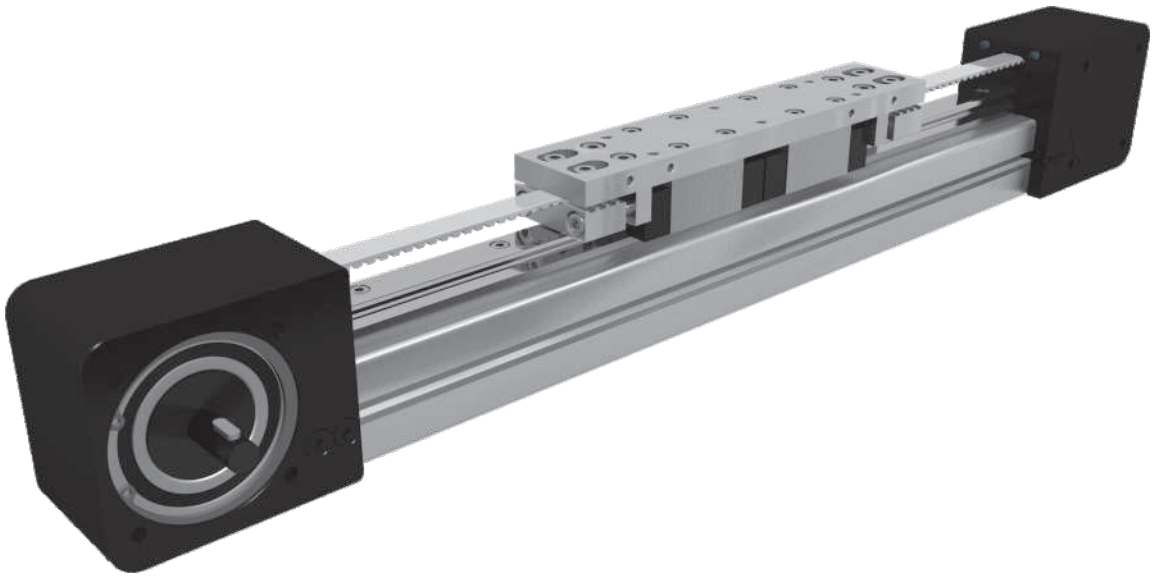
CHARACTERISTICS

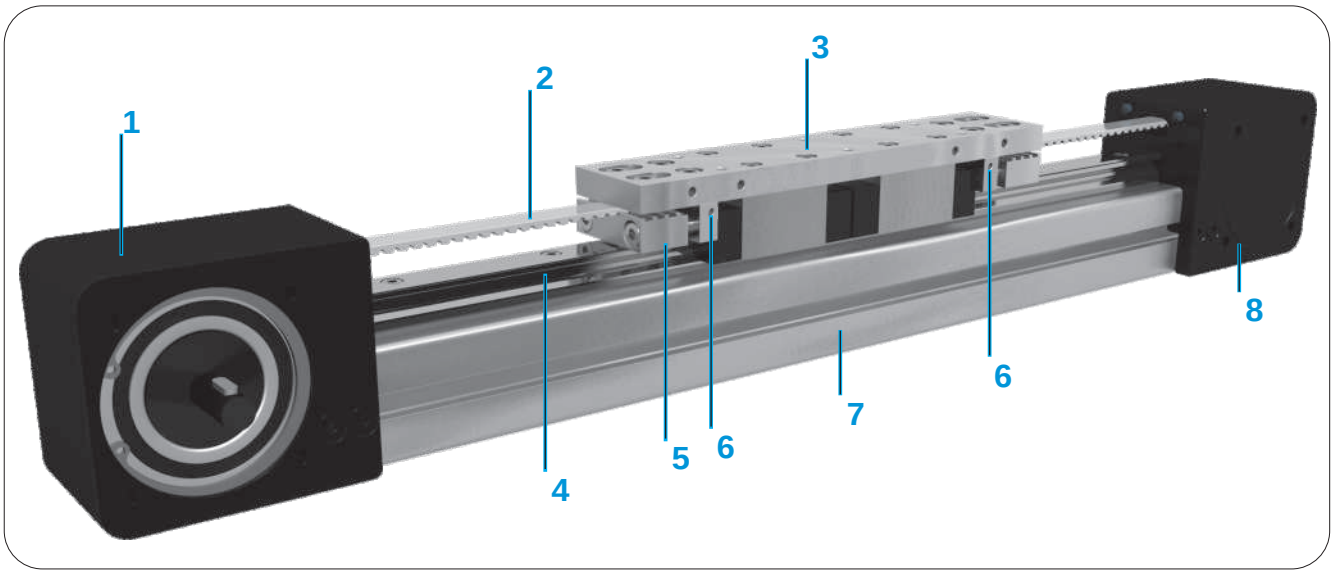
*The **MTJ ECO** series Linear Unit is a powerful and cost-effective Linear Unit with toothed belt drive and a Zero-backlash Ball rail guide system for easy and accurate linear movements.*
It can easily be combined to multi-axis systems.
Excellent price-/performance ratio and quick delivery time are ensured.
An extruded aluminum Profile from 6063 AL with on it mounted Zero-backlash Ball rail guide system, allows high load capacities and optimal cycles for the movement of larger masses at high speed.
The linear unit MTJ ECO uses 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 aluminum Profile includes T-slots for fixing the Linear Unit and for attaching sensors and switches .
Different carriage lengths of the Linear Unit allow the possibility to attach additional accessories on the side.
Lubrication holes on the carriage allow easy re-lubrication of the Ball rail guide .
For the linear unit MTJ ECO 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 - AT polyurethane toothed belt with steel tension cords
3 - Carriage
4 - Linear Ball Guideway
5 - Belt Tensioning system
6 - Lubrication port
7 - Aluminium profile-Hard anodized
8 - End block

HOW TO ORDER

MTJ - 40 - ECO - 1000 - L - 1 - R

Series :

MTJ

Size :

40

Type :

ECO

Absolute stroke (mm) :

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

Carriage Version :

S : Short

L : Long

Type of drive pulley :

0 : Pulley with through hole

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

Drive journal position :

L : Journal on left side

R : Journal on right side

Leave blank : For type of drive pulley 0, 2, 20 and 3

TECHNICAL DATA

General technical data for MTJ ECO 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 [cm⁴]	Iz [cm⁴]
MTJ 40 ECO S	132	9320	19620	60	50	50	0,45	± 0,1	5960	9,53	9,21
MTJ 40 ECO L	200	18650	39250	120	620	620	0,72	± 0,1			

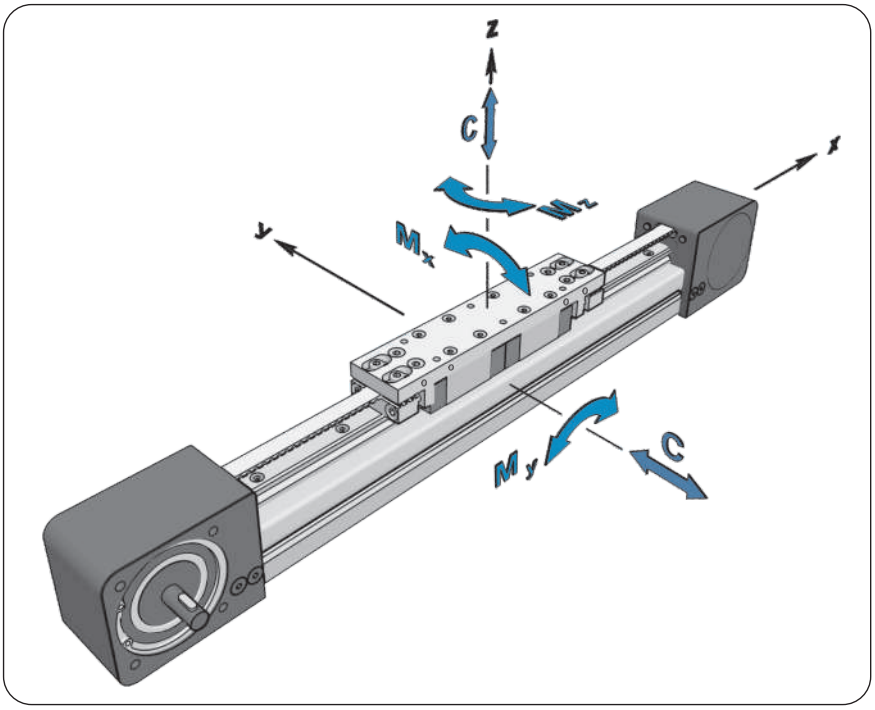
*For lengths over the stated value in the table above, please contact us.

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

Linear Unit	Maximal 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]
MTJ 40 ECO S	3	7,5	0,8	180	57,31	AT5	12	262	235000
MTJ 40 ECO L			0,9						

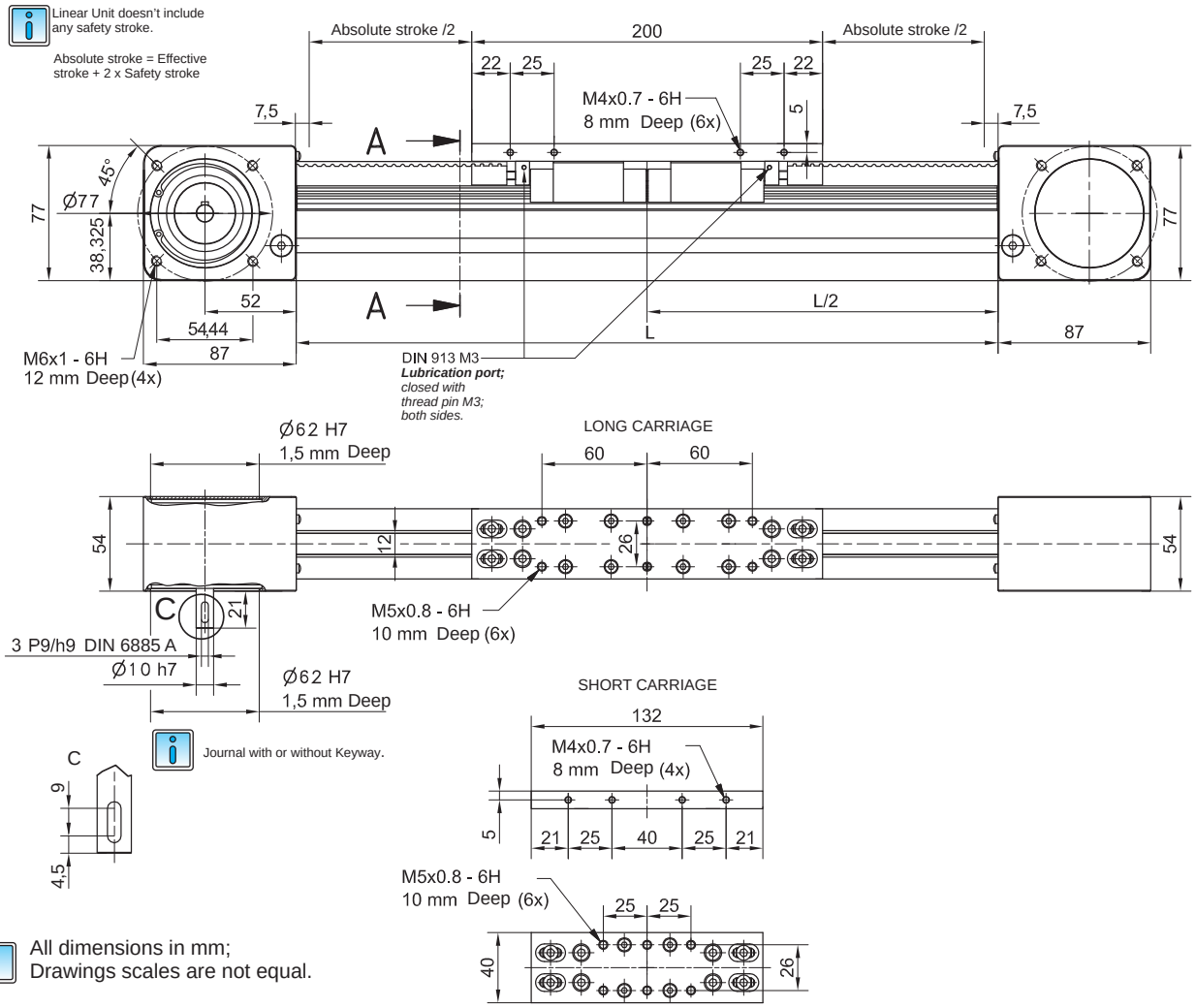
*The stated values are for strokes up to 500mm. No Load Torque value increases with stroke elongation

Mass and mass moment of inertia

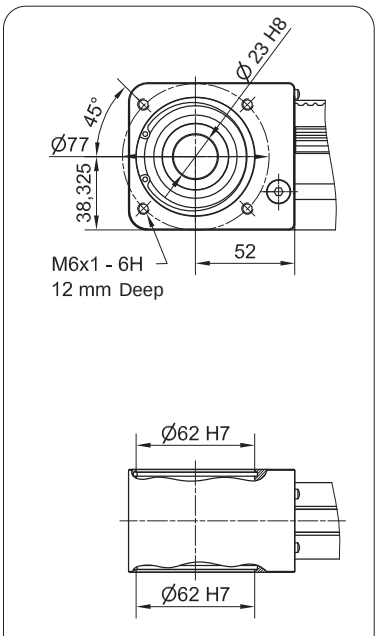
Linear Unit	Carriage length Lv [mm]	Mass of linear unit [kg]	Mass moment of inertia [10^{-5} kg·m^2]
MTJ 40 ECO S	132	3,1 + 0,003 * Stroke [mm]	70,1 + 0,007 * Stroke [mm]
MTJ 40 ECO L	200	3,55 + 0,003 * Stroke [mm]	92,3 + 0,007 * Stroke [mm]

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

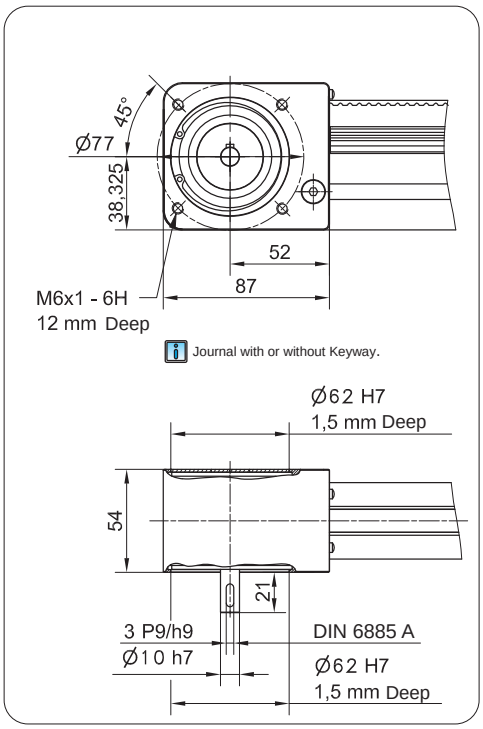
DIMENSIONS



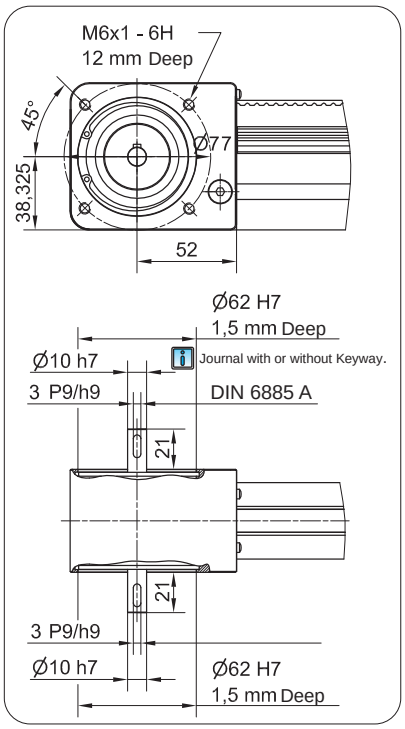
TYPE 0



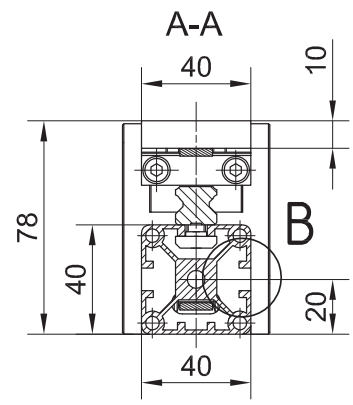
TYPE 1 L and 1 R

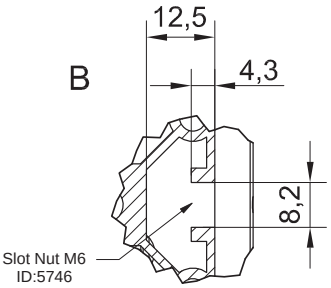


TYPE 2

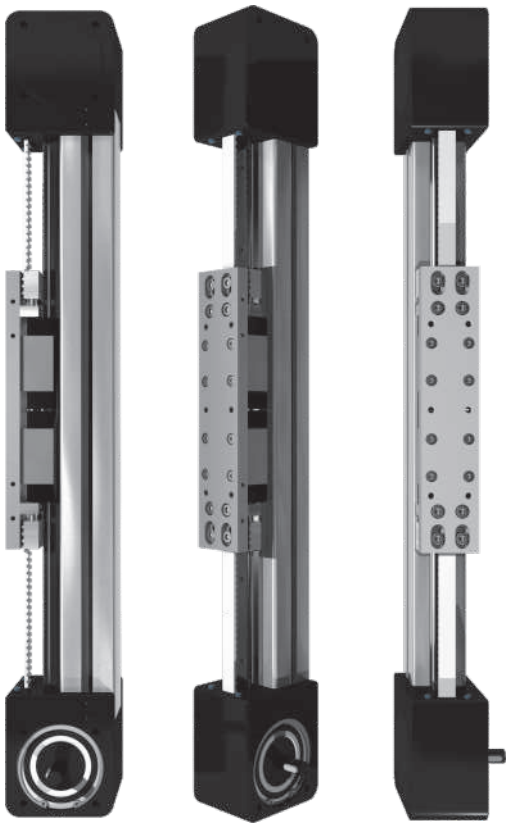


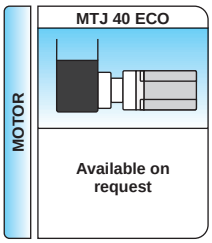
TECHNICAL DATA

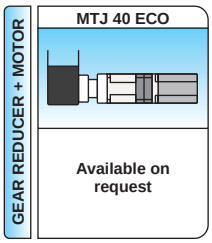


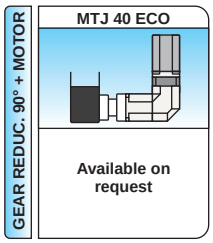


All dimensions in mm;
Drawings scales are not equal.









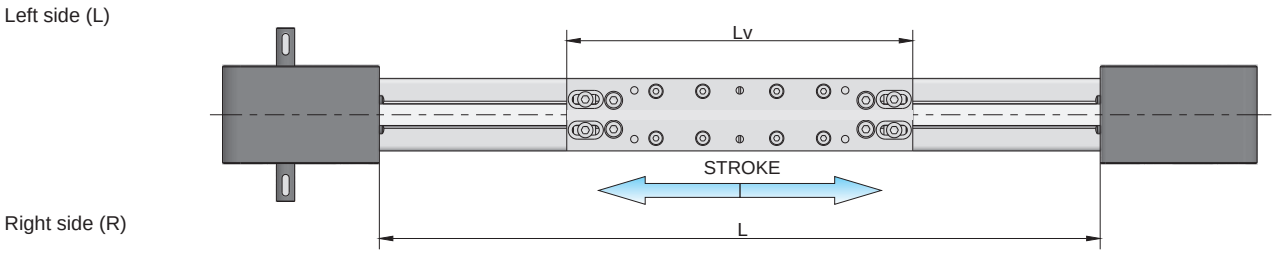
Defining of the linear module length

L* = Effective stroke + 2 × Safety stroke + *Lv* + *15 mm

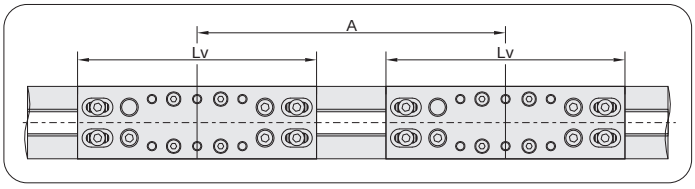
Ltotal* = *L* + *174 mm

Lv - Long carriage = 200 mm

Lv - Short carriage = 132 mm



Double Carriage



For ordering code please contact us.

L = Effective stroke + 2 × Safety stroke + Lv + A + 15 mm

Ltotal = L + 174 mm

A ≥ Lv