

PRODUCT INFORMATION PACKET

Model No: E3TN3002163B30D41100

Catalog No: E3TN3002163B30D41100

Made in Italy TCN Series, General Purpose Low Voltage IEC motor, Increased Safety, 15,00 kW,
3 phase, 2944 RPM, D400/Y690V 50Hz, 160MC Frame B3, 2 Poles, IC411



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Nameplate Specifications

Output HP	20 Hp	Output KW	15.0 kW
Frequency	50 Hz	Voltage	400/690 V
Current	26.4 A	Speed	2944 rpm
Service Factor	1	Phase	3
Efficiency	91.9 %	Power Factor	0.89
Duty	S1	Insulation Class	F
Frame	160MC	Enclosure	Totally Enclosed Fan Cooled
Thermal Protection	No Protection	Ambient Temperature	40 °C
Drive End Bearing Size	6309	Opp Drive End Bearing Size	6209
UL	No	CSA	No
CE	Yes	IP Code	IP55
Number of Speeds	1		

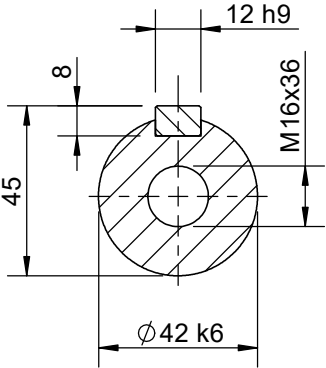
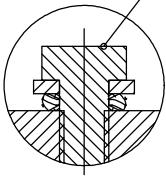
Technical Specifications

Electrical Type	Squirrel Cage	Starting Method	Direct On Line
Poles	2	Rotation	Bi-Directional
Mounting	B3	Motor Orientation	Horizontal
Drive End Bearing	2z-C3	Opp Drive End Bearing	2z-C3
Frame Material	Cast Iron	Shaft Type	Keyed
Overall Length	622.00 mm	Frame Length	254.00 mm
Shaft Diameter	42.000 mm	Shaft Extension	110 mm
Assembly/Box Mounting	Top		
Outline Drawing	B3A04T8165001A01	Connection Drawing	SC-01-T-1v-1a

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Earth Terminal
suitable for cable
section 2.5-35mm²

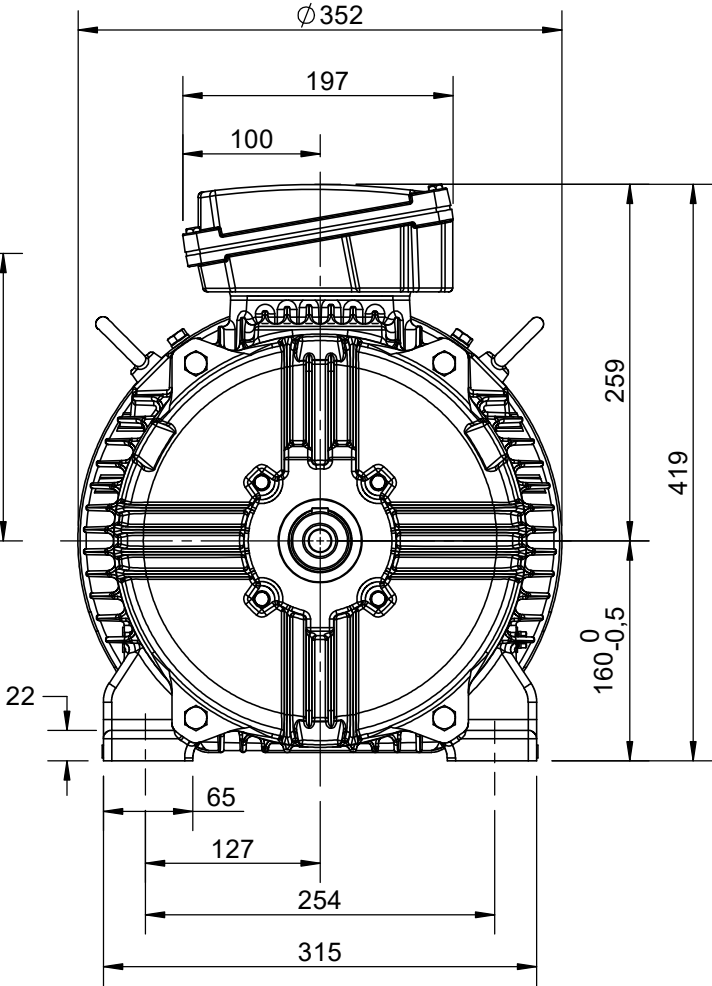
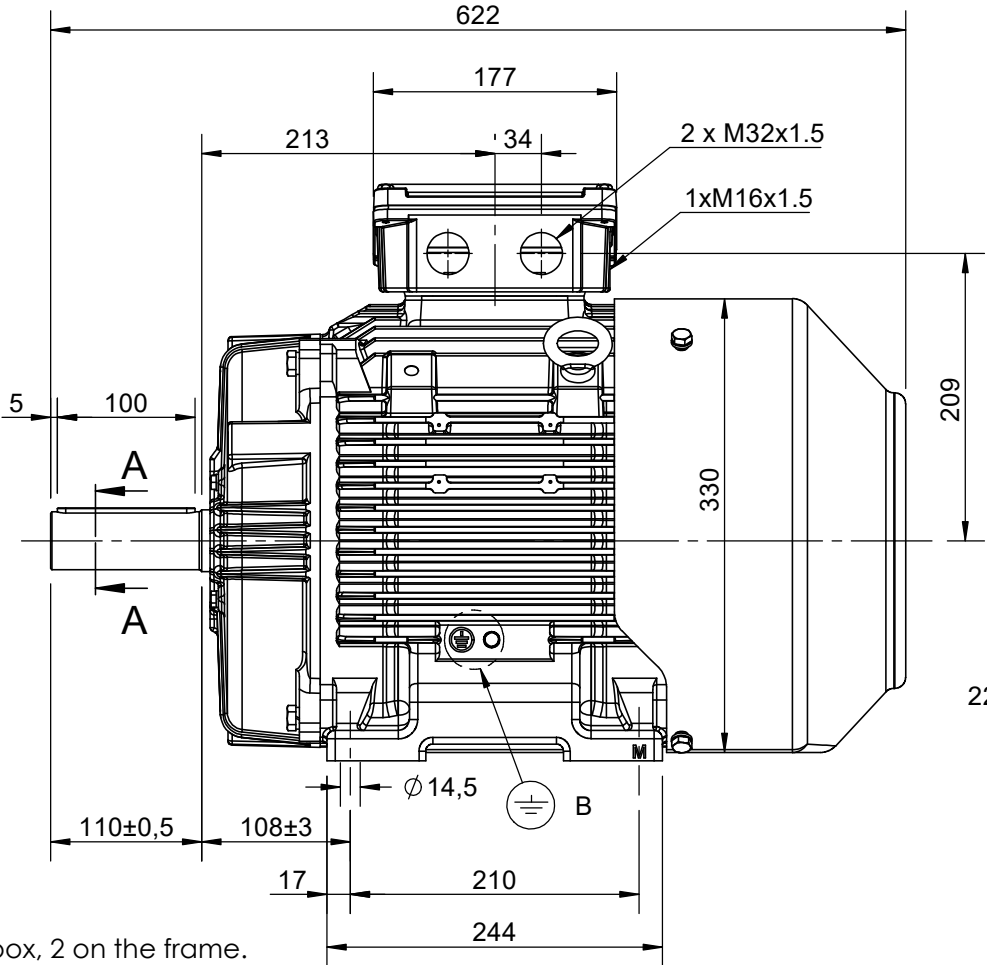
DETAIL B



SECTION A-A
SCALE 1:2

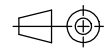


Earth terminal: 1 in the terminal box, 2 on the frame.



CUSTOMER REFERENCE AND ADDITIONAL INFORMATION:

MOTOR TYPE AND DESCRIPTION:

DRAWING REVISION	REVISION BY	DATE	TOLERANCES (EXCEPT AS NOTED) TOLERANCES: ±2	DRAWN BY	TN	 		
ECO	APPROVED BY	DATE		DATE	9/11/2021			
ECO DESCRIPTION				APPROVED BY	LP			
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			SERIAL NUMBER		REFERENCE			
			FIRST ANGLE PROJECTION		SIZE	DRAWING NUMBER		SHEET
			A4	B3A04T8165001A01		1 OF 2		

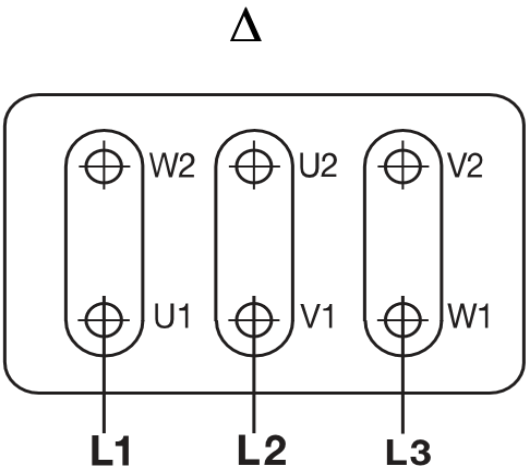
Schema di collegamento - *Connection diagram*
Schemas de branchement - *Schaltplan*
Esquemas de conexión



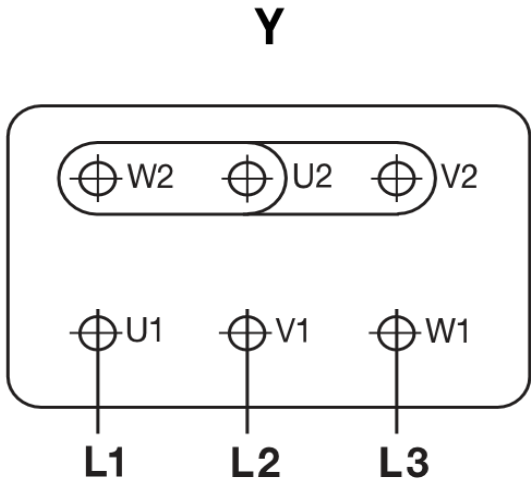
DTE 01/01/2004
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**Motori trifase una velocità - *Single speed, three phase motors* - Moteurs triphasé une vitesse
Drehstrommotor Eine Drehzahlstufe - Motores trifásico una velocidad**

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 160MC2		
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	15,00		
9	Corrente nominale / Rated current	A	26,41		
10	Velocità nominale / Full Load speed	1/min	2944		
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	2944	2963	2976
19	Corr. / Curr.	A	26,41	20,47	14,97
20	Rend / Eff	%	91,9	91,9	91,5
21	cos φ	-	0,89	0,86	0,79
Performances all'avviamento / Starting performances					
22	Ia/In - LRC/FLC	%	825		
23	Cosphi a rotore bloccato / LR power factor		0,45		
	Tempo a rotore bloccato / LRWT				
24	100% Un (A caldo / Warm)	sec	6		
25	(A freddo / Cold)	sec	15		
26	80% Un (A caldo / Warm)	sec	9		
27	(A freddo / Cold)	sec	24		
	Tempo di avviamento ammissibile / ART				
28	100% Un	sec	13		
29	80% Un	sec	21		
Curva di coppia / Speed-torque values					
30	Coppia nominale / Rated Torque	Nm	48,66		
31	Ca/Cn - LRT/FLT	%	220		
32	Cmax/Cn - BDT/FLT	%	355		
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	- 6309 ZZ C3
45	Cuscinetto post / NDE bearing	- 6209 ZZ C3
46	Carico radiale max / Max radial load in X1	N 2568
47	Carico assiale max / Max axial load	N 1833
48	Tipo grasso / Grease type	LGHP2 SKF or equivalent
49	Intervallo lubrificazione / Lubrication	h -
50	Quantità grasso / Quantity grease	gr -
Caratteristiche meccaniche / mechanical specification		
51	Massa / Mass	kg 150
52	Momento d'inerzia / Moment of inertia	kgm2 0,0784
53	Rumore a vuoto / Noise at no load (1 m)	Lp dB(A) 76
54	Vibrazioni / Vibration level	IEC 34-14 A
55	Limite norma / Vibration limit	mm/sec 2,20
56		
57		
Dati entrata cavi - verniciatura / Cable entry and painting		
63	Entrata cavi / Cable entry	IEC 60423 2xM32+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



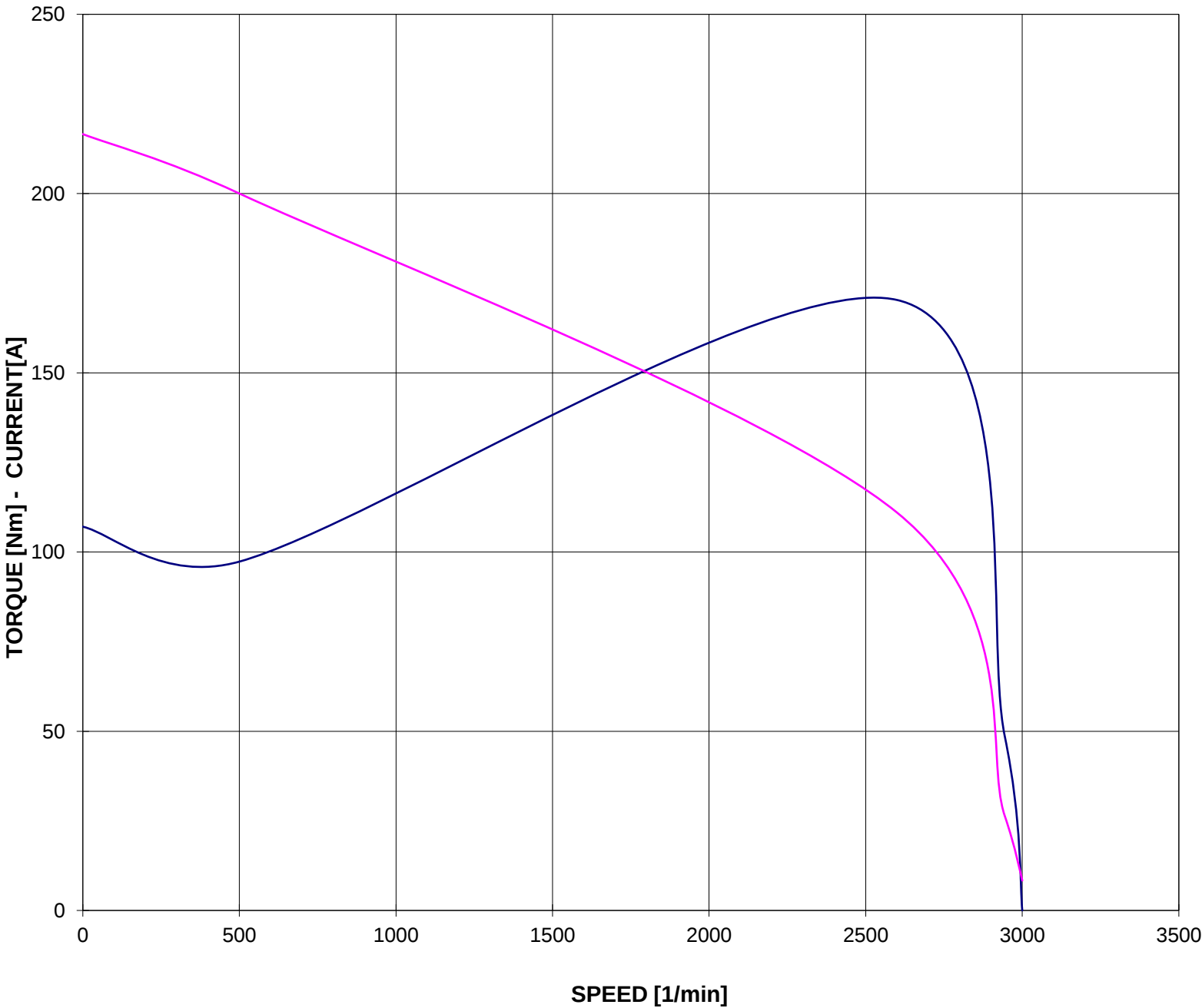
CURVA COPPIA/CORRENTE-GIRI
TORQUE/CURRENT-SPEED DIAGRAM

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

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

Motore / Motor	TCN 160MC2	
Potenza nominale / Rated power	15,00	kW
Poli / Pole	2	
Tensione - Frequenza / Voltage - Frequency	400 - 50	V - Hz
Corrente / Rated current	26,41	A
Velocità / Speed	2944	rpm
Coppia / Torque	48,66	Nm

— COPPIA - TORQUE — CORRENTE - CURRENT



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

Data / Date 01-set-21

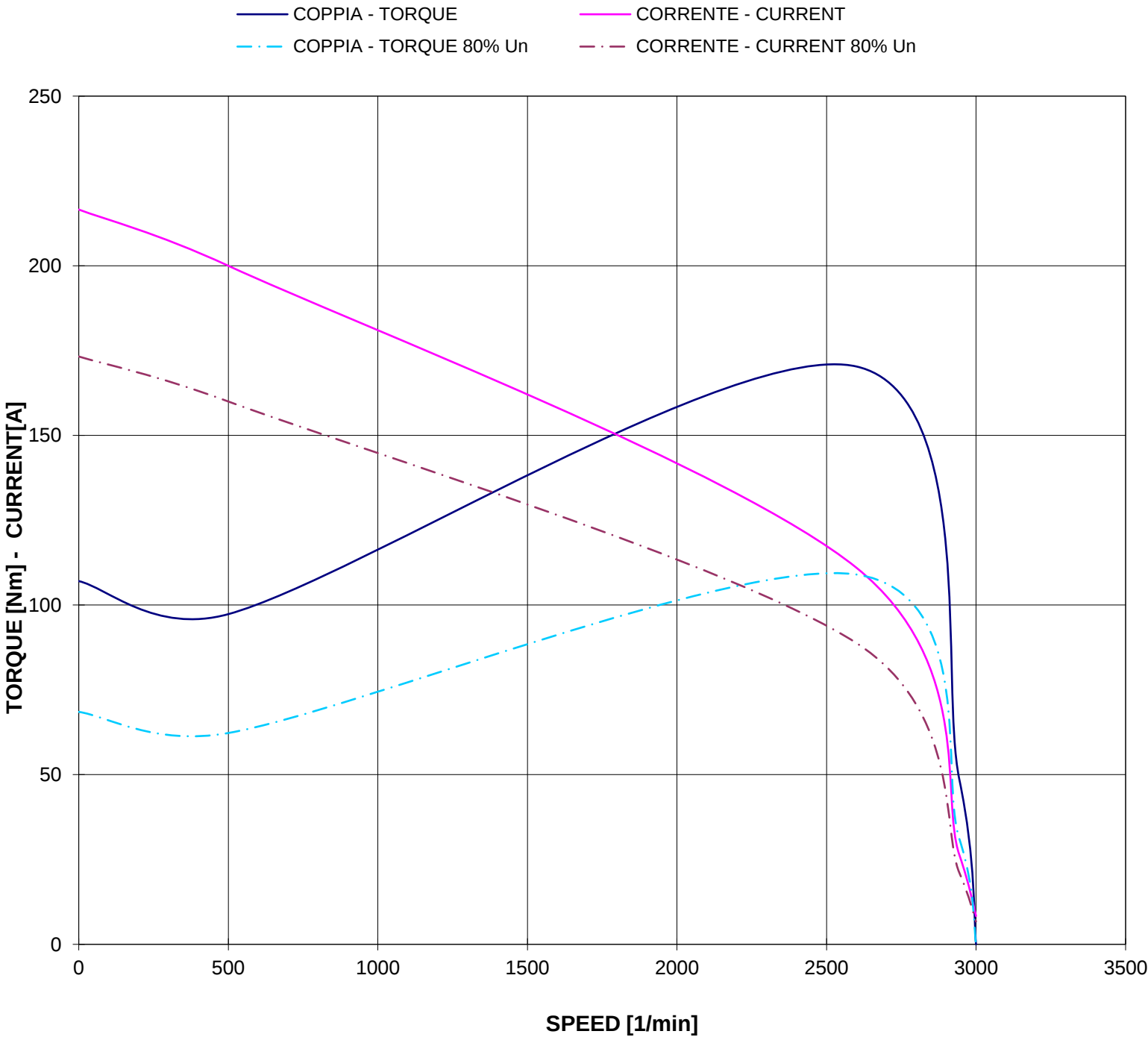


CURVA COPPIA/CORRENTE-GIRI (Tensione ridotta)
TORQUE/CURRENT-SPEED DIAGRAM (Reduced voltage)

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

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

Motore / Motor	TCN 160MC2	
Potenza nominale / Rated power	15,00	kW
Poli / Pole	2	
Tensione - Frequenza / Voltage - Frequency	400 - 50	V - Hz
Corrente / Rated current	26,41	A
Velocità / Speed	2944	rpm
Coppia / Torque	48,66	Nm



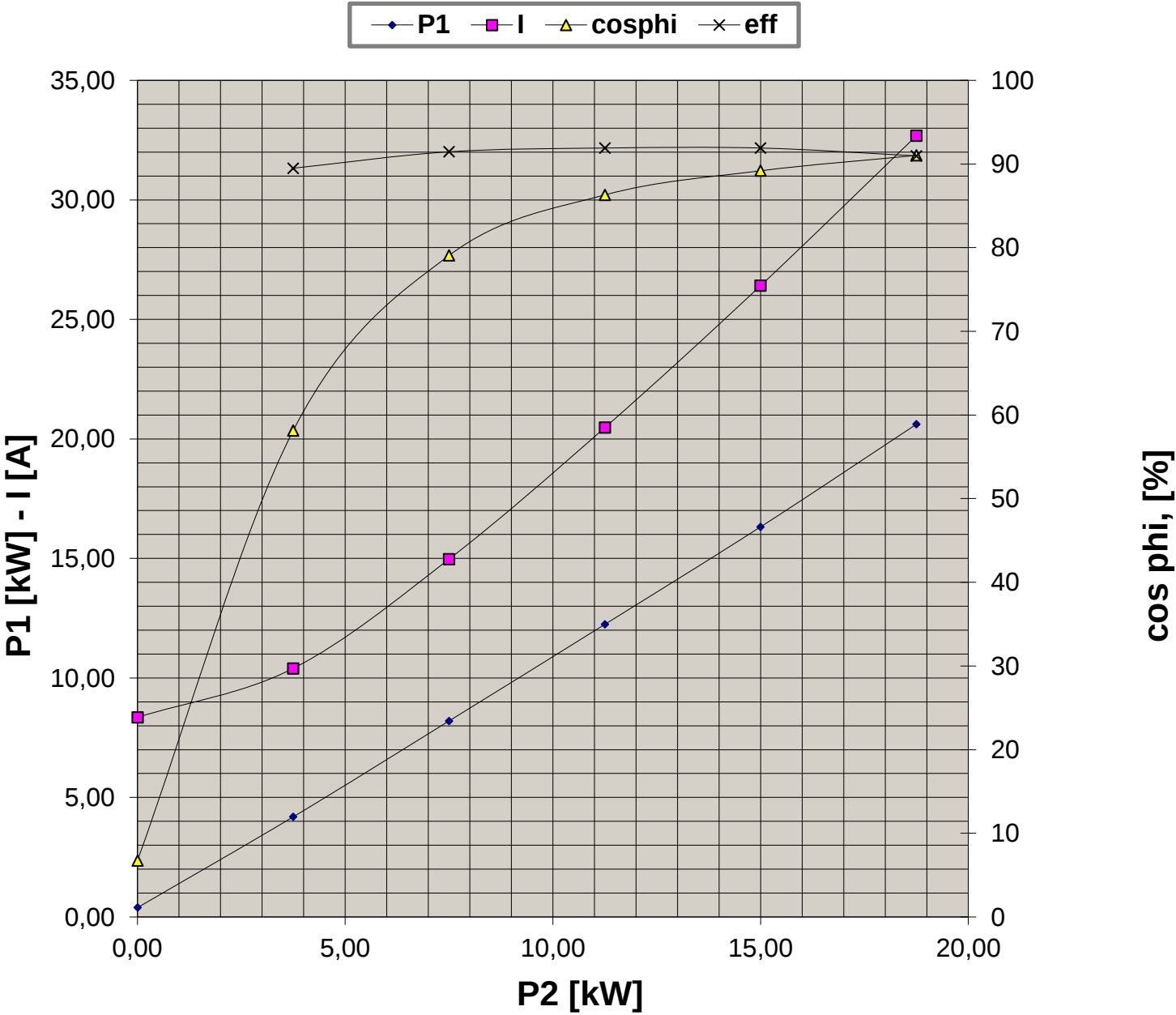


CURVE CARATTERISTICHE
PERFORMANCE CURVES

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

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

Motore / Motor	TCN 160MC2	
Potenza nominale / Rated power	15,00	kW
Poli / Pole	2	
Tensione - Frequenza / Voltage - Frequency	400 - 50	V - Hz
Corrente / Rated current	26,41	A
Velocità / Speed	2944	rpm
Coppia / Torque	48,66	Nm



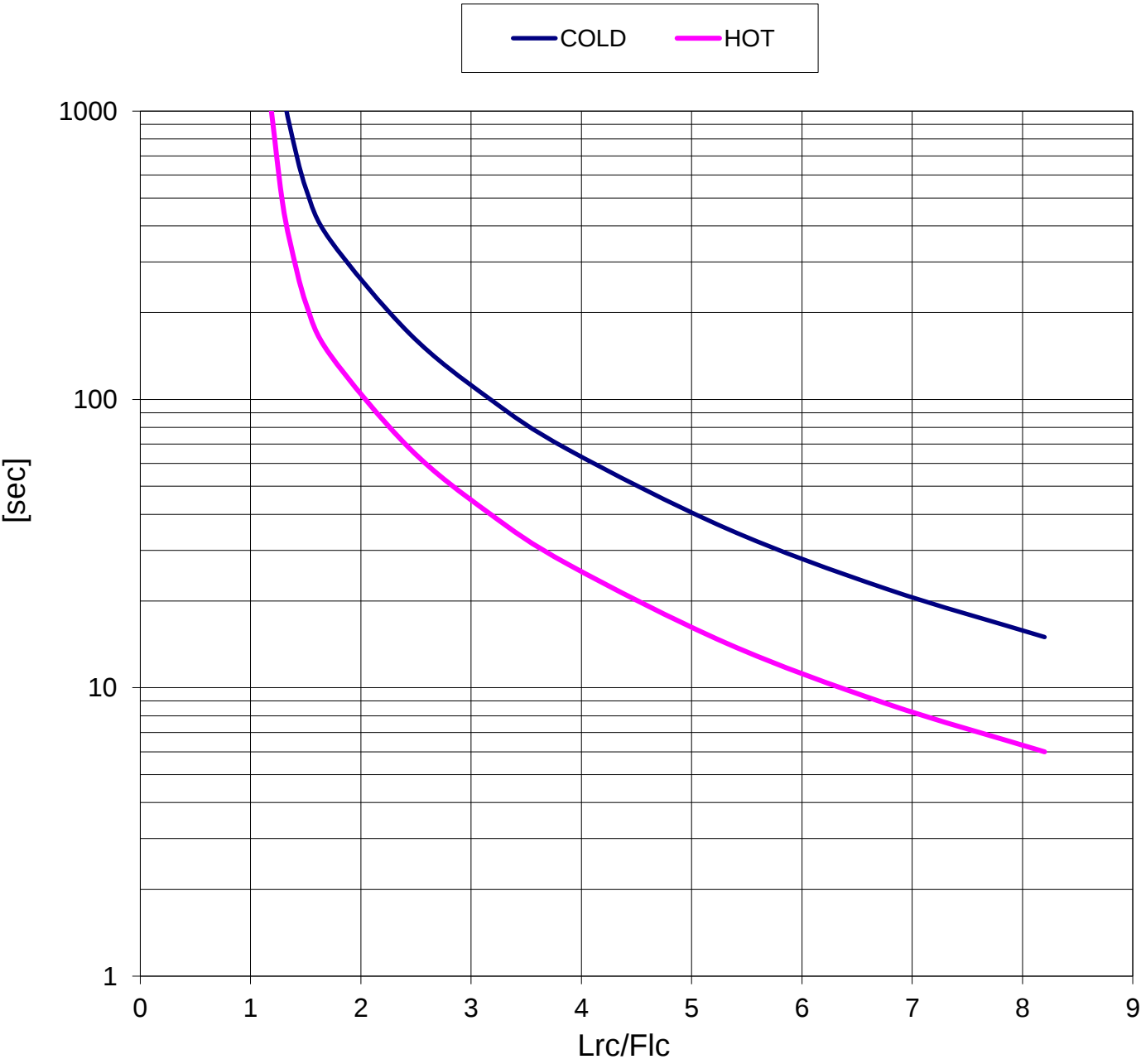


CURVA LIMITE CORRENTE TEMPO
THERMAL WITHSTAND CURVE

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

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

Motore / Motor	TCN 160MC2	
Potenza nominale / Rated power	15,00	kW
Poli / Pole	2	
Tensione - Frequenza / Voltage - Frequency	400 - 50	V - Hz
Corrente / Rated current	26,41	A
Velocità / Speed	2944	rpm
Coppia / Torque	48,66	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 160MC2	
Potenza nominale / Rated power	15,00	kW
Poli / Pole	2	
Tensione - Frequenza / Voltage - Frequency	400 - 50	V - Hz
Corrente / Rated current	26,41	A
Velocità / Speed	2944	rpm
Coppia / Torque	48,66	Nm

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

