

PRODUCT INFORMATION PACKET

Model No: E3TN3002223B30D41100

Catalog No: E3TN3002223B30D41100

Made in Italy TCN Series, General Purpose Low Voltage IEC motor, Increased Safety, 45,00 kW,
3 phase, 2966 RPM, D400/Y690V 50Hz, 225MA Frame B3, 2 Poles, IC411



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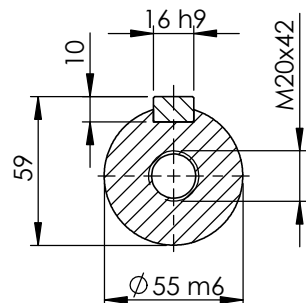
Nameplate Specifications

Output HP	60 Hp	Output KW	45.0 kW
Frequency	50 Hz	Voltage	400/690 V
Current	78.7 A	Speed	2966 rpm
Service Factor	1	Phase	3
Efficiency	94.4 %	Power Factor	0.87
Duty	S1	Insulation Class	F
Frame	225MA	Enclosure	Totally Enclosed Fan Cooled
Thermal Protection	No Protection	Ambient Temperature	40 °C
Drive End Bearing Size	6313	Opp Drive End Bearing Size	6213
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	832.00 mm	Frame Length	425.00 mm
Shaft Diameter	55.000 mm	Shaft Extension	110 mm
Assembly/Box Mounting	Top		
Connection Drawing	SC-01-T-1v-1a	Outline Drawing	B3A04T8220001A01

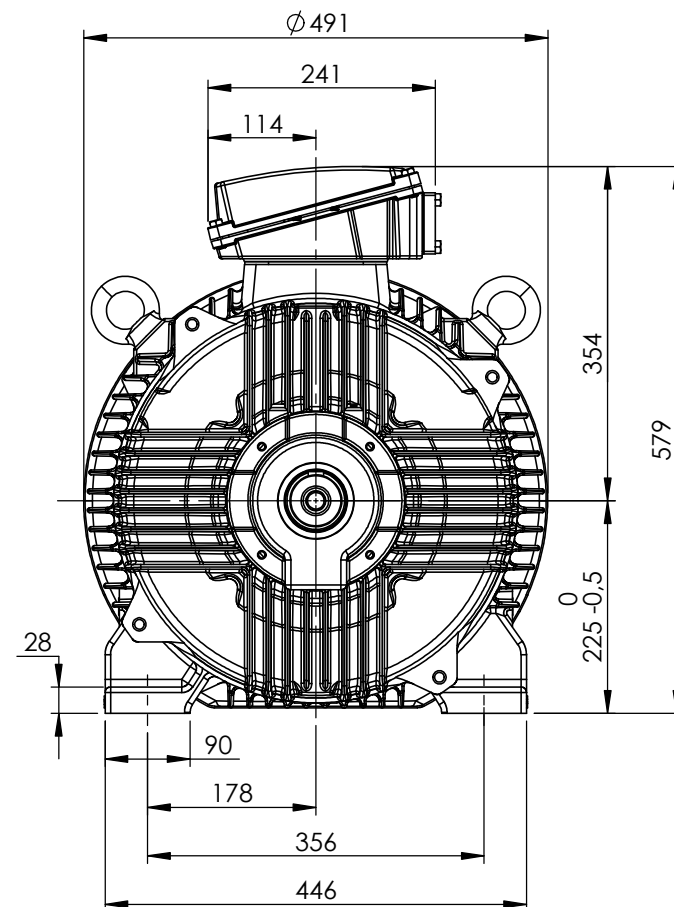
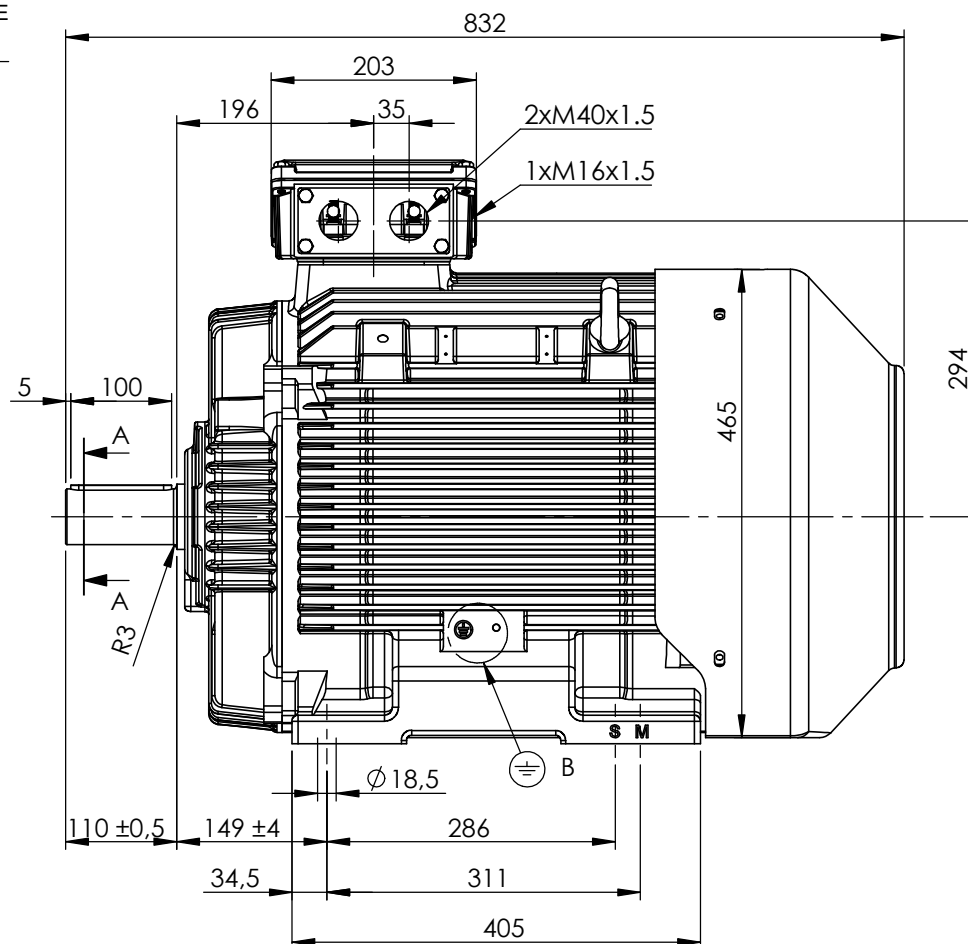
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SECTION A-A
SCALE 1 : 3



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



CUSTOMER REFERENCE AND ADDITIONAL INFORMATION:

MOTOR TYPE AND DESCRIPTION:

DRAWING REVISION 1	REVISION BY TN	DATE 06/05/2022	TOLERANCES (EXCEPT AS NOTED) TOLERANCES: ±2 * TOLERANCES: ±0.8 DIMENSIONS ARE IN mm ACCORDING TO IEC 60072	DRAWN BY TN	 		
ECO	APPROVED BY LP	DATE 09/05/2022		DATE 17/11/2021			
ECO DESCRIPTION COPYRIGHT CEMP Srl. ALL RIGHTS RESERVED. PROPRIETARY AND CONFIDENTIAL INFORMATION - THIS DOCUMENT IS THE PROPERTY OF CEMP Srl ("OWNER") AND CONTAINS OWNER'S PROPRIETARY INFORMATION. ANY PERSON, CORPORATION OR OTHER FIRM RECEIVING IT IS DEEMED, BY RECEIVING IT, TO AGREE THAT IT, AND/OR ANY PART OF IT, SHALL NOT BE DISCLOSED TO ANY PERSON, CORPORATION OR OTHER ENTITY, DUPLICATED, AND/OR USED, EXCEPT AS EXPRESSLY APPROVED IN WRITING IN ADVANCE BY OWNER. THIS DOCUMENT SHALL BE RETURNED TO OWNER UPON REQUEST. IT MAY BE SUBJECT TO CERTAIN RESTRICTIONS UNDER APPLICABLE EXPORT CONTROL LAWS AND REGULATIONS.				APPROVED BY LP	DESCRIPTION Motor 225 2P TC (L) B3		
				DATE 18/11/2021			
			SERIAL NUMBER	REFERENCE			
				FIRST ANGLE PROJECTION 	SIZE A4	DRAWING NUMBER B3A04T8220001A01	SHEET 1 OF 2

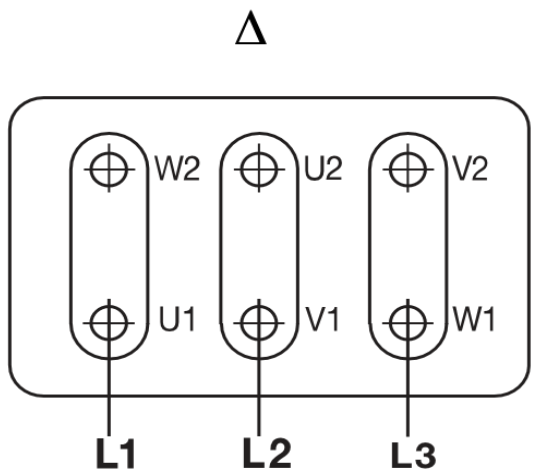
Schema di collegamento - *Connection diagram*
Schemas de branchement - *Schaltplan*
Esquemas de conexión



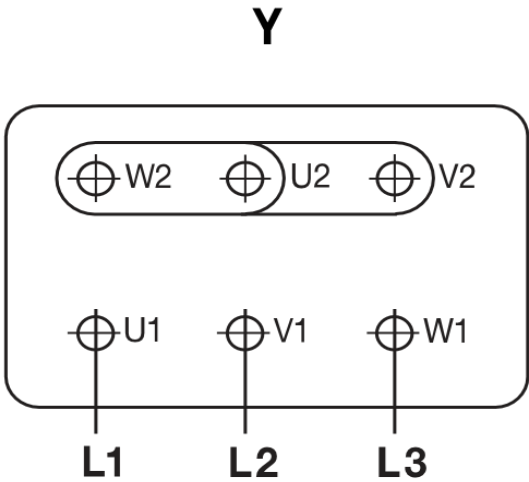
DTE 01/01/2004
SC - 01 - T - 1v.doc

**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 / Quantiy				01	
2	Motore tipo / Motor type				TCN 225MA2	
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	45,00
9	Corrente nominale / Rated current				A	78,74
10	Velocità nominale / Full Load speed				1/min	2966
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	2966	2975	2984	
19	Corr. / Curr.	A	78,74	60,47	44,32	
20	Rend / Eff	%	94,4	94,7	94,3	
21	cos φ	-	0,87	0,85	0,78	
Performances all'avviamento / Starting performances						
22	Ia/In - LRC/FLC				%	690
23	Cosphi a rotore bloccato / LR power factor					0,38
	Tempo a rotore bloccato / LRWT					
24	100% Un (A caldo / Warm)				sec	10
25	(A freddo / Cold)				sec	34
26	80% Un (A caldo / Warm)				sec	16
27	(A freddo / Cold)				sec	53
	Tempo di avviamento ammissibile / ART					
28	100% Un				sec	29
29	80% Un				sec	46
Curva di coppia / Speed-torque values						
30	Coppia nominale / Rated Torque				Nm	144,89
31	Ca/Cn - LRT/FLT				%	215
32	Cmax/Cn - BDT/FLT				%	315
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	- 6313 C3
45	Cuscinetto post / NDE bearing	- 6213 C3
46	Carico radiale max / Max radial load in X1	N 4499
47	Carico assiale max / Max axial load	N 3077
48	Tipo grasso / Grease type	LGHP2 SKF or equivalent
49	Intervallo lubrificazione / Lubrication	h 2000
50	Quantità grasso / Quantity grease	gr 24
Caratteristiche meccaniche / mechanical specification		
51	Massa / Mass	kg 379
52	Momento d'inerzia / Moment of inertia	kgm2 0,4032
53	Rumore a vuoto / Noise at no load (1 m)	Lp dB(A) 79
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 2xM40+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



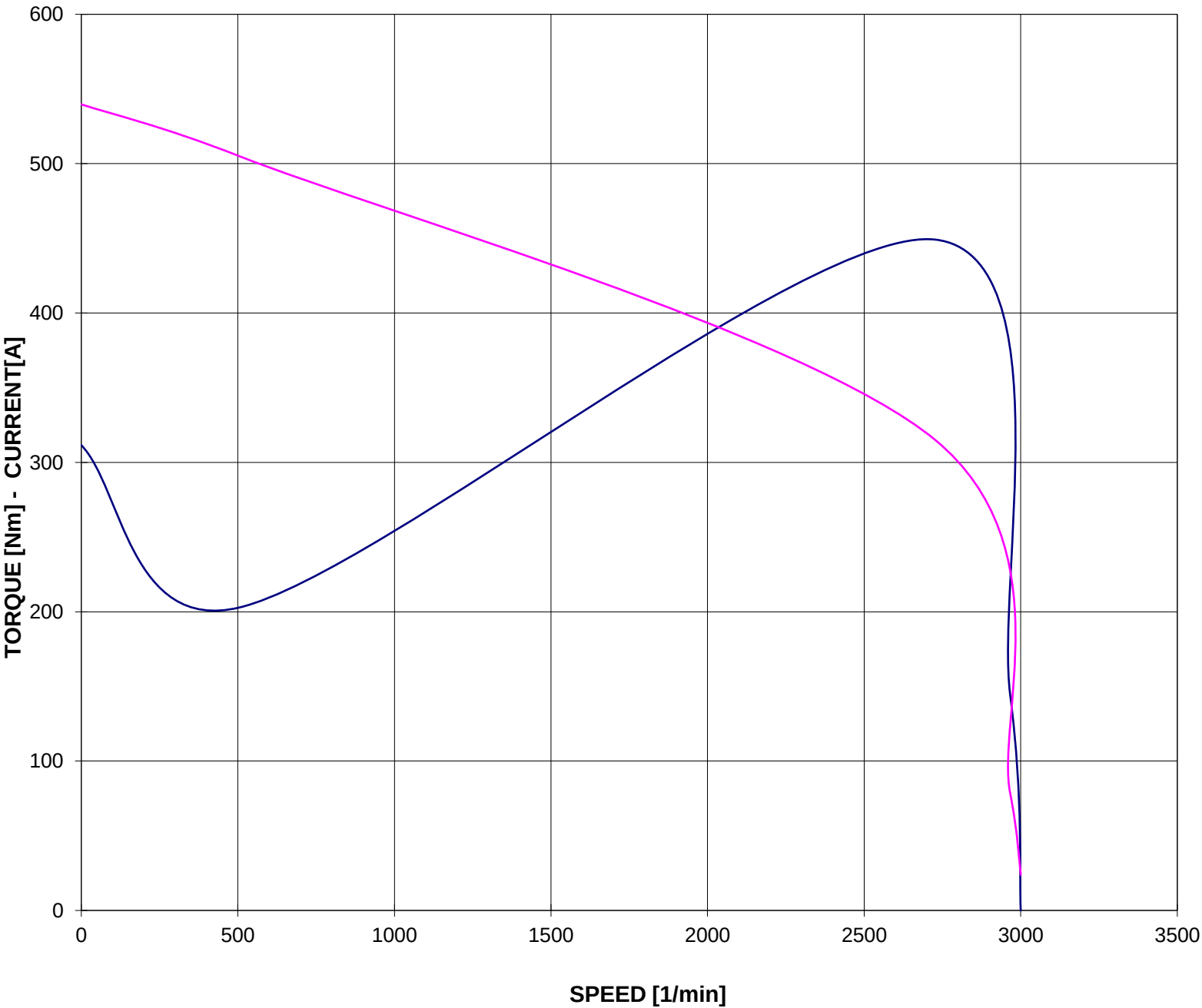
CURVA COPPIA/CORRENTE-GIRI
TORQUE/CURRENT-SPEED DIAGRAM

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

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

Motore / Motor	TCN 225MA2	
Potenza nominale / Rated power	45,00	kW
Poli / Pole	2	
Tensione - Frequenza / Voltage - Frequency	400 - 50	V - Hz
Corrente / Rated current	78,74	A
Velocità / Speed	2966	rpm
Coppia / Torque	144,89	Nm

COPPIA - TORQUE CORRENTE - CURRENT



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

Data / Date 01-set-21

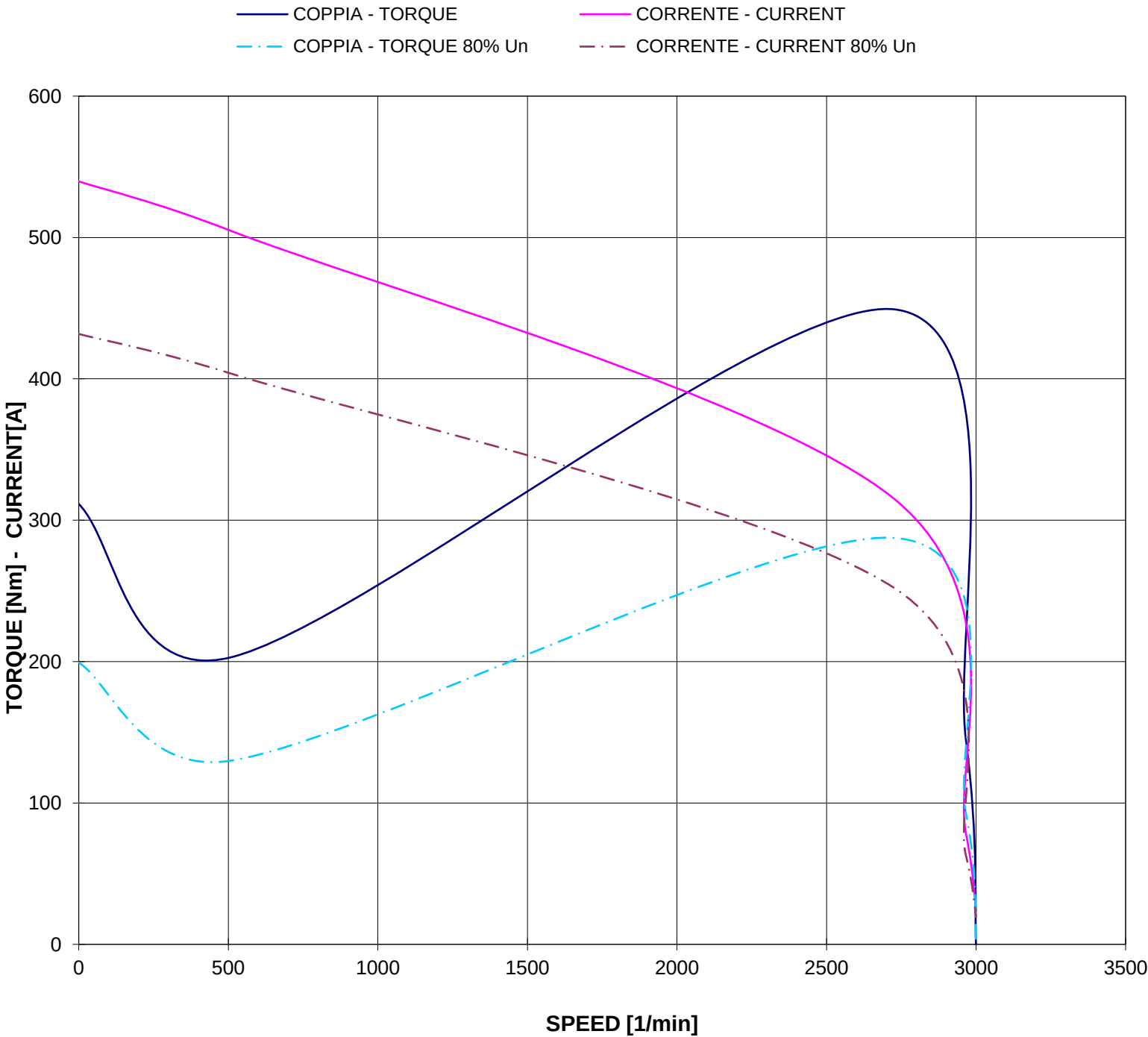


CURVA COPPIA/CORRENTE-GIRI (Tensione ridotta)
TORQUE/CURRENT-SPEED DIAGRAM (Reduced voltage)

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

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

Motore / Motor	TCN 225MA2	
Potenza nominale / Rated power	45,00	kW
Poli / Pole	2	
Tensione - Frequenza / Voltage - Frequency	400 - 50	V - Hz
Corrente / Rated current	78,74	A
Velocità / Speed	2966	rpm
Coppia / Torque	144,89	Nm



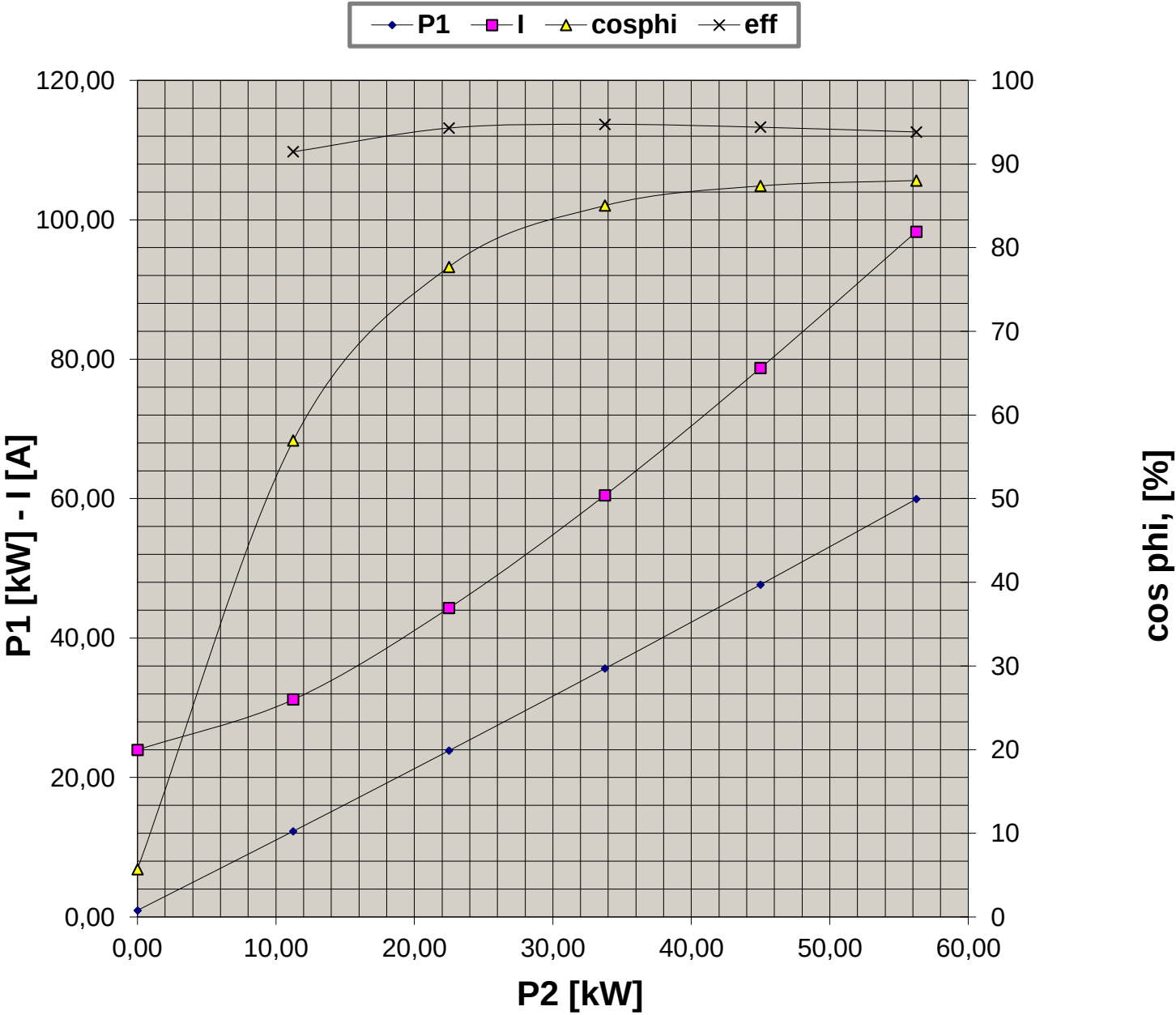


CURVE CARATTERISTICHE
PERFORMANCE CURVES

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

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

Motore / Motor	TCN 225MA2	
Potenza nominale / Rated power	45,00	kW
Poli / Pole	2	
Tensione - Frequenza / Voltage - Frequency	400 - 50	V - Hz
Corrente / Rated current	78,74	A
Velocità / Speed	2966	rpm
Coppia / Torque	144,89	Nm



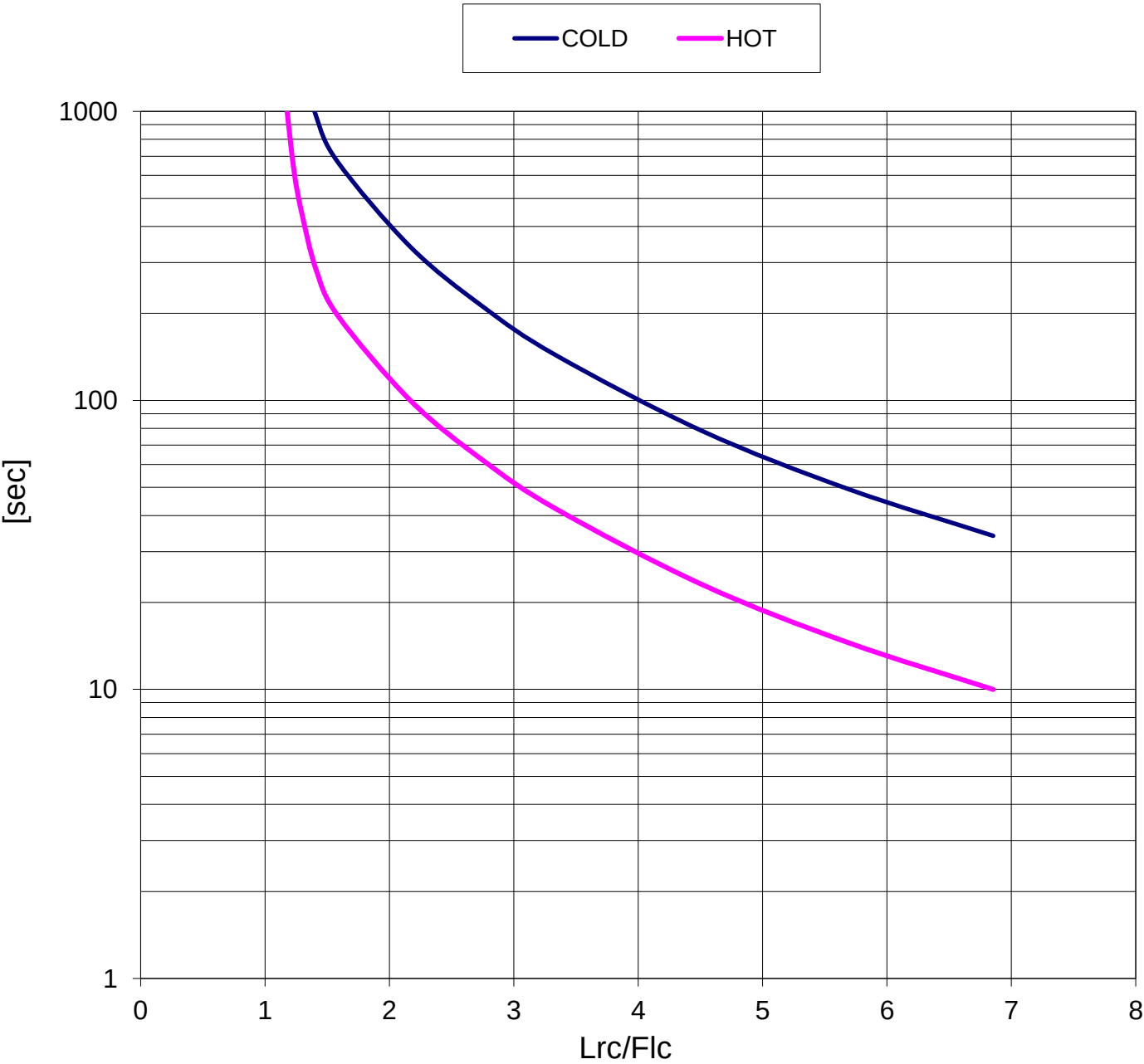


CURVA LIMITE CORRENTE TEMPO
THERMAL WITHSTAND CURVE

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

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

Motore / Motor	TCN 225MA2	
Potenza nominale / Rated power	45,00	kW
Poli / Pole	2	
Tensione - Frequenza / Voltage - Frequency	400 - 50	V - Hz
Corrente / Rated current	78,74	A
Velocità / Speed	2966	rpm
Coppia / Torque	144,89	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 225MA2	
Potenza nominale / Rated power	45,00	kW
Poli / Pole	2	
Tensione - Frequenza / Voltage - Frequency	400 - 50	V - Hz
Corrente / Rated current	78,74	A
Velocità / Speed	2966	rpm
Coppia / Torque	144,89	Nm

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

