HIWIN®


# POSITIONING SYSTEMS

Linear Axes and Axis Systems HX

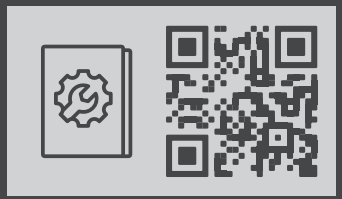
# **POSITIONING** SYSTEMS

**Linear axes and axis systems HX**

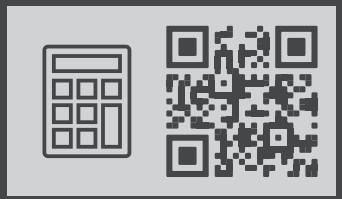
Linear axes and axis systems are used in many industrial areas, e.g. to transport or position components. HIWIN offers linear axes with toothed belt drive for applications requiring high dynamic responses and speeds. The HIWIN modular system is a flexible solution for combining belt axes into twin and multi-axis systems, depending on the application. HIWIN linear axes with ballscrew drive are available for applications requiring high feed forces and precision. HIWIN linear axes with linear motor drive fulfil the highest demands on dynamics, accuracy and synchronism. Due to their compact design and low moving mass the HIWIN cantilever axes are particularly suitable for vertical applications.

## **DOWNLOADS** AND **APPLICATIONS**

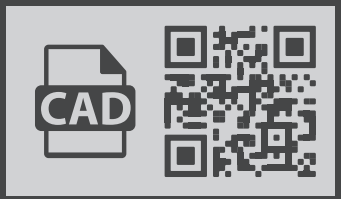
Assembly instructions



Sizing tool



CAD configurator



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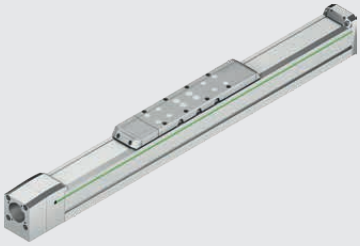
- High velocity
- High acceleration
- Long stroke lengths



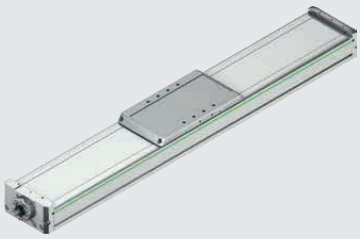
**Linear modules HM-S with ballscrew** Page 34

- High positioning accuracy
- High feed force
- High drive rigidity

**Linear tables HT-B with toothed belt drive** Page 44

- High velocity
- High acceleration
- High rigidity and torque load capacity

  due to double guide



**Linear table HT-S with ballscrew** Page 54

- High positioning accuracy
- High feed force
- High rigidity and torque load capacity

  due to double guide

**Linear tables HT-L with linear motor** Page 64

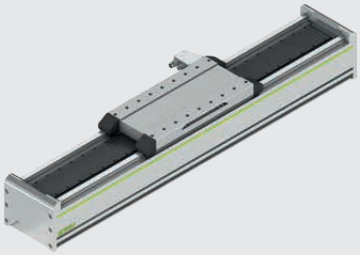
- Maximum positioning accuracy
- Maximum dynamics
- Wear-free drive

**HB-B bridge axes with toothed belt drive** Page 74

- Maximum rigidity due to closed profile
- High speed
- High feed force

**HB-R bridge axes with rack and pinion drive** Page 78

- Maximum rigidity due to closed profile
- High speed
- High positioning accuracy



**HB-L bridge axes with linear motor** Page 82

- Maximum rigidity due to closed profile
- Highest positioning accuracy
- High dynamics

**Cantilever axis HC-B with toothed belt drive** Page 86

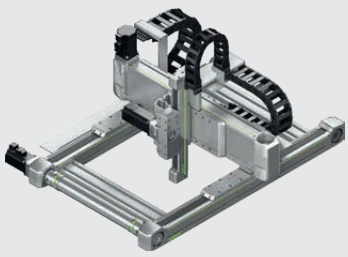
- Compact design
- Low moving mass
- High dynamism

**Cantilever axis HC-R with rack and pinion drive** Page 100

- Compact design
- High feed force
- High rigidity

**Double axes HD** Page 104

- Two belt axes HM-B connected to synchronous shaft
- Completely assembled unit
- Can be individually assembled

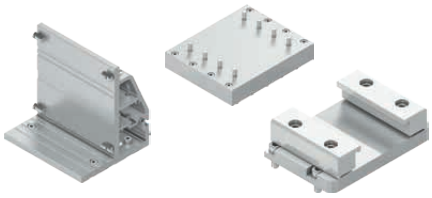


**Multi-axis systems HS** Page 110

- X-Y-, X-Z- and X-Y-Z-systems with belt axes
- Individual stroke length
- Ready-to-install complete system

# Linear axes and axis systems HX

Product overview

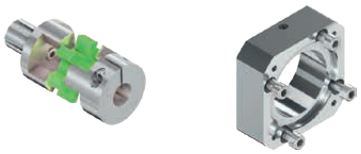


**Adapters for cross tables and multi-axis systems** Page 146

- Flexible connection of two or more axes
- Components for building complete individual systems
- Secure positioning thanks to form and force closure

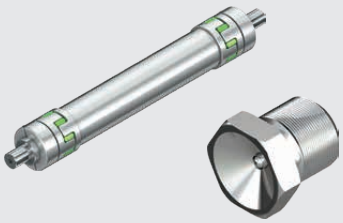
**Adapters for robot axes** Page 155

- For mounting lightweight robots on linear axes HT
- Quick and safe connection
- Sets include mounting material



**Drive adaptation** Page 159

- Adapter for flexible motor connection
- Gearbox/Belt drive
- Energy supply



**Accessories** Page 229

- Mounting and adaptation material
- Sensors and cables
- Lubrication accessories

## 2. General information

### 2.1 Properties of linear modules HM

HIWIN linear axes HM are compact positioning systems available with a toothed belt drive or with a ballscrew. They are based on a heavy-duty and low-wear linear guideway, combined with a sturdy and lightweight aluminium profile. Thanks to a freely adjustable stroke in millimetre increments as well as a variety of options (e.g. steel cover strip, limit switch, distance measuring system and additional carriages in various sizes), the linear axes can be individually adapted to the respective application requirements.

**Advantages of linear modules HM**

- Aluminium profile with large grooves for stable mounting of the linear axis on the machine frame
- Stable and reproducible mounting of the load capacity due to carriages with threaded holes and additional close-tolerance centring holes
- Convenient relubrication in any installation position thanks to grease nipples on both sides
- Limit switches can be mounted directly in a profile groove and positioned freely
- Options, such as belt cover, flexible mounting of the drive, adapters for all common motor types and distance measuring system are available as standard

### 2.2 Properties of linear tables HT

HIWIN linear stages HT are compact positioning systems with integrated double guide for high rigidity as well as high torque load capacity around the X-axis. Depending on the application requirements, three drive types are available: Toothed belt for dynamic applications, ballscrew for high feed forces and linear motor drive for the highest demands on speed and precision. The stroke can be freely selected in millimetre steps for all three drive types.

**Advantages of linear tables HT**

- High rigidity and high torque load capacity around the X-axis
- Integrated HIWIN double guide
- Very smooth running thanks to SynchMotion™ technology
- Sturdy steel cover strip, included as standard

### 2.3 Properties of HB bridge axes

HIWIN HB bridge axes are rigid positioning systems with a closed aluminium profile and external double guide in O-arrangement. Three drive types are available depending on the application requirements: Toothed belt for high speeds, rack and pinion drive for high positioning accuracy and linear motor drive for the highest demands on dynamics and precision. The stroke can be freely selected in millimetre increments for all three drive types.

**Advantages of HB bridge axes**

- Maximum rigidity and maximum moment load capacity thanks to closed aluminium profile
- HIWIN double guide in O-arrangement
- High load capacity
- High feed forces

### 2.4 Properties of cantilever axis HC

HIWIN cantilever axes HC are flexible linear units with an omega toothed belt drive. The compact drive block with motor and gearbox is stationary while the lightweight cantilever moves. Thanks to the sophisticated structure of the aluminium profile, the cantilever features high torsional rigidity despite its low weight and is therefore suitable for dynamic applications, especially vertical ones. The stroke can be freely selected in millimetre steps.

**Advantages of cantilever axis HC**

- Compact design
- High cantilever rigidity
- Low moving mass

### 2.5 Properties of double axes HD

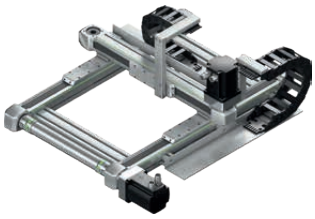
HIWIN double axes HD are positioning modules with two belt axes of the HM-B series, which are connected to each other via a synchronous shaft. The stroke and the distance between the two axes can be adjusted in millimetre steps. HIWIN double axes are particularly suitable for applications where a wide mounting surface or an additional carriage is required for support in the Y direction. They are also ideally suited as a basis for multi-axis systems.

**Advantages of double axes HD**

- Only minor design work needed thanks to standardised units with flexible configuration options
- Low assembly effort due to ready-to-install system
- Options, such as belt cover, flexible mounting of the drive, adapters for all common motor types and distance measuring system are available as standard

### 2.6 Properties of double axis systems HS2

HIWIN two-axis systems HS2 are flexible units for positioning along the X- and Y-axes. The X-axis is based on a HIWIN HD double axis. In the Y direction, you can choose between a HIWIN HM-B belt drive axis (module) or HT-B (table) for dynamic positioning. HIWIN two-axis systems are suitable for two-dimensional handling tasks.

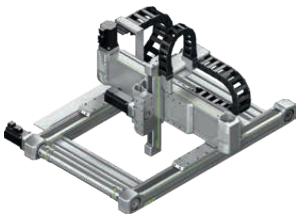


**Advantages of double axis systems HS2**

- Stroke in both axial directions can be freely selected in millimetre steps
- Low assembly effort due to ready-to-install complete system
- Optionally with drive adaptation and energy chains

### 2.7 Properties of three-axis systems HS3

HIWIN three-axis systems HS3 are flexible units for positioning along the X- Y- and Z-axis. The X-axis is based on a HIWIN HD double axis. In the Y direction, a linear table HT-B with toothed belt drive ensures dynamic positioning.
The cantilever axis HC with omega toothed belt drive and particularly light cantilever ensures fast and precise movements in the Z direction.

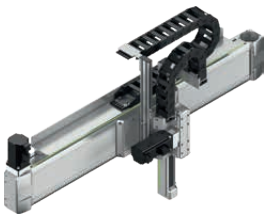


**Advantages of three-axis systems HS3**

- Stroke in all three axial directions can be freely selected in millimetre steps
- Low assembly effort due to ready-to-install complete system
- Optionally with drive adaptation and energy chains

### 2.8 Properties of linear gantries HSL

HIWIN linear gantries HSL are flexible units for positioning along the X- and Z-axis. The basis in the X-axis is a linear table HT-B with toothed belt drive. The cantilever axis HC with omega toothed belt drive and particularly light cantilever ensures dynamic positioning in the Z direction.

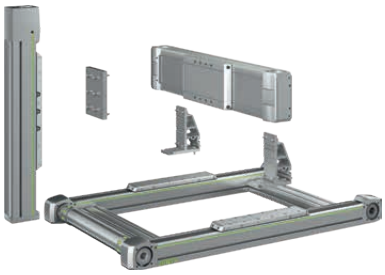


**Advantages of linear gantries HSL**

- Stroke in both axial directions can be freely selected in millimetre steps
- Low assembly effort due to ready-to-install complete system
- Optionally with drive adaptation and energy chains

### 2.9 Properties of adapters for cross tables and multi-axis systems

With the HIWIN adapters for cross tables and multi-axis systems, two or more axes can be flexibly combined. This allows individual multi-axis systems to be designed quickly and easily. Forces and torques are safely transmitted through force and form closure. Centring sleeves allow for precise and reproducible connection.



**Advantages of the adapters**

- Quick and easy assembly of individual multi-axis systems
- Rigid and safe power transmission
- Only minor construction work needed thanks to standardised sets including mounting material

### 2.10 Properties of adapters for robot axes

The HIWIN adapters for robot axes allow a lightweight robot and a HIWIN HT linear axis to be combined. This makes it quick and easy to design a 7th axis system. The adapters are designed so that the robots can rotate freely in the lower axis even with axes with an energy chain attached. Centring sleeves allow for precise and reproducible connection.

**Advantages of the adapters**

- Quick and easy robot mounting
- Only minor construction work needed thanks to standardised sets
- Including mounting material

### 2.11 Installation location requirements

- Temperature range: +5 °C to +40 °C
- Dry
- Non-explosive
- No vacuum

## 2.12 Glossary

**Positioning accuracy**
The positioning accuracy describes the maximum deviation between the actual and target position.
For toothed belt axes HM-B, HT-B and HC-B, the positioning accuracy depends on the manufacturing accuracy of the toothed belt (tooth pitch) and the belt pre-tension. Since this deviation is largely linear, it can be easily measured and compensated for via a correction factor. The correction factor is determined as a target/actual deviation, multiplied by the feed constant of the axis and stored accordingly in the control unit. Please contact HIWIN for more information.

**Repeatability**
The repeat accuracy indicates how accurately the carriage is positioned when approaching a position several times from the same direction (unidirectional). The maximum deviation between the actual positions reached is indicated.

**Static load rating $C_0$**
Static load rating $C_0$ corresponds to a static load that causes a permanent deformation of 0.0001 × ball diameter at the contact point that is most heavily loaded. It is fundamental for the calculation of static applications.

**Dynamic load rating $C_{dyn}$**
Dynamic load rating $C_{dyn}$ describes the load at which 90% of similar linear guideways reach the life expectancy of 50 km. It is fundamental for the calculation of dynamic applications.

**Load capacity**
The typical load capacity is used to pre-select the appropriate size based on experience and taking into account combined loads.

**Feed constant**
The feed constant corresponds to the distance in mm that the carriage travels during one revolution of the drive.

**Flatness**
Measure for the vertical straightness of a movement on the X-axis in X and Y direction. A deviation from absolute flatness is a displacement on the Z-axis when moving on the X-axis.

**Straightness**
Measure for the horizontal straightness of a movement on the X-axis. A deviation from absolute straightness is a displacement on the Y-axis when moving on the X-axis.

**Continuous force $F_c$**
Continuous force or nominal force that the linear motor of axes HT-L can deliver in continuous operation (duty cycle ED = 100%).

**Peak force $F_p$**
The peak force is the maximum force that a linear motor can generate for about one second when peak current $I_p$ is applied.

**Peak current $I_p$**
Applied briefly to generate the peak force on linear axes with a linear motor. The maximum permissible duration of the peak current is one second. The linear motor must then cool down to the nominal temperature before the peak current can be applied again.

**Stroke**
The stroke is the travel distance that the carriage can cover between the two switching points of the limit switches.

**Reserve stroke**
Reserve stroke $L_r$ corresponds to the distance that can be travelled in addition to the stroke on both sides of the end positions (stroke 0, stroke max.) before the carriage reaches the mechanical end position (mechanical 0) $L_{C\_mech0}$ at the built-in stop buffers. The reserve stroke is set at the factory for each axis size.
The reserve stroke for each axis size can be found in the "Dimensions and specifications" sections of the respective axis type.

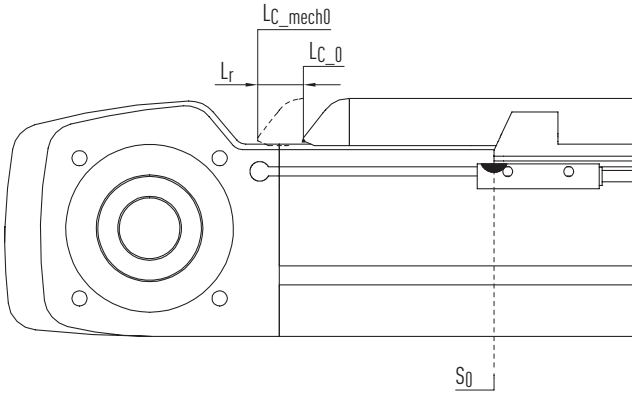



Fig. 2.1 **Illustration of reserve stroke (example: linear module HM-B)**

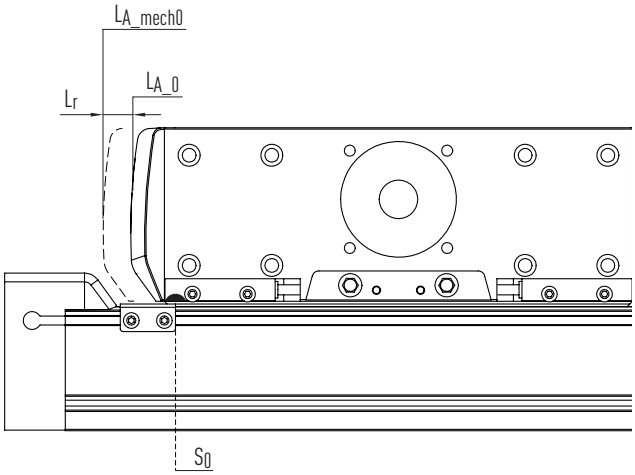



Fig. 2.2 **Illustration of reserve stroke (example: cantilever axis HC)**

| | |
|---|---|
| $L_{C\_mech0}$ | Carriage position at mechanical 0 (rubber buffer stop) |
| $L_{C\_0}$ | Carriage position at stroke 0 (switching point sensor) |
| $L_{A\_mech0}$ | Position of the drive block at mechanical 0 (rubber buffer stop) |
| $L_{A\_0}$ | Position of the drive block at stroke 0 (switching point sensor) |
| $S_0$ | Switching point sensor at stroke 0 |

## 3. Calculation basis

### 3.1 Calculation of the required drive torque for HM-B, HM-S, HT-B, HT-S, HB-B, HB-R and HC

The maximum drive torque of axes HM-B, HM-S, HT-B, HT-S, HB-B, HB-R and HC is based on the technical data of the drive elements (toothed belt or ballscrew). Motors and gears must be dimensioned so that the maximum drive torque is not exceeded during operation. The required drive torque is calculated according to the formula F 3.1. Basically, all individual movements that the axis goes through in a cycle should be calculated and compared with the limit values of the axis. In simplified form, for preselection of the axis, the required drive torque $M_A$ can be calculated from the travel movement with the highest load and compared with the maximum drive torque of the axis.

**F 3.1**

$$M_A = M_{dyn} + M_{stat} + M_{leer}$$

$M_A$ Required drive torque [Nm]
$M_{dyn}$ Dyn. Drive torque [Nm] (see formula F 3.2)
$M_{stat}$ Stat. Drive torque [Nm] (see formula F 3.5)
$M_{Leer}$ Idle torque [Nm] (see technical data of axis)

The dynamic drive torque $M_{dyn}$ is calculated from the rotational moment of inertia of the axis and the translationally moved mass.

**F 3.2**

$$M_{dyn} = \frac{J_{rot} \times a}{10 \times r} + \frac{F_{x\_dyn} \times r}{1.000}$$

$J_{rot}$ Rotational moment of inertia of the axis [kgcm²] (see technical data of the axis, at HM-S/HT-S: $J_{rot}$ = $J_{rot}$ 0-stroke + $J_{rot}$ stroke)
a Max. acceleration [m/s²]
r Effective radius [mm] (see formula F 3.4)
$F_{x\_dyn}$ Dynamic feed force [N] (see formula F 3.3)

**F 3.3**

$$F_{x\_dyn} = (m_{Last} + m_{Schlitten}) \times a$$

$m_{Load}$ Externally moving mass [kg]
$m_{Carriage}$ Mass of the moving carriage [kg]. (see technical data of the axis)

**F 3.4**

$$r = \frac{P}{2 \times \pi}$$

P Feed constant (HM-B/HT-B) [mm]; spindle pitch (HM-S/HT-S) [mm]

The static drive torque $M_{stat}$ takes into account the drive torque required to hold the load when the axis is not horizontal.

**F 3.5**

$$M_{stat} = \frac{F_{x\_stat} \times r}{1.000}$$

$F_{x\_stat}$ Gravitational force [N] (see formula F 3.6) Is exerted on the drive element by the moving mass when not arranged horizontally

**F 3.6**

$$F_{x\_stat} = (m_{Last} + m_{Schlitten}) \times g \sin (A)$$

g Gravitational acceleration [m/s²]
A Angle by which the linear axis deviates horizontally in the direction of travel (see Fig. 3.1)

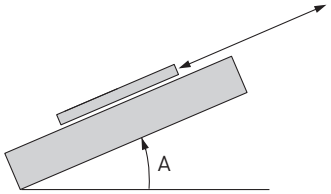



Fig. 3.1 **Angle A**

### 3.2 Calculation of the required feed force for HT-L and HB-L

The required feed force $F_v$ for applications with linear tables HT-L with linear motor drive is calculated according to the formula F 3.7. For an exact design, the travel profile must be recorded as a whole; the individual movements as well as the resulting effective force, which occurs over the entire cycle time, must be calculated. The effective force must not exceed the permanent force specified in chapter 9. In addition, it should be noted that the peak force must not be exceeded during the complete cycle and must not be generated for longer than 1 second for thermal reasons. To preselect the axis for an application, the required maximum feed force must be matched with the maximum peak force of the motor.

**F 3.7**

$$F_v = F_{x\_dyn} + F_{x\_stat} + F_l$$

| | |
|---|---|
| $F_v$ | Required feed force [N] |
| $F_{x\_dyn}$ | Dynamic feed force [N] (see formula F 3.8) |
| $F_{x\_stat}$ | Gravitational force [N] (see formula F 3.9) Is exerted on the drive element by the moving mass when not arranged horizontally |
| $F_l$ | Carriage displacement force [N] (see technical data of the axis) |

**F 3.8**

$$F_{x\_dyn} = (m_{Last} + m_{Schlitten}) \times a$$

| | |
|---|---|
| $m_{Load}$ | Externally moving mass [kg] |
| $m_{Carriage}$ | Mass of the moving carriage [kg]. (see technical data of the axis) |
| a | Max. acceleration [m/s²] |

**F 3.9**

$$F_{x\_stat} = (m_{Last} + m_{Schlitten}) \times g \sin (A)$$

| | |
|---|---|
| g | Gravitational acceleration [m/s²] |
| A | Angle by which the linear axis deviates horizontally in the direction of travel (see Fig. 3.1) |

### 3.3 Lifetime calculation

The lifetime of a linear axis is defined as the total mileage of the linear axis in kilometres until the first material fatigue occurs on the components of the linear axis (excluding wear parts).
For multi-axis systems HS, the lifetime must be calculated separately for each axis.

#### 3.2.1 Load application point

The specified dynamic forces and torques are related to the linear axis carriage. The load application point is defined as the centre of the carriage surface.

### 3.3.1 Forces and torques on the linear axis

The specified maximum dynamic forces and torques for the respective axis type must not be exceeded during operation.

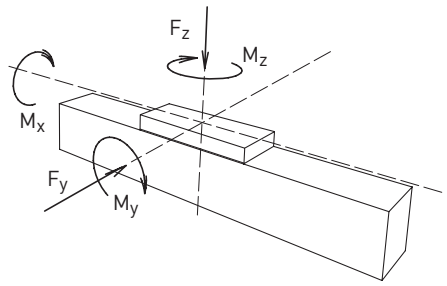



Fig. 3.2 **Illustration of the forces and torques on linear axes HM, HT and HB**

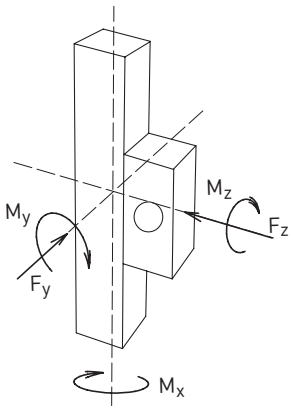



Fig. 3.3 **Illustration of the forces and torques on cantilever axis HC**

### 3.3.2 Lifetime reference value and load comparison factor

If there is a combined load from several forces and torques, the load comparison factor $f_v$ is first calculated according to the formula F 3.10. With the load comparison factor, the application-specific lifetime can be calculated from the respective lifetime characteristic curves. (Fig. 3.4 to Fig. 3.11). At $f_v = 1$ the predefined reference lifetime is reached in each case.

**F 3.10**

$$f_v = \frac{|F_y|}{F_{ydynmax}} + \frac{|F_z|}{F_{zdynmax}} + \frac{|M_x|}{M_{xdynmax}} + \frac{|M_y|}{M_{ydynmax}} + \frac{|M_z|}{M_{zdynmax}}$$

| | |
|---|---|
| $f_v$ | Load comparison factor |
| $F_y$ | Effective force in Y direction [N] |
| $F_z$ | Effective force in Z direction [N] |
| L | Nominal lifetime [N] |
| $M_x$ | Effective torque around the X-axis [Nm] |
| $M_y$ | Effective torque around the Y-axis [Nm] |
| $M_z$ | Effective torque around the Z-axis [Nm] |
| $F_{ydynmax}$ | Maximum dynamic force in Y direction [N] |
| $F_{zdynmax}$ | Maximum dynamic force in Z direction [N] |
| $M_{xdynmax}$ | Maximum dynamic moment around the X-axis [Nm] |
| $M_{ydynmax}$ | Maximum dynamic moment around the Y-axis [Nm] |
| $M_{zdynmax}$ | Maximum dynamic moment around the Z-axis [Nm] |

### 3.3.3 Lifetime characteristic curve of the linear axis with toothed belt drive HM-B, HT-B, HC and the linear axis with linear motor drive HT-L

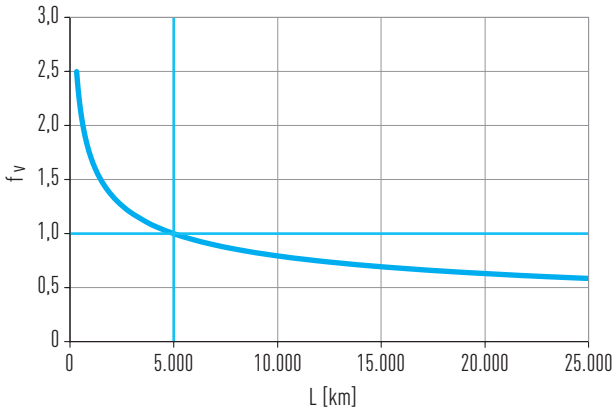



Fig. 3.4 **Lifetime characteristic curve HC025B**

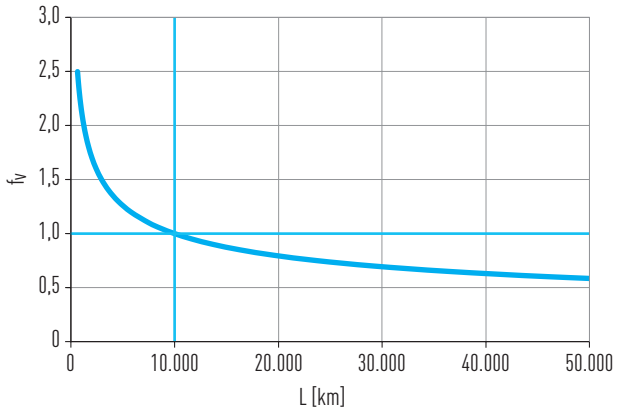



Fig. 3.5 **Lifetime characteristic curve HC040B, HT100L**

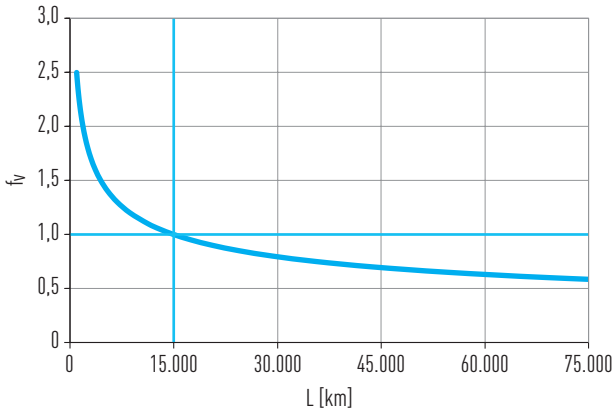



Fig. 3.6 **Lifetime characteristic curve HC060B, HC080B, HC100B, HC150**

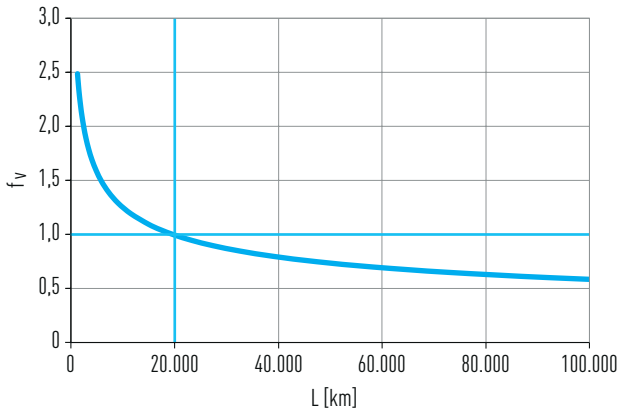



Fig. 3.7 **Lifetime characteristic curve HM-B, HT-B, HT150L, HT200L, HT250L, HB250B, HB250R, HB250L**

At $f_v = 1$ the predefined reference lifetime is reached in each case.
Please contact HIWIN for more information.

### 3.3.4 Lifetime characteristic curve of linear axis with ballscrew HM-S and HT-S

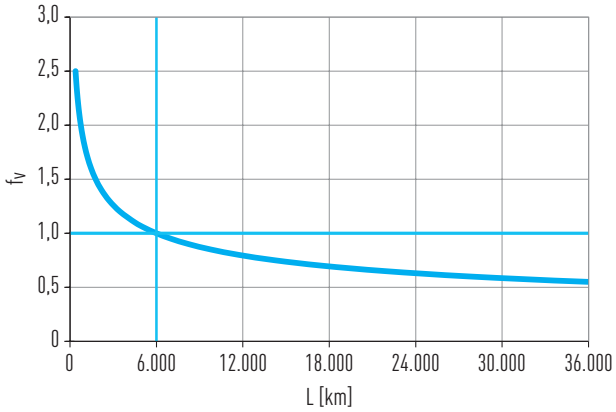



Fig. 3.8 **Lifetime characteristic curve HM040S, HT100S**

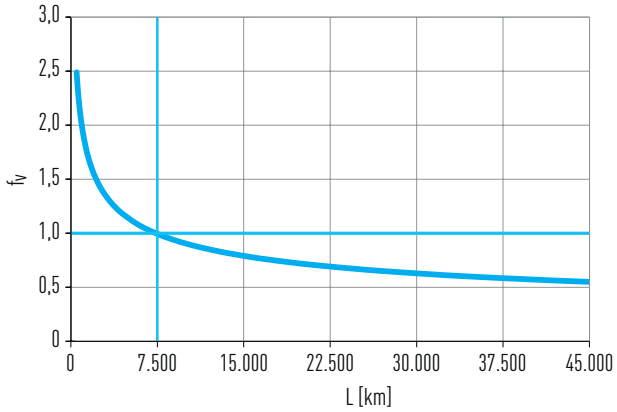



Fig. 3.9 **Lifetime characteristic curve HM060S, HM080S, HT150S**

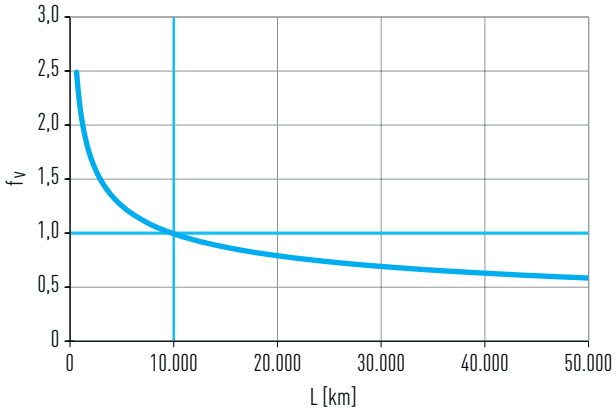



Fig. 3.10 **Lifetime characteristic curve HM120S, HT200S**

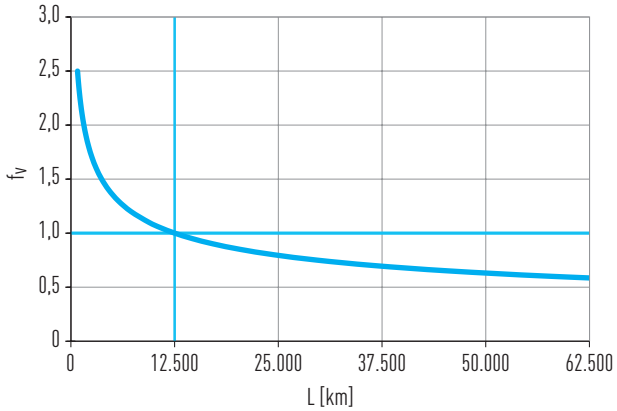



Fig. 3.11 **Lifetime characteristic curve HT250S**

At $f_v = 1$ the predefined reference lifetime is reached in each case.
Please contact HIWIN for more information.

### 3.4 Calculation of the support distance

The linear axes should ideally be mounted on a continuous, stable and level surface. If this is not possible, at least one support point must be provided on each side, in each case at the end of the profile. The max. permissible support distance $L_{SUP}$ as a function of load $F_y$ and $F_z$ according to the following diagrams must not be exceeded. Additional support points may have to be provided to ensure this. For more information on mounting the linear axis, see the assembly instructions at www.hiwin.de.

#### 3.4.1 Maximum support distance $L_{SUP}$ of the linear modules with toothed belt drive HM-B in unsupported applications

Axis position lying horizontal:

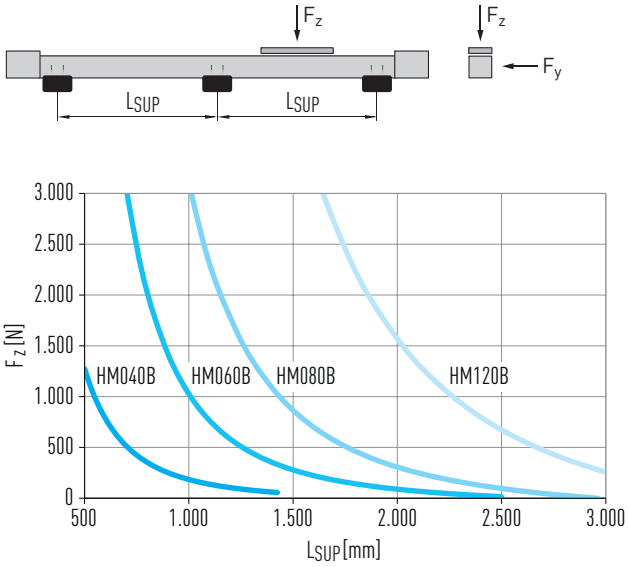



Fig. 3.12 **HM-B: Maximum support distance $L_{SUP}$ as a function of force $F_z$**

Axis position standing horizontal:

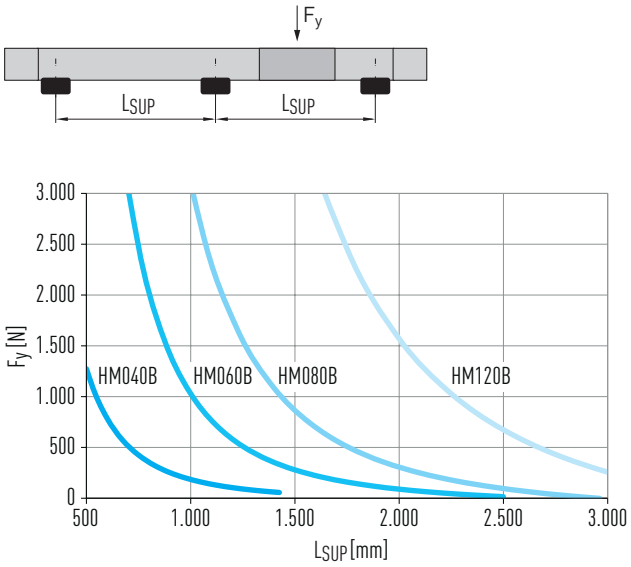



Fig. 3.13 **HM-B: Maximum support distance $L_{SUP}$ as a function of force $F_y$**

#### 3.4.2 Maximum support distance of the linear modules with ballscrew HM-B in unsupported applications

Axis position lying horizontal:

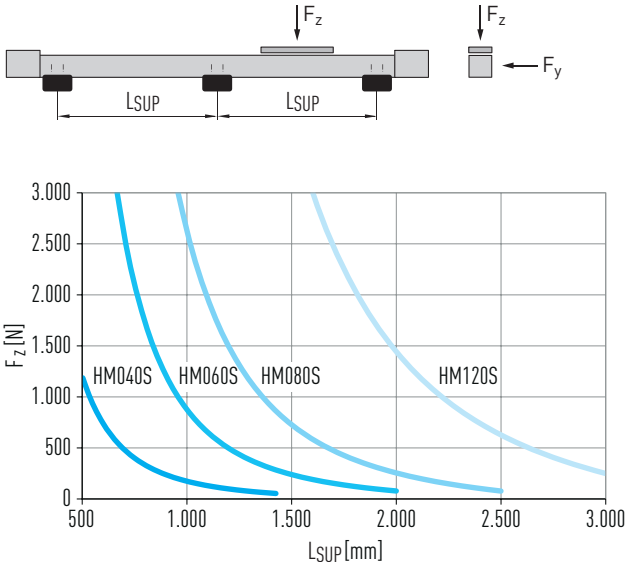



Fig. 3.14 **HM-S: Maximum support distance $L_{SUP}$ as a function of force $F_z$**

Axis position standing horizontal:

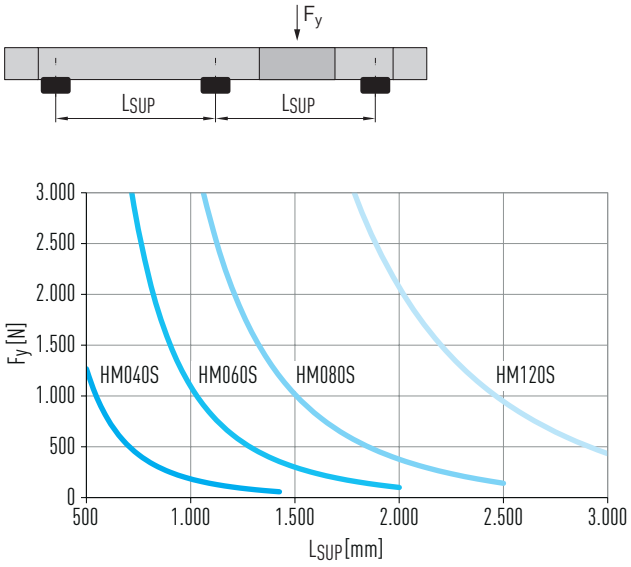
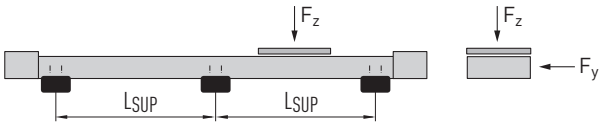


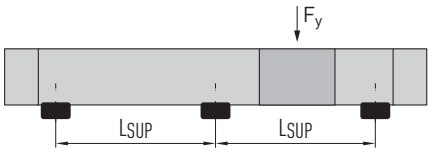

Fig. 3.15 **HM-S: Maximum support distance $L_{SUP}$ as a function of force $F_y$**

### 3.4.3 Maximum support distance of linear tables HT-B, HT-S, HT-L, HB in supported applications

Axis position lying horizontal:




Axis position standing horizontal:



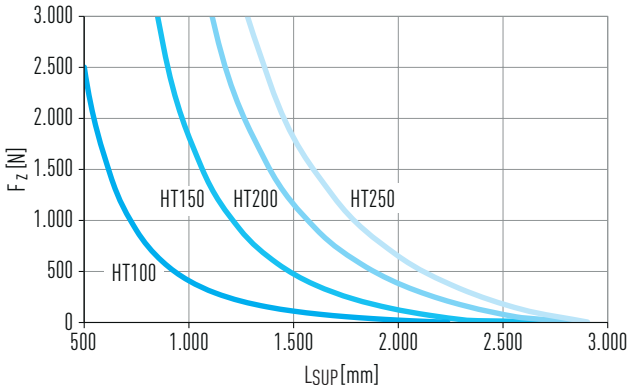




Fig. 3.16 **HT-B, HT-S: Maximum support distance $L_{SUP}$ as a function of force $F_z$**

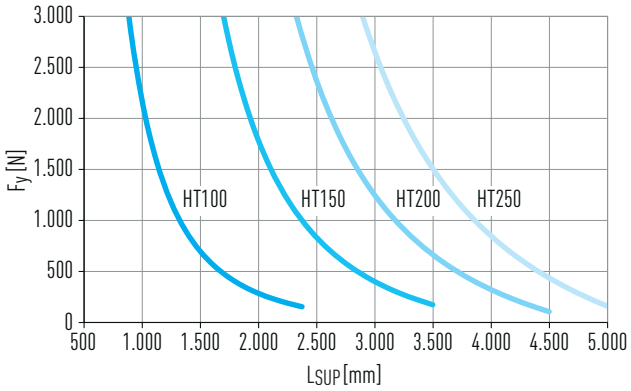



Fig. 3.17 **HT-B, HT-S: Maximum support distance $L_{SUP}$ as a function of force $F_y$**

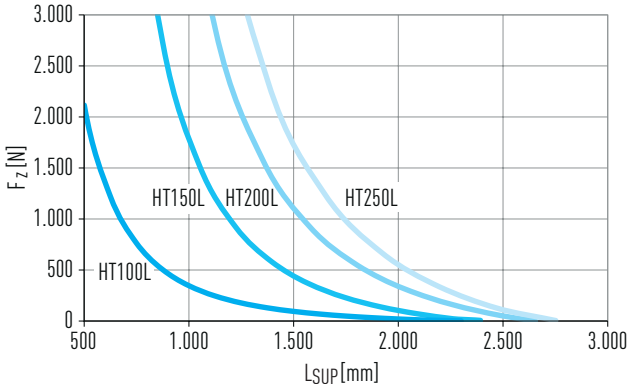



Fig. 3.18 **HT-L: Maximum support distance $L_{SUP}$ as a function of force $F_z$**

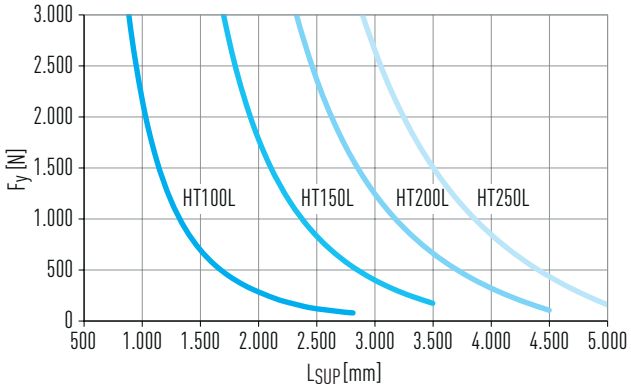



Fig. 3.19 **HT-L: Maximum support distance $L_{SUP}$ as a function of force $F_y$**

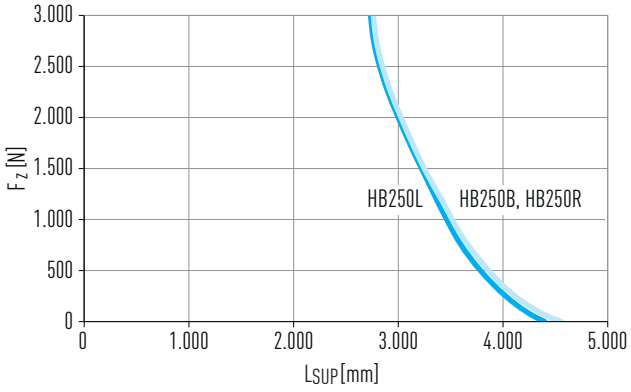



Fig. 3.20 **HB: Maximum support distance $L_{SUP}$ as a function of force $F_z$**

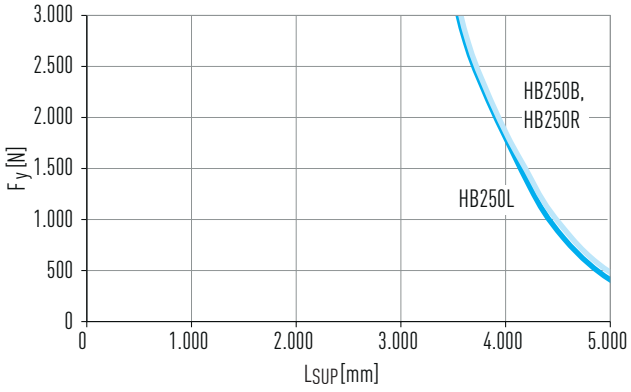


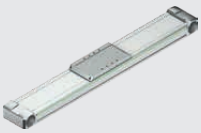
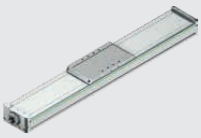
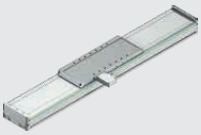
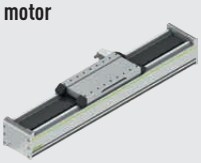

Fig. 3.21 **HB: Maximum support distance $L_{SUP}$ as a function of force $F_y$**

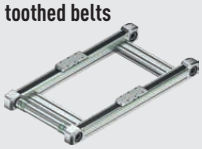
# 4. Product selection

## 4.1 Linear axes

Linear axes for positioning in one axis direction.

Table 4.1 **Product selection diagram**

| Drive element | Typical properties | Typical load capacity [kg] | Max. feed force [N] | Max. torque $M_x$ [Nm] | Max. travel speed [m/s] | Max. standard stroke [1] [mm] | Repeatability [2] [mm] | Axis | Page |
|---|---|---|---|---|---|---|---|---|---|
| **Module with toothed belt**  | – High velocity<br>– High acceleration<br>– Long stroke lengths | 10 | 300 | 8 | 5.0 | 3,000 | ± 0.05 | **HM040B** | Page 26 |
| | | 25 | 895 | 21 | 5.0 | 5,700 | ± 0.05 | **HM060B** | Page 28 |
| | | 60 | 1,253 | 48 | 5.0 | 5,600 | ± 0.05 | **HM080B** | Page 30 |
| | | 120 | 4,000 | 110 | 5.0 | 5,500 | ± 0.05 | **HM120B** | Page 32 |
| **Module with ballscrew**  | – High positioning accuracy<br>– High feed force<br>– High drive rigidity | 10 | 1,271 | 12 | 0.5 | 1,200 | ± 0.02 | **HM040S** | Page 36 |
| | | 25 | 2,541 | 28 | 0.8 | 2,950 | ± 0.02 | **HM060S** | Page 38 |
| | | 60 | 3,186 | 67 | 1.0 | 4,050 | ± 0.02 | **HM080S** | Page 40 |
| | | 120 | 6,592 | 155 | 1.6 | 5,400 | ± 0.02 | **HM120S** | Page 42 |
| **Table with toothed belt**  | – High velocity<br>– High acceleration<br>– Long stroke lengths<br>– High torque load capacity | 40 | 813 | 93 | 5.0 | 5,600 | ± 0.05 | **HT100B** | Page 46 |
| | | 80 | 1,300 | 246 | 5.0 | 5,550 | ± 0.05 | **HT150B** | Page 48 |
| | | 150 | 3,000 | 852 | 5.0 | 5,500 | ± 0.05 | **HT200B** | Page 50 |
| | | 250 | 4,500 | 1,496 | 5.0 | 5,500 | ± 0.05 | **HT250B** | Page 52 |
| **Table with ballscrew**  | – High positioning accuracy<br>– High feed force<br>– High drive rigidity<br>– High torque load capacity | 40 | 2,541 | 139 | 0.8 | 3,000 | ± 0.02 | **HT100S** | Page 56 |
| | | 80 | 3,186 | 341 | 1.0 | 5,150 | ± 0.02 | **HT150S** | Page 58 |
| | | 150 | 3,535 | 1,073 | 1.25 | 5,050 | ± 0.02 | **HT200S** | Page 60 |
| | | 250 | 5,300 | 1,750 | 1.6 | 5,000 | ± 0.02 | **HT250S** | Page 62 |
| **Table with linear motor**  | – Maximum positioning accuracy<br>– Maximum dynamics<br>– Wear-free drive<br>– Largest stroke lengths | 20 | 224 [3] | 35 | 5.0 | 5,500 | ± 0.005 | **HT100L** | Page 66 |
| | | 80 | 868 [3] | 201 | 5.0 | 5,450 | ± 0.005 | **HT150L** | Page 68 |
| | | 150 | 1,535 [3] | 721 | 5.0 | 5,400 | ± 0.005 | **HT200L** | Page 70 |
| | | 250 | 2,469 [3] | 1,249 | 5.0 | 5,450 | ± 0.005 | **HT250L** | Page 72 |
| **Bridge axis with toothed belt**  | – Maximum rigidity and maximum torque load capacity<br>– High speed<br>– High feed force | 350 | 5,775 | 1,607 | 5.0 | 5,280 | ± 0.05 | **HB250B** | Page 76 |
| **Bridge axis with rack and pinion drive**  | – Maximum rigidity and maximum torque load capacity<br>– High speed<br>– High positioning accuracy | 350 | 4,300 | 1,303 | 5.0 | 5,160 | ± 0.05 | **HB250R** | Page 80 |
| **Bridge axis with linear motor**  | – Maximum rigidity and maximum torque load capacity<br>– Highest positioning accuracy<br>– High dynamics | 350 | 3,292 | 1,058 | 4.5 | 5,160 | ± 0.005 | **HB250L** | Page 84 |

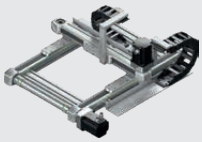
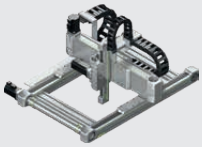
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Cantilever axis with toothed belt**  | – High velocity<br>– Compact design<br>– Low moving mass | 2 | 241 | 3 | 5.0 | 300 [4] | ± 0.05 | **HC025B** | Page 88 |
| | | 8 | 404 | 10 | 5.0 | 500 [4] | ± 0.05 | **HC040B** | Page 90 |
| | | 16 | 997 | 33 | 5.0 | 800 [4] | ± 0.05 | **HC060B** | Page 92 |
| | | 30 | 1,330 | 66 | 5.0 | 1,200 [4] | ± 0.05 | **HC080B** | Page 94 |
| | | 60 | 2,667 | 110 | 5.0 | 1,800 [4] | ± 0.05 | **HC100B** | Page 96 |
| | | 80 | 4,000 | 446 | 5.0 | 2,000 [4] | ± 0.05 | **HC150B** | Page 98 |
| **Cantilever axis with rack and pinion drive**  | – Compact design<br>– High feed force<br>– High rigidity | 80 | 4,300 | 446 | 5.0 | 2,000 [4] | ± 0.05 | **HC150R** | Page 102 |
| **Double axis with toothed belts**  | – High torque load capacity<br>– Screw-on surface width<br>– Synchronous axis movement | 25 | 450 | – | 5.0 | 3,000 | ± 0.05 | **HD1** | Page 106 |
| | | 63 | 1,343 | – | 5.0 | 5,700 | ± 0.05 | **HD2** | Page 107 |
| | | 150 | 1,880 | – | 5.0 | 5,600 | ± 0.05 | **HD3** | Page 108 |
| | | 300 | 4,385 | – | 5.0 | 5,500 | ± 0.05 | **HD4** | Page 109 |

[1] Restrictions due to energy chain and/or distance measuring system, if applicable. Larger strokes on request
[2] Repeatability depends on the selected distance measuring system (see chapter 21 from page 156)
[3] Peak force of the drive
[4] Applies to vertical installation position; for max. stroke for horizontal installation, see chapter 13

### 4.2 Multi-axis systems

Axis systems for positioning in two or three axis directions.

Table 4.2 **Product selection diagram**

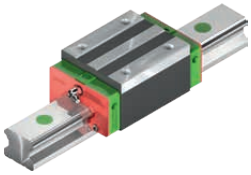
| System | Typical properties | Typical load capacity [kg] | Max. travel speed [m/s] | Basis | Working space [mm] | Axis | Page : |
|---|---|---|---|---|---|---|---|
| **Two-axis system**  | – Two-dimensional movements<br>– Compact system<br>– Large working space | 5 | 5.0 | X: HD1<br>Y: HM040B | X: 3,000<br>Y: 1,300 | **HS21-D-M** | Page 112 |
| | | 20 | 5.0 | X: HD1<br>Y: HT100B | X: 3,000<br>Y: 1,300 | **HS21-D-T** | Page 114 |
| | | 12 | 5.0 | X: HD2<br>Y: HM060B | X: 5,000<br>Y: 1,700 | **HS22-D-M** | Page 116 |
| | | 40 | 5.0 | X: HD2<br>Y: HT150B | X: 5,000<br>Y: 1,700 | **HS22-D-T** | Page 118 |
| | | 30 | 5.0 | X: HD3<br>Y: HM080B | X: 5,000<br>Y: 1,600 | **HS23-D-M** | Page 120 |
| | | 80 | 5.0 | X: HD3<br>Y: HT200B | X: 5,000<br>Y: 1,600 | **HS23-D-T** | Page 122 |
| | | 130 | 5.0 | X: HD4<br>Y: HT250B | X: 5,000<br>Y: 1,400 | **HS24-D-T** | Page 124 |
| **Three-axis system**  | – Three-dimensional movements<br>– Compact system<br>– Large working space | 2 | 5.0 | X: HD1<br>Y: HT100B<br>Z: HC025B | X: 3,000<br>Y: 1,300<br>Z: 300 | **HS31-D-T-C** | Page 128 |
| | | 8 | 5.0 | X: HD2<br>Y: HT150B<br>Z: HC040B | X: 5,000<br>Y: 1,650<br>Z: 500 | **HS32-D-T-C** | Page 130 |
| | | 16 | 5.0 | X: HD3<br>Y: HT200B<br>Z: HC060B | X: 5,000<br>Y: 1,550<br>Z: 800 | **HS33-D-T-C** | Page 132 |
| | | 30 | 5.0 | X: HD4<br>Y: HT250B<br>Z: HC080B | X: 5,000<br>Y: 1,400<br>Z: 1,200 | **HS34-D-T-C** | Page 134 |
| **Linear gantry**  | – Two-dimensional movements<br>– Compact system<br>– Large working space | 2 | 5.0 | X: HT100B<br>Z: HC025B | X: 5,000<br>Y: 300 | **HSL1-T-C** | Page 138 |
| | | 8 | 5.0 | X: HT150B<br>Z: HC040B | X: 5,000<br>Y: 500 | **HSL2-T-C** | Page 140 |
| | | 12 | 5.0 | X: HT200B<br>Z: HC060B | X: 5,000<br>Y: 800 | **HSL3-T-C** | Page 142 |
| | | 30 | 5.0 | X: HT250B<br>Z: HC080B | X: 5,000<br>Y: 1,200 | **HSL4-T-C** | Page 144 |

## 5. Linear modules HM-B

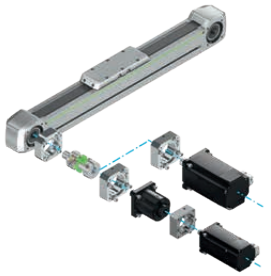
### 5.1 Properties of linear modules HM-B with toothed belt drive

The HIWIN linear axes with toothed belt drive are compact positioning modules that can be used flexibly. They are ideal in particular for applications requiring high dynamic responses and high speeds. In addition, large travel distances can be realised with these linear axes.

**Linear guideway**
High-quality HIWIN linear guideways safely transfer forces and torques from the carriage to the axis profile. Two blocks are used per carriage, which are guided on a high-precision profile rail. The SynchMotion™ technology with ball chain also ensures good synchronisation and smooth running in the HM060B, HM080B and HM120B sizes.

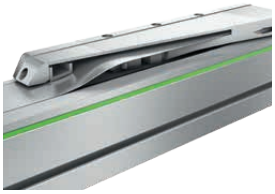


**Drive connection**
Thanks to its symmetrical design, the HIWIN toothed belt axis allows motors and gears to be mounted on all four sides of the drive blocks.
Additional journals, which are available as accessories (see Page 238), can be used to mount additional drives and outputs at any point.



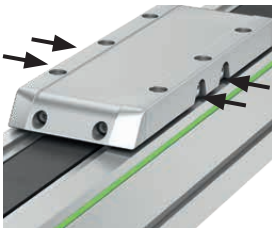
**Toothed belt**
The toothed belt with modern high performance profiles (HTD shape) and reinforced steel tension members enables high power transmission while offering high skip resistance.

**Cover strip**
The steel cover strip prevents dirt and dust from entering the axis interior. In addition, the cover strip allows the axes to be used in areas with coarse, sharp-edged or hot foreign bodies. The magnetic strips integrated in the axis profile hold the belt securely in position and increase the sealing effect.



**Carriage**
HIWIN toothed belt modules are available with three different carriage lengths depending on the size and dimensions of the load to be transported. In order to ensure ideal, reproducible alignment of the adjacent structure, each threaded hole has an additional bore hole via which the load capacity can be fixed with centring sleeves. You will find the matching centring sleeves in the accessories on Page 231.

**Lubrication**
For convenient maintenance of the linear axis, a separate grease nipple is fitted to the left and right of the carriage for each lubrication point. This ensures optimum accessibility for relubrication, even under difficult installation conditions.



### 5.2 Order code for linear modules HM-B

| HM | 060 | B | 155 | N | 0755 | S | 000 |
|---|---|---|---|---|---|---|---|

**HIWIN linear module**

**Size (profile width):**
040: 40 mm
060: 60 mm
080: 80 mm
120: 120 mm

**Drive type:**
B: Toothed belt drive

**Feed constant [mm/rev]:**
111: HM040B
155: HM060B
190: HM080B
288: HM120B

**Clearance between two carriages [mm]:**
(000: Only one carriage)

**Carriage length:**
E: Extra short [6]
S: Short
M: Medium
L: Long
H: Long – Heavy load [7]

**Stroke length [mm]**

**Cover strip:**
N: Without cover strip
C: With steel cover strip

Continuation, order code for linear modules HM-B

| A | N | N | R | BR07 | G0605 |
|---|---|---|---|---|---|

**Axis limit switch [5]:**
N: Without limit switch
A: 2 × normally closed, 100 mm cable, connector
B: 2 × normally open, 100 mm cable, connector
C: 2 × normally closed, 4 m open cable end
D: 2 × normally open, 5 m open cable end

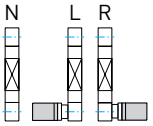
**Toothed belt:**
N: Standard belt

**Distance measuring system option [1]:**
N: Without distance measuring system
A: HIWIN MAGIC, analogue, 1 $V_{SS}$ sin/cos, 5 m open cable end
D: HIWIN MAGIC, digital, TTL 5 V, 5 m open cable end

**Gearbox [4]**

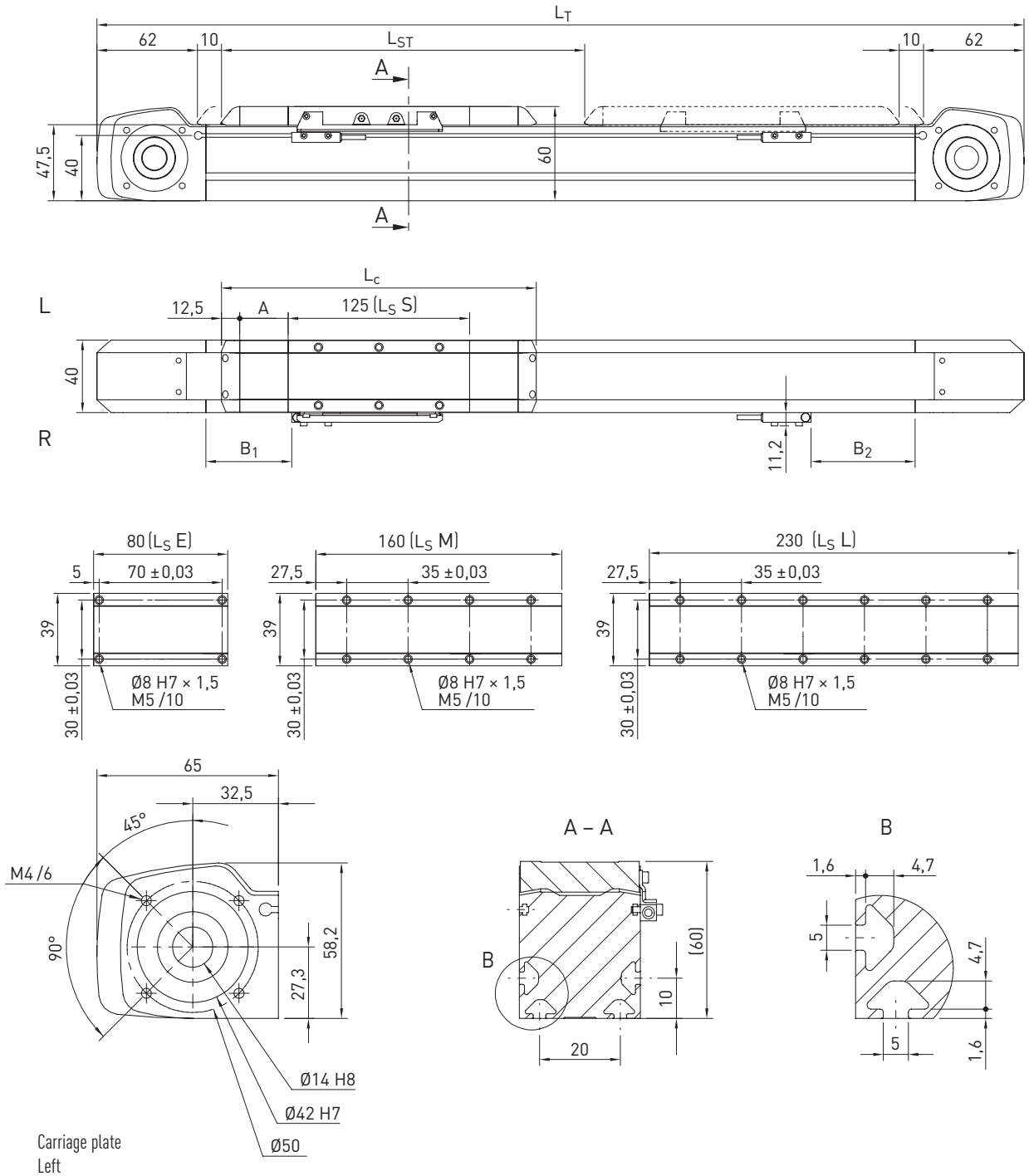
**Flange type [3]**

**Drive interface [2]:**
N: Without
L: Left
R: Right




[1] More detailed information in chapter 21 from page 156 or in the "HIWIN MAGIC Distance Measuring Systems" assembly instructions".
[2] If no drive interface is selected, the order code ends after this digit.
[3] You can find all flange types in Table 22.1 from page 160. If no gearbox is selected, the order code ends after this digit.
[4] You can find the right gearbox for the HIWIN axes in section 22.1.5.5 from page 195.
[5] Additional reference switches on request.
[6] Only available for HM040B.
[7] Only available for HM120B.

### 5.3 Dimensions and specifications of HM040B




$L_s$ Carriage plate
L Left
R Right

Table 5.1 **HM040B dimensions**

| | Variant without cover | | | | Variant with cover | | |
|---|---|---|---|---|---|---|---|
| **Type of carriage** | E | S | M | L | S | M | L |
| **Total carriage length $L_c$ [mm]** | 105 | 150 | 185 | 255 | 230 | 265 | 335 |
| **Cover strip deflection A [mm]** | – | – | – | – | 40 | 40 | 40 |
| **Switch distance $B_1$ [mm]** | 23 | 24 | 24 | 24 | 64 | 64 | 64 |
| **Switch distance $B_2$ [mm]** | 23 | 9 | 44 | 114 | 49 | 84 | 154 |
| **Max. stroke length $L_{ST}$ [mm]** | 3,000 | 3,000 | 3,000 | 3,000 | 3,000 | 3,000 | 3,000 |
| **Total length $L_T$ [mm]** | $L_T = L_{ST} + 249$ | $L_T = L_{ST} + 294$ | $L_T = L_{ST} + 329$ | $L_T = L_{ST} + 399$ | $L_T = L_{ST} + 374$ | $L_T = L_{ST} + 409$ | $L_T = L_{ST} + 479$ |

Table 5.2 **Load data**

| Type of carriage | E | S | M | L |
|---|---|---|---|---|
| $F_{ydynmax}$ [1] [N] | 665 | 963 | | |
| $F_{zdynmax}$ [1] [N] | 665 | 963 | | |
| $M_{xdynmax}$ [Nm] | 5 | 8 | | |
| $M_{ydynmax}$ [Nm] | 4 | 35 | 52 | 85 |
| $M_{zdynmax}$ [Nm] | 4 | 35 | 52 | 85 |
| z [2] [mm] | 34.1 | | | |

[1] Force must only act free of torque
[2] Carriage upper edge – centre guide
See section 3.3.2 on page 17 (lifetime reference value)

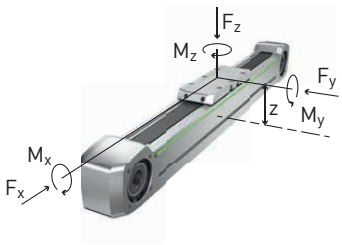



Table 5.3 **General technical data**

| | |
|---|---|
| Repeatability [mm] | ± 0.05 |
| Max. feed force $F_{x\_max}$ [N] | 300 |
| Max. speed [m/s] | 5 |
| Max. acceleration [m/s²] | 30 |
| Max. drive torque $M_{A\_max}$ [Nm] | 5 |
| Typical load capacity [kg] | 10 [1] |
| Maximum total length [mm] | 3,479 |
| Area moment of inertia of profile cross section $I_x$ [mm⁴] | 117,795 |
| Area moment of inertia of profile cross section $I_y$ [mm⁴] | 122,922 |

[1] Carriage type E: 4 kg

Table 5.4 **Guide**

| Type of carriage | E | S/M/L |
|---|---|---|
| Guide type | MGN15H | MGN15C |
| Static load rating $C_0$ [N] | 9,110 | 5,590 |
| Dynamic load rating $C_{dyn}$ [N] | 6,370 | 4,610 |

Table 5.5 **Drive**

| | |
|---|---|
| Drive element | B15HTD3 |
| Feed constant [mm/U] | 111 |
| Toothed belt effective diameter [mm] | 35.33 |

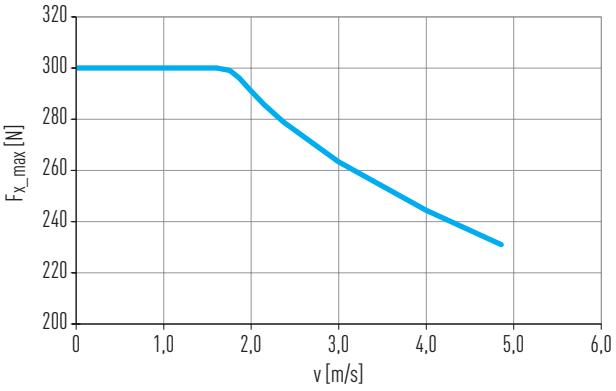



Fig. 5.1 **Max. feed force $F_{x\_max}$ as a function of axis speed v**

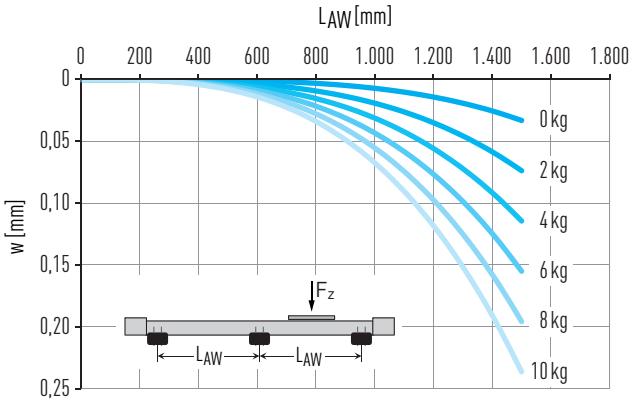


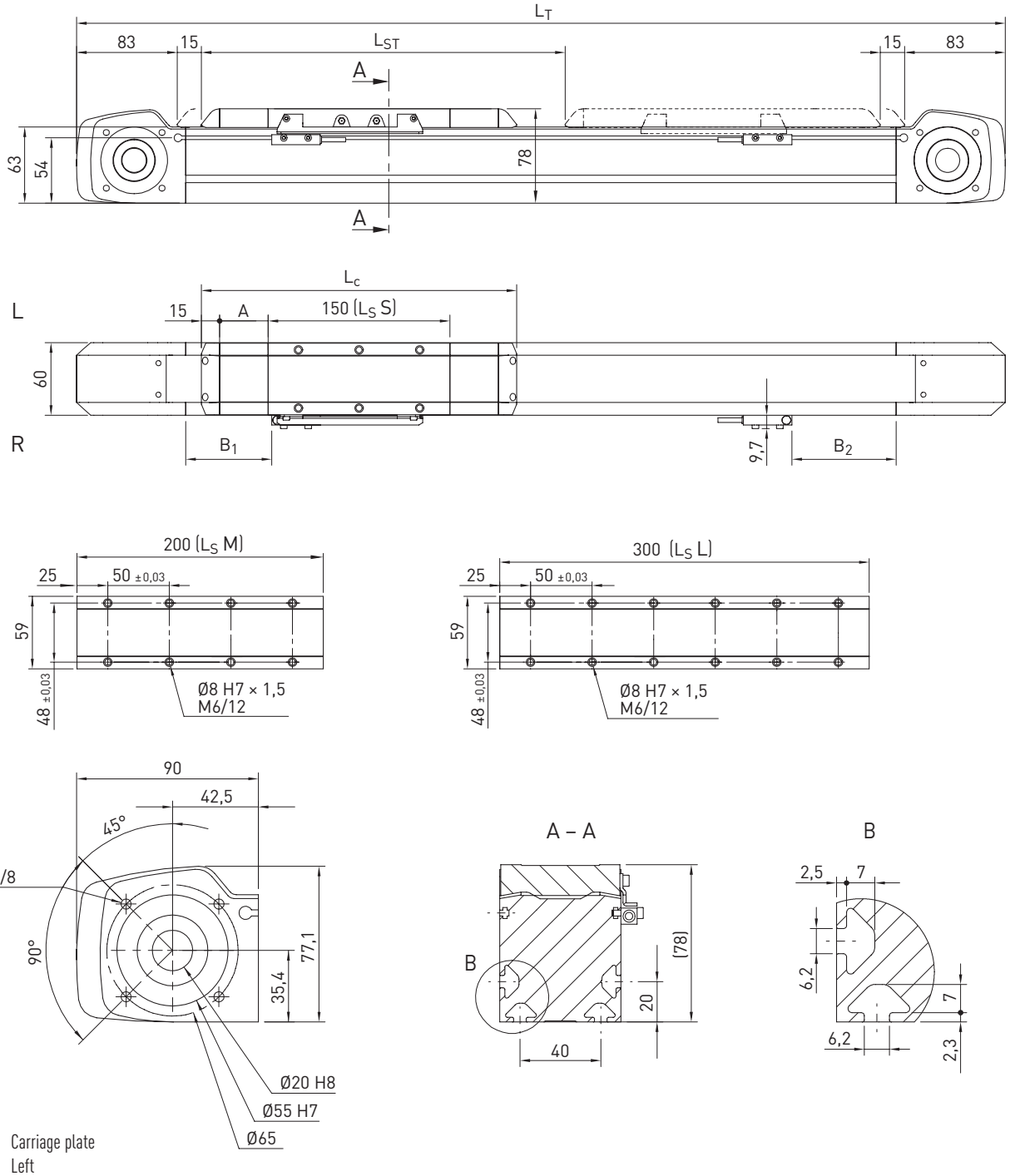

Fig. 5.2 **Deflection w over unsupported axis length $L_{AW}$ under load capacity $F_z$**

Table 5.6 **Mechanical properties**

| | Variant without cover | | | | Variant with cover | | |
|---|---|---|---|---|---|---|---|
| Type of carriage | E | S | M | L | S | M | L |
| Mass of the carriage [kg] | 0.23 | 0.33 | 0.38 | 0.50 | 0.37 | 0.43 | 0.54 |
| Mass at 0-stroke [2] [kg] | 1.18 | 1.42 | 1.58 | 1.91 | 1.72 | 1.89 | 2.22 |
| Mass per 1 m stroke [kg/m] | 3.02 | | | | 3.04 | | |
| $J_{rot.}$ [1] [kgcm²] | 0.34 | | | | 0.34 | | |
| Idle torque at 0-stroke [Nm] | 0.15 | 0.18 | | | 0.25 | | |

[1] Rotational moment of inertia
[2] The values apply to axes with one carriage. For axes with 2 carriages, add the following: Mass of carriage + mass per 1 m stroke x (Clearance between the carriages (in m) + carriage length $L_C$ (in m))

### 5.4 Dimensions and specifications of HM060B




$L_S$ Carriage plate
L Left
R Right

Table 5.7 **HM060B dimensions**

| | Variant without cover | | | Variant with cover | | |
|---|---|---|---|---|---|---|
| **Type of carriage** | S | M | L | S | M | L |
| **Total carriage length $L_c$ [mm]** | 180 | 230 | 330 | 260 | 310 | 410 |
| **Cover strip deflection A [mm]** | – | – | – | 40 | 40 | 40 |
| **Switch distance $B_1$ [mm]** | 25 | 25 | 25 | 65 | 65 | 65 |
| **Switch distance $B_2$ [mm]** | 40 | 90 | 190 | 80 | 130 | 230 |
| **Max. stroke length $L_{ST}$ [mm]** | 5,704 | 5,654 | 5,554 | 5,624 | 5,574 | 5,474 |
| **Total length $L_T$ [mm]** | $L_T = L_{ST} + 376$ | $L_T = L_{ST} + 426$ | $L_T = L_{ST} + 526$ | $L_T = L_{ST} + 456$ | $L_T = L_{ST} + 506$ | $L_T = L_{ST} + 606$ |

Table 5.8 **Load data**

| Type of carriage | S | M | L |
|---|---|---|---|
| $F_{ydynmax}$ [1] [N] | 2,152 | | |
| $F_{zdynmax}$ [1] [N] | 2,616 | | |
| $M_{xdynmax}$ [Nm] | 21 | | |
| $M_{ydynmax}$ [Nm] | 98 | 164 | 294 |
| $M_{zdynmax}$ [Nm] | 81 | 135 | 242 |
| z [2] [mm] | 45.6 | | |

[1] Force must only act free of torque
[2] Carriage upper edge – centre guide
See section 3.3.2 on page 17 (lifetime reference value)

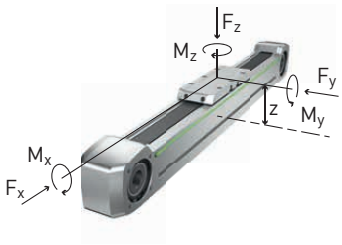



Table 5.9 **General technical data**

| | |
|---|---|
| Repeatability [mm] | ± 0.05 |
| Max. feed force $F_{x\_max}$ [N] | 895 |
| Max. speed [m/s] | 5 |
| Max. acceleration [m/s²] | 30 |
| Max. drive torque $M_{A\_max}$ [Nm] | 22 |
| Typical load capacity [kg] | 25 |
| Maximum total length [1] [mm] | 6,080 |
| Area moment of inertia of profile cross section $I_x$ [mm⁴] | 507,521 |
| Area moment of inertia of profile cross section $I_y$ [mm⁴] | 625,920 |

[1] Long axes on request

Table 5.10 **Guide**

| | |
|---|---|
| Guide type | QEH15CA |
| Static load rating $C_0$ [N] | 15,280 |
| Dynamic load rating $C_{dyn}$ [N] | 12,530 |

Table 5.11 **Drive**

| | |
|---|---|
| Drive element | B25HTD5 |
| Feed constant [mm/U] | 155 |
| Toothed belt effective diameter [mm] | 49.34 |

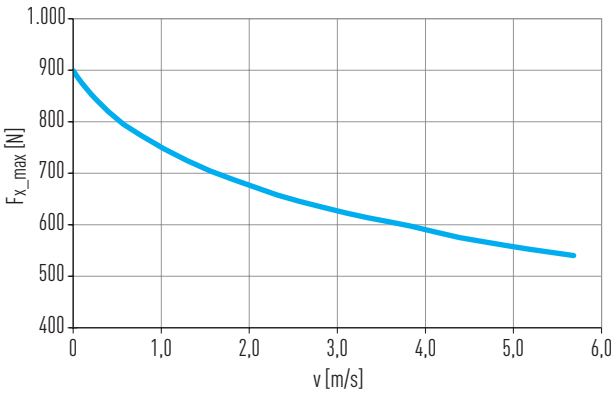



Fig. 5.3 **Max. feed force $F_{x\_max}$ as a function of axis speed v**

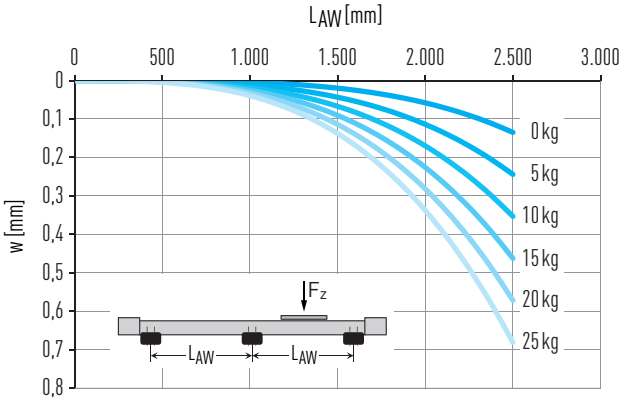


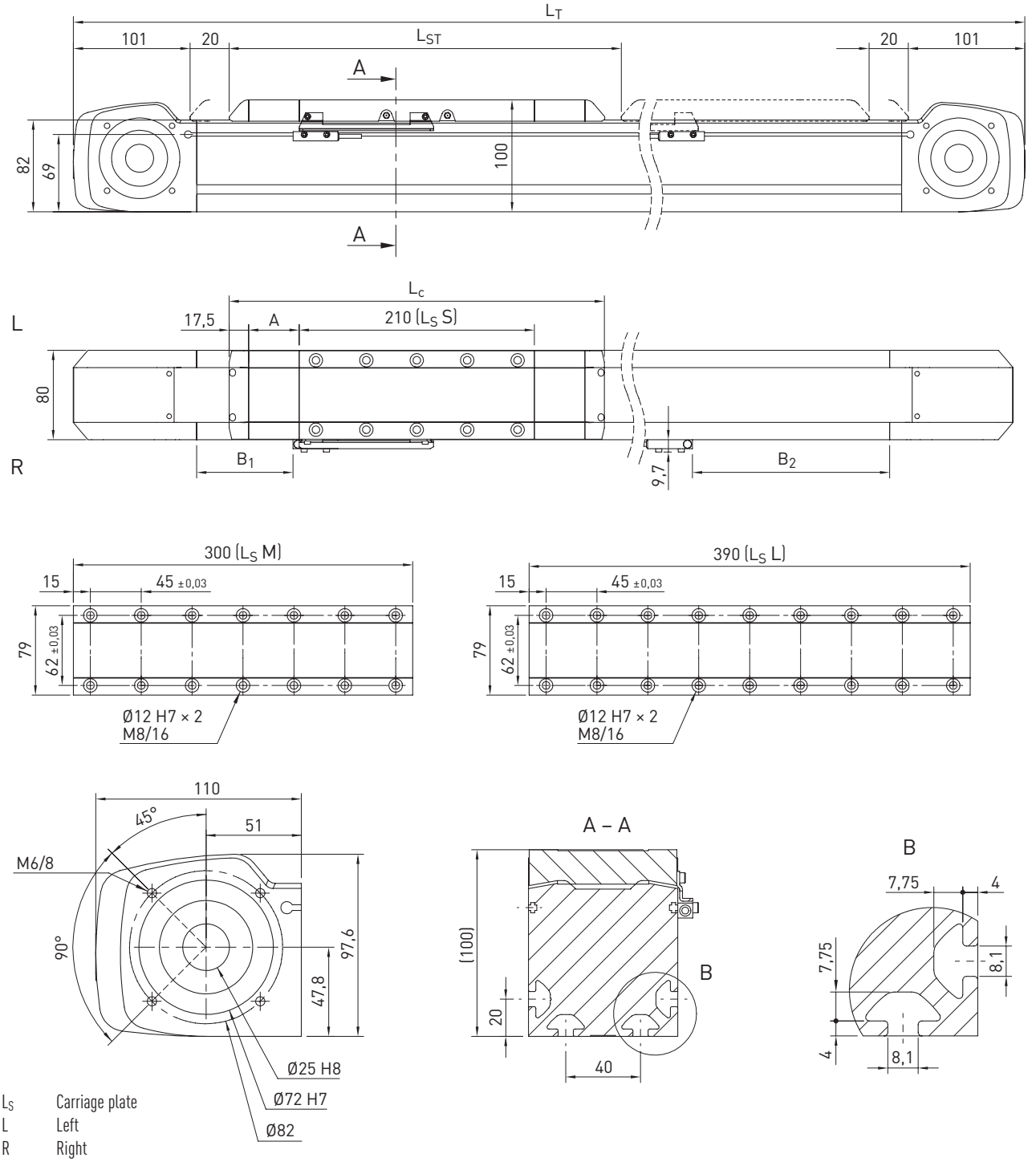

Fig. 5.4 **Deflection w over unsupported axis length $L_{AW}$ under load capacity $F_z$**

Table 5.12 **Mechanical properties**

| | Variant without cover | | | Variant with cover | | |
|---|---|---|---|---|---|---|
| Type of carriage | S | M | L | S | M | L |
| Mass of the carriage [kg] | 0.81 | 0.96 | 1.25 | 0.89 | 1.03 | 1.32 |
| Mass at 0-stroke [2] [kg] | 3.50 | 3.92 | 4.77 | 4.05 | 4.47 | 5.32 |
| Mass per 1 m stroke [kg/m] | 5.47 | | | 5.51 | | |
| $J_{rot.}$ [1] [kgcm²] | 1.92 | | | 1.92 | | |
| Idle torque at 0-stroke [Nm] | 0.47 | | | 0.80 | | |

[1] Rotational moment of inertia
[2] The values apply to axes with one carriage. For axes with 2 carriages, add the following: Mass of carriage + mass per 1 m stroke x (Clearance between the carriages (in m) + carriage length $L_C$ (in m))

**5.5 Dimensions and specifications of HM080B**




$L_S$ Carriage plate
L Left
R Right

Table 5.13 **HM080B dimensions**

| | Variant without cover | | | Variant with cover | | |
|---|---|---|---|---|---|---|
| **Type of carriage** | S | M | L | S | M | L |
| **Total carriage length $L_c$ [mm]** | 245 | 335 | 425 | 335 | 425 | 515 |
| **Cover strip deflection A [mm]** | – | – | – | 45 | 45 | 45 |
| **Switch distance $B_1$ [mm]** | 23 | 23 | 23 | 68 | 68 | 68 |
| **Switch distance $B_2$ [mm]** | 113 | 203 | 293 | 158 | 248 | 338 |
| **Max. stroke length $L_{ST}$ [mm]** | 5,633 | 5,543 | 5,453 | 5,543 | 5,453 | 5,363 |
| **Total length $L_T$ [mm]** | $L_T = L_{ST} + 487$ | $L_T = L_{ST} + 577$ | $L_T = L_{ST} + 667$ | $L_T = L_{ST} + 577$ | $L_T = L_{ST} + 667$ | $L_T = L_{ST} + 757$ |

Table 5.14 **Load data**

| Type of carriage | S | M | L |
|---|---|---|---|
| $F_{ydynmax}$ [1] [N] | 3,855 | | |
| $F_{zdynmax}$ [1] [N] | 6,264 | | |
| $M_{xdynmax}$ [Nm] | 48 | | |
| $M_{ydynmax}$ [Nm] | 357 | 639 | 921 |
| $M_{zdynmax}$ [Nm] | 220 | 393 | 567 |
| z [2] [mm] | 53.4 | | |

[1] Force must only act free of torque
[2] Carriage upper edge – centre guide
See section 3.3.2 on page 17 (lifetime reference value)

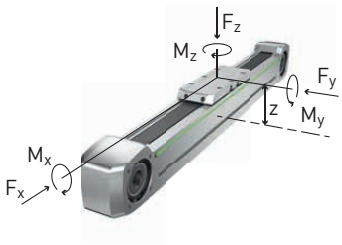



Table 5.15 **General technical data**

| | |
|---|---|
| Repeatability [mm] | ± 0.05 |
| Max. feed force $F_{x\_max}$ [N] | 1,253 |
| Max. speed [m/s] | 5 |
| Max. acceleration [m/s²] | 30 |
| Max. drive torque $M_{A\_max}$ [Nm] | 38 |
| Typical load capacity [kg] | 60 |
| Maximum total length [1] [mm] | 6,120 |
| Area moment of inertia of profile cross section $I_x$ [mm⁴] | 1,522,057 |
| Area moment of inertia of profile cross section $I_y$ [mm⁴] | 2,081,321 |

[1] Long axes on request

Table 5.16 **Guide**

| | |
|---|---|
| Guide type | QHH20CA |
| Static load rating $C_0$ [N] | 33,860 |
| Dynamic load rating $C_{dyn}$ [N] | 30,000 |

Table 5.17 **Drive**

| | |
|---|---|
| Drive element | B35HTD5 |
| Feed constant [mm/U] | 190 |
| Toothed belt effective diameter [mm] | 60.48 |

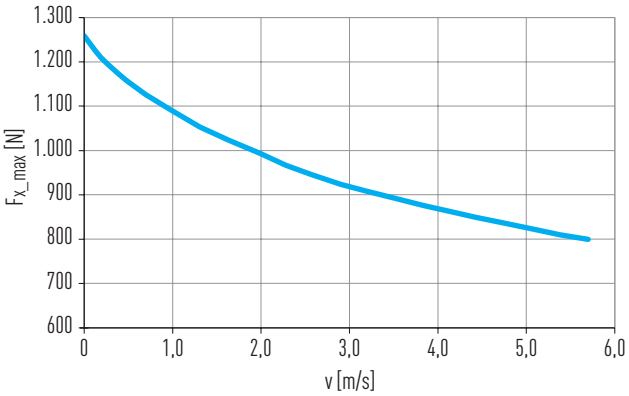



Fig. 5.5 **Max. feed force $F_{x\_max}$ as a function of axis speed v**

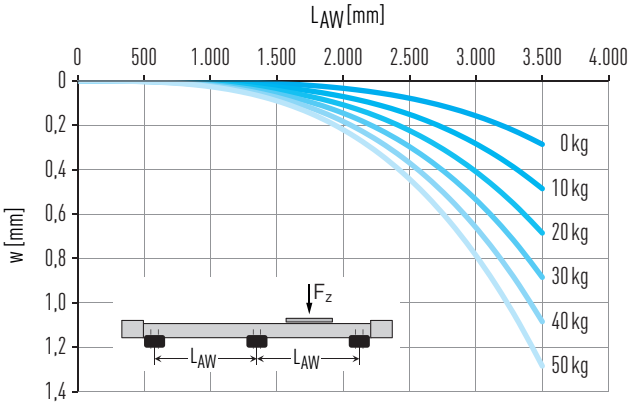


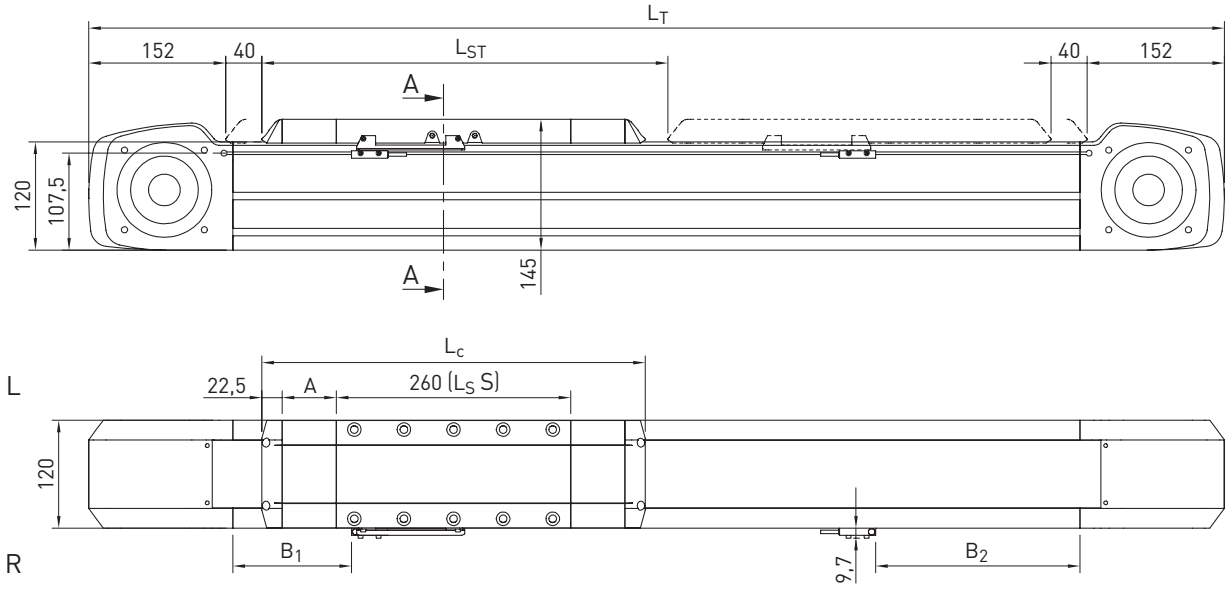

Fig. 5.6 **Deflection w over unsupported axis length $L_{AW}$ under load capacity $F_z$**

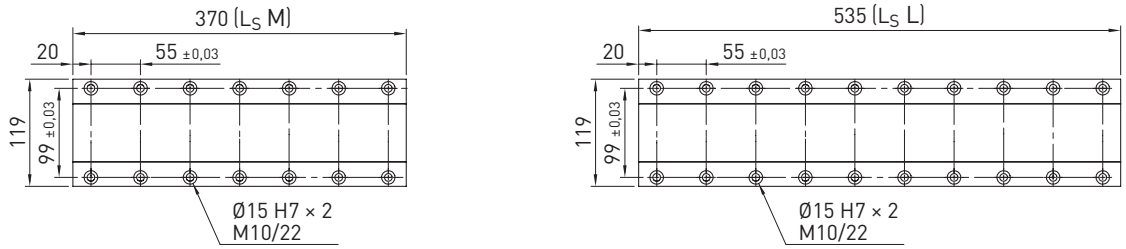
Table 5.18 **Mechanical properties**

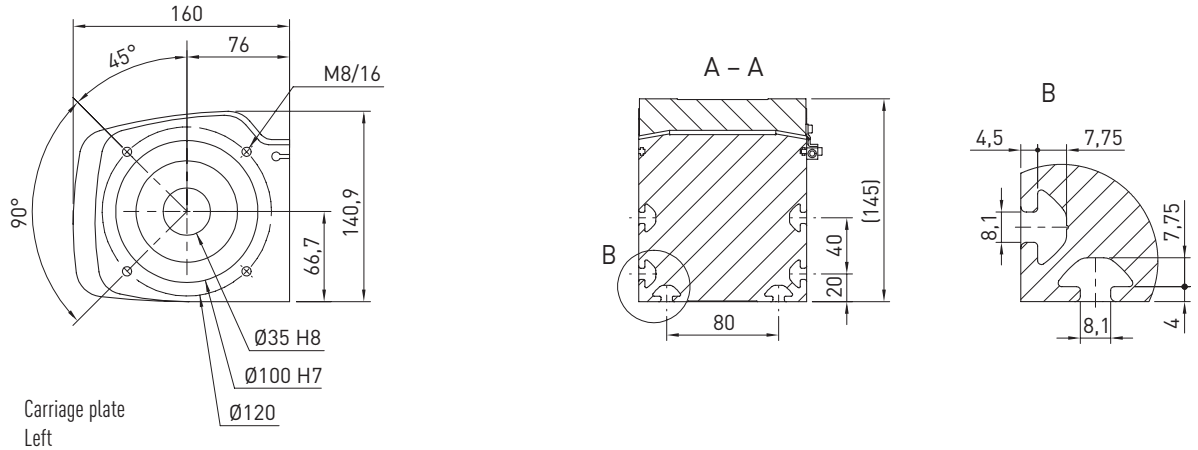
| | Variant without cover | | | Variant with cover | | |
|---|---|---|---|---|---|---|
| Type of carriage | S | M | L | S | M | L |
| Mass of the carriage [kg] | 1.55 | 1.97 | 2.38 | 1.70 | 2.12 | 2.54 |
| Mass at 0-stroke [2] [kg] | 7.38 | 8.70 | 10.02 | 8.48 | 9.80 | 11.12 |
| Mass per 1 m stroke [kg/m] | 9.86 | | | 9.92 | | |
| $J_{rot.}$ [1] [kgcm²] | 6.03 | | | 6.03 | | |
| Idle torque at 0-stroke [Nm] | 1.20 | | | 1.30 | | |

[1] Rotational moment of inertia
[2] The values apply to axes with one carriage. For axes with 2 carriages, add the following: Mass of carriage + mass per 1 m stroke x (Clearance between the carriages (in m) + carriage length $L_C$ (in m))

### 5.6 Dimensions and specifications of HM120B




$L_S$ Carriage plate
L Left
R Right

Table 5.19 **HM120B dimensions**

| | Variant without cover | | | Variant with cover | | |
|---|---|---|---|---|---|---|
| **Type of carriage** | S | M | L/H | S | M | L/H |
| **Total carriage length $L_c$ [mm]** | 305 | 415 | 580 | 425 | 535 | 700 |
| **Cover strip deflection A [mm]** | – | – | – | 60 | 60 | 60 |
| **Switch distance $B_1$ [mm]** | 71.5 | 71.5 | 71.5 | 131.5 | 131.5 | 131.5 |
| **Switch distance $B_2$ [mm]** | 166.5 | 276.5 | 441.5 | 226.5 | 336.5 | 501.5 |
| **Max. stroke length $L_{ST}$ [mm]** | 5,531 | 5,421 | 5,256 | 5,411 | 5,301 | 5,136 |
| **Total length $L_T$ [mm]** | $L_T = L_{ST} + 689$ | $L_T = L_{ST} + 799$ | $L_T = L_{ST} + 964$ | $L_T = L_{ST} + 809$ | $L_T = L_{ST} + 919$ | $L_T = L_{ST} + 1,084$ |

Table 5.20 **Load data**

| Type of carriage | S | M | L | H |
|---|---|---|---|---|
| $F_{ydynmax}$ [1] [N] | 12,165 | | | |
| $F_{zdynmax}$ [1] [N] | 12,165 | | | 14,683 |
| $M_{xdynmax}$ [Nm] | 110 | | | 138 |
| $M_{ydynmax}$ [Nm] | 900 | 1,569 | 2,573 | 2,937 |
| $M_{zdynmax}$ [Nm] | 900 | 1,569 | 2,573 | 2,433 |
| z [2] [mm] | 77.0 | | | |

[1] Force must only act free of torque
[2] Carriage upper edge – centre guide
See section 3.3.2 on page 17 (lifetime reference value)

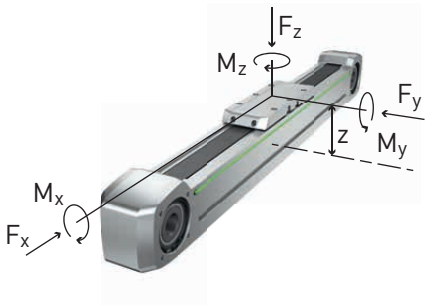



Table 5.21 **General technical data**

| | |
|---|---|
| Repeatability [mm] | ± 0.05 |
| Max. feed force $F_{x\_max}$ [N] | 4,000 |
| Max. speed [m/s] | 5 |
| Max. acceleration [m/s²] | 30 |
| Max. drive torque $M_{A\_max}$ [Nm] | 183 |
| Typical load capacity [kg] | 120 |
| Maximum total length [1] [mm] | 6,220 |
| Area moment of inertia of profile cross section $I_x$ [mm⁴] | 6,791,541 |
| Area moment of inertia of profile cross section $I_y$ [mm⁴] | 9,553,626 |

[1] Long axes on request

Table 5.22 **Guide**

| Type of carriage | S/M/L | H |
|---|---|---|
| Guide type | QHW30CC | QHW30HC |
| Static load rating $C_0$ [N] | 66,340 | 88,450 |
| Dynamic load rating $C_{dyn}$ [N] | 58,260 | 70,320 |

Table 5.23 **Drive**

| | |
|---|---|
| Drive element | B60HTD8 |
| Feed constant [mm/U] | 288 |
| Toothed belt effective diameter [mm] | 91.67 |

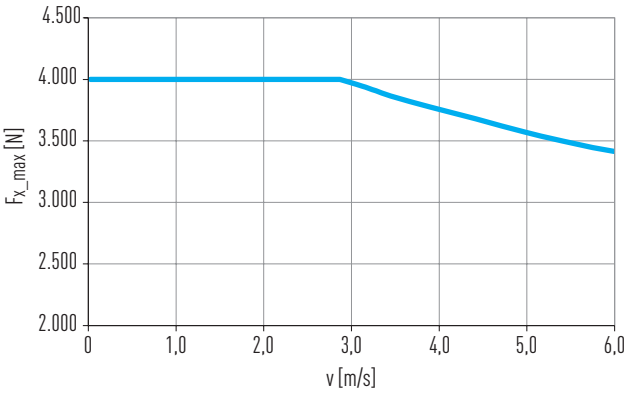



Fig. 5.7 **Max. feed force $F_{x\_max}$ as a function of axis speed v**

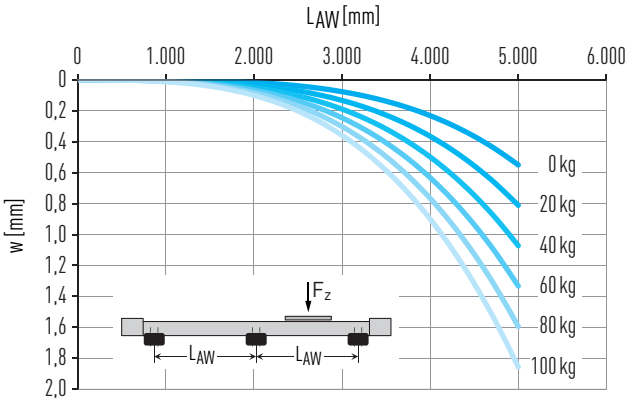



Fig. 5.8 **Deflection w over unsupported axis length $L_{AW}$ under load capacity $F_z$**

Table 5.24 **Mechanical properties**

| | Variant without cover | | | | Variant with cover | | | |
|---|---|---|---|---|---|---|---|---|
| Type of carriage | S | M | L | H | S | M | L | H |
| Mass of the carriage [kg] | 5.29 | 6.08 | 7.79 | 8.72 | 5.81 | 6.59 | 8.30 | 9.2 |
| Mass at 0-stroke [2] [kg] | 23.44 | 26.63 | 31.75 | 31.22 | 26.60 | 29.80 | 34.94 | 34.5 |
| Mass per 1 m stroke [kg/m] | 20.77 | | | 21.03 | 20.86 | | | 21.21 |
| $J_{rot.}$ [1] [kgcm²] | 42.42 | | | | 42.42 | | | |
| Idle torque at 0-stroke [Nm] | 3.10 | | | | 3.50 | | | |

[1] Rotational moment of inertia
[2] The values apply to axes with one carriage. For axes with 2 carriages, add the following: Mass of carriage + mass per 1 m stroke x (Clearance between the carriages (in m) + carriage length $L_C$ (in m))

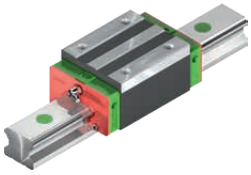
## 6. Linear modules HM-S

### 6.1 Properties of linear modules HM-S with ballscrew

The HIWIN linear axes with ballscrew are compact positioning modules that can be used flexibly. They are especially suitable for applications where high loads have to be moved with high precision.

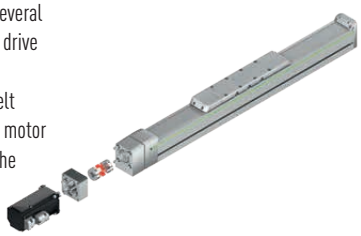
**Linear guideway**

High-quality HIWIN linear guideways safely transfer forces and torques from the carriage to the axis profile. Two blocks are used per carriage, which are guided on a high-precision profile rail. The SynchMotion™ technology with ball chain also ensures good synchronisation and smooth running in the HM060S, HM080S and HM120S sizes.



**Motor connection and belt drive**

The motor adapters are made up of several parts that offer an extremely flexible drive interface for attaching and modifying the drive installation. Optionally, a belt transmission can be used to turn the motor attachment through 180°, reducing the total length to a considerable extent.

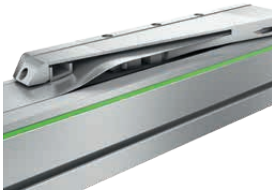


**Ballscrew**

The integrated HIWIN ballscrews ensure precise positioning thanks to their high pitch accuracy and rigidity. Different shaft pitches are available for each size in order to optimally meet the requirements for feed force and dynamics.

**Cover strip**

The steel cover strip prevents dirt and dust from entering the axis interior. In addition, the cover strip allows the axes to be used in areas with coarse, sharp-edged or hot foreign bodies. The magnetic strips integrated in the axis profile hold the belt securely in position and increase the sealing effect.

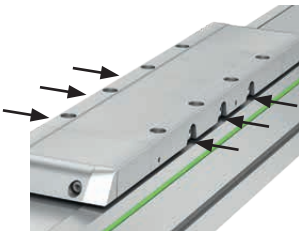


**Carriage**

HIWIN spindle axes are available with two different carriage lengths depending on the size and dimensions of the load to be transported. In order to ensure ideal, reproducible alignment of the adjacent structure, each threaded hole has an additional bore hole via which the load capacity can be fixed with centring sleeves. You will find the matching centring sleeves in the accessories on Page 231.

**Lubrication**

For convenient maintenance of the linear axis, a separate grease nipple is fitted to the left and right of the carriage for each lubrication point. This ensures optimum accessibility for relubrication, even under difficult installation conditions.



**Spindle support**

In applications with long travel distances and high velocity, the critical speed of the shaft is quickly reached, meaning an appropriate support is required to prevent the shaft from swinging up. In HIWIN spindle drive axes, up to three travelling shaft supports can be installed on each side of the carriage. This allows driving at full speed, even with large strokes.

### 6.2 Order code for linear modules HM-S

| HM | 060 | S | 010 | C | 0755 | L | 000 |
|---|---|---|---|---|---|---|---|

**HIWIN linear module**

**Size (profile width):**
040: 40 mm
060: 60 mm
080: 80 mm
120: 120 mm

**Drive type:**
S: Ballscrew

**Spindle pitch [mm]:**
005/010: HM040S
005/010/016: HM060S
005/010/020: HM080S
010/020/032: HM120S

**Cover strip:**
C: With steel cover strip
N: Without cover strip

**Stroke length [mm]**

**Carriage length:**
S: Short
L: Long

**Clearance between two carriages [mm]:**
(000: Only one carriage)

Continuation, order code for linear modules HM-S

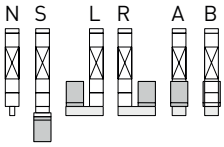
| A | N | N | R | B002 |
|---|---|---|---|---|

**Axis limit switch**[4]**:**
N: Without limit switch
A: 2 × normally closed, 100 mm cable, connector
B: 2 × normally open, 100 mm cable, connector
C: 2 × normally closed, 4 m open cable end
D: 2 × normally open, 5 m open cable end

**Spindle support:**
N: Without spindle support
1: One spindle support per side (HM060/080/120)
2: Two spindle supports per side (HM060/080/120)
3: Three spindle supports per side (HM060/080/120)
4: Four spindle supports per side (HM120)

**Motor flange type**[3]

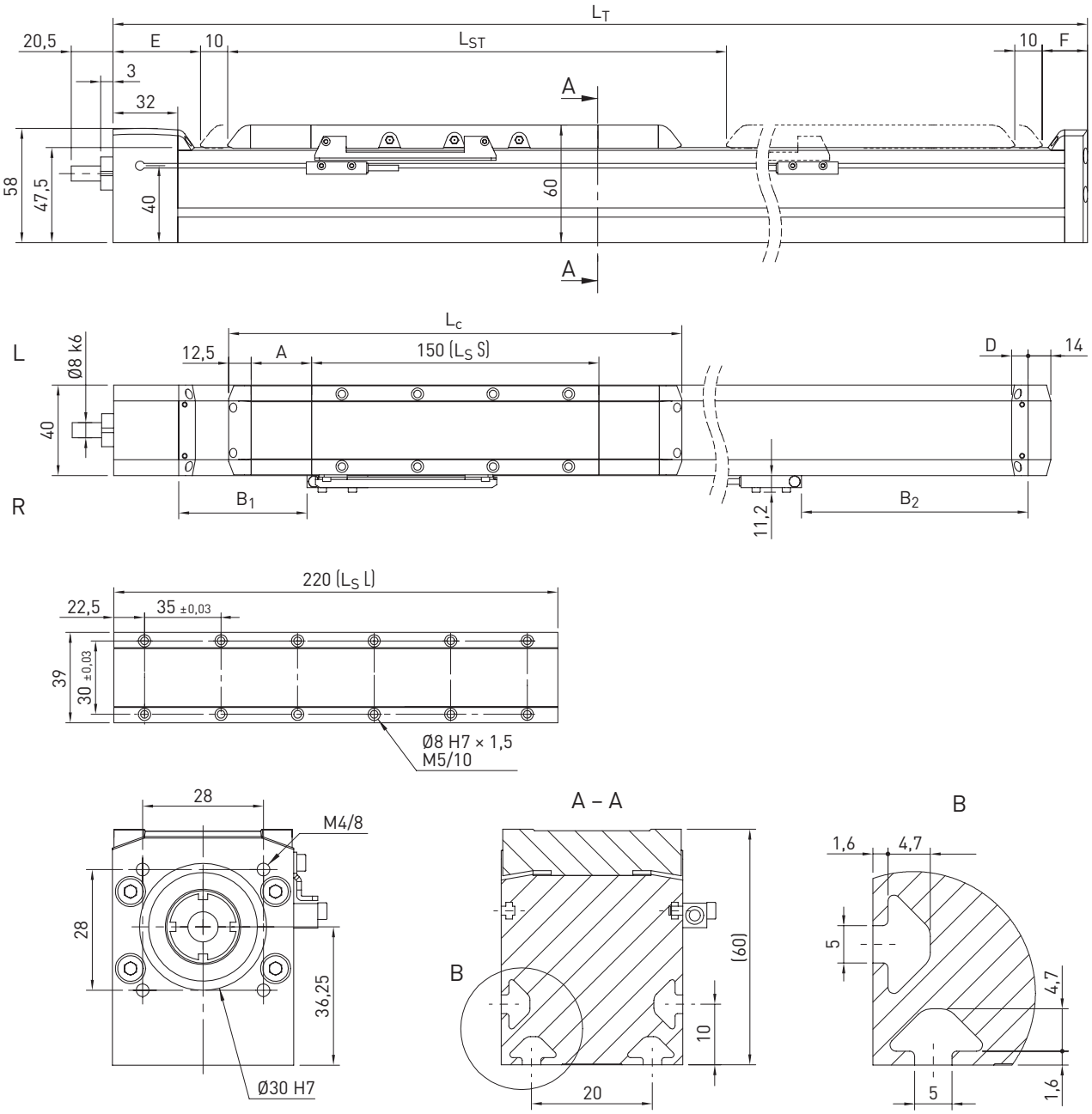
**Drive interface**[2]**:**
N: Without
S: Straight
L: Left
R: Right
A: Top
B: Bottom




**Distance measuring system option**[1]**:**
N: Without distance measuring system
A: HIWIN MAGIC, analogue, 1 $V_{SS}$ sin/cos, 5 m open cable end
D: HIWIN MAGIC, digital, TTL 5 V, 5 m open cable end

[1] More detailed information in chapter 21 from page 156 or in the "HIWIN MAGIC Distance Measuring Systems" assembly instructions".
[2] If no drive interface is selected, the order code ends after this digit.
[3] You can find all flange types in Table 22.15 from page 200. If no gearbox is selected, the order code ends after this digit.
[4] Additional reference switches on request.

### 6.3 Dimensions and specifications of HM040S




$L_S$ Carriage plate
L Left
R Right

Table 6.1 **HM040S dimensions**

| | Variant without cover | | Variant with cover | |
|---|---|---|---|---|
| **Type of carriage** | S | L | S | L |
| **Total carriage length $L_c$ [mm]** | 175 | 245 | 255 | 325 |
| **Cover strip deflection A [mm]** | – | – | 40 | 40 |
| **Switch distance $B_1$ [mm]** | 33.5 | 33.5 | 83.5 | 83.5 |
| **Switch distance $B_2$ [mm]** | 42.5 | 112.5 | 92.5 | 162.5 |
| **Terminal box D [mm]** | – | – | 10 | 10 |
| **End position at mechanical zero E [mm]** | 38 | | 48 | |
| **End position at mechanical zero F [mm]** | 20 | | 30 | |
| **Max. stroke length $L_{ST}$ [mm]** | 1,231 | 1,161 | 1,131 | 1,061 |
| **Total length $L_T$ [mm]** | $L_T = L_{ST} + 253$ | $L_T = L_{ST} + 323$ | $L_T = L_{ST} + 353$ | $L_T = L_{ST} + 423$ |

Table 6.2 **Load data**

| Type of carriage | S | L |
|---|---|---|
| $F_{ydynmax}$ [1] [N] | 1,438 | |
| $F_{zdynmax}$ [1] [N] | 1,438 | |
| $M_{xdynmax}$ [Nm] | 12 | |
| $M_{ydynmax}$ [Nm] | 80 | 130 |
| $M_{zdynmax}$ [Nm] | 80 | 130 |
| z [2] [mm] | 39.6 | |

[1] Force must only act free of torque
[2] Carriage upper edge – centre guide
See section 3.3.2 on page 17 (lifetime reference value)

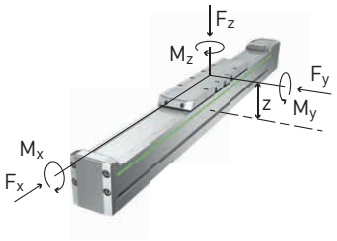



Table 6.3 **General technical data**

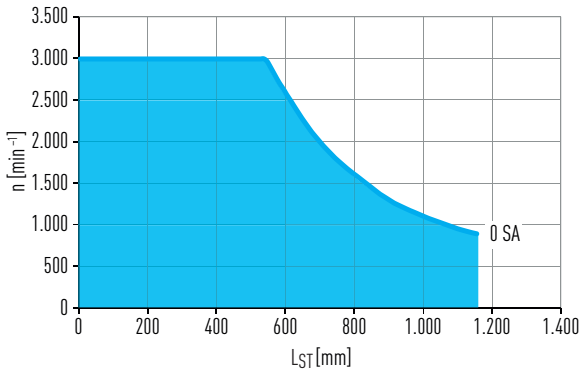
| | |
|---|---|
| Repeatability [mm] | ± 0.02 |
| Max. acceleration [m/s²] | 15 |
| Typical load capacity [kg] | 10 |
| Maximum total length [mm] | 1,484 |
| Area moment of inertia of profile cross section $I_x$ [mm⁴] | 111,032 |
| Area moment of inertia of profile cross section $I_y$ [mm⁴] | 116,769 |

Table 6.4 **Guide**

| | |
|---|---|
| Guide type | MGN15C |
| Static load rating $C_0$ [N] | 5,590 |
| Dynamic load rating $C_{dyn}$ [N] | 4,610 |

Table 6.5 **Drive**

| | Spindle lead | |
|---|---|---|
| | 5 mm | 10 mm |
| Spindle diameter [mm] | 12 | |
| Axial play [mm] | 0.02 | |
| Max. feed force $F_{x\_max}$ [N] | 1,271 | 792 |
| Max. speed [m/s] | 0.25 | 0.50 |
| Max. drive torque $M_{A\_max}$ [Nm] | 1.16 | 1.41 |
| Static load rating ballscrew $C_0$ [N] | 12,000 | 6,500 |
| Dynamic load rating ballscrew $C_{dyn}$ [N] | 6,900 | 4,300 |




SA Spindle support

Fig. 6.1 **Critical speed n over axis stroke length $L_{ST}$**

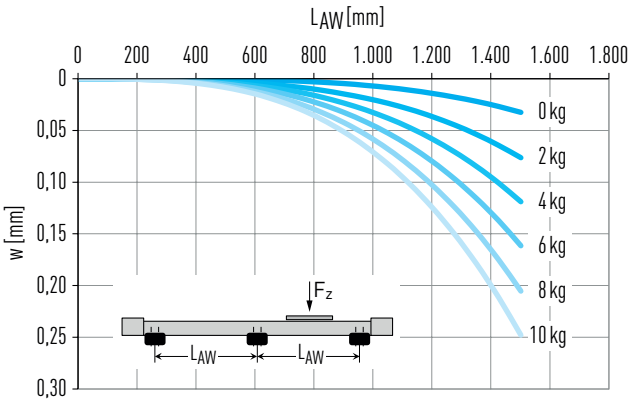


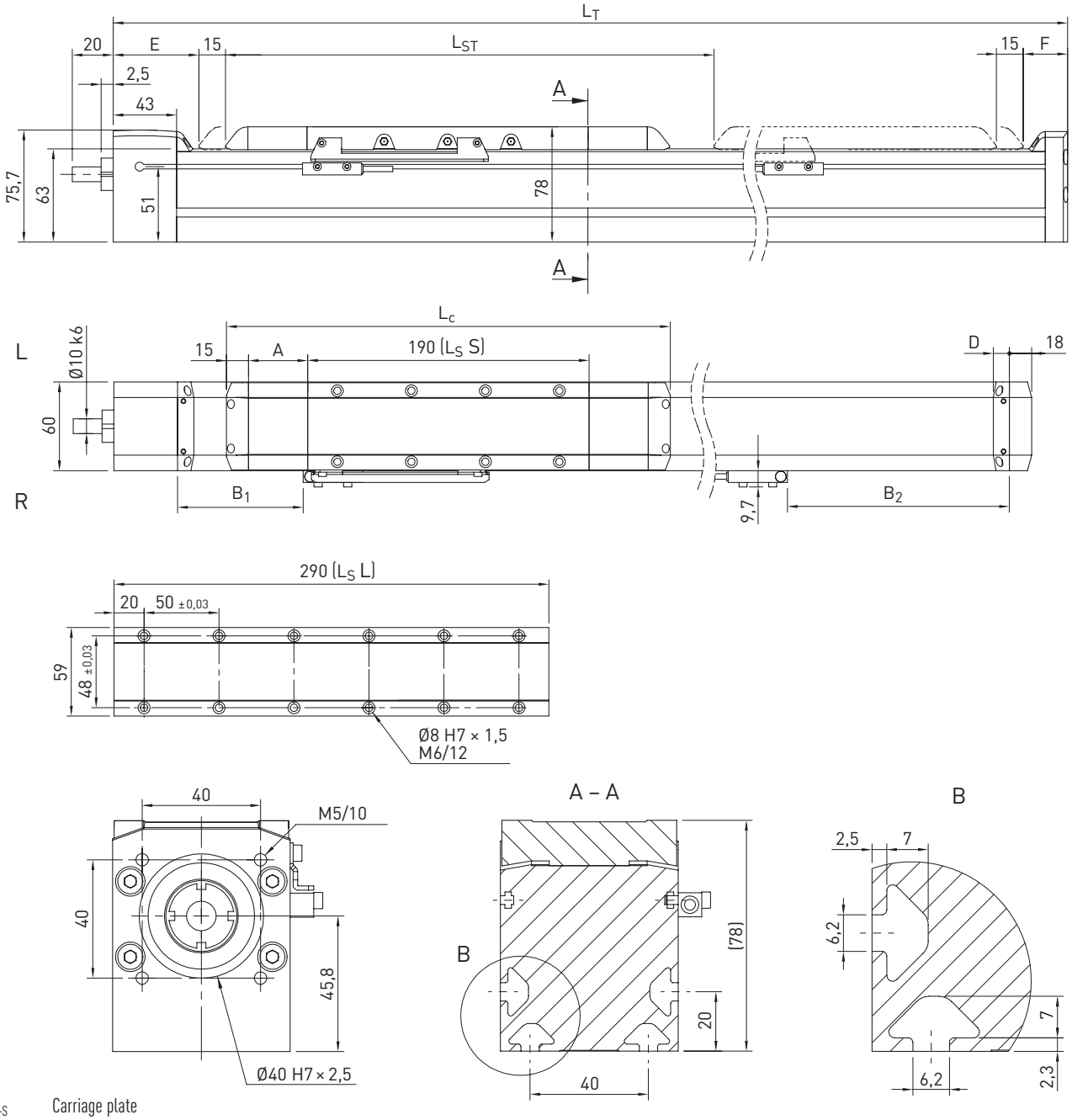

Fig. 6.2 **Deflection w over unsupported axis length $L_{AW}$ under load capacity $F_z$**

Table 6.6 **Mechanical properties**

| | Variant without cover | | | | Variant with cover | | | |
|---|---|---|---|---|---|---|---|---|
| Type of carriage | S | | L | | S | | L | |
| Spindle pitch [mm] | 5 | 10 | 5 | 10 | 5 | 10 | 5 | 10 |
| Mass of the carriage [kg] | 0.43 | 0.43 | 0.55 | 0.55 | 0.48 | 0.48 | 0.60 | 0.60 |
| Mass at 0-stroke [2] [kg] | 1.49 | 1.49 | 1.86 | 1.86 | 1.91 | 1.91 | 2.28 | 2.28 |
| Mass per 1 m stroke [kg/m] | 3.61 | | | | 3.63 | | | |
| $J_{rot.}$ [1] at 0-stroke [kgcm²] | 0.07 | 0.07 | 0.08 | 0.08 | 0.08 | 0.08 | 0.09 | 0.09 |
| $J_{rot.}$ [1] Per 1 m stroke [kgcm²/m] | 0.16 | | | | 0.16 | | | |
| Idle torque at 0-stroke [Nm] | 0.15 | | | | 0.20 | | | |

[1] Rotational moment of inertia
[2] The values apply to axes with one carriage. For axes with 2 carriages, add the following: Mass of carriage + mass per 1 m stroke x (Clearance between the carriages (in m) + carriage length $L_C$ (in m))

### 6.4 Dimensions and specifications of HM060S




$L_S$ Carriage plate
L Left
R Right

Table 6.7 **HM060S dimensions**

| | Variant without cover | | Variant with cover | |
|---|---|---|---|---|
| **Type of carriage** | S | L | S | L |
| **Total carriage length $L_c$ [mm]** | 220 | 320 | 300 | 400 |
| **Cover strip deflection A [mm]** | – | – | 40 | 40 |
| **Switch distance $B_1$ [mm]** | 35 | 35 | 86 | 86 |
| **Switch distance $B_2$ [mm]** | 98 | 198 | 149 | 249 |
| **Terminal box D [mm]** | – | – | 11 | 11 |
| **End position at mechanical zero E [mm]** | 50 | | 61 | |
| **End position at mechanical zero F [mm]** | 25 | | 36 | |
| **Max. stroke length $L_{ST}$ [mm]** | 2,961 | 2,861 | 2,859 | 2,759 |
| **Total length $L_T$ [mm]** | $L_T = L_{ST} + 325$ | $L_T = L_{ST} + 425$ | $L_T = L_{ST} + 427$ | $L_T = L_{ST} + 527$ |

Table 6.8 **Load data**

| Type of carriage | S | L |
|---|---|---|
| $F_{ydynmax}$ [1] [N] | 2,896 | |
| $F_{zdynmax}$ [1] [N] | 3,628 | |
| $M_{xdynmax}$ [Nm] | 28 | |
| $M_{ydynmax}$ [Nm] | 240 | 421 |
| $M_{zdynmax}$ [Nm] | 191 | 336 |
| z [2] [mm] | 57.4 | |

[1] Force must only act free of torque
[2] Carriage upper edge – centre guide
See section 3.3.2 on page 17 (lifetime reference value)

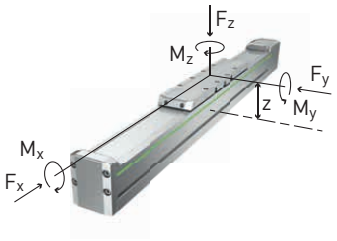



Table 6.9 **General technical data**

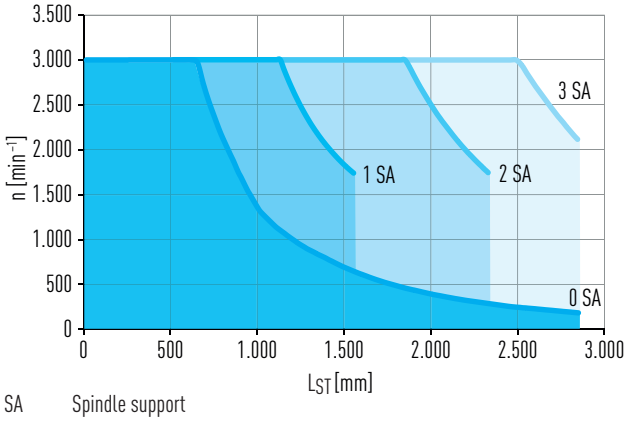
| | |
|---|---|
| Repeatability [mm] | ± 0.02 |
| Max. acceleration [m/s²] | 15 |
| Typical load capacity [kg] | 25 |
| Maximum total length [mm] | 3,286 |
| Area moment of inertia of profile cross section $I_x$ [mm⁴] | 431,907 |
| Area moment of inertia of profile cross section $I_y$ [mm⁴] | 539,706 |

Table 6.10 **Guide**

| | |
|---|---|
| Guide type | QEH15CA |
| Static load rating $C_0$ [N] | 15,280 |
| Dynamic load rating $C_{dyn}$ [N] | 12,530 |

Table 6.11 **Drive**

| | Spindle lead | | |
|---|---|---|---|
| | 5 mm | 10 mm | 16 mm |
| Spindle diameter [mm] | 15 | | |
| Axial play [mm] | 0.02 | | |
| Max. feed force $F_{x\_max}$ [N] | 2,541 | 1,989 | 1,915 |
| Max. speed [m/s] | 0.25 | 0.50 | 0.80 |
| Max. drive torque $M_{A\_max}$ [Nm] | 2.29 | 3.44 | 5.15 |
| Static load rating ballscrew $C_0$ [N] | 23,800 | 18,300 | 17,900 |
| Dynamic load rating ballscrew $C_{dyn}$ [N] | 13,800 | 10,800 | 10,400 |




SA Spindle support

Fig. 6.3 **Critical speed n over axis stroke length $L_{ST}$**

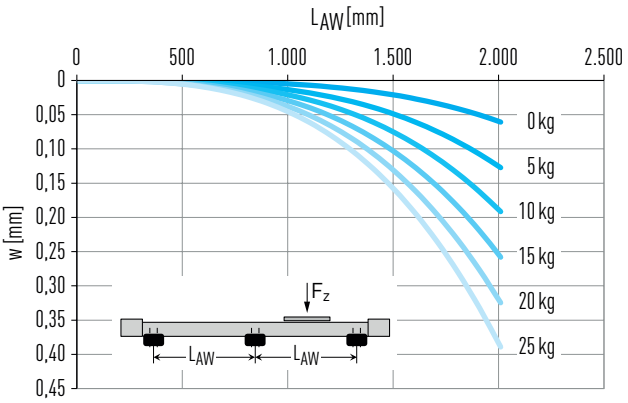


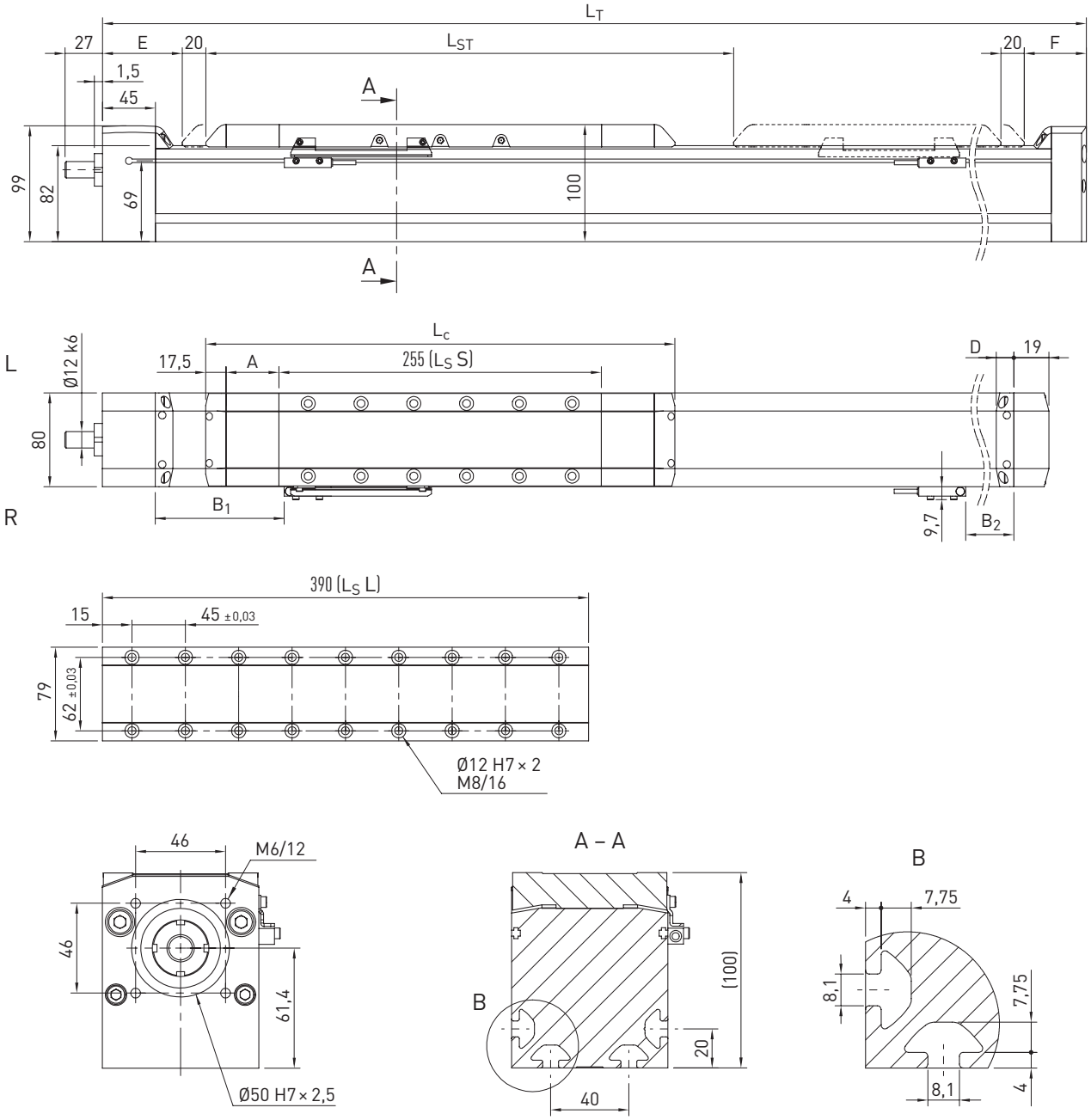

Fig. 6.4 **Deflection w over unsupported axis length $L_{AW}$ under load capacity $F_z$**

Table 6.12 **Mechanical properties**

| | Variant without cover | | | | | | Variant with cover | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type of carriage | S | | | L | | | S | | | L | | |
| Spindle pitch [mm] | 5 | 10 | 16 | 5 | 10 | 16 | 5 | 10 | 16 | 5 | 10 | 16 |
| Mass of the carriage [kg] | 1.05 | 1.15 | 1.15 | 1.37 | 1.47 | 1.47 | 1.13 | 1.23 | 1.23 | 1.45 | 1.55 | 1.55 |
| Mass at 0-stroke [2] [kg] | 3.31 | 3.41 | 3.41 | 4.22 | 4.32 | 4.32 | 4.03 | 4.13 | 4.13 | 4.95 | 5.05 | 5.05 |
| Mass per 1 m stroke [kg/m] | 5.88 | | | | | | 5.93 | | | | | |
| $J_{rot.}$ [1] at 0-stroke [kgcm²] | 0.19 | | | 0.23 | | | 0.23 | | | 0.27 | | |
| $J_{rot.}$ [1] Per 1 m stroke [kgcm²/m] | 0.39 | | | | | | 0.39 | | | | | |
| Idle torque at 0-stroke [Nm] | 0.27 | | | | | | 0.28 | | | | | |

[1] Rotational moment of inertia
[2] The values apply to axes with one carriage. For axes with 2 carriages, add the following: Mass of carriage + mass per 1 m stroke x (Clearance between the carriages (in m) + carriage length $L_C$ (in m))

### 6.5 Dimensions and specifications of HM080S




$L_S$ Carriage plate
L Left
R Right

Table 6.13 **HM080S dimensions**

| | Variant without cover | | Variant with cover | |
|---|---|---|---|---|
| **Type of carriage** | S | L | S | L |
| **Total carriage length $L_c$ [mm]** | 290 | 425 | 380 | 515 |
| **Cover strip deflection A [mm]** | – | – | 45 | 45 |
| **Switch distance $B_1$ [mm]** | 40 | 40 | 100 | 100 |
| **Switch distance $B_2$ [mm]** | 175 | 310 | 235 | 370 |
| **Terminal box D [mm]** | – | – | 15 | 15 |
| **End position at mechanical zero E [mm]** | 53 | | 68 | |
| **End position at mechanical zero F [mm]** | 27 | | 42 | |
| **Max. stroke length $L_{ST}$ [mm]** | 4,090 | 3,955 | 3,970 | 3,835 |
| **Total length $L_T$ [mm]** | $L_T = L_{ST} + 410$ | $L_T = L_{ST} + 545$ | $L_T = L_{ST} + 530$ | $L_T = L_{ST} + 665$ |

Table 6.14 **Load data**

| Type of carriage | S | L |
|---|---|---|
| $F_{ydynmax}$ [1] [N] | 4,000 | |
| $F_{zdynmax}$ [1] [N] | 8,686 | |
| $M_{xdynmax}$ [Nm] | 67 | |
| $M_{ydynmax}$ [Nm] | 766 | 1,352 |
| $M_{zdynmax}$ [Nm] | 353 | 623 |
| z [2] [mm] | 68.5 | |

[1] Force must only act free of torque
[2] Carriage upper edge – centre guide
See section 3.3.2 on page 17 (lifetime reference value)

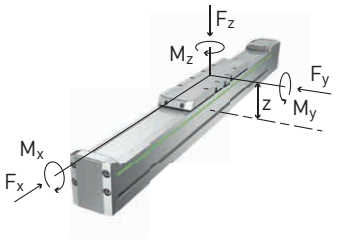



Table 6.15 **General technical data**

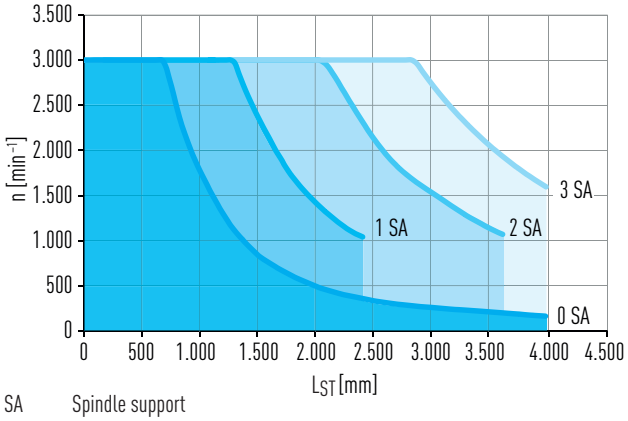
| | |
|---|---|
| Repeatability [mm] | ± 0.02 |
| Max. acceleration [m/s²] | 15 |
| Typical load capacity [kg] | 60 |
| Maximum total length [mm] | 4,500 |
| Area moment of inertia of profile cross section $I_x$ [mm⁴] | 1,293,796 |
| Area moment of inertia of profile cross section $I_y$ [mm⁴] | 1,759,898 |

Table 6.16 **Guide**

| | |
|---|---|
| Guide type | QHH20CA |
| Static load rating $C_0$ [N] | 33,860 |
| Dynamic load rating $C_{dyn}$ [N] | 30,000 |

Table 6.17 **Drive**

| | Spindle lead | | |
|---|---|---|---|
| | 5 mm | 10 mm | 20 mm |
| Spindle diameter [mm] | 20 | | |
| Axial play [mm] | 0.02 | | |
| Max. feed force $F_{x\_max}$ [N] | 3,186 | 3,149 | 1,620 |
| Max. speed [m/s] | 0.25 | 0.50 | 1.00 |
| Max. drive torque $M_{A\_max}$ [Nm] | 2.89 | 5.36 | 5.51 |
| Static load rating ballscrew $C_0$ [N] | 33,800 | 33,600 | 16,000 |
| Dynamic load rating ballscrew $C_{dyn}$ [N] | 17,300 | 17,100 | 8,800 |




SA Spindle support

Fig. 6.5 **Critical speed n over axis stroke length $L_{ST}$**

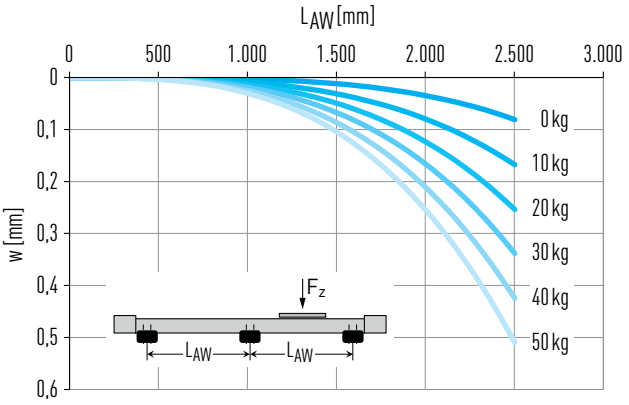


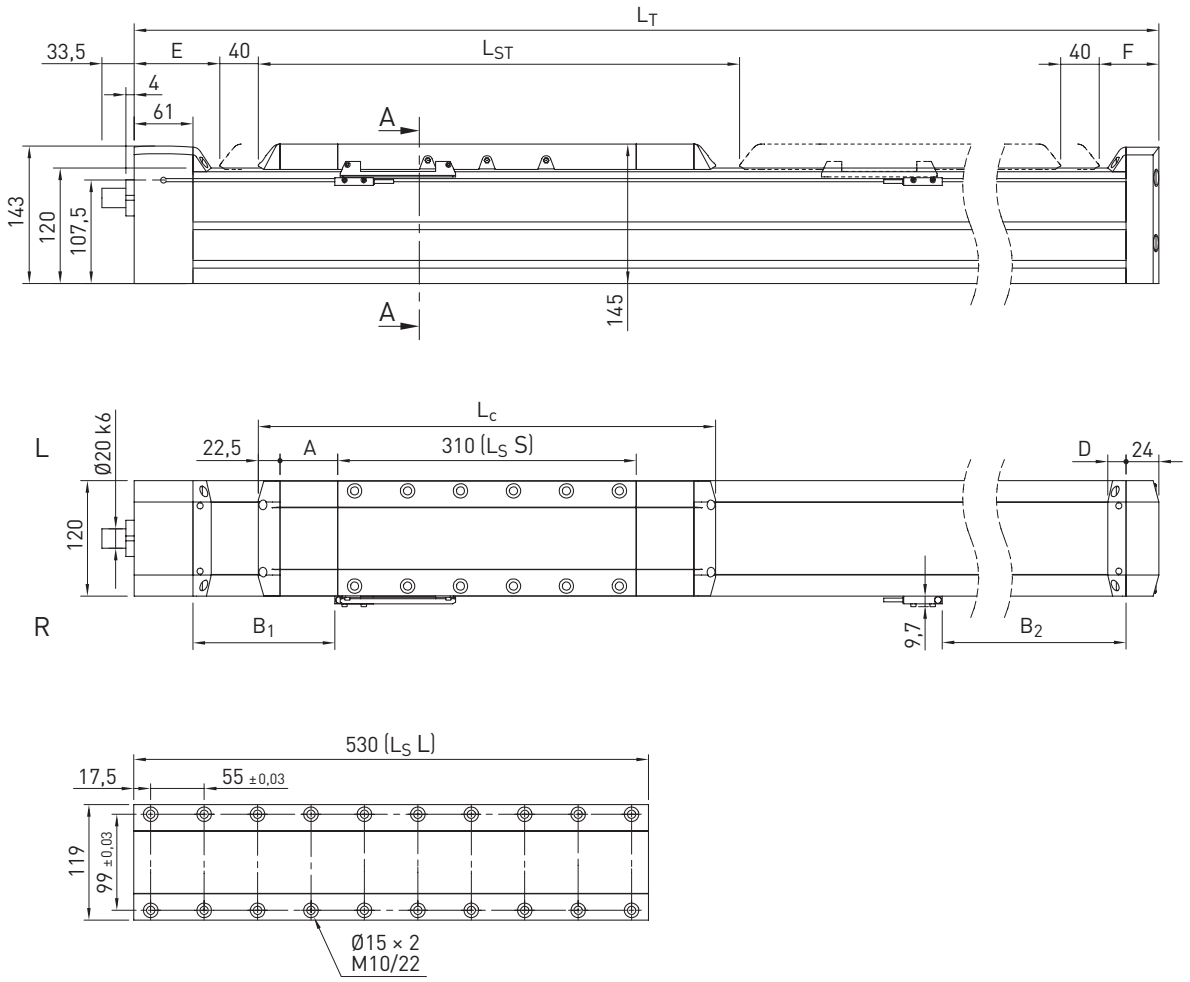

Fig. 6.6 **Deflection w over unsupported axis length $L_{AW}$ under load capacity $F_z$**

Table 6.18 **Mechanical properties**

| | Variant without cover | | | | | | Variant with cover | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type of carriage | S | | | L | | | S | | | L | | |
| Spindle pitch [mm] | 5 | 10 | 20 | 5 | 10 | 20 | 5 | 10 | 20 | 5 | 10 | 20 |
| Mass of the carriage [kg] | 1.91 | 2.11 | 2.21 | 2.73 | 2.93 | 3.03 | 2.07 | 2.27 | 2.37 | 2.88 | 3.08 | 3.18 |
| Mass at 0-stroke [2] [kg] | 6.94 | 7.14 | 7.24 | 9.19 | 9.39 | 9.49 | 8.46 | 8.66 | 8.76 | 10.72 | 10.92 | 11.02 |
| Mass per 1 m stroke [kg/m] | 10.67 | | | | | | 10.72 | | | | | |
| $J_{rot.}$ [1] at 0-stroke [kgcm²] | 0.82 | | | 0.99 | | | 0.97 | | | 1.14 | | |
| $J_{rot.}$ [1] Per 1 m stroke [kgcm²/m] | 1.23 | | | | | | 1.23 | | | | | |
| Idle torque at 0-stroke [Nm] | 0.35 | | | | | | 0.52 | | | | | |

[1] Rotational moment of inertia
[2] The values apply to axes with one carriage. For axes with 2 carriages, add the following: Mass of carriage + mass per 1 m stroke x (clearance between the carriages (in m) + carriage length $L_C$ (in m))

### 6.6 Dimensions and specifications of HM120S




$L_S$ Carriage plate
L Left
R Right

Table 6.19 **HM120S dimensions**

| | Variant without cover | | Variant with cover | |
|---|---|---|---|---|
| **Type of carriage** | S | L | S | L |
| **Total carriage length $L_c$ [mm]** | 355 | 575 | 475 | 695 |
| **Cover strip deflection A [mm]** | – | – | 60 | 60 |
| **Switch distance $B_1$ [mm]** | 68.5 | 68.5 | 147.5 | 147.5 |
| **Switch distance $B_2$ [mm]** | 253.5 | 473.5 | 332.5 | 552.5 |
| **Terminal box D [mm]** | – | – | 19 | 19 |
| **End position at mechanical zero E [mm]** | 70 | | 89 | |
| **End position at mechanical zero F [mm]** | 33 | | 52 | |
| **Max. stroke length $L_{ST}$ [mm]** | 4,936 | 4,716 | 4,778 | 4,558 |
| **Total length $L_T$ [mm]** | $L_T = L_{ST} + 538$ | $L_T = L_{ST} + 758$ | $L_T = L_{ST} + 696$ | $L_T = L_{ST} + 916$ |

Table 6.20 **Load data**

| Type of carriage | S | L |
|---|---|---|
| $F_{ydynmax}$ [1] [N] | 15,327 | |
| $F_{zdynmax}$ [1] [N] | 15,327 | |
| $M_{xdynmax}$ [Nm] | 139 | |
| $M_{ydynmax}$ [Nm] | 1,625 | 3,311 |
| $M_{zdynmax}$ [Nm] | 1,625 | 3,311 |
| z [2] [mm] | 99.1 | |

[1] Force must only act free of torque
[2] Carriage upper edge – centre guide
See section 3.3.2 on page 17 (lifetime reference value)

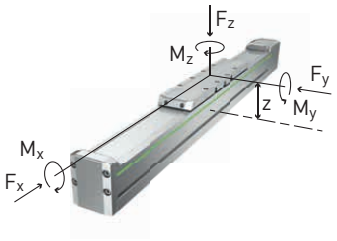



Table 6.21 **General technical data**

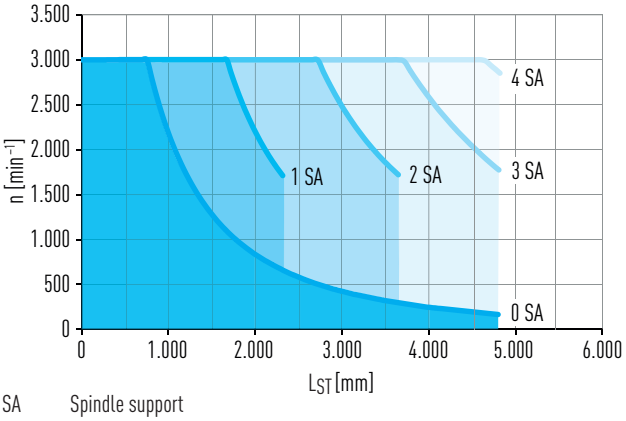
| | |
|---|---|
| Repeatability [mm] | ± 0.02 |
| Max. acceleration [m/s²] | 15 |
| Typical load capacity [kg] | 120 |
| Maximum total length [mm] | 5,473 |
| Area moment of inertia of profile cross section $I_x$ [mm⁴] | 6,235,456 |
| Area moment of inertia of profile cross section $I_y$ [mm⁴] | 8,646,933 |

Table 6.22 **Guide**

| | |
|---|---|
| Guide type | QHW30CC |
| Static load rating $C_0$ [N] | 66,340 |
| Dynamic load rating $C_{dyn}$ [N] | 58,260 |

Table 6.23 **Drive**

| | Spindle lead | | |
|---|---|---|---|
| | 10 mm | 20 mm | 32 mm |
| Spindle diameter [mm] | 32 | | |
| Axial play [mm] | 0.02 | | |
| Max. feed force $F_{x\_max}$ [N] | 6,592 | 4,069 | 2,744 |
| Max. speed [m/s] | 0.5 | 1.0 | 1.6 |
| Max. drive torque $M_{A\_max}$ [Nm] | 11.34 | 13.80 | 14.82 |
| Static load rating ballscrew $C_0$ [N] | 88,000 | 50,600 | 32,800 |
| Dynamic load rating ballscrew $C_{dyn}$ [N] | 35,800 | 22,100 | 14,900 |




SA Spindle support

Fig. 6.7 **Critical speed n over axis stroke length $L_{ST}$**

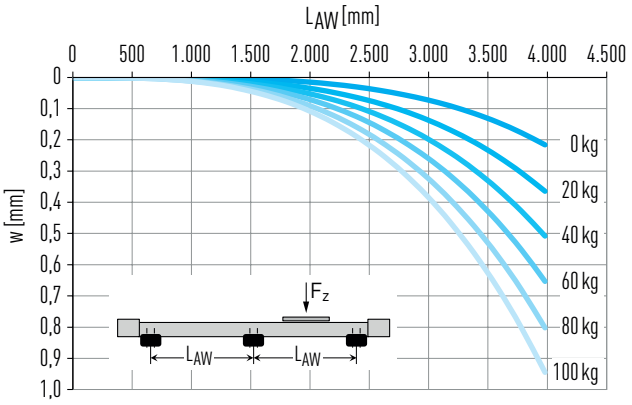



Fig. 6.8 **Deflection w over unsupported axis length $L_{AW}$ under load capacity $F_z$**

Table 6.24 **Mechanical properties**

| | Variant without cover | | | | | | Variant with cover | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type of carriage | S | | | L | | | S | | | L | | |
| Spindle pitch [mm] | 10 | 20 | 32 | 10 | 20 | 32 | 10 | 20 | 32 | 10 | 20 | 32 |
| Mass of the carriage [kg] | 6.18 | 6.08 | 6.08 | 8.61 | 8.51 | 8.51 | 6.70 | 6.60 | 6.60 | 9.13 | 9.03 | 9.03 |
| Mass at 0-stroke [2] [kg] | 20.85 | 20.75 | 20.75 | 28.57 | 28.47 | 28.47 | 25.32 | 25.22 | 25.22 | 33.05 | 32.95 | 32.95 |
| Mass per 1 m stroke [kg/m] | 24.01 | | | | | | 24.10 | | | | | |
| $J_{rot.}$ [1] at 0-stroke [kgcm²] | 5.77 | | | 7.55 | | | 7.05 | | | 8.83 | | |
| $J_{rot.}$ [1] Per 1 m stroke [kgcm²/m] | 8.08 | | | | | | 8.08 | | | | | |
| Idle torque at 0-stroke [Nm] | 0.85 | | | | | | 0.90 | | | | | |

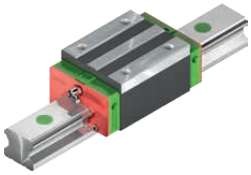
[1] Rotational moment of inertia
[2] The values apply to axes with one carriage. For axes with 2 carriages, add the following: Mass of carriage + mass per 1 m stroke x (Clearance between the carriages (in m) + carriage length $L_C$ (in m))

## 7. Linear tables HT-B

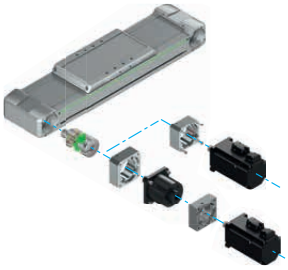
### 7.1 Properties of linear tables HT-B with toothed belt drive

The HIWIN linear tables with toothed belt drive are flexible positioning modules with integrated HIWIN double guide. They are ideal in particular for applications requiring high dynamic responses and high speeds.

**Linear guideway**
A high-quality HIWIN double guide safely transfers forces and torques from the carriage to the axis profile. Four blocks are used per carriage, which are guided on a two parallel, high-precision profile rails. The SynchMotion™ technology with ball chain also ensures good synchronisation and smooth running in all sizes.

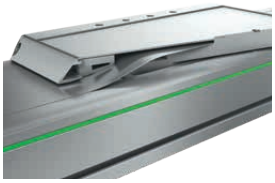


**Drive adaptation**
Thanks to its symmetrical design, the HIWIN linear table with toothed belt drive allows motors and gears to be mounted on all four sides of the drive blocks. You can find suitable adapters for all common motors in section 22.1.2 from page 165.



**Toothed belt**
The toothed belt with modern high performance profiles (HTD shape) and reinforced steel tension members enables high power transmission while offering high skip resistance.

**Cover strip**
The steel cover strip prevents dirt and dust from entering the axis interior. In addition, the cover strip allows the axes to be used in areas with coarse, sharp-edged or hot foreign bodies. The magnetic strips integrated in the axis profile hold the belt securely in position and increase the sealing effect.



**Carriage**
The carriages have additional bore holes on each mounting hole to ensure ideal, reproducible alignment of the adjacent construction. You will find the matching centring sleeves in the accessories on Page 231.
A grease nipple is provided on the carriage for each lubrication point for convenient maintenance of the linear axis.

**Energy chain**
Generously dimensioned energy chains provide space for safely carrying the supply lines. They are extremely compact and save space when attached to the axis. For details on the orientation of the energy chain, see section 22.3 from page 223.

### 7.2 Order code for linear tables HT-B

| HT | 150 | B | 155 | C | 1234 | S |
|---|---|---|---|---|---|---|

**HIWIN linear table**

**Size (profile width):**
100: 100 mm
150: 150 mm
200: 200 mm
250: 250 mm

**Drive type:**
B: Toothed belt drive

**Carriage length:**
S: Short

**Stroke length [mm]**

**Cover strip:**
C: With steel cover strip
N: Without cover strip

**Feed constant [mm/rev]:**
105: HT100B
155: HT150B
184: HT200B
208: HT250B

Continuation, order code for linear tables HM-B

| A | N | N | R | BR13 | G0805 |
|---|---|---|---|---|---|

**Axis limit switch**[5]**:**
N: Without limit switch
A: 2 × normally closed, 100 mm cable, connector
B: 2 × normally open, 100 mm cable, connector
C: 2 × normally closed, 4 m open cable end
D: 2 × normally open, 5 m open cable end

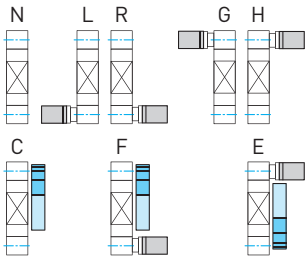
**Toothed belt:**
N: Standard belt

**Distance measuring system option**[1]**:**
N: Without distance measuring system
A: HIWIN MAGIC, analogue, 1 $V_{SS}$ sin/cos, 5 m open cable end
D: HIWIN MAGIC, digital, TTL 5 V, 5 m open cable end

**Gearbox**[4]

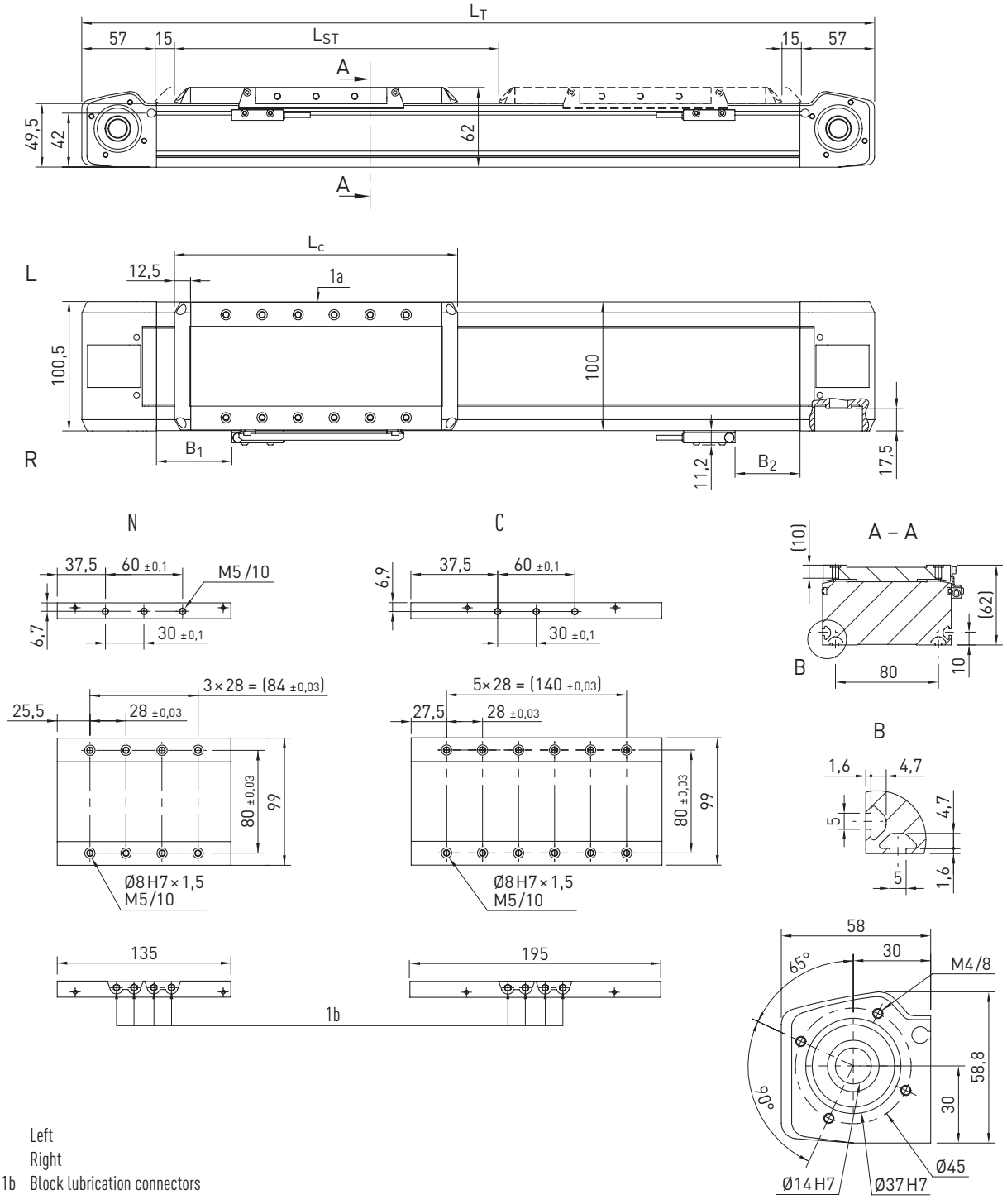
**Flange type**[3]

**Drive interface**[2] [6]**:**
N: Without
L: Left front
R: Right front
G: Left rear
H: Right rear
C: None, energy chain on the right
F: Right front, energy chain on the right
E: Right rear, energy chain on the right




[1] More detailed information in chapter 21 from page 156 or in the "HIWIN MAGIC Distance Measuring Systems" assembly instructions".
[2] If no drive interface is selected, the order code ends after this digit.
[3] You can find all flange types in Table 22.2 from page 166. If no gearbox is selected, the order code ends after this digit.
[4] You can find the right gearbox for the HIWIN axes in section 22.1.5.5 from page 195.
[5] Additional reference switches on request.
[6] Dimensions of the drive interface and the energy chain can be found on Page 223.

### 7.3 Dimensions and specifications of HT100B




L Left
R Right
1a + 1b Block lubrication connectors

Table 7.1 **HT100B dimensions**

| | Variant without cover N | Variant with cover C |
|---|---|---|
| **Total carriage length $L_c$ [mm]** | 160 | 220 |
| **Switch distance $B_1$ [mm]** | 28.5 | 58.5 |
| **Switch distance $B_2$ [mm]** | 20.5 | 50.5 |
| **Max. stroke length $L_{ST}$ [mm]** | 5,612 | 5,552 |
| **Total length $L_T$ [mm]** | $L_T = L_{ST} + 304$ | $L_T = L_{ST} + 364$ |

Table 7.2 **Load data**

| | Variant without cover | Variant with cover |
|---|---|---|
| **$F_{ydynmax}$ [1] [N]** | 3,350 | |
| **$F_{zdynmax}$ [1] [N]** | 3,575 | |
| **$M_{xdynmax}$ [Nm]** | 92.9 | |
| **$M_{ydynmax}$ [Nm]** | 159.1 | 205.5 |
| **$M_{zdynmax}$ [Nm]** | 149.1 | 192.6 |
| **z [2] [mm]** | 38.6 | |

[1] Force must only act free of torque
[2] Carriage upper edge – centre guide
See section 3.3.2 on page 17 (lifetime reference value)

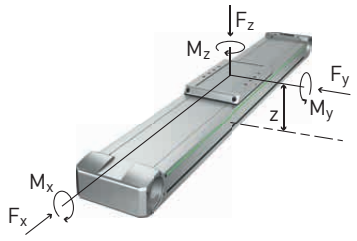



Table 7.3 **General technical data**

| | |
|---|---|
| **Repeatability [mm]** | ± 0.05 |
| **Max. feed force $F_{x\_max}$ [N]** | 813 |
| **Max. speed [m/s]** | 5 |
| **Max. acceleration [m/s²]** | 30 |
| **Max. drive torque $M_{A\_max}$ [Nm]** | 14 |
| **Typical load capacity [kg]** | 40 |
| **Maximum total length [mm]** | 5,916 |
| **Area moment of inertia of profile cross section $I_x$ [mm⁴]** | 299,377 |
| **Area moment of inertia of profile cross section $I_y$ [mm⁴]** | 1,516,426 |

Table 7.4 **Guide**

| | |
|---|---|
| **Guide type** | QEH15CA |
| **Static load rating $C_0$ [N]** | 15,280 |
| **Dynamic load rating $C_{dyn}$ [N]** | 12,530 |

Table 7.5 **Drive**

| | |
|---|---|
| **Drive element** | B25HTD5 |
| **Feed constant [mm/U]** | 105 |
| **Toothed belt effective diameter [mm]** | 33.42 |

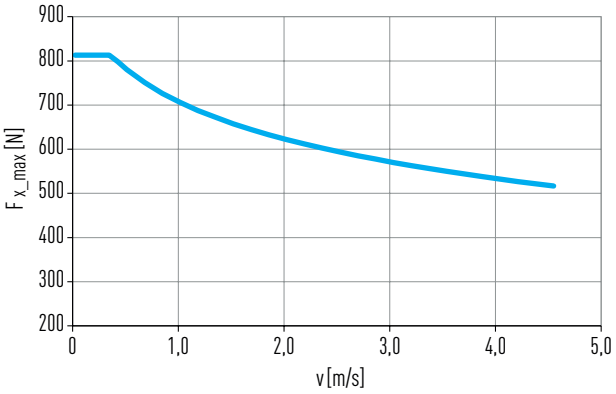



Fig. 7.1 **Max. feed force $F_{x\_max}$ as a function of axis speed v**

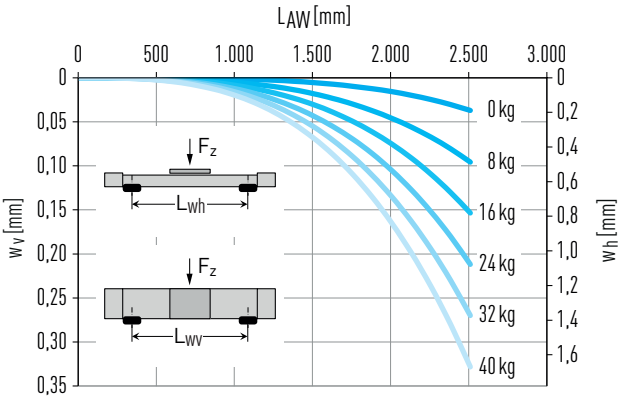


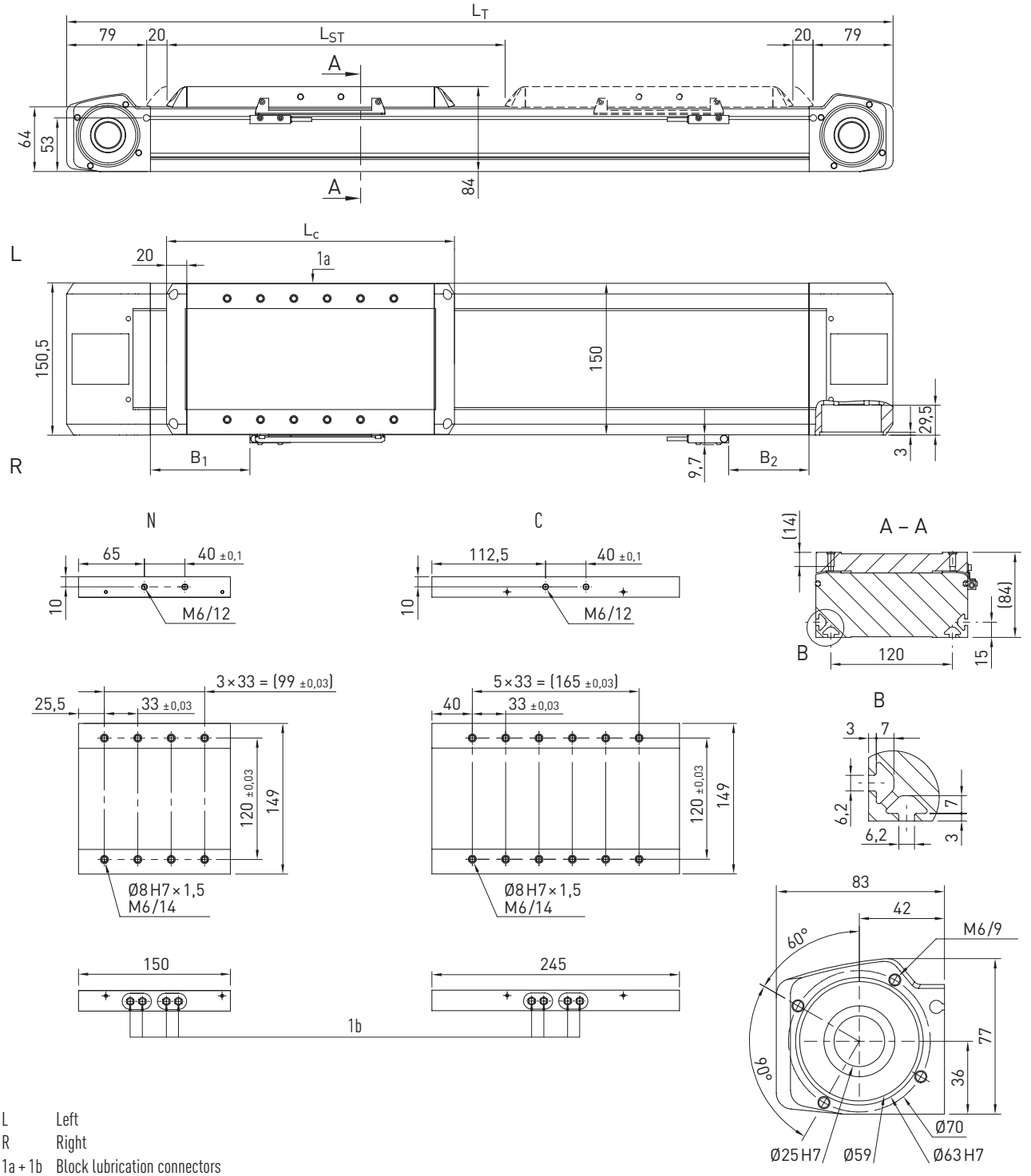

Fig. 7.2 **Deflection w over unsupported axis length $L_{AW}$ under load capacity $F_z$**

Table 7.6 **Mechanical properties**

| | Variant without cover N | Variant with cover C |
|---|---|---|
| **Mass of the carriage [kg]** | 1.34 | 1.53 |
| **Mass at 0-stroke [kg]** | 4.13 | 4.73 |
| **Mass per 1 m stroke [kg/m]** | 6.54 | 6.71 |
| **$J_{rot.}$ [1] [kgcm²]** | 0.63 | 0.63 |
| **Idle torque at 0-stroke [Nm]** | 1.00 | 1.50 |

[1] Rotational moment of inertia

### 7.4 Dimensions and specifications of HT150B




L Left
R Right
1a + 1b Block lubrication connectors

Table 7.7 **HT150B dimensions**

| | Variant without cover N | Variant with cover C |
|---|---|---|
| **Total carriage length $L_c$ [mm]** | 190 | 285 |
| **Switch distance $B_1$ [mm]** | 51 | 98.5 |
| **Switch distance $B_2$ [mm]** | 32 | 79.5 |
| **Max. stroke length $L_{ST}$ [mm]** | 5,578 | 5,483 |
| **Total length $L_T$ [mm]** | $L_T = L_{ST} + 388$ | $L_T = L_{ST} + 483$ |

Table 7.8 **Load data**

| | Variant without cover | Variant with cover |
|---|---|---|
| **$F_{ydynmax}$ [1] [N]** | 3,350 | |
| **$F_{zdynmax}$ [1] [N]** | 5,233 | |
| **$M_{xdynmax}$ [Nm]** | 245.9 | |
| **$M_{ydynmax}$ [Nm]** | 245.9 | 345.3 |
| **$M_{zdynmax}$ [Nm]** | 157.5 | 221.1 |
| **z [2] [mm]** | 51.48 | |

[1] Force must only act free of torque
[2] Carriage upper edge – centre guide
See section 3.3.2 on page 17 (lifetime reference value)

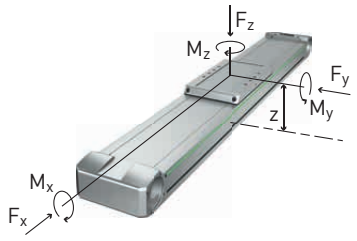



Table 7.9 **General technical data**

| | |
|---|---|
| **Repeatability [mm]** | ± 0.05 |
| **Max. feed force $F_{x\_max}$ [N]** | 1,300 |
| **Max. speed [m/s]** | 5 |
| **Max. acceleration [m/s²]** | 30 |
| **Max. drive torque $M_{A\_max}$ [Nm]** | 32 |
| **Typical load capacity [kg]** | 80 |
| **Maximum total length [1] [mm]** | 5,966 |
| **Area moment of inertia of profile cross section $I_x$ [mm⁴]** | 907,754 |
| **Area moment of inertia of profile cross section $I_y$ [mm⁴]** | 7,417,610 |

[1] Long axes on request

Table 7.10 **Guide**

| | |
|---|---|
| **Guide type** | QEH15CA |
| **Static load rating $C_0$ [N]** | 15,280 |
| **Dynamic load rating $C_{dyn}$ [N]** | 12,530 |

Table 7.11 **Drive**

| | |
|---|---|
| **Drive element** | B40HTD5 |
| **Feed constant [mm/U]** | 155 |
| **Toothed belt effective diameter [mm]** | 49.34 |

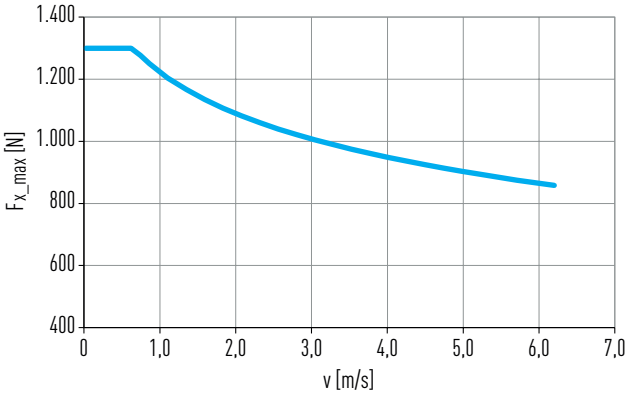



Fig. 7.3 **Max. feed force $F_{x\_max}$ as a function of axis speed v**

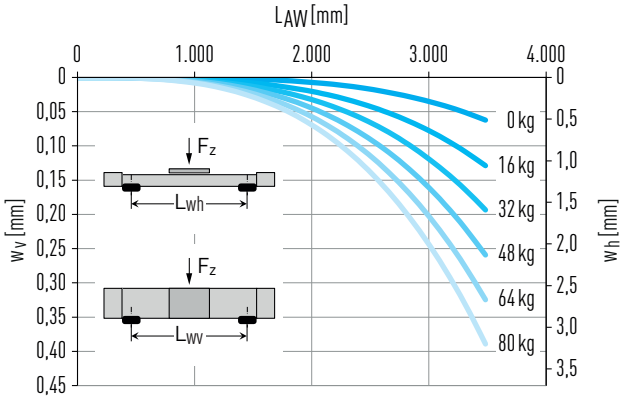


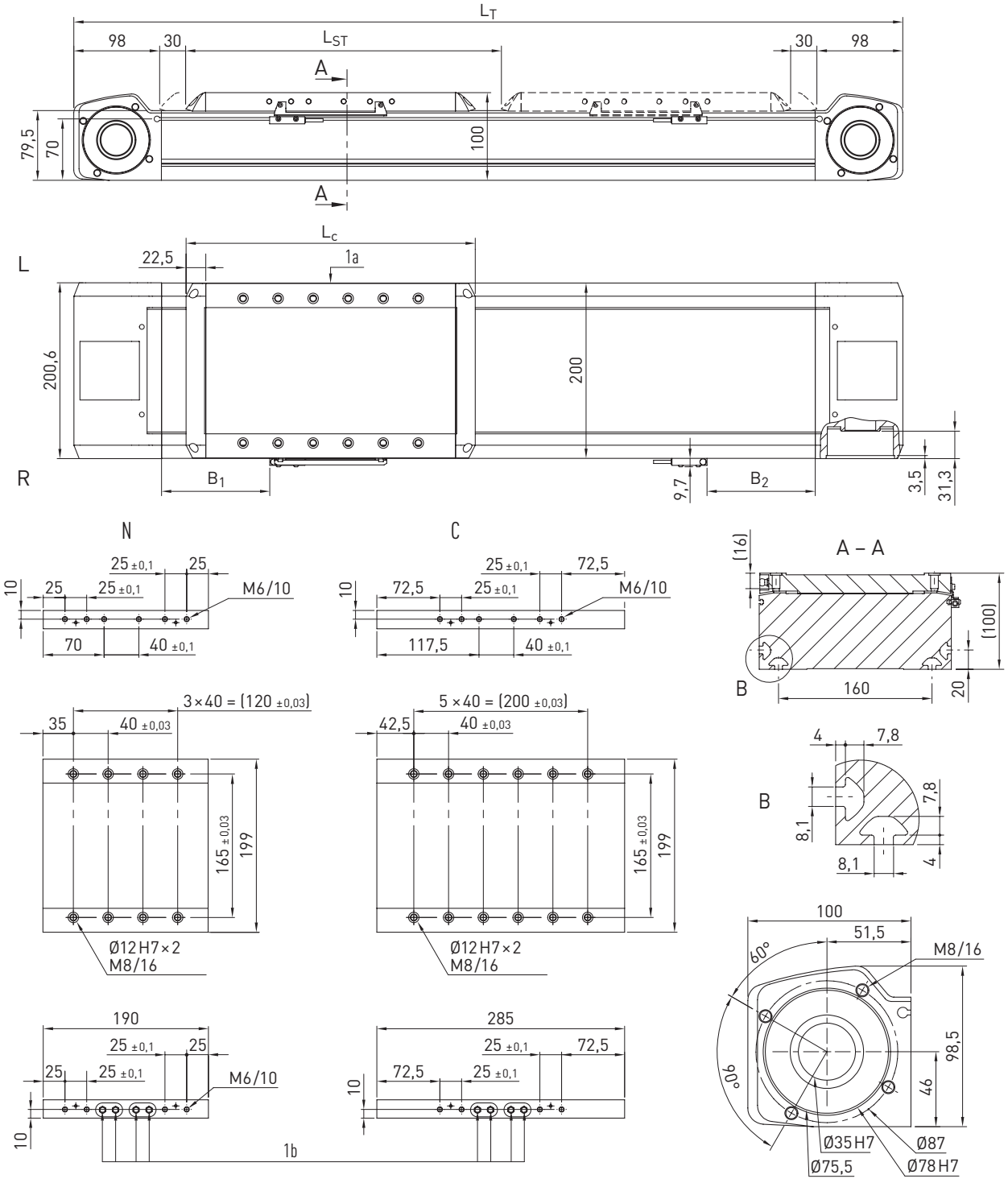

Fig. 7.4 **Deflection w over unsupported axis length $L_{AW}$ under load capacity $F_z$**

Table 7.12 **Mechanical properties**

| | Variant without cover N | Variant with cover C |
|---|---|---|
| **Mass of the carriage [kg]** | 2.33 | 2.94 |
| **Mass at 0-stroke [kg]** | 8.33 | 10.03 |
| **Mass per 1 m stroke [kg/m]** | 10.87 | 11.16 |
| **$J_{rot.}$ [1] [kgcm²]** | 5.09 | 5.09 |
| **Idle torque at 0-stroke [Nm]** | 1.00 | 1.50 |

[1] Rotational moment of inertia

### 7.5 Dimensions and specifications of HT200B




L Left
R Right
1a + 1b Block lubrication connectors

Table 7.13 **HT200B dimensions**

| | Variant without cover N | Variant with cover C |
|---|---|---|
| **Total carriage length $L_c$ [mm]** | 235 | 330 |
| **Switch distance $B_1$ [mm]** | 76 | 123.5 |
| **Switch distance $B_2$ [mm]** | 76 | 123.5 |
| **Max. stroke length $L_{ST}$ [mm]** | 5,509 | 5,414 |
| **Total length $L_T$ [mm]** | $L_T = L_{ST} + 491$ | $L_T = L_{ST} + 586$ |

Table 7.14 **Load data**

| | Variant without cover | Variant without cover |
|---|---|---|
| **$F_{ydynmax}$ [1] [N]** | 7,800 | |
| **$F_{zdynmax}$ [1] [N]** | 12,528 | |
| **$M_{xdynmax}$ [Nm]** | 851.9 | |
| **$M_{ydynmax}$ [Nm]** | 707.8 | 1002.2 |
| **$M_{zdynmax}$ [Nm]** | 440.7 | 624.0 |
| **z [2] [mm]** | 58.48 | |

[1] Force must only act free of torque
[2] Carriage upper edge – centre guide
See section 3.3.2 on page 17 (lifetime reference value)

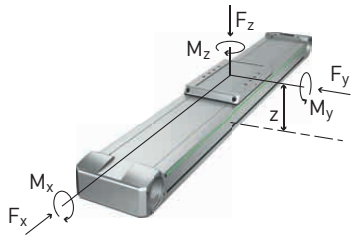



Table 7.15 **General technical data**

| | |
|---|---|
| **Repeatability [mm]** | ± 0.05 |
| **Max. feed force $F_{x\_max}$ [N]** | 3,000 |
| **Max. speed [m/s]** | 5 |
| **Max. acceleration [m/s²]** | 30 |
| **Max. drive torque $M_{A\_max}$ [Nm]** | 88 |
| **Typical load capacity [kg]** | 150 |
| **Maximum total length [1] [mm]** | 6,000 |
| **Area moment of inertia of profile cross section $I_x$ [mm⁴]** | 2,071,928 |
| **Area moment of inertia of profile cross section $I_y$ [mm⁴]** | 19,658,810 |

[1] Long axes on request

Table 7.16 **Guide**

| | |
|---|---|
| **Guide type** | QHH20CA |
| **Static load rating $C_0$ [N]** | 33,860 |
| **Dynamic load rating $C_{dyn}$ [N]** | 30,000 |

Table 7.17 **Drive**

| | |
|---|---|
| **Drive element** | B50HTD8 |
| **Feed constant [mm/U]** | 184 |
| **Toothed belt effective diameter [mm]** | 58.57 |

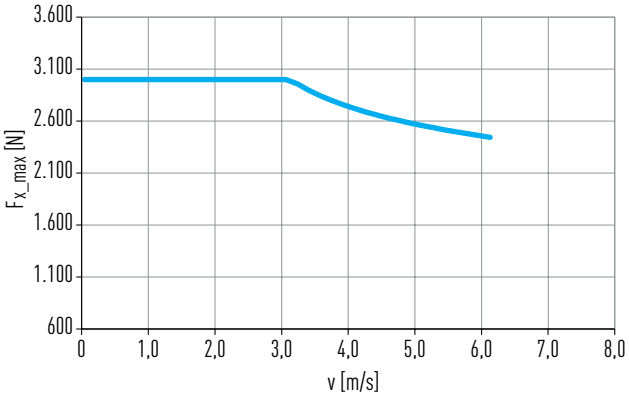



Fig. 7.5 **Max. feed force $F_{x\_max}$ as a function of axis speed v**

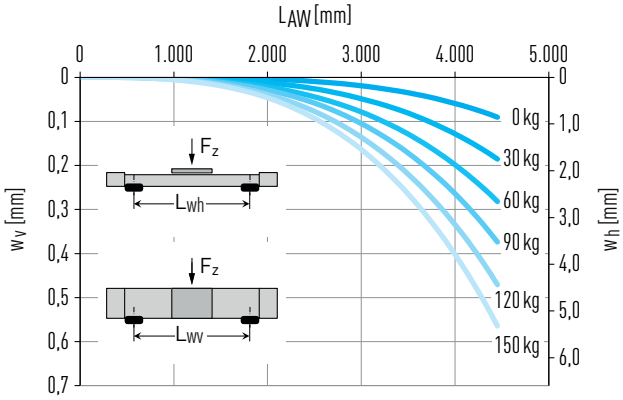


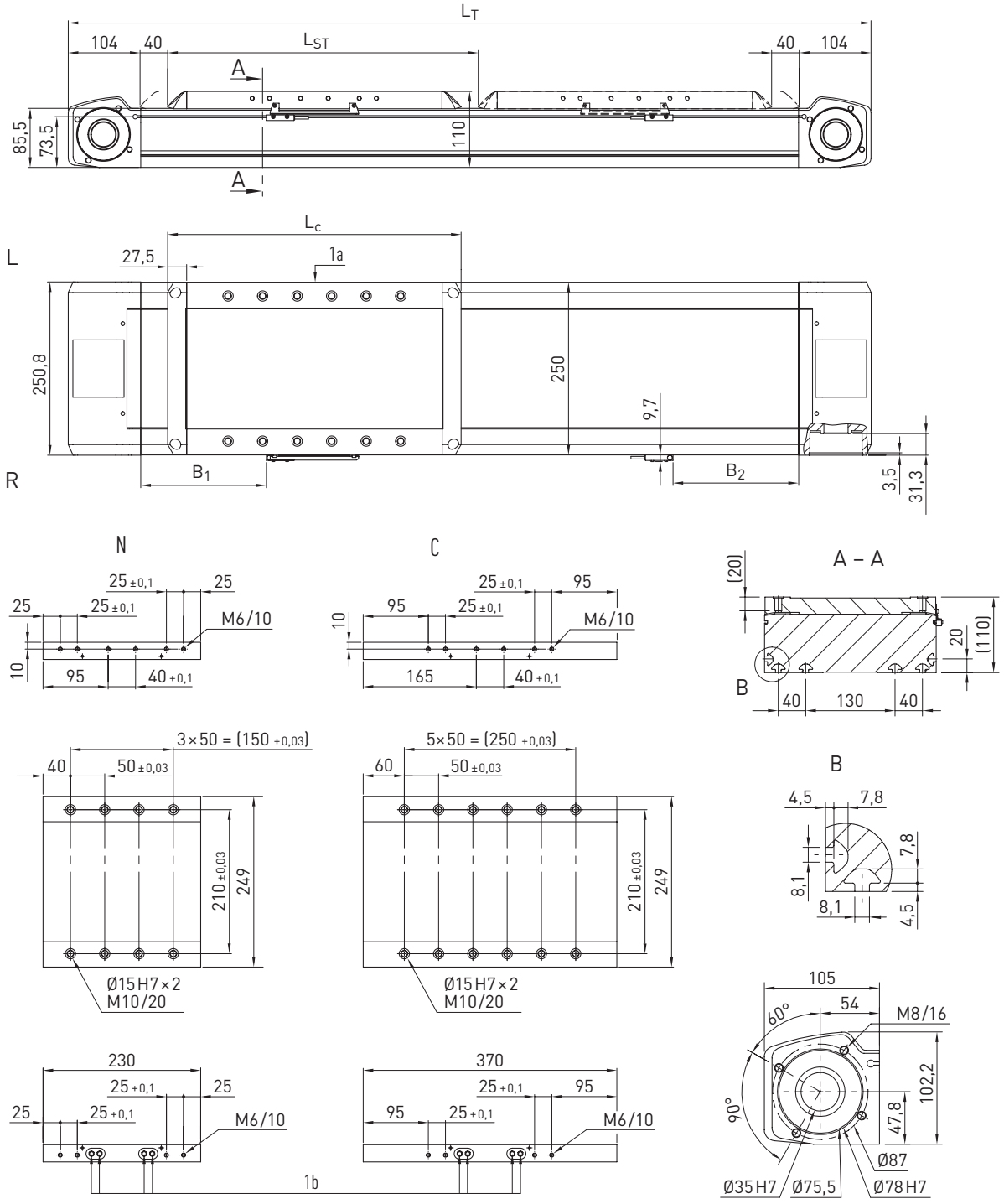

Fig. 7.6 **Deflection w over unsupported axis length $L_{AW}$ under load capacity $F_z$**

Table 7.18 **Mechanical properties**

| | Variant without cover N | Variant with cover C |
|---|---|---|
| **Mass of the carriage [kg]** | 4.40 | 5.19 |
| **Mass at 0-stroke [kg]** | 17.15 | 19.65 |
| **Mass per 1 m stroke [kg/m]** | 17.25 | 17.57 |
| **$J_{rot.}$ [1] [kgcm²]** | 18.37 | 18.37 |
| **Idle torque at 0-stroke [Nm]** | 2.00 | 2.50 |

[1] Rotational moment of inertia

### 7.6 Dimensions and specifications of HT250B




L Left
R Right
1a + 1b Block lubrication connectors

Table 7.19 **HT250B dimensions**

| | Variant without cover N | Variant with cover C |
|---|---|---|
| **Total carriage length $L_c$ [mm]** | 285 | 425 |
| **Switch distance $B_1$ [mm]** | 112 | 182 |
| **Switch distance $B_2$ [mm]** | 112 | 182 |
| **Max. stroke length $L_{ST}$ [mm]** | 5,537 | 5,397 |
| **Total length $L_T$ [mm]** | $L_T = L_{ST} + 573$ | $L_T = L_{ST} + 713$ |

Table 7.20 **Load data**

| | Variant without cover | Variant with cover |
|---|---|---|
| **$F_{ydynmax}$ [1] [N]** | 11,600 | |
| **$F_{zdynmax}$ [1] [N]** | 17,498 | |
| **$M_{xdynmax}$ [Nm]** | 1,496 | |
| **$M_{ydynmax}$ [Nm]** | 1,356.1 | 1,706.0 |
| **$M_{zdynmax}$ [Nm]** | 440.7 | 624.0 |
| **z [2] [mm]** | 68.07 | |

[1] Force must only act free of torque
[2] Carriage upper edge – centre guide
See section 3.3.2 on page 17 (lifetime reference value)

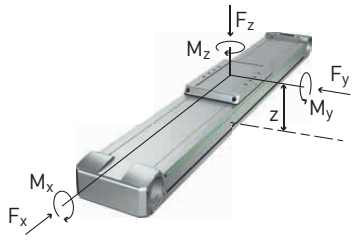



Table 7.21 **General technical data**

| | |
|---|---|
| **Repeatability [mm]** | ± 0.05 |
| **Max. feed force $F_{x\_max}$ [N]** | 4,500 |
| **Max. speed [m/s]** | 5 |
| **Max. acceleration [m/s²]** | 30 |
| **Max. drive torque $M_{A\_max}$ [Nm]** | 149 |
| **Typical load capacity [kg]** | 250 |
| **Maximum total length [1] [mm]** | 6,110 |
| **Area moment of inertia of profile cross section $I_x$ [mm⁴]** | 3,265,771 |
| **Area moment of inertia of profile cross section $I_y$ [mm⁴]** | 39,262,043 |

[1] Long axes on request

Table 7.22 **Guide**

| | |
|---|---|
| **Guide type** | QHH25CA |
| **Static load rating $C_0$ [N]** | 48,750 |
| **Dynamic load rating $C_{dyn}$ [N]** | 41,900 |

Table 7.23 **Drive**

| | |
|---|---|
| **Drive element** | B75HTD8 |
| **Feed constant [mm/U]** | 208 |
| **Toothed belt effective diameter [mm]** | 66.21 |

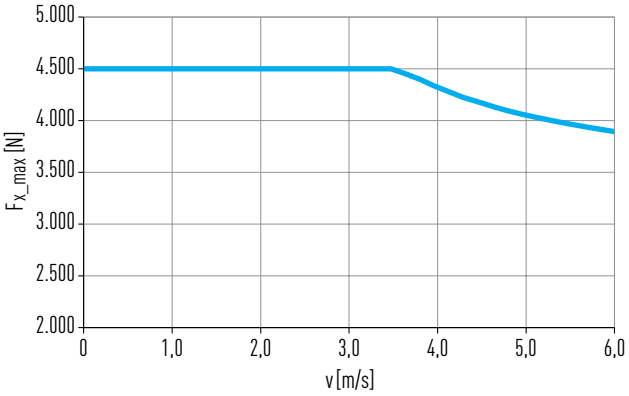



Fig. 7.7 **Max. feed force $F_{x\_max}$ as a function of axis speed v**

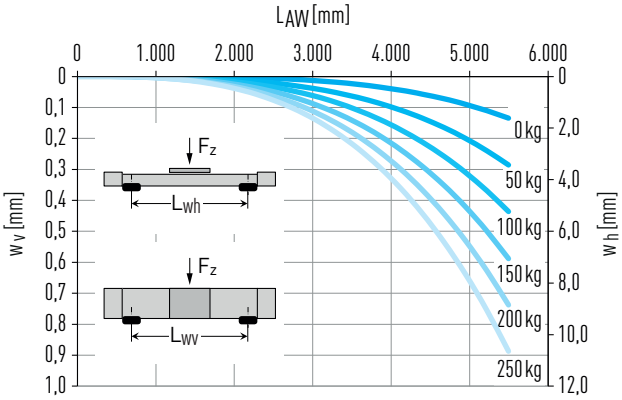



Fig. 7.8 **Deflection w over unsupported axis length $L_{AW}$ under load capacity $F_z$**

Table 7.24 **Mechanical properties**

| | Variant without cover N | Variant with cover C |
|---|---|---|
| **Mass of the carriage [kg]** | 7.93 | 9.67 |
| **Mass at 0-stroke [kg]** | 28.71 | 33.69 |
| **Mass per 1 m stroke [kg/m]** | 22.48 | 22.87 |
| **$J_{rot.}$ [1] [kgcm²]** | 36.38 | 36.38 |
| **Idle torque at 0-stroke [Nm]** | 4.00 | 4.50 |

[1] Rotational moment of inertia

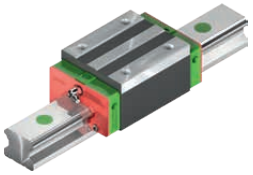
## 8. Linear tables HT-S

### 8.1 Properties of linear tables HT-S with ballscrew

The HIWIN linear tables with ballscrew are flexible positioning modules with integrated HIWIN double guide. They are especially suitable for applications where high loads are moved with high precision.

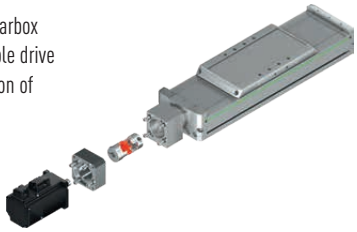
**Linear guideway**

A high-quality HIWIN double guide safely transfers forces and torques from the carriage to the axis profile. Four blocks are used per carriage, which are guided on a two parallel, high-precision profile rails. The SynchMotion™ technology with ball chain also ensures good synchronisation and smooth running in all sizes.



**Motor connection and belt drive**

The multi-part design of the motor/gearbox adaptation creates an extremely flexible drive interface for attachment and conversion of the drive technology.

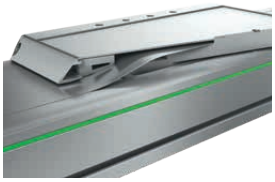


**Ballscrew**

The integrated HIWIN ballscrews ensure precise positioning thanks to their high pitch accuracy and rigidity. Different shaft pitches are available for each size in order to optimally meet the requirements for feed force and dynamics.

**Cover strip**

The steel cover strip prevents dirt and dust from entering the axis interior. In addition, the cover strip allows the axes to be used in areas with coarse, sharp-edged or hot foreign bodies. The magnetic strips integrated in the axis profile hold the belt securely in position and increase the sealing effect.



**Carriage**

The carriages have additional bore holes on each mounting hole to ensure ideal, reproducible alignment of the adjacent construction. You will find the matching centring sleeves in the accessories on Page 231.
A grease nipple is provided on the carriage for each lubrication point for convenient maintenance of the linear axis.

**Energy chain**

Generously dimensioned energy chains provide space for safely carrying the supply lines. They are extremely compact and save space when attached to the axis. For details on the orientation of the energy chain, see section 22.3 from page 223.

**Spindle support**

In applications with long travel distances and high velocity, the critical speed of the shaft is quickly reached, meaning an appropriate support is required to prevent the shaft from swinging up. In HIWIN spindle axes, up to four travelling spindle supports can be installed on each side of the carriage. This allows driving at full speed, even with large strokes.

### 8.2 Order code for linear tables HT-S

| HT | 150 | S | 010 | C | 1234 | S |
|---|---|---|---|---|---|---|

**HIWIN linear table**

**Size (profile width):**
100: 100 mm
150: 150 mm
200: 200 mm
250: 250 mm

**Drive type:**
S: Ballscrew

**Carriage length:**
S: Short

**Stroke length [mm]**

**Cover strip:**
C: With steel cover strip
N: Without cover strip

**Spindle pitch [mm]:**
005/010/016: HT100S
005/010/020: HT150S
005/010/025: HT200S
010/020/032: HT250S

Continuation, order code for linear tables HT-B

| A | N | N | S | BR04 |
|---|---|---|---|---|

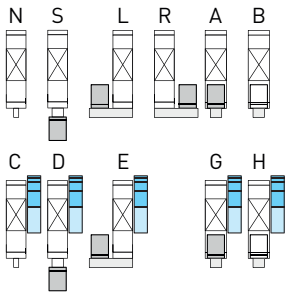
**Axis limit switch[4]:**
N: Without limit switch
A: 2 × normally closed, 100 mm cable, connector
B: 2 × normally open, 100 mm cable, connector
C: 2 × normally closed, 4 m open cable end
D: 2 × normally open, 5 m open cable end

**Spindle support:**
N: Without spindle support
1: One spindle support per side
2: Two spindle supports per side
3: Three spindle supports per side
4: Four spindle supports per side

**Distance measuring system option[1]:**
N: Without distance measuring system
A: HIWIN MAGIC, analogue, 1 $V_{SS}$ sin/cos, 5 m open cable end
D: HIWIN MAGIC, digital, TTL 5 V, 5 m open cable end

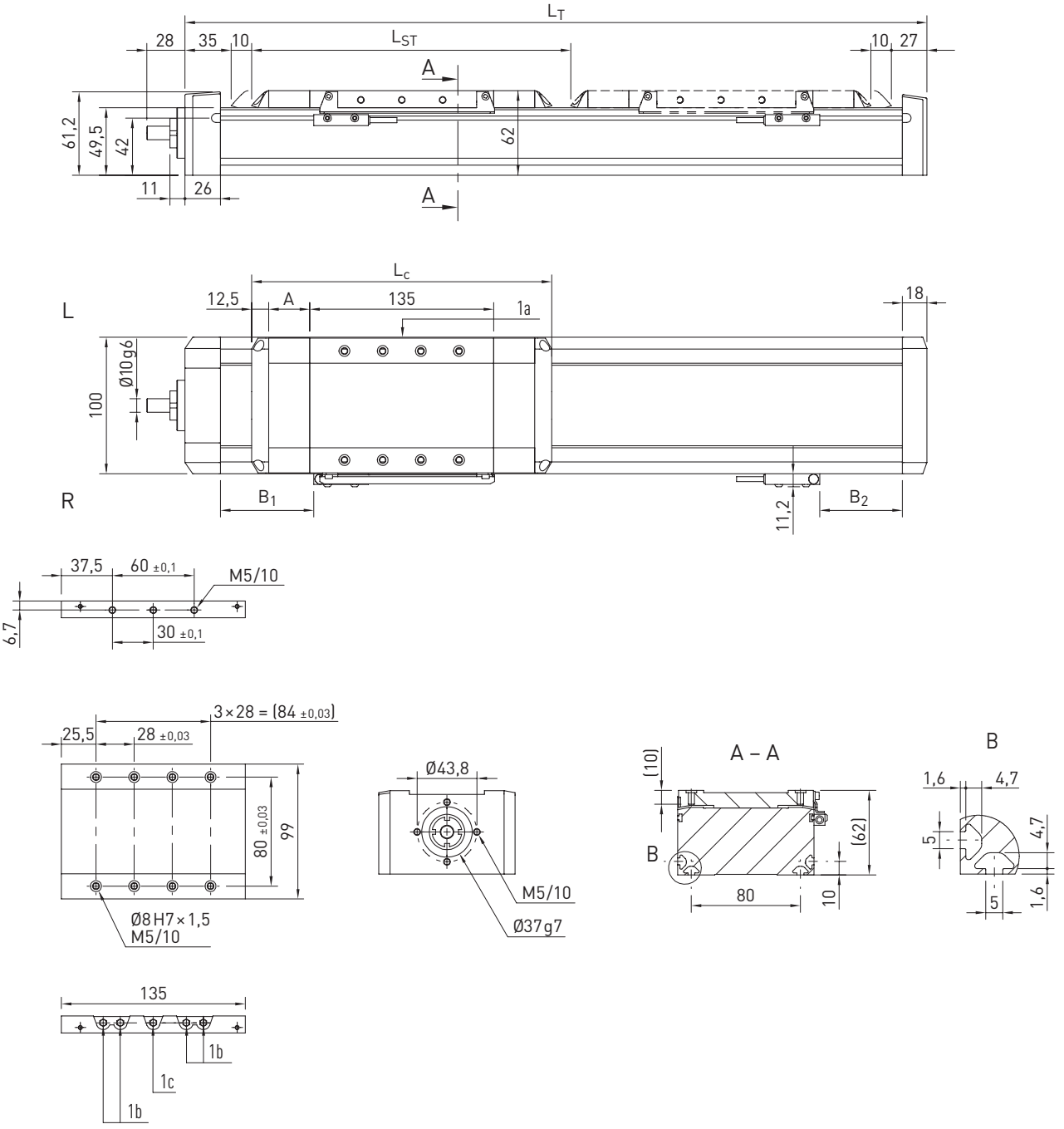
**Motor flange type[3]**

**Drive interface[2] [5]:**
N: Without
S: Straight
L: Left
R: Right
A: Top
B: Bottom
C: Without, energy chain right
D: Straight, energy chain right
E: Left, energy chain right
G: Top, energy chain right
H: Bottom, energy chain right




[1] More detailed information in chapter 21 from page 156 or in the "HIWIN MAGIC Distance Measuring Systems" assembly instructions".
[2] If no drive interface is selected, the order code ends after this digit.
[3] You can find all flange types in Table 22.15 from page 200. If no motor is selected, the order code ends after this digit.
[4] Additional reference switches on request.
[5] Dimensions of the drive interface and the energy chain can be found on Page 223.

### 8.3 Dimensions and specifications of HT100S



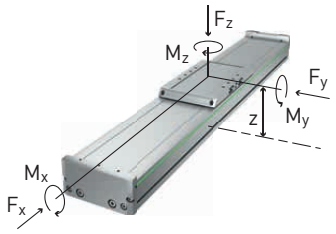

| | |
|---|---|
| L | Left |
| R | Right |
| 1a + 1b | Block lubrication connectors |
| 1c | Ballscrew lubrication connectors |

Table 8.1 **HT100S dimensions**

| | Variant without cover | Variant with cover |
|---|---|---|
| **Total carriage length $L_c$ [mm]** | 160 | 220 |
| **Cover strip deflection A [mm]** | – | 30 |
| **Switch distance $B_1$ [mm]** | 33.5 | 63.5 |
| **Switch distance $B_2$ [mm]** | 25.5 | 55.5 |
| **Max. stroke length $L_{ST}$ [mm]** | 3,036 | 2,976 |
| **Total length $L_T$ [mm]** | $L_T = L_{ST} + 242$ | $L_T = L_{ST} + 302$ |

| Table 8.2 **Load data** | |
|---|---|
| **$F_{ydynmax}$ [1] [N]** | 3,350 |
| **$F_{zdynmax}$ [1] [N]** | 5,340 |
| **$M_{xdynmax}$ [Nm]** | 139 |
| **$M_{ydynmax}$ [Nm]** | 280 |
| **$M_{zdynmax}$ [Nm]** | 176 |
| **z [2] [mm]** | 36.6 |

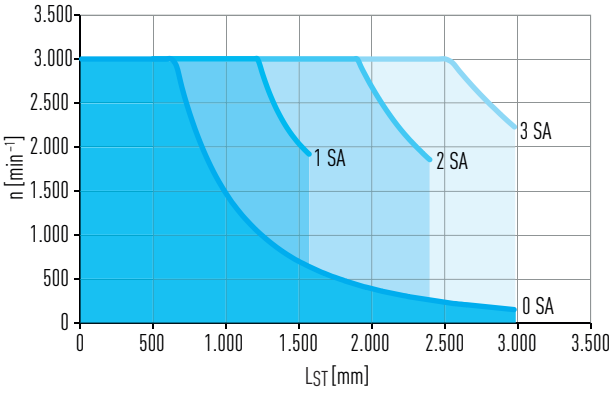
[1] Force must only act free of torque
[2] Carriage upper edge – centre guide
See section 3.3.2 on page 17 (lifetime reference value)




| Table 8.3 **General technical data** | |
|---|---|
| **Repeatability [mm]** | ± 0.02 |
| **Max. acceleration [m/s²]** | 15 |
| **Typical load capacity [kg]** | 40 |
| **Maximum total length [mm]** | 3,278 |
| **Area moment of inertia of profile cross section $I_x$ [mm⁴]** | 299,377 |
| **Area moment of inertia of profile cross section $I_y$ [mm⁴]** | 1,516,426 |

| Table 8.4 **Guide** | |
|---|---|
| **Guide type** | QEH15SA |
| **Static load rating $C_0$ [N]** | 8,790 |
| **Dynamic load rating $C_{dyn}$ [N]** | 8,560 |

| Table 8.5 **Drive** | Spindle lead | | |
|---|---|---|---|
| | **5 mm** | **10 mm** | **16 mm** |
| **Spindle diameter [mm]** | 15 | | |
| **Axial play [mm]** | 0.02 | | |
| **Max. feed force $F_{x\_max}$ [N]** | 2,541 | 1,989 | 1,915 |
| **Max. speed [m/s]** | 0.25 | 0.50 | 0.80 |
| **Max. drive torque $M_{A\_max}$ [Nm]** | 2.42 | 3.57 | 5.28 |
| **Static load rating ballscrew $C_0$ [N]** | 23,800 | 18,300 | 17,900 |
| **Dynamic load rating ballscrew $C_{dyn}$ [N]** | 13,800 | 10,800 | 10,400 |




SA Spindle support

Fig. 8.1 **Critical speed n over axis stroke length $L_{ST}$**

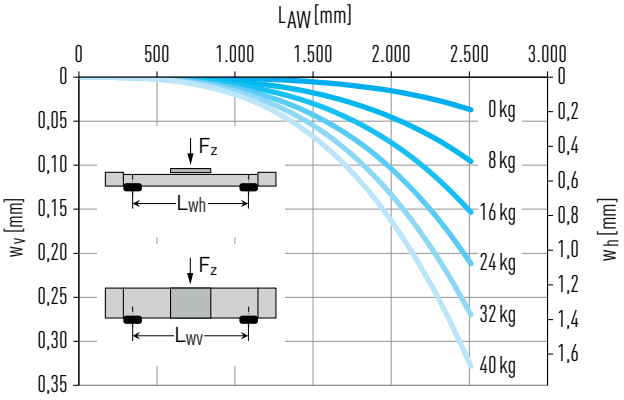
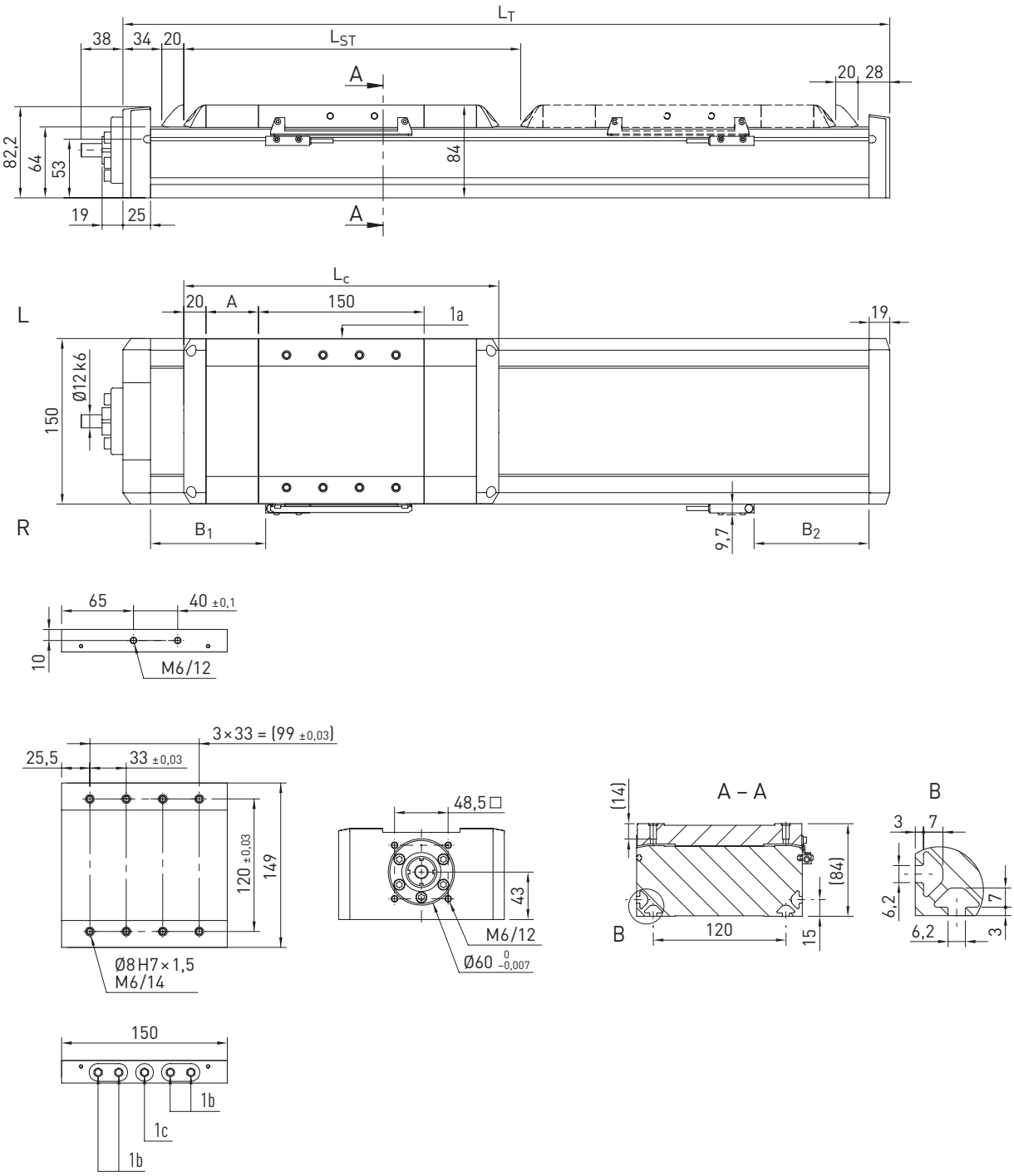



Fig. 8.2 **Deflection w over unsupported axis length $L_{AW}$ under load capacity $F_z$**

| Table 8.6 **Mechanical properties** | Variant without cover | | | Variant with cover | | |
|---|---|---|---|---|---|---|
| **Spindle pitch [mm]** | **5** | **10** | **16** | **5** | **10** | **16** |
| **Mass of the carriage [kg]** | 1.15 | 1.14 | 1.22 | 1.28 | 1.28 | 1.35 |
| **Mass at 0-stroke [kg]** | 3.79 | 3.79 | 3.86 | 4.26 | 4.25 | 4.33 |
| **Mass per 1 m stroke [kg/m]** | 7.67 | | | 7.85 | | |
| **$J_{rot.}$ [1] at 0-stroke [kgcm²]** | 0.16 | | | 0.19 | | |
| **$J_{rot.}$ [1] Per 1 m stroke [kgcm²/m]** | 0.39 | | | 0.39 | | |
| **Idle torque at 0-stroke [Nm]** | 0.40 | | | 0.50 | | |

[1] Rotational moment of inertia

### 8.4 Dimensions and specifications of HT150S



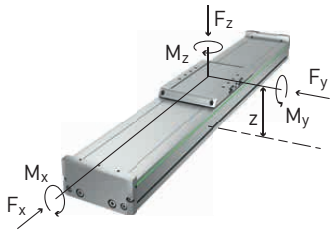

| | |
|---|---|
| L | Left |
| R | Right |
| 1a + 1b | Block lubrication connectors |
| 1c | Ballscrew lubrication connectors |

Table 8.7 **HT150S dimensions**

| | Variant without cover | Variant with cover |
|---|---|---|
| **Total carriage length $L_c$ [mm]** | 190 | 285 |
| **Cover strip deflection A [mm]** | – | 47.5 |
| **Switch distance $B_1$ [mm]** | 54.5 | 102 |
| **Switch distance $B_2$ [mm]** | 54.5 | 102 |
| **Max. stroke length $L_{ST}$ [mm]** | 5,176 | 5,081 |
| **Total length $L_T$ [mm]** | $L_T = L_{ST} + 292$ | $L_T = L_{ST} + 387$ |

| Table 8.8 **Load data** | |
|---|---|
| **$F_{ydynmax}$ [1] [N]** | 3,350 |
| **$F_{zdynmax}$ [1] [N]** | 7,256 |
| **$M_{xdynmax}$ [Nm]** | 341 |
| **$M_{ydynmax}$ [Nm]** | 337 |
| **$M_{zdynmax}$ [Nm]** | 156 |
| **z [2] [mm]** | 54.5 |

[1] Force must only act free of torque
[2] Carriage upper edge – centre guide
See section 3.3.2 on page 17 (lifetime reference value)

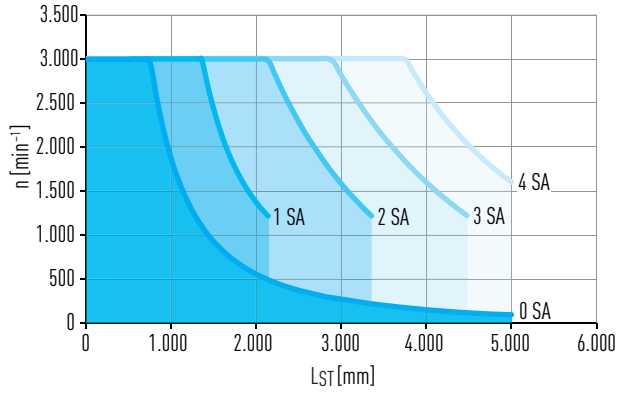



| Table 8.9 **General technical data** | |
|---|---|
| **Repeatability [mm]** | ± 0.02 |
| **Max. acceleration [m/s²]** | 15 |
| **Typical load capacity [kg]** | 80 |
| **Maximum total length [mm]** | 5,468 [3] |
| **Area moment of inertia of profile cross section $I_x$ [mm⁴]** | 907,754 |
| **Area moment of inertia of profile cross section $I_y$ [mm⁴]** | 7,417,610 |

[3] Without cover strip 5,294

| Table 8.10 **Guide** | |
|---|---|
| **Guide type** | QEH15CA |
| **Static load rating $C_0$ [N]** | 15,280 |
| **Dynamic load rating $C_{dyn}$ [N]** | 12,530 |

| Table 8.11 **Drive** | | | |
|---|---|---|---|
| | Spindle lead | | |
| | **5 mm** | **10 mm** | **20 mm** |
| **Spindle diameter [mm]** | 20 | | |
| **Axial play [mm]** | 0.02 | | |
| **Max. feed force $F_{x\_max}$ [N]** | 3,186 | 3,149 | 1,620 |
| **Max. speed [m/s]** | 0.25 | 0.50 | 1.00 |
| **Max. drive torque $M_{A\_max}$ [Nm]** | 3.14 | 5.61 | 5.76 |
| **Static load rating ballscrew $C_0$ [N]** | 33,800 | 33,600 | 16,000 |
| **Dynamic load rating ballscrew $C_{dyn}$ [N]** | 17,300 | 17,100 | 8,800 |




SA Spindle support

Fig. 8.3 **Critical speed n over axis stroke length $L_{ST}$**

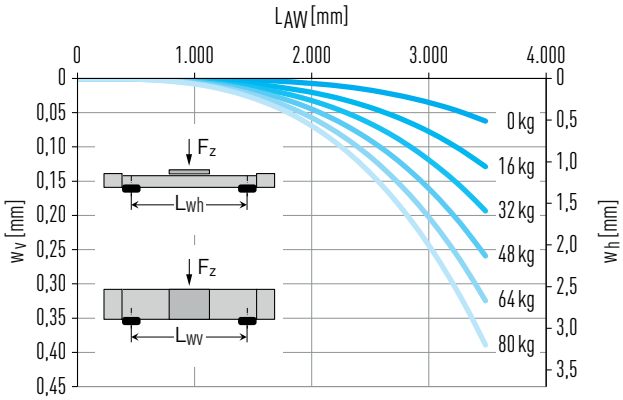
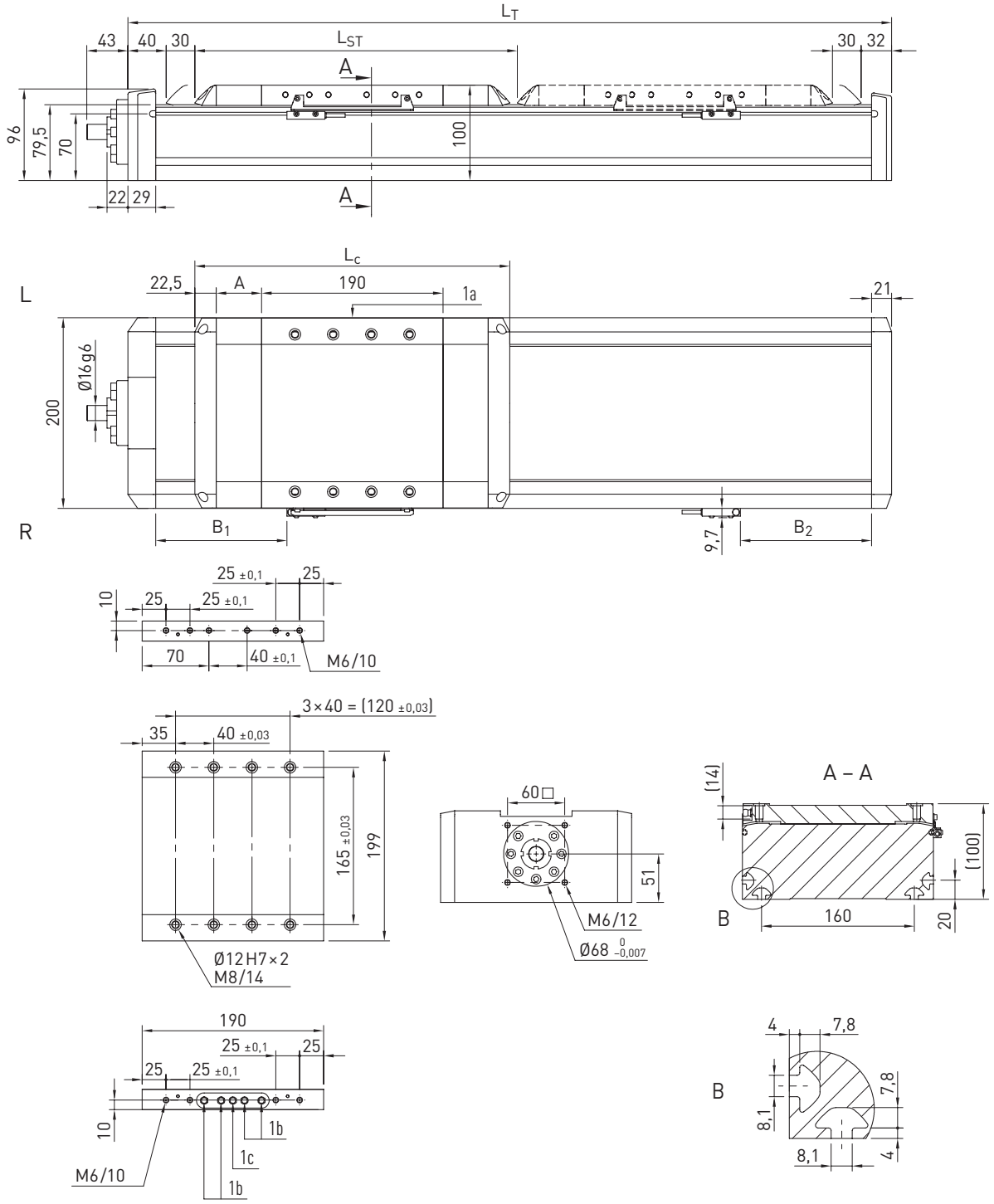



Fig. 8.4 **Deflection w over unsupported axis length $L_{AW}$ under load capacity $F_z$**

| Table 8.12 **Mechanical properties** | | | | | | |
|---|---|---|---|---|---|---|
| | Variant without cover | | | Variant with cover | | |
| **Spindle pitch [mm]** | **5** | **10** | **20** | **5** | **10** | **20** |
| **Mass of the carriage [kg]** | 2.26 | 2.40 | 2.49 | 2.73 | 2.88 | 2.96 |
| **Mass at 0-stroke [kg]** | 7.66 | 7.80 | 7.88 | 9.29 | 9.43 | 9.52 |
| **Mass per 1 m stroke [kg/m]** | 12.89 | | | 13.17 | | |
| **$J_{rot.}$ [1] at 0-stroke [kgcm²]** | 0.69 | | | 0.81 | | |
| **$J_{rot.}$ [1] Per 1 m stroke [kgcm²/m]** | 1.23 | | | 1.23 | | |
| **Idle torque at 0-stroke [Nm]** | 0.60 | | | 0.70 | | |

[1] Rotational moment of inertia

### 8.5 Dimensions and specifications of HT200S




L Left
R Right

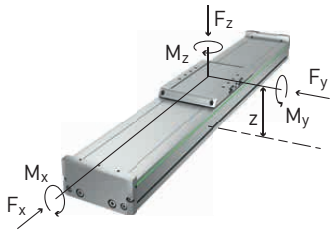
1a + 1b Block lubrication connectors
1c Ballscrew lubrication connectors

Table 8.13 **HT200S dimensions**

| | Variant without cover | Variant with cover |
|---|---|---|
| **Total carriage length $L_c$ [mm]** | 235 | 330 |
| **Cover strip deflection A [mm]** | – | 47.5 |
| **Switch distance $B_1$ [mm]** | 89 | 136.5 |
| **Switch distance $B_2$ [mm]** | 89 | 136.5 |
| **Max. stroke length $L_{ST}$ [mm]** | 5,098 | 5,003 |
| **Total length $L_T$ [mm]** | $L_T = L_{ST} + 367$ | $L_T = L_{ST} + 462$ |

| Table 8.14 **Load data** | |
|---|---|
| **$F_{ydynmax}$ [1] [N]** | 7,800 |
| **$F_{zdynmax}$ [1] [N]** | 15,784 |
| **$M_{xdynmax}$ [Nm]** | 1,073 |
| **$M_{ydynmax}$ [Nm]** | 892 |
| **$M_{zdynmax}$ [Nm]** | 441 |
| **z [2] [mm]** | 58 |

[1] Force must only act free of torque
[2] Carriage upper edge – centre guide
See section 3.3.2 on page 17 (lifetime reference value)

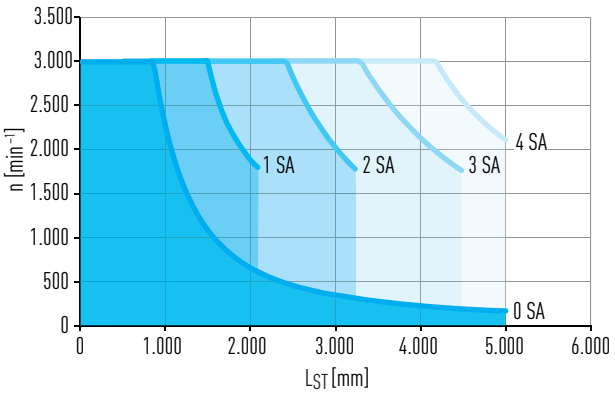



| Table 8.15 **General technical data** | |
|---|---|
| **Repeatability [mm]** | ± 0.02 |
| **Max. acceleration [m/s²]** | 15 |
| **Typical load capacity [kg]** | 150 |
| **Maximum total length [mm]** | 5,465 [3] |
| **Area moment of inertia of profile cross section $I_x$ [mm⁴]** | 2,071,928 |
| **Area moment of inertia of profile cross section $I_y$ [mm⁴]** | 19,658,810 |

[3] Without cover strip 5,367

| Table 8.16 **Guide** | |
|---|---|
| **Guide type** | QHH20CA |
| **Static load rating $C_0$ [N]** | 33,860 |
| **Dynamic load rating $C_{dyn}$ [N]** | 30,000 |

| Table 8.17 **Drive** | | | |
|---|---|---|---|
| | Spindle lead | | |
| | **5 mm** | **10 mm** | **25 mm** |
| **Spindle diameter [mm]** | 25 | | |
| **Axial play [mm]** | 0.02 | | |
| **Max. feed force $F_{x\_max}$ [N]** | 3,535 | 3,499 | 1,786 |
| **Max. speed [m/s]** | 0.25 | 0.50 | 1.25 |
| **Max. drive torque $M_{A\_max}$ [Nm]** | 3.61 | 6.37 | 7.91 |
| **Static load rating ballscrew $C_0$ [N]** | 42,900 | 42,600 | 20,200 |
| **Dynamic load rating ballscrew $C_{dyn}$ [N]** | 19,200 | 19,000 | 9,700 |




SA Spindle support

Fig. 8.5 **Critical speed n over axis stroke length $L_{ST}$**

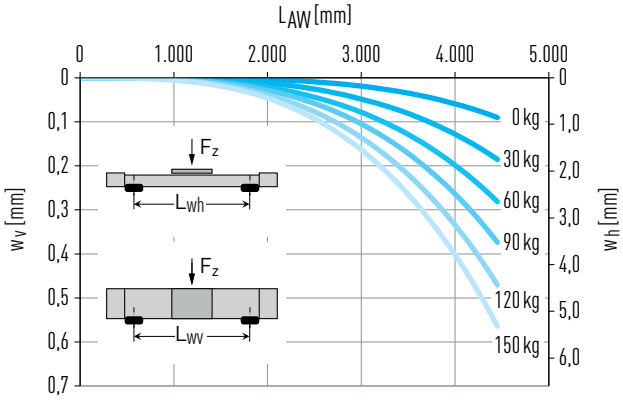
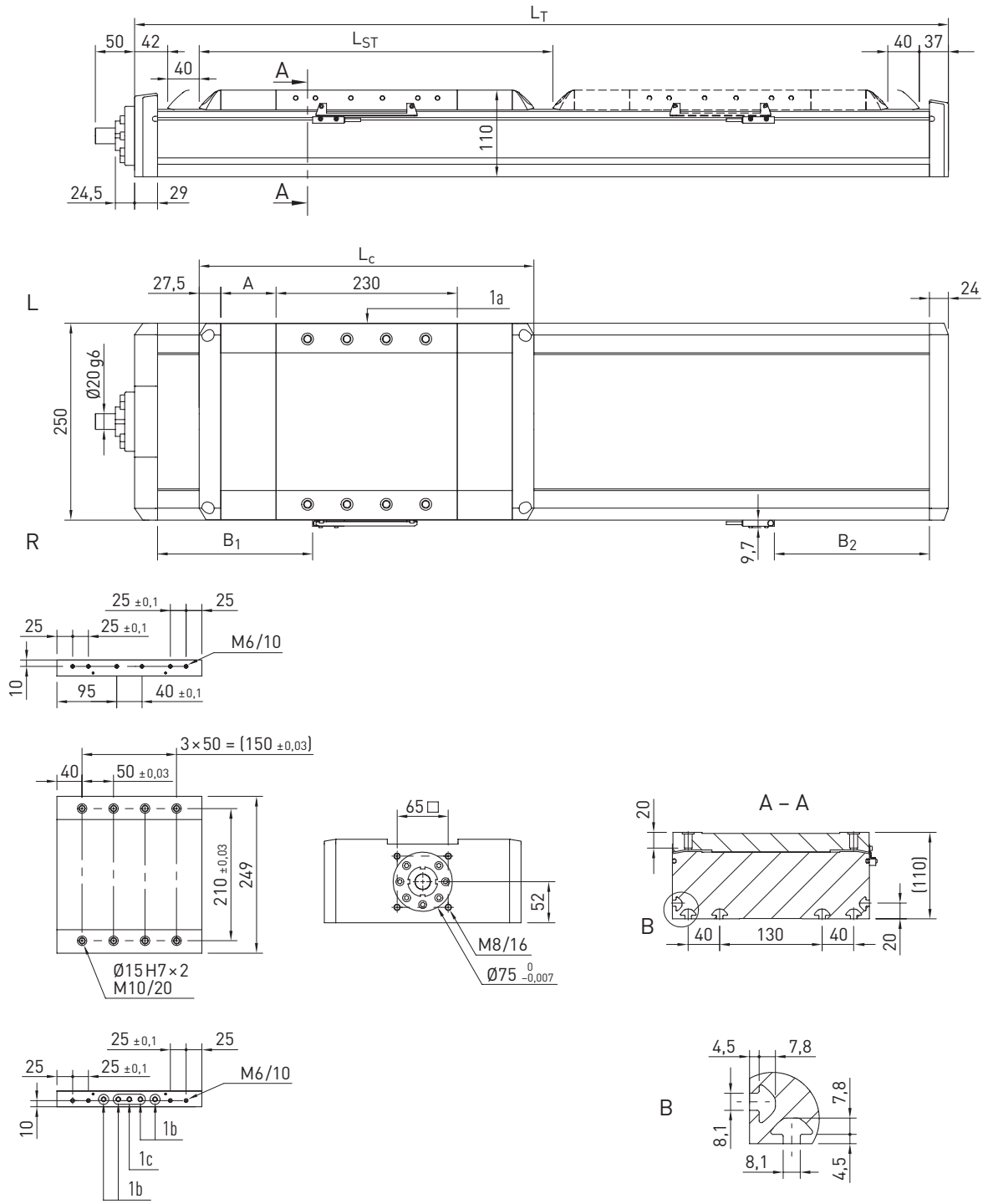



Fig. 8.6 **Deflection w over unsupported axis length $L_{AW}$ under load capacity $F_z$**

| Table 8.18 **Mechanical properties** | | | | | | |
|---|---|---|---|---|---|---|
| | Variant without cover | | | Variant with cover | | |
| **Spindle pitch [mm]** | **5** | **10** | **25** | **5** | **10** | **25** |
| **Mass of the carriage [kg]** | 4.40 | 4.50 | 4.63 | 5.00 | 5.09 | 5.22 |
| **Mass at 0-stroke [kg]** | 14.24 | 14.33 | 14.46 | 16.90 | 16.99 | 17.12 |
| **Mass per 1 m stroke [kg/m]** | 20.30 | | | 20.61 | | |
| **$J_{rot.}$ [1] at 0-stroke [kgcm²]** | 2.01 | | | 2.30 | | |
| **$J_{rot.}$ [1] Per 1 m stroke [kgcm²/m]** | 3.01 | | | 3.01 | | |
| **Idle torque at 0-stroke [Nm]** | 0.80 | | | 1.00 | | |

[1] Rotational moment of inertia

### 8.6 Dimensions and specifications of HT250S




L Left
R Right

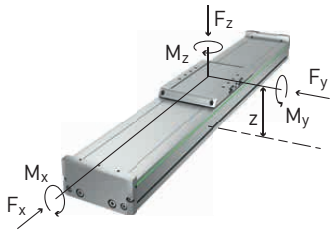
1a + 1b Block lubrication connectors
1c Ballscrew lubrication connectors

Table 8.19 **HT250S dimensions**

| | Variant without cover | Variant with cover |
|---|---|---|
| **Total carriage length $L_c$ [mm]** | 285 | 425 |
| **Cover strip deflection A [mm]** | – | 70 |
| **Switch distance $B_1$ [mm]** | 126 | 196 |
| **Switch distance $B_2$ [mm]** | 126 | 196 |
| **Max. stroke length $L_{ST}$ [mm]** | 5,013 | 4,873 |
| **Total length $L_T$ [mm]** | $L_T = L_{ST} + 444$ | $L_T = L_{ST} + 584$ |

| Table 8.20 **Load data** | |
|---|---|
| **$F_{ydynmax}$ [1] [N]** | 11,600 |
| **$F_{zdynmax}$ [1] [N]** | 20,465 |
| **$M_{xdynmax}$ [Nm]** | 1,750 |
| **$M_{ydynmax}$ [Nm]** | 1,514 |
| **$M_{zdynmax}$ [Nm]** | 858 |
| **z [2] [mm]** | 68 |

[1] Force must only act free of torque
[2] Carriage upper edge – centre guide
See section 3.3.2 on page 17 (lifetime reference value)

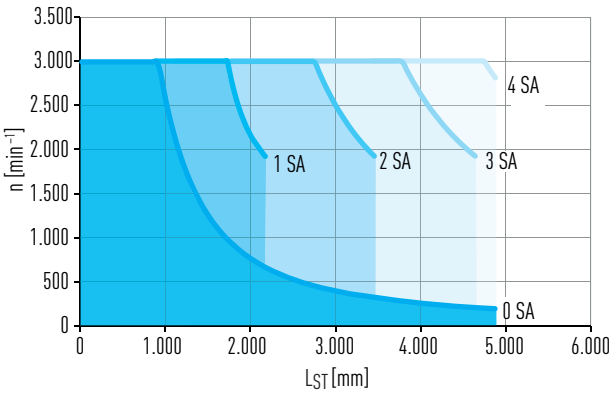



| Table 8.21 **General technical data** | |
|---|---|
| **Repeatability [mm]** | ± 0.02 |
| **Max. acceleration [m/s²]** | 15 |
| **Typical load capacity [kg]** | 250 |
| **Maximum total length [mm]** | 5,457 [3] |
| **Area moment of inertia of profile cross section $I_x$ [mm⁴]** | 3,265,771 |
| **Area moment of inertia of profile cross section $I_y$ [mm⁴]** | 39,262,043 |

[3] Without cover strip 5,444

| Table 8.22 **Guide** | |
|---|---|
| **Guide type** | QHH25CA |
| **Static load rating $C_0$ [N]** | 48,750 |
| **Dynamic load rating $C_{dyn}$ [N]** | 41,900 |

| Table 8.23 **Drive** | Spindle lead | | |
|---|---|---|---|
| | **10 mm** | **20 mm** | **32 mm** |
| **Spindle diameter [mm]** | 32 | | |
| **Axial play [mm]** | 0.02 | | |
| **Max. feed force $F_{x\_max}$ [N]** | 5,300 | 4,069 | 2,744 |
| **Max. speed [m/s]** | 0.50 | 1.00 | 1.60 |
| **Max. drive torque $M_{A\_max}$ [Nm]** | 9.94 | 14.45 | 15.47 |
| **Static load rating ballscrew $C_0$ [N]** | 88,000 | 50,600 | 32,800 |
| **Dynamic load rating ballscrew $C_{dyn}$ [N]** | 28,782 | 22,100 | 14,900 |




SA Spindle support

Fig. 8.7 **Critical speed n over axis stroke length $L_{ST}$**

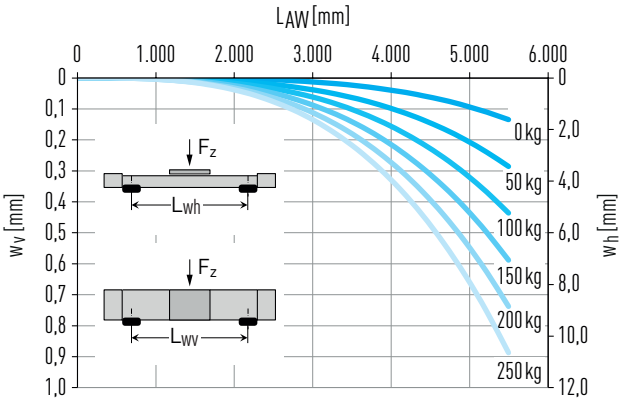



Fig. 8.8 **Deflection w over unsupported axis length $L_{AW}$ under load capacity $F_z$**

| Table 8.24 **Mechanical properties** | | | | | | |
|---|---|---|---|---|---|---|
| | **Variant without cover** | | | **Variant with cover** | | |
| **Spindle pitch [mm]** | **10** | **20** | **32** | **10** | **20** | **32** |
| **Mass of the carriage [kg]** | 8.16 | 8.30 | 8.32 | 9.55 | 9.69 | 9.71 |
| **Mass at 0-stroke [kg]** | 23.86 | 24.00 | 24.02 | 29.49 | 29.63 | 29.64 |
| **Mass per 1 m stroke [kg/m]** | 27.73 | | | 28.12 | | |
| **$J_{rot.}$ [1] At 0-stroke [kgcm²]** | 5.15 | | | 6.28 | | |
| **$J_{rot.}$ [1] Per 1 m stroke [kgcm²/m]** | 8.08 | | | 8.08 | | |
| **Idle torque at 0-stroke [Nm]** | 1.50 | | | 1.80 | | |

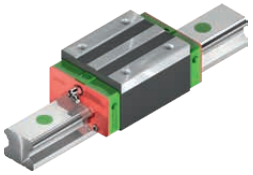
[1] Rotational moment of inertia

## 9. Linear tables HT-L

### 9.1 Properties of linear tables HT-S with linear motor

The HIWIN linear axes with linear motor are flexible positioning modules with integrated HIWIN double guide. They are especially suitable for precise positioning at high speed and with great dynamics.
Cleanroom-compatible linear motor axes HT-L up to ISO class 4 are available on request.


**Linear guideway**
A high-quality HIWIN double guide safely transfers forces and torques from the carriage to the axis profile. Four blocks are used per carriage, which are guided on a two parallel, high-precision profile rails. The SynchMotion™ technology with ball chain also ensures good synchronisation and smooth running in the HT150L, HT200L and HT250L sizes.



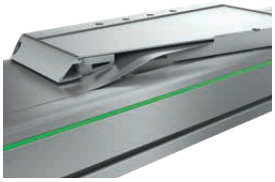
**Electric interface**
The quick-release connectors allow motor and encoder cables to be connected quickly and easily to the side of the carriage without tools. Depending on the installation situation and the desired cable routing, two different orientations of the connector are available as options.

**Linear motor**
The integrated HIWIN linear motors ensure dynamic and precise positioning. Two motor sizes are available for each size in order to optimally meet the requirements for the required feed force.

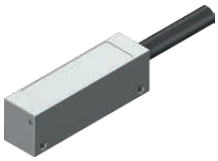
**Energy chain**
Generously dimensioned energy chains provide space for safely carrying the supply lines. They are extremely compact and save space when attached to the axis. For details on the orientation of the energy chain, see section 22.4 from page 225.

**Carriage**
The carriages have additional bore holes on each mounting hole to ensure ideal, reproducible alignment of the adjacent construction. You will find the matching centring sleeves in the accessories on Page 231.
A grease nipple is provided on the carriage for each lubrication point for convenient maintenance of the linear axis.

**Cover strip**
The steel cover strip prevents dirt and dust from entering the axis interior. In addition, the cover strip allows the axes to be used in areas with coarse, sharp-edged or hot foreign bodies. The magnetic strips integrated in the axis profile hold the belt securely in position and increase the sealing effect.



**Positioning measuring systems**
The distance measuring system is integrated into the inside of the axis to save space and determines the repeatability. Different measuring systems are available depending on the requirements for measuring method, interface and resolution. You can find more information on Page 156.
Optionally also with functional safety encoder.



### 9.2 Order code for linear tables HT-L

| HT | 150 | L | A12 | C | 1234 | S |
|---|---|---|---|---|---|---|

**HIWIN linear table**

**Size (profile width):**
100: 100 mm
150: 150 mm
200: 200 mm
250: 250 mm

**Drive type:**
L: Linear motor

**Carriage length:**
S: Standard (short)

**Stroke length [mm]**

**Cover strip:**
C: With steel cover strip
N: Without cover strip

**Motor size:**
A01/A02: HT100L
A12/A13: HT150L
A22/A23: HT200L
A32/A33: HT250L

Continuation, order code for linear tables HT-L

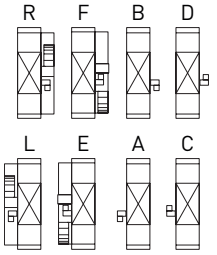
| A | N | A | R |
|---|---|---|---|

**Axis limit switch**[3]**:**
N: Without limit switch
A: 2 × normally closed, 100 mm cable, connector
B: 2 × normally open, 100 mm cable, connector
C: 2 × normally closed, 4 m open cable end
D: 2 × normally open, 5 m open cable end

**Stator:**
N: Standard

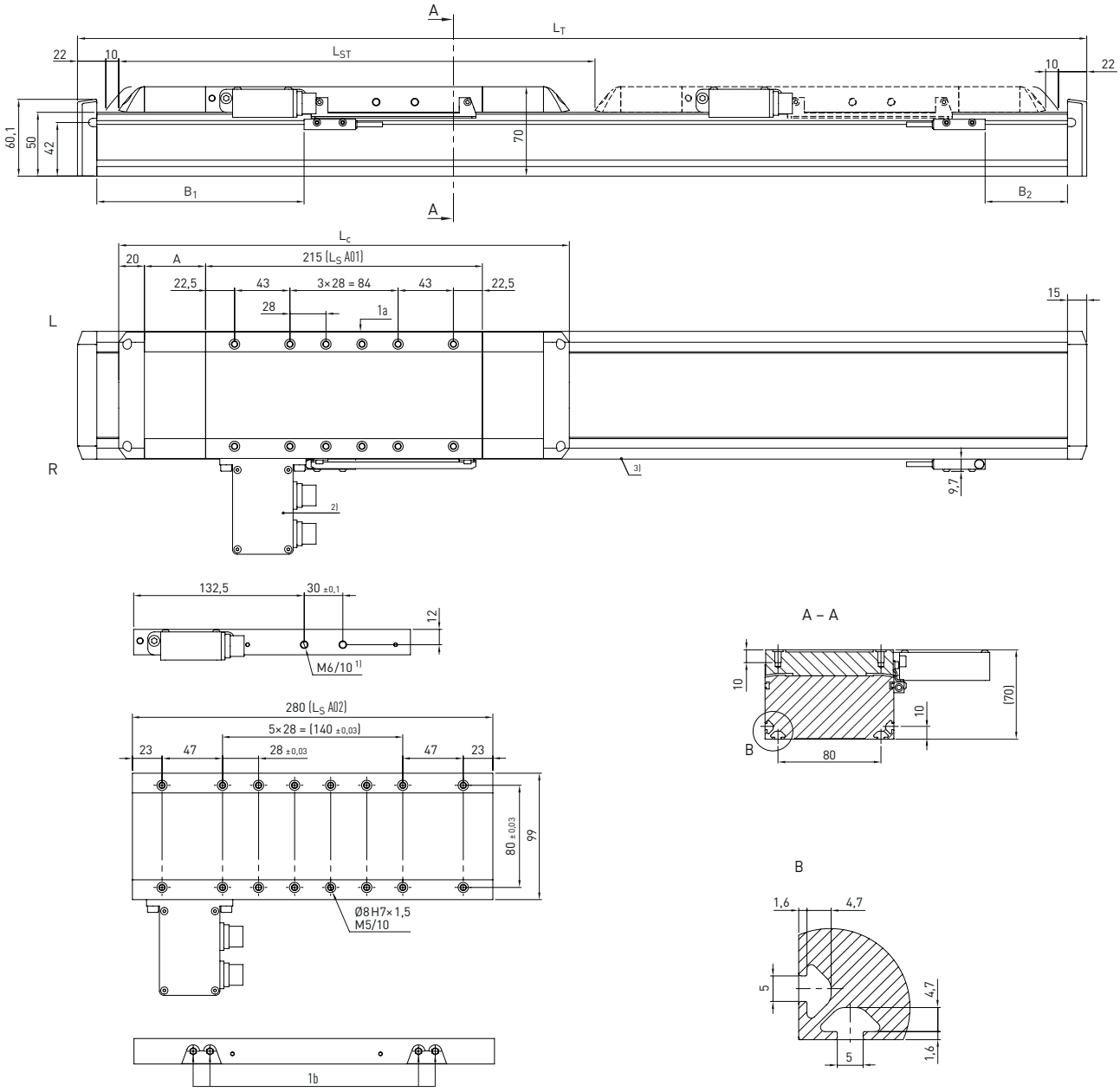
**Distance measuring system option**[1]**:**
A: HIWIN MAGIC, analogue, 1 $V_{SS}$ sin/cos
B: HIWIN MAGIC, analogue, 1 $V_{SS}$ sin/cos and digital hall sensor[8]
D: HIWIN MAGIC, digital, TTL 5 V
E: HIWIN MAGIC, digital, TTL 5 V and digital hall sensor[8]
H: LIC 211, absolute, EnDat 2.2[4][7]
R: BML-S1G0, absolute, BiSS-C, 1 $V_{SS}$ sin/cos[5]
S: BML-S1G0, absolute, SSI[5]
T: TTK70, absolute, HIPERFACE, 1 $V_{SS}$ sin/cos[4][8]

**Connection interface**[2]**:**
R: With energy chain, connector right/front[6]
F: With energy chain, connector right/rear[6]
B: Without energy chain, connector right/front
D: Without energy chain, connector right/rear
L: With energy chain, connector left/front[6]
E: With energy chain, connector left/rear[6]
A: Without energy chain, connector left/front
C: Without energy chain, connector left/rear




[1] More detailed information in chapter 21 from page 156 or in the "HIWIN MAGIC Distance Measuring Systems" assembly instructions".
[2] Details on connector orientation and position of the energy chain in section 22.4 from page 225.
[3] Additional reference switches on request.
[4] Limitations of the maximum stroke possible, see Table 21.1 on page 156.
[5] The distance measuring system has a safety-related, analogue, incremental real-time signal.
[6] Max. possible stroke: 5,000 mm.
[7] If the installation position is horizontal, the axis must be arranged so that the distance measuring system is at the top.
[8] Option not available for HT100L.

### 9.3 Dimensions and specifications of HT100L




| | | | |
|---|---|---|---|
| $L_S$ | Carriage plate | R | Right |
| L | Left | 1a + 1b | Block lubrication connectors |

1) Omitted for variant with energy chain 2) Drive interface shown: Option "D"; for other series, see section 22.4 from page 225

3) Internal measuring system always on the right side of the axis. The positive direction of travel depends on the selected measuring system, see section 21.2 from page 158

Table 9.1 **HT100L dimensions**

| | Variant without cover | | Variant with cover | |
|---|---|---|---|---|
| **Motor size** | **A01** | **A02** | **A01** | **A02** |
| **Total carriage length $L_c$ [mm]** | 255 | 320 | 350 | 415 |
| **Cover strip deflection A [mm]** | — | — | 47.5 | 47.5 |
| **Switch distance $B_1$ [mm]** | 113.5 | 113.5 | 161 | 161 |
| **Switch distance $B_2$ [mm]** | 36.5 | 101.5 | 84 | 149 |
| **Max. stroke length $L_{ST}$ [mm]** | 5,511 | 5,446 | 5,416 | 5,351 |
| **Total length $L_T$ [mm]** | $L_T = L_{ST} + 319$ | $L_T = L_{ST} + 384$ | $L_T = L_{ST} + 414$ | $L_T = L_{ST} + 479$ |

Table 9.2 **Load data**

| | Motor size A01 | Motor size A02 |
|---|---|---|
| **$F_{ydynmax}$ [1] [N]** | 1,101 | 860 |
| **$F_{zdynmax}$ [1] [N]** | 1,101 | 860 |
| **$M_{xdynmax}$ [Nm]** | 35 | 27 |
| **$M_{ydynmax}$ [Nm]** | 96 | 103 |
| **$M_{zdynmax}$ [Nm]** | 96 | 103 |
| **z [2] [mm]** | 53.5 | 53.5 |

[1] Force must only act free of torque
[2] Carriage upper edge – centre guide
See section 3.3.2 on page 17 (lifetime reference value)

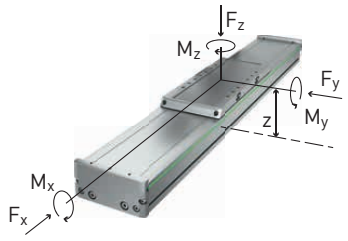



Table 9.3 **General technical data**

| | |
|---|---|
| **Repeatability [2] [mm]** | ± 0.005 |
| **Max. speed [m/s]** | 5 |
| **Typical load capacity [kg]** | 20 |
| **Maximum total length [2] [3] [mm]** | 5,830 |
| **Flatness [1] [mm/300 mm]** | ± 0.03 |
| **Straightness [1] (mm/300 mm]** | ± 0.03 |
| **Area moment of inertia of profile cross section $I_x$ [mm⁴]** | 282,903 |
| **Area moment of inertia of profile cross section $I_y$ [mm⁴]** | 1,541,419 |

[1] Values apply with specified screw-on surface or mounting plate
[2] Depending on distance measuring system (chapter 21) and energy chain (section 22.4)
[3] Long axes on request

Table 9.4 **Guide**

| | |
|---|---|
| **Guide type** | MGN09H |
| **Static load rating $C_0$ [N]** | 4,020 |
| **Dynamic load rating $C_{dyn}$ [N]** | 2,550 |

Table 9.5 **Drive**

| | Motor size A01 | Motor size A02 |
|---|---|---|
| **Motor type** | LMSA01 | LMSA02 |
| **Continuous force [N]** | 52 | 104 |
| **Peak force [N]** | 112 | 224 |
| **Max. acceleration [m/s²]** | 50 | 50 |

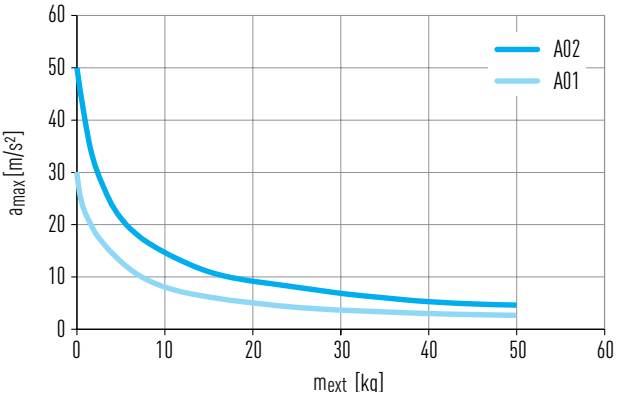



Fig. 9.1 **Max. acceleration $a_{max}$ as a function of the external payload $m_{ext}$**

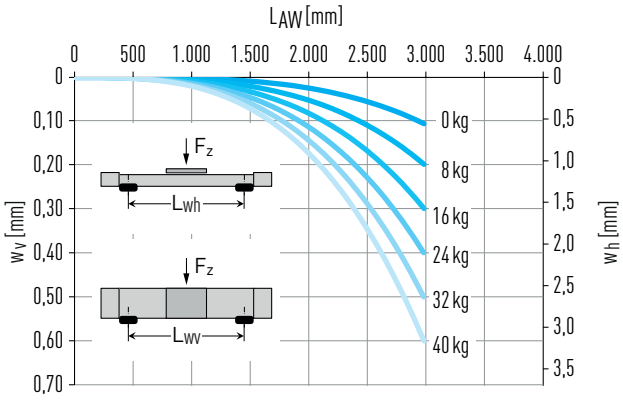
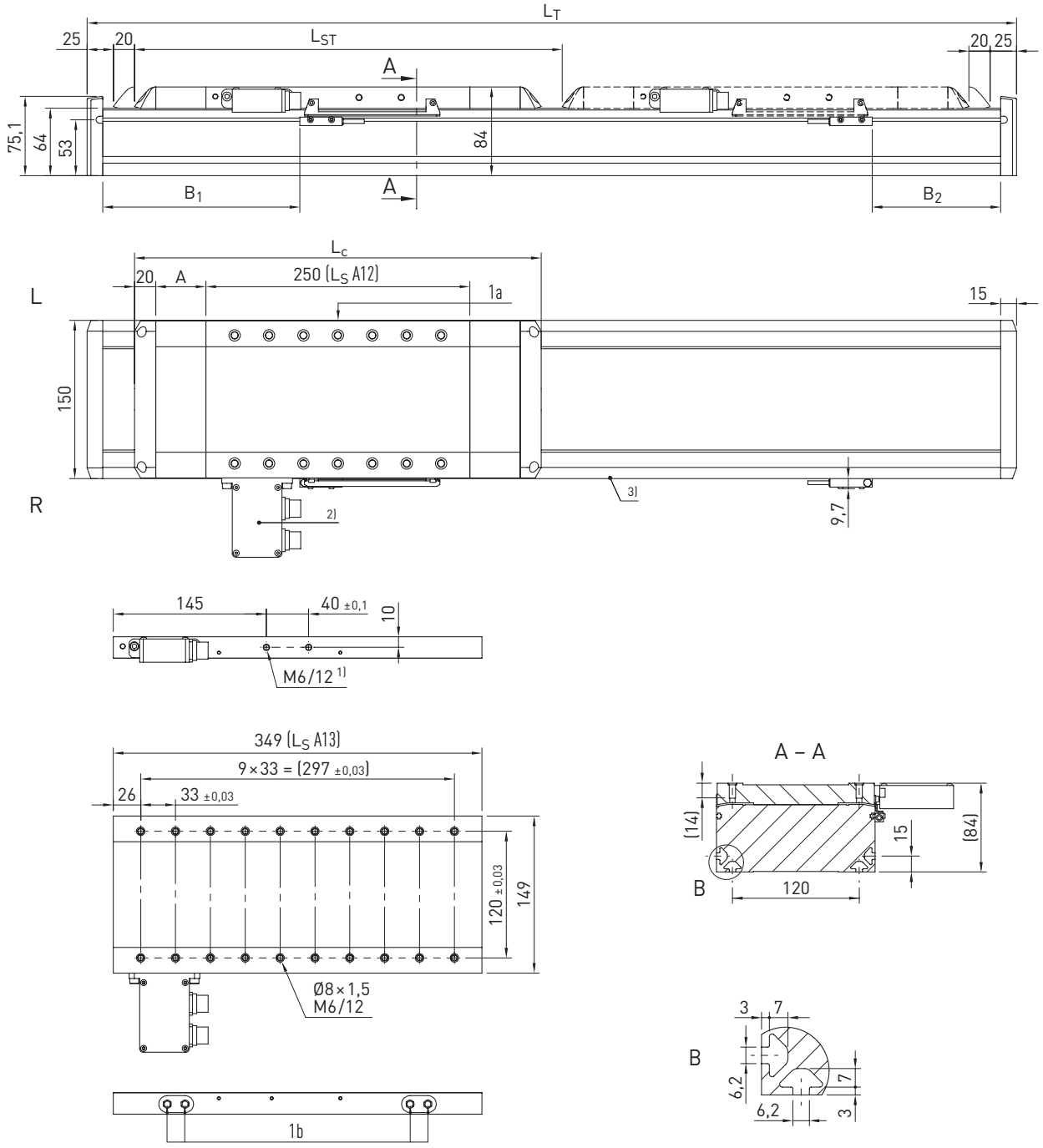



Fig. 9.2 **Deflection w over unsupported axis length $L_{AW}$ under load capacity $F_z$**

Table 9.6 **Mechanical properties**

| | Variant without cover | | Variant with cover | |
|---|---|---|---|---|
| | **Motor size A01** | **Motor size A02** | **Motor size A01** | **Motor size A02** |
| **Mass of the carriage [kg]** | 1.97 | 2.78 | 2.26 | 3.06 |
| **Mass at 0-stroke [kg]** | 4.15 | 5.42 | 5.02 | 6.30 |
| **Mass per 1 m stroke [kg/m]** | 6.45 | | 6.61 | |
| **Breakaway force $F_L$ [N]** | 2.00 | | 3.00 | |

### 9.4 Dimensions and specifications of HT150L




| | | | |
|---|---|---|---|
| $L_S$ | Carriage plate | R | Right |
| L | Left | 1a + 1b | Block lubrication connectors |

1) Does not apply to version with energy chain 2) Drive interface shown: Option "D"; for other versions, see section 22.4 from page 225

3) Internal measuring system always on the right side of the axis. The positive direction of travel depends on the selected measuring system, see section 21.2 from page 158

Table 9.7 **HT150L dimensions**

| | Variant without cover | | Variant with cover | |
|---|---|---|---|---|
| **Motor size** | **A12** | **A13** | **A12** | **A13** |
| **Total carriage length $L_c$ [mm]** | 290 | 389 | 385 | 484 |
| **Cover strip deflection A [mm]** | – | – | 48 | 48 |
| **Switch distance $B_1$ [mm]** | 138 | 138 | 185.5 | 185.5 |
| **Switch distance $B_2$ [mm]** | 73 | 172 | 121 | 220 |
| **Max. stroke length $L_{ST}$ [mm]** | 5,450 | 5,351 | 5,355 | 5,256 |
| **Total length $L_T$ [mm]** | $L_T = L_{ST} + 380$ | $L_T = L_{ST} + 479$ | $L_T = L_{ST} + 475$ | $L_T = L_{ST} + 574$ |

Table 9.8 **Load data**

| | Motor size A12 | Motor size A13 |
|---|---|---|
| **$F_{ydynmax}$ [1] [N]** | 3,350 | 3,350 |
| **$F_{zdynmax}$ [1] [N]** | 4,270 | 3,789 |
| **$M_{xdynmax}$ [Nm]** | 201 | 178 |
| **$M_{ydynmax}$ [Nm]** | 414 | 555 |
| **$M_{zdynmax}$ [Nm]** | 325 | 491 |
| **z [2] [mm]** | 51.5 | 51.5 |

[1] Force must only act free of torque
[2] Carriage upper edge – centre guide
See section 3.3.2 on page 17 (lifetime reference value)

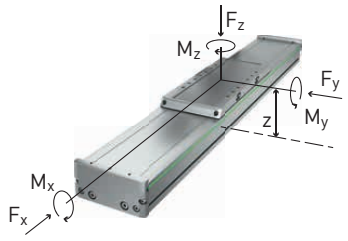



Table 9.9 **General technical data**

| | |
|---|---|
| **Repeatability [2] [mm]** | ± 0.005 |
| **Max. speed [m/s]** | 5 |
| **Typical load capacity [kg]** | 80 |
| **Maximum total length [2] [3] [mm]** | 5,830 |
| **Flatness [1] [mm/300 mm]** | ± 0.03 |
| **Straightness [1] (mm/300 mm]** | ± 0.03 |
| **Area moment of inertia of profile cross section $I_x$ [mm⁴]** | 907,754 |
| **Area moment of inertia of profile cross section $I_y$ [mm⁴]** | 7,417,610 |

[1] Values apply with correspondingly specified screw-on surface or mounting plate
[2] Depending on distance measuring system (chapter 21) and energy chain (section 22.4)
[3] Long axes on request

Table 9.10 **Guide**

| | |
|---|---|
| **Guide type** | QEH15CA |
| **Static load rating $C_0$ [N]** | 15,280 |
| **Dynamic load rating $C_{dyn}$ [N]** | 12,530 |

Table 9.11 **Drive**

| | Motor size A12 | Motor size A13 |
|---|---|---|
| **Motor type** | LMSA12 | LMSA13 |
| **Continuous force [N]** | 205 | 308 |
| **Peak force [N]** | 579 | 868 |
| **Max. acceleration [m/s²]** | 60 | 80 |

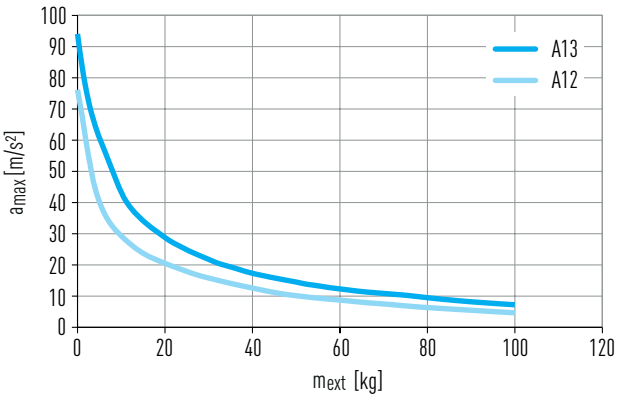



Fig. 9.3 **Max. acceleration $a_{max}$ as a function of the external payload $m_{ext}$**

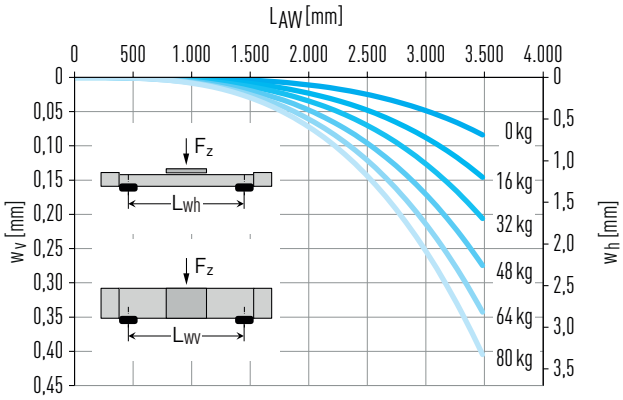
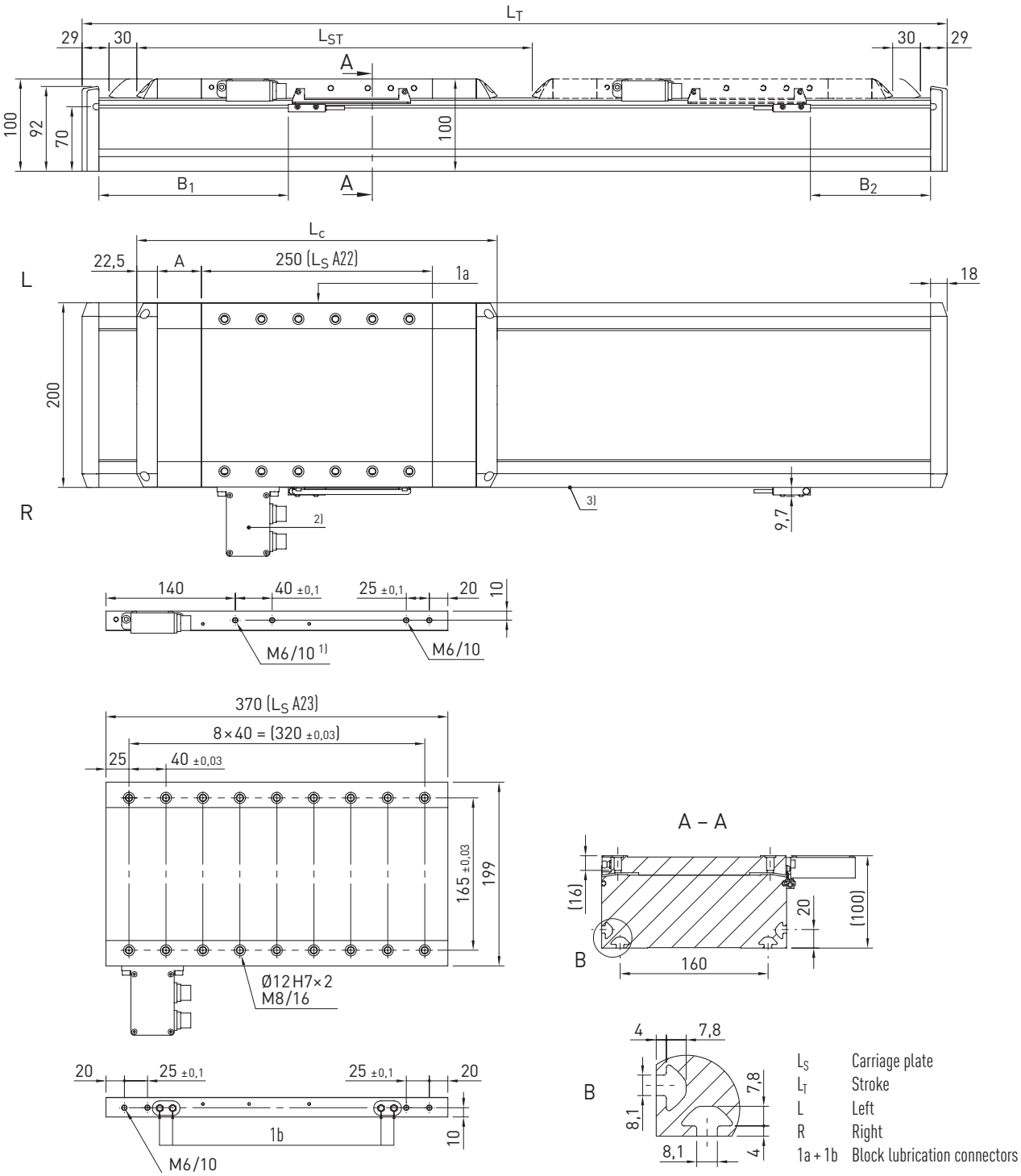



Fig. 9.4 **Deflection w over unsupported axis length $L_{AW}$ under load capacity $F_z$**

Table 9.12 **Mechanical properties**

| | Variant without cover | | Variant with cover | |
|---|---|---|---|---|
| | **Motor size A12** | **Motor size A13** | **Motor size A12** | **Motor size A13** |
| **Mass of the carriage [kg]** | 4.33 | 5.97 | 4.80 | 6.45 |
| **Mass at 0-stroke [kg]** | 9.80 | 12.77 | 11.56 | 14.57 |
| **Mass per 1 m stroke [kg/m]** | 13.31 | | 13.59 | |
| **Breakaway force $F_L$ [N]** | 3.00 | | 4.00 | |

### 9.5 Dimensions and specifications of HT200L




| | |
|---|---|
| $L_S$ | Carriage plate |
| $L_T$ | Stroke |
| L | Left |
| R | Right |
| 1a + 1b | Block lubrication connectors |

1) Omitted for variant with energy chain 2) Drive interface shown: Option "D"; for other series, see section 22.4 from page 225

3) Internal measuring system always on the right side of the axis. The positive direction of travel depends on the selected measuring system, see section 21.2 from page 158

Table 9.13 **HT200L dimensions**

| | Variant without cover | | Variant with cover | |
|---|---|---|---|---|
| **Motor size** | **A22** | **A23** | **A22** | **A23** |
| **Total carriage length $L_c$ [mm]** | 295 | 415 | 390 | 510 |
| **Cover strip deflection A [mm]** | – | – | 48 | 48 |
| **Switch distance $B_1$ [mm]** | 156.5 | 156.5 | 204 | 204 |
| **Switch distance $B_2$ [mm]** | 82 | 202 | 129 | 249 |
| **Max. stroke length $L_{ST}$ [mm]** | 5,423 | 5,303 | 5,328 | 5,208 |
| **Total length $L_T$ [mm]** | $L_T = L_{ST} + 413$ | $L_T = L_{ST} + 533$ | $L_T = L_{ST} + 508$ | $L_T = L_{ST} + 628$ |

Table 9.14 **Load data**

| | Motor size A22 | Motor size A23 |
|---|---|---|
| **$F_{ydynmax}$ [1] [N]** | 7,800 | 7,800 |
| **$F_{zdynmax}$ [1] [N]** | 10,602 | 9,640 |
| **$M_{xdynmax}$ [Nm]** | 721 | 656 |
| **$M_{ydynmax}$ [Nm]** | 1,007 | 1,494 |
| **$M_{zdynmax}$ [Nm]** | 741 | 1,209 |
| **z [2] [mm]** | 58.5 | 58.5 |

[1] Force must only act free of torque
[2] Carriage upper edge – centre guide
See section 3.3.2 on page 17 (lifetime reference value)

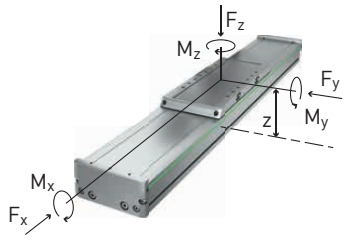



Table 9.15 **General technical data**

| | |
|---|---|
| **Repeatability [mm] [2]** | ± 0.005 |
| **Max. speed [m/s]** | 5 |
| **Typical load capacity [kg]** | 150 |
| **Maximum total length [2] [3] [mm]** | 5,836 |
| **Flatness [1] [mm/300 mm]** | ± 0.03 |
| **Straightness [1] [mm/300 mm]** | ± 0.03 |
| **Area moment of inertia of profile cross section $I_x$ [mm⁴]** | 2,071,928 |
| **Area moment of inertia of profile cross section $I_y$ [mm⁴]** | 19,658,810 |

[1] Values apply with specified screw-on surface or mounting plate
[2] Depending on distance measuring system (chapter 21) and energy chain (section 22.4)
[3] Long axes on request

Table 9.16 **Guide**

| | |
|---|---|
| **Guide type** | QHH20CA |
| **Static load rating $C_0$ [N]** | 33,860 |
| **Dynamic load rating $C_{dyn}$ [N]** | 30,000 |

Table 9.17 **Drive**

| | Motor size A22 | Motor size A23 |
|---|---|---|
| **Motor type** | LMSA22 | LMSA23 |
| **Continuous force [N]** | 362 | 544 |
| **Peak force [N]** | 1,023 | 1,535 |
| **Max. acceleration [m/s²]** | 60 | 80 |

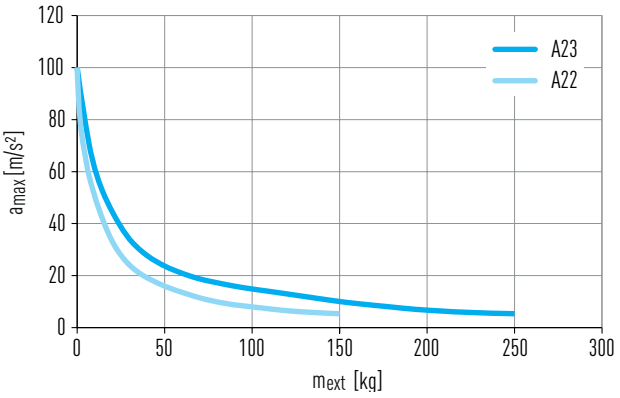



Fig. 9.5 **Max. acceleration $a_{max}$ as a function of the external payload $m_{ext}$**

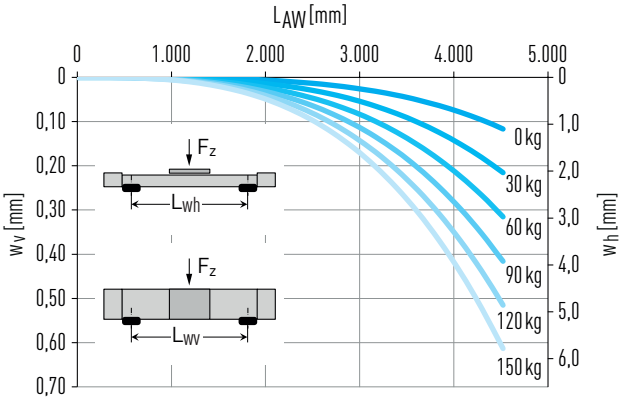
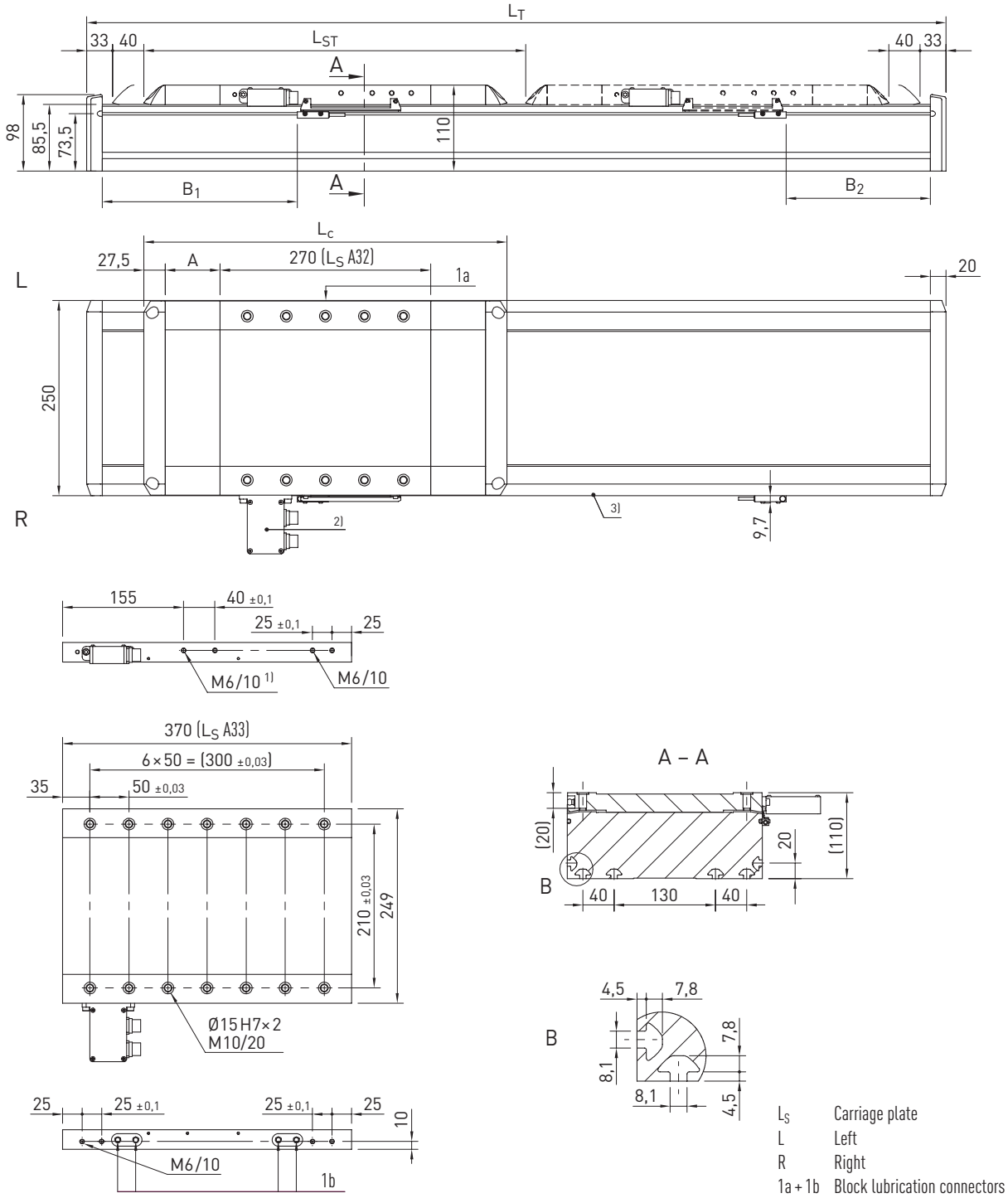



Fig. 9.6 **Deflection w over unsupported axis length $L_{AW}$ under load capacity $F_z$**

Table 9.18 **Mechanical properties**

| | Variant without cover | | Variant with cover | |
|---|---|---|---|---|
| | **Motor size A22** | **Motor size A23** | **Motor size A22** | **Motor size A23** |
| **Mass of the carriage [kg]** | 6.80 | 9.64 | 7.39 | 10.24 |
| **Mass at 0-stroke [kg]** | 16.33 | 21.71 | 18.85 | 24.28 |
| **Mass per 1 m stroke [kg/m]** | 21.49 | | 21.81 | |
| **Breakaway force $F_L$ [N]** | 5.00 | | 7.00 | |

### 9.6 Dimensions and specifications of HT250L




$L_S$ Carriage plate
L Left
R Right
1a + 1b Block lubrication connectors

[1] Omitted for variant with energy chain [2] Drive interface shown: Option "D"; for other series, see section 22.4 from page 225

[3] Internal measuring system always on the right side of the axis. The positive direction of travel depends on the selected measuring system, see section 21.2 from page 158

Table 9.19 **HT250L dimensions**

| | Variant without cover | | Variant with cover | |
|---|---|---|---|---|
| **Motor size** | **A32** | **A33** | **A32** | **A33** |
| **Total carriage length $L_c$ [mm]** | 325 | 425 | 465 | 565 |
| **Cover strip deflection A [mm]** | – | – | 70 | 70 |
| **Switch distance $B_1$ [mm]** | 178.5 | 178.5 | 248.5 | 248.5 |
| **Switch distance $B_2$ [mm]** | 114 | 214 | 184 | 284 |
| **Max. stroke length $L_{ST}$ [mm]** | 5,469 | 5,369 | 5,329 | 5,229 |
| **Total length $L_T$ [mm]** | $L_T = L_{ST} + 471$ | $L_T = L_{ST} + 571$ | $L_T = L_{ST} + 611$ | $L_T = L_{ST} + 711$ |

Table 9.20 **Load data**

| | Motor size A32 | Motor size A33 |
|---|---|---|
| **$F_{ydynmax}$ [1] [N]** | 11,600 | 11,600 |
| **$F_{zdynmax}$ [1] [N]** | 14,160 | 13,165 |
| **$M_{xdynmax}$ [Nm]** | 1,249 | 1,126 |
| **$M_{ydynmax}$ [Nm]** | 1,424 | 1,942 |
| **$M_{zdynmax}$ [Nm]** | 1,131 | 1,711 |
| **z [2] [mm]** | 68.0 | 68.0 |

[1] Force must only act free of torque
[2] Carriage upper edge – centre guide
See section 3.3.2 on page 17 (lifetime reference value)

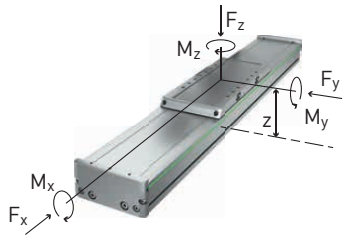



Table 9.21 **General technical data**

| | |
|---|---|
| **Repeatability [2] [mm]** | ± 0.005 |
| **Max. speed [m/s]** | 5 |
| **Typical load capacity [kg]** | 250 |
| **Maximum total length [2] [3] [mm]** | 5,940 |
| **Flatness [1] [mm/300 mm]** | ± 0.03 |
| **Straightness [1] [mm/300 mm]** | ± 0.03 |
| **Area moment of inertia of profile cross section $I_x$ [mm⁴]** | 3,265,771 |
| **Area moment of inertia of profile cross section $I_y$ [mm⁴]** | 39,262,043 |

[1] Values apply with correspondingly specified screw-on surface or mounting plate
[2] Depending on distance measuring system (chapter 21) and energy chain (section 22.4)
[3] Long axes on request

Table 9.22 **Guide**

| | |
|---|---|
| **Guide type** | QHH25CA |
| **Static load rating $C_0$ [N]** | 48,750 |
| **Dynamic load rating $C_{dyn}$ [N]** | 41,900 |

Table 9.23 **Drive**

| | Motor size A32 | Motor size A33 |
|---|---|---|
| **Motor type** | LMSA32 | LMSA33 |
| **Continuous force [N]** | 583 | 875 |
| **Peak force [N]** | 1,646 | 2,469 |
| **Max. acceleration [m/s²]** | 60 | 80 |

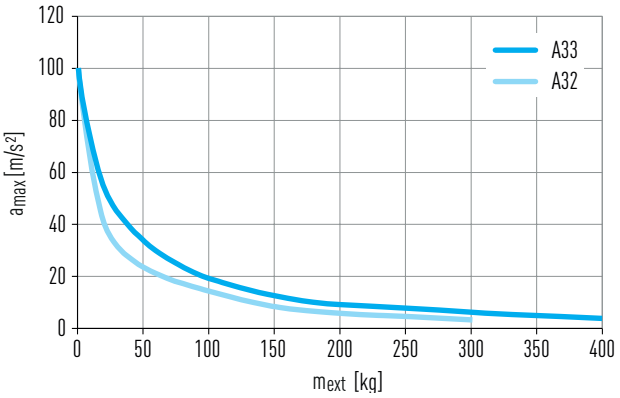



Fig. 9.7 **Max. acceleration $a_{max}$ as a function of the external payload $m_{ext}$**

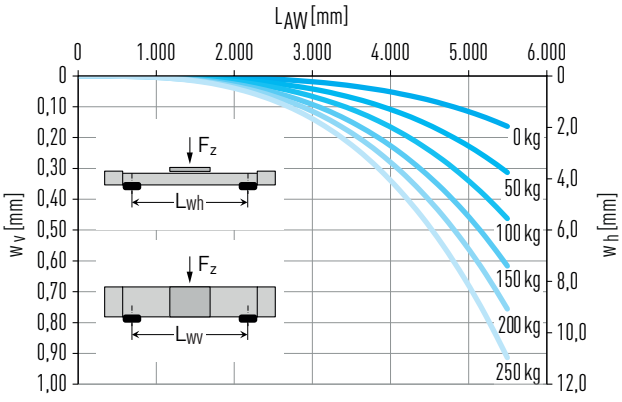



Fig. 9.8 **Deflection w over unsupported axis length $L_{AW}$ under load capacity $F_z$**

Table 9.24 **Mechanical properties**

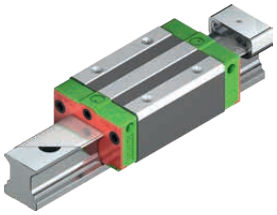
| | Variant without cover | | Variant with cover | |
|---|---|---|---|---|
| | **Motor size A32** | **Motor size A33** | **Motor size A32** | **Motor size A33** |
| **Mass of the carriage [kg]** | 11.58 | 15.77 | 12.98 | 17.17 |
| **Mass at 0-stroke [kg]** | 26.35 | 33.57 | 31.58 | 38.85 |
| **Mass per 1 m stroke [kg/m]** | 30.15 | | 30.54 | |
| **Breakaway force $F_t$ [N]** | 8.00 | | 10.00 | |

## 10. Bridge axes HB-B

### 10.1 Features of the HB-B bridge axes with toothed belt drive

The HIWIN bridge axes with toothed belt drive are flexible positioning modules with an integrated HIWIN double guide in O-arrangement. They are particularly suitable for applications where high feed force and high speeds are required.

**Linear guideway**
A high-quality HIWIN double guide safely transfers forces and torques from the carriage to the axis profile. Four blocks are used per carriage, which are guided on a two parallel, high-precision profile rails. The O arrangement of the balls ensures high torque load capacity and high load ratings.



**Drive adaptation**
Thanks to its symmetrical design, the HIWIN the HIWIN bridge axis with toothed belt drive allows motors and gearboxes to be mounted on all four sides of the drive blocks. Suitable adapters for all common motors can be found in section 22.1 from page 159.

**Toothed belt**
The toothed belt with modern high performance profiles (HTD shape) and reinforced steel tension members enables high power transmission while offering high skip resistance.

**Energy chain**
Generously dimensioned energy chains provide space for safely carrying the supply lines. They are extremely compact and save space when attached to the axis. For details on the orientation of the energy chain, see section 22.4 from page 225.

**Carriage**
The carriages have additional bore holes on each mounting hole to ensure ideal, reproducible alignment of the adjacent construction. You will find the matching centring sleeves in the accessories on Page 231.
A grease nipple is provided on the carriage for each lubrication point for convenient maintenance of the linear axis.

### 10.2 Order code for bridge axes HB-B

| HB | 250 | B | 392 | N | 1234 | S |
|---|---|---|---|---|---|---|

**HIWIN bridge axes**

**Size (profile width):**
250: 250 mm

**Drive type:**
B: Toothed belt drive

**Carriage length:**
S: Short

**Stroke length [mm]**

**Cover strip:**
N: Without cover strip

**Feed constant [mm/U]:**
392: HB250B

Continuation, order code for bridge axes HB-B

| A | N | N | R | BR13 | G1205 |
|---|---|---|---|---|---|

**Axis limit switch**[5]**:**
N: Without limit switch
A: 2 × normally closed, 100 mm cable, connector
B: 2 × normally open, 100 mm cable, connector
C: 2 × normally closed, 4 m open cable end
D: 2 × normally open, 5 m open cable end

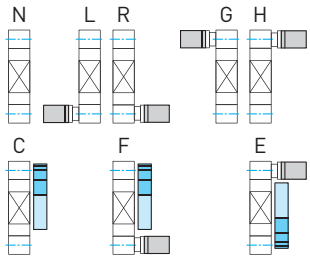
**Toothed belt:**
N: Standard belt

**Distance measuring system option**[1]**:**
N: Without distance measuring system
A: HIWIN MAGIC, analogue, 1 $V_{SS}$ sin/cos, 5 m open cable end
D: HIWIN MAGIC, digital, TTL 5 V, 5 m open cable end

**Gearbox**[4]

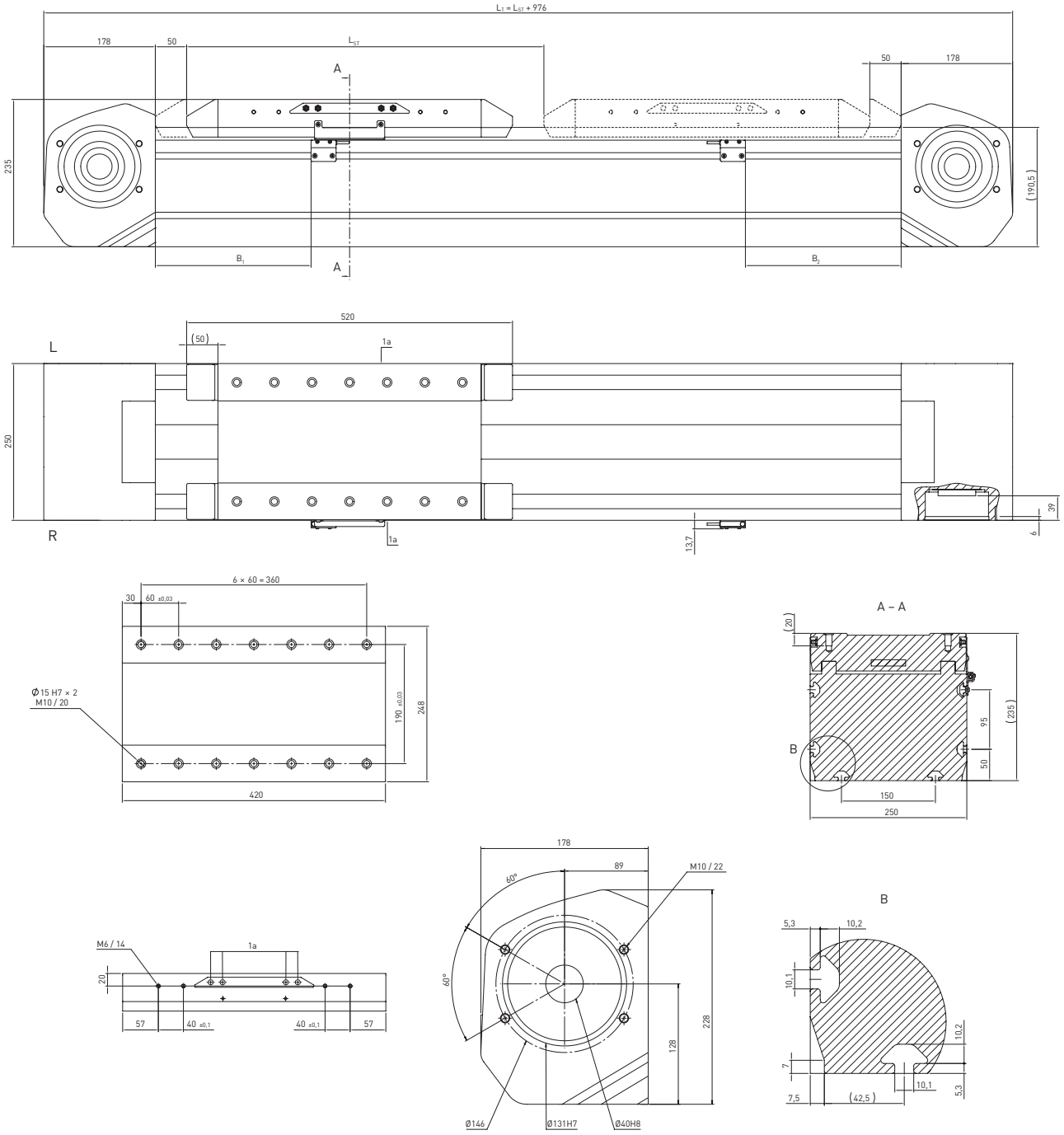
**Flange type**[3]

**Drive interface**[2] [6]**:**
N: Without
L: Left front
R: Right front
G: Left rear
H: Right rear
C: Without, with energy chain on the rights
F: Right front, with energy chain on the right
E: Right rear, with energy chain on the right




[1] More detailed information in chapter 21 from page 156 or in the "HIWIN MAGIC Distance Measuring Systems" assembly instructions".
[2] If no drive interface is selected, the order code ends after this point.
[3] All flange types can be found in tableTable 22.3 from page 172. If no gearbox is selected, the order code ends after this point.
[4] You can find suitable gearboxes for the HIWIN axes in section 22.1.4.5 from page 188.
[5] Additional reference switches on request.
[6] Dimensions of the drive interface and the energy chain can be found on pagePage 208.

### 10.3 Dimensions and specifications of HB250B




| | | | |
|---|---|---|---|
| $L_S$ | Carriage plate | R | Right |
| L | Left | 1a + 1b | Block lubrication connectors |

[1] Omitted for variant with energy chain [2] Drive interface shown: Option "D"; for other series, see section 22.4 from page 225

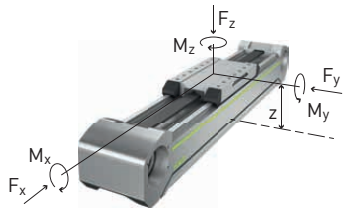
[3] Internal measuring system always on the right side of the axis. The positive direction of travel depends on the selected measuring system, see section 21.2 from page 158

Table 10.1 **HB250B dimensions**

| | |
|---|---|
| **Total carriage length $L_c$ [mm]** | 520 |
| **Switch distance $B_1$ [mm]** | 248.5 |
| **Switch distance $B_2$ [mm]** | 248.5 |
| **Max. stroke length $L_{ST}$ [mm]** | 5,280 |
| **Total length $L_T$ [mm]** | $L_T = L_{ST} + 976$ |

| Table 10.2 **Load data** | |
|---|---|
| $F_{ydynmax}$ [1)2)] [N] | 11,600 |
| $F_{zdynmax}$ [2)] [N] | 16,913 |
| **$M_{xdynmax}$ [Nm]** | 1,607 |
| **$M_{ydynmax}$ [Nm]** | 2,461 |
| **$M_{zdynmax}$ [Nm]** | 1,688 |
| **z [2)] [mm]** | 54.3 |

1) Force must only act free of torque
2) Carriage upper edge – centre guide
See section 3.3.2 on page 17 (lifetime reference value)




| Table 10.3 **General technical data** | |
|---|---|
| **Repeatability [1)] [mm]** | ± 0.05 |
| **Max. feed force $Fx_{max}$ [N]** | 5,775 |
| **Max. speed [m/s]** | 5 |
| **Max. acceleration [m/s²]** | 30 |
| **Max. drive torque $Ma_{max}$ [Nm]** | 360 |
| **Typical load capacity [kg]** | 350 |
| **Maximum total length [2) 3)] [mm]** | 6,256 |
| **Area moment of inertia of profile cross section $I_x$ [mm⁴]** | 34,509,373 |
| **Area moment of inertia of profile cross section $I_y$ [mm⁴]** | 80,997,444 |

1) Values apply with correspondingly specified mounting surface or mounting plate
2) Dependent on stroke measuring system (chapter 17) and energy chain (section 18.4)
3) Longer axes on request

| Table 10.4 **Guide** | |
|---|---|
| **Guide type** | CGH25HA |
| **Static load rating $C_0$ [N]** | 54,080 |
| **Dynamic load rating $C_{dyn}$ [N]** | 40,500 |

| Table 10.5 **Drive** | |
|---|---|
| **Drive element** | b55HTD14 |
| **Feed constant [mm/U]** | 392 |
| **Effective diameter of toothed belt pulley [mm]** | 124.78 |

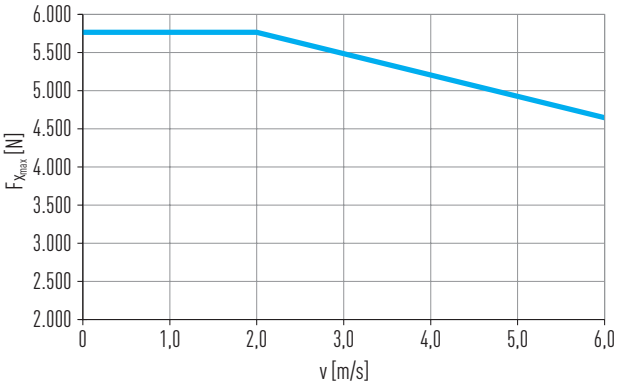



Fig. 10.1 **Max. Feed force $Fx_{max}$ as a function of the axis speed v**

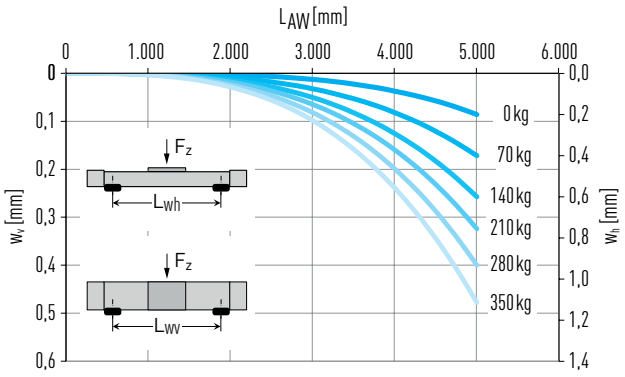



Fig. 10.2 **Deflection w over unsupported axle length $L_{AW}$ under payload $F_z$**

| Table 10.6 **Mechanical properties** | |
|---|---|
| **Mass of the carriage [kg]** | 12.92 |
| **Mass at 0-stroke [kg]** | 74.21 |
| **Mass per 1 m stroke [kg/m]** | 39.60 |
| **$J_{rot.}$ [1)] [kgcm²]** | 155.51 |
| **Breakaway force $F_L$ [N]** | 7.00 |

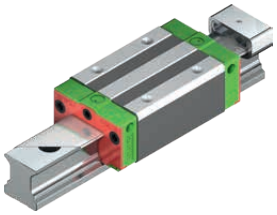
1) Rotational moment of inertia

## 11. Bridge axes HB-R

### 11.1 Features of the HB-R bridge axes with rack and pinion drive

The HIWIN bridge axes with rack and pinion drive are flexible positioning modules with an integrated HIWIN double guide in O-arrangement. They are particularly suitable for applications where high positioning accuracy and high speeds are required.

**Linear guideway**
A high-quality HIWIN double guide safely transfers forces and torques from the carriage to the axis profile. Four blocks are used per carriage, which are guided on a two parallel, high-precision profile rails. The O arrangement of the balls ensures high torque load capacity and high load ratings.



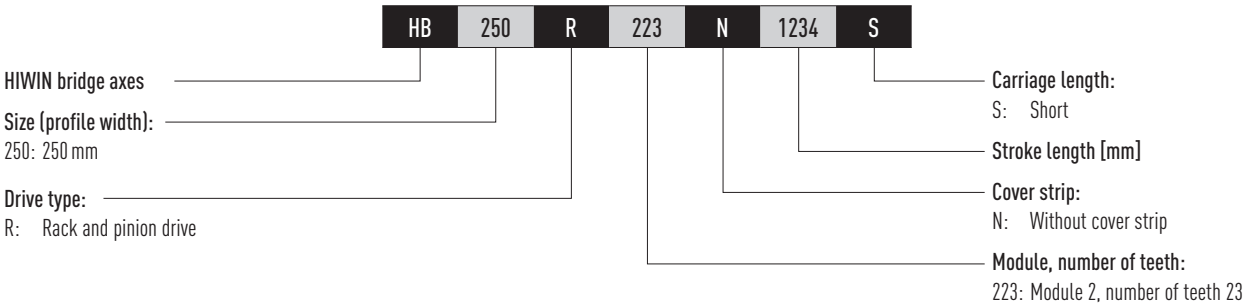
**Drive adaptation**
Thanks to its symmetrical design, the HIWIN the HIWIN bridge axis with toothed belt drive allows motors and gearboxes to be mounted on all four sides of the drive blocks. Suitable adapters for all common motors can be found in section 22.1 from page 159.

**Rack and pinion**
The rack and pinion ensures precise positioning, smooth running, high efficiency and maximum power density. The integrated lubrication pinion ensures that the rack and pinion drive is supplied with grease.

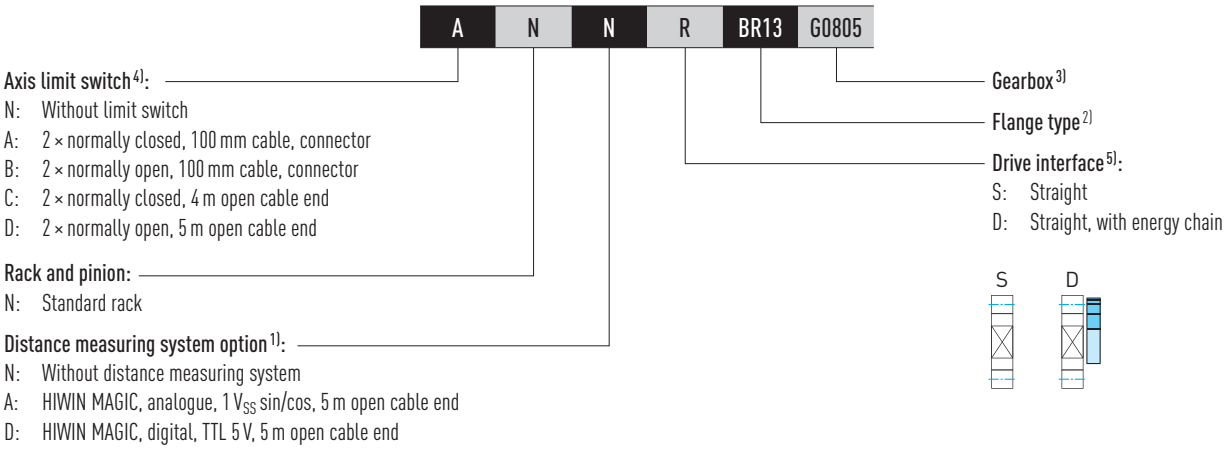
**Energy chain**
Generously dimensioned energy chains provide space for safely carrying the supply lines. They are extremely compact and save space when attached to the axis. For details on the orientation of the energy chain, see section 22.4 from page 225.

**Carriage**
The carriages have additional bore holes on each mounting hole to ensure ideal, reproducible alignment of the adjacent construction. You will find the matching centring sleeves in the accessories on Page 231.
A grease nipple is provided on the carriage for each lubrication point for convenient maintenance of the linear axis.

### 11.2 Order code for bridge axes HB-R

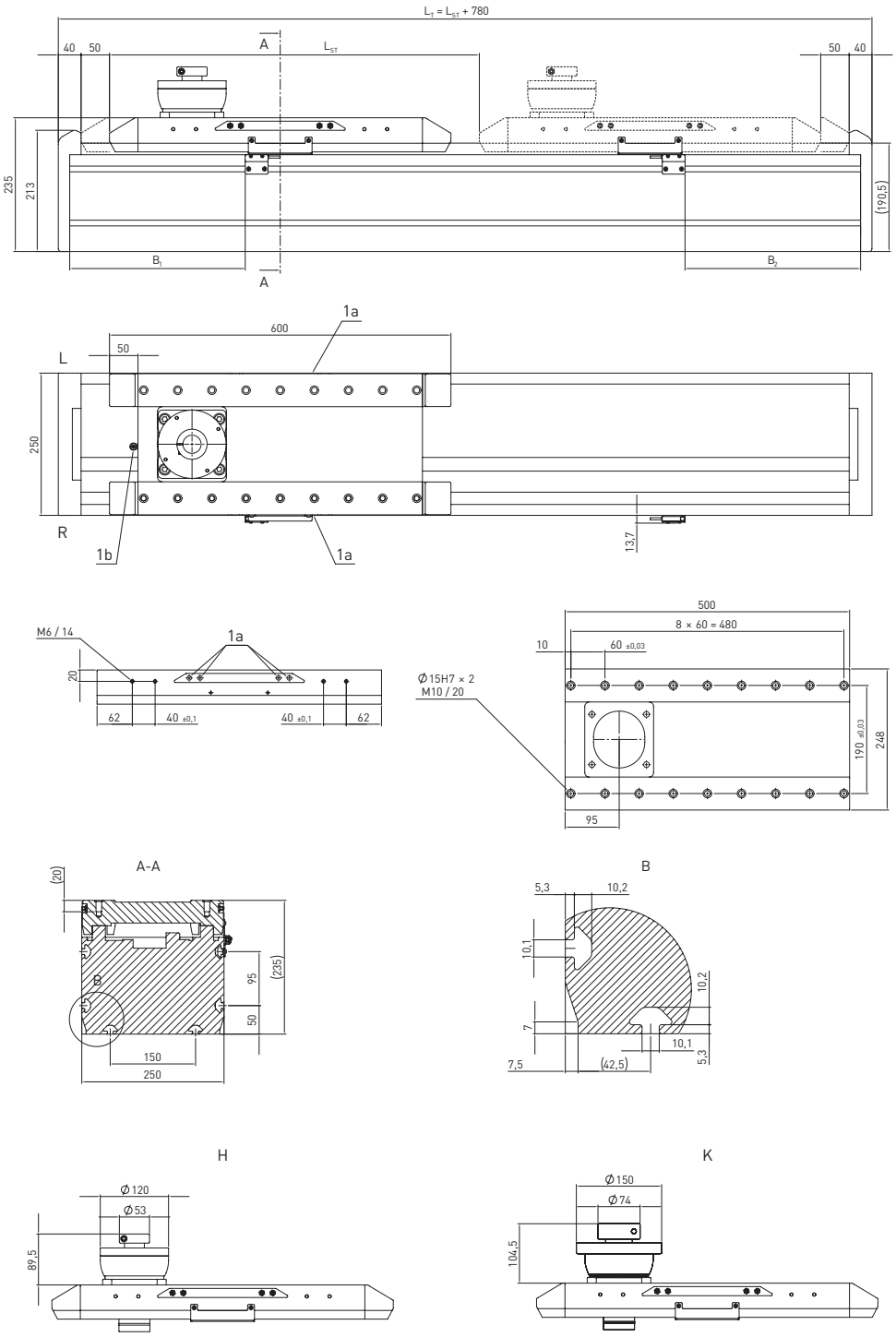



Continuation, order code for bridge axes HB-R




[1] More detailed information in chapter 21 from page 156 or in the "HIWIN MAGIC Distance Measuring Systems" assembly instructions".
[3] All flange types can be found in tableTable 22.3 from page 172. If no gearbox is selected, the order code ends after this point.
[4] You can find suitable gearboxes for the HIWIN axes in section 22.1.4.5 from page 188.
[5] Additional reference switches on request.
[6] Dimensions of the drive interface and the energy chain can be found on pagePage 208.

### 11.3 Dimensions and specifications of HB250R




| | | | |
|---|---|---|---|
| $L_S$ | Carriage plate | R | Right |
| L | Left | 1a + 1b | Block lubrication connectors |

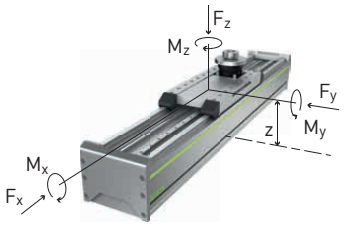
[1] Omitted for variant with energy chain [2] Drive interface shown: Option "D"; for other series, see section 22.4 from page 225

[3] Internal measuring system always on the right side of the axis. The positive direction of travel depends on the selected measuring system, see section 21.2 from page 158

| Table 11.1 **HB250R dimensions** | |
|---|---|
| **Total carriage length $L_c$ [mm]** | 600 |
| **Switch distance $B_1$ [mm]** | 308.5 |
| **Switch distance $B_2$ [mm]** | 308.5 |
| **Max. stroke length $L_{ST}$ [mm]** | 5,160 |
| **Total length $L_T$ [mm]** | $L_T = L_{ST} + 780$ |

| Table 11.2 **Load data** | |
|---|---|
| $F_{ydynmax}$ [1)2)] [N] | 11,600 |
| $F_{zdynmax}$ [2)] [N] | 13,720 |
| **$M_{xdynmax}$ [Nm]** | 1,303 |
| **$M_{ydynmax}$ [Nm]** | 2,490 |
| **$M_{zdynmax}$ [Nm]** | 2,105 |
| **z [2)] [mm]** | 54.3 |

1) Force must only act free of torque
2) Carriage upper edge – centre guide
See section 3.3.2 on page 17 (lifetime reference value)




| Table 11.3 **General technical data** | |
|---|---|
| **Repeatability [2)] [mm]** | ± 0,05 |
| **Max. feed force $Fx_{max}$ [N]** | 4,300 |
| **Max. speed [m/s]** | 5 |
| **Max. acceleration [m/s²]** | 50 |
| **Max. drive torque $Ma_{max}$ [Nm]** | 104.9 |
| **Typical load capacity [kg]** | 350 |
| **Maximum total length [2) 3)] [mm]** | 5,160 |
| **Area moment of inertia of profile cross section $I_x$ [mm⁴]** | 34,509,373 |
| **Area moment of inertia of profile cross section $I_y$ [mm⁴]** | 80,997,444 |

1) Values apply with correspondingly specified mounting surface or mounting plate
2) Dependent on stroke measuring system (chapter 17) and energy chain (section 18.4)
3) Longer axes on request

| Table 11.4 **Guide** | |
|---|---|
| **Guide type** | CGH25HA |
| **Static load rating $C_0$ [N]** | 54,080 |
| **Dynamic load rating $C_{dyn}$ [N]** | 40,500 |

| Table 11.5 **Rack and pinion** | |
|---|---|
| **Toothing** | Module 2, diagonally toothed |
| **Feed constant [mm/U]** | 153.34 |
| **Effective diameter of pinion [mm]** | 48.81 |
| **Number of teeth pinion** | 23 |

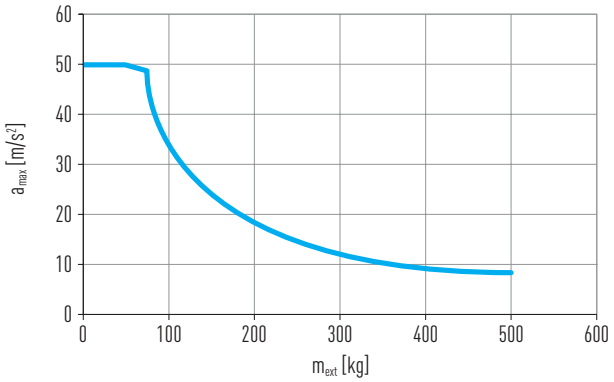



Fig. 11.1 **Max. Acceleration $a_{max}$ as a function of the external payload $m_{ext}$**

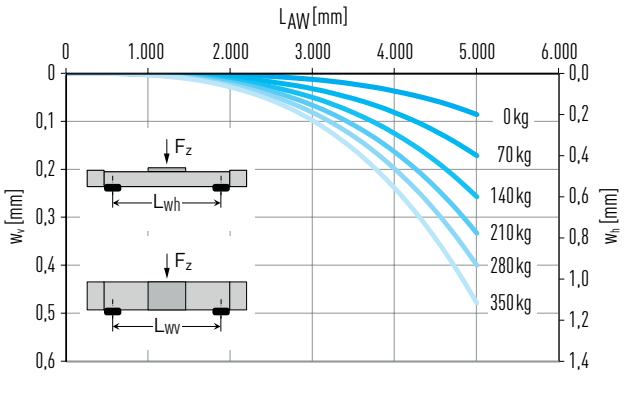
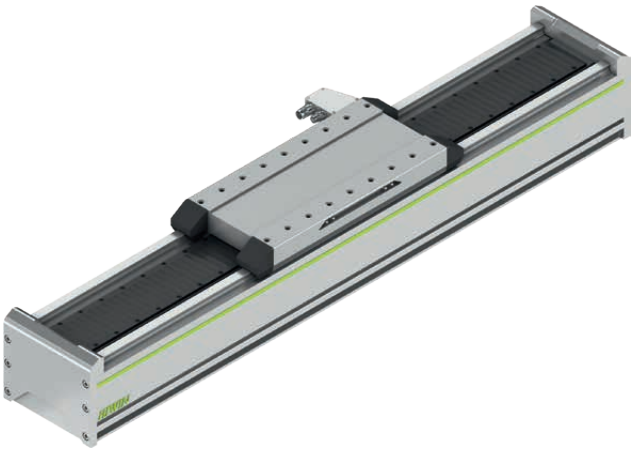



Fig. 11.2 **Deflection w over unsupported axle length $L_{AW}$ under payload $F_z$**

| Table 11.6 **Mechanical properties** | |
|---|---|
| **Mass of the carriage [kg]** | 12.43 |
| **Mass at 0-stroke [kg]** | 48.23 |
| **Mass per 1 m stroke [kg/m]** | 43.42 |
| **Breakaway force $F_t$ [N]** | 20.00 |

1) Rotational moment of inertia

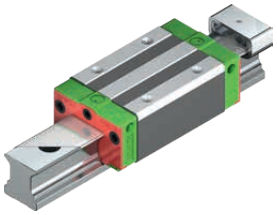
## 12. Bridge axes HB-L



### 12.1 Features of the HB-L bridge axes with linear motor

The HIWIN bridge axes with linear motor drive are flexible positioning modules with an integrated HIWIN double guide in O-arrangement. They are particularly suitable for precise positioning at high speed and high dynamics.

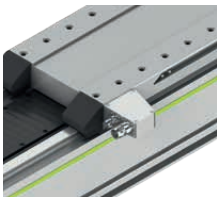
**Linear guideway**
A high-quality HIWIN double guide safely transfers forces and torques from the carriage to the axis profile. Four blocks are used per carriage, which are guided on a two parallel, high-precision profile rails. The O arrangement of the balls ensures high torque load capacity and high load ratings.



**Positioning measuring systems**
The distance measuring system is integrated into the inside of the axis to save space and determines the repeatability. Different measuring systems are available depending on the requirements for measuring method, interface and resolution. You can find more information on Page 156.
Optionally also with functional safety encoder.

**Linear motor**
The integrated HIWIN linear motors ensure dynamic and precise positioning. Two motor sizes are available for each size in order to optimally meet the requirements for the required feed force.

**Electric interface**
The quick-release connectors allow motor and encoder cables to be connected quickly and easily to the side of the carriage without tools. Depending on the installation situation and the desired cable routing, two different orientations of the connector are available as options.



**Carriage**
The carriages have additional bore holes on each mounting hole to ensure ideal, reproducible alignment of the adjacent construction. You will find the matching centring sleeves in the accessories on Page 231.
A grease nipple is provided on the carriage for each lubrication point for convenient maintenance of the linear axis.

**Energy chain**
Generously dimensioned energy chains provide space for safely carrying the supply lines. They are extremely compact and save space when attached to the axis. For details on the orientation of the energy chain, see section 22.4 from page 225.

### 12.2 Order code for bridge axes HB-L

| HB | 250 | L | A34 | N | 1234 | S |
|---|---|---|---|---|---|---|

**HIWIN bridge axes**

**Size (profile width):**
250: 250 mm

**Drive type:**
R: Rack and pinion drive

**Carriage length:**
S: Short

**Stroke length [mm]**

**Cover strip:**
N: Without cover strip

**Feed constant [mm/U]:**
A34: HB250L

Continuation, order code for bridge axes HB-L

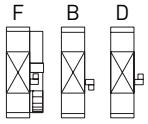
| A | N | A | R |
|---|---|---|---|

**Axis limit switch [3]:**
N: Without limit switch
A: 2 × normally closed, 100 mm cable, connector
B: 2 × normally open, 100 mm cable, connector
C: 2 × normally closed, 4 m open cable end
D: 2 × normally open, 5 m open cable end

**Option clamping and braking element:**
N: Without clamping and braking element (standard)

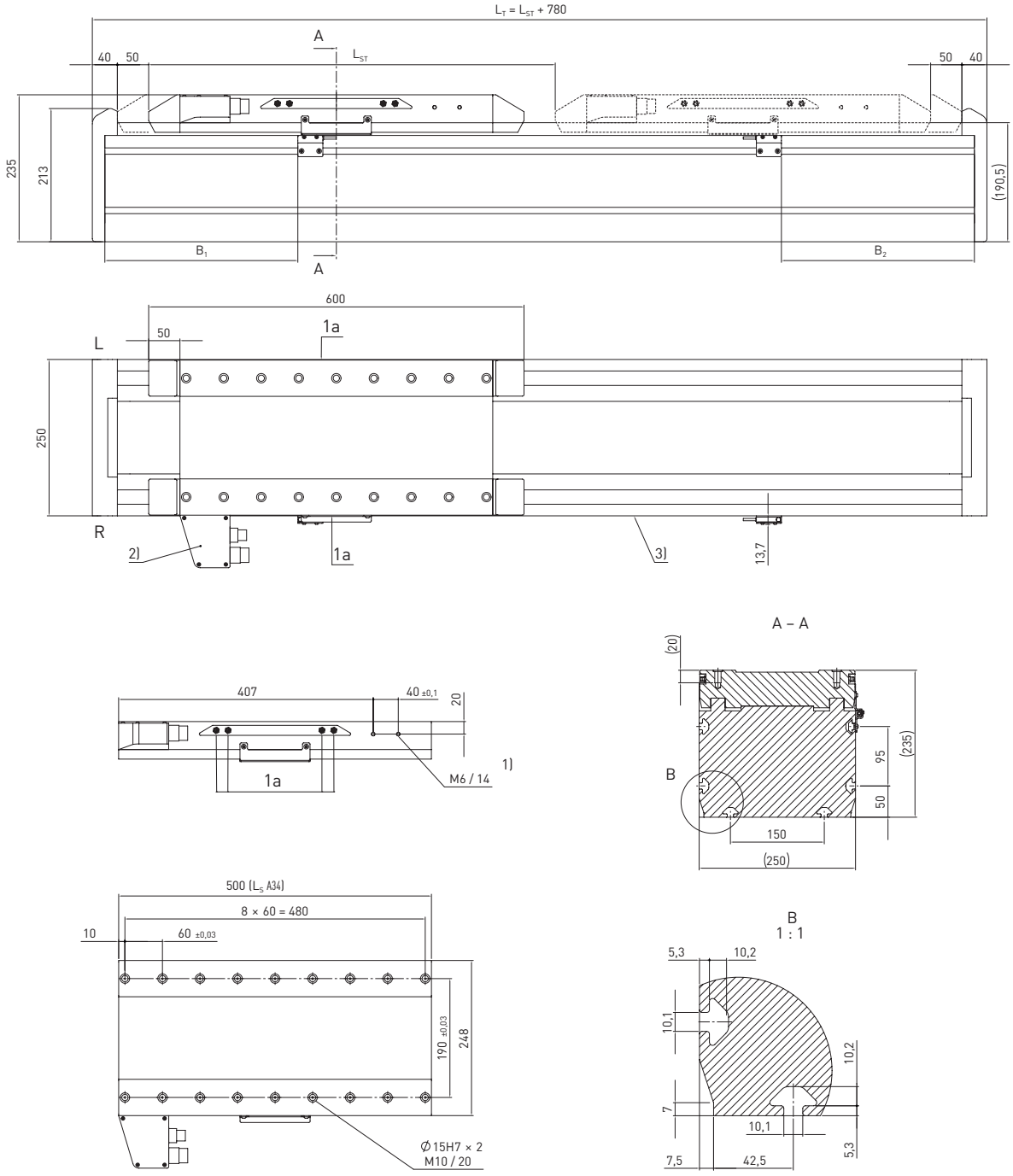
**Distance measuring system option[1]:**
A: HIWIN MAGIC, analogue, 1 $V_{SS}$ sin/cos
D: HIWIN MAGIC, digital, TTL 5 V
R: BML-S1G0, absolute, BiSS-C, 1 $V_{SS}$ sin/cos [4]
S: BML-S1G0, absolute, SSI [5]

**Drive interface [2]:**
F: With energy chain, plug right/rear [5]
B: Without energy chain, plug right/front
D: Without energy chain, plug right/front




[1] More detailed information in chapter 21 from page 156 or in the "HIWIN MAGIC Distance Measuring Systems" assembly instructions".
[2] Details on plug alignment and position of the energy chain in section 22.4 from page 210.
[3] Additional reference switches on request.
[4] The position measuring system has a safety-related, analogue, incremental real-time signal.
[5] Max. possible stroke: 5,000 mm.

### 12.3 Dimensions and specifications of HB250L




| | | | |
|---|---|---|---|
| $L_S$ | Carriage plate | R | Right |
| L | Left | 1a + 1b | Block lubrication connectors |

[1] Omitted for variant with energy chain [2] Drive interface shown: Option "D"; for other series, see section 22.4 from page 225

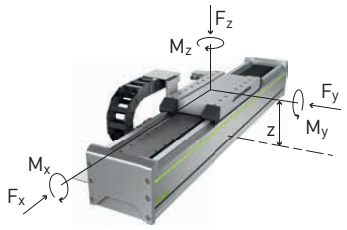
[3] Internal measuring system always on the right side of the axis. The positive direction of travel depends on the selected measuring system, see section 21.2 from page 158

Table 12.1 **HB250L dimensions**

| | |
|---|---|
| **Total carriage length $L_c$ [mm]** | 600 |
| **Switch distance $B_1$ [mm]** | 308.5 |
| **Switch distance $B_2$ [mm]** | 308.5 |
| **Max. stroke length $L_{ST}$ [mm]** | 5,160.0 |
| **Total length $L_T$ [mm]** | $L_T = L_{ST} + 780$ |

| Table 12.2 **Load data** | |
|---|---|
| $F_{ydynmax}$ [1)2)] [N] | 11,136 |
| $F_{zdynmax}$ [2)] [N] | 11,136 |
| **$M_{xdynmax}$ [Nm]** | 1,058 |
| **$M_{ydynmax}$ [Nm]** | 1,670 |
| **$M_{zdynmax}$ [Nm]** | 1,670 |
| **z [2)] [mm]** | 54.3 |

1) Force must only act free of torque
2) Carriage upper edge – centre guide
See section 3.3.2 on page 17 (lifetime reference value)




| Table 12.3 **General technical data** | |
|---|---|
| **Repeatability [2)] [mm]** | ± 0.005 |
| **Max. speed [m/s]** | 4.5 |
| **Max. acceleration [m/s²]** | 80 |
| **Typical load capacity [kg]** | 350 |
| **Maximum total length [2) 3)] [mm]** | 5,940 |
| **Flatness (mm/300mm) [1)]** | ±0.03/300 |
| **Straightness (mm/300mm) [1)]** | ±0.03/300 |
| **Area moment of inertia of profile cross section $I_x$ [mm⁴]** | 34.509.373 |
| **Area moment of inertia of profile cross section $I_y$ [mm⁴]** | 80.997.444 |

1) Values apply with correspondingly specified mounting surface or mounting plate
2) Dependent on stroke measuring system (chapter 17) and energy chain (section 18.4)
3) Longer axes on request

| Table 12.4 **Guide** | |
|---|---|
| **Guide type** | CGH25HA |
| **Static load rating $C_0$ [N]** | 54,080 |
| **Dynamic load rating $C_{dyn}$ [N]** | 40,500 |

| Table 12.5 **Drive** | |
|---|---|
| **Drive element** | LMSA34 |
| **Continuous force [N]** | 1,166 |
| **Peak force [N]** | 3,292 |

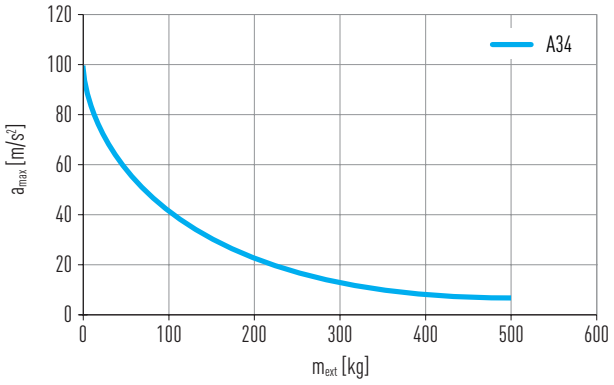



Fig. 12.1 **Max. Acceleration $a_{max}$ as a function of the external payload $m_{ext}$**

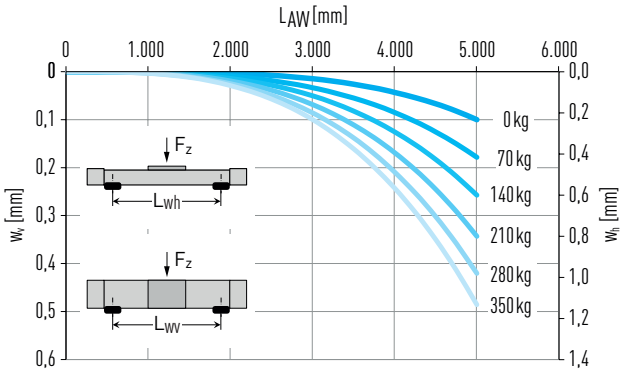



Fig. 12.2 **Deflection w over unsupported axle length $L_{AW}$ under payload $F_z$**

| Table 12.6 **Mechanical properties** | |
|---|---|
| **Mass of the carriage [kg]** | 20.2 |
| **Mass at 0-stroke [kg]** | 59.94 |
| **Mass per 1 m stroke [kg/m]** | 47.66 |
| **Breakaway force 0-stroke axis [N]** | 60 |

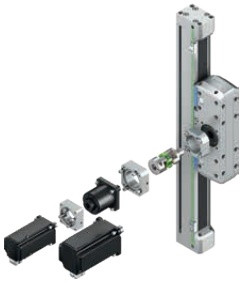
## 13. Cantilever axes HC-B

### 13.1 Properties of cantilever axes HC-B with toothed belt drive

The HIWIN cantilever axes with toothed belt drive are flexible linear units in which the drive block is stationary while the light cantilever moves. They are especially suitable for vertical applications where high dynamics and high speeds are required.

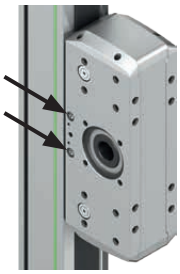
**Linear guideway**
High-quality HIWIN linear guideways with two blocks safely transfer forces and torques from the cantilever to the drive block.
The CG guide with O-arrangement of the ball track also ensures increased rigidity and high torque load capacity in the HC060B, HC080B and HC100B sizes.

**Drive connection**
Thanks to the symmetrical design, the HIWIN cantilever axis allows motors and gearboxes to be mounted on both sides of the drive block.
Additional journals, which are available as accessories (see Page 238), can be used to mount additional drives and outputs.



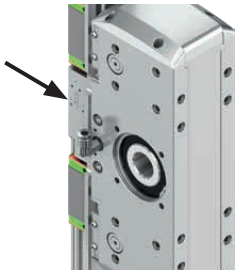
**Toothed belt**
The toothed belt with modern high performance profiles (HTD shape) and reinforced steel tension members enables high power transmission while offering high skip resistance.

**Lubrication**
For convenient maintenance of the linear axis, a separate grease nipple is installed on the left and right of the drive block for each lubrication point. This ensures optimum accessibility for relubrication, even under difficult installation conditions.



**Mounting**
The drive block as well as the interfaces for attaching the load capacity on both sides of the cantilever have additional bore holes on each mounting hole. This ensures ideal, reproducible alignment of the adjacent construction. You will find the matching centring sleeves in the accessories on Page 231.

**Clamping and braking element**
The clamping or braking element can be controlled via a pneumatic connection on the drive block. Clamping onto the profile rail is fail-safe as soon as there is no more compressed air at the connection. Particularly in vertical applications, clamping may be necessary to securely fix the axis at standstill.



### 13.2 Order code for cantilever axes HC-B

| HC | 060 | B | 170 | N | 1234 | S |
|---|---|---|---|---|---|---|

**HIWIN cantilever axis**

**Size (profile width):**
025: 25 mm
040: 40 mm
060: 60 mm
080: 80 mm
100: 100 mm
150: 150 mm

**Drive type:**
B: Toothed belt drive

**Carriage length:**
S: Short

**Stroke length [mm]**

**Cover strip:**
N: Without cover strip

**Feed constant [mm/rev]:**
081: HC025B
123: HC040B
170: HC060B
200: HC080B
280: HC100B
288: HC150B

Continuation, order code for cantilever axes HC-B

| A | N | N | R | HW01 | G0608 |
|---|---|---|---|---|---|

**Axis limit switch**[6]**:**
N: Without limit switch
A: 2 × normally closed, 100 mm cable, connector[1]
B: 2 × normally open, 100 mm cable, connector[1]
C: 2 × normally closed, 4 m open cable end[1]
D: 2 × normally open, 5 m open cable end[1]

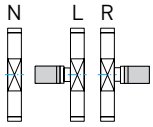
**Clamping and braking element option:**
N: Without holding brake (standard)
C: With 1 pneumatic clamping element (HC060B/HC080B/HC100B/HC150)[7]
B: With 1 pneumatic braking element (HC060B/HC080B/HC100B/HC150)
D: With 2 pneumatic clamping elements (HC150)[7]
E: With 2 pneumatic braking elements (HC150)

**Distance measuring system option**[2]**:**
N: Without distance measuring system
A: HIWIN MAGIC, analogue, 1 $V_{SS}$ sin/cos, 5 m open cable end
D: HIWIN MAGIC, digital, TTL 5 V, 5 m open cable end

**Gearbox**[5]

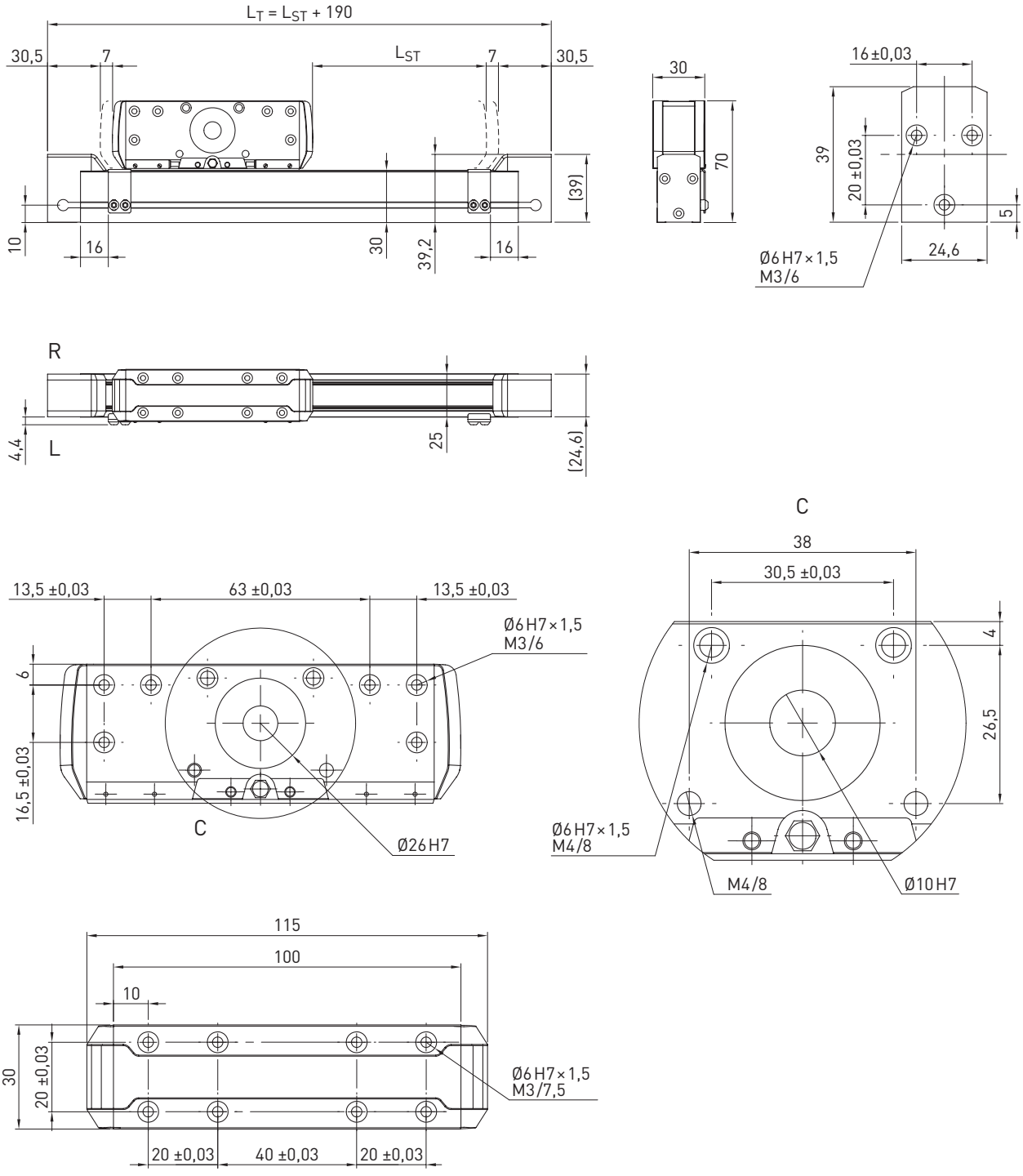
**Motor flange type**[4]

**Drive interface**[3]**:**
N: Without
L: Left
R: Right




[1] HC025B: A: 2 × normally closed, 200 mm cable, connector, C: 2 × normally closed, 2 m open cable end; B and D: not available.
[2] More detailed information in chapter 21 from page 156 or in the "HIWIN MAGIC Distance Measuring Systems" assembly instructions".
[3] If no drive interface is selected, the order code ends after this digit.
[4] You can find all flange types in Table 22.1 from page 160. If no gearbox is selected, the order code ends after this digit.
[5] You can find the right gearbox for the HIWIN axes in section 22.1.5.5 from page 195.
[6] Additional reference switches on request.
[7] The clamping element may only be used when the axis is stationary and not as a brake.

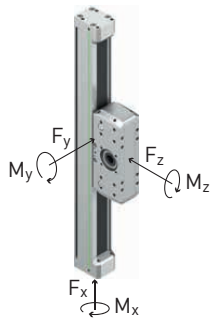
### 13.3 Dimensions and specifications of HC025B




| | |
|---|---|
| $L_{ST}$ | Stroke |
| $L_T$ | Total length |
| L | Left |
| R | Right |

| Table 13.1 **Load data** | |
|---|---|
| **$F_{ydynmax}$ [1] [N]** | 616 |
| **$F_{zdynmax}$ [1] [N]** | 616 |
| **$M_{xdynmax}$ [Nm]** | 2.65 |
| **$M_{ydynmax}$ [Nm]** | 20.65 |
| **$M_{zdynmax}$ [Nm]** | 20.65 |

[1] Force must only act free of torque
See section 3.3.2 on page 17 (lifetime reference value)




| Table 13.2 **General technical data** | |
|---|---|
| **Repeatability [mm]** | ± 0.05 |
| **Max. feed force $F_{x\_max}$ [N]** | 241 |
| **Max. speed [m/s]** | 5 |
| **Max. acceleration [m/s²]** | 30 |
| **Max. drive torque $M_{A\_max}$ [Nm]** | 3.1 |
| **Typical load capacity [kg]** | 2 |
| **Maximum vertical stroke length [mm]** | 300 |
| **Maximum horizontal stroke length [mm]** | 200 |
| **Area moment of inertia of profile cross section $I_x$ [mm⁴]** | 18,706 |
| **Area moment of inertia of profile cross section $I_y$ [mm⁴]** | 19,299 |

| Table 13.3 **Guide** | |
|---|---|
| **Guide type** | MGN09C |
| **Static load rating $C_0$ [N]** | 2,550 |
| **Dynamic load rating $C_{dyn}$ [N]** | 1,860 |

| Table 13.4 **Drive** | |
|---|---|
| **Drive element** | B12HTD3 |
| **Feed constant [mm/U]** | 81 |
| **Toothed belt effective diameter [mm]** | 25.78 |

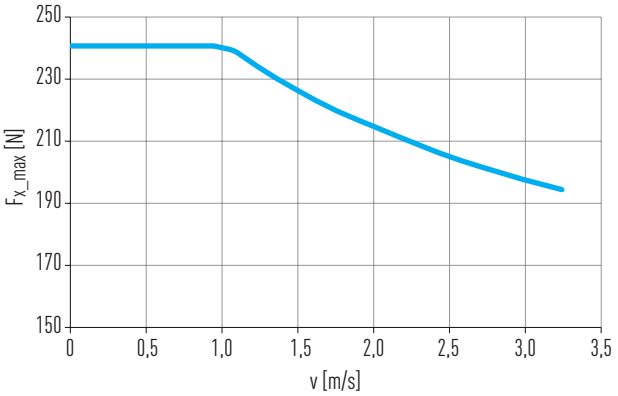



Fig. 13.1 **Max. feed force $F_{x\_max}$ depending on axis speed v**

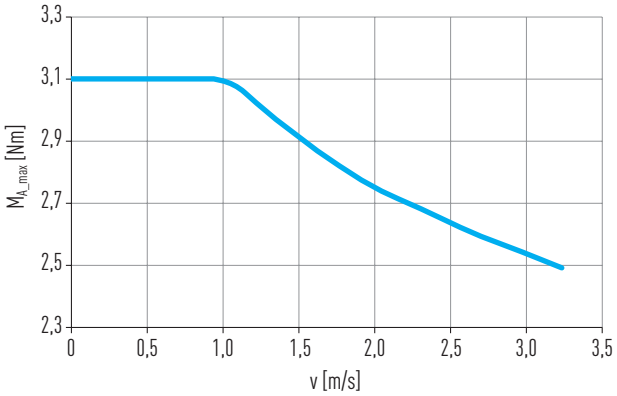
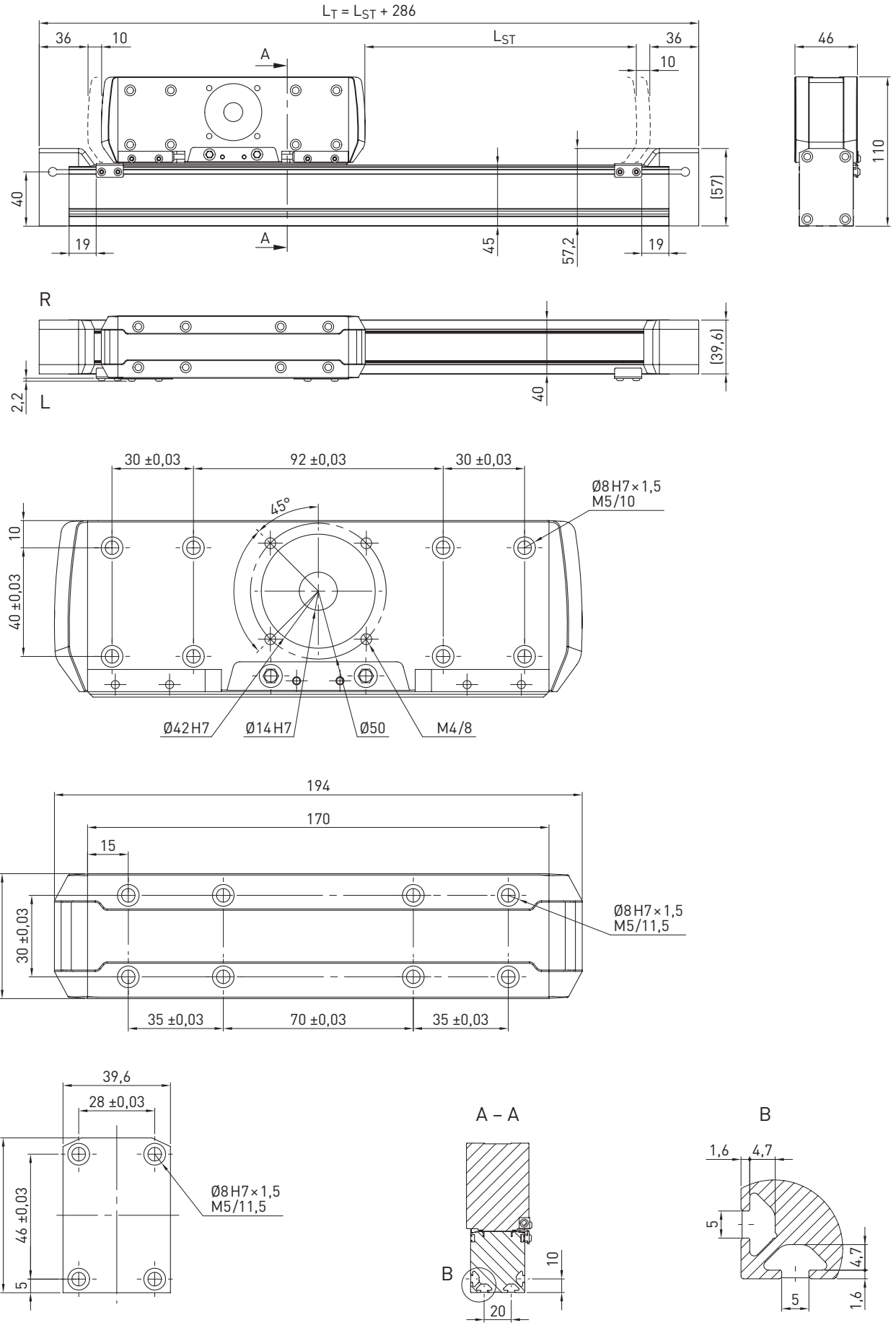



Fig. 13.2 **Max. drive force $M_{A\_max}$ depending on axis speed v**

| Table 13.5 **Mechanical properties** | |
|---|---|
| **Mass at 0-stroke [kg]** | 0.63 |
| **Mass per 100 mm stroke [kg/100 mm]** | 0.13 |
| **Mass of cantilever at 0-stroke [kg]** | 0.30 |
| **Mass of cantilever per 100 mm stroke [kg/100 mm]** | 0.13 |
| **$J_{rot.}$ [1] [kgcm²]** | 0.16 |
| **Idle torque at 0-stroke [Nm]** | 0.15 |

[1] Rotational moment of inertia

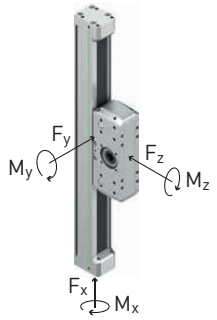
### 13.4 Dimensions and specifications of HC040B




$L_{ST}$ Stroke $L_T$ Total length L Left R Right

| Table 13.6 **Load data** | |
|---|---|
| **$F_{ydynmax}$ [1] [N]** | 1,213 |
| **$F_{zdynmax}$ [1] [N]** | 1,213 |
| **$M_{xdynmax}$ [Nm]** | 10 |
| **$M_{ydynmax}$ [Nm]** | 78 |
| **$M_{zdynmax}$ [Nm]** | 78 |

[1] Force must only act free of torque
See section 3.3.2 on page 17 (lifetime reference value)




| Table 13.7 **General technical data** | |
|---|---|
| **Repeatability [mm]** | ± 0.05 |
| **Max. feed force $F_{x\_max}$ [N]** | 404 |
| **Max. speed [m/s]** | 5 |
| **Max. acceleration [m/s²]** | 30 |
| **Max. drive torque $M_{A\_max}$ [Nm]** | 7.9 |
| **Typical load capacity [kg]** | 8 |
| **Maximum vertical stroke length [mm]** | 500 |
| **Maximum horizontal stroke length [mm]** | 400 |
| **Area moment of inertia of profile cross section $I_x$ [mm⁴]** | 94,400 |
| **Area moment of inertia of profile cross section $I_y$ [mm⁴]** | 102,030 |

| Table 13.8 **Guide** | |
|---|---|
| **Guide type** | MGN15C |
| **Static load rating $C_0$ [N]** | 5,590 |
| **Dynamic load rating $C_{dyn}$ [N]** | 4,610 |

| Table 13.9 **Drive** | |
|---|---|
| **Drive element** | B20HTD3 |
| **Feed constant [mm/U]** | 123 |
| **Toothed belt effective diameter [mm]** | 39.15 |

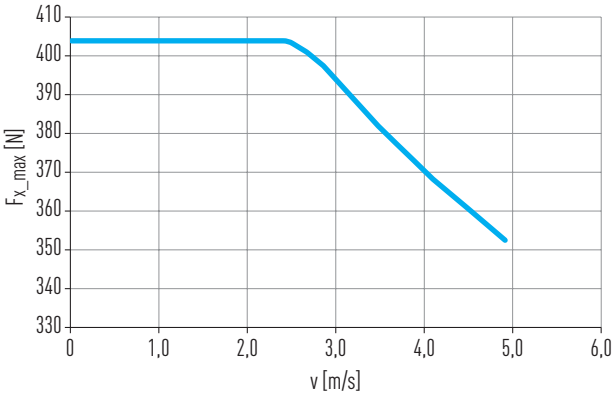



Fig. 13.3 **Max. feed force $F_{x\_max}$ depending on axis speed v**

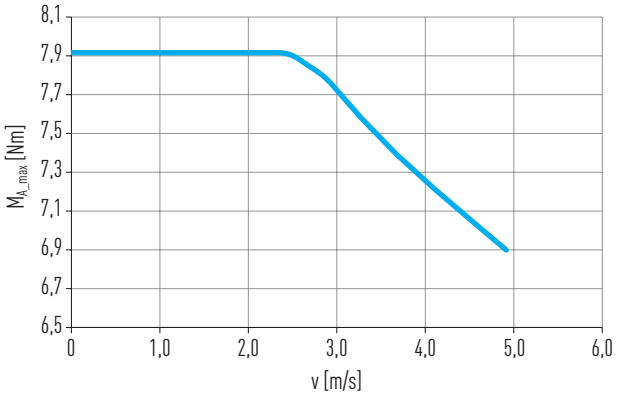
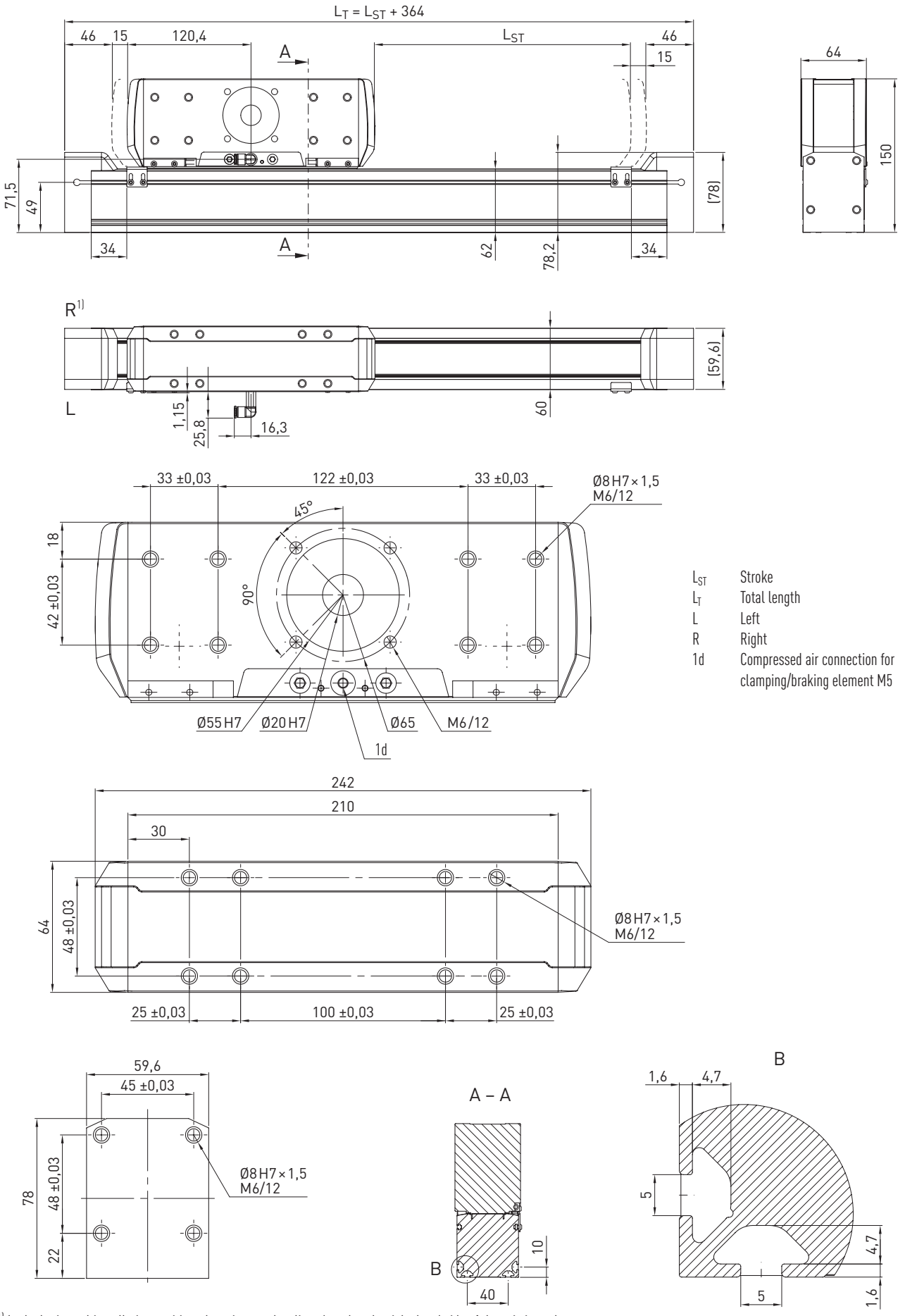



Fig. 13.4 **Max. drive force $M_{A\_max}$ depending on axis speed v**

| Table 13.10 **Mechanical properties** | |
|---|---|
| **Mass at 0-stroke [kg]** | 2.18 |
| **Mass per 100 mm stroke [kg/100 mm]** | 0.28 |
| **Mass of cantilever at 0-stroke [kg]** | 0.92 |
| **Mass of cantilever per 100 mm stroke [kg/100 mm]** | 0.28 |
| **$J_{rot.}$ [1] [kgcm²]** | 0.44 |
| **Idle torque at 0-stroke [Nm]** | 0.20 |

[1] Rotational moment of inertia

### 13.5 Dimensions and specifications of HC060B

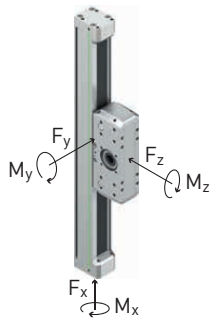



| | |
|---|---|
| $L_{ST}$ | Stroke |
| $L_T$ | Total length |
| L | Left |
| R | Right |
| 1d | Compressed air connection for clamping/braking element M5 |

[1] In the horizontal installation position, the axis must be aligned so that the right-hand side of the axis is at the top.

| Table 13.11 **Load data** | |
|---|---|
| **$F_{ydynmax}$ [1] [N]** | 2,152 |
| **$F_{zdynmax}$ [1] [N]** | 3,378 |
| **$M_{xdynmax}$ [Nm]** | 33 |
| **$M_{ydynmax}$ [Nm]** | 243 |
| **$M_{zdynmax}$ [Nm]** | 155 |

[1] Force must only act free of torque
See section 3.3.2 on page 17 (lifetime reference value)




| Table 13.12 **General technical data** | |
|---|---|
| **Repeatability [mm]** | ± 0.05 |
| **Max. feed force $F_{x\_max}$ [N]** | 997 |
| **Max. speed [m/s]** | 5 |
| **Max. acceleration [m/s²]** | 30 |
| **Max. drive torque $M_{A\_max}$ [Nm]** | 27 |
| **Typical load capacity [kg]** | 16 |
| **Maximum vertical stroke length [mm]** | 800 |
| **Maximum horizontal stroke length [mm]** | 600 |
| **Area moment of inertia of profile cross section $I_x$ [mm⁴]** | 431,271 |
| **Area moment of inertia of profile cross section $I_y$ [mm⁴]** | 536,119 |

| Table 13.13 **Guide** | |
|---|---|
| **Guide type** | CGL15CA |
| **Static load rating $C_0$ [N]** | 19,520 |
| **Dynamic load rating $C_{dyn}$ [N]** | 14,700 |

| Table 13.14 **Drive** | |
|---|---|
| **Drive element** | B30HTD5 |
| **Feed constant [mm/U]** | 170 |
| **Toothed belt effective diameter [mm]** | 54.11 |

| Table 13.15 **Clamping/Braking element** [1] | |
|---|---|
| **Holding force [N]** | 400 |
| **Operating pressure [bar]** | 5.5–6.5 |

[1] The clamping element may only be used when the axis is stationary and not as a brake.

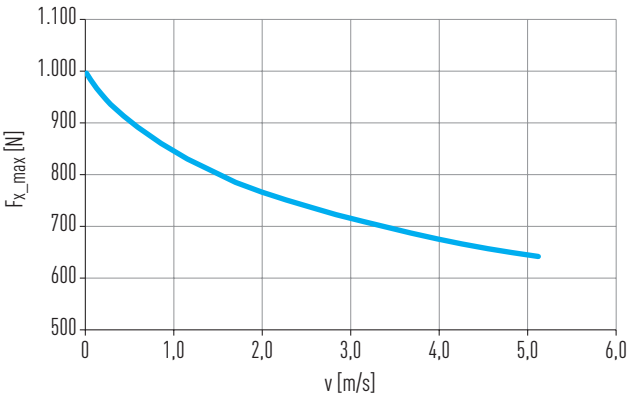



Fig. 13.5 **Max. feed force $F_{x\_max}$ depending on axis speed v**

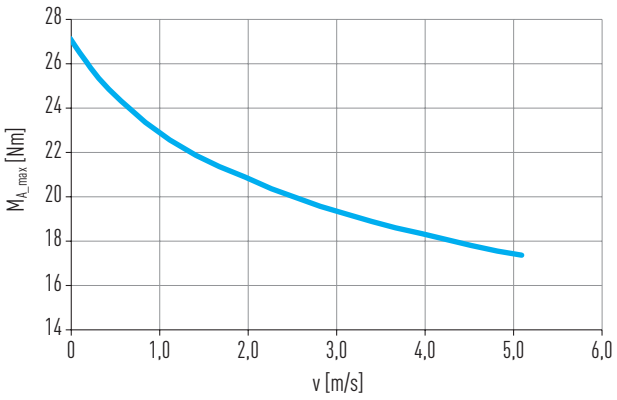
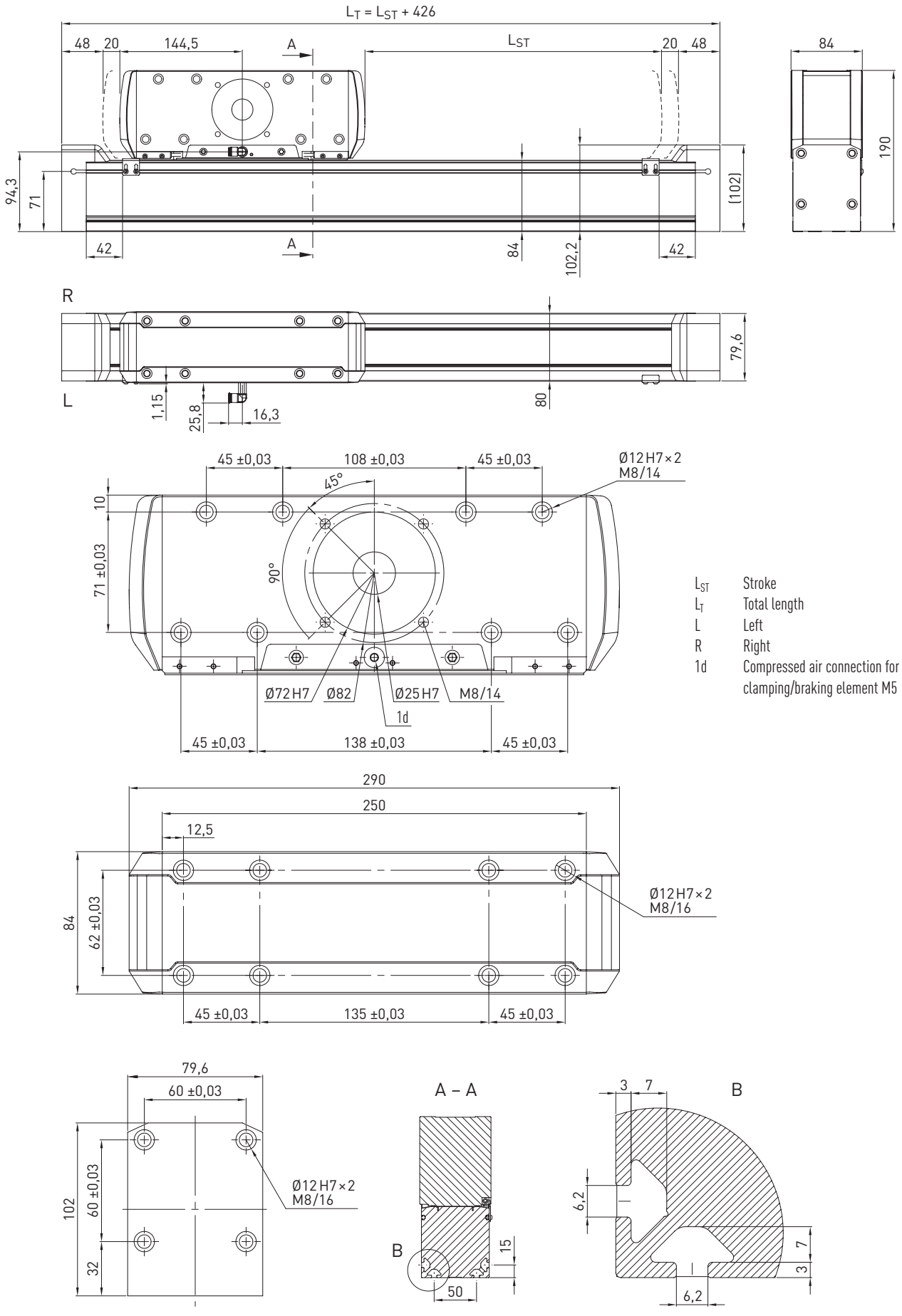



Fig. 13.6 **Max. drive force $M_{A\_max}$ depending on axis speed v**

| Table 13.16 **Mechanical properties** | |
|---|---|
| **Mass at 0-stroke [kg]** | 5.13 |
| **Mass per 100 mm stroke [kg/100 mm]** | 0.52 |
| **Mass of cantilever at 0-stroke [kg]** | 2.24 |
| **Mass of cantilever per 100 mm stroke [kg/100 mm]** | 0.52 |
| **$J_{rot.}$ [1] [kgcm²]** | 2.41 |
| **Idle torque at 0-stroke [Nm]** | 0.60 |

[1] Rotational moment of inertia

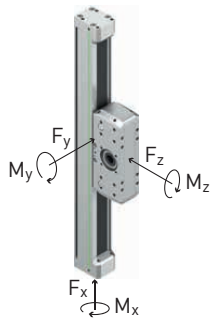
### 13.6 Dimensions and specifications of HC080B




| | |
|---|---|
| $L_{ST}$ | Stroke |
| $L_T$ | Total length |
| L | Left |
| R | Right |
| 1d | Compressed air connection for clamping/braking element M5 |

| Table 13.17 **Load data** | |
|---|---|
| **$F_{ydynmax}$ [1] [N]** | 3,855 |
| **$F_{zdynmax}$ [1] [N]** | 5,447 |
| **$M_{xdynmax}$ [Nm]** | 66 |
| **$M_{ydynmax}$ [Nm]** | 444 |
| **$M_{zdynmax}$ [Nm]** | 314 |

[1] Force must only act free of torque
See section 3.3.2 on page 17 (lifetime reference value)




| Table 13.18 **General technical data** | |
|---|---|
| **Repeatability [mm]** | ± 0.05 |
| **Max. feed force $F_{x\_max}$ [N]** | 1,330 |
| **Max. speed [m/s]** | 5 |
| **Max. acceleration [m/s²]** | 30 |
| **Max. drive torque $M_{A\_max}$ [Nm]** | 42.3 |
| **Typical load capacity [kg]** | 30 |
| **Maximum vertical stroke length [mm]** | 1,200 |
| **Maximum horizontal stroke length [mm]** | 800 |
| **Area moment of inertia of profile cross section $I_x$ [mm⁴]** | 1,394,922 |
| **Area moment of inertia of profile cross section $I_y$ [mm⁴]** | 1,758,779 |

| Table 13.19 **Guide** | |
|---|---|
| **Guide type** | CGH20CA |
| **Static load rating $C_0$ [N]** | 30,510 |
| **Dynamic load rating $C_{dyn}$ [N]** | 23,700 |

| Table 13.20 **Drive** | |
|---|---|
| **Drive element** | B40HTD5 |
| **Feed constant [mm/U]** | 200 |
| **Toothed belt effective diameter [mm]** | 63.66 |

| Table 13.21 **Clamping/Braking element** [1] | |
|---|---|
| **Holding force [N]** | 650 |
| **Operating pressure [bar]** | 5.5–6.5 |

[1] The clamping element may only be used when the axis is stationary and not as a brake.

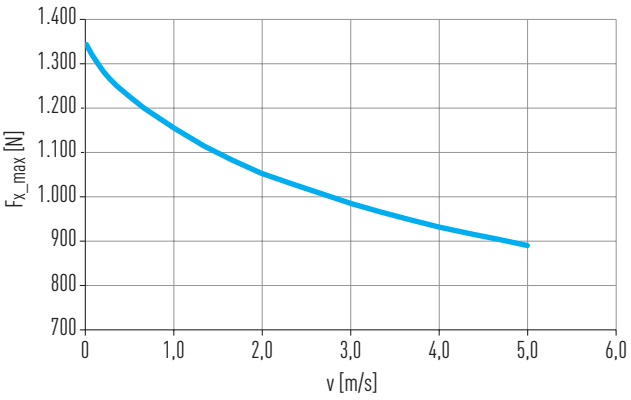



Fig. 13.7 **Max. feed force $F_{x\_max}$ as a function of axis speed v**

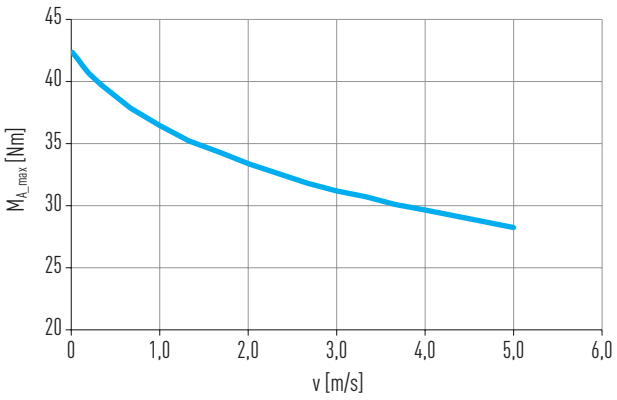
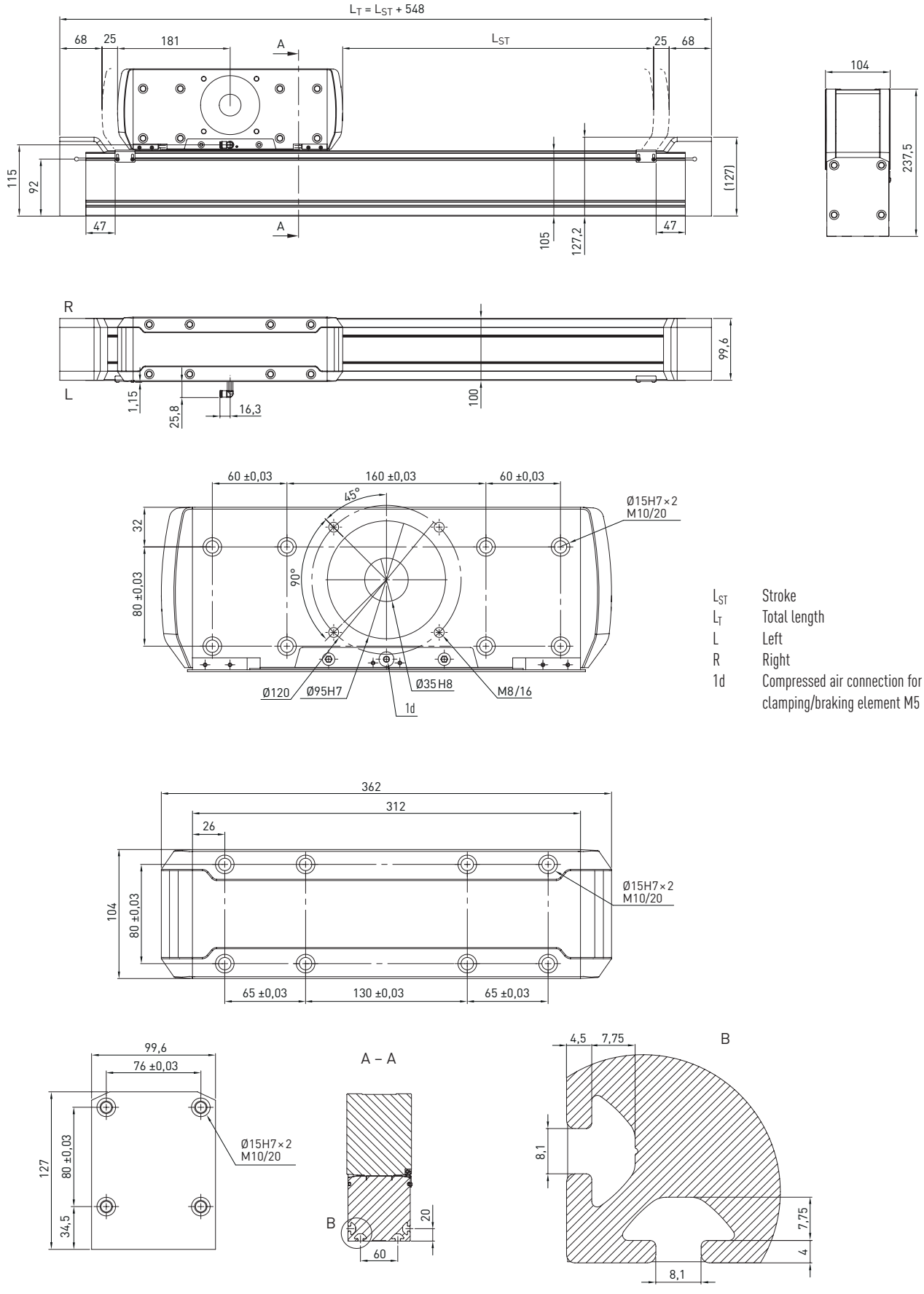



Fig. 13.8 **Max. drive force $M_{A\_max}$ as a function of axis speed v**

| Table 13.22 **Mechanical properties** | |
|---|---|
| **Mass at 0-stroke [kg]** | 9.72 |
| **Mass per 100 mm stroke [kg/100 mm]** | 0.90 |
| **Mass of cantilever at 0-stroke [kg]** | 4.51 |
| **Mass of cantilever per 100 mm stroke [kg/100 mm]** | 0.90 |
| **$J_{rot.}$ [1] [kgcm²]** | 5.49 |
| **Idle torque at 0-stroke [Nm]** | 1.40 |

[1] Rotational moment of inertia

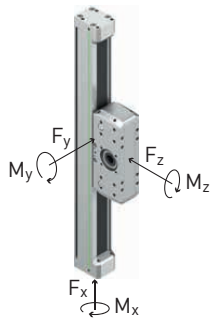
### 13.7 Dimensions and specifications of HC100B




| | |
|---|---|
| $L_{ST}$ | Stroke |
| $L_T$ | Total length |
| L | Left |
| R | Right |
| 1d | Compressed air connection for clamping/braking element M5 |

| Table 13.23 **Load data** | |
|---|---|
| **$F_{ydynmax}$ [1] [N]** | 6,979 |
| **$F_{zdynmax}$ [1] [N]** | 8,034 |
| **$M_{xdynmax}$ [Nm]** | 110 |
| **$M_{ydynmax}$ [Nm]** | 844 |
| **$M_{zdynmax}$ [Nm]** | 733 |

[1] Force must only act free of torque
See section 3.3.2 on page 17 (lifetime reference value)




| Table 13.24 **General technical data** | |
|---|---|
| **Repeatability [mm]** | ± 0.05 |
| **Max. feed force $F_{x\_max}$ [N]** | 2,667 |
| **Max. speed [m/s]** | 5 |
| **Max. acceleration [m/s²]** | 30 |
| **Max. drive torque $M_{A\_max}$ [Nm]** | 118.8 |
| **Typical load capacity [kg]** | 60 |
| **Maximum vertical stroke length [mm]** | 1,800 |
| **Maximum horizontal stroke length [mm]** | 1,200 |
| **Area moment of inertia of profile cross section $I_x$ [mm⁴]** | 3,290,845 |
| **Area moment of inertia of profile cross section $I_y$ [mm⁴]** | 4,100,279 |

| Table 13.25 **Guide** | |
|---|---|
| **Guide type** | CGL25CA |
| **Static load rating $C_0$ [N]** | 43,940 |
| **Dynamic load rating $C_{dyn}$ [N]** | 34,960 |

| Table 13.26 **Drive** | |
|---|---|
| **Drive element** | B40HTD8 |
| **Feed constant [mm/U]** | 280 |
| **Toothed belt effective diameter [mm]** | 89.13 |

| Table 13.27 **Clamping/Braking element** [1] | |
|---|---|
| **Holding force [N]** | 750 |
| **Operating pressure [bar]** | 5.5–6.5 |

[1] The clamping element may only be used when the axis is stationary and not as a brake.

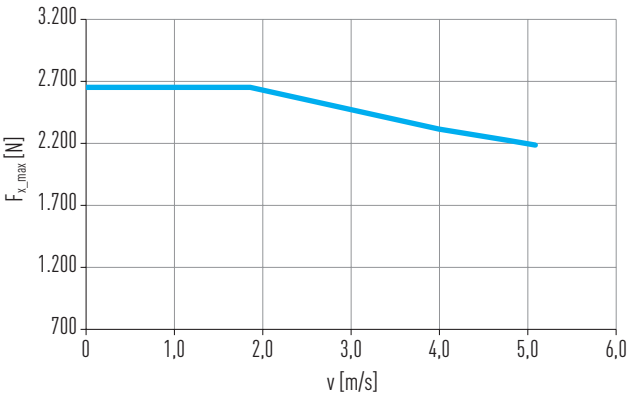



Fig. 13.9 **Max. feed force $F_{x\_max}$ depending on axis speed v**

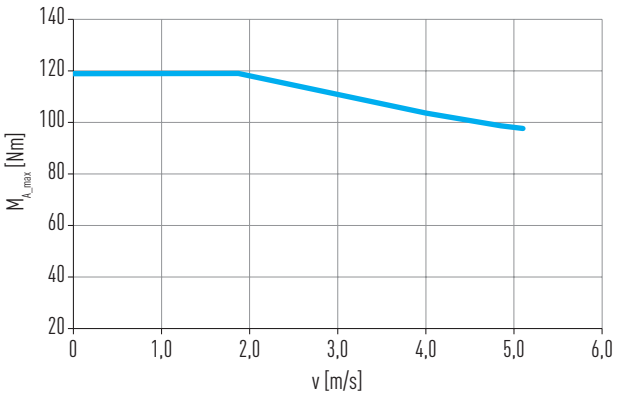
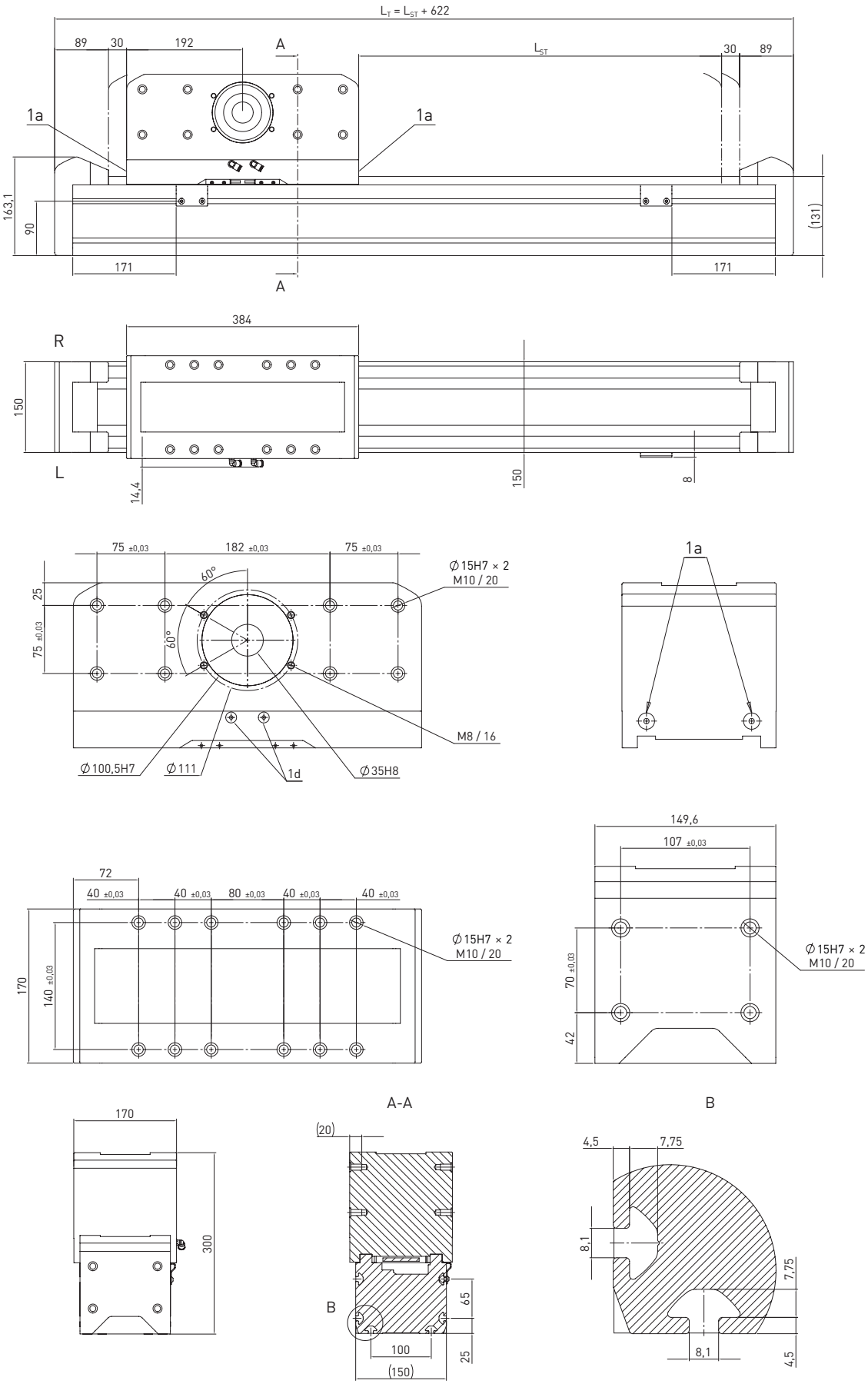



Fig. 13.10 **Max. drive force $M_{A\_max}$ depending on axis speed v**

| Table 13.28 **Mechanical properties** | |
|---|---|
| **Mass at 0-stroke [kg]** | 20.12 |
| **Mass per 100 mm stroke [kg/100 mm]** | 1.32 |
| **Mass of cantilever at 0-stroke [kg]** | 8.40 |
| **Mass of cantilever per 100 mm stroke [kg/100 mm]** | 1.32 |
| **$J_{rot.}$ [1] [kgcm²]** | 28.99 |
| **Idle torque at 0-stroke [Nm]** | 3.00 |

[1] Rotational moment of inertia

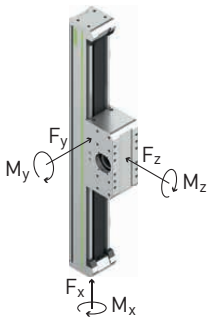
### 13.8 Dimensions and specifications of HC150B




| | | | | | |
|---|---|---|---|---|---|
| $L_{ST}$ | Stroke | L | Left | 1d | Compressed air connection for clamping/braking element M5 |
| $L_T$ | Total length | R | Right | | |

| Table 13.29 **Load data** | |
|---|---|
| **$F_{ydynmax}$ [1] [N]** | 9,485 |
| **$F_{zdynmax}$ [1] [N]** | 13,789 |
| **$M_{xdynmax}$ [Nm]** | 446.0 |
| **$M_{ydynmax}$ [Nm]** | 1,755 |
| **$M_{zdynmax}$ [Nm]** | 1,207 |

[1] Force must only act free of torque
See section 3.3.2 on page 17 (lifetime reference value)




| Table 13.30 **General technical data** | |
|---|---|
| **Repeatability [mm]** | ± 0.05 |
| **Max. feed force $F_{x\_max}$ [N]** | 4,000 |
| **Max. speed [m/s]** | 5 |
| **Max. acceleration [m/s²]** | 30 |
| **Max. drive torque $M_{A\_max}$ [Nm]** | 183.3 |
| **Typical load capacity [kg]** | 80 |
| **Maximum vertical stroke length [mm]** | 2,000 |
| **Maximum horizontal stroke length [mm]** | 1,400 |
| **Area moment of inertia of profile cross section $I_x$ [mm⁴]** | 7,556,719 |
| **Area moment of inertia of profile cross section $I_y$ [mm⁴]** | 13,470,080 |

| Table 13.31 **Guide** | |
|---|---|
| **Guide type** | QHH20CA |
| **Static load rating $C_0$ [N]** | 33,860 |
| **Dynamic load rating $C_{dyn}$ [N]** | 30,000 |

| Table 13.32 **Drive** | |
|---|---|
| **Drive element** | b60HTD8 |
| **Feed constant [mm/U]** | 288 |
| **Toothed belt effective diameter [mm]** | 91.67 |

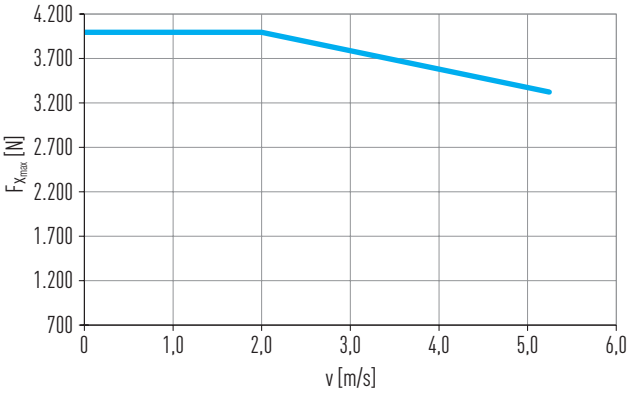



Fig. 13.11 **Max. feed force $F_{x\_max}$ depending on axis speed v**

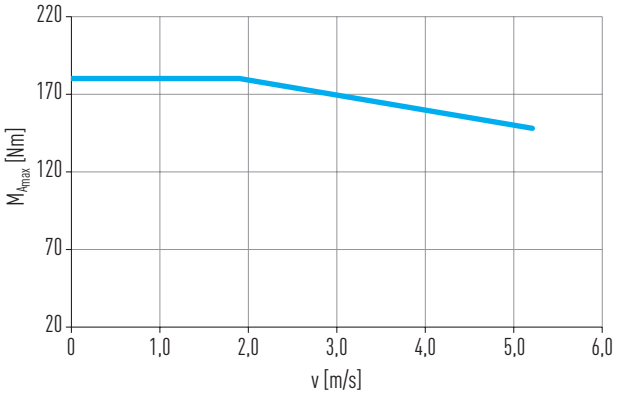



Fig. 13.12 **Max. drive force $M_{A\_max}$ depending on axis speed v**

| Table 13.33 **Mechanical properties** | |
|---|---|
| **Mass at 0-stroke [kg]** | 36.69 |
| **Mass per 100 mm stroke [kg/100 mm]** | 1.83 |
| **Mass of cantilever at 0-stroke [kg]** | 13.88 |
| **Mass of cantilever per 100 mm stroke [kg/100 mm]** | 1.83 |
| **$J_{rot.}$ [1] [kgcm²]** | 48.37 |
| **Idle torque at 0-stroke [Nm]** | 5.50 |

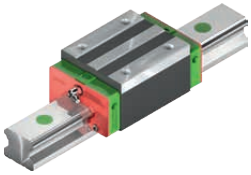
[1] Rotational moment of inertia

## 14. Cantilever axes HC-R

### 14.1 Features of the HC-R cantilever axes with rack and pinion drive

HIWIN cantilever axes with rack and pinion drive are flexible positioning modules with an integrated HIWIN double guide. They are particularly suitable for applications where high feed force and high speeds are required.

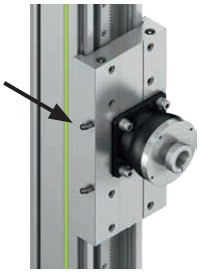
**Linear guideway**
A high-quality HIWIN double guide safely transfers forces and torques from the carriage to the axis profile. Four blocks are used per carriage, which are guided on a two parallel, high-precision profile rails. The SynchMotion™ technology with ball chain also ensures good synchronisation and smooth running.



**Drive adaptation**
HIWIN cantilever axes with rack and pinion drive are equipped with gearboxes as standard. Suitable adapters for all common motors can be found in section 22.1 from page 159.

**Rack and pinion**
The rack and pinion ensures precise positioning, smooth running, high efficiency and maximum power density. The integrated lubrication pinion ensures that the rack and pinion drive is supplied with grease.

**Clamping and braking element**
The clamping or braking element can be controlled via a pneumatic connection on the drive block. Clamping onto the profile rail is fail-safe as soon as there is no more compressed air at the connection. Particularly in vertical applications, clamping may be necessary to securely fix the axis at standstill.



**Mounting**
The drive block as well as the interfaces for attaching the load capacity on both sides of the cantilever have additional bore holes on each mounting hole. This ensures ideal, reproducible alignment of the adjacent construction. You will find the matching centring sleeves in the accessories on Page 231.

### 14.2 Order code for cantilever axes HC-R

| HC | 150 | R | 223 | N | 1234 | S |
|---|---|---|---|---|---|---|

**HIWIN cantilever axis**

**Size (profile width):**
150: 150 mm

**Drive type::**
R: Rack and pinion drive

**Carriage length:**
S: Short

**Stroke length [mm]**

**Cover strip:**
N: Without cover strip

**Module, Tooth count:**
223: Module 2, Tooth count 23

Continuation, order code for cantilever axes HC-R

| A | N | N | S | HW01 | G0608 |
|---|---|---|---|---|---|

**Axis limit switch[6]:**
N: Without limit switch
A: 2 × normally closed, 100 mm cable, connector[1]
B: 2 × normally open, 100 mm cable, connector[1]
C: 2 × normally closed, 4 m open cable end[1]
D: 2 × normally open, 5 m open cable end[1]

**Clamping and braking element option:**
N: Without holding brake (standard)
C: With 1 pneumatic clamping element (HC060B/HC080B/HC100B/HC150)[7]
B: With 1 pneumatic braking element (HC060B/HC080B/HC100B/HC150)
D: With 2 pneumatic clamping elements (HC150)[7]
E: With 2 pneumatic braking elements (HC150)

**Distance measuring system option[2]:**
N: Without distance measuring system
A: HIWIN MAGIC, analogue, 1 $V_{SS}$ sin/cos, 5 m open cable end
D: HIWIN MAGIC, digital, TTL 5 V, 5 m open cable end

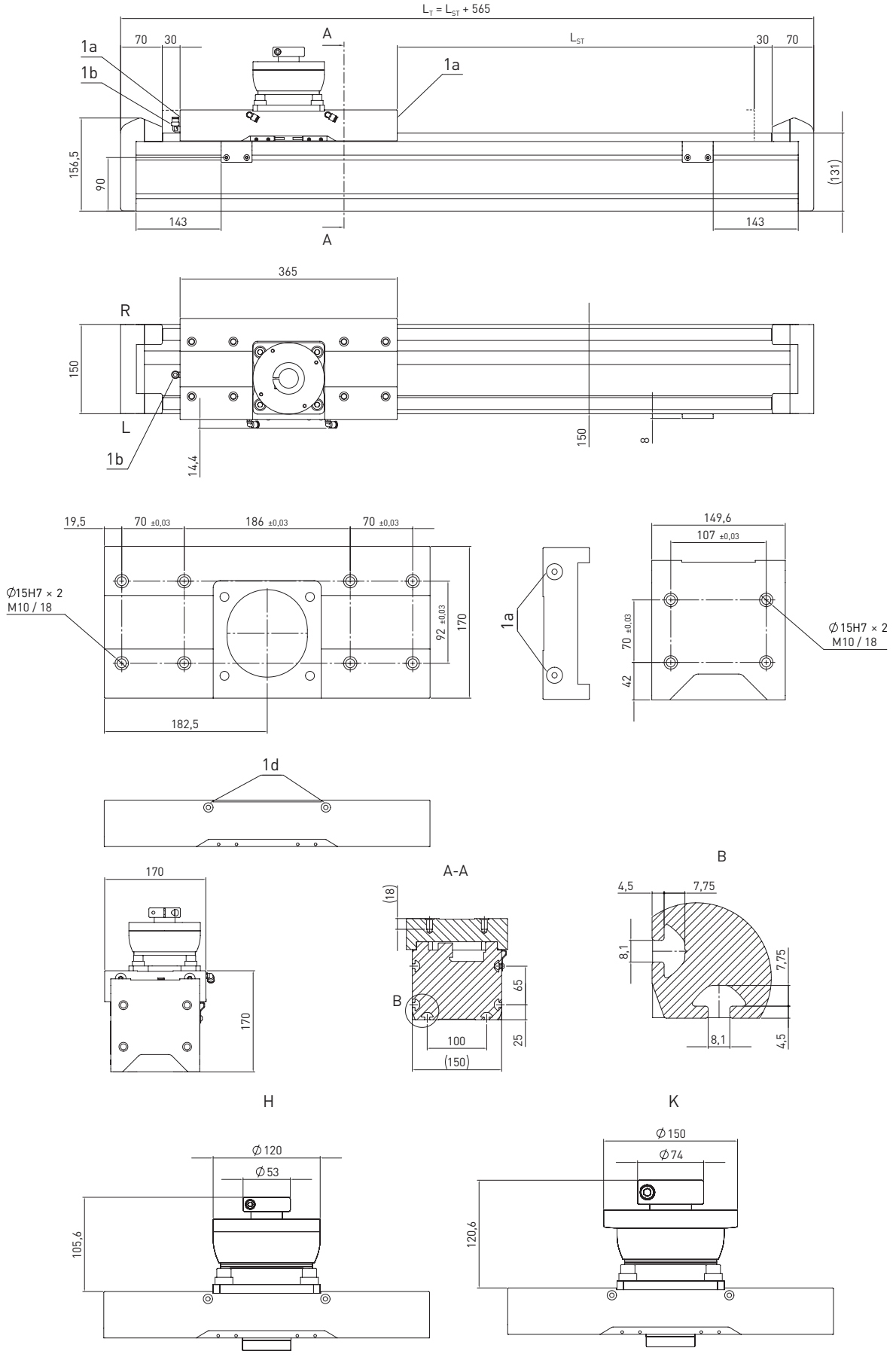
**Gearbox[5]**

**Motor flange type[4]**

**Drive interface[3]:**
S: Straight


[1] HC025B: A: 2 × normally closed, 200 mm cable, connector, C: 2 × normally closed, 2 m open cable end; B and D: not available.
[2] More detailed information in chapter 21 from page 156 or in the "HIWIN MAGIC Distance Measuring Systems" assembly instructions".
[3] If no drive interface is selected, the order code ends after this digit.
[4] You can find all flange types in Table 22.1 from page 160. If no gearbox is selected, the order code ends after this digit.
[5] You can find the right gearbox for the HIWIN axes in section 22.1.5.5 from page 195.
[6] Additional reference switches on request.
[7] The clamping element may only be used when the axis is stationary and not as a brake.

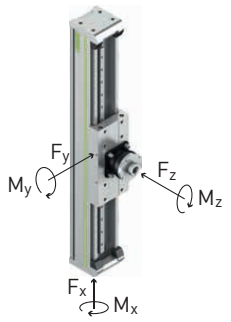
### 14.3 Dimensions and specifications of HC150R




| | | | | | |
|---|---|---|---|---|---|
| $L_{ST}$ | Stroke | L | Left | 1d | Compressed air connection for clamping/braking element M5 |
| $L_T$ | Total length | R | Right | | |

| Table 14.1 **Load data** | |
|---|---|
| **$F_{ydynmax}$ [1) 2)] [N]** | 9,485 |
| **$F_{zdynmax}$ [2)] [N]** | 10,596 |
| **$M_{xdynmax}$ [Nm]** | 446 |
| **$M_{ydynmax}$ [Nm]** | 1,359 |
| **$M_{zdynmax}$ [Nm]** | 1,217 |

[1)] Force must only act free of torque
See section 3.3.2 on page 17 (lifetime reference value)




| Table 14.2 **General technical data** | |
|---|---|
| **Repeatability [mm]** | ± 0.05 |
| **Max. feed force $F_{x\_max}$ [N]** | 4,300 |
| **Max. speed [m/s]** | 5 |
| **Max. acceleration [m/s²]** | 50 |
| **Max. drive torque $M_{A\_max}$ [Nm]** | 104.94 |
| **Typical load capacity [kg]** | 80 |
| **Maximum vertical stroke length [mm]** | 2,000 |
| **Maximum horizontal stroke length [mm]** | 1,400 |
| **Area moment of inertia of profile cross section $I_x$ [mm⁴]** | 7,556,719 |
| **Area moment of inertia of profile cross section $I_y$ [mm⁴]** | 13,470,080 |

| Table 14.3 **Guide** | |
|---|---|
| **Guide type** | QHH20CA |
| **Static load rating $C_0$ [N]** | 33,860 |
| **Dynamic load rating $C_{dyn}$ [N]** | 30,000 |

| Table 14.4 **Rack and pinion** | |
|---|---|
| **Toothing** | Modul 2, diagonally toothed |
| **Feed constant [mm/U]** | 153.34 |
| **Effective diameter of pinion [mm]** | 48.81 |
| **Number of teeth pinion** | 23 |

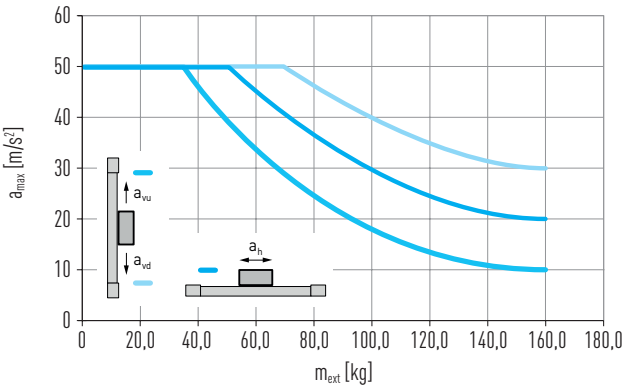



Fig. 14.1 **Max. Acceleration $a_{max}$ as a function of the external payload $m_{ext}$**

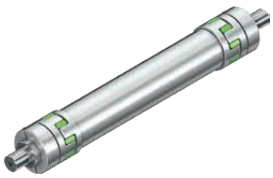
| Table 14.5 **Mechanical properties** | |
|---|---|
| **Mass at 0-stroke [kg]** | 18.55 |
| **Mass per 1 m stroke [kg/m]** | 2.30 |
| **Mass of cantilever at 0-stroke [kg]** | 13.46 |
| **Mass of cantilever per 1 m stroke [kg/m]** | 2.30 |
| **Breakaway force 0-stroke axis [N]** | 20.00 |

[1)] Rotational moment of inertia

## 15. Double axes HD

### 15.1 Properties of double axes HD with toothed belt drive

The HIWIN double axes HD are linear modules for flexible use and consist of two belt axes HM-B, which are connected to each other via a synchronous shaft. They are preferably used in applications where a single axis is not sufficient due to high torque loads or the dimensions of the loads to be transported. HIWIN double axes HD are also ideally suited as a basis for multi-axis systems.



**Synchronous shaft**

The synchronous shaft ensures safe and rigid power transmission for parallel movement of both axes. Due to the generously dimensioned diameter, the synchronous shaft is very torsionally stiff, meaning no additional bearing is required, even at higher speeds and longer axis distances.

**Critical speed of the synchronous shaft**

The critical speed depends on the length and diameter of the synchronous shaft and must not be exceeded during operation. The resulting maximum centre distance depending on the size and the axis speed of the HIWIN double axes can be calculated using the diagram in Fig. 15.1.

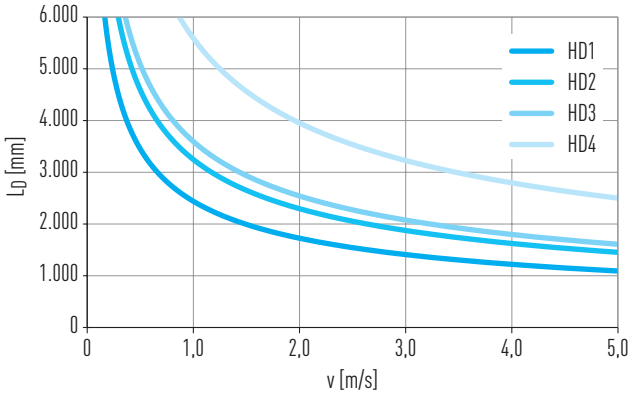



Fig. 15.1 **Maximum centre distance $L_D$ as a function of axis speed v**

### 15.2 Order code for double axes HD

| HD | 2 | N | 1234 | S | 000 | A |
|---|---|---|---|---|---|---|

**HIWIN double axis**

**Size (profile width of the individual axes):**
1: 40 mm
2: 60 mm
3: 80 mm
4: 120 mm

**Cover strip:**
N: Without cover strip
C: With steel cover strip

**Stroke length [mm]**

**Axis limit switch:**
N: Without limit switch
A: 2 × normally closed, 100 mm cable, connector
B: 2 × normally open, 100 mm cable, connector
C: 2 × normally closed, 4 m open cable end
D: 2 × normally open, 5 m open cable end

**Clearance between two carriages [mm]:**
(000: Only one carriage)

**Carriage length:**
S: Short
M: Medium
L: Long
H: Long – Heavy load [5]

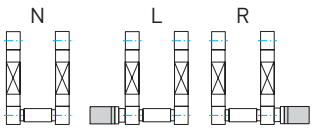
Continuation, order code for double axes HD

| N | 1234 | R | BE04 | G0608 | -T |
|---|---|---|---|---|---|

**Distance measuring system ~~option~~ [1]:**
N: Without distance measuring system
A: HIWIN MAGIC, analogue, 1 $V_{SS}$ sin/cos, 5 m open cable end
D: HIWIN MAGIC, digital, TTL 5 V, 5 m open cable end

**Centre distance D [mm]**

**Drive interface [2]:**
N: Without
L: Left
R: Right




**Delivery condition:**
T: Partially assembled (standard)
None: Assembled

**Gearbox [4]**

**Flange type [3]**

[1] More detailed information in chapter 21 from page 156 or in the "HIWIN MAGIC Distance Measuring Systems" assembly instructions".
[2] If no drive interface is selected, the order code ends after this digit.
[3] You can find all flange types in Table 22.1 from page 160. If no gearbox is selected, the order code ends after this digit.
[4] You can finding matching gearboxes in section 22.1.5.5 from page 195.
[5] Only available for HD4

### 15.3 Dimensions and specifications of HD1

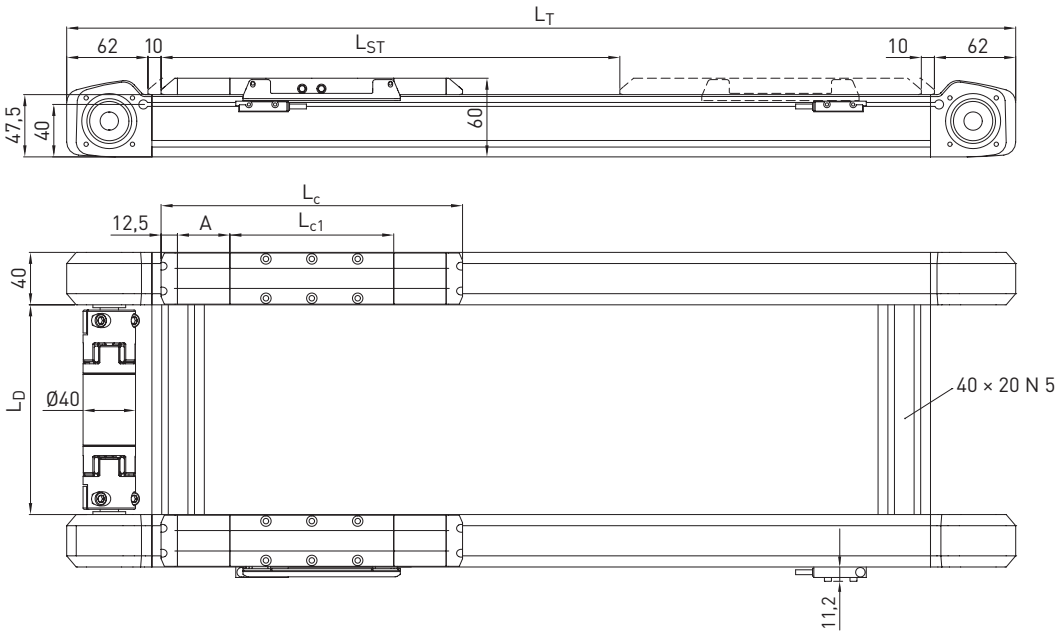



Table 15.1 **HD1 dimensions**

| | Variant without cover | | | Variant with cover | | |
|---|---|---|---|---|---|---|
| **Type of carriage** | S | M | L | S | M | L |
| **Carriage profile length $L_c$ [mm]** | 125 | 160 | 230 | 125 | 160 | 230 |
| **Total carriage length $L_c$ [mm]** | 150 | 185 | 255 | 230 | 265 | 335 |
| **Cover strip deflection A [mm]** | – | – | – | 40 | 40 | 40 |
| **Max. stroke length $L_{ST}$ [mm]** | 3,000 | 3,000 | 3,000 | 3,000 | 3,000 | 3,000 |
| **Total length $L_T$ [mm]** | $L_T = L_{ST} + 294$ | $L_T = L_{ST} + 329$ | $L_T = L_{ST} + 399$ | $L_T = L_{ST} + 374$ | $L_T = L_{ST} + 409$ | $L_T = L_{ST} + 479$ |
| **Centre distance $L_D$ min. [mm]** | 160 | 160 | 160 | 160 | 160 | 160 |
| **Centre distance $L_D$ max. [mm]** | 1,500 | 1,500 | 1,500 | 1,500 | 1,500 | 1,500 |

Table 15.2 **General technical data**

| | |
|---|---|
| **Max. feed force $F_{x\_max}$ [N]** | 450 |
| **Max. speed [m/s]** | 5 |
| **Max. drive torque $M_{A\_max}$ [Nm]** | 8 |
| **Typical load capacity [1] [kg]** | 25 |
| **Single axis** | HM040B |

[1] With equal load distribution on both axes

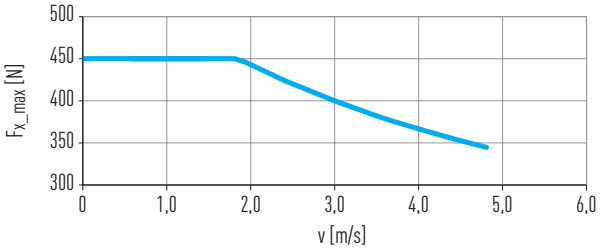



Fig. 15.2 **Max. feed force $F_{x\_max}$ as a function of axis speed v**

Table 15.3 **Mechanical properties**

| | Variant without cover | | | Variant with cover | | |
|---|---|---|---|---|---|---|
| **Type of carriage** | S | M | L | S | M | L |
| **Mass of the carriage [kg]** | 0.66 | 0.77 | 1.00 | 0.74 | 0.86 | 1.09 |
| **Mass at 0-stroke and centre distance $L_D$ = 0 [2] [kg]** | 3.33 | 3.65 | 4.32 | 3.93 | 4.26 | 4.92 |
| **Mass per 1 m stroke [kg/m]** | 6.04 | | | 6.09 | | |
| **Mass per 1 m centre distance $L_D$ [kg/m]** | 2.74 | | | 2.74 | | |
| **$J_{rot.}$ [1] at 0-stroke and centre distance $L_D$ = 0 [kgcm²]** | 1.40 | | | 1.40 | | |
| **$J_{rot.}$ [1] per 1 m stroke centre distance [kgcm²/m]** | 3.24 | | | 3.24 | | |
| **Idle torque at 0-stroke [Nm]** | 0.35 | | | 0.50 | | |

[1] Rotational moment of inertia

[2] The values apply to axes with one carriage. For axes with 2 carriages, add the following: Mass of carriage + mass per 1 m stroke x (clearance between the carriages (in m) + carriage length $L_C$ (in m))

Note: For further dimensions and data, see belt axis HM040B on Page 26.

### 15.4 Dimensions and specifications of HD2

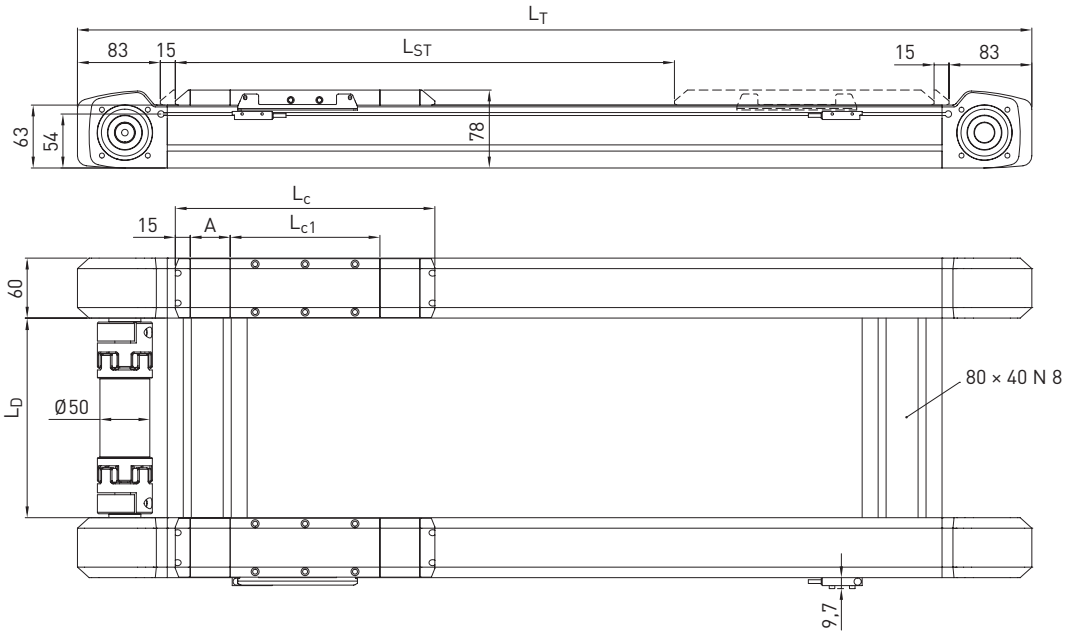



Table 15.4 **HD2 dimensions**

| | Variant without cover | | | Variant with cover | | |
|---|---|---|---|---|---|---|
| **Type of carriage** | S | M | L | S | M | L |
| **Carriage profile length $L_c$ [mm]** | 150 | 200 | 300 | 150 | 200 | 300 |
| **Total carriage length $L_c$ [mm]** | 180 | 230 | 330 | 260 | 310 | 410 |
| **Cover strip deflection A [mm]** | – | – | – | 40 | 40 | 40 |
| **Max. stroke length $L_{ST}$ [mm]** | 5,704 | 5,654 | 5,554 | 5,624 | 5,574 | 5,474 |
| **Total length $L_T$ [mm]** | $L_T = L_{ST} + 376$ | $L_T = L_{ST} + 426$ | $L_T = L_{ST} + 526$ | $L_T = L_{ST} + 456$ | $L_T = L_{ST} + 506$ | $L_T = L_{ST} + 606$ |
| **Centre distance $L_D$ min. [mm]** | 186 | 186 | 186 | 186 | 186 | 186 |
| **Centre distance $L_D$ max. [mm]** | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 |

Table 15.5 **General technical data**

| | |
|---|---|
| **Max. feed force $F_{x\_max}$ [N]** | 1,323 |
| **Max. speed [m/s]** | 5 |
| **Max. drive torque $M_{a\_max}$ [Nm]** | 33 |
| **Typical load capacity [1] [kg]** | 63 |
| **Single axis** | HM060B |

[1] With equal load distribution on both axes

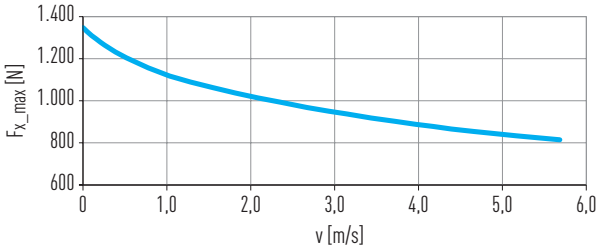



Fig. 15.3 **Max. feed force $F_{x\_max}$ as a function of axis speed v**

Table 15.6 **Mechanical properties**

| | Variant without cover | | | Variant with cover | | |
|---|---|---|---|---|---|---|
| **Type of carriage** | S | M | L | S | M | L |
| **Mass of the carriage [kg]** | 1.62 | 1.91 | 2.49 | 1.78 | 2.07 | 2.65 |
| **Mass at 0-stroke and centre distance $L_D$ = 0 [2] [kg]** | 8.19 | 9.04 | 10.73 | 9.29 | 10.14 | 11.84 |
| **Mass per 1 m stroke [kg/m]** | 10.93 | | | 11.02 | | |
| **Mass per 1 m centre distance $L_D$ [kg/m]** | 10.26 | | | 10.26 | | |
| **$J_{rot.}$ [1] at 0-stroke and centre distance $L_D$ = 0 [kgcm²]** | 6.53 | | | 6.53 | | |
| **$J_{rot.}$ [1] Per 1 m stroke centre distance [kgcm²/m]** | 6.63 | | | 6.63 | | |
| **Idle torque at 0-stroke [Nm]** | 0.94 | | | 2.00 | | |

[1] Rotational moment of inertia

[2] The values apply to axes with one carriage. For axes with 2 carriages, add the following: Mass of carriage + mass per 1 m stroke x (clearance between the carriages (in m) + carriage length $L_C$ (in m))

Note: For further dimensions and data, see belt axis HM060B on Page 28.

### 15.5 Dimensions and specifications of HD3

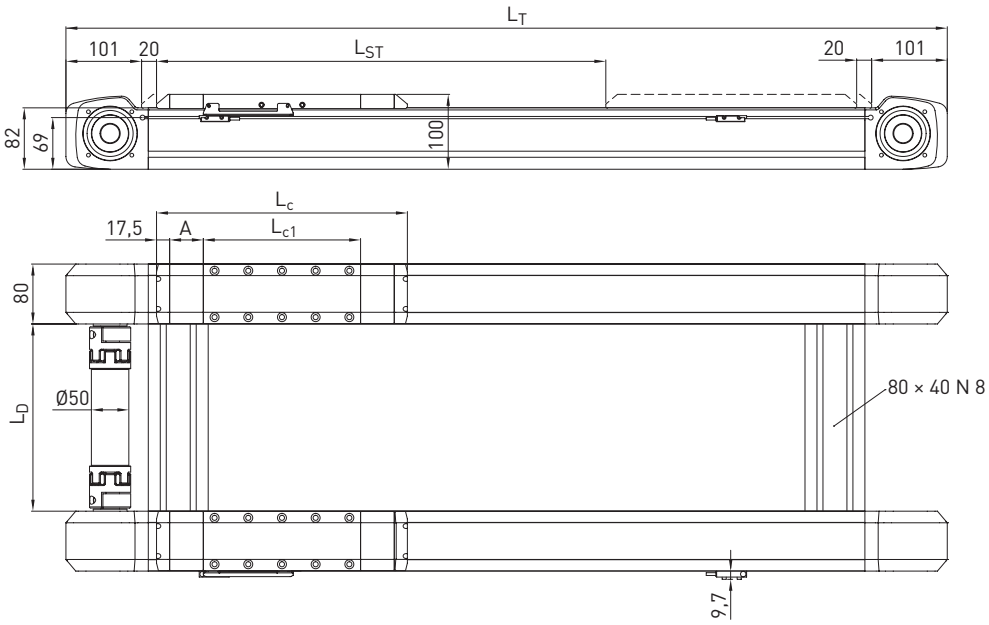



Table 15.7 **HD3 dimensions**

| | Variant without cover | | | Variant with cover | | |
|---|---|---|---|---|---|---|
| **Type of carriage** | S | M | L | S | M | L |
| **Carriage profile length $L_c$ [mm]** | 210 | 300 | 390 | 210 | 300 | 390 |
| **Total carriage length $L_c$ [mm]** | 245 | 335 | 425 | 335 | 425 | 515 |
| **Cover strip deflection A [mm]** | – | – | – | 45 | 45 | 45 |
| **Max. stroke length $L_{ST}$ [mm]** | 5,633 | 5,543 | 5,453 | 5,543 | 5,453 | 5,363 |
| **Total length $L_T$ [mm]** | $L_T = L_{ST} + 487$ | $L_T = L_{ST} + 577$ | $L_T = L_{ST} + 667$ | $L_T = L_{ST} + 577$ | $L_T = L_{ST} + 667$ | $L_T = L_{ST} + 757$ |
| **Centre distance $L_D$ min. [mm]** | 200 | 200 | 200 | 200 | 200 | 200 |
| **Centre distance $L_D$ max. [mm]** | 2,400 | 2,400 | 2,400 | 2,400 | 2,400 | 2,400 |

Table 15.8 **General technical data**

| | |
|---|---|
| **Max. feed force $F_{x\_max}$ [N]** | 1,852 |
| **Max. speed [m/s]** | 5 |
| **Max. drive torque $M_{a\_max}$ [Nm]** | 56 |
| **Typical load capacity [kg] 1)** | 150 |
| **Single axis** | HM080B |

1) With equal load distribution on both axes

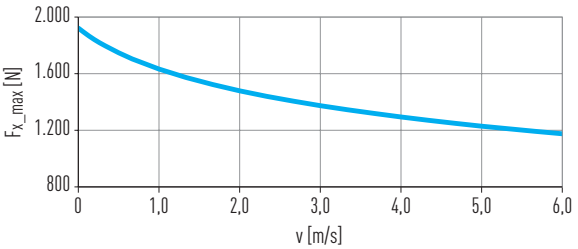



Fig. 15.4 **Max. feed force $F_{x\_max}$ as a function of axis speed v**

Table 15.9 **Mechanical properties**

| | Variant without cover | | | Variant with cover | | |
|---|---|---|---|---|---|---|
| **Type of carriage** | S | M | L | S | M | L |
| **Mass of the carriage [kg]** | 3.10 | 3.94 | 4.77 | 3.40 | 4.24 | 5.07 |
| **Mass at 0-stroke and centre distance $L_D$ = 0 2) [kg]** | 16.09 | 18.73 | 21.36 | 18.28 | 20.93 | 23.57 |
| **Mass per 1 m stroke [kg/m]** | 19.73 | | | 19.84 | | |
| **Mass per 1 m centre distance $L_D$ [kg/m]** | 10.26 | | | 10.26 | | |
| **$J_{rot.}$ 1) at 0-stroke and centre distance $L_D$ = 0 [kgcm²]** | 15.00 | | | 15.00 | | |
| **$J_{rot.}$ 1) Per 1 m stroke centre distance [kgcm²/m]** | 6.63 | | | 6.63 | | |
| **Idle torque at 0-stroke [Nm]** | 2.40 | | | 2.60 | | |

1) Rotational moment of inertia

2) The values apply to axes with one carriage. For axes with 2 carriages, add the following: Mass of carriage + mass per 1 m stroke x (clearance between the carriages (in m) + carriage length $L_C$ (in m))

Note: For further dimensions and data, see belt axis HM080B on Page 30.

### 15.6 Dimensions and specifications of HD4

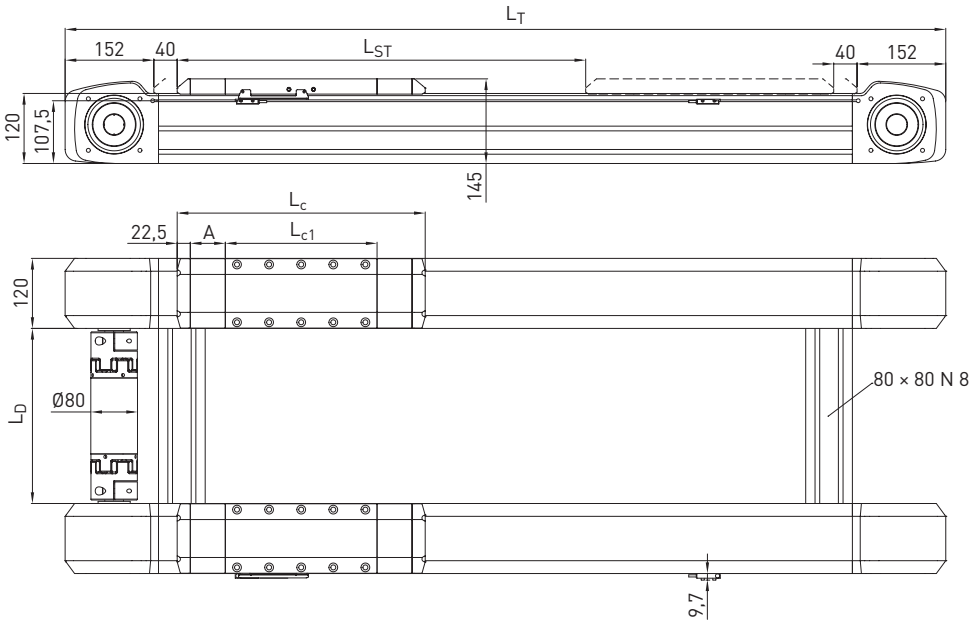



Table 15.10 **HD4 dimensions**

| | Variant without cover | | | Variant with cover | | |
|---|---|---|---|---|---|---|
| **Type of carriage** | S | M | L/H | S | M | L/H |
| **Carriage profile length $L_c$ [mm]** | 260 | 370 | 535 | 260 | 370 | 535 |
| **Total carriage length $L_c$ [mm]** | 305 | 415 | 580 | 425 | 535 | 700 |
| **Cover strip deflection A [mm]** | – | – | – | 60 | 60 | 60 |
| **Max. stroke length $L_{ST}$ [mm]** | 5,531 | 5,421 | 5,256 | 5,411 | 5,301 | 5,136 |
| **Total length $L_T$ [mm]** | $L_T = L_{ST} + 689$ | $L_T = L_{ST} + 799$ | $L_T = L_{ST} + 964$ | $L_T = L_{ST} + 809$ | $L_T = L_{ST} + 919$ | $L_T = L_{ST} + 1,084$ |
| **Centre distance $L_D$ min. [mm]** | 256 | 256 | 256 | 256 | 256 | 256 |
| **Centre distance $L_D$ max. [mm]** | 3,000 | 3,000 | 3,000 | 3,000 | 3,000 | 3,000 |

Table 15.11 **General technical data**

| | |
|---|---|
| **Max. feed force $F_{x\_max}$ [N]** | 4,385 |
| **Max. speed [m/s]** | 5 |
| **Max. drive torque $M_{a\_max}$ [Nm]** | 201 |
| **Typical load capacity [kg] [1)]** | 300 |
| **Single axis** | HM120B |

[1)] With equal load distribution on both axes

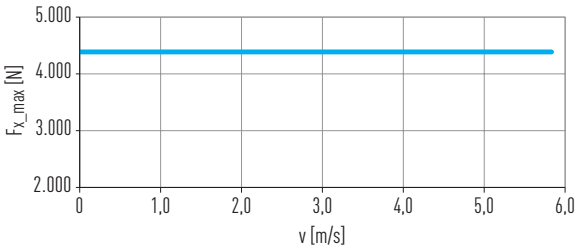



Fig. 15.5 **Max. feed force $F_{x\_max}$ as a function of axis speed v**

Table 15.12 **Mechanical properties**

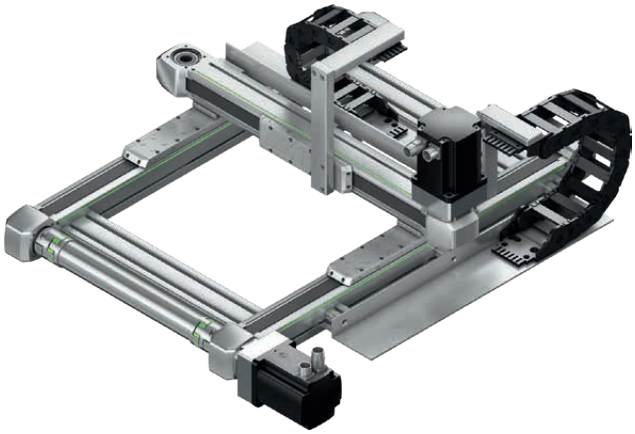
| | Variant without cover | | | | Variant with cover | | | |
|---|---|---|---|---|---|---|---|---|
| **Type of carriage** | S | M | L | H | S | M | L/H | H |
| **Mass of the carriage [kg]** | 10.59 | 12.15 | 15.58 | 17.44 | 11.61 | 13.18 | 16.60 | 18.39 |
| **Mass at 0-stroke and centre distance $L_D$ = 0 [2)] [kg]** | 50.31 | 56.68 | 64.66 | 66.21 | 56.63 | 63.02 | 71.22 | 72.77 |
| **Mass per 1 m stroke [kg/m]** | 41.54 | | | | 41.72 | | | |
| **Mass per 1 m centre distance $L_D$ [kg/m]** | 18.42 | | | | 18.42 | | | |
| **$J_{rot.}$ [1)] at 0-stroke and centre distance $L_D$ = 0 [kgcm²]** | 104.30 | | | | 104.30 | | | |
| **$J_{rot.}$ [1)] Per 1 m stroke centre distance [kgcm²/m]** | 44.90 | | | | 44.90 | | | |
| **Idle torque at 0-stroke [Nm]** | 6.20 | | | | 9.00 | | | |

[1)] Rotational moment of inertia

[2)] The values apply to axes with one carriage. For axes with 2 carriages, add the following: Mass of carriage + mass per 1 m stroke x (clearance between the carriages (in m) + carriage length $L_C$ (in m))

Note: For further dimensions and data, see belt axis HM120B on Page 32.

## 16. Two-axis systems HS2



### 16.1 Properties of the double axis systems HS2

HIWIN two-axis systems HS2 are flexible units for positioning along the X- and Y-axes. They consist of a HIWIN double axis HD in the X direction and a HIWIN belt axis HM-B or HT-B in the Y direction. HIWIN two-axis systems HS2 are especially suitable for two-dimensional or flat movements in one plane and form the basis for three-axis systems.

**Energy chain**

Generously dimensioned energy chains provide space for safely carrying the supply lines. The energy chains are integrated into the complete system in a particularly compact and space-saving way.

**Maximum axis speed in X direction**

The maximum axis speed in the X direction depends on the size and the centre distance, which in the two-axis system HS2 results from the selected stroke in the Y direction. The dependence of the maximum axis speed on stroke length Y can be determined from the diagram in Fig. 16.1.

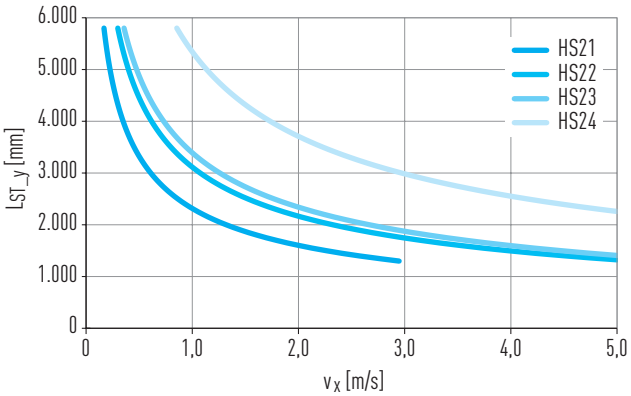



Fig. 16.1 **Max. axis speed v in X direction, as a function of stroke $L_{ST}$ in Y direction**

### 16.2 Order code for two-axis systems HS2

| HS | 2 | 2 | X | D2 | Y | M2 – |
|---|---|---|---|---|---|---|

**HIWIN axis system**

**Axis system type:**
2: Two-axis system

**Size (profile width of the X-axis):**
1: 40 mm
2: 60 mm
3: 80 mm
4: 120 mm

**Axis 1 identifier:**
X

**Type and size of axis 2:**
M1: HM040B
M2: HM060B
M3: HM080B
T1: HT100B
T2: HT150B
T3: HT200B
T4: HT250B

**Axis 2 identifier:**
Y

**Type and size of axis 1:**
D1: Double axis HD1
D2: Double axis HD2
D3: Double axis HD3
D4: Double axis HD4

Continuation, order code for two-axis systems HS2

| 1000 – | 0800 | A | 2 | R | BR04 | G0803 – | BE04 | G0608 |
|---|---|---|---|---|---|---|---|---|

**Stroke axis 1 [mm]**

**Stroke axis 2 [mm]**

**Axis limit switch:**
N: Without limit switch
A: 2 × normally closed, 100 mm cable, connector

**Energy chain:**
N: Without
1: Energy chain on X-axis
2: Energy chain on X- and Y-axis

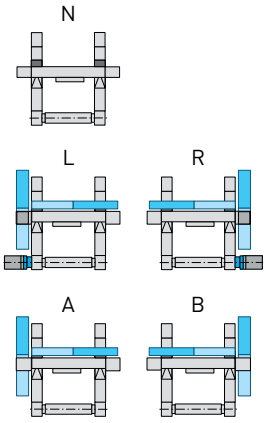
**Gearbox, axis 2** [3]

**Motor flange type, axis 2** [4]

**Gearbox, axis 1** [3]

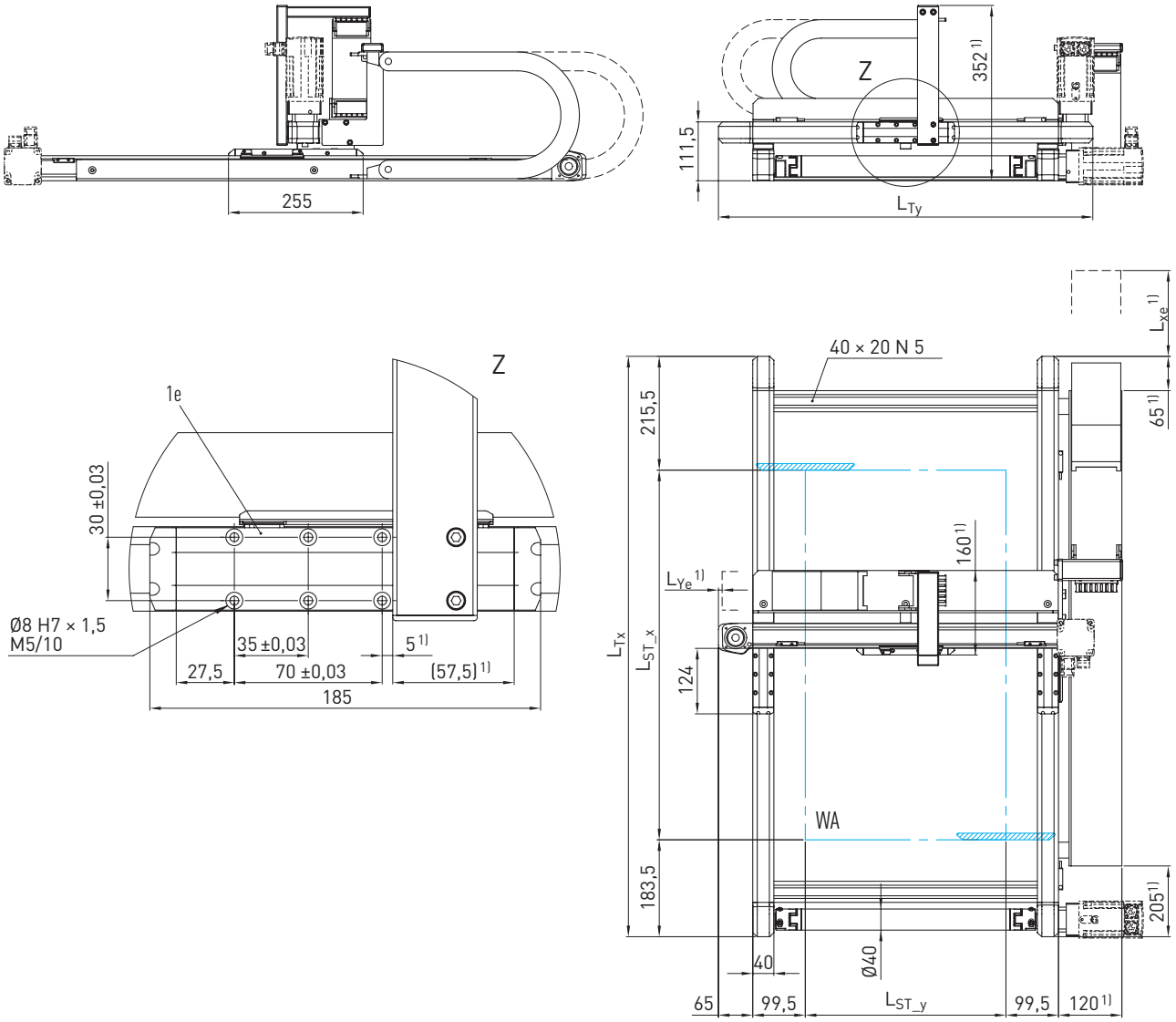
**Motor flange type, axis 1** [2]

**Drive interface** [1]**:**
N: Without drive adapter/ without energy chain
L: Drive adapter left
R: Drive adapter right
A: Without drive adapter, Drive interface left
B: Without drive adapter, Drive interface right




[1] If no drive interface is selected, the order code ends after this digit.
[2] You can find all flange types in Table 22.1 from page 160. If no flange type is selected, the "Gearbox, axis 1" position is omitted.
[3] You can finding matching gearboxes in section 22.1.5.5 from page 195.
[4] All flange types for linear modules HM-B can be found in Table 22.1 from page 160, for linear tables HT-B in Table 22.2 from page 166 If no flange type is selected, the order code ends after this digit.

### 16.3 Dimensions and specifications of HS21-D-M




1) Omitted for variant without energy chain

$L_{ST}$ Stroke
WA Working space
1e Interface application

| Table 16.1 **HS21-D-M dimensions** | |
|---|---|
| **Total length X-axis $L_{Tx}$ [mm]** | $L_{Tx} = L_{ST\_x} + 399$ |
| **Total length Y-axis $L_{Ty}$ [mm]** | $L_{Ty} = L_{ST\_y} + 329$ |

| Table 16.2 **Energy chain** | | |
|---|---|---|
| | **X-axis** | **Y-axis** |
| **Inner cross section W × H [mm]** | 77 × 25 | 57 × 25 |
| **Bending radius [mm]** | 100 | 75 |
| **End position at electrical zero F [mm]** | $L_{Xe} = 190.5$ | $L_{Ye} = 7.0$ |
| **End position at mechanical zero [mm]** | $L_{Xe} = 195.5$ | $L_{Ye} = 2.0$ |

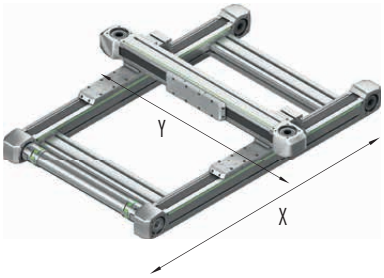



Table 16.3 **General technical data**

| | X-axis | Y-axis |
|---|---|---|
| **Axis type** | HD1N | HM040B-N |
| **Type of carriage** | L | M |
| **Max. feed force $F_{x\_max}$ [N]** | 450 | 300 |
| **Max. speed [1] [m/s]** | 5 | |
| **Max. acceleration [1] [m/s²]** | 30 | |
| **Max. drive torque $M_{A\_max}$ [Nm]** | 8 | 5 |
| **Max. stroke [mm]** | 3,000 | 1,300 |
| **Typical load capacity [kg]** | 5 | |

[1] Restrictions possible with variant with energy chain depending on the stroke

Note: Dimensions and specifications of double axis HD1 can be found in section 15.3 on page 106
Dimensions and specifications of single axis HM040B can be found in section 5.3 on page 26

Table 16.4 **Drive**

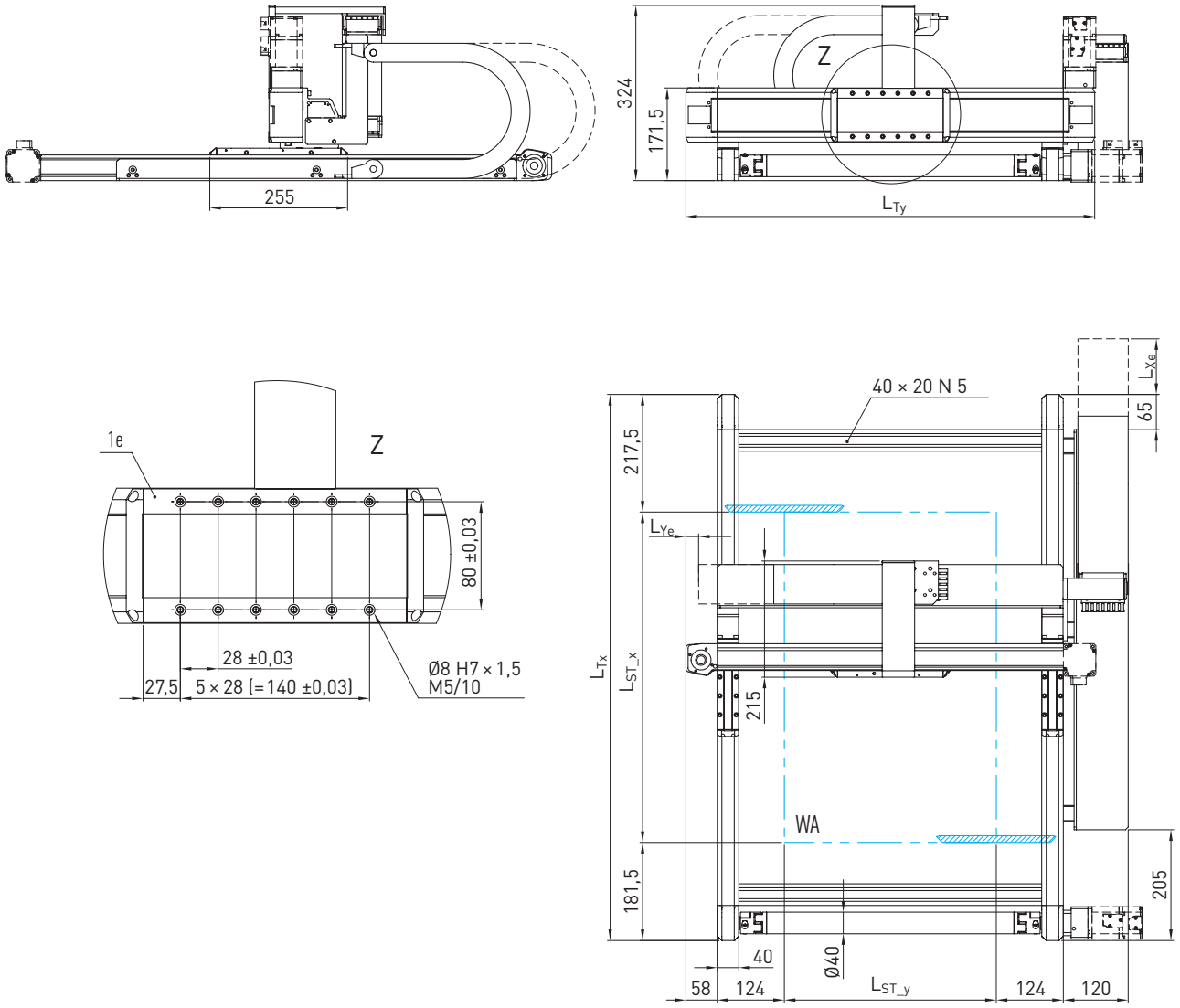
| | X-axis | Y-axis |
|---|---|---|
| **Toothed belt drive element** | B15HTD3 | |
| **Feed constant [mm/U]** | 111 | |
| **Toothed belt effective diameter [mm]** | 35.33 | |

Table 16.5 **Mechanical properties**

| | |
|---|---|
| **Moving mass Y-axis [kg]** | 0.41 |
| **Moving mass X-axis at 0-stroke Y-axis [kg]** | 2.92 |
| **Moving mass X-axis per 1 m stroke Y-axis [kg/m]** | 3.02 |
| **Mass of total system at 0-stroke X- and Y-axis [kg]** | 6.93 |
| **Mass of total system per 1 m stroke X-axis [kg/m]** | 6.04 |
| **Mass of total system per 1 m stroke Y-axis [kg/m]** | 5.36 |

Note: All values without energy chain and without drive

### 16.4 Dimensions and specifications of HS21-D-T




$L_{ST}$ Stroke
WA Working space
1e Interface application

| Table 16.6 **HS21-D-T dimensions** | |
|---|---|
| **Total length X-axis $L_{Tx}$ [mm]** | $L_{Tx} = L_{ST\_x} + 399$ |
| **Total length Y-axis $L_{Ty}$ [mm]** | $L_{Ty} = L_{ST\_y} + 364$ |

Table 16.7 **Energy chain**

| | X-axis | Y-axis |
|---|---|---|
| **Inner cross section W × H [mm]** | 77 × 25 | 57 × 25 |
| **Bending radius [mm]** | 100 | 75 |
| **End position at electrical zero F [mm]** | $L_{Xe}$ = 190.5 | $L_{Ye}$ = 23.5 |
| **End position at mechanical zero [mm]** | $L_{Xe}$ = 195.5 | $L_{Ye}$ = 11.0 |

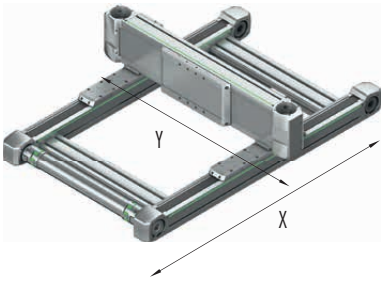



Table 16.8 **General technical data**

| | X-axis | Y-axis |
|---|---|---|
| **Axis type** | HD1N | HT100B-C |
| **Type of carriage** | L | S |
| **Max. feed force $F_{x\_max}$ [N]** | 450 | 813 |
| **Max. speed [1] [m/s]** | 5 | |
| **Max. acceleration [1] [m/s²]** | 30 | |
| **Max. drive torque $M_{A\_max}$ [Nm]** | 8 | 14 |
| **Max. stroke [mm]** | 3,000 | 1,300 |
| **Typical load capacity [kg]** | 20 | |

[1] Restrictions possible with variant with energy chain depending on the stroke
Note: Dimensions and specifications of double axis HD1 can be found in section 15.3 on page 106
Dimensions and specifications of linear table HT100B can be found in section 7.3 on page 46

Table 16.9 **Drive**

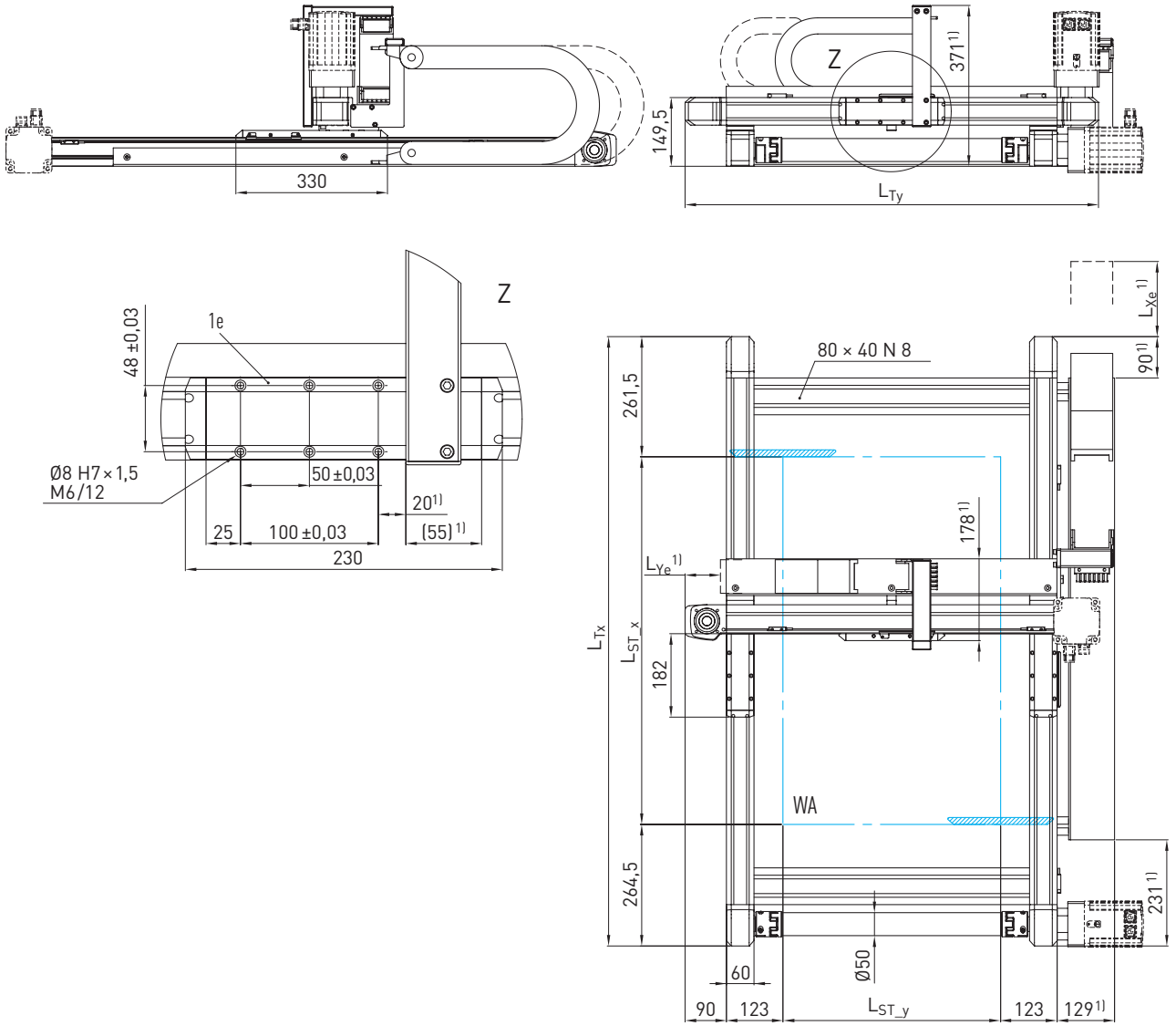
| | X-axis | Y-axis |
|---|---|---|
| **Toothed belt drive element** | B15HTD3 | B25HTD5 |
| **Feed constant [mm/U]** | 111 | 105 |
| **Toothed belt effective diameter [mm]** | 35.33 | 33.42 |

Table 16.10 **Mechanical properties**

| | |
|---|---|
| **Moving mass Y-axis [kg]** | 1.59 |
| **Moving mass X-axis at 0-stroke Y-axis [kg]** | 6.22 |
| **Moving mass X-axis per 1 m stroke Y-axis [kg/m]** | 6.71 |
| **Mass of total system at 0-stroke X- and Y-axis [kg]** | 10.48 |
| **Mass of total system per 1 m stroke X-axis [kg/m]** | 6.04 |
| **Mass of total system per 1 m stroke Y-axis [kg/m]** | 9.10 |

Note: All values without energy chain and without drive

### 16.5 Dimensions and specifications of HS22-D-M




1) Omitted for variant without energy chain

$L_{ST}$ Stroke
WA Working space
1e Interface application

| Table 16.11 **HS22-D-M dimensions** | |
|---|---|
| **Total length X-axis $L_{Tx}$ [mm]** | $L_{Tx} = L_{ST\_x} + 526$ |
| **Total length Y-axis $L_{Ty}$ [mm]** | $L_{Ty} = L_{ST\_y} + 426$ |

| Table 16.12 **Energy chain** | | |
|---|---|---|
| | **X-axis** | **Y-axis** |
| **Inner cross section W × H [mm]** | 75 × 35 | 57 × 25 |
| **Bending radius [mm]** | 100 | 75 |
| **End position at electrical zero F [mm]** | $L_{Xe}$ = 199.0 | $L_{Ye}$ = 45.5 |
| **End position at mechanical zero [mm]** | $L_{Xe}$ = 206.5 | $L_{Ye}$ = 38.0 |

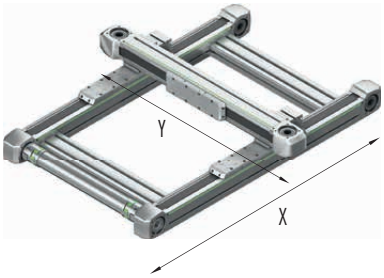



Table 16.13 **General technical data**

| | X-axis | Y-axis |
|---|---|---|
| **Axis type** | HD2N | HM060B-N |
| **Type of carriage** | L | M |
| **Max. feed force $F_{x\_max}$ [N]** | 1,323 | 882 |
| **Max. speed [1] [m/s]** | 5 | |
| **Max. acceleration [1] [m/s²]** | 30 | |
| **Max. drive torque $M_{A\_max}$ [Nm]** | 33 | 22 |
| **Max. stroke [mm]** | 5,000 | 1,700 |
| **Typical load capacity [kg]** | 12 | |

[1] Restrictions possible with variant with energy chain depending on the stroke

Note: Dimensions and specifications of double axis HD2 can be found in section 15.4 on page 107
Dimensions and specifications of single axes HM060B can be found in section 5.4 on page 28

Table 16.14 **Drive**

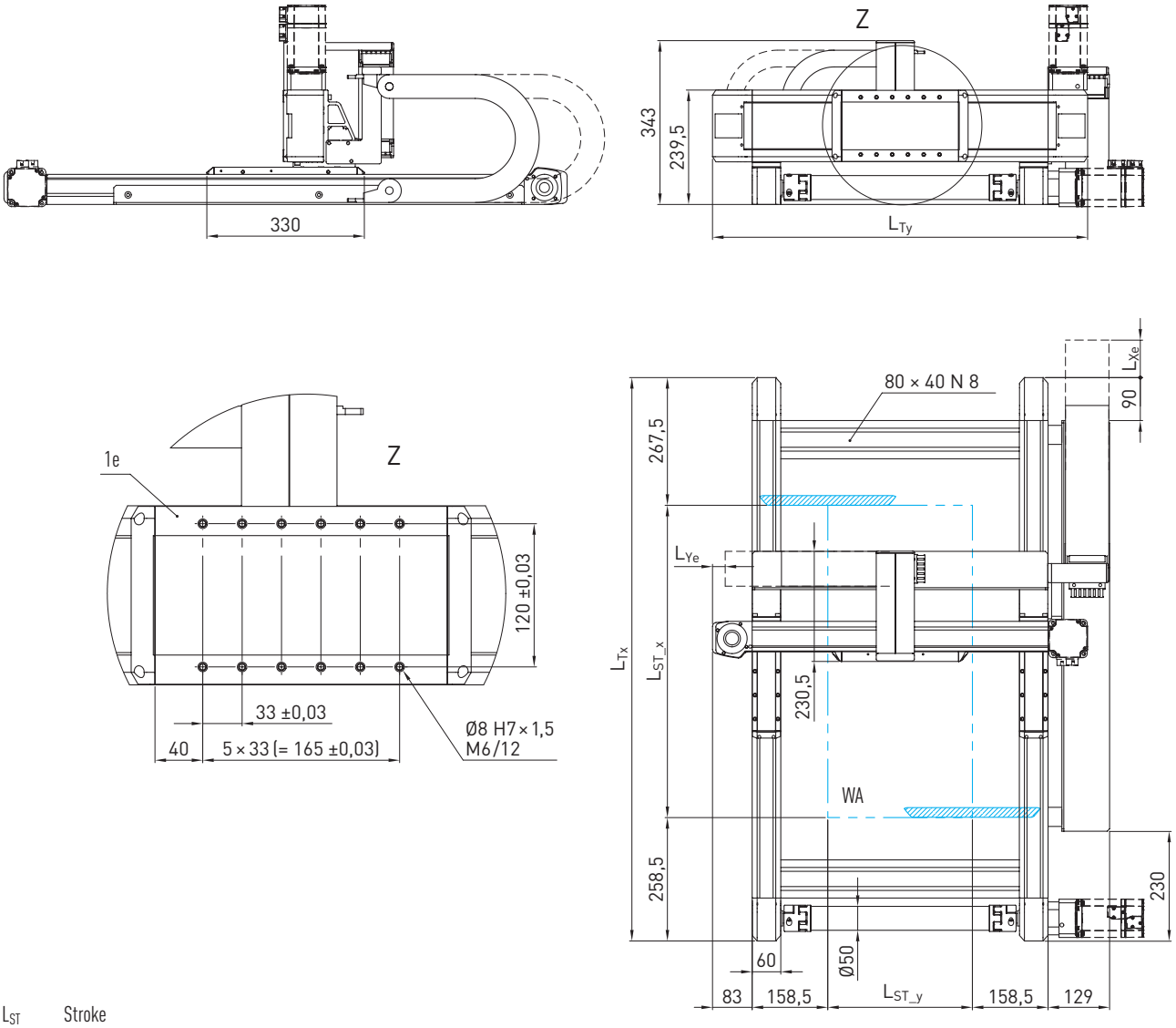
| | X-axis | Y-axis |
|---|---|---|
| **Toothed belt drive element** | B25HTD5 | |
| **Feed constant [mm/U]** | 155 | |
| **Toothed belt effective diameter [mm]** | 49.34 | |

Table 16.15 **Mechanical properties**

| | |
|---|---|
| **Moving mass Y-axis [kg]** | 1.02 |
| **Moving mass X-axis at 0-stroke Y-axis [kg]** | 7.04 |
| **Moving mass X-axis per 1 m stroke Y-axis [kg/m]** | 5.47 |
| **Mass of total system at 0-stroke X- and Y-axis [kg]** | 17.23 |
| **Mass of total system per 1 m stroke X-axis [kg/m]** | 10.93 |
| **Mass of total system per 1 m stroke Y-axis [kg/m]** | 15.70 |

Note: All values without energy chain and without drive

### 16.6 Dimensions and specifications of HS22-D-T




$L_{ST}$ Stroke
WA Working space
1e Interface application

Table 16.16 **HS22-D-T dimensions**

| | |
|---|---|
| **Total length X-axis $L_{Tx}$ [mm]** | $L_{Tx} = L_{ST\_x} + 526$ |
| **Total length Y-axis $L_{Ty}$ [mm]** | $L_{Ty} = L_{ST\_y} + 483$ |

Table 16.17 **Energy chain**

| | X-axis | Y-axis |
|---|---|---|
| **Inner cross section W × H [mm]** | 75 × 35 | 57 × 25 |
| **Bending radius [mm]** | 100 | 75 |
| **End position at electrical zero F [mm]** | $L_{Xe} = 199.0$ | $L_{Ye} = 26.5$ |
| **End position at mechanical zero [mm]** | $L_{Xe} = 206.5$ | $L_{Ye} = 16.5$ |

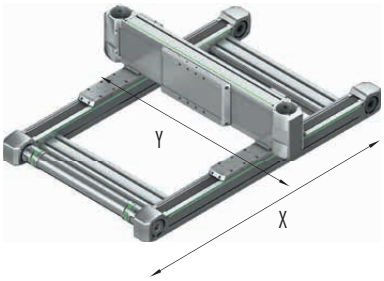



Table 16.18 **General technical data**

| | X-axis | Y-axis |
|---|---|---|
| **Axis type** | HD2N | HT150B-C |
| **Type of carriage** | L | S |
| **Max. feed force $F_{x\_max}$ [N]** | 1,323 | 1,300 |
| **Max. speed [1] [m/s]** | 5 | |
| **Max. acceleration [1] [m/s²]** | 30 | |
| **Max. drive torque $M_{A\_max}$ [Nm]** | 33 | 32 |
| **Max. stroke [mm]** | 5,000 | 1,650 |
| **Typical load capacity [kg]** | 40 | |

[1] Restrictions possible with variant with energy chain depending on the stroke
Note: Dimensions and specifications of double axis HD2 can be found in section 15.4 on page 107
Dimensions and specifications of linear table HT150B can be found in section 7.4 on page 48

Table 16.19 **Drive**

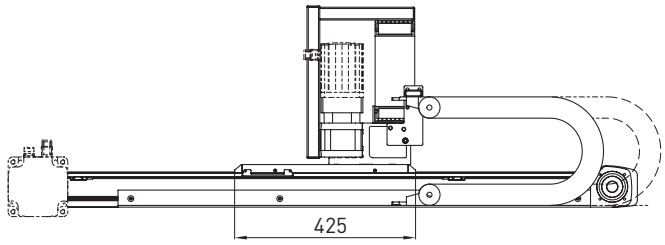
| | X-axis | Y-axis |
|---|---|---|
| **Toothed belt drive element** | B25HTD5 | B40HTD5 |
| **Feed constant [mm/U]** | 155 | |
| **Toothed belt effective diameter [mm]** | 49.34 | |

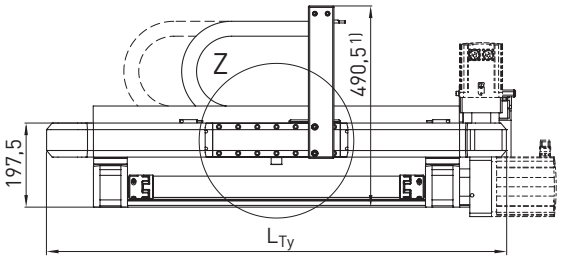
Table 16.20 **Mechanical properties**

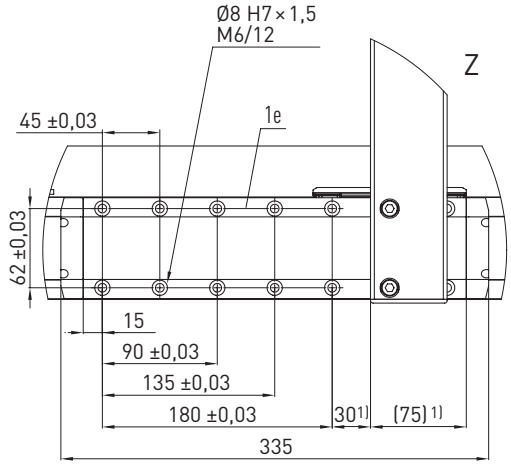
| | |
|---|---|
| **Moving mass Y-axis [kg]** | 3.08 |
| **Moving mass X-axis at 0-stroke Y-axis [kg]** | 13.48 |
| **Moving mass X-axis per 1 m stroke Y-axis [kg/m]** | 11.16 |
| **Mass of total system at 0-stroke X- and Y-axis [kg]** | 24.70 |
| **Mass of total system per 1 m stroke X-axis [kg/m]** | 10.93 |
| **Mass of total system per 1 m stroke Y-axis [kg/m]** | 21.48 |

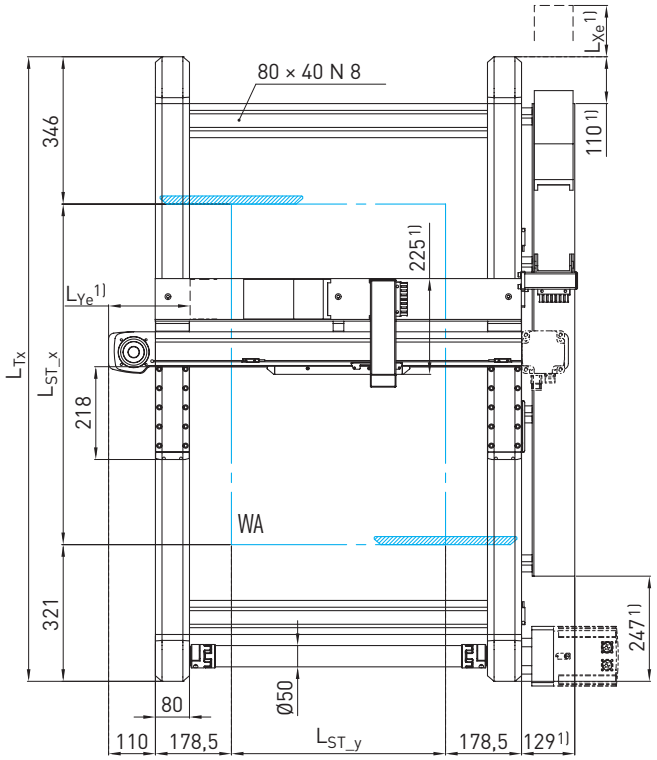
Note: All values without energy chain and without drive

### 16.7 Dimensions and specifications of HS23-D-M




1) Omitted for variant without energy chain

$L_{ST}$ Stroke
WA Working space
1e Interface application

Table 16.21 **HS23-D-M dimensions**

| | |
|---|---|
| **Total length X-axis $L_{Tx}$ [mm]** | $L_{Tx} = L_{ST\_x} + 667$ |
| **Total length Y-axis $L_{Ty}$ [mm]** | $L_{Ty} = L_{ST\_y} + 577$ |

Table 16.22 **Energy chain**

| | X-axis | Y-axis |
|---|---|---|
| **Inner cross section W × H [mm]** | 75 × 35 | 77 × 25 |
| **Bending radius [mm]** | 100 | 100 |
| **End position at electrical zero F [mm]** | $L_{Xe} = 159.5$ | $L_{Ye} = 158.5$ |
| **End position at mechanical zero [mm]** | $L_{Xe} = 169.5$ | $L_{Ye} = 148.5$ |

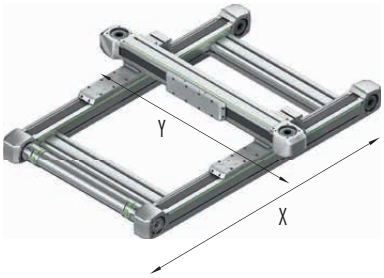



Table 16.23 **General technical data**

| | X-axis | Y-axis |
|---|---|---|
| **Axis type** | HD3N | HM080B-N |
| **Type of carriage** | L | M |
| **Max. feed force $F_{x\_max}$ [N]** | 1,852 | 1,235 |
| **Max. speed [1] [m/s]** | 5 | |
| **Max. acceleration [1] [m/s²]** | 30 | |
| **Max. drive torque $M_{A\_max}$ [Nm]** | 56 | 37 |
| **Max. stroke [mm]** | 5,000 | 1,600 |
| **Typical load capacity [kg]** | 30 | |

[1] Restrictions possible with variant with energy chain depending on the stroke

Note: Dimensions and specifications of double axis HD3 can be found in section 15.5 on page 108
Dimensions and specifications of single axis HM080B can be found in section 5.5 on page 30

Table 16.24 **Drive**

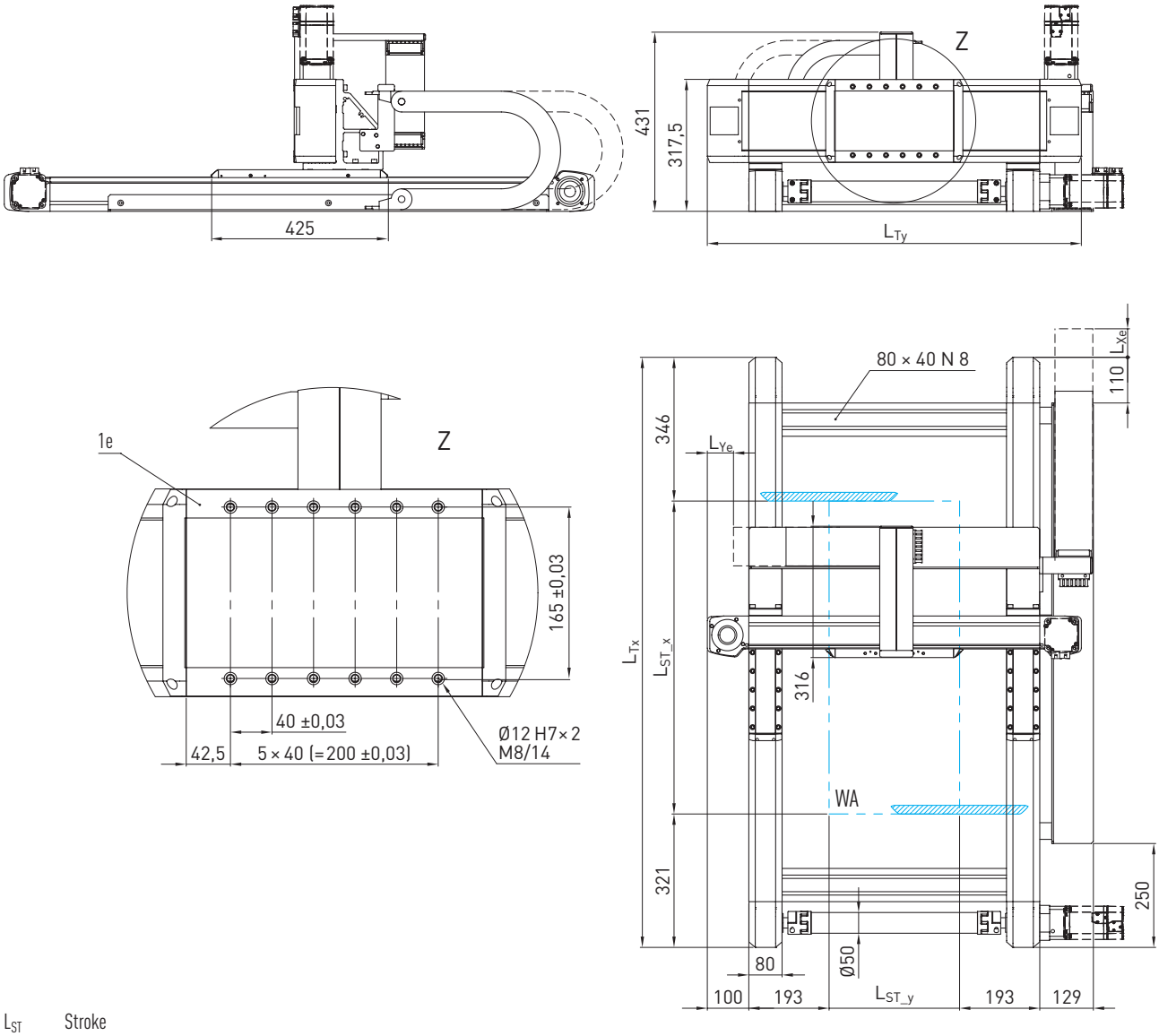
| | X-axis | Y-axis |
|---|---|---|
| **Toothed belt drive element** | B35HTD5 | |
| **Feed constant [mm/U]** | 190 | |
| **Toothed belt effective diameter [mm]** | 60.48 | |

Table 16.25 **Mechanical properties**

| | |
|---|---|
| **Moving mass Y-axis [kg]** | 2.09 |
| **Moving mass X-axis at 0-stroke Y-axis [kg]** | 15.12 |
| **Moving mass X-axis per 1 m stroke Y-axis [kg/m]** | 9.86 |
| **Mass of total system at 0-stroke X- and Y-axis [kg]** | 35.39 |
| **Mass of total system per 1 m stroke X-axis [kg/m]** | 19.73 |
| **Mass of total system per 1 m stroke Y-axis [kg/m]** | 20.27 |

Note: All values without energy chain and without drive

### 16.8 Dimensions and specifications of HS23-D-T




$L_{ST}$ Stroke
WA Working space
1e Interface application

| Table 16.26 **HS23-D-T dimensions** | |
|---|---|
| **Total length X-axis $L_{Tx}$ [mm]** | $L_{Tx} = L_{ST\_x} + 667$ |
| **Total length Y-axis $L_{Ty}$ [mm]** | $L_{Ty} = L_{ST\_y} + 586$ |

| Table 16.27 **Energy chain** | | |
|---|---|---|
| | **X-axis** | **Y-axis** |
| **Inner cross section W × H [mm]** | 75 × 35 | 77 × 25 |
| **Bending radius [mm]** | 100 | 100 |
| **End position at electrical zero F [mm]** | $L_{Xe} = 159.5$ | $L_{Ye} = 63.0$ |
| **End position at mechanical zero [mm]** | $L_{Xe} = 169.5$ | $L_{Ye} = 48.0$ |

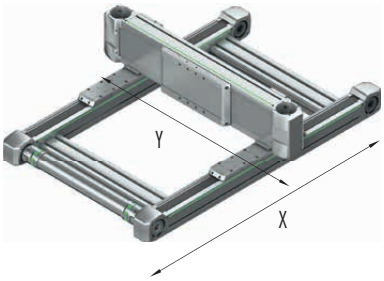



Table 16.28 **General technical data**

| | X-axis | Y-axis |
|---|---|---|
| **Axis type** | HD3N | HT200B-C |
| **Type of carriage** | L | S |
| **Max. feed force $F_{x\_max}$ [N]** | 1,852 | 3,000 |
| **Max. speed [1] [m/s]** | 5 | |
| **Max. acceleration [1] [m/s²]** | 30 | |
| **Max. drive torque $M_{A\_max}$ [Nm]** | 56 | 88 |
| **Max. stroke [mm]** | 5,000 | 1,550 |
| **Typical load capacity [kg]** | 80 | |

[1] Restrictions possible with variant with energy chain depending on the stroke
Note: Dimensions and specifications of double axis HD3 can be found in section 15.5 on page 108
Dimensions and specifications of linear table HT200B can be found in section 7.5 on page 50

Table 16.29 **Drive**

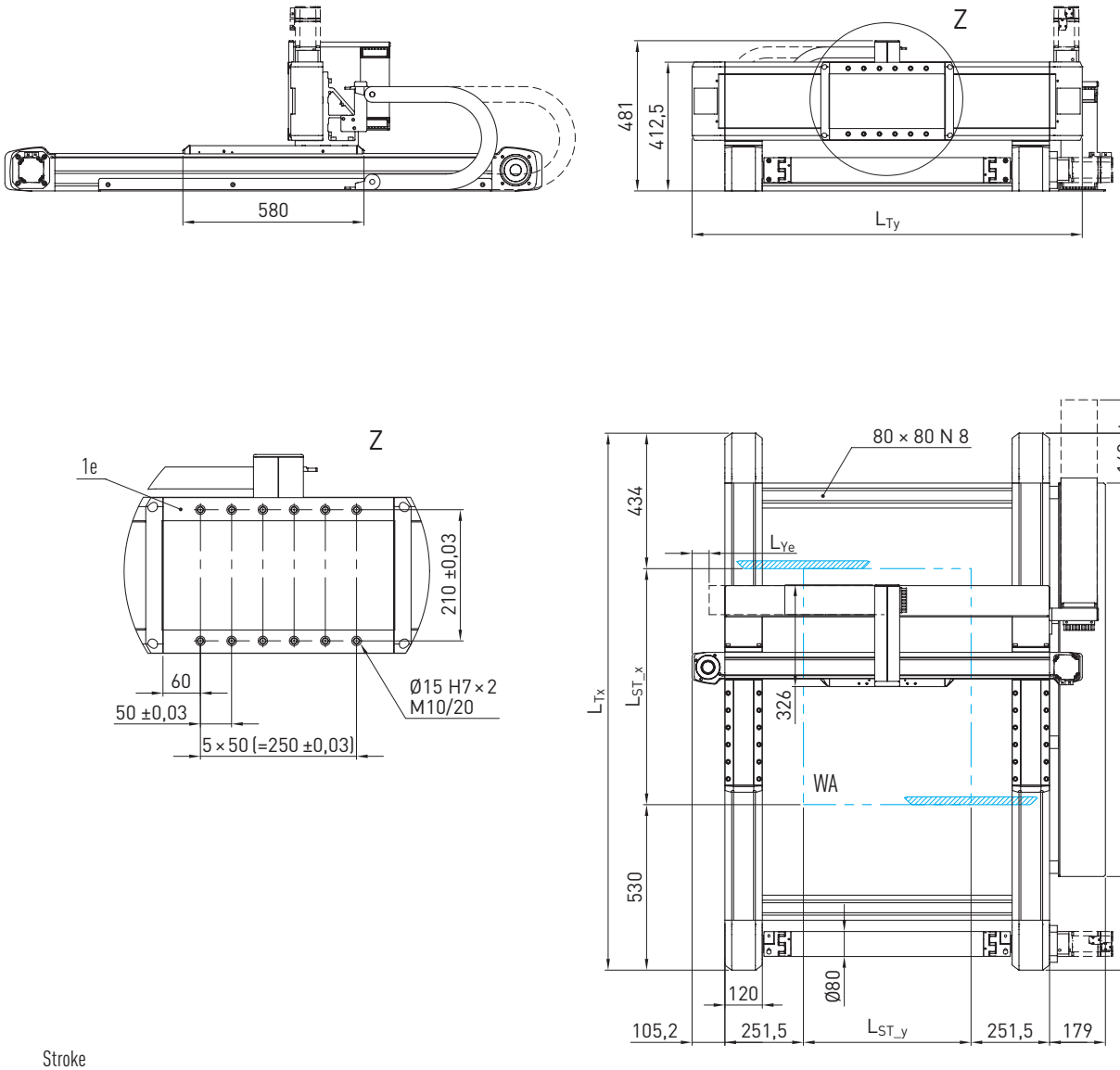
| | X-axis | Y-axis |
|---|---|---|
| **Toothed belt drive element** | B35HTD5 | B50HTD8 |
| **Feed constant [mm/U]** | 190 | 184 |
| **Toothed belt effective diameter [mm]** | 60.48 | 58.57 |

Table 16.30 **Mechanical properties**

| | |
|---|---|
| **Moving mass Y-axis [kg]** | 5.52 |
| **Moving mass X-axis at 0-stroke Y-axis [kg]** | 26.89 |
| **Moving mass X-axis per 1 m stroke Y-axis [kg/m]** | 17.57 |
| **Mass of total system at 0-stroke X- and Y-axis [kg]** | 48.21 |
| **Mass of total system per 1 m stroke X-axis [kg/m]** | 19.73 |
| **Mass of total system per 1 m stroke Y-axis [kg/m]** | 28.01 |

Note: All values without energy chain and without drive

### 16.9 Dimensions and specifications of HS24-D-T




$L_{ST}$ Stroke
WA Working space
1e Interface application

| Table 16.31 **HS24-D-T dimensions** | |
|---|---|
| **Total length X-axis $L_{Tx}$ [mm]** | $L_{Tx} = L_{ST\_x} + 964$ |
| **Total length Y-axis $L_{Ty}$ [mm]** | $L_{Ty} = L_{ST\_y} + 713$ |

| Table 16.32 **Energy chain** | | |
|---|---|---|
| | **X-axis** | **Y-axis** |
| **Inner cross section W × H [mm]** | 100 × 35 | 77 × 25 |
| **Bending radius [mm]** | 125 | 100 |
| **End position at electrical zero F [mm]** | $L_{Xe} = 116.5$ | $L_{Ye} = 111.5$ |
| **End position at mechanical zero [mm]** | $L_{Xe} = 136.5$ | $L_{Ye} = 91.5$ |

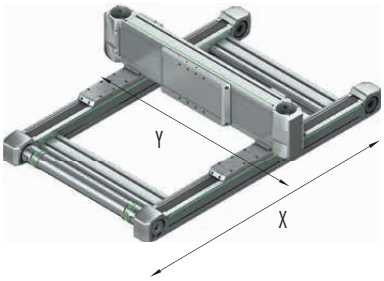



Table 16.33 **General technical data**

| | X-axis | Y-axis |
|---|---|---|
| **Axis type** | HD4N | HT250B-C |
| **Type of carriage** | L | S |
| **Max. feed force $F_{x\_max}$ [N]** | 4,385 | 4,500 |
| **Max. speed [1] [m/s]** | 5 | |
| **Max. acceleration [1] [m/s²]** | 30 | |
| **Max. drive torque $M_{A\_max}$ [Nm]** | 201 | 149 |
| **Max. stroke [mm]** | 5,000 | 1,400 |
| **Typical load capacity [kg]** | 130 | |

[1] Restrictions possible with variant with energy chain depending on the stroke
Note: Dimensions and specifications of double axis HD4 can be found in section 15.6 on page 109
Dimensions and specifications of linear table HT250B can be found in section 7.6 on page 52

Table 16.34 **Drive**

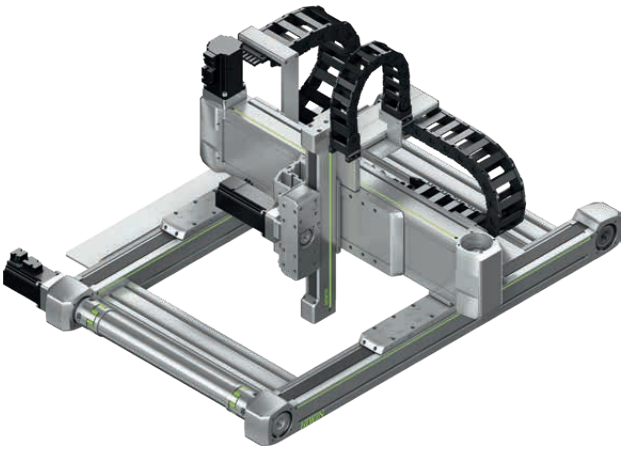
| | X-axis | Y-axis |
|---|---|---|
| **Toothed belt drive element** | B60HTD8 | B75HTD8 |
| **Feed constant [mm/U]** | 288 | 208 |
| **Toothed belt effective diameter [mm]** | 91.67 | 66.21 |

Table 16.35 **Mechanical properties**

| | |
|---|---|
| **Moving mass Y-axis [kg]** | 10.27 |
| **Moving mass X-axis at 0-stroke Y-axis [kg]** | 53.78 |
| **Moving mass X-axis per 1 m stroke Y-axis [kg/m]** | 22.87 |
| **Mass of total system at 0-stroke X- and Y-axis [kg]** | 114.13 |
| **Mass of total system per 1 m stroke X-axis [kg/m]** | 41.54 |
| **Mass of total system per 1 m stroke Y-axis [kg/m]** | 39.62 |

Note: All values without energy chain and without drive

## 17. Two-axis systems HS3



### 17.1 Properties of three-axis systems HS3

HIWIN three-axis systems HS3 are flexible units for positioning along the X- Y- and Z-axis. They consist of a HIWIN double axis HD in the X direction, a HIWIN belt axis HT-B in the Y direction and a HIWIN cantilever axis HC-B in the Z direction. HIWIN HS32 three-axis systems are particularly suitable for three-dimensional movements.

**Energy chain**

Generously dimensioned energy chains provide space for safely carrying the supply lines. The energy chains are integrated into the complete system in a particularly compact and space-saving way.

**Maximum axis speed in X direction**

The maximum axis speed in the X direction depends on the size and the centre distance, which in the three-axis system HS3 results from the selected stroke in the Y direction. The dependence of the maximum axis speed on stroke length Y can be determined from the diagram in Fig. 17.1.

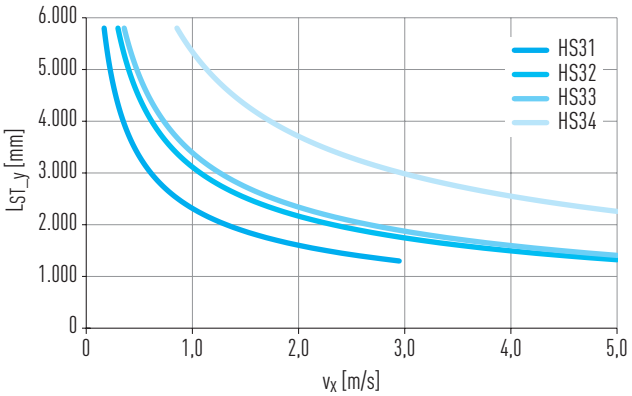



Fig. 17.1 **Max. axis speed v in X direction, as a function of stroke $L_{ST}$ in Y direction**

### 17.2 Order code for three-axis systems HS3

| HS | 3 | 2 | X | D2 | Y | T2 | Z | C1 – |
|---|---|---|---|---|---|---|---|---|

**HIWIN axis system**

**Axis system type:**
3: Three-axis system

**Size (profile width of the X-axis):**
1: 40 mm
2: 60 mm
3: 80 mm
4: 120 mm

**Axis 1 identifier:**
X

**Type and size of axis 1:**
D1: Double axis HD1
D2: Double axis HD2
D3: Double axis HD3
D4: Double axis HD4

**Type and size of axis 3:**
C0: HC025B
C1: HC040B
C2: HC060B
C3: HC080B

**Axis 3 identifier:**
Z

**Type and size of axis 2:**
T1: HT100B
T2: HT150B
T3: HT200B
T4: HT250B

**Axis 2 identifier:**
Y

Continuation, order code for three-axis systems HS3

| 1000 – | 0800 – | 0600 | A | 3 | R | BR04 | G0803 – | BE04 | G0608 – | B002 | G0405 |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Stroke axis 1 [mm]**

**Stroke axis 2 [mm]**

**Stroke axis 3 [mm]**

**Axis limit switch:**
N: Without limit switch
A: 2 × normally closed, 100 mm cable, connector

**Energy chain:**
N: Without
1: Energy chain on X-axis
2: Energy chain on X- and Y-axis
3: Energy chain on X-, Y- and Z-axis

**Gearbox, axis 3** [3]

**Motor flange type, axis 3** [5]

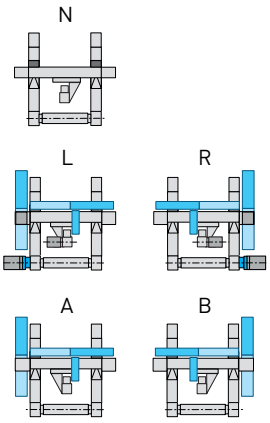
**Gearbox, axis 2** [3]

**Motor flange type, axis 2** [4]

**Gearbox, axis 1** [3]

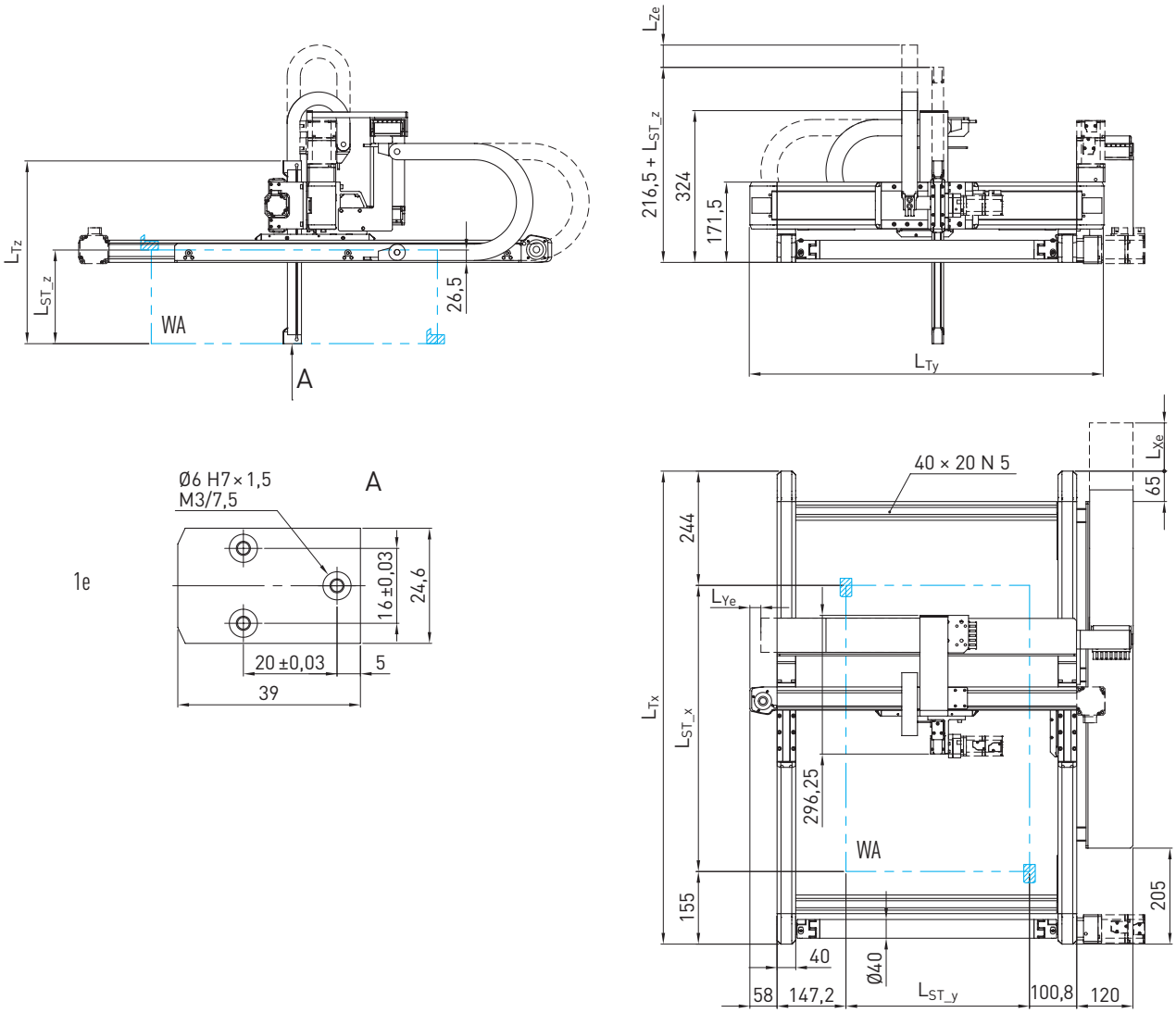
**Motor flange type, axis 1** [2]

**Drive interface** [1]**:**
N: Without drive adapter/ Without energy chain
L: Drive adapter left
R: Drive adapter right
A: Without drive adapter, Drive interface left
B: Without drive adapter, Drive interface right




[1] If no drive interface is selected, the order code ends after this digit.
[2] You can find all flange types in Table 22.1 from page 160. If no flange type is selected, the "Gearbox, axis 1" position is omitted.
[3] You can finding matching gearboxes in section 22.1.5.5 from page 195.
[4] You can find all flange types in Table 22.2 from page 166. If no flange type is selected, the "Gearbox, axis 2" position is omitted.
[5] You can find all flange types in Table 22.4 from page 177. If no flange type is selected, the order code ends after this digit.

### 17.3 Dimensions and specifications of HS31-D-T-C




$L_{ST}$ Stroke
WA Working space
1e Interface application

| Table 17.1 **HS31-D-T-C dimensions** | |
|---|---|
| **Total length X-axis $L_{Tx}$ [mm]** | $L_{Tx} = L_{ST\_x} + 399$ |
| **Total length Y-axis $L_{Ty}$ [mm]** | $L_{Ty} = L_{ST\_y} + 364$ |
| **Total length Z-axis $L_{Tz}$ [mm]** | $L_{Tz} = L_{ST\_z} + 190$ |

| Table 17.2 **Energy chain** | | | |
|---|---|---|---|
| | **X-axis** | **Y-axis** | **Z-axis** |
| **Inner cross section W × H [mm]** | 77 × 25 | 57 × 25 | 20 × 21 |
| **Bending radius [mm]** | 100 | 75 | 48 |
| **End position at electrical zero F [mm]** | $L_{Xe} = 190.5$ | $L_{Ye} = 23.5$ | $L_{Ze} = 151.0 - L_{ST}/2$ |
| **End position at mechanical zero [mm]** | $L_{Xe} = 195.5$ | $L_{Ye} = 11.0$ | $L_{Ze} = 147.5 - L_{ST}/2$ |

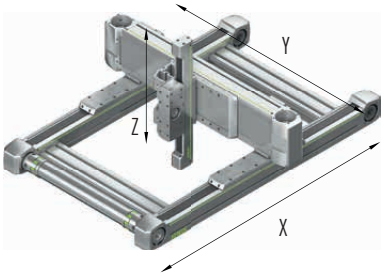



Table 17.3 **General technical data**

| | X-axis | Y-axis | Z-axis |
|---|---|---|---|
| **Axis type** | HD1N | HT100B-C | HC025B |
| **Type of carriage** | L | S | |
| **Max. feed force $F_{x\_max}$ [N]** | 450 | 813 | 241 |
| **Max. speed [1] [m/s]** | 5 | | |
| **Max. acceleration [1] [m/s²]** | 30 | | |
| **Max. drive torque $M_{A\_max}$ [Nm]** | 8 | 14 | 3 |
| **Max. stroke [mm]** | 3,000 | 1,300 | 300 |
| **Typical load capacity [kg]** | 2 | | |

[1] Restrictions possible with variant with energy chain depending on the stroke

Note: Dimensions and specifications of double axis HD1 can be found in section 15.3 on page 106
Dimensions and specifications of single axis HT100B can be found in section 7.3 on page 46
Dimensions and specifications of single axis HC025B can be found in section 13.3 on page 88

Table 17.4 **Drive**

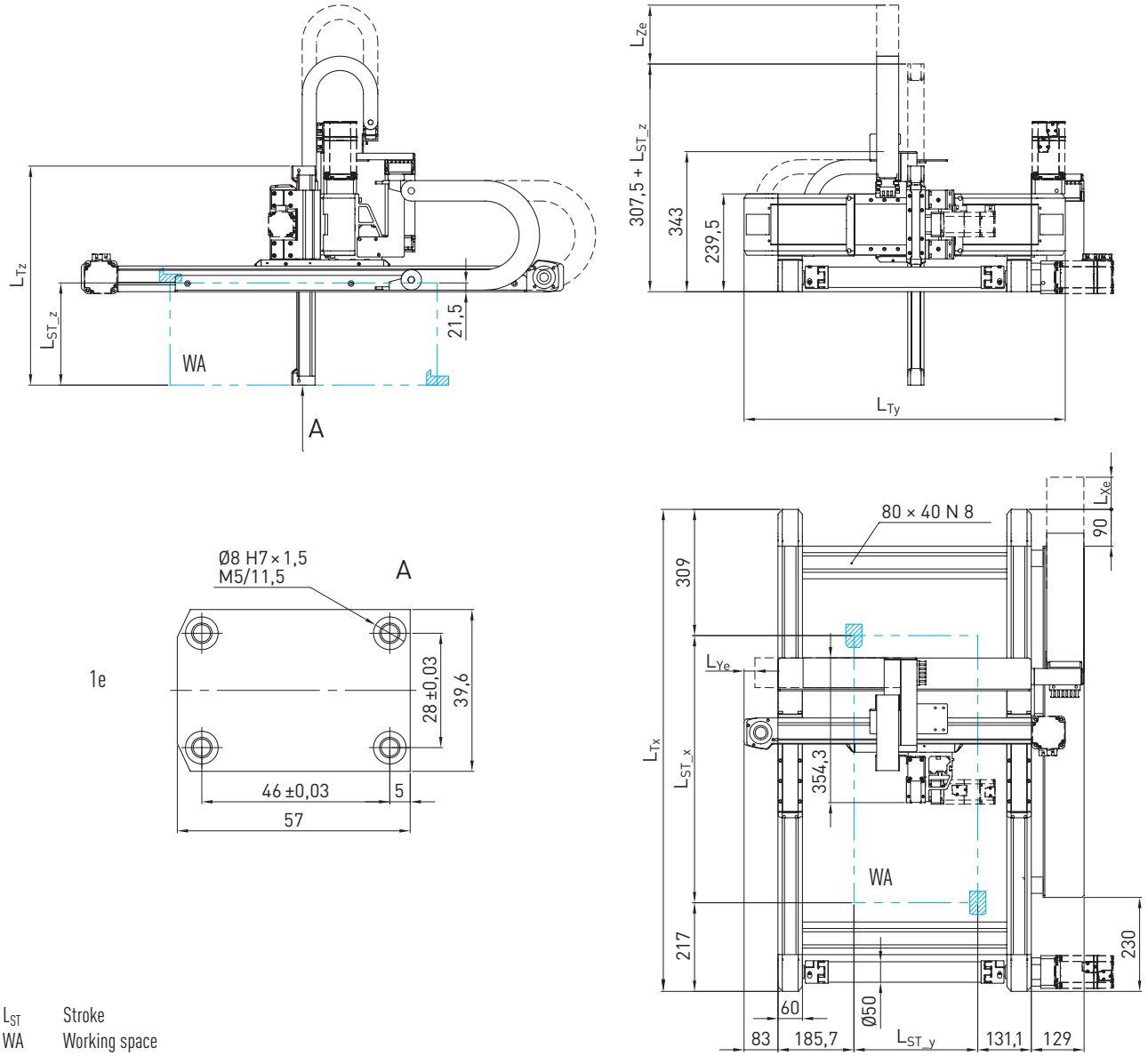
| | X-axis | Y-axis | Z-axis |
|---|---|---|---|
| **Toothed belt drive element** | B15HTD3 | B25HTD5 | B12HTD3 |
| **Feed constant [mm/U]** | 111 | 105 | 81 |
| **Toothed belt effective diameter [mm]** | 35.33 | 33.42 | 25.78 |

Table 17.5 **Mechanical properties**

| | |
|---|---|
| **Moving mass Z-axis at 0-stroke [kg]** | 0.30 |
| **Moving mass Z-axis per 1 m stroke [kg/m]** | 1.27 |
| **Moving mass Y-axis at 0-stroke Z-axis [kg]** | 2.35 |
| **Moving mass X-axis at 0-stroke Y- and Z-axis [kg]** | 6.98 |
| **Moving mass X-axis per 1 m stroke Y-axis [kg/m]** | 6.71 |
| **Mass of total system at 0-stroke X-, Y- and Z-axis [kg]** | 11.24 |
| **Mass of total system per 1 m stroke X-axis [kg/m]** | 6.04 |
| **Mass of total system per 1 m stroke Y-axis [kg/m]** | 9.10 |
| **Mass of total system per 1 m stroke Z-axis [kg/m]** | 1.27 |

Note: All values without energy chain and without drive

### 17.4 Dimensions and specifications of HS32-D-T-C




$L_{ST}$ Stroke
WA Working space
1e Interface application

| Table 17.6 **HS32-D-T-C dimensions** | |
|---|---|
| **Total length X-axis $L_{Tx}$ [mm]** | $L_{Tx} = L_{ST\_x} + 526$ |
| **Total length Y-axis $L_{Ty}$ [mm]** | $L_{Ty} = L_{ST\_y} + 483$ |
| **Total length Z-axis $L_{Tz}$ [mm]** | $L_{Tz} = L_{ST\_z} + 286$ |

Table 17.7 **Energy chain**

| | X-axis | Y-axis | Z-axis |
|---|---|---|---|
| **Inner cross section W × H [mm]** | 75 × 35 | 57 × 25 | 38 × 25 |
| **Bending radius [mm]** | 100 | 75 | 75 |
| **End position at electrical zero F [mm]** | $L_{Xe} = 199.0$ | $L_{Ye} = 26.5$ | $L_{Ze} = 274.0 - L_{ST}/2$ |
| **End position at mechanical zero [mm]** | $L_{Xe} = 206.5$ | $L_{Ye} = 16.5$ | $L_{Ze} = 269.0 - L_{ST}/2$ |

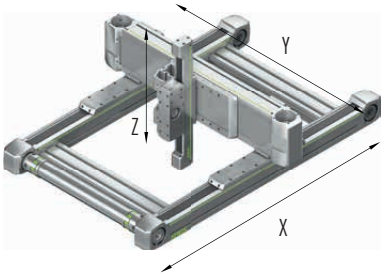



Table 17.8 **General technical data**

| | X-axis | Y-axis | Z-axis |
|---|---|---|---|
| **Axis type** | HD2N | HT150B-C | HC040B |
| **Type of carriage** | L | S | |
| **Max. feed force $F_{x\_max}$ [N]** | 1,323 | 1,300 | 404 |
| **Max. speed [1] [m/s]** | 5 | | |
| **Max. acceleration [1] [m/s²]** | 30 | | |
| **Max. drive torque $M_{A\_max}$ [Nm]** | 33 | 32 | 8 |
| **Max. stroke [mm]** | 5,000 | 1,650 | 500 |
| **Typical load capacity [kg]** | 8 | | |

[1] Restrictions possible with variant with energy chain depending on the stroke

Note: Dimensions and specifications of double axis HD2 can be found in section 15.4 on page 107
Dimensions and specifications of single axis HT150B can be found in section 7.4 on page 48
Dimensions and specifications of single axes HC040B can be found in section 13.4 on page 90

Table 17.9 **Drive**

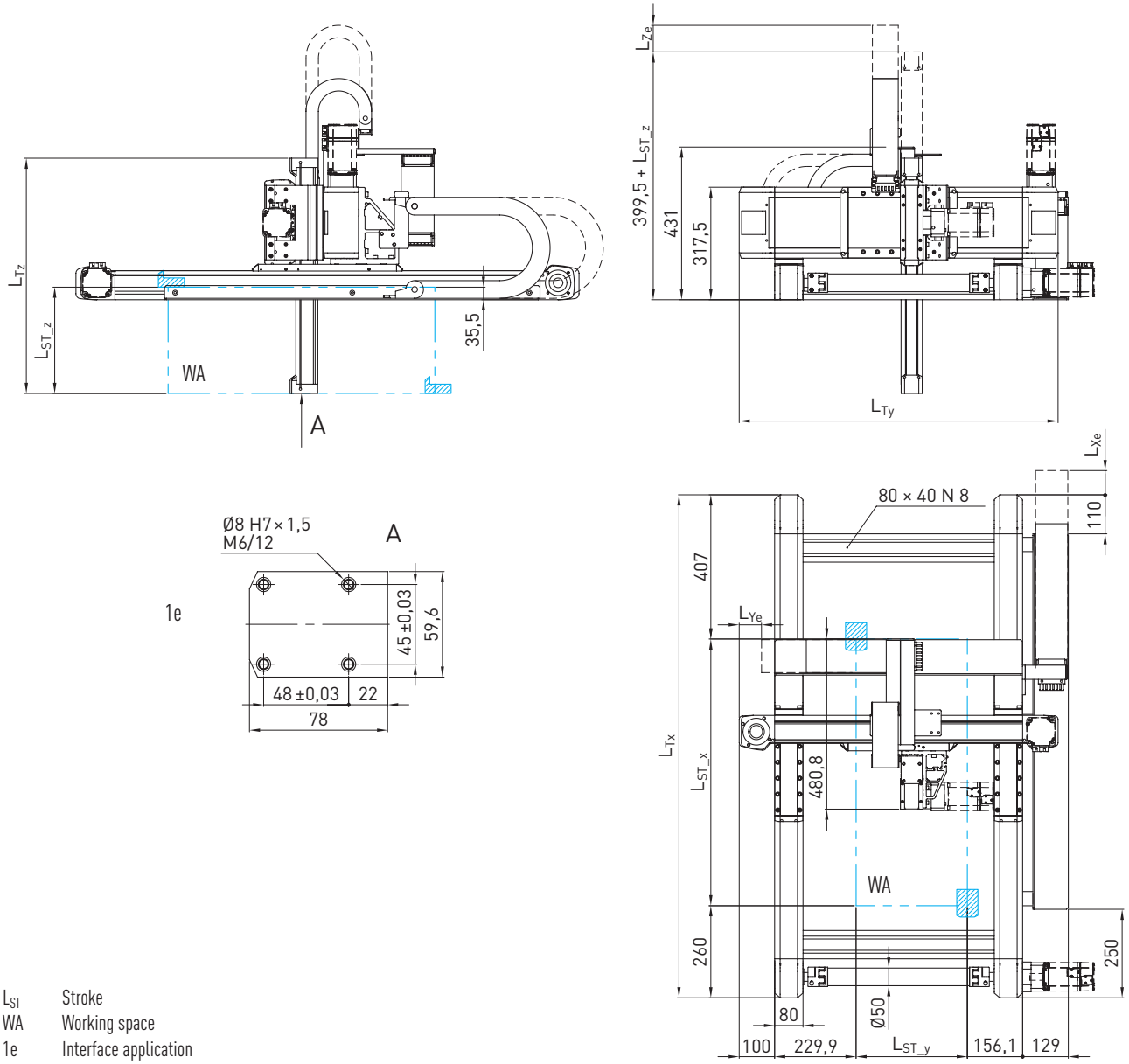
| | X-axis | Y-axis | Z-axis |
|---|---|---|---|
| **Toothed belt drive element** | B25HTD5 | B40HTD5 | B20HDT3 |
| **Feed constant [mm/U]** | 155 | | 123 |
| **Toothed belt effective diameter [mm]** | 49.34 | | 39.15 |

Table 17.10 **Mechanical properties**

| | |
|---|---|
| **Moving mass Z-axis at 0-stroke [kg]** | 0.92 |
| **Moving mass Z-axis per 1 m stroke [kg/m]** | 2.76 |
| **Moving mass Y-axis at 0-stroke Z-axis [kg]** | 6.59 |
| **Moving mass X-axis at 0-stroke Y- and Z-axis [kg]** | 17.00 |
| **Moving mass X-axis per 1 m stroke Y-axis [kg/m]** | 11.16 |
| **Mass of total system at 0-stroke X-, Y- and Z-axis [kg]** | 28.21 |
| **Mass of total system per 1 m stroke X-axis [kg/m]** | 10.93 |
| **Mass of total system per 1 m stroke Y-axis [kg/m]** | 21.48 |
| **Mass of total system per 1 m stroke Z-axis [kg/m]** | 2.76 |

Note: All values without energy chain and without drive

### 17.5 Dimensions and specifications of HS33-D-T-C




$L_{ST}$ Stroke
WA Working space
1e Interface application

| Table 17.11 **HS33-D-T-C dimensions** | |
|---|---|
| **Total length X-axis $L_{Tx}$ [mm]** | $L_{Tx} = L_{ST\_x} + 667$ |
| **Total length Y-axis $L_{Ty}$ [mm]** | $L_{Ty} = L_{ST\_y} + 586$ |
| **Total length Z-axis $L_{Tz}$ [mm]** | $L_{Tz} = L_{ST\_z} + 364$ |

| Table 17.12 **Energy chain** | | | |
|---|---|---|---|
| | **X-axis** | **Y-axis** | **Z-axis** |
| **Inner cross section W × H [mm]** | 75 × 35 | 77 × 25 | 57 × 25 |
| **Bending radius [mm]** | 100 | 100 | 75 |
| **End position at electrical zero F [mm]** | $L_{Xe} = 159.5$ | $L_{Ye} = 63.0$ | $L_{Ze} = 282.5 - L_{ST}/2$ |
| **End position at mechanical zero [mm]** | $L_{Xe} = 169.5$ | $L_{Ye} = 48.0$ | $L_{Ze} = 275.0 - L_{ST}/2$ |

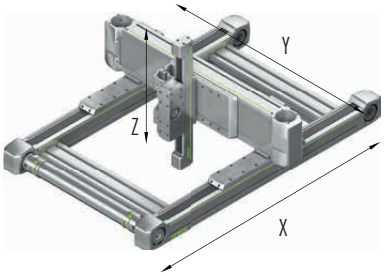



Table 17.13 **General technical data**

| | X-axis | Y-axis | Z-axis |
|---|---|---|---|
| **Axis type** | HD3N | HT200B-C | HC060B |
| **Type of carriage** | L | S | |
| **Max. feed force $F_{x\_max}$ [N]** | 1,852 | 3,000 | 983 |
| **Max. speed [1] [m/s]** | 5 | | |
| **Max. acceleration [1] [m/s²]** | 30 | | |
| **Max. drive torque $M_{A\_max}$ [Nm]** | 56 | 88 | 27 |
| **Max. stroke [mm]** | 5,000 | 1,550 | 800 |
| **Typical load capacity [kg]** | 16 | | |

[1] Restrictions possible with variant with energy chain depending on the stroke

Note: Dimensions and specifications of double axis HD3 can be found in section 15.5 on page 108
Dimensions and specifications of single axis HT200B can be found in section 7.5 on page 50
Dimensions and specifications of single axes HC060B can be found in section 13.5 on page 92

Table 17.14 **Drive**

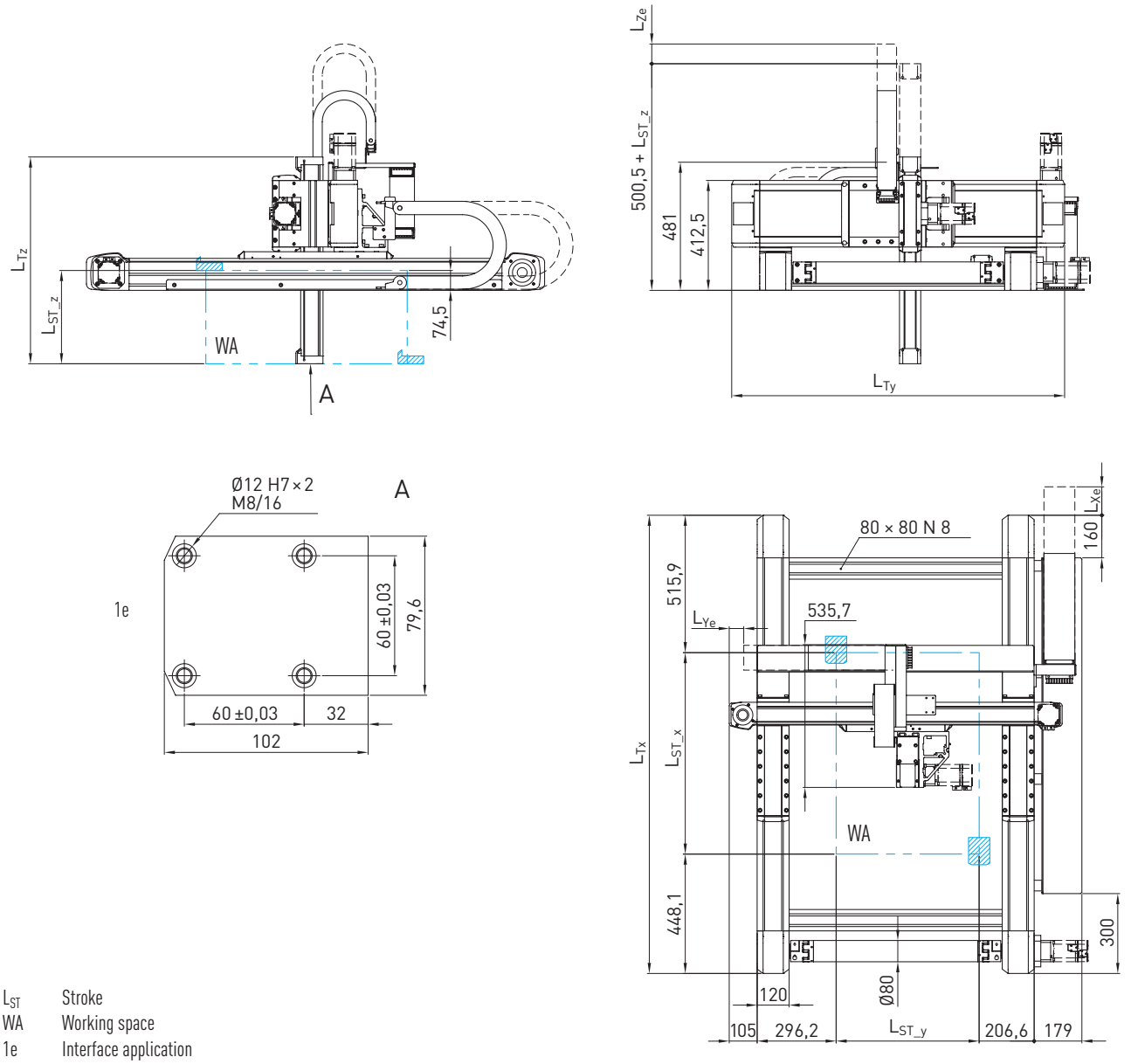
| | X-axis | Y-axis | Z-axis |
|---|---|---|---|
| **Toothed belt drive element** | B35HTD5 | B50HTD8 | B30HTD5 |
| **Feed constant [mm/U]** | 190 | 184 | 170 |
| **Toothed belt effective diameter [mm]** | 60.48 | 58.57 | 54.11 |

Table 17.15 **Mechanical properties**

| | |
|---|---|
| **Moving mass Z-axis at 0-stroke [kg]** | 2.24 |
| **Moving mass Z-axis per 1 m stroke [kg/m]** | 5.17 |
| **Moving mass Y-axis at 0-stroke Z-axis [kg]** | 12.84 |
| **Moving mass X-axis at 0-stroke Y- and Z-axis [kg]** | 34.20 |
| **Moving mass X-axis per 1 m stroke Y-axis [kg/m]** | 17.57 |
| **Mass of total system at 0-stroke X-, Y- and Z-axis [kg]** | 55.52 |
| **Mass of total system per 1 m stroke X-axis [kg/m]** | 19.73 |
| **Mass of total system per 1 m stroke Y-axis [kg/m]** | 28.01 |
| **Mass of total system per 1 m stroke Z-axis [kg/m]** | 5.17 |

Note: All values without energy chain and without drive

### 17.6 Dimensions and specifications of HS34-D-T-C




$L_{ST}$ Stroke
WA Working space
1e Interface application

Table 17.16 **HS34-D-T-C dimensions**

| | |
|---|---|
| **Total length X-axis $L_{Tx}$ [mm]** | $L_{Tx} = L_{ST\_x} + 964$ |
| **Total length Y-axis $L_{Ty}$ [mm]** | $L_{Ty} = L_{ST\_y} + 713$ |
| **Total length Z-axis $L_{Tz}$ [mm]** | $L_{Tz} = L_{ST\_z} + 426$ |

Table 17.17 **Energy chain**

| | X-axis | Y-axis | Z-axis |
|---|---|---|---|
| **Inner cross section W × H [mm]** | 100 × 35 | 77 × 25 | 57 × 25 |
| **Bending radius [mm]** | 125 | 100 | 100 |
| **End position at electrical zero F [mm]** | $L_{Xe} = 116.5$ | $L_{Ye} = 111.5$ | $L_{Ze} = 259.0 - L_{ST}/2$ |
| **End position at mechanical zero [mm]** | $L_{Xe} = 136.5$ | $L_{Ye} = 91.5$ | $L_{Ze} = 249.0 - L_{ST}/2$ |

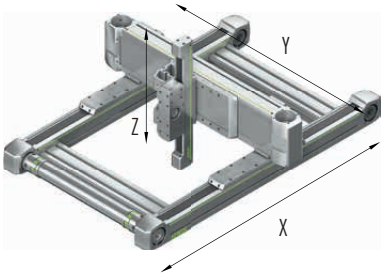



Table 17.18 **General technical data**

| | X-axis | Y-axis | Z-axis |
|---|---|---|---|
| **Axis type** | HD4N | HT250B-C | HC080B |
| **Type of carriage** | L | S | |
| **Max. feed force $F_{x\_max}$ [N]** | 4,385 | 4,500 | 1,310 |
| **Max. speed [1] [m/s]** | 5 | | |
| **Max. acceleration [1] [m/s²]** | 30 | | |
| **Max. drive torque $M_{A\_max}$ [Nm]** | 201 | 149 | 42 |
| **Max. stroke [mm]** | 5,000 | 1,400 | 1,200 |
| **Typical load capacity [kg]** | 30 | | |

[1] Restrictions possible with variant with energy chain depending on the stroke

Note: Dimensions and specifications of double axis HD4 can be found in section 15.6 on page 109
Dimensions and specifications of single axis HT250B can be found in section 7.6 on page 52
Dimensions and specifications of single axes HC080B can be found in section 13.6 on page 94

Table 17.19 **Drive**

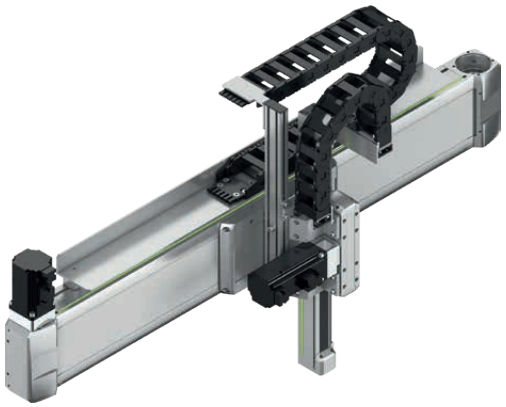
| | X-axis | Y-axis | Z-axis |
|---|---|---|---|
| **Toothed belt drive element** | B60HTD8 | B75HTD8 | B40HTD5 |
| **Feed constant [mm/U]** | 288 | 208 | 200 |
| **Toothed belt effective diameter [mm]** | 91.67 | 66.21 | 63.66 |

Table 17.20 **Mechanical properties**

| | |
|---|---|
| **Moving mass Z-axis at 0-stroke [kg]** | 4.51 |
| **Moving mass Z-axis per 1 m stroke [kg/m]** | 8.99 |
| **Moving mass Y-axis at 0-stroke Z-axis [kg]** | 25.77 |
| **Moving mass X-axis at 0-stroke Y- and Z-axis [kg]** | 69.28 |
| **Moving mass X-axis per 1 m stroke Y-axis [kg/m]** | 22.87 |
| **Mass of total system at 0-stroke X-, Y- and Z-axis [kg]** | 129.63 |
| **Mass of total system per 1 m stroke X-axis [kg/m]** | 41.54 |
| **Mass of total system per 1 m stroke Y-axis [kg/m]** | 39.62 |
| **Mass of total system per 1 m stroke Z-axis [kg/m]** | 8.99 |

Note: All values without energy chain and without drive

## 18. Linear gantries HSL



### 18.1 Properties of the linear gantries HS3

HIWIN linear gantries HSL are flexible units for positioning along the X- and Z-axis. They consist of a HIWIN belt axis HT-B in the X direction and a HIWIN cantilever axis HC-B in the Z direction. HIWIN HSL linear gantries are particularly well suited for two-dimensional movements.

**Energy chain**

Generously dimensioned energy chains provide space for safely carrying the supply lines. The energy chains are integrated into the complete system in a particularly compact and space-saving way.

### 18.2 Order code for linear gantries HSL

| HS | L | 2 | X | T2 | Z | C1 – | 1000 – |
|---|---|---|---|---|---|---|---|

**HIWIN axis system**

**Axis system type:**
L: Linear gantry

**Size (profile width of the X-axis):**
1: 100 mm
2: 150 mm
3: 200 mm
4: 250 mm

**Axis 1 identifier:**
X

**Stroke axis 1 [mm]**

**Type and size of axis 2:**
C0: HC025B
C1: HC040B
C2: HC060B
C3: HC080B

**Axis 2 identifier:**
Z

**Type and size of axis 1:**
T1: HT100B
T2: HT150B
T3: HT200B
T4: HT250B

Continuation, order code for linear gantries HSL

| 0600 | A | 2 | R | BE04 | G0608 – | B002 | G0405 |
|---|---|---|---|---|---|---|---|

**Stroke axis 2 [mm]**

**Axis limit switch:**
N: Without limit switch
A: 2 × normally closed, 100 mm cable, connector

**Energy chain:**
N: Without
1: Energy chain on X-axis
2: Energy chain on X- and Z-axis

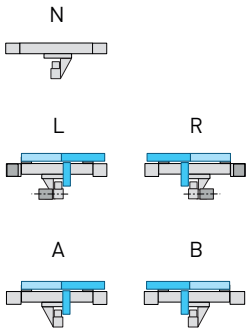
**Gearbox, axis 2** [2]

**Motor flange type, axis 2** [4]

**Gearbox, axis 1** [2]

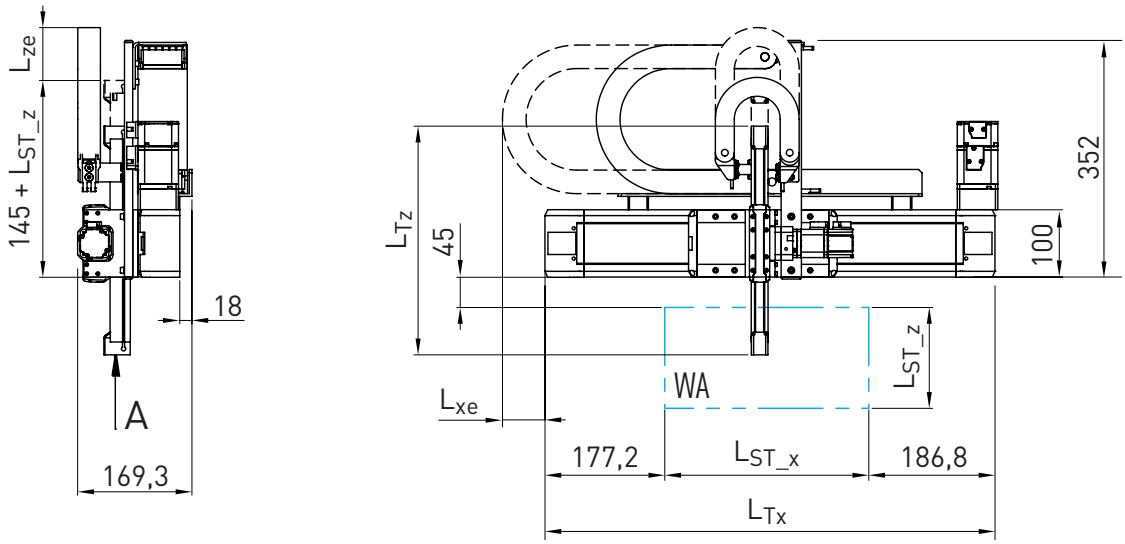
**Motor flange type, axis 1** [3]

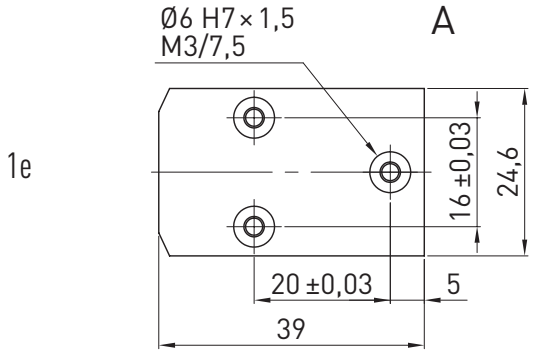
**Drive interface** [1]**:**
N: Without drive adapter/ Without energy chain
L: Drive adapter left
R: Drive adapter right
A: Without drive adapter, Drive interface left
B: Without drive adapter, Drive interface right




[1] If no drive interface is selected, the order code ends after this digit.
[2] You can finding matching gearboxes in section 22.1.5.5 from page 195.
[3] You can find all flange types in Table 22.2 from page 166. If no flange type is selected, the "Gearbox, axis 1" position is omitted.
[4] You can find all flange types in Table 22.4 from page 177. If no flange type is selected, the order code ends after this digit.

### 18.3 Dimensions and specifications of HSL1-T-C




$L_{ST}$ Stroke
WA Working space
1e Interface application

Table 18.1 **HSL1-T-C dimensions**

| | |
|---|---|
| **Total length X-axis $L_{Tx}$ [mm]** | $L_{Tx} = L_{ST\_x} + 364$ |
| **Total length Z-axis $L_{Tz}$ [mm]** | $L_{Tz} = L_{ST\_z} + 190$ |

Table 18.2 **Energy chain**

| | X-axis | Z-axis |
|---|---|---|
| **Inner cross section W × H [mm]** | 57 × 25 | 20 × 21 |
| **Bending radius [mm]** | 75 | 48 |
| **End position at electrical zero F [mm]** | $L_{Xe} = 7.5$ | $L_{Ze} = 151.0 - L_{ST}/2$ |
| **End position at mechanical zero [mm]** | $L_{Xe} = 15.0$ | $L_{Ze} = 147.5 - L_{ST}/2$ |

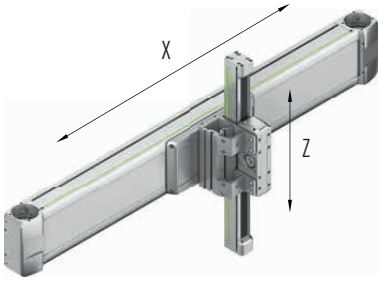



Table 18.3 **General technical data**

| | X-axis | Z-axis |
|---|---|---|
| **Axis type** | HT100B-C | HC025B |
| **Max. feed force $F_{x\_max}$ [N]** | 813 | 241 |
| **Max. speed [1] [m/s]** | 5 | |
| **Max. acceleration [1] [m/s²]** | 30 | |
| **Max. drive torque $M_{A\_max}$ [Nm]** | 14 | 3 |
| **Max. stroke [mm]** | 5,000 | 300 |
| **Typical load capacity [kg]** | 2 | |

[1] Restrictions possible with variant with energy chain depending on the stroke

Note: Dimensions and specifications of single axes HT100B can be found in section 7.3 on page 46
Dimensions and specifications of single axis HC025B can be found in section 13.3 on page 88

Table 18.4 **Drive**

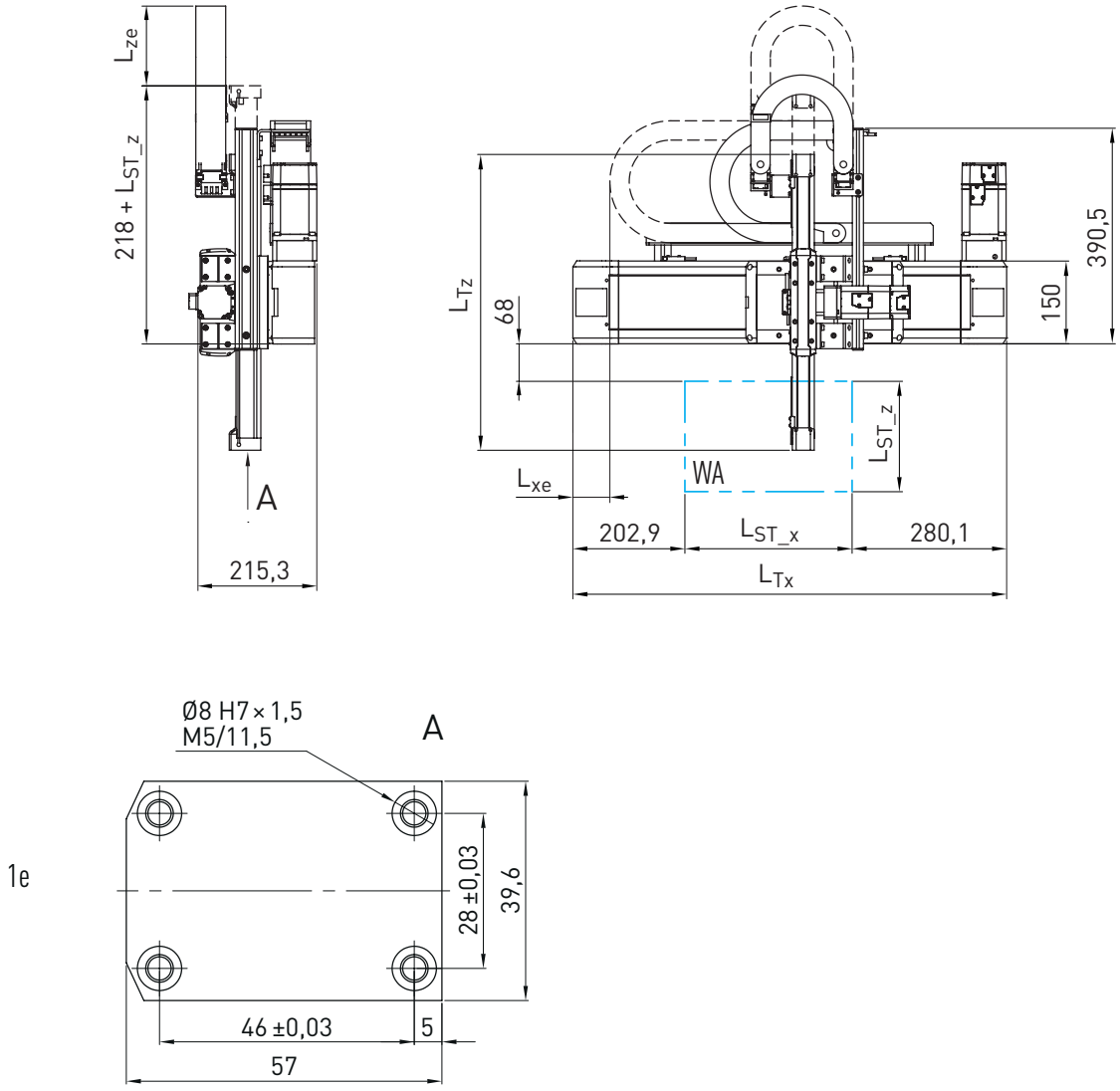
| | X-axis | Z-axis |
|---|---|---|
| **Toothed belt drive element** | B25HTD5 | B12HTD3 |
| **Feed constant [mm/U]** | 105 | 81 |
| **Toothed belt effective diameter [mm]** | 33.42 | 25.78 |

Table 18.5 **Mechanical properties**

| | |
|---|---|
| **Moving mass Z-axis at 0-stroke [kg]** | 0.30 |
| **Moving mass Z-axis per 1 m stroke [kg/m]** | 1.27 |
| **Moving mass X-axis at 0-stroke Z-axis [kg]** | 5.47 |
| **Moving mass X-axis per 1 m stroke Z-axis [kg/m]** | 1.27 |
| **Mass of total system at 0-stroke X- and Z-axis [kg]** | 5.49 |
| **Mass of total system per 1 m stroke X-axis [kg/m]** | 16.51 |
| **Mass of total system per 1 m stroke Z-axis [kg/m]** | 1.27 |

Note: All values without energy chain and without drive

### 18.4 Dimensions and specifications of HSL2-T-C




$L_{ST}$ Stroke
WA Working space
1e Interface application

| Table 18.6 **HSL2-T-C dimensions** | |
|---|---|
| **Total length X-axis $L_{Tx}$ [mm]** | $L_{Tx} = L_{ST\_x} + 483$ |
| **Total length Z-axis $L_{Tz}$ [mm]** | $L_{Tz} = L_{ST\_z} + 286$ |

| Table 18.7 **Energy chain** | | |
|---|---|---|
| | **X-axis** | **Z-axis** |
| **Inner cross section W × H [mm]** | 57 × 25 | 38 × 25 |
| **Bending radius [mm]** | 75 | 75 |
| **End position at electrical zero F [mm]** | $L_{Xe} = -68.0$ | $L_{Ze} = 274.0 - L_{ST}/2$ |
| **End position at mechanical zero [mm]** | $L_{Xe} = -60.5$ | $L_{Ze} = 169.0 - L_{ST}/2$ |

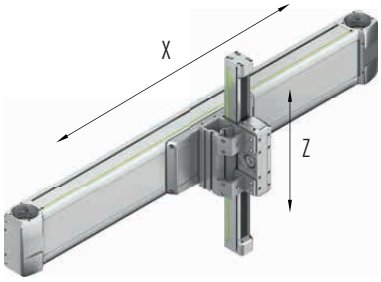



Table 18.8 **General technical data**

| | X-axis | Z-axis |
|---|---|---|
| **Axis type** | HT150B-C | HC040B |
| **Max. feed force $F_{x\_max}$ [N]** | 1,300 | 404 |
| **Max. speed [1] [m/s]** | 5 | |
| **Max. acceleration [1] [m/s²]** | 30 | |
| **Max. drive torque $M_{A\_max}$ [Nm]** | 32 | 8 |
| **Max. stroke [mm]** | 5,000 | 500 |
| **Typical load capacity [kg]** | 8 | |

[1] Restrictions possible with variant with energy chain depending on the stroke

Note: Dimensions and specifications of single axes HT150B can be found in section 7.4 on page 48
Dimensions and specifications of single axis HC040B can be found in section 13.4 on page 90

Table 18.9 **Drive**

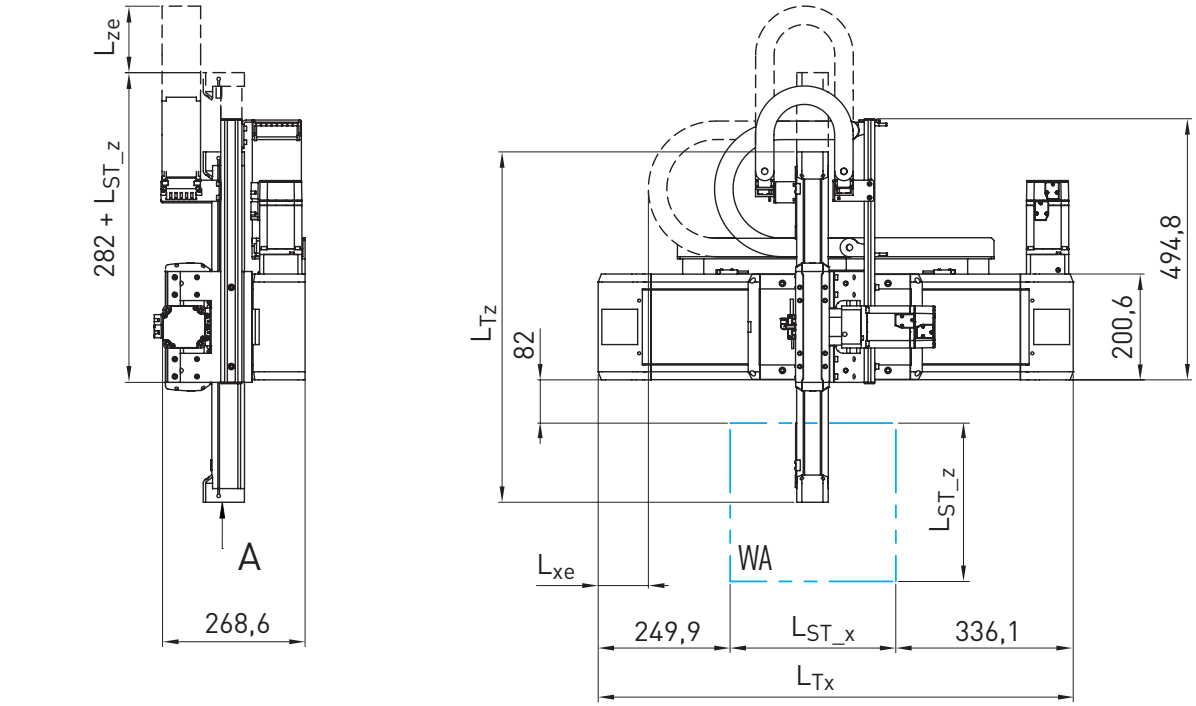
| | X-axis | Z-axis |
|---|---|---|
| **Toothed belt drive element** | B40HTD5 | B20HDT3 |
| **Feed constant [mm/U]** | 155 | 123 |
| **Toothed belt effective diameter [mm]** | 49.34 | 39.15 |

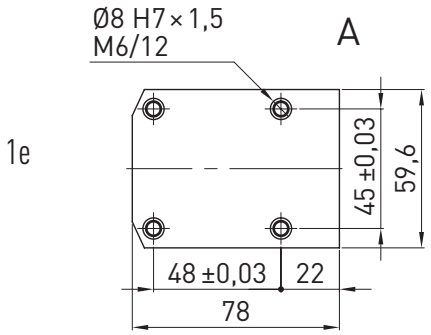
Table 18.10 **Mechanical properties**

| | |
|---|---|
| **Moving mass Z-axis at 0-stroke [kg]** | 0.92 |
| **Moving mass Z-axis per 1 m stroke [kg/m]** | 2.76 |
| **Moving mass X-axis at 0-stroke Z-axis [kg]** | 10.73 |
| **Moving mass X-axis per 1 m stroke Z-axis [kg/m]** | 2.76 |
| **Mass of total system at 0-stroke X- and Z-axis [kg]** | 13.54 |
| **Mass of total system per 1 m stroke X-axis [kg/m]** | 20.83 |
| **Mass of total system per 1 m stroke Z-axis [kg/m]** | 2.76 |

Note: All values without energy chain and without drive

### 18.5 Dimensions and specifications of HSL3-T-C




$L_{ST}$ Stroke
WA Working space
1e Interface application

Table 18.11 **HSL3-T-C dimensions**

| | |
|---|---|
| **Total length X-axis $L_{Tx}$ [mm]** | $L_{Tx} = L_{ST\_x} + 586$ |
| **Total length Z-axis $L_{Tz}$ [mm]** | $L_{Tz} = L_{ST\_z} + 364$ |

Table 18.12 **Energy chain**

| | X-axis | Z-axis |
|---|---|---|
| **Inner cross section W × H [mm]** | 77 × 25 | 57 × 25 |
| **Bending radius [mm]** | 100 | 75 |
| **End position at electrical zero F [mm]** | $L_{Xe} = -134.0$ | $L_{Ze} = 282.5 - L_{ST}/2$ |
| **End position at mechanical zero [mm]** | $L_{Xe} = -126.5$ | $L_{Ze} = 275.0 - L_{ST}/2$ |

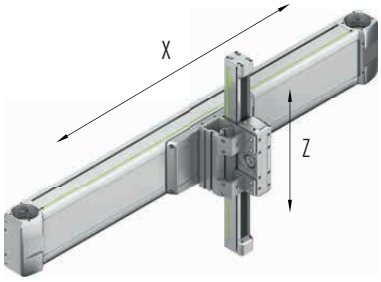



Table 18.13 **General technical data**

| | X-axis | Z-axis |
|---|---|---|
| **Axis type** | HT200B-C | HC060B |
| **Max. feed force $F_{x\_max}$ [N]** | 3,000 | 983 |
| **Max. speed [1] [m/s]** | 5 | |
| **Max. acceleration [1] [m/s²]** | 30 | |
| **Max. drive torque $M_{A\_max}$ [Nm]** | 88 | 27 |
| **Max. stroke [mm]** | 5,000 | 800 |
| **Typical load capacity [kg]** | 16 | |

[1] Restrictions possible with variant with energy chain depending on the stroke

Note: Dimensions and specifications of single axes HT200B can be found in section 7.5 on page 50
Dimensions and specifications of single axis HC060B can be found in section 13.5 on page 92

Table 18.14 **Drive**

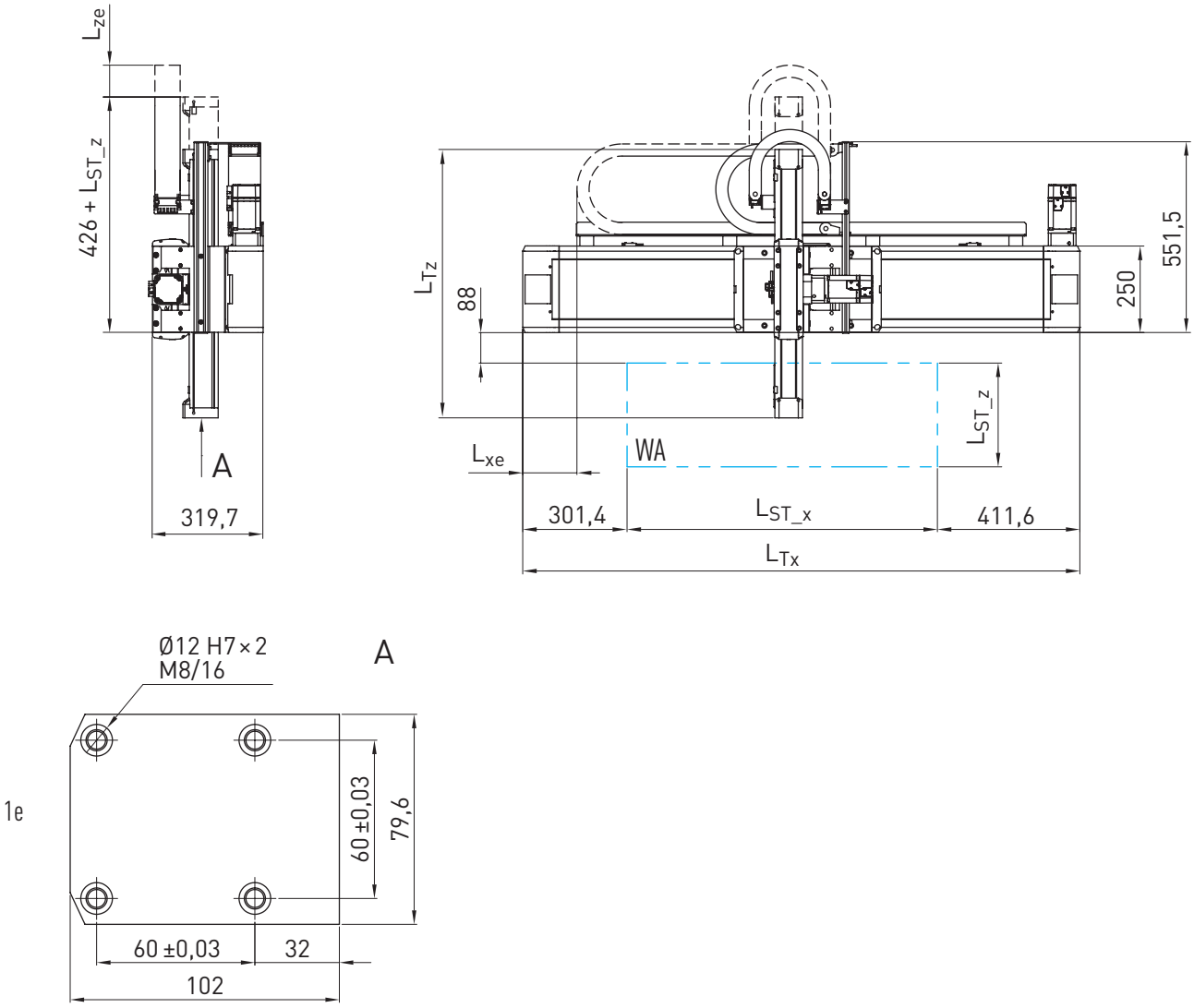
| | X-axis | Z-axis |
|---|---|---|
| **Toothed belt drive element** | B50HTD8 | B30HTD5 |
| **Feed constant [mm/U]** | 184 | 170 |
| **Toothed belt effective diameter [mm]** | 58.57 | 54.11 |

Table 18.15 **Mechanical properties**

| | |
|---|---|
| **Moving mass Z-axis at 0-stroke [kg]** | 2.24 |
| **Moving mass Z-axis per 1 m stroke [kg/m]** | 5.17 |
| **Moving mass X-axis at 0-stroke Z-axis [kg]** | 20.90 |
| **Moving mass X-axis per 1 m stroke Z-axis [kg/m]** | 5.17 |
| **Mass of total system at 0-stroke X- and Z-axis [kg]** | 26.96 |
| **Mass of total system per 1 m stroke X-axis [kg/m]** | 32.94 |
| **Mass of total system per 1 m stroke Z-axis [kg/m]** | 5.17 |

Note: All values without energy chain and without drive

### 18.6 Dimensions and specifications of HSL4-T-C




$L_{ST}$ Stroke
WA Working space
1e Interface application

| Table 18.16 **HSL4-T-C dimensions** | |
|---|---|
| **Total length X-axis $L_{Tx}$ [mm]** | $L_{Tx} = L_{ST\_x} + 713$ |
| **Total length Z-axis $L_{Tz}$ [mm]** | $L_{Tz} = L_{ST\_z} + 426$ |

| Table 18.17 **Energy chain** | | |
|---|---|---|
| | **X-axis** | **Z-axis** |
| **Inner cross section W × H [mm]** | 77 × 25 | 57 × 25 |
| **Bending radius [mm]** | 100 | 100 |
| **End position at electrical zero F [mm]** | $L_{Xe} = -197.5$ | $L_{Ze} = 259.0 - L_{ST}/2$ |
| **End position at mechanical zero [mm]** | $L_{Xe} = -190.0$ | $L_{Ze} = 249.0 - L_{ST}/2$ |

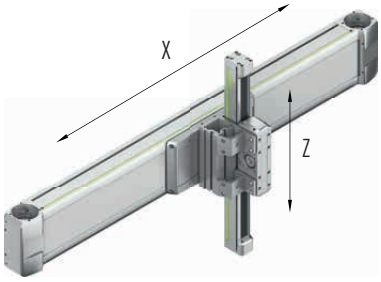



Table 18.18 **General technical data**

| | X-axis | Z-axis |
|---|---|---|
| **Axis type** | HT250B-C | HC080B |
| **Max. feed force $F_{x\_max}$ [N]** | 4,500 | 1,310 |
| **Max. speed [1] [m/s]** | 5 | |
| **Max. acceleration [1] [m/s²]** | 30 | |
| **Max. drive torque $M_{A\_max}$ [Nm]** | 149 | 42 |
| **Max. stroke [mm]** | 5,000 | 1200 |
| **Typical load capacity [kg]** | 30 | |

[1] Restrictions possible with variant with energy chain depending on the stroke

Note: Dimensions and specifications of single axes HT250B can be found in section 7.6 on page 52
Dimensions and specifications of single axis HC080B can be found in section 13.6 on page 94

Table 18.19 **Drive**

| | X-axis | Z-axis |
|---|---|---|
| **Toothed belt drive element** | B75HTD8 | B40HTD5 |
| **Feed constant [mm/U]** | 208 | 200 |
| **Toothed belt effective diameter [mm]** | 66.21 | 63.66 |

Table 18.20 **Mechanical properties**

| | |
|---|---|
| **Moving mass Z-axis at 0-stroke [kg]** | 4.51 |
| **Moving mass Z-axis per 1 m stroke [kg/m]** | 8.99 |
| **Moving mass X-axis at 0-stroke Z-axis [kg]** | 35.40 |
| **Moving mass X-axis per 1 m stroke Z-axis [kg/m]** | 8.99 |
| **Mass of total system at 0-stroke X- and Z-axis [kg]** | 49.19 |
| **Mass of total system per 1 m stroke X-axis [kg/m]** | 37.92 |
| **Mass of total system per 1 m stroke Z-axis [kg/m]** | 8.99 |

Note: All values without energy chain and without drive

## 19. Adapters for cross tables and multi-axis systems

HIWIN adapters for cross tables and multi-axis systems allow two and more axes to be flexibly combined. This allows individual multi-axis systems to be designed quickly and easily. Forces and torques are safely transmitted through force and form closure. Centring sleeves allow for precise and reproducible connection. All adapters are supplied ready for installation including mounting material.
Depending on the desired alignment of the axes to be connected, four basic adapter types are available:

**CPN:** Adapter for connecting the axis profile of the upper axis to the carriage of the lower axis. Both carriages point in the same direction.

**CPR:** Adapter for connecting the axis profile of the upper axis with the carriage of the lower axis, with the two carriage rotated 90° in relation to each other.

**CCN:** Adapter for connecting the carriage of the upper axis to the carriage of the lower axis.

**CCR:** Adapter for connecting the drive block of the upper axis to the carriage of the lower axis, with the carriage and the drive block rotated 90° in relation to each other.

### 19.1 Product selection

#### 19.1.1 Axis combinations depending on the size

Table 19.1 **Overview of possible combinations as a function of the size**

| | | | Y-axis | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | HM | | | | HT | | | | HC | | | | KK | | | | | |
| | | | 040 | 060 | 080 | 120 | 100 | 150 | 200 | 250 | 25 | 40 | 60 | 80 | 30 | 40 | 50 | 60 | 86 | 100 |
| X-axis | HM | 040 | ●[1] ■[1] | | | | ●[1] ■[1] | | | | | | | | ●▲ | ●▲ | | | | |
| | | 060 | ●[1] | ●[1] ■[1] | | | ●[1] | ●[1] ■[1] | | | | | | | | ●▲ | ●▲ | | | |
| | | 080 | | ●[1] | ●[1] ■[1] | | | ●[1] | ●[1] ■[1] | | | | | | | | ●▲ | ●▲ | | |
| | | 120 | | | ●[1] | ●[1] | | | ●[1] | ●[1] ■[1] | | | | | | | | | | |
| | HT | 100 | ●■▲ | | | | ●■▲ | | | | ✸ | ▲ | | | | | ●▲ | ●▲ | | |
| | | 150 | ●■▲ | ●■▲ | | | ●■▲ | ●■▲ | | | | ✸▲ | ▲ | | | | | ●▲ | ●▲ | |
| | | 200 | | ●■▲ | ●■▲ | | | ●■▲ | ●■▲ | | | | ✸▲ | ▲ | | | | | ●▲ | ●▲ |
| | | 250 | | | ●■▲ | ●■▲ | | | ●■▲ | ●■▲ | | | | ✸▲ | | | | | | |

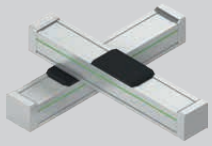
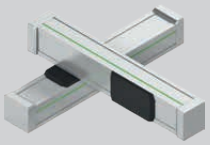
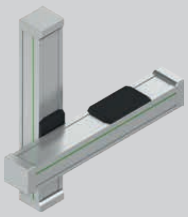
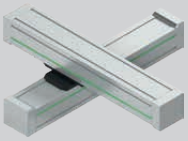
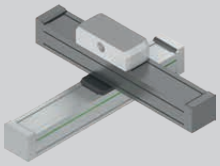
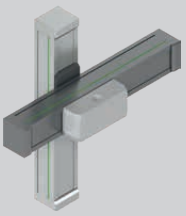
● CPN; ■ CPR; ▲ CCN; ✸ CCR

[1] Two single axes HM or one double axis HD are required in the X-axis.
Note: Depending on the selected axis configuration, collisions of attachments or covering of mounting holes may occur. This must be checked in each individual case.

### 19.1.2 Cross table

Cross table combinations made up of two single axes.

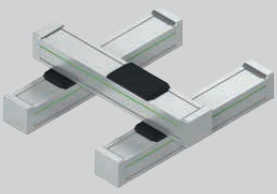
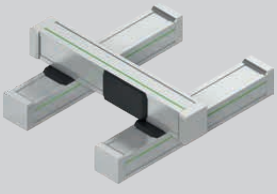
Table 19.2 **Product selection diagram**

| Connection | X-Y | X-Z | Z-X | Page : |
|---|---|---|---|---|
| **CPN adapter ●**<br>**Carriage – profile** |  |  |  | Page 149 |
| **CPR adapter ■**<br>**Carriage – profile**<br>**(rotated 90°)** |  |  |  | Page 151 |
| **CPN adapter ▲**<br>**Carriage – carriage** |  |  |  | Page 153 |
| **CPN adapter ✸**<br>**Carriage – drive block** |  |  |  | Page 154 |

### 19.1.3 Two-axis system

Two-axis systems with two single axis or one double axis as the foundation.

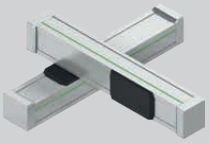
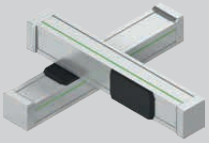
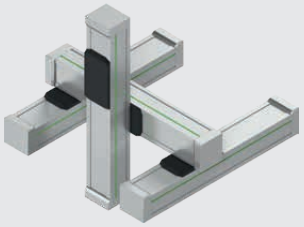
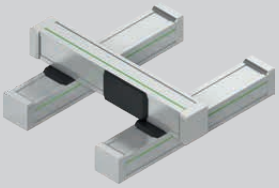
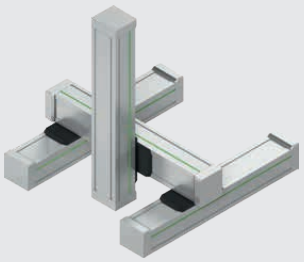
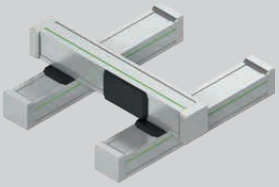
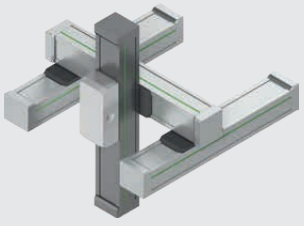
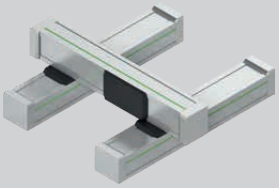
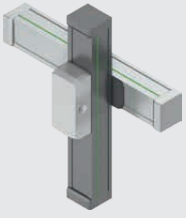
Table 19.3 **Product selection diagram**

| Connection | X-Y | X-Z | Z-X | Page : |
|---|---|---|---|---|
| **CPN adapter ●**<br>**Carriage – profile** |  |  |  | Page 150 |
| **CPR adapter ■**<br>**Carriage – profile**<br>**(rotated 90°)** |  |  |  | Page 152 |

### 19.1.4 Three- and multi-axis system

Three- and multi-axis systems can be created flexibly by combining several adapters from Table 19.2 and Table 19.3. Some examples follow.

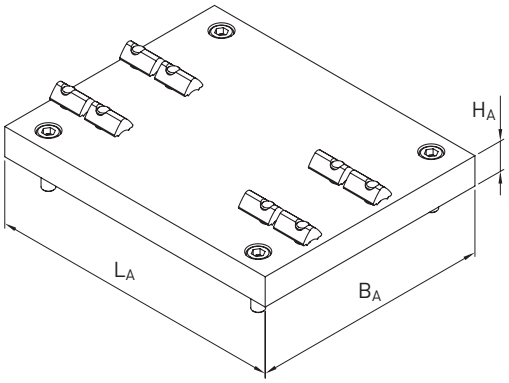
Table 19.4 **Example of multi-axis systems**

| Complete system X-Y-Z | Adapter X-Y | Adapter Y-Z |
|---|---|---|
|  |  Page 151 |  Page 153 |
|  |  Page 151 |  Page 154 |
|  |  Page 152 |  Page 149 |
|  |  Page 152 |  Page 153 |
|  |  Page 152 |  Page 154 |

## 19.2 CPN adapters

### 19.2.1 CPN adapters for single axes

HIWIN adapters for combining two single axes (axis 1: HM/HT; axis 2: HM/HT/KK) via a carriage-profile connection.



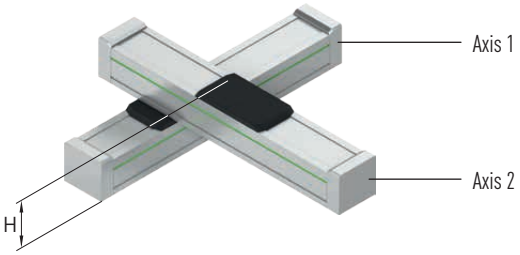
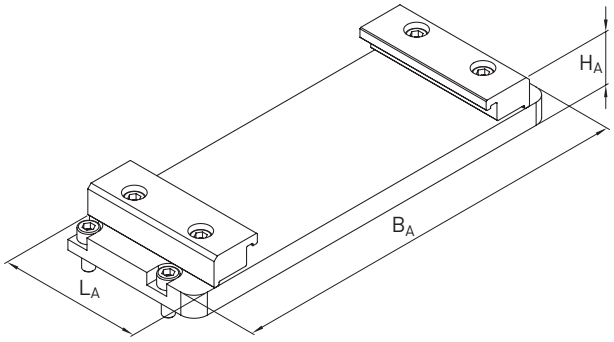




Table 19.5 **Specifications for CPN adapters for single axes**

| Axis 1 | | Axis 2 | | $L_A$ [mm] | $B_A$ [mm] | $H_A$ [mm] | H [mm] | Weight [kg] | Article number |
|---|---|---|---|---|---|---|---|---|---|
| **Axis type** | **Size (profile width)** | **Axis type** | **Size (profile width)** | | | | | | |
| **HM** | 040 | **KK** | 30 | 59 | 79 | 12 | 95.0 | 0.159 | 25-001622 |
| | 040 | | 40 | 70 | 79 | 12 | 102.0 | 0.187 | 25-001623 |
| | 060 | | 40 | 76 | 114 | 12 | 120.0 | 0.291 | 25-001626 |
| | 060 | | 50 | 92 | 114 | 12 | 128.5 | 0.366 | 25-001627 |
| | 080 | | 50 | 98 | 107 | 12 | 150.5 | 0.376 | 25-001630 |
| | 080 | | 60 | 114 | 104 | 15 | 159.5 | 0.513 | 25-001631 |
| **HT** | 100B/100S | **HM** | 040 | 99 | 72 | 12 | 134.0 | 0.265 | 25-001608 |
| | 100L | | 040 | 99 | 72 | 12 | 142.0 | 0.265 | 25-001608 |
| | 150 | | 040 | 79 | 149 | 12 | 156.0 | 0.417 | 25-001609 |
| | 150 | | 060 | 149 | 120 | 15 | 177.0 | 0.792 | 25-001610 |
| | 200 | | 060 | 199 | 102 | 15 | 193.0 | 0.907 | 25-001611 |
| | 200 | | 080 | 199 | 142 | 15 | 215.0 | 1.287 | 25-001612 |
| | 250 | | 080 | 249 | 126 | 20 | 230.0 | 1.858 | 25-001613 |
| | 250 | | 120 | 249 | 180 | 20 | 275.0 | 2.558 | 25-001614 |
| | 100B/100S | **HT** | 100B/100S | 158 | 100 | 12 | 136.0 | 0.547 | 25-001615 |
| | 100B/100S | | 100L | 158 | 100 | 12 | 144.0 | 0.547 | 25-001615 |
| | 100L | | 100B/100S | 158 | 100 | 12 | 144.0 | 0.547 | 25-001615 |
| | 100L | | 100L | 158 | 100 | 12 | 152.0 | 0.547 | 25-001615 |
| | 150 | | 100 | 210 | 100 | 15 | 161.0 | 0.882 | 25-001616 |
| | 150 | | 150 | 222 | 150 | 15 | 183.0 | 1.420 | 25-001617 |
| | 200 | | 150 | 274 | 150 | 15 | 199.0 | 1.756 | 25-001618 |
| | 200 | | 200 | 294 | 200 | 15 | 215.0 | 2.519 | 25-001619 |
| | 250 | | 200 | 348 | 200 | 20 | 230.0 | 3.918 | 25-001620 |
| | 250 | | 250 | 296 | 250 | 20 | 240.0 | 4.146 | 25-001621 |
| | 100B/100S | **KK** | 50 | 100 | 99 | 12 | 112.5 | 0.326 | 25-001624 |
| | 100L | | 50 | 100 | 99 | 12 | 120.5 | 0.326 | 25-001624 |
| | 100 | | 60 | 108 | 99 | 12 | 118.5 | 0.371 | 25-001625 |
| | 150 | | 60 | 149 | 118 | 15 | 143.5 | 0.724 | 25-001628 |
| | 150 | | 86 | 149 | 118 | 15 | 163.0 | 0.732 | 25-001629 |
| | 200 | | 86 | 199 | 142 | 15 | 179.0 | 1.170 | 25-001632 |
| | 200 | | 100 | 199 | 142 | 15 | 187.0 | 1.193 | 25-001633 |

### 19.2.2 CPN adapters for double axes

HIWIN adapters for combining two single axes HM or a double axis HD with a single axis HM/HT via a carriage-profile connection.



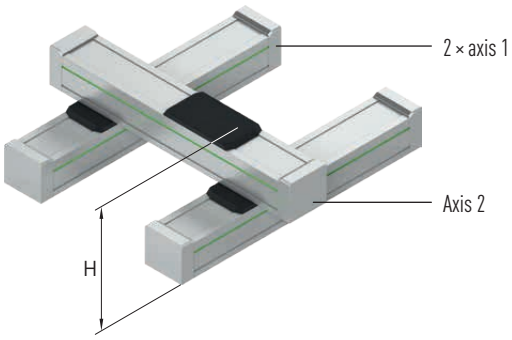




Table 19.6 **Specifications for CPN adapters for double axes**

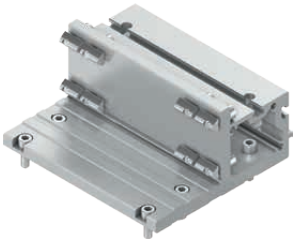
| Axis 1 | | Axis 2 | | $L_A$ [mm] | $B_A$ [mm] | $H_A$ [mm] | H [mm] | Weight [kg] | Article number |
|---|---|---|---|---|---|---|---|---|---|
| **Axis type** | **Size (profile width)** | **Axis type** | **Size (profile width)** | | | | | | |
| **HM (2 ×)** [1] | 040 | **HM** | 040 | 76 | 82 | 12 | 132 | 0.543 | 25-001594 |
| | 060 | | 040 | 76 | 114 | 12 | 150 | 0.710 | 25-001595 |
| | 060 | | 060 | 76 | 114 | 12 | 168 | 0.944 | 25-001596 |
| | 080 | | 060 | 79 | 150 | 15 | 193 | 1.375 | 25-001597 |
| | 080 | | 080 | 79 | 150 | 15 | 215 | 1.457 | 25-001598 |
| | 120 | | 080 | 119 | 185 | 20 | 265 | 3.146 | 25-001599 |
| | 120 | | 120 | 119 | 240 | 20 | 310 | 3.826 | 25-001600 |
| | 040 [2] | **HT** | 100B/100S | 76 | 151 | 12 | 134 | 0.876 | 25-001601 |
| | 040 [2] | | 100L | 76 | 151 | 12 | 142 | 0.876 | 25-001601 |
| | 060 [3] | | 100B/100S | 76 | 164 | 12 | 152 | 0.944 | 25-001602 |
| | 060 [3] | | 100L | 76 | 164 | 12 | 160 | 0.944 | 25-001602 |
| | 060 [2] | | 150 | 76 | 214 | 12 | 174 | 1.324 | 25-001603 |
| | 080 [3] | | 150 | 79 | 244 | 12 | 196 | 1.568 | 25-001604 |
| | 080 [3] | | 200 | 110 | 287 | 15 | 215 | 3.188 | 25-001605 |
| | 120 [3] | | 200 | 119 | 296 | 20 | 265 | 4.498 | 25-001606 |
| | 120 [3] | | 250 | 119 | 351 | 20 | 275 | 5.180 | 25-001607 |

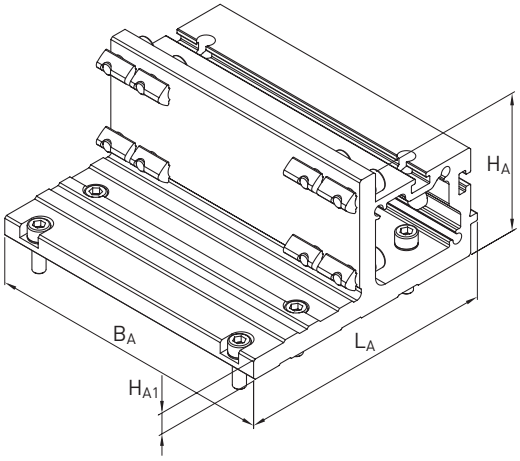
[1] Alternative: Double axis HD
[2] HM axis with carriage length L required
[3] HM axis with carriage length M or L required

## 19.3 CPN adapters

### 19.3.1 CPR adapters for single axes (rotated 90°)

HIWIN adapters for combining two single axes (axis 1: HT; axis 2: HM/HT) via a carriage-profile connection (axis 2 rotated 90°).





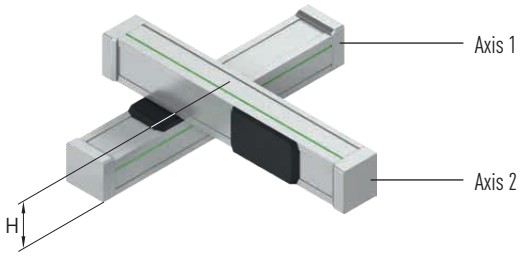
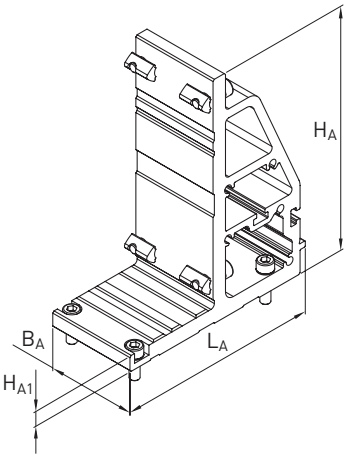




Table 19.7 **Specifications for CPR adapters for single axes**

| Axis 1 | | Axis 2 | | $L_A$ [mm] | $B_A$ [mm] | $H_A$ [mm] | $H_{A1}$ [mm] | H [mm] | Weight [kg] | Article number |
|---|---|---|---|---|---|---|---|---|---|---|
| **Axis type** | **Size (profile width)** | **Axis type** | **Size (profile width)** | | | | | | | |
| **HT** | 100B/100S | **HM** | 040 | 122 | 99 | 56.0 | 11.5 | 118.0 | 0.684 | 25-001568 |
| | 100L | | 040 | 122 | 99 | 56.0 | 11.5 | 126.0 | 0.684 | 25-001568 |
| | 150 | | 040 | 110 | 149 | 56.0 | 11.5 | 140.0 | 0.955 | 25-001569 |
| | 150 | | 060 | 134 | 149 | 71.5 | 11.5 | 155.5 | 1.173 | 25-001570 |
| | 200 | | 060 | 134 | 199 | 71.5 | 11.5 | 171.5 | 1.541 | 25-001571 |
| | 200 | | 080 | 183 | 199 | 97.5 | 17.5 | 197.5 | 3.542 | 25-001572 |
| | 250 | | 080 | 196 | 249 | 97.5 | 17.5 | 207.5 | 4.623 | 25-001573 |
| | 250 | | 120 | 206 | 249 | 137.5 | 17.5 | 247.5 | 5.191 | 25-001574 |
| | 100B/100S | **HT** | 100B/100S | 122 | 99 | 111.5 | 11.5 | 173.5 | 0.956 | 25-001575 |
| | 100B/100S | | 100L | 122 | 99 | 111.5 | 11.5 | 181.5 | 0.956 | 25-001575 |
| | 100L | | 100B/100S | 122 | 99 | 111.5 | 11.5 | 181.5 | 0.956 | 25-001575 |
| | 100L | | 100L | 122 | 99 | 111.5 | 11.5 | 189.5 | 0.956 | 25-001575 |
| | 150 | | 100 | 111 | 149 | 111.5 | 11.5 | 195.5 | 1.366 | 25-001576 |
| | 150 | | 150 | 134 | 149 | 161.5 | 11.5 | 245.5 | 1.836 | 25-001577 |
| | 200 | | 150 | 190 | 199 | 167.5 | 17.5 | 267.5 | 4.131 | 25-001578 |
| | 200 | | 200 | 190 | 199 | 217.5 | 17.5 | 317.5 | 5.428 | 25-001579 |
| | 250 | | 200 | 196 | 249 | 217.5 | 17.5 | 327.5 | 6.881 | 25-001580 |
| | 250 | | 250 | 206 | 249 | 236.0 | 17.5 | 377.5 | 7.190 | 25-001581 |

### 19.3.2 CPR adapters for double axes (rotated 90°)

HIWIN adapters for combining two single axes HM or a double axis HD with a single axis HM/HT (axis 2 rotated 90°) via a carriage-profile connection.



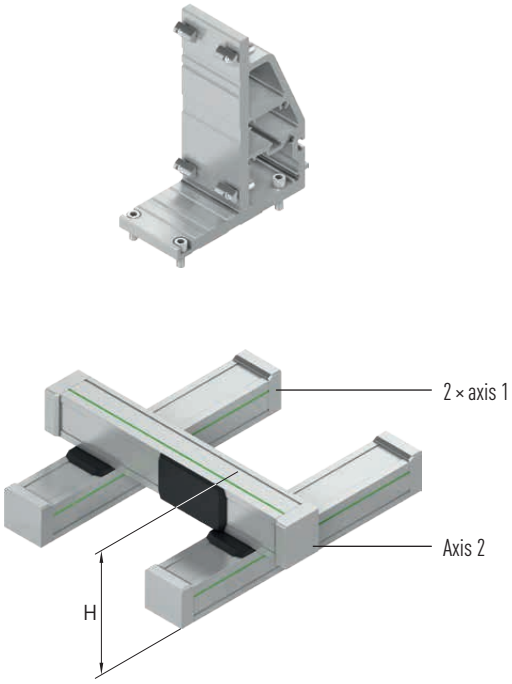




Table 19.8 **Specifications for CPR adapters for double axes**

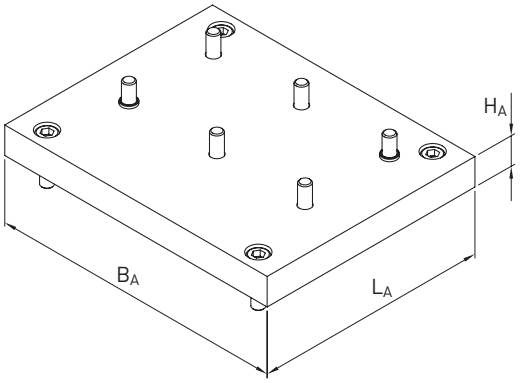
| Axis 1 | | Axis 2 | | $L_A$ [mm] | $B_A$ [mm] | $H_A$ [mm] | $H_{A1}$ [mm] | H [mm] | Weight [kg] | Article number |
|---|---|---|---|---|---|---|---|---|---|---|
| **Axis type** | **Size (profile width)** | **Axis type** | **Size (profile width)** | | | | | | | |
| **HM (2 ×)[1)]** | 040 | **HM** | 040 | 112 | 39 | 56.0 | 11.5 | 116.0 | 0.544 | 25-001561 |
| | 060 | | 060 | 134 | 59 | 71.5 | 11.5 | 149.5 | 0.971 | 25-001562 |
| | 080 | | 080 | 197 | 79 | 97.5 | 17.5 | 197.5 | 3.096 | 25-001563 |
| | 040 | **HT** | 100 | 112 | 39 | 111.5 | 11.5 | 171.5 | 0.760 | 25-001564 |
| | 060 | | 150 | 134 | 59 | 161.5 | 11.5 | 239.5 | 1.520 | 25-001565 |
| | 080 | | 200 | 197 | 79 | 217.0 | 17.5 | 317.5 | 4.516 | 25-001566 |
| | 120 | | 250 | 207 | 119 | 236.0 | 17.5 | 412.5 | 7.125 | 25-001567 |

[1)] Alternative: Double axis HD

## 19.4 CCN adapters

### 19.4.1 CCN adapters for single axes

HIWIN adapters for combining two single axes (axis 1: HM/HT; axis 2: HM, HT, KK) via a carriage-carriage connection.



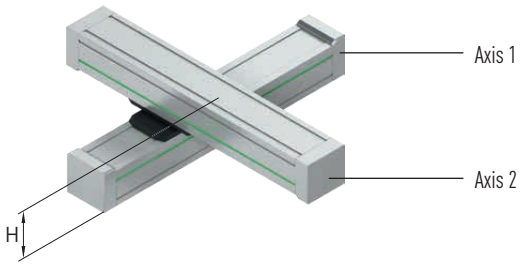




Table 19.9 **Specifications for CCN adapters for single axes**

| Axis 1 | | Axis 2 | | $L_A$ [mm] | $B_A$ [mm] | $H_A$ [mm] | H [mm] | Weight [kg] | Article number |
|---|---|---|---|---|---|---|---|---|---|
| **Axis type** | **Size (profile width)** | **Axis type** | **Size (profile width)** | | | | | | |
| **HM** | 040 | **KK** | 30 | 39 | 79 | 12 | 87 | 0.105 | 25-001634 |
| | 040 | | 40 | 39 | 79 | 12 | 92 | 0.110 | 25-001635 |
| | 060 | | 40 | 59 | 112 | 15 | 113 | 0.256 | 25-001638 |
| | 060 | | 50 | 59 | 112 | 15 | 119 | 0.287 | 25-001639 |
| | 080 | | 50 | 79 | 112 | 15 | 141 | 0.345 | 25-001642 |
| | 080 | | 60 | 79 | 112 | 15 | 148 | 0.372 | 25-001643 |
| **HT** | 100B/100S | **HM** | 040 | 97 | 99 | 12 | 134 | 0.335 | 25-001582 |
| | 100L | | 040 | 97 | 99 | 12 | 142 | 0.335 | 25-001582 |
| | 150 | | 040 | 79 | 149 | 12 | 156 | 0.409 | 25-001583 |
| | 150 | | 060 | 118 | 149 | 15 | 177 | 0.783 | 25-001584 |
| | 200 | | 060 | 102 | 199 | 15 | 193 | 0.876 | 25-001585 |
| | 200 | | 080 | 142 | 199 | 15 | 215 | 1.246 | 25-001586 |
| | 250 | | 080 | 249 | 180 | 20 | 230 | 2.547 | 25-001587 |
| | 250 | | 120 | 249 | 180 | 20 | 275 | 2.605 | 25-001646 |
| | 100B/100S | **HT** | 100B/100S | 99 | 134 | 12 | 148 | 0.894 | 25-001588 |
| | 100B/100S | | 100L | 99 | 134 | 12 | 156 | 0.894 | 25-001588 |
| | 100L | | 100B/100S | 99 | 134 | 12 | 156 | 0.894 | 25-001588 |
| | 100L | | 100L | 99 | 134 | 12 | 164 | 0.894 | 25-001588 |
| | 150 | | 100 | 149 | 142 | 15 | 176 | 1.758 | 25-001589 |
| | 150 | | 150 | 149 | 182 | 15 | 198 | 2.257 | 25-001590 |
| | 200 | | 150 | 199 | 194 | 15 | 214 | 3.196 | 25-001591 |
| | 200 | | 200 | 199 | 240 | 15 | 230 | 3.958 | 25-001592 |
| | 250 | | 200 | 249 | 249 | 20 | 250 | 6.803 | 25-001593 |
| | 250 | | 250 | 249 | 296 | 20 | 260 | 8.109 | 25-001647 |
| | 100B/100S | **HC** | 040 | 97 | 99 | 12 | 134 | 0.335 | 25-001582 |
| | 100L | | 040 | 97 | 99 | 12 | 142 | 0.335 | 25-001582 |
| | 150 | | 040 | 79 | 149 | 12 | 156 | 0.409 | 25-001583 |
| | 150 | | 060 | 118 | 149 | 15 | 177 | 0.783 | 25-001584 |
| | 200 | | 060 | 102 | 199 | 15 | 193 | 0.876 | 25-001585 |
| | 200 | | 080 | 142 | 199 | 15 | 215 | 1.246 | 25-001586 |
| | 250 | | 080 | 249 | 180 | 20 | 230 | 2.547 | 25-001587 |

[1] KK axes with two blocks required

Table 19.9 **Specifications for CCN adapters for single axes**

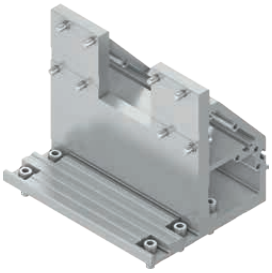
| Axis 1 | | Axis 2 | | $L_A$ [mm] | $B_A$ [mm] | $H_A$ [mm] | H [mm] | Weight [kg] | Article number |
|---|---|---|---|---|---|---|---|---|---|
| **Axis type** | **Size (profile width)** | **Axis type** | **Size (profile width)** | | | | | | |
| **HT** | 100B/100S | **KK**[1] | 50 | 98 | 104 | 12 | 100 | 0.339 | 25-001636 |
| | 100L | | 50 | 98 | 104 | 12 | 108 | 0.339 | 25-001636 |
| | 100B/100S | | 60 | 98 | 113 | 12 | 107 | 0.369 | 25-001637 |
| | 100L | | 60 | 98 | 113 | 12 | 115 | 0.369 | 25-001637 |
| | 150 | | 60 | 116 | 149 | 15 | 132 | 0.675 | 25-001640 |
| | 150 | | 86 | 114 | 168 | 15 | 145 | 0.808 | 25-001641 |
| | 200 | | 86 | 140 | 199 | 15 | 161 | 1.164 | 25-001644 |
| | 200 | | 100 | 140 | 199 | 15 | 170 | 1.206 | 25-001645 |

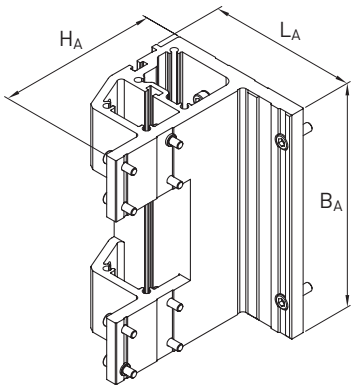
[1] KK axes with two blocks required

### 19.5 CCR adapters

#### 19.5.1 CCR adapters for single axes

HIWIN adapters for combining linear tables HT with cantilever axes HC. The connection is made between the carriage of linear table HT and the drive block of cantilever axis HC.





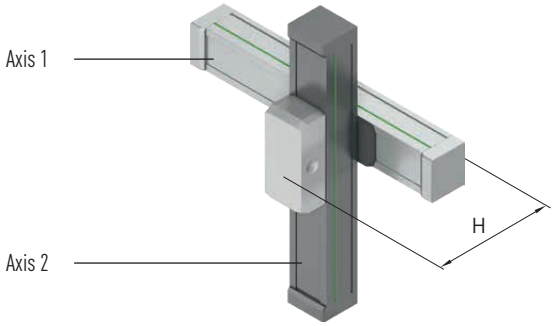



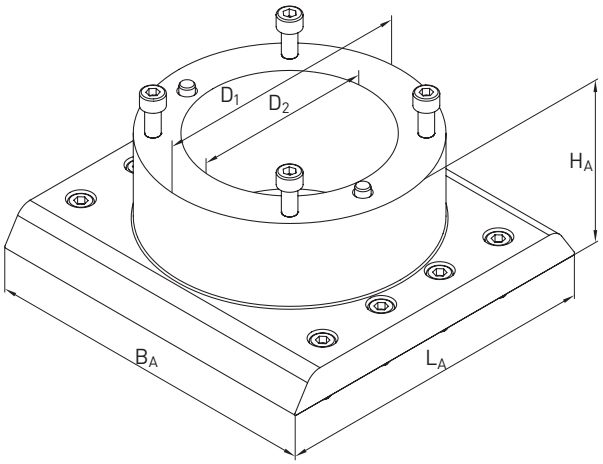

Table 19.10 **Specifications for CCR adapters for single axes**

| Axis 1 | | Axis 2 | | $L_A$ [mm] | $B_A$ [mm] | $H_A$ [mm] | H [mm] | Weight [kg] | Article number |
|---|---|---|---|---|---|---|---|---|---|
| **Axis type** | **Size (profile width)** | **Axis type** | **Size (profile width)** | | | | | | |
| **HT** | 100B/100S | **HC** | 025 | 80 | 100 | 79.8 | 143.25 | 0.298 | 25-002359 |
| | 100L | | 025 | 80 | 100 | 79.8 | 151.25 | 0.298 | 25-002359 |
| | 150 | | 040 | 112 | 168 | 120.8 | 207.3 | 1.333 | 25-002360 |
| | 200 | | 060 | 131 | 210 | 161.3 | 264.8 | 2.161 | 25-002361 |
| | 250 | | 080 | 198 | 249 | 209.7 | 319.7 | 5.780 | 25-002362 |
| | | | 100 | 207 | 312 | 235.7 | 365.7 | 7.705 | 80064588 |

## 20. Adapters for robot axes

With the HIWIN adapters for robot axes, a lightweight robot and a HIWIN linear axis HT can be combined. This makes it quick and easy to design a 7th axis system. The adapters are designed so that the robots can rotate freely in the lower axis even with axes with an energy chain attached. The HT linear axes with robot adapters are optimised for horizontal installation. Axes for vertical use on request.
All adapters are supplied ready for installation:

- Including mounting material for fastening the adapter on the carriage of the axis.
- Including mounting material for fastening the robot on the adapter



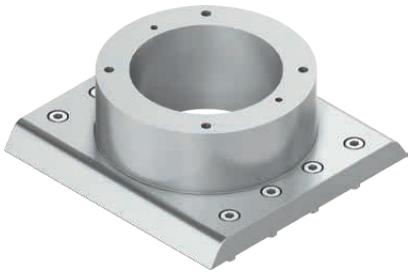



Table 20.1 **Specifications for adapters for robot axes**

| Robot | | Axis | | $L_A$ [mm] | $W_A$ [mm] | $H_A$ [mm] | Ø $D_1$ [mm] | Ø $D_2$ [mm] | Weight [kg] | Article number Adapter set |
|---|---|---|---|---|---|---|---|---|---|---|
| **Manufacturer** | **Size** | **Model** | **Size** | | | | | | | |
| Universal Robots | UR03 | HTB, HTS | 200 | 191 | 199 | 70 | 128 | 90 | 2.528 | 25-002658 |
| | UR05 | | | 191 | 199 | 70 | 151 | 105 | 2.873 | 25-002657 |
| | UR10 + UR16 | | 250 | 231 | 249 | 60 | 190 | 95 | 5.100 | 25-002659 |
| Techman | TM5-700 + TM5-900 | HTB, HTS | 200 | 190 | 199 | 90 | 177 | 120 | 4.242 | 25-002661 |
| | TM12 + TM14 | | 250 | 230 | 249 | 75 | 203 | 130 | 5.391 | 25-002664 |

## 21. Distance measuring system

If the precision of the linear axis given by the drive element is not sufficient for an application, the positioning and repeat accuracy of spindle and belt axes can be increased by using a distance measuring system. On the linear axes HM-B, HM-S, HT-B, HT-S and HC-B, the distance measuring system is located externally, on the side of the carriage. See Fig. 21.1, Fig. 21.2 and Fig. 21.3. Linear motor axes HT-L are supplied with distance measuring system as standard.
The distance measuring system is integrated inside the axis to save space. Different measuring systems are available depending on the requirements for measuring principle, interface and resolution, see Table 21.1. For motionless commutation of linear motor axes HT-L, the HIWIN MAGIC distance measuring system can also be combined with the HIWIN digital hall sensor.

Table 21.1 **Selection of distance measuring system**

| Order code | Description | Repeatability [mm] | | | Signal period [mm] | Resolution [µm] | Interface | | Measuring principle | Max. stroke [mm] |
|---|---|---|---|---|---|---|---|---|---|---|
| | | H_B | H_S | H_L | | | | | | |
| **A** | MAGIC | ± 0.02 | ± 0.01 | ± 0.005 | 1 | 1 | Incremental | 1 $V_{SS}$ (analogue) [1] | Magnetic | – |
| **B** [2] [6] | MAGIC | – | – | ± 0.005 | 1 | 1 | Incremental | 1 $V_{SS}$ (analogue) [1] | Magnetic | – |
| **D** | MAGIC | ± 0.02 | ± 0.01 | ± 0.005 | – | 1 | Incremental | TTL (digital) [1] | Magnetic | – |
| **E** [2] [6] | MAGIC | – | – | ± 0.005 | – | 1 | Incremental | TTL (digital) [1] | Magnetic | – |
| **H** | LIC 211 | – | – | ± 0.005 | – | 0.1 | Absolute, EnDat 2.2 | EnDat 22 | Optical | 5,200 [3] |
| **R** [4] | BML-S1G0 | – | – | ± 0.005 | 2 | 1 | Absolute, 32-bit | BiSS-C, 1 $V_{SS}$ | Magnetic | – |
| **S** [4] | BML-S1G0 | – | – | ± 0.005 | 2 | 1 | Absolute, 26-bit | SSI | Magnetic | – |
| **T** [6] | TTK70 | – | – | ± 0.005 | 1 | 31.25 | Absolute, 17-bit | HIPERFACE | Magnetic | 3,600 [5] |

Other distance measuring systems on request

[1] Compatible with all common servo drives and the HIWIN servo drive ED1. For more information on HIWIN servo drives, see the "Servo drives and servo motors" catalogue or visit www.hiwin.de.

[2] With digital hall sensor for motionless commutation.

[3] Depending on the size and option, up to 5,469 mm possible on request

[4] The distance measuring system has a safety-related, analogue, incremental real-time signal

[5] depending on the size and option up to max. 3,800 mm possible on request

[6] Is not available for HT100L

### 21.1 External distance measuring system HIWIN MAGIC for linear axes HM-B, HM-S, HT-B, HT-S and HC

The HIWIN MAGIC distance measuring system is located on the side of the carriage in linear modules HM-B and HM-S, linear tables HT-B and HT-S and cantilever axes HC-B. The dimensions can be found in Fig. 21.1, Fig. 21.2, Fig. 21.3 and Table 21.2. On linear modules HM-B and HM-S and on linear tables HT-B and HT-S, the distance measuring system is located on the opposite side of the drive adaptation or the limit switches. On linear axes without adaptation material and limit switches, the distance measuring system is located on the left-hand side by default. On cantilever axes HC, the distance measuring system is always located on the left-hand side by default, just like the limit switches. Other types are available on request.

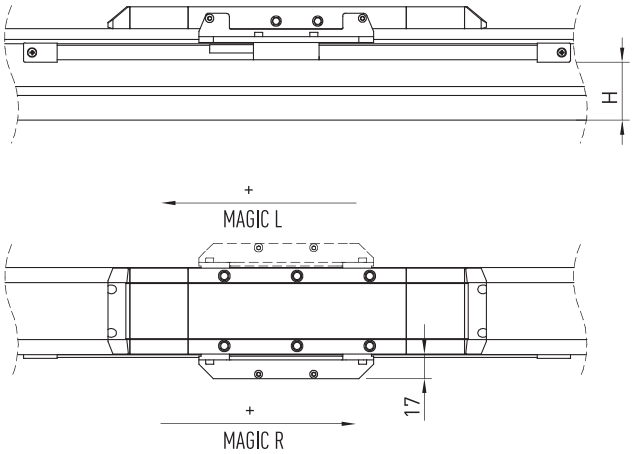



Fig. 21.1 **MAGIC distance measuring system – linear axes HM-B and HM-S**

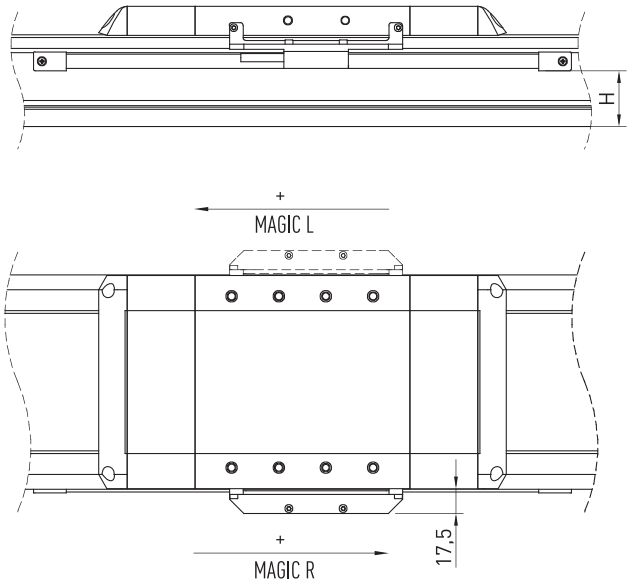



Fig. 21.2 **MAGIC distance measuring system – linear axes HT-B and HT-S**

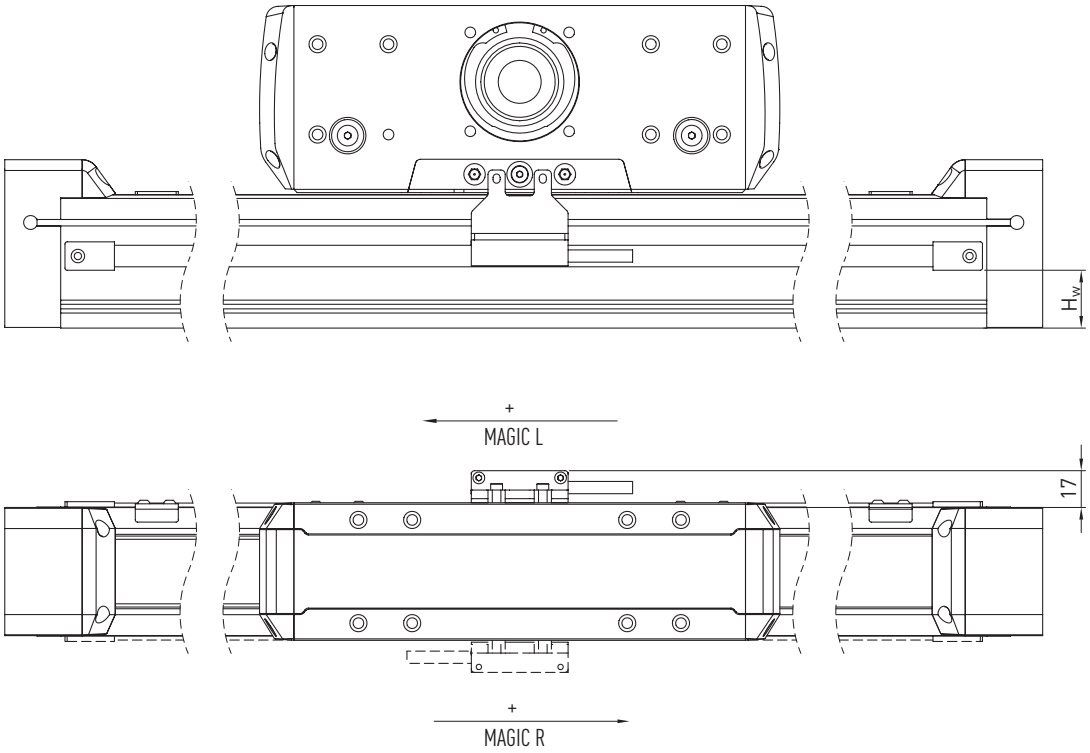



Fig. 21.3 **MAGIC distance measuring system – cantilever axes HC**

Table 21.2 **Dimensions of MAGIC distance measuring system for linear axes HM, HT and HC**

| Linear axis | Distance $H_w$ [mm] | Linear axis | Distance $H_w$ [mm] | Linear axis | Distance $H_w$ [mm] |
|---|---|---|---|---|---|
| **HM040** | 25 | **HT100** | 27 | **HC025B** | 12 |
| **HM060** | 36 | **HT150** | 38 | **HC040B** | 22 |
| **HM080** | 54 | **HT200** | 55 | **HC060B** | 27 |
| **HM120** | 93 | **HT250** | 59 | **HC080B** | 49 |
| | | | | **HC100B** | 71.5 |

**21.2 Internal distance measuring system system for linear axes HT-L**

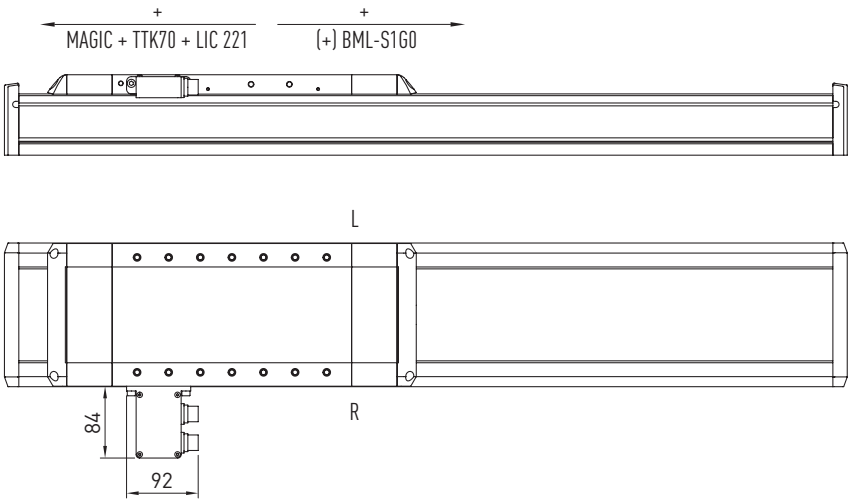



Fig. 21.4 **Linear axis HT-L: Connection interface "D" – connector right/rear**

# 22. Drive adaptation

## 22.1 Drive adaptation of linear modules HM-B, linear tables HT-B, cantilever axes HC and double axes HD

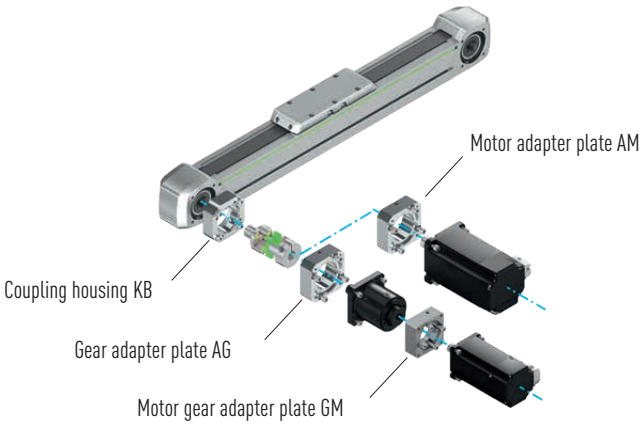
### 22.1.1 Motor adaptation of linear modules HM-B and double axes HD

Adaptation to the linear axis is of multi-sectional design to allow simple flange-mounting of all standard motors and gearboxes.
The flange type set comprises the following components:

- Coupling housing KB
- Coupling components
- Motor adapter plate AM or gearbox adapter plate AG and motor gearbox adapter plate GM (omitted in NG01 – NG07)

The dimensions of the coupling housing, motor adapter plate as well as the gear adapter plate can be found in section 22.1.5 from page 184.

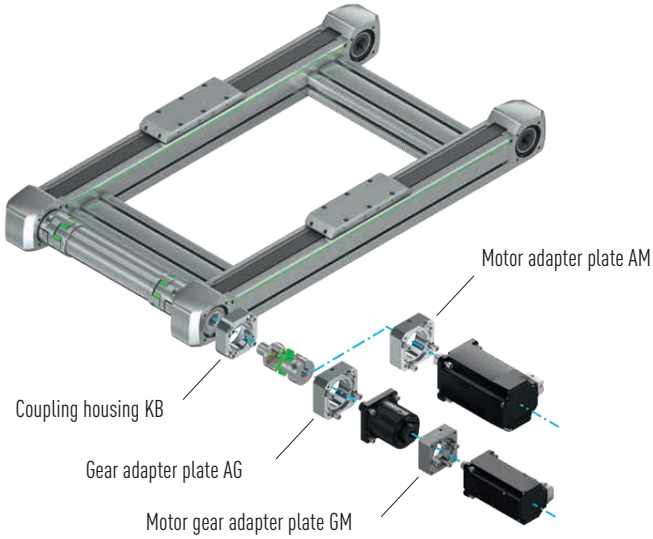
**Motor adaptation of linear modules with toothed belt drive (HM-B)**




Gear adapter plate AG: Adapter from axis to gearbox
Motor gear adapter plate GM: Adapter from gearbox to motor
Motor adapter plate AM: Adapter from axis to motor

Fig. 22.1 **Motor adaptation of linear modules HM-B**

**Motor adaptation of double axes (HD)**




Gear adapter plate AG: Adapter from axis to gearbox
Motor gear adapter plate GM: Adapter from gearbox to motor
Motor adapter plate AM: Adapter from axis to motor

Fig. 22.2 **Motor adaptation of double axes HD**

**Motor adaptation of multi-axis systems (HS)**

The suitable motor adapter for HIWIN multi-axis systems HS must be selected separately for each axis.

Table 22.1 **Order code for position flange type [1] – linear modules HM-B and double axes HD**

| Drive Manufacturer/Type | | HM040B/HD1 | | | HM060B/HD2 | | | HM080B/HD3 | | | HM120B/HD4 | | HM120B-H/HD4-H | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | **Only motor** | **With PLE40** | **With PLQE60** | **Only motor** | **With PLQE60** | **With PLQE80** | **Only motor** | **With PLQE80** | **With PLQE120** | **Only motor** | **With PLQE120** | **Only Motor** | **With PLQE120** | **With PSBN142** |
| **Gearbox adapter** | | | NG01 | NG02 | | NG03 | NG04 | | NG05 | NG06 | | NG07 | | | |
| **HIWIN** | **EM1-C-M-20-2** | HW03 | | HW03 | | HW05 | HW05 | | HW10 | | | | | | |
| | **EM1-C-M-40-2** | HW03 | | HW03 | | HW05 | HW05 | | HW10 | | | | | | |
| | **EM1-C-M-05-2** | | HW16 | HW16 | | HW15 | | | | | | | | | |
| | **EM1-C-M-10-2** | | HW16 | HW16 | | HW15 | | | | | | | | | |
| | **EM1-C-M-75-2** | | | | HW06 | | HW06 | | HW08 | | | | | | |
| | **EM1-A-M-1K-2** | | | | HW25[2] | | | HW13 | | HW13 | | HW14 | | HW27[2] | HW27[2] |
| | **EM1-D-M-1A-2** | | | | HW25[2] | | | HW13 | | HW13 | | HW14 | | HW27[2] | HW27[2] |
| | **EM1-D-M-2K-2** | | | | HW25[2] | | | HW13 | | HW13 | HW14 | HW14 | | HW27[2] | HW27[2] |
| **B&R** | **8LSA24** | BR02 | BR02 | BR02 | | BR07 | | | | | | | | | |
| | **8LSA25** | BR02 | BR02 | BR02 | | BR07 | | | | | | | | | |
| | **8LSA33** | BR03[2] | | | | BR04 | BR04 | | BR13 | | | | | | |
| | **8LSA34** | BR03[2] | | | BR04 | BR04 | BR04 | | BR13 | | | | | | |
| | **8LSA35** | BR03[2] | | | BR04 | BR04 | BR04 | | BR13 | | | | | | |
| | **8LSA43** | | | | BR05 | | BR05 | BR10 | BR10 | BR10 | | BR17 | | BR30[2] | |
| | **8LSA44** | | | | BR05 | | BR05 | BR10 | BR10 | BR10 | | BR17 | | BR30[2] | |
| | **8LSA45** | | | | BR05 | | BR05 | BR10 | BR10 | BR10 | | BR17 | | BR30[2] | |
| | **8LSA46** | | | | BR05 | | | BR10 | BR10 | | | BR17 | | BR30[2] | |
| | **8LSA53** | | | | BR21[2] | | | BR12[2] | | BR12 | | BR14 | | BR33[2] | BR33[2] |
| | **8LSA54** | | | | BR21[2] | | | BR12[2] | | | | BR14 | | BR33[2] | BR33[2] |
| | **8LSA55** | | | | BR21[2] | | | BR12[2] | | | | BR14 | | BR33[2] | BR33[2] |
| | **8LSN43** | | | | BR06[2] | | BR06 | BR11 | BR11 | BR11 | | BR18 | | BR27[2] | BR27[2] |
| | **8LSN44** | | | | BR06[2] | | | BR11 | BR11 | | | BR18 | | BR27[2] | BR27[2] |
| | **8LSN45** | | | | BR06[2] | | | BR11 | BR11 | | | BR18 | | BR27[2] | BR27[2] |
| | **8LSN46** | | | | BR06[2] | | | BR11 | | | | BR18 | | BR27[2] | BR27[2] |
| | **8LSN54** | | | | BR21[2] | | | BR12[2] | | | BR14 | BR14 | | BR33[2] | BR33[2] |
| | **8LSA56** | | | | | | | BR12[2] | | | | BR14 | | BR33[2] | BR33[2] |
| | **8LSA57** | | | | | | | BR12[2] | | | BR14 | BR14 | | BR33[2] | BR33[2] |
| | **8LSA63** | | | | | | | BR23[2] | | | | | | | |
| | **8LSN55** | | | | | | | BR12[2] | | | BR14 | BR14 | BR33[2] | BR33[2] | BR33[2] |
| | **8LSN56** | | | | | | | BR12[2] | | | BR14 | BR14 | BR33[2] | BR33[2] | BR33[2] |
| | **8LSA64** | | | | | | | | | | BR15 | | | | |
| | **8LSA65** | | | | | | | | | | BR15 | | | | |
| | **8LSA66** | | | | | | | | | | BR15 | | BR35[2] | | |
| | **8LSN57** | | | | | | | | | | BR14 | BR14 | BR33[2] | BR33[2] | |
| **Beckhoff** | **AM8022** | BE01 | BE01 | BE01 | | BE04 | | | | | | | | | |
| | **AM8023** | BE01 | BE01 | BE01 | | BE04 | | | | | | | | | |
| | **AM8031** | BE02 | | BE02 | | BE05 | BE05 | | BE09 | | | | | | |
| | **AM8531** | BE02 | | BE02 | BE05 | BE05 | BE05 | BE09 | BE09 | | | | | | |
| | **AM8032** | | | BE02 | BE05 | BE05 | BE05 | | BE09 | | | | | | |
| | **AM8033** | | | | BE05 | BE05 | BE05 | | BE09 | | | | | | |
| | **AM8532** | | | | BE05 | BE05 | BE05 | BE09 | BE09 | | | | | | |
| | **AM8533** | | | | BE05 | BE05 | BE05 | BE09 | BE09 | | | | | | |
| | **AM8041** | | | | BE06 | | BE06 | | BE10 | BE10 | | BE18 | | BE23[2] | |
| | **AM8042** | | | | BE06 | | BE06 | BE10 | BE10 | BE10 | | BE18 | | BE23[2] | |

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[1] See order code Page 25 for linear modules HM-B and Page 105 double axes HD

[2] Drive not suitable for Y-axis of HIWIN multi-axis systems HS

Table 22.1 **Order code for position flange type [1] – linear modules HM-B and double axes HD**

| Drive Manufacturer/Type | | HM040B/HD1 | | | HM060B/HD2 | | | HM080B/HD3 | | | HM120B/HD4 | | HM120B-H/HD4-H | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Only motor | With PLE40 | With PLQE60 | Only motor | With PLQE60 | With PLQE80 | Only motor | With PLQE80 | With PLQE120 | Only motor | With PLQE120 | Only Motor | With PLQE120 | With PSBN142 |
| Beckhoff | AM8043 | | | | BE06 | | BE06 | BE10 | BE10 | BE10 | | BE18 | | BE23[2] | |
| | AM8541 | | | | BE06 | | BE06 | BE10 | BE10 | BE10 | | BE18 | | BE23[2] | |
| | AM8542 | | | | BE06 | | BE06 | BE10 | BE10 | BE10 | | BE18 | | BE23[2] | |
| | AM8543 | | | | BE06 | | BE06 | BE10 | BE10 | BE10 | | BE18 | | BE23[2] | |
| | AM8051 | | | | BE07 | | | BE11 | | BE11 | | BE15 | | BE25[2] | |
| | AM8052 | | | | BE07 | | | BE11 | | BE11 | | BE15 | | BE25[2] | |
| | AM8551 | | | | BE07 | | | BE11 | | BE11 | | BE15 | | BE25[2] | |
| | AM8552 | | | | BE07 | | | BE11 | | BE11 | | BE15 | | BE25[2] | |
| | AM8053 | | | | | | | BE11 | | BE11 | | BE15 | | BE25[2] | |
| | AM8553 | | | | | | | BE11 | | | BE15 | BE15 | | BE25[2] | |
| | AM8061 | | | | | | | BE12[2] | | | | | | | BE28[2] |
| | AM8062 | | | | | | | BE12[2] | | | BE16 | | BE28[2] | | BE28[2] |
| | AM8561 | | | | | | | BE12[2] | | | BE16 | | BE28[2] | | BE28[2] |
| | AM8063 | | | | | | | | | | BE16 | | BE28[2] | | |
| | AM8562 | | | | | | | | | | BE16 | | BE28[2] | | |
| | AM8563 | | | | | | | | | | BE16 | | BE28[2] | | |
| | AM8071 | | | | | | | | | | BE17 | | BE31[2] | | |
| | AM8072 | | | | | | | | | | BE17 | | BE31[2] | | |
| Bosch | MS2N03-A0 | B002 | B002 | B002 | | B009 | | | | | | | | | |
| | MS2N03-B0 | B002 | B002 | B002 | | B009 | | | | | | | | | |
| | MS2N03-D0 | B037 | | B037 | | B041 | | | | | | | | | |
| | MS2N04-B0 | B003 | | | B005 | B005 | B005 | | B010 | | | | | | |
| | MSK030B | B002 | B002 | B002 | | B009 | | | | | | | | | |
| | MSK030C | B002 | B002 | B002 | | B009 | | | | | | | | | |
| | MSK040B | B003 | | B003 | B005 | B005 | B005 | | B010 | | | | | | |
| | MSK040C | B003 | | | B005 | B005 | B005 | | B010 | | | | | | |
| | MS2N04-C0 | | | | B005 | B005 | B005 | | B010 | | | | | | |
| | MS2N04-D0 | | | | B005 | B005 | B005 | | B010 | | | | | | |
| | MS2N05-B0 | | | | B006 | | B006 | B011 | B011 | B011 | | B019 | | B049[2] | |
| | MS2N05-C0 | | | | B006 | | B006 | B011 | B011 | B011 | | B019 | | B049[2] | |
| | MS2N05-D0 | | | | B006 | | | B011 | B011 | | | B019 | | B049[2] | |
| | MS2N06-B1 | | | | B008[2] | | | B013 | | B013 | | B021 | | B058[2] | B058[2] |
| | MS2N06-C0 | | | | B008[2] | | | B013 | | B013 | | B021 | | B058[2] | B058[2] |
| | MS2N06-D0 | | | | B008[2] | | | B013 | | | | B021 | | B058[2] | B058[2] |
| | MS2N06-D1 | | | | B008[2] | | | B013 | | | B021 | B021 | | B058[2] | B058[2] |
| | MSK043C | | | | B005 | B005 | B005 | | B010 | | | | | | |
| | MSK050B | | | | B006 | | B006 | B011 | B011 | B011 | | B019 | | B049[2] | |
| | MSK050C | | | | B006 | | B006 | B011 | B011 | B011 | | B019 | | B049[2] | |
| | MSK060B | | | | B008[2] | | | B013 | | B013 | | B021 | | B058[2] | B058[2] |
| | MSK060C | | | | B008[2] | | | B013 | | | | B021 | | B058[2] | B058[2] |
| | MSK061B | | | | B007[2] | | B007 | B012 | B012 | B012 | | B020 | | B052[2] | B052[2] |
| | MSK061C | | | | B007[2] | | | B012 | B012 | | | B020 | | B052[2] | B052[2] |
| | MS2N06-E0 | | | | | | | B013 | | | | B021 | | B058[2] | B058[2] |
| | MS2N07-B1 | | | | | | | B015[2] | | | B018 | | B061[2] | | B061[2] |
| | MS2N07-C1 | | | | | | | B015[2] | | | B018 | | B061[2] | | B061[2] |

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[1] See order code Page 25 for linear modules HM-B and Page 105 double axes HD

[2] Drive not suitable for Y-axis of HIWIN multi-axis systems HS

Table 22.1 **Order code for position flange type [1] – linear modules HM-B and double axes HD**

| Drive Manufacturer/Type | | HM040B/HD1 | | | HM060B/HD2 | | | HM080B/HD3 | | | HM120B/HD4 | | HM120B-H/HD4-H | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Only motor | With PLE40 | With PLQE60 | Only motor | With PLQE60 | With PLQE80 | Only motor | With PLQE80 | With PLQE120 | Only motor | With PLQE120 | Only Motor | With PLQE120 | With PSBN142 |
| Bosch | MSK070C | | | | | | | B015[2] | | | B018 | | B061[2] | | B061[2] |
| | MSK070D | | | | | | | B015[2] | | | B018 | | B061[2] | | B061[2] |
| | MSK070E | | | | | | | B015[2] | | | B018 | | B061[2] | | |
| | MSK071C | | | | | | | B015[2] | | | B018 | | B061[2] | | B061[2] |
| | MSK075C | | | | | | | B015[2] | | | B018 | | B061[2] | | B061[2] |
| | MSK076C | | | | | | | B014[2] | | | B017 | B017 | B055[2] | B055[2] | B055[2] |
| | MS2N07-D0 | | | | | | | | | | B018 | | B061[2] | | |
| | MS2N07-D1 | | | | | | | | | | B018 | | B061[2] | | |
| | MS2N07-E0 | | | | | | | | | | B018 | | B061[2] | | |
| | MS2N07-E1 | | | | | | | | | | B018 | | B061[2] | | |
| | MS2N10-B1 | | | | | | | | | | B034 | | B066[2] | | |
| | MS2N10-C0 | | | | | | | | | | B034 | | B066[2] | | |
| | MS2N10-C1 | | | | | | | | | | B034 | | B066[2] | | |
| | MS2N10-D0 | | | | | | | | | | B034 | | | | |
| | MSK071D | | | | | | | | | | B018 | | B061[2] | | |
| | MSK071E | | | | | | | | | | B018 | | B061[2] | | |
| | MSK075D | | | | | | | | | | B018 | | B061[2] | | |
| | MSK075E | | | | | | | | | | B018 | | B061[2] | | |
| | MSK100A | | | | | | | | | | B044 | | B064[2] | | |
| Lenze | MCS06F | LE01 | | LE01 | | LE04 | LE04 | | LE11 | | | | | | |
| | MCS06I | LE01 | | | | LE04 | LE04 | | LE11 | | | | | | |
| | MCS09D | | | | LE05 | LE05 | LE05 | | LE08 | | | | | | |
| | MCS09F | | | | LE05 | LE05 | LE05 | | LE08 | | | | | | |
| | MCS09H | | | | LE05 | LE05 | | LE08 | LE08 | | | | | | |
| | MCS09L | | | | LE05 | | | LE08 | LE08 | | | | | | |
| | MCS12D | | | | LE06[2] | | | LE09 | LE09 | LE09 | | LE15 | | LE21[2] | LE21[2] |
| | MCS12H | | | | LE06[2] | | | LE09 | | | | LE15 | | LE21[2] | LE21[2] |
| | MCS12L | | | | | | | LE09 | | | | LE15 | | LE21[2] | LE21[2] |
| | MCS14D | | | | | | | LE10[2] | | | | LE13 | | LE24[2] | LE24[2] |
| | MCS14H | | | | | | | LE10[2] | | | LE13 | LE13 | | LE24[2] | |
| | MCS14L | | | | | | | | | | LE13 | LE13 | LE24[2] | | |
| | MCS14P | | | | | | | | | | LE13 | | LE24[2] | | |
| | MCS19F | | | | | | | | | | LE14 | | LE27[2] | | |
| Omron | R88M-1M20030 | OM07 | | OM07 | | OM08 | OM08 | | OM09 | | | | | | |
| | R88M-1M40030 | OM10 | | OM10 | | OM11 | OM11 | | OM12 | | | | | | |
| | R88M-1M05030 | | OM03 | OM03 | | OM04 | | | | | | | | | |
| | R88M-1M10030 | | OM03 | OM03 | | OM04 | | | | | | | | | |
| | R88M-1M75030 | | | | OM13 | | OM13 | OM14 | OM14 | | | | | | |
| | R88M-1L1K030 | | | | OM15 | | OM15 | OM16 | OM16 | OM16 | | OM17 | | OM29[2] | |
| | R88M-1L1K530 | | | | OM15 | | OM15 | OM16 | OM16 | OM16 | | OM17 | | OM29[2] | |
| | R88M-1L75030 | | | | OM15 | | OM15 | | OM16 | OM16 | | OM17 | | OM29[2] | |
| | R88M-1L2K030 | | | | OM15 | | | OM16 | OM16 | OM16 | | OM17 | | OM29[2] | |
| | R88M-1L3K030 | | | | OM18[2] | | | OM19 | | | | OM20 | | OM32[2] | OM32[2] |
| | R88M-1M1K020 | | | | OM18[2] | | | OM19 | | OM19 | | OM20 | | OM32[2] | OM32[2] |
| | R88M-1M1K520 | | | | OM18[2] | | | OM19 | | | | OM20 | | OM32[2] | OM32[2] |
| | R88M-1M40020 | | | | OM15 | | OM15 | OM16 | OM16 | OM16 | | OM17 | | OM29[2] | |

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[1] See order code Page 25 for linear modules HM-B and Page 105 double axes HD

[2] Drive not suitable for Y-axis of HIWIN multi-axis systems HS

Table 22.1 **Order code for position flange type [1] – linear modules HM-B and double axes HD**

| Drive Manufacturer/Type | | HM040B/HD1 | | | HM060B/HD2 | | | HM080B/HD3 | | | HM120B/HD4 | | HM120B-H/HD4-H | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Only motor | With PLE40 | With PLQE60 | Only motor | With PLQE60 | With PLQE80 | Only motor | With PLQE80 | With PLQE120 | Only motor | With PLQE120 | Only Motor | With PLQE120 | With PSBN142 |
| Omron | R88M-1M60020 | | | | OM15 | | OM15 | OM16 | OM16 | OM16 | | OM17 | | OM29[2] | |
| | R88M-1M2K020 | | | | OM18[2] | | | OM19 | | | OM20 | OM20 | | OM32[2] | OM32[2] |
| | R88M-1L4K030 | | | | | | | OM22 | | | | OM23 | | OM35[2] | OM35[2] |
| | R88M-1L5K030 | | | | | | | OM22 | | | | OM23 | | OM35[2] | |
| | R88M-1M3K020 | | | | | | | OM22 | | | OM23 | OM23 | | OM35[2] | OM35[2] |
| Schneider | BSH0553 | SE02 | SE02 | SE02 | | SE10 | | | | | | | | | |
| | BSH0701 | SE03 | | SE03 | | SE07 | SE07 | | SE16 | | | | | | |
| | BSH0702 | SE03 | | SE03 | | SE07 | SE07 | | SE16 | | | | | | |
| | BMH0701 | SE03 | | SE03 | SE07 | SE07 | SE07 | | SE16 | | | | | | |
| | BMH0702 | SE03 | | SE03 | SE07 | SE07 | SE07 | | SE16 | | | | | | |
| | BMH0703 | SE04 | | SE04 | SE08 | SE08 | SE08 | SE12 | SE12 | | | | | | |
| | BSH0551 | | SE02 | SE02 | | SE10 | | | | | | | | | |
| | BSH0552 | | SE02 | SE02 | | SE10 | | | | | | | | | |
| | BSH1001 | | | | SE09 | | SE09 | | SE13 | SE13 | | SE20 | | SE29[2] | |
| | BSH1002 | | | | SE09 | | SE09 | SE13 | SE13 | SE13 | | SE20 | | SE29[2] | |
| | BSH1003 | | | | SE09 | | | SE13 | SE13 | SE13 | | SE20 | | SE29[2] | |
| | BSH1004 | | | | SE25 | | | SE14 | | | | SE21 | | SE35[2] | |
| | BSH1401 | | | | SE24[2] | | | SE15[2] | | | | SE19 | | SE32[2] | SE32[2] |
| | BMH1001 | | | | SE09 | | SE09 | SE13 | SE13 | SE13 | | SE20 | | SE29[2] | |
| | BMH1002 | | | | SE09 | | SE09 | SE13 | SE13 | SE13 | | SE20 | | SE29[2] | |
| | BMH1003 | | | | SE09 | | SE09 | SE13 | SE13 | SE13 | | SE20 | | SE29[2] | |
| | BMH1401 | | | | SE24[2] | | | SE15[2] | | SE15 | SE19 | SE19 | | SE32[2] | SE32[2] |
| | BSH0703 | | | | | SE08 | SE08 | | SE12 | | | | | | |
| | BSH1402 | | | | | | | SE15[2] | | | SE19 | SE19 | | SE32[2] | |
| | BMH1402 | | | | | | | SE15[2] | | | SE19 | SE19 | SE32[2] | SE32[2] | SE32[2] |
| | BMH1403 | | | | | | | SE15[2] | | | SE19 | SE19 | SE32[2] | SE32[2] | SE32[2] |
| | BSH1403 | | | | | | | | | | SE19 | | SE32[2] | | |
| | BSH1404 | | | | | | | | | | SE19 | | SE32[2] | | |
| SEW | CMP40M | SW02 | SW02 | SW02 | | SW06 | | | | | | | | | |
| | CMP50S | SW03 | | SW03 | | SW07 | SW07 | | SW11 | | | | | | |
| | CMP50M | SW03 | | | SW07 | SW07 | SW07 | | SW11 | | | | | | |
| | CMP40S | | SW02 | SW02 | | SW06 | | | | | | | | | |
| | CMP50L | | | | SW07 | SW07 | SW07 | | SW11 | | | | | | |
| | CMP63S | | | | SW08 | SW08 | SW08 | | SW12 | | | | | | |
| | CMP63M | | | | SW08 | SW08 | SW08 | SW12 | SW12 | | | | | | |
| | CMP63L | | | | SW08 | | | SW12 | SW12 | | | | | | |
| | CMP71S | | | | SW09[2] | | | SW13 | | SW13 | | SW17 | | SW27[2] | SW27[2] |
| | CMP71M | | | | SW09[2] | | | SW13 | | | | SW17 | | SW27[2] | SW27[2] |
| | CMPZ71S | | | | SW09[2] | | | SW13 | | | | SW17 | | SW27[2] | SW27[2] |
| | CMP71L | | | | | | | SW13 | | | | SW17 | | SW27[2] | SW27[2] |
| | CMP80S | | | | | | | SW14[2] | | | | | | | SW30[2] |
| | CMPZ71M | | | | | | | SW13 | | | | SW17 | | SW27[2] | SW27[2] |
| | CMPZ71L | | | | | | | SW13 | | | SW17 | SW17 | | SW27[2] | SW27[2] |
| | CMP80M | | | | | | | | | | SW18 | | | | |
| | CMP80L | | | | | | | | | | SW18 | | SW30[2] | | |
| | CMP100S | | | | | | | | | | SW19 | | SW33[2] | | |

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[1] See order code Page 25 for linear modules HM-B and Page 105 double axes HD

[2] Drive not suitable for Y-axis of HIWIN multi-axis systems HS

Table 22.1 **Order code for position flange type [1] – linear modules HM-B and double axes HD**

| Drive Manufacturer/Type | | HM040B/HD1 | | | HM060B/HD2 | | | HM080B/HD3 | | | HM120B/HD4 | | HM120B-H/HD4-H | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | **Only motor** | **With PLE40** | **With PLQE60** | **Only motor** | **With PLQE60** | **With PLQE80** | **Only motor** | **With PLQE80** | **With PLQE120** | **Only motor** | **With PLQE120** | **Only Motor** | **With PLQE120** | **With PSBN142** |
| **SEW** | **CMP100M** | | | | | | | | | | SW19 | | SW33[2] | | |
| | **CMPZ80S** | | | | | | | | | | SW18 | | SW30[2] | | |
| | **CMPZ80M** | | | | | | | | | | SW18 | | SW30[2] | | |
| | **CMPZ80L** | | | | | | | | | | SW18 | | SW30[2] | | |
| | **CMPZ100S** | | | | | | | | | | SW19 | | SW33[2] | | |
| **Siemens** | **1FK2103-4** | SM23 | | SM23 | | SM24 | SM24 | | SM25 | | | | | | |
| | **1FK2203-2** | SM23 | | SM23 | | SM24 | SM24 | | SM25 | | | | | | |
| | **1FK2203-4** | SM23 | | SM23 | | SM24 | SM24 | | SM25 | | | | | | |
| | **1FK7022** | SM02 | SM02 | SM02 | | SM07 | | | | | | | | | |
| | **1FK7032** | SM03 | | SM03 | SM04 | SM04 | SM04 | | SM11 | | | | | | |
| | **1FK7034** | SM03 | | | SM04 | SM04 | SM04 | | SM11 | | | | | | |
| | **1FL6032-2** | SM27 | | SM27 | | SM28 | SM28 | | SM29 | | | | | | |
| | **1FL6034-2** | SM27 | | SM27 | | SM28 | SM28 | | SM29 | | | | | | |
| | **1FK2102-0** | | SM19 | SM19 | | SM20 | | | | | | | | | |
| | **1FK2102-1** | | SM19 | SM19 | | SM20 | | | | | | | | | |
| | **1FL6022-2** | | SM19 | SM19 | | SM20 | | | | | | | | | |
| | **1FL6024-2** | | SM19 | SM19 | | SM20 | | | | | | | | | |
| | **1FK2103-2** | | | SM23 | | SM24 | SM24 | | SM25 | | | | | | |
| | **1FK2204-5** | | | | SM35 | | SM35 | | SM36 | | | | | | |
| | **1FK2104-6** | | | | SM35 | | SM35 | | SM36 | | | | | | |
| | **1FK2204-6** | | | | SM35 | | SM35 | SM36 | SM36 | | | | | | |
| | **1FK2105-4** | | | | SM37 | | SM37 | SM38 | SM38 | SM38 | | SM39 | | SM62[2] | |
| | **1FK2105-6** | | | | SM37 | | | SM38 | SM38 | | | SM39 | | SM62[2] | |
| | **1FK2205-2** | | | | SM05 | | SM05 | SM08 | SM08 | SM08 | | SM15 | | SM59[2] | |
| | **1FK2205-4** | | | | SM05 | | SM05 | SM08 | SM08 | SM08 | | SM15 | | SM59[2] | |
| | **1FK2106-3** | | | | SM06[2] | | | SM09 | | | | SM12 | | SM71[2] | SM71[2] |
| | **1FK2106-4** | | | | SM06[2] | | | SM09 | | | | SM12 | | SM71[2] | SM71[2] |
| | **1FK2206-2** | | | | SM06[2] | | | SM09 | | SM09 | | SM12 | | SM71[2] | SM71[2] |
| | **1FK2206-4** | | | | SM06[2] | | | SM09 | | | SM12 | SM12 | | SM71[2] | SM71[2] |
| | **1FK7040** | | | | SM05 | | SM05 | | SM08 | SM08 | | SM15 | | SM59[2] | |
| | **1FK7042** | | | | SM05 | | SM05 | SM08 | SM08 | SM08 | | SM15 | | SM59[2] | |
| | **1FK7060** | | | | SM06[2] | | | SM09 | | SM09 | | SM12 | | SM71[2] | SM71[2] |
| | **1FK7062** | | | | SM06[2] | | | SM09 | | | | SM12 | | SM71[2] | SM71[2] |
| | **1FK7063** | | | | SM06[2] | | | SM09 | | | SM12 | SM12 | | SM71[2] | SM71[2] |
| | **1FL6042-2** | | | | SM30 | | SM30 | | SM31 | | | | | | |
| | **1FL6044-2** | | | | SM30 | | SM30 | | SM31 | | | | | | |
| | **1FL6052-2** | | | | SM40 | | SM40 | SM41 | SM41 | SM41 | | SM42 | | SM65[2] | |
| | **1FL6054-2** | | | | SM40 | | | SM41 | SM41 | SM41 | | SM42 | | SM65[2] | |
| | **1FL6042-1** | | | | SM32 | | SM32 | SM33 | SM33 | SM33 | | SM34 | | SM56[2] | |
| | **1FL6044-1** | | | | SM32 | | SM32 | SM33 | SM33 | SM33 | | SM34 | | SM56[2] | |
| | **1FL6061-1** | | | | SM43[2] | | | SM44 | | SM44 | | SM45 | | SM68[2] | SM68[2] |
| | **1FL6062-1** | | | | SM43[2] | | | SM44 | | | | SM45 | | SM68[2] | SM68[2] |
| | **1FL6064-1** | | | | SM43[2] | | | SM44 | | | SM45 | SM45 | | SM68[2] | SM68[2] |
| | **1FK2104-4** | | | | | | SM35 | | SM36 | | | | | | |
| | **1FK2104-5** | | | | | | SM35 | | SM36 | | | | | | |
| | **1FK2106-6** | | | | | | | SM09 | | | | SM12 | | SM71[2] | SM71[2] |

PLE, PLQE and PSBN are registered trademarks of Neugart GmbH

[1] See order code Page 25 for linear modules HM-B and Page 105 double axes HD

[2] Drive not suitable for Y-axis of HIWIN multi-axis systems HS

Table 22.1 **Order code for position flange type [1] – linear modules HM-B and double axes HD**

| Drive Manufacturer/Type | | HM040B/HD1 | | | HM060B/HD2 | | | HM080B/HD3 | | | HM120B/HD4 | | HM120B-H/HD4-H | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Only motor | With PLE40 | With PLQE60 | Only motor | With PLQE60 | With PLQE80 | Only motor | With PLQE80 | With PLQE120 | Only motor | With PLQE120 | Only Motor | With PLQE120 | With PSBN142 |
| Siemens | 1FK2208-3 | | | | | | | SM10[2] | | | SM13 | | SM74[2] | | SM74[2] |
| | 1FK2208-4 | | | | | | | SM10[2] | | | SM13 | | SM74[2] | | SM74[2] |
| | 1FK7080 | | | | | | | SM10[2] | | | SM13 | | | | SM74[2] |
| | 1FK7081 | | | | | | | SM10[2] | | | SM13 | | SM74[2] | | SM74[2] |
| | 1FK7083 | | | | | | | SM10[2] | | | SM13 | | SM74[2] | | |
| | 1FL6066-1 | | | | | | | SM44 | | | SM45 | SM45 | SM68[2] | SM68[2] | SM68[2] |
| | 1FL6067-1 | | | | | | | SM44 | | | SM45 | SM45 | SM68[2] | SM68[2] | SM68[2] |
| | 1FK2208-5 | | | | | | | | | | SM13 | | SM74[2] | | |
| | 1FK2210-3 | | | | | | | | | | SM14 | | SM80[2] | | |
| | 1FK2210-4 | | | | | | | | | | SM14 | | SM80[2] | | |
| | 1FK2210-5 | | | | | | | | | | SM14 | | SM80[2] | | |
| | 1FK7084 | | | | | | | | | | SM13 | | SM74[2] | | |
| | 1FK7100 | | | | | | | | | | SM14 | | SM80[2] | | |
| | 1FK7101 | | | | | | | | | | SM14 | | SM80[2] | | |
| | 1FK7103 | | | | | | | | | | SM14 | | SM80[2] | | |

PLE, PLQE and PSBN are registered trademarks of Neugart GmbH

[1] See order code Page 25 for linear modules HM-B and Page 105 double axes HD

[2] Drive not suitable for Y-axis of HIWIN multi-axis systems HS

### 22.1.2 Drive adaptation of linear tables HT-B

The drive adaptation of linear table HT-B is of multi-sectional design to allow for simple flange-mounting of all standard motors and gearboxes.

The flange type set comprises the following components:

- Coupling components
- Motor adapter plate AM or gearbox adapter plate AG and motor gearbox adapter plate GM (omitted in NG11-NG15)

The dimensions of the coupling housing, motor adapter plate as well as the gear adapter plate can be found in section 22.1.5 from page 184.

**Motor adaptation of linear tables with toothed belt drive (HT-B)**

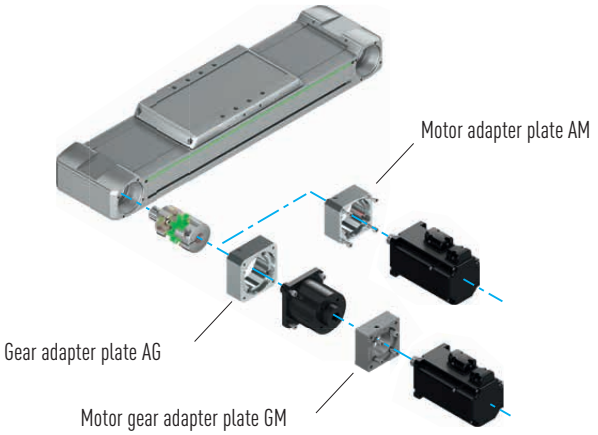


Fig. 22.3 **Motor adaptation of linear tables HT-B**

| | |
|---|---|
| Gear adapter plate AG: | Adapter from axis to gearbox |
| Motor gear adapter plate GM: | Adapter from gearbox to motor |
| Motor adapter plate AM: | Adapter from axis to motor |

Table 22.2 **Order code for position flange type [1] – linear tables HT-B**

| Drive Manufacturer/Type | | HT100B | | | HT150B | | | HT200B | | HT250B | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | **Only motor** | **With PLE40** | **With PLQE60** | **Only motor** | **With PLQE80** | **With PLQE120** | **Only motor** | **With PLQE120** | **Only motor** | **With PLQE120** |
| **Gearbox adapter** | | | NG11 | NG12 | | NG13 | NG14 | | NG15 | | NG15 |
| HIWIN | **EM1-C-M-20-2** | | | HW03 | | HW10 | | | | | |
| | **EM1-C-M-40-2** | HW03 | | HW03 | | HW10 | | | | | |
| | **EM1-C-M-05-2** | | HW16 | HW16 | | | | | | | |
| | **EM1-C-M-10-2** | | HW16 | HW16 | | | | | | | |
| | **EM1-C-M-75-2** | | | | | HW08 | | | | | |
| | **EM1-A-M-1K-2** | | | | HW13[2] | | HW13 | HW14 | HW14 | | HW14 |
| | **EM1-D-M-1A-2** | | | | HW13[2] | | HW13 | HW14 | HW14 | | HW14 |
| | **EM1-D-M-2K-2** | | | | HW13[2] | | | HW14 | HW14 | HW14 | HW14 |
| B&R | **8LSA24** | | BR02 | BR02 | | | | | | | |
| | **8LSA25** | | BR02 | BR02 | | | | | | | |
| | **8LSA33** | | | BR03 | | BR13 | | | | | |
| | **8LSA34** | | | BR03 | | BR13 | | | | | |
| | **8LSA35** | | | BR03 | | BR13 | | | | | |
| | **8LSA43** | | | | BR10 | BR10 | BR10 | | BR17 | | BR17 |
| | **8LSA44** | | | | BR10 | BR10 | BR10 | | BR17 | | BR17 |
| | **8LSA45** | | | | BR10 | BR10 | BR10 | | BR17 | | BR17 |
| | **8LSA46** | | | | BR10 | BR10 | | BR17 | BR17 | | BR17 |
| | **8LSA53** | | | | | | BR12 | | BR14 | | BR14 |
| | **8LSA54** | | | | | | | BR14[2] | BR14 | | BR14 |
| | **8LSA55** | | | | | | | BR14[2] | BR14 | | BR14 |
| | **8LSN43** | | | | BR11 | BR11 | BR11 | BR18 | BR18 | | BR18 |
| | **8LSN44** | | | | BR11 | BR11 | | BR18 | BR18 | | BR18 |
| | **8LSN45** | | | | BR11 | BR11 | | BR18 | BR18 | BR18 | BR18 |
| | **8LSN46** | | | | BR11 | | | BR18 | BR18 | BR18 | BR18 |
| | **8LSN54** | | | | | | | BR14[2] | BR14 | BR14 | BR14 |
| | **8LSA56** | | | | | | | BR14[2] | BR14 | BR14 | BR14 |
| | **8LSA57** | | | | | | | BR14[2] | BR14 | BR14 | BR14 |
| | **8LSA63** | | | | | | | BR15[2] | | | |
| | **8LSN55** | | | | | | | BR14[2] | BR14 | BR14 | BR14 |

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[1] See order code Page 45 | [2] Drive not suitable for Y-axis of HIWIN multi-axis systems HS

Table 22.2 **Order code for position flange type [1] – linear tables HT-B**

| Drive Manufacturer/Type | | HT100B | | | HT150B | | | HT200B | | HT250B | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Only motor | With PLE40 | With PLQE60 | Only motor | With PLQE80 | With PLQE120 | Only motor | With PLQE120 | Only motor | With PLQE120 |
| B&R | 8LSN56 | | | | | | | BR14[2] | BR14 | BR14 | BR14 |
| | 8LSA64 | | | | | | | BR15[2] | | BR15 | |
| | 8LSA65 | | | | | | | BR15[2] | | BR15 | |
| | 8LSA66 | | | | | | | BR15[2] | | BR15 | |
| | 8LSN57 | | | | | | | BR14[2] | BR14 | BR14 | BR14 |
| Beckhoff | AM8022 | | BE01 | BE01 | | | | | | | |
| | AM8023 | BE01 | BE01 | BE01 | | | | | | | |
| | AM8031 | BE02 | | BE02 | | BE09 | | | | | |
| | AM8531 | BE02 | | BE02 | BE09 | BE09 | | | | | |
| | AM8032 | BE02 | | BE02 | | BE09 | | | | | |
| | AM8033 | BE02 | | BE02 | | BE09 | | | | | |
| | AM8532 | BE02 | | BE02 | BE09 | BE09 | | | | | |
| | AM8533 | BE02 | | BE02 | BE09 | BE09 | | | | | |
| | AM8041 | | | | | BE10 | BE10 | | BE18 | | BE18 |
| | AM8042 | | | | BE10 | BE10 | BE10 | | BE18 | | BE18 |
| | AM8043 | | | | BE10 | BE10 | BE10 | | BE18 | | BE18 |
| | AM8541 | | | | BE10 | BE10 | BE10 | BE18 | BE18 | | BE18 |
| | AM8542 | | | | BE10 | BE10 | BE10 | BE18 | BE18 | | BE18 |
| | AM8543 | | | | BE10 | BE10 | BE10 | BE18 | BE18 | | BE18 |
| | AM8051 | | | | BE11 | | BE11 | | BE15 | | BE15 |
| | AM8052 | | | | BE11 | | BE11 | | BE15 | | BE15 |
| | AM8551 | | | | BE11 | | BE11 | BE15 | BE15 | | BE15 |
| | AM8552 | | | | BE11 | | BE11 | BE15 | BE15 | BE15 | BE15 |
| | AM8053 | | | | BE11 | | | BE15 | BE15 | | BE15 |
| | AM8553 | | | | BE11 | | | BE15 | BE15 | BE15 | BE15 |
| | AM8061 | | | | | | | BE16[2] | | BE16 | |
| | AM8062 | | | | | | | BE16[2] | | BE16 | |
| | AM8561 | | | | | | | BE16[2] | | BE16 | |
| | AM8063 | | | | | | | BE16[2] | | BE16 | |
| | AM8562 | | | | | | | BE16[2] | | BE16 | |
| | AM8563 | | | | | | | BE16[2] | | BE16 | |
| | AM8071 | | | | | | | | | BE17[2] | |
| | AM8072 | | | | | | | | | BE17[2] | |
| Bosch | MS2N03-A0 | | B002 | B002 | | | | | | | |
| | MS2N03-B0 | | B002 | B002 | | | | | | | |
| | MS2N03-D0 | B037 | | B037 | | | | | | | |
| | MS2N04-B0 | B003 | | B003 | | B010 | | | | | |
| | MSK030B | | B002 | B002 | | | | | | | |
| | MSK030C | | B002 | B002 | | | | | | | |
| | MSK040B | B003 | | B003 | | B010 | | | | | |
| | MSK040C | B003 | | B003 | | B010 | | | | | |
| | MS2N04-C0 | B003 | | B003 | | B010 | | | | | |
| | MS2N04-D0 | B003 | | B003 | B010 | B010 | | | | | |
| | MS2N05-B0 | | | | B011 | B011 | B011 | | B019 | | B019 |
| | MS2N05-C0 | | | | B011 | B011 | B011 | | B019 | | B019 |
| | MS2N05-D0 | | | | B011 | B011 | | | B019 | | B019 |

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[1] See order code Page 45 | [2] Drive not suitable for Y-axis of HIWIN multi-axis systems HS

Table 22.2 **Order code for position flange type [1] – linear tables HT-B**

| Drive Manufacturer/Type | | HT100B | | | HT150B | | | HT200B | | HT250B | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | **Only motor** | **With PLE40** | **With PLQE60** | **Only motor** | **With PLQE80** | **With PLQE120** | **Only motor** | **With PLQE120** | **Only motor** | **With PLQE120** |
| **Bosch** | **MS2N06-B1** | | | | B013 | | B013 | B021 | B021 | | B021 |
| | **MS2N06-C0** | | | | B013 | | B013 | | B021 | | B021 |
| | **MS2N06-D0** | | | | B013 | | | B021 | B021 | | B021 |
| | **MS2N06-D1** | | | | B013 | | | B021 | B021 | B021 | B021 |
| | **MSK043C** | B003 | | B003 | | B010 | | | | | |
| | **MSK050B** | | | | B011 | B011 | B011 | | B019 | | B019 |
| | **MSK050C** | | | | B011 | B011 | B011 | | B019 | | B019 |
| | **MSK060B** | | | | B013 | | B013 | B021 | B021 | | B021 |
| | **MSK060C** | | | | B013 | | | B021 | B021 | | B021 |
| | **MSK061B** | | | | B012 | B012 | B012 | B020 | B020 | | B020 |
| | **MSK061C** | | | | B012 | B012 | | B020 | B020 | | B020 |
| | **MS2N06-E0** | | | | B013 | | | B021 | B021 | | B021 |
| | **MS2N07-B1** | | | | | | | B018[2] | | B018 | |
| | **MS2N07-C1** | | | | | | | B018[2] | | B018 | |
| | **MSK070C** | | | | | | | B018[2] | | B018 | |
| | **MSK070D** | | | | | | | B018[2] | | B018 | |
| | **MSK070E** | | | | | | | B018[2] | | B018 | |
| | **MSK071C** | | | | | | | B018[2] | | B018 | |
| | **MSK075C** | | | | | | | B018[2] | | B018 | |
| | **MSK076C** | | | | | | | B017[2] | B017 | B017 | B017 |
| | **MS2N07-D0** | | | | | | | B018[2] | | B018 | |
| | **MS2N07-D1** | | | | | | | B018[2] | | B018 | |
| | **MS2N07-E0** | | | | | | | B018[2] | | B018 | |
| | **MS2N07-E1** | | | | | | | B018[2] | | B018 | |
| | **MS2N10-B1** | | | | | | | | | B034[2] | |
| | **MS2N10-C0** | | | | | | | | | B034[2] | |
| | **MS2N10-C1** | | | | | | | | | B034[2] | |
| | **MS2N10-D0** | | | | | | | | | B034[2] | |
| | **MSK071D** | | | | | | | B018[2] | | B018 | |
| | **MSK071E** | | | | | | | B018[2] | | B018 | |
| | **MSK075D** | | | | | | | B018[2] | | B018 | |
| | **MSK075E** | | | | | | | B018[2] | | B018 | |
| | **MSK100A** | | | | | | | | | B044 | |
| **Lenze** | **MCS06F** | | | LE01 | | LE11 | | | | | |
| | **MCS06I** | | | LE01 | | LE11 | | | | | |
| | **MCS09D** | | | LE02 | | LE08 | | | | | |
| | **MCS09F** | | | | LE08 | LE08 | | | | | |
| | **MCS09H** | | | | LE08 | LE08 | | | | | |
| | **MCS09L** | | | | LE08 | LE08 | | | | | |
| | **MCS12D** | | | | LE09 | LE09 | LE09 | | LE15 | | LE15 |
| | **MCS12H** | | | | LE09 | | | LE15 | LE15 | | LE15 |
| | **MCS12L** | | | | LE09 | | | LE15 | LE15 | LE15 | LE15 |
| | **MCS14D** | | | | | | | LE13[2] | LE13 | | LE13 |
| | **MCS14H** | | | | | | | LE13[2] | | LE13 | LE13 |
| | **MCS14L** | | | | | | | LE13[2] | | LE13 | LE13 |
| | **MCS14P** | | | | | | | LE13[2] | | LE13 | |
| | **MCS19F** | | | | | | | | | LE14 | |

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[1] See order code Page 45 | [2] Drive not suitable for Y-axis of HIWIN multi-axis systems HS

Table 22.2 **Order code for position flange type [1] – linear tables HT-B**

| Drive Manufacturer/Type | | HT100B | | | HT150B | | | HT200B | | HT250B | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Only motor | With PLE40 | With PLQE60 | Only motor | With PLQE80 | With PLQE120 | Only motor | With PLQE120 | Only motor | With PLQE120 |
| Omron | R88M-1M20030 | | | OM07 | | OM09 | | | | | |
| | R88M-1M40030 | OM10 | | OM10 | | OM12 | | | | | |
| | R88M-1M05030 | | OM03 | OM03 | | | | | | | |
| | R88M-1M10030 | | OM03 | OM03 | | | | | | | |
| | R88M-1M75030 | | | | OM14 | OM14 | | | | | |
| | R88M-1L1K030 | | | | OM16 | OM16 | OM16 | | OM17 | | OM17 |
| | R88M-1L1K530 | | | | OM16 | OM16 | OM16 | | OM17 | | OM17 |
| | R88M-1L75030 | | | | | OM16 | OM16 | | OM17 | | OM17 |
| | R88M-1L2K030 | | | | OM16 | OM16 | OM16 | | OM17 | | OM17 |
| | R88M-1L3K030 | | | | OM19[2] | | | OM20 | OM20 | | OM20 |
| | R88M-1M1K020 | | | | OM19[2] | | OM19 | OM20 | OM20 | | OM20 |
| | R88M-1M1K520 | | | | OM19[2] | | | OM20 | OM20 | | OM20 |
| | R88M-1M40020 | | | | OM16 | OM16 | OM16 | | OM17 | | OM17 |
| | R88M-1M60020 | | | | OM16 | OM16 | OM16 | | OM17 | | OM17 |
| | R88M-1M2K020 | | | | OM19[2] | | | OM20 | OM20 | OM20 | OM20 |
| | R88M-1L4K030 | | | | OM22[2] | | | OM23 | OM23 | | OM23 |
| | R88M-1L5K030 | | | | OM22[2] | | | OM23 | | OM23 | OM23 |
| | R88M-1M3K020 | | | | OM22[2] | | | OM23 | OM23 | OM23 | OM23 |
| Schneider | BSH0553 | | SE02 | SE02 | | | | | | | |
| | BSH0701 | | | SE03 | | SE16 | | | | | |
| | BSH0702 | SE03 | | SE03 | | SE16 | | | | | |
| | BMH0701 | SE03 | | SE03 | | SE16 | | | | | |
| | BMH0702 | SE03 | | SE03 | | SE16 | | | | | |
| | BMH0703 | SE04 | | SE04 | SE12 | SE12 | | | | | |
| | BSH0551 | | SE02 | SE02 | | | | | | | |
| | BSH0552 | | SE02 | SE02 | | | | | | | |
| | BSH1001 | | | | | SE13 | SE13 | | SE20 | | SE20 |
| | BSH1002 | | | | SE13 | SE13 | SE13 | | SE20 | | SE20 |
| | BSH1003 | | | | SE13 | SE13 | | | SE20 | | SE20 |
| | BSH1004 | | | | SE14 | | | | SE21 | | SE21 |
| | BSH1401 | | | | | | | SE19[2] | SE19 | | SE19 |
| | BMH1001 | | | | SE13 | SE13 | SE13 | | SE20 | | SE20 |
| | BMH1002 | | | | SE13 | SE13 | SE13 | SE20 | SE20 | | SE20 |
| | BMH1003 | | | | SE13 | SE13 | SE13 | SE20 | SE20 | SE20 | SE20 |
| | BMH1401 | | | | | | | SE19[2] | SE19 | SE19 | SE19 |
| | BSH0703 | SE04 | | SE04 | | SE12 | | | | | |
| | BSH1402 | | | | | | | SE19[2] | SE19 | SE19 | SE19 |
| | BMH1402 | | | | | | | SE19[2] | SE19 | SE19 | SE19 |
| | BMH1403 | | | | | | | SE19[2] | SE19 | SE19 | SE19 |
| | BSH1403 | | | | | | | SE19[2] | | SE19 | |
| | BSH1404 | | | | | | | | | SE19 | |

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[1] See order code Page 45 | [2] Drive not suitable for Y-axis of HIWIN multi-axis systems HS

Table 22.2 **Order code for position flange type [1] – linear tables HT-B**

| Drive Manufacturer/Type | | HT100B | | | HT150B | | | HT200B | | HT250B | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | **Only motor** | **With PLE40** | **With PLQE60** | **Only motor** | **With PLQE80** | **With PLQE120** | **Only motor** | **With PLQE120** | **Only motor** | **With PLQE120** |
| **SEW** | **CMP40M** | | SW02 | SW02 | | | | | | | |
| | **CMP50S** | SW03 | | SW03 | | SW11 | | | | | |
| | **CMP50M** | SW03 | | SW03 | | SW11 | | | | | |
| | **CMP40S** | | SW02 | SW02 | | | | | | | |
| | **CMP50L** | SW03 | | SW03 | | SW11 | | | | | |
| | **CMP63S** | | | SW05 | | SW12 | | | | | |
| | **CMP63M** | | | | SW12 | SW12 | | | | | |
| | **CMP63L** | | | | SW12 | SW12 | | | | | |
| | **CMP71S** | | | | SW13 | | SW13 | | SW17 | | SW17 |
| | **CMP71M** | | | | SW13 | | | | SW17 | | SW17 |
| | **CMPZ71S** | | | | SW13 | | | SW17 | SW17 | SW17 | SW17 |
| | **CMP71L** | | | | SW13 | | | SW17 | SW17 | | SW17 |
| | **CMP80S** | | | | SW14[2] | | | SW18 | | | |
| | **CMPZ71M** | | | | SW13 | | | SW17 | SW17 | SW17 | SW17 |
| | **CMPZ71L** | | | | SW13 | | | SW17 | SW17 | SW17 | SW17 |
| | **CMP80M** | | | | | | | SW18 | | SW18 | |
| | **CMP80L** | | | | | | | SW18 | | SW18 | |
| | **CMP100S** | | | | | | | SW19[2] | | SW19 | |
| | **CMP100M** | | | | | | | | | SW19 | |
| | **CMPZ80S** | | | | | | | SW18 | | SW18 | |
| | **CMPZ80M** | | | | | | | SW18 | | SW18 | |
| | **CMPZ80L** | | | | | | | | | SW18 | |
| | **CMPZ100S** | | | | | | | | | SW19 | |
| **Siemens** | **1FK2103-4AXXX-0** | | | SM23 | | SM25 | | | | | |
| | **1FK2203-2AXXX-0** | | | SM23 | | SM25 | | | | | |
| | **1FK2203-4AXXX-0** | SM23 | | SM23 | | SM25 | | | | | |
| | **1FK7022** | | SM02 | SM02 | | | | | | | |
| | **1FK7032** | SM03 | | SM03 | | SM11 | | | | | |
| | **1FK7034** | SM03 | | SM03 | | SM11 | | | | | |
| | **1FL6032-2** | | | SM27 | | SM29 | | | | | |
| | **1FL6034-2** | SM27 | | SM27 | | SM29 | | | | | |
| | **1FK2102-0AXXX-0** | | SM19 | SM19 | | | | | | | |
| | **1FK2102-1AXXX-0** | | SM19 | SM19 | | | | | | | |
| | **1FL6022-2** | | SM19 | SM19 | | | | | | | |
| | **1FL6024-2** | | SM19 | SM19 | | | | | | | |
| | **1FK2103-2AXXX-0** | | | SM23 | | SM25 | | | | | |
| | **1FK2204-5AXXX-0** | | | | | SM36 | | | | | |
| | **1FK2104-6AXXX-0** | | | | | SM36 | | | | | |
| | **1FK2204-6AXXX-0** | | | | SM36 | SM36 | | | | | |
| | **1FK2105-4AXXX-0** | | | | SM38 | SM38 | SM38 | | SM39 | | SM39 |
| | **1FK2105-6AXXX-0** | | | | SM38 | SM38 | | | SM39 | | SM39 |
| | **1FK2205-2AXXX-0** | | | | SM08 | SM08 | SM08 | | SM15 | | SM15 |
| | **1FK2205-4AXXX-0** | | | | SM08 | SM08 | SM08 | SM15 | SM15 | | SM15 |
| | **1FK2106-3AXXX-0** | | | | SM09[2] | | | SM12 | SM12 | | SM12 |
| | **1FK2106-4AXXX-0** | | | | SM09[2] | | | SM12 | SM12 | | SM12 |
| | **1FK2206-2AXXX-0** | | | | SM09[2] | | SM09 | SM12 | SM12 | | SM12 |

PLE and PLQE are registered trademarks of Neugart GmbH

[1] See order code Page 45 | [2] Drive not suitable for Y-axis of HIWIN multi-axis systems HS

Table 22.2 **Order code for position flange type [1] – linear tables HT-B**

| Drive Manufacturer/Type | | HT100B | | | HT150B | | | HT200B | | HT250B | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Only motor | With PLE40 | With PLQE60 | Only motor | With PLQE80 | With PLQE120 | Only motor | With PLQE120 | Only motor | With PLQE120 |
| Siemens | 1FK2206-4AXXX-0 | | | | SM09[2] | | | SM12 | SM12 | SM12 | SM12 |
| | 1FK7040 | | | | SM08 | SM08 | SM08 | | SM15 | | SM15 |
| | 1FK7042 | | | | SM08 | SM08 | SM08 | | SM15 | | SM15 |
| | 1FK7060 | | | | SM09[2] | | | SM12 | SM12 | | SM12 |
| | 1FK7062 | | | | SM09[2] | | | SM12 | SM12 | SM12 | SM12 |
| | 1FK7063 | | | | SM09[2] | | | SM12 | SM12 | SM12 | SM12 |
| | 1FL6042-2 | | | | | SM31 | | | | | |
| | 1FL6044-2 | | | | | SM31 | | | | | |
| | 1FL6052-2 | | | | SM41 | SM41 | SM41 | | SM42 | | SM42 |
| | 1FL6054-2 | | | | SM41 | SM41 | | | SM42 | | SM42 |
| | 1FL6042-1 | | | | SM33 | SM33 | SM33 | | SM34 | | SM34 |
| | 1FL6044-1 | | | | SM33 | SM33 | SM33 | SM34 | SM34 | | SM34 |
| | 1FL6061-1 | | | | SM44[2] | | | SM45 | SM45 | | SM45 |
| | 1FL6062-1 | | | | SM44[2] | | | SM45 | SM45 | SM45 | SM45 |
| | 1FL6064-1 | | | | SM44[2] | | | SM45 | SM45 | SM45 | SM45 |
| | 1FK2104-4AXXX-0 | | | | | SM36 | | | | | |
| | 1FK2104-5AXXX-0 | | | | | SM36 | | | | | |
| | 1FK2106-6AXXX-0 | | | | SM09[2] | | | SM12 | SM12 | | SM12 |
| | 1FK2208-3AXXX-0 | | | | | | | SM13[2] | | SM13 | |
| | 1FK2208-4AXXX-0 | | | | | | | SM13[2] | | SM13 | |
| | 1FK7080 | | | | | | | SM13[2] | | SM13 | |
| | 1FK7081 | | | | | | | SM13[2] | | SM13 | |
| | 1FK7083 | | | | | | | SM13[2] | | SM13 | |
| | 1FL6066-1 | | | | SM44[2] | | | SM45 | SM45 | SM45 | SM45 |
| | 1FL6067-1 | | | | SM44[2] | | | SM45 | SM45 | SM45 | SM45 |
| | 1FK2208-5AXXX-0 | | | | | | | SM13[2] | | SM13 | |
| | 1FK2210-3AXXX-0 | | | | | | | | | SM14 | |
| | 1FK2210-4AXXX-0 | | | | | | | | | SM14 | |
| | 1FK2210-5AXXX-0 | | | | | | | | | SM14 | |
| | 1FK7084 | | | | | | | SM13[2] | | SM13 | |
| | 1FK7100 | | | | | | | | | SM14 | |
| | 1FK7101 | | | | | | | | | SM14 | |
| | 1FK7103 | | | | | | | | | SM14 | |

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[1] See order code Page 45 | [2] Drive not suitable for Y-axis of HIWIN multi-axis systems HS

### 22.1.3 Drive adaptation of linear tables HT-B

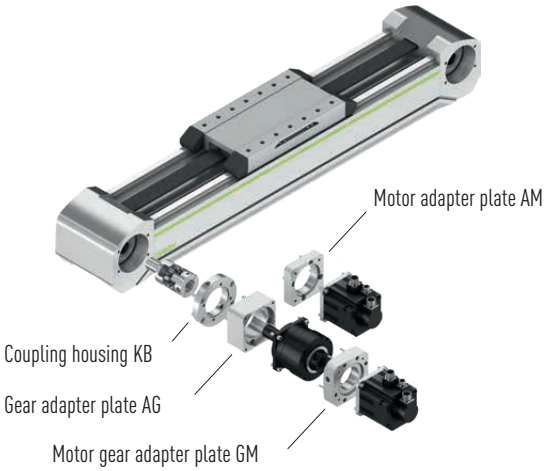
The drive adaptation of linear table HT-B is of multi-sectional design to allow for simple flange-mounting of all standard motors and gearboxes.

The flange type set comprises the following components:

- Coupling housing KB
- Coupling components
- Motor adapter plate AM or gearbox adapter plate AG and motor gearbox adapter plate GM (omitted in NG41 and NG42)

The dimensions of the coupling housing, motor adapter plate as well as the gear adapter plate can be found in section 22.1.5 from page 184.

**Motor adaptation of bridge axes with toothed belt drive (HB-B)**




| | |
|---|---|
| Gear adapter plate AG: | Adapter from axis to gearbox |
| Motor gear adapter plate GM: | Adapter from gearbox to motor |
| Motor adapter plate AM: | Adapter from axis to motor |

Fig. 22.4 **Motor adaptation of bridge axes HB-B**

Table 22.3 **Order code for position flange type [1] – Bridge axes HB-B**

| Drive Manufacturer/Type | | HB250B | | |
|---|---|---|---|---|
| | | **Only motor** | **With PLQE120** | **With PSBN142** |
| **Gearbox adapter** | | | NG11 | NG12 |
| **HIWIN** | **EM1-A-M-1K-2** | | HW27[2] | HW27[2] |
| | **EM1-D-M-1A-2** | | HW27[2] | HW27[2] |
| | **EM1-D-M-2K-2** | | HW27[2] | HW27[2] |
| **B&R** | **8LSA43** | | BR30[2] | |
| | **8LSA44** | | BR30[2] | |
| | **8LSA45** | | BR30[2] | |
| | **8LSA46** | | BR30[2] | |
| | **8LSA53** | | BR33[2] | BR33[2] |
| | **8LSA54** | | BR33[2] | BR33[2] |
| | **8LSA55** | | BR33[2] | BR33[2] |
| | **8LSN43** | | BR27[2] | BR27[2] |
| | **8LSN44** | | BR27[2] | BR27[2] |
| | **8LSN45** | | BR27[2] | BR27[2] |
| | **8LSN46** | | BR27[2] | BR27[2] |
| | **8LSN54** | | BR33[2] | BR33[2] |
| | **8LSA56** | | BR33[2] | BR33[2] |
| | **8LSA57** | | BR33[2] | BR33[2] |
| | **8LSN55** | | BR33[2] | BR33[2] |
| | **8LSN56** | | BR33[2] | BR33[2] |
| | **8LSN57** | | BR33[2] | BR33[2] |

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[1] See order code Page 45 | [2] Drive not suitable for Y-axis of HIWIN multi-axis systems HS

Table 22.3 **Order code for position flange type [1] – Bridge axes HB-B**

| Drive Manufacturer/Type | | HB250B | | |
|---|---|---|---|---|
| | | **Only motor** | **With PLQE120** | **With PSBN142** |
| **Beckhoff** | **AM8041** | | BE23[2] | |
| | **AM8042** | | BE23[2] | |
| | **AM8043** | | BE23[2] | |
| | **AM8541** | | BE23[2] | |
| | **AM8542** | | BE23[2] | |
| | **AM8543** | | BE23[2] | |
| | **AM8051** | | BE25[2] | |
| | **AM8052** | | BE25[2] | |
| | **AM8551** | | BE25[2] | |
| | **AM8552** | | BE25[2] | |
| | **AM8053** | | BE25[2] | |
| | **AM8553** | | BE25[2] | |
| | **AM8061** | | | BE28[2] |
| | **AM8062** | | | BE28[2] |
| | **AM8561** | | | BE28[2] |
| | **AM8063** | | | BE28[2] |
| | **AM8562** | BE28[2] | | BE28[2] |
| | **AM8563** | BE28[2] | | BE28[2] |
| | **AM8072** | BE31[2] | | |
| | **AM8073** | BE31[2] | | |
| **Bosch** | **MS2N05-B0** | | B049[2] | |
| | **MS2N05-C0** | | B049[2] | |
| | **MS2N05-D0** | | B049[2] | |
| | **MS2N06-B1** | | B058[2] | B058[2] |
| | **MS2N06-C0** | | B058[2] | B058[2] |
| | **MS2N06-D0** | | B058[2] | B058[2] |
| | **MS2N06-D1** | | B058[2] | B058[2] |
| | **MSK050B** | | B049[2] | |
| | **MSK050C** | | B049[2] | |
| | **MSK060B** | | B058[2] | B058[2] |
| | **MSK060C** | | B058[2] | B058[2] |
| | **MSK061B** | | B052[2] | B052[2] |
| | **MSK061C** | | B052[2] | B052[2] |
| | **MS2N06-E0** | | B058[2] | B058[2] |
| | **MS2N07-B1** | | | B061[2] |
| | **MS2N07-C1** | | | B061[2] |
| | **MSK070C** | | | B061[2] |
| | **MSK070D** | | | B061[2] |
| | **MSK070E** | | | B061[2] |
| | **MSK071C** | | | B061[2] |
| | **MSK075C** | | | B061[2] |
| | **MSK076C** | | B055[2] | B055[2] |
| | **MS2N07-D0** | | | B061[2] |
| | **MS2N07-D1** | B061[2] | | B061[2] |
| | **MS2N07-E0** | | | B061[2] |
| | **MS2N07-E1** | B061[2] | | B061[2] |

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[1] See order code Page 45 | [2] Drive not suitable for Y-axis of HIWIN multi-axis systems HS

Table 22.3 **Order code for position flange type [1] – Bridge axes HB-B**

| Drive Manufacturer/Type | | HB250B | | |
|---|---|---|---|---|
| | | **Only motor** | **With PLQE120** | **With PSBN142** |
| **Bosch** | **MS2N10-B1** | BO66[2] | | |
| | **MS2N10-C1** | BO66[2] | | |
| | **MS2N10-D0** | BO66[2] | | |
| | **MSK071D** | | | BO61[2] |
| | **MSK071E** | | | BO61[2] |
| | **MSK075D** | | | BO61[2] |
| | **MSK075E** | BO61[2] | | BO61[2] |
| | **MSK100A** | BO64[2] | | |
| | **MS2N10-D1** | BO66[2] | | |
| | **MS2N10-E0** | BO66[2] | | |
| | **MS2N10-E1** | BO66[2] | | |
| | **MS2N10-F0** | BO66[2] | | |
| | **MS2N10-F1** | BO66[2] | | |
| | **MS2N10-R0** | BO66[2] | | |
| **Lenze** | **MCS12D** | | LE21[2] | LE21[2] |
| | **MCS12H** | | LE21[2] | LE21[2] |
| | **MCS12L** | | LE21[2] | LE21[2] |
| | **MCS14D** | | LE24[2] | LE24[2] |
| | **MCS14H** | | LE24[2] | LE24[2] |
| | **MCS14L** | | LE24[2] | LE24[2] |
| | **MCS14P** | | | LE24[2] |
| | **MCS19F** | LE27[2] | | |
| **Omron** | **R88M-1L1K030** | | OM29[2] | |
| | **R88M-1L1K530** | | OM29[2] | |
| | **R88M-1L75030** | | OM29[2] | |
| | **R88M-1L2K030** | | OM29[2] | |
| | **R88M-1L3K030** | | OM32[2] | OM32[2] |
| | **R88M-1M1K020** | | OM32[2] | OM32[2] |
| | **R88M-1M1K520** | | OM32[2] | OM32[2] |
| | **R88M-1M40020** | | OM29[2] | |
| | **R88M-1M60020** | | OM29[2] | |
| | **R88M-1M2K020** | | OM32[2] | OM32[2] |
| | **R88M-1L4K030** | | OM35[2] | OM35[2] |
| | **R88M-1L5K030** | | OM35[2] | OM35[2] |
| | **R88M-1M3K020** | | OM35[2] | OM35[2] |

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[1] See order code Page 45 | [2] Drive not suitable for Y-axis of HIWIN multi-axis systems HS

Table 22.3 **Order code for position flange type [1] – Bridge axes HB-B**

| Drive Manufacturer/Type | | HB250B | | |
|---|---|---|---|---|
| | | **Only motor** | **With PLQE120** | **With PSBN142** |
| **Schneider** | **BSH1001** | | SE29[2] | |
| | **BSH1002** | | SE29[2] | |
| | **BSH1003** | | SE29[2] | |
| | **BSH1004** | | SE35[2] | |
| | **BSH1401** | | SE32[2] | SE32[2] |
| | **BMH1001** | | SE29[2] | |
| | **BMH1002** | | SE29[2] | |
| | **BMH1003** | | SE29[2] | |
| | **BMH1401** | | SE32[2] | SE32[2] |
| | **BSH1402** | | SE32[2] | SE32[2] |
| | **BMH1402** | | SE32[2] | SE32[2] |
| | **BMH1403** | | SE32[2] | SE32[2] |
| | **BSH1403** | | | SE32[2] |
| | **BSH1404** | | | SE32[2] |
| **SEW** | **CMP71S** | | SW27[2] | SW27[2] |
| | **CMP71M** | | SW27[2] | SW27[2] |
| | **CMPZ71S** | | SW27[2] | SW27[2] |
| | **CMP71L** | | SW27[2] | SW27[2] |
| | **CMP80S** | | | SW30[2] |
| | **CMPZ71M** | | SW27[2] | SW27[2] |
| | **CMPZ71L** | | SW27[2] | SW27[2] |
| | **CMP80M** | | | SW30[2] |
| | **CMP80L** | | | SW30[2] |
| | **CMP100S** | | | SW33[2] |
| | **CMP100M** | | | SW33[2] |
| | **CMPZ80S** | | | SW30[2] |
| | **CMPZ80M** | | | SW30[2] |
| | **CMPZ80L** | | | SW30[2] |
| | **CMPZ100S** | SW33[2] | | |
| | **CMPZ100M** | SW33[2] | | |
| | **CMPZ100L** | SW33[2] | | |

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[1] See order code Page 45 | [2] Drive not suitable for Y-axis of HIWIN multi-axis systems HS

Table 22.3 **Order code for position flange type [1] – Bridge axes HB-B**

| Drive Manufacturer/Type | | HB250B | | |
|---|---|---|---|---|
| | | **Only motor** | **With PLQE120** | **With PSBN142** |
| Siemens | **1FK2105-4** | | SM62[2] | |
| | **1FK2105-6** | | SM62[2] | |
| | **1FK2205-2** | | SM59[2] | |
| | **1FK2205-4** | | SM59[2] | |
| | **1FK2106-3** | | SM71[2] | SM71[2] |
| | **1FK2106-4** | | SM71[2] | SM71[2] |
| | **1FK2206-2** | | SM71[2] | SM71[2] |
| | **1FK2206-4** | | SM71[2] | SM71[2] |
| | **1FK7040** | | SM59[2] | |
| | **1FK7042** | | SM59[2] | |
| | **1FK7060** | | SM71[2] | SM71[2] |
| | **1FK7062** | | SM71[2] | SM71[2] |
| | **1FK7063** | | SM71[2] | SM71[2] |
| | **1FL6052-2** | | SM65[2] | |
| | **1FL6054-2** | | SM65[2] | |
| | **1FL6042-1** | | SM56[2] | |
| | **1FL6044-1** | | SM56[2] | |
| | **1FL6061-1** | | SM68[2] | SM68[2] |
| | **1FL6062-1** | | SM68[2] | SM68[2] |
| | **1FL6064-1** | | SM68[2] | SM68[2] |
| | **1FK2106-6** | | SM71[2] | SM71[2] |
| | **1FK2208-3** | | | SM74[2] |
| | **1FK2208-4** | | | SM74[2] |
| | **1FK7080** | | | SM74[2] |
| | **1FK7081** | | | SM74[2] |
| | **1FK7083** | | | SM74[2] |
| | **1FL6066-1** | | SM68[2] | SM68[2] |
| | **1FL6067-1** | | SM68[2] | SM68[2] |
| | **1FK2208-5** | | | SM74[2] |
| | **1FK2210-3** | SM80[2] | | |
| | **1FK2210-4** | SM80[2] | | |
| | **1FK2210-5** | SM80[2] | | |
| | **1FK7084** | | | SM74[2] |
| | **1FK7100** | SM80[2] | | |
| | **1FK7101** | SM80[2] | | |
| | **1FK7103** | SM80[2] | | |
| | **1FK7105** | SM80[2] | | |

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[1] See order code Page 45 | [2] Drive not suitable for Y-axis of HIWIN multi-axis systems HS

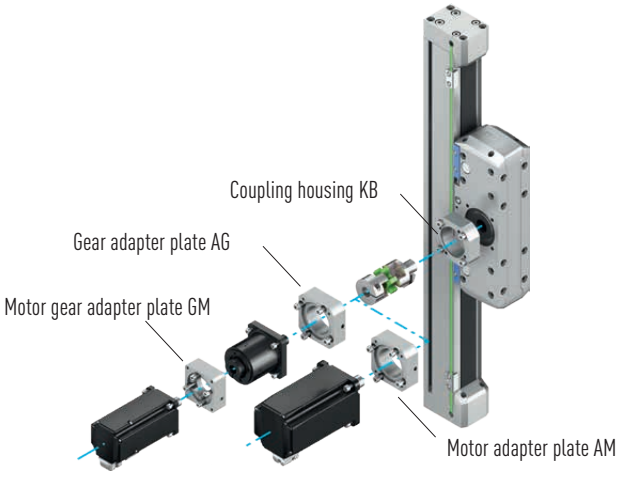
### 22.1.4 Drive adaptation of cantilever axis HC-B

Adaptation to the linear axis is of multi-sectional design to allow simple flange-mounting of all standard motors and gearboxes.
The flange type set comprises the following components:

- Coupling housing KB
- Coupling components
- Motor adapter plate AM or gearbox adapter plate AG and motor gearbox adapter plate GM (omitted in NG21–NG27)

The dimensions of the coupling housing, motor adapter plate as well as the gear adapter plate can be found in section 22.1.5 from page 184.

### Motor adaptation of cantilever axes (HC-B)




Gear adapter plate AG: Adapter from axis to gearbox

Motor gear adapter plate GM: Adapter from gearbox to motor

Motor adapter plate AM: Adapter from axis to motor

Fig. 22.5 **Motor adaptation of cantilever axes HC-B**

Table 22.4 **Order code for position flange type [1] – cantilever axes HC-B**

| Drive Manufacturer/Type | | HC025B | | HC040B | | | HC060B | | | HC080B | | | HC100B | | | HC150B | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Only motor | With PLE40 | Only motor | With PLE40 | With PLQE60 | Only motor | With PLQE60 | With PLQE80 | Only motor | With PLQE80 | With PLQE120 | Only Motor | With PLQE80 | With PLQE120 | Only Motor | With PLQE120 |
| **Gearbox adapter** | | | NG21 | | NG22 | NG23 | | NG24 | NG25 | | NG26 | NG27 | | NG28 | NG29 | | NG30 |
| HIWIN | **EM1-C-M-20-2** | HW24[2] | | | | HW03[2] | | HW05[2] | HW05[2] | | HW10[2] | | | HW23[2] | | | |
| | **EM1-C-M-40-2** | HW24[2] | | HW03[2] | | HW03[2] | | HW05[2] | HW05[2] | | HW10[2] | | | HW23[2] | | | |
| | **EM1-C-M-05-2** | | HW17[2] | | HW16[2] | HW16[2] | | HW15[2] | | | | | | | | | |
| | **EM1-C-M-10-2** | HW17[2] | HW17[2] | | HW16[2] | HW16[2] | | HW15[2] | | | | | | | | | |
| | **EM1-C-M-75-2** | | | | | | | | HW06[2] | | HW08[2] | | | HW24[2] | | | |
| | **EM1-A-M-1K-2** | | | | | | HW25[2] | | | HW13[2] | | HW13[2] | | | HW14[2] | | HW26[2] |
| | **EM1-D-M-1A-2** | | | | | | HW25[2] | | | HW13[2] | | HW13[2] | | | HW14[2] | | HW26[2] |
| | **EM1-D-M-2K-2** | | | | | | HW25[2] | | | HW13[2] | | HW13[2] | | | HW14[2] | | HW26[2] |
| B&R | **8LSA24** | BR19[2] | BR19[2] | | BR02[2] | BR02[2] | | BR07[2] | | | | | | | | | |
| | **8LSA25** | BR19[2] | BR19[2] | | BR02[2] | BR02[2] | | BR07[2] | | | | | | | | | |
| | **8LSA33** | BR24[2] | | BR03[2] | | BR03[2] | | BR04[2] | BR04[2] | | BR13[2] | | | BR20[2] | | | |
| | **8LSA34** | BR24[2] | | BR03[2] | | BR03[2] | | BR04[2] | BR04[2] | | BR13[2] | | | BR20[2] | | | |
| | **8LSA35** | | | BR03[2] | | BR03[2] | | BR04[2] | BR04[2] | | BR13[2] | | | BR20[2] | | | |
| | **8LSA43** | | | | | | BR05[2] | | BR05[2] | | BR10[2] | BR10[2] | | BR17[2] | BR17[2] | | BR29[2] |
| | **8LSA44** | | | | | | BR05[2] | | BR05[2] | | BR10[2] | BR10[2] | | BR17[2] | BR17[2] | | BR29[2] |
| | **8LSA45** | | | | | | BR05[2] | | BR05[2] | | BR10[2] | BR10[2] | | BR17[2] | BR17[2] | | BR29[2] |
| | **8LSA46** | | | | | | BR05[2] | | BR05[2] | BR10[2] | BR10[2] | BR10[2] | | BR17[2] | BR17[2] | | BR29[2] |
| | **8LSA53** | | | | | | BR21[2] | | | | | BR12[2] | | | BR14[2] | | BR32[2] |
| | **8LSA54** | | | | | | BR21[2] | | | BR12[2] | | BR12[2] | | | BR14[2] | | BR32[2] |

PLE and PLQE are registered trademarks of Neugart GmbH
[1] See order code Page 87 | [2] Drive not suitable for Y-axis of HIWIN multi-axis systems HS

Table 22.4 **Order code for position flange type [1] – cantilever axes HC-B**

| Drive Manufacturer/Type | | HC025B | | HC040B | | | HC060B | | | HC080B | | | HC100B | | | HC150B | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Only motor | With PLE40 | Only motor | With PLE40 | With PLQE60 | Only motor | With PLQE60 | With PLQE80 | Only motor | With PLQE80 | With PLQE120 | Only Motor | With PLQE80 | With PLQE120 | Only Motor | With PLQE120 |
| B&R | 8LSA55 | | | | | | BR21[2] | | | BR12[2] | | BR12[2] | | | BR14[2] | | BR32[2] |
| | 8LSN43 | | | | | | BR06[2] | | BR06[2] | BR11[2] | BR11[2] | BR11[2] | | BR18[2] | BR18[2] | | BR26[2] |
| | 8LSN44 | | | | | | BR06[2] | | BR06[2] | BR11[2] | BR11[2] | BR11[2] | | BR18[2] | BR18[2] | | BR26[2] |
| | 8LSN45 | | | | | | BR06[2] | | BR06[2] | BR11[2] | BR11[2] | BR11[2] | | BR18[2] | BR18[2] | | BR26[2] |
| | 8LSN46 | | | | | | BR06[2] | | | BR11[2] | | BR11[2] | | | BR18[2] | | BR26[2] |
| | 8LSN54 | | | | | | BR21[2] | | | BR12[2] | | BR12[2] | | | BR14[2] | | BR32[2] |
| | 8LSA56 | | | | | | | | | BR12[2] | | BR12[2] | | | BR14[2] | | BR32[2] |
| | 8LSA57 | | | | | | | | | BR12[2] | | BR12[2] | | | BR14[2] | | BR32[2] |
| | 8LSA63 | | | | | | BR22[2] | | | BR23[2] | | | | | | | |
| | 8LSN55 | | | | | | BR21[2] | | | BR12[2] | | BR12[2] | BR14[2] | | BR14[2] | BR32[2] | BR32[2] |
| | 8LSN56 | | | | | | | | | BR12[2] | | BR12[2] | BR14[2] | | BR14[2] | BR32[2] | BR32[2] |
| | 8LSA64 | | | | | | | | | BR23[2] | | | | | | | |
| | 8LSA66 | | | | | | | | | | | | BR15[2] | | | | |
| | 8LSN57 | | | | | | | | | BR12[2] | | BR12[2] | BR14[2] | | BR14[2] | BR32[2] | BR32[2] |
| Beckhoff | AM8022 | BE19[2] | BE19[2] | | BE01[2] | BE01[2] | | BE04[2] | | | | | | | | | |
| | AM8023 | | BE19[2] | BE01[2] | BE01[2] | BE01[2] | | BE04[2] | | | | | | | | | |
| | AM8031 | BE20[2] | | BE02[2] | | BE02[2] | | BE05[2] | BE05[2] | | BE09[2] | | | BE21[2] | | | |
| | AM8531 | BE20[2] | | BE02[2] | | BE02[2] | BE05[2] | BE05[2] | BE05[2] | | BE09[2] | | | BE21[2] | | | |
| | AM8032 | | | BE02[2] | | BE02[2] | | BE05[2] | BE05[2] | | BE09[2] | | | BE21[2] | | | |
| | AM8033 | | | | | BE02[2] | | BE05[2] | BE05[2] | | BE09[2] | | | BE21[2] | | | |
| | AM8532 | | | BE02[2] | | BE02[2] | BE05[2] | BE05[2] | BE05[2] | | BE09[2] | | | BE21[2] | | | |
| | AM8533 | | | | | BE02[2] | BE05[2] | BE05[2] | BE05[2] | | BE09[2] | | | BE21[2] | | | |
| | AM8041 | | | | | | | | BE06[2] | | BE10[2] | BE10[2] | | BE18[2] | BE18[2] | | BE22[2] |
| | AM8042 | | | | | | BE06[2] | | BE06[2] | | BE10[2] | BE10[2] | | BE18[2] | BE18[2] | | BE22[2] |
| | AM8043 | | | | | | BE06[2] | | BE06[2] | | BE10[2] | BE10[2] | | BE18[2] | BE18[2] | | BE22[2] |
| | AM8541 | | | | | | BE06[2] | | BE06[2] | BE10[2] | BE10[2] | BE10[2] | | BE18[2] | BE18[2] | | BE22[2] |
| | AM8542 | | | | | | BE06[2] | | BE06[2] | BE10[2] | BE10[2] | BE10[2] | | BE18[2] | BE18[2] | | BE22[2] |
| | AM8543 | | | | | | BE06[2] | | BE06[2] | BE10[2] | BE10[2] | BE10[2] | | BE18[2] | BE18[2] | | BE22[2] |
| | AM8051 | | | | | | BE07[2] | | | | | BE11[2] | | | BE15[2] | | BE24[2] |
| | AM8052 | | | | | | BE07[2] | | | BE11[2] | | BE11[2] | | | BE15[2] | | BE24[2] |
| | AM8551 | | | | | | BE07[2] | | | BE11[2] | | BE11[2] | | | BE15[2] | | BE24[2] |
| | AM8552 | | | | | | BE07[2] | | | BE11[2] | | BE11[2] | | | BE15[2] | | BE24[2] |
| | AM8053 | | | | | | BE07[2] | | | BE11[2] | | BE11[2] | | | BE15[2] | | BE24[2] |
| | AM8553 | | | | | | BE07[2] | | | BE11[2] | | BE11[2] | | | BE15[2] | | BE24[2] |
| | AM8061 | | | | | | | | | BE12[2] | | | | | | | |
| | AM8062 | | | | | | | | | BE12[2] | | | BE16[2] | | | | |
| | AM8561 | | | | | | | | | BE12[2] | | | BE16[2] | | | BE27[2] | |
| | AM8063 | | | | | | | | | | | | BE16[2] | | | BE27[2] | |
| | AM8562 | | | | | | | | | BE12[2] | | | BE16[2] | | | BE27[2] | |
| | AM8563 | | | | | | | | | | | | BE16[2] | | | BE27[2] | |
| | AM8071 | | | | | | | | | | | | BE17[2] | | | BE30[2] | |
| | AM8072 | | | | | | | | | | | | BE17[2] | | | BE30[2] | |
| | AM8073 | | | | | | | | | | | | | | | BE30[2] | |

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[1] See order code Page 87 | [2] Drive not suitable for Y-axis of HIWIN multi-axis systems HS

Table 22.4 **Order code for position flange type [1] – cantilever axes HC-B**

| Drive Manufacturer/Type | | HC025B | | HC040B | | | HC060B | | | HC080B | | | HC100B | | | HC150B | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Only motor | With PLE40 | Only motor | With PLE40 | With PLQE60 | Only motor | With PLQE60 | With PLQE80 | Only motor | With PLQE80 | With PLQE120 | Only Motor | With PLQE80 | With PLQE120 | Only Motor | With PLQE120 |
| Bosch | MS2N03-A0 | B042[2] | B042[2] | | B002[2] | B002[2] | | B009[2] | | | | | | | | | |
| | MS2N03-B0 | B042[2] | B042[2] | | B002[2] | B002[2] | | B009[2] | | | | | | | | | |
| | MS2N03-D0 | | | B037[2] | | B037[2] | | B041[2] | | | | | | | | | |
| | MS2N04-B0 | B045[2] | | B003[2] | | B003[2] | | B005[2] | B005[2] | | B010[2] | | | B047[2] | | | |
| | MSK030B | B042[2] | B042[2] | | B002[2] | B002[2] | | B009[2] | | | | | | | | | |
| | MSK030C | B042[2] | B042[2] | | B002[2] | B002[2] | | B009[2] | | | | | | | | | |
| | MSK040B | B045[2] | | B003[2] | | B003[2] | | B005[2] | B005[2] | | B010[2] | | | B047[2] | | | |
| | MSK040C | | | B003[2] | | B003[2] | | B005[2] | B005[2] | | B010[2] | | | B047[2] | | | |
| | MS2N04-C0 | | | B003[2] | | B003[2] | | B005[2] | B005[2] | | B010[2] | | | B047[2] | | | |
| | MS2N04-D0 | | | | | B003[2] | B005[2] | B005[2] | B005[2] | | B010[2] | | | B047[2] | | | |
| | MS2N05-B0 | | | | | | B006[2] | | B006[2] | | B011[2] | B011[2] | | B019[2] | B019[2] | | B048[2] |
| | MS2N05-C0 | | | | | | B006[2] | | B006[2] | | B011[2] | B011[2] | | B019[2] | B019[2] | | B048[2] |
| | MS2N05-D0 | | | | | | B006[2] | | B006[2] | B011[2] | B011[2] | B011[2] | | B019[2] | B019[2] | | B048[2] |
| | MS2N06-B1 | | | | | | B008[2] | | | B013[2] | | B013[2] | | | B021[2] | | B057[2] |
| | MS2N06-C0 | | | | | | B008[2] | | | B013[2] | | B013[2] | | | B021[2] | | B057[2] |
| | MS2N06-D0 | | | | | | B008[2] | | | B013[2] | | B013[2] | | | B021[2] | | B057[2] |
| | MS2N06-D1 | | | | | | B008[2] | | | B013[2] | | B013[2] | | | B021[2] | | B057[2] |
| | MSK043C | | | B003[2] | | B003[2] | | B005[2] | B005[2] | | B010[2] | | | B047[2] | | | |
| | MSK050B | | | | | | B006[2] | | B006[2] | | B011[2] | B011[2] | | B019[2] | B019[2] | | B048[2] |
| | MSK050C | | | | | | B006[2] | | B006[2] | | B011[2] | B011[2] | | B019[2] | B019[2] | | B048[2] |
| | MSK060B | | | | | | B008[2] | | | B013[2] | | B013[2] | | | B021[2] | | B057[2] |
| | MSK060C | | | | | | B008[2] | | | B013[2] | | B013[2] | | | B021[2] | | B057[2] |
| | MSK061B | | | | | | B007[2] | | B007[2] | B012[2] | B012[2] | B012[2] | | B020[2] | B020[2] | | B051[2] |
| | MSK061C | | | | | | B007[2] | | B007[2] | B012[2] | B012[2] | B012[2] | | B020[2] | B020[2] | | B051[2] |
| | MS2N06-E0 | | | | | | B008[2] | | | B013[2] | | B013[2] | | | B021[2] | | B057[2] |
| | MS2N07-B1 | | | | | | | | | B015[2] | | | B018[2] | | | | |
| | MS2N07-C1 | | | | | | | | | B015[2] | | | B018[2] | | | B060[2] | |
| | MSK070C | | | | | | | | | B015[2] | | | B018[2] | | | B060[2] | |
| | MSK070D | | | | | | | | | B015[2] | | | B018[2] | | | B060[2] | |
| | MSK070E | | | | | | | | | B015[2] | | | B018[2] | | | B060[2] | |
| | MSK071C | | | | | | | | | B015[2] | | | B018[2] | | | | |
| | MSK075C | | | | | | | | | B015[2] | | | B018[2] | | | B060[2] | |
| | MSK076C | | | | | | B046[2] | | | B014[2] | | B014[2] | B017[2] | | B017[2] | B054[2] | B054[2] |
| | MS2N07-D0 | | | | | | | | | B015[2] | | | B018[2] | | | | |
| | MS2N07-D1 | | | | | | | | | | | | B018[2] | | | B060[2] | |
| | MS2N07-E0 | | | | | | | | | | | | B018[2] | | | B060[2] | |
| | MS2N07-E1 | | | | | | | | | | | | B018[2] | | | B060[2] | |
| | MS2N10-B1 | | | | | | | | | | | | B034[2] | | | B065[2] | |
| | MS2N10-C0 | | | | | | | | | | | | B034[2] | | | B065[2] | |
| | MS2N10-C1 | | | | | | | | | | | | B034[2] | | | B065[2] | |
| | MS2N10-D0 | | | | | | | | | | | | B034[2] | | | B065[2] | |
| | MSK071D | | | | | | | | | B015[2] | | | B018[2] | | | B060[2] | |
| | MSK071E | | | | | | | | | B015[2] | | | B018[2] | | | B060[2] | |
| | MSK075D | | | | | | | | | B015[2] | | | B018[2] | | | B060[2] | |
| | MSK075E | | | | | | | | | | | | B018[2] | | | B060[2] | |
| | MSK100A | | | | | | | | | B043[2] | | | B044[2] | | | B063[2] | |

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[1] See order code Page 87 | [2] Drive not suitable for Y-axis of HIWIN multi-axis systems HS

Table 22.4 **Order code for position flange type [1] – cantilever axes HC-B**

| Drive Manufacturer/Type | | HC025B | | HC040B | | | HC060B | | | HC080B | | | HC100B | | | HC150B | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Only motor | With PLE40 | Only motor | With PLE40 | With PLQE60 | Only motor | With PLQE60 | With PLQE80 | Only motor | With PLQE80 | With PLQE120 | Only Motor | With PLQE80 | With PLQE120 | Only Motor | With PLQE120 |
| Bosch | MS2N10-D1 | | | | | | | | | | | | B034[2] | | | B065[2] | |
| | MS2N10-E0 | | | | | | | | | | | | B034[2] | | | B065[2] | |
| | MS2N10-E1 | | | | | | | | | | | | | | | B065[2] | |
| | MS2N10-F0 | | | | | | | | | | | | | | | B065[2] | |
| | MS2N10-F1 | | | | | | | | | | | | | | | B065[2] | |
| | MS2N10-R0 | | | | | | | | | | | | | | | B065[2] | |
| Lenze | MCS06F | LE17[2] | | | | LE01[2] | | LE04[2] | LE04[2] | | LE11[2] | | | LE18[2] | | | |
| | MCS06I | | | | | LE01[2] | | LE04[2] | LE04[2] | | LE11[2] | | | LE18[2] | | | |
| | MCS09D | | | LE02[2] | | LE02[2] | | LE05[2] | LE05[2] | | LE08[2] | | | LE19[2] | | | |
| | MCS09F | | | LE02[2] | | LE02[2] | | LE05[2] | LE05[2] | | LE08[2] | | | LE19[2] | | | |
| | MCS09H | | | | | LE02[2] | LE05[2] | LE05[2] | LE05[2] | | LE08[2] | | | LE19[2] | | | |
| | MCS09L | | | | | | LE05[2] | | LE05[2] | | LE08[2] | | | LE19[2] | | | |
| | MCS12D | | | | | | LE06[2] | | LE06[2] | LE09[2] | LE09[2] | LE09[2] | | LE15[2] | LE15[2] | | LE20[2] |
| | MCS12H | | | | | | LE06[2] | | | LE09[2] | | LE09[2] | | | LE15[2] | | LE20[2] |
| | MCS12L | | | | | | | | | LE09[2] | | LE09[2] | | | LE15[2] | | LE20[2] |
| | MCS14D | | | | | | LE16[2] | | | LE10[2] | | LE10[2] | | | LE13[2] | | LE23[2] |
| | MCS14H | | | | | | | | | LE10[2] | | LE10[2] | | | LE13[2] | | LE23[2] |
| | MCS14L | | | | | | | | | LE10[2] | | LE10[2] | LE13[2] | | LE13[2] | LE23[2] | LE23[2] |
| | MCS14P | | | | | | | | | | | | LE13[2] | | | LE23[2] | |
| | MCS19F | | | | | | | | | | | | LE14[2] | | | LE26[2] | |
| Omron | R88M-1M20030 | OM05[2] | | | | OM07[2] | | OM08[2] | OM08[2] | | OM09[2] | | | OM25[2] | | | |
| | R88M-1M40030 | OM24[2] | | OM10[2] | | OM10[2] | | OM11[2] | OM11[2] | | OM12[2] | | | OM26[2] | | | |
| | R88M-1M05030 | | OM01[2] | | OM03[2] | OM03[2] | | OM04[2] | | | | | | | | | |
| | R88M-1M10030 | OM01[2] | OM01[2] | | OM03[2] | OM03[2] | | OM04[2] | | | | | | | | | |
| | R88M-1M75030 | | | | | | OM13[2] | | OM13[2] | | OM14[2] | | | OM27[2] | | | |
| | R88M-1L1K030 | | | | | | OM15[2] | | OM15[2] | | OM16[2] | OM16[2] | | OM17[2] | OM17[2] | | OM28[2] |
| | R88M-1L1K530 | | | | | | OM15[2] | | OM15[2] | | OM16[2] | OM16[2] | | OM17[2] | OM17[2] | | OM28[2] |
| | R88M-1L75030 | | | | | | | | OM15[2] | | OM16[2] | OM16[2] | | OM17[2] | OM17[2] | | OM28[2] |
| | R88M-1L2K030 | | | | | | OM15[2] | | OM15[2] | | OM16[2] | OM16[2] | | OM17[2] | OM17[2] | | OM28[2] |
| | R88M-1L3K030 | | | | | | OM18[2] | | | OM19[2] | | OM19[2] | | | OM20[2] | | OM31[2] |
| | R88M-1M1K020 | | | | | | OM18[2] | | | OM19[2] | | OM19[2] | | | OM20[2] | | OM31[2] |
| | R88M-1M1K520 | | | | | | OM18[2] | | | OM19[2] | | OM19[2] | | | OM20[2] | | OM31[2] |
| | R88M-1M40020 | | | | | | OM15[2] | | OM15[2] | | OM16[2] | OM16[2] | | OM17[2] | OM17[2] | | OM28[2] |
| | R88M-1M60020 | | | | | | OM15[2] | | OM15[2] | OM16[2] | OM16[2] | OM16[2] | | OM17[2] | OM17[2] | | OM28[2] |
| | R88M-1M2K020 | | | | | | OM18[2] | | | OM19[2] | | OM19[2] | | | OM20[2] | | OM31[2] |
| Omron | R88M-1L4K030 | | | | | | OM21[2] | | | OM22[2] | | OM22[2] | | | OM23[2] | | OM34[2] |
| | R88M-1L5K030 | | | | | | OM21[2] | | | OM22[2] | | OM22[2] | | | OM23[2] | | OM34[2] |
| | R88M-1M3K020 | | | | | | OM21[2] | | | OM22[2] | | OM22[2] | | | OM23[2] | | OM34[2] |

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[1] See order code Page 87 | [2] Drive not suitable for Y-axis of HIWIN multi-axis systems HS

Table 22.4 **Order code for position flange type [1] – cantilever axes HC-B**

| Drive Manufacturer/Type | | HC025B | | HC040B | | | HC060B | | | HC080B | | | HC100B | | | HC150B | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Only motor | With PLE40 | Only motor | With PLE40 | With PLQE60 | Only motor | With PLQE60 | With PLQE80 | Only motor | With PLQE80 | With PLQE120 | Only Motor | With PLQE80 | With PLQE120 | Only Motor | With PLQE120 |
| Schneider | **BSH0553** | SE01[2] | SE01[2] | | SE02[2] | SE02[2] | | SE10[2] | | | | | | | | | |
| | **BSH0701** | SE23[2] | | | | SE03[2] | | SE07[2] | SE07[2] | | SE16[2] | | | SE26[2] | | | |
| | **BSH0702** | | | | | SE03[2] | | SE07[2] | SE07[2] | | SE16[2] | | | SE26[2] | | | |
| | **BMH0701** | SE23[2] | | SE03[2] | | SE03[2] | | SE07[2] | SE07[2] | | SE16[2] | | | SE26[2] | | | |
| | **BMH0702** | | | SE03[2] | | SE03[2] | | SE07[2] | SE07[2] | | SE16[2] | | | SE26[2] | | | |
| | **BMH0703** | | | SE04[2] | | SE04[2] | SE08[2] | SE08[2] | SE08[2] | | SE12[2] | | | SE27[2] | | | |
| | **BSH0551** | SE01[2] | SE01[2] | | SE02[2] | SE02[2] | | SE10[2] | | | | | | | | | |
| | **BSH0552** | SE01[2] | SE01[2] | | SE02[2] | SE02[2] | | SE10[2] | | | | | | | | | |
| | **BSH1001** | | | | | | | | SE09[2] | | SE13[2] | SE13[2] | | SE20[2] | SE20[2] | | SE28[2] |
| | **BSH1002** | | | | | | SE09[2] | | SE09[2] | | SE13[2] | SE13[2] | | SE20[2] | SE20[2] | | SE28[2] |
| | **BSH1003** | | | | | | SE09[2] | | SE09[2] | | SE13[2] | SE13[2] | | SE20[2] | SE20[2] | | SE28[2] |
| | **BSH1004** | | | | | | SE25[2] | | | | | SE14[2] | | | SE21[2] | | SE34[2] |
| | **BSH1401** | | | | | | SE24[2] | | | SE15[2] | | SE15[2] | | | SE19[2] | | SE31[2] |
| | **BMH1001** | | | | | | SE09[2] | | SE09[2] | | SE13[2] | SE13[2] | | SE20[2] | SE20[2] | | SE28[2] |
| | **BMH1002** | | | | | | SE09[2] | | SE09[2] | SE13[2] | SE13[2] | SE13[2] | | SE20[2] | SE20[2] | | SE28[2] |
| | **BMH1003** | | | | | | SE09[2] | | SE09[2] | SE13[2] | SE13[2] | SE13[2] | | SE20[2] | SE20[2] | | SE28[2] |
| | **BMH1401** | | | | | | SE24[2] | | | SE15[2] | | SE15[2] | | | SE19[2] | | SE31[2] |
| | **BSH0703** | | | SE04[2] | | SE04[2] | | SE08[2] | SE08[2] | | SE12[2] | | | SE27[2] | | | |
| | **BSH1402** | | | | | | | | | SE15[2] | | SE15[2] | | | SE19[2] | | SE31[2] |
| | **BMH1402** | | | | | | SE24[2] | | | SE15[2] | | SE15[2] | SE19[2] | | SE19[2] | SE31[2] | SE31[2] |
| | **BMH1403** | | | | | | | | | SE15[2] | | SE15[2] | SE19[2] | | SE19[2] | SE31[2] | SE31[2] |
| | **BSH1403** | | | | | | | | | | | | SE19[2] | | | | |
| | **BSH1404** | | | | | | | | | | | | SE19[2] | | | | |
| SEW | **CMP40M** | SW21[2] | SW21[2] | | SW02[2] | SW02[2] | | SW06[2] | | | | | | | | | |
| | **CMP50S** | SW22[2] | | SW03[2] | | SW03[2] | | SW07[2] | SW07[2] | | SW11[2] | | | SW24[2] | | | |
| | **CMP50M** | | | SW03[2] | | SW03[2] | | SW07[2] | SW07[2] | | SW11[2] | | | SW24[2] | | | |
| | **CMP40S** | SW21[2] | SW21[2] | | SW02[2] | SW02[2] | | SW06[2] | | | | | | | | | |
| | **CMP50L** | | | SW03[2] | | SW03[2] | | SW07[2] | SW07[2] | | SW11[2] | | | SW24[2] | | | |
| | **CMP63S** | | | SW05[2] | | SW05[2] | | SW08[2] | SW08[2] | | SW12[2] | | | SW25[2] | | | |
| | **CMP63M** | | | | | SW05[2] | SW08[2] | SW08[2] | SW08[2] | | SW12[2] | | | SW25[2] | | | |
| | **CMP63L** | | | | | | SW08[2] | | SW08[2] | | SW12[2] | | | SW25[2] | | | |
| | **CMP71S** | | | | | | SW09[2] | | | | | SW13[2] | | | SW17[2] | | SW26[2] |
| | **CMP71M** | | | | | | SW09[2] | | | SW13[2] | | SW13[2] | | | SW17[2] | | SW26[2] |
| | **CMPZ71S** | | | | | | SW09[2] | | | SW13[2] | | SW13[2] | | | SW17[2] | | SW26[2] |
| | **CMP71L** | | | | | | SW09[2] | | | SW13[2] | | SW13[2] | | | SW17[2] | | SW26[2] |
| | **CMP80S** | | | | | | | | | SW14[2] | | | | | | | |
| | **CMPZ71M** | | | | | | SW09[2] | | | SW13[2] | | SW13[2] | | | SW17[2] | | SW26[2] |
| | **CMPZ71L** | | | | | | SW09[2] | | | SW13[2] | | SW13[2] | | | SW17[2] | | SW26[2] |
| | **CMP80M** | | | | | | | | | SW14[2] | | | | | | | |
| | **CMP80L** | | | | | | | | | | | | SW18[2] | | | | |
| | **CMP100S** | | | | | | | | | SW23[2] | | | SW19[2] | | | | |

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[1] See order code Page 87 | [2] Drive not suitable for Y-axis of HIWIN multi-axis systems HS

Table 22.4 **Order code for position flange type [1] – cantilever axes HC-B**

| Drive Manufacturer/Type | | HC025B | | HC040B | | | HC060B | | | HC080B | | | HC100B | | | HC150B | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Only motor | With PLE40 | Only motor | With PLE40 | With PLQE60 | Only motor | With PLQE60 | With PLQE80 | Only motor | With PLQE80 | With PLQE120 | Only Motor | With PLQE80 | With PLQE120 | Only Motor | With PLQE120 |
| SEW | CMP100M | | | | | | | | | | | | SW19[2] | | | SW32[2] | |
| | CMPZ80S | | | | | | | | | SW14[2] | | | SW18[2] | | | SW29[2] | |
| | CMPZ80M | | | | | | | | | SW14[2] | | | SW18[2] | | | SW29[2] | |
| | CMPZ80L | | | | | | | | | | | | SW18[2] | | | SW29[2] | |
| | CMPZ100S | | | | | | | | | SW23[2] | | | SW19[2] | | | SW32[2] | |
| | CMP100L | | | | | | | | | | | | SW19[2] | | | SW32[2] | |
| | CMPZ100M | | | | | | | | | | | | SW19[2] | | | SW32[2] | |
| | CMPZ100L | | | | | | | | | | | | SW19[2] | | | SW32[2] | |
| Siemens | 1FK2103-4 | SM47[2] | | | | SM23[2] | | SM24[2] | SM24[2] | | SM25[2] | | | SM50[2] | | | |
| | 1FK2203-2 | SM47[2] | | | | SM23[2] | | SM24[2] | SM24[2] | | SM25[2] | | | SM50[2] | | | |
| | 1FK2203-4 | SM47[2] | | | | SM23[2] | | SM24[2] | SM24[2] | | SM25[2] | | | SM50[2] | | | |
| | 1FK7022 | SM21[2] | SM21[2] | | SM02[2] | SM02[2] | | SM07[2] | | | | | | | | | |
| | 1FK7032 | SM48[2] | | SM03[2] | | SM03[2] | | SM04[2] | SM04[2] | | SM11[2] | | | SM51[2] | | | |
| | 1FK7034 | | | SM03[2] | | SM03[2] | | SM04[2] | SM04[2] | | SM11[2] | | | SM51[2] | | | |
| | 1FL6032-2 | SM49[2] | | | | SM27[2] | | SM28[2] | SM28[2] | | SM29[2] | | | SM52[2] | | | |
| | 1FL6034-2 | SM49[2] | | | | SM27[2] | | SM28[2] | SM28[2] | | SM29[2] | | | SM52[2] | | | |
| | 1FK2102-0 | | SM17[2] | | SM19[2] | SM19[2] | | SM20[2] | | | | | | | | | |
| | 1FK2102-1 | | SM17[2] | | SM19[2] | SM19[2] | | SM20[2] | | | | | | | | | |
| | 1FL6022-2 | | SM17[2] | | SM19[2] | SM19[2] | | SM20[2] | | | | | | | | | |
| | 1FL6024-2 | | SM17[2] | | SM19[2] | SM19[2] | | SM20[2] | | | | | | | | | |
| | 1FK2103-2 | SM47[2] | | | | SM23[2] | | SM24[2] | SM24[2] | | SM25[2] | | | SM50[2] | | | |
| | 1FK2204-5 | | | | | | | | SM35[2] | | SM36[2] | | | SM54[2] | | | |
| | 1FK2104-6 | | | | | | | | SM35[2] | | SM36[2] | | | SM54[2] | | | |
| | 1FK2204-6 | | | | | | SM35[2] | | SM35[2] | | SM36[2] | | | SM54[2] | | | |
| | 1FK2105-4 | | | | | | SM37[2] | | SM37[2] | | SM38[2] | SM38[2] | | SM39[2] | SM39[2] | | SM61[2] |
| | 1FK2105-6 | | | | | | SM37[2] | | SM37[2] | | SM38[2] | SM38[2] | | SM39[2] | SM39[2] | | SM61[2] |
| | 1FK2205-2 | | | | | | SM05[2] | | SM05[2] | | SM08[2] | SM08[2] | | SM15[2] | SM15[2] | | SM58[2] |
| | 1FK2205-4 | | | | | | SM05[2] | | SM05[2] | SM08[2] | SM08[2] | SM08[2] | | SM15[2] | SM15[2] | | SM58[2] |
| | 1FK2106-3 | | | | | | SM06[2] | | | SM09[2] | | SM09[2] | | | SM12[2] | | SM70[2] |
| | 1FK2106-4 | | | | | | SM06[2] | | | SM09[2] | | SM09[2] | | | SM12[2] | | SM70[2] |
| | 1FK2206-2 | | | | | | SM06[2] | | | SM09[2] | | SM09[2] | | | SM12[2] | | SM70[2] |
| | 1FK2206-4 | | | | | | SM06[2] | | | SM09[2] | | SM09[2] | | | SM12[2] | | SM70[2] |
| | 1FK7040 | | | | | | SM05[2] | | SM05[2] | | SM08[2] | SM08[2] | | SM15[2] | SM15[2] | | SM58[2] |
| | 1FK7042 | | | | | | SM05[2] | | SM05[2] | | SM08[2] | SM08[2] | | SM15[2] | SM15[2] | | SM58[2] |
| | 1FK7060 | | | | | | SM06[2] | | | SM09[2] | | SM09[2] | | | SM12[2] | | SM70[2] |
| | 1FK7062 | | | | | | SM06[2] | | | SM09[2] | | SM09[2] | | | SM12[2] | | SM70[2] |
| | 1FK7063 | | | | | | SM06[2] | | | SM09[2] | | SM09[2] | | | SM12[2] | | SM70[2] |
| | 1FL6042-2 | | | | | | | | SM30[2] | | SM31[2] | | | SM53[2] | | | |
| | 1FL6044-2 | | | | | | | | SM30[2] | | SM31[2] | | | SM53[2] | | | |
| | 1FL6052-2 | | | | | | SM40[2] | | SM40[2] | | SM41[2] | SM41[2] | | SM42[2] | SM42[2] | | SM64[2] |
| | 1FL6054-2 | | | | | | SM40[2] | | SM40[2] | | SM41[2] | SM41[2] | | SM42[2] | SM42[2] | | SM64[2] |
| | 1FL6042-1 | | | | | | SM32[2] | | SM32[2] | | SM33[2] | SM33[2] | | SM34[2] | SM34[2] | | SM55[2] |
| | 1FL6044-1 | | | | | | SM32[2] | | SM32[2] | SM33[2] | SM33[2] | SM33[2] | | SM34[2] | SM34[2] | | SM55[2] |
| | 1FL6061-1 | | | | | | SM43[2] | | | SM44[2] | | SM44[2] | | | SM45[2] | | SM67[2] |
| | 1FL6062-1 | | | | | | SM43[2] | | | SM44[2] | | SM44[2] | | | SM45[2] | | SM67[2] |
| | 1FL6064-1 | | | | | | SM43[2] | | | SM44[2] | | SM44[2] | | | SM45[2] | | SM67[2] |

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[1] See order code Page 87 | [2] Drive not suitable for Y-axis of HIWIN multi-axis systems HS

Table 22.4 **Order code for position flange type [1] – cantilever axes HC-B**

| Drive Manufacturer/Type | | HC025B | | HC040B | | | HC060B | | | HC080B | | | HC100B | | | HC150B | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Only motor | With PLE40 | Only motor | With PLE40 | With PLQE60 | Only motor | With PLQE60 | With PLQE80 | Only motor | With PLQE80 | With PLQE120 | Only Motor | With PLQE80 | With PLQE120 | Only Motor | With PLQE120 |
| Siemens | 1FK2104-4 | | | | | | | | SM35[2] | | SM36[2] | | | SM54[2] | | | |
| | 1FK2104-5 | | | | | | | | SM35[2] | | SM36[2] | | | SM54[2] | | | |
| | 1FK2106-6 | | | | | | SM06[2] | | | SM09[2] | | SM09[2] | | | SM12[2] | | SM70[2] |
| | 1FK2208-3 | | | | | | | | | SM10[2] | | | SM13[2] | | | SM73[2] | |
| | 1FK2208-4 | | | | | | | | | SM10[2] | | | SM13[2] | | | SM73[2] | |
| | 1FK7080 | | | | | | | | | SM10[2] | | | | | | | |
| | 1FK7081 | | | | | | | | | SM10[2] | | | SM13[2] | | | | |
| | 1FK7083 | | | | | | | | | SM10[2] | | | SM13[2] | | | SM73[2] | |
| | 1FL6066-1 | | | | | | SM43[2] | | | SM44[2] | | SM44[2] | SM45[2] | | SM45[2] | | SM67[2] |
| | 1FL6067-1 | | | | | | SM43[2] | | | SM44[2] | | SM44[2] | SM45[2] | | SM45[2] | SM67[2] | SM67[2] |
| | 1FK2208-5 | | | | | | | | | SM10[2] | | | SM13[2] | | | SM73[2] | |
| | 1FK2210-3 | | | | | | | | | | | | SM14[2] | | | SM79[2] | |
| | 1FK2210-4 | | | | | | | | | | | | SM14[2] | | | SM79[2] | |
| | 1FK2210-5 | | | | | | | | | | | | SM14[2] | | | SM79[2] | |
| | 1FK7084 | | | | | | | | | SM10[2] | | | SM13[2] | | | SM73[2] | |
| | 1FK7100 | | | | | | | | | | | | SM14[2] | | | SM79[2] | |
| | 1FK7101 | | | | | | | | | | | | SM14[2] | | | SM79[2] | |
| | 1FK7103 | | | | | | | | | | | | SM14[2] | | | SM79[2] | |
| | 1FK7105 | | | | | | | | | | | | SM14[2] | | | SM79[2] | |

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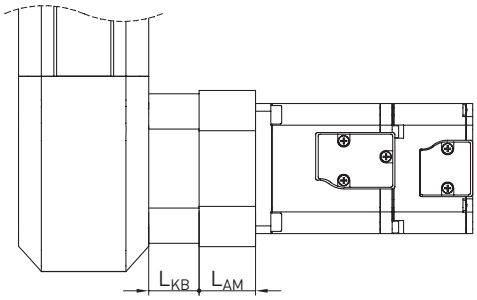
[1] See order code Page 87 | [2] Drive not suitable for Y-axis of HIWIN multi-axis systems HS

### 22.1.5 Dimensions of motor adaptation of linear modules HM-B, linear tables HT-B, bridge axes HB-B, cantilever axes HC and double axes HD

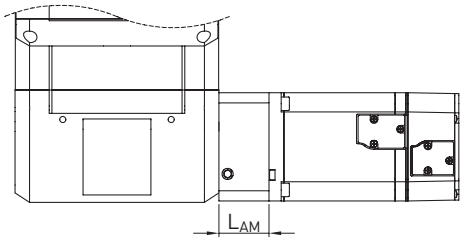
The total width of linear axes with toothed belt drive depends on the following factors:
- Adaptation material (coupling housing KB, motor adapter plate AM, gear adapter plate AG, motor gear adapter plate GM)
- Gearbox
- Motor

**Linear axis without gearbox**



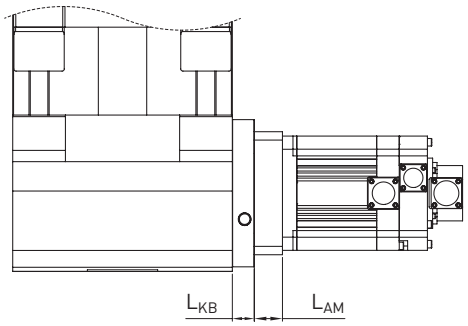

$L_{KB}$ Length of coupling housing, see Table 22.5
$L_{AM}$ Length of motor adapter plate, see Table 22.6

Fig. 22.6 **Motor connection of linear module HM-B without gearbox**



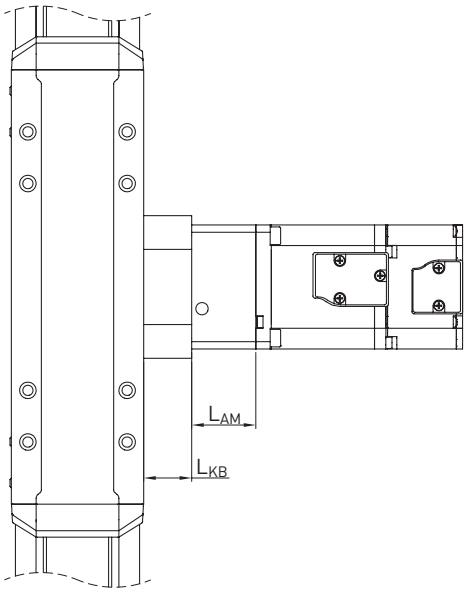

$L_{AM}$ Length of motor adapter plate, see Table 22.7

Fig. 22.7 **Motor connection of linear table HT-B without gearbox**




$L_{KB}$ Length of coupling housing, see Table 22.5
$L_{AM}$ Length of motor adapter plate, see Table 22.6

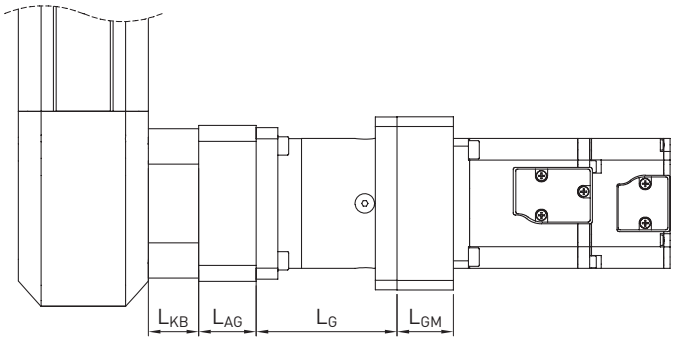
Fig. 22.8 **Motor connection of bridge axis HB-B without gearbox**




$L_{KB}$ Length of coupling housing, see Table 22.5
$L_{AM}$ Length of motor adapter plate, see Table 22.6

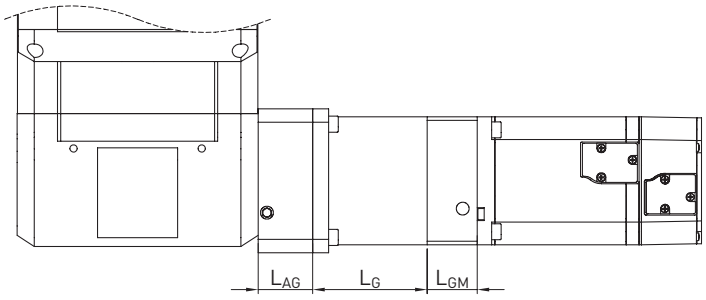
Fig. 22.9 **Motor connection of cantilever axis HC without gearbox**

**Linear axis with gearbox**



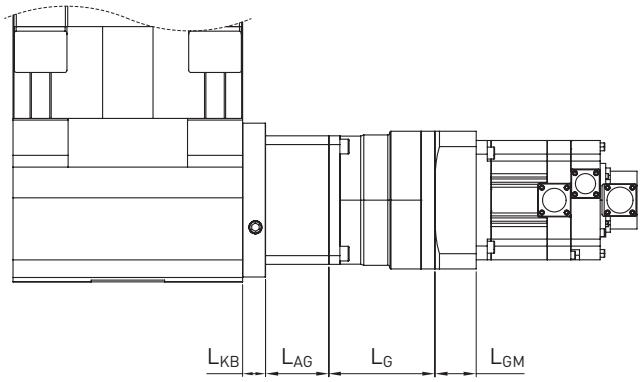

$L_{KB}$ Length of coupling housing, see Table 22.5
$L_{AG}$ Length of gearbox adapter plate, see Table 22.9
$L_G$ Length of gearbox, see Table 22.11
$L_{GM}$ Length of motor gearbox adapter plate, see Table 22.10

Fig. 22.10 **Motor connection of linear module HM-B with gearbox**



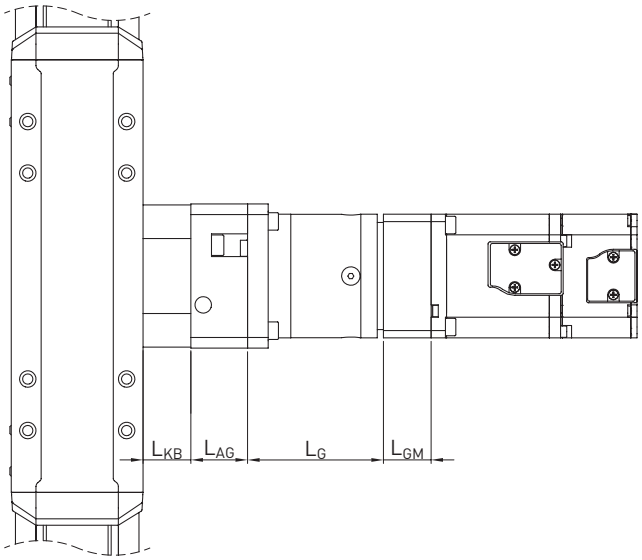

$L_{AG}$ Length of gearbox adapter plate, see Table 22.9
$L_G$ Length of gearbox, see Table 22.11
$L_{GM}$ Length of motor gearbox adapter plate, see Table 22.10

Fig. 22.11 **Motor connection of linear table HT-B with gearbox**




$L_{KB}$ Length of coupling housing, see Table 22.5
$L_{AG}$ Length of gearbox adapter plate, see Table 22.9
$L_G$ Length of gearbox, see Table 22.11
$L_{GM}$ Length of motor gearbox adapter plate, see Table 22.10

Fig. 22.12 **Motor connection of bridge axis HB-B with gearbox**




$L_{KB}$ Length of coupling housing, see Table 22.5
$L_{AG}$ Length of gearbox adapter plate, see Table 22.9
$L_G$ Length of gearbox, see Table 22.11
$L_{GM}$ Length of motor gearbox adapter plate, see Table 22.10

Fig. 22.13 **Motor connection of cantilever axis HC with gearbox**

### 22.1.5.1 Coupling housing KB for linear modules HM-B and cantilever axes HC

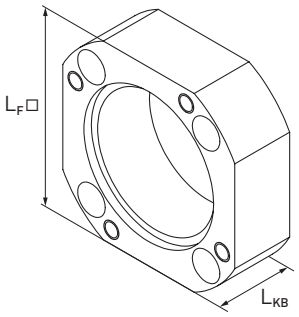



Fig. 22.14 **Coupling housing KB for linear modules HM-B and cantilever axes HC**

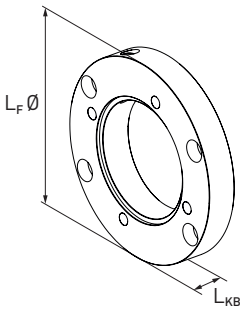



Fig. 22.15 **Coupling housing KB for bridge axes HB-B**

Table 22.5 **Dimensions of coupling housing KB for linear modules HM-B and cantilever axes HC**

| Coupling housing for | $L_F$ [mm] | $L_{KB}$ [mm] | Article number |
|---|---|---|---|
| **HC025B** | 50 | 17.0 | 25-002045 |
| **HM040B, HC040B** | 47 | 14.7 | 25-000798 |
| **HM060B, HC060B** | 69 | 23.2 | 25-000799 |
| **HM080B, HC080B** | 84 | 24.1 | 25-000800 |
| **HC100B** | 107 | 25.0 | 80043137 |
| **HM120B** | 118 | 25.0 | 25-000801 |
| **HB-B** | 167.5 | 25.0 | 80073546 |

### 22.1.5.2 Motor adapter plate AM for linear modules HM-B, linear tables HT-B and cantilever axes HC without gearbox

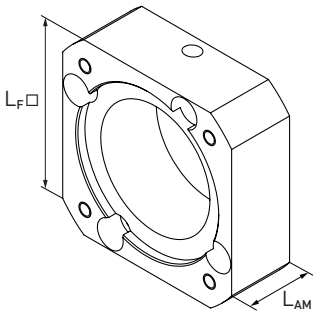



Fig. 22.16 **Motor adapter plate AM for linear modules HM-B, linear tables HT-B and cantilever axes HC without gearbox**

Table 22.6 **Motor adapter plate AM for linear modules HM-B and cantilever axes HC-B without gearbox**

| Linear axis | Manufacturer | Motors | $L_F$ [mm] | $L_{AM}$ [mm] | Article number |
|---|---|---|---|---|---|
| **HC025B** | HIWIN | EM1-C-M-10-2 | 50 | 27,3 | 25-002722 |
| | | EM1-C-M-20-2, EM1-C-M-40-2 | 60 | 32,3 | 80094829 |
| | B&R | 8LSA24, 8LSA25 | 60 | 26,3 | 80094837 |
| | | 8LSA33, 8LSA34 | 90 | 32,3 | 80094838 |
| | Beckhoff | AM8022 | 58 | 22,3 | 80094839 |
| | | AM8031, AM8531 | 75 | 32,3 | 80094842 |
| | Bosch | MS2N03-A0, MS2N03-B0, MSK030B, MSK030C | 58 | 22,3 | 80054104 |
| | | MS2N04-B0, MSK040B | 82 | 32,3 | 80094870 |
| | Lenze | MCS06F | 70 | 25,3 | 80094873 |
| | Omron | R88M-1M10030 | 50 | 27,3 | 25-002722 |
| | | R88M-1M20030, R88M-1M40030 | 60 | 32,3 | 25-002720 |
| | Schneider | BSH0551, BSH0552, BSH0553 | 58 | 22,3 | 80094839 |
| | | BSH0701, BMH0701 | 70 | 25,3 | 80094873 |

Table 22.6 **Motor adapter plate AM for linear modules HM-B and cantilever axes HC-B without gearbox**

| Linear axis | Manufacturer | Motors | $L_F$ [mm] | $L_{AM}$ [mm] | Article number |
|---|---|---|---|---|---|
| **HC025B** | SEW | CMP40S, CMP40M | 58 | 22,3 | 80054104 |
| | | CMP50S | 70 | 25,3 | 80094873 |
| | Siemens | 1FK2103-2, 1FK2103-4, 1FK2203-2, 1FK2203-4 | 60 | 32,3 | 80094829 |
| | | 1FK7022 | 58 | 22,3 | 80094839 |
| | | 1FK7032 | 72 | 32,3 | 80094884 |
| | | 1FL6032-2, 1FL6034-2 | 60 | 33,3 | 80094888 |
| **HM040B** | HIWIN | EM1-C-M-20-2 | 60 | 30,5 | 25-000404 |
| | B&R | 8LSA24, 8LSA25 | 58 | 24,5 | 25-000403 |
| | Beckhoff | AM8022 | 55 | 20,5 | 25-000402 |
| | Bosch | MS2N03-A0, MS2N03-B0, MSK030B, MSK030C | 58 | 20,5 | 80052243 |
| | Lenze | MCS06F, MCS06I | 62 | 23,5 | 25-000406 |
| | Omron | R88M-1M20030 | 60 | 30,5 | 25-000646 |
| | Schneider | BSH0553 | 55 | 20,5 | 25-000402 |
| | | BSH0701, BSH0702 | 62 | 23,5 | 25-000406 |
| | SEW | CMP40M | 58 | 20,5 | 80052243 |
| | Siemens | 1FK2103-4, 1FK2203-2, 1FK2203-4 | 60 | 30,5 | 25-000404 |
| | | 1FK7022 | 55 | 20,5 | 25-000402 |
| | | 1FL6032-2, 1FL6034-2 | 60 | 31,5 | 80094892 |
| **HM040B, HC040B** | HIWIN | EM1-C-M-40-2 | 60 | 30,5 | 25-000404 |
| | B&R | 8LSA33, 8LSA34, 8LSA35 | 82 | 30,5 | 25-000411 |
| | Beckhoff | AM8023 | 55 | 20,5 | 25-000402 |
| | | AM8031, AM8531 | 70 | 30,5 | 25-000407 |
| | Bosch | MS2N03-D0 | 54 | 23,5 | 25-000401 |
| | | MS2N04-B0, MSK040B, MSK040C | 82 | 30,5 | 25-000405 |
| | Omron | R88M-1M40030 | 60 | 30,5 | 25-000646 |
| | Schneider | BMH0701, BMH0702 | 62 | 23,5 | 25-000406 |
| | | BMH0703 | 70 | 30,5 | 25-000407 |
| | SEW | CMP50S, CMP50M | 62 | 23,5 | 25-000406 |
| | Siemens | 1FK7032, 1FK7034 | 72 | 30,5 | 25-000408 |
| **HM060B** | HIWIN | EM1-C-M-75-2 | 80 | 37 | 25-000421 |
| | B&R | 8LSA34, 8LSA35 | 86 | 27 | 25-000423 |
| | Beckhoff | AM8032, AM8033 | 70 | 27 | 25-000418 |
| | | AM8041 | 87 | 37 | 25-000424 |
| | Bosch | MS2N04-B0, MS2N04-C0, MSK040B, MSK040C, MSK043C | 82 | 27 | 25-000415 |
| | Lenze | MCS09D, MCS09F | 86 | 27 | 25-000423 |
| | Omron | R88M-1L75030 | 100 | 52 | 25-001858 |
| | Schneider | BSH1001 | 98 | 37 | 25-000425 |
| | | BMH0701, BMH0702 | 72 | 20 | 25-000417 |
| | SEW | CMP50M, CMP50L | 72 | 20 | 25-000417 |
| | | CMP63S | 86 | 27 | 25-000423 |
| | Siemens | 1FK2204-5, 1FK2104-6 | 80 | 37 | 25-000421 |
| | | 1FK7032, 1FK7034 | 72 | 27 | 25-000419 |
| | | 1FL6042-2, 1FL6044-2 | 80 | 32 | 80018736 |
| **HM060B, HC060B** | HIWIN | EM1-A-M-1K-2, EM1-D-M-1A-2, EM1-D-M-2K-2 | 130 | 52 | 25-001791 |
| | B&R | 8LSA43, 8LSA44, 8LSA45, 8LSA46 | 98 | 37 | 25-000425 |
| | | 8LSA53, 8LSA54, 8LSA55, 8LSN54 | 140 | 47 | 80094960 |
| | | 8LSN43, 8LSN44, 8LSN45, 8LSN46 | 116 | 37 | 25-000430 |
| | Beckhoff | AM8531, AM8532, AM8533 | 70 | 27 | 25-000418 |
| | | AM8042, AM8043, AM8541, AM8542, AM8543 | 87 | 37 | 25-000424 |
| | | AM8051, AM8052, AM8551, AM8552 | 104 | 47 | 25-000427 |

Table 22.6 **Motor adapter plate AM for linear modules HM-B and cantilever axes HC-B without gearbox**

| Linear axis | Manufacturer | Motors | $L_F$ [mm] | $L_{AM}$ [mm] | Article number |
|---|---|---|---|---|---|
| **HM060B, HC060B** | Bosch | MS2N04-D0 | 82 | 27 | 25-000415 |
| | | MS2N05-B0, MS2N05-C0, MS2N05-D0, MSK050B, MSK050C | 98 | 37 | 25-000425 |
| | | MS2N06-B1, MS2N06-C0, MS2N06-D0, MS2N06-D1, MSK060B, MSK060C | 116 | 47 | 25-000429 |
| | | MSK061B, MSK061C | 116 | 37 | 25-000428 |
| | Lenze | MCS09H, MCS09L | 86 | 27 | 25-000423 |
| | | MCS12D, MCS12H | 116 | 37 | 25-000430 |
| | Omron | R88M-1M75030 | 80 | 32 | 25-002598 |
| | | R88M-1L1K030, R88M-1L1K530, R88M-1L2K030, R88M-1M40020, R88M-1M60020 | 100 | 52 | 25-001858 |
| | | R88M-1L3K030, R88M-1M1K020, R88M-1M1K520, R88M-1M2K020 | 130 | 52 | 25-001791 |
| | Schneider | BSH1002, BSH1003, BMH1001, BMH1002, BMH1003 | 98 | 37 | 25-000425 |
| | | BSH1004 | 104 | 47 | 25-000427 |
| | | BSH1401, BMH1401 | 140 | 47 | 80094960 |
| | | BMH0703 | 70 | 27 | 25-000418 |
| | SEW | CMP63M, CMP63L | 86 | 27 | 25-000423 |
| | | CMP71S, CMP71M, CMPZ71S | 116 | 47 | 25-000431 |
| | Siemens | 1FK2204-6 | 80 | 37 | 25-000421 |
| | | 1FK2105-4, 1FK2105-6 | 98 | 37 | 25-000425 |
| | | 1FK2205-2, 1FK2205-4, 1FK7040, 1FK7042 | 87 | 37 | 25-000424 |
| | | 1FK2106-3, 1FK2106-4, 1FK2206-2, 1FK2206-4, 1FK7060, 1FK7062, 1FK7063 | 116 | 47 | 25-000431 |
| | | 1FL6052-2, 1FL6054-2 | 104 | 42 | 25-002487 |
| | | 1FL6042-1, 1FL6044-1 | 87 | 32 | 25-001241 |
| | | 1FL6061-1, 1FL6062-1, 1FL6064-1 | 130 | 55 | 25-001876 |
| **HM080B, HC080B** | HIWIN | EM1-A-M-1K-2, EM1-D-M-1A-2, EM1-D-M-2K-2 | 130 | 51,5 | 25-000450 |
| | B&R | 8LSA46 | 98 | 36,5 | 25-000442 |
| | | 8LSA54, 8LSA55, 8LSA56, 8LSA57, 8LSN54, 8LSN55, 8LSN56 | 138 | 46,5 | 80095110 |
| | | 8LSA63 | 190 | 46,5 | 80095001 |
| | | 8LSN43, 8LSN44, 8LSN45, 8LSN46 | 116 | 36,5 | 25-002891 |
| | Beckhoff | AM8541, AM8542, AM8543 | 87 | 36,5 | 25-000441 |
| | | AM8052, AM8053, AM8551, AM8552, AM8553 | 100 | 46,5 | 80094982 |
| | | AM8061, AM8062, AM8561 | 139 | 54,5 | 25-000452 |
| | Bosch | MS2N05-D0 | 98 | 36,5 | 25-000442 |
| | | MS2N06-B1, MS2N06-C0, MS2N06-D0, MS2N06-D1, MS2N06-E0, MSK060B, MSK060C | 116 | 46,5 | 80052246 |
| | | MS2N07-B1, MS2N07-C1, MSK070C, MSK070D, MSK070E, MSK071C, MSK075C | 139 | 54,5 | 25-000452 |
| | | MSK061B, MSK061C | 116 | 36,5 | 25-000445 |
| | | MSK076C | 139 | 46,5 | 25-000451 |
| | Lenze | MCS12D, MCS12H, MCS12L | 116 | 36,5 | 25-002891 |
| | | MCS14D, MCS14H | 138 | 46,5 | 80095110 |
| | Omron | R88M-1L3K030, R88M-1M1K020, R88M-1M1K520, R88M-1M2K020 | 130 | 51,5 | 25-000450 |
| | | R88M-1L4K030, R88M-1L5K030, R88M-1M3K020 | 130 | 61,5 | 80065594 |
| | | R88M-1M60020 | 100 | 51,5 | 25-000444 |
| | Schneider | BSH1401, BSH1402, BMH1401, BMH1402, BMH1403 | 138 | 46,5 | 80095110 |
| | | BMH1002, BMH1003 | 98 | 36,5 | 25-000442 |
| | SEW | CMP71M, CMP71L, CMPZ71S, CMPZ71M, CMPZ71L | 125 | 46,5 | 80063703 |
| | | CMP80S | 138 | 56,5 | 25-000453 |
| | Siemens | 1FK2205-4 | 87 | 36,5 | 25-000441 |
| | | 1FK2106-3, 1FK2106-4, 1FK2106-6, 1FK2206-2, 1FK2206-4, 1FK7060, 1FK7062, 1FK7063 | 125 | 46,5 | 80063703 |
| | | 1FK2208-3, 1FK2208-4, 1FK7080, 1FK7081, 1FK7083 | 139 | 54,5 | 25-000452 |
| | | 1FL6044-1 | 87 | 31,5 | 80094965 |
| | | 1FL6061-1, 1FL6062-1, 1FL6064-1, 1FL6066-1, 1FL6067-1 | 130 | 54,5 | 25-002727 |

Table 22.6 **Motor adapter plate AM for linear modules HM-B and cantilever axes HC-B without gearbox**

| Linear axis | Manufacturer | Motors | $L_F$ [mm] | $L_{AM}$ [mm] | Article number |
|---|---|---|---|---|---|
| **HC100B** | Bosch | MS2N10-D1, MS2N10-E0 | 192 | 75,7 | 25-000466 |
| | SEW | CMP100L, CMPZ100M, CMPZ100L | 163 | 55,7 | 25-000463 |
| | Siemens | 1FK7105 | 192 | 75,7 | 25-000466 |
| **HC150B** | B&R | 8LSN55, 8LSN56, 8LSN57 | 145 | 45,5 | 80098625 |
| | Beckhoff | AM8063, AM8561, AM8562, AM8563 | 145 | 53,5 | 80098643 |
| | | AM8071, AM8072, AM8073 | 195 | 75,5 | 80098691 |
| | Bosch | MS2N07-C1, MS2N07-D1, MS2N07-E0, MS2N07-E1, MSK070C, MSK070D, MSK070E, MSK071D, MSK071E, MSK075C, MSK075D, MSK075E | 145 | 53,5 | 80098643 |
| | | MS2N10-B1, MS2N10-C0, MS2N10-C1, MS2N10-D0, MS2N10-D1, MS2N10-E0, MS2N10-E1, MS2N10-F0, MS2N10-F1, MS2N10-R0 | 195 | 75,5 | 80098691 |
| | | MSK076C | 145 | 45,5 | 80098698 |
| | | MSK100A | 185 | 55,5 | 80098714 |
| | Lenze | MCS14L, MCS14P | 145 | 45,5 | 80098625 |
| | | MCS19F | 195 | 55,5 | 80098721 |
| | Schneider | BMH1402, BMH1403 | 145 | 45,5 | 80098625 |
| | SEW | CMP100M, CMP100L, CMPZ100S, CMPZ100M, CMPZ100L | 175 | 55,5 | 80098739 |
| | | CMPZ80S, CMPZ80M, CMPZ80L | 145 | 55,5 | 80098755 |
| | Siemens | 1FK2208-3, 1FK2208-4, 1FK2208-5, 1FK7083, 1FK7084 | 145 | 53,5 | 80098643 |
| | | 1FK2210-3, 1FK2210-4, 1FK2210-5, 1FK7100, 1FK7101, 1FK7103, 1FK7105 | 195 | 75,5 | 80098691 |
| | | 1FL6067-1 | 130 | 53,5 | 80098767 |
| | | 1FL6090-1, 1FL6092-1, 1FL6094-1 | 175 | 75,5 | 80098783 |
| **HM120B** | HIWIN | EM1-D-M-2K-2 | 130 | 50,7 | 25-000647 |
| | B&R | 8LSA57, 8LSN54 | 140 | 45,7 | 25-000459 |
| | | 8LSA64, 8LSA65 | 190 | 45,7 | 25-000464 |
| | Beckhoff | AM8553 | 104 | 45,7 | 25-000456 |
| | Bosch | MS2N06-D1 | 116 | 45,7 | 80052247 |
| | Lenze | MCS14H | 140 | 45,7 | 25-000459 |
| | Omron | R88M-1M2K020 | 130 | 50,7 | 25-000647 |
| | | R88M-1M3K020 | 130 | 60,7 | 80095018 |
| | Schneider | BSH1402, BMH1401 | 140 | 45,7 | 25-000459 |
| | SEW | CMP80M | 138 | 55,7 | 25-000460 |
| | | CMPZ71L | 116 | 45,7 | 25-000457 |
| | Siemens | 1FK2206-4, 1FK7063 | 116 | 45,7 | 25-000457 |
| | | 1FK7080 | 138 | 53,7 | 80095040 |
| | | 1FL6064-1 | 130 | 53,7 | 25-002729 |
| **HM120B-H** | B&R | 8LSA66 | 195 | 24 | 80098859 |
| | | 8LSN55, 8LSN56, 8LSN57 | 145 | 24 | 80098897 |
| | Beckhoff | AM8062, AM8063, AM8561, AM8562, AM8563 | 140 | 32 | 80098805 |
| | | AM8071, AM8072 | 195 | 54 | 80098817 |
| | Bosch | MS2N07-B1, MS2N07-C1, MS2N07-D0, MS2N07-D1, MS2N07-E0, MS2N07-E1, MSK070C, MSK070D, MSK070E, MSK071C, MSK071D, MSK071E, MSK075C, MSK075D, MSK075E | 140 | 32 | 80098805 |
| | | MS2N10-B1, MS2N10-C0, MS2N10-C1 | 195 | 54 | 80098817 |
| | | MSK076C | 145 | 24 | 80098936 |
| | | MSK100A | 185 | 34 | 80098827 |
| | Lenze | MCS14L, MCS14P | 145 | 24 | 80098897 |
| | | MCS19F | 195 | 34 | 80098832 |
| | Schneider | BSH1403, BSH1404, BMH1402, BMH1403 | 145 | 24 | 80098897 |
| | SEW | CMP80L, CMPZ80S, CMPZ80M, CMPZ80L | 145 | 34 | 80098914 |
| | | CMP100S, CMP100M, CMPZ100S | 175 | 34 | 80098848 |

Table 22.6 **Motor adapter plate AM for linear modules HM-B and cantilever axes HC-B without gearbox**

| Linear axis | Manufacturer | Motors | $L_F$ [mm] | $L_{AM}$ [mm] | Article number |
|---|---|---|---|---|---|
| **HM120B-H** | Siemens | 1FK2208-3, 1FK2208-4, 1FK2208-5, 1FK7081, 1FK7083, 1FK7084 | 140 | 32 | 80098805 |
| | | 1FK2210-3, 1FK2210-4, 1FK2210-5, 1FK7100, 1FK7101, 1FK7103 | 195 | 54 | 80098817 |
| | | 1FL6066-1, 1FL6067-1 | 145 | 32 | 80098929 |
| | | 1FL6090-1, 1FL6092-1, 1FL6094-1 | 175 | 54 | 80098850 |

Table 22.7 **Motor adapter plate AM for linear tables HT-B without gearbox**

| Linear axis | Manufacturer | Motors | $L_F$ [mm] | $L_{AM}$ [mm] | Article number |
|---|---|---|---|---|---|
| **HT100B** | HIWIN | EM1-C-M-40-2 | 60 | 30,5 | 25-000404 |
| | Beckhoff | AM8023 | 55 | 20,5 | 25-000402 |
| | | AM8031, AM8032, AM8033, AM8531, AM8532, AM8533 | 70 | 30,5 | 25-000407 |
| | Bosch | MS2N03-D0 | 54 | 23,5 | 25-000401 |
| | | MS2N04-B0, MS2N04-C0, MS2N04-D0, MSK040B, MSK040C, MSK043C | 82 | 30,5 | 25-000405 |
| | Omron | R88M-1M40030 | 60 | 30,5 | 25-000646 |
| | Schneider | BSH0702, BMH0701, BMH0702 | 62 | 23,5 | 25-000406 |
| | | BSH0703, BMH0703 | 70 | 30,5 | 25-000407 |
| | SEW | CMP50S, CMP50M, CMP50L | 62 | 23,5 | 25-000406 |
| | Siemens | 1FK2203-4 | 60 | 30,5 | 25-000404 |
| | | 1FK7032, 1FK7034 | 72 | 30,5 | 25-000408 |
| | | 1FL6034-2 | 60 | 31,5 | 80094892 |
| **HT150B** | HIWIN | EM1-A-M-1K-2, EM1-D-M-1A-2, EM1-D-M-2K-2 | 130 | 51,5 | 25-000450 |
| | B&R | 8LSA43, 8LSA44, 8LSA45, 8LSA46 | 98 | 36,5 | 25-000442 |
| | | 8LSN43, 8LSN44, 8LSN45, 8LSN46 | 116 | 36,5 | 25-002891 |
| | Beckhoff | AM8531, AM8532, AM8533 | 73 | 26,5 | 25-000436 |
| | | AM8042, AM8043, AM8541, AM8542, AM8543 | 87 | 36,5 | 25-000441 |
| | | AM8051, AM8052, AM8053, AM8551, AM8552, AM8553 | 100 | 46,5 | 80094982 |
| | Bosch | MS2N04-D0 | 82 | 26,5 | 25-000433 |
| | | MS2N05-B0, MS2N05-C0, MS2N05-D0, MSK050B, MSK050C | 98 | 36,5 | 25-000442 |
| | | MS2N06-B1, MS2N06-C0, MS2N06-D0, MS2N06-D1, MS2N06-E0, MSK060B, MSK060C | 116 | 46,5 | 80052246 |
| | | MSK061B, MSK061C | 116 | 36,5 | 25-000445 |
| **HT150B** | Lenze | MCS09F, MCS09H, MCS09L | 86 | 26,5 | 25-000440 |
| | | MCS12D, MCS12H, MCS12L | 116 | 36,5 | 25-002891 |
| | Omron | R88M-1M75030 | 80 | 31,5 | 25-002256 |
| | | R88M-1L1K030, R88M-1L1K530, R88M-1L2K030, R88M-1M40020, R88M-1M60020 | 100 | 51,5 | 25-000444 |
| | | R88M-1L3K030, R88M-1M1K020, R88M-1M1K520, R88M-1M2K020 | 130 | 51,5 | 25-000450 |
| | | R88M-1L4K030, R88M-1L5K030, R88M-1M3K020 | 130 | 61,5 | 80065594 |
| | Schneider | BSH1002, BSH1003, BMH1001, BMH1002, BMH1003 | 98 | 36,5 | 25-000442 |
| | | BSH1004 | 100 | 46,5 | 80094982 |
| | | BMH0703 | 73 | 26,5 | 25-000436 |
| | SEW | CMP63M, CMP63L | 86 | 26,5 | 25-000440 |
| | | CMP71S, CMP71M, CMP71L, CMPZ71S, CMPZ71M, CMPZ71L | 125 | 46,5 | 80063703 |
| | | CMP80S | 138 | 56,5 | 25-000453 |
| | Siemens | 1FK2204-6 | 80 | 36,5 | 25-000438 |
| | | 1FK2105-4, 1FK2105-6 | 98 | 36,5 | 25-000442 |
| | | 1FK2205-2, 1FK2205-4, 1FK7040, 1FK7042 | 87 | 36,5 | 25-000441 |
| | | 1FK2106-3, 1FK2106-4, 1FK2106-6, 1FK2206-2, 1FK2206-4, 1FK7060, 1FK7062, 1FK7063 | 125 | 46,5 | 80063703 |
| | | 1FL6052-2, 1FL6054-2 | 100 | 41,5 | 80094968 |
| | | 1FL6042-1, 1FL6044-1 | 87 | 31,5 | 80094965 |
| | | 1FL6061-1, 1FL6062-1, 1FL6064-1, 1FL6066-1, 1FL6067-1 | 130 | 54,5 | 25-002727 |

Table 22.7 **Motor adapter plate AM for linear tables HT-B without gearbox**

| Linear axis | Manufacturer | Motors | $L_F$ [mm] | $L_{AM}$ [mm] | Article number |
|---|---|---|---|---|---|
| **HT200B** | HIWIN | EM1-A-M-1K-2, EM1-D-M-1A-2 | 130 | 50,7 | 25-000647 |
| | B&R | 8LSA46 | 100 | 35,7 | 80095046 |
| | | 8LSA54, 8LSA55 | 140 | 45,7 | 25-000459 |
| | | 8LSA63 | 190 | 45,7 | 25-000464 |
| | | 8LSN43, 8LSN44 | 116 | 35,7 | 80095050 |
| | Beckhoff | AM8541, AM8542, AM8543 | 95 | 35,7 | 80095052 |
| | | AM8053, AM8551 | 104 | 45,7 | 25-000456 |
| | Bosch | MS2N06-B1, MS2N06-D0, MS2N06-E0, MSK060B, MSK060C | 116 | 45,7 | 80052247 |
| | | MSK061B, MSK061C | 116 | 35,7 | 80095056 |
| | Lenze | MCS12H | 116 | 35,7 | 80095050 |
| | | MCS14D | 140 | 45,7 | 25-000459 |
| | Omron | R88M-1L3K030, R88M-1M1K020, R88M-1M1K520 | 130 | 50,7 | 25-000647 |
| | | R88M-1L4K030 | 130 | 60,7 | 80095018 |
| | Schneider | BSH1401 | 140 | 45,7 | 25-000459 |
| | | BMH1002 | 100 | 35,7 | 80095046 |
| | SEW | CMP71L | 116 | 45,7 | 25-000457 |
| | | CMP80S | 138 | 55,7 | 25-000460 |
| | Siemens | 1FK2205-4 | 95 | 35,7 | 80095052 |
| | | 1FK2106-3, 1FK2106-4, 1FK2106-6, 1FK2206-2, 1FK7060 | 116 | 45,7 | 25-000457 |
| | | 1FL6044-1 | 100 | 35,7 | 80095062 |
| | | 1FL6061-1 | 130 | 53,7 | 25-002729 |
| **HT250B** | Beckhoff | AM8071, AM8072 | 192 | 75,7 | 25-000466 |
| | Bosch | MS2N10-B1, MS2N10-C0, MS2N10-C1, MS2N10-D0 | 192 | 75,7 | 25-000466 |
| | | MSK100A | 192 | 55,7 | 80095045 |
| | Lenze | MCS19F | 190 | 55,7 | 25-000465 |
| | Schneider | BSH1404 | 140 | 45,7 | 25-000459 |
| | SEW | CMP100M, CMPZ100S | 163 | 55,7 | 25-000463 |
| | | CMPZ80L | 138 | 55,7 | 25-000460 |
| | Siemens | 1FK2210-3, 1FK2210-4, 1FK2210-5, 1FK7100, 1FK7101, 1FK7103 | 192 | 75,7 | 25-000466 |

Table 22.8 **Motor adapter plate AM for bridge axes HB-B without gearbox**

| Bridge axis | Manufacturer | Motors | $L_F$ [mm] | $L_{AM}$ [mm] | Article number |
|---|---|---|---|---|---|
| **HB250B** | Beckhoff | AM8562, AM8563 | 140 | 32 | 80098805 |
| | | AM8072, AM8073 | 195 | 54 | 80098817 |
| | Bosch | MS2N07-D1, MS2N07-E1, MSK075E | 140 | 32 | 80098805 |
| | | MS2N10-B1, MS2N10-C1, MS2N10-D0, MS2N10-D1, MS2N10-E0, MS2N10-E1, MS2N10-F0, MS2N10-F1, MS2N10-R0 | 195 | 54 | 80098817 |
| | | MSK100A | 185 | 34 | 80098827 |
| | Lenze | MCS19F | 195 | 34 | 80098832 |
| | SEW | CMPZ100S, CMPZ100M, CMPZ100L | 175 | 34 | 80098848 |
| | Siemens | 1FK2210-3, 1FK2210-4, 1FK2210-5, 1FK7100, 1FK7101, 1FK7103, 1FK7105 | 195 | 54 | 80098817 |
| | | 1FL6092-1, 1FL6094-1 | 175 | 54 | 80098850 |

### 22.1.5.3 Gearbox adapter plate AG for linear modules HM-B, linear tables HT-B and cantilever axes HC

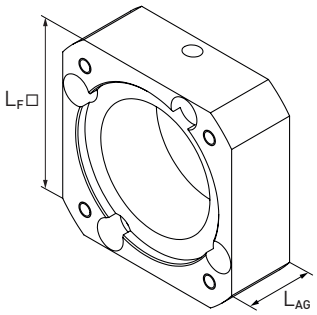



Fig. 22.17 **Gearbox adapter plate AG for linear modules HM-B, linear tables HT-B and cantilever axes HC**

Table 22.9 **Gearbox adapter plate AG for linear modules HM-B, linear tables HT-B and cantilever axes HC**

| Linear axis | Gearbox [2] | $L_F$ [mm] | $L_{AG}$ [mm] | Article number |
|---|---|---|---|---|
| **HC025B** | PLE040 [1] | 50 | 27.0 | 25-002609 |
| **HM040B, HT100B, HC040B** | PLE040 [1] | 50 | 23.0 | 25-000735 |
| **HM040B, HT100B, HC040B** | PLQE60 | 70 | 32.8 | 25-000387 |
| **HM060B, HC060B** | PLQE60 | 70 | 27.5 | 25-000388 |
| **HM060B, HC060B** | PLQE80 | 90 | 37.0 | 25-000389 |
| **HM080B, HT150B, HC080B** | PLQE80 | 90 | 35.0 | 25-000390 |
| **HM080B, HT150B, HC080B** | PLQE120 | 115 | 47.5 | 25-000391 |
| **HM120B, HT200B, HT250B, HC100B** | PLQE120 | 115 | 43.6 | 25-000392 |

[1] Adapter consists of two parts
[2] PLE and PLQE are registered trademarks of Neugart GmbH

### 22.1.5.4 Motor gearbox adapter plate GM for linear modules HM-B, linear tables HT-B and cantilever axes HC

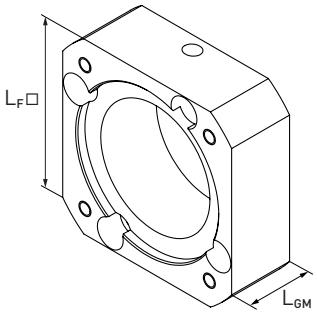



Fig. 22.18 **Motor gearbox adapter plate GM for linear modules HM-B, linear tables HT-B and cantilever axes HC**

Table 22.10 **Motor gearbox adapter plate GM for linear modules HM-B, linear tables HT-B and cantilever axes HC**

| Gearbox | Manufacturer | Motors | $L_F$ [mm] | $L_{GM}$ [mm] | Article number |
|---|---|---|---|---|---|
| **PLE40** | HIWIN | EM1-C-M-05-2, EM1-C-M-10-2 | 40 | 19 | 25-002320 |
| | B&R | 8LSA24, 8LSA25 | 60 | 18.0 | 25-000481 |
| | Beckhoff | AM8022D, AM8022E, AM8023E, AM8023F | 60 | 15.0 | 25-000478 |
| | Bosch | MSK030B, MSK030C | 60 | 15.0 | 25-000480 |
| | Schneider | BSH0551, BSH0552, BSH0553 | 60 | 15.0 | 25-000478 |
| | SEW | CMP40S, CMP40M | 60 | 15.0 | 25-000480 |
| | Siemens | 1FK7022 | 60 | 15.0 | 25-000478 |

PLE and PLQE are registered trademarks of Neugart GmbH

Table 22.10 **Motor gearbox adapter plate GM for linear modules HM-B, linear tables HT-B and cantilever axes HC**

| Gearbox | Manufacturer | Motors | $L_F$ [mm] | $L_{GM}$ [mm] | Article number |
|---|---|---|---|---|---|
| **PLQE60** | HIWIN | EM1-C-M-05-2, EM1-C-M-10-2 | 60 | 18.1 | 25-002298 |
| | | EM1-C-M-20-2, EM1-C-M-40-2 | 60 | 23.1 | 25-000486 |
| | B&R | 8LSA24, 8LSA25 | 60 | 17.1 | 25-000490 |
| | | 8LSA33, 8LSA34, 8LSA35 | 90 | 23.1 | 25-000487 |
| | Beckhoff | AM8031D, AM8031F, AM8032D, AM8032E, AM8032H, AM8033E, AM8033F, AM8033J, AM8531D, AM8531F, AM8532D, AM8532E, AM8532H, AM8533E, AM8533F, AM8533J | 70 | 23.1 | 25-000484 |
| | | AM8022D, AM8022E, AM8023E, AM8023F | 60 | 16.0 | 25-000482 |
| | Bosch | MSK040B, MSK040C, MSK043C | 80 | 23.1 | 25-000489 |
| | | MSK030B, MSK030C | 60 | 16.0 | 25-000488 |
| | Lenze | MCS06F41, MCS06F60, MCS06I41, MCS06I60 | 70 | 16.1 | 25-000483 |
| | | MCS09D41, MCS09D60, MCS09F38, MCS09F60 | 90 | 23.1 | 25-000487 |
| | Schneider | BSH0701, BSH0702, BMH0701, BMH0702 | 70 | 16.1 | 25-000483 |
| | | BSH0703, BMH0703 | 70 | 23.1 | 25-000484 |
| | | BSH0551, BSH0552, BSH0553 | 60 | 16.0 | 25-000482 |
| | SEW | CMP50S, CMP50M, CMP50L | 70 | 16.1 | 25-000483 |
| | | CMP63S, CMP63M | 90 | 23.1 | 25-000487 |
| | | CMP40S, CMP40M | 60 | 16.0 | 25-000488 |
| | Siemens | 1FK7022 | 60 | 16.0 | 25-000482 |
| | | 1FK7032, 1FK7034 | 70 | 23.1 | 25-000485 |
| **PLQE80** | HIWIN | EM1-C-M-20-2, EM1-C-M-40-2 | 80 | 21.2 | 25-000494 |
| | | EM1-C-M-75-2 | 80 | 31.2 | 25-000495 |
| | B&R | 8LSA33, 8LSA34, 8LSA35 | 90 | 21.2 | 25-000496 |
| | Beckhoff | AM8041D, AM8041E, AM8041H, AM8042E, AM8042F, AM8042J, AM8043E, AM8043H, AM8043K, AM8541D, AM8541E, AM8541H, AM8542E, AM8542F, AM8542J, AM8543E, AM8543H, AM8543K | 90 | 21.2 | 25-000493 |
| | | AM8031D, AM8031F, AM8032D, AM8032E, AM8032H, AM8033E, AM8033F, AM8033J, AM8531D, AM8531F, AM8532D, AM8532E, AM8532H, AM8533E, AM8533F, AM8533J | 80 | 21.2 | 25-000498 |
| | Bosch | MSK050B, MSK050C | 100 | 31.2 | 25-000492 |
| | | MSK040B, MSK040C, MSK043C | 80 | 21.2 | 25-000497 |
| | | MSK061B, MSK061C | 115 | 31.2 | 25-000500 |
| | Lenze | MCS09D41, MCS09D60, MCS09F38, MCS09F60, MCS09H41, MCS09H60, MCS09L41, MCS09L51 | 115 | 31.2 | 25-000499 |
| | | MCS06F41, MCS06F60, MCS06I41, MCS06I60 | 80 | 21.2 | 25-000498 |
| | | MCS12D20, MCS12D41, MCS12H15, MCS12H35, MCS12L20, MCS12L41 | 115 | 31.2 | 25-000499 |
| | Schneider | BSH1001, BSH1002, BSH1003, BMH1001, BMH1002, BMH1003 | 100 | 31.2 | 25-000492 |
| | | BSH0701, BSH0702, BSH0703, BMH0701, BMH0702, BMH0703 | 80 | 21.2 | 25-000498 |
| | SEW | CMP63S, CMP63M, CMP63L | 90 | 21.2 | 25-000496 |
| | | CMP50S, CMP50M, CMP50L | 80 | 21.2 | 25-000498 |
| | Siemens | 1FK7032, 1FK7034 | 80 | 21.2 | 25-000491 |
| | | 1FK7040, 1FK7042 | 90 | 21.2 | 25-000493 |
| **PLQE120** | HIWIN | EM1-A-M-1K-2 | 130 | 36.8 | 25-000690 |
| | Beckhoff | AM8041D, AM8041E, AM8041H, AM8042E, AM8042F, AM8042J, AM8043E, AM8043H, AM8043K, AM8541D, AM8541E, AM8541H, AM8542E, AM8542F, AM8542J, AM8543E, AM8543H, AM8543K | 115 | 21.8 | 25-000504 |
| | | AM8051E, AM8051G, AM8051K, AM8052F, AM8052J, AM8052L, AM8053G, AM8053K, AM8053N, AM8551E, AM8551G, AM8551K, AM8552F, AM8552J, AM8552L, AM8553G, AM8553K, AM8553N | 115 | 31.8 | 25-000502 |
| | Bosch | MSK060B, MSK060C | 115 | 31.8 | 25-000509 |
| | | MSK061B, MSK061C | 115 | 21.8 | 25-000508 |
| | | MSK076C, MSK100A | 140 | 31.8 | 25-000506 |
| | | MSK050B, MSK050C | 115 | 21.8 | 25-000501 |
| | Lenze | MCS12D20, MCS12D41, MCS12H15, MCS12H35, MCS12L20, MCS12L41 | 115 | 21.8 | 25-000507 |
| | | MCS14D15, MCS14D36, MCS14H15, MCS14H32, MCS14L15, MCS14L32 | 140 | 31.8 | 25-000503 |

Table 22.10 **Motor gearbox adapter plate GM for linear modules HM-B, linear tables HT-B and cantilever axes HC**

| Gearbox | Manufacturer | Motors | $L_F$ [mm] | $L_{GM}$ [mm] | Article number |
|---|---|---|---|---|---|
| **PLQE120** | Schneider | BSH1001, BSH1002, BSH1003, BMH1001, BMH1002, BMH1003 | 115 | 21.8 | 25-000501 |
| | | BSH1401, BSH1402, BSH1403, BMH1401, BMH1402, BMH1403 | 140 | 31.8 | 25-000503 |
| | | BSH1004 | 115 | 31.8 | 25-000502 |
| | SEW | CMP71S, CMP71M, CMP71L, CMPZ71S, CMPZ71M, CMPZ71L | 115 | 31.8 | 25-000505 |
| | Siemens | 1FK7060, 1FK7062, 1FK7063 | 115 | 31.8 | 25-000505 |
| | | 1FK7040, 1FK7042 | 115 | 21.8 | 25-000504 |

PLE and PLQE are registered trademarks of Neugart GmbH

### 22.1.5.5 Gearboxes for linear modules HM-B, linear tables HT-B, cantilever axes HC and double axes HD

Gearbox[1] for optimal power transmission of the motor to the toothed belt drive.

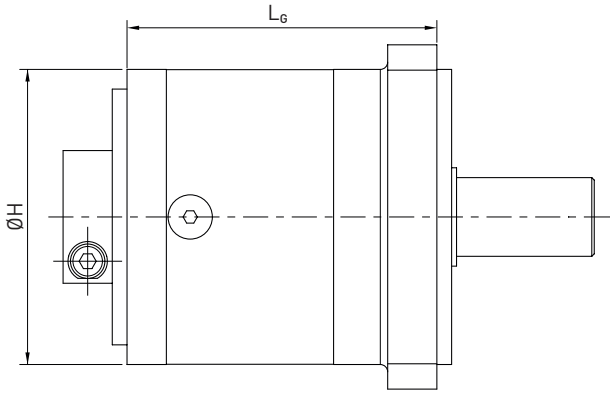



Fig. 22.19 **Gearbox dimensioned drawing for linear modules HM-B, linear tables HT-B, cantilever axes HC and double axes HD**

Table 22.11 **Gearbox for linear modules HM-B, linear tables HT-B, cantilever axes HC and double axes HD**

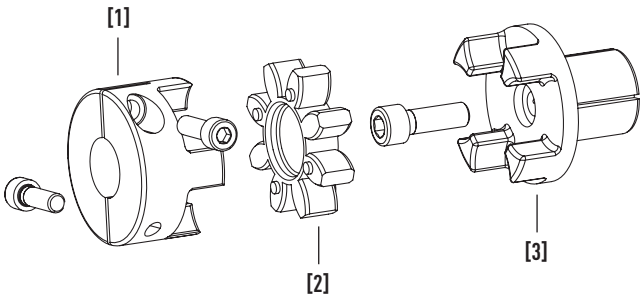
| Linear axis | Ratio i | Ø H [mm] | $L_G$ [mm] | Max. Ø motor shaft [mm] | Gearbox | Order code for position gearbox[2] |
|---|---|---|---|---|---|---|
| **HM040B, HD1, HT100B, HC040B** | 3 | 40 | 48.5 | 9 (11)[3] | PLE40-3 | G0403 |
| | 5 | 40 | 48.5 | 9 (11)[3] | PLE40-5 | G0405 |
| | 8 | 40 | 48.5 | 9 (11)[3] | PLE40-8 | G0408 |
| | 12 | 40 | 61.5 | 9 (11)[3] | PLE40-12 | G0412 |
| **HM040B, HM060B, HD1, HD2, HT100B, HC040B, HC060B** | 3 | 60 | 63.0 | 14 (19)[3] | PLQE60-3 | G0603 |
| | 5 | 60 | 63.0 | 14 (19)[3] | PLQE60-5 | G0605 |
| | 8 | 60 | 63.0 | 14 (19)[3] | PLQE60-8 | G0608 |
| | 12 | 60 | 75.5 | 14 (19)[3] | PLQE60-12 | G0612 |
| **HM060B, HM080B, HD2, HD3, HT150B, HC060B, HC080B** | 3 | 80 | 83.5 | 19 (24)[3] | PLQE80-3 | G0803 |
| | 5 | 80 | 83.5 | 19 (24)[3] | PLQE80-5 | G0805 |
| | 8 | 80 | 83.5 | 19 (24)[3] | PLQE80-8 | G0808 |
| | 12 | 80 | 101.0 | 19 (24)[3] | PLQE80-12 | G0812 |
| **HM080B, HM120B, HD3, HD4, HT150B, HT200B, HT250B, HC080B, HC100B** | 3 | 115 | 124.5 | 24 (35)[3] | PLQE120-3 | G1203 |
| | 5 | 115 | 124.5 | 24 (35)[3] | PLQE120-5 | G1205 |
| | 8 | 115 | 124.5 | 24 (35)[3] | PLQE120-8 | G1208 |
| | 12 | 115 | 152.5 | 24 (35)[3] | PLQE120-12 | G1212 |

[1] Economy series PLE/PLQE, registered trademarks of Neugart GmbH

[2] See order code Page 25 for linear modules HM-B, Page 45 linear tables HT-B, Page 87 cantilever axes HC and Page 105 double axes HD

[3] Values in brackets possible on request.

### 22.1.5.6 Coupling component for linear modules HM-B, linear tables HT-B and cantilever axes HC




**[1]** Clamping hub for motor side
**[2]** Sprocket
**[3]** Expansion hub for axis side

Fig. 22.20 **Coupling component for linear modules HM-B, linear tables HT-B and cantilever axes HC**

**Expansion hub**
Coupling element for the axis side.

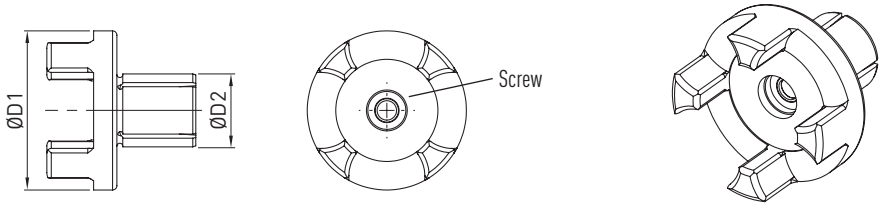



Fig. 22.21 **Expansion hub for linear modules HM-B, linear tables HT-B and cantilever axes HC**

Table 22.12 **Article numbers and dimensions of expansion hub**

| Linear axis | Model | Ø D1 [mm] | Ø D2 [mm] | Thread size × length | Screw tightening torque [Nm] | Moment of inertia [kgmm²] | Frictional torque [Nm] | Article number |
|---|---|---|---|---|---|---|---|---|
| **HC025B** | Size 12 | 24.5 | 10 | M4 × 14 | 4 | 2.9 | 11 | 25-002015 |
| **HM040B, HT100B, HC040B** | Size 14 | 29.5 | 14 | M5 × 18 | 10 | 4.4 | 31 | 25-002714 |
| **HM060B, HC060B** | Size 19 | 39.5 | 20 | M6 × 20 | 10 | 9.0 | 38 | 25-000199 |
| **HM080B, HT150B, HC080B** | Size 24 | 54.5 | 25 | M8 × 30 | 25 | 35.6 | 91 | 25-000200 |
| **HM120B, HT200B, HT250B, HC100B** | Size 28 | 64.5 | 35 | M10 × 35 | 49 | 77.0 | 201 | 25-000201 |

**Sprocket**

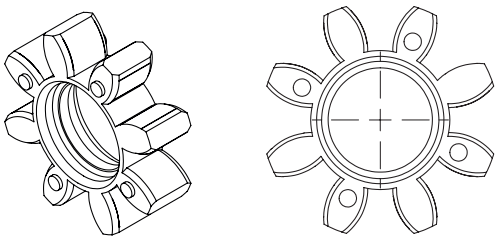


Fig. 22.22 **Sprocket for linear modules HM-B, linear tables HT-B and cantilever axes HC**

Table 22.13 **Sprocket article number**

| Linear axis | Model | Article number |
|---|---|---|
| **HC025B** | Size 12 | 25-002709 |
| **HM040B, HT100B, HC040B** | Size 14 | 25-002710 |
| **HM060B, HC060B** | Size 19 | 25-002711 |
| **HM080B, HT150B, HC080B** | Size 24 | 25-002712 |
| **HM120B, HT200B, HT250B, HC100B** | Size 28 | 25-002713 |

**Clamping hub**

Coupling element for the motor side.

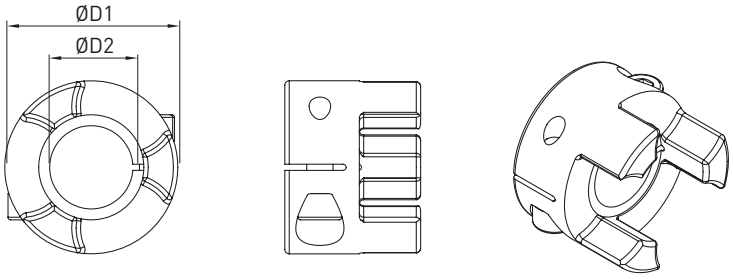



Fig. 22.23 **Clamping hub for linear modules HM-B, linear tables HT-B and cantilever axes HC**

Table 22.14 **Article numbers and specifications of clamping hub**

| Linear axis | Model | Ø D1 [mm] | Ø D2 H7 [mm] | Thread size × length | Screw tightening torque [Nm] | Frictional torque [Nm] | Moment of inertia [kgmm²] | Article number |
|---|---|---|---|---|---|---|---|---|
| **HC025B** | Size 12 | 24.5 | 5 | M3 × 12 | 2.1 | 5.2 | 1.46 | 25-002382 |
| | | | 6 | M3 × 12 | 2.1 | 6.1 | 1.46 | 25-002384 |
| | | | 6.35 | M3 × 12 | 2.1 | 6.4 | 1.46 | 25-002385 |
| | | | 8 | M3 × 12 | 2.1 | 8.1 | 1.45 | 25-002386 |
| | | | 9 | M3 × 12 | 2.1 | 9.1 | 1.45 | 25-002387 |
| | | | 10 | M3 × 12 | 2.1 | 10.1 | 1.44 | 25-002388 |
| | | | 11 | M3 × 12 | 2.1 | 11.1 | 1.43 | 25-002389 |
| | | | 12 | M3 × 12 | 2.1 | 12.1 | 1.41 | 25-002390 |
| | | | 14 | M3 × 12 | 2.1 | 14.1 | 1.41 | 25-002391 |
| **HM040B, HT100B, HC040B** | Size 14 | 29.5 | 5 | M4 × 12 | 5.0 | 10.1 | 2.70 | 25-002392 |
| | | | 6 | M4 × 12 | 5.0 | 12.2 | 2.69 | 25-002393 |
| | | | 6.35 | M4 × 12 | 5.0 | 13.2 | 2.69 | 25-002394 |
| | | | 8 | M4 × 12 | 5.0 | 16.5 | 2.68 | 25-002395 |
| | | | 9 | M4 × 12 | 5.0 | 18.6 | 2.68 | 25-002396 |
| | | | 10 | M4 × 12 | 5.0 | 20.8 | 2.67 | 25-002397 |
| | | | 11 | M4 × 12 | 5.0 | 23.0 | 2.66 | 25-002398 |
| | | | 12 | M4 × 12 | 5.0 | 25.1 | 2.65 | 25-002399 |
| | | | 13 | M4 × 12 | 5.0 | 27.2 | 2.63 | 25-002400 |
| | | | 14 | M4 × 12 | 5.0 | 29.4 | 2.61 | 25-002401 |
| | | | 16 | M4 × 12 | 4.0 | 28.0 | 6.11 | 25-002610 |
| **HM060B, HC060B** | Size 19 | 39.5 | 6.35 | M6 × 16 | 14.0 | 25.8 | 15.26 | 25-002403 |
| | | | 8 | M6 × 16 | 14.0 | 32.5 | 15.25 | 25-002404 |
| | | | 9 | M6 × 16 | 14.0 | 36.5 | 15.24 | 25-002405 |
| | | | 10 | M6 × 16 | 14.0 | 40.6 | 15.23 | 25-002406 |
| | | | 11 | M6 × 16 | 14.0 | 44.6 | 15.21 | 25-002407 |
| | | | 12 | M6 × 16 | 14.0 | 48.7 | 15.18 | 25-002408 |

Table 22.14 **Article numbers and specifications of clamping hub**

| Linear axis | Model | Ø D1 [mm] | Ø D2 H7 [mm] | Thread size × length | Screw tightening torque [Nm] | Frictional torque [Nm] | Moment of inertia [kgmm²] | Article number |
|---|---|---|---|---|---|---|---|---|
| **HM060B, HC060B** | Size 19 | 39.5 | 14 | M6 × 16 | 14.0 | 56.8 | 15.11 | 25-002409 |
| | | | 16 | M6 × 16 | 14.0 | 64.9 | 14.99 | 25-002410 |
| | | | 18 | M6 × 16 | 14.0 | 73.1 | 14.82 | 25-002411 |
| | | | 19 | M6 × 16 | 14.0 | 77.1 | 14.71 | 25-002412 |
| | | | 20 | M6 × 16 | 14.0 | 81.2 | 14.58 | 25-002413 |
| | | | 22 | M5 × 16 | 10.0 | 71.5 | 13.95 | 25-002414 |
| | | | 24 | M5 × 16 | 10.0 | 75.6 | 13.52 | 25-002415 |
| **HM080B, HT150B, HC080B** | Size 24 | 54.5 | 11 | M6 × 20 | 15.0 | 46.0 | 53.30 | 25-002456 |
| | | | 14 | M6 × 20 | 15.0 | 58.0 | 53.20 | 25-002416 |
| | | | 16 | M6 × 20 | 15.0 | 66.0 | 53.10 | 25-002417 |
| | | | 19 | M6 × 20 | 15.0 | 78.0 | 52.80 | 25-002418 |
| | | | 20 | M6 × 20 | 15.0 | 82.0 | 52.70 | 25-002419 |
| | | | 22 | M6 × 20 | 15.0 | 90.0 | 52.30 | 25-002420 |
| | | | 24 | M6 × 20 | 15.0 | 98.0 | 51.90 | 25-002422 |
| | | | 25 | M6 × 20 | 15.0 | 102.0 | 51.60 | 25-002423 |
| | | | 28 | M6 × 20 | 15.0 | 114.0 | 50.50 | 25-002424 |
| | | | 32 | M6 × 20 | 15.0 | 130.0 | 48.50 | 25-002425 |
| **HM120B, HT200B, HT250B, HC100B** | Size 28 | 64.5 | 16 | M8 × 25 | 35.0 | 130.0 | 125.45 | 25-002426 |
| | | | 19 | M8 × 25 | 35.0 | 152.5 | 125.11 | 25-002427 |
| | | | 20 | M8 × 25 | 35.0 | 160.0 | 124.95 | 25-002428 |
| | | | 22 | M8 × 25 | 35.0 | 175.0 | 124.55 | 25-002429 |
| | | | 24 | M8 × 25 | 35.0 | 190.0 | 124.02 | 25-002430 |
| | | | 25 | M8 × 25 | 35.0 | 197.5 | 123.70 | 25-002431 |
| | | | 28 | M8 × 25 | 35.0 | 220.0 | 122.47 | 25-002432 |
| | | | 32 | M8 × 25 | 35.0 | 240.0 | 120.08 | 25-002433 |
| | | | 35 | M8 × 25 | 35.0 | 262.5 | 117.59 | 25-002434 |
| | | | 38 | M8 × 25 | 35.0 | 285.0 | 118.33 | 25-002435 |

## 22.2 Drive adaptation of linear modules HM-S and linear tables HT-S

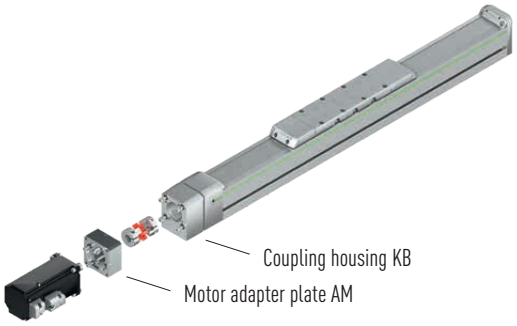
### 22.2.1 Motor adaptation of linear modules HM-S and linear tables HT-S

The drive adaptation of linear modules HM-S and linear tables HT-S is designed in two parts to ensure easy flange-mounting of all common motors.

The flange type set comprises the following components:
- Coupling housing KB
- Coupling components
- Motor adapter plate AM or belt drive RT

The dimensions of the coupling housing, motor adapter plate and belt drive can be found in section 22.2.2 from page 204.

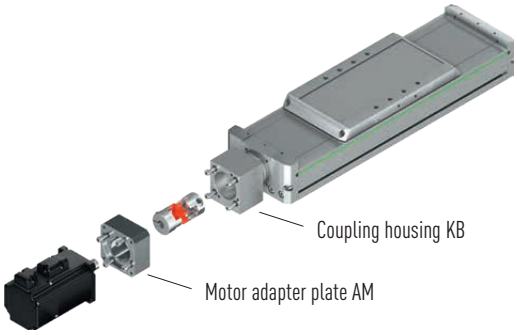
**Motor adaptation of linear modules with ball screw – without belt drive**




Motor adapter plate AM: Adapter from axis to motor

Fig. 22.24 **Motor adaptation of linear modules HM-S**

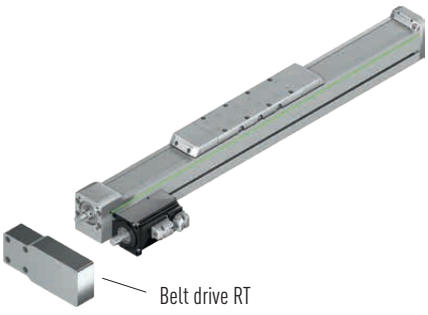
**Motor adaptation of linear tables with ballscrew (HT-S)**




Motor adapter plate AM: Adapter from axis to motor

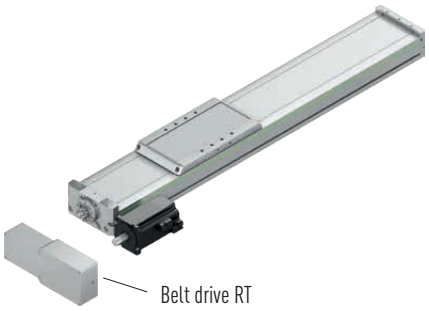
Fig. 22.25 **Motor adaptation of linear tables HT-S**

**Motor adaptation of linear tables with ballscrew – with belt drive**




Belt drive RT: For deflecting the drive 180°

Fig. 22.26 **Motor adaptation of linear modules HM-S with belt drive**




Belt drive RT: For deflecting the drive 180°

Fig. 22.27 **Motor adaptation of linear tables HT-S with belt drive**

Table 22.15 **Order code for position flange type [3] – linear modules HM-S and linear tables HT-S**

| Drive Manufacturer/Type | | Linear module HM-S | | | | Linear table HT-S | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | HM040S | HM060S | HM080S | HM120S | HT100S | HT150S | HT200S | HT250S |
| | | **Motor only** | **Motor only** | **Motor only** | **Motor only** | **Motor only** | **Motor only** | **Motor only** | **Motor only** |
| **HIWIN** | **EM1-C-M-20-2** | HW21[1] | HW03[1] | HW05[1] | | HW03[1] | HW05[1] | | |
| | **EM1-C-M-40-2** | | HW03[1] | HW05[1] | | HW03[1] | HW05[1] | HW05[1] | |
| | **EM1-C-M-05-2** | HW22[1] | HW16[1] | | | | | | |
| | **EM1-C-M-10-2** | HW22[1] | HW16[1] | | | HW16[1] | | | |
| | **EM1-C-M-75-2** | | | HW06[1] | HW08[1] | | HW06[1] | HW06[1] | HW08[1] |
| | **EM1-A-M-1K-2** | | | | HW13[2] | | | HW25 | HW13[2] |
| | **EM1-D-M-1A-2** | | | | HW13[2] | | | | HW13[2] |
| | **EM1-D-M-2K-2** | | | | | | | | HW13[2] |
| **B&R** | **8LSA24** | BR01[1] | BR02[1] | BR07[1] | | BR02[1] | BR07[1] | | |
| | **8LSA25** | BR01[1] | BR02[1] | BR07[1] | | BR02[1] | BR07[1] | | |
| | **8LSA33** | | BR03 | BR04[2] | | BR03 | BR04[2] | BR04[2] | |
| | **8LSA34** | | BR03 | BR04[2] | | BR03 | BR04[2] | BR04[2] | |
| | **8LSA35** | | BR03 | BR04[2] | BR13[1] | BR03 | BR04[2] | BR04[2] | BR13[1] |
| | **8LSA43** | | | | BR10[1] | | | BR05[2] | BR10[1] |
| | **8LSA44** | | | | BR10[1] | | | | BR10[1] |
| | **8LSA45** | | | | | | | | BR10[1] |
| | **8LSA53** | | | | BR12[2] | | | BR21 | BR12[2] |
| | **8LSA54** | | | | BR12[2] | | | | BR12[2] |
| | **8LSN43** | | | | BR11[2] | | | | BR11[2] |
| | **8LSN44** | | | | BR11[2] | | | | BR11[2] |
| | **8LSN54** | | | | | | | | BR12[2] |

[1] Possible belt drive $V_1$

[2] Possible belt drive $V_2$

[3] See order codes Page 35 for linear modules HM-S and Page 55 linear tables HT-S

Table 22.15 **Order code for position flange type [3] – linear modules HM-S and linear tables HT-S**

| Drive Manufacturer/Type | | Linear module HM-S | | | | Linear table HT-S | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | HM040S | HM060S | HM080S | HM120S | HT100S | HT150S | HT200S | HT250S |
| | | **Motor only** | **Motor only** | **Motor only** | **Motor only** | **Motor only** | **Motor only** | **Motor only** | **Motor only** |
| **Beckhoff** | **AM8022** | | BE01[1] | BE04[1] | | BE01[1] | BE04[1] | | |
| | **AM8023** | | BE01[1] | BE04[1] | | BE01[1] | BE04[1] | BE04[1] | |
| | **AM8031** | | BE02[2] | BE05[1] | | BE02[2] | BE05[1] | BE05[1] | |
| | **AM8531** | | BE02[2] | BE05[1] | BE09[1] | BE02[2] | BE05[1] | BE05[1] | BE09[1] |
| | **AM8032** | | | | BE09[1] | | | BE05[1] | BE09[1] |
| | **AM8033** | | | | BE09[1] | | | | BE09[1] |
| | **AM8532** | | | | BE09[1] | | | BE05[1] | BE09[1] |
| | **AM8533** | | | | BE09[1] | | | | BE09[1] |
| | **AM8041** | | | BE06[2] | BE10[1] | | BE06[2] | BE06[2] | BE10[1] |
| | **AM8042** | | | | BE10[1] | | | | BE10[1] |
| | **AM8043** | | | | BE10[1] | | | | BE10[1] |
| | **AM8541** | | | BE06[2] | BE10[1] | | BE06[2] | BE06[2] | BE10[1] |
| | **AM8542** | | | | BE10[1] | | | | BE10[1] |
| | **AM8543** | | | | BE10[1] | | | | BE10[1] |
| | **AM8051** | | | | BE11[1] | | | | BE11[1] |
| | **AM8551** | | | | BE11[1] | | | | BE11[1] |
| **Bosch** | **MS2N03-A0** | BO01[1] | BO02[1] | BO09[1] | | BO02[1] | BO09[1] | | |
| | **MS2N03-B0** | | BO02[1] | BO09[1] | | BO02[1] | BO09[1] | | |
| | **MS2N03-D0** | | BO37[1] | BO41[1] | | BO37[1] | BO41[1] | BO41[1] | |
| | **MS2N04-B0** | | BO03[2] | BO05[1] | | BO03[2] | BO05[1] | BO05[1] | |
| | **MSK030B** | BO01[1] | BO02[1] | BO09[1] | | BO02[1] | BO09[1] | | |
| | **MSK030C** | | BO02[1] | BO09[1] | | BO02[1] | BO09[1] | BO09[1] | |
| | **MSK040B** | | BO03[2] | BO05[1] | BO10[1] | BO03[2] | BO05[1] | BO05[1] | BO10[1] |
| | **MSK040C** | | BO03[2] | BO05[1] | BO10[1] | BO03[2] | BO05[1] | BO05[1] | BO10[1] |
| | **MS2N04-C0** | | | | BO10[1] | | | BO05[1] | BO10[1] |
| | **MS2N04-D0** | | | | BO10[1] | | | | BO10[1] |
| | **MS2N05-B0** | | | BO06[2] | BO11[1] | | BO06[2] | BO06[2] | BO11[1] |
| | **MS2N05-C0** | | | | BO11[1] | | | | BO11[1] |
| | **MS2N06-B1** | | | BO08 | BO13[2] | | BO08 | BO08 | BO13[2] |
| | **MS2N06-C0** | | | | BO13[2] | | | | BO13[2] |
| | **MSK043C** | | | | BO10[1] | | | BO05[1] | BO10[1] |
| | **MSK050B** | | | BO06[2] | BO11[1] | | BO06[2] | BO06[2] | BO11[1] |
| | **MSK050C** | | | | BO11[1] | | | BO06[2] | BO11[1] |
| | **MSK060B** | | | | BO13[2] | | | BO08 | BO13[2] |
| | **MSK060C** | | | | BO13[2] | | | | BO13[2] |
| | **MSK061B** | | | | BO12[2] | | | BO07[2] | BO12[2] |
| | **MS2N07-B1** | | | | BO15[2] | | | | BO15[2] |
| **Lenze** | **MCS06F** | | LE01[1] | LE04[1] | | LE01[1] | LE04[1] | | |
| | **MCS06I** | | LE01[1] | LE04[1] | | LE01[1] | LE04[1] | LE04[1] | |
| | **MCS09D** | | LE02[2] | LE05[2] | LE08[1] | LE02[2] | LE05[2] | LE05[2] | LE08[1] |
| | **MCS09F** | | | | LE08[1] | | | LE05[2] | LE08[1] |
| | **MCS09H** | | | | LE08[1] | | | | LE08[1] |
| | **MCS12D** | | | | LE09[2] | | | | LE09[2] |
| | **MCS12H** | | | | LE09[2] | | | | LE09[2] |
| | **MCS14D** | | | | LE10[2] | | | | LE10[2] |

[1] Possible belt drive $V_1$

[2] Possible belt drive $V_2$

[3] See order codes Page 35 for linear modules HM-S and Page 55 linear tables HT-S

Table 22.15 **Order code for position flange type [3] – linear modules HM-S and linear tables HT-S**

| Drive Manufacturer/Type | | Linear module HM-S | | | | Linear table HT-S | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | HM040S | HM060S | HM080S | HM120S | HT100S | HT150S | HT200S | HT250S |
| | | **Motor only** | **Motor only** | **Motor only** | **Motor only** | **Motor only** | **Motor only** | **Motor only** | **Motor only** |
| Omron | **R88M-1M20030** | OM06[1] | OM07[1] | OM08[1] | | OM07[1] | OM08[1] | | |
| | **R88M-1M40030** | | OM10[1] | OM11[1] | | OM10[1] | OM11[1] | OM11[1] | |
| | **R88M-1M05030** | OM02[1] | | | | | | | |
| | **R88M-1M10030** | OM02[1] | OM03[1] | | | OM03[1] | | | |
| | **R88M-1M75030** | | | OM13[1] | OM14[1] | | OM13[1] | OM13[1] | OM14[1] |
| | **R88M-1L1K030** | | | OM15 | OM16[2] | | OM15 | OM15 | OM16[2] |
| | **R88M-1L1K530** | | | | OM16[2] | | | OM15 | OM16[2] |
| | **R88M-1L75030** | | | OM15 | OM16[2] | | OM15 | OM15 | OM16[2] |
| | **R88M-1L2K030** | | | | OM16[2] | | | | OM16[2] |
| | **R88M-1L3K030** | | | | OM19[2] | | | | OM19[2] |
| | **R88M-1M1K020** | | | | OM19[2] | | | OM18 | OM19[2] |
| | **R88M-1M1K520** | | | | OM19[2] | | | | OM19[2] |
| | **R88M-1M40020** | | | OM15 | OM16[2] | | OM15 | OM15 | OM16[2] |
| | **R88M-1M60020** | | | OM15 | OM16[2] | | OM15 | OM15 | OM16[2] |
| | **R88M-1M2K020** | | | | OM19[2] | | | | OM19[2] |
| Schneider | **BSH0553** | | SE02[1] | SE10[1] | | SE02[1] | SE10[1] | | |
| | **BSH0701** | | SE03[2] | SE07[1] | | SE03[2] | SE07[1] | | |
| | **BSH0702** | | SE03[2] | SE07[1] | | SE03[2] | SE07[1] | SE07[1] | |
| | **BMH0701** | | SE03[2] | SE07[1] | | SE03[2] | SE07[1] | SE07[1] | |
| | **BMH0702** | | SE03[2] | SE07[1] | SE16[1] | SE03[2] | SE07[1] | SE07[1] | SE16[1] |
| | **BMH0703** | | SE04[2] | SE08[1] | SE12[1] | SE04[2] | SE08[1] | SE08[1] | SE12[1] |
| | **BSH0551** | SE22[1] | SE02[1] | | | SE02[1] | | | |
| | **BSH0552** | SE22[1] | SE02[1] | | | SE02[1] | | | |
| | **BSH1001** | | | SE09[2] | SE13[1] | | SE09[2] | SE09[2] | SE13[1] |
| | **BSH1002** | | | | SE13[1] | | | | SE13[1] |
| | **BSH1003** | | | | SE13[1] | | | | SE13[1] |
| | **BSH1401** | | | | SE15[2] | | | | SE15[2] |
| | **BMH1001** | | | SE09[2] | SE13[1] | | SE09[2] | SE09[2] | SE13[1] |
| | **BMH1002** | | | | SE13[1] | | | | SE13[1] |
| | **BMH1003** | | | | SE13[1] | | | | SE13[1] |
| | **BMH1401** | | | | | | | | SE15[2] |
| | **BSH0703** | | | | | | SE08[1] | SE08[1] | |
| SEW | **CMP40M** | | SW02[1] | SW06[1] | | SW02[1] | SW06[1] | | |
| | **CMP50S** | | SW03[2] | SW07[1] | | SW03[2] | SW07[1] | SW07[1] | |
| | **CMP50M** | | SW03[2] | SW07[1] | | SW03[2] | SW07[1] | SW07[1] | |
| | **CMP40S** | SW01[1] | SW02[1] | | | SW02[1] | | | |
| | **CMP50L** | | | | SW11[1] | | | SW07[1] | SW11[1] |
| | **CMP63S** | | | | SW12[1] | | SW08[2] | SW08[2] | SW12[1] |
| | **CMP63M** | | | | SW12[1] | | | | SW12[1] |
| | **CMP63L** | | | | | | | | SW12[1] |
| | **CMP71S** | | | | SW13[2] | | | | SW13[2] |
| | **CMP71M** | | | | | | | | SW13[2] |
| | **CMPZ71S** | | | | SW13[2] | | | | SW13[2] |
| | **CMPZ71M** | | | | | | | | SW13[2] |
| | | | | | | | | | |

[1] Possible belt drive $V_1$

[2] Possible belt drive $V_2$

[3] See order codes Page 35 for linear modules HM-S and Page 55 linear tables HT-S

Table 22.15 **Order code for position flange type [3] – linear modules HM-S and linear tables HT-S**

| Drive Manufacturer/Type | | Linear module HM-S | | | | Linear table HT-S | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | HM040S | HM060S | HM080S | HM120S | HT100S | HT150S | HT200S | HT250S |
| | | **Motor only** | **Motor only** | **Motor only** | **Motor only** | **Motor only** | **Motor only** | **Motor only** | **Motor only** |
| Siemens | **1FK2103-4** | | SM23[1] | SM24[1] | | SM23[1] | SM24[1] | | |
| | **1FK2203-2** | SM22[1] | SM23[1] | SM24[1] | | SM23[1] | SM24[1] | | |
| | **1FK2203-4** | | SM23[1] | SM24[1] | | SM23[1] | SM24[1] | SM24[1] | |
| | **1FK7022** | | SM02[1] | SM07[1] | | SM02[1] | SM07[1] | | |
| | **1FK7032** | | SM03[2] | SM04[1] | | SM03[2] | SM04[1] | SM04[1] | |
| | **1FK7034** | | SM03[2] | SM04[1] | SM11[1] | SM03[2] | SM04[1] | SM04[1] | SM11[1] |
| | **1FL6032-2** | SM26 | SM27 | SM28[1] | | SM27 | SM28[1] | | |
| | **1FL6034-2** | | SM27 | SM28[1] | | SM27 | SM28[1] | SM28[1] | |
| | **1FK2102-0** | SM18[1] | | | | | | | |
| | **1FK2102-1** | SM18[1] | SM19[1] | | | SM19[1] | | | |
| | **1FL6022-2** | SM18[1] | | | | | | | |
| | **1FL6024-2** | SM18[1] | SM19[1] | | | SM19[1] | | | |
| | **1FK2103-2** | SM22[1] | SM23[1] | | | SM23[1] | | | |
| | **1FK2204-5** | | | SM35[1] | SM36[1] | | SM35[1] | SM35[1] | SM36[1] |
| | **1FK2104-6** | | | SM35[1] | SM36[1] | | SM35[1] | SM35[1] | SM36[1] |
| | **1FK2204-6** | | | SM35[1] | SM36[1] | | SM35[1] | SM35[1] | SM36[1] |
| | **1FK2105-4** | | | | SM38[1] | | | SM37[2] | SM38[1] |
| | **1FK2105-6** | | | | SM38[1] | | | | SM38[1] |
| | **1FK2205-2** | | | SM05[2] | SM08[1] | | SM05[2] | SM05[2] | SM08[1] |
| | **1FK2205-4** | | | | SM08[1] | | | | SM08[1] |
| | **1FK2106-3** | | | | SM09[2] | | | | SM09[2] |
| | **1FK2206-2** | | | | SM09[2] | | | | SM09[2] |
| | **1FK7040** | | | SM05[2] | SM08[1] | | SM05[2] | SM05[2] | SM08[1] |
| | **1FK7042** | | | SM05[2] | SM08[1] | | SM05[2] | SM05[2] | SM08[1] |
| | **1FK7060** | | | | SM09[2] | | | | SM09[2] |
| | **1FK7062** | | | | SM09[2] | | | | SM09[2] |
| | **1FL6042-2** | | | SM30[1] | SM31[1] | | SM30[1] | SM30[1] | SM31[1] |
| | **1FL6044-2** | | | SM30[1] | SM31[1] | | SM30[1] | SM30[1] | SM31[1] |
| | **1FL6052-2** | | | | SM41[1] | | | SM40[2] | SM41[1] |
| | **1FL6054-2** | | | | SM41[1] | | | | SM41[1] |
| | **1FL6042-1** | | | SM32[2] | SM33[1] | | SM32[2] | SM32[2] | SM33[1] |
| | **1FL6044-1** | | | SM32[2] | SM33[1] | | SM32[2] | SM32[2] | SM33[1] |
| | **1FL6061-1** | | | SM43 | SM44 | | SM43 | SM43 | SM44 |
| | **1FL6062-1** | | | | SM44 | | | SM43 | SM44 |
| | **1FL6064-1** | | | | SM44 | | | | SM44 |
| | **1FK2104-4** | | | SM35[1] | | | SM35[1] | SM35[1] | |
| | **1FK2104-5** | | | SM35[1] | | | SM35[1] | SM35[1] | |
| | **1FK7080** | | | | SM10[2] | | | | SM10[2] |
| | **1FL6066-1** | | | | SM44 | | | | SM44 |
| | **1FL6067-1** | | | | SM44 | | | | SM44 |

[1] Possible belt drive $V_1$

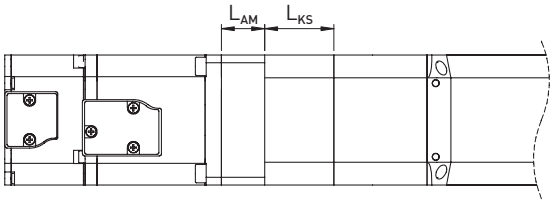
[2] Possible belt drive $V_2$

[3] See order codes Page 35 for linear modules HM-S and Page 55 linear tables HT-S

### 22.2.2 Dimensions of motor adaptation of linear modules HM-S, linear tables HT-S

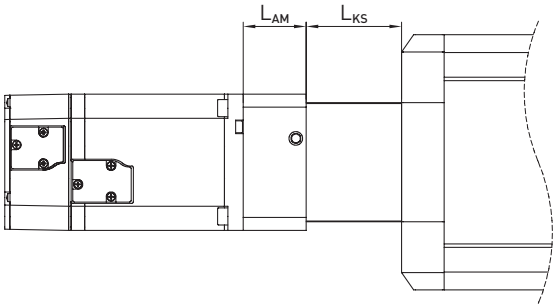
The total length of the spindle axis depends on the following factors:
- Adaptation material (coupling housing KB, motor adapter plate AM)
- Belt drive RT
- Motor

**Linear axis without belt drive**




$L_{KS}$ Length of coupling housing, see Table 22.16
$L_{AM}$ Length of motor adapter plate, see Table 22.17

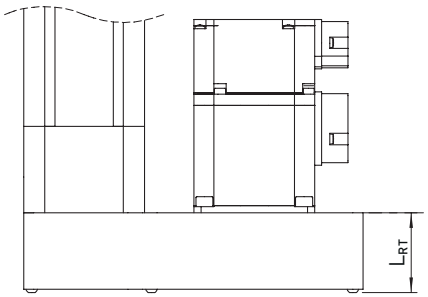
Fig. 22.28 **Motor connection of linear modules HM-S without belt drive**




$L_{KS}$ Length of coupling housing, see Table 22.16
$L_{AM}$ Length of motor adapter plate, see Table 22.17

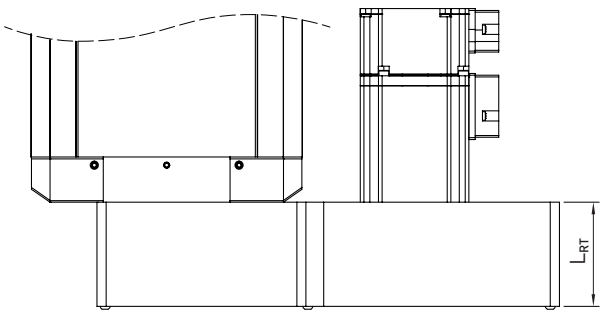
Fig. 22.29 **Motor connection of linear table HT-S without belt drive**

**Linear axis with belt drive**




$L_{RT}$ Length of belt drive, see Table 22.19

Fig. 22.30 **Motor connection of linear modules HM-S with belt drive**




$L_{RT}$ Length of belt drive, see Table 22.19

Fig. 22.31 **Motor connection of linear tables HT-S with belt drive**

### 22.2.2.1 Coupling housing KS for linear modules HM-S and linear tables HT-S

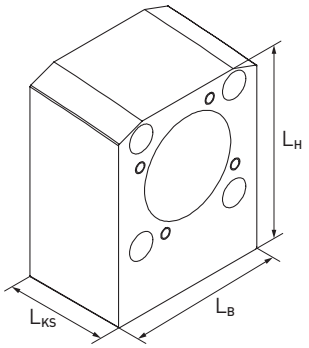



Fig. 22.32 **Coupling housing KS for linear modules HM-S**

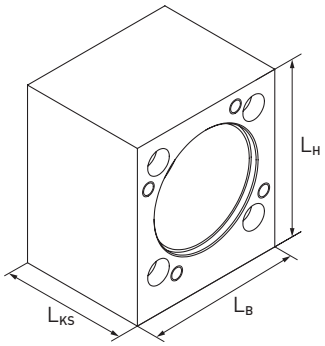



Fig. 22.33 **Coupling housing KS for linear tables HT-S**

Table 22.16 **Dimensions of coupling housing KS for linear modules HM-S and linear tables HT-S**

| Coupling housing for | $L_B$ [mm] | $L_H$ [mm] | $L_{KS}$ [mm] | Article number |
|---|---|---|---|---|
| **HM040S** | 39.6 | 57.6 | 34 | 25-000305 |
| **HM060S** | 59.6 | 75.0 | 32 | 25-000306 |
| **HM080S** | 79.6 | 95.5 | 41 | 25-000307 |
| **HM120S** | 119.6 | 141.9 | 50 | 25-000308 |
| **HT100S** | 55.0 | 58.2 | 39 | 25-000952 |
| **HT150S** | 70.0 | 78.5 | 56 | 25-000951 |
| **HT200S** | 75.0 | 90.0 | 59 | 25-000950 |
| **HT250S** | 90.0 | 99.5 | 68 | 25-000949 |

### 22.2.2.2 Motor adapter plate AM for linear modules HM-S and linear tables HT-S

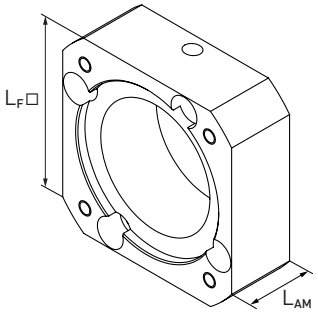



Fig. 22.34 **Motor adapter plate AM for linear modules HM-S and linear tables HT-S**

Table 22.17 **Motor adapter plate AM for linear modules HM-S**

| Linear axis | Manufacturer | Motors | $L_F$ [mm] | $L_{AM}$ [mm] | Article number |
|---|---|---|---|---|---|
| **HM040S** | HIWIN | EM1-C-M-05-2, EM1-C-M-10-2 | 42 | 22,5 | 25-002721 |
| | | EM1-C-M-20-2 | 60 | 27,5 | 25-002871 |
| | B&R | 8LSA24, 8LSA25 | 58 | 21,5 | 25-000397 |
| | Bosch | MS2N03-A0, MSK030B | 58 | 17,5 | 80052233 |
| | Omron | R88M-1M05030, R88M-1M10030 | 42 | 22,5 | 25-002721 |
| | | R88M-1M20030 | 60 | 27,5 | 25-001458 |
| | Schneider | BSH0551, BSH0552 | 55 | 17,5 | 25-000396 |
| | SEW | CMP40S | 58 | 17,5 | 80052233 |
| | Siemens | 1FK2102-0, 1FK2102-1, 1FL6022-2, 1FL6024-2 | 42 | 22,5 | 25-002721 |
| | | 1FK2103-2, 1FK2203-2 | 60 | 27,5 | 25-002871 |
| | | 1FL6032-2 | 60 | 28,5 | 25-000398 |
| **HM060S** | HIWIN | EM1-C-M-05-2, EM1-C-M-10-2 | 50 | 25,5 | 25-002736 |
| | | EM1-C-M-20-2, EM1-C-M-40-2 | 60 | 30,5 | 25-000404 |
| | B&R | 8LSA24, 8LSA25 | 58 | 24,5 | 25-000403 |
| | | 8LSA33, 8LSA34, 8LSA35 | 82 | 30,5 | 25-000411 |
| | Beckhoff | AM8022, AM8023 | 55 | 20,5 | 25-000402 |
| | | AM8031, AM8531 | 70 | 30,5 | 25-000407 |
| | Bosch | MS2N03-A0, MS2N03-B0, MSK030B, MSK030C | 58 | 20,5 | 80052243 |
| | | MS2N03-D0 | 54 | 23,5 | 25-000401 |
| | | MS2N04-B0, MSK040B, MSK040C | 82 | 30,5 | 25-000405 |
| | Lenze | MCS06F, MCS06I | 62 | 23,5 | 25-000406 |
| | | MCS09D | 82 | 30,5 | 25-000411 |
| | Omron | R88M-1M10030 | 50 | 25,5 | 25-002736 |
| | | R88M-1M20030, R88M-1M40030 | 60 | 30,5 | 25-000646 |
| | Schneider | BSH0551, BSH0552, BSH0553 | 55 | 20,5 | 25-000402 |
| | | BSH0701, BSH0702, BMH0701, BMH0702 | 62 | 23,5 | 25-000406 |
| | SEW | BMH0703 | 70 | 30,5 | 25-000407 |
| | | CMP40S, CMP40M | 58 | 20,5 | 80052243 |
| | Siemens | CMP50S, CMP50M | 62 | 23,5 | 25-000406 |
| | | 1FK2102-1, 1FL6024-2 | 50 | 25,5 | 25-002736 |
| | | 1FK2103-2, 1FK2103-4, 1FK2203-2, 1FK2203-4 | 60 | 30,5 | 25-000404 |
| | | 1FK7022 | 55 | 20,5 | 25-000402 |
| | | 1FK7032, 1FK7034 | 72 | 30,5 | 25-000408 |
| **HM080S** | HIWIN | EM1-C-M-20-2, EM1-C-M-40-2 | 72 | 27 | 25-000414 |
| | | EM1-C-M-75-2 | 80 | 37 | 25-000421 |
| | B&R | 8LSA24, 8LSA25 | 75 | 21 | 80094917 |
| | | 8LSA33, 8LSA34, 8LSA35 | 86 | 27 | 25-000423 |
| | Beckhoff | AM8022, AM8023 | 72 | 18 | 25-000413 |
| | | AM8031, AM8531 | 70 | 27 | 25-000418 |
| | | AM8041, AM8541 | 87 | 37 | 25-000424 |
| | Bosch | MS2N03-A0, MS2N03-B0, MSK030B, MSK030C | 72 | 18 | 80052441 |
| | | MS2N03-D0 | 72 | 20 | 25-000412 |
| | | MS2N04-B0, MSK040B, MSK040C | 82 | 27 | 25-000415 |
| | | MS2N05-B0, MSK050B | 98 | 37 | 25-000425 |
| | | MS2N06-B1 | 116 | 47 | 25-000429 |
| | Lenze | MCS06F, MCS06I | 72 | 20 | 25-000417 |
| | | MCS09D | 86 | 27 | 25-000423 |

Table 22.17 **Motor adapter plate AM for linear modules HM-S**

| Linear axis | Manufacturer | Motors | $L_F$ [mm] | $L_{AM}$ [mm] | Article number |
|---|---|---|---|---|---|
| **HM080S** | Omron | R88M-1M20030, R88M-1M40030 | 72 | 27 | 25-002186 |
| | | R88M-1M75030 | 80 | 32 | 25-002598 |
| | | R88M-1L1K030, R88M-1L75030, R88M-1M40020, R88M-1M60020 | 100 | 52 | 25-001858 |
| | Schneider | BSH0553 | 72 | 18 | 25-000413 |
| | | BSH0701, BSH0702, BMH0701, BMH0702 | 72 | 20 | 25-000417 |
| | | BSH1001, BMH1001 | 98 | 37 | 25-000425 |
| | | BMH0703 | 70 | 27 | 25-000418 |
| | SEW | CMP40M | 72 | 18 | 80052441 |
| | | CMP50S, CMP50M | 72 | 20 | 25-000417 |
| | Siemens | 1FK2103-4, 1FK2203-2, 1FK2203-4 | 72 | 27 | 25-000414 |
| | | 1FK2104-4, 1FK2104-5, 1FK2204-5, 1FK2104-6, 1FK2204-6 | 80 | 37 | 25-000421 |
| | | 1FK2205-2, 1FK7040, 1FK7042 | 87 | 37 | 25-000424 |
| | | 1FK7022 | 72 | 18 | 25-000413 |
| | | 1FK7032, 1FK7034 | 72 | 27 | 25-000419 |
| | | 1FL6032-2, 1FL6034-2 | 75 | 28 | 80094905 |
| | | 1FL6042-2, 1FL6044-2 | 80 | 32 | 80018736 |
| | | 1FL6042-1, 1FL6044-1 | 87 | 32 | 25-001241 |
| | | 1FL6061-1 | 130 | 55 | 25-001876 |
| **HM120S** | HIWIN | EM1-C-M-75-2 | 80 | 36,5 | 25-000438 |
| | | EM1-A-M-1K-2, EM1-D-M-1A-2 | 130 | 51,5 | 25-000450 |
| | B&R | 8LSA35 | 86 | 26,5 | 25-000440 |
| | | 8LSA43, 8LSA44 | 98 | 36,5 | 25-000442 |
| | | 8LSA53, 8LSA54 | 138 | 46,5 | 80095110 |
| | | 8LSN43, 8LSN44 | 116 | 36,5 | 25-002891 |
| | Beckhoff | AM8032, AM8033, AM8531, AM8532, AM8533 | 73 | 26,5 | 25-000436 |
| | | AM8041, AM8042, AM8043, AM8541, AM8542, AM8543 | 87 | 36,5 | 25-000441 |
| | | AM8051, AM8551 | 100 | 46,5 | 80094982 |
| | Bosch | MS2N04-C0, MS2N04-D0, MSK040B, MSK040C, MSK043C | 82 | 26,5 | 25-000433 |
| | | MS2N05-B0, MS2N05-C0, MSK050B, MSK050C | 98 | 36,5 | 25-000442 |
| | | MS2N06-B1, MS2N06-C0, MSK060B, MSK060C | 116 | 46,5 | 80052246 |
| | | MS2N07-B1 | 139 | 54,5 | 25-000452 |
| | | MSK061B | 116 | 36,5 | 25-000445 |
| | Lenze | MCS09D, MCS09F, MCS09H | 86 | 26,5 | 25-000440 |
| | | MCS12D, MCS12H | 116 | 36,5 | 25-002891 |
| | | MCS14D | 138 | 46,5 | 80095110 |
| | Omron | R88M-1M75030 | 80 | 31,5 | 25-002256 |
| | | R88M-1L1K030, R88M-1L1K530, R88M-1L75030, R88M-1L2K030, R88M-1M40020, R88M-1M60020 | 100 | 51,5 | 25-000444 |
| | | R88M-1L3K030, R88M-1M1K020, R88M-1M1K520, R88M-1M2K020 | 130 | 51,5 | 25-000450 |
| | Schneider | BSH1001, BSH1002, BSH1003, BMH1001, BMH1002, BMH1003 | 98 | 36,5 | 25-000442 |
| | | BSH1401 | 138 | 46,5 | 80095110 |
| | | BMH0702 | 73 | 19,5 | 25-000435 |
| | | BMH0703 | 73 | 26,5 | 25-000436 |
| | SEW | CMP50L | 73 | 19,5 | 25-000435 |
| | | CMP63S, CMP63M | 86 | 26,5 | 25-000440 |
| | | CMP71S, CMPZ71S | 125 | 46,5 | 80063703 |

Table 22.17 **Motor adapter plate AM for linear modules HM-S**

| Linear axis | Manufacturer | Motors | $L_F$ [mm] | $L_{AM}$ [mm] | Article number |
|---|---|---|---|---|---|
| **HM120S** | Siemens | 1FK2204-5, 1FK2104-6, 1FK2204-6 | 80 | 36,5 | 25-000438 |
| | | 1FK2105-4, 1FK2105-6 | 98 | 36,5 | 25-000442 |
| | | 1FK2205-2, 1FK2205-4, 1FK7040, 1FK7042 | 87 | 36,5 | 25-000441 |
| | | 1FK2106-3, 1FK2206-2, 1FK7060, 1FK7062 | 125 | 46,5 | 80063703 |
| | | 1FK7034 | 80 | 26,5 | 80095005 |
| | | 1FK7080 | 139 | 54,5 | 25-000452 |
| | | 1FL6042-2, 1FL6044-2 | 80 | 31,5 | 80018751 |
| | | 1FL6052-2, 1FL6054-2 | 100 | 41,5 | 80094968 |
| | | 1FL6042-1, 1FL6044-1 | 87 | 31,5 | 80094965 |
| | | 1FL6061-1, 1FL6062-1, 1FL6064-1, 1FL6066-1, 1FL6067-1 | 130 | 54,5 | 25-002727 |

Table 22.18 **Motor adapter plate AM for linear tables HT-S**

| Linear axis | Manufacturer | Motors | $L_F$ [mm] | $L_{AM}$ [mm] | Article number |
|---|---|---|---|---|---|
| **HT100S** | HIWIN | EM1-C-M-10-2 | 50 | 25,5 | 25-002736 |
| | | EM1-C-M-20-2, EM1-C-M-40-2 | 60 | 30,5 | 25-000404 |
| | B&R | 8LSA24, 8LSA25 | 58 | 24,5 | 25-000403 |
| | | 8LSA33, 8LSA34, 8LSA35 | 82 | 30,5 | 25-000411 |
| | Beckhoff | AM8022, AM8023 | 55 | 20,5 | 25-000402 |
| | | AM8031, AM8531 | 70 | 30,5 | 25-000407 |
| | Bosch | MS2N03-A0, MS2N03-B0, MSK030B, MSK030C | 58 | 20,5 | 80052243 |
| | | MS2N03-D0 | 54 | 23,5 | 25-000401 |
| | | MS2N04-B0, MSK040B, MSK040C | 82 | 30,5 | 25-000405 |
| | Lenze | MCS06F, MCS06I | 62 | 23,5 | 25-000406 |
| | | MCS09D | 82 | 30,5 | 25-000411 |
| | Omron | R88M-1M10030 | 50 | 25,5 | 25-002736 |
| | | R88M-1M20030, R88M-1M40030 | 60 | 30,5 | 25-000646 |
| | Schneider | BSH0551, BSH0552, BSH0553 | 55 | 20,5 | 25-000402 |
| | | BSH0701, BSH0702, BMH0701, BMH0702 | 62 | 23,5 | 25-000406 |
| | | BMH0703 | 70 | 30,5 | 25-000407 |
| | SEW | CMP40S, CMP40M | 58 | 20,5 | 80052243 |
| | | CMP50S, CMP50M | 62 | 23,5 | 25-000406 |
| | Siemens | 1FK2102-1, 1FL6024-2 | 50 | 25,5 | 25-002736 |
| | | 1FK2103-2, 1FK2103-4, 1FK2203-2, 1FK2203-4 | 60 | 30,5 | 25-000404 |
| | | 1FK7022 | 55 | 20,5 | 25-000402 |
| | | 1FK7032, 1FK7034 | 72 | 30,5 | 25-000408 |
| | | 1FL6032-2, 1FL6034-2 | 60 | 31,5 | 80094892 |
| **HT150S** | HIWIN | EM1-C-M-20-2 | 72 | 27 | 25-000414 |
| | B&R | 8LSA24, 8LSA25 | 75 | 21 | 80094917 |
| | Beckhoff | AM8022 | 72 | 18 | 25-000413 |
| | Bosch | MS2N03-A0, MS2N03-B0, MSK030B | 72 | 18 | 80052441 |
| | Lenze | MCS06F | 72 | 20 | 25-000417 |
| | Omron | R88M-1M20030 | 72 | 27 | 25-002186 |
| | Schneider | BSH0553 | 72 | 18 | 25-000413 |
| | | BSH0701 | 72 | 20 | 25-000417 |
| | SEW | CMP40M | 72 | 18 | 80052441 |
| | Siemens | 1FK2103-4, 1FK2203-2 | 72 | 27 | 25-000414 |
| | | 1FK7022 | 72 | 18 | 25-000413 |
| | | 1FL6032-2 | 75 | 28 | 80094905 |

Table 22.18 **Motor adapter plate AM for linear tables HT-S**

| Linear axis | Manufacturer | Motors | $L_F$ [mm] | $L_{AM}$ [mm] | Article number |
|---|---|---|---|---|---|
| **HT200S** | HIWIN | EM1-A-M-1K-2 | 130 | 52 | 25-001791 |
| | B&R | 8LSA43 | 98 | 37 | 25-000425 |
| | | 8LSA53 | 140 | 47 | 80094960 |
| | Beckhoff | AM8032, AM8532 | 70 | 27 | 25-000418 |
| | Bosch | MS2N04-C0, MSK043C | 82 | 27 | 25-000415 |
| | | MSK050C | 98 | 37 | 25-000425 |
| | | MSK060B | 116 | 47 | 25-000429 |
| | | MSK061B | 116 | 37 | 25-000428 |
| | Lenze | MCS09F | 86 | 27 | 25-000423 |
| | Omron | R88M-1L1K530 | 100 | 52 | 25-001858 |
| | | R88M-1M1K020 | 130 | 52 | 25-001791 |
| | SEW | CMP50L | 72 | 20 | 25-000417 |
| | Siemens | 1FK2105-4 | 98 | 37 | 25-000425 |
| | | 1FL6052-2 | 104 | 42 | 25-002487 |
| | | 1FL6062-1 | 130 | 55 | 25-001876 |
| **HT250S** | HIWIN | EM1-C-M-75-2 | 80 | 36,5 | 25-000438 |
| | | EM1-A-M-1K-2, EM1-D-M-1A-2, EM1-D-M-2K-2 | 130 | 51,5 | 25-000450 |
| | B&R | 8LSA35 | 86 | 26,5 | 25-000440 |
| | | 8LSA43, 8LSA44, 8LSA45 | 98 | 36,5 | 25-000442 |
| | | 8LSA53, 8LSA54, 8LSN54 | 138 | 46,5 | 80095110 |
| | | 8LSN43, 8LSN44 | 116 | 36,5 | 25-002891 |
| | Beckhoff | AM8032, AM8033, AM8531, AM8532, AM8533 | 73 | 26,5 | 25-000436 |
| | | AM8041, AM8042, AM8043, AM8541, AM8542, AM8543 | 87 | 36,5 | 25-000441 |
| | | AM8051, AM8551 | 100 | 46,5 | 80094982 |
| | Bosch | MS2N04-C0, MS2N04-D0, MSK040B, MSK040C, MSK043C | 82 | 26,5 | 25-000433 |
| | | MS2N05-B0, MS2N05-C0, MSK050B, MSK050C | 98 | 36,5 | 25-000442 |
| | | MS2N06-B1, MS2N06-C0, MSK060B, MSK060C | 116 | 46,5 | 80052246 |
| | | MS2N07-B1 | 139 | 54,5 | 25-000452 |
| | | MSK061B | 116 | 36,5 | 25-000445 |
| | Lenze | MCS09D, MCS09F, MCS09H | 86 | 26,5 | 25-000440 |
| | | MCS12D, MCS12H | 116 | 36,5 | 25-002891 |
| | | MCS14D | 138 | 46,5 | 80095110 |
| | Omron | R88M-1M75030 | 80 | 31,5 | 25-002256 |
| | | R88M-1L1K030, R88M-1L1K530, R88M-1L75030, R88M-1L2K030, R88M-1M40020, R88M-1M60020 | 100 | 51,5 | 25-000444 |
| | | R88M-1L3K030, R88M-1M1K020, R88M-1M1K520, R88M-1M2K020 | 130 | 51,5 | 25-000450 |
| | Schneider | BSH1001, BSH1002, BSH1003, BMH1001, BMH1002, BMH1003 | 98 | 36,5 | 25-000442 |
| | | BSH1401, BMH1401 | 138 | 46,5 | 80095110 |
| | | BMH0702 | 73 | 19,5 | 25-000435 |
| | | BMH0703 | 73 | 26,5 | 25-000436 |
| | SEW | CMP50L | 73 | 19,5 | 25-000435 |
| | | CMP63S, CMP63M, CMP63L | 86 | 26,5 | 25-000440 |
| | | CMP71S, CMP71M, CMPZ71S, CMPZ71M | 125 | 46,5 | 80063703 |

Table 22.18 **Motor adapter plate AM for linear tables HT-S**

| Linear axis | Manufacturer | Motors | $L_F$ [mm] | $L_{AM}$ [mm] | Article number |
|---|---|---|---|---|---|
| **HT250S** | Siemens | 1FK2204-5, 1FK2104-6, 1FK2204-6 | 80 | 36,5 | 25-000438 |
| | | 1FK2105-4, 1FK2105-6 | 98 | 36,5 | 25-000442 |
| | | 1FK2205-2, 1FK2205-4, 1FK7040, 1FK7042 | 87 | 36,5 | 25-000441 |
| | | 1FK2106-3, 1FK2206-2, 1FK7060, 1FK7062 | 125 | 46,5 | 80063703 |
| | | 1FK7034 | 80 | 26,5 | 80095005 |
| | | 1FK7080 | 139 | 54,5 | 25-000452 |
| | | 1FL6042-2, 1FL6044-2 | 80 | 31,5 | 80018751 |
| | | 1FL6052-2, 1FL6054-2 | 100 | 41,5 | 80094968 |
| | | 1FL6042-1, 1FL6044-1 | 87 | 31,5 | 80094965 |
| | | 1FL6061-1, 1FL6062-1, 1FL6064-1, 1FL6066-1, 1FL6067-1 | 130 | 54,5 | 25-002727 |

### 22.2.2.3 Belt drive RT for linear modules HM-S and linear tables HT-S

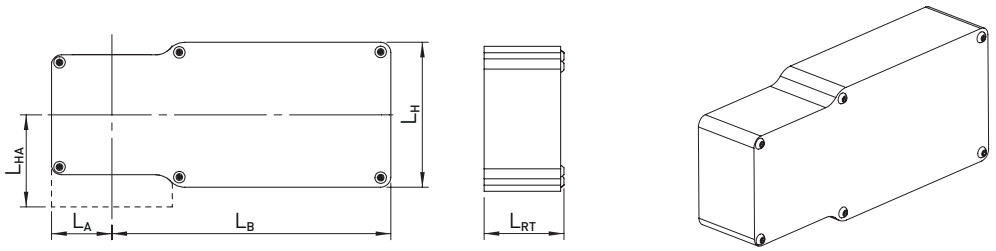



Fig. 22.35 **Belt drive for linear modules HM-S and linear tables HT-S**

Table 22.19 **Specifications of belt drive**

| Linear axis | Type [1] | $L_H$ | $L_B$ | $L_{RT}$ | $L_A$ | $L_{HA}$ | Translation |
|---|---|---|---|---|---|---|---|
| **HM040S** | $V_1$ | 72 | 138.5 | 40 | 30.0 | 36.25 | 1 |
| **HM060S** | $V_1$ | 72 | 138.5 | 40 | 30.0 | 45.80 | 1 |
| | $V_2$ | 102 | 171.5 | 40 | 30.0 | 45.80 | 1 |
| **HM080S** | $V_1$ | 102 | 197.0 | 51 | 39.0 | 61.40 | 1 |
| | $V_2$ | 131 | 226.0 | 61 | 39.0 | 61.40 | 1 |
| **HM120S** | $V_1$ | 135 | 248.5 | 63 | 55.0 | 89.00 | 1 |
| | $V_2$ | 175 | 288.0 | 73 | 55.0 | 89.00 | 1 |
| **HT100S** | $V_1$ | 74 | 157.0 | 43 | 29.5 | 31.00 | 1 |
| | $V_2$ | 102 | 196.0 | 43 | 29.5 | 31.00 | 1 |
| **HT150S** | $V_1$ | 102 | 217.0 | 60 | 38.5 | 43.00 | 1 |
| | $V_2$ | 131 | 251.0 | 70 | 38.5 | 43.00 | 1 |
| **HT200S** | $V_1$ | 100 | 237.0 | 61 | 42.5 | 51.00 | 1 |
| | $V_2$ | 131 | 268.5 | 71 | 42.5 | 51.00 | 1 |
| **HT250S** | $V_1$ | 135 | 298.0 | 73 | 50.7 | 52.00 | 1 |
| | $V_2$ | 175 | 349.5 | 83 | 50.7 | 52.00 | 1 |

[1] You can find the required type in Table 22.15

**Note:** Please note that the belt drive hangs over the lower edge of the axis if the following applies:

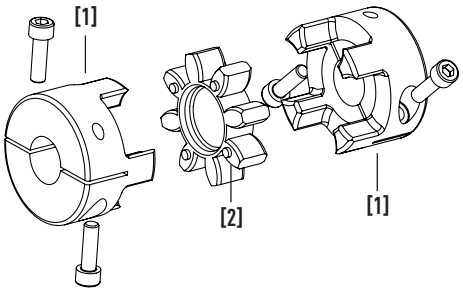
$$\frac{L_H}{2} > L_{HA}$$

**Note:** Please note that the belt drive can protrude over the side of the axis if the following applies:

$$L_A > \frac{L_B}{2}$$

$L_B$ Axis profile width

### 22.2.2.4 Coupling component for linear modules HM-S and linear tables HT-S




**[1]** Clamping hubs (1 for axis side, 1 for motor side)
**[2]** Sprocket

Fig. 22.36 **Coupling component for linear modules HM-S, linear tables HT-S**

**Clamping hub**
Coupling element on motor and axis side.

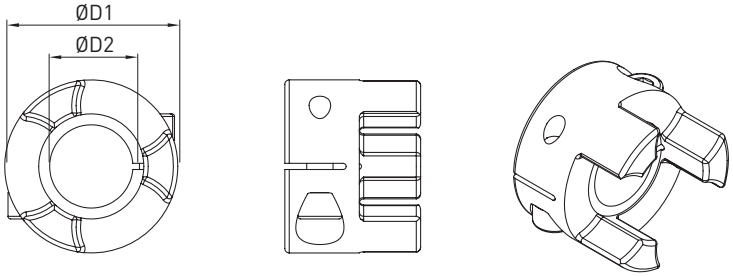



Fig. 22.37 **Clamping hub**

Table 22.20 **Article numbers and specifications of clamping hub**

| Linear axis | Model | Ø D1 [mm] | Ø D2 H7 [mm] | Thread size × length | Screw tightening torque [Nm] | Frictional torque [Nm] | Moment of inertia [kgmm²] | Article number |
|---|---|---|---|---|---|---|---|---|
| **HM040S** | Size 12 | 24.5 | 5 | M3 × 12 | 2.1 | 5.2 | 1.46 | 25-002382 |
| | | | 6 | M3 × 12 | 2.1 | 6.1 | 1.46 | 25-002384 |
| | | | 6.35 | M3 × 12 | 2.1 | 6.4 | 1.46 | 25-002385 |
| | | | 8 | M3 × 12 | 2.1 | 8.1 | 1.45 | 25-002386 |
| | | | 9 | M3 × 12 | 2.1 | 9.1 | 1.45 | 25-002387 |
| | | | 10 | M3 × 12 | 2.1 | 10.1 | 1.44 | 25-002388 |
| | | | 11 | M3 × 12 | 2.1 | 11.1 | 1.43 | 25-002389 |
| | | | 12 | M3 × 12 | 2.1 | 12.1 | 1.41 | 25-002390 |
| | | | 14 | M3 × 12 | 2.1 | 14.1 | 1.41 | 25-002391 |
| **HM060S, HT100S** | Size 14 | 29.5 | 5 | M4 × 12 | 5.0 | 10.1 | 2.70 | 25-002392 |
| | | | 6 | M4 × 12 | 5.0 | 12.2 | 2.69 | 25-002393 |
| | | | 6.35 | M4 × 12 | 5.0 | 13.2 | 2.69 | 25-002394 |
| | | | 8 | M4 × 12 | 5.0 | 16.5 | 2.68 | 25-002395 |
| | | | 9 | M4 × 12 | 5.0 | 18.6 | 2.68 | 25-002396 |
| | | | 10 | M4 × 12 | 5.0 | 20.8 | 2.67 | 25-002397 |
| | | | 11 | M4 × 12 | 5.0 | 23.0 | 2.66 | 25-002398 |
| | | | 12 | M4 × 12 | 5.0 | 25.1 | 2.65 | 25-002399 |
| | | | 13 | M4 × 12 | 5.0 | 27.2 | 2.63 | 25-002400 |
| | | | 14 | M4 × 12 | 5.0 | 29.4 | 2.61 | 25-002401 |
| | | | 16 | M4 × 12 | 4.0 | 28.0 | 6.11 | 25-002610 |

Table 22.20 **Article numbers and specifications of clamping hub**

| Linear axis | Model | Ø D1 [mm] | Ø D2 H7 [mm] | Thread size × length | Screw tightening torque [Nm] | Frictional torque [Nm] | Moment of inertia [kgmm²] | Article number |
|---|---|---|---|---|---|---|---|---|
| **HM080S, HT150S, HT200S** | Size 19 | 39.5 | 6.35 | M6 × 12 | 14.0 | 25.8 | 15.26 | 25-002403 |
| | | | 8 | M6 × 12 | 14.0 | 32.5 | 15.25 | 25-002404 |
| | | | 9 | M6 × 12 | 14.0 | 36.5 | 15.24 | 25-002405 |
| | | | 10 | M6 × 12 | 14.0 | 40.6 | 15.23 | 25-002406 |
| **HM080S, HT150S, HT200S** | Size 19 | 39.5 | 11 | M6 × 12 | 14.0 | 44.6 | 15.21 | 25-002407 |
| | | | 12 | M6 × 12 | 14.0 | 48.7 | 15.18 | 25-002408 |
| | | | 14 | M6 × 12 | 14.0 | 56.8 | 15.11 | 25-002409 |
| | | | 16 | M6 × 12 | 14.0 | 64.9 | 14.99 | 25-002410 |
| | | | 18 | M6 × 12 | 14.0 | 73.1 | 14.82 | 25-002411 |
| | | | 19 | M6 × 12 | 14.0 | 77.1 | 14.71 | 25-002412 |
| | | | 20 | M6 × 12 | 14.0 | 81.2 | 14.58 | 25-002413 |
| | | | 22 | M5 × 16 | 10.0 | 71.5 | 13.95 | 25-002414 |
| | | | 24 | M5 × 16 | 10.0 | 75.6 | 13.52 | 25-002415 |
| **HM120S, HT250S** | Size 24 | 54.5 | 11 | M6 × 20 | 15.0 | 46.0 | 53.30 | 25-002456 |
| | | | 14 | M6 × 20 | 15.0 | 58.0 | 53.20 | 25-002416 |
| | | | 16 | M6 × 20 | 15.0 | 66.0 | 53.10 | 25-002417 |
| | | | 19 | M6 × 20 | 15.0 | 78.0 | 52.80 | 25-002418 |
| | | | 20 | M6 × 20 | 15.0 | 82.0 | 52.70 | 25-002419 |
| | | | 22 | M6 × 20 | 15.0 | 90.0 | 52.30 | 25-002420 |
| | | | 24 | M6 × 20 | 15.0 | 98.0 | 51.90 | 25-002422 |
| | | | 25 | M6 × 20 | 15.0 | 102.0 | 51.60 | 25-002423 |
| | | | 28 | M6 × 20 | 15.0 | 114.0 | 50.50 | 25-002424 |
| | | | 32 | M6 × 20 | 15.0 | 130.0 | 48.50 | 25-002425 |

**Sprocket**

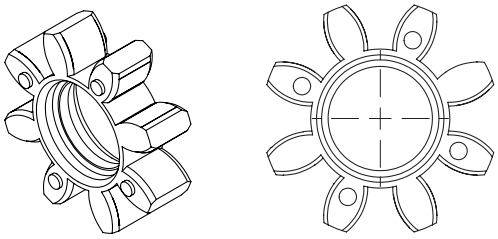


Fig. 22.38 **Sprocket**

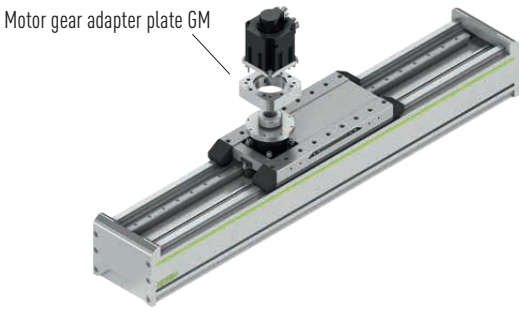
Table 22.21 **Sprocket article number**

| Linear axis | Model | Article number |
|---|---|---|
| **HM040S** | Size 12 | 25-000202 |
| **HM060S, HT100S** | Size 14 | 25-000203 |
| **HM080S, HT150S, HT200S** | Size 19 | 25-000204 |
| **HM120S, HT250S** | Size 24 | 25-000205 |

### 22.2.3 Drive adaptation of bridge axes HB-R

The drive adaptation of the HB-R bridge axis consists of a GM motor gear adapter plate to ensure that all standard motors can be easily flange-mounted.
The dimensions of the motor gearbox adapter plate can be found in section 22.1.5 from page 184.

**Motor adaptation of bridge axes with rack and pinion drive (HB-R)**




Motor gear adapter plate GM: Adapter from gearbox to motor

Fig. 22.39 **Motor adaptation of bridge axes HB-R**

Table 22.22 **Order code for position flange type [1] – Bridge axes HB-R**

| Drive Manufacturer/Type | | HB250R | |
|---|---|---|---|
| | | **With NPR035-H** | **With NPR035-K** |
| **Gearbox adapter** | | | |
| **HIWIN** | **EM1-A-M-1K-2** | HW28[2] | |
| | **EM1-D-M-1A-2** | HW28[2] | |
| | **EM1-D-M-2K-2** | HW28[2] | |
| **B&R** | **8LSA33** | BR25[2] | |
| | **8LSA34** | BR25[2] | |
| | **8LSA35** | BR25[2] | |
| | **8LSA43** | BR31[2] | |
| | **8LSA44** | BR31[2] | |
| | **8LSA45** | BR31[2] | |
| | **8LSA46** | BR31[2] | |
| | **8LSA53** | BR34[2] | |
| | **8LSA54** | BR34[2] | |
| | **8LSA55** | BR34[2] | |
| | **8LSN43** | BR28[2] | |
| | **8LSN44** | BR28[2] | |
| | **8LSN45** | BR28[2] | |
| | **8LSN46** | BR28[2] | |
| | **8LSN54** | BR34[2] | |
| | **8LSA56** | BR34[2] | |
| | **8LSA57** | BR34[2] | |
| | **8LSN55** | BR34[2] | |
| | **8LSN56** | BR34[2] | |
| | **8LSN57** | BR34[2] | |

NPR is a registered trademark of Wittenstein SE
[1] See order code Page 87 | [2] Drive not suitable for Y-axis of HIWIN multi-axis systems HS

Table 22.22 **Order code for position flange type [1] – Bridge axes HB-R**

| Drive Manufacturer/Type | | HB250R | |
|---|---|---|---|
| | | **With NPR035-H** | **With NPR035-K** |
| Beckhoff | **AM8051** | BE26[2] | |
| | **AM8052** | BE26[2] | |
| | **AM8551** | BE26[2] | |
| | **AM8552** | BE26[2] | |
| | **AM8053** | BE26[2] | |
| | **AM8553** | BE26[2] | |
| | **AM8061** | | BE29[2] |
| | **AM8062** | | BE29[2] |
| | **AM8561** | | BE29[2] |
| | **AM8063** | | BE29[2] |
| | **AM8562** | | BE29[2] |
| | **AM8563** | | BE29[2] |
| Bosch | **MS2N05-B0** | BO50[2] | |
| | **MS2N05-C0** | BO50[2] | |
| | **MS2N05-D0** | BO50[2] | |
| | **MS2N06-B1** | BO59[2] | |
| | **MS2N06-C0** | BO59[2] | |
| | **MS2N06-D0** | BO59[2] | |
| | **MS2N06-D1** | BO59[2] | |
| | **MSK050B** | BO50[2] | |
| | **MSK050C** | BO50[2] | |
| | **MSK060B** | BO59[2] | |
| | **MSK060C** | BO59[2] | |
| | **MSK061B** | BO53[2] | |
| | **MSK061C** | BO53[2] | |
| | **MS2N06-E0** | BO59[2] | |
| | **MS2N07-B1** | | BO62[2] |
| | **MS2N07-C1** | | BO62[2] |
| | **MSK070C** | | BO62[2] |
| | **MSK070D** | | BO62[2] |
| | **MSK070E** | | BO62[2] |
| | **MSK071C** | | BO62[2] |
| | **MSK075C** | | BO62[2] |
| | **MSK076C** | BO56[2] | |
| | **MS2N07-D0** | | BO62[2] |
| | **MS2N07-D1** | | BO62[2] |
| | **MS2N07-E0** | | BO62[2] |
| | **MS2N07-E1** | | BO62[2] |
| | **MSK071D** | | BO62[2] |
| | **MSK071E** | | BO62[2] |
| | **MSK075D** | | BO62[2] |
| | **MSK075E** | | BO62[2] |
| Lenze | **MCS12D** | LE22[2] | |
| | **MCS12H** | LE22[2] | |
| | **MCS12L** | LE22[2] | |
| | **MCS14D** | LE25[2] | |
| | **MCS14H** | LE25[2] | |

NPR is a registered trademark of Wittenstein SE

[1] See order code Page 87 | [2] Drive not suitable for Y-axis of HIWIN multi-axis systems HS

Table 22.22 **Order code for position flange type [1] – Bridge axes HB-R**

| Drive Manufacturer/Type | | HB250R | |
|---|---|---|---|
| | | **With NPR035-H** | **With NPR035-K** |
| **Lenze** | **MCS14L** | LE25[2] | |
| | **MCS14P** | LE25[2] | |
| **Omron** | **R88M-1L1K030** | OM30[2] | |
| | **R88M-1L1K530** | OM30[2] | |
| | **R88M-1L75030** | OM30[2] | |
| | **R88M-1L2K030** | OM30[2] | |
| | **R88M-1L3K030** | OM33[2] | |
| | **R88M-1M1K020** | OM33[2] | |
| | **R88M-1M1K520** | OM33[2] | |
| | **R88M-1M40020** | OM30[2] | |
| | **R88M-1M60020** | OM30[2] | |
| | **R88M-1M2K020** | OM33[2] | |
| | **R88M-1L4K030** | OM36[2] | |
| | **R88M-1L5K030** | OM36[2] | |
| | **R88M-1M3K020** | OM36[2] | |
| **Schneider** | **BSH1001** | SE30[2] | |
| | **BSH1002** | SE30[2] | |
| | **BSH1003** | SE30[2] | |
| | **BSH1004** | SE36[2] | |
| | **BSH1401** | SE33[2] | |
| | **BMH1001** | SE30[2] | |
| | **BMH1002** | SE30[2] | |
| | **BMH1003** | SE30[2] | |
| | **BMH1401** | SE33[2] | |
| | **BSH1402** | SE33[2] | |
| | **BMH1402** | SE33[2] | |
| | **BMH1403** | SE33[2] | |
| | **BSH1403** | SE33[2] | |
| | **BSH1404** | SE33[2] | |
| **SEW** | **CMP71S** | SW28[2] | |
| | **CMP71M** | SW28[2] | |
| | **CMPZ71S** | SW28[2] | |
| | **CMP71L** | SW28[2] | |
| | **CMP80S** | SW31[2] | |
| | **CMPZ71M** | SW28[2] | |
| | **CMPZ71L** | SW28[2] | |
| | **CMP80M** | SW31[2] | |
| | **CMP80L** | SW31[2] | |
| | **CMP100S** | | SW34[2] |
| | **CMP100M** | | SW34[2] |
| | **CMPZ80S** | SW31[2] | |
| | **CMPZ80M** | SW31[2] | |
| | **CMPZ80L** | SW31[2] | |
| | **CMPZ100S** | | SW34[2] |
| | **CMP100L** | | SW34[2] |
| | **CMPZ100M** | | SW34[2] |
| | **CMPZ100L** | | SW34[2] |

NPR is a registered trademark of Wittenstein SE

[1] See order code Page 87 | [2] Drive not suitable for Y-axis of HIWIN multi-axis systems HS

Table 22.22 **Order code for position flange type [1] – Bridge axes HB-R**

| Drive Manufacturer/Type | | HB250R | |
|---|---|---|---|
| | | **With NPR035-H** | **With NPR035-K** |
| Siemens | **1FK2105-4** | SM63[2] | |
| | **1FK2105-6** | SM63[2] | |
| | **1FK2205-2** | SM60[2] | |
| | **1FK2205-4** | SM60[2] | |
| | **1FK2106-3** | SM72[2] | |
| | **1FK2106-4** | SM72[2] | |
| | **1FK2206-2** | SM72[2] | |
| | **1FK2206-4** | SM72[2] | |
| | **1FK7040** | SM60[2] | |
| | **1FK7042** | SM60[2] | |
| | **1FK7060** | SM72[2] | |
| | **1FK7062** | SM72[2] | |
| | **1FK7063** | SM72[2] | |
| | **1FL6052-2** | SM66[2] | |
| | **1FL6054-2** | SM66[2] | |
| | **1FL6042-1** | SM57[2] | |
| | **1FL6044-1** | SM57[2] | |
| | **1FL6061-1** | SM69[2] | |
| | **1FL6062-1** | SM69[2] | |
| | **1FL6064-1** | SM69[2] | |
| | **1FK2106-6** | SM72[2] | |
| | **1FK2208-3** | | SM75[2] |
| | **1FK2208-4** | | SM75[2] |
| | **1FK7080** | | SM75[2] |
| | **1FK7081** | | SM75[2] |
| | **1FK7083** | | SM75[2] |
| | **1FL6066-1** | SM69[2] | |
| | **1FL6067-1** | SM69[2] | |
| | **1FK2208-5** | | SM75[2] |
| | **1FK7084** | | SM75[2] |

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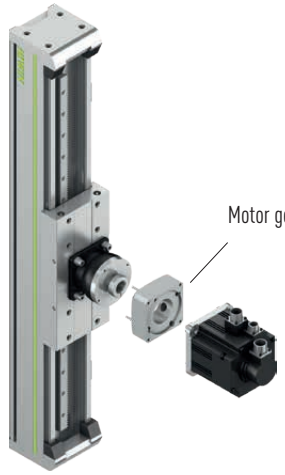
[1] See order code Page 87 | [2] Drive not suitable for Y-axis of HIWIN multi-axis systems HS

### 22.2.4 Drive adaptation of cantilever axes HC-R

The adaptation to the linear axis consists of a GM motor gear adapter plate to ensure that all standard motors can be easily flange-mounted.
The dimensions of the motor gearbox adapter plate can be found in section 22.1.5 from page 184.

**Motor adaptation of cantilever axes ack and pinion drive (HC-R)**




Motor gear adapter plate GM: Adapter from gearbox to motor

Fig. 22.40 **Motor adaption of cantilever axes HC-R**

Table 22.23 **Order code for position flange type [1] – Cantilever axes HC-R**

| Drive Manufacturer/Type | | HC150R | |
|---|---|---|---|
| | | **With NPR035-H** | **With NPR035-K** |
| **Gearbox adapter** | | | |
| **HIWIN** | **EM1-A-M-1K-2** | HW28[2] | |
| | **EM1-D-M-1A-2** | HW28[2] | |
| | **EM1-D-M-2K-2** | HW28[2] | |
| **B&R** | **8LSA33** | BR25[2] | |
| | **8LSA34** | BR25[2] | |
| | **8LSA35** | BR25[2] | |
| | **8LSA43** | BR31[2] | |
| | **8LSA44** | BR31[2] | |
| | **8LSA45** | BR31[2] | |
| | **8LSA46** | BR31[2] | |
| | **8LSA53** | BR34[2] | |
| | **8LSA54** | BR34[2] | |
| | **8LSA55** | BR34[2] | |
| | **8LSN43** | BR28[2] | |
| | **8LSN44** | BR28[2] | |
| | **8LSN45** | BR28[2] | |
| | **8LSN46** | BR28[2] | |
| | **8LSN54** | BR34[2] | |
| | **8LSA56** | BR34[2] | |
| | **8LSA57** | BR34[2] | |

NPR is a registered trademark of Wittenstein SE
[1] See order code Page 87 | [2] Drive not suitable for Y-axis of HIWIN multi-axis systems HS

Table 22.23 **Order code for position flange type [1] – Cantilever axes HC-R**

| Drive Manufacturer/Type | | HC150R | |
|---|---|---|---|
| | | **With NPR035-H** | **With NPR035-K** |
| B&R | **8LSN55** | BR34[2] | |
| | **8LSN56** | BR34[2] | |
| | **8LSN57** | BR34[2] | |
| Beckhoff | **AM8051** | BE26[2] | |
| | **AM8052** | BE26[2] | |
| | **AM8551** | BE26[2] | |
| | **AM8552** | BE26[2] | |
| | **AM8053** | BE26[2] | |
| | **AM8553** | BE26[2] | |
| | **AM8061** | | BE29[2] |
| | **AM8062** | | BE29[2] |
| | **AM8561** | | BE29[2] |
| | **AM8063** | | BE29[2] |
| | **AM8562** | | BE29[2] |
| | **AM8563** | | BE29[2] |
| Bosch | **MS2N05-B0** | BO50[2] | |
| | **MS2N05-C0** | BO50[2] | |
| | **MS2N05-D0** | BO50[2] | |
| | **MS2N06-B1** | BO59[2] | |
| | **MS2N06-C0** | BO59[2] | |
| | **MS2N06-D0** | BO59[2] | |
| | **MS2N06-D1** | BO59[2] | |
| | **MSK050B** | BO50[2] | |
| | **MSK050C** | BO50[2] | |
| | **MSK060B** | BO59[2] | |
| | **MSK060C** | BO59[2] | |
| | **MSK061B** | BO53[2] | |
| | **MSK061C** | BO53[2] | |
| | **MS2N06-E0** | BO59[2] | |
| | **MS2N07-B1** | | BO62[2] |
| | **MS2N07-C1** | | BO62[2] |
| | **MSK070C** | | BO62[2] |
| | **MSK070D** | | BO62[2] |
| | **MSK070E** | | BO62[2] |
| | **MSK071C** | | BO62[2] |
| | **MSK075C** | | BO62[2] |
| | **MSK076C** | BO56[2] | |
| | **MS2N07-D0** | | BO62[2] |
| | **MS2N07-D1** | | BO62[2] |
| | **MS2N07-E0** | | BO62[2] |
| | **MS2N07-E1** | | BO62[2] |
| | **MSK071D** | | BO62[2] |
| | **MSK071E** | | BO62[2] |
| | **MSK075D** | | BO62[2] |
| | **MSK075E** | | BO62[2] |

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[1] See order code Page 87 | [2] Drive not suitable for Y-axis of HIWIN multi-axis systems HS

Table 22.23 **Order code for position flange type [1] – Cantilever axes HC-R**

| Drive Manufacturer/Type | | HC150R | |
|---|---|---|---|
| | | **With NPR035-H** | **With NPR035-K** |
| **Lenze** | **MCS12D** | LE22[2] | |
| | **MCS12H** | LE22[2] | |
| | **MCS12L** | LE22[2] | |
| | **MCS14D** | LE25[2] | |
| | **MCS14H** | LE25[2] | |
| | **MCS14L** | LE25[2] | |
| | **MCS14P** | LE25[2] | |
| **Omron** | **R88M-1L1K030** | OM30[2] | |
| | **R88M-1L1K530** | OM30[2] | |
| | **R88M-1L75030** | OM30[2] | |
| | **R88M-1L2K030** | OM30[2] | |
| | **R88M-1L3K030** | OM33[2] | |
| | **R88M-1M1K020** | OM33[2] | |
| | **R88M-1M1K520** | OM33[2] | |
| | **R88M-1M40020** | OM30[2] | |
| | **R88M-1M60020** | OM30[2] | |
| | **R88M-1M2K020** | OM33[2] | |
| | **R88M-1L4K030** | OM36[2] | |
| | **R88M-1L5K030** | OM36[2] | |
| | **R88M-1M3K020** | OM36[2] | |
| **Schneider** | **BSH1001** | SE30[2] | |
| | **BSH1002** | SE30[2] | |
| | **BSH1003** | SE30[2] | |
| | **BSH1004** | SE36[2] | |
| | **BSH1401** | SE33[2] | |
| | **BMH1001** | SE30[2] | |
| | **BMH1002** | SE30[2] | |
| | **BMH1003** | SE30[2] | |
| | **BMH1401** | SE33[2] | |
| | **BSH1402** | SE33[2] | |
| | **BMH1402** | SE33[2] | |
| | **BMH1403** | SE33[2] | |
| | **BSH1403** | SE33[2] | |
| | **BSH1404** | SE33[2] | |
| **SEW** | **CMP71S** | SW28[2] | |
| | **CMP71M** | SW28[2] | |
| | **CMPZ71S** | SW28[2] | |
| | **CMP71L** | SW28[2] | |
| | **CMP80S** | SW31[2] | |
| | **CMPZ71M** | SW28[2] | |
| | **CMPZ71L** | SW28[2] | |
| | **CMP80M** | SW31[2] | |
| | **CMP80L** | SW31[2] | |
| | **CMP100S** | | SW34[2] |
| | **CMP100M** | | SW34[2] |
| | **CMPZ80S** | SW31[2] | |
| | **CMPZ80M** | SW31[2] | |

NPR is a registered trademark of Wittenstein SE

[1] See order code Page 87 | [2] Drive not suitable for Y-axis of HIWIN multi-axis systems HS

Table 22.23 **Order code for position flange type [1] – Cantilever axes HC-R**

| Drive Manufacturer/Type | | HC150R | |
|---|---|---|---|
| | | **With NPR035-H** | **With NPR035-K** |
| SEW | **CMPZ80L** | SW31[2] | |
| | **CMPZ100S** | | SW34[2] |
| | **CMP100L** | | SW34[2] |
| | **CMPZ100M** | | SW34[2] |
| | **CMPZ100L** | | SW34[2] |
| Siemens | **1FK2105-4** | SM63[2] | |
| | **1FK2105-6** | SM63[2] | |
| | **1FK2205-2** | SM60[2] | |
| | **1FK2205-4** | SM60[2] | |
| | **1FK2106-3** | SM72[2] | |
| | **1FK2106-4** | SM72[2] | |
| | **1FK2206-2** | SM72[2] | |
| | **1FK2206-4** | SM72[2] | |
| | **1FK7040** | SM60[2] | |
| | **1FK7042** | SM60[2] | |
| | **1FK7060** | SM72[2] | |
| | **1FK7062** | SM72[2] | |
| | **1FK7063** | SM72[2] | |
| | **1FL6052-2** | SM66[2] | |
| | **1FL6054-2** | SM66[2] | |
| | **1FL6042-1** | SM57[2] | |
| | **1FL6044-1** | SM57[2] | |
| | **1FL6061-1** | SM69[2] | |
| | **1FL6062-1** | SM69[2] | |
| | **1FL6064-1** | SM69[2] | |
| | **1FK2106-6** | SM72[2] | |
| | **1FK2208-3** | | SM75[2] |
| | **1FK2208-4** | | SM75[2] |
| | **1FK7080** | | SM75[2] |
| | **1FK7081** | | SM75[2] |
| | **1FK7083** | | SM75[2] |
| | **1FL6066-1** | SM69[2] | |
| | **1FL6067-1** | SM69[2] | |
| | **1FK2208-5** | | SM75[2] |
| | **1FK7084** | | SM75[2] |

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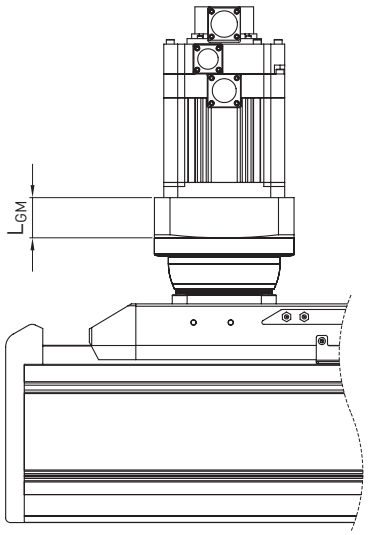
[1] See order code Page 87 | [2] Drive not suitable for Y-axis of HIWIN multi-axis systems HS

### 22.2.5 Dimensions of the motorised adaptation of the bridge axes HB-R and cantilever axle HC-R

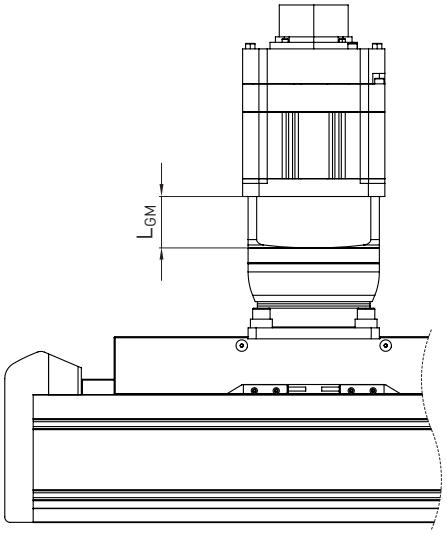
The total height of the linear axes with rack and pinion drive depends on the following factors:

- Gearbox
- Motor gearbox adapter plate GM
- Motor




$L_{GM}$ Length of motor gearbox adapter plate, see Table 22.10

Fig. 22.41 **Motor connection of linear module HM-B without gearbox**




$L_{GM}$ Length of motor gearbox adapter plate, see Table 22.10

Fig. 22.42 **Motor connection of linear table HT-B without gearbox**

### 22.3 Energy supply for linear tables HT-B and HT-S

For safe carrying of supply lines, linear tables HT-B and HT-S up to a maximum stroke of 5,000 mm [1] are optionally supplied with generously dimensioned energy chains. They are extremely compact and save space when attached to the axis. The orientation of the energy chain can be selected according to the order codes in section 7.2 and section 8.2. The linear tables with energy chain are optimised for horizontal installation. Axes with energy chain for vertical use on request.
The dimensions of the energy chain are listed in Fig. 22.43, Fig. 22.44, Fig. 22.45 and Table 22.24 as well as Table 22.25.

[1] For HT100B, the maximum stroke with energy chain is 4,000 mm

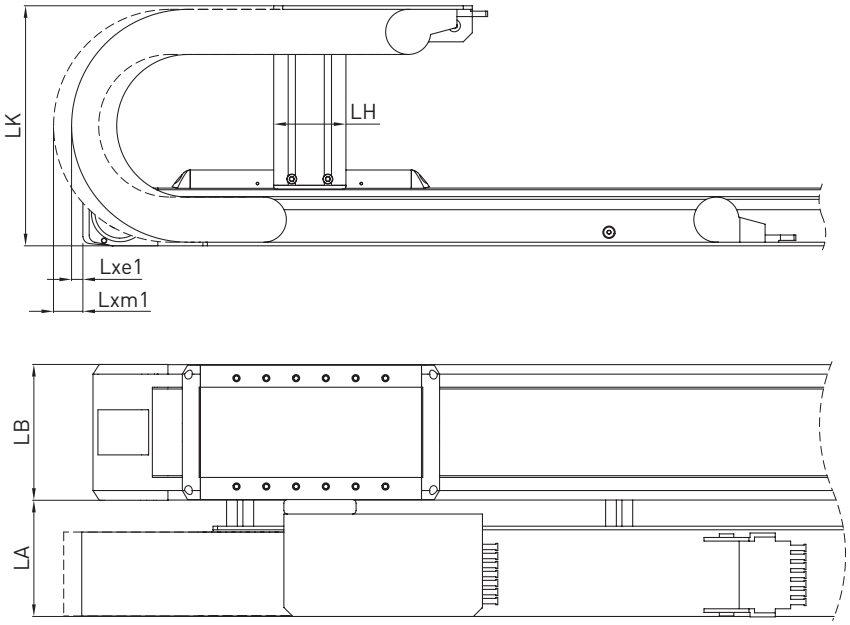



Fig. 22.43 **Linear axes HT-B: Option "E"**

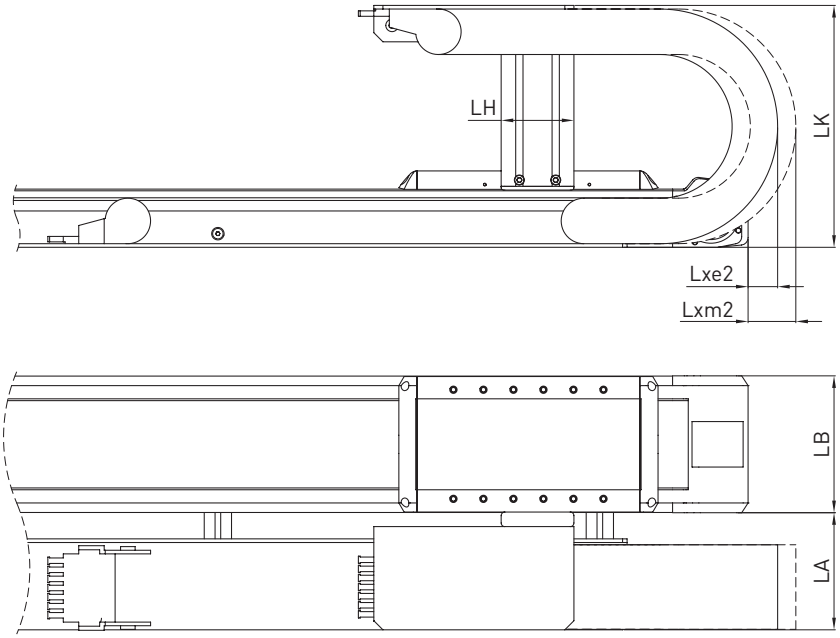



Fig. 22.44 **Linear axes HT-B: Option "C" and "F"**

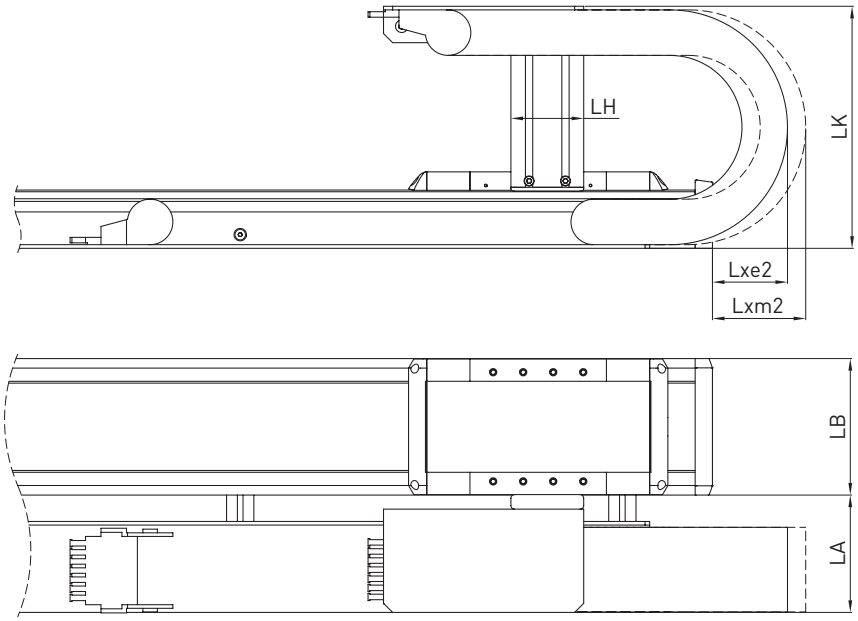



Fig. 22.45 **Linear axes HT-S: Option "C", "D", "E", "G" and "H"**

Table 22.24 **Dimensions of drive interface with energy chain for linear axes HT-B**

| | Linear table – Variant without cover | | | | Linear table – Variant with cover | | | |
|---|---|---|---|---|---|---|---|---|
| | **HT100B** | **HT150B** | **HT200B** | **HT250B** | **HT100B** | **HT150B** | **HT200B** | **HT250B** |
| **LB [mm]** | 100 | 150 | 200 | 250 | 100 | 150 | 200 | 250 |
| **Inner cross section W × H [mm]** | 57 × 25 | 75 × 35 | 75 × 35 | 75 × 35 | 57 × 25 | 75 × 35 | 75 × 35 | 75 × 35 |
| **Bending radius [mm]** | 75 | 100 | 100 | 100 | 75 | 100 | 100 | 100 |
| **LK [mm]** | 198 | 266 | 266 | 266 | 198 | 266 | 266 | 266 |
| **LA [mm]** | 100 | 129 | 129 | 129 | 100 | 129 | 129 | 129 |
| **LH [mm]** | 60 | 80 | 80 | 80 | 60 | 80 | 80 | 80 |
| **Lxe1 [mm]**[1)] | 3) | 3) | 3) | 3) | 3) | 3) | 3) | 3) |
| **Lxe2 [mm]**[1)] | 3) | 3) | 3) | 3) | 3) | 3) | 3) | 3) |
| Lxm1 [mm][2)] | 15 | 3) | 3) | 3) | 3) | 3) | 3) | 3) |
| Lxm2 [mm][2)] | 15 | 3) | 3) | 3) | 3) | 3) | 3) | 3) |

1) At electrical zero
2) At mechanical zero
3) Energy chain without overhang

Table 22.25 **Dimensions of drive interface with energy chain for linear axes HT-S**

| | Linear table – Variant without cover | | | | Linear table – Variant with cover | | | |
|---|---|---|---|---|---|---|---|---|
| | **HT100S** | **HT150S** | **HT200S** | **HT250S** | **HT100S** | **HT150S** | **HT200S** | **HT250S** |
| **LB [mm]** | 100 | 150 | 200 | 250 | 100 | 150 | 200 | 250 |
| **Inner cross section W × H [mm]** | 57 × 25 | 75 × 35 | 75 × 35 | 75 × 35 | 57 × 25 | 75 × 35 | 75 × 35 | 75 × 35 |
| **Bending radius [mm]** | 75 | 100 | 100 | 100 | 75 | 100 | 100 | 100 |
| **LK [mm]** | 198 | 266 | 266 | 266 | 198 | 266 | 266 | 266 |
| **LA [mm]** | 100 | 129 | 129 | 129 | 100 | 129 | 129 | 129 |
| **LH [mm]** | 60 | 80 | 80 | 80 | 60 | 80 | 80 | 80 |
| **Lxe1 [mm]**[1)] | 3) | 3) | 3) | 3) | 3) | 3) | 3) | 3) |
| **Lxe2 [mm]**[1)] | 40 | 3) | 3) | 3) | 10 | 3) | 3) | 3) |
| Lxm1 [mm][2)] | 3) | 3) | 3) | 3) | 3) | 3) | 3) | 3) |
| Lxm2 [mm][2)] | 50 | 15 | 3) | 3) | 20 | 3) | 3) | 3) |

1) At electrical zero
2) At mechanical zero
3) Energy chain without overhang

**22.4 Connection interface and energy supply for linear motor axes HT-L**

Linear motor axes HT-L have an interface for motor and encoder cables. These are located on the side of the carriage and can be connected quickly and easily without tools. Depending on the the installation situation and the desired cable routing, two different orientations of the connector are available, see Fig. 22.46, Fig. 22.47, Fig. 22.48 and Fig. 22.49.

For safe carrying of the supply cables, linear motor axes HT100L and HT150L up to a maximum stroke of 4,000 mm and linear motor axes HT200L and HT250L up to a maximum stroke of 5,000 mm are optionally supplied with generously dimensioned energy chains. They are extremely compact and save space when attached to the axis. The orientation of the energy chain depends on the selected connector orientation. Linear tables HT-L with energy chain are optimised for horizontal installation. Axes with energy chain for vertical use on request.

Dimensions of the energy chain and the electrical interface are listed in Fig. 22.46, Fig. 22.47, Fig. 22.48, Fig. 22.49 and Table 22.26.

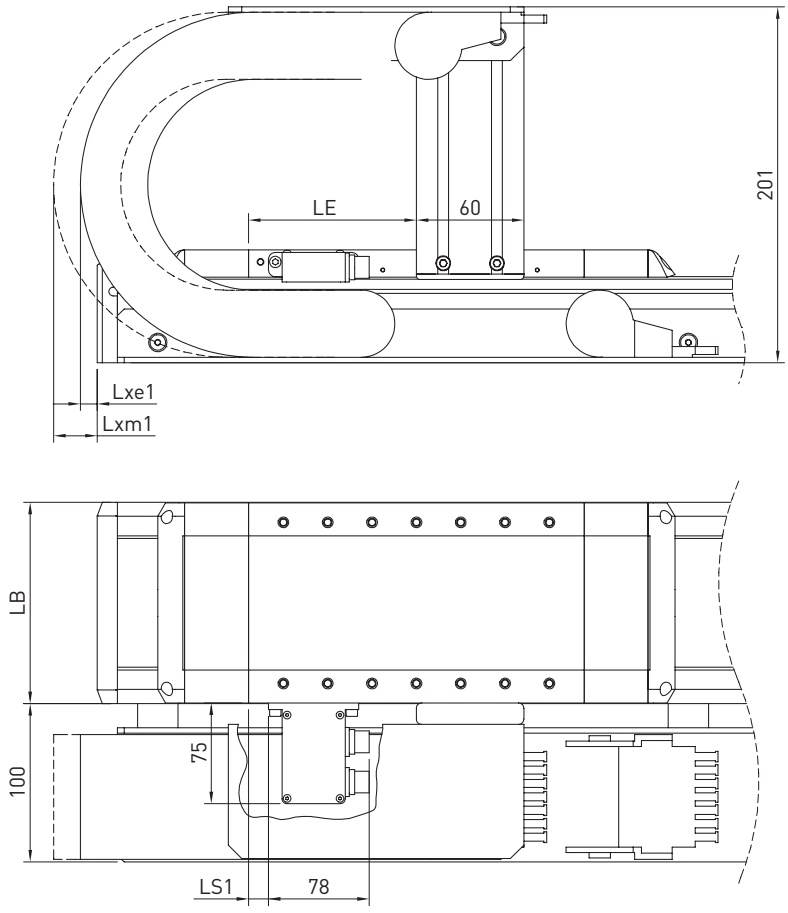



Fig. 22.46 **Linear motor axes HT100L: Option "D" and "F" – connector right/rear, also applies mirrored to option "C" and "E" – connector left/rear**

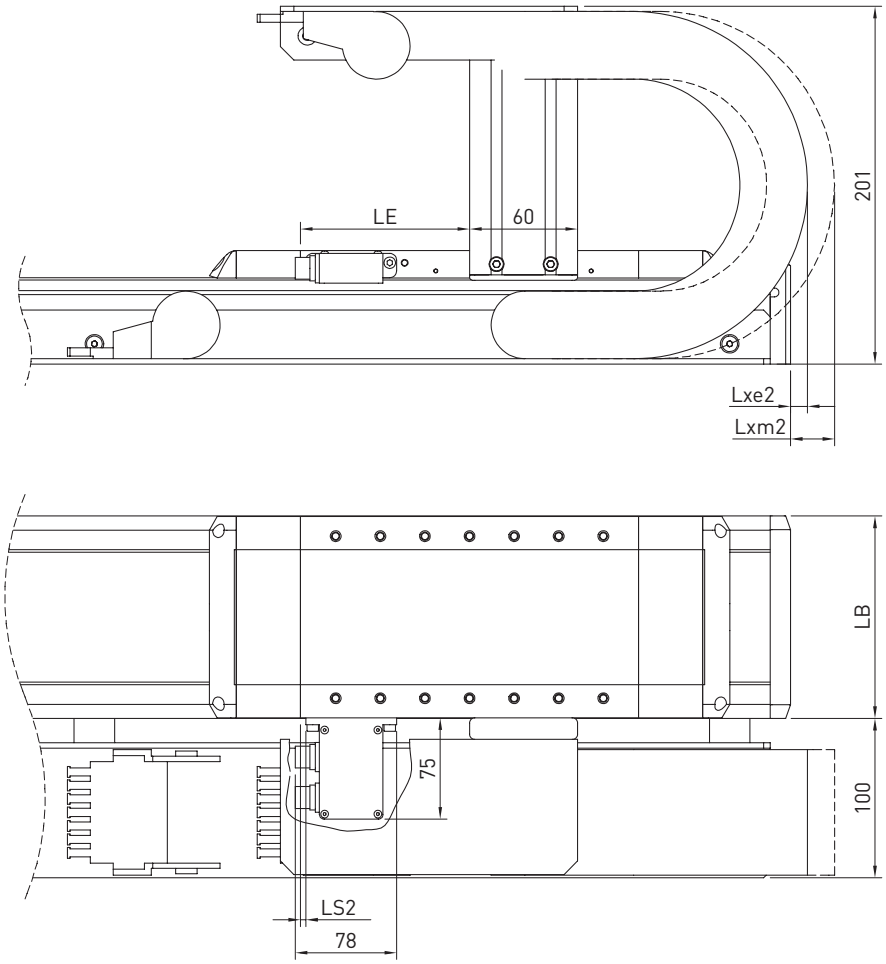



Fig. 22.47 **Linear motor axes HT100L: Option "R" and "B" – connector right/front, also applies mirrored to option "L" and "A" – connector left/front**

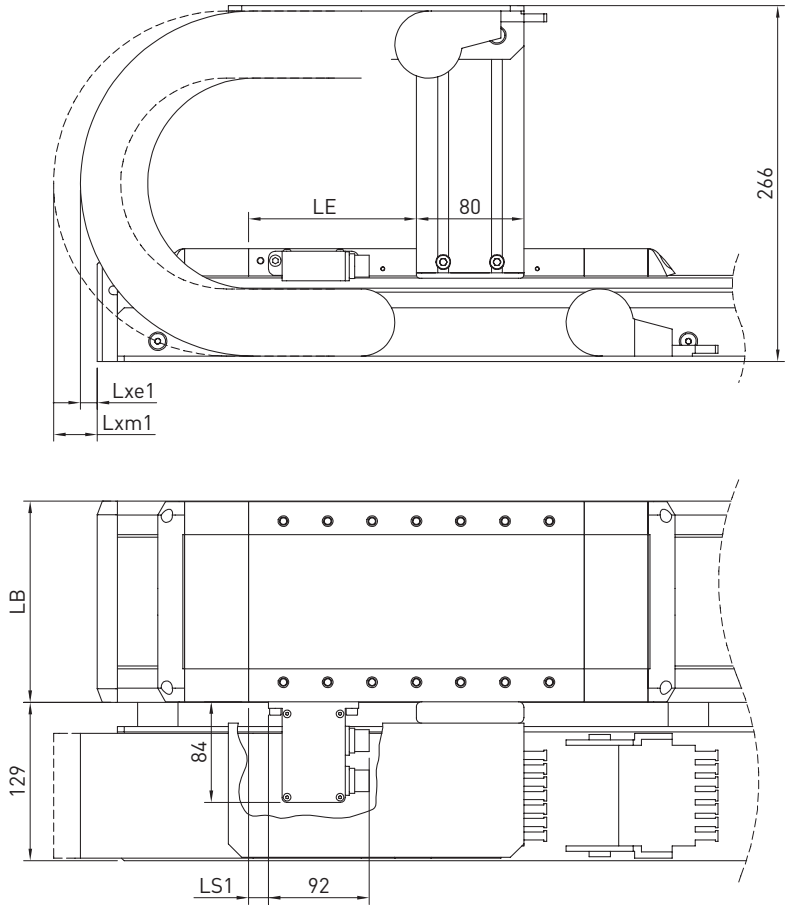



Fig. 22.48 **Linear motor axes HT150L, HT200L, HT250L: Option "D" and "F" – connector right/rear, also applies mirrored to option "C" and "E" – connector left/rear**

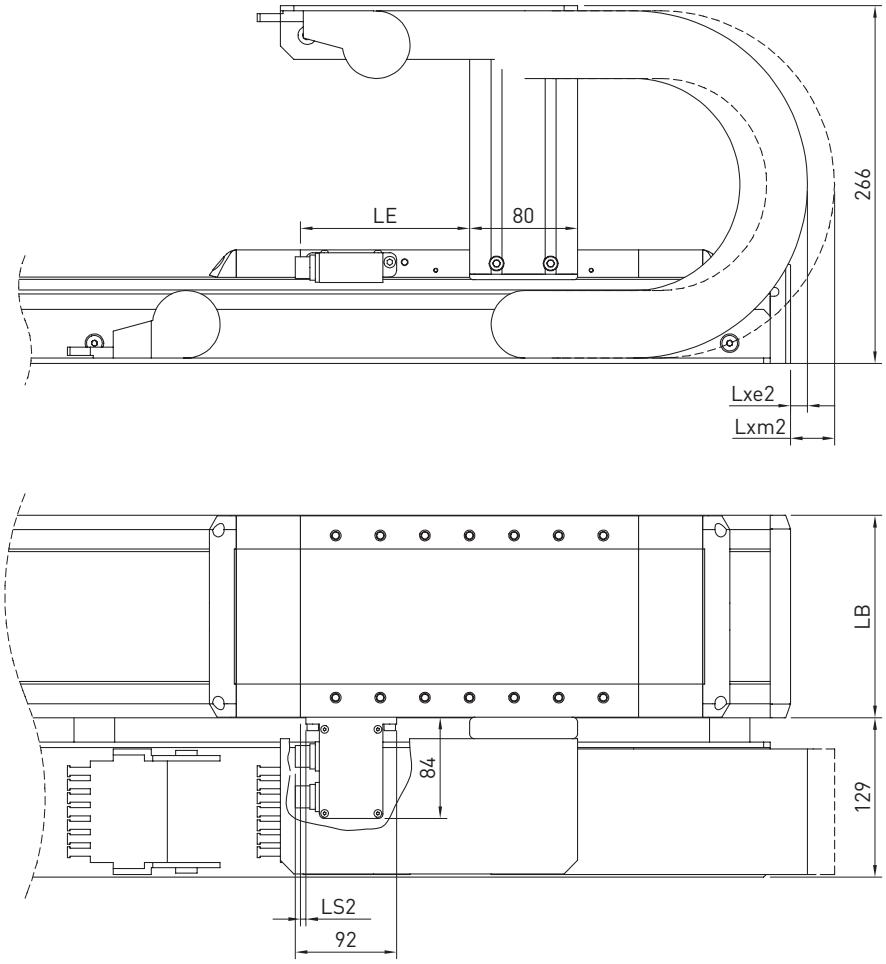



Fig. 22.49 **Linear motor axes HT150L, HT200L, HT250L: Option "R" and "B" – connector right/front, also applies mirrored to option "L" and "A" – connector left/front**

Table 22.26 **Dimensions of drive interface and energy chain for linear motor axes HT-L**

| | Linear table – Variant without cover | | | | Linear table – Variant with cover | | | |
|---|---|---|---|---|---|---|---|---|
| | **HT100L** | **HT150L** | **HT200L** | **HT250L** | **HT100L** | **HT150L** | **HT200L** | **HT250L** |
| **LB [mm]** | 100 | 150 | 200 | 250 | 100 | 150 | 200 | 250 |
| **Inner cross section W × H [mm]** | 57 × 25 | 77 × 25 | 75 × 35 | 75 × 35 | 57 × 25 | 77 × 25 | 75 × 35 | 75 × 35 |
| **Bending radius [mm]** | 75 | 100 | 100 | 100 | 75 | 100 | 100 | 100 |
| **LE [mm]**[3] | 117.5 | 125 | 120 | 135 | 117.5 | 125 | 120 | 135 |
| **Lxe1 [mm]**[1)3)] | 15 | 20 | 30 | – | – | – | – | – |
| **Lxe2 [mm]**[1)3)] | 50 | – | – | – | – | – | – | – |
| Lxm1 [mm][2)3)] | 25 | 30 | 60 | 35 | – | – | 10 | – |
| Lxm2 [mm][2)3)] | 60 | – | – | – | 10 | – | – | – |
| **LS1 [mm]** | 11 | 15 | 17 | 25 | 11 | 15 | 17 | 25 |
| **LS2 [mm]** | 0 | 4 | 6 | 14 | 0 | 4 | 6 | 14 |

[1)] At electrical zero
[2)] At mechanical zero
[3)] Not applicable for variant without energy chain
Suitable motor and encoder cables can be found in the accessories in sections 23.8 up to 23.10

# 23. Accessories

### 23.1 Clamping profiles

With the help of clamping profiles, the linear axis is attached to the machine frame from above. The clamping profiles can be swivelled laterally into the profile groove of the axis.

The required number of clamping profiles depends on the axis length and the load and can be found in the assembly instructions. Sets containing 4 clamping profiles are available.

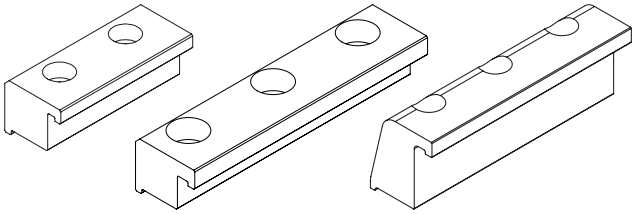


Fig. 23.1 **Clamping profiles short and long**

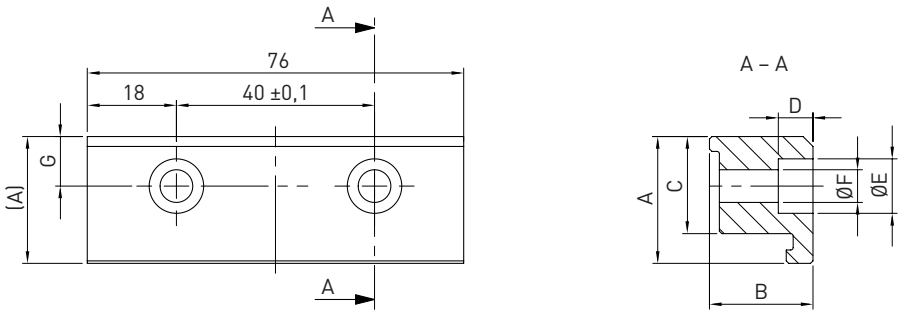



Fig. 23.2 **Dimensioned drawing of clamping profile short**

Table 23.1 **Article numbers and dimensions of clamping profiles short**

| Suitable for linear axis | Model | A | B | C | D | ØE | ØF | G | Matching screw | Article number, 4 pieces |
|---|---|---|---|---|---|---|---|---|---|---|
| **HM040/HT100** | Size 5 | 18.0 | 10.5 | 14.1 | 6.0 | 10 | 5.5 | 6.85 | DIN 912 M5 | 25-000517 |
| **HM060** | Size 6 | 25.6 | 20.9 | 19.6 | 9.5 | 11 | 6.6 | 10.00 | DIN 912 M6 | 25-000518 |
| **HT150** | Size 6 | 26.1 | 15.9 | 19.6 | 8.5 | 11 | 6.6 | 10.00 | DIN 912 M6 | 25-001023 |
| **HM080 [1]/HM120/ HT200/HT250** | Size 8 | 28.0 | 22.0 | 19.5 | 8.0 | 15 | 9.0 | 10.00 | DIN 912 M8 | 25-000519 |

[1] Standard
Unit: mm

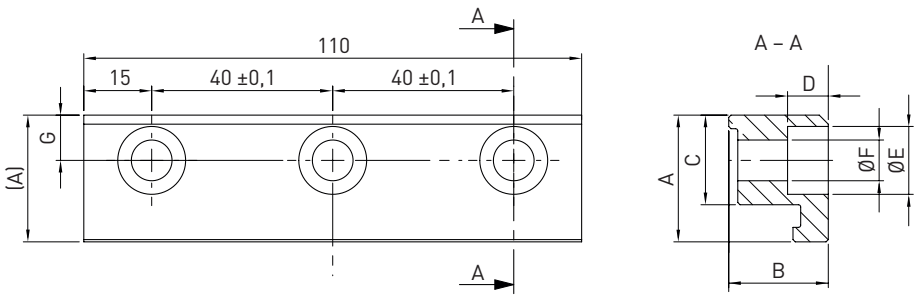



Fig. 23.3 **Dimensioned drawing of clamping profile long**

Table 23.2 **Article numbers and dimensions of clamping profiles long**

| Suitable for linear axis | Model | A | B | C | D | ØE | ØF | G | Matching screw | Article number, 4 pieces |
|---|---|---|---|---|---|---|---|---|---|---|
| **HM080/HM120 [1]/ HT200 [1]/HT250 [1]** | Size 8 | 28.0 | 22.0 | 19.5 | 8.0 | 15.0 | 9.0 | 10.0 | DIN 912 M8 | 25-000520 |

[1] Standard
unit: mm

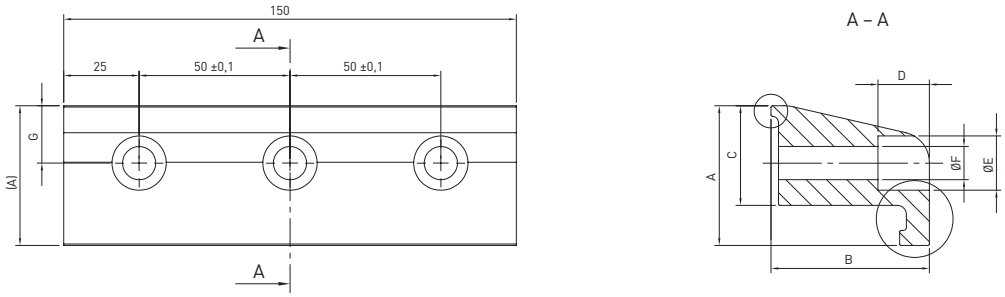



Fig. 23.4 **Dimensioned drawing of clamping profile HB**

Table 23.3 **Article numbers and dimensions of clamping profiles HB**

| Suitable for bridge axes | Model | A | B | C | D | Ø E | Ø F | G | Matching screw | Article number, 4 pieces |
|---|---|---|---|---|---|---|---|---|---|---|
| **HB** | Size 10 | 46.3 | 52.2 | 33 | 17 | 18.0 | 11.0 | 19.0 | DIN912 M10 | 80113432 |

unit: mm

### 23.2 T nut

T nut for force-fit mounting of the linear axis. Flexible fastening option via the grooves on the side and underside of the axis profile. The required number of T nuts depends on the axis length and the load and can be found in the assembly instructions. Sets containing 10 T nuts are available.

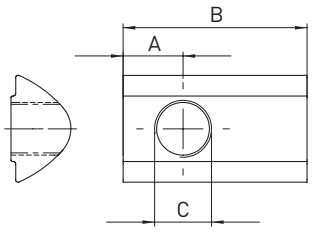



Fig. 23.5 **Dimensioned drawing of T nut**

Table 23.4 **Article numbers and dimensions of T nut**

| Suitable for linear axis | Model | A | B | C | Article number, 10 pieces |
|---|---|---|---|---|---|
| **HM040, HT100** | Size 5 M4 | 3.5 | 12.0 | M4 | 20-000528 |
| **HM040, HT100** [1)] | Size 5 M5 | 3.5 | 12.0 | M5 | 20-000529 |
| **HM060, HT150** | Size 6 M5 | 4.5 | 17.0 | M5 | 20-000530 |
| **HM060, HT150** [1)] | Size 6 M6 | 5.5 | 17.0 | M6 | 20-000531 |
| **HM080, HM120, HT200, HT250** | Size 8 M5 | 7.5 | 23.0 | M5 | 20-000532 |
| **HM080, HM120, HT200, HT250** | Size 8 M6 | 6.5 | 23.0 | M6 | 20-000533 |
| **HM080, HM120, HT200, HT250** [1)] | Size 8 M8 | 7.5 | 23.0 | M8 | 20-000534 |
| **HB250** | Size 10 M8 | 8.5 | 28.5 | M8 | 80114686 |
| **HB250** [1)] | Size 10 M10 | 8.5 | 28.5 | M10 | 80114691 |

[1)] Preferred type for axis mounting
unit: mm

### 23.3 Centring sleeve

Centring sleeves for insertion into the mounting holes of the carriage for exact and reproducible load pick-up. Sets containing 10 centring sleeves are available.

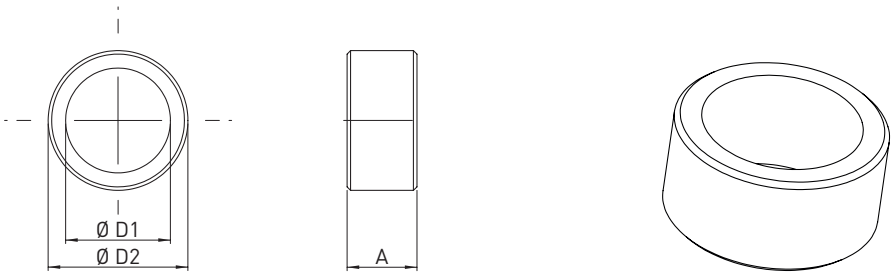



Fig. 23.6 **Dimensioned drawing of centring sleeve**

Table 23.5 **Article numbers and dimensions of centring sleeve**

| Suitable for linear axis | A | Ø D1 | Ø D2 | Article number, 10 pieces |
|---|---|---|---|---|
| **HC025** | 4 | 4.5 | 6 h6 | 25-002195 |
| **HM040, HM060, HT100, HT150, HC040, HC060** | 4 | 6.5 | 8 h6 | 25-000511 |
| **HM080, HT200, HC080** | 4 | 9.0 | 12 h6 | 25-000512 |
| **HM120, HT250, HC100B, HC150, HB250** | 4 | 11.0 | 15 h6 | 25-000513 |

Unit: mm

**23.4 Groove cover**

Groove cover for covering mounting groove. Length: 2 m. Sets of 5 groove covers are available.

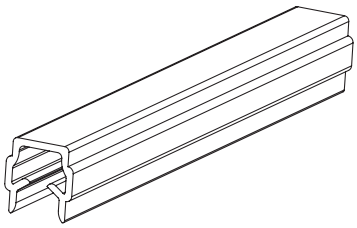


Fig. 23.7 **Groove cover for linear axes HM/HT/HC**

Table 23.6 **Article numbers for groove covers**

| Suitable for linear axis | Model | Article number, 5 pieces |
|---|---|---|
| **HM040, HT100, HC040, HC060** | Size 5 | 25-000514 |
| **HM060, HT150, HC080** | Size 6 | 25-000515 |
| **HM080, HM120, HT200, HT250, HC100B, HC150** | Size 8 | 25-000516 |
| **HB250** | Size 10 | 80114653 |

**23.5 Limit switches**

Inductive proximity switch, available in either a normally closed or a normally open version. By default, the limit switch is available with connector or open cable end. Set including mounting material.

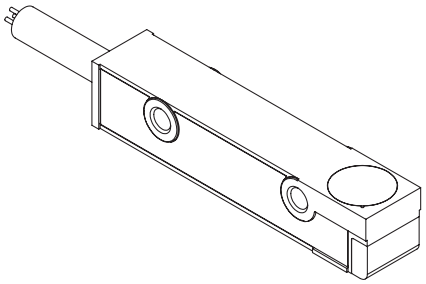


Fig. 23.8 **Limit switch for linear axes HM/HT/HC**

Table 23.7 **Options for limit switch**

| Suitable for linear axis | Option | Article number |
|---|---|---|
| **HM, HT, HC040B, HC060B, HC080B, HC100B, HC150** | Limit switch with 100 mm cable, connector (normally open) | 25-000786 |
| **HM, HT, HC040B, HC060B, HC080B, HC100B, HC150** | Limit switch with 100 mm cable, connector (normally closed) | 25-002766 |
| **HM, HT, HC040B, HC060B, HC080B, HC100B, HC150** | Limit switch with 4 m cable (normally open) | 25-000787 |
| **HM, HT, HC040B, HC060B, HC080B, HC100B, HC150** | Limit switch with 5 m cable (normally closed) | 25-000788 |
| **HC025B** | Limit switch with 200 mm cable, connector (normally open) | 25-002204 |
| **HC025B** | Limit switch with 2 m cable (normally open) | 25-002205 |
| **HB250** | Limit switch with 100 mm cable, connector (normally open) | 80073805 |
| **HB250** | Limit switch with 300 mm cable, connector (normally closed) | 80073846 |
| **HB250** | Limit switch with 5 m cable (normally open) | 80073857 |
| **HB250** | Limit switch with 5 m cable (normally closed) | 80073860 |

### 23.6 Extension cable for limit switches

Cable with 3-pin M8 round connector on the limit switch side and open wires at the other end of the cable.

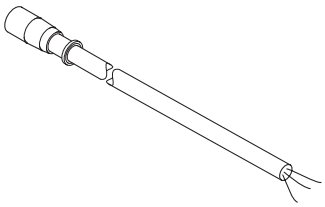


Fig. 23.9 **Extension cable for limit switch**

Table 23.8 **Extension cable for limit switch**

| Length [m] | Max. cable diameter [mm] | Min. static bending radius [mm] | Min. dynamic bending radius [mm] | Article number |
|---|---|---|---|---|
| **3** | 4.5 | 13.5 | 18.0 | 8-10-0275 |
| **5** | 4.5 | 13.5 | 18.0 | 8-10-0276 |
| **7** | 4.5 | 13.5 | 18.0 | 8-10-0277 |
| **10** | 4.5 | 13.5 | 18.0 | 8-10-0278 |
| **15** | 4.5 | 13.5 | 18.0 | 8-10-0279 |

### 23.7 Damping element

The damping element is used to switch the limit switch in the two carriage end positions (at stroke 0 and stroke max.). Set including mounting material.

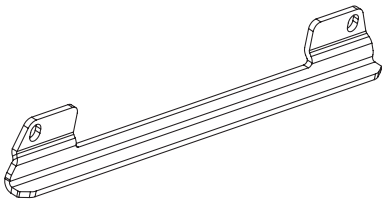


Fig. 23.10 **Damping element for linear axes HM/HT**

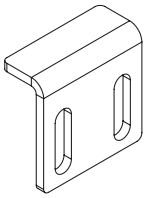


Fig. 23.11 **Damping element for cantilever axes HC**

Table 23.9 **Article numbers for damping element**

| Suitable for linear axis | Article number |
|---|---|
| **HM, carriage type E** | 25-001999 |
| **HM, carriage type S, M, L** | 25-000785 |
| **HT** | 25-001031 |
| **HC025** | 25-002196 |
| **HC040** | 25-002197 |
| **HC060, HC080** | 25-002198 |
| **HC100B** | 80056513 |
| **HC150** | 80077897 |
| **HB250** | 80073712 |

**23.8 Motor cable for linear tables HT-L**
Motor cable matching linear tables HT-L.

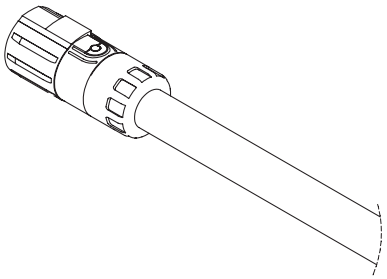


Fig. 23.12 **Motor cable for linear table HT100L**

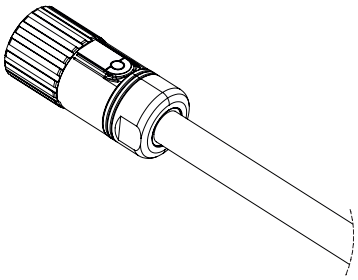


Fig. 23.13 **Motor cable for linear table HT150L, HT200L, HT250L, HB250L**

Table 23.10 **Motor cable for linear table HT-L**

| Suitable for linear axis | Length [m] | Connection axis-side | End of cable | Article number |
|---|---|---|---|---|
| **HT100L** | **3** | Connector 915, 9-pin | Open | 8-10-1214 |
| **HT100L** | **5** | Connector 915, 9-pin | Open | 8-10-1215 |
| **HT100L** | **10** | Connector 915, 9-pin | Open | 8-10-1217 |
| **HT150L, HT200L, HT250L, HB250L** | **3** | Connector M23 | Open | 8-10-0069 |
| **HT150L, HT200L, HT250L, HB250L** | **5** | Connector M23 | Open | 8-10-0070 |
| **HT150L, HT200L, HT250L, HB250L** | **10** | Connector M23 | Open | 8-10-0072 |

### 23.9 Encoder cable for incremental distance measuring system for linear tables HT-L

Cable for incremental distance measuring system (option A, B, D, E) for linear axes HT-L.

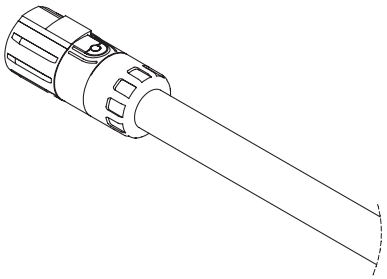


Fig. 23.14 **Encoder cable for incremental distance measuring system for linear tables HT100L**

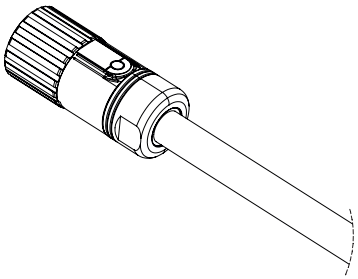


Fig. 23.15 **Encoder cable for incremental distance measuring system for linear tables HT150L, HT200L, HT250L, HB250L**

Table 23.11 **Encoder cable for incremental distance measuring system (A, B, D, E option)**

| Suitable for linear axis | Length [m] | Suitable for option | Connection axis-side | End of cable | Article number |
|---|---|---|---|---|---|
| **HT100L** | **3** | A, B | Connector 915, 15-pin | Connector suitable for ESC-SS for ED1 | 8-10-1838 |
| **HT100L** | **5** | A, B | Connector 915, 15-pin | Connector suitable for ESC-SS for ED1 | 8-10-1839 |
| **HT100L** | **8** | A, B | Connector 915, 15-pin | Connector suitable for ESC-SS for ED1 | 8-10-1840 |
| **HT100L** | **10** | A, B | Connector 915, 15-pin | Connector suitable for ESC-SS for ED1 | 8-10-1841 |
| **HT100L** | **12** | A, B | Connector 915, 15-pin | Connector suitable for ESC-SS for ED1 | 8-10-1842 |
| **HT100L** | **15** | A, B | Connector 915, 15-pin | Connector suitable for ESC-SS for ED1 | 8-10-1843 |
| **HT100L** | **3** | D, E | Connector 915, 15-pin | Connector suitable for ESC-SS for ED1 | 8-10-1844 |
| **HT100L** | **5** | D, E | Connector 915, 15-pin | Connector suitable for ESC-SS for ED1 | 8-10-1845 |
| **HT100L** | **8** | D, E | Connector 915, 15-pin | Connector suitable for ESC-SS for ED1 | 8-10-1846 |
| **HT100L** | **10** | D, E | Connector 915, 15-pin | Connector suitable for ESC-SS for ED1 | 8-10-1847 |
| **HT100L** | **12** | D, E | Connector 915, 15-pin | Connector suitable for ESC-SS for ED1 | 8-10-1848 |
| **HT100L** | **15** | D, E | Connector 915, 15-pin | Connector suitable for ESC-SS for ED1 | 8-10-1849 |
| **HT100L** | **3** | A, D | Connector 915, 15-pin | Open | 8-10-1207 |
| **HT100L** | **5** | A, D | Connector 915, 15-pin | Open | 8-10-1208 |
| **HT100L** | **10** | A, D | Connector 915, 15-pin | Open | 8-10-1210 |
| **HT100L** | **3** | B, E | Connector 915, 15-pin | Open | 8-10-1201 |
| **HT100L** | **5** | B, E | Connector 915, 15-pin | Open | 8-10-1202 |
| **HT100L** | **10** | B, E | Connector 915, 15-pin | Open | 8-10-1204 |
| **HT150L, HT200L, HT250L, HB250L** | **3** | A, B | Connector M17 | Connector suitable for ESC-SS for ED1 | 8-10-1856 |
| **HT150L, HT200L, HT250L, HB250L** | **5** | A, B | Connector M17 | Connector suitable for ESC-SS for ED1 | 8-10-1857 |
| **HT150L, HT200L, HT250L, HB250L** | **8** | A, B | Connector M17 | Connector suitable for ESC-SS for ED1 | 8-10-1858 |
| **HT150L, HT200L, HT250L, HB250L** | **10** | A, B | Connector M17 | Connector suitable for ESC-SS for ED1 | 8-10-1859 |
| **HT150L, HT200L, HT250L, HB250L** | **12** | A, B | Connector M17 | Connector suitable for ESC-SS for ED1 | 8-10-1860 |
| **HT150L, HT200L, HT250L, HB250L** | **15** | A, B | Connector M17 | Connector suitable for ESC-SS for ED1 | 8-10-1861 |
| **HT150L, HT200L, HT250L, HB250L** | **3** | D, E | Connector M17 | Connector suitable for ESC-SS for ED1 | 8-10-1862 |
| **HT150L, HT200L, HT250L, HB250L** | **5** | D, E | Connector M17 | Connector suitable for ESC-SS for ED1 | 8-10-1863 |
| **HT150L, HT200L, HT250L, HB250L** | **8** | D, E | Connector M17 | Connector suitable for ESC-SS for ED1 | 8-10-1864 |
| **HT150L, HT200L, HT250L, HB250L** | **10** | D, E | Connector M17 | Connector suitable for ESC-SS for ED1 | 8-10-1865 |
| **HT150L, HT200L, HT250L, HB250L** | **12** | D, E | Connector M17 | Connector suitable for ESC-SS for ED1 | 8-10-1866 |
| **HT150L, HT200L, HT250L, HB250L** | **15** | D, E | Connector M17 | Connector suitable for ESC-SS for ED1 | 8-10-1867 |
| **HT150L, HT200L, HT250L, HB250L** | **3** | A, D | Connector M17 | Open | 8-10-0115 |
| **HT150L, HT200L, HT250L, HB250L** | **5** | A, D | Connector M17 | Open | 8-10-0116 |
| **HT150L, HT200L, HT250L, HB250L** | **10** | A, D | Connector M17 | Open | 8-10-0118 |
| **HT150L, HT200L, HT250L, HB250L** | **3** | B, E | Connector M17 | Open | 80028093 |
| **HT150L, HT200L, HT250L, HB250L** | **5** | B, E | Connector M17 | Open | 80028203 |
| **HT150L, HT200L, HT250L, HB250L** | **10** | B, E | Connector M17 | Open | 80028218 |

**23.10 Encoder cable for absolute distance measuring system for linear tables HT-L**
Cable for absolute distance measuring system (option H, R, S, T) for linear axes HT-L.

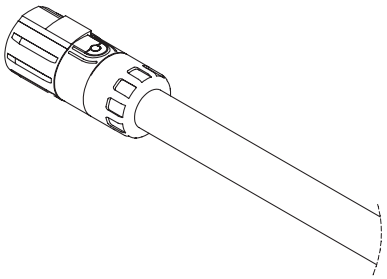


Fig. 23.16 **Encoder cable for absolute distance measuring system for linear tables HT100L**

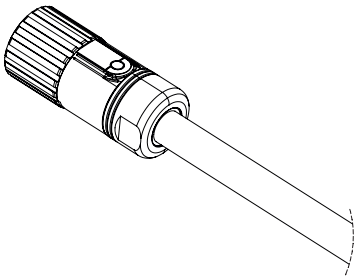


Fig. 23.17 **Encoder cable for absolute distance measuring system for linear tables HT150L, HT200L, HT250L, HB250L**

Table 23.12 **Encoder cable for absolute distance measuring system (H, T, R, S option)**

| Suitable for linear axis | Length [m] | Suitable for option | Connection axis-side | End of cable | Article number |
|---|---|---|---|---|---|
| **HT100L** | **3** | H, R | Connector 915, 15-pin | Connector suitable for ESC-SS for ED1 | 8-10-1850 |
| **HT100L** | **5** | H, R | Connector 915, 15-pin | Connector suitable for ESC-SS for ED1 | 8-10-1851 |
| **HT100L** | **8** | H, R | Connector 915, 15-pin | Connector suitable for ESC-SS for ED1 | 8-10-1852 |
| **HT100L** | **10** | H, R | Connector 915, 15-pin | Connector suitable for ESC-SS for ED1 | 8-10-1853 |
| **HT100L** | **12** | H, R | Connector 915, 15-pin | Connector suitable for ESC-SS for ED1 | 8-10-1854 |
| **HT100L** | **15** | H, R | Connector 915, 15-pin | Connector suitable for ESC-SS for ED1 | 8-10-1855 |
| **HT100L** | **3** | H, R, S, T | Connector 915, 15-pin | Open | 8-10-1207 |
| **HT100L** | **5** | H, R, S, T | Connector 915, 15-pin | Open | 8-10-1208 |
| **HT100L** | **10** | H, R, S, T | Connector 915, 15-pin | Open | 8-10-1210 |
| **HT150L, HT200L, HT250L, HB250L** | **3** | H, R | Connector M17 | Connector suitable for ESC-SS for ED1 | 8-10-1868 |
| **HT150L, HT200L, HT250L, HB250L** | **5** | H, R | Connector M17 | Connector suitable for ESC-SS for ED1 | 8-10-1869 |
| **HT150L, HT200L, HT250L, HB250L** | **8** | H, R | Connector M17 | Connector suitable for ESC-SS for ED1 | 8-10-1870 |
| **HT150L, HT200L, HT250L, HB250L** | **10** | H, R | Connector M17 | Connector suitable for ESC-SS for ED1 | 8-10-1871 |
| **HT150L, HT200L, HT250L, HB250L** | **12** | H, R | Connector M17 | Connector suitable for ESC-SS for ED1 | 8-10-1872 |
| **HT150L, HT200L, HT250L, HB250L** | **15** | H, R | Connector M17 | Connector suitable for ESC-SS for ED1 | 8-10-1873 |
| **HT150L, HT200L, HT250L, HB250L** | **3** | H, T, R, S | Connector M17 | Open | 8-10-0315 |
| **HT150L, HT200L, HT250L, HB250L** | **5** | H, T, R, S | Connector M17 | Open | 8-10-0316 |
| **HT150L, HT200L, HT250L, HB250L** | **10** | H, T, R, S | Connector M17 | Open | 8-10-0318 |

### 23.11 Partitions for energy chain

Partitions for separating cables in the energy chain By default, the energy chain is equipped with a partition in every second chain link. Additional partitions are available in a set of 20.

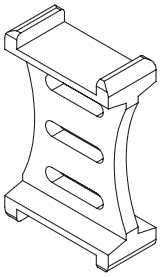


Fig. 23.19 **Partition for energy chains**

Table 23.13 **Article numbers for partitions**

| Suitable for linear axis | | | | Article number, 20 pcs. |
|---|---|---|---|---|
| **HT/HB** | **HS (X-axis)** | **HS (Y-axis)** | **HS (Z-axis)** | |
| — | — | — | 31, L1 | 8-05-0393 |
| 100, 150L | 21, 31, L1, L2, L3, L4 | 21, 22, 23, 24, 31, 32, 33, 34 | 32, 33, 34, L2, L3, L4 | 8-05-0336 |
| 150B, 150S, 200, 250 | 22, 23, 24, 32, 33, 34 | — | — | 8-05-0337 |

### 23.12 Belt for noise reduction of the energy chain

Cellular rubber tape, self-adhesive on one side, for attachment to the contact surface of the energy chain in order to reduce noise emissions. Suitable for all linear axes HT, HB and HS with energy chain (exception HT150L with drive interface E or F).
Roll of 10 m
Article number: 25-002485

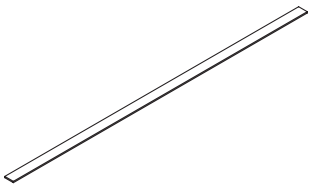


Fig. 23.18 **Belt for reduction of noise emissions from the energy chain**

**23.13 Drive block cover**

Cover plate for closing unneeded drives/outputs on linear axes with toothed belt drive HM-B, HT-B, HB-B and HC-B.
Set including mounting material.

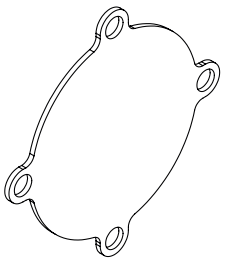


Fig. 23.20 **Cover for drive block**

Table 23.15 **Article numbers for drive block cover**

| Suitable for linear axis | Article number |
|---|---|
| **HC025B** | 25-002379 |
| **HM040B, HC040B** | 25-002375 |
| **HM060B, HC060B** | 25-002376 |
| **HM080B, HC080B** | 25-002377 |
| **HM120B, HC100B** | 25-002378 |
| **HT100B** | 25-002372 |
| **HT150B** | 25-002373 |
| **HT200B, HT250B** | 25-002374 |
| **HC150** | 80111835 |
| **HB250** | 80111787 |

**23.14 Journals for linear axes HM-B and cantilever axes HC**

The journal can be clamped to each side of the drive wheel. It can be used to adapt the drive/output, synchronous drive, encoder attachment or the like.

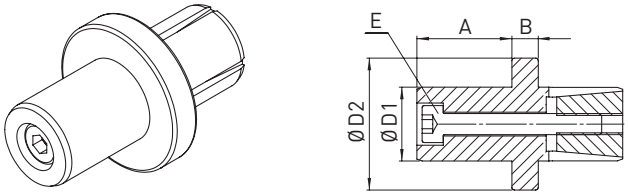


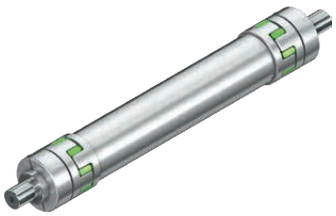

Fig. 23.21 **Journal dimensions**

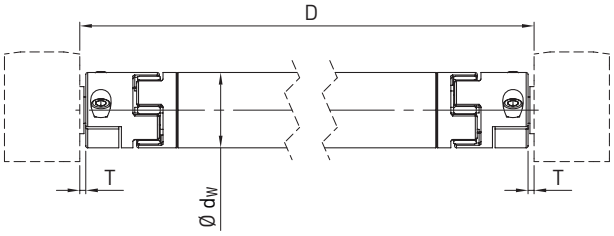
Table 23.14 **Article numbers and dimensions of journals**

| Suitable for linear axis | A [mm] | B [mm] | E (screw) | Ø D1 [mm] | Ø D2 [mm] | Screw tightening torque [Nm] | Moment of inertia [kgmm²] | Transmittable torque (arithmetic) [Nm] | Article number |
|---|---|---|---|---|---|---|---|---|---|
| **HC025B** | 12 | 5.5 | ISO 4762 M4 × 25 | 12 h7 | 17 h9 | 2.9 | 0.24 | 7.7 | 25-002514 |
| **HM040B, HC040B** | 18 | 5.0 | ISO 4762 M4 × 30 | 14 h7 | 25 h9 | 4.5 | 1.21 | 17.0 | 25-000174 |
| **HM060B, HC060B** | 22 | 8.0 | ISO 4762 M6 × 45 | 20 h7 | 32 h9 | 10.0 | 5.37 | 36.0 | 25-000175 |
| **HM080B, HC080B** | 30 | 8.0 | ISO 4762 M8 × 55 | 25 h7 | 45 h9 | 25.0 | 17.70 | 81.0 | 25-000176 |
| **HM120B, HC100B, HC150B** | 30 | 10.0 | ISO 4762 M10 × 60 | 32 h7 | 55 h9 | 55.0 | 55.70 | 213.0 | 25-000177 |

### 23.15 Synchronous shaft

The synchronous shaft is used on double axes to transmit the drive torque from the driven axis to the rotating axis. In addition to the actual synchronous shaft, the set also includes the coupling elements and the adaptation material.





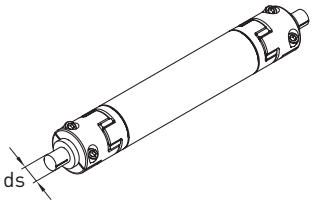
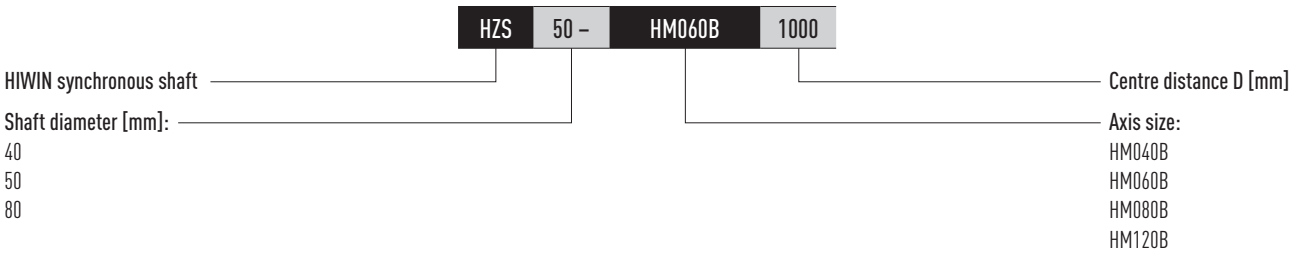




Table 23.17 **Dimensions of synchronous shaft**

| Suitable for double axis | D min. | D max. | T | Ø shaft | Ø ds |
|---|---|---|---|---|---|
| **HD1/HM040B** | 160 | 1,500 | 3.2 | 40 | 14 |
| **HD2/HM060B** | 186 | 2,000 | 7.2 | 50 | 20 |
| **HD3/HM080B** | 200 | 2,400 | 14.2 | 50 | 25 |
| **HD4/HM120B** | 256 | 3,000 | 5.7 | 80 | 35 |

Unit: mm

#### 23.15.1 Order code for synchronous shaft




#### 23.15.2 Spacer

The spacer is required when the synchronous shaft is not installed horizontally to prevent metal-on-metal contact in the lower coupling.

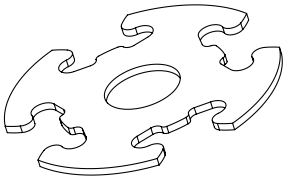


Table 23.16 **Article numbers for spacer**

| Suitable for double axis | Suitable for synchronous shaft | Article number |
|---|---|---|
| **HD1/HM040B** | HZS40HM040Bxxxx [1)] | 25-000730 |
| **HD2/HM060B** | HZS50HM060Bxxxx [1)] | 25-000731 |
| **HD3/HM080B** | HZS50HM080Bxxxx [1)] | 25-000731 |
| **HD4/HM120B** | HZS80HM120Bxxxx [1)] | 25-000733 |

[1)] xxxx = centre distance D

### 23.17 HIWIN lubricants

Table 23.19 **Recommended HIWIN grease**

| Grease type | Area of application | Unit of measure | Article number |
|---|---|---|---|
| **G04** | Linear guideway<br>Ball screw | Cartridge 400 g | 20-000345 |
| **Grease rack** | Rack and pinion | Cartridge 400 g | 80076723 |

Table 23.20 **Recommended HIWIN grease gun**

| Article number | Description | Scope of delivery | Comment |
|---|---|---|---|
| **20-000333** | Grease gun type GN-400C including lubrication adapter and nozzle set (see Fig. 23.22) | Grease gun type GN-400-C consisting of:<br>– Grease gun<br>– Hydraulic gripping coupling A1 suitable for conical grease nipples according to DIN 71412, outer diameter 15 mm<br>– Hollow mouthpiece A2 for conical and ball grease nipples according to DIN 71412/ DIN 3402, outer diameter 10 mm<br>– Set of lubrication adapters and nozzles | Suitable for 400 g cartridge or direct filling |

Fig. 23.22 **Grease gun GN-400C**

### 23.16 HIWIN grease nipple

Grease nipple suitable for HM, HT, HB and HC, all sizes, all drive types.

Table 23.18 **Grease nipple M4 × 0.7**

| Article number | Linear axes HM | Linear tables HT | Cantilever axes HC | Figure |
|---|---|---|---|---|
| **20-000325** | Standard | Standard: HT100B<br>Option: HT150B, HT200B, HT250B | Standard: HC025B, HC040B, HC060B, HC080B, HC100B |  |
| **20-000538** | Option | Standard: HT150B, HT200B, HT250B<br>Option: HT100B | Option: HC025B, HC040B, HC060B, HC080B, HC100B |  |
| **20-000272** | Option | Option | Option: HC025B, HC040B, HC060B, HC080B, HC100B |  |

Table 23.21 **Grease nipple M10 × 1**

| Article number | Bridge axes HB | Cantilever axes HC | Figure |
|---|---|---|---|
| **20-000279** | Standard | Standard: HC150B, HC150R |  |

### 23.18 Push-in fittings and lubrication adapters

Table 23.22 **Push-in fittings and lubrication adapters M4 × 0,7 (Suitable for HM, HT, HC025B, HC040B, HC060B, HC080B, HC100B)**

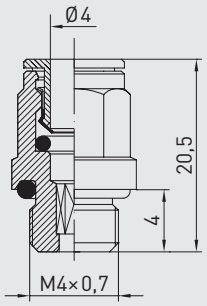
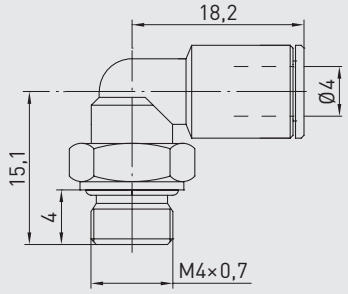
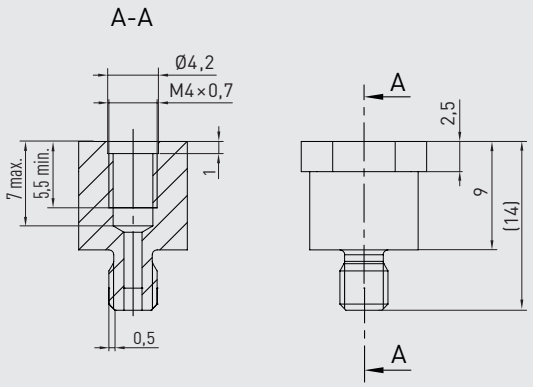
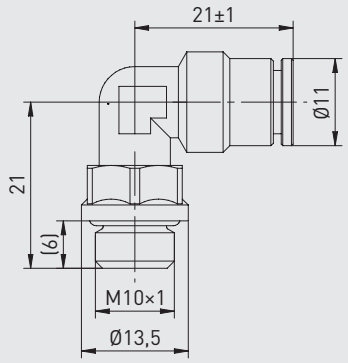
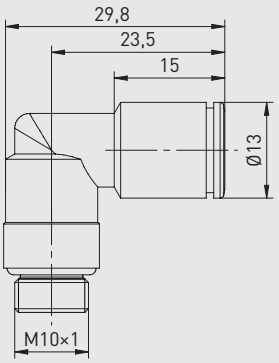
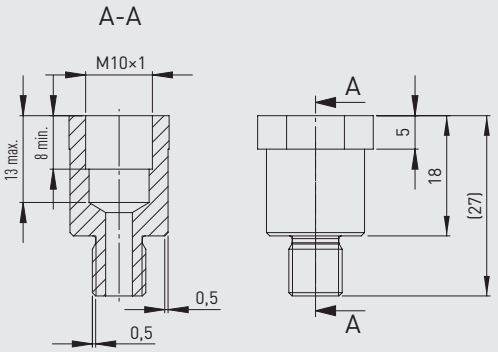
| Article number | Description | Figure |
|---|---|---|
| **8-12-0186** | Push-in fitting straight Ø 4 |  |
| **20-002116** | Push-in fitting angled Ø 4 |  |
| **20-002108** | Lubrication adapter M4/M4 for extending the push-in fittings to avoid collisions (e.g. damping element) |  |

Table 23.23 **Hose connection piece and lubrication adapter M10 × 1 (Suitable for HB, HC150B, HC150R)**

| Article number | Description | Figure |
|---|---|---|
| **80090309** | Hose fitting, 90°, M10 × 1, d6 |  |
| **80074396** | Hose fitting, 90°, M10 × 1, d8 |  |
| **80112336** | Lubrication adapter, M8 × 1 auf M10 × 1 |  |

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