

PRODUCT INFORMATION PACKET

Model No: E3TN3002285B35D41100

Catalog No: E3TN3002285B35D41100

Made in Italy TCN Series, General Purpose Low Voltage IEC motor, Increased Safety, 90,00 kW,
3 phase, 2981 RPM, D400/Y690V 50Hz, 280MA Frame B35, 2 Poles, IC411



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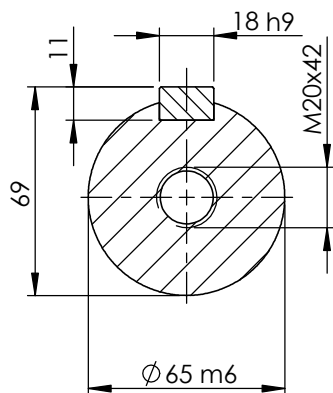
Nameplate Specifications

Output HP	120 Hp	Output KW	90.0 kW
Frequency	50 Hz	Voltage	400/690 V
Current	150.9 A	Speed	2981 rpm
Service Factor	1	Phase	3
Efficiency	95 %	Power Factor	0.9
Duty	S1	Insulation Class	F
Frame	280MA	Enclosure	Totally Enclosed Fan Cooled
Ambient Temperature	40 °C	Drive End Bearing Size	6314
Opp Drive End Bearing Size	6314	UL	No
CSA	No	CE	Yes
IP Code	IP55	Number of Speeds	1

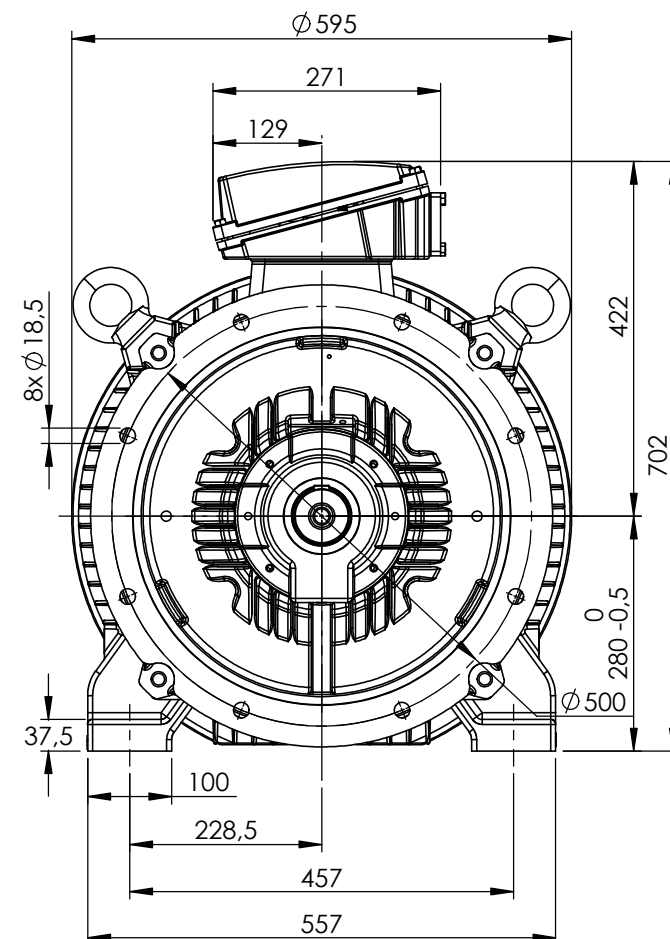
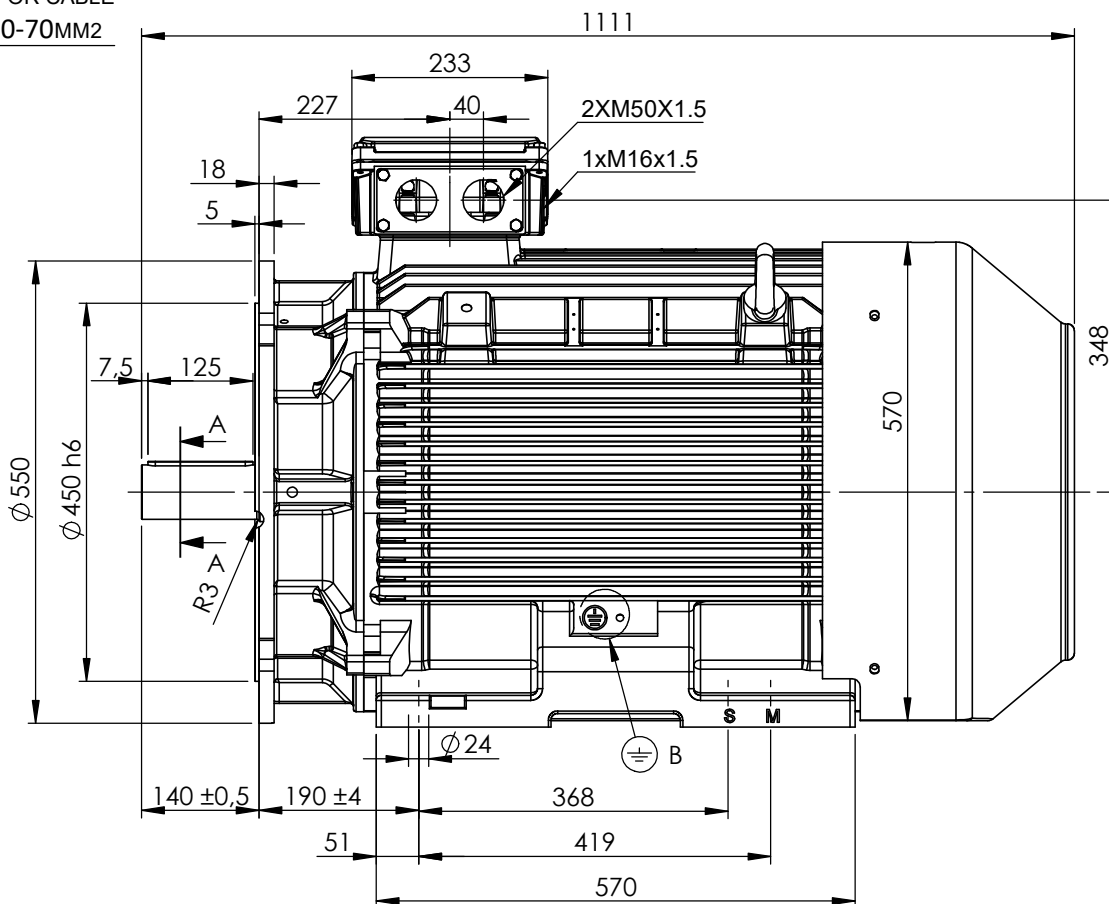
Technical Specifications

Electrical Type	Squirrel Cage	Starting Method	Direct On Line
Poles	2	Rotation	Bi-Directional
Mounting	B35	Motor Orientation	Horizontal
Drive End Bearing	C3	Opp Drive End Bearing	C3
Frame Material	Cast Iron	Shaft Type	Keyed
Overall Length	1111.00 mm	Frame Length	600.00 mm
Shaft Diameter	65.000 mm	Shaft Extension	140 mm
Assembly/Box Mounting	Top		
Outline Drawing	B3A04T8280001D01	Connection Drawing	SC-01-T-1v-1a

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SECTION A-A
SCALE 1 : 2.5



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 * TOLERANCES: ±0.8		DRAWN BY		REGAL™ cemp							
1		TN		10/05/2022				TN									
ECO		APPROVED BY		DATE		DIMENSIONS ARE IN mm ACCORDING TO IEC 60072		29/11/2021		DESCRIPTION Motor 280 2P TC (L) B35							
ECO DESCRIPTION		LP		11/05/2022				APPROVED BY									
				LP				DATE									
				30/11/2021				REFERENCE									
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								A4				B3A04T8280001D01		1 OF 2			

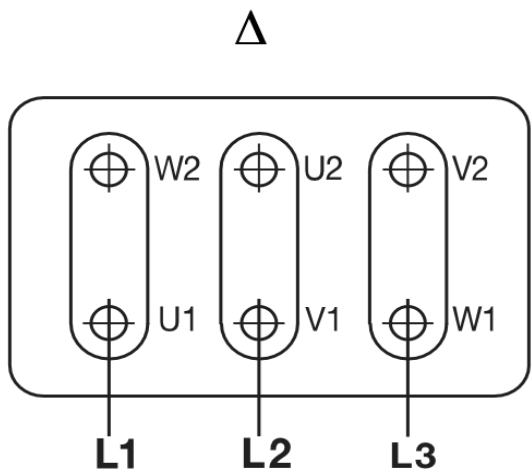
Schema di collegamento - *Connection diagram*
Schemas de branchement - *Schaltpl n*
Esquemas de conexi n



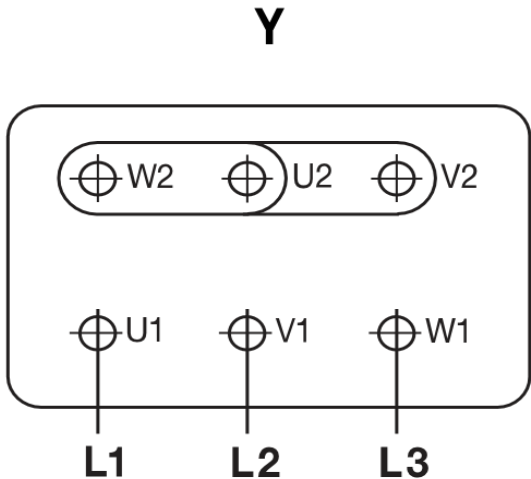
DTE 01/01/2004
SC - 01 - T - 1v.doc

**Motori trifase una velocit  - *Single speed, three phase motors* - Moteurs triphas  une vitesse
Drehstrommotor Eine Drehzahlstufe - Motores trif sico una velocidad**

Collegamento - *Connection* - Connexion - *Schaltung* - Conexi n



Collegamento - *Connection* - Connexion - *Schaltung* - Conexi n



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 Drehrichtungs nderung zwei Phasen vertauschen* - Para invertir el sentido de rotaci n 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	
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 - <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	-
Offerta / Offer	-
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 280MA2	
3	Numero di serie / Serial Number					
4	Forma costruttiva / Shape				B35	
5	Certificato / Certificate			TÜV IT	20 ATEX 103X	
6						
Dati nominali / Rated data						
7	Poli / Pole			n°	2	
8	Potenza nominale / Rated power			kW	90,00	
9	Corrente nominale / Rated current			A	150,94	
10	Velocità nominale / Full Load speed			1/min	2981	
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	2981	2990	2993	
19	Corr. / Curr.	A	150,94	116,70	85,31	
20	Rend / Eff	%	95,0	95,0	94,3	
21	cos φ	-	0,91	0,88	0,81	
Performances all'avviamento / Starting performances						
22	Ia/In - LRC/FLC			%	730	
23	Cosphi a rotore bloccato / LR power factor				0,36	
	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	50	
	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	288,33	
31	Ca/Cn - LRT/FLT			%	180	
32	Cmax/Cn - BDT/FLT			%	305	
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	-	6314 C3
45	Cuscinetto post / NDE bearing	-	6314 C3
46	Carico radiale max / Max radial load in X1	N	4780
47	Carico assiale max / Max axial load	N	3277
48	Tipo grasso / Grease type	LGHP2 SKF or equivalent	
49	Intervallo lubrificazione / Lubrication	h	1500
50	Quantità grasso / Quantity grease	gr	26
Caratteristiche meccaniche / mechanical specification			
51	Massa / Mass	kg	718
52	Momento d'inerzia / Moment of inertia	kgm2	1,1746
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	2xM50+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

2 May 2022

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

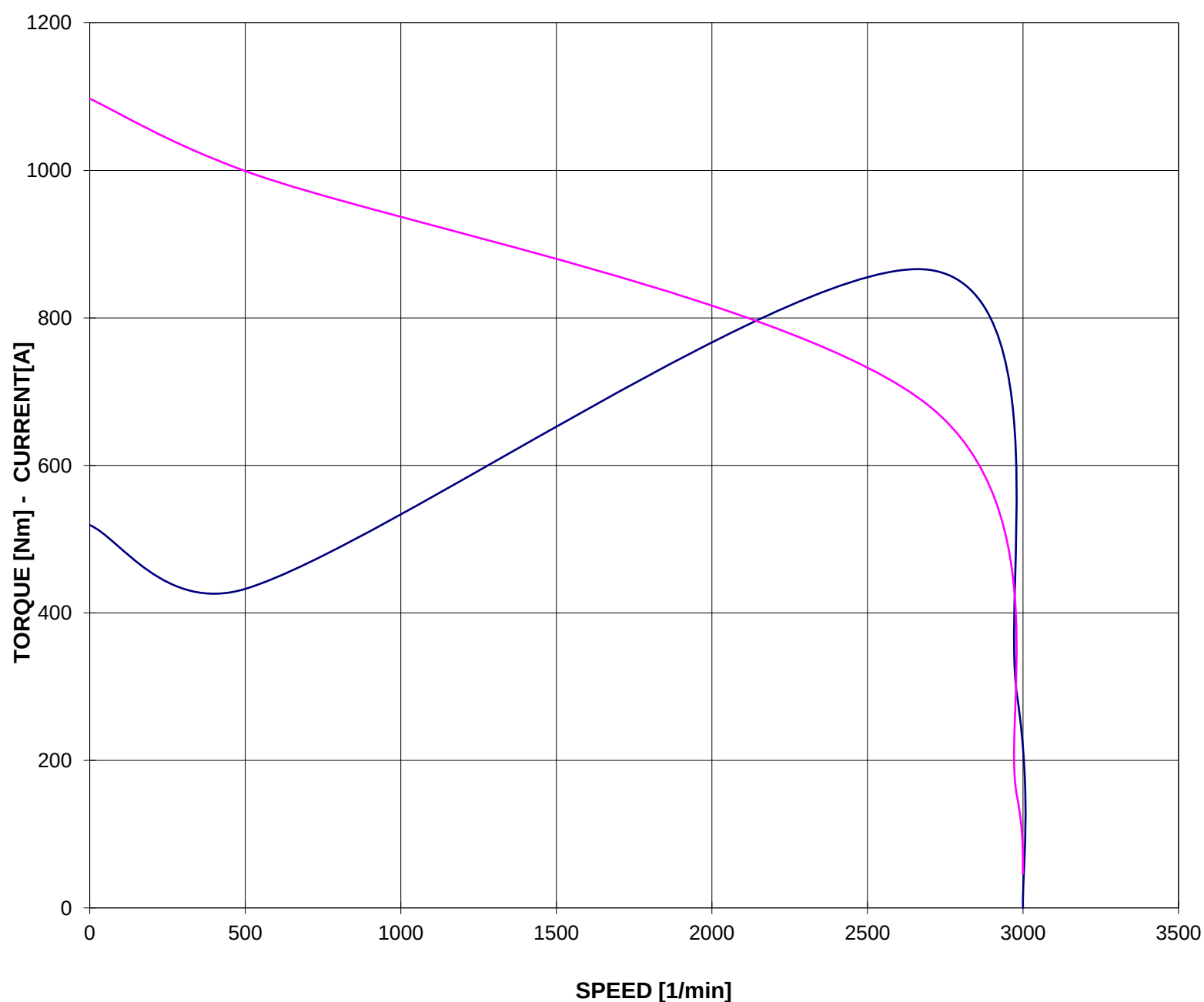
Cliente / Customer -
Impianto / Plant -
ITEM -
Numero d'offerta / Offer Number -

Motore / Motor

TCN 280MA2

Potenza nominale / Rated power	90,00	kW
Poli / Pole	2	
Tensione - Frequenza / Voltage - Frequency	400 - 50	V - Hz
Corrente / Rated current	150,94	A
Velocità / Speed	2981	rpm
Coppia / Torque	288,33	Nm

— COPPIA - TORQUE — CORRENTE - CURRENT



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

Data / Date 29-giu-22

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

Cliente / Customer

-

Impianto / Plant

-

ITEM

-

Numero d'offerta / Offer Number

-

Motore / Motor

TCN 280MA2

Potenza nominale / Rated power

90,00

kW

Poli / Pole

2

Tensione - Frequenza / Voltage - Frequency

400 - 50

V - Hz

Corrente / Rated current

150,94

A

Velocità / Speed

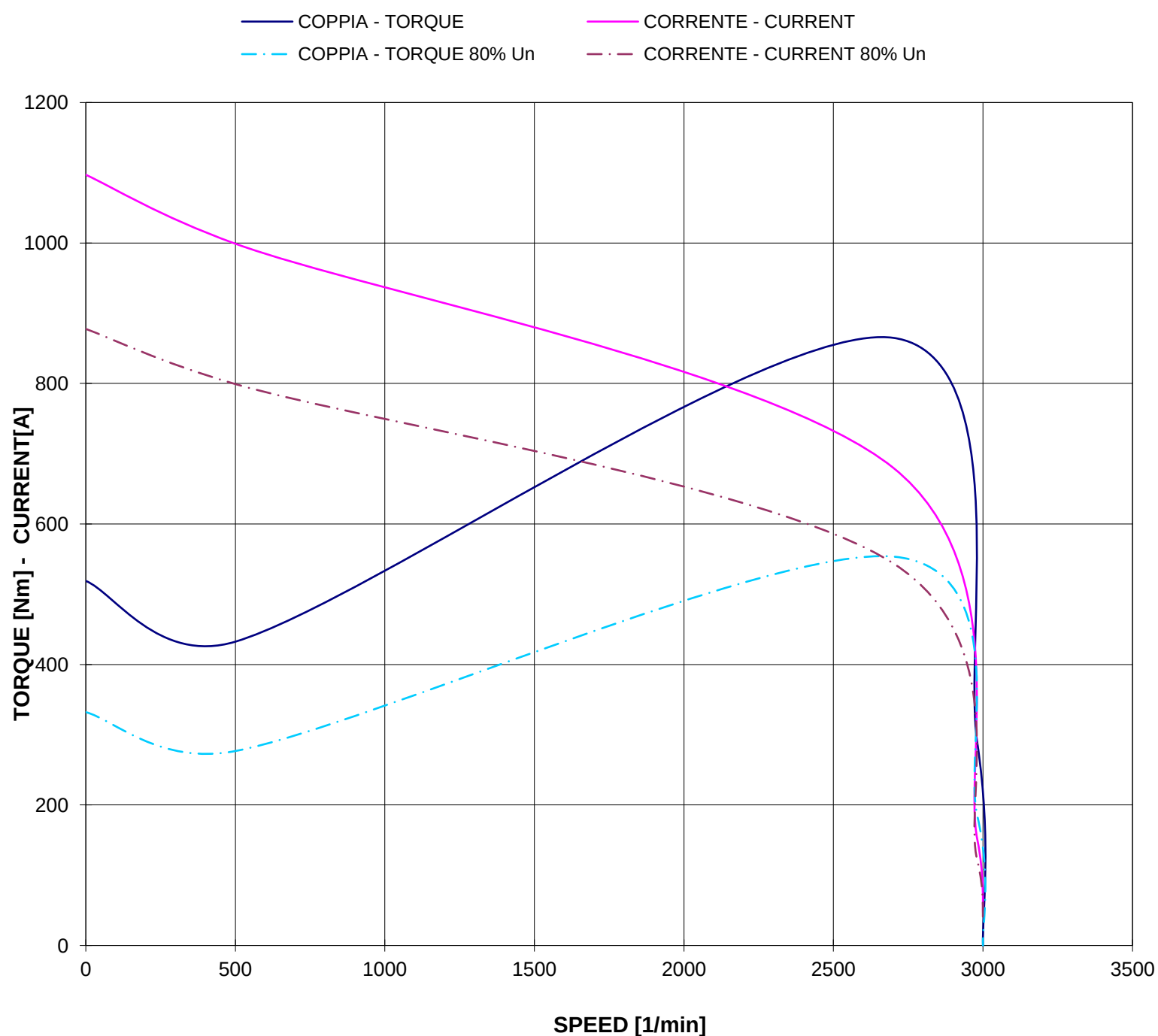
2981

rpm

Coppia / Torque

288,33

Nm



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

Data / Date 29-giu-22

CURVE CARATTERISTICHE PERFORMANCE CURVES

Cliente / Customer

-

Impianto / Plant

-

ITEM

-

Numero d'offerta / Offer Number

-

Motore / Motor

TCN 280MA2

Potenza nominale / Rated power

90,00

kW

Poli / Pole

2

Tensione - Frequenza / Voltage - Frequency

400 - 50

V - Hz

Corrente / Rated current

150,94

A

Velocità / Speed

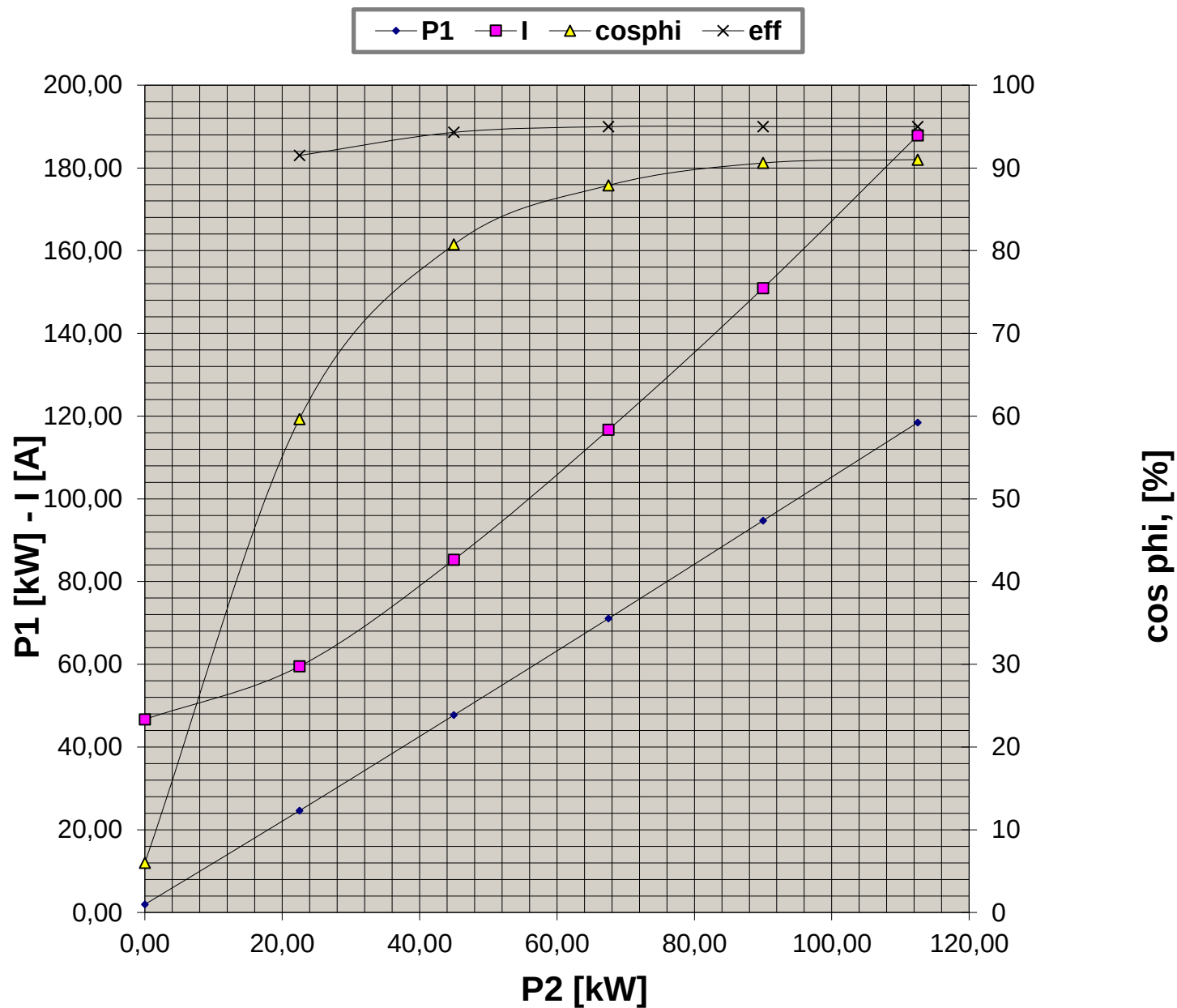
2981

rpm

Coppia / Torque

288,33

Nm



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

Data / Date 29-giu-22

CURVA LIMITE CORRENTE TEMPO
THERMAL WITHSTAND CURVE

Cliente / Customer

-

Impianto / Plant

-

ITEM

-

Numero d'offerta / Offer Number

-

Motore / Motor

TCN 280MA2

Potenza nominale / Rated power

90,00

kW

Poli / Pole

2

Tensione - Frequenza / Voltage - Frequency

400 - 50

V - Hz

Corrente / Rated current

150,94

A

Velocità / Speed

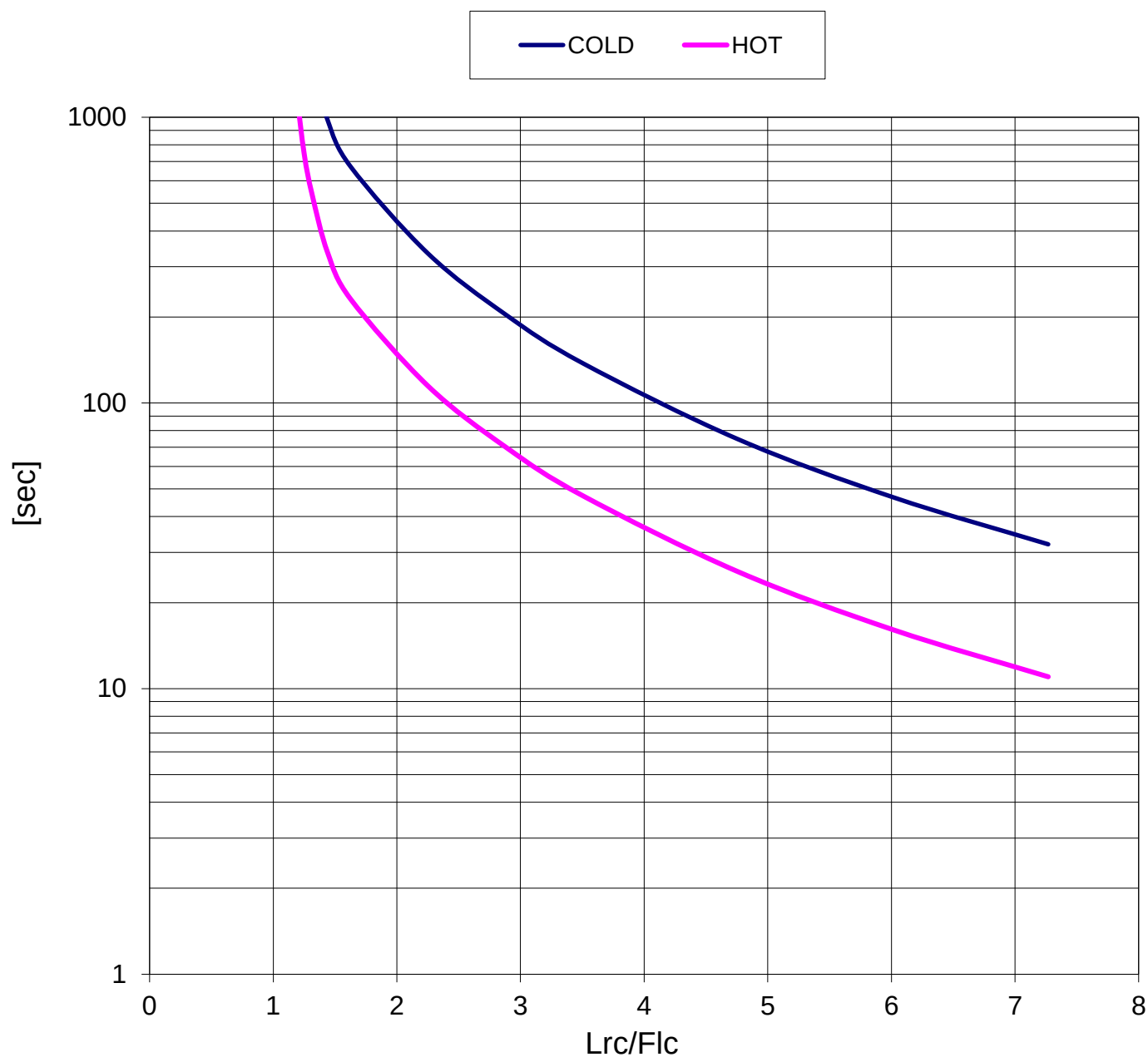
2981

rpm

Coppia / Torque

288,33

Nm



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

Data / Date 29-giu-22

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

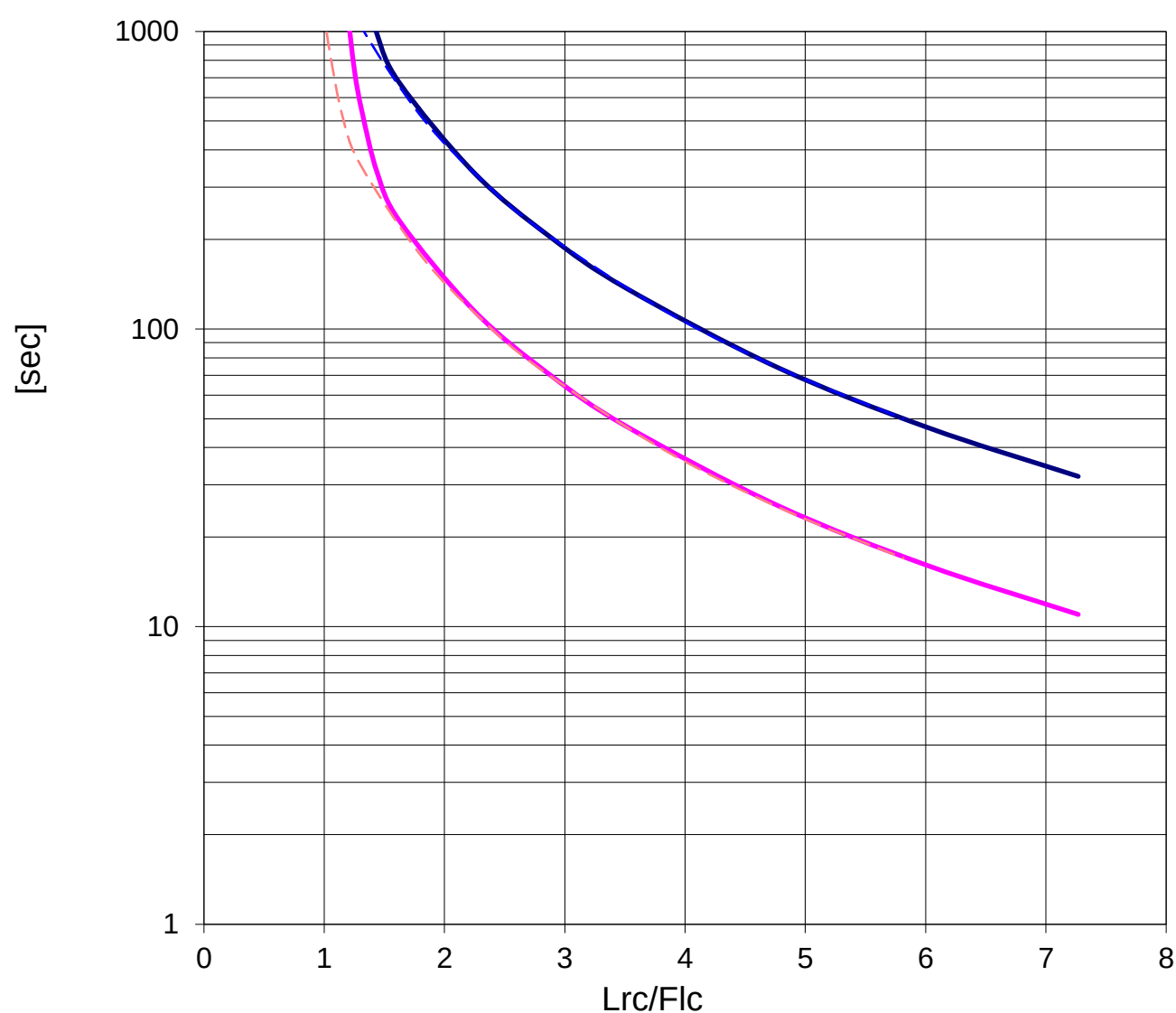
Ciente / Customer -
Impianto / Plant -
ITEM -
Numero d'offerta / Offer Number -

Motore / Motor

TCN 280MA2

Potenza nominale / Rated power	90,00	kW
Poli / Pole	2	
Tensione - Frequenza / Voltage - Frequency	400 - 50	V - Hz
Corrente / Rated current	150,94	A
Velocità / Speed	2981	rpm
Coppia / Torque	288,33	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 29-giu-22