

PRODUCT INFORMATION PACKET

Model No: E3TN3006313B30D41100

Catalog No: E3TN3006313B30D41100

Made in Italy TCN Series, General Purpose Low Voltage IEC motor, Increased Safety, 90,00 kW,
3 phase, 990 RPM, D400/Y690V 50Hz, 315MA Frame B3, 6 Poles, IC411



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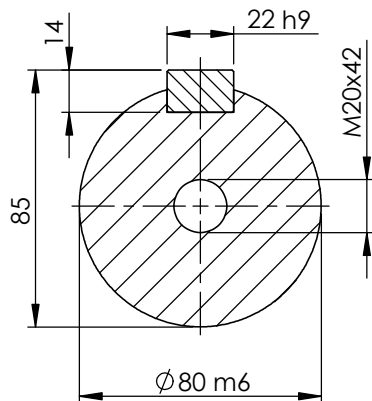
Nameplate Specifications

Output HP	120 Hp	Output KW	90.0 kW
Frequency	50 Hz	Voltage	400/690 V
Current	168.2 A	Speed	990 rpm
Service Factor	1	Phase	3
Efficiency	95 %	Power Factor	0.82
Duty	S1	Insulation Class	F
Frame	315MA	Enclosure	Totally Enclosed Fan Cooled
Thermal Protection	No Protection	Ambient Temperature	40 °C
Drive End Bearing Size	6319	Opp Drive End Bearing Size	6319
UL	No	CSA	No
CE	Yes	IP Code	IP55
Number of Speeds	1		

Technical Specifications

Electrical Type	Squirrel Cage	Starting Method	Direct On Line
Poles	6	Rotation	Bi-Directional
Mounting	B3	Motor Orientation	Horizontal
Drive End Bearing	C3	Opp Drive End Bearing	C3
Frame Material	Cast Iron	Shaft Type	Keyed
Overall Length	1206.00 mm	Frame Length	729.00 mm
Shaft Diameter	80.000 mm	Shaft Extension	170 mm
Assembly/Box Mounting	Top		
Connection Drawing	SC-01-T-1v-1a	Outline Drawing	B3A04T8315011A01

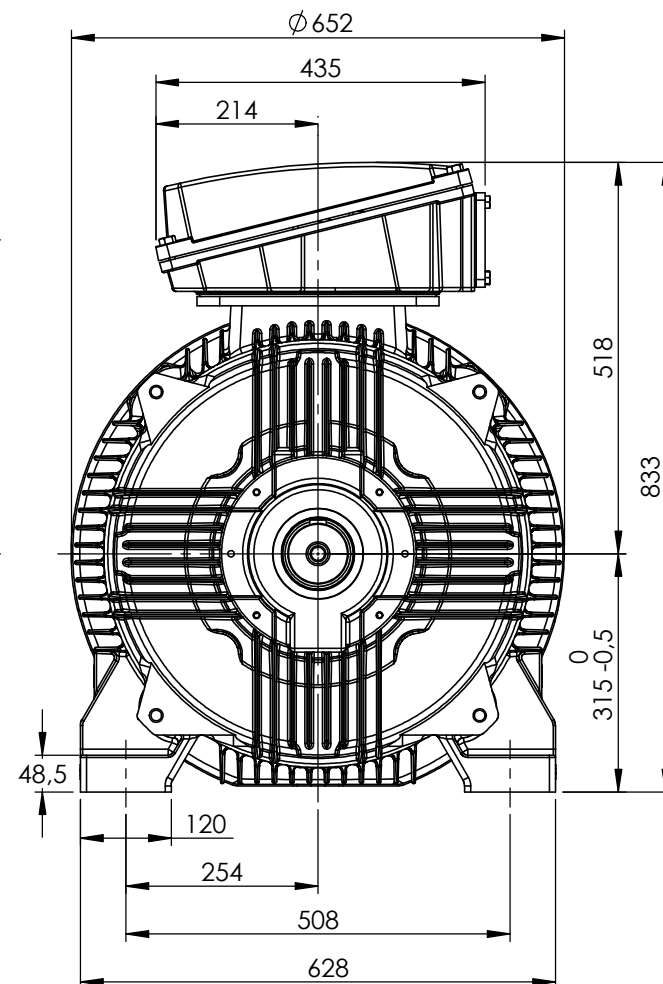
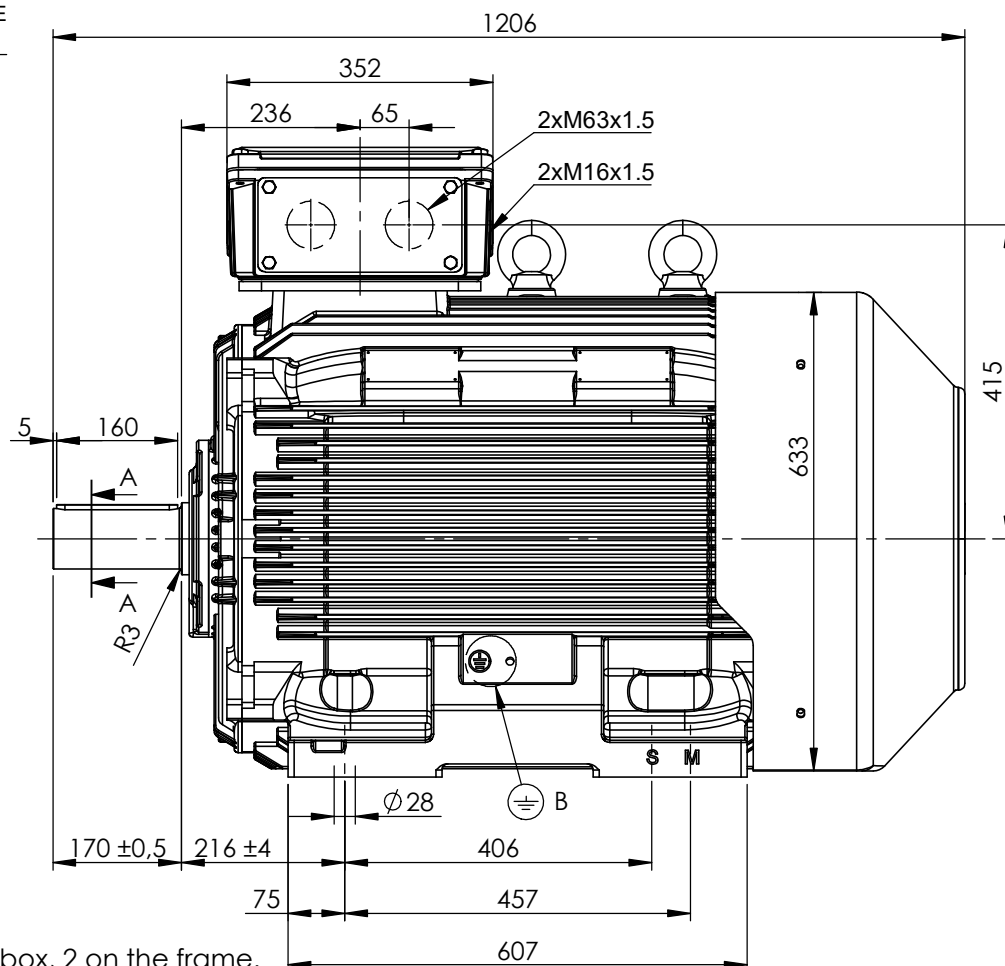
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SECTION A-A
SCALE 1 : 2.5



Earth terminal: 1 in the terminal box, 2 on the frame.



MOTOR TYPE AND DESCRIPTION:

DRAWING REVISION 1	REVISION BY TN	DATE 13/05/2022	TOLERANCES (EXCEPT AS NOTED) TOLERANCES: ±2 * TOLERANCES: ±0.8	DRAWN BY TN	REGAL™ cemp			
ECO	APPROVED BY LP	DATE 16/05/2022		DATE 01/12/2021				
ECO DESCRIPTION				APPROVED BY LP	DESCRIPTION Motor 315 4-6P TC (S/M) B3			
				DATE 02/12/2021				
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			FIRST ANGLE PROJECTION					

Schema di collegamento - *Connection diagram*
Schemas de branchement - *Schaltplan*
Esquemas de conexión



DTE 01/01/2004
SC - 01 - T - 1v.doc

**Motori trifase una velocità - *Single speed, three phase motors* - Moteurs triphasé une vitesse
Drehstrommotor Eine Drehzahlstufe - Motores trifásico una velocidad**

Collegamento - *Connection* - Connexion - *Schaltung* - Conexión



Collegamento - *Connection* - Connexion - *Schaltung* - Conexión



L1 - L2 - L3 = Linea - *Supply* - Reseau - *Netz* - Red

Per invertire la rotazione invertire due fasi - *To change the rotation reverse two phases* - Pour changer le sens de rotation inverser deux phases - *Zur Drehrichtungsänderung zwei Phasen vertauschen* - Para invertir el sentido de rotación invertir dos fases

Marcatura Morsetti Ausiliari - <i>Additional terminals marking (IEC60034-8)</i>		
Marcatura <i>Marking</i>	No. morsetti <i>terminals</i>	Morsetto ausiliare per: <i>Additional terminal for:</i>
TP1A - TP2A (allarme- <i>warning</i>)	2	Termistori PTC (alta velocità) - <i>Thermistor PTC (high speed) [*]</i>
TP1B - TP2B (allarme- <i>warning</i>)	2	Termistori PTC (bassa velocità) - <i>Thermistor PTC (low speed) [*]</i>
R1 - R2 - R3 (I sensore - <i>sensor</i>)	3	Termistore PT100 3 fili - <i>Thermistor PT 100 with 3 wires</i>
R4 - R5 - R6 (II sensore - <i>sensor</i>)	3	
R7 - R8 - R9 (III sensore - <i>sensor</i>)	3	
R11 - R12 - R13 (anteriore - <i>DE</i>)	3	Termistore PT100 su cuscinetto - <i>Thermistor PT 100 on bearing</i>
R21 - R22 - R23 (posteriore - <i>NDE</i>)	3	
TB1 - TB2 (allarme- <i>warning</i>)	2	Protettore bimetallico normalmente chiuso - <i>Normally closed bi-metallic switch (**)</i>
TB3 - TB4 (intervento- <i>switch off</i>)	2	Protettore bimetallico del freno normalmente chiuso - <i>NC brake bi-metallic switch (**)</i>
TB8 - TB9 (intervento- <i>switch off</i>)	2	
TM1 - TM2 (allarme- <i>warning</i>)	2	Protettore bimetallico normalmente aperto - <i>Normally open bi-metallic switch (**)</i>
TM3 - TM4 (intervento- <i>switch off</i>)	2	
HE1- HE2	2	Resistenze riscaldanti - <i>Space heaters</i>
U1 - U2	2	Ventilazione ausiliaria monofase - <i>Single phase forced ventilation</i>
U - V - W	2	Ventilazione ausiliaria trifase - <i>Three phase forced ventilation</i>
colori secondo schema del produttore - <i>colours according manufacturer</i>	9	Encoder
CA1 - CA2	2	Condensatore - <i>Capacitor</i>
PE	1	Conduttore di terra - <i>Earth cable</i>

[*] U nominale - *U rated* = 6V - max 30V

(**) U nominale - *U rated* = 250V



FOGLIO DATI PER MOTORI ELETTRICI ASINCRONI TRIFASI : SERIE IEC
DATA SHEET FOR ASYNCHRONOUS THREEPHASE INDUCTION MOTORS: IEC SERIES

Cliente / Customer	-
Ordine cliente / Customer order	-
Item	-

Conferma ordine / Acknowledgment	N° -
Impianto / Plant	-

DATI DI PROGETTO - DESIGN DATA

Modo di protezione	II3G	Motore / Frame
Type of protection		Scatola morsetti / Terminal box
Tem. Amb. Min. / Min Amb.Temp.	-20	°C
Umidità relativa / Relative humidity	90%	
Tensione nominale / Rated Voltage	400 V +/- 10%	

Ex ec IIB T3 Gc	IP55
Ex ec IIB Gc	IP55
Tem. Amb. Max. / Max Amb. Temp.	40 °C
Altitudine / Altitude	< 1000 mslm / masl
Frequenza / Frequency	50 Hz +/- 3%

DATI FUNZIONALI E COSTRUTTIVI - PERFORMANCE AND CONSTRUCTION DATA

1	Quantità / Quantity		01		
2	Motore tipo / Motor type		TCN 315MA6		
3	Numero di serie / Serial Number				
4	Forma costruttiva / Shape		B3		
5	Certificato / Certificate	TÜV IT	20 ATEX 103X		
6					
Dati nominali / Rated data					
7	Poli / Pole	n°	6		
8	Potenza nominale / Rated power	kW	90,00		
9	Corrente nominale / Rated current	A	168,19		
10	Velocità nominale / Full Load speed	1/min	990		
11	Collegamento / Winding connection		D		
12	Isolamento / Insulation class		F		
13	Sovratemperatura / Temperature rise		DT80K		
14	Raffreddamento / Cooling type		IC411		
15	Fattore di servizio / Service factor		1		
16					
17	Classe di rendimento / Efficiency level	IEC 34-30	IE3		
Performances elettriche / Electrical performances					
Carico / Load		4/4	3/4	2/4	
18	Giri / Speed	1/min	990	993	995
19	Corr. / Curr.	A	168,19	129,33	97,81
20	Rend / Eff	%	95,0	95,0	94,6
21	cos φ	-	0,82	0,79	0,70
Performances all'avviamento / Starting performances					
22	Ia/In - LRC/FLC	%	615		
23	Cosphi a rotore bloccato / LR power factor		0,33		
	Tempo a rotore bloccato / LRWT				
24	100% Un (A caldo / Warm)	sec	17		
25	(A freddo / Cold)	sec	59		
26	80% Un (A caldo / Warm)	sec	27		
27	(A freddo / Cold)	sec	92		
	Tempo di avviamento ammissibile / ART				
28	100% Un	sec	51		
29	80% Un	sec	80		
Curva di coppia / Speed-torque values					
30	Coppia nominale / Rated Torque	Nm	868,18		
31	Ca/Cn - LRT/FLT	%	190		
32	Cmax/Cn - BDT/FLT	%	200		
33					
34					
35					
Varie / Other					
36					
37					
38					
39					

Servizio / Duty		
40	Servizio / Duty type	- S1
41	Intermittenza / Cyclic duration factor	- -
42	Avviamenti-ora / Starting-hour	- -
43	Tempo ciclo / Time	- -
Cuscinetti / Bearings		
44	Cuscinetto ant / DE bearing	- 6319 C3
45	Cuscinetto post / NDE bearing	- 6319 C3
46	Carico radiale max / Max radial load in X1	N 7286
47	Carico assiale max / Max axial load	N 5048
48	Tipo grasso / Grease type	LGHP2 SKF or equivalent
49	Intervallo lubrificazione / Lubrication	h 5000
50	Quantità grasso / Quantity grease	gr 45
Caratteristiche meccaniche / mechanical specification		
51	Massa / Mass	kg 877
52	Momento d'inerzia / Moment of inertia	kgm2 4,4480
53	Rumore a vuoto / Noise at no load (1 m)	Lp dB(A) 70
54	Vibrazioni / Vibration level	IEC 34-14 A
55	Limite norma / Vibration limit	mm/sec 2,80
56		
57		
Dati entrata cavi - verniciatura / Cable entry and painting		
63	Entrata cavi / Cable entry	IEC 60423 2xM63+1xM16
64	Ciclo verniciatura / Painting cycle	STD
65	Colore finale / Final colour	RAL 5010
66		
67		
68		
69		
70		
71		
Ausiliari - Auxiliaries		
72	Sonde termiche / Temperature detector	winding PTC
73	Sonde termiche / Temperature detector	bearing -
74	Scaldiglie / Heaters	V / W -
75	Preparation for SPM sensor	-
76	Pressacavi / Cable glands	NO
77		

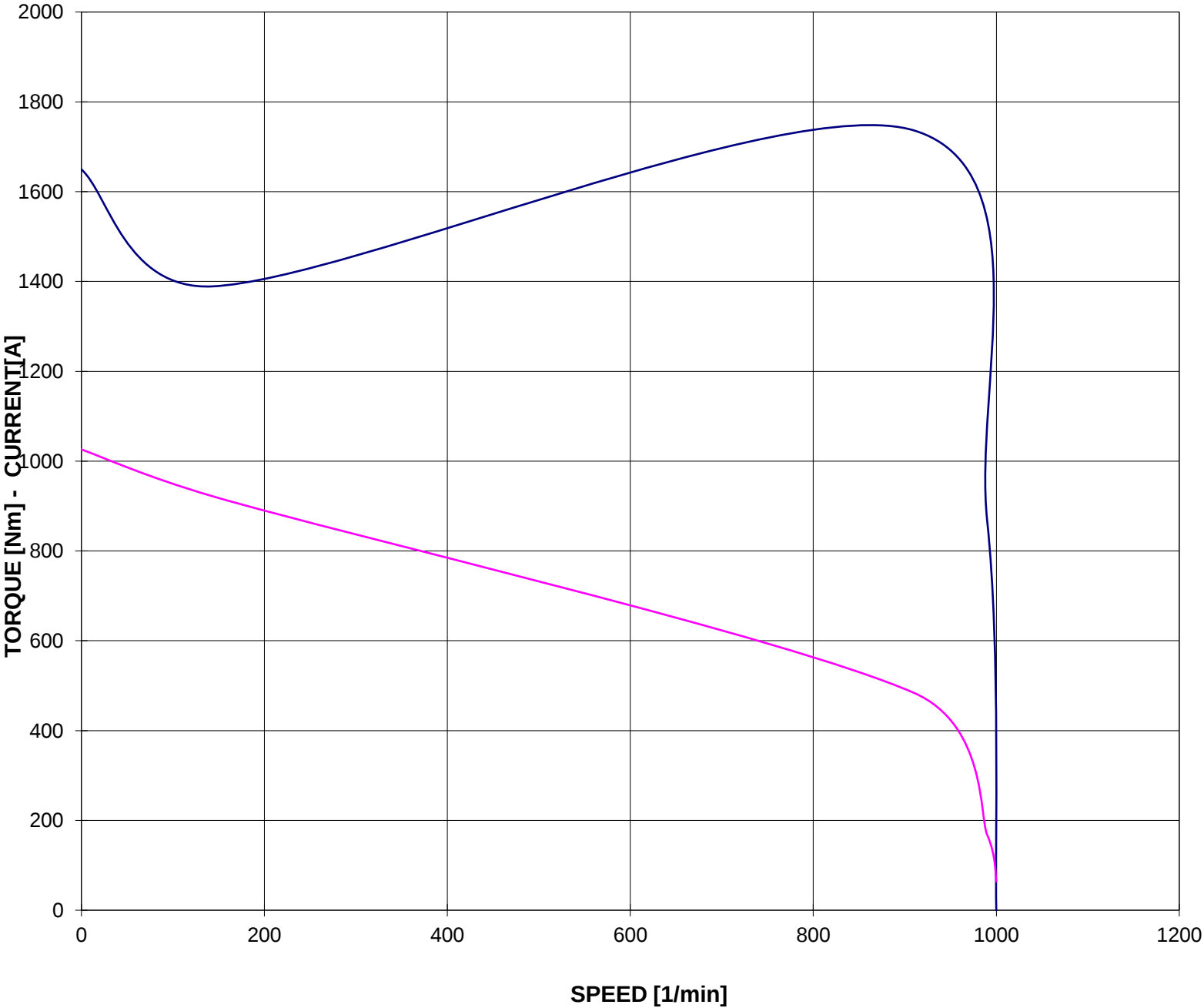
Documento preliminare - Preliminary data sheet



CURVA COPPIA/CORRENTE-GIRI
TORQUE/CURRENT-SPEED DIAGRAM

Cliente / Customer	-	
Ordine cliente / Customer order	-	
Impianto / Plant	-	
ITEM	-	
Conferma ordine / Acknowledgment	-	
Numero di serie / Serial Number		
Motore / Motor	TCN 315MA6	
Potenza nominale / Rated power	90,00	kW
Poli / Pole	6	
Tensione - Frequenza / Voltage - Frequency	400 - 50	V - Hz
Corrente / Rated current	168,19	A
Velocità / Speed	990	rpm
Coppia / Torque	868,18	Nm

COPPIA - TORQUECORRENTE - CURRENT



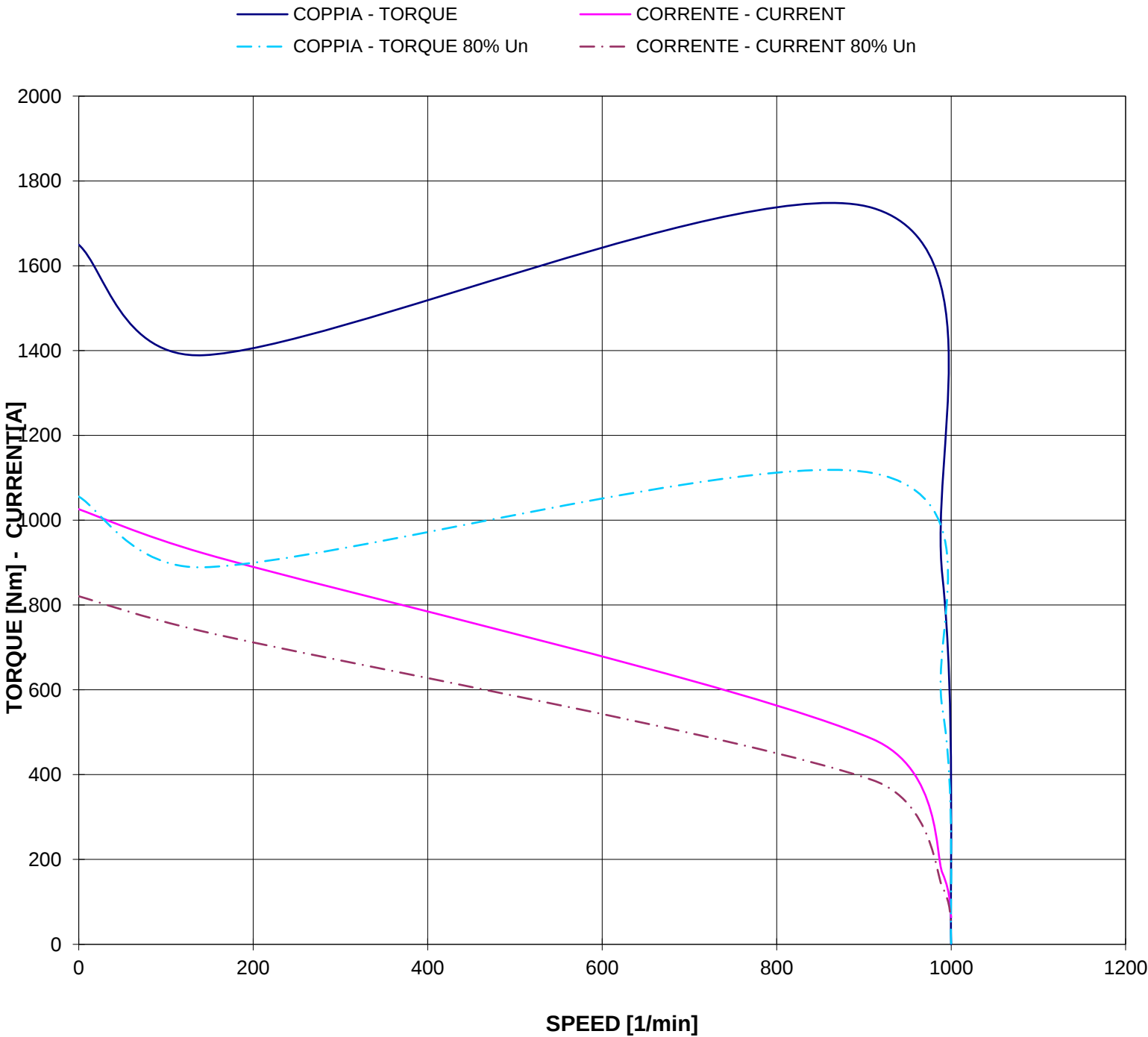


CURVA COPPIA/CORRENTE-GIRI (Tensione ridotta)
TORQUE/CURRENT-SPEED DIAGRAM (Reduced voltage)

Ciente / Customer -
Ordine cliente / Customer order -
Impianto / Plant -
ITEM -

Conferma ordine / Acknowledgment -
Numero di serie / Serial Number -

Motore / Motor	TCN 315MA6	
Potenza nominale / Rated power	90,00	kW
Poli / Pole	6	
Tensione - Frequenza / Voltage - Frequency	400 - 50	V - Hz
Corrente / Rated current	168,19	A
Velocità / Speed	990	rpm
Coppia / Torque	868,18	Nm



Valori calcolati - Data obtained by calculation method
Documento preliminare - Preliminary document

Data / Date 02-set-21

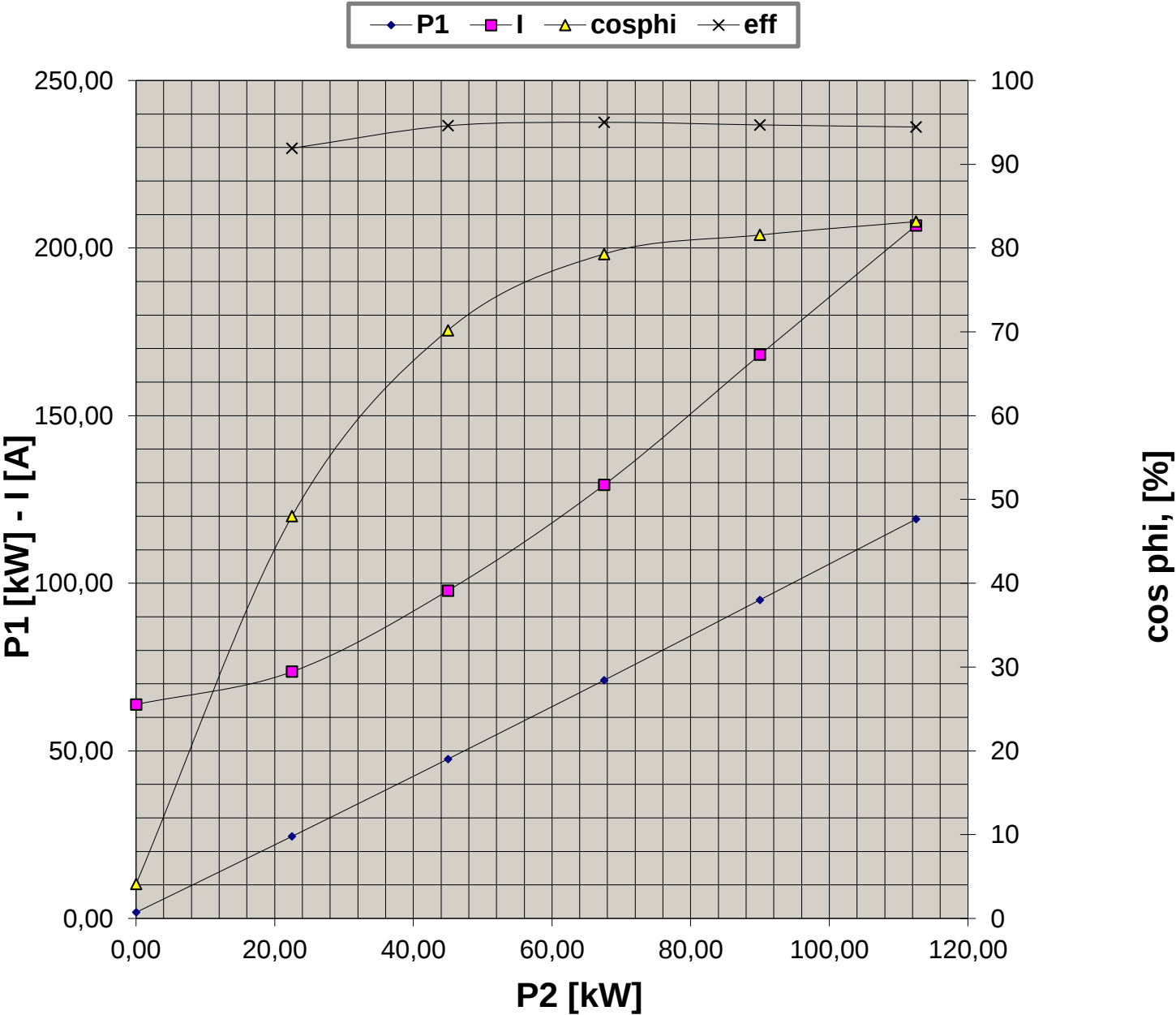


CURVE CARATTERISTICHE
PERFORMANCE CURVES

Ciente / Customer -
Ordine cliente / Customer order -
Impianto / Plant -
ITEM -

Conferma ordine / Acknowledgment -
Numero di serie / Serial Number -

Motore / Motor	TCN 315MA6	
Potenza nominale / Rated power	90,00	kW
Poli / Pole	6	
Tensione - Frequenza / Voltage - Frequency	400 - 50	V - Hz
Corrente / Rated current	168,19	A
Velocità / Speed	990	rpm
Coppia / Torque	868,18	Nm



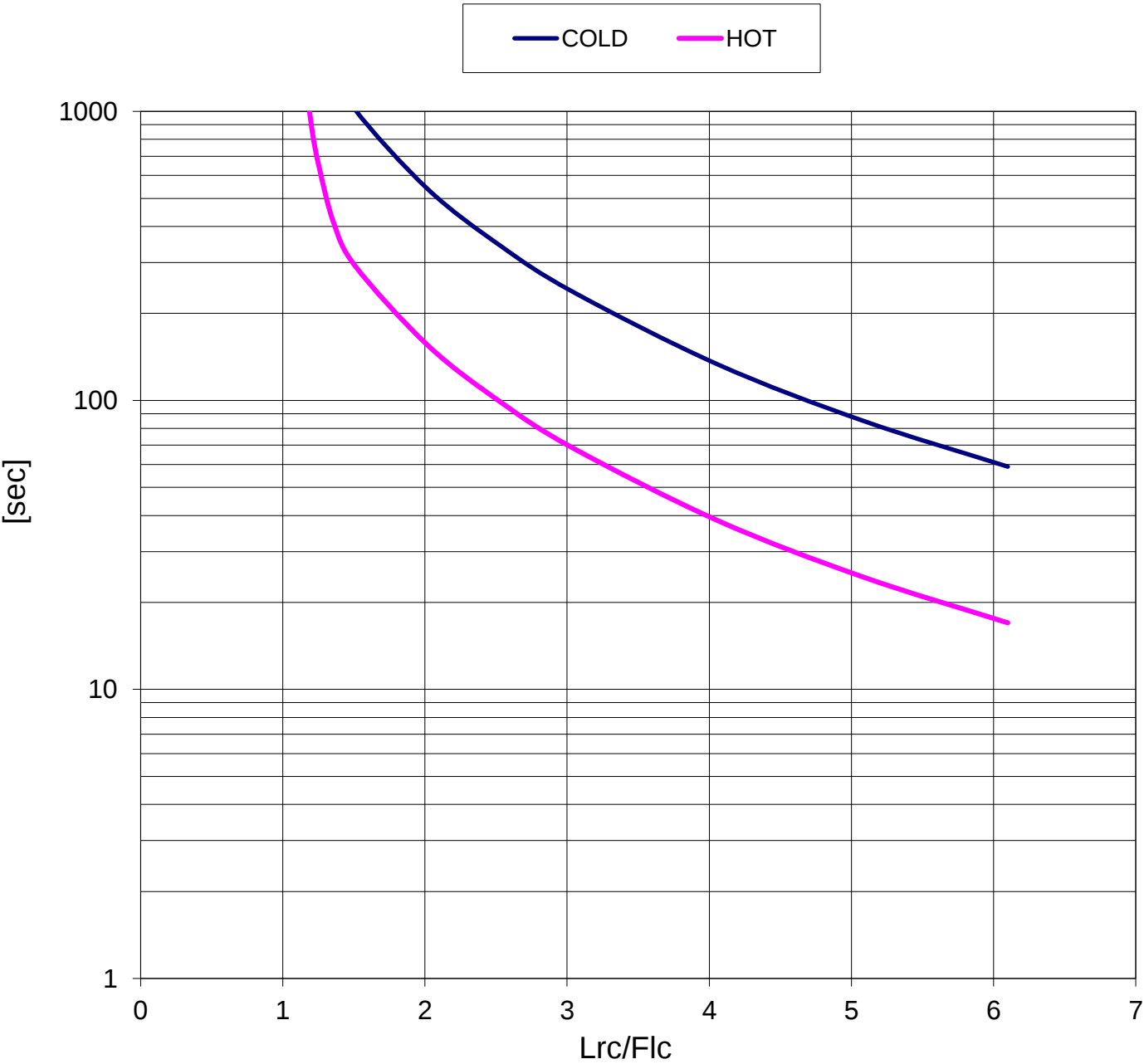


CURVA LIMITE CORRENTE TEMPO
THERMAL WITHSTAND CURVE

Ciente / Customer -
Ordine cliente / Customer order -
Impianto / Plant -
ITEM -

Conferma ordine / Acknowledgment -
Numero di serie / Serial Number -

Motore / Motor	TCN 315MA6	
Potenza nominale / Rated power	90,00	kW
Poli / Pole	6	
Tensione - Frequenza / Voltage - Frequency	400 - 50	V - Hz
Corrente / Rated current	168,19	A
Velocità / Speed	990	rpm
Coppia / Torque	868,18	Nm





CURVA LIMITE CORRENTE TEMPO (Tensione ridotta)
THERMAL WITHSTAND CURVE (Reduced voltage)

Cliente / Customer -
Ordine cliente / Customer order -
Impianto / Plant -
ITEM -

Conferma ordine / Acknowledgment -
Numero di serie / Serial Number -

Motore / Motor	TCN 315MA6	
Potenza nominale / Rated power	90,00	kW
Poli / Pole	6	
Tensione - Frequenza / Voltage - Frequency	400 - 50	V - Hz
Corrente / Rated current	168,19	A
Velocità / Speed	990	rpm
Coppia / Torque	868,18	Nm

COLD (100% Un) HOT (100% Un) COLD (80% Un) HOT (80% Un)

