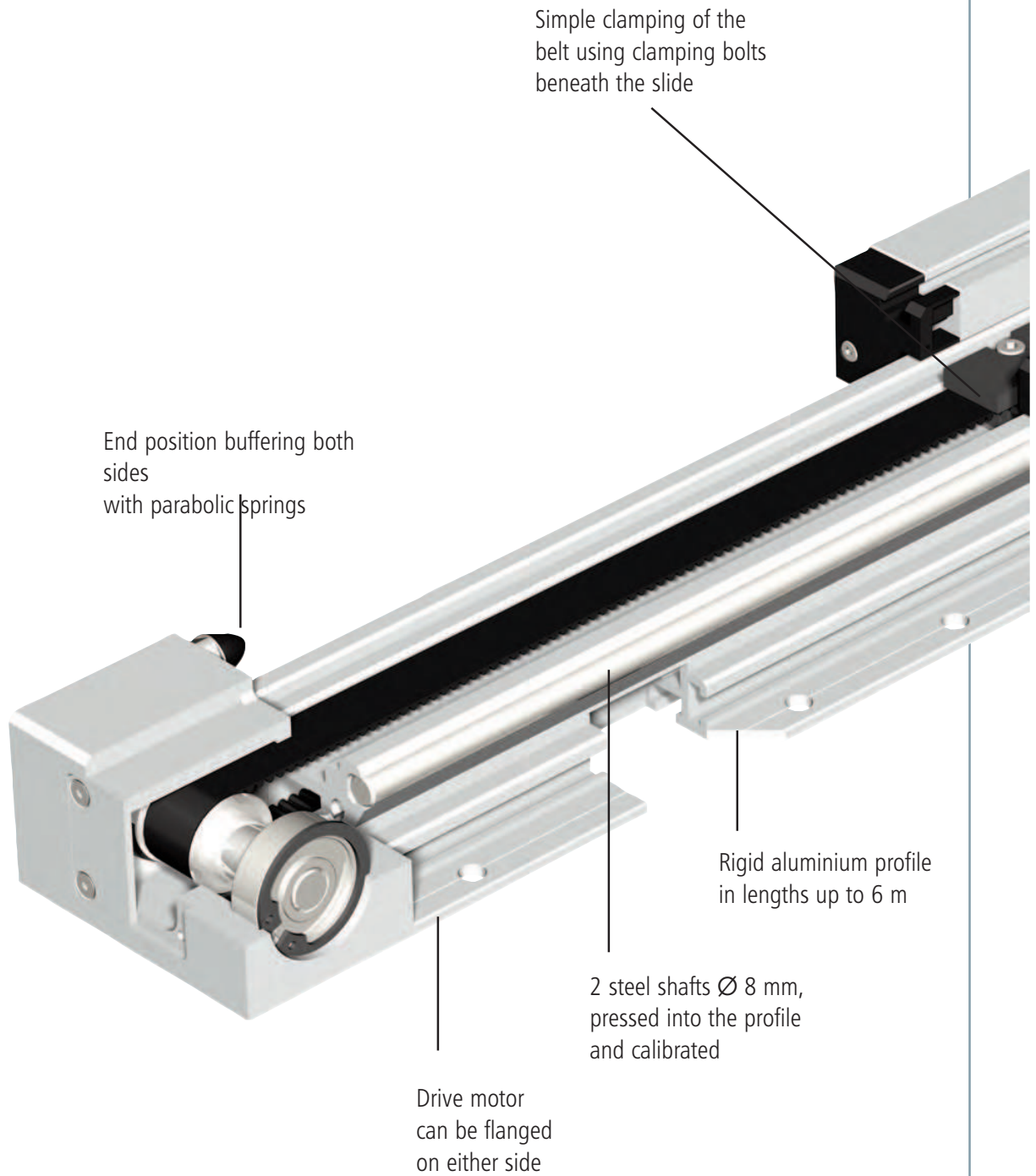
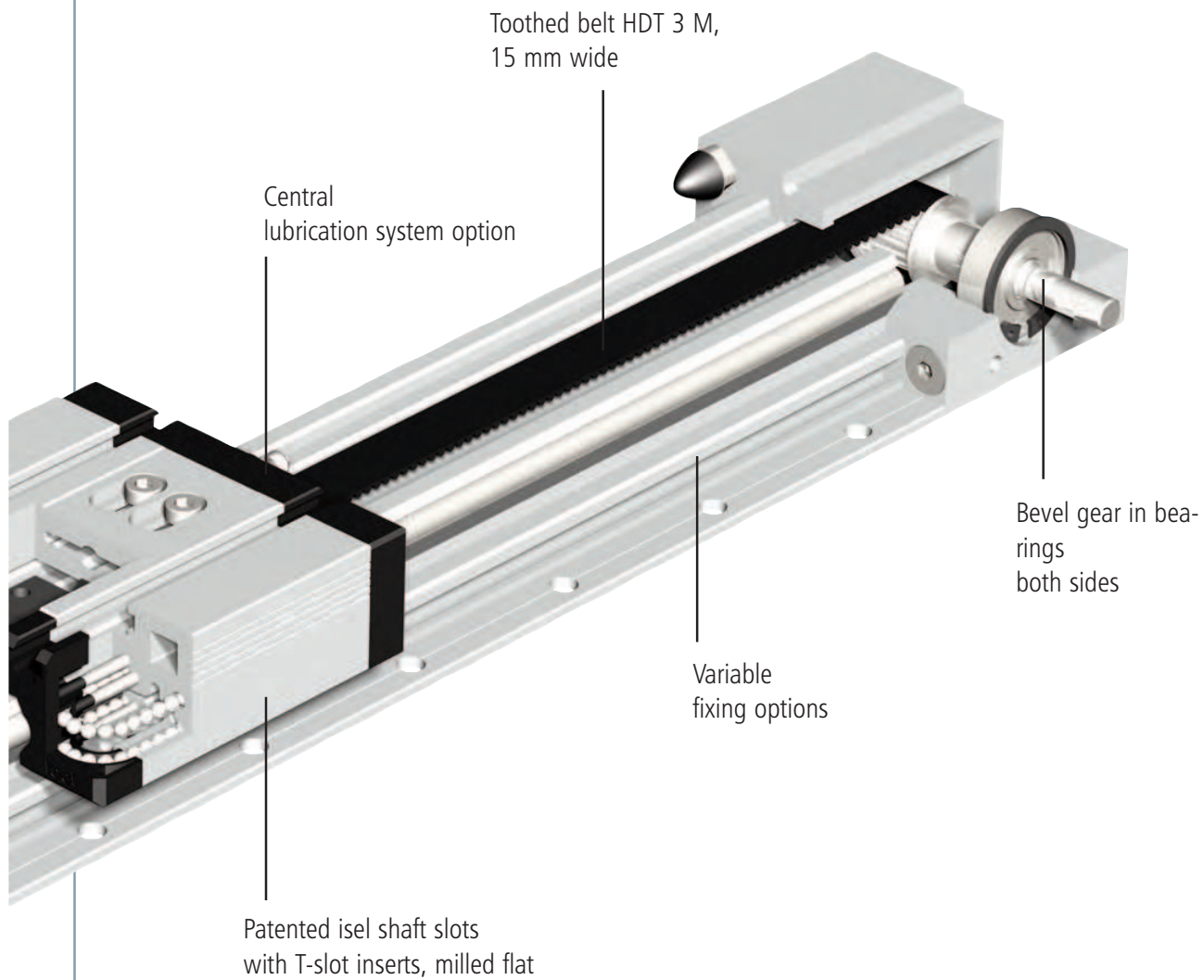


Functional overview Linear unit with toothed belt drive



Functional overview

Linear unit with toothed belt drive



Linear units with toothed belt drive

LEZ 1

Guides
and shaft slides
also available stainless.



with shaft slide



with trolley

Features

- Aluminium profile, miniature linear guide LFS-8-2
- No-play feed with toothed belt drive
 - toothed belt with 3 mm interval, width 9 mm
- Feed per turn: 60 mm
- Repeatability less than or equal to ± 0.2 mm
- Max. feed. 1.5 m/s

Accessories can be found on pages 2-94.

Options:

- Special 100 mm raster lengths to order, max. 6000 mm
- Securing with integrated M6 tapped rail, raster 50 mm

Ordering key

232 005 XXXX

Drives/Slides

Trolley

- 8 = without motor, with shaft slide
- 9 = without motor, with trolley

Profile lengths LFS-8-2 (mm)

- 298, 398, 498, 598, 675, 698, 798, 998, 1498, 1798, 1998, 2498, 2998
- (e. g. 398 mm = 040
675 mm = 068)
- Option: up to 6000 mm

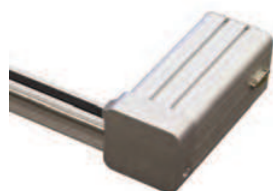
Technical specification

Belt type.....	HTD 3M, width 9 mm
Slide weight.....	0.430 kg
Weight without drive module.....	1000 mm = 3 kg
specific weight of the toothed belt.....	0.0225 kg/m
Trolley weight.....	1.03 kg
specific guide weight.....	0.200 kg/100 mm
Effective \varnothing of the synchronous disks.....	19.10 mm
Moment of inertia of the synchronous discs.....	5.585×10^{-7} kgm ²
Feed per turn.....	60 mm

Drive module with stepper motor MS-045 HT

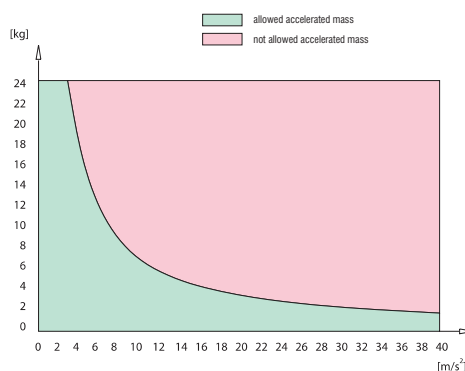


Drive module with stepper motor MS-135 HT



Load diagram

Permitted accelerated weights relative to the belt strength.*



* with vertical construction, the acceleration due to gravity ($g = 9.81$ m/s²) must be taken into account

Bending data is on page 2-23.

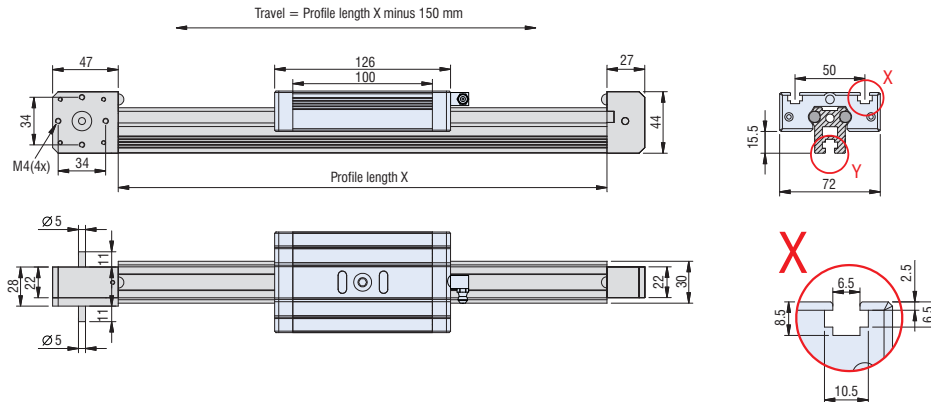
Linear units

with toothed belt drive

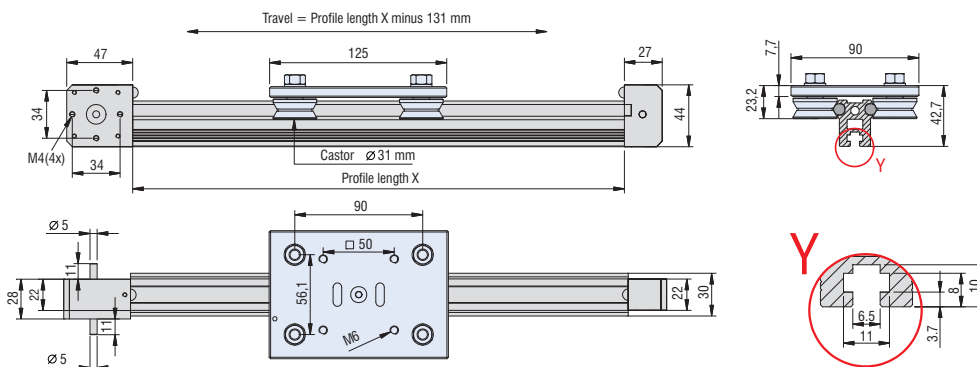
LEZ 1

Dimensioned drawings

without motor, with shaft slides



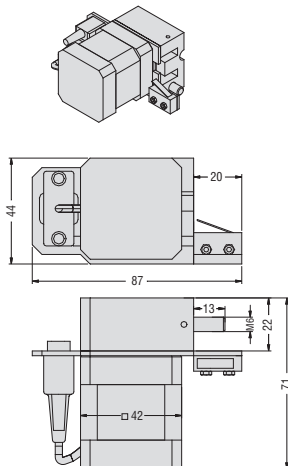
without motor, with trolley



Motor modules (Motor pin assignments are on Page 2-70.)

Drive module with stepper motor
MS-045 HT (direct drive)
Feed: 60 mm / turn

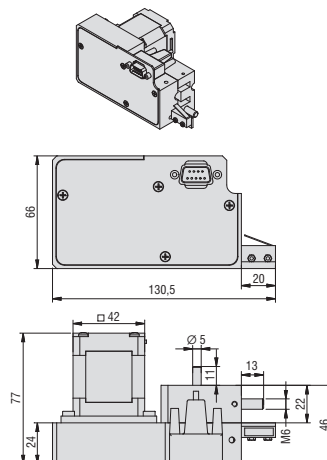
Part no.: **396048 3015**



Total length with motor module: profile length + 94 mm

Drive module with stepper motor
MS-045 HT (reduction 2:1)
Feed: 30 mm / turn

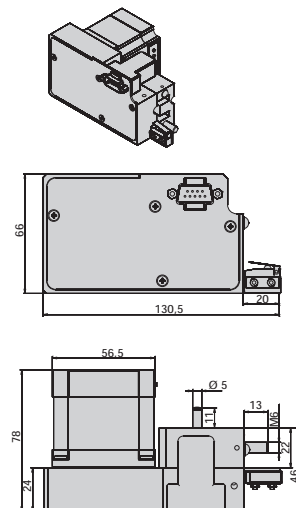
Part no.: **396049 3015**



Total length with motor module: profile length + 138 mm

Drive module with stepper motor
MS-135 HT (reduction 2:1)
Feed: 30 mm / turn

Part no.: **396056 3015**



Linear units with toothed belt drive

LEZ 2

Guides and shaft slides also available in a stainless version



with shaft slide



with trolley

Features

- Aluminium profile with miniature linear guide LFS-8-5
- No-play feed with toothed belt drive - toothed belt with 5 mm interval, width 25 mm
- Max. feed. 5 m/s
- Shaft slides WS 3, L 176 × W 130 mm
- Feed per turn: 70 mm
- Repeat accuracy less than or equal to ± 0.2 mm
- available in lengths up to 6,000 mm

Accessories can be found on pages 2-92

Options:

- Special 100 mm raster lengths available to order, max. 6000 mm
- Also as direct drive with
 - stepper motor
 - Servomotor
- Overrun limit switch with lead (only integrated in conjunction with drive module)

Ordering key

232 002 XXXX

Profile lengths (mm)
696, 996, 1496, 1996,
2496, 2996
(e. g. 696 mm = 070
1496 mm = 150)

Drives/Slides, Trolley

- 8 = without motor, with shaft slides
- 9 = without motor, with trolley

Option: up to 6000 mm

Technical specification

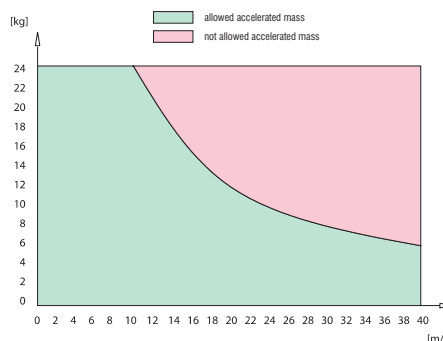
Belt type.....	HTD 5M, width 25 mm
Slide weight.....	0,940 kg
Weight without drive module.....	1000 mm $\hat{=}$ 7.9 kg
specific weight of the toothed belt.....	0.09 kg/m
Roller carriage weight.....	2.03 kg
specific guide weight.....	0.472 kg/100 mm
Effective diameter of the synchronous disks.....	\varnothing 22.28 mm
Moment of inertia of the synchronous disks.....	$5.58 \cdot 10^{-6} \text{ kgm}^2$
Feed per turn.....	70 mm

Linear guide rail LFS-8-5

Moment of inertia I_x	137,48 cm ⁴
Moment of inertia I_y	27,98 cm ⁴
Resistance torque W_x	23,91 cm ³
Resistance torque W_y	13,09 cm ³

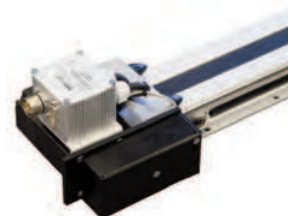
Load diagram

Permitted accelerated weights relative to the belt strength.*



* with vertical construction, the acceleration due to gravity ($g = 9.81 \text{ m/s}^2$) must be taken into account

Drive module with servo motor EC 60 L



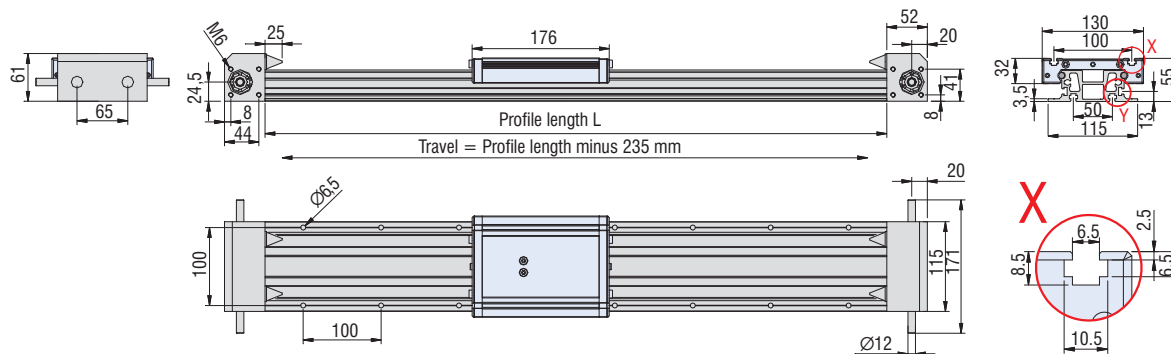
Linear units

with toothed belt drive

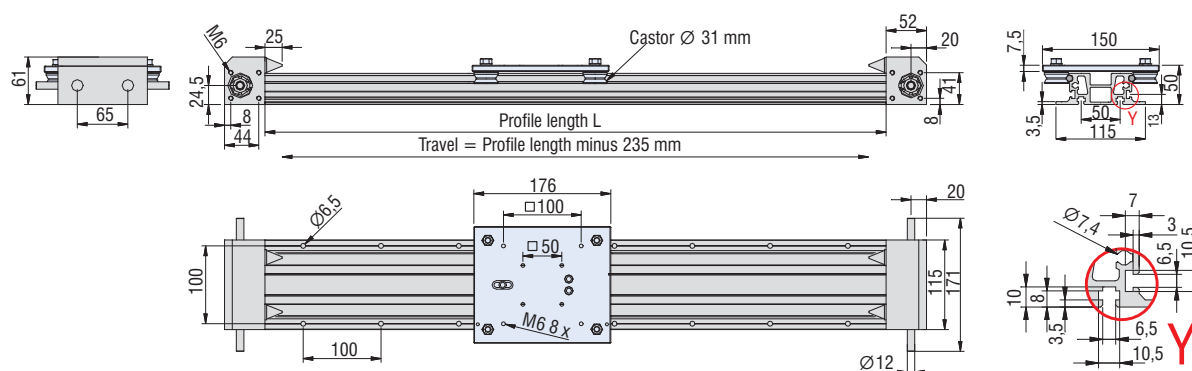
LEZ 2

Dimensioned drawings

without motor, with shaft slides



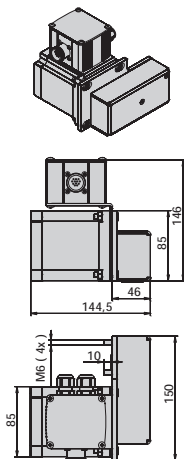
without motor, with trolley



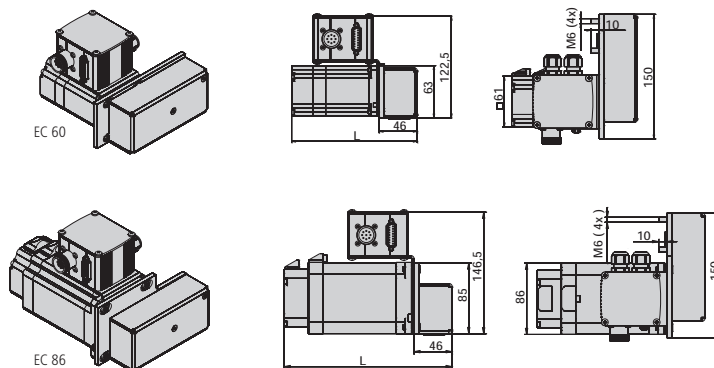
Motor modules (Motor pin assignments are on Page 2-70)

Drive module with stepper motor
MS-600 HT (reduction 2:1)
Feed: 35 mm / turn

Part no.: **396086 3060**



Drive module with EC servomotors
(Reduction 2:1)
Feed: 35 mm / turn



Part number	Motor module	Length L
396 415 3260	EC 60S with brake	151.5 mm
396 415 3060	EC 60S without brake	198.5 mm
396 423 3060	EC 60L	186.5 mm
396 444 3070	EC 86S	177.5 mm
396 466 3070	EC 86L	202.5 mm

Linear units with toothed belt drive

LEZ 3

Guides
and shaft slides
also available stainless.



with shaft slide



with trolley

Features

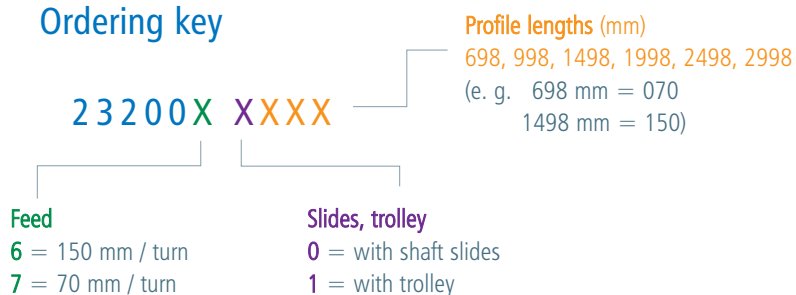
- Aluminium profile, miniature linear guide LFS-8-4
- No-play feed with toothed belt drive, toothed belt with 5 mm interval, width 25 mm
- Max. feed. 5 m/s
- Shaft slides WS3, L176 × W130 mm
- Feed per turn: 70 mm or 150 mm
- Repeat accuracy less than or equal to ± 0.2 mm
- Limit or reference switch accuracy < 0.1 mm
- Available in lengths up to 6,000 mm
- Motor modules can be flange-mounted on left or right side

Accessories can be found on page 2-92.

Options:

- Special 100 mm raster lengths available to order, max. 6000 mm

Ordering key

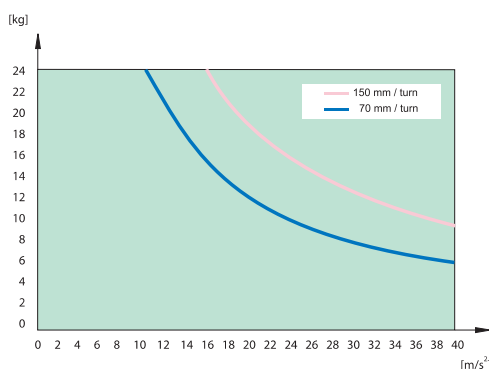


Technical specification

Belt type.....	HTD 5M, width 25 mm
Slide weight.....	0.940 kg
Weight without drive module.....	1000 mm ^l = 10.5 kg
specific weight of the toothed belt.....	0.09 kg/m
Roller carriage weight.....	2.03 kg
specific guide weight.....	0.648 kg/100 mm
Feed per turn.....	70 mm or 150 mm
Effective diameter of the synchronous disks	
Feed 70 mm/turn.....	22.28 mm
Feed 150 mm/turn.....	47.75 mm
Moment of inertia of the synchronous disks	
Feed 70 mm/turn.....	5.58E-6 kgm ²
Feed 150 mm/turn.....	1,796.10 ⁻⁴ kgm ²

Load diagram

Permitted accelerated weights relative to the belt strength.*



* with vertical construction, the acceleration due to gravity (g=9.81 m/s²) must be considered

Bending data can be found on page 2-27.

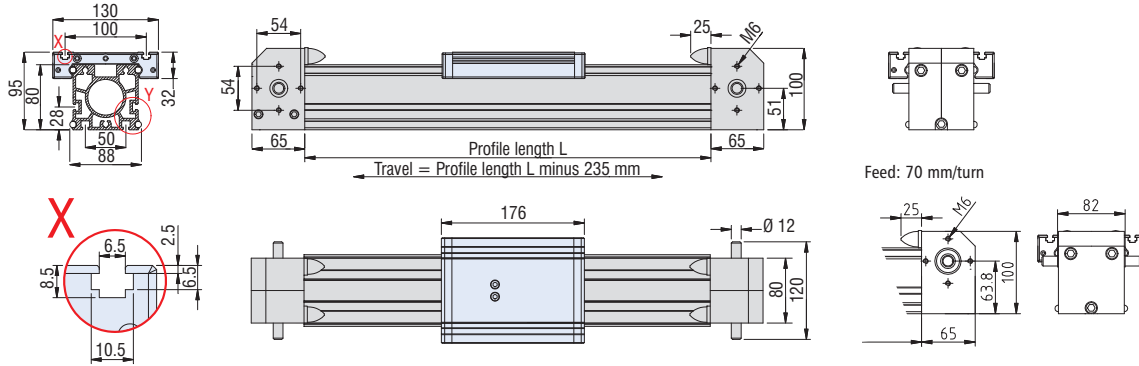
Linear units

with toothed belt drive

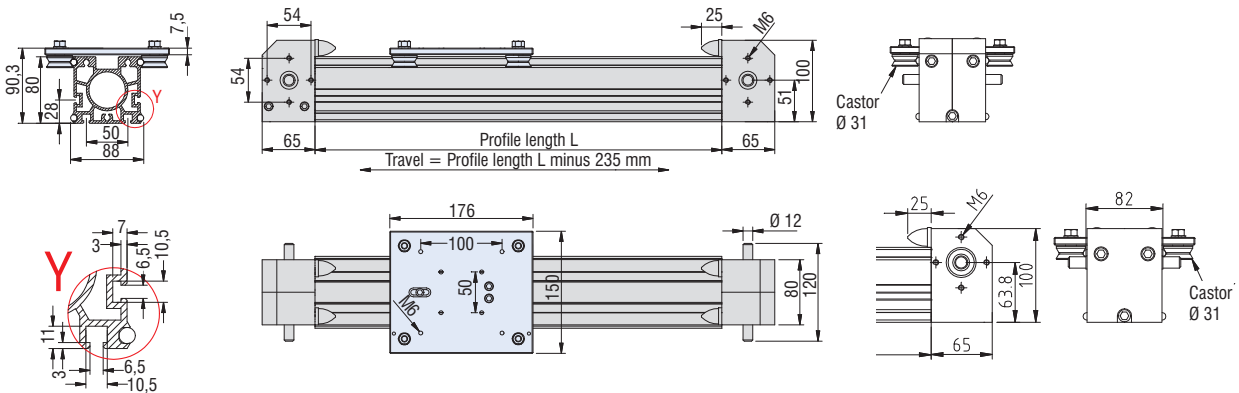
LEZ 3

Dimensioned drawings

with shaft slides



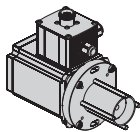
with trolley



Motor modules

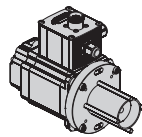
(Motor pin assignments are on Page 2-72)

Drive module with stepper motor
(direct drive)

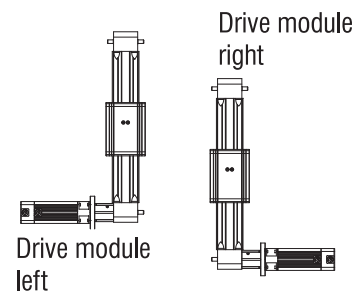


Part number	Motor module	
396 085 0060	MS 600 HT	right
396 085 0061	MS 600 HT	left
396 088 0060	MS 900 HT	right
396 088 0061	MS 900 HT	left

Drive module with EC servomotor
EC 60 and EC 86 (direct drive)



Part number	Motor module
396 423 006012	EC 60L
396 444 0070	EC 86S
396 466 0070	EC 86L



Accessories

LEZ 1



Angle bracket

- for LEZ 1

Part no.: **209110 0010**



20/30 coupling

- for LEZ 1
- 1 VE = 1 coupling

Part no.: **218001 5081**

Shaft slides 1/70

- L 96 x W 72 x H 28.5mm
- Clamping surface plane milled, T-slide thread M6
- Central greasing option, adjustable for no-play
- Weight: 0.35 kg
- Option: stainless steel version

Part no.: 223 100 0070
stainless steel: **223 101 0070**

Transmission shaft

Length 1 m
Part no.: **227008 1000**

LEZ 2



Motor fixing plate

- for LEZ 2
- incl. fixing material
- for direct drive see page C78 et seq.

Part no.: **232199 0004**



Coupling for Transmission shaft

- for LEZ 2
- 1 VE = 2 unit couplings

Part no.: **218050 0002**

Transmission shaft ø 25 mm

Length 1 m
Part no.: **219001 0125**

Length 2 m
Part no.: **219001 0225**

Stationary bearing for transmission shaft

VE 1 unit
Part no.: **896202 5562**

LEZ 3



Coupling for transmission shaft

- for LEZ 3
- 1 VE = 2 unit couplings

Part no.: **218050 0002**

Transmission shaft ø 25 mm

Length 1 m
Part no.: **219001 0125**

Length 2 m
Part no.: **219001 0225**

Stationary bearing for transmission shaft

VE 1 unit
Part no.: **896202 5562**

LEZ 9



30/40 coupling

- for LEZ 9
- 1 VE = 1 coupling

Part no.: **218002 8081**

Shaft slides WS 11/70

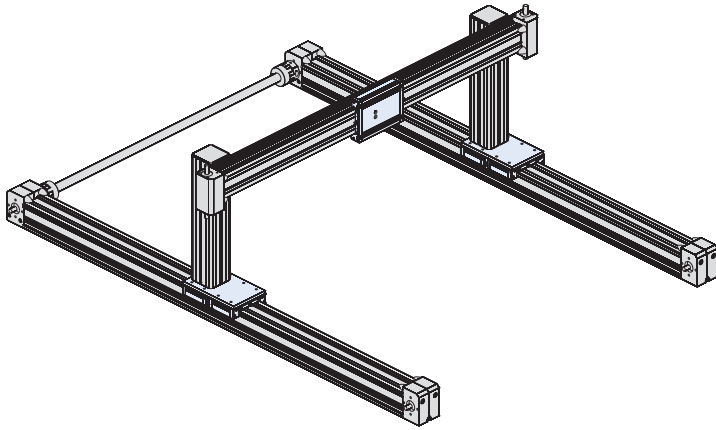
- L 96 x W 96 x H 32 mm
- Clamping surface plane milled, T-slide thread M6
- Central greasing option, adjustable for zero play
- Weight: 0.4 kg
- Option: stainless steel version

Part no.: **223111 0070**
Stainless steel: **223111 1070**

Transmission shaft

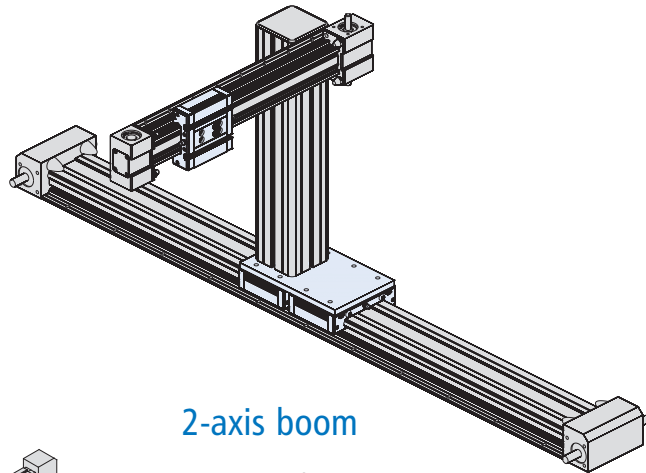
Length 1 m
Part no.: **227008 1000**

Examples in use



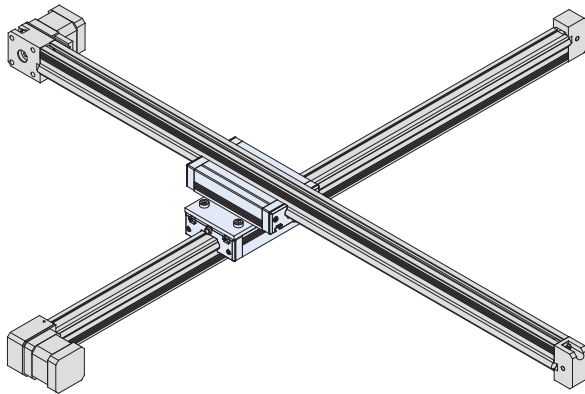
2-axis H-design

- 2 x LEZ 3
- 1 x LEZ 2
- Transmission shaft



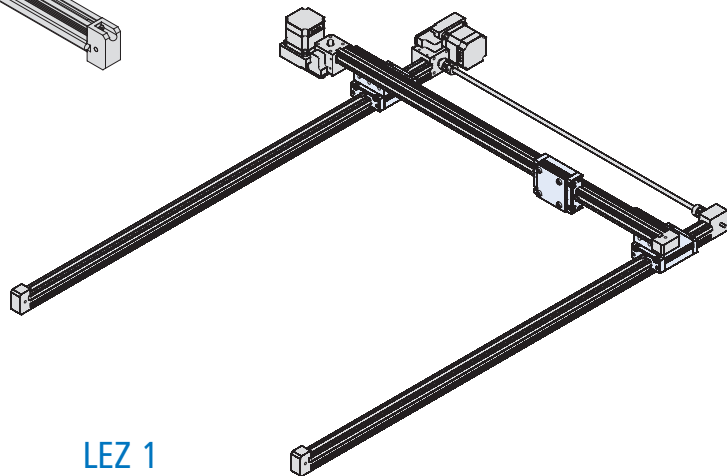
2-axis boom

- 1 x LEZ 2
- 1 x LEZ 9 (discontinued)



Crossbench LEZ 1

- 2 x LEZ 1



LEZ 1

- 2-axis flatbed configuration