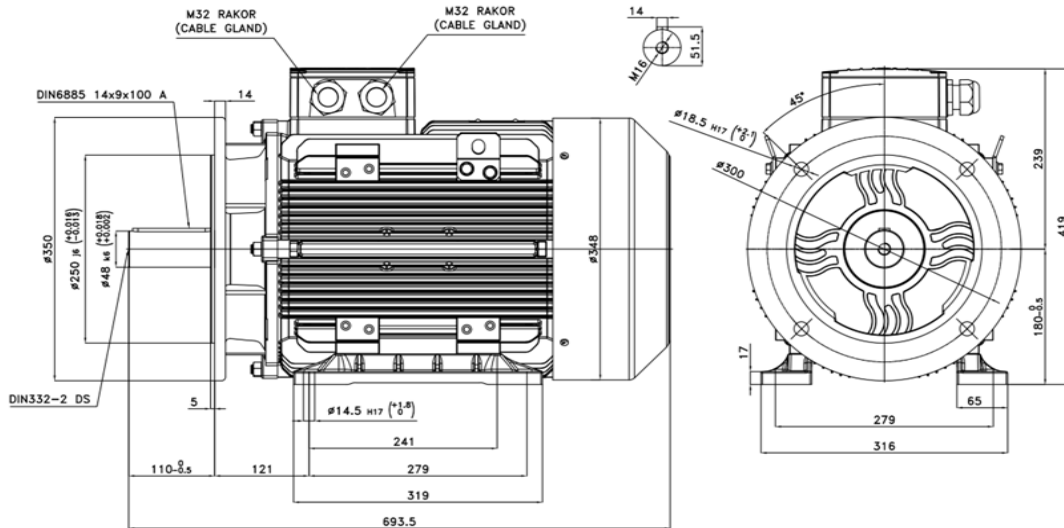
Δ / Y	U [V]	f [Hz]	P [kW]	n [rpm]	I [A]	η [%100]	η [%75]	η [%50]	$\cos\phi$	Cl
Δ	400	50	18.5	1475	34.6	94.2	94.4	94.0	0.82	IE4
Y	690	50	18.5	1475	20.0	94.2	94.4	94.0	0.82	IE4
Δ	460	60	18.5	1775	30.3	94.5	94.6	94.1	0.81	IE4
Δ	460	60	21.5	1770	34.4	94.5	94.7	94.3	0.83	IE4

MECHANICAL DATA

Moment of Inertia [kgm^2] : 0.14700
Bearing [DS / NS] : 6310ZZ / 6210ZZ
Frame Material : Aluminum
Flange Type / Material : B5 / 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

*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 : 4EL180M4D-PA-BA-000

Date : 01.01.2023

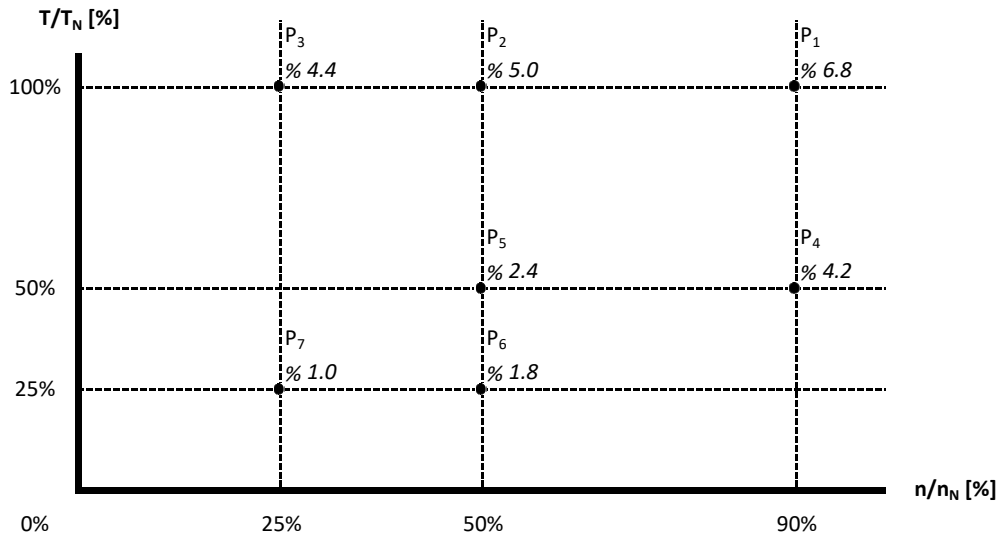
NAMEPLATE DATA

Power [kW]	: 18.5	Nominal Speed [rpm]	: 1475
Nominal Voltage [V]	: 400	Nominal Current [A]	: 34.6
Connection Type [Δ / Y]	: Δ	Nominal Moment [Nm]	: 120
Nominal Frequency [Hz]	: 50	Nominal Efficiency [η %]	: 94.2

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	6.8	93.0
P ₂	50	100	5.0	90.9
P ₃	25	100	4.4	85.0
P ₄	90	50	4.2	91.4
P ₅	50	50	2.4	91.1
P ₆	50	25	1.8	87.6
P ₇	25	25	1.0	86.1

MAP OF RELATIVE POWER LOSSES P_L/P_N [%]



Manufactured and tested in accordance with IEC 60034

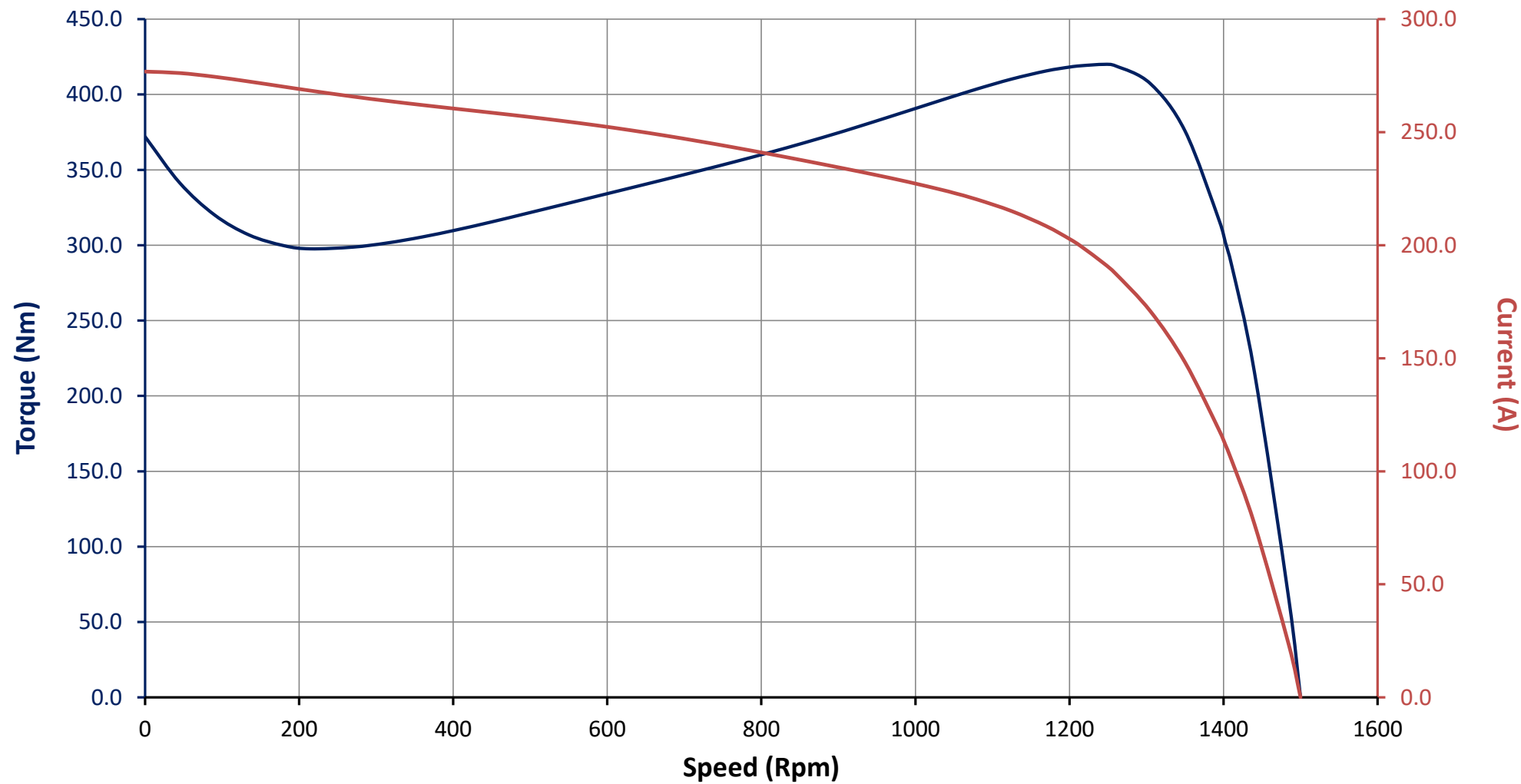
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Motor Code : 4EL180M4D-PA-BA-000

Torque and Current Curves Related to Speed



Motor Code : 4EL180M4D-PA-BA-000

Performance Curves Related to Rated Output

