

## Spindle axes EGC-HD-BS, with heavy-duty guide

**FESTO**



# Electromechanical drives

Selection aid

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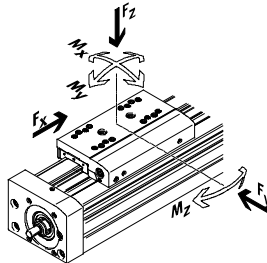
## Overview of toothed belt and spindle axes

### Toothed belt axes

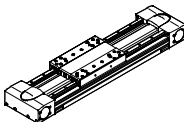
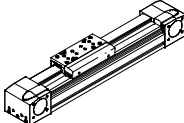
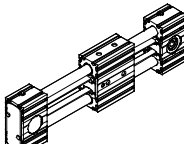
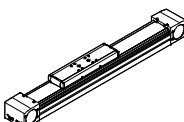
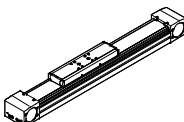
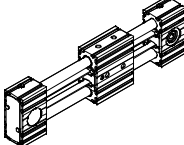
- Speeds of up to 10 m/s
- Acceleration of up to 50 m/s<sup>2</sup>
- Repetition accuracy of up to ±0.08 mm
- Strokes of up to 8,500 mm (longer strokes on request)
- Flexible motor mounting

### Spindle axes

- Speeds of up to 2 m/s
- Acceleration of up to 20 m/s<sup>2</sup>
- Repetition accuracy of up to ±0.003 mm
- Strokes of up to 3,000 mm



### Toothed belt axes

| Type                                                                                | F <sub>x</sub><br>[N] | v<br>[m/s] | M <sub>x</sub><br>[Nm] | M <sub>y</sub><br>[Nm] | M <sub>z</sub><br>[Nm] | Properties                                                                                                                                                                                                                                 |
|-------------------------------------------------------------------------------------|-----------------------|------------|------------------------|------------------------|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Heavy-duty recirculating ball bearing guide                                         |                       |            |                        |                        |                        |                                                                                                                                                                                                                                            |
| EGC-HD-TB                                                                           |                       |            |                        |                        |                        |                                                                                                                                                                                                                                            |
|    | 450                   | 3          | 140                    | 275                    | 275                    | <ul style="list-style-type: none"><li>• Flat drive unit with rigid, closed profile</li><li>• Precision, resilient DUO guide rail</li><li>• Ideal as a basic axis for linear gantries and cantilever axes</li></ul>                         |
|                                                                                     | 1,000                 | 5          | 300                    | 500                    | 500                    |                                                                                                                                                                                                                                            |
|                                                                                     | 1,800                 | 5          | 900                    | 1,450                  | 1,450                  |                                                                                                                                                                                                                                            |
| Recirculating ball bearing guide                                                    |                       |            |                        |                        |                        |                                                                                                                                                                                                                                            |
| EGC-TB-KF                                                                           |                       |            |                        |                        |                        |                                                                                                                                                                                                                                            |
|  | 50                    | 3          | 3.5                    | 10                     | 10                     | <ul style="list-style-type: none"><li>• Rigid, closed profile</li><li>• Precision, resilient guide rail</li><li>• Small drive pinions reduce necessary driving torque</li><li>• Space-saving position sensing</li></ul>                    |
|                                                                                     | 100                   | 5          | 16                     | 132                    | 132                    |                                                                                                                                                                                                                                            |
|                                                                                     | 350                   | 5          | 36                     | 228                    | 228                    |                                                                                                                                                                                                                                            |
|                                                                                     | 800                   | 5          | 144                    | 680                    | 680                    |                                                                                                                                                                                                                                            |
|                                                                                     | 2,500                 | 5          | 529                    | 1,820                  | 1,820                  |                                                                                                                                                                                                                                            |
| ELGR-TB                                                                             |                       |            |                        |                        |                        |                                                                                                                                                                                                                                            |
|  | 50                    | 3          | 2.5                    | 20                     | 20                     | <ul style="list-style-type: none"><li>• Cost-optimised rod guide</li><li>• Ready-to-install unit</li><li>• Resilient ball bearings for dynamic operation</li></ul>                                                                         |
|                                                                                     | 100                   | 3          | 5                      | 40                     | 40                     |                                                                                                                                                                                                                                            |
|                                                                                     | 350                   | 3          | 15                     | 124                    | 124                    |                                                                                                                                                                                                                                            |
| Roller bearing guide                                                                |                       |            |                        |                        |                        |                                                                                                                                                                                                                                            |
| ELGA-TB-RF                                                                          |                       |            |                        |                        |                        |                                                                                                                                                                                                                                            |
|  | 350                   | 10         | 11                     | 40                     | 40                     | <ul style="list-style-type: none"><li>• Sturdy roller bearing guide</li><li>• Guide and toothed belt protected by cover strip</li><li>• Speeds of up to 10 m/s</li><li>• Lower weight than axes with guide rails</li></ul>                 |
|                                                                                     | 800                   | 10         | 30                     | 180                    | 180                    |                                                                                                                                                                                                                                            |
|                                                                                     | 1 300                 | 10         | 100                    | 640                    | 640                    |                                                                                                                                                                                                                                            |
| Plain-bearing guide                                                                 |                       |            |                        |                        |                        |                                                                                                                                                                                                                                            |
| ELGA-TB-G                                                                           |                       |            |                        |                        |                        |                                                                                                                                                                                                                                            |
|  | 350                   | 5          | 5                      | 30                     | 10                     | <ul style="list-style-type: none"><li>• Guide and toothed belt protected by cover strip</li><li>• For simple handling tasks</li><li>• As an actuator for external guides</li><li>• Insensitive to harsh environmental conditions</li></ul> |
|                                                                                     | 800                   | 5          | 10                     | 60                     | 20                     |                                                                                                                                                                                                                                            |
|                                                                                     | 1,300                 | 5          | 120                    | 120                    | 40                     |                                                                                                                                                                                                                                            |
| ELGR-TB-GF                                                                          |                       |            |                        |                        |                        |                                                                                                                                                                                                                                            |
|  | 50                    | 1          | 1                      | 10                     | 10                     | <ul style="list-style-type: none"><li>• Cost-optimised rod guide</li><li>• Ready-to-install unit</li><li>• Heavy-duty plain bearings for use in harsh environmental conditions</li></ul>                                                   |
|                                                                                     | 100                   | 1          | 2.5                    | 20                     | 20                     |                                                                                                                                                                                                                                            |
|                                                                                     | 350                   | 1          | 1                      | 40                     | 40                     |                                                                                                                                                                                                                                            |

# Electromechanical drives

Selection aid

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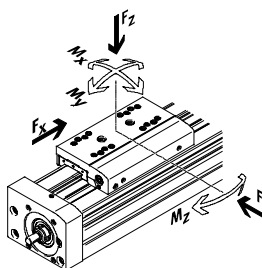
## Overview of toothed belt and spindle axes

### Toothed belt axes

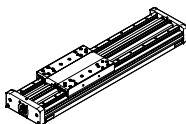
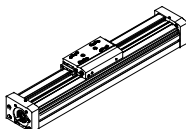
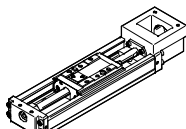
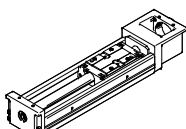
- Speeds of up to 10 m/s
- Acceleration of up to 50 m/s<sup>2</sup>
- Repetition accuracy of up to ±0.08 mm
- Strokes of up to 8,500 mm  
(longer strokes on request)
- Flexible motor mounting

### Spindle axes

- Speeds of up to 2 m/s
- Acceleration of up to 20 m/s<sup>2</sup>
- Repetition accuracy of up to ±0.003 mm
- Strokes of up to 3,000 mm



## Spindle axes

| Type                                                                                | F <sub>x</sub><br>[N] | v<br>[m/s] | M <sub>x</sub><br>[Nm] | M <sub>y</sub><br>[Nm] | M <sub>z</sub><br>[Nm] | Properties                                                                                                                                                                                                                                        |
|-------------------------------------------------------------------------------------|-----------------------|------------|------------------------|------------------------|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Heavy-duty recirculating ball bearing guide                                         |                       |            |                        |                        |                        |                                                                                                                                                                                                                                                   |
| EGC-HD-BS                                                                           |                       |            |                        |                        |                        |                                                                                                                                                                                                                                                   |
|    | 300                   | 0.5        | 140                    | 275                    | 275                    | <ul style="list-style-type: none"><li>• Flat drive unit with rigid, closed profile</li><li>• Precision, resilient DUO guide rail</li><li>• Ideal as a basic axis for linear gantries and cantilever axes</li></ul>                                |
|                                                                                     | 600                   | 1.0        | 300                    | 500                    | 500                    |                                                                                                                                                                                                                                                   |
|                                                                                     | 1,300                 | 1.5        | 900                    | 1,450                  | 1,450                  |                                                                                                                                                                                                                                                   |
| Recirculating ball bearing guide                                                    |                       |            |                        |                        |                        |                                                                                                                                                                                                                                                   |
| EGC-BS-KF                                                                           |                       |            |                        |                        |                        |                                                                                                                                                                                                                                                   |
|  | 300                   | 0.5        | 16                     | 132                    | 132                    | <ul style="list-style-type: none"><li>• Rigid, closed profile</li><li>• Precision, resilient guide rail</li><li>• For extremely high requirements for speed, acceleration and torque resistance</li><li>• Space-saving position sensing</li></ul> |
|                                                                                     | 600                   | 1.0        | 36                     | 228                    | 228                    |                                                                                                                                                                                                                                                   |
|                                                                                     | 1,300                 | 1.5        | 144                    | 680                    | 680                    |                                                                                                                                                                                                                                                   |
|                                                                                     | 3,000                 | 2.0        | 529                    | 1,820                  | 1,820                  |                                                                                                                                                                                                                                                   |
| EGSK                                                                                |                       |            |                        |                        |                        |                                                                                                                                                                                                                                                   |
|  | 57                    | 0.33       | 13                     | 3.7                    | 3.7                    | <ul style="list-style-type: none"><li>• Spindle axes with maximum precision, compactness and rigidity</li><li>• Recirculating ball bearing guide and ball screw without caged ball bearings</li><li>• Standard designs in stock</li></ul>         |
|                                                                                     | 133                   | 1.10       | 28.7                   | 9.2                    | 9.2                    |                                                                                                                                                                                                                                                   |
|                                                                                     | 184                   | 0.83       | 60                     | 20.4                   | 20.4                   |                                                                                                                                                                                                                                                   |
|                                                                                     | 239                   | 1.10       | 79.5                   | 26                     | 26                     |                                                                                                                                                                                                                                                   |
|                                                                                     | 392                   | 1.48       | 231                    | 77.3                   | 77.3                   |                                                                                                                                                                                                                                                   |
| EGSP                                                                                |                       |            |                        |                        |                        |                                                                                                                                                                                                                                                   |
|  | 112                   | 0.6        | 36.3                   | 12.5                   | 12.5                   | <ul style="list-style-type: none"><li>• Spindle axes with maximum precision, compactness and rigidity</li><li>• Recirculating ball bearing guide with caged ball bearings</li><li>• Ball screw sizes 33, 46 with caged ball bearings</li></ul>    |
|                                                                                     | 212                   | 0.6        | 81.5                   | 31.6                   | 31.6                   |                                                                                                                                                                                                                                                   |
|                                                                                     | 466                   | 2.0        | 90.3                   | 32.1                   | 32.1                   |                                                                                                                                                                                                                                                   |
|                                                                                     | 460                   | 2.0        | 258                    | 94                     | 94                     |                                                                                                                                                                                                                                                   |

## Spindle axes EGC-HD-BS, with heavy-duty guide

Key features

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### At a glance

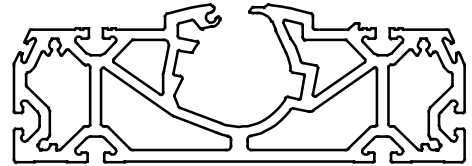
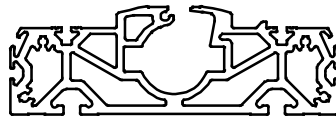
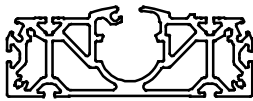
- New heavy-duty guide for:
  - Maximum loads and torques
  - High feed forces and speeds
  - Long service life
- Precision, resilient DUO guide rail
- Ideal as a basic axis for linear gantries and cantilever axes
- The spindle axis with integrated ball screw combines high precision and flexible spindle pitches
- In addition to its technical data, the spindle axis also offers an excellent price/performance ratio
- Space-saving position sensing with proximity sensor in the profile slot
- Wide range of options for mounting on drives
- Spindle support enables maximum travel speed with all stroke lengths

### Flat unit with rigid, closed profile

EGC-HD-125

EGC-HD-160

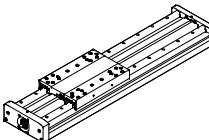
EGC-HD-220



### Characteristic values of the axes

The specifications shown in the table are maximum values.

The precise values for each of the variants can be found in the relevant technical data section.

| Version                                                                             | Size | Working stroke<br>[mm] | Speed<br>[m/s] | Repetition<br>accuracy<br>[mm] | Feed force<br>[N] | Guide characteristics |           |            |            |            |
|-------------------------------------------------------------------------------------|------|------------------------|----------------|--------------------------------|-------------------|-----------------------|-----------|------------|------------|------------|
|                                                                                     |      |                        |                |                                |                   | Forces and torques    |           |            |            |            |
|                                                                                     |      |                        |                |                                |                   | Fy<br>[N]             | Fz<br>[N] | Mx<br>[Nm] | My<br>[Nm] | Mz<br>[Nm] |
| Recirculating ball bearing guide                                                    |      |                        |                |                                |                   |                       |           |            |            |            |
|  | 125  | 50 ... 900             | 0.5            | ±0.02                          | 300               | 3,650                 | 3,650     | 140        | 275        | 275        |
|                                                                                     | 160  | 50 ... 1,900           | 1              | ±0.02                          | 600               | 5,600                 | 5,600     | 300        | 500        | 500        |
|                                                                                     | 220  | 50 ... 2,400           | 1.5            | ±0.02                          | 1,300             | 13,000                | 13,000    | 900        | 1,450      | 1,450      |
|                                                                                     |      |                        |                |                                |                   |                       |           |            |            |            |



Note

PositioningDrives  
sizing software  
[www.festo.com](http://www.festo.com)

# Spindle axes EGC-HD-BS, with heavy-duty guide

Key features

## Slide variants

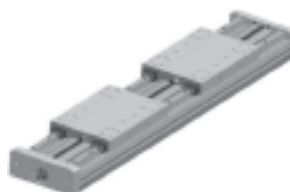
Standard slide



Standard slide, protected



With additional slide



## Complete system comprising spindle axis, motor, motor controller and motor mounting kit

Spindle axis with recirculating ball bearing guide



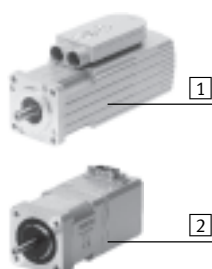
Axial kit



Parallel kit

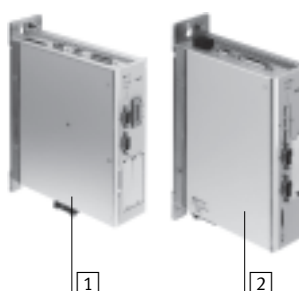


## Motor



- 1 Servo motor EMMS-AS
- 2 Stepper motor EMMS-ST

## Motor controller



- 1 Servo motor controller CMMP-AS, CMMS-AS
- 2 Stepper motor controller CMMS-ST

## Note

A range of specially adapted complete solutions is available for the spindle axis EGC and the motors.

## Spindle axes EGC-HD-BS, with heavy-duty guide

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Type codes

|                        |                           |     |   |    |   |     |   |     |   |    |   |    |   |  |   |    |   |    |
|------------------------|---------------------------|-----|---|----|---|-----|---|-----|---|----|---|----|---|--|---|----|---|----|
|                        |                           | EGC | - | HD | - | 160 | - | 500 | - | BS | - | 10 | - |  | - | 20 | - | GK |
| <b>Type</b>            |                           |     |   |    |   |     |   |     |   |    |   |    |   |  |   |    |   |    |
| EGC                    | Spindle axis              |     |   |    |   |     |   |     |   |    |   |    |   |  |   |    |   |    |
| <b>Guide</b>           |                           |     |   |    |   |     |   |     |   |    |   |    |   |  |   |    |   |    |
| HD                     | Heavy-duty guide          |     |   |    |   |     |   |     |   |    |   |    |   |  |   |    |   |    |
| <b>Size</b>            |                           |     |   |    |   |     |   |     |   |    |   |    |   |  |   |    |   |    |
| <b>Stroke [mm]</b>     |                           |     |   |    |   |     |   |     |   |    |   |    |   |  |   |    |   |    |
| <b>Drive function</b>  |                           |     |   |    |   |     |   |     |   |    |   |    |   |  |   |    |   |    |
| BS                     | Spindle                   |     |   |    |   |     |   |     |   |    |   |    |   |  |   |    |   |    |
| <b>Spindle pitch</b>   |                           |     |   |    |   |     |   |     |   |    |   |    |   |  |   |    |   |    |
| <b>Spindle support</b> |                           |     |   |    |   |     |   |     |   |    |   |    |   |  |   |    |   |    |
| -                      | None                      |     |   |    |   |     |   |     |   |    |   |    |   |  |   |    |   |    |
| S                      | With spindle support      |     |   |    |   |     |   |     |   |    |   |    |   |  |   |    |   |    |
| <b>Stroke reserve</b>  |                           |     |   |    |   |     |   |     |   |    |   |    |   |  |   |    |   |    |
| <b>Slide</b>           |                           |     |   |    |   |     |   |     |   |    |   |    |   |  |   |    |   |    |
| GK                     | Standard slide            |     |   |    |   |     |   |     |   |    |   |    |   |  |   |    |   |    |
| GP                     | Standard slide, protected |     |   |    |   |     |   |     |   |    |   |    |   |  |   |    |   |    |

# Spindle axes EGC-HD-BS, with heavy-duty guide

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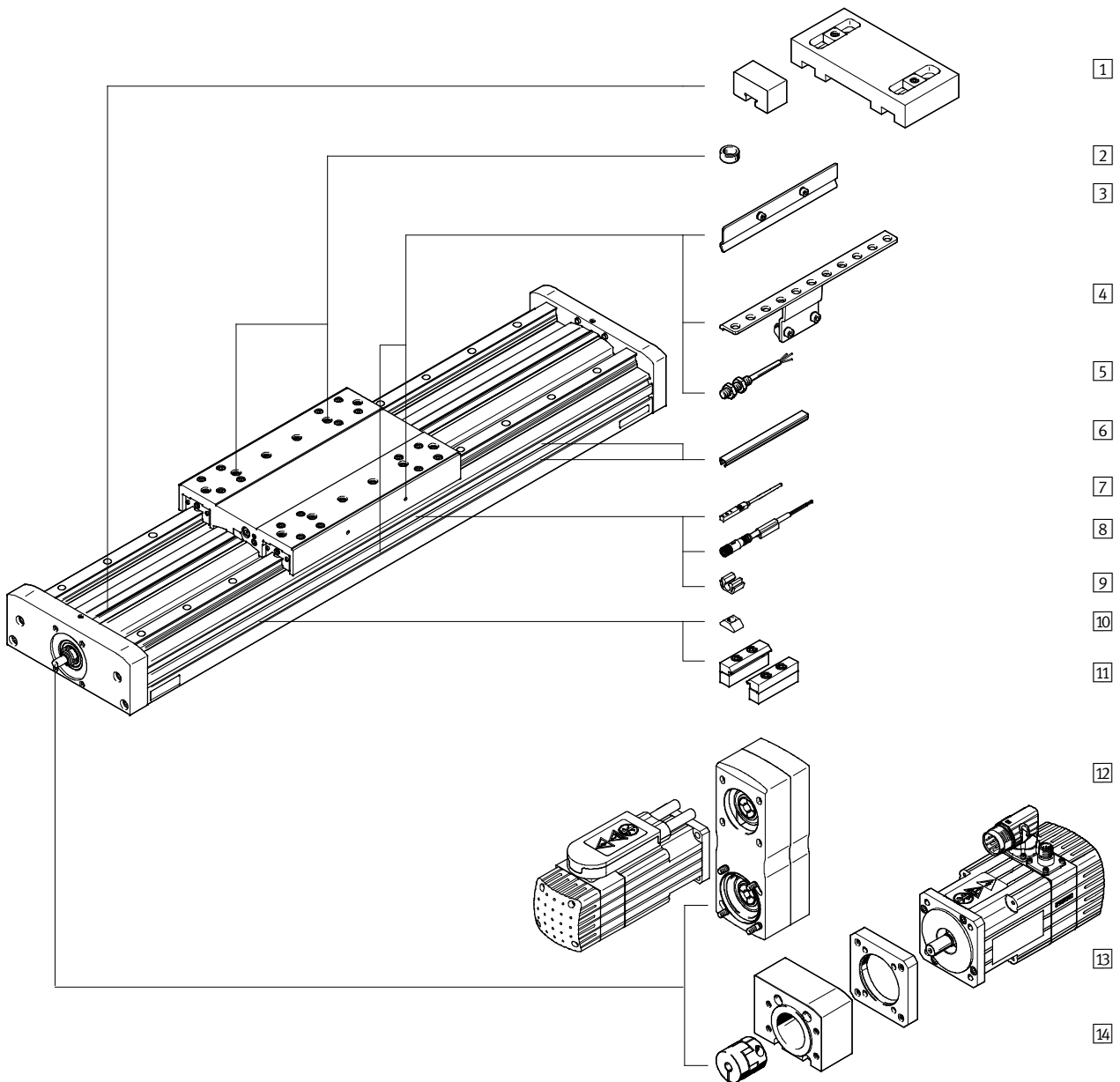
Type codes

|                                        |                                                                                |   |  |       |       |   |    |
|----------------------------------------|--------------------------------------------------------------------------------|---|--|-------|-------|---|----|
| →                                      |                                                                                | - |  | ZUB - | 2MX2Z | - | DN |
| <b>Additional slide</b>                |                                                                                |   |  |       |       |   |    |
| KL                                     | Standard, left                                                                 |   |  |       |       |   |    |
| <b>Additional slide</b>                |                                                                                |   |  |       |       |   |    |
| KR                                     | Standard, right                                                                |   |  |       |       |   |    |
| <b>Accessories enclosed separately</b> |                                                                                |   |  |       |       |   |    |
| ...M                                   | Profile mounting                                                               |   |  |       |       |   |    |
| ...B                                   | Mounting slot cover                                                            |   |  |       |       |   |    |
| ...S                                   | Sensor slot cover                                                              |   |  |       |       |   |    |
| ...Y                                   | Slot nut for mounting slot                                                     |   |  |       |       |   |    |
| ...X                                   | Proximity sensor (SIES), inductive, slot type 8, PNP, N/O contact, 7.5 m cable |   |  |       |       |   |    |
| ...Z                                   | Proximity sensor (SIES), inductive, slot type 8, PNP, N/C contact, 7.5 m cable |   |  |       |       |   |    |
| ...A                                   | Emergency buffer with retainer                                                 |   |  |       |       |   |    |
| ...O                                   | Proximity sensor (SIEN), inductive, M8, PNP, N/O contact, 2.5 m cable          |   |  |       |       |   |    |
| ...P                                   | Proximity sensor (SIEN), inductive, M8, PNP, N/C contact, 2.5 m cable          |   |  |       |       |   |    |
| ...W                                   | Proximity sensor (SIEN), inductive, M8, PNP, N/O contact, plug M8              |   |  |       |       |   |    |
| ...R                                   | Proximity sensor (SIEN), inductive, M8, PNP, N/C contact, plug M8              |   |  |       |       |   |    |
| ...V                                   | Connecting cable                                                               |   |  |       |       |   |    |
| ...CL                                  | Cable clip                                                                     |   |  |       |       |   |    |
| <b>Operating instructions</b>          |                                                                                |   |  |       |       |   |    |
| DN                                     | None                                                                           |   |  |       |       |   |    |

# Spindle axes EGC-HD-BS, with heavy-duty guide

Peripherals overview

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## Spindle axes EGC-HD-BS, with heavy-duty guide

Peripherals overview

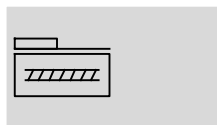
| Variants and accessories           |                                                                                                                                                                                  |                 |
|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| Type                               | Brief description                                                                                                                                                                | → Page/Internet |
| 1 Emergency buffer with retainer A | For avoiding damage at the end stop in the event of malfunction                                                                                                                  | 28              |
| 2 Centring pin/sleeve ZBS, ZBH     | <ul style="list-style-type: none"> <li>For centring loads and attachments on the slide</li> <li>2 centring pins/sleeves included in the scope of delivery of the axis</li> </ul> | 30              |
| 3 Switch lug X, Z, O, P, W, R      | For sensing the slide position                                                                                                                                                   | 28              |
| 4 Sensor bracket O, P, W, R        | Adapter for mounting the inductive proximity sensors (round design) on the axis                                                                                                  | 29              |
| 5 Proximity sensor, M8 O, P, W, R  | <ul style="list-style-type: none"> <li>Inductive proximity sensor, round design</li> <li>The order code O, P, W, R includes 1 switch lug and max. 2 sensor brackets</li> </ul>   | 31              |
| 6 Slot cover B, S                  | <ul style="list-style-type: none"> <li>For protecting against the ingress of dirt</li> </ul>                                                                                     | 30              |
| 7 Proximity sensor, T-slot X, Z    | <ul style="list-style-type: none"> <li>Inductive proximity sensor, for T-slot</li> <li>The order code X, Z includes 1 switch lug</li> </ul>                                      | 30              |
| 8 Connecting cable V               | For proximity sensor (order code W and R)                                                                                                                                        | 31              |
| 9 Clip CL                          | For mounting the proximity sensor cable in the slot                                                                                                                              | 30              |
| 10 Slot nut Y                      | For mounting attachments                                                                                                                                                         | 30              |
| 11 Profile mounting M              | For mounting the axis on the profile                                                                                                                                             | 27              |
| 12 Parallel kit EAMM-U             | For parallel motor mounting, pointing upwards or downwards only (consisting of: housing, clamping component, toothed belt pulley, toothed belt)                                  | 26              |
| 13 Motor EMMS                      | Motors specially matched to the axis, with or without gear unit, with or without brake                                                                                           | 24              |
| 14 Axial kit EAMM                  | For axial motor mounting (consisting of: coupling, coupling housing and motor flange)                                                                                            | 24              |

## Spindle axes EGC-HD-BS, with heavy-duty guide

Technical data

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Function



-  Size  
125 ... 220
-  Stroke length  
50 ... 2,400 mm



| General technical data                  |                     |                                                        |              |       |              |       |
|-----------------------------------------|---------------------|--------------------------------------------------------|--------------|-------|--------------|-------|
| Size                                    |                     | 125                                                    | 160          |       | 220          |       |
| Spindle pitch                           | [mm/<br>rev.]       | 10                                                     | 10           | 20    | 10           | 25    |
| Design                                  |                     | Electromechanical axis with recirculating ball spindle |              |       |              |       |
| Guide                                   |                     | Recirculating ball bearing guide                       |              |       |              |       |
| Mounting position                       |                     | Any                                                    |              |       |              |       |
| Working stroke                          | [mm]                | 50 ... 900                                             | 50 ... 1,900 |       | 50 ... 2,400 |       |
| Max. feed force $F_x$                   | [N]                 | 300                                                    | 600          |       | 1,300        |       |
| No-load torque at min. travel speed $t$ |                     |                                                        |              |       |              |       |
| EGC-...-                                | [Nm]                | 0.3                                                    | 0.5          | 0.5   | 1.5          | 1.5   |
| EGC-...-S                               | [Nm]                | 0.3                                                    | 0.5          | 0.5   | 1.5          | 1.5   |
|                                         | [m/s]               | 0.05                                                   | 0.1          | 0.1   | 0.2          | 0.2   |
| No-load torque at max. travel speed $t$ |                     |                                                        |              |       |              |       |
| EGC-...-                                | [Nm]                | 0.45                                                   | 0.75         | 0.75  | 2.25         | 2.25  |
| EGC-...-S                               | [Nm]                | 0.45                                                   | 0.75         | 0.75  | 2.25         | 2.25  |
|                                         | [m/s]               | 0.5                                                    | 0.5          | 1.0   | 0.6          | 1.5   |
| Max. radial force <sup>1)</sup>         | [N]                 | 220                                                    | 250          | 250   | 500          | 500   |
| Max. speed <sup>2)</sup>                | [1/min]             | 3,000                                                  | 3,000        | 3,000 | 3,600        | 3,600 |
| Max. acceleration                       | [m/s <sup>2</sup> ] | 15                                                     |              |       |              |       |
| Repetition accuracy                     | [mm]                | ±0.02                                                  |              |       |              |       |

1) At the drive shaft

2) Rotational speed and speed are stroke-dependent

| Operating and environmental conditions |                  |
|----------------------------------------|------------------|
| Ambient temperature                    | [°C] -10 ... +60 |
| Protection class                       | IP40             |
| Duty cycle                             | [%] 100          |

| Weight [g]                                  |       |       |        |
|---------------------------------------------|-------|-------|--------|
| Size                                        | 125   | 160   | 220    |
| Basic weight with 0 mm stroke <sup>1)</sup> | 4,123 | 7,210 | 19,137 |
| Additional weight per 10 mm stroke          | 90    | 138   | 250    |
| Slide                                       |       |       |        |
| EGC-...-GK                                  | 1,049 | 2,080 | 5,826  |
| EGC-...-GP                                  | -     | 2,346 | 6,325  |
| Additional slide                            |       |       |        |
| EGC-...-GK                                  | 978   | 1,963 | 5,505  |
| EGC-...-GP                                  | -     | 2,035 | 5,584  |

1) Incl. slide

# Spindle axes EGC-HD-BS, with heavy-duty guide

Technical data

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| Spindle  |           |     |     |    |     |    |
|----------|-----------|-----|-----|----|-----|----|
| Size     |           | 125 | 160 |    | 220 |    |
| Diameter | [mm]      | 12  | 15  |    | 25  |    |
| Pitch    | [mm/rev.] | 10  | 10  | 20 | 10  | 25 |

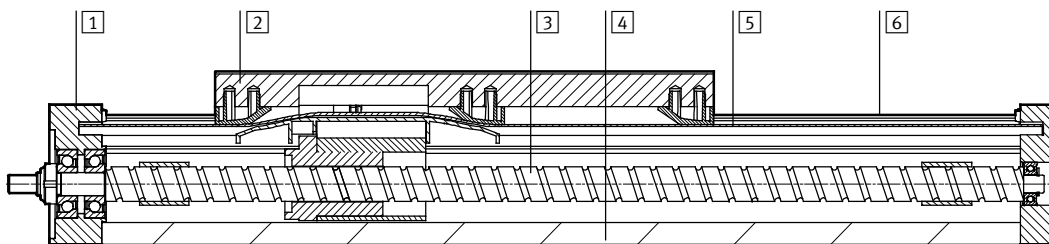
| Mass moment of inertia      |                          |       |       |       |        |        |
|-----------------------------|--------------------------|-------|-------|-------|--------|--------|
| Size                        |                          | 125   | 160   |       | 220    |        |
| Spindle pitch               | [mm/rev.]                | 10    | 10    | 20    | 10     | 25     |
| $J_0$                       | [kg mm <sup>2</sup> ]    | 6.06  | 13.94 | 29.74 | 106.78 | 184.26 |
| $J_S$ per metre stroke      | [kg mm <sup>2</sup> /m]  | 14.20 | 34.59 | 34.59 | 275.64 | 275.64 |
| $J_L$ per kg effective load | [kg mm <sup>2</sup> /kg] | 2.53  | 2.53  | 10.13 | 2.53   | 15.83  |
| $J_W$ Additional slide      | [kg mm <sup>2</sup> ]    | 2.25  | 4.69  | 18.77 | 13.20  | 82.48  |

The mass moment of inertia  $J_A$  of the entire axis is calculated as follows:

$$J_A = J_0 + J_W + J_S \times \text{working stroke [m]} + J_L \times m_{\text{effective load [kg]}}$$

## Materials

Sectional view



| Axis              |             |                                                     |
|-------------------|-------------|-----------------------------------------------------|
| 1                 | Drive cover | Anodised wrought aluminium alloy                    |
| 2                 | Slide       | Anodised wrought aluminium alloy                    |
| 3                 | Spindle     | Steel                                               |
| 4                 | Profile     | Anodised wrought aluminium alloy                    |
| 5                 | Cover strip | Polyurethane                                        |
| 6                 | Guide rail  | Coated and corrosion-resistant steel                |
| Note on materials |             | Conforms to RoHS                                    |
|                   |             | Contains PWIS (paint-wetting impairment substances) |

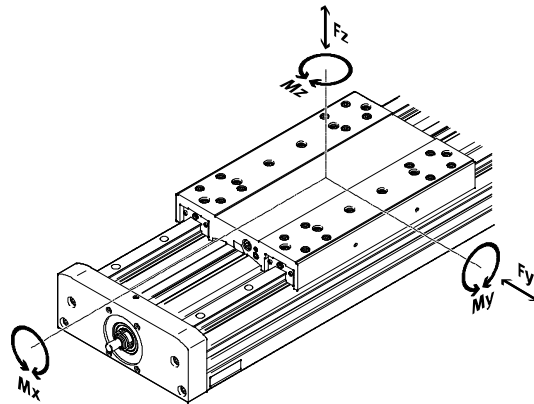
## Spindle axes EGC-HD-BS, with heavy-duty guide

Technical data

**FESTO**

### Characteristic load values

The indicated forces and torques refer to the slide surface. The point of application of force is the point where the centre of the guide and the longitudinal centre of the slide intersect. These values must not be exceeded during dynamic operation. Special attention must be paid to the cushioning phase.



If the axis is subjected to more than two of the indicated forces and torques at the same time, the following equation must be satisfied in addition to the indicated maximum loads:

Calculating the load comparison factor:

$$f_v = \frac{|F_{y,dyn}|}{F_{y,max}} + \frac{|F_{z,dyn}|}{F_{z,max}} + \frac{|M_{x,dyn}|}{M_{x,max}} + \frac{|M_{y,dyn}|}{M_{y,max}} + \frac{|M_{z,dyn}|}{M_{z,max}} \leq 1$$

| Permissible forces and torques |      |       |       |        |
|--------------------------------|------|-------|-------|--------|
| Size                           |      | 125   | 160   | 220    |
| F <sub>y,max.</sub>            | [N]  | 3,650 | 5,600 | 13,000 |
| F <sub>z,max.</sub>            | [N]  | 3,650 | 5,600 | 13,000 |
|                                |      |       |       |        |
| M <sub>x,max.</sub>            | [Nm] | 140   | 300   | 900    |
| M <sub>y,max.</sub>            | [Nm] | 275   | 500   | 1,450  |
| M <sub>z,max.</sub>            | [Nm] | 275   | 500   | 1,450  |

| Basic load ratings                  |     |       |       |       |               |
|-------------------------------------|-----|-------|-------|-------|---------------|
| Size                                |     | 125   | 160   | 220   |               |
| Spindle pitch                       |     | 10    | 10    | 20    | 10 25         |
| Ball screw                          |     |       |       |       |               |
| Dynamic C <sub>dyn,ball screw</sub> | [N] | 4,000 | 6,820 | 7,480 | 16,000 13,700 |

## Spindle axes EGC-HD-BS, with heavy-duty guide

Technical data

FESTO

### Calculating the service life

The service life of the guide depends on the load. To provide a rough indication of the service life of the guide, the

graph below plots the load comparison factor  $f_c$  against the service life.

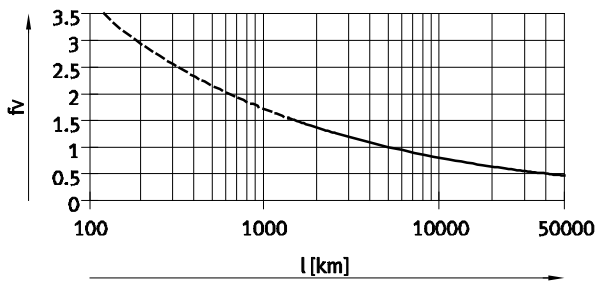
These values are only theoretical. You must consult your local contact person at Festo for load comparison factors  $f_c$  greater than 1.5.

### Load comparison factor $f_c$ as a function of service life

Example:

A user wants to move a load of X kg. Calculation with the formula  $\rightarrow$  12 produces a value of 1.5 for the load comparison factor  $f_c$ . According to the graph, the guide has a service life of

approx. 1,500 km. Reducing the acceleration reduces the  $M_z$  and  $M_y$  values. A load comparison factor  $f_c$  of 1 now gives a service life of 5,000 km.



 Note

PositioningDrives  
sizing software  
[www.festo.com](http://www.festo.com)

The sizing software can be used to calculate a guide workload for a service life of 5,000 km.

$f_c > 1.5$  are only theoretical comparison values for the recirculating ball bearing guide.

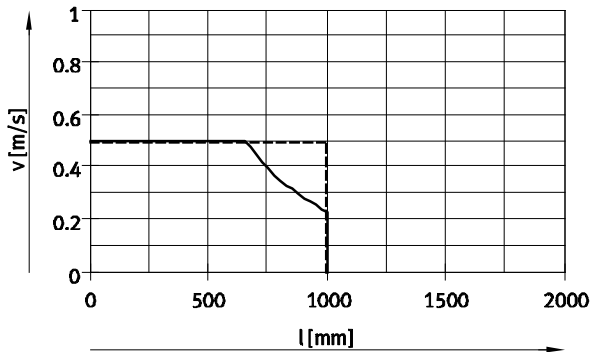
## Spindle axes EGC-HD-BS, with heavy-duty guide

**FESTO**

Technical data

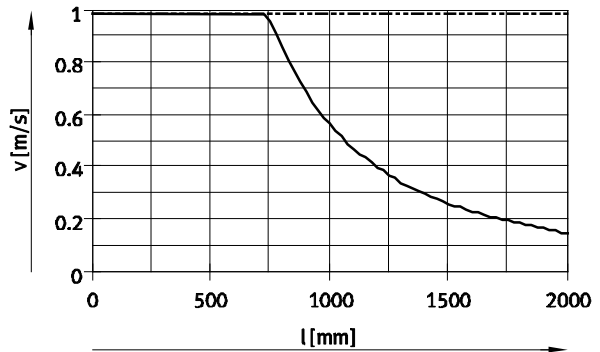
### Speed $v$ as a function of working stroke $l$

EGC-HD-125



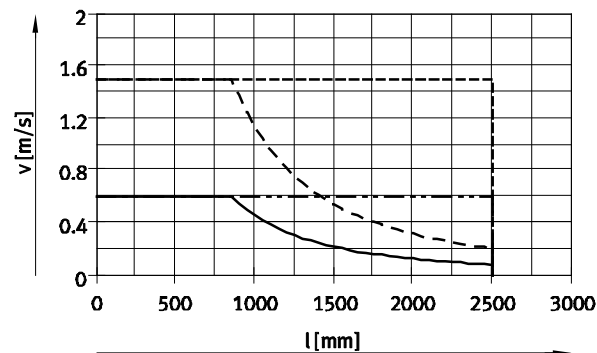
— EGC-HD-125-BS-10P without spindle support  
 - - - EGC-HD-125-BS-10P with spindle support

EGC-HD-160



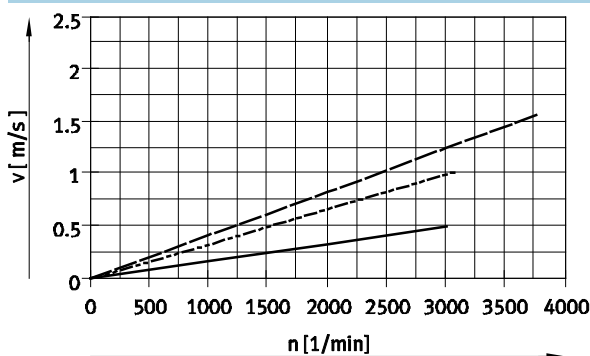
— EGC-HD-160-BS-20P without spindle support  
 - - - EGC-HD-160-BS-20P with spindle support

EGC-HD-220



— EGC-HD-220-BS-10P without spindle support  
 - - - EGC-HD-220-BS-10P with spindle support  
 — EGC-HD-220-BS-25P without spindle support  
 - - - EGC-HD-220-BS-25P with spindle support

### Speed $v$ as a function of rotational speed $n$



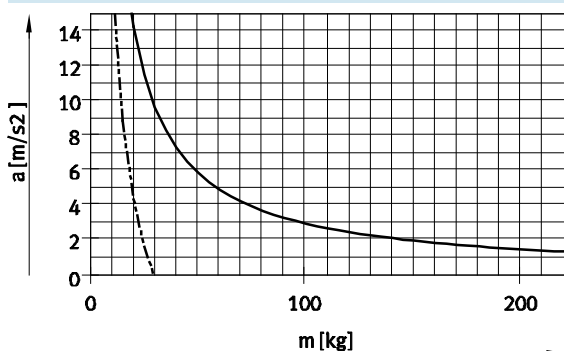
 Note

Rotational speed is stroke-dependent.  
 Note maximum rotational speed.

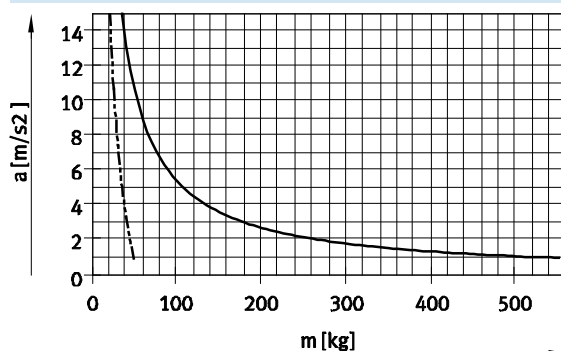
— EGC-HD-125/160/220-BS-10P  
 - - - EGC-HD-160-BS-20P  
 - - - EGC-HD-220-BS-25P

### Maximum acceleration $a$ as a function of applied load $m$

EGC-HD-125



EGC-HD-160

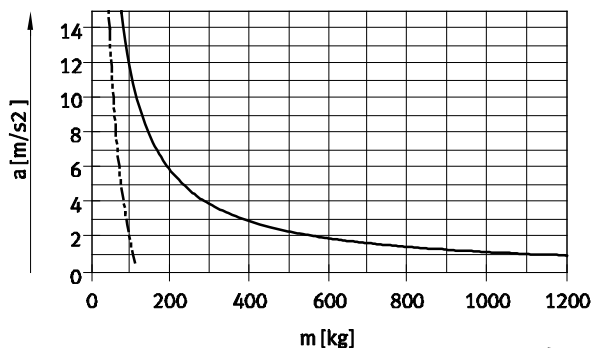


# Spindle axes EGC-HD-BS, with heavy-duty guide

Technical data

## Maximum acceleration $a$ as a function of applied load $m$

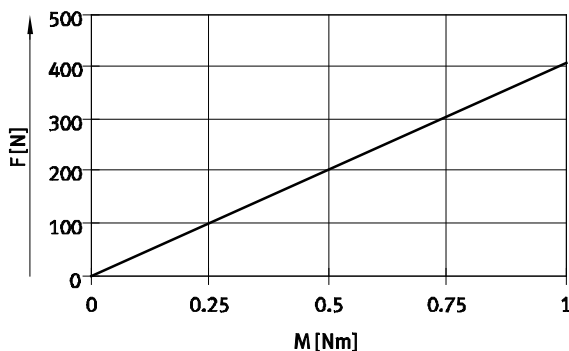
EGC-HD-220



— Horizontal mounting position  
- - - Vertical mounting position

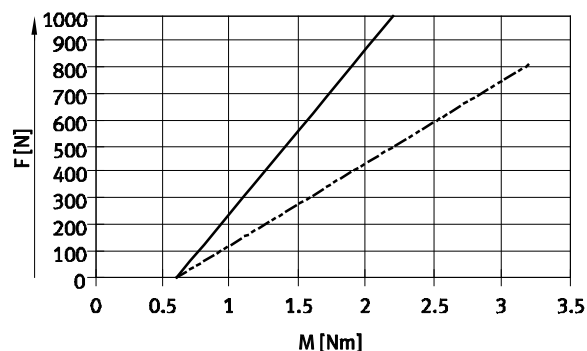
## Theoretical feed force $F$ as a function of input torque $M$

EGC-HD-125



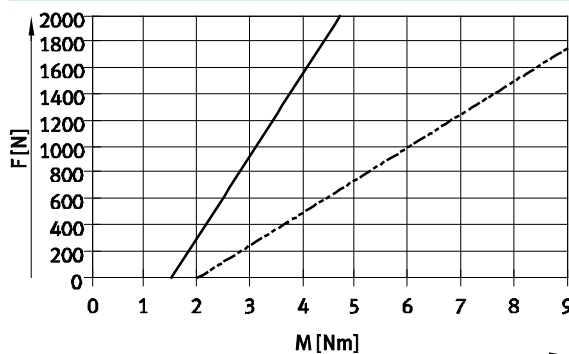
— EGC-HD-125-BS-10P

EGC-HD-160



— EGC-HD-160-BS-10P  
- - - EGC-HD-160-BS-20P

EGC-HD-220



— EGC-HD-220-BS-10P  
- - - EGC-HD-220-BS-25P

## Spindle axes EGC-HD-BS, with heavy-duty guide

**FESTO**

Technical data

### Stroke reserve

| Stroke length                                                                                                                                                                                                                                                                                           | Stroke reserve                                                                                                                                                                                                                                                      |                                                                                                                                                                                                           |                                                                                                                                                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The selected stroke corresponds in principle to the required working stroke. The variant GK does not have a long-term lubrication unit on the guide. These variants therefore additionally have a safety distance between the drive cap and slide that is not designated as part of the working stroke. | A safety distance (similar to GK) between the drive cap and slide can be defined for the variants GP using the modular product system via the stroke reserve feature. With the variants GK, the stroke reserve and safety distance are added for each end position. | <ul style="list-style-type: none"> <li>The stroke reserve length can be freely selected</li> <li>The sum of the stroke length and 2x stroke reserve must not exceed the maximum working stroke</li> </ul> | <b>Example:</b><br>Type: EGC-HD-125-500-BS-20H-...<br>Working stroke = 500 mm<br>2x stroke reserve = 40 mm<br>Total stroke = 540 mm<br>(540 mm = 500 mm + 2x 20 mm) |

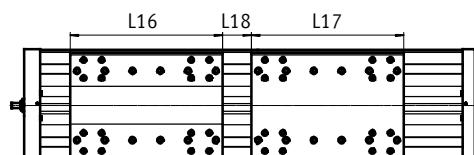
| Size                                                | 125  | 160  | 220 |
|-----------------------------------------------------|------|------|-----|
| L = safety distance with GK [mm] (per end position) | 12.5 | 15.5 | 20  |

### Working stroke reduction

With standard slide GK/GP with additional slide KL/KR

- With a spindle axis with additional slide, the working stroke is reduced by the length of the additional slide L17 and the distance between both slides L18
- If the variant GP is ordered, the additional slide is also protected

L16 = Length of slide  
 L17 = Length of additional slide  
 L18 = Distance between both slides



#### Example:

Type: EGC-HD-220-1000-BS-...-GP-KR  
 L18 = 100 mm

Working stroke = 1,000 mm – 328 mm – 100 mm = 572 mm

### Dimensions – Additional slide

| Size            | 125 | 160 |     | 220 |     |
|-----------------|-----|-----|-----|-----|-----|
| Variant         | GK  | GK  | GP  | GK  | GP  |
| Length L17 [mm] | 202 | 220 | 250 | 302 | 328 |

### Working stroke reduction per side

With integrated emergency buffer NPE with retainer EAYH-L2

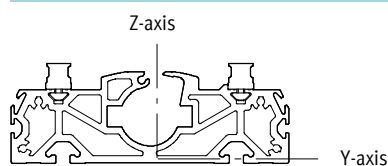
- With a spindle axis, the working stroke is reduced by the total dimension of the emergency buffer and retainer.

| Size                       | 125 | 160 | 220 |
|----------------------------|-----|-----|-----|
| With emergency buffer [mm] | 65  | 93  | 98  |

# Spindle axes EGC-HD-BS, with heavy-duty guide

Technical data

## Second moment of area

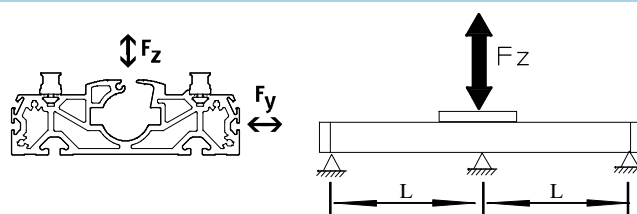


| Size  |                    | 125                | 160                | 220                |
|-------|--------------------|--------------------|--------------------|--------------------|
| $I_y$ | [mm <sup>4</sup> ] | $7.15 \times 10^5$ | $13.5 \times 10^5$ | $55.7 \times 10^5$ |
| $I_z$ | [mm <sup>4</sup> ] | $41.1 \times 10^5$ | $101 \times 10^5$  | $352 \times 10^5$  |

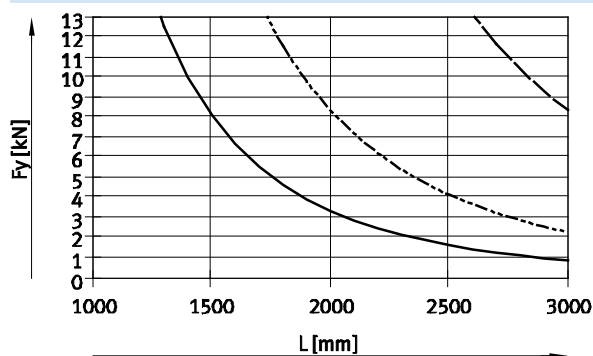
## Maximum permissible support spacing L (without profile mounting) as a function of force F

In order to limit deflection in the case of large strokes, the axis may need to be supported.

The following graphs help to determine the maximum permissible support spacing L as a function of force F acting on the axis. The deflection is  $f = 0.5$  mm.

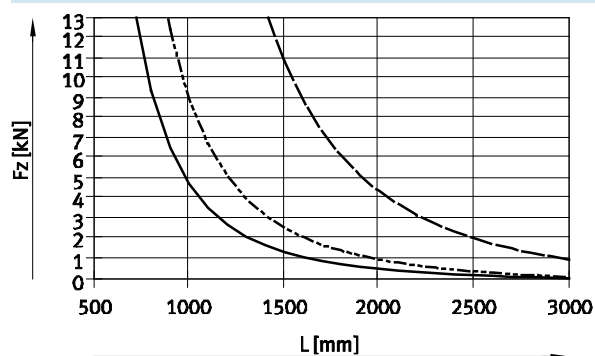


Force  $F_y$



- EGC-HD-125-BS
- - - EGC-HD-160-BS
- . - EGC-HD-220-BS

Force  $F_z$



## Recommended deflection limits

Adherence to the following deflection limits is recommended so as not to impair the functional performance of

the axes. Greater deformation can result in increased friction, greater wear and reduced service life.

| Size        | Dyn. deflection<br>(moving load)      | Stat. deflection<br>(stationary load) |
|-------------|---------------------------------------|---------------------------------------|
| 125 ... 220 | 0.05% of the axis length, max. 0.5 mm | 0.1% of the axis length               |

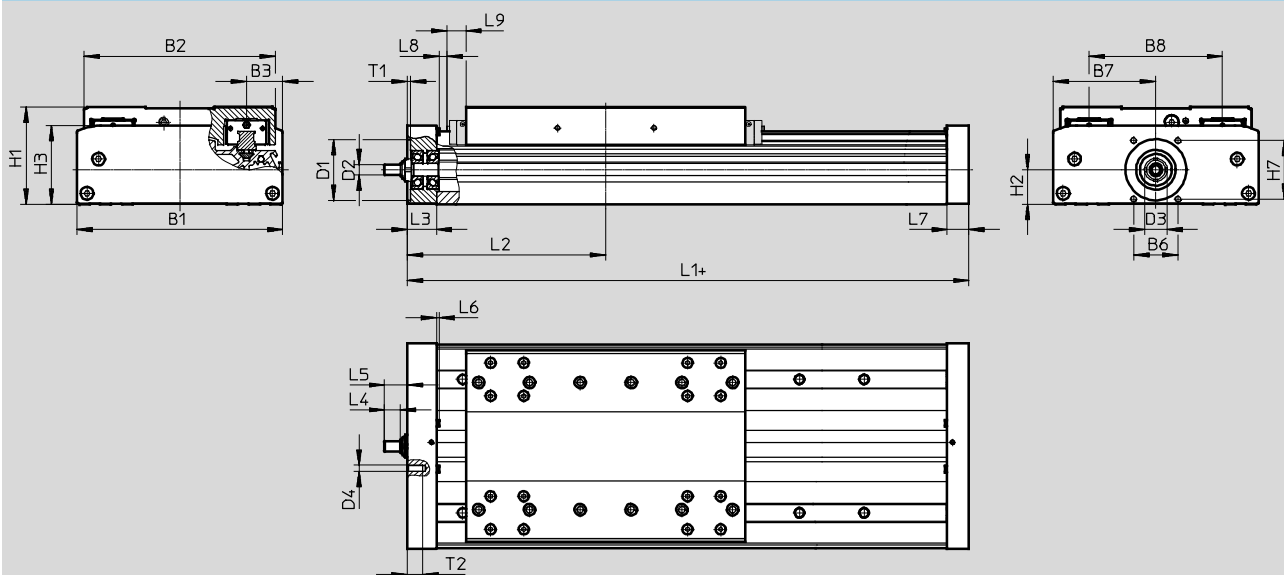
# Spindle axes EGC-HD-BS, with heavy-duty guide

Technical data

**FESTO**

## Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)



+ = plus stroke length + 2x stroke reserve  
 L9 With GK: safety distance per end position;  
 with GP: dimension for long-term lubrication unit → 16

| Size | B1  | B2    | B3   | B6 | B7  | B8  | D1<br>Ø<br>H7 | D2<br>Ø<br>h6 |
|------|-----|-------|------|----|-----|-----|---------------|---------------|
| 125  | 124 | 120   | 21   | 29 | 62  | 80  | 38            | 6             |
| 160  | 162 | 150.7 | 27.5 | 35 | 81  | 105 | 48            | 8             |
| 220  | 224 | 204.2 | 40   | 64 | 112 | 140 | 62            | 12            |

| Size | D3 | D4 | H1    | H2   | H3   | H7 | L3 | L4   |
|------|----|----|-------|------|------|----|----|------|
| 125  | 15 | M5 | 64    | 22.5 | 50.5 | 36 | 21 | 8    |
| 160  | 18 | M5 | 76.5  | 27   | 62   | 46 | 23 | 12.5 |
| 220  | 28 | M6 | 111.5 | 42.5 | 89.5 | 54 | 33 | 17.5 |

| Size | L5   | L6  | L7 | L8   | L9   | T1  | T2 |
|------|------|-----|----|------|------|-----|----|
| 125  | 14   | 1.8 | 16 | 2    | –    | 2.5 | 12 |
| 160  | 18   | 2   | 17 | 0.55 | 14.9 | 2.5 | 12 |
| 220  | 25.5 | 2   | 30 | 2    | 18   | 3   | 15 |

| Size | Stroke | L1  | L2<br>min. |
|------|--------|-----|------------|
| 125  | ≤900   | 268 | 136.5      |
| 160  | <1,377 | 296 | 151.3      |
|      | ≥1,377 | 336 | 171        |
| 220  | <1,604 | 409 | 206        |
|      | ≥1,604 | 469 | 236        |

# Spindle axes EGC-HD-BS, with heavy-duty guide

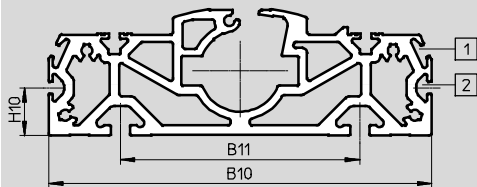
Technical data

FESTO

## Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)

### Profile

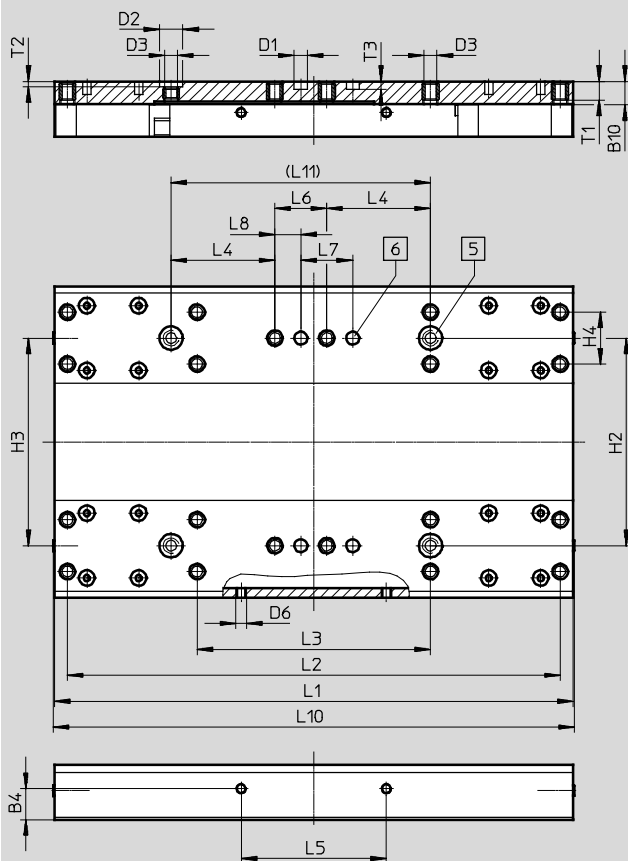


- 1 Sensor slot for proximity sensor
- 2 Mounting slot for slot nut

| Size | B10 | B11 | H10 |
|------|-----|-----|-----|
| 125  | 122 | 80  | 20  |
| 160  | 160 | 100 | 20  |
| 220  | 220 | 140 | 20  |

## GK – Standard slide

### Size 125



- 5 Hole for centring sleeve ZBH
- 6 Hole for centring pin ZBS

| Size | B4   | B10 | D1<br>Ø | D2<br>Ø | D3 | D6 | H2    | H3    | H4   | L1   | L2   | L3   |
|------|------|-----|---------|---------|----|----|-------|-------|------|------|------|------|
|      | ±0.1 |     | H7      | H7      |    |    | ±0.03 | ±0.05 | ±0.1 | ±0.1 | ±0.2 | ±0.1 |
| 125  | 12   | 9   | 5       | 9       | M5 | M4 | 80    | 80    | 20   | 200  | 190  | 90   |

| Size | L4   | L5   | L6   | L7    | L8   | L10 | L11   | T1  | T2   | T3   |
|------|------|------|------|-------|------|-----|-------|-----|------|------|
|      | ±0.1 | ±0.2 | ±0.1 | ±0.03 | ±0.1 |     | ±0.03 |     | +0.1 | +0.1 |
| 125  | 40   | 56   | 20   | 20    | 10   | 202 | 100   | 7.8 | 2.1  | 3.1  |

# Spindle axes EGC-HD-BS, with heavy-duty guide

Technical data

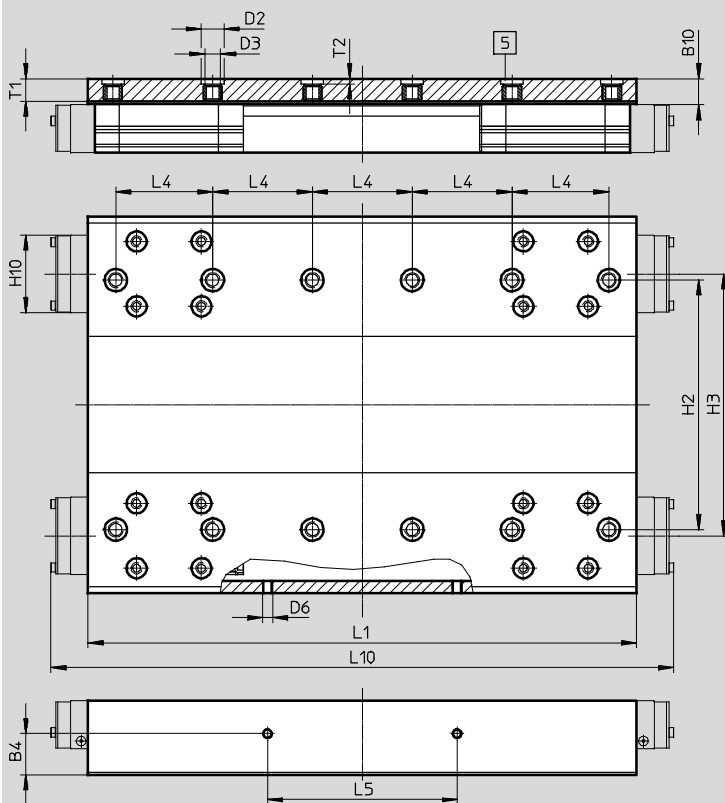
**FESTO**

## Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)

GK – Standard slide/GP – Standard slide, protected

### Size 160



[5] Hole for centring sleeve ZBH

| Size | B4   | B10 <sup>*)</sup> | D2<br>Ø<br>H7 | D3 | D6 | H2<br>±0.03 | H3<br>±0.05 |
|------|------|-------------------|---------------|----|----|-------------|-------------|
| 160  | 16.5 | 10.5              | 9             | M6 | M4 | 100         | 105         |

| Size | H10 <sup>*)</sup> | L1<br>±0.1 | L4<br>±0.03 | L5<br>±0.1 | L10 <sup>*)</sup> | T1<br>9 | T2<br>+0.1 |
|------|-------------------|------------|-------------|------------|-------------------|---------|------------|
| 160  | 31                | 220        | 40          | 76         | 250               | 9       | 2.1        |

<sup>\*)</sup> Protected version

# Spindle axes EGC-HD-BS, with heavy-duty guide

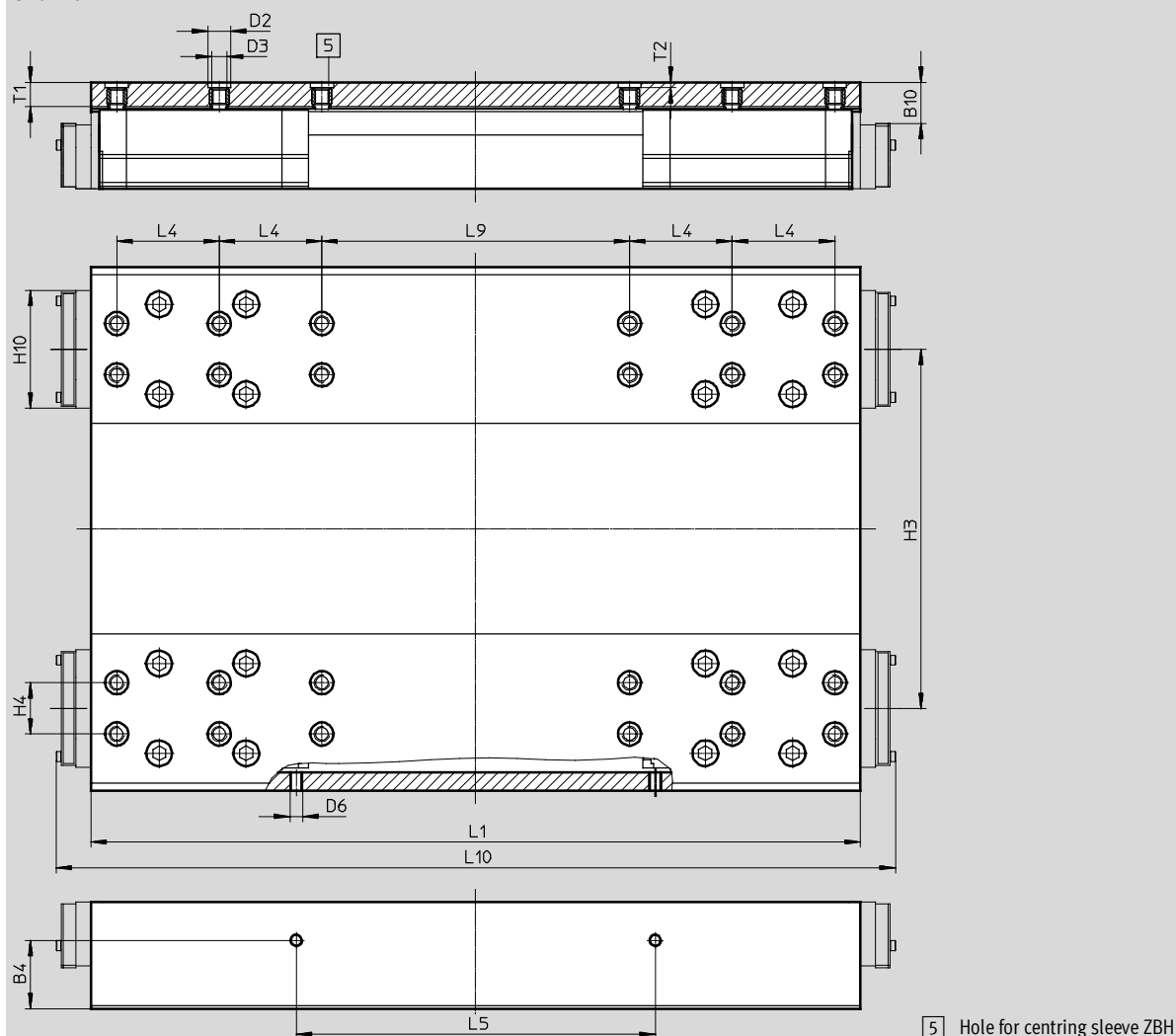
Technical data

## Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)

GK – Standard slide/GP – Standard slide, protected

Size 220



| Size | B4   | B10 <sup>*)</sup> | D2<br>Ø<br>H7 | D3 | D6 | H3    | H4    | H10 <sup>*)</sup> |
|------|------|-------------------|---------------|----|----|-------|-------|-------------------|
| 220  | ±0.1 | 16                | 9             | M6 | M5 | ±0.05 | ±0.03 | 45.95             |

| Size | L1   | L4    | L5   | L9    | L10 <sup>*)</sup> | T1  | T2  |
|------|------|-------|------|-------|-------------------|-----|-----|
| 220  | ±0.1 | ±0.03 | ±0.1 | ±0.03 | 328               | 9.5 | 2.1 |

<sup>\*)</sup> Protected version

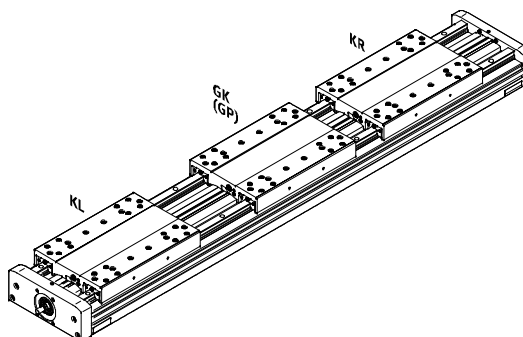
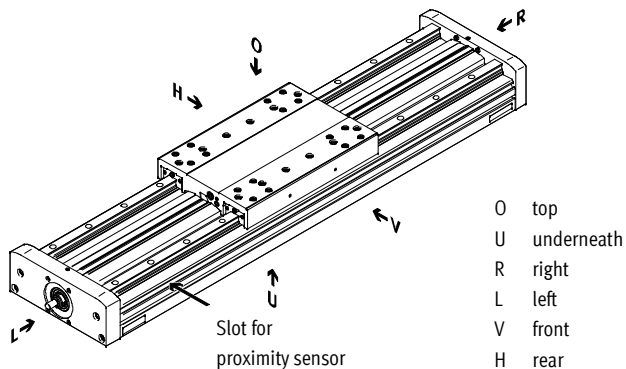
## Spindle axes EGC-HD-BS, with heavy-duty guide

Ordering data – Modular products

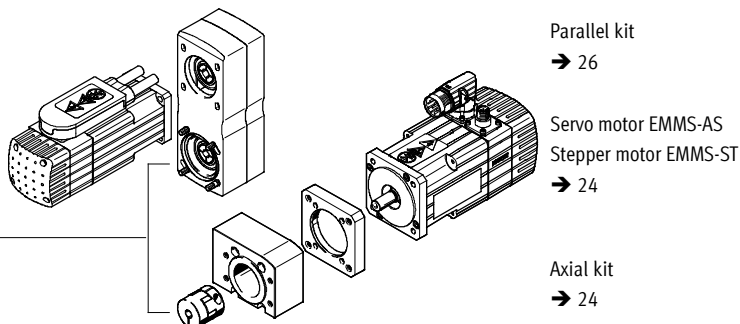
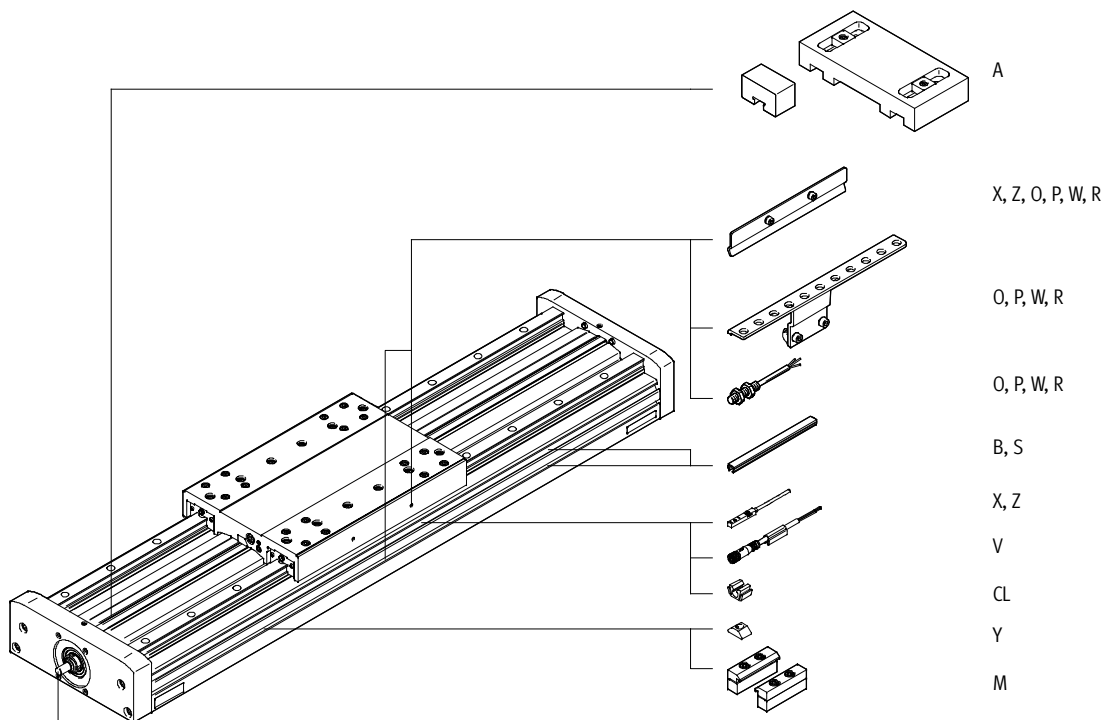
**FESTO**

### Order code

Mandatory data



### Accessories



# Spindle axes EGC-HD-BS, with heavy-duty guide

Ordering data – Modular products

| Ordering table |                                                                              |                                        |                                                                                                                                                                                                                           |                                                                   |                                                                   |       |               |      |  |
|----------------|------------------------------------------------------------------------------|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|-------------------------------------------------------------------|-------|---------------|------|--|
| Size           |                                                                              | 125                                    | 160                                                                                                                                                                                                                       | 220                                                               | Condi-<br>tions                                                   | Code  | Enter<br>code |      |  |
| [M]            | Module No.                                                                   |                                        | 556819                                                                                                                                                                                                                    | 556820                                                            | 556821                                                            |       |               |      |  |
|                | Design                                                                       |                                        | Linear axis                                                                                                                                                                                                               |                                                                   |                                                                   |       | EGC           | EGC  |  |
|                | Guide                                                                        |                                        | Heavy-duty guide                                                                                                                                                                                                          |                                                                   |                                                                   |       | -HD           | -HD  |  |
|                | Size                                                                         |                                        | 125                                                                                                                                                                                                                       | 160                                                               | 220                                                               |       | -...          | -... |  |
|                | Stroke<br>(without stroke reserve)                                           |                                        | [mm] 100, 200, 300,<br>400, 500, 600,<br>700, 900                                                                                                                                                                         | 100; 200; 400;<br>500; 700; 900;<br>1,300; 1,400;<br>1,700; 1,900 | 100; 200; 400;<br>500; 700; 900;<br>1,300; 1,400;<br>1,900; 2,400 | [1]   | -...          | -... |  |
|                | Stroke                                                                       |                                        | 50 ... 900                                                                                                                                                                                                                | 50 ... 1,900                                                      | 50 ... 2,400                                                      |       |               |      |  |
|                | Function                                                                     |                                        | Ball screw spindle                                                                                                                                                                                                        |                                                                   |                                                                   |       | -BS           | -BS  |  |
|                | Spindle pitch                                                                |                                        | 10                                                                                                                                                                                                                        | 10                                                                | 10                                                                |       | -10P          |      |  |
|                |                                                                              |                                        | –                                                                                                                                                                                                                         | 20                                                                | –                                                                 |       | -20P          |      |  |
|                |                                                                              |                                        | –                                                                                                                                                                                                                         | 25                                                                |                                                                   |       | -25P          |      |  |
|                | Spindle support                                                              |                                        | None                                                                                                                                                                                                                      |                                                                   |                                                                   |       |               |      |  |
|                |                                                                              |                                        | With spindle support                                                                                                                                                                                                      |                                                                   |                                                                   | [4]   | -S            |      |  |
| > 605 mm       |                                                                              |                                        | > 680 mm                                                                                                                                                                                                                  | > 783 mm                                                          |                                                                   |       |               |      |  |
| Stroke reserve |                                                                              | [mm] 0 ... 999 (0 = no stroke reserve) |                                                                                                                                                                                                                           |                                                                   | [1]                                                               | -...H |               |      |  |
| Slide          |                                                                              | Standard slide                         |                                                                                                                                                                                                                           |                                                                   |                                                                   | -GK   |               |      |  |
|                |                                                                              | –                                      | Standard slide, protected                                                                                                                                                                                                 |                                                                   |                                                                   | -GP   |               |      |  |
| [O]            | Additional slide                                                             |                                        | Left                                                                                                                                                                                                                      | Additional slide, standard, on left                               |                                                                   |       | [2]           | -KL  |  |
|                |                                                                              |                                        | Right                                                                                                                                                                                                                     | Additional slide, standard, on right                              |                                                                   |       | [2]           | -KR  |  |
|                | Accessories                                                                  |                                        | Accessories enclosed separately                                                                                                                                                                                           |                                                                   |                                                                   |       | ZUB-          | ZUB- |  |
|                | Profile mounting                                                             |                                        | 1 ... 50                                                                                                                                                                                                                  |                                                                   |                                                                   |       | ...M          |      |  |
|                | Cover                                                                        |                                        | Mounting slot                                                                                                                                                                                                             | 1 ... 50 (1 = 2x 500 mm pieces)                                   |                                                                   |       | [5]           | ...B |  |
|                |                                                                              |                                        | Sensor slot                                                                                                                                                                                                               | 1 ... 50                                                          |                                                                   |       |               | ...S |  |
|                | Slot nut for mounting slot                                                   |                                        | 1 ... 99                                                                                                                                                                                                                  |                                                                   |                                                                   | [5]   | ...Y          |      |  |
|                | Proximity sensor (SIES),<br>inductive, slot type 8, PNP,<br>incl. switch lug |                                        | N/O contact, 7.5 m cable                                                                                                                                                                                                  | 1 ... 6                                                           |                                                                   |       |               | ...X |  |
|                |                                                                              |                                        | N/C contact, 7.5 m cable                                                                                                                                                                                                  | 1 ... 6                                                           |                                                                   |       |               | ...Z |  |
|                | Emergency buffer with retainer                                               |                                        | 1 ... 2                                                                                                                                                                                                                   |                                                                   |                                                                   | [3]   | ...A          |      |  |
|                | Proximity sensor (SIEN),<br>inductive, M8, PNP, incl.                        |                                        | N/O contact, 2.5 m cable                                                                                                                                                                                                  | 1 ... 99                                                          |                                                                   |       |               | ...O |  |
|                |                                                                              |                                        | N/C contact, 2.5 m cable                                                                                                                                                                                                  | 1 ... 99                                                          |                                                                   |       |               | ...P |  |
|                | switch lug with sensor<br>bracket                                            |                                        | N/O contact, plug M8                                                                                                                                                                                                      | 1 ... 99                                                          |                                                                   |       |               | ...W |  |
|                |                                                                              |                                        | N/C contact, plug M8                                                                                                                                                                                                      | 1 ... 99                                                          |                                                                   |       |               | ...R |  |
|                | Connecting cable, M8, 3-wire, 2.5 m                                          |                                        | 1 ... 99                                                                                                                                                                                                                  |                                                                   |                                                                   |       | ...V          |      |  |
|                | Cable clip                                                                   |                                        | 10, 20, 30, 40, 50, 60, 70, 80, 90                                                                                                                                                                                        |                                                                   |                                                                   |       | ...CL         |      |  |
|                | Operating instructions                                                       |                                        | Express waiver - no user documentation to be included (already available) (operating instructions in PDF format are available free of charge on the Internet at <a href="http://www.festo.com">http://www.festo.com</a> ) |                                                                   |                                                                   |       | -DN           |      |  |

- [1] -... The sum of the stroke length in mm and 2x the stroke reserve in mm must not exceed the maximum stroke length in mm.
- [2] **KL, KR** If the protected slide variant (GP) is selected, then the additional slide (KL, KR) is also protected.

- [3] ... **A** Cannot be combined with slide GP.
- [4] **S** Only available above the specified strokes.
- [5] **B, Y** Scope of delivery with size 160 for both slot sizes (→ 30).

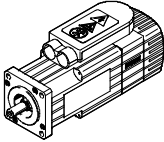
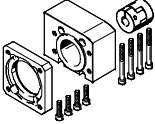
## Order code

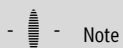
**EGC** - **HD** -  -  - **BS** -  -  -  -  -  -  -

## Spindle axes EGC-HD-BS, with heavy-duty guide

Accessories

**FESTO**

| Permissible axis/motor combinations with axial kit                                |                                                                                    |                 | Technical data → Internet: eamm-a |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-----------------|-----------------------------------|
| Motor                                                                             | Axial kit                                                                          |                 |                                   |
|  |  |                 |                                   |
| Type                                                                              | Part No.                                                                           | Type            |                                   |
| <b>EGC-HD-125</b>                                                                 |                                                                                    |                 |                                   |
| With servo motor                                                                  |                                                                                    |                 |                                   |
| EMMS-AS-40-...                                                                    | 558162                                                                             | EAMM-A-S38-40A  |                                   |
| EMMS-AS-55-...                                                                    | 558163                                                                             | EAMM-A-S38-55A  |                                   |
| With stepper motor                                                                |                                                                                    |                 |                                   |
| EMMS-ST-42-...                                                                    | 560685                                                                             | EAMM-A-S38-42A  |                                   |
| EMMS-ST-57-...                                                                    | 560686                                                                             | EAMM-A-S38-57A  |                                   |
| <b>EGC-HD-160</b>                                                                 |                                                                                    |                 |                                   |
| With servo motor                                                                  |                                                                                    |                 |                                   |
| EMMS-AS-55-...                                                                    | 558164                                                                             | EAMM-A-S48-55A  |                                   |
| EMMS-AS-70-...                                                                    | 558165                                                                             | EAMM-A-S48-70A  |                                   |
| With stepper motor                                                                |                                                                                    |                 |                                   |
| EMMS-ST-57-...                                                                    | 560687                                                                             | EAMM-A-S48-57A  |                                   |
| EMMS-ST-87-...                                                                    | 560688                                                                             | EAMM-A-S48-87A  |                                   |
| <b>EGC-HD-220</b>                                                                 |                                                                                    |                 |                                   |
| With servo motor                                                                  |                                                                                    |                 |                                   |
| EMMS-AS-70-...                                                                    | 558166                                                                             | EAMM-A-S62-70A  |                                   |
| EMMS-AS-100-...                                                                   | 558167                                                                             | EAMM-A-S62-100A |                                   |
| EMMS-AS-140-...                                                                   | 558168                                                                             | EAMM-A-S62-140A |                                   |
| With stepper motor                                                                |                                                                                    |                 |                                   |
| EMMS-ST-87-...                                                                    | 560689                                                                             | EAMM-A-S62-87A  |                                   |



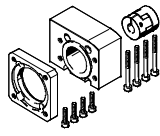
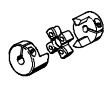
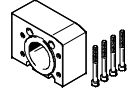
Note

For the optimum selection of axis/  
motor combinations →

PositioningDrives  
sizing software  
[www.festo.com](http://www.festo.com)

## Spindle axes EGC-HD-BS, with heavy-duty guide

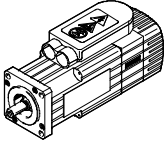
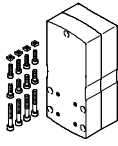
Accessories

| Component parts of the axial kit                                                  |                                                                                   |                                                                                   |                                                                                    |                                                                                     |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Axial kit                                                                         | Comprising:                                                                       |                                                                                   |                                                                                    |                                                                                     |
|                                                                                   | Motor flange                                                                      | Coupling                                                                          | Coupling housing                                                                   | Screw set                                                                           |
|  |  |  |  |  |
| Part No.<br>Type                                                                  | Part No.<br>Type                                                                  | Part No.<br>Type                                                                  | Part No.<br>Type                                                                   | Part No.<br>Type                                                                    |
| <b>EGC-HD-125</b>                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     |
| 558162<br>EAMM-A-S38-40A                                                          | 558175<br>EAMF-A-38B-40A                                                          | 558312<br>EAMC-30-32-6-6                                                          | 558171<br>EAMK-A-S38-38A/B                                                         | –                                                                                   |
| 558163<br>EAMM-A-S38-55A                                                          | 558176<br>EAMF-A-38A-55A                                                          | 551003<br>EAMC-30-32-6-9                                                          | 558171<br>EAMK-A-S38-38A/B                                                         | 567488<br>EAHM-L2-M5-50                                                             |
| 560685<br>EAMM-A-S38-42A                                                          | 560691<br>EAMF-A-38B-42A                                                          | 561333<br>EAMC-30-32-5-6                                                          | 558171<br>EAMK-A-S38-38A/B                                                         | –                                                                                   |
| 560686<br>EAMM-A-S38-57A                                                          | 560692<br>EAMF-A-38A-57A                                                          | 551002<br>EAMC-30-32-6-6.35                                                       | 558171<br>EAMK-A-S38-38A/B                                                         | 567488<br>EAHM-L2-M5-50                                                             |
| <b>EGC-HD-160</b>                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     |
| 558164<br>EAMM-A-S48-55A                                                          | 558177<br>EAMF-A-48B-55A                                                          | 543423<br>EAMC-30-32-8-9                                                          | 558172<br>EAMK-A-S48-48A/B                                                         | –                                                                                   |
| 558165<br>EAMM-A-S48-70A                                                          | 558025<br>EAMF-A-48A-70A                                                          | 551004<br>EAMC-30-32-8-11                                                         | 558172<br>EAMK-A-S48-48A/B                                                         | 567488<br>EAHM-L2-M5-50                                                             |
| 560687<br>EAMM-A-S48-57A                                                          | 560694<br>EAMF-A-48B-57A                                                          | 543421<br>EAMC-30-32-6.35-8                                                       | 558172<br>EAMK-A-S48-48A/B                                                         | –                                                                                   |
| 560688<br>EAMM-A-S48-87A                                                          | 560695<br>EAMF-A-48A-87A                                                          | 551004<br>EAMC-30-32-8-11                                                         | 558172<br>EAMK-A-S48-48A/B                                                         | 567489<br>EAHM-L2-M5-55                                                             |
| <b>EGC-HD-220</b>                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     |
| 558166<br>EAMM-A-S62-70A                                                          | 558179<br>EAMF-A-62B-70A                                                          | 558313<br>EAMC-42-66-11-12                                                        | 558173<br>EAMK-A-S62-62A/B                                                         | –                                                                                   |
| 558167<br>EAMM-A-S62-100A                                                         | 558026<br>EAMF-A-62A-100A                                                         | 551005<br>EAMC-42-50-12-19                                                        | 558173<br>EAMK-A-S62-62A/B                                                         | 567494<br>EAHM-L2-M6-80                                                             |
| 558168<br>EAMM-A-S62-140A                                                         | 558022<br>EAMF-A-62A-140A                                                         | 558314<br>EAMC-42-50-12-24                                                        | 558173<br>EAMK-A-S62-62A/B                                                         | 567495<br>EAHM-L2-M6-90                                                             |
| 560689<br>EAMM-A-S62-87A                                                          | 560696<br>EAMF-A-62B-87A                                                          | 558313<br>EAMC-42-66-11-12                                                        | 558173<br>EAMK-A-S62-62A/B                                                         | –                                                                                   |

## Spindle axes EGC-HD-BS, with heavy-duty guide

Accessories

**FESTO**

| Permissible axis/motor combinations with parallel kit                             |                                                                                   |                                       | Technical data → Internet: eamm-u |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------|-----------------------------------|
| Motor                                                                             | Parallel kit                                                                      |                                       |                                   |
|  |  |                                       |                                   |
| Type                                                                              | Part No.                                                                          | Type                                  |                                   |
| <b>EGC-HD-125</b>                                                                 |                                                                                   |                                       |                                   |
| With servo motor                                                                  |                                                                                   |                                       |                                   |
| EMMS-AS-40-...                                                                    | 1217708                                                                           | EAMM-U-50-S38-40A-78                  |                                   |
| EMMS-AS-55-...                                                                    | 1218538                                                                           | EAMM-U-60-S38-55A-91                  |                                   |
| With stepper motor                                                                |                                                                                   |                                       |                                   |
| EMMS-ST-42-...                                                                    | 1217945                                                                           | EAMM-U-50-S38-42A-78                  |                                   |
| EMMS-ST-57-...                                                                    | 1218568                                                                           | EAMM-U-60-S38-57A-91                  |                                   |
| <b>EGC-HD-160</b>                                                                 |                                                                                   |                                       |                                   |
| With servo motor                                                                  |                                                                                   |                                       |                                   |
| EMMS-AS-55-...                                                                    | 1219370                                                                           | EAMM-U-60-S48-55A-91 <sup>1)</sup>    |                                   |
| EMMS-AS-70-...                                                                    | 1217689                                                                           | EAMM-U-86-S48-70A-102 <sup>1)</sup>   |                                   |
| With stepper motor                                                                |                                                                                   |                                       |                                   |
| EMMS-ST-57-...                                                                    | 1219379                                                                           | EAMM-U-60-S48-57A-91 <sup>1)</sup>    |                                   |
| EMMS-ST-87-...                                                                    | 1217604                                                                           | EAMM-U-86-S48-87A-177 <sup>1)</sup>   |                                   |
| <b>EGC-HD-220</b>                                                                 |                                                                                   |                                       |                                   |
| With servo motor                                                                  |                                                                                   |                                       |                                   |
| EMMS-AS-70-...                                                                    | 1217543                                                                           | EAMM-U-86-S62-70A-177 <sup>1)</sup>   |                                   |
| EMMS-AS-100-...                                                                   | 1217381                                                                           | EAMM-U-110-S62-100A-207 <sup>1)</sup> |                                   |
| EMMS-AS-140-...                                                                   | 1219440                                                                           | EAMM-U-145-S62-140A-288 <sup>1)</sup> |                                   |
| With stepper motor                                                                |                                                                                   |                                       |                                   |
| EMMS-ST-87-...                                                                    | 1217373                                                                           | EAMM-U-86-S62-87A-177 <sup>1)</sup>   |                                   |

 Note

- 1) These parallel kits include a counter bearing EAMG to support the axis shaft.  
More information → eamm-u

 Note

The clamping component EADT is required to adjust the toothed belt pretension with EAMM-U-110 and EAMM-U-145.

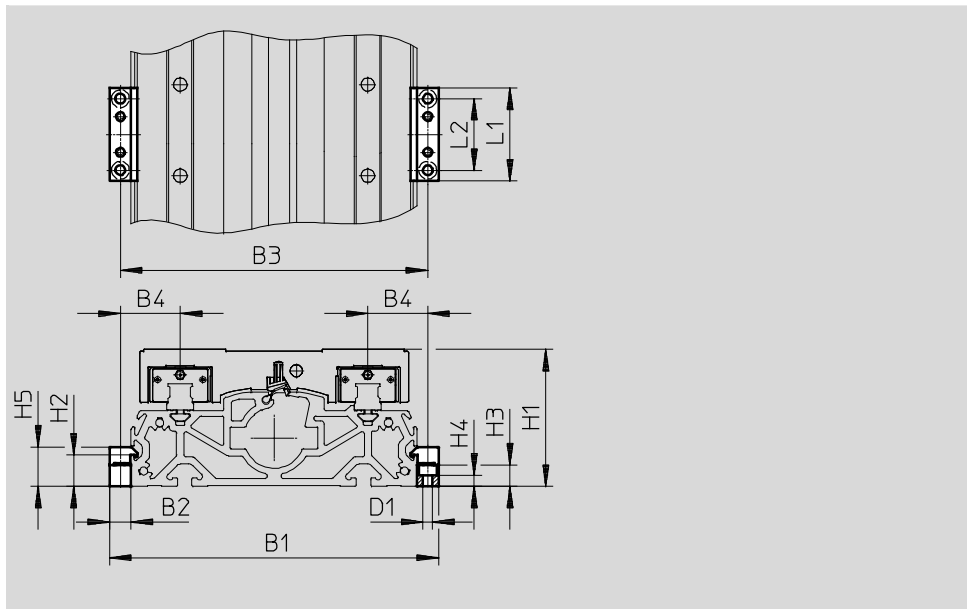
The motor and/or axis shaft can optionally be supported with a counter bearing EAMG.  
More information → eamm-u

# Spindle axes EGC-HD-BS, with heavy-duty guide

Accessories

**Profile mounting MUE**  
(order code M)

Material:  
Anodised aluminium  
Conforms to RoHS



| Dimensions and ordering data |     |    |     |      |         |       |      |    |
|------------------------------|-----|----|-----|------|---------|-------|------|----|
| For size                     | B1  | B2 | B3  | B4   | D1<br>Ø | H1    | H2   | H3 |
| 125                          | 146 | 12 | 134 | 27   | 5.5     | 64    | 17.5 | 12 |
| 160                          | 184 | 12 | 172 | 33.5 | 5.5     | 76.5  | 17.5 | 12 |
| 220                          | 258 | 19 | 239 | 49.5 | 9       | 111.5 | 16   | 14 |

| For size | H4  | H5   | L1 | L2 | Weight<br>[g] | Part No. | Type        |
|----------|-----|------|----|----|---------------|----------|-------------|
| 125      | 6.2 | 22   | 52 | 40 | 80            | 558043   | MUE-70/80   |
| 160      | 6.2 | 22   | 52 | 40 | 80            | 558043   | MUE-70/80   |
| 220      | 5.5 | 29.5 | 90 | 40 | 290           | 558044   | MUE-120/185 |

## Spindle axes EGC-HD-BS, with heavy-duty guide

**FESTO**

Accessories

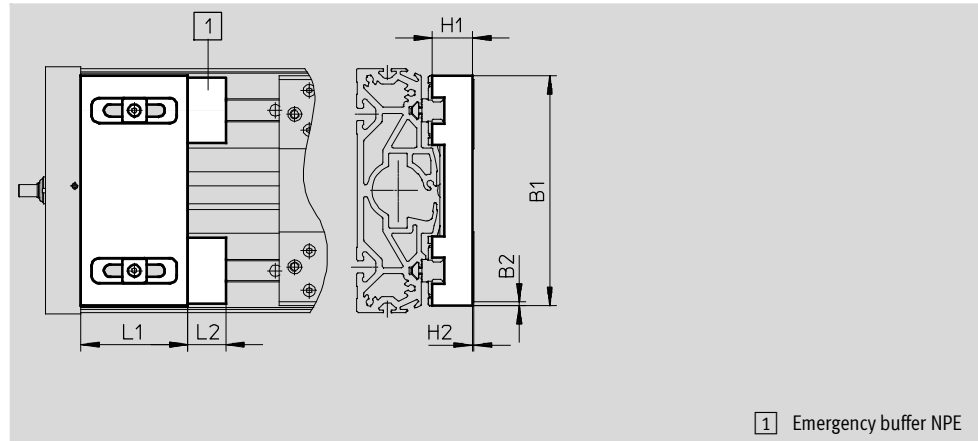
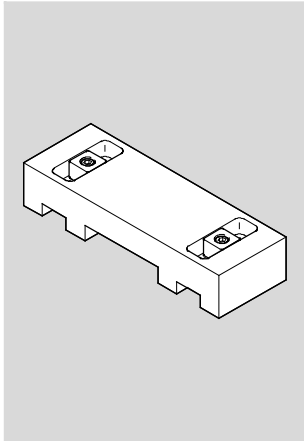
### Retainer EAYH

Emergency buffer NPE → 30  
(order code A)

Material:

Anodised aluminium  
Conforms to RoHS

Cannot be used in combination with  
the variants GP.



1 Emergency buffer NPE

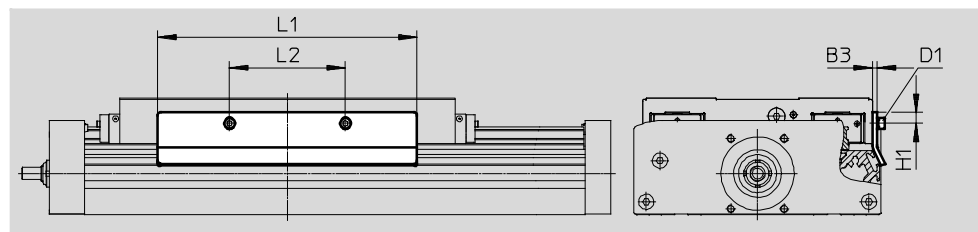
| Dimensions and ordering data |       |      |      |     |    |    |            |          |               |
|------------------------------|-------|------|------|-----|----|----|------------|----------|---------------|
| For size                     | B1    | B2   | H1   | H2  | L1 | L2 | Weight [g] | Part No. | Type          |
| 125                          | 120   | 0    | 17.8 | 0.4 | 50 | 17 | 260        | 1662803  | EAYH-L2-125-N |
| 160                          | 150.7 | 2.65 | 26.2 | 0.8 | 70 | 25 | 617        | 1669259  | EAYH-L2-160-N |
| 220                          | 204   | 6    | 38.7 | 0.1 | 70 | 30 | 1,195      | 1669260  | EAYH-L2-220-N |

### Switch lug SF-EGC-HD-1

for sensing via proximity sensor  
SIES-8M  
(order code X or Z)

Material:

Galvanised steel  
Conforms to RoHS



| Dimensions and ordering data |    |       |      |     |     |            |          |                 |  |
|------------------------------|----|-------|------|-----|-----|------------|----------|-----------------|--|
| For size                     | B3 | D1    | H1   | L1  | L2  | Weight [g] | Part No. | Type            |  |
| 125                          | 2  | M4x8  | 7.8  | 150 | 56  | 70         | 570027   | SF-EGC-HD-1-125 |  |
| 160                          | 3  | M4x8  | 7.3  | 170 | 76  | 160        | 1645872  | SF-EGC-HD-1-160 |  |
| 220                          | 3  | M5x10 | 11.5 | 250 | 140 | 310        | 1645866  | SF-EGC-HD-1-220 |  |

# Spindle axes EGC-HD-BS, with heavy-duty guide

Accessories

## Switch lug SF-EGC-HD-2

For sensing via proximity sensor  
SIEN-M8B (order code O, P, W or R) or  
SIES-8M (order code X or Z)

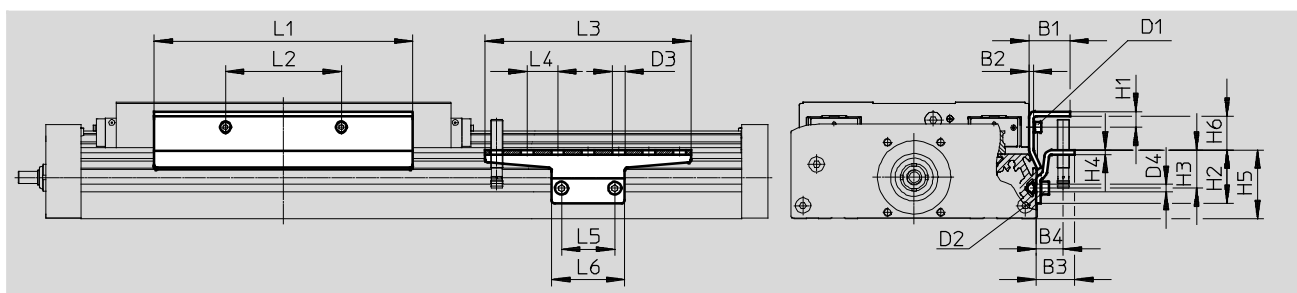
Material:  
Galvanised steel  
Conforms to RoHS



## Sensor bracket HWS-EGC

For proximity sensor SIEN-M8B  
(order code O, P, W or R)

Material:  
Galvanised steel  
Conforms to RoHS



### Dimensions and ordering data

| For size | B1 | B2 | B3   | B4 | D1    | D2    | D3  | D4  | H1   | H2 |
|----------|----|----|------|----|-------|-------|-----|-----|------|----|
| 125      | 24 | 2  | 25.5 | 18 | M4x8  | M5x8  | 8.4 | 5.2 | 9    | 35 |
| 160      | 27 | 3  | 25.5 | 18 | M4x8  | M5x8  | 8.4 | 5.2 | 10.3 | 35 |
| 220      | 31 | 3  | 25.5 | 18 | M5x10 | M5x14 | 8.4 | 5.2 | 11.5 | 65 |

| For size | H3 | H4 | H5 | H6   | L1  | L2  | L3  | L4 | L5 | L6 |
|----------|----|----|----|------|-----|-----|-----|----|----|----|
| 125      | 25 | 3  | 45 | 14   | 150 | 56  | 135 | 20 | 35 | 48 |
| 160      | 25 | 3  | 45 | 22.2 | 170 | 76  | 135 | 20 | 35 | 48 |
| 220      | 55 | 3  | 75 | 18.4 | 250 | 140 | 215 | 20 | 35 | 48 |

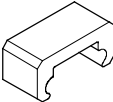
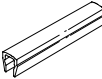
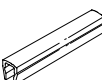
| For size   | Weight [g] | Part No. | Type            |
|------------|------------|----------|-----------------|
| Switch lug |            |          |                 |
| 125        | 122        | 570030   | SF-EGC-HD-2-125 |
| 160        | 261        | 1645865  | SF-EGC-HD-2-160 |
| 220        | 430        | 1645868  | SF-EGC-HD-2-220 |

| For size       | Weight [g] | Part No. | Type         |
|----------------|------------|----------|--------------|
| Sensor bracket |            |          |              |
| 125            | 110        | 558057   | HWS-EGC-M5   |
| 160            | 110        | 558057   | HWS-EGC-M5   |
| 220            | 217        | 570365   | HWS-EGC-M8-B |

## Spindle axes EGC-HD-BS, with heavy-duty guide

Accessories

**FESTO**

| Ordering data                                                                       |                         |                                                               |            |                |                 |                  |
|-------------------------------------------------------------------------------------|-------------------------|---------------------------------------------------------------|------------|----------------|-----------------|------------------|
|                                                                                     | For size                | Remark                                                        | Order code | Part No.       | Type            | PU <sup>1)</sup> |
| Emergency buffer NPE                                                                |                         |                                                               |            |                |                 |                  |
|    | 125                     | Use in combination with<br>retainer EAYH                      | A          | <b>1662475</b> | <b>NPE-125</b>  | 1                |
|                                                                                     | 160                     |                                                               |            | <b>1672593</b> | <b>NPE-160</b>  |                  |
|                                                                                     | 220                     |                                                               |            | <b>1672598</b> | <b>NPE-220</b>  |                  |
| Slot nut NST                                                                        |                         |                                                               |            |                |                 |                  |
|    | 125, 160 <sup>3)</sup>  | For mounting slot                                             | Y          | <b>150914</b>  | <b>NST-5-M5</b> | 1                |
|                                                                                     | 160 <sup>4)</sup> , 220 |                                                               |            | <b>150915</b>  | <b>NST-8-M6</b> |                  |
| Centring pin/sleeve ZBS/ZBH <sup>2)</sup>                                           |                         |                                                               |            |                |                 |                  |
|    | 125                     | For slide                                                     | –          | <b>150928</b>  | <b>ZBS-5</b>    | 10               |
|                                                                                     | 125 ... 220             |                                                               |            | <b>150927</b>  | <b>ZBH-9</b>    |                  |
| Slot cover ABP                                                                      |                         |                                                               |            |                |                 |                  |
|    | 125, 160 <sup>3)</sup>  | For mounting slot<br>every 0.5 m                              | B          | <b>151681</b>  | <b>ABP-5</b>    | 2                |
|                                                                                     | 160 <sup>4)</sup> , 220 |                                                               |            | <b>151682</b>  | <b>ABP-8</b>    |                  |
| Slot cover ABP-S                                                                    |                         |                                                               |            |                |                 |                  |
|  | 125 ... 220             | For sensor slot<br>every 0.5 m                                | S          | <b>563360</b>  | <b>ABP-5-S1</b> | 2                |
| Clip SMBK                                                                           |                         |                                                               |            |                |                 |                  |
|  | 125 ... 220             | For sensor slot, for attaching<br>the proximity sensor cables | CL         | <b>534254</b>  | <b>SMBK-8</b>   | 10               |

1) Packaging unit

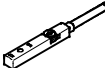
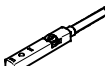
2) 2 centring pins/sleeves included in the scope of delivery of the axis

3) For mounting slot at side

4) For mounting slot underneath

# Spindle axes EGC-HD-BS, with heavy-duty guide

Accessories

| Ordering data – Proximity sensors for T-slot, inductive                           |                                                                    |                       |                  |                  |            |          | Technical data ➔ Internet: sies |
|-----------------------------------------------------------------------------------|--------------------------------------------------------------------|-----------------------|------------------|------------------|------------|----------|---------------------------------|
|                                                                                   | Type of mounting                                                   | Electrical connection | Switching output | Cable length [m] | Order code | Part No. | Type                            |
| N/O contact                                                                       |                                                                    |                       |                  |                  |            |          |                                 |
|  | Insertable in the slot from above, flush with the cylinder profile | Cable, 3-wire         | PNP              | 7.5              | X          | 551386   | SIES-8M-PS-24V-K-7,5-OE         |
|                                                                                   |                                                                    | Plug M8x1, 3-pin      |                  | 0.3              | –          | 551387   | SIES-8M-PS-24V-K-0,3-M8D        |
|                                                                                   |                                                                    | Cable, 3-wire         | NPN              | 7.5              | –          | 551396   | SIES-8M-NS-24V-K-7,5-OE         |
|                                                                                   |                                                                    | Plug M8x1, 3-pin      |                  | 0.3              | –          | 551397   | SIES-8M-NS-24V-K-0,3-M8D        |
|                                                                                   |                                                                    |                       |                  |                  |            |          |                                 |
| N/C contact                                                                       |                                                                    |                       |                  |                  |            |          |                                 |
|  | Insertable in the slot from above, flush with the cylinder profile | Cable, 3-wire         | PNP              | 7.5              | Z          | 551391   | SIES-8M-PO-24V-K-7,5-OE         |
|                                                                                   |                                                                    | Plug M8x1, 3-pin      |                  | 0.3              | –          | 551392   | SIES-8M-PO-24V-K-0,3-M8D        |
|                                                                                   |                                                                    | Cable, 3-wire         | NPN              | 7.5              | –          | 551401   | SIES-8M-NO-24V-K-7,5-OE         |
|                                                                                   |                                                                    | Plug M8x1, 3-pin      |                  | 0.3              | –          | 551402   | SIES-8M-NO-24V-K-0,3-M8D        |

| Ordering data – Proximity sensors M8 (round design), inductive                      |                       |     |                  |                  |            | Technical data → Internet: sien |                 |
|-------------------------------------------------------------------------------------|-----------------------|-----|------------------|------------------|------------|---------------------------------|-----------------|
|                                                                                     | Electrical connection | LED | Switching output | Cable length [m] | Order code | Part No.                        | Type            |
| N/O contact                                                                         |                       |     |                  |                  |            |                                 |                 |
|    | Cable, 3-wire         | ■   | PNP              | 2.5              | O          | 150386                          | SIEN-M8B-PS-K-L |
|   | Plug M8x1, 3-pin      | ■   | PNP              | –                | W          | 150387                          | SIEN-M8B-PS-S-L |
| N/C contact                                                                         |                       |     |                  |                  |            |                                 |                 |
|  | Cable, 3-wire         | ■   | PNP              | 2.5              | P          | 150390                          | SIEN-M8B-PO-K-L |
|  | Plug M8x1, 3-pin      | ■   | PNP              | –                | R          | 150391                          | SIEN-M8B-PO-S-L |

| Ordering data – Connecting cables                                                   |                              |                              |                  |          | Technical data → Internet: nebu |  |
|-------------------------------------------------------------------------------------|------------------------------|------------------------------|------------------|----------|---------------------------------|--|
|                                                                                     | Electrical connection, left  | Electrical connection, right | Cable length [m] | Part No. | Type                            |  |
|  | Straight socket, M8x1, 3-pin | Cable, open end, 3-wire      | 2.5              | 159420   | SIM-M8-3GD-2,5-PU               |  |
|                                                                                     |                              |                              | 2.5              | 541333   | NEBU-M8G3-K-2.5-LE3             |  |
|                                                                                     |                              |                              | 5                | 541334   | NEBU-M8G3-K-5-LE3               |  |
|  | Angled socket, M8x1, 3-pin   | Cable, open end, 3-wire      | 2.5              | 541338   | NEBU-M8W3-K-2.5-LE3             |  |
|                                                                                     |                              |                              | 5                | 541341   | NEBU-M8W3-K-5-LE3               |  |