

# PRODUCT INFORMATION PACKET

Model No: E3TI3004163B30D41100

Catalog No: E3TI3004163B30D41100

Made in Italy TCI Series, General Purpose Low Voltage IEC motor, Safe Area, 11,00 kW, 3 phase,  
1476 RPM, D400/Y690V 50Hz, 160MB Frame B3, 4 Poles, IC411



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### Nameplate Specifications

Output HP	<b>15 Hp</b>	Output KW	<b>11.0 kW</b>
Frequency	<b>50 Hz</b>	Voltage	<b>400/690 V</b>
Current	<b>20.7 A</b>	Speed	<b>1476 rpm</b>
Service Factor	<b>1</b>	Phase	<b>3</b>
Efficiency	<b>91.4 %</b>	Power Factor	<b>0.84</b>
Duty	<b>S1</b>	Insulation Class	<b>F</b>
Frame	<b>160MB</b>	Enclosure	<b>Totally Enclosed Fan Cooled</b>
Thermal Protection	<b>No Protection</b>	Ambient Temperature	<b>40 °C</b>
Drive End Bearing Size	<b>6309</b>	Opp Drive End Bearing Size	<b>6209</b>
UL	<b>No</b>	CSA	<b>No</b>
CE	<b>Yes</b>	IP Code	<b>IP55</b>
Number of Speeds	<b>1</b>	Efficiency Class	<b>IE3</b>

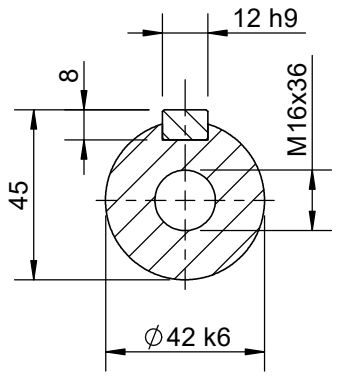
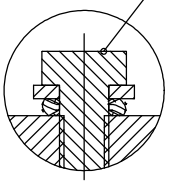
### Technical Specifications

Electrical Type	<b>Squirrel Cage</b>	Starting Method	<b>Direct On Line</b>
Poles	<b>4</b>	Rotation	<b>Bi-Directional</b>
Mounting	<b>B3</b>	Motor Orientation	<b>Horizontal</b>
Drive End Bearing	<b>2z-C3</b>	Opp Drive End Bearing	<b>2z-C3</b>
Frame Material	<b>Cast Iron</b>	Shaft Type	<b>Keyed</b>
Overall Length	<b>622.00 mm</b>	Frame Length	<b>254.00 mm</b>
Shaft Diameter	<b>42.000 mm</b>	Shaft Extension	<b>110 mm</b>
Assembly/Box Mounting	<b>Top</b>		
Outline Drawing	<b>B3A04T8165001A01</b>	Connection Drawing	<b>SC-01-T-1v-1a</b>

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Earth Terminal suitable for cable section 2.5-35mm<sup>2</sup>

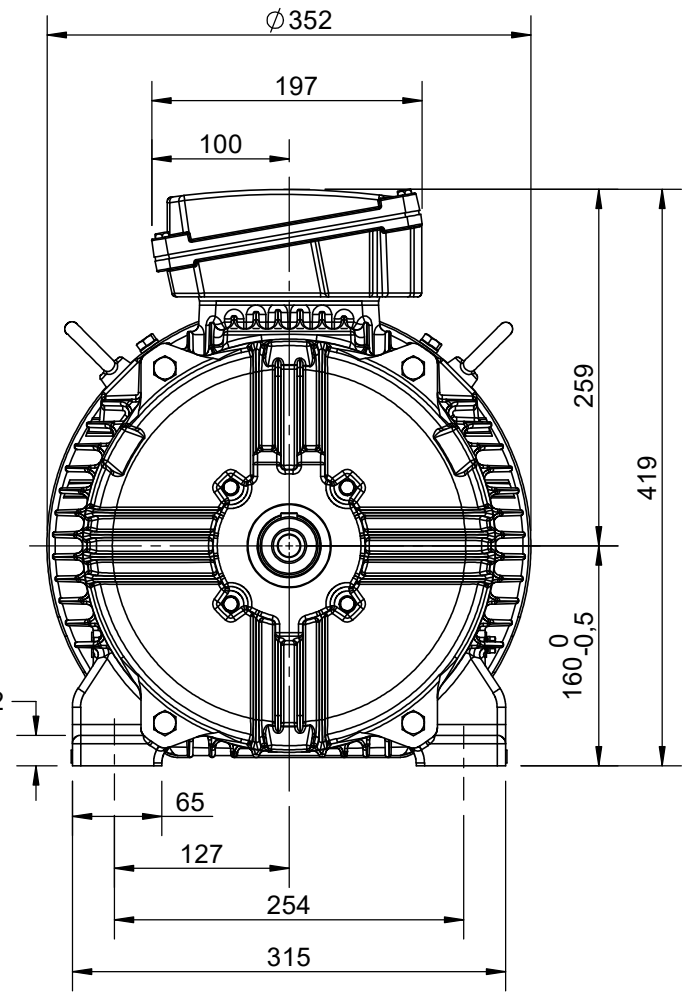
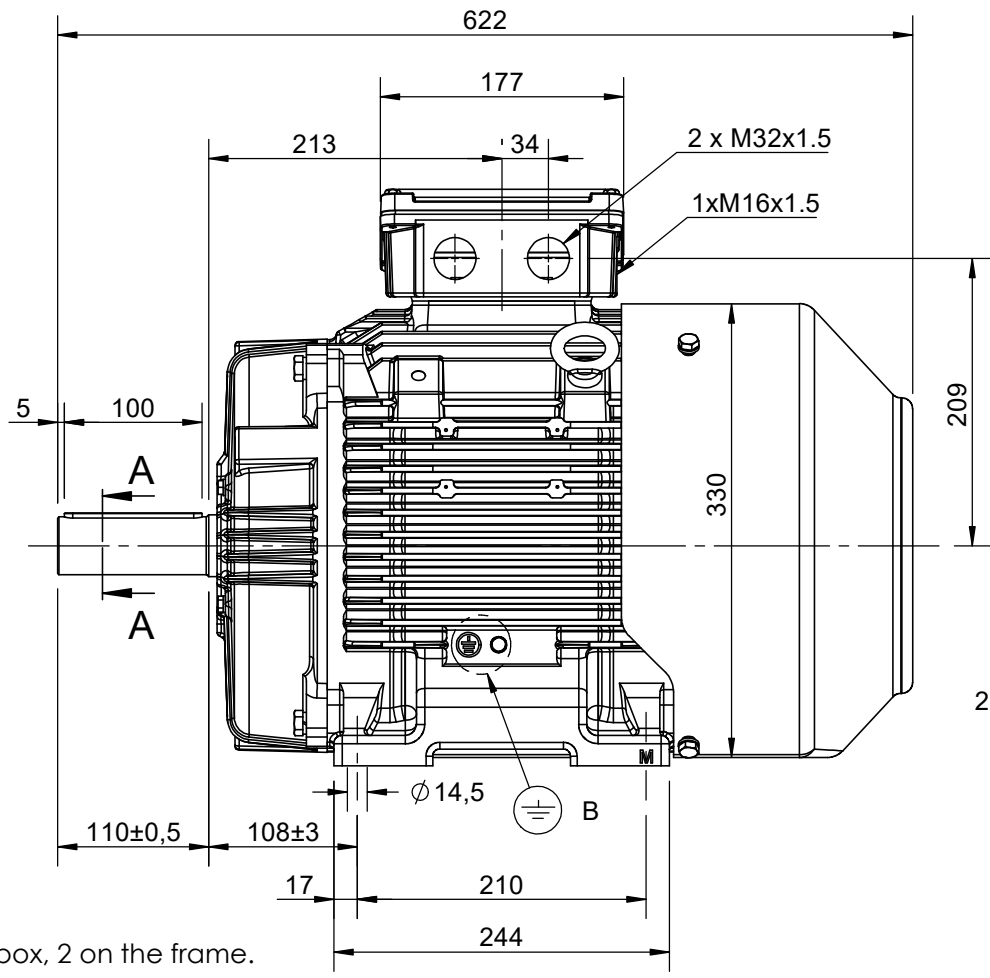
DETAIL B



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

DESCRIPTION	
<b>Motor 160 TC (S) B3</b>	
SIZE	DRAWING NUMBER
<b>A4</b>	<b>B3A04T8165001A01</b>
	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

<b>Marcatura Morsetti Ausiliari - <i>Additional terminals marking (IEC60034-8)</i></b>		
<b>Marcatura <i>Marking</i></b>	<b>No. morsetti <i>terminals</i></b>	<b>Morsetto ausiliare per: <i>Additional terminal for:</i></b>
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



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		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%	

	IP55
	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		-
2	Motore tipo / Motor type		TCI 160MB4
3	Numero di serie / Serial Number		
4	Forma costruttiva / Shape		B3
5			
6			
<b>Dati nominali / Rated data</b>			
7	Poli / Pole	n°	4
8	Potenza nominale / Rated power	kW	11,00
9	Corrente nominale / Rated current	A	20,70
10	Velocità nominale / Full Load speed	1/min	1476
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
<b>Performances elettriche / Electrical performances</b>			
	Carico / Load	4/4	3/4
18	Giri / Speed	1/min	1476
19	Corr. / Curr.	A	20,70
20	Rend / Eff	%	91,4
21	cos φ	-	0,84
<b>Performances all'avviamento / Starting performances</b>			
22	Ia/In - LRC/FLC	%	730
23	Cosphi a rotore bloccato / LR power factor		0,47
	Tempo a rotore bloccato / LRWT		
24	100% Un (A caldo / Warm)	sec	9
25	(A freddo / Cold)	sec	24
26	80% Un (A caldo / Warm)	sec	14
27	(A freddo / Cold)	sec	38
	Tempo di avviamento ammissibile / ART		
28	100% Un	sec	21
29	80% Un	sec	33
<b>Curva di coppia / Speed-torque values</b>			
30	Coppia nominale / Rated Torque	Nm	71,17
31	Ca/Cn - LRT/FLT	%	240
32	Cmax/Cn - BDT/FLT	%	320
33			
34			
35			
<b>Varie / Other</b>			
36			
37			
38			
39			

<b>Servizio / Duty</b>			
40	Servizio / Duty type	-	S1
41	Intermittenza / Cyclic duration factor	-	-
42	Avviamenti-ora / Starting-hour	-	-
43	Tempo ciclo / Time		-
<b>Cuscinetti / Bearings</b>			
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	2377
47	Carico assiale max / Max axial load	N	1721
48	Tipo grasso / Grease type		LGHP2 SKF or equivalent
49	Intervallo lubrificazione / Lubrication	h	-
50	Quantità grasso / Quantity grease	gr	-
<b>Caratteristiche meccaniche / mechanical specification</b>			
51	Massa / Mass	kg	150
52	Momento d'inerzia / Moment of inertia	kgm2	0,1080
53	Rumore a vuoto / Noise at no load (1 m)	Lp dB(A)	66
54	Vibrazioni / Vibration level	IEC 34-14	A
55	Limite norma / Vibration limit	mm/sec	2,20
56			
57			
58			
59			
60			
61			
62			
<b>Dati entrata cavi - verniciatura / Cable entry and painting</b>			
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			
<b>Ausiliari - Auxiliaries</b>			
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		-
77			

## Documento preliminare - Preliminary data sheet

Prepared by : MP

Tolleranze secondo - Tolerances according IEC 60034-1

Rev. 0

Data / Date 3 February 2021

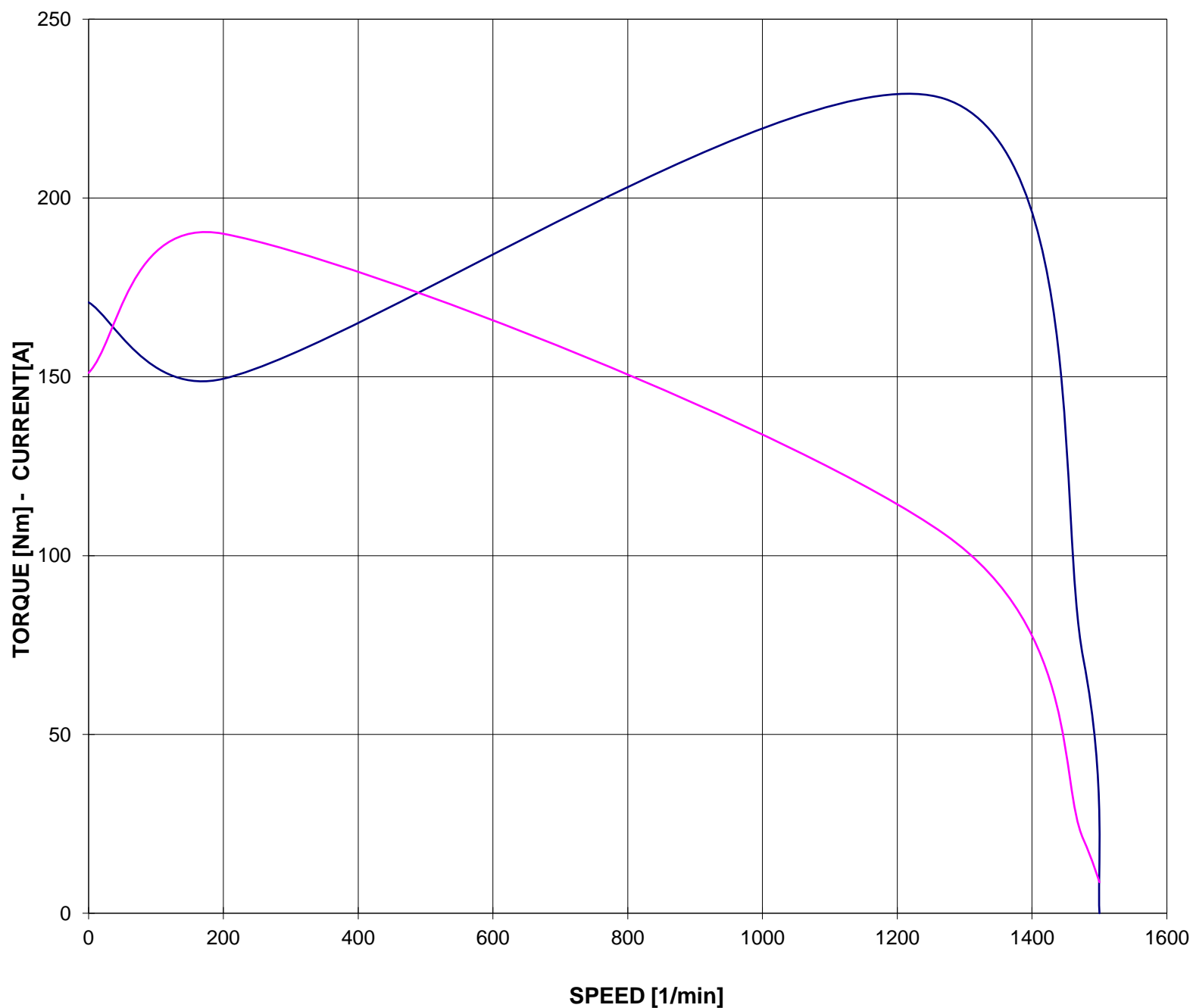


### CURVA COPPIA/CORRENTE-GIRI TORQUE/CURRENT-SPEED DIAGRAM

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

<b>Motore / Motor</b>	<b>TCI 160MB4</b>	
Potenza nominale / Rated power	11,00	kW
Poli / Pole	4	
Tensione - Frequenza / Voltage - Frequency	400 - 50	V - Hz
Corrente / Rated current	20,70	A
Velocità / Speed	1476	rpm
Coppia / Torque	71,17	Nm

— COPPIA - TORQUE    — CORRENTE - CURRENT



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

Data / Date 03-feb-21

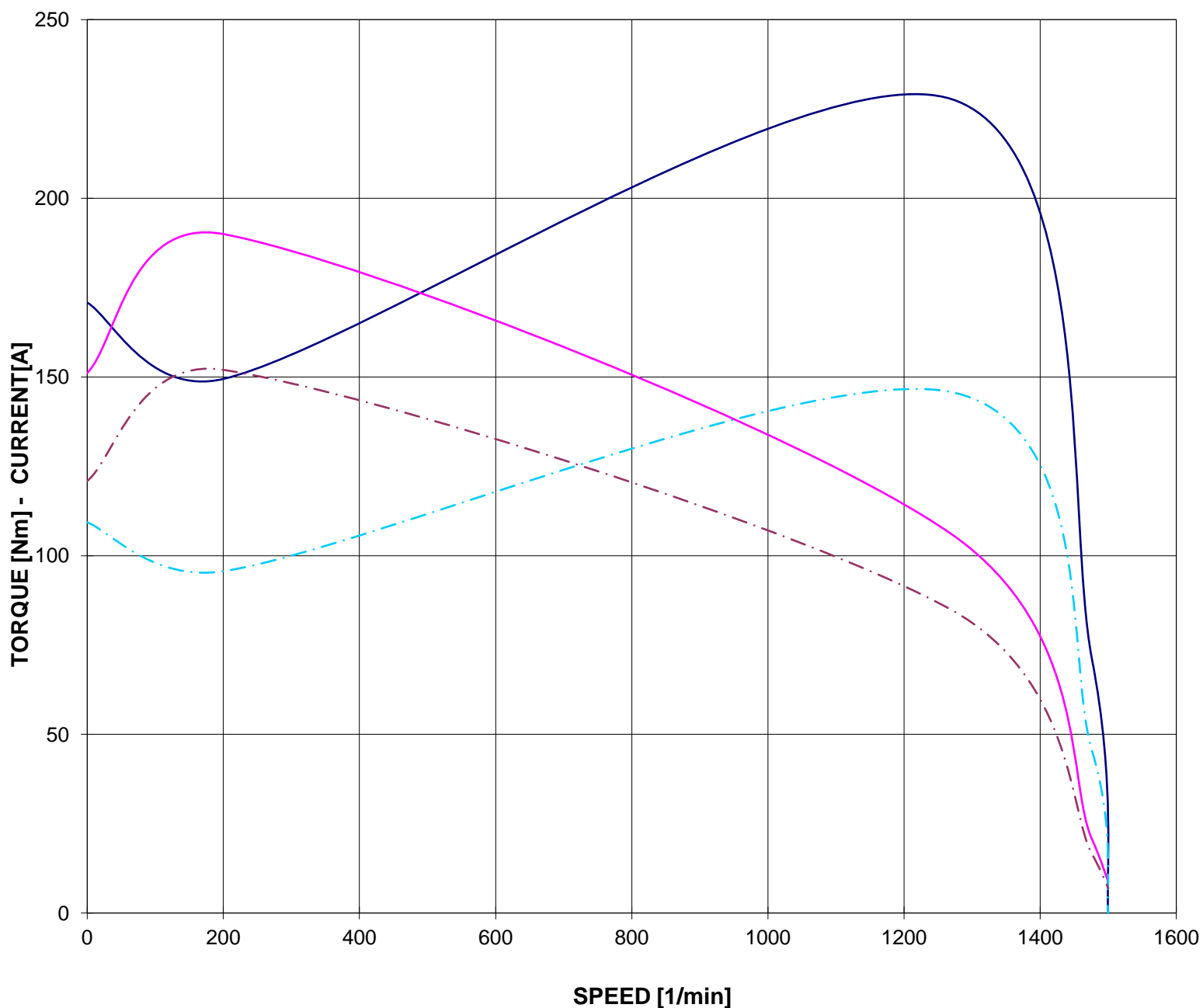


**CURVA COPPIA/CORRENTE-GIRI (Tensione ridotta)**  
**TORQUE/CURRENT-SPEED DIAGRAM (Reduced voltage)**

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

<b>Motore / Motor</b>	<b>TCI 160MB4</b>	
Potenza nominale / Rated power	11,00	kW
Poli / Pole	4	
Tensione - Frequenza / Voltage - Frequency	400 - 50	V - Hz
Corrente / Rated current	20,70	A
Velocità / Speed	1476	rpm
Coppia / Torque	71,17	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 03-feb-21

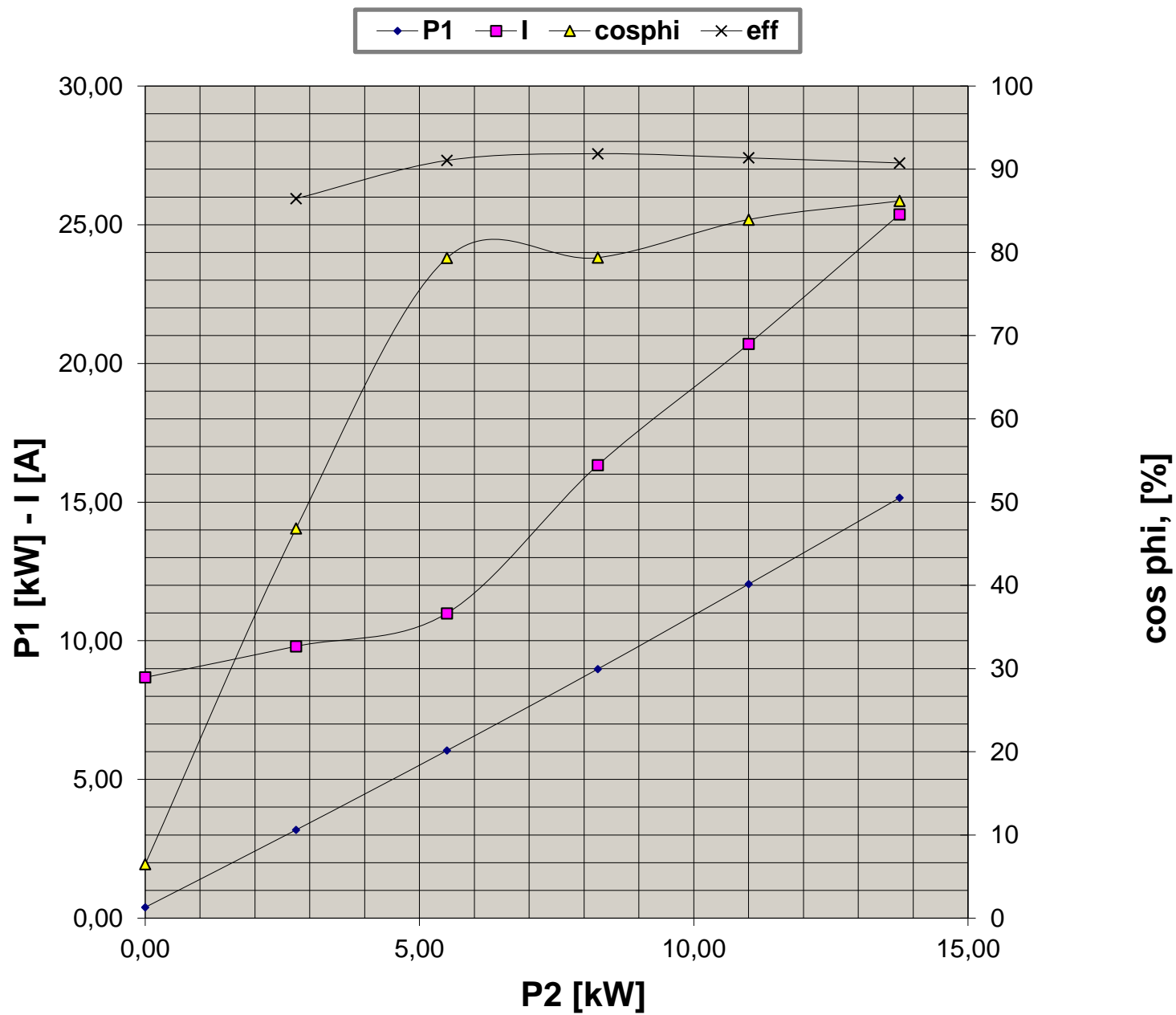




### CURVE CARATTERISTICHE PERFORMANCE CURVES

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

<b>Motore / Motor</b>	<b>TCI 160MB4</b>	
Potenza nominale / Rated power	11,00	kW
Poli / Pole	4	
Tensione - Frequenza / Voltage - Frequency	400 - 50	V - Hz
Corrente / Rated current	20,70	A
Velocità / Speed	1476	rpm
Coppia / Torque	71,17	Nm



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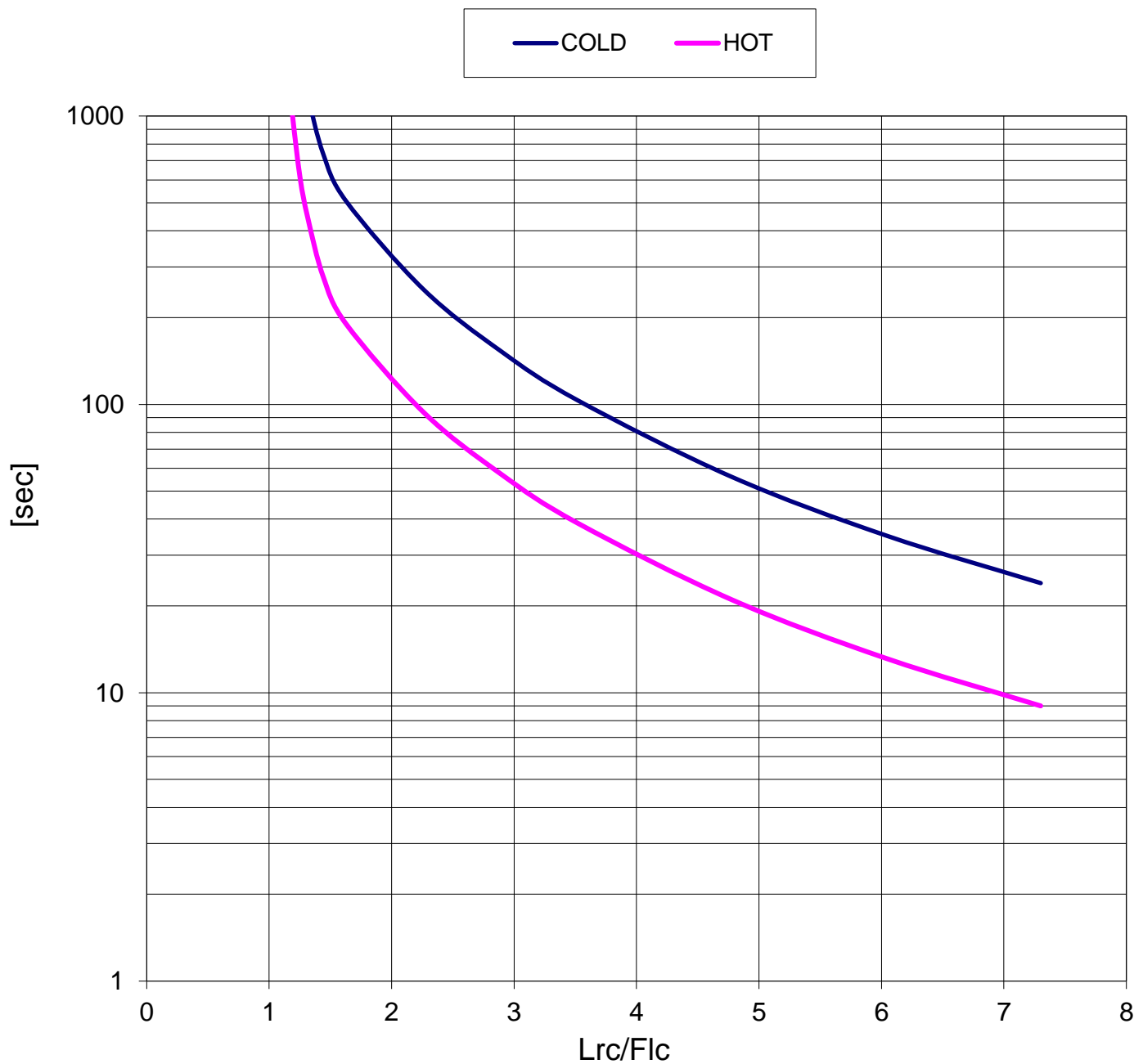
Data / Date 03-feb-21



**CURVA LIMITE CORRENTE TEMPO**  
**THERMAL WITHSTAND CURVE**

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

<b>Motore / Motor</b>	<b>TCI 160MB4</b>	
Potenza nominale / Rated power	11,00	kW
Poli / Pole	4	
Tensione - Frequenza / Voltage - Frequency	400 - 50	V - Hz
Corrente / Rated current	20,70	A
Velocità / Speed	1476	rpm
Coppia / Torque	71,17	Nm



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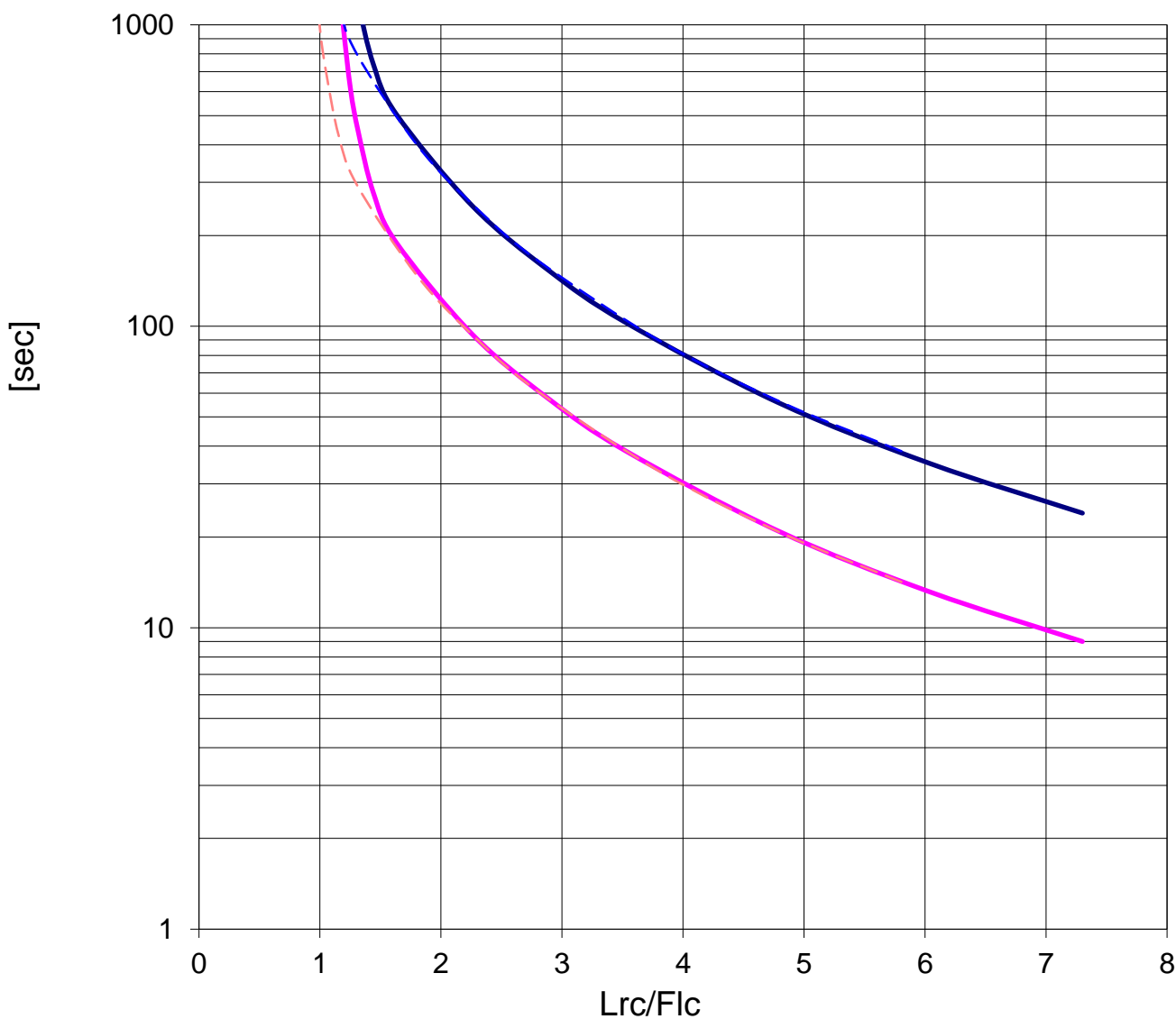
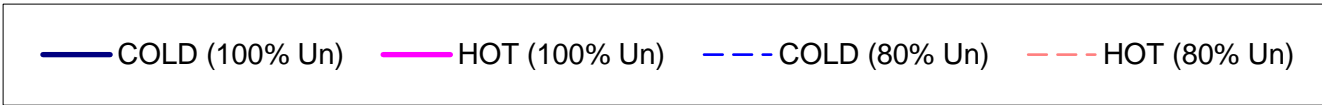
Data / Date 03-feb-21



**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 -

<b>Motore / Motor</b>	<b>TCI 160MB4</b>	
Potenza nominale / Rated power	11,00	kW
Poli / Pole	4	
Tensione - Frequenza / Voltage - Frequency	400 - 50	V - Hz
Corrente / Rated current	20,70	A
Velocità / Speed	1476	rpm
Coppia / Torque	71,17	Nm



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

Data / Date 03-feb-21