Linear Unit MTJZ 40

The MTJZ series contains Z-axis linear units with toothed belt drive, integrated ball rail system and compact dimensions. This linear units provide high performance features such as, high speed, good accuracy and repeatability by vertical applications.

In the linear units MTJZ 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.

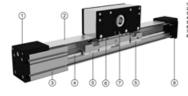
The in the profile slot driving timing belt protects all the parts in the profile from dust and other contaminations. The drive block provides the possibility to attach a motor or gearbox housing and additional accessories on it.

For CAD-files please contact Rollco .

Dimensions in mm.

Modulus of Elasticity: E = 70000 N / mm2 Operating Temperature (°C): 0 ~ +60 For operating temperature out of the presented range, please contact Rollco. Duty Cycle: 100% Max. Acceleration (m/s²): 70

Max. Acceleration (m/s²): 70 Max. Travel Speed (m/s): 5

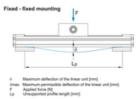


Tension Rud with integrated belt tensionin rystem All polyurchmes bothad belt with blash tension conds Aluminum portfile - hard anotized Linner ball guideway Clamping and baking element for linnar guideway Orve block with pulse, Moth Tenage with built in magne Central Jubrication port, both sides Tension end with integrated belt tensioning system



Deflection of the linear unit

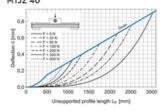
MTJZ

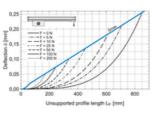




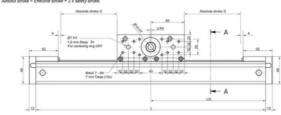
The maximum permissible deflection Smax must not be exceeded, in the case that maximum deflection 3 exceeds the maximum permissible deflection Ismax additional profile supports are needed.

Deflection of the linear unit



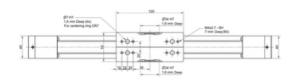


The linear units do not include any safetey stroke



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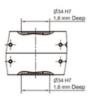
The linear units do not include any safetey stroke. Absolut stroke = Effective stroke + 2 x safety stroke



D Lifetime lubricated.
D All dimensions in mm. Drawings scales are not equal.

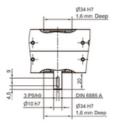
Linear Unit MTJZ 40





TYPE 1 (i) Journal with or without keyway.





 Journal with or without keyway. Ø34 H7 1,6 mm Deep Ø10 h7 3 P9h9 DIN 6885 A Q 8 ÷ Ó 8 3 P94 11. DIN 6885 A Ø10 h7 -----g534 H7 1.6 mm Deep

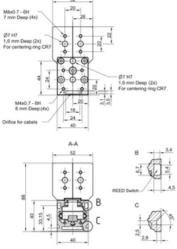
TYPE 2

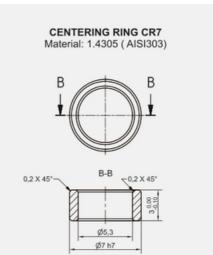
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Linear Unit MTJZ 40



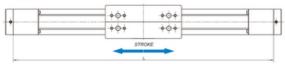


④ All dimensions in mm. Drawings scales are not equal

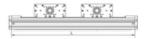
Defining of the linear unit length

L = Effective stroke + 2 × Safety stroke + 208 mm

Ltotal = L + 24 mm



Multi drive block

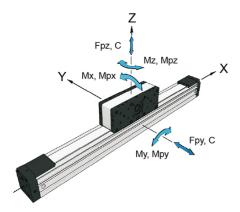


L = Effective stroke + 2 × Safety stroke + 120 × n_b + 88 mm Ltotal = L + 24 mm

n_b - number of drive blocks

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General Data



For minimum stroke below the stated value, please contact Rollco.

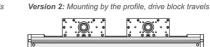
For length/stroke over the stated value, please contact Rollco. Values for max. stroke are not valid for multi drive box (equation of defining the linear unit length for particular size of the linear unit needs to be used).

Recommended values of loads

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

Version 1: Mounting by the drive block, profile travels

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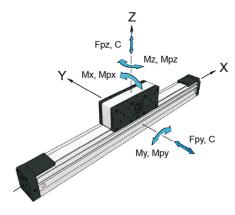


On request, multi drive blocks, which travel independently of each other, can be applied

Designation	Dynamic Load Capacity C (N)			c Moment (Nm)	-	mic Moment My (Nm)	Dynamic Moment Mz (Nm)
MTJZ 40	4610	6930 28		120		120	
Designation	Mass of Drive Block (kg)	Max. Permissible Loads Forces Fpy (N)	Max. Permissible Loads Forces Fpz (N)	Max Permiss Loads Mo Mpx (N	ible ments	Max. Permissible Loads Momen Mpy (Nm)	Max. Permissible Loads Moments Mpz (Nm)
MTJZ 40	0.95	2320	1510	14		40	62
Designation	Max. Repeatability (mm)	Max. Length Version 1 Lmax (mm)	Max. Length Version 2 Lmax (mm)	Max. Str Version 1		Max. Stroke Version 2 (mn	Min. Stroke n) (mm)
MTJZ 40	± 0.08	1000	3000	792		2792	25

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Drive Data

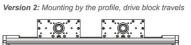


Max. acceleration (m/s2): 70*

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For acceleration over the stated value, please contact Rollco.

Version 1: Mounting by the drive block, profile travels



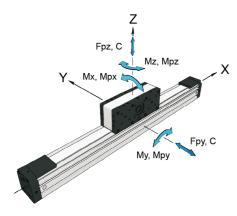
On request, multi drive blocks, which travel independently of each other, can be applied.

Designation	Max. Drive Torque (Nm)	Pulley Drive Ratio (mm/rev)	Pulley Diameter	Planar Moment of Inertia ly (cm⁴)	Planar Moment of Inertia Iz (cm⁴)
MTJZ 40	3.6	99	31.51	9.8	11.6

Designation	Belt Type	Belt Width	Max. Force Transmitted by Belt (N)	Specific Spring Constant Cspec (N)
MTJZ 40	AT3	20	230	225000

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Mass and Mass Moment



Mass calculation does not include mass of motor, reduction gear, switches and clamps.

Version 1: Mounting by the drive block, profile travels

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Version 2: Mounting by the profile, drive block travels

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On request, multi drive blocks, which travel independently of each other, can be applied.

Abs. stroke	Absolute stroke [mm]			
А	Distance between two drive blocks [mm]			
nb	Number of drive blocks			

Designation	Mass of Linear Unit (kg)	Mass Moment of Inertia Version 1 (10⁻⁴ kg m²)	Mass Moment of Inertia of Drive Block Version 2 (10 ⁻⁴ kg m ²)	Planar Moment of Inertia ly (cm⁴)	Planar Moment of Inertia Iz (cm⁴)
MTJZ 40	· · · · ·	2.1 + 0.0058 × (Abs. Stroke × (nb - 1) × A) + 0.22 × (nb - 1)	2.6	9.8	11.6

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