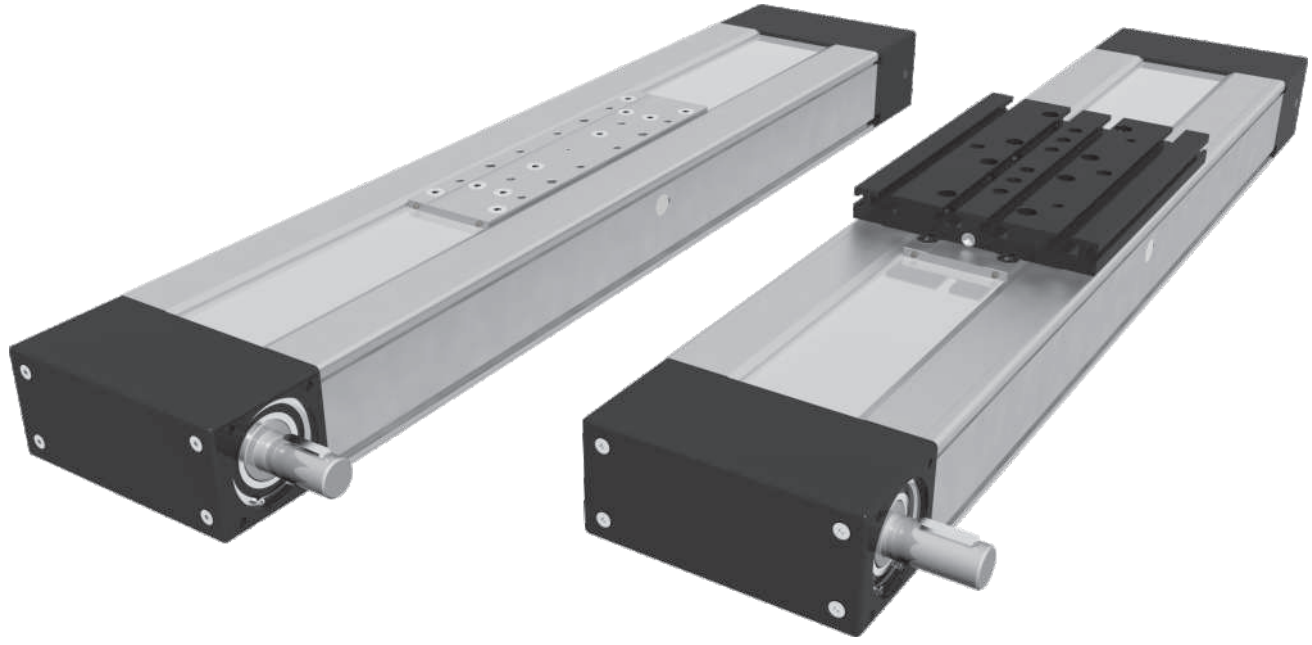
CHARACTERISTICS

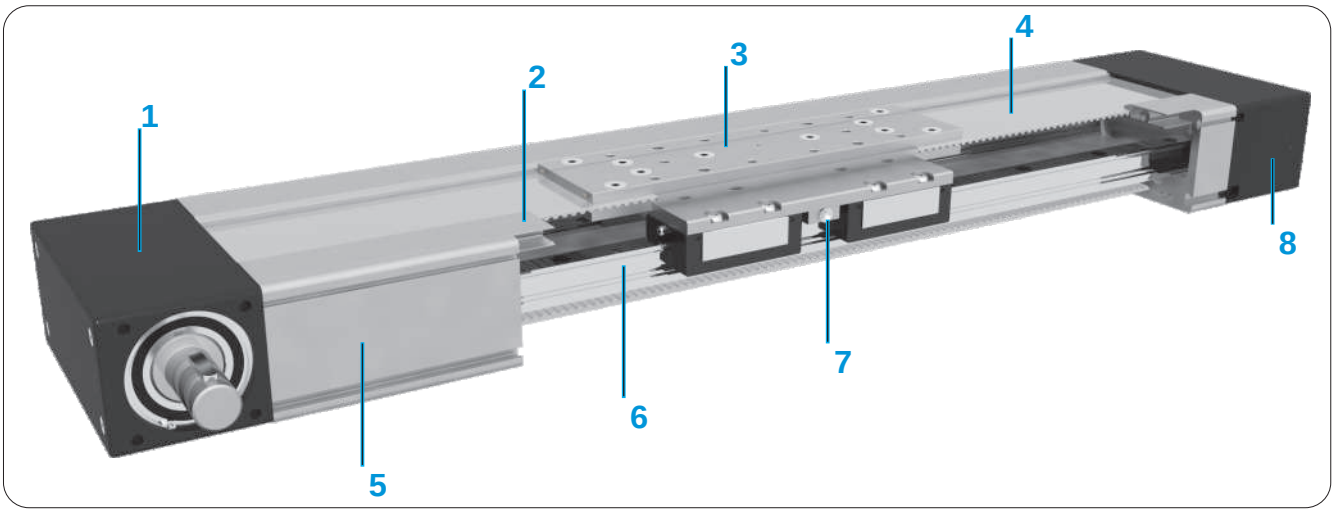
*The **CTJ** series includes Linear Units with a toothed belt drive and two parallel, integrated, Zero-backlash rail guides. Compact dimensions allow high performance features such as, high speed and repeatability. They can easily be combined to multi-axis systems.*
Excellent price-/performance ratio and quick delivery time are ensured.
A compact , precision-extruded aluminum Profile from AL 6063, with two parallel, integrated Zero-backlash rail guide systems, allows high load capacities and an optimal sequence for the movement of larger masses at high speed.
In the linear units CTJ is used a pre-tensioned steel reinforced AT polyurethane timing toothed belt. In conjunction with a Zero-backlash drive pulley high moments with alternating loads with good positioning accuracy, low wear and low noise can be realized.
The in the Profile slot driving Polyurethane timing belt, protects all the parts in the Profile from dust and other contaminations.
Different carriage lengths with lubrication port allows for easy re-lubrication of the Ball rail guide system and allows the possibility to attach additional accessories. The re-lubrication can also be done through maintenance holes on the side of the Profile.
The aluminum profile includes T-slots for fixing the Linear Unit and for attaching sensors and switches. Also, a Reed switch can be used here.
For the linear units CTJ various adaptation options, for attaching (or redirecting), for Motors or Gearboxes are available.



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

Straightness = 0,35 mm/m; Max. torsion = 0,35 mm/m; Angular torsion = 0,2 mm/40 mm; Parallelism = 0,2 mm

STRUCTURAL DESIGN



1 - Drive block with pulley
2 - Aluminum cover
3 - Carriage; with built in Magnets
4 - AT polyurethane toothed belt with steel tension cords
5 - Aluminium profile-Hard anodized
6 - Two integrated Linear Ball Guideways
7 - Central lubrication port; both sides
8 - Tension End with integrated belt tensioning system

HOW TO ORDER

CTJ - 145 - 1000 - L - 1 - R - 1

Series :
CTJ

Size :
90
110
145
200

Absolute stroke (mm) :
(Absolute stroke = Effective stroke + 2 x Safety stroke)

Carriage Version :
S : Short
L : Long

Type of drive pulley :
1 : Pulley with journal
10 : Pulley with journal (without Keyway)
2 : Pulley with journal on both sides
20 : Pulley with journal on both sides (without Keyway)
3 : Without drive unit

By CTJ 200 with drive pulley 2 or 20, the drive journal position left - **L** or right - **R** side must be also specified - motor/gearbox attachment side.

Drive journal position :
L : Journal on left side
R : Journal on right side
Leave blank : For type of drive pulley 2, 20 and 3

Connection plate :
0: Without
1: With

TECHNICAL DATA

General technical data for CTJ series

Linear Unit	Carriage length	Load capacity		Dynamic moment			Moved mass	Maximum Repeatability	* Maximum length	Planar moment of inertia	
	Lv [mm]	Dynamic C [N]	Static C0 [N]	Mx [Nm]	My [Nm]	Mz [Nm]	[kg]	[mm]	Lmax [mm]	Iy [cm^4]	Iz [cm^4]
CTJ 90 S	102	4620	6930	120	12	25	0,20	± 0,08	6000	13,5	106,5
CTJ 90 L	156	9240	13860	250	290	290	0,35	± 0,08			
CTJ 110 S	170	19800	28200	610	140	290	0,64	± 0,08	6000	31,0	215,7
CTJ 110 L	215	39600	56400	1220	1680	1680	0,98	± 0,08			
CTJ 145 S	180	34200	48400	1500	320	650	1,35	± 0,08	6000	78,6	699,5
CTJ 145 L	240	68400	96800	3000	3420	3420	2,25	± 0,08			
CTJ 200 S	265	49600	68600	3230	550	1110	3,05	± 0,08	6000	376,5	2734,5
CTJ 200 L	405	99200	137200	6470	8680	8680	5,70	± 0,08			

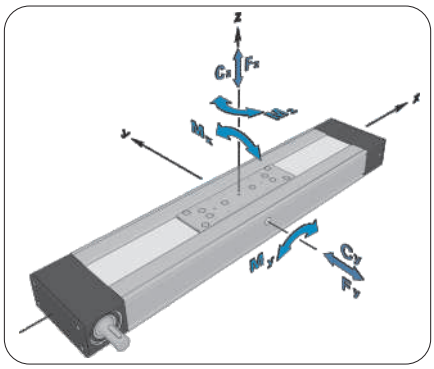
*For lengths over the stated value in the table above please contact us

Recommended values of loads

All the data of static and dynamic moments and load capacities stated in the upper table are theoretical without considering any safety factor. The safety factor depends on the application and its requested safety. We recommend a minimum safety factor (fv =5.0)

Modulus of elasticity

E = 70000 N / mm^2



Drive and belt data for CTJ series

Linear Unit	Maximum travel speed	Maximum drive torque	* No load torque	Puley drive ratio	Pulley diameter	Belt type	Belt width	Max. force transmited by belt	Specific spring constant Cspec
	[m / s]	[Nm]	[Nm]	[mm / rev]	[mm]		[mm]	[N]	[N]
CTJ 90 S	5	7,5	0,40	90	28,65	AT 3	35	520	402500
CTJ 90 L			0,42						
CTJ 110 S	6	15,7	0,98	120	38,20	AT 5	50	820	960000
CTJ 110 L			1						
CTJ 145 S	6	33,6	1,48	165	52,52	AT 5	70	1280	1360000
CTJ 145 L			1,5						
CTJ 200 S	6	102 with keyway	2,3	250	79,58	AT 10	100	3250	4350000
CTJ 200 L		129 without keyway	2,8						

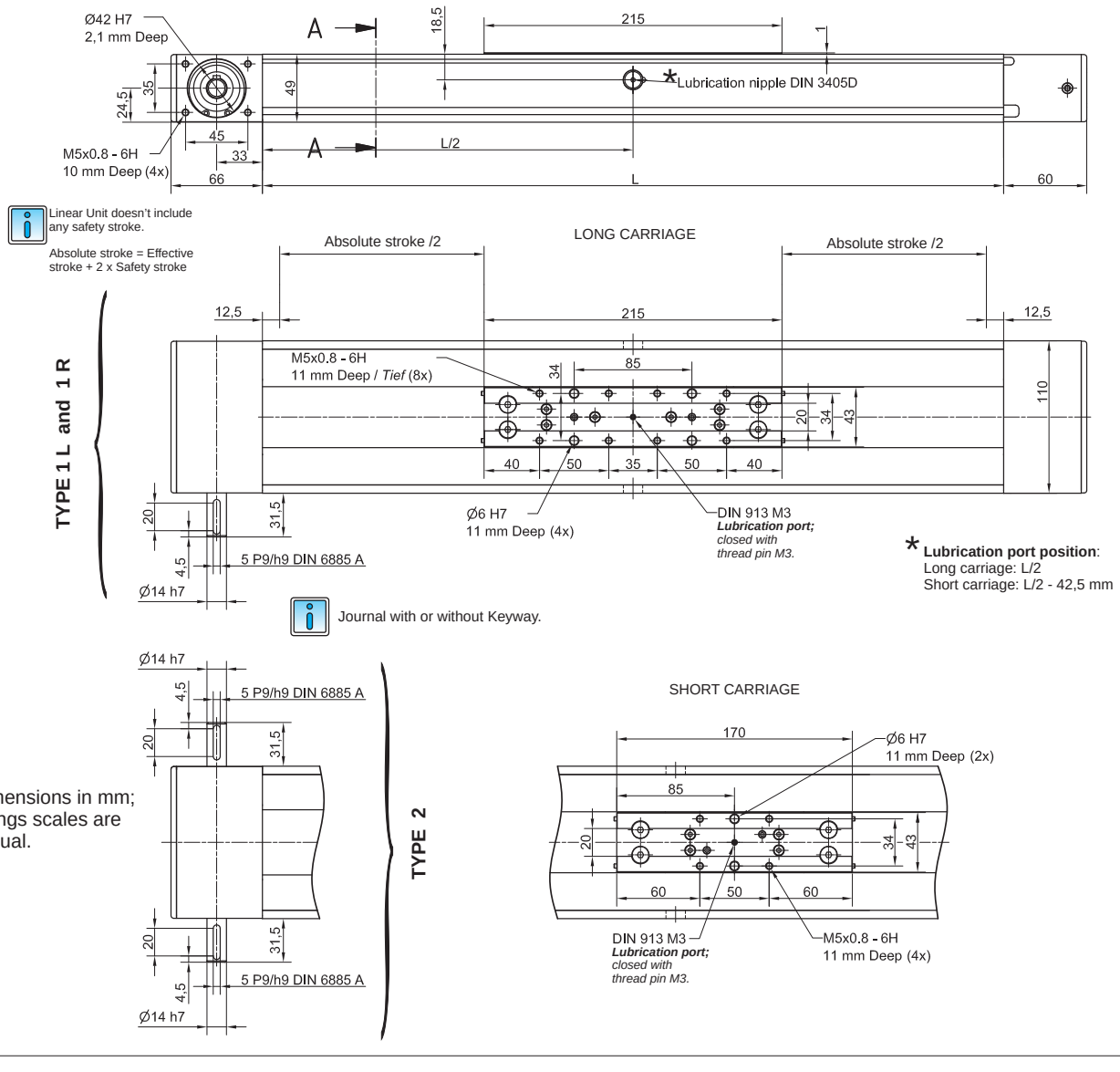
*The stated values are for strokes up to 500mm. No Load Torque value increases with stroke elongation

Mass and mass moment of inertia

Linear Unit	Carriage length Lv [mm]	Mass of linear unit [kg]	Mass moment of inertia [10^{-5} kg·m^2]
CTJ 90 S	102	1,7 + 0,0048 * Stroke [mm]	7 + 0,0031 * Stroke [mm]
CTJ 90 L	156	2,1 + 0,0048 * Stroke [mm]	11 + 0,0031 * Stroke [mm]
CTJ 110 S	170	3,6 + 0,0072 * Stroke [mm]	36 + 0,013 * Stroke [mm]
CTJ 110 L	215	4,2 + 0,0072 * Stroke [mm]	49 + 0,013 * Stroke [mm]
CTJ 145 S	180	7,2 + 0,0127 * Stroke [mm]	145 + 0,033 * Stroke [mm]
CTJ 145 L	240	8,8 + 0,0127 * Stroke [mm]	208 + 0,033 * Stroke [mm]
CTJ 200 S	265	20,2 + 0,0245 * Stroke [mm]	778 + 0,187 * Stroke [mm]
CTJ 200 L	405	26,2 + 0,0245 * Stroke [mm]	1210 + 0,187 * Stroke [mm]

Mass calculation doesn´t include mass of motor, reduction gear, switches and clamps.

DIMENSIONS



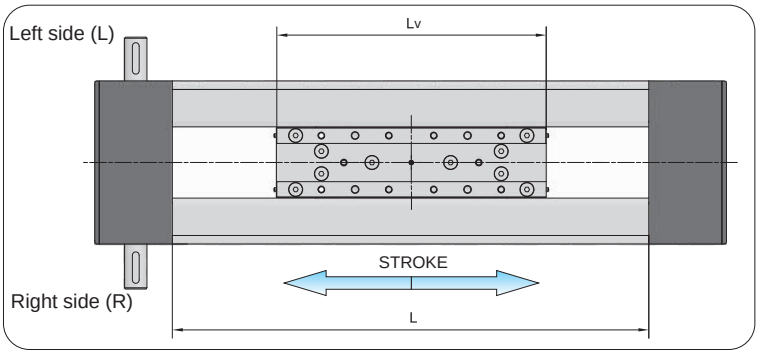
All dimensions in mm;
Drawings scales are not equal.

Defining of the linear module length

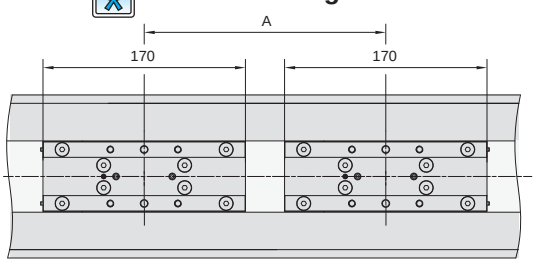
L = Effective stroke + 2 × Safety stroke + Lv + 25 mm

Ltotal = L + 126 mm

Lv - Long carriage = 215 mm
Lv - Short carriage = 170 mm



Double-Carriage



Only with **short** carriage version.

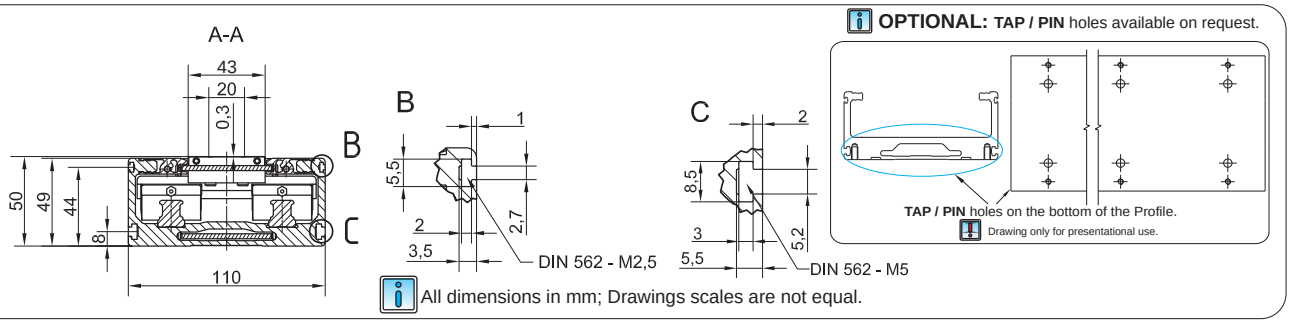
L = Effective stroke + 2 × Safety stroke + A + 195 mm

Ltotal = L + 126 mm

A ≥ 170 mm

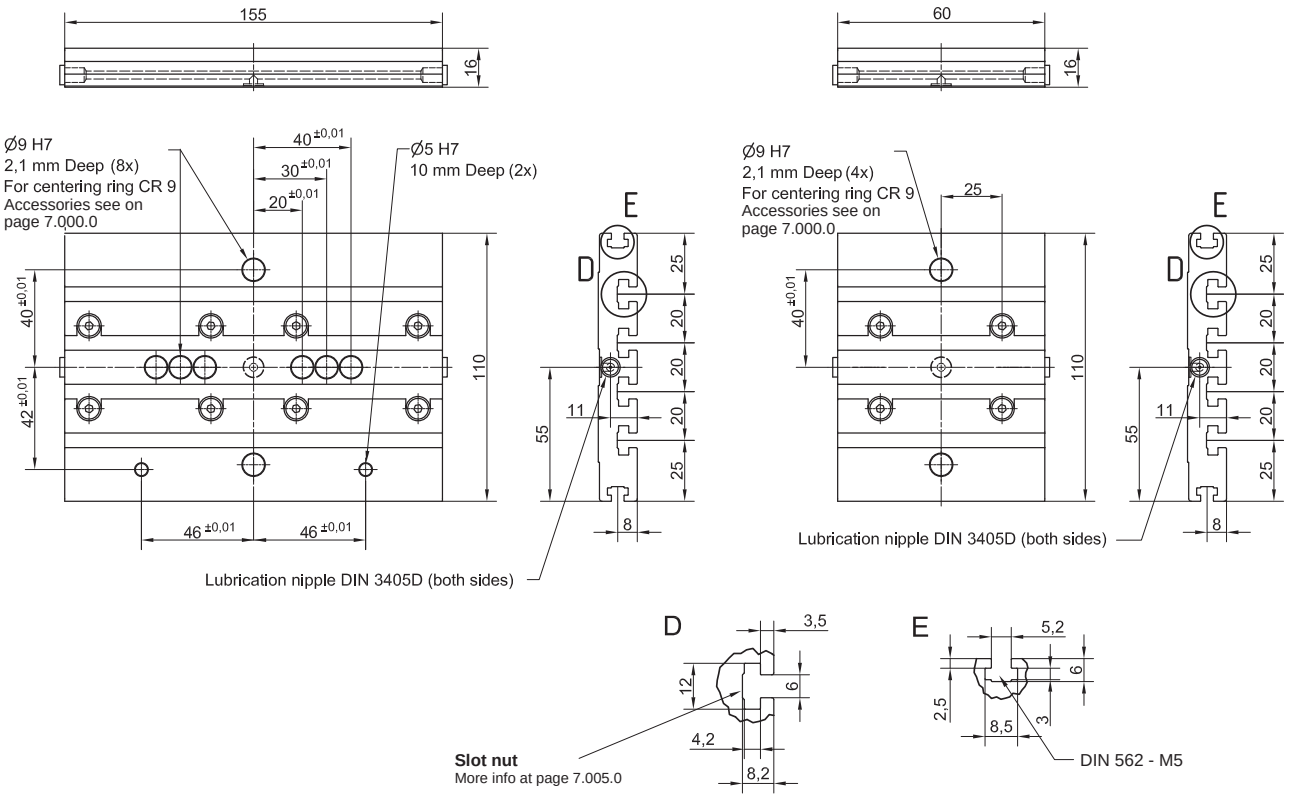
For ordering code please contact us.

DIMENSIONS



CONNECTION PLATE

CTJ 110 L



CTJ 110 S

Linear Unit	Plate length [mm]	Weight [kg]	Code
CTJ 110 S	60	0,35	48525
CTJ 110 L	155	0,60	48480

Mounting elements for mounting the connection plate on the Linear unit are inlcuded.