UNIMOTION

CTCA

LINEAR UNIT WITH A LINEAR MOTOR

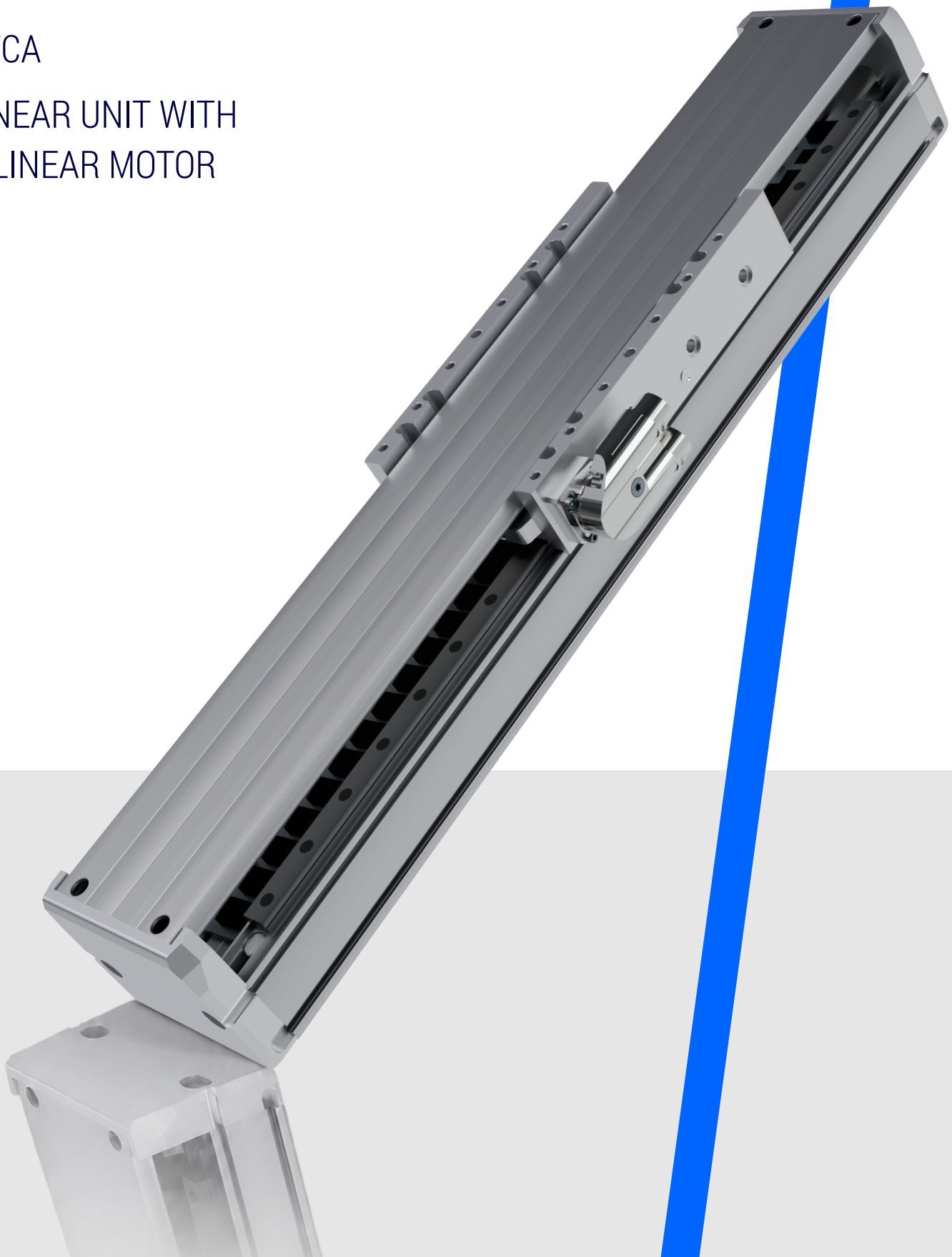


Table of Contents

Linear unit – CTCA

Characteristics and Structural design 3
How to order 4
Technical data 5
Dimensions 6

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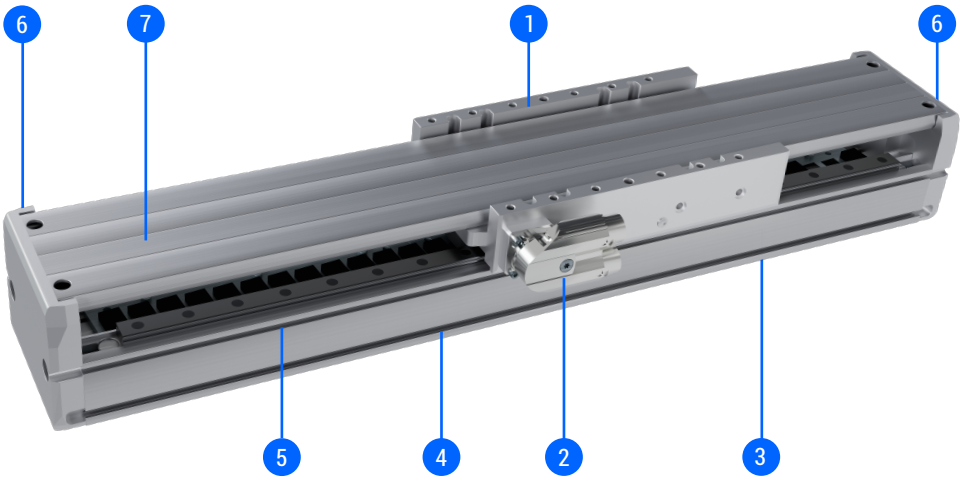
CHARACTERISTICS

CTCA is a linear unit with an integrated, high-performance UNIMOTION linear motor. High accuracy is achieved through a precision, low-noise linear guiding system, while the linear motor enables extremely high dynamic movements. The innovative UNIMOTION linear motor drive enables the unit to achieve speeds of up to 5 m/s. Due to the linear motor drive, CTCA linear units are backlash-free. CTCA linear units are available with a range of different built-in incremental and absolute measurement systems. The combination of the linear motor drive and measurement systems provides repeatability of up to 0,001 mm.

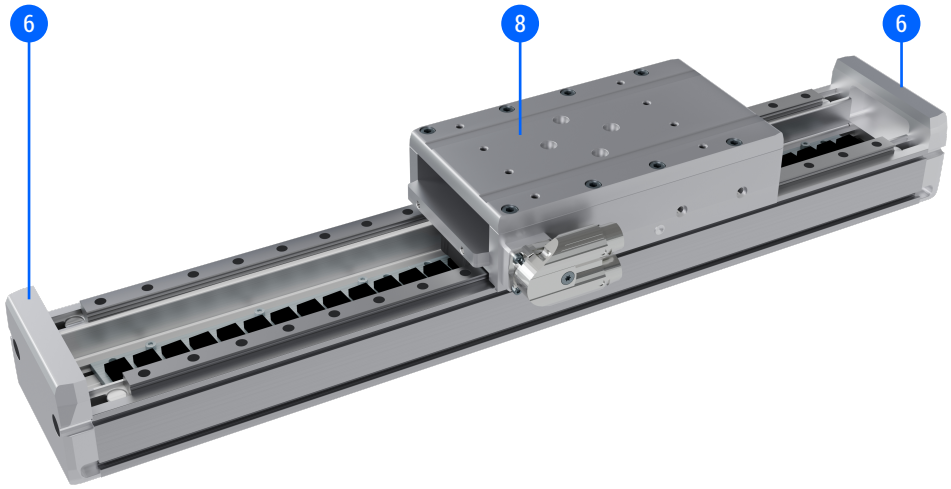
CTCA linear units are designed to be as compact as possible without compromising high performance. This makes them ideal for a wide range of applications. The unit is available with or without an integrated protection profile for enhanced protection of the unit interior. The anodized aluminium profile body features side slots for clamping fixtures. A central lubrication port, located on both sides of the carriage, enables simple re-lubrication and easy maintenance.

The aluminium profiles are manufactured according to the EN 12020-2 standard

STRUCTURAL DESIGN



1 – Carriage
2 – Motor and feedback connectors
3 – Aluminium base profile
4 – Slot for mounting
5 – Slot for limit switch
6 – End block
7 – Protection profile (optional)
8 – Connection plate (optional)



HOW TO ORDER

CTCA - 90 - 1000 - S1 - 1010 - CW - A - A

Series:
CTCA

Size:
– 90

Absolute stroke [mm]:

Carriage version:
– S: Short
– L: Long

Number of carriages:
Up to 5 carriages available

Connection plate:
– 0: Without
– 1: With

Environmental conditions:
– 0: Normal

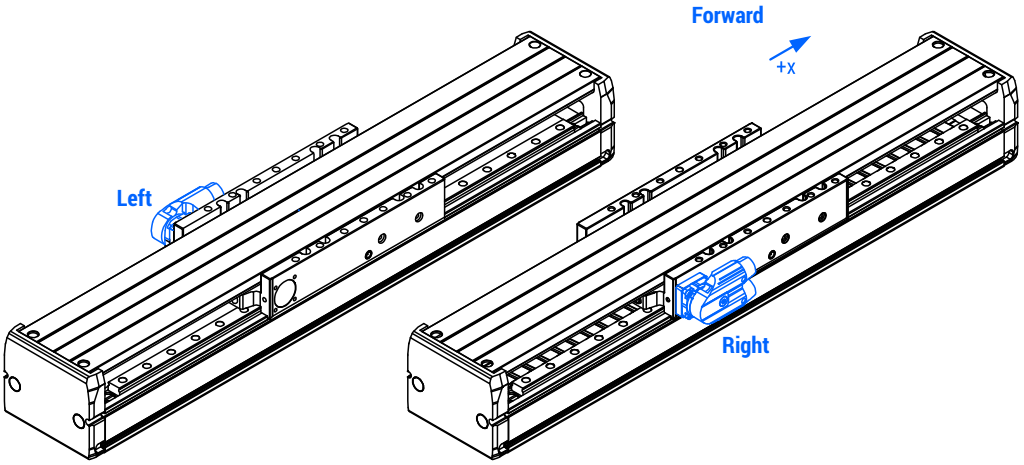
Protection profile:
– 0: Without
– 1: With
Available up to a profile length of 1650 mm

Connector type:
– A: Cable
– B: M15 power connector
– C: M15 power and signal connector
For external measurement systems, options A and B are available.

Measuring system:
– A: Magnetic incremental
– B: Magnetic absolute
– C: Inductive absolute
For available encoder communications and resolutions, please refer to the online configurator.

Magnet plates:
– CW: Without cover

Profile mounting holes:
– 0: Without
– 1: With



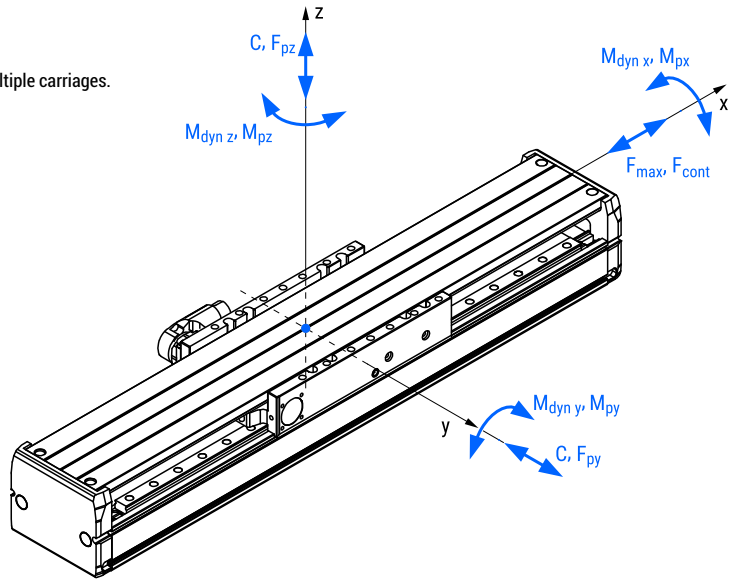
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TECHNICAL DATA

General technical data

CTCA	Carriage version	Dynamic load capacity [1]	Dynamic moments [1]			Max. permissible loads					Max. repeatability [2]	Min. stroke [3]	Max. stroke [4]	
						Forces		Moments					Without cover profile	With cover profile
		C [N]	$M_{dyn\,x}$ [Nm]	$M_{dyn\,y}$ [Nm]	$M_{dyn\,z}$ [Nm]	F_{py} [N]	F_{pz} [N]	M_{px} [Nm]	M_{py} [Nm]	M_{pz} [Nm]	[mm]	[mm]	[mm]	[mm]
90	S	13750	452	660	660	4065	10835	415	520	195	up to ±0,0001	65	6190	1420
	L	20625	680	1086	1086	5690	12330	605	650	300		65	6085	1315

[1] Dynamic load capacity and dynamic moments of the linear guiding system.
[2] Depends on the selected measuring system.
[3] For shorter strokes, please contact us.
[4] For longer strokes, please contact us. The maximum stroke values are not valid for multiple carriages.



Drive data

CTCA	Carriage version	Linear motor [1]	Maximum axial load [2, 3]	Continuous axial load [2]	Frictional force of the carriage without load	Max. travel speed [4]	Max. acceleration	Max. continous current [3, 5]	Max. peak current [3, 5]
			F_{max} [N]	F_{cont} [N]	F_0 [N]	v_{max} [m/s]	[m/s²]	[A]	[A]
90	S	LMCA 15 S L	131	59	6	5,0	75	1,7	5,1
	L	LMCA 15 M L	280	127	8	5,0		3,4	10,2

[1] For more information regarding the linear motors, please refer to the Unimotion documentation related to the linear motors.
[2] Maximum and continuous axial loads depend on the travel speed, please refer to the Unimotion documentation. Frictional force of the carriage is not taken into account.
[3] For a period of 1 second at 20°C.
[4] Maximum travel speed depends on the supply voltage of the linear motor.
[5] Maximum winding temperature 125°C, The unit is equipped with an integrated PT1000 temperature sensor.

Operating conditions

Ambient temperature	+5 °C ~ +40 °C
Duty cycle	100 %

Mass of the linear unit

CTCA	Carriage version	Moved mass	Mass of linear unit							
			With cover profile				Without cover profile			
		$m_{m,\,CTCA}$ [kg]	m_{CTCA} [kg]				m_{CTCA} [kg]			
90	S	1,60	3,85	+	0,0093	× Abs. stroke	3,65	+	0,0085	× Abs. stroke
	L	2,50	5,75	+	0,0093	× Abs. stroke	5,50	+	0,0085	× Abs. stroke

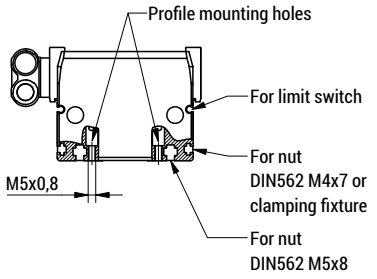
The above mass data are valid for one carriage without a connection plate. The actual total mass of the unit varies depending on the configuration. For accurate mass data, please use the online configurator.

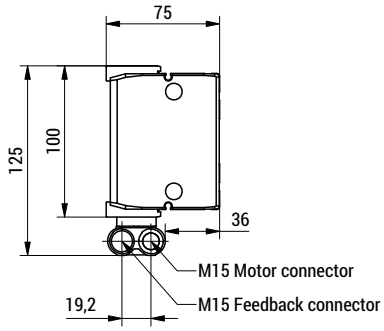
DIMENSIONS

All dimensions are in mm. Drawing scales may not be equal.

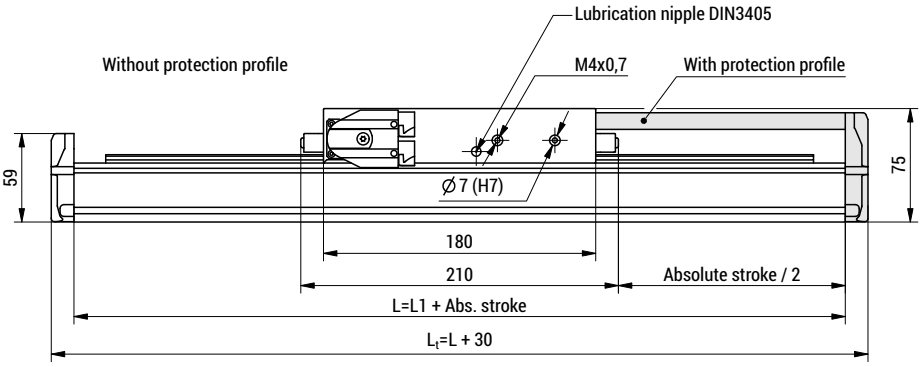
CTCA

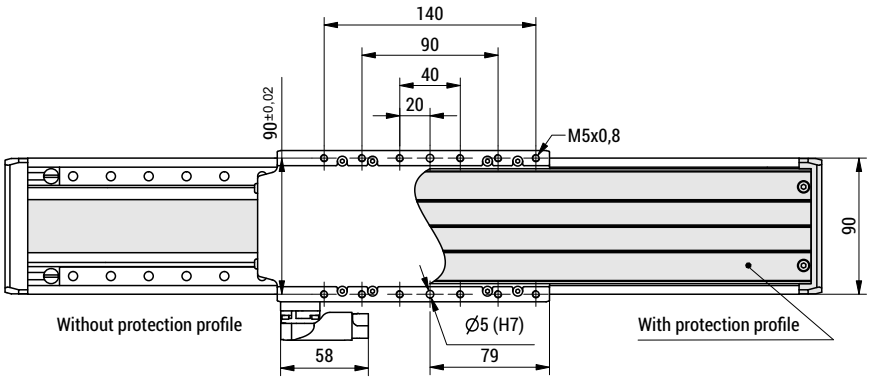
Additional accessories are available on our website.



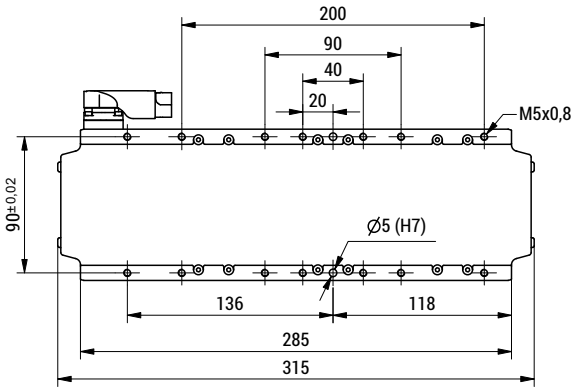


Short carriage with right side connector





Long carriage with left side connector



CTCA	Carriage version	L1 [mm]
90	S	210
	L	315

For accurate sizing and dimensions of all configurations, please use the online configurator.

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UNIMOTION



We cover all major markets. If you wish to contact us, send us an enquiry and we will be happy to assist you.

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