

PRODUCT INFORMATION PACKET

Model No: E3TN3002315B30D41100

Catalog No: E3TN3002315B30D41100

Made in Italy TCN Series, General Purpose Low Voltage IEC motor, Increased Safety, 160,00 kW,
3 phase, 2983 RPM, D400/Y690V 50Hz, 315LA Frame B3, 2 Poles, IC411



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Nameplate Specifications

Output HP	215 Hp	Output KW	160.0 kW
Frequency	50 Hz	Voltage	400/690 V
Current	269.9 A	Speed	2983 rpm
Service Factor	1	Phase	3
Efficiency	95.7 %	Power Factor	0.89
Duty	S1	Insulation Class	F
Frame	315LA	Enclosure	Totally Enclosed Fan Cooled
Thermal Protection	No Protection	Ambient Temperature	40 °C
Drive End Bearing Size	6316	Opp Drive End Bearing Size	6316
UL	No	CSA	No
CE	Yes	IP Code	IP55
Number of Speeds	1		

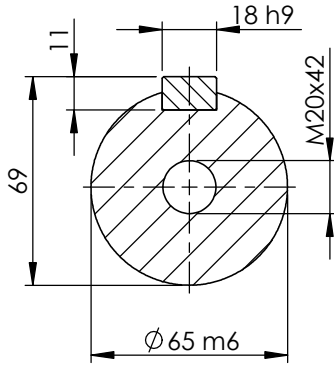
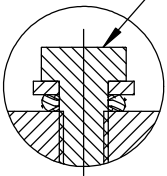
Technical Specifications

Electrical Type	Squirrel Cage	Starting Method	Direct On Line
Poles	2	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	1287.00 mm	Frame Length	840.00 mm
Shaft Diameter	65.000 mm	Shaft Extension	140 mm
Assembly/Box Mounting	Top		
Outline Drawing	B3A04T8315001A01	Connection Drawing	SC-01-T-1v-1a

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EARTH TERMINAL
SUITABLE FOR CABLE
SECTION 10-70MM2

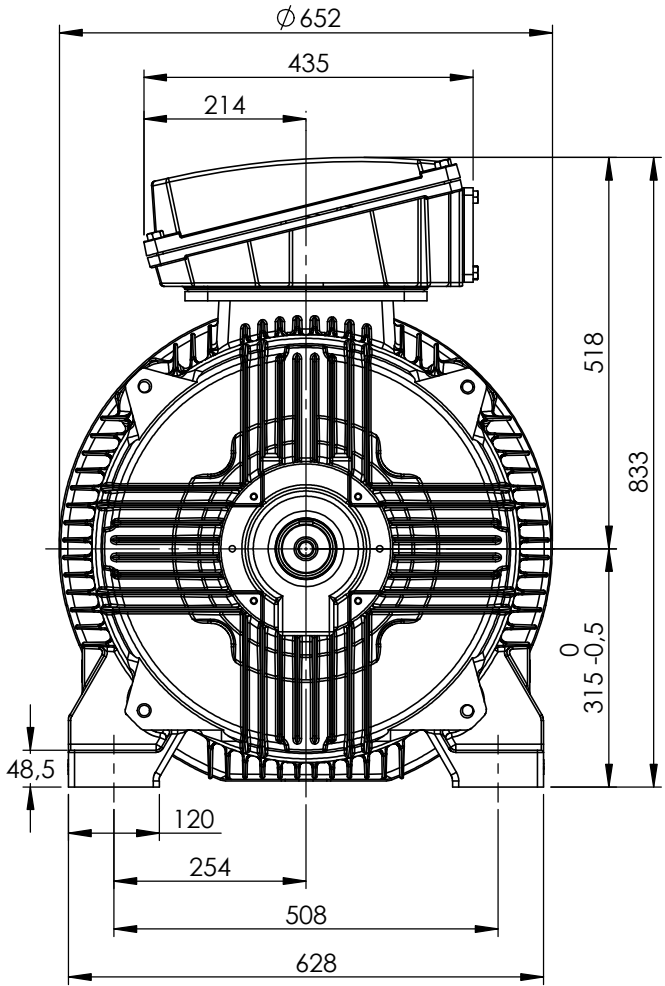
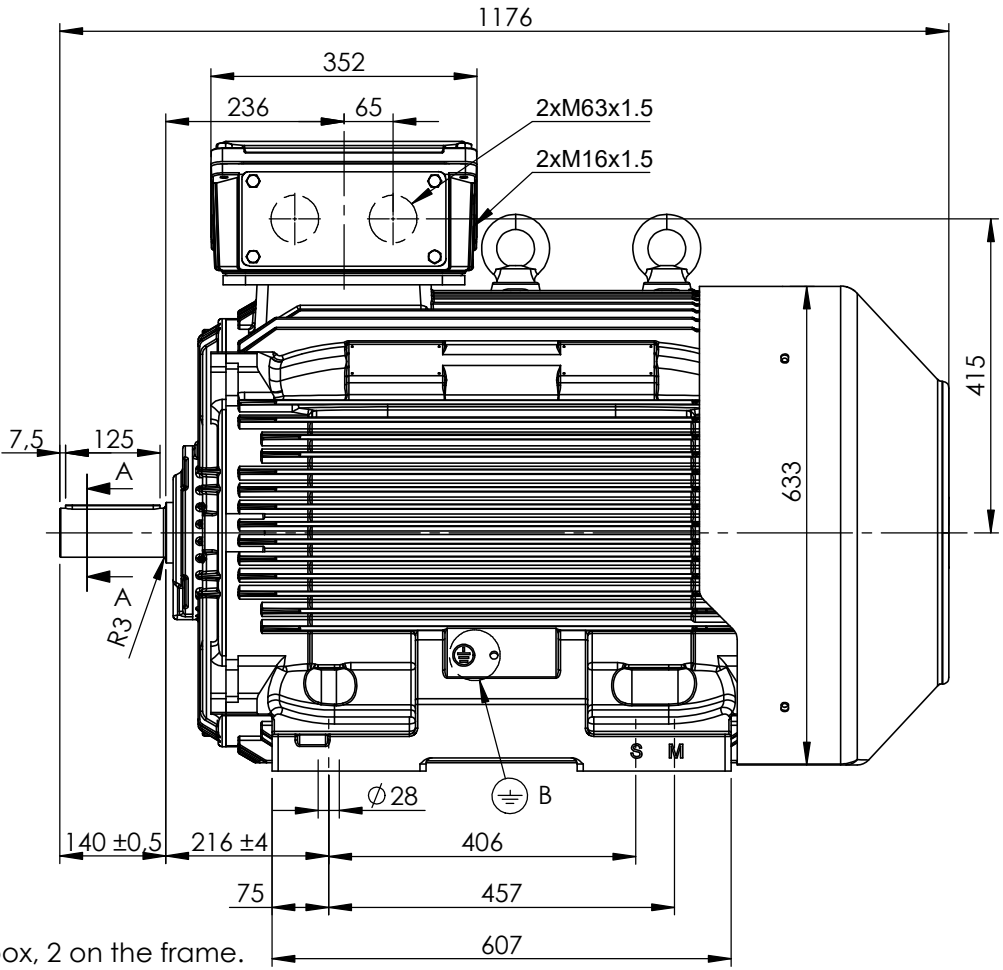
DETAIL B



SECTION A-A
SCALE 1 : 2.5



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



CUSTOMER REFERENCE AND ADDITIONAL INFORMATION:

MOTOR TYPE AND DESCRIPTION:

DRAWING REVISION		REVISION BY		DATE		TOLERANCES (EXCEPT AS NOTED)		DRAWN BY		REGALTM cemp							
1		TN		13/05/2022		TOLERANCES: ±2		TN									
ECO		APPROVED BY		DATE		* TOLERANCES: ±0.8		DATE									
		LP		16/05/2022				01/12/2021									
ECO DESCRIPTION						DIMENSIONS ARE IN mm ACCORDING TO IEC 60072		APPROVED BY		DESCRIPTION Motor 315 2P TC (S/M) B3							
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								DATE									
								DATE		02/12/2021							
						SERIAL NUMBER		REFERENCE									
								FIRST ANGLE PROJECTION				SIZE A4		DRAWING NUMBER B3A04T8315001A01		SHEET 1 OF 2	

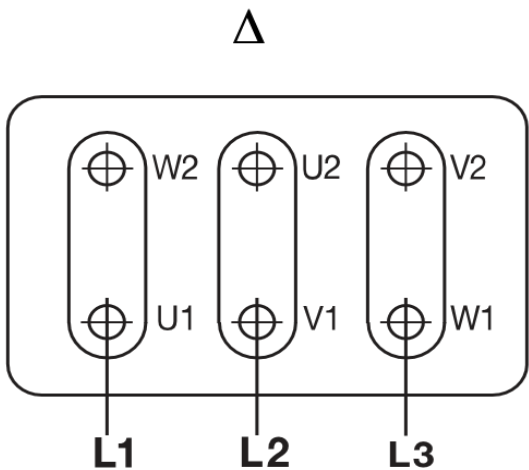
Schema di collegamento - *Connection diagram*
Schemas de branchement - *Schaltpl n*
Esquemas de conexi n



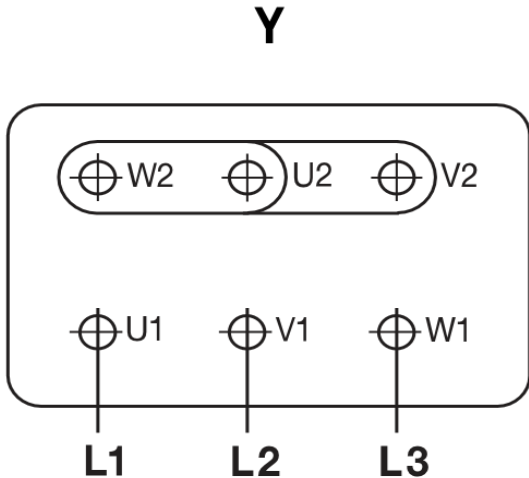
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**Motori trifase una velocit  - *Single speed, three phase motors* - Moteurs triphas  une vitesse
Drehstrommotor Eine Drehzahlstufe - Motores trif sico una velocidad**

Collegamento - *Connection* - Connexion - *Schaltung* - Conexi n



Collegamento - *Connection* - Connexion - *Schaltung* - Conexi n



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 Drehrichtungs nderung zwei Phasen vertauschen* - Para invertir el sentido de rotaci n 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 315LA2		
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°	2		
8	Potenza nominale / Rated power	kW	160,00		
9	Corrente nominale / Rated current	A	269,94		
10	Velocità nominale / Full Load speed	1/min	2983		
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	2983	2985	2990
19	Corr. / Curr.	A	269,94	207,81	151,58
20	Rend / Eff	%	95,7	95,7	94,4
21	cos φ	-	0,90	0,87	0,81
Performances all'avviamento / Starting performances					
22	Ia/In - LRC/FLC	%	710		
23	Cosphi a rotore bloccato / LR power factor		0,27		
	Tempo a rotore bloccato / LRWT				
24	100% Un (A caldo / Warm)	sec	-		
25	(A freddo / Cold)	sec	-		
26	80% Un (A caldo / Warm)	sec	-		
27	(A freddo / Cold)	sec	-		
	Tempo di avviamento ammissibile / ART				
28	100% Un	sec	-		
29	80% Un	sec	-		
Curva di coppia / Speed-torque values					
30	Coppia nominale / Rated Torque	Nm	512,24		
31	Ca/Cn - LRT/FLT	%	185		
32	Cmax/Cn - BDT/FLT	%	305		
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	- 6316 C3
45	Cuscinetto post / NDE bearing	- 6316 C3
46	Carico radiale max / Max radial load in X1	N 5601
47	Carico assiale max / Max axial load	N 3679
48	Tipo grasso / Grease type	LGHP2 SKF or equivalent
49	Intervallo lubrificazione / Lubrication	h 1000
50	Quantità grasso / Quantity grease	gr 38
Caratteristiche meccaniche / mechanical specification		
51	Massa / Mass	kg 1065
52	Momento d'inerzia / Moment of inertia	kgm2 2,6217
53	Rumore a vuoto / Noise at no load (1 m)	Lp dB(A) 84
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		

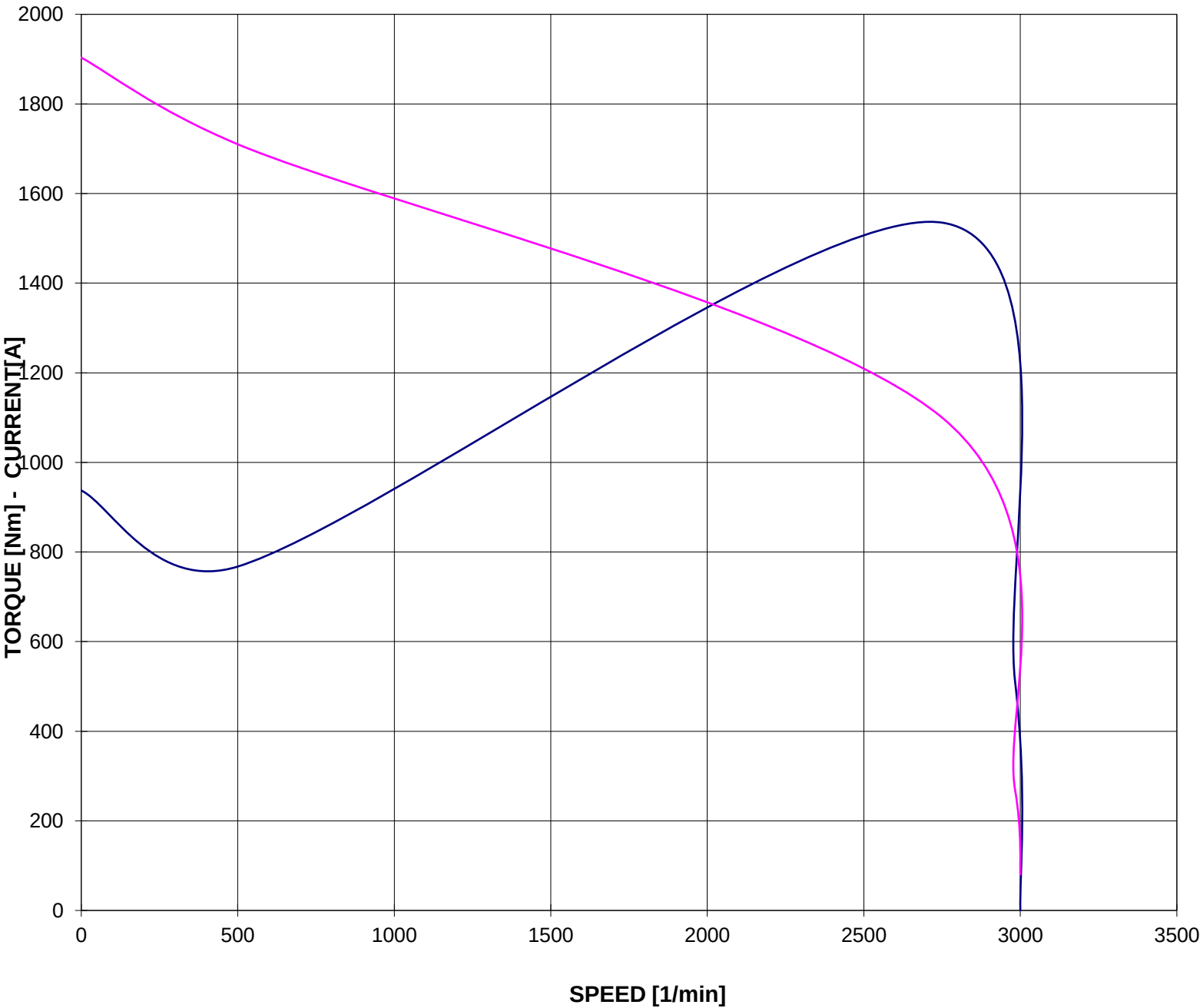
Documento preliminare - Preliminary data sheet



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

Ciente / Customer	-	
Ordine cliente / Customer order	-	
Impianto / Plant	-	
ITEM	-	
Conferma ordine / Acknowledgment	-	
Numero di serie / Serial Number		
Motore / Motor	TCN 315LA2	
Potenza nominale / Rated power	160,00	kW
Poli / Pole	2	
Tensione - Frequenza / Voltage - Frequency	400 - 50	V - Hz
Corrente / Rated current	269,94	A
Velocità / Speed	2983	rpm
Coppia / Torque	512,24	Nm

— COPPIA - TORQUE — CORRENTE - CURRENT



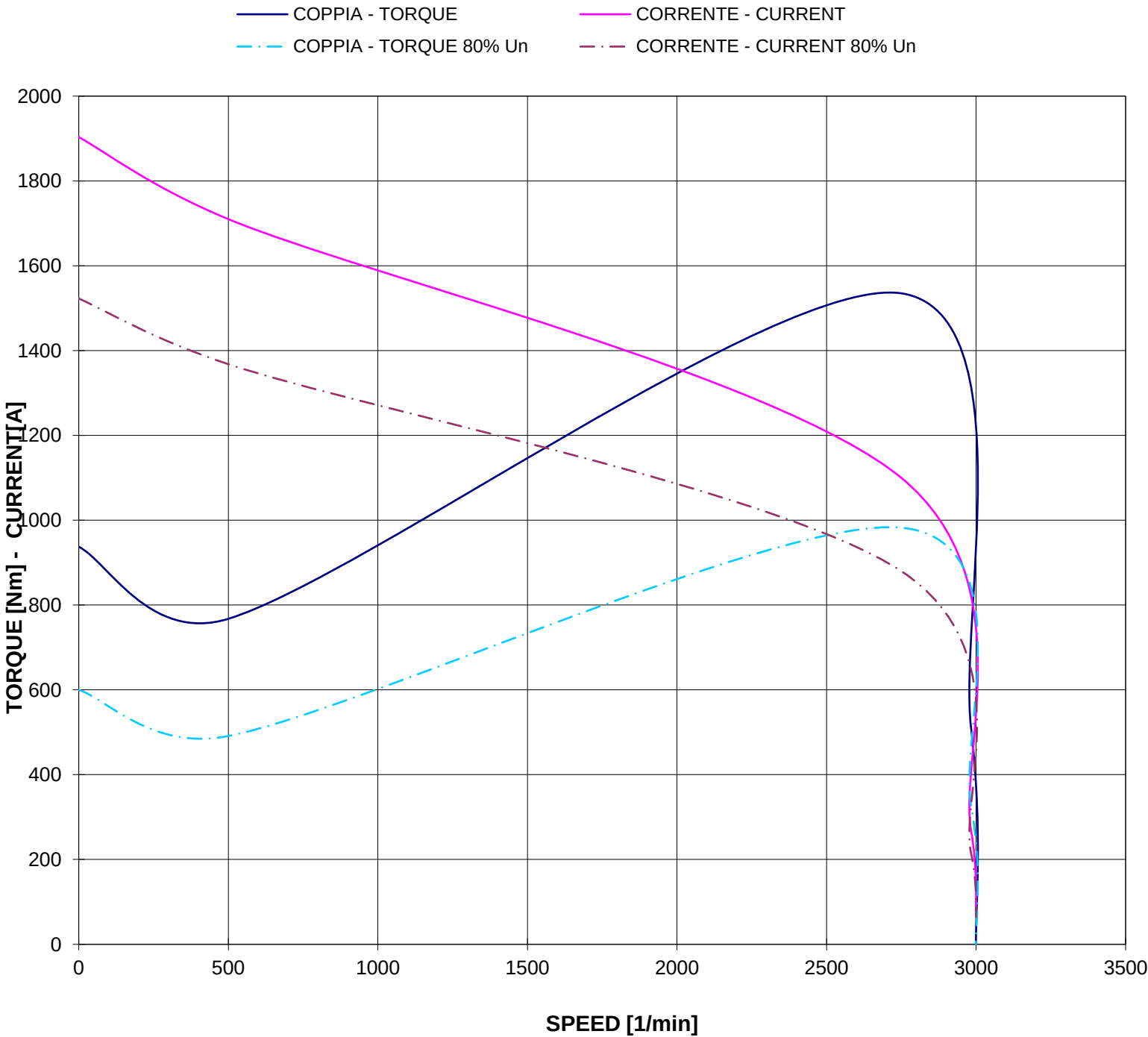


CURVA COPPIA/CORRENTE-GIRI (Tensione ridotta)
TORQUE/CURRENT-SPEED DIAGRAM (Reduced voltage)

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

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

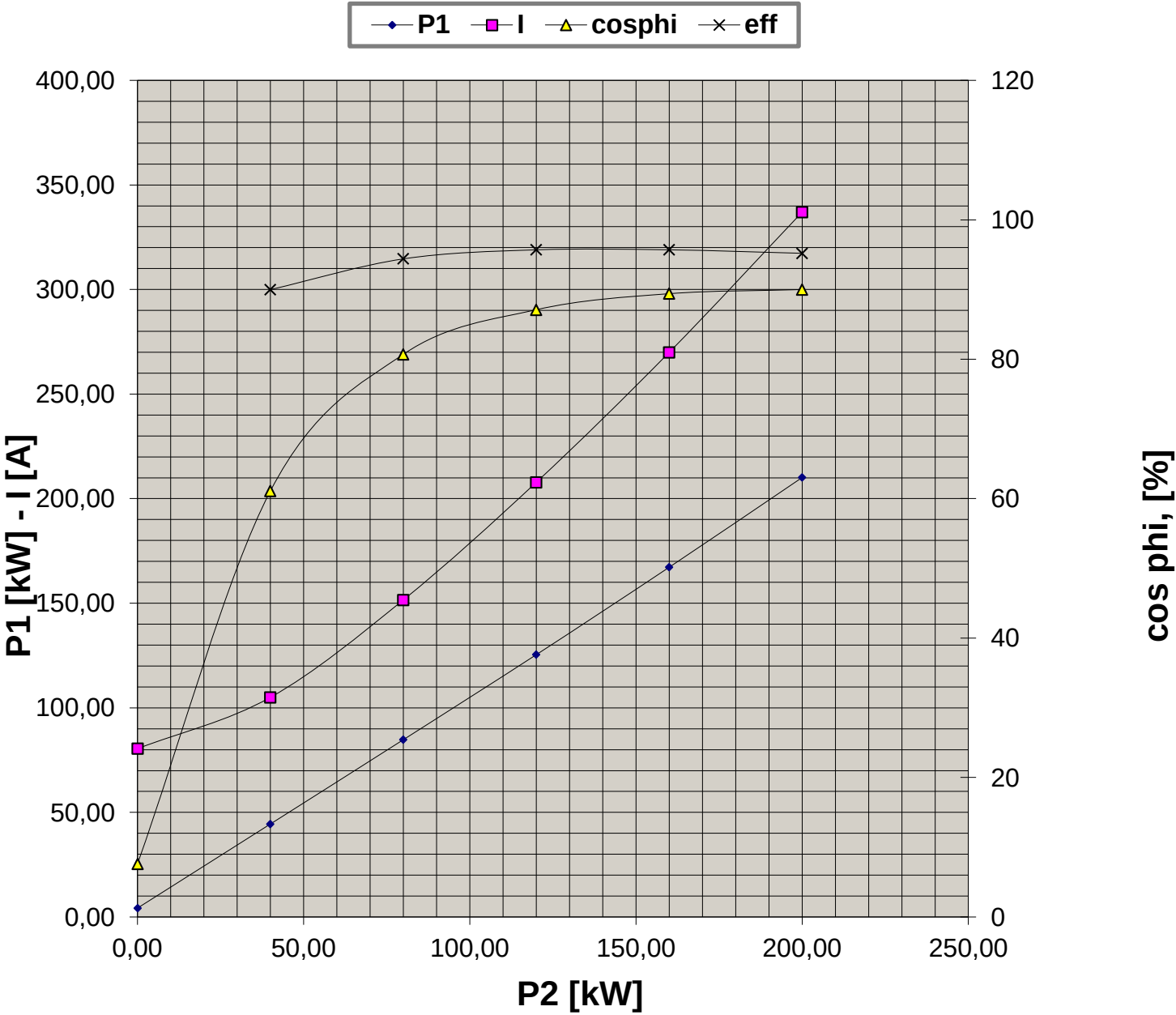
Motore / Motor	TCN 315LA2	
Potenza nominale / Rated power	160,00	kW
Poli / Pole	2	
Tensione - Frequenza / Voltage - Frequency	400 - 50	V - Hz
Corrente / Rated current	269,94	A
Velocità / Speed	2983	rpm
Coppia / Torque	512,24	Nm





CURVE CARATTERISTICHE
PERFORMANCE CURVES

Cliente / Customer	-	
Ordine cliente / Customer order	-	
Impianto / Plant	-	
ITEM	-	
Conferma ordine / Acknowledgment	-	
Numero di serie / Serial Number		
Motore / Motor	TCN 315LA2	
Potenza nominale / Rated power	160,00	kW
Poli / Pole	2	
Tensione - Frequenza / Voltage - Frequency	400 - 50	V - Hz
Corrente / Rated current	269,94	A
Velocità / Speed	2983	rpm
Coppia / Torque	512,24	Nm



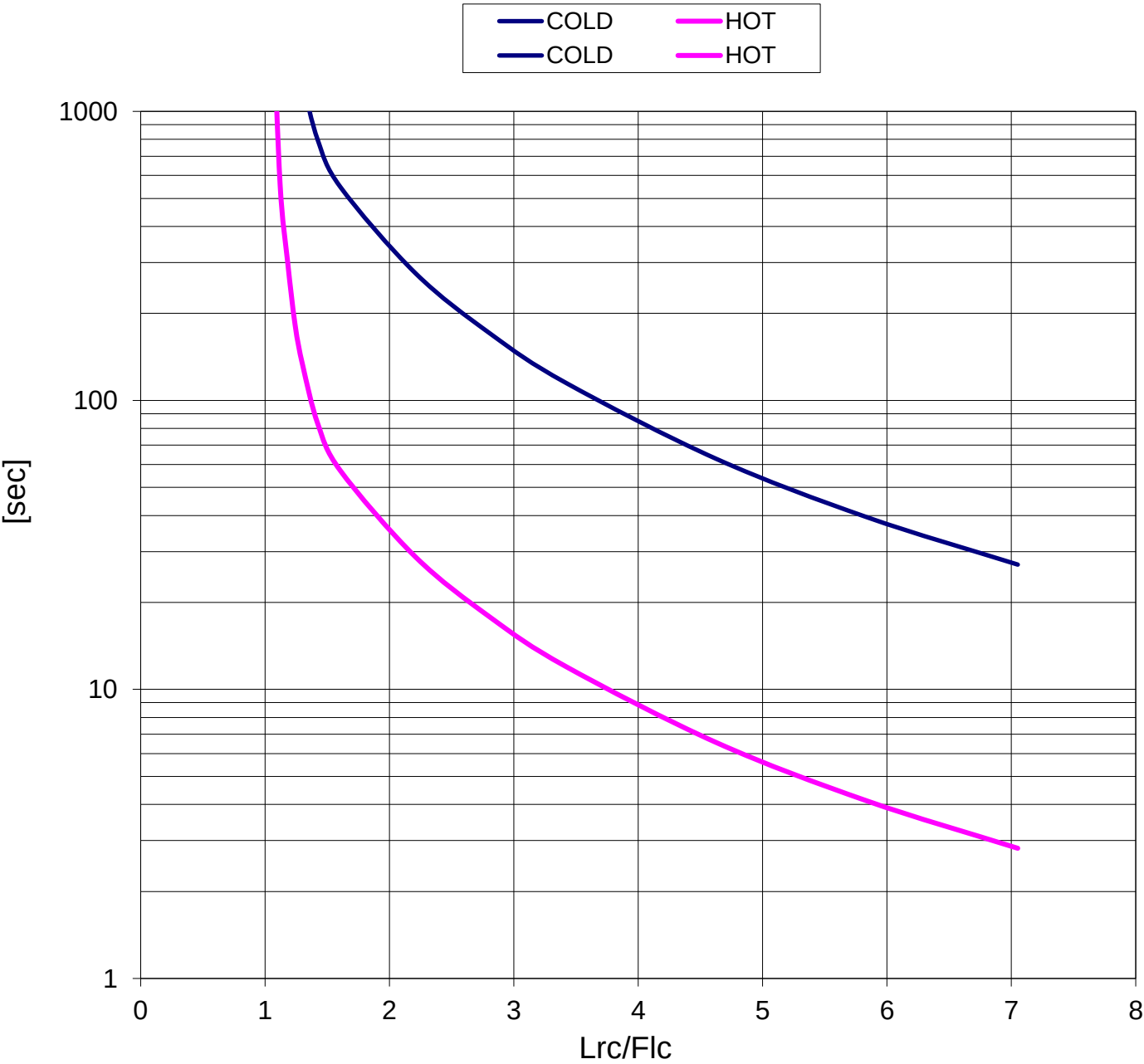


CURVA LIMITE CORRENTE TEMPO
THERMAL WITHSTAND CURVE

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

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

Motore / Motor	TCN 315LA2	
Potenza nominale / Rated power	160,00	kW
Poli / Pole	2	
Tensione - Frequenza / Voltage - Frequency	400 - 50	V - Hz
Corrente / Rated current	269,94	A
Velocità / Speed	2983	rpm
Coppia / Torque	512,24	Nm





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

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

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

Motore / Motor	TCN 315LA2	
Potenza nominale / Rated power	160,00	kW
Poli / Pole	2	
Tensione - Frequenza / Voltage - Frequency	400 - 50	V - Hz
Corrente / Rated current	269,94	A
Velocità / Speed	2983	rpm
Coppia / Torque	512,24	Nm

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

