PRODUCT INFORMATION PACKET

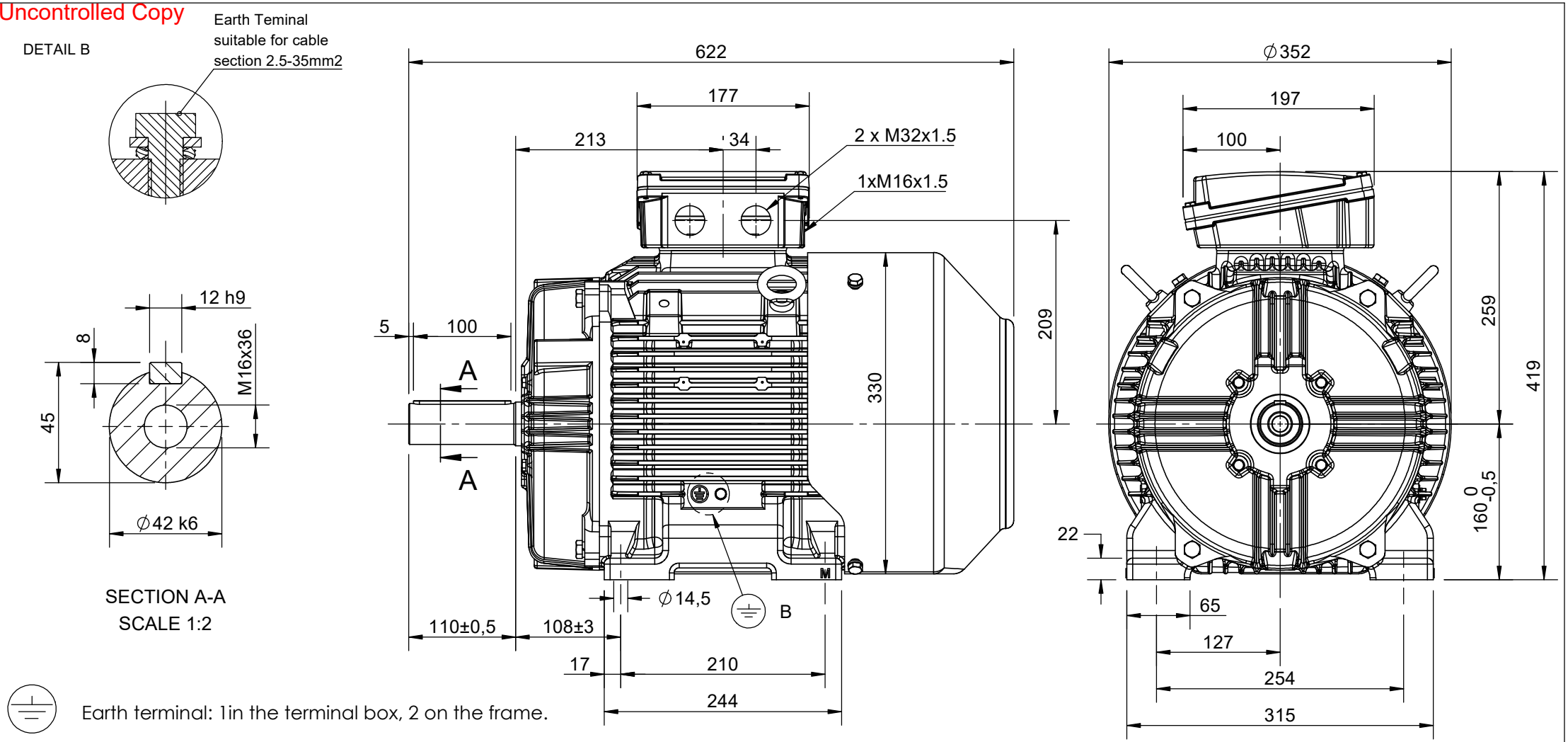
Model No: E3TN3002161B30D41100
Catalog No: E3TN3002161B30D41100
Made in Italy TCN Series, General Purpose Low Voltage IEC motor, Increased Safety, 11,00 kW, 3 phase, 2951 RPM, D400/Y690V 50Hz, 160MB Frame B3, 2 Poles, IC411

Nameplate Specifications

Output HP	15 Hp	Output KW	11.0 kW
Frequency	50 Hz	Voltage	400/690 V
Current	19.9 A	Speed	2951 rpm
Service Factor	1	Phase	3
Efficiency	91.2 %	Power Factor	0.88
Duty	S1	Insulation Class	F
Frame	160MB	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



CUSTOMER REFERENCE AND ADDITIONAL INFORMATION:

MOTOR TYPE AND DESCRIPTION:

DRAWING REVISION	REVISION BY	DATE
ECO	APPROVED BY	DATE
ECO DESCRIPTION		

TOLERANCES (EXCEPT AS NOTED)
TOLERANCES: ±2

DIMENSIONS ARE IN mm
ACCORDING TO IEC 60072

SERIAL NUMBER

DRAWN BY	TN
DATE	9/11/2021
APPROVED BY	LP
DATE	10/11/2021
REFERENCE	
FIRST ANGLE PROJECTION	

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DESCRIPTION

Motor 160 TC (S) B3

SIZE	DRAWING NUMBER	SHEET
A4	**B3A04T8165001A01**	1 OF 2

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

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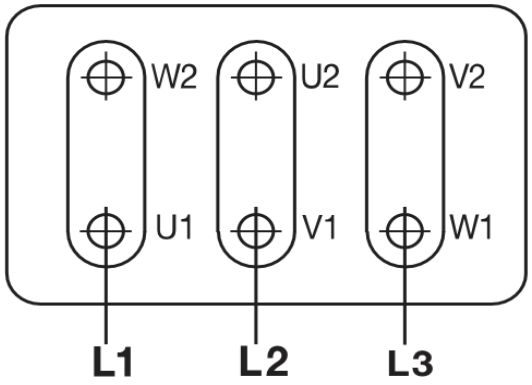
Flameproof Motors

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

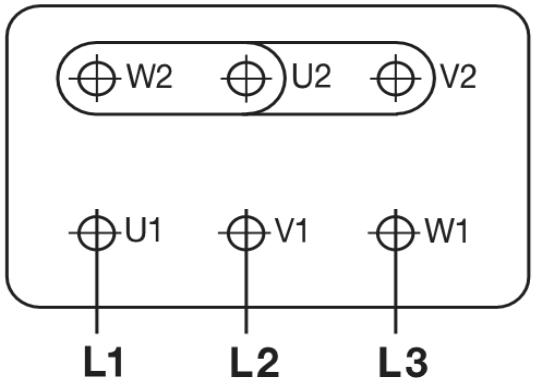
Collegamento - *Connection* - Connexion - *Schaltung* - Conexiòn

Δ



Collegamento - *Connection* - Connexion - *Schaltung* - Conexiòn

Y



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 - *Additional terminals marking* (IEC60034-8)

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

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

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

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

Cliente / Customer -	Conferma ordine / Acknowledgment : N° -
Ordine cliente / Customer order : -	Impianto / Plant -
Item : -	

DATI DI PROGETTO - DESIGN DATA

Modo di protezione	II3G	Motore / Frame	Ex ec IIB T3 Gc	IP55
Type of protection		Scatola morsetti / Terminal box	Ex ec IIB Gc	IP55

Tem. Amb. Min. / Min Amb.Temp.	-20 °C	Tem. Amb. Max. / Max Amb. Temp.	40 °C
Umidità relativa / Relative humidity	90%	Altitudine / Altitude	< 1000 mslm / masl
Tensione nominale / Rated Voltage	400 V +/- 10%	Frequenza / Frequency	50 Hz +/- 3%

DATI FUNZIONALI E COSTRUTTIVI - PERFORMANCE AND CONSTRUCTION DATA

1	Quantità / Quantity		01
2	Motore tipo / Motor type		TCN 160MB2
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	11,00
9	Corrente nominale / Rated current	A	19,94
10	Velocità nominale / Full Load speed	1/min	2951
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	2951	2969	2979	
19	Corr. / Curr.	A	19,94	15,79	12,10	
20	Rend / Eff	%	91,2	91,2	90,2	
21	cos φ	-	0,87	0,83	0,73	

	Performances all'avviamento / Starting performances			
22	Ia/In - LRC/FLC		%	795
23	Cosphi a rotore bloccato / LR power factor			0,45
	Tempo a rotore bloccato / LRWT			
24	100% Un	(A caldo / Warm)	sec	5
25		(A freddo / Cold)	sec	15
26	80% Un	(A caldo / Warm)	sec	8
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	35,60
31	Ca/Cn - LRT/FLT		%	230
32	Cmax/Cn - BDT/FLT		%	365
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	135
52	Momento d'inerzia / Moment of inertia	kgm2	0,0640
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			
58			
59			
60			
61			
62			
	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						

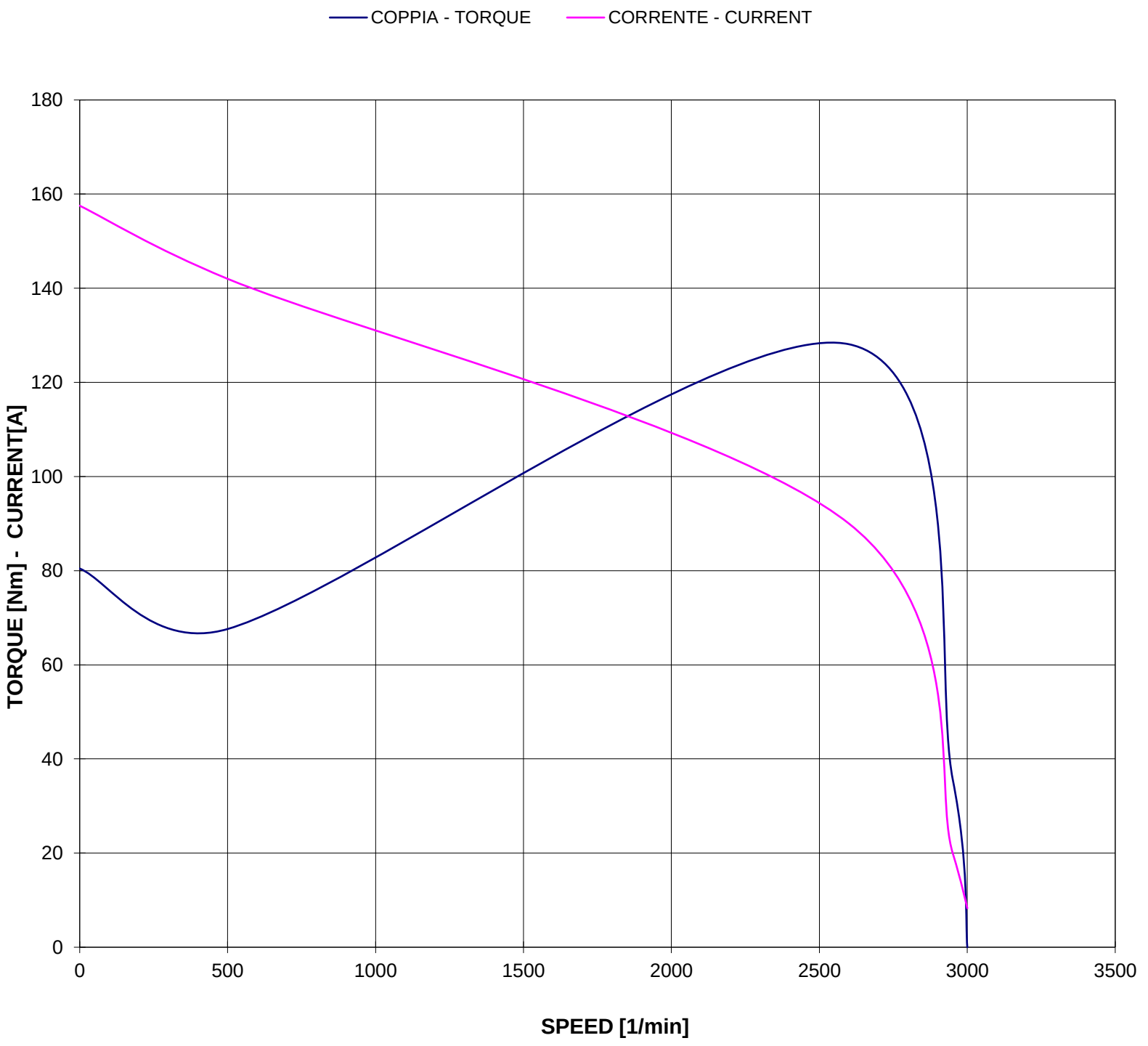
Documento preliminare - Preliminary data sheet

Prepared by : GC Tolleranze secondo - Tolerances according IEC 60034-1 Rev. 0 Data / Date 26 July 2021

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 160MB2**	
Potenza nominale / Rated power	11,00	kW
Poli / Pole	2	
Tensione - Frequenza / Voltage - Frequency	400 - 50	V - Hz
Corrente / Rated current	19,94	A
Velocità / Speed	2951	rpm
Coppia / Torque	35,60	Nm



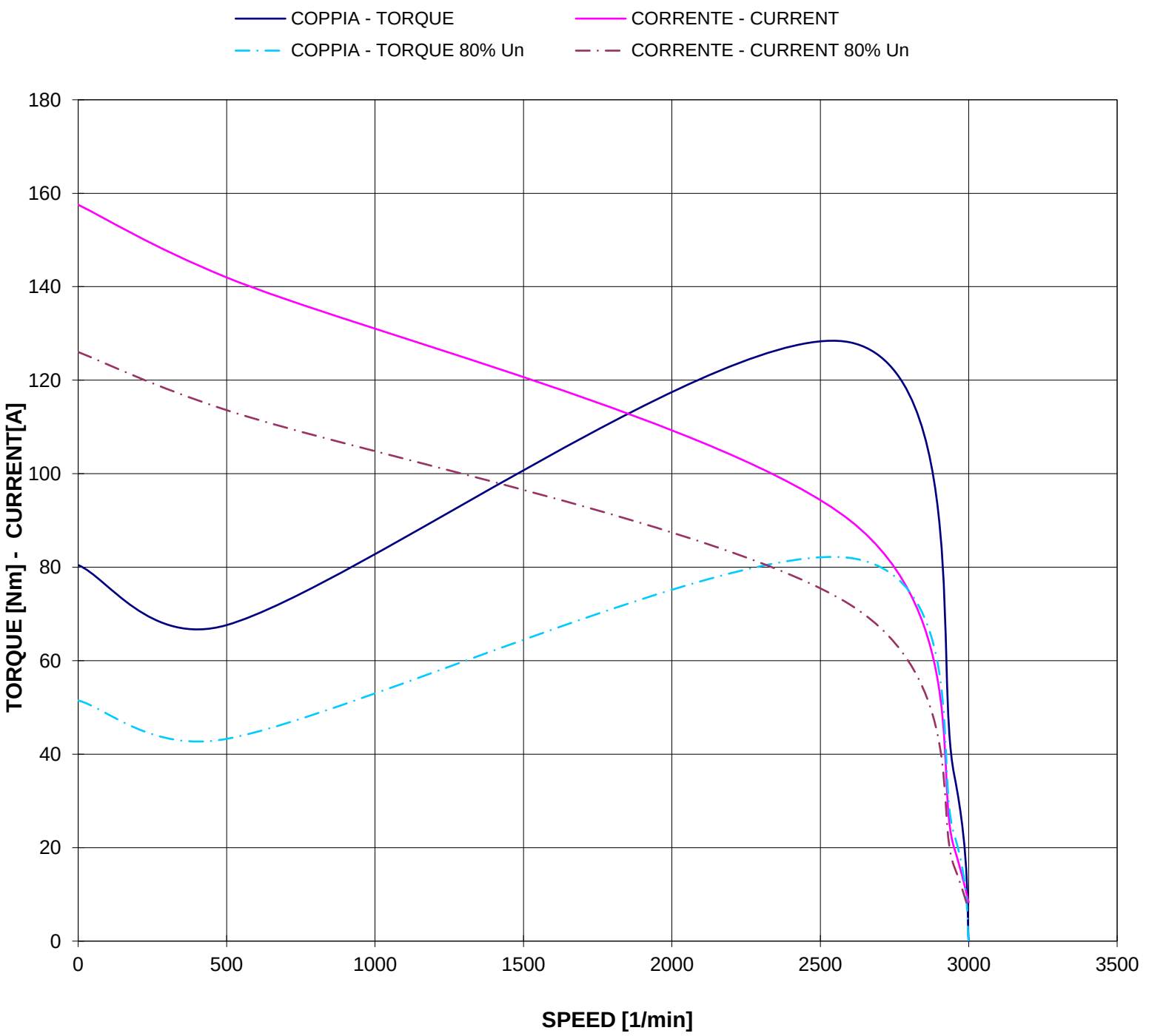
Valori calcolati - Data obtained by calculation method
Documento preliminare - Preliminary document

Data / Date 01-set-21

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

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

Motore / Motor	**TCN 160MB2**	
Potenza nominale / Rated power	11,00	kW
Poli / Pole	2	
Tensione - Frequenza / Voltage - Frequency	400 - 50	V - Hz
Corrente / Rated current	19,94	A
Velocità / Speed	2951	rpm
Coppia / Torque	35,60	Nm



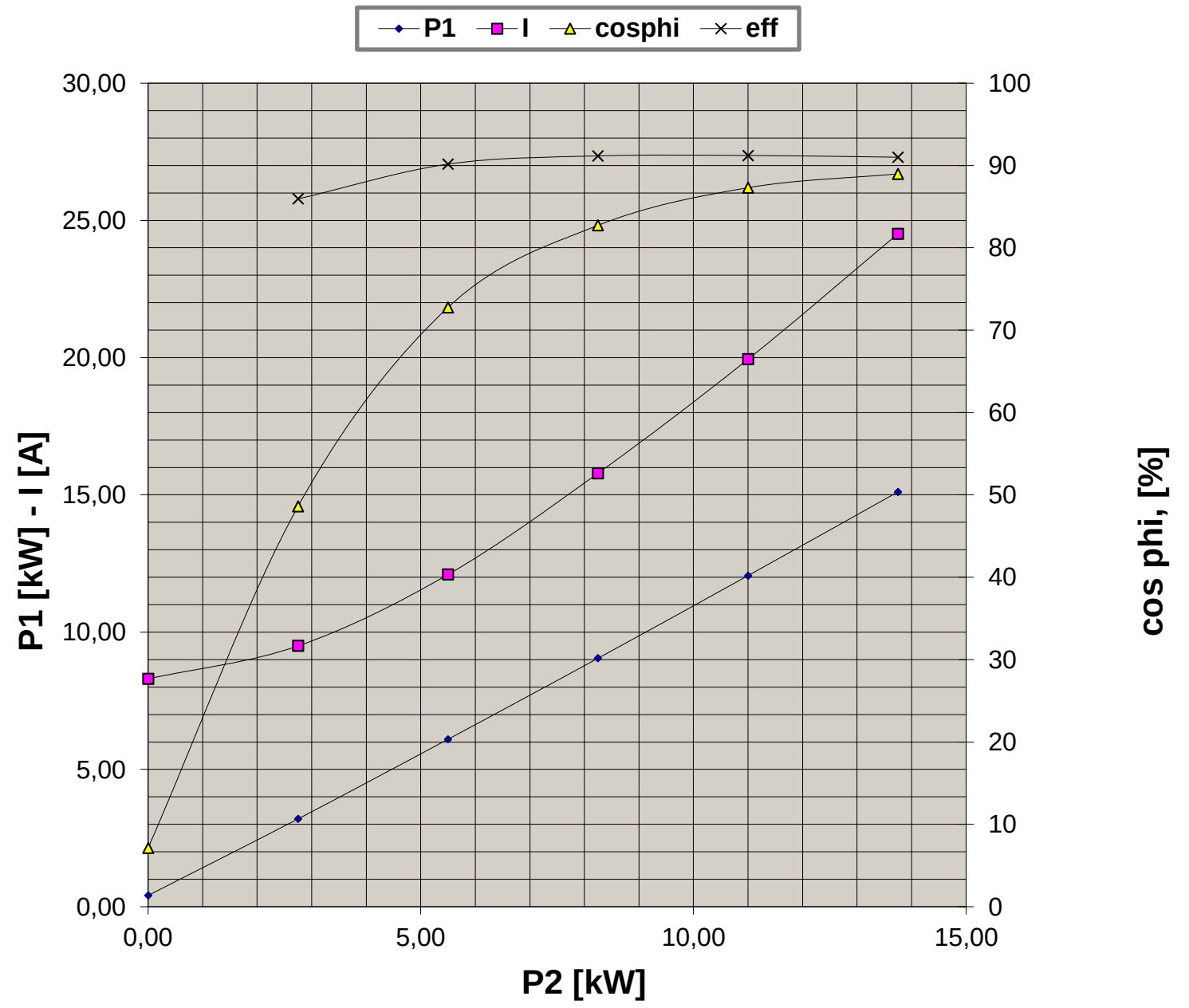
Valori calcolati - Data obtained by calculation method
Documento preliminare - Preliminary document

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 160MB2**	
Potenza nominale / Rated power	11,00	kW
Poli / Pole	2	
Tensione - Frequenza / Voltage - Frequency	400 - 50	V - Hz
Corrente / Rated current	19,94	A
Velocità / Speed	2951	rpm
Coppia / Torque	35,60	Nm



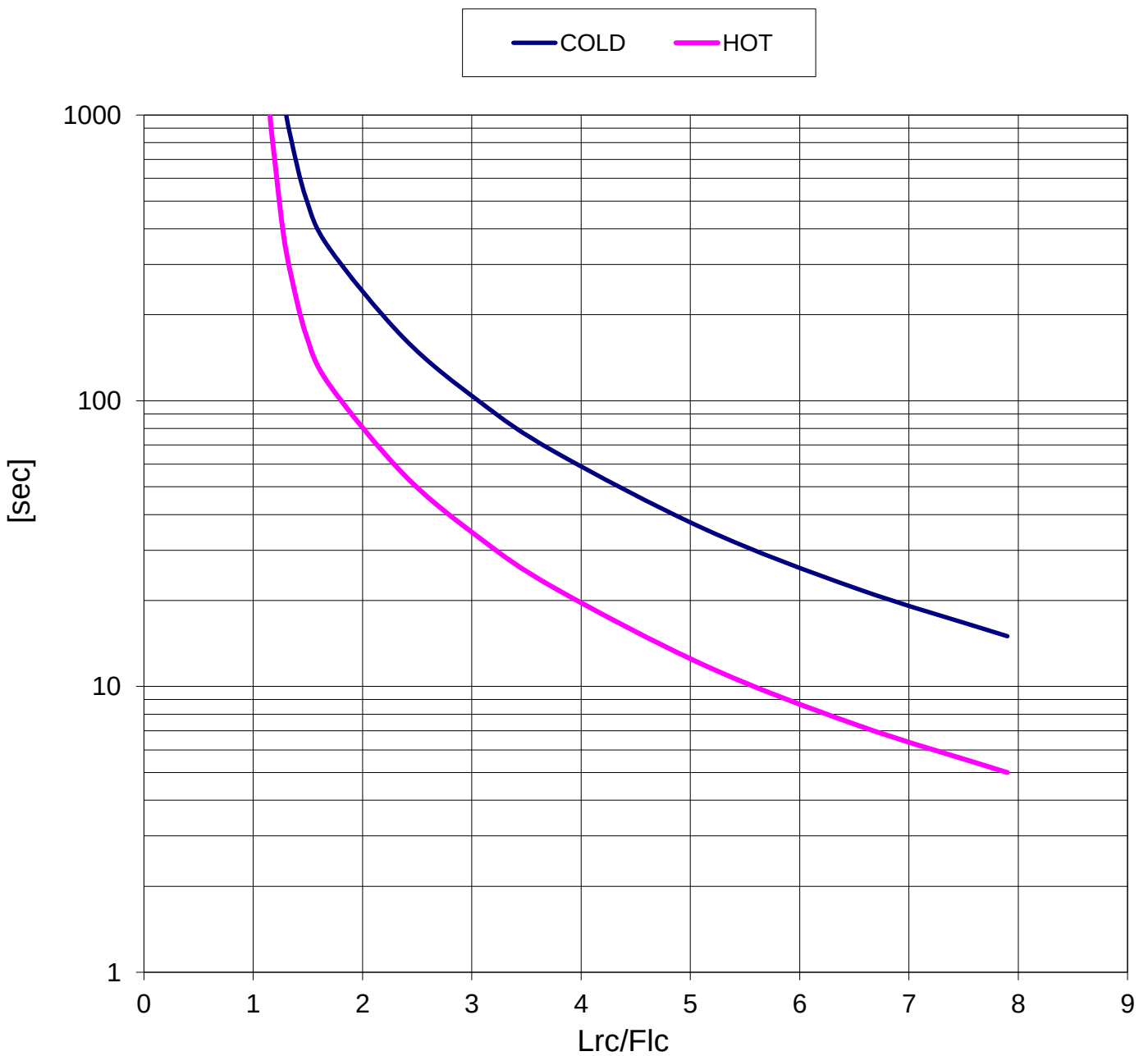
Valori calcolati - Data obtained by calculation method
Documento preliminare - Preliminary document

Data / Date 01-set-21

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 160MB2**	
Potenza nominale / Rated power	11,00	kW
Poli / Pole	2	
Tensione - Frequenza / Voltage - Frequency	400 - 50	V - Hz
Corrente / Rated current	19,94	A
Velocità / Speed	2951	rpm
Coppia / Torque	35,60	Nm



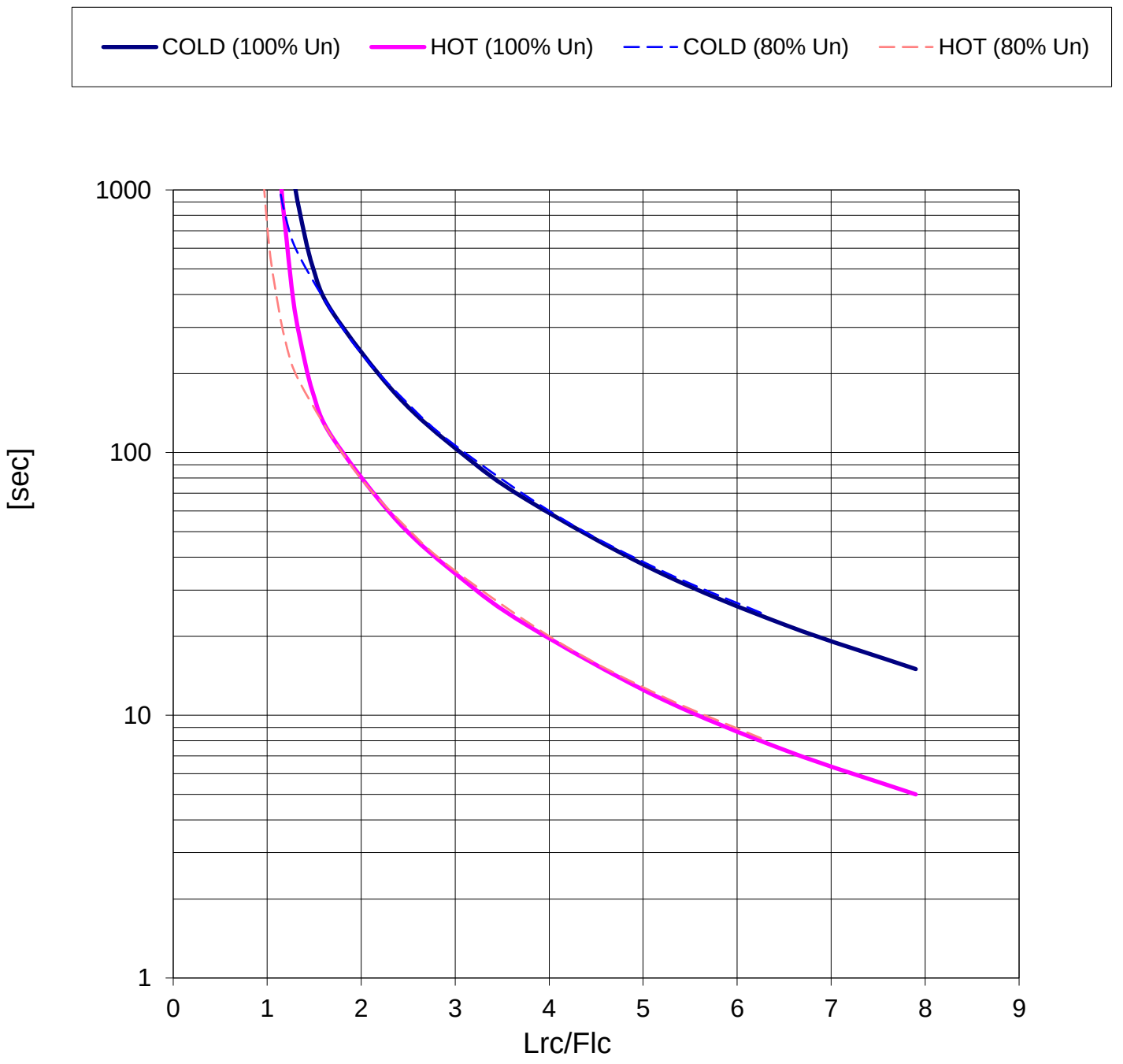
Valori calcolati - Data obtained by calculation method
Documento preliminare - Preliminary document

Data / Date 01-set-21

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 160MB2**	
Potenza nominale / Rated power	11,00	kW
Poli / Pole	2	
Tensione - Frequenza / Voltage - Frequency	400 - 50	V - Hz
Corrente / Rated current	19,94	A
Velocità / Speed	2951	rpm
Coppia / Torque	35,60	Nm



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

Data / Date 01-set-21