

PRODUCT INFORMATION PACKET

Model No: E3TN3004223B30D41100

Catalog No: E3TN3004223B30D41100

Made in Italy TCN Series, General Purpose Low Voltage IEC motor, Increased Safety, 45,00 kW,
3 phase, 1484 RPM, D400/Y690V 50Hz, 225MA Frame B3, 4 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	80.7 A	Speed	1484 rpm
Service Factor	1	Phase	3
Efficiency	94.2 %	Power Factor	0.85
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		

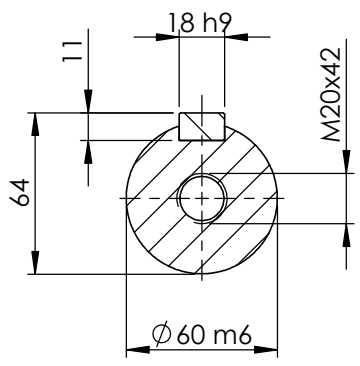
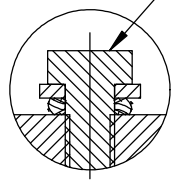
Technical Specifications

Electrical Type	Squirrel Cage	Starting Method	Direct On Line
Poles	4	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	862.00 mm	Frame Length	425.00 mm
Shaft Diameter	60.000 mm	Shaft Extension	140 mm
Assembly/Box Mounting	Top		
Connection Drawing	SC-01-T-1v-1a	Outline Drawing	B3A04T8220011A01

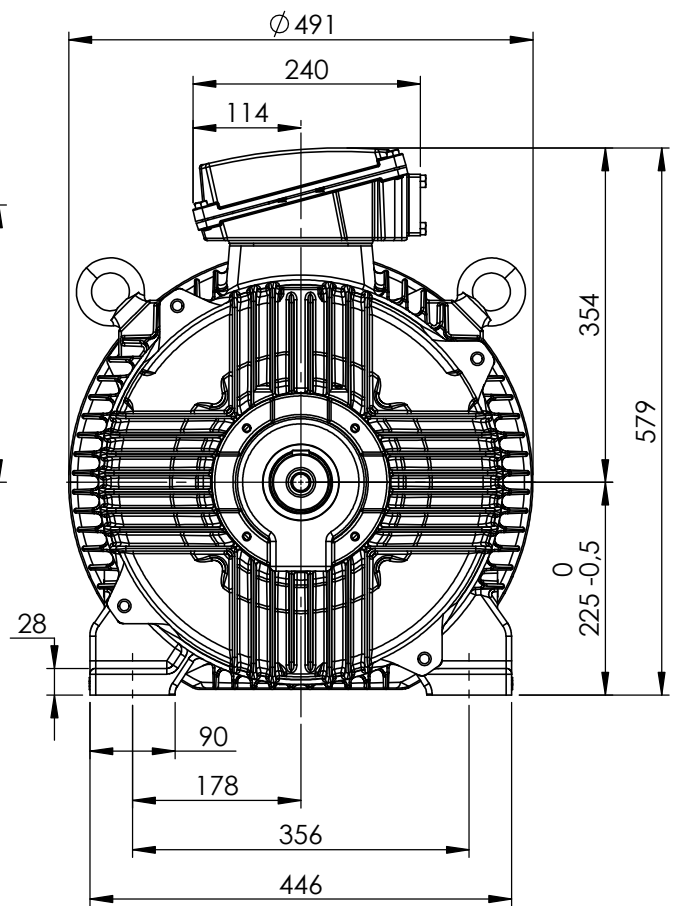
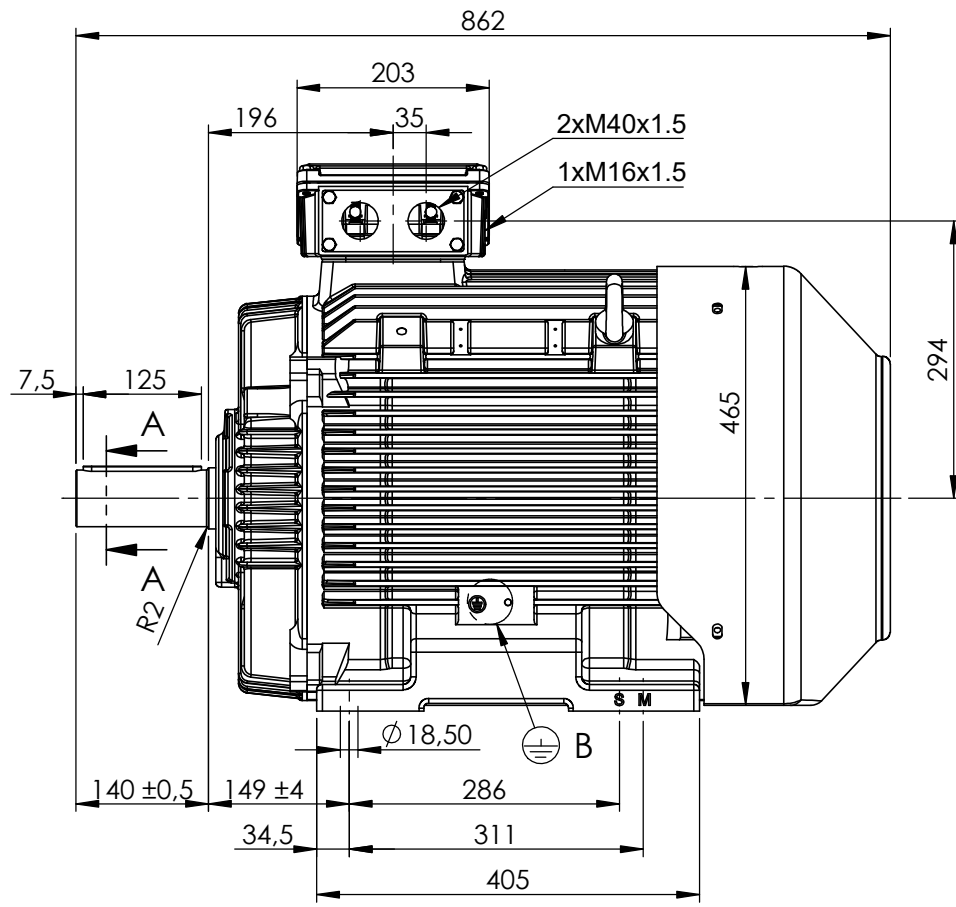
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EARTH TERMINAL
SUITABLE FOR CABLE
SECTION 6-70MM2

DETAIL B
SCALE 1:1



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 09/05/2022
ECO	APPROVED BY LP	DATE 10/05/2022
ECO DESCRIPTION		
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TOLERANCES (EXCEPT AS NOTED) TOLERANCES: ±2
DIMENSIONS ARE IN mm ACCORDING TO IEC 60072
SERIAL NUMBER

DRAWN BY TN
DATE 17/11/2021
APPROVED BY LP
DATE 18/11/2021
REFERENCE
FIRST ANGLE PROJECTION

DESCRIPTION		<p>Motor 225 4-6P TC (L) B3</p>	
SIZE A4	DRAWING NUMBER B3A04T8220011A01	SHEET 1 OF 2	

Schema di collegamento - *Connection diagram*
Schemas de branchement - *Schaltplän*
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**



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	
R4 - R5 - R6 (II sensore - <i>sensor</i>)	3	Termistore PT100 3 fili - <i>Thermistor PT 100 with 3 wires</i>
R7 - R8 - R9 (III sensore - <i>sensor</i>)	3	
R11 - R12 - R13 (anteriore - <i>DE</i>)	3	
R21 - R22 - R23 (posteriore - <i>NDE</i>)	3	Termistore PT100 su cuscinetto - <i>Thermistor PT 100 on bearing</i>
TB1 - TB2 (allarme- <i>warning</i>)	2	Protettore bimetallico normalmente chiuso -
TB3 - TB4 (intervento- <i>switch off</i>)	2	<i>Normally closed bi-metallic switch (**)</i>
TB8 - TB9 (intervento- <i>switch off</i>)	2	Protettore bimetallico del freno normalmente chiuso -
		<i>NC brake bi-metallic switch (**)</i>
TM1 - TM2 (allarme- <i>warning</i>)	2	Protettore bimetallico normalmente aperto -
TM3 - TM4 (intervento- <i>switch off</i>)	2	<i>Normally open bi-metallic switch (**)</i>
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



Flameproof
Motors

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 225MA4
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°	4
8	Potenza nominale / Rated power	kW	45,00
9	Corrente nominale / Rated current	A	80,18
10	Velocità nominale / Full Load speed	1/min	1484
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
18	Giri / Speed	1/min	1484
19	Corr. / Curr.	A	80,18
20	Rend / Eff	%	94,2
21	cos φ	-	0,86
Performances all'avviamento / Starting performances			
22	Ia/In - LRC/FLC	%	755
23	Cosphi a rotore bloccato / LR power factor		0,38
	Tempo a rotore bloccato / LRWT		
24	100% Un (A caldo / Warm)	sec	11
25	(A freddo / Cold)	sec	32
26	80% Un (A caldo / Warm)	sec	17
27	(A freddo / Cold)	sec	51
	Tempo di avviamento ammissibile / ART		
28	100% Un	sec	28
29	80% Un	sec	44
Curva di coppia / Speed-torque values			
30	Coppia nominale / Rated Torque	Nm	289,59
31	Ca/Cn - LRT/FLT	%	240
32	Cmax/Cn - BDT/FLT	%	290
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	3973
47	Carico assiale max / Max axial load	N	2836
48	Tipo grasso / Grease type		LGHP2 SKF or equivalent
49	Intervallo lubrificazione / Lubrication	h	8000
50	Quantità grasso / Quantity grease	gr	24
Caratteristiche meccaniche / mechanical specification			
51	Massa / Mass	kg	389
52	Momento d'inerzia / Moment of inertia	kgm2	0,7446
53	Rumore a vuoto / Noise at no load (1 m)	Lp dB(A)	68
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

Prepared by : GC

Tolleranze secondo - Tolerances according IEC 60034-1

Rev. 0

Data / Date

28 July 2021



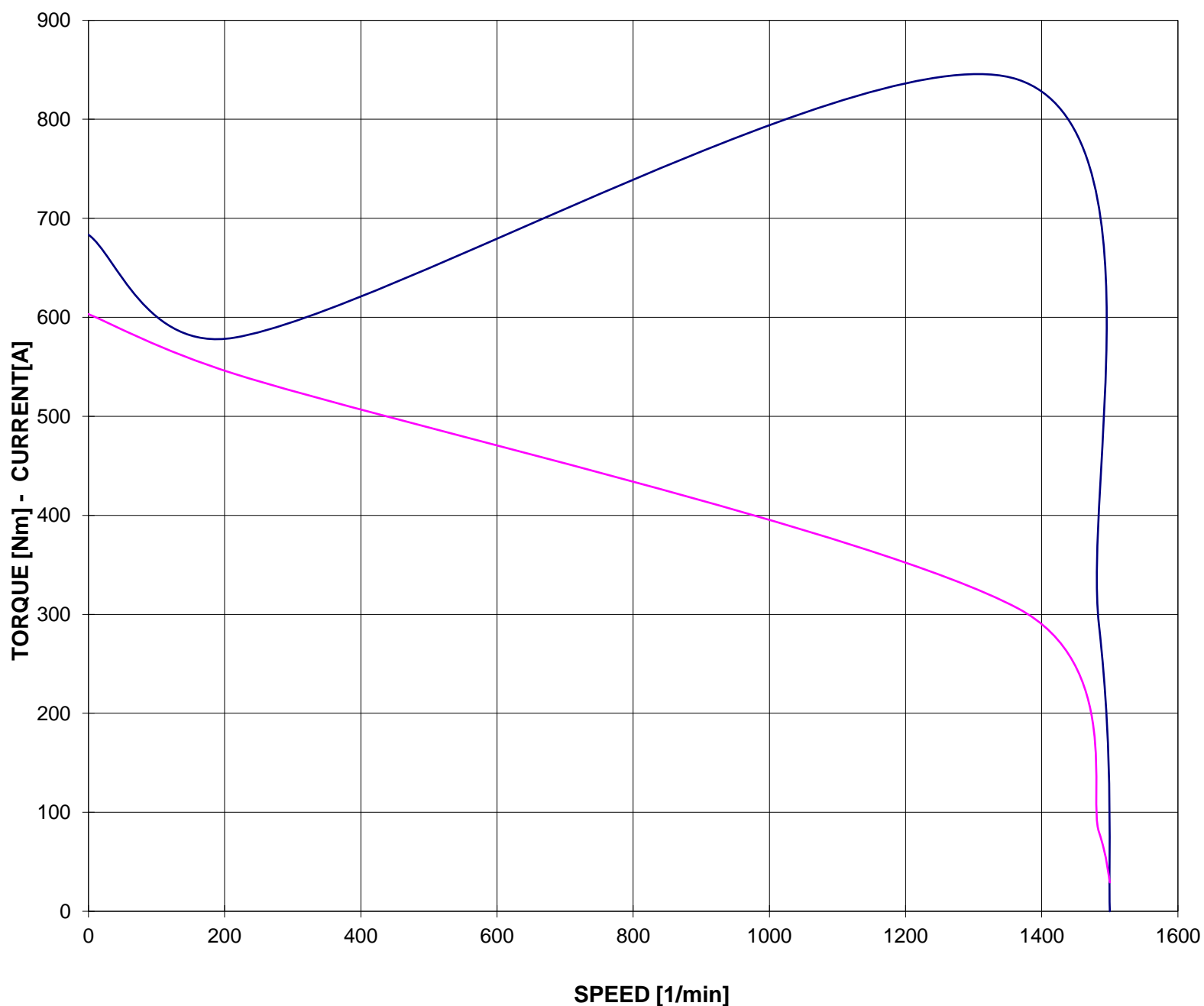
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Motors

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 225MA4	
Potenza nominale / Rated power	45,00	kW
Poli / Pole	4	
Tensione - Frequenza / Voltage - Frequency	400 - 50	V - Hz
Corrente / Rated current	80,18	A
Velocità / Speed	1484	rpm
Coppia / Torque	289,59	Nm

— COPPIA - TORQUE — CORRENTE - CURRENT



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

Data / Date 01-set-21



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Motors

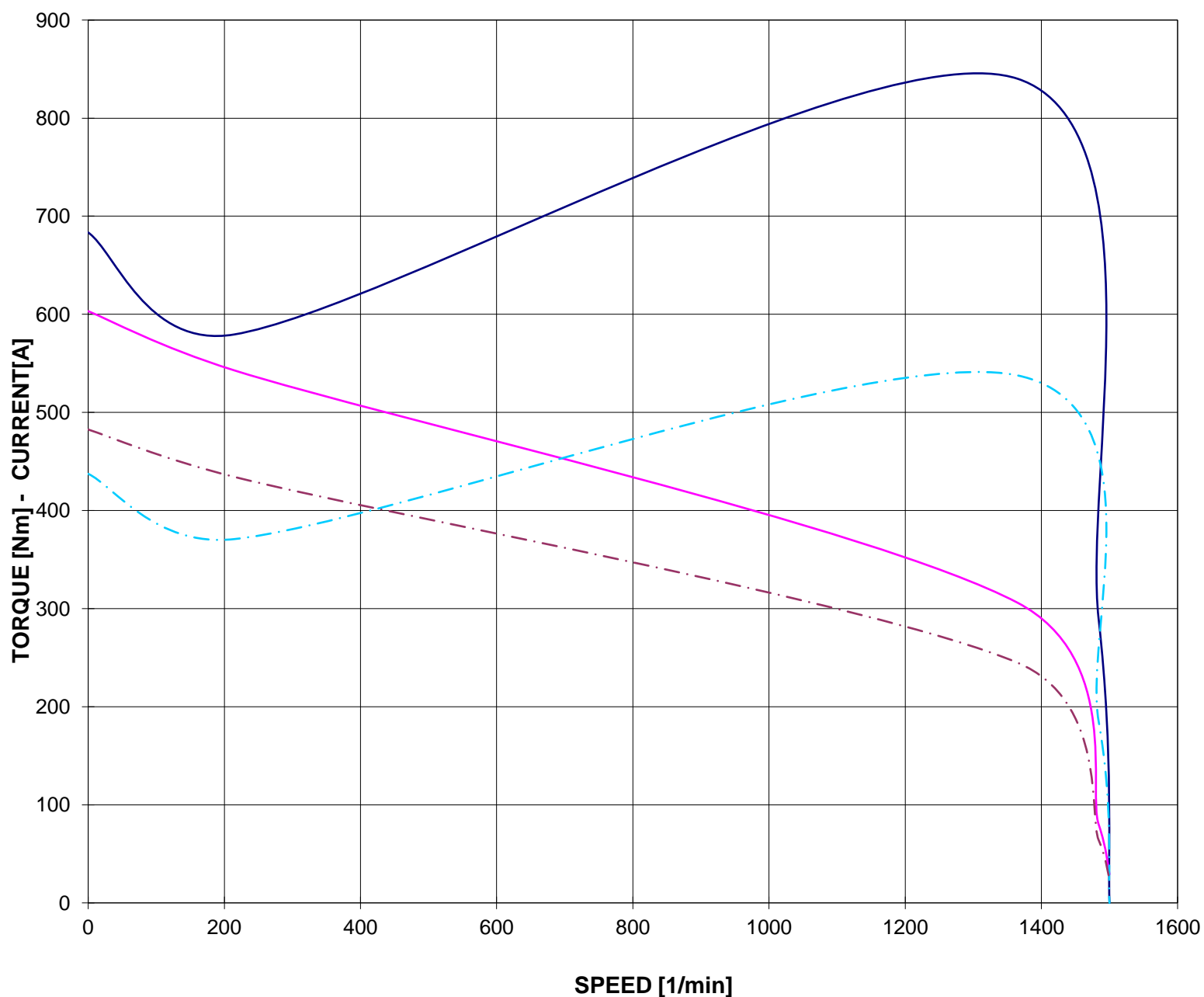
CURVA COPPIA/CORRENTE-GIRI (Tensione ridotta)
TORQUE/CURRENT-SPEED DIAGRAM (Reduced voltage)

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

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

Motore / Motor	TCN 225MA4	
Potenza nominale / Rated power	45,00	kW
Poli / Pole	4	
Tensione - Frequenza / Voltage - Frequency	400 - 50	V - Hz
Corrente / Rated current	80,18	A
Velocità / Speed	1484	rpm
Coppia / Torque	289,59	Nm

— COPPIA - TORQUE — CORRENTE - CURRENT
- - - COPPIA - TORQUE 80% Un - - - CORRENTE - CURRENT 80% Un



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

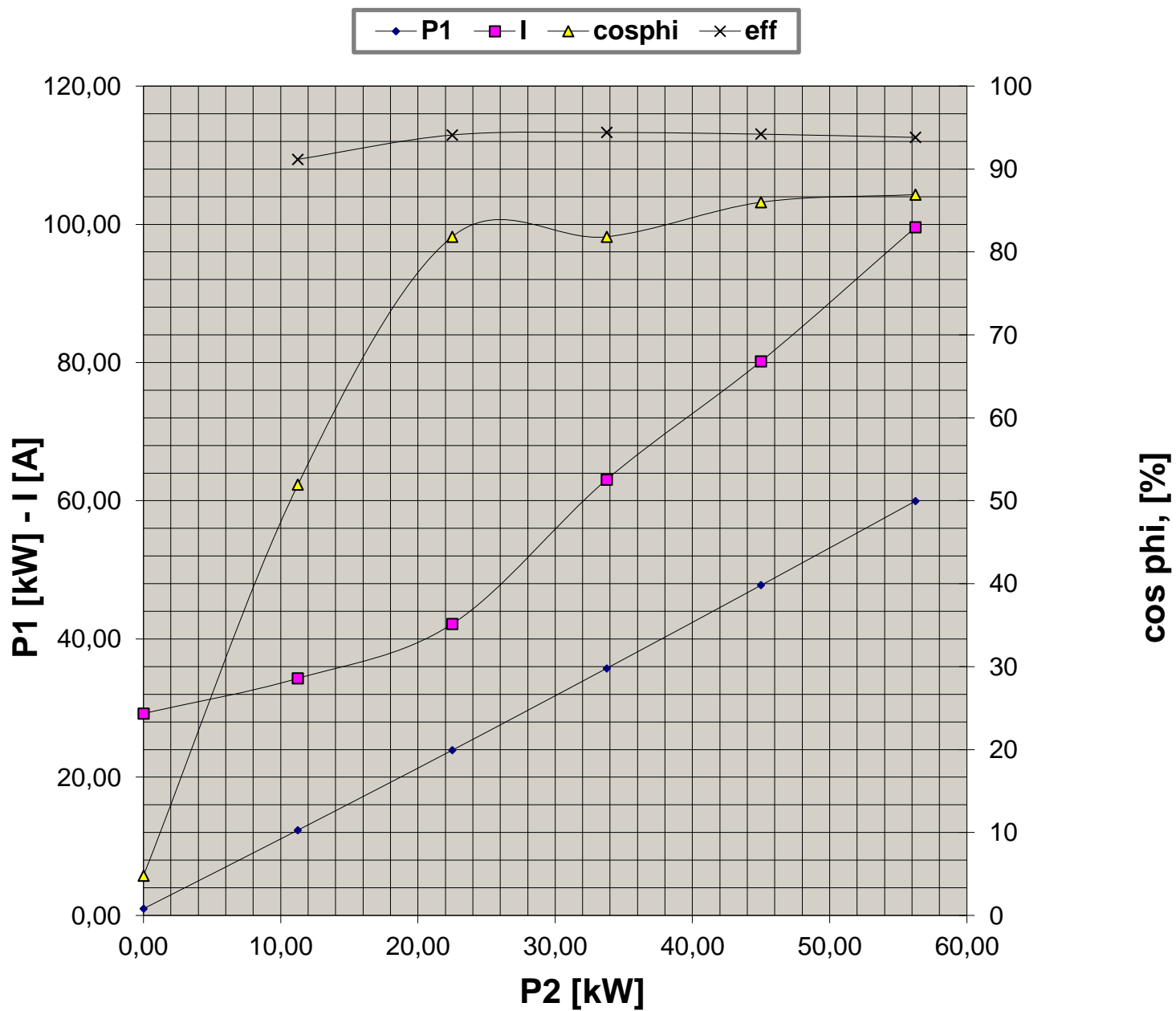
Data / Date 01-set-21



CURVE CARATTERISTICHE PERFORMANCE CURVES

Cliente / Customer -
 Ordine cliente / Customer order -
 Impianto / Plant -
ITEM -
 Conferma ordine / Acknowledgment -
 Numero di serie / Serial Number -

Motore / Motor	TCN 225MA4	
Potenza nominale / Rated power	45,00	kW
Poli / Pole	4	
Tensione - Frequenza / Voltage - Frequency	400 - 50	V - Hz
Corrente / Rated current	80,18	A
Velocità / Speed	1484	rpm
Coppia / Torque	289,59	Nm



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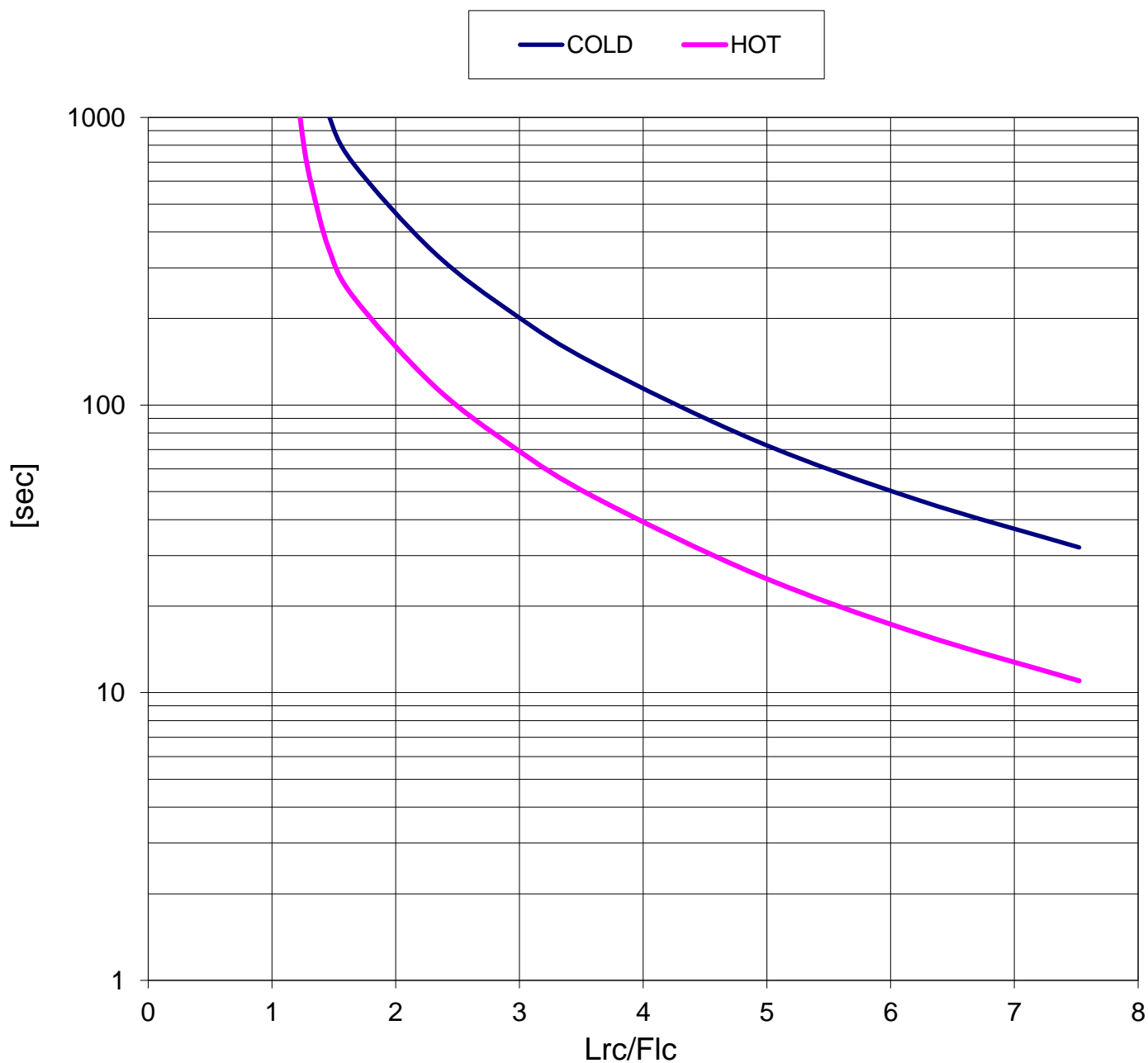


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CURVA LIMITE CORRENTE TEMPO THERMAL WITHSTAND CURVE

Cliente / Customer -
 Ordine cliente / Customer order -
 Impianto / Plant -
ITEM -
 Conferma ordine / Acknowledgment -
 Numero di serie / Serial Number -

Motore / Motor	TCN 225MA4	
Potenza nominale / Rated power	45,00	kW
Poli / Pole	4	
Tensione - Frequenza / Voltage - Frequency	400 - 50	V - Hz
Corrente / Rated current	80,18	A
Velocità / Speed	1484	rpm
Coppia / Torque	289,59	Nm



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

Data / Date 01-set-21

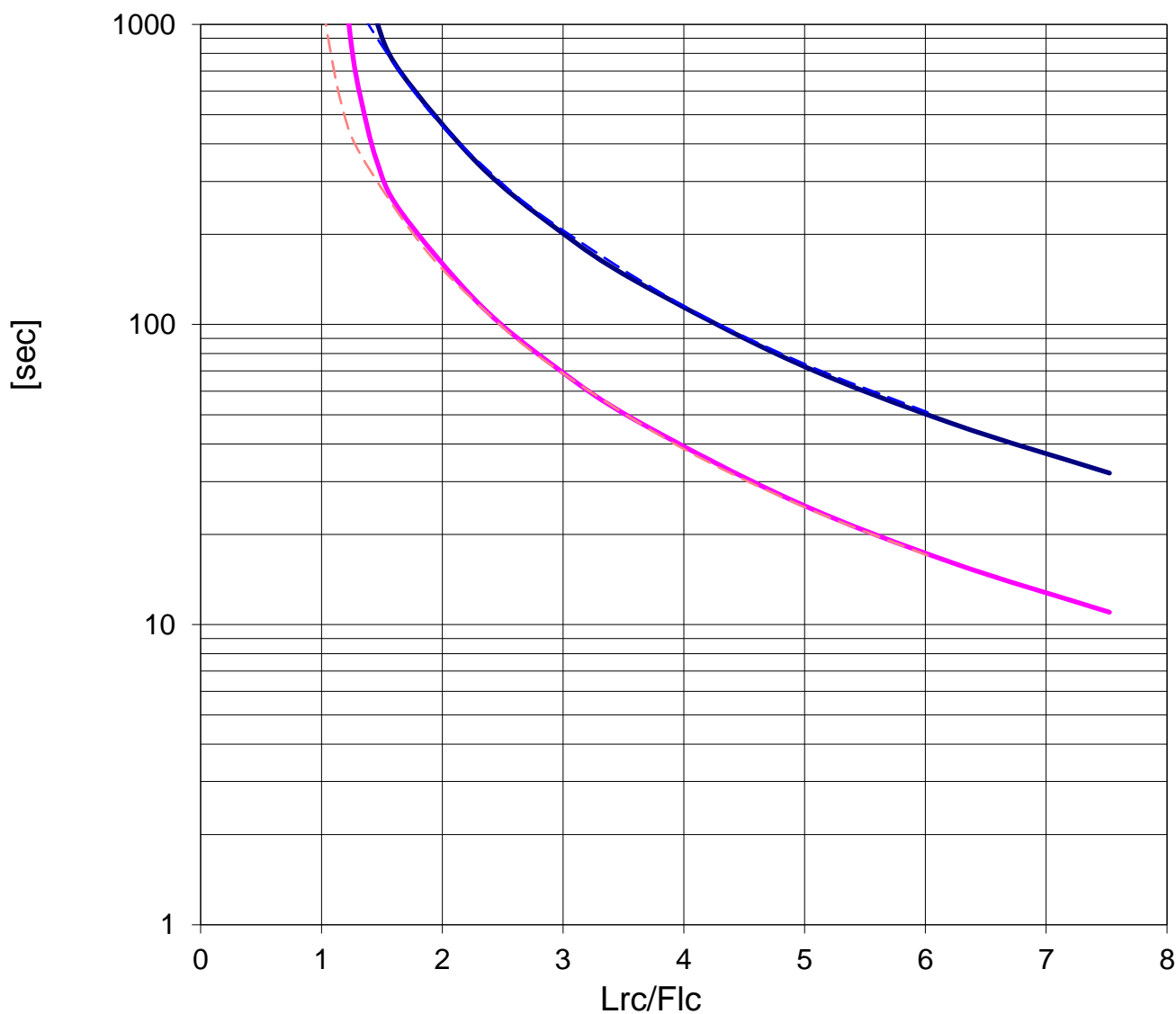
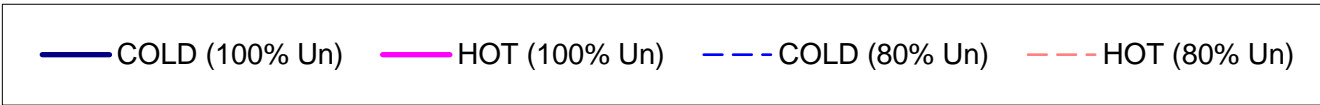


Flameproof
Motors

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 225MA4	
Potenza nominale / Rated power	45,00	kW
Poli / Pole	4	
Tensione - Frequenza / Voltage - Frequency	400 - 50	V - Hz
Corrente / Rated current	80,18	A
Velocità / Speed	1484	rpm
Coppia / Torque	289,59	Nm



Valori calcolati - Data obtained by calculation method
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Data / Date 01-set-21