

PRODUCT INFORMATION PACKET

Model No: E3TI3002161B30D41100

Catalog No: E3TI3002161B30D41100

Made in Italy TCI Series, General Purpose Low Voltage IEC motor, Safe Area, 11,00 kW, 3 phase,
2951 RPM, D400/Y690V 50Hz, 160MB Frame B3, 2 Poles, IC411



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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	Efficiency Class	IE3

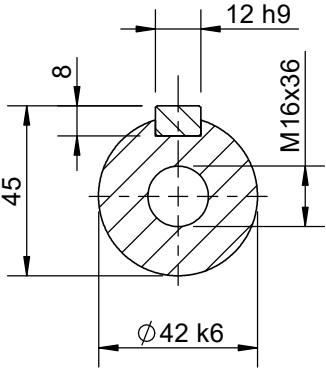
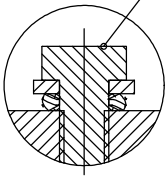
Technical Specifications

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		
Connection Drawing	SC-01-T-1v-1a	Outline Drawing	B3A04T8165001A01

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Earth Terminal
suitable for cable
section 2.5-35mm²

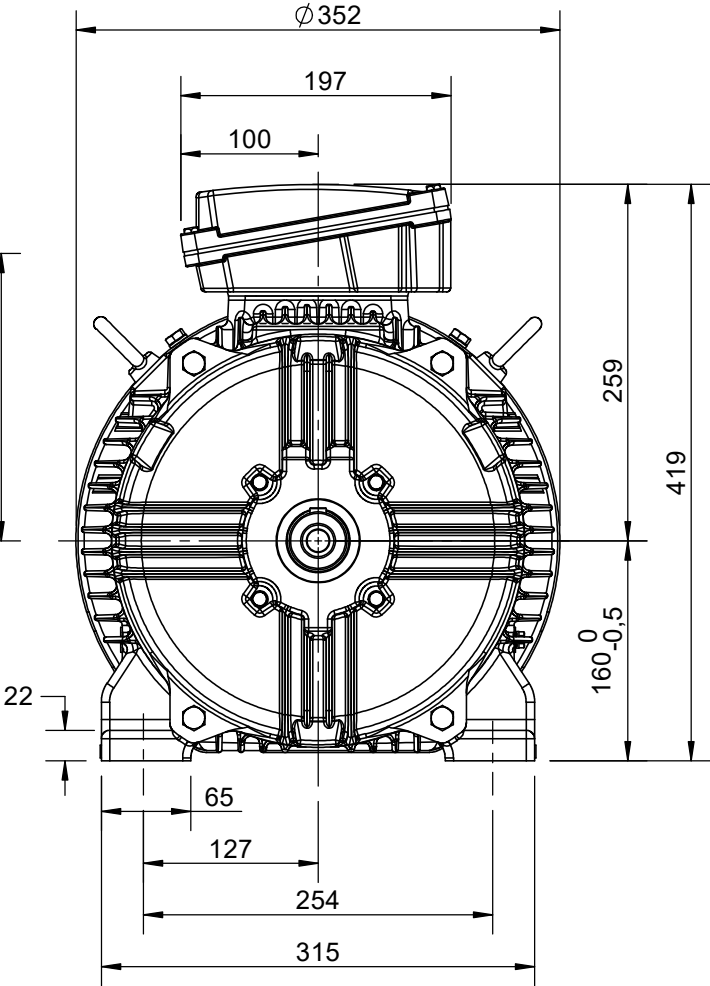
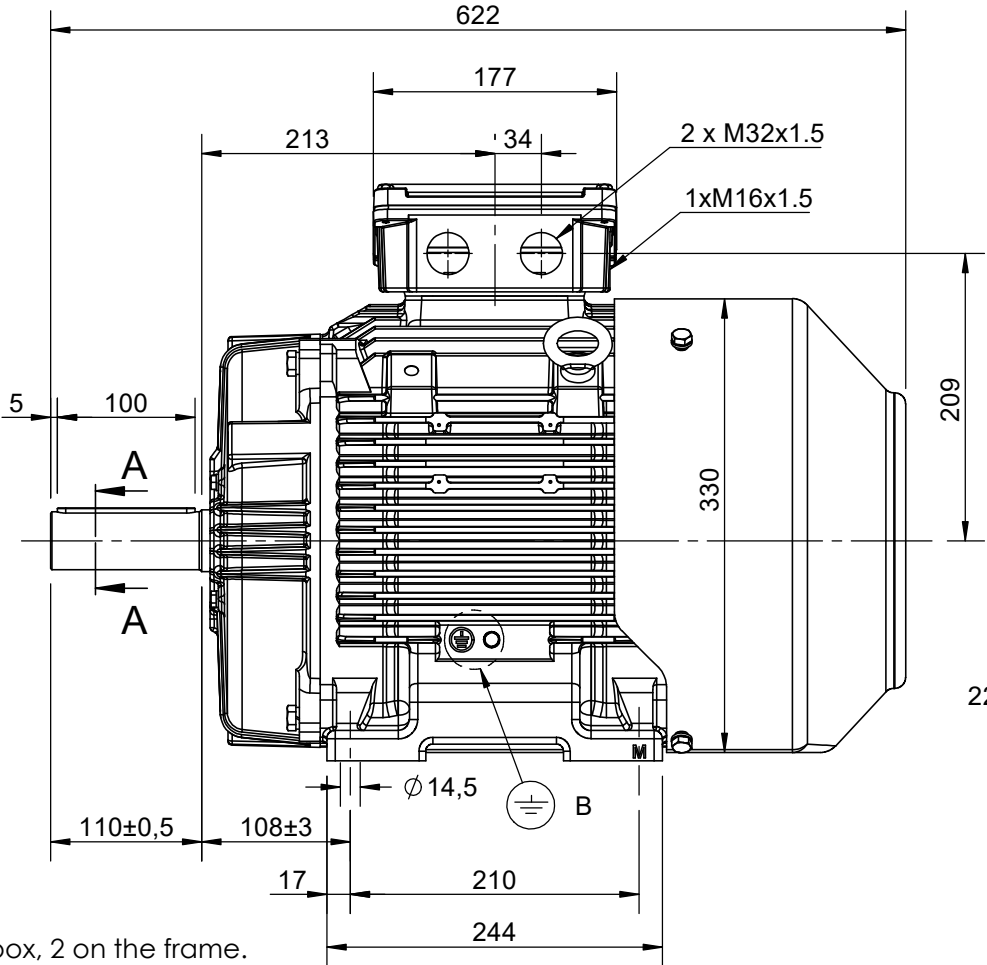
DETAIL B



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			
				DATE	10/11/2021			
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.			DIMENSIONS ARE IN mm ACCORDING TO IEC 60072	REFERENCE	SIZE  A4 DRAWING NUMBER B3A04T8165001A01 SHEET 1 OF 2			
			SERIAL NUMBER					

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		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		01		
2	Motore tipo / Motor type		TCI 160MB2		
3	Numero di serie / Serial Number				
4	Forma costruttiva / Shape		B3		
5					
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	-
77		

Documento preliminare - Preliminary data sheet

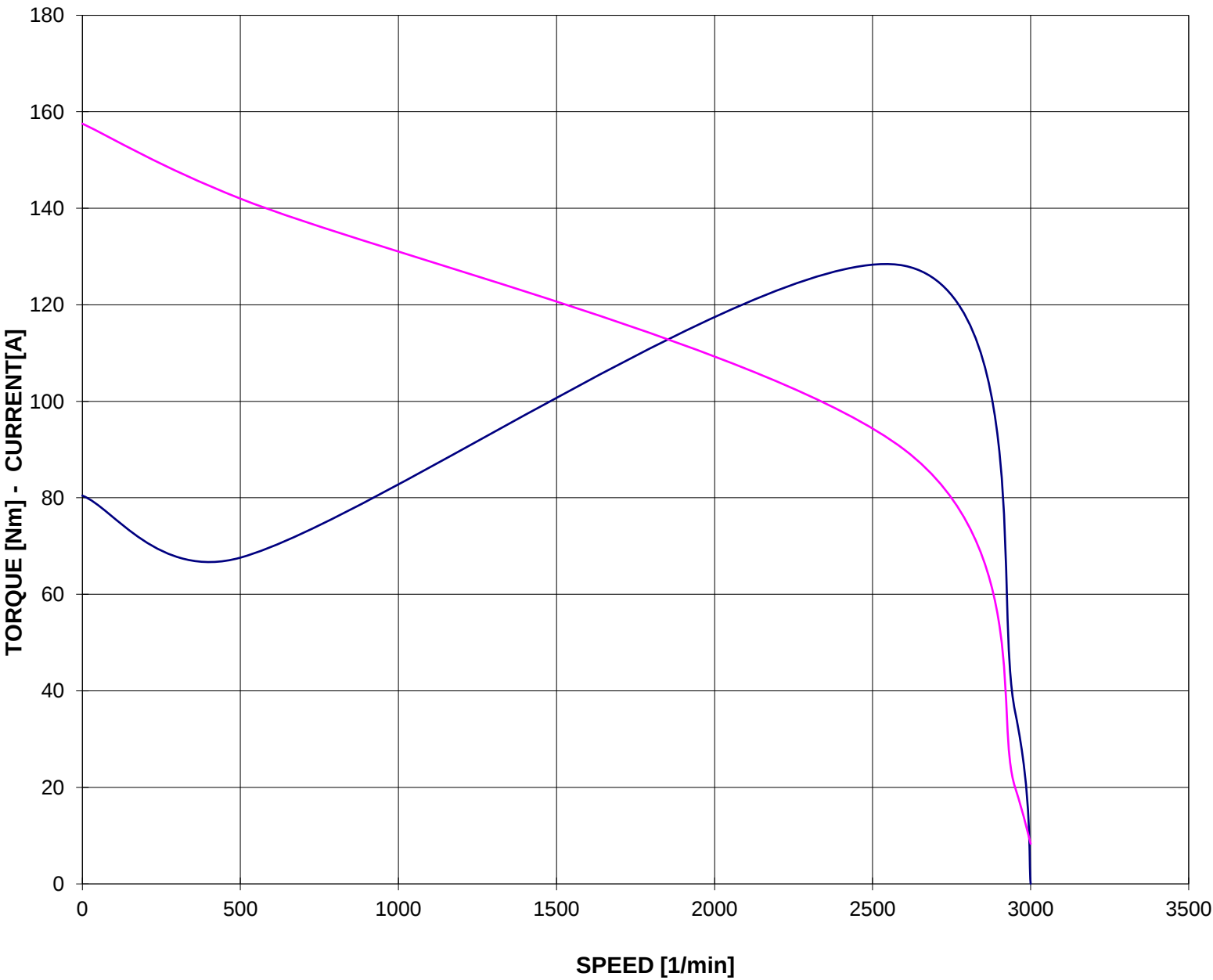


CURVA COPPIA/CORRENTE-GIRI **TORQUE/CURRENT-SPEED DIAGRAM**

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

Motore / Motor	TCI 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

— COPPIA - TORQUE — CORRENTE - CURRENT



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

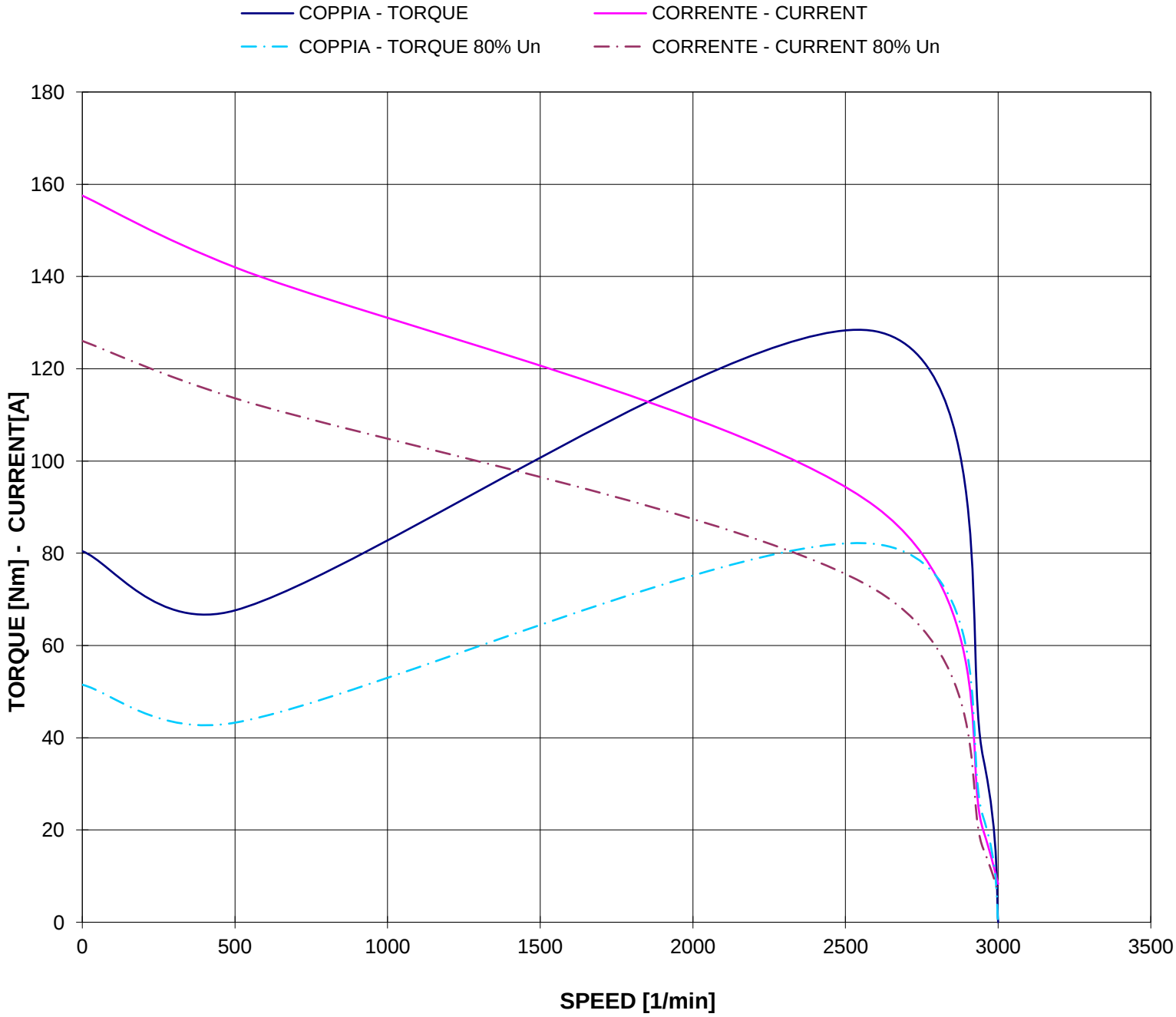
Data / Date 01-feb-21



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 -

Motore / Motor	TCI 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



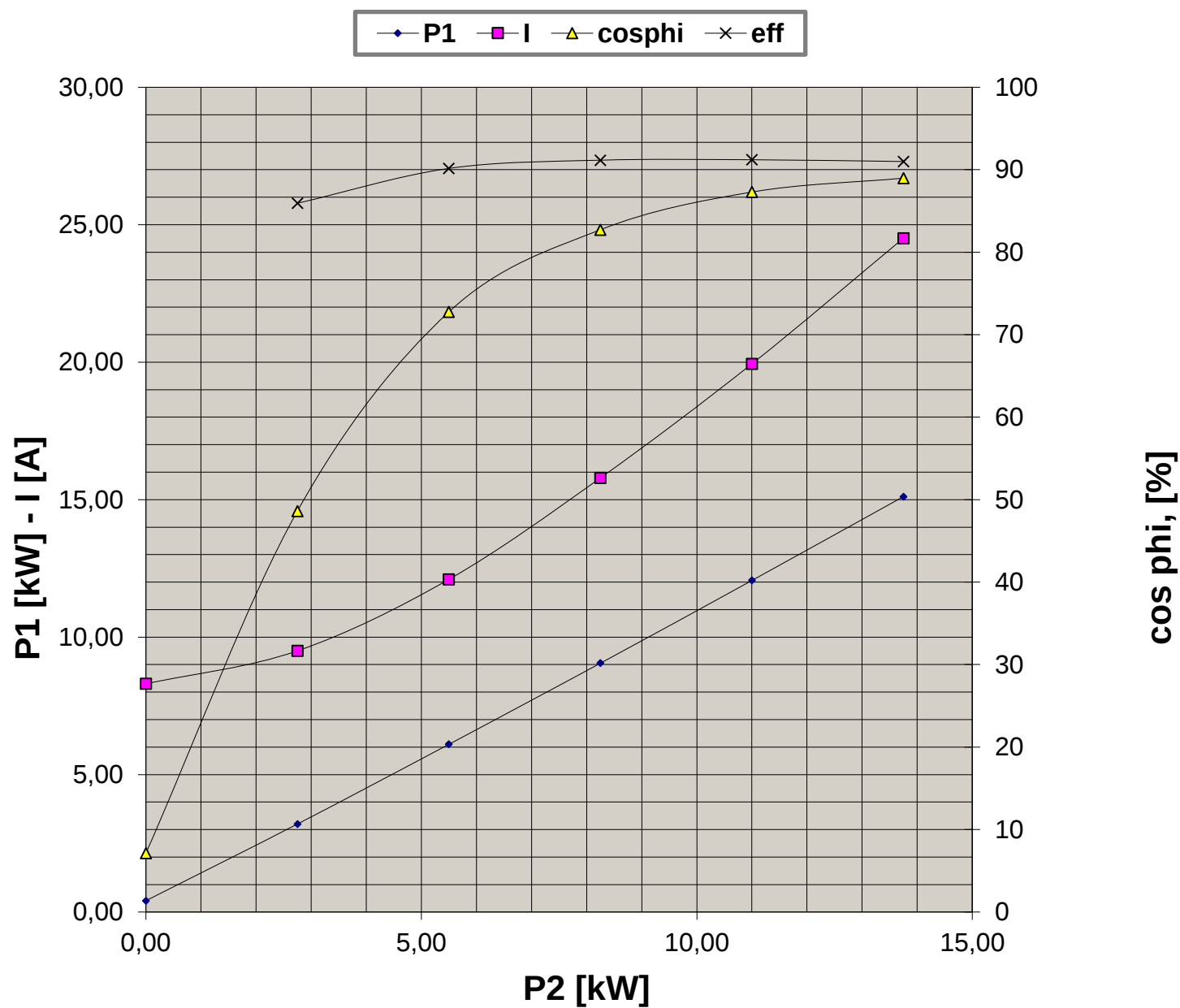
Valori calcolati - Data obtained by calculation method
 Documento preliminare - Preliminary document

Data / Date 01-feb-21

CURVE CARATTERISTICHE PERFORMANCE CURVES

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

Motore / Motor	TCI 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
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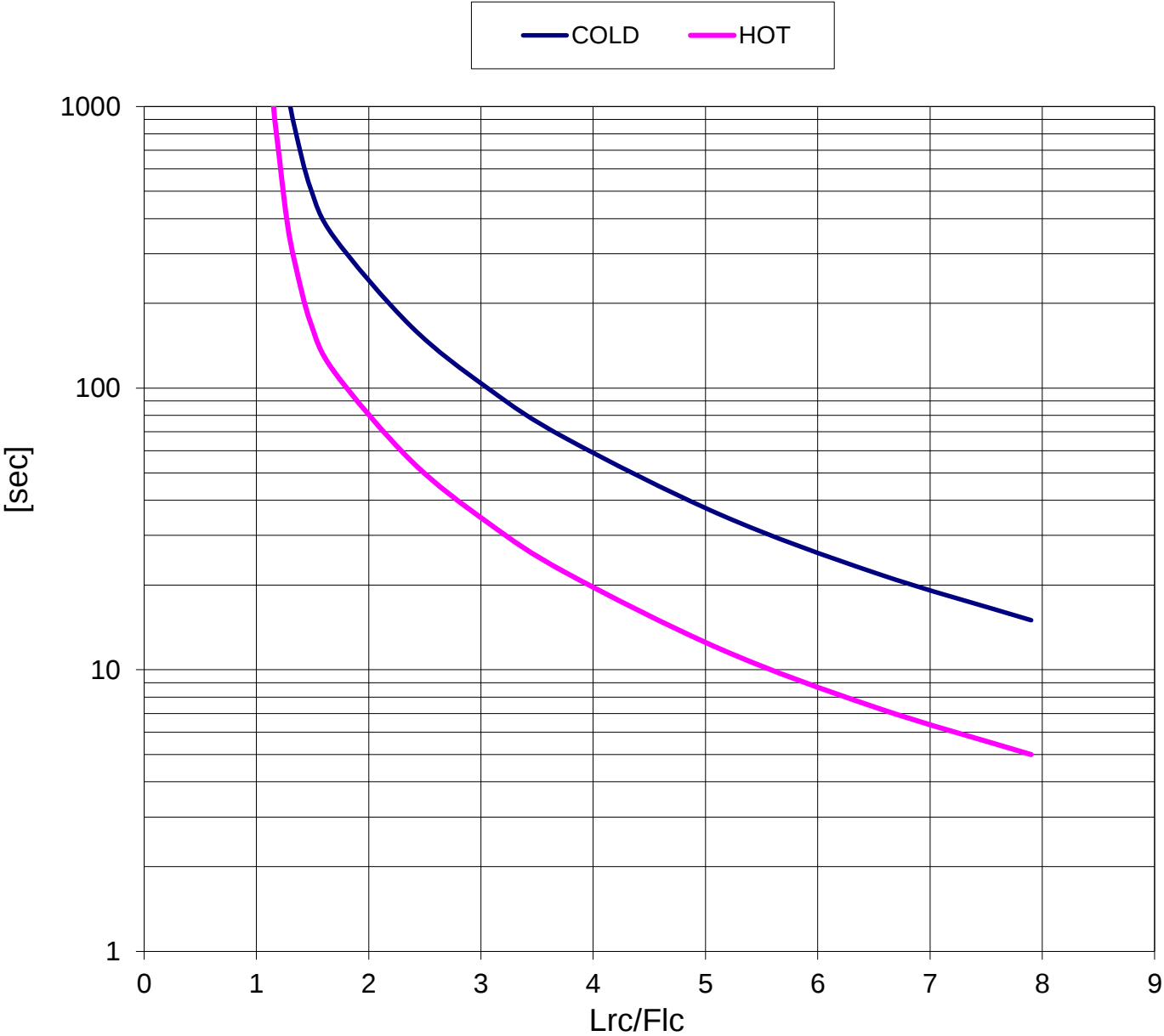


CURVA LIMITE CORRENTE TEMPO
THERMAL WITHSTAND CURVE

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

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

Motore / Motor	TCI 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-feb-21



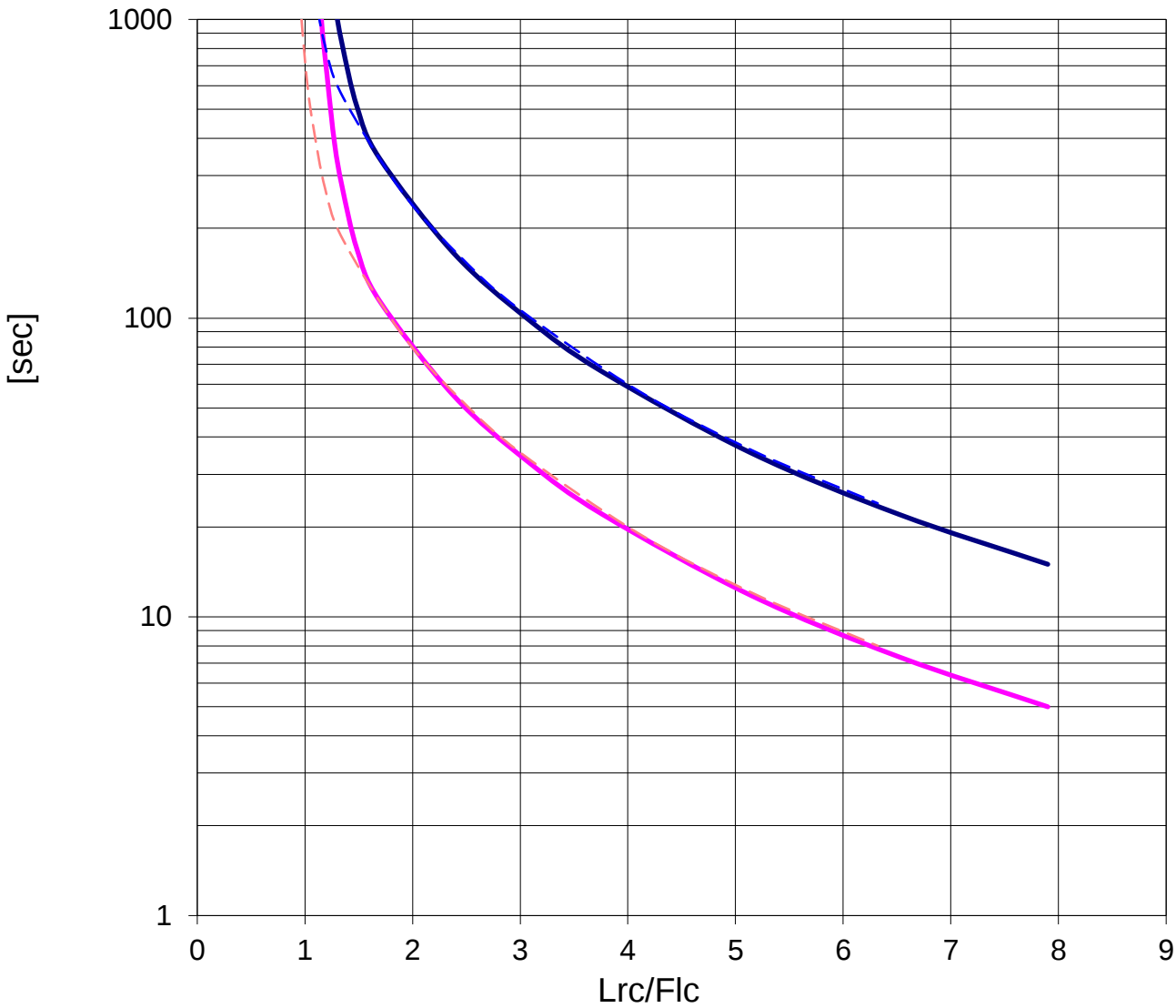
CURVA LIMITE CORRENTE TEMPO (Tensione ridotta)
THERMAL WITHSTAND CURVE (Reduced voltage)

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

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

Motore / Motor	TCI 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

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



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

Data / Date 01-feb-21