



- Modular
- Simple and time-saving project engineering
- Fast system assembly

Multi-axis modular system

Key features



The concept






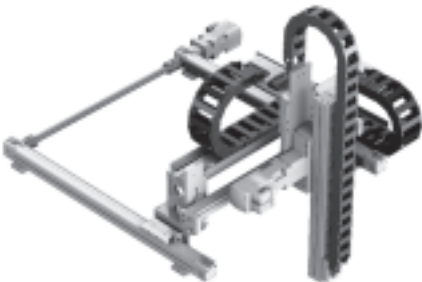
The multi-axis modular system for handling and assembly technology includes basic, connection and installation components for assembling multi-axis systems. These standardised axis combinations are the product of over ten years experience in the designing

of handling systems. The concept of the multi-axis modular system is based on a modular design with axis modules along the X-, Y- and Z-axes. These modules all have the same interfaces, which means they can be combined together.

Standard solutions with specifications on stroke, working load and intermediate positions offer practical module combinations. The advantages of this modularity are as follows:

- Simple and time-saving project engineering
- Fast system assembly
- Availability of CAD data for standard designs

Selection matrix

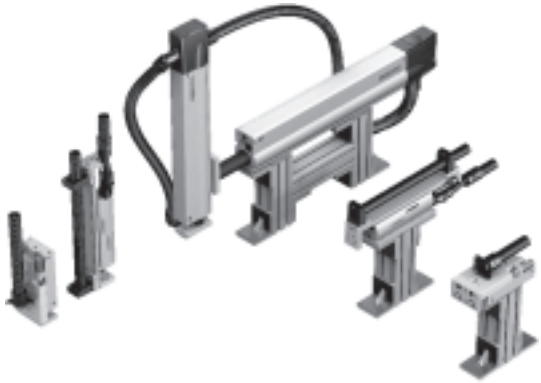
| Pick & place | Linear gantries | 3-Dimensional gantries |
|--|---|---|
| Pneumatic | | Pneumatic/electrical |
|  <p>→ 5 / 3.3-36</p> |  <p>→ 5 / 3.3-54</p> |  <p>→ 5 / 3.3-68</p> |
| Pneumatic with end position controller SPC11 (Soft Stop) | | |
| |  <p>→ 5 / 3.3-54</p> | |
| Electrical with spindle or toothed belt axis | | |
| |  <p>→ 5 / 3.3-54</p> |  <p>→ 5 / 3.3-68</p> |

Multi-axis modular system

Key features

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Pick & place



Linear gantries



3-Dimensional gantries

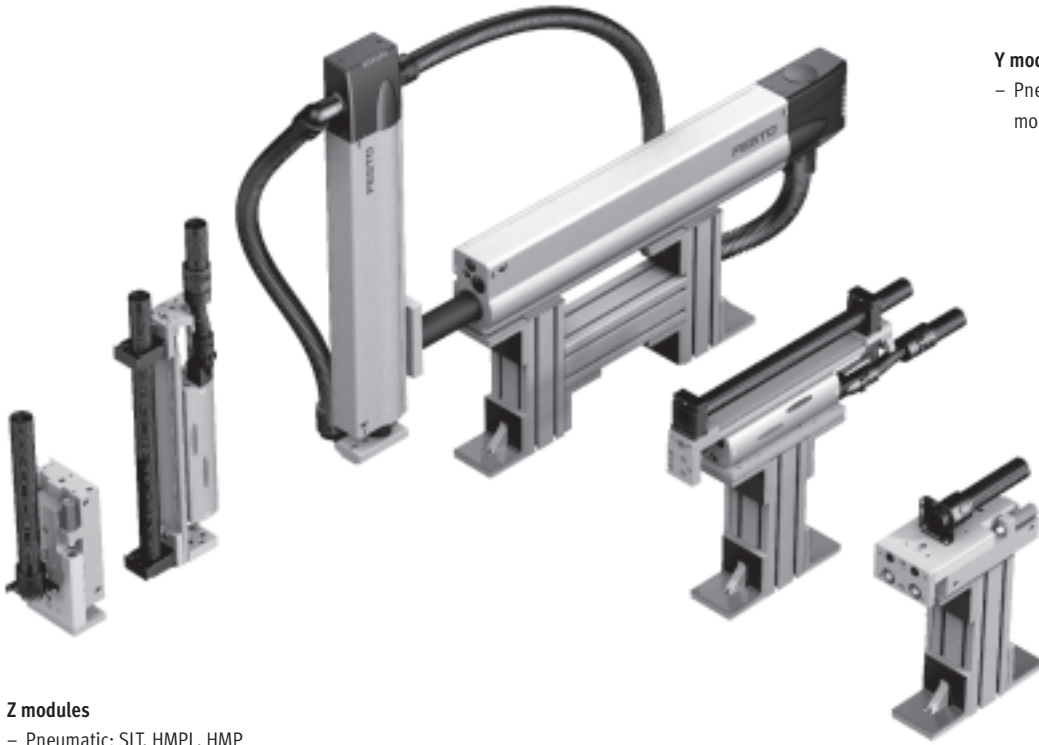


Pick & place

Key features



Y and Z modules



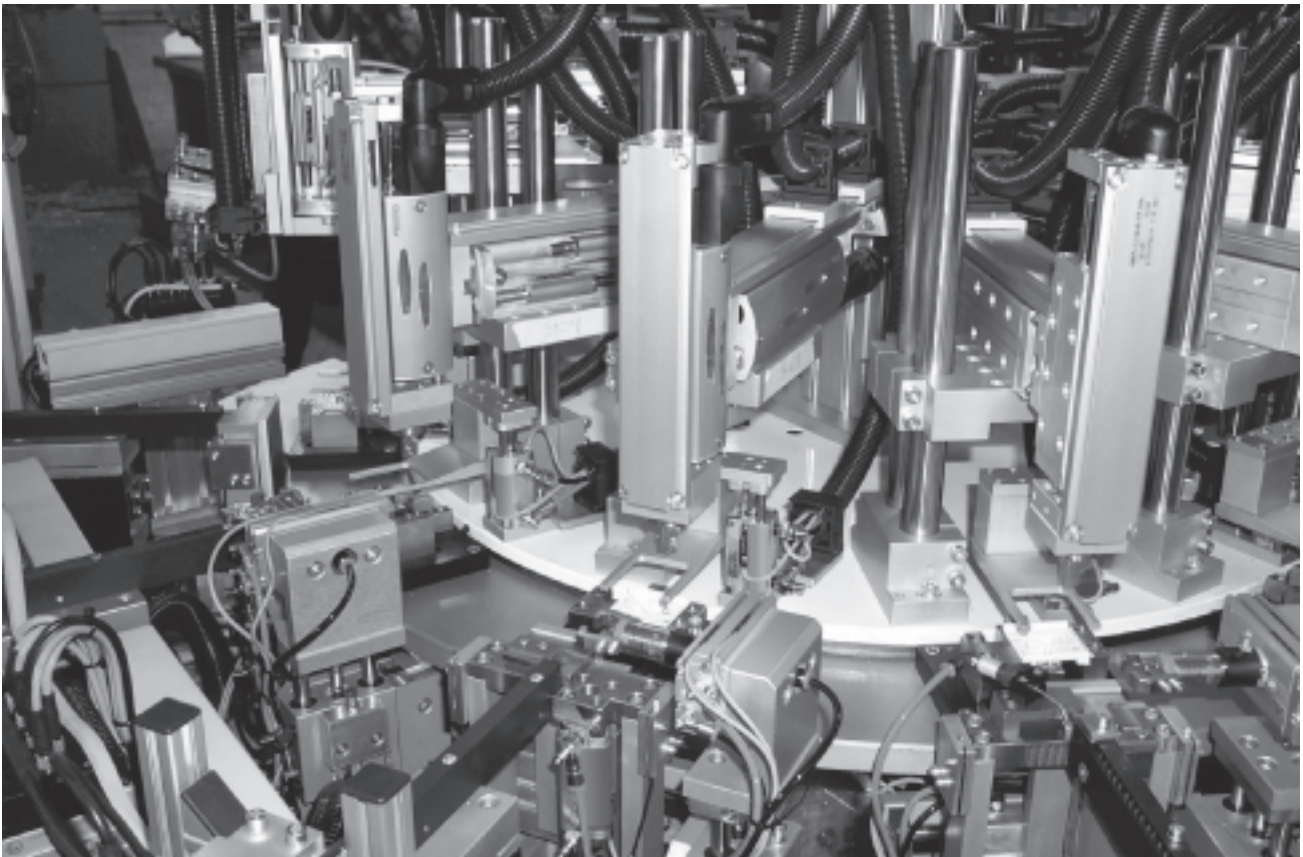
Y modules

- Pneumatic: SLT, HMPL, HMP mounted on basic components

Z modules

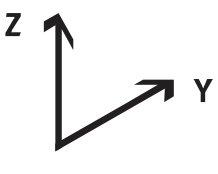





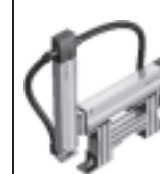
- Pneumatic: SLT, HMPL, HMP

Application



Pick & place





Product range overview

| Selection aid | | | | | | |
|---|---|---|---|--|---|---|
| Function | DGSL/DGSL | SLT/SLT | HMPL/HMPL | HM.../DGSL, SLT | HMP.../HMPL | HM.../HMP |
|  |  |  |  |  |  |  |
| Y-axis | DGSL | SLT | HMPL | HMP, HME | HMP, HME | HMP, HME |
| Drive function | Pneumatic | | | | | |
| Options | Shock absorber, adjustable/non-adjustable cushioning | Shock absorber, adjustable/non-adjustable cushioning | Intermediate position, clamping cartridge | Intermediate position | | |
| Z-axis | DGSL | SLT | HMPL | DGSL, SLT | HMPL | HMP |
| Drive function | Pneumatic | | | | | |
| Options | Shock absorber, adjustable/non-adjustable cushioning | Shock absorber, adjustable/non-adjustable cushioning | Intermediate position, clamping cartridge | Shock absorber, adjustable/non-adjustable cushioning | Intermediate position, clamping cartridge | |
| Working load [kg] | | | | | | |
| | 1 | ■ | ■ | ■ | ■ | ■ |
| | 2 | ■ | ■ | ■ | ■ | ■ |
| | 3 | ■ | ■ | ■ | ■ | ■ |
| | 4 | - | - | - | ■ | ■ |
| | 6 | - | - | - | ■ | ■ |
| | 10 | - | - | - | - | ■ |
| → Page | 5 / 3.3-38 | | | | | |

Pick & place





Selection aid for basic, connection and installation components

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| Y-axis | | | | |
|---|---|------------------------------|---|---|
| Function | DGSL/DGSL | | SLT/SLT | HMPL/HMPL |
|  |  | |  |  |
| Pneumatic drives | Stroke [mm] | Type | | |
| DGSL-16 | 30 ... 150 | HMBSY-DGSL-1 → 5 / 3.3-42 | – | – |
| DGSL-20 | 30 ... 100 | HMBSY-DGSL-2 → 5 / 3.3-42 | – | – |
| | 125 ... 200 | HMBSY-DGSL-3 → 5 / 3.3-42 | – | – |
| DGSL-25 | 30 ... 100 | HMBSY-DGSL-4 → 5 / 3.3-42 | – | – |
| | 125 ... 200 | HMBSY-DGSL-5 → 5 / 3.3-42 | – | – |
| SLT-16 | 30 ... 150 | – | HMBSY-SLT-1 → 5 / 3.3-43 | – |
| SLT-20 | 30 ... 100 | – | HMBSY-SLT-2 → 5 / 3.3-43 | – |
| | 125 ... 200 | – | HMBSY-SLT-3 → 5 / 3.3-43 | – |
| SLT-25 | 30 ... 100 | – | HMBSY-SLT-4 → 5 / 3.3-43 | – |
| | 125 ... 200 | – | HMBSY-SLT-5 → 5 / 3.3-43 | – |
| HMPL-16 | 50 ... 160 | – | – | HMBSY-HMPL-1 HMBSY-HMPL-2 → 5 / 3.3-44 |
| HMPL-20 | 50 ... 200 | – | – | HMBSY-HMPL-3 HMBSY-HMPL-4 → 5 / 3.3-44 |

Pick & place

Selection aid for basic, connection and installation components

| Y-axis | | Function | | |
|---|-------------|---|--|---|
| Function | | HMP, HME/DGSL, SLT | HMP, HME/HMPL | HMP, HME/HMP |
|  | |  |  |  |
| Pneumatic drives | Stroke [mm] | Type | | |
| HMP-16 | 150 ... 250 | HMBSY-HMP-1 → 5 / 3.3-45 | HMBSY-HMP-1 → 5 / 3.3-45 | – |
| | 320 | HMBSY-HMP-2 → 5 / 3.3-45 | HMBSY-HMP-2 → 5 / 3.3-45 | – |
| HMP-20 | 100 ... 250 | HMBSY-HMP-3 → 5 / 3.3-45 | HMBSY-HMP-3 → 5 / 3.3-45 | HMBSY-HMP-3 → 5 / 3.3-45 |
| | 320 ... 400 | HMBSY-HMP-4 → 5 / 3.3-45 | HMBSY-HMP-4 → 5 / 3.3-45 | HMBSY-HMP-4 → 5 / 3.3-45 |
| HMP-25 | 100 ... 200 | HMBSY-HMP-5 → 5 / 3.3-46 | – | HMBSY-HMP-5 → 5 / 3.3-46 |
| | 250 ... 400 | HMBSY-HMP-6 → 5 / 3.3-46 | – | HMBSY-HMP-6 → 5 / 3.3-46 |
| HMP-32 | 100 ... 200 | – | – | HMBSY-HMP-7 → 5 / 3.3-46 |
| | 250 ... 400 | – | – | HMBSY-HMP-8 → 5 / 3.3-46 |

Selection example

Project engineering produced the following drive combination:

Y-axis: HMP-16,
200 mm stroke
Z-axis: HMPL-16,
with intermediate position

Step 1

Define the drive type in the selection aids for the Y- or Z-axis. The associated bill of materials can be found on the specified page.

Y-axis: HMBSY-HMP-1
→ 5 / 3.3-45
Z-axis: HMBSZ-HMPL-3 or 4
→ 5 / 3.3-51

Step 2

The necessary basic, connection and installation components can be found in the bill of materials on the specified page.

Y-axis: HMBSY-HMP-1
Z-axis: HMBSZ-HMPL-4




Step 3

Technical data on the basic, connection and installation components can be found on the specified pages. Further accessories for the selected drives, for example proximity sensors, centring sleeves, etc. are documented with the drives.

Pick & place





Selection aid for basic, connection and installation components

FESTO

| Z-axis | | | | |
|---|---|---|--|---|
| Function | DGSL/DGSL | SLT/SLT | HMPL/HMPL | HMP, HME/DGSL |
|  |  |  |  |  |
| Pneumatic drives | Type | | | |
| DGSL-10 | HMBSZ-DGSL-1 → 5 / 3.3-47 | - | - | - |
| DGSL-16 | HMBSZ-DGSL-2 → 5 / 3.3-47 | - | - | HMBSZ-DGSL-4 → 5 / 3.3-48 |
| DGSL-20 | HMBSZ-DGSL-3 → 5 / 3.3-47 | - | - | HMBSZ-DGSL-5 → 5 / 3.3-48 |
| DGSL-25 | - | - | - | HMBSZ-DGSL-6 → 5 / 3.3-48 |
| SLT-10 | - | HMBSZ-SLT-1 → 5 / 3.3-49 | - | - |
| SLT-16 | - | HMBSZ-SLT-2 → 5 / 3.3-49 | - | - |
| SLT-20 | - | HMBSZ-SLT-3 → 5 / 3.3-49 | - | - |
| SLT-25 | - | - | - | - |
| HMPL-12 | - | - | HMBSZ-HMPL-1 HMBSZ-HMPL-2 | - |
| HMPL-16 | - | - | → 5 / 3.3-51 | - |
| HMPL-20 | - | - | - | - |
| HMP-16 | - | - | - | - |
| HMP-20 | - | - | - | - |
| HMP-25 | - | - | - | - |

Pick & place

Selection aid for basic, connection and installation components

| Z-axis | | | |
|---|---|--|---|
| Function | HMP, HME/SLT | HMP, HME/HMPL | HMP, HME/HMP |
|  |  |  |  |
| Pneumatic drives | Type | | |
| SLT-16 | HMBSZ-SLT-4 → 5 / 3.3-50 | – | – |
| SLT-20 | HMBSZ-SLT-5 → 5 / 3.3-50 | – | – |
| SLT-25 | HMBSZ-SLT-6 → 5 / 3.3-50 | – | – |
| HMPL-16 | – | HMBSZ-HMPL-3 HMBSZ-HMPL-4 → 5 / 3.3-51 | – |
| HMPL-20 | – | – | – |
| HMP-16 | – | – | HMBSZ-HMP-1 → 5 / 3.3-52 |
| HMP-20 | – | – | HMBSZ-HMP-2 → 5 / 3.3-52 |
| HMP-25 | – | – | HMBSZ-HMP-3 → 5 / 3.3-52 |

Selection example

Project engineering produced the following drive combination:

Y-axis: HMP-16,
200 mm stroke
Z-axis: HMPL-16,
with intermediate position

Step 1
Define the drive type in the selection aids for the Y- or Z-axis. The associated bill of materials can be found on the specified page.

Y-axis: HMBSY-HMP-1
→ 5 / 3.3-45
Z-axis: HMBSZ-HMPL-3 or 4
→ 5 / 3.3-51

Step 2
The necessary basic, connection and installation components can be found in the bill of materials on the specified page.

Y-axis: HMBSY-HMP-1
Z-axis: HMBSZ-HMPL-4

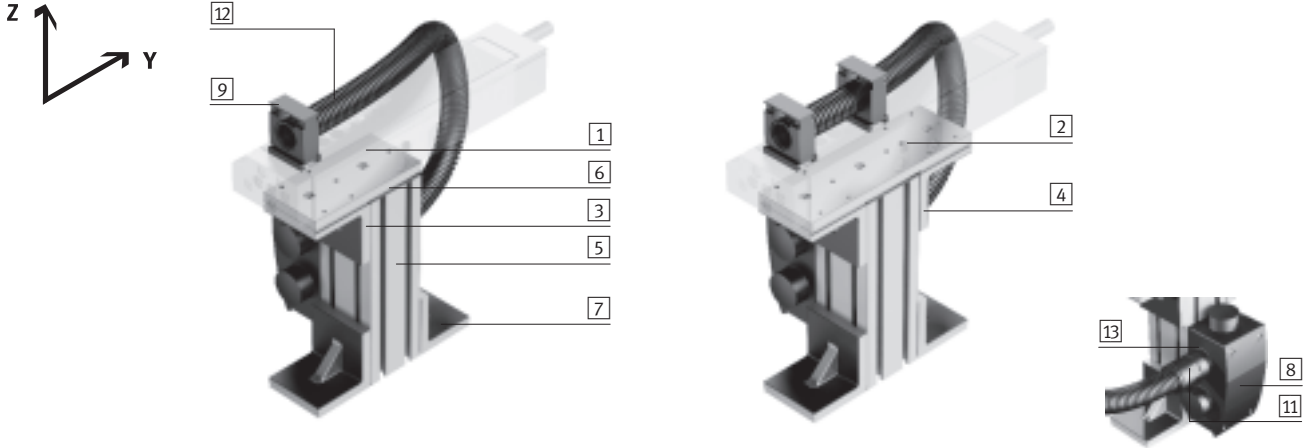
Step 3
Technical data on the basic, connection and installation components can be found on the specified pages. Further accessories for the selected drives, for example proximity sensors, centring sleeves, etc. are documented with the drives.

Pick & place

Y modules



Mini slides DGSL



| Bill of materials | | | | | | | | | | | | |
|-------------------|-----------------|---|--------------|---|--------------|---|--------------|---|--------------|---|--------|-------------|
| Type | HMBSY-DGSL-1 | | HMBSY-DGSL-2 | | HMBSY-DGSL-3 | | HMBSY-DGSL-4 | | HMBSY-DGSL-5 | | → Page | |
| For drives | DGSL-16 | | DGSL-20 | | 125 ... 200 | | DGSL-25 | | | | | |
| Stroke [mm] | 30 ... 150 | | 30 ... 100 | | 125 ... 200 | | 30 ... 100 | | 125 ... 200 | | | |
| Item | Quantity | Part No. | Type | Part No. | Type | Part No. | Type | Part No. | Type | Part No. | Type | |
| [1] | 1 | 539 968 HMVY-1 | | 539 969 HMVY-2 | | – | | 539 969 HMVY-2 | | – | | 5 / 3.3-124 |
| [2] | 1 | – | | – | | 539 970 HMVY-3 | | – | | 539 970 HMVY-3 | | |
| [3] | 1 | 175 967 HMBV-ND | | 175 967 HMBV-ND | | – | | 175 967 HMBV-ND | | – | | 5 / 3.3-108 |
| [4] | 2 | – | | – | | 175 967 HMBV-ND | | – | | 175 967 HMBV-ND | | |
| [5] | 1 ¹⁾ | 175 958 HMBS-80/80 | | 175 958 HMBS-80/80 | | 175 958 HMBS-80/80 | | 175 958 HMBS-80/80 | | 175 958 HMBS-80/80 | | 5 / 3.3-105 |
| [6] | 1 | 175 965 HMBSA-80/80 | | 175 965 HMBSA-80/80 | | 175 965 HMBSA-80/80 | | 175 965 HMBSA-80/80 | | 175 965 HMBSA-80/80 | | 5 / 3.3-105 |
| [7] | 2 | 175 951 HMBF-DB | | 175 951 HMBF-DB | | 175 951 HMBF-DB | | 175 951 HMBF-DB | | 175 951 HMBF-DB | | 5 / 3.3-107 |
| [8] | 1 | 175 126 HMZV | | 175 126 HMZV | | 175 126 HMZV | | 175 126 HMZV | | 175 126 HMZV | | 5 / 3.3-91 |
| [9] | 1 | 192 289 MKRS-16,5-B 548 803 ZBV-M5-7 | | 192 290 MKRS-23-B 548 804 ZBV-M5-9 | | 192 290 MKRS-23-B 548 804 ZBV-M5-9 | | 192 290 MKRS-23-B 548 804 ZBV-M5-9 | | 192 290 MKRS-23-B 548 804 ZBV-M5-9 | | 5 / 3.3-97 |
| [11] | 1 | 177 571 MKRV-16,5-PG-16 | | 177 572 MKRV-23-PG-21 | | 177 572 MKRV-23-PG-21 | | 177 572 MKRV-23-PG-21 | | 177 572 MKRV-23-PG-21 | | 5 / 3.3-92 |
| [12] | 1 ²⁾ | 177 566 MKR-16,5-PG-16 | | 177 567 MKR-23-PG-21 | | 177 567 MKR-23-PG-21 | | 177 567 MKR-23-PG-21 | | 177 567 MKR-23-PG-21 | | 5 / 3.3-90 |
| [13] | 1 | 193 949 MKA-PG-29-PG-16-KU | | 177 595 MKA-PG-29-PG-21 | | 177 595 MKA-PG-29-PG-21 | | 177 595 MKA-PG-29-PG-21 | | 177 595 MKA-PG-29-PG-21 | | 5 / 3.3-95 |

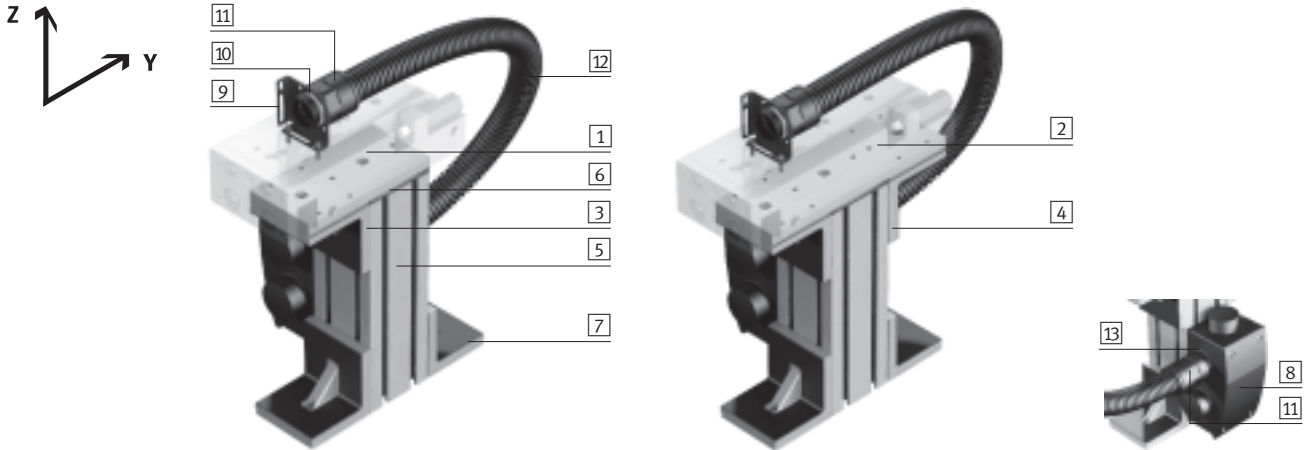
1) Height max. 500 mm

2) Length depends on the stroke of the drive

Pick & place

Y modules

Mini slides SLT



| Bill of materials | | | | | | | | | | | | |
|-------------------|-----------------|----------|-----------------|----------|-----------------|----------|-----------------|----------|-----------------|----------|-----------------|-------------|
| Type | HMBSY-SLT-1 | | HMBSY-SLT-2 | | HMBSY-SLT-3 | | HMBSY-SLT-4 | | HMBSY-SLT-5 | | → Page | |
| For drives | SLT-16 | | SLT-20 | | SLT-25 | | SLT-25 | | | | | |
| Stroke [mm] | 30 ... 150 | | 30 ... 100 | | 125 ... 200 | | 30 ... 100 | | 125 ... 200 | | | |
| Item | Quantity | Part No. | Type | Part No. | Type | Part No. | Type | Part No. | Type | Part No. | Type | |
| 1 | 1 | 539 968 | HMVY-1 | 539 969 | HMVY-2 | - | | 539 969 | HMVY-2 | - | | 5 / 3.3-124 |
| 2 | 1 | - | | - | | 539 970 | HMVY-3 | - | | 539 970 | HMVY-3 | |
| 3 | 1 | 175 967 | HMBV-ND | 175 967 | HMBV-ND | - | | 175 967 | HMBV-ND | - | | 5 / 3.3-108 |
| 4 | 2 | - | | - | | 175 967 | HMBV-ND | - | | 175 967 | HMBV-ND | |
| 5 | 1 ¹⁾ | 175 958 | HMBS-80/80 | 175 958 | HMBS-80/80 | 175 958 | HMBS-80/80 | 175 958 | HMBS-80/80 | 175 958 | HMBS-80/80 | 5 / 3.3-105 |
| 6 | 1 | 175 965 | HMBSA-80/80 | 175 965 | HMBSA-80/80 | 175 965 | HMBSA-80/80 | 175 965 | HMBSA-80/80 | 175 965 | HMBSA-80/80 | 5 / 3.3-105 |
| 7 | 2 | 175 951 | HMBF-DB | 175 951 | HMBF-DB | 175 951 | HMBF-DB | 175 951 | HMBF-DB | 175 951 | HMBF-DB | 5 / 3.3-107 |
| 8 | 1 | 175 126 | HMZV | 175 126 | HMZV | 175 126 | HMZV | 175 126 | HMZV | 175 126 | HMZV | 5 / 3.3-91 |
| 9 | 1 | 193 124 | HMZAS-PG-21 | 193 124 | HMZAS-PG-21 | 193 124 | HMZAS-PG-21 | 193 124 | HMZAS-PG-21 | 193 124 | HMZAS-PG-21 | 5 / 3.3-98 |
| 10 | 1 | 177 599 | MKM-PG-21 | 177 599 | MKM-PG-21 | 177 599 | MKM-PG-21 | 177 599 | MKM-PG-21 | 177 599 | MKM-PG-21 | 5 / 3.3-97 |
| 11 | 2 | 177 572 | MKRV-23-PG-21 | 177 572 | MKRV-23-PG-21 | 177 572 | MKRV-23-PG-21 | 177 572 | MKRV-23-PG-21 | 177 572 | MKRV-23-PG-21 | 5 / 3.3-92 |
| 12 | 1 ²⁾ | 177 567 | MKR-23-PG-21 | 177 567 | MKR-23-PG-21 | 177 567 | MKR-23-PG-21 | 177 567 | MKR-23-PG-21 | 177 567 | MKR-23-PG-21 | 5 / 3.3-90 |
| 13 | 1 | 177 595 | MKA-PG-29-PG-21 | 177 595 | MKA-PG-29-PG-21 | 177 595 | MKA-PG-29-PG-21 | 177 595 | MKA-PG-29-PG-21 | 177 595 | MKA-PG-29-PG-21 | 5 / 3.3-95 |

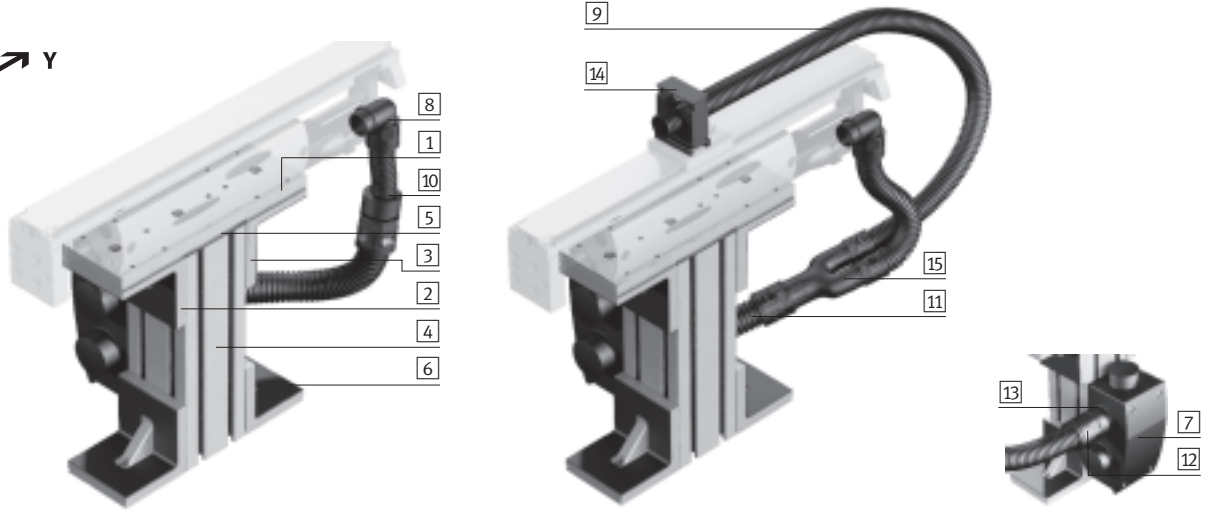
1) Height max. 500 mm
 2) Length depends on the stroke of the drive

Pick & place

Y modules

FESTO

Linear modules HMPL



| Bill of materials | | | | | | | | |
|-------------------|-----------------|-------------------------------|----------------------------|-------------------------------|----------------------------|----------|-----------------|-------------|
| Type | | HMBSY-HMPL-1 | HMBSY-HMPL-2 | HMBSY-HMPL-3 | HMBSY-HMPL-4 | | | |
| For drives | | HMPL-16 | | HMPL-20 | | | | |
| | | without intermediate position | with intermediate position | without intermediate position | with intermediate position | | | |
| Item | Quantity | Part No. | Type | Part No. | Type | Part No. | Type | → Page |
| [1] | 1 | 539 968 | HMVY-1 | 539 968 | HMVY-1 | 539 970 | HMVY-3 | 5 / 3.3-124 |
| [2] | 1 | 175 967 | HMBV-ND | 175 967 | HMBV-ND | - | - | 5 / 3.3-108 |
| [3] | 2 | - | - | - | - | 175 967 | HMBV-ND | |
| [4] | 1 ¹⁾ | 175 958 | HMBS-80/80 | 175 958 | HMBS-80/80 | 175 958 | HMBS-80/80 | 5 / 3.3-105 |
| [5] | 1 | 175 965 | HMBSA-80/80 | 175 965 | HMBSA-80/80 | 175 965 | HMBSA-80/80 | 5 / 3.3-105 |
| [6] | 2 | 175 951 | HMBF-DB | 175 951 | HMBF-DB | 175 951 | HMBF-DB | 5 / 3.3-107 |
| [7] | 1 | 175 126 | HMZV | 175 126 | HMZV | 175 126 | HMZV | 5 / 3.3-91 |
| [8] | 1 | 177 576 | MKRL-16,5-PG-16 | 177 576 | MKRL-16,5-PG-16 | 177 576 | MKRL-16,5-PG-16 | 5 / 3.3-92 |
| [9] | 1 ²⁾ | 177 566 | MKR-16,5-PG-16 | 177 566 | MKR-16,5-PG-16 | 177 566 | MKR-16,5-PG-16 | 5 / 3.3-90 |
| [10] | 1 | 194 321 | MKRT-23-16,5 | - | - | 194 321 | MKRT-23-16,5 | 5 / 3.3-94 |
| [11] | 1 ²⁾ | 177 567 | MKR-23-PG-21 | 177 567 | MKR-23-PG-21 | 177 567 | MKR-23-PG-21 | 5 / 3.3-90 |
| [12] | 1 | 177 572 | MKRV-23-PG-21 | 177 572 | MKRV-23-PG-21 | 177 572 | MKRV-23-PG-21 | 5 / 3.3-92 |
| [13] | 1 | 177 595 | MKA-PG-29-PG-21 | 177 595 | MKA-PG-29-PG-21 | 177 595 | MKA-PG-29-PG-21 | 5 / 3.3-95 |
| [14] | 1 ³⁾ | - | - | 192 289 | MKRS-16,5-B | - | - | 5 / 3.3-97 |
| [15] | 1 | - | - | 193 946 | MKY-PG-21-2PG-16 | - | - | 5 / 3.3-94 |

1) Height max. 500 mm

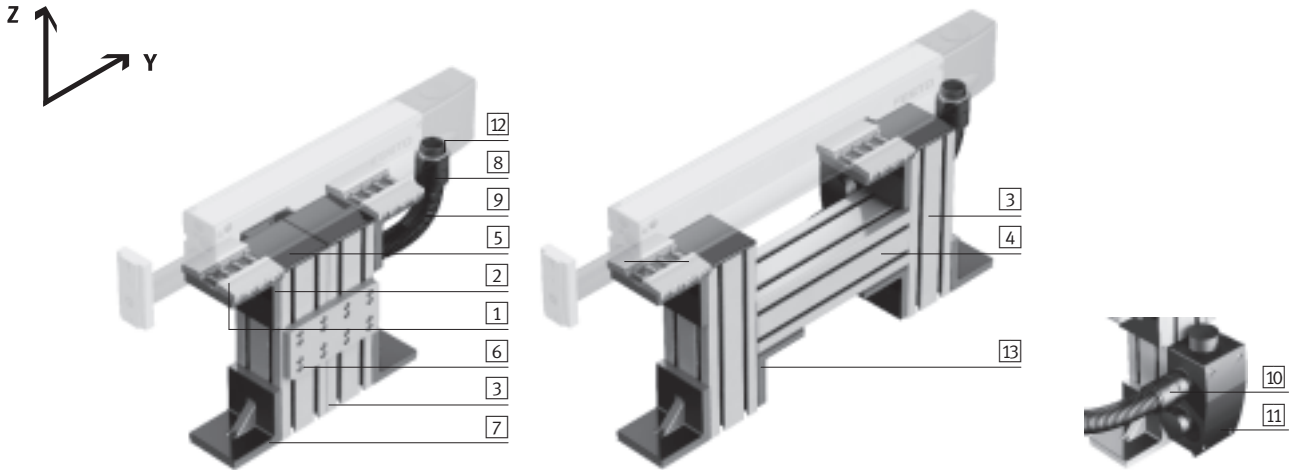
2) Length depends on the stroke of the drive, 2 conduits are required with an intermediate position.

3) In order to be able to mount the retaining clip MKRS, a clamping component (1x code J) must be selected as an accessory in the order for the linear module HMPL.

Pick & place

Y modules

Linear modules HMP, HME



| Bill of materials | | | | | | | | |
|-------------------|-------------------|----------|-----------------|----------|-----------------|----------|-----------------------|-------------|
| Type | HMBSY-HMP-1 | | HMBSY-HMP-2 | | HMBSY-HMP-3 | | HMBSY-HMP-4 | → Page |
| For drives | HMP-/HME-16 | | | | HMP-20 | | | |
| Stroke [mm] | 150 ... 250 | | 320 | | 100 ... 250 | | 320 ... 400 | |
| Item | Quantity | Part No. | Type | Part No. | Type | Part No. | Type | |
| 1 | 2 | 175 975 | HMBK-WS | 175 975 | HMBK-WS | 175 975 | HMBK-WS | 5 / 3.3-123 |
| 2 | 2 | 175 967 | HMBV-ND | 175 967 | HMBV-ND | 175 967 | HMBV-ND | 5 / 3.3-108 |
| 3 | 2 ¹⁾ | 175 958 | HMBS-80/80 | 175 958 | HMBS-80/80 | 175 958 | HMBS-80/80 | 5 / 3.3-105 |
| 4 | 1 ²⁾ | - | | 175 958 | HMBS-80/80 | - | 175 958 HMBS-80/80 | |
| 5 | 2 | 175 965 | HMBSA-80/80 | 175 965 | HMBSA-80/80 | 175 965 | HMBSA-80/80 | 5 / 3.3-105 |
| 6 | 1 | 175 972 | HMBSV | - | | 175 972 | HMBSV | 5 / 3.3-106 |
| 7 | 2 | 175 951 | HMBF-DB | 175 951 | HMBF-DB | 175 951 | HMBF-DB | 5 / 3.3-107 |
| 8 | 2 ⁴⁾ | 177 572 | MKRV-23-PG-21 | 177 572 | MKRV-23-PG-21 | 177 573 | MKRV-29-PG-29 | 5 / 3.3-92 |
| 9 | 1 ³⁾⁴⁾ | 177 567 | MKR-23-PG-21 | 177 567 | MKR-23-PG-21 | 177 568 | MKR-29-PG-29 | 5 / 3.3-90 |
| 10 | 1 ⁴⁾ | 177 595 | MKA-PG-29-PG-21 | 177 595 | MKA-PG-29-PG-21 | - | - | 5 / 3.3-95 |
| 11 | 1 ⁴⁾ | 175 126 | HMZV | 175 126 | HMZV | 175 126 | HMZV | 5 / 3.3-91 |
| 12 | 1 ⁴⁾ | 177 599 | MKM-PG-21 | 177 599 | MKM-PG-21 | 177 600 | MKM-PG-29 | 5 / 3.3-97 |
| 13 | 2 | - | | 178 228 | HMBSW | - | 178 228 HMBSW | 5 / 3.3-106 |

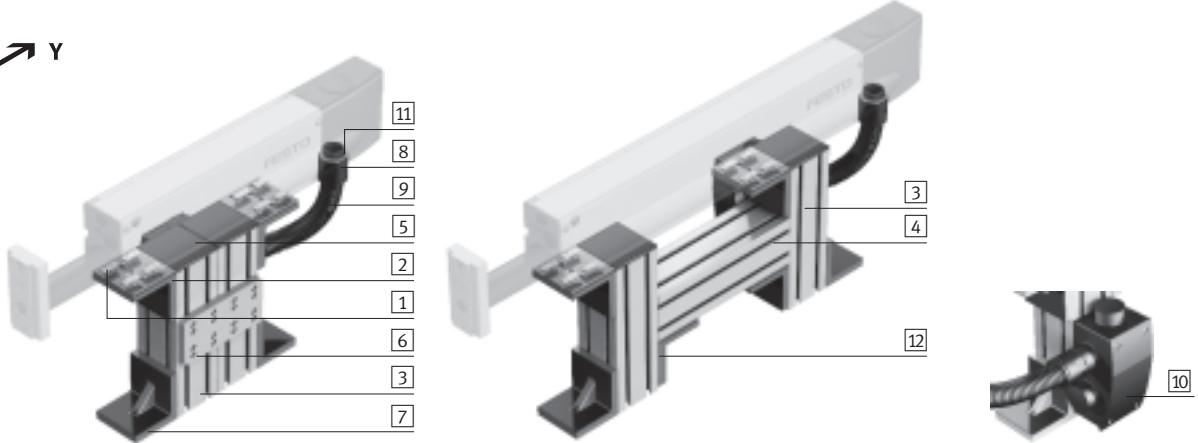
- 1) Height max. 500 mm
- 2) Length 250 mm
- 3) Length depends on the stroke of the drive
- 4) It is not suitable for use with linear module HME

Pick & place

Y modules



Linear modules HMP, HME



System components
Multi-axis modular system

3.3

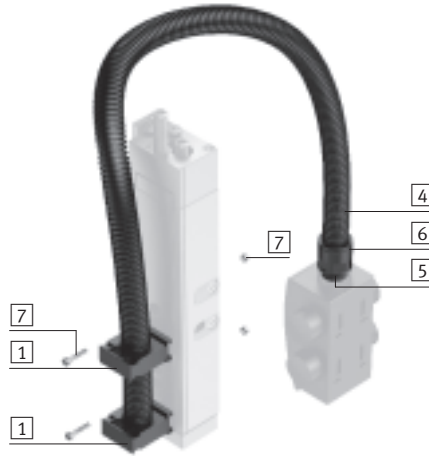
| Bill of materials | | | | | | | | | | |
|-------------------|-------------------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|-------------|
| Type | HMBSY-HMP-5 | | HMBSY-HMP-6 | | HMBSY-HMP-7 | | HMBSY-HMP-8 | | → Page | |
| For drives | HMP-/HME-25 | | | | HMP-32 | | | | | |
| Stroke [mm] | 100 ... 200 | | 250 ... 400 | | 100 ... 200 | | 250 ... 400 | | | |
| Item | Quantity | Part No. | Type | Part No. | Type | Part No. | Type | Part No. | | Type |
| [1] | 2 | 175 970 | HMBK-ND | 175 970 | HMBK-ND | 175 970 | HMBK-ND | 175 970 | HMBK-ND | 5 / 3.3-122 |
| [2] | 2 | 175 967 | HMBV-ND | 175 967 | HMBV-ND | 175 967 | HMBV-ND | 175 967 | HMBV-ND | 5 / 3.3-108 |
| [3] | 2 ¹⁾ | 175 958 | HMBS-80/80 | 175 958 | HMBS-80/80 | 175 958 | HMBS-80/80 | 175 958 | HMBS-80/80 | 5 / 3.3-105 |
| [4] | 1 ²⁾ | – | | 175 958 | HMBS-80/80 | – | | 175 958 | HMBS-80/80 | |
| [5] | 2 | 175 965 | HMBSA-80/80 | 175 965 | HMBSA-80/80 | 175 965 | HMBSA-80/80 | 175 965 | HMBSA-80/80 | 5 / 3.3-105 |
| [6] | 1 | 175 972 | HMBSV | – | | 175 972 | HMBSV | – | | 5 / 3.3-106 |
| [7] | 2 | 175 951 | HMBF-DB | 175 951 | HMBF-DB | 175 951 | HMBF-DB | 175 951 | HMBF-DB | 5 / 3.3-107 |
| [8] | 2 ⁴⁾ | 177 573 | MKRV-29-PG-29 | 177 573 | MKRV-29-PG-29 | 177 573 | MKRV-29-PG-29 | 177 573 | MKRV-29-PG-29 | 5 / 3.3-92 |
| [9] | 1 ³⁾⁴⁾ | 177 568 | MKR-29-PG-29 | 177 568 | MKR-29-PG-29 | 177 568 | MKR-29-PG-29 | 177 568 | MKR-29-PG-29 | 5 / 3.3-90 |
| [10] | 1 ⁴⁾ | 175 126 | HMZV | 175 126 | HMZV | 175 126 | HMZV | 175 126 | HMZV | 5 / 3.3-91 |
| [11] | 1 ⁴⁾ | 177 600 | MKM-PG-29 | 177 600 | MKM-PG-29 | 177 600 | MKM-PG-29 | 177 600 | MKM-PG-29 | 5 / 3.3-97 |
| [12] | 2 | – | | 178 228 | HMBSW | – | | 178 228 | HMBSW | 5 / 3.3-106 |

- 1) Height max. 500 mm
- 2) Length 350 mm
- 3) Length depends on the stroke of the drive
- 4) It is not suitable for use with linear module HME

Pick & place

Z modules

Mini slides DGSL



| Bill of materials | | | | | | |
|-------------------|-----------------|--------------|------------------------------|--------------|------------------------------------|---|
| Type | | HMBSZ-DGSL-1 | | HMBSZ-DGSL-2 | | HMBSZ-DGSL-3 |
| For drives | | DGSL-10 | | DGSL-16 | | DGSL-20 |
| Item | Quantity | Part No. | Type | Part No. | Type | Part No. Type |
| | | | | | | |
| → Page | | | | | | |
| 1 | 2 | 192 289 | MKRS-16,5-B M4x12 DIN 912 | 192 289 | MKRS-16,5-B 548 803 ZBV-M5-7 | 192 290 MKRS-23-B 548 804 ZBV-M5-9 |
| 4 | 1 ¹⁾ | 177 566 | MKR-16,5-PG-16 | 177 566 | MKR-16,5-PG-16 | 177 567 MKR-23-PG-21 |
| 5 | 1 | 193 949 | MKA-PG-29-PG-16-KU | 193 949 | MKA-PG-29-PG-16-KU | 177 595 MKA-PG-29-PG-21 |
| 6 | 1 | 177 571 | MKRV-16,5-PG-16 | 177 571 | MKRV-16,5-PG-16 | 177 572 MKRV-23-PG-21 |
| 7 | 1 | 548 803 | ZBV-M5-7 | 548 804 | ZBV-M5-9 | 150 927 ZBH-9 ²⁾ |

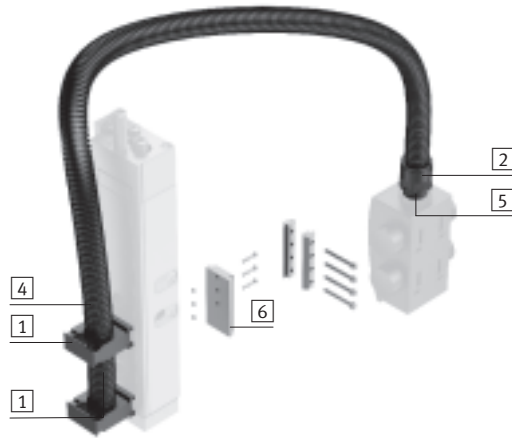
1) Length depends on the stroke of the drive

2) Centring sleeves are included in the scope of delivery of the mini slide DGSL.

Pick & place

Z modules

Mini slides DGSL



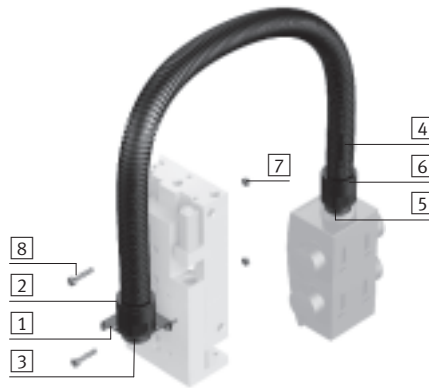
| Bill of materials | | | | | | | | |
|-------------------|-----------------|----------|--------------------|----------|-----------------|----------|-----------------|------------|
| Type | HMBSZ-DGSL-4 | | HMBSZ-DGSL-5 | | HMBSZ-DGSL-6 | | | |
| For drives | DGSL-16 | | DGSL-20 | | DGSL-25 | | | |
| Item | Quantity | Part No. | Type | Part No. | Type | Part No. | Type | → Page |
| [1] | 2 | 192 289 | MKRS-16,5-B | 192 290 | MKRS-23-B | 192 290 | MKRS-23-B | 5 / 3.3-97 |
| | | 548 803 | ZBV-M5-7 | 548 804 | ZBV-M5-9 | 548 804 | ZBV-M5-9 | |
| | | | | | | | | |
| [2] | 1 | 177 571 | MKRV-16,5-PG-16 | 177 572 | MKRV-23-PG-21 | 177 572 | MKRV-23-PG-21 | 5 / 3.3-92 |
| [4] | 1 ¹⁾ | 177 566 | MKR-16,5-PG-16 | 177 567 | MKR-23-PG-21 | 177 567 | MKR-23-PG-21 | 5 / 3.3-90 |
| [5] | 1 | 193 949 | MKA-PG-29-PG-16-KU | 177 595 | MKA-PG-29-PG-21 | 177 595 | MKA-PG-29-PG-21 | 5 / 3.3-95 |
| [6] | 1 | 548 779 | HMSV-49 | 548 779 | HMSV-49 | 548 779 | HMSV-49 | 5 / 3.2-10 |

1) Length depends on the stroke of the drive

Pick & place

Z modules

Mini slides SLT



| Bill of materials | | | | | | | | |
|-------------------|-----------------|---------------|--------------------|---------------|-----------------|---------------|-----------------|------------|
| Type | | HMBSZ-SLT-1 | | HMBSZ-SLT-2 | | HMBSZ-SLT-3 | | |
| For drives | | SLT-10 | | SLT-16 | | SLT-20 | | |
| Item | Quantity | Part No. | Type | Part No. | Type | Part No. | Type | |
| | | | | | | | → Page | |
| 1 | 1 | 192 289 | MKRS-16,5-B | 193 124 | HMZAS-PG-21 | 193 124 | HMZAS-PG-21 | 5 / 3.3-98 |
| 2 | 1 | - | | 177 572 | MKRV-23-PG-21 | 177 572 | MKRV-23-PG-21 | 5 / 3.3-92 |
| 3 | 1 | - | | 177 599 | MKM-PG-21 | 177 599 | MKM-PG-21 | 5 / 3.3-97 |
| 4 | 1 ¹⁾ | 177 566 | MKR-16,5-PG-16 | 177 567 | MKR-23-PG-21 | 177 567 | MKR-23-PG-21 | 5 / 3.3-90 |
| 5 | 1 | 193 949 | MKA-PG-29-PG-16-KU | 177 595 | MKA-PG-29-PG-21 | 177 595 | MKA-PG-29-PG-21 | 5 / 3.3-95 |
| 6 | 1 | 177 571 | MKRV-16,5-PG-16 | 177 572 | MKRV-23-PG-21 | 177 572 | MKRV-23-PG-21 | 5 / 3.3-92 |
| 7 | - ²⁾ | 186 717 | ZBH-7 | 150 927 | ZBH-9 | 189 653 | ZBH-12 | - |
| 8 | 2 | M4x25 DIN 912 | | M5x30 DIN 912 | | M6x40 DIN 912 | | - |

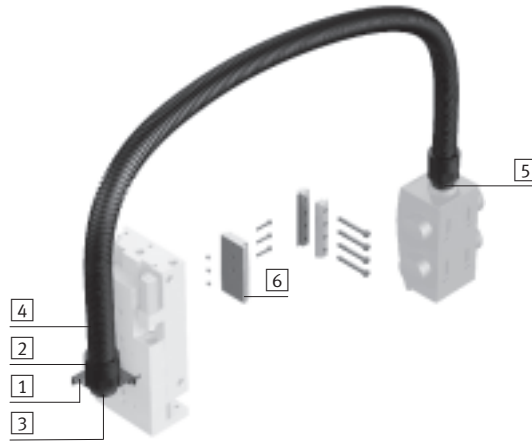
1) Length depends on the stroke of the drive

2) Centring sleeves are included in the scope of delivery of the mini slide SLT.

Pick & place

Z modules

Mini slides SLT



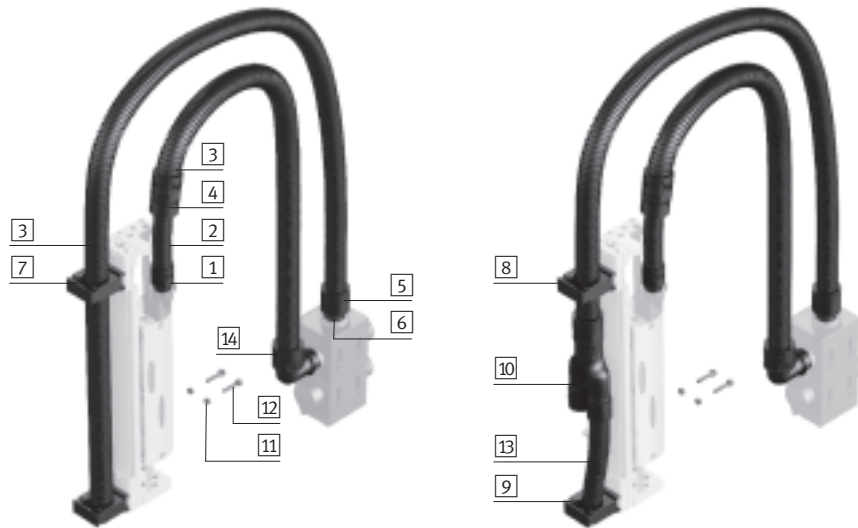
| Bill of materials | | | | | | | | |
|-------------------|-----------------|-------------|-----------------|-------------|-----------------|-------------|-----------------|------------|
| Type | | HMBSZ-SLT-4 | | HMBSZ-SLT-5 | | HMBSZ-SLT-6 | | |
| For drives | | SLT-16 | | SLT-20 | | SLT-25 | | |
| Item | Quantity | Part No. | Type | Part No. | Type | Part No. | Type | |
| | | | | | | | → Page | |
| [1] | 1 | 193 124 | HMZAS-PG-21 | 193 124 | HMZAS-PG-21 | 193 124 | HMZAS-PG-21 | 5 / 3.3-98 |
| [2] | 2 | 177 572 | MKRV-23-PG-21 | 177 572 | MKRV-23-PG-21 | 177 572 | MKRV-23-PG-21 | 5 / 3.3-92 |
| [3] | 1 | 177 599 | MKM-PG-21 | 177 599 | MKM-PG-21 | 177 599 | MKM-PG-21 | 5 / 3.3-97 |
| [4] | 1 ¹⁾ | 177 567 | MKR-23-PG-21 | 177 567 | MKR-23-PG-21 | 177 567 | MKR-23-PG-21 | 5 / 3.3-90 |
| [5] | 1 | 177 595 | MKA-PG-29-PG-21 | 177 595 | MKA-PG-29-PG-21 | 177 595 | MKA-PG-29-PG-21 | 5 / 3.3-95 |
| [6] | 1 | 178 331 | HMSV-36 | 178 332 | HMSV-37 | 178 332 | HMSV-37 | 5 / 3.2-11 |

1) Length depends on the stroke of the drive

Pick & place

Z modules

Linear modules HMPL



| Bill of materials | | | | | | | | |
|-------------------|-----------------|-------------------------------|----------------------------|-------------------------------|----------------------------|---------------|-----------------|------------|
| Type | | HMBSZ-HMPL-1 | HMBSZ-HMPL-2 | HMBSZ-HMPL-3 | HMBSZ-HMPL-4 | | | |
| For drives | | HMPL-12 | HMPL-12 | HMPL-16 | HMPL-16 | | | |
| | | HMPL-16 | HMPL-16 | HMPL-20 | HMPL-20 | | | |
| | | HMPL-20 | HMPL-20 | | | | | |
| | | without intermediate position | with intermediate position | without intermediate position | with intermediate position | | | |
| Item | Quantity | Part No. | Type | Part No. | Type | Part No. | Type | → Page |
| 1 | 1 | 177 571 | MKRV-16,5-PG-16 | 177 571 | MKRV-16,5-PG-16 | 177 571 | MKRV-16,5-PG-16 | 5 / 3.3-92 |
| 2 | 1 ¹⁾ | 177 566 | MKR-16,5-PG-16 | 177 566 | MKR-16,5-PG-16 | 177 566 | MKR-16,5-PG-16 | 5 / 3.3-90 |
| 3 | 2 ¹⁾ | 177 567 | MKR-23-PG-21 | 177 567 | MKR-23-PG-21 | 177 567 | MKR-23-PG-21 | |
| 4 | 1 | 194 321 | MKRT-23-16,5 | 194 321 | MKRT-23-16,5 | 194 321 | MKRT-23-16,5 | 5 / 3.3-94 |
| 5 | 1 | 177 572 | MKRV-23-PG-21 | 177 572 | MKRV-23-PG-21 | 177 572 | MKRV-23-PG-21 | 5 / 3.3-92 |
| 6 | 2 | 177 595 | MKA-PG-29-PG-21 | 177 595 | MKA-PG-29-PG-21 | 177 595 | MKA-PG-29-PG-21 | 5 / 3.3-95 |
| 7 | 2 ²⁾ | 192 290 | MKRS-23-B | - | | 192 290 | MKRS-23-B | 5 / 3.3-97 |
| 8 | 1 ²⁾ | - | | 192 290 | MKRS-23-B | - | | |
| 9 | 1 ²⁾ | - | | 192 289 | MKRS-16,5-B | - | | |
| 10 | 1 | - | | 193 946 | MKY-PG-21-2PG-16 | - | | 5 / 3.3-94 |
| 11 | 1 ³⁾ | 150 927 | ZBH-9 | 150 927 | ZBH-9 | 150 927 | ZBH-9 | - |
| 12 | 2 | M5x16 DIN 912 | | M5x16 DIN 912 | | M5x22 DIN 912 | | - |
| 13 | 1 ¹⁾ | - | | 177 566 | MKR-16,5-PG-16 | - | | 5 / 3.3-90 |
| 14 | 1 | 177 577 | MKRL-23-PG-21 | 177 577 | MKRL-23-PG-21 | 177 577 | MKRL-23-PG-21 | 5 / 3.3-93 |

1) Length depends on the stroke of the drive

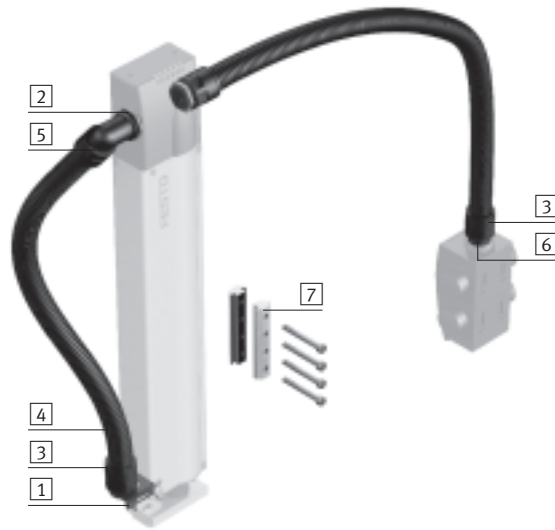
2) In order to be able to mount the retaining clip MKRS, a clamping component (2x code I) must be selected as an accessory in the order for the linear module HMPL.

3) 10 per packaging unit

Pick & place

Z modules

Linear modules HMP



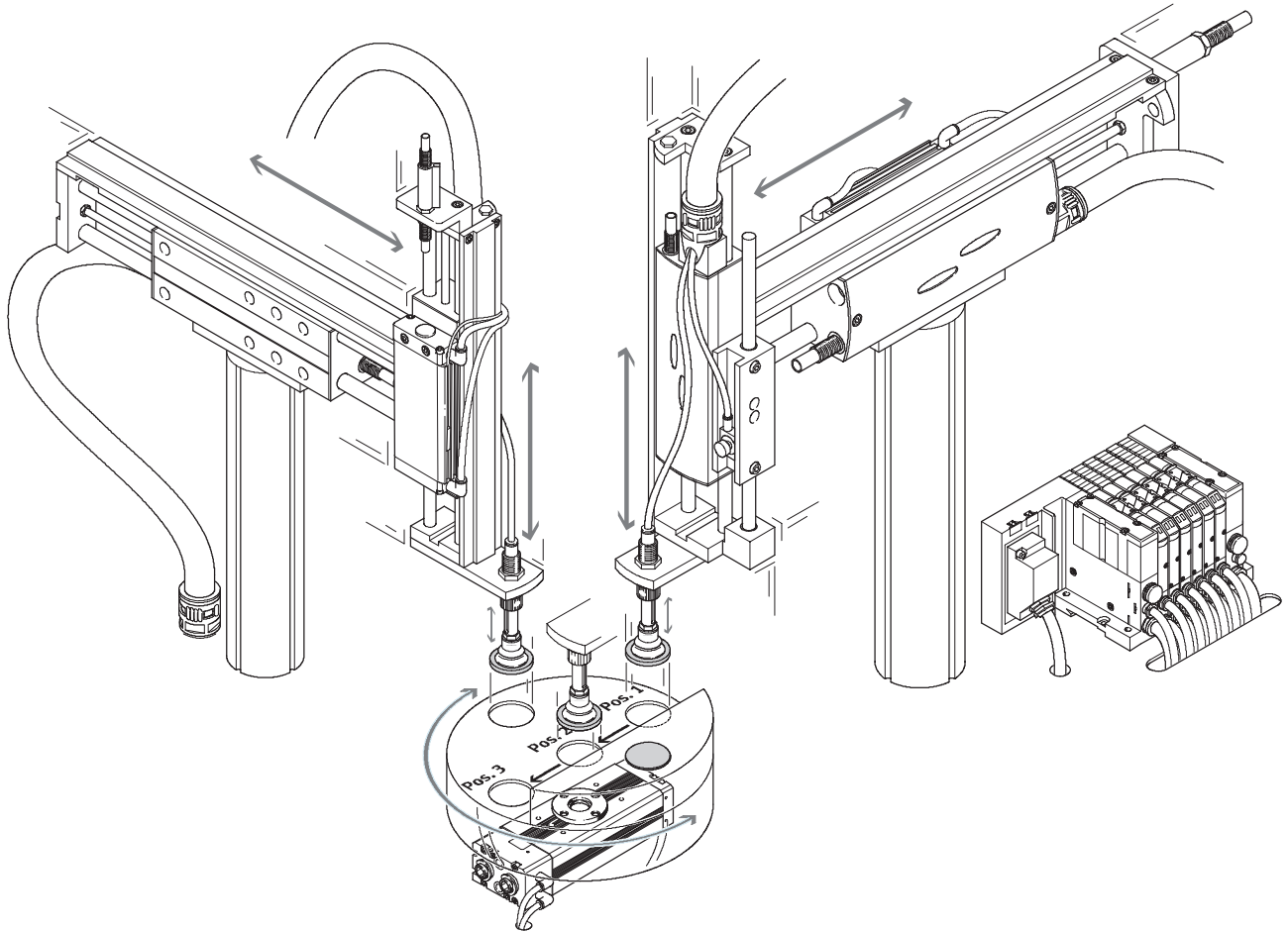
| Bill of materials | | | | | | | | |
|-------------------|-----------------|----------------------------|------|--------------------------|------|--------------------------|------|-------------|
| Type | | HMBSZ-HMP-1 | | HMBSZ-HMP-2 | | HMBSZ-HMP-3 | | → Page |
| For drives | | HMP-16 | | HMP-20 | | HMP-25 | | |
| Item | Quantity | Part No. | Type | Part No. | Type | Part No. | Type | |
| [1] | 1 | 193 124 HMZAS-PG-21 | | 177 603 HMZAS-PG-29 | | 177 603 HMZAS-PG-29 | | 5 / 3.3-98 |
| [2] | 3 | 177 599 MKM-PG-21 | | 177 600 MKM-PG-29 | | 177 600 MKM-PG-29 | | 5 / 3.3-97 |
| [3] | 3 | 177 572 MKRV-23-PG-21 | | 177 573 MKRV-29-PG-29 | | 177 573 MKRV-29-PG-29 | | 5 / 3.3-92 |
| [4] | 2 ¹⁾ | 177 567 MKR-23-PG-21 | | 177 568 MKR-29-PG-29 | | 177 568 MKR-29-PG-29 | | 5 / 3.3-90 |
| [5] | 1 | 177 577 MKRL-23-PG-21 | | 177 578 MKRL-29-PG-29 | | 177 578 MKRL-29-PG-29 | | 5 / 3.3-93 |
| [6] | 1 | 177 595 MKA-PG-29-PG-21 | | - | | - | | 5 / 3.3-95 |
| [7] | 1 | 177 647 HMSV-1 | | 177 649 HMSV-3 | | 177 653 HMSV-7 | | 5 / 3.3-114 |

1) Length depends on the stroke of the drive

Pick & place

System example

Combination with handling modules HMPL

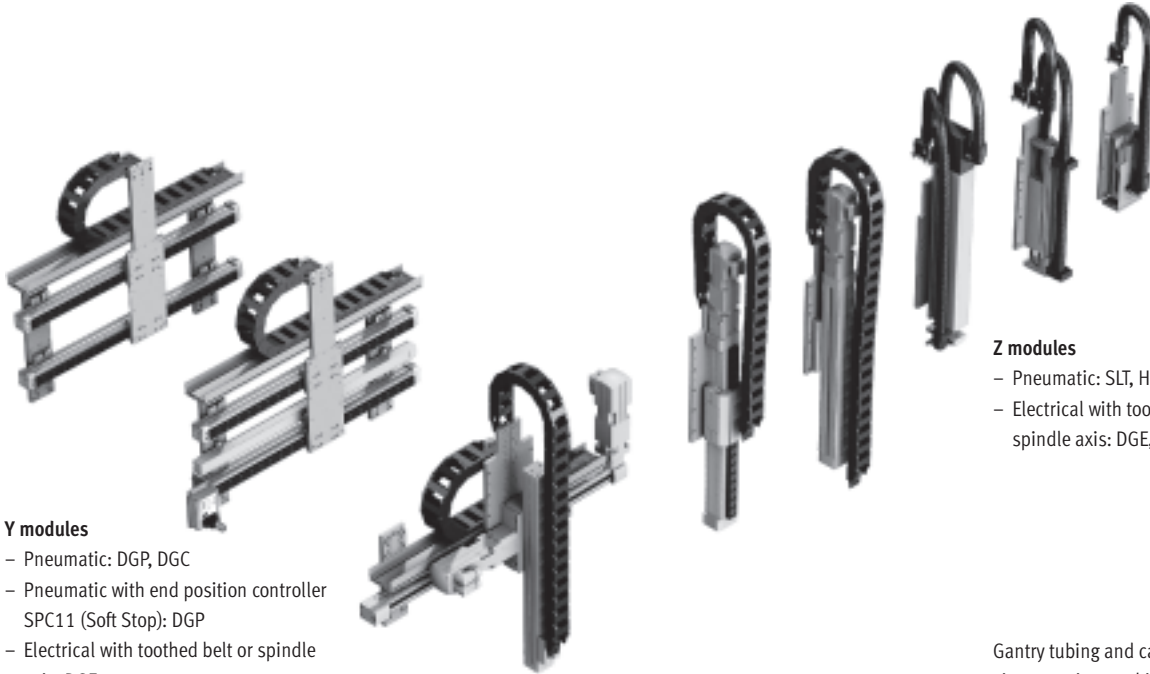


Linear gantries

Key features



Y and Z modules



Y modules

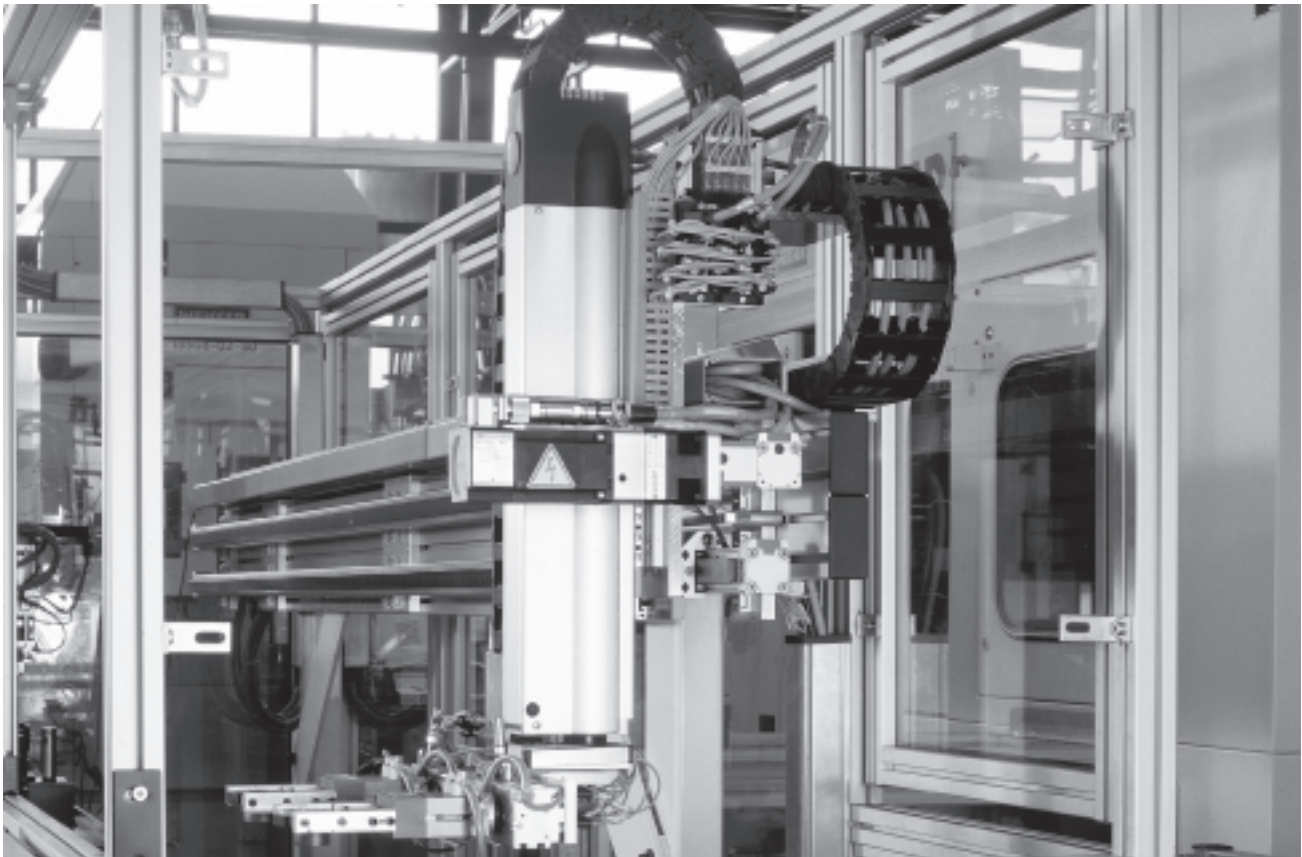
- Pneumatic: DGP, DGC
- Pneumatic with end position controller SPC11 (Soft Stop): DGP
- Electrical with toothed belt or spindle axis: DGE
- Single-axis systems (mono) or drives with guide axis (duo)

Z modules

- Pneumatic: SLT, HMPL, HMP
- Electrical with toothed belt or spindle axis: DGE, DGEA

Gantry tubing and cables are routed via protective trunking. Festo uses a base profile for this purpose specially designed for handling technology.

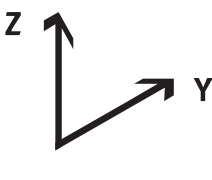


Application



Linear gantries

Product range overview

FESTO

| Selection aid | | | | |
|---|---|--|---|--------------------------------|
| System type | Mono 25 | Mono 40 | Duo 25 | Duo 40 |
|  |  | |  | |
| Y-axis | DG...-25 | DG...-40 | DG...-25 | DG...-40 |
| Drive function | Pneumatic, pneumatic with end position controller SPC11 (Soft Stop) or electrical | | | |
| Options | Spindle or toothed belt axis | | | |
| Z-axis | DGSL-16 SLT-16 HMPL-16 | DGSL-20 SLT-20 HMPL-20 HMP-16 | DGSL-25 SLT-25 HMP-20 | HMP-25 |
| Drive function | Pneumatic | | | |
| Options | Intermediate position with HMPL | Intermediate position with HMPL, HMP | | Intermediate position with HMP |
| Z-axis | DGEA-18 | DGEA-18 DGE-25-SP-KF | DGEA-25 DGE-40-SP-KF | DGEA-25 DGE-40-SP-KF |
| Drive function | Electrical | | | |
| Options | – | Spindle or toothed belt axis | | Spindle or toothed belt axis |
| Working load [kg] | | | | |
| | 1 | ■ | ■ | ■ |
| | 2 | ■ | ■ | ■ |
| | 3 | – | ■ | ■ |
| | 4 | – | ■ | ■ |
| | 6 | – | – | ■ |
| | 10 | – | – | ■ |
| → Page | 5 / 3.3-56 | | | |




System components
Multi-axis modular system

3.3

Linear gantries

Selection aid for basic, connection and installation components



| Y-axis | | | | |
|---|---|--------------------------------|---|--------------------------------|
| System type | Mono 25 | Mono 40 | Duo 25 | Duo 40 |
|  |  | |  | |
| Pneumatic drives | Type | | | |
| DGPL-25 | HMBSY-LP-M25-1 → 5 / 3.3-58 | – | HMBSY-LP-D25-1 → 5 / 3.3-60 | – |
| DGC-25 | HMBSY-LP-M25-2 → 5 / 3.3-58 | – | HMBSY-LP-D25-2 → 5 / 3.3-60 | – |
| DGPL-25 with SPC11 | HMBSY-LP-M25-3 → 5 / 3.3-58 | – | HMBSY-LP-D25-3 → 5 / 3.3-60 | – |
| DGPL-40 | – | HMBSY-LP-M40-1 → 5 / 3.3-59 | – | HMBSY-LP-D40-1 → 5 / 3.3-61 |
| DGC-40 | – | HMBSY-LP-M40-2 → 5 / 3.3-59 | – | HMBSY-LP-D40-2 → 5 / 3.3-61 |
| DGPL-40 with SPC11 | – | HMBSY-LP-M40-3 → 5 / 3.3-59 | – | HMBSY-LP-D40-3 → 5 / 3.3-61 |
| Electrical drives | Type | | | |
| DGE-25 -SP-KF | HMBSY-LP-M25-1 → 5 / 3.3-58 | – | HMBSY-LP-D25-1 → 5 / 3.3-60 | – |
| -ZR-KF | | | | |
| -ZR-RF | HMBSY-LP-M25-4 → 5 / 3.3-58 | – | HMBSY-LP-D25-4 → 5 / 3.3-60 | – |
| DGE-40 -SP-KF | – | HMBSY-LP-M40-1 → 5 / 3.3-59 | – | HMBSY-LP-D40-1 → 5 / 3.3-61 |
| -ZR-KF | | | | |
| -ZR-RF | | | | |

Selection example:

Project engineering produced the following drive combination:

Y-axis: Duo 25 system with DGE-25-ZR-RF
Z-axis: SLT-20

Step 1
Define the drive type in the selection aids for the Y- or Z-axis. The associated bill of materials can be found on the specified page.

Y-axis: HMBSY-LP-D25-4
→ 5 / 3.3-60
Z-axis: HMBSZ-SLT-7
→ 5 / 3.3-63




Step 2
The necessary basic, connection and installation components can be found in the bill of materials on the specified page.

Y-axis: HMBSY-LP-D25-4
Z-axis: HMBSZ-SLT-7

Step 3
Technical data on the basic, connection and installation components can be found on the specified pages. Further accessories for the selected drives, for example proximity sensors, centring sleeves, etc. are documented with the drives.

Linear gantries

Selection aid for basic, connection and installation components

| Z-axis | | | | |
|---|---|--|---|------------------------------|
| System type | Mono 25 | Mono 40 | Duo 25 | Duo 40 |
|  |  | |  | |
| Pneumatic drives | Type | | | |
| DGSL-16 | HMBSZ-DGSL-7 → 5 / 3.3-62 | – | – | – |
| DGSL-20 | – | HMBSZ-DGSL-8 → 5 / 3.3-62 | – | – |
| DGSL-25 | – | HMBSZ-DGSL-8 → 5 / 3.3-62 | HMBSZ-DGSL-8 → 5 / 3.3-62 | – |
| SLT-16 | HMBSZ-SLT-7 → 5 / 3.3-63 | – | – | – |
| SLT-20 | – | HMBSZ-SLT-7 → 5 / 3.3-63 | HMBSZ-SLT-7 → 5 / 3.3-63 | – |
| SLT-25 | – | – | HMBSZ-SLT-7 → 5 / 3.3-63 | – |
| HMPL-16 | HMBSZ-HMPL-5 HMBSZ-HMPL-6 → 5 / 3.3-64 | – | – | – |
| HMPL-20 | – | HMBSZ-HMPL-5 HMBSZ-HMPL-6 → 5 / 3.3-64 | HMBSZ-HMPL-5 HMBSZ-HMPL-6 → 5 / 3.3-64 | – |
| HMP-16 | – | HMBSZ-HMP-4 → 5 / 3.3-65 | HMBSZ-HMP-4 → 5 / 3.3-65 | – |
| HMP-20 | – | – | HMBSZ-HMP-5 → 5 / 3.3-65 | – |
| HMP-25 | – | – | – | HMBSZ-HMP-6 → 5 / 3.3-65 |
| Electrical drives | Type | | | |
| DGEA-18 | HMBSZ-DGEA-1 → 5 / 3.3-66 | HMBSZ-DGEA-1 → 5 / 3.3-66 | HMBSZ-DGEA-1 → 5 / 3.3-66 | – |
| DGEA-25 | – | – | HMBSZ-DGEA-2 → 5 / 3.3-66 | HMBSZ-DGEA-3 → 5 / 3.3-66 |
| DGE-25-SP | – | HMBSZ-DGE-1 → 5 / 3.3-67 | HMBSZ-DGE-1 → 5 / 3.3-67 | – |
| DGE-40-SP | – | – | HMBSZ-DGE-2 → 5 / 3.3-67 | HMBSZ-DGE-3 → 5 / 3.3-67 |

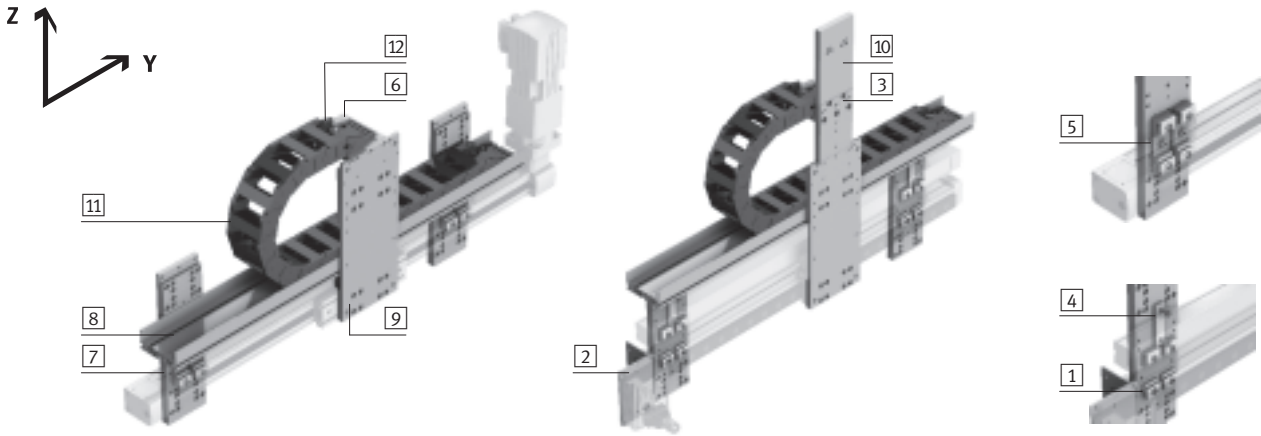
Linear gantries

Y modules



Mono system

Toothed belt axes DGE, linear drives DGC, DGPL



Bill of materials

| Type | HMBSY-LP-M25-1 | HMBSY-LP-M25-2 | HMBSY-LP-M25-3 | HMBSY-LP-M25-4 | | | | |
|-------------|---|--|--------------------|-----------------|------|-----------------|-----------------|-------------|
| For drives | DGPL-25 DGE-25-SP-KF DGE-25-ZR-KF | DGC-25 | DGPL-25 with SPC11 | DGE-25-ZR-RF | | | | |
| System type | Mono 25 | | | | | | | |
| Item | Quantity | Part No. | Type | Part No. | Type | Part No. | Type | Page |
| 1 | 2 ¹⁾ | 150 736 | | – | | 150 736 | 150 736 | Volume 1 |
| | 1 ¹⁾ | – | | 531 753 | | – | – | Volume 1 |
| | | MUP-18/25 | | MUC-25 | | MUP-18/25 | MUP-18/25 | |
| 2 | 1 | – | | – | | 539 367 | – | 5 / 3.3-133 |
| | | | | | | HMVW-SPC | | |
| 3 | 1 | – | | – | | 539 364 | – | 5 / 3.3-106 |
| | | | | | | HMIM-LP | | |
| 4 | 1 ¹⁾ | – | | – | | 539 973 | – | 5 / 3.3-132 |
| | | | | | | HMVO-POT | | |
| 5 | 2 ¹⁾ | – | | – | | – | 539 362 | 5 / 3.3-132 |
| | | | | | | | HMVO-RF25 | |
| 6 | 1 | 539 366 | | 539 366 | | 539 366 | 539 366 | 5 / 3.3-106 |
| | | HMIO-AP1 | | HMIO-AP1 | | HMIO-AP1 | HMIO-AP1 | |
| 7 | 2 ²⁾ | 539 972 | | 539 972 | | 539 972 | 539 972 | 5 / 3.3-128 |
| | | HMVM-LP-DL25/40 | | HMVM-LP-DL25/40 | | HMVM-LP-DL25/40 | HMVM-LP-DL25/40 | |
| 8 | 1 ³⁾ | 539 378 | | 539 378 | | 539 378 | 539 378 | 5 / 3.3-105 |
| | | HMIA-E05 | | HMIA-E05 | | HMIA-E05 | HMIA-E05 | |
| 9 | 1 | 539 368 | | 539 368 | | 539 368 | 539 368 | 5 / 3.3-130 |
| | | HMVS-DL25 | | HMVS-DL25 | | HMVS-DL25 | HMVS-DL25 | |
| 10 | 1 | – | | – | | 539 365 | – | 5 / 3.3-104 |
| | | | | | | HMIZB-E03 | | |
| 11 | 1 | IGUS E2 medium 240.05.100 and 211 or KABELSCHLEPP MC 0320.60-01-100 and TS O/n _T 2 | | | | | | – |
| 12 | 1 | IGUS E2 medium 2050.12.PZB or KABELSCHLEPP MC FA/MA | | | | | | – |

1) Per basic kit HMVM-LP-DL25/40

2) Quantity with stroke ≤ 500 mm. With stroke > 500 mm, a basic kit HMVM-LP-DL25/40 must be additionally ordered per 500 mm stroke or part thereof.

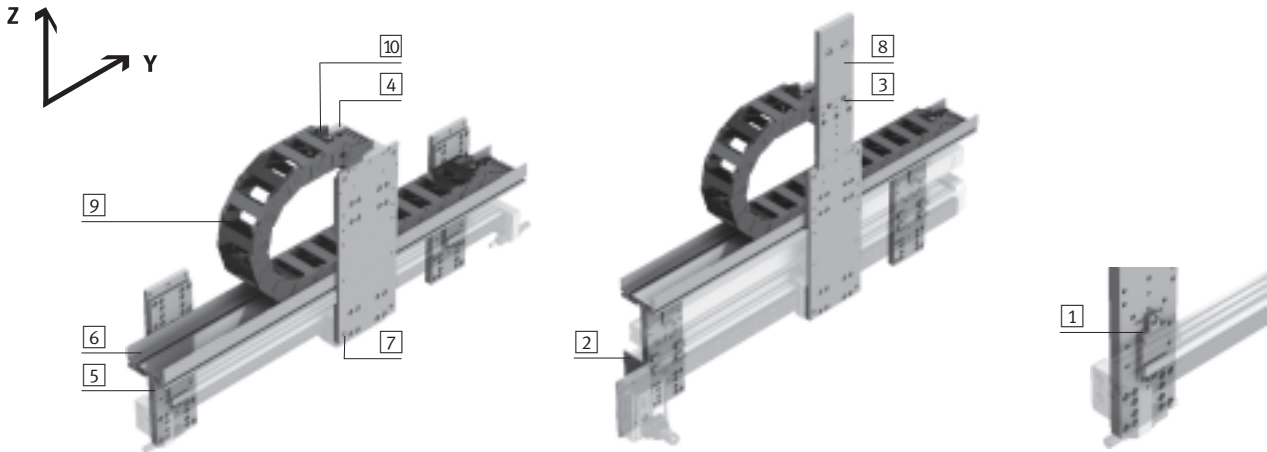
3) Length depends on the stroke of the drive

Linear gantries

Y modules

Mono system

Toothed belt axes DGE, linear drives DGC, DGPL



| Bill of materials | | | | | | | | |
|-------------------|---|--|----------------|----------------------------|--------------------|----------------------------|------|-------------|
| Type | HMBSY-LP-M40-1 | | HMBSY-LP-M40-2 | | HMBSY-LP-M40-3 | | | |
| For drives | DGPL-40 DGE-40-SP-KF DGE-40-ZR-KF DGE-40-ZR-RF | | DGC-40 | | DGPL-40 with SPC11 | | | |
| System type | Mono 40 | | | | | | | |
| Item | Quantity | Part No. | Type | Part No. | Type | Part No. | Type | → Page |
| 1 | 1 ¹⁾ | - | | 531 755 MUC-40 | | - | | Volume 1 |
| 2 | 1 | - | | - | | 539 367 HMVW-SPC | | 5 / 3.3-133 |
| 3 | 1 | - | | - | | 539 364 HMIM-LP | | 5 / 3.3-106 |
| 4 | 1 | 539 366 HMIO-AP-1 | | 540 121 HMIO-AP-2 | | 539 366 HMIO-AP-1 | | 5 / 3.3-106 |
| 5 | 2 ²⁾ | 539 972 HMVM-LP-DL25/40 | | 539 972 HMVM-LP-DL25/40 | | 539 972 HMVM-LP-DL25/40 | | 5 / 3.3-128 |
| 6 | 1 ³⁾ | 539 378 HMIA-E05 | | 539 378 HMIA-E05 | | 539 378 HMIA-E05 | | 5 / 3.3-105 |
| 7 | 1 | 539 369 HMVS-DL40 | | 539 369 HMVS-DL40 | | 539 369 HMVS-DL40 | | 5 / 3.3-130 |
| 8 | 1 | - | | - | | 539 365 HMIZB-E03 | | 5 / 3.3-104 |
| 9 | 1 | IGUS E2 medium 240.05.100 and 211 or KABELSCHLEPP MC 0320.60-01-100 and TS O/n _T 2 | | | | | | - |
| 10 | 1 | IGUS E2 medium 2050.12.PZB or KABELSCHLEPP MC FA/MA | | | | | | - |

1) Per basic kit HMVM-LP-DL25/40

2) Quantity with stroke ≤ 500 mm. With stroke > 500 mm, a basic kit HMVM-LP-DL25/40 must be additionally ordered per 500 mm stroke or part thereof.

3) Length depends on the stroke of the drive

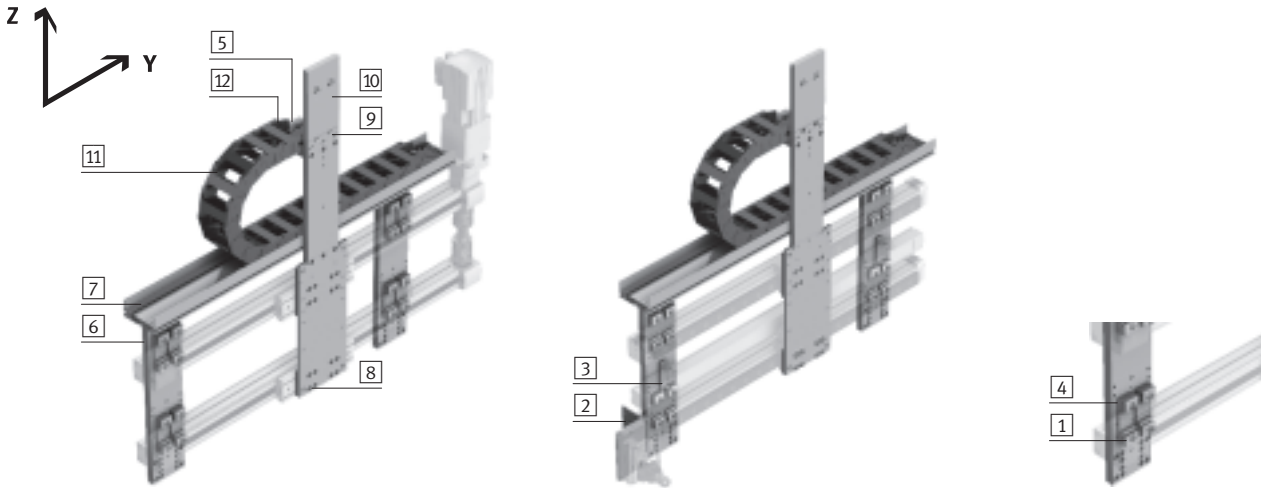
Linear gantries

Y modules



Duo system

Toothed belt axes DGE, linear drives DGC, DGPL



Bill of materials

| Type | HMBSY-LP-D25-1 | HMBSY-LP-D25-2 | HMBSY-LP-D25-3 | HMBSY-LP-D25-4 | | | | |
|-------------|---|--|--------------------|-----------------|------|-----------------|-----------------|-------------|
| For drives | DGPL-25 DGE-25-SP-KF DGE-25-ZR-KF | DGC-25 | DGPL-25 with SPC11 | DGE-25-ZR-RF | | | | |
| System type | Duo 25 | | | | | | | |
| Item | Quantity | Part No. | Type | Part No. | Type | Part No. | Type | Page |
| 1 | 4 ¹⁾ | 150 736 | | – | | 150 736 | 150 736 | Volume 1 |
| | 2 ¹⁾ | – | | 531 753 | | – | – | Volume 1 |
| | | | MUP-18/25 | MUC-25 | | MUP-18/25 | MUP-18/25 | |
| 2 | 1 | – | | – | | 539 367 | – | 5 / 3.3-133 |
| | | | | | | HMVW-SPC | | |
| 3 | 1 ¹⁾ | – | | – | | 539 973 | – | 5 / 3.3-132 |
| | | | | | | HMVO-POT | | |
| 4 | 4 ¹⁾ | – | | – | | – | 539 362 | 5 / 3.3-132 |
| | | | | | | | HMVO-RF25 | |
| 5 | 1 | 539 366 | | 539 366 | | 539 366 | 539 366 | 5 / 3.3-106 |
| | | | HMIO-AP-1 | HMIO-AP-1 | | HMIO-AP-1 | HMIO-AP-1 | |
| 6 | 2 ²⁾ | 539 971 | | 539 971 | | 539 971 | 539 971 | 5 / 3.3-128 |
| | | | HMVD-LP-DL25/40 | HMVD-LP-DL25/40 | | HMVD-LP-DL25/40 | HMVD-LP-DL25/40 | |
| 7 | 1 ³⁾ | 539 378 | | 539 378 | | 539 378 | 539 378 | 5 / 3.3-105 |
| | | | HMIA-E05 | HMIA-E05 | | HMIA-E05 | HMIA-E05 | |
| 8 | 1 | 539 368 | | 539 368 | | 539 368 | 539 368 | 5 / 3.3-130 |
| | | | HMVS-DL25 | HMVS-DL25 | | HMVS-DL25 | HMVS-DL25 | |
| 9 | 1 | 539 363 | | 539 363 | | 539 363 | 539 363 | 5 / 3.3-106 |
| | | | HMID-LP | HMID-LP | | HMID-LP | HMID-LP | |
| 10 | 1 | 539 365 | | 539 365 | | 539 365 | 539 365 | 5 / 3.3-104 |
| | | | HMIZB-E03 | HMIZB-E03 | | HMIZB-E03 | HMIZB-E03 | |
| 11 | 1 | IGUS E2 medium 240.05.100 and 211 or KABELSCHLEPP MC 0320.60-01-100 and TS O/n _T 2 | | | | | | – |
| 12 | 1 | IGUS E2 medium 2050.12.PZB or KABELSCHLEPP MC FA/MA | | | | | | – |

1) Per basic kit HMVD-LP-DL25/40

2) Quantity with stroke ≤ 500 mm. With stroke > 500 mm, a basic kit HMVD-LP-DL25/40 must be additionally ordered per 500 mm stroke or part thereof.

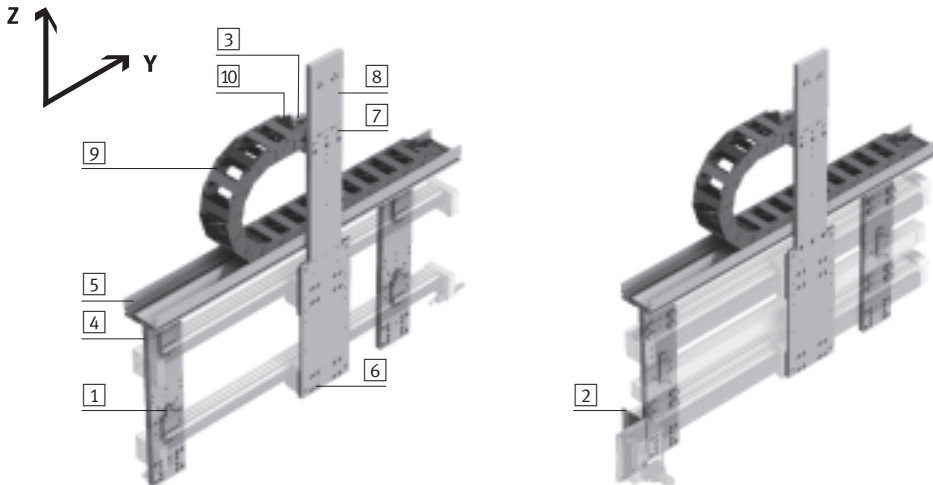
3) Length depends on the stroke of the drive

Linear gantries

Y modules

Duo system

Toothed belt axes DGE, linear drives DGC, DGPL



| Bill of materials | | | | | | | | | |
|-------------------|---|--|-----------------|-------------------|--------------------|---------------------|-----------------|-------------|---|
| Type | HMBSY-LP-D40-1 | | HMBSY-LP-D40-2 | | HMBSY-LP-D40-3 | | → Page | | |
| For drives | DGPL-40 DGE-40-SP-KF DGE-40-ZR-KF DGE-40-ZR-RF | | DGC-40 | | DGPL-40 with SPC11 | | | | |
| System type | Duo 40 | | | | | | | | |
| Item | Quantity | Part No. | Type | Part No. | Type | Part No. | | Type | |
| 1 | 2 ¹⁾ | - | | 531 755 MUC-40 | | - | | Volume 1 | |
| 2 | 1 | - | | - | | 539 367 HMVW-SPC | | 5 / 3.3-133 | |
| 3 | 1 | 539 366 | HMIO-AP-1 | 540 121 | HMIO-AP-2 | 539 366 | HMIO-AP-1 | 5 / 3.3-106 | |
| 4 | 2 ²⁾ | 539 971 | HMVD-LP-DL25/40 | 539 971 | HMVD-LP-DL25/40 | 539 971 | HMVD-LP-DL25/40 | 5 / 3.3-128 | |
| 5 | 1 ³⁾ | 539 378 | HMIA-E05 | 539 378 | HMIA-E05 | 539 378 | HMIA-E05 | 5 / 3.3-105 | |
| 6 | 1 | 539 369 | HMVS-DL40 | 539 369 | HMVS-DL40 | 539 369 | HMVS-DL40 | 5 / 3.3-130 | |
| 7 | 1 | 539 363 | HMID-LP | 539 363 | HMID-LP | 539 363 | HMID-LP | 5 / 3.3-106 | |
| 8 | 1 | 539 365 | HMIZB-E03 | 539 365 | HMIZB-E03 | 539 365 | HMIZB-E03 | 5 / 3.3-104 | |
| 9 | 1 | IGUS E2 medium 240.05.100 and 211 or KABELSCHLEPP MC 0320.60-01-100 and TS O/n _T 2 | | | | | | | - |
| 10 | 1 | IGUS E2 medium 2050.12.PZB or KABELSCHLEPP MC FA/MA | | | | | | | - |

1) Per basic kit HMVD-LP-DL25/40

2) Quantity with stroke ≤ 500 mm. With stroke > 500 mm, a basic kit HMVD-LP-DL25/40 must be additionally ordered per 500 mm stroke or part thereof.

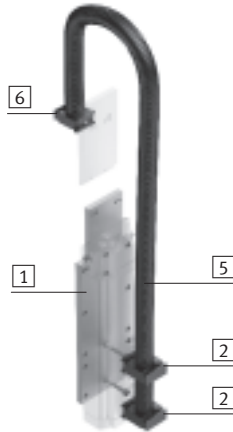
3) Length depends on the stroke of the drive

Linear gantries

Z modules

Z modules

Mini slides DGSL



| Bill of materials | | | | | | | |
|-------------------|-----------------|--------------|----------------|-------------------|--------------|----------|--------------|
| Type | | HMBSZ-DGSL-7 | | HMBSZ-DGSL-8 | | | |
| For drives | | DGSL-16 | | DGSL-20 | | DGSL-25 | |
| System type | | Mono 25 | | Mono 40 Duo 25 | | Duo 25 | |
| Item | Quantity | Part No. | Type | Part No. | Type | Part No. | Type |
| [1] | 1 | 539 373 | HMVZ-2 | 539 373 | HMVZ-2 | 539 373 | HMVZ-2 |
| [2] | 1 | 192 289 | MKRS-16,5-B | 192 290 | MKRS-23-B | 192 290 | MKRS-23-B |
| | | 548 803 | ZBV-M5-7 | 548 804 | ZBV-M5-9 | 548 804 | ZBV-M5-9 |
| [5] | 1 ¹⁾ | 177 566 | MKR-16,5-PG-16 | 177 567 | MKR-23-PG-21 | 177 567 | MKR-23-PG-21 |
| [6] | 1 | 192 289 | MKRS-16,5-B | 192 290 | MKRS-23-B | 192 290 | MKRS-23-B |

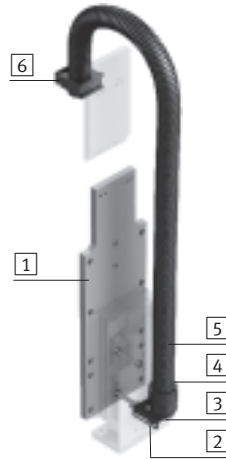
1) Length depends on the stroke of the drive

Linear gantries

Z modules

Mono/Duo system

Mini slides SLT



| Bill of materials | | | | | | | |
|-------------------|-----------------|-------------|---------------|-------------------|---------------|----------|---------------|
| Type | | HMBSZ-SLT-7 | | | | | |
| For drives | | SLT-16 | | SLT-20 | | SLT-25 | |
| System type | | Mono 25 | | Mono 40 Duo 25 | | Duo 25 | |
| Item | Quantity | Part No. | Type | Part No. | Type | Part No. | Type |
| 1 | 1 | 539 373 | HMVZ-2 | 539 373 | HMVZ-2 | 539 373 | HMVZ-2 |
| 2 | 1 | 193 124 | HMZAS-PG-21 | 193 124 | HMZAS-PG-21 | 193 124 | HMZAS-PG-21 |
| 3 | 1 | 177 599 | MKM-PG-21 | 177 599 | MKM-PG-21 | 177 599 | MKM-PG-21 |
| 4 | 1 | 177 572 | MKRV-23-PG-21 | 177 572 | MKRV-23-PG-21 | 177 572 | MKRV-23-PG-21 |
| 5 | 1 ¹⁾ | 177 567 | MKR-23-PG-21 | 177 567 | MKR-23-PG-21 | 177 567 | MKR-23-PG-21 |
| 6 | 1 | 192 290 | MKRS-23-B | 192 290 | MKRS-23-B | 192 290 | MKRS-23-B |

1) Length depends on the stroke of the drive

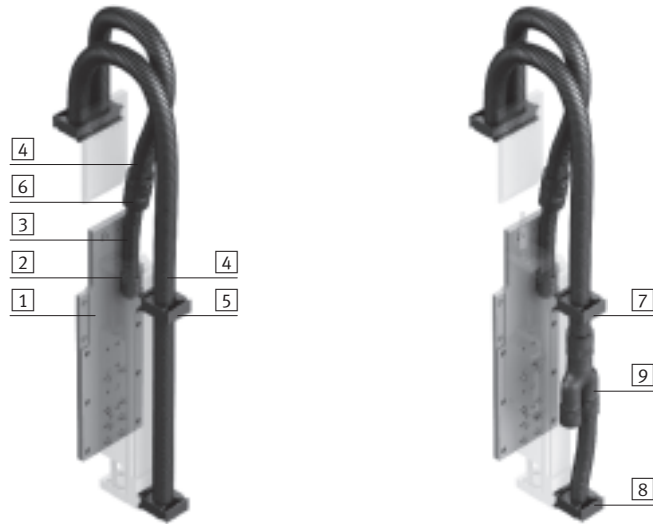
Linear gantries

Z modules



Mono/Duo system

Linear modules HMPL



| Bill of materials | | | | | | | | | |
|-------------------|-----------------|-------------------------------|-----------------|-------------------|-----------------|----------------------------|------------------|-------------------|------------------|
| Type | | HMBSZ-HMPL-5 | | | | HMBSZ-HMPL-6 | | | |
| For drives | | HMPL-16 | | HMPL-20 | | HMPL-16 | | HMPL-20 | |
| System type | | without intermediate position | | | | with intermediate position | | | |
| | | Mono 25 | | Mono 40 Duo 25 | | Mono 25 | | Mono 40 Duo 25 | |
| Item | Quantity | Part No. | Type | Part No. | Type | Part No. | Type | Part No. | Type |
| 1 | 1 | 539 375 | HMVZ-4 | 539 375 | HMVZ-4 | 539 375 | HMVZ-4 | 539 375 | HMVZ-4 |
| 2 | 1 | 177 571 | MKRV-16,5-PG-16 | 177 571 | MKRV-16,5-PG-16 | 177 571 | MKRV-16,5-PG-16 | 177 571 | MKRV-16,5-PG-16 |
| 3 | 1 ¹⁾ | 177 566 | MKR-16,5-PG-16 | 177 566 | MKR-16,5-PG-16 | 177 566 | MKR-16,5-PG-16 | 177 566 | MKR-16,5-PG-16 |
| 4 | 1 ²⁾ | 177 567 | MKR-23-PG-21 | 177 567 | MKR-23-PG-21 | 177 567 | MKR-23-PG-21 | 177 567 | MKR-23-PG-21 |
| 5 | 4 ³⁾ | 192 290 | MKRS-23-B | 192 290 | MKRS-23-B | - | - | - | - |
| 6 | 1 | 194 321 | MKRT-23-16,5 | 194 321 | MKRT-23-16,5 | 194 321 | MKRT-23-16,5 | 194 321 | MKRT-23-16,5 |
| 7 | 3 ³⁾ | - | - | - | - | 192 290 | MKRS-23-B | 192 290 | MKRS-23-B |
| 8 | 1 | - | - | - | - | 192 289 | MKRS-16,5-B | 192 289 | MKRS-16,5-B |
| 9 | 1 | - | - | - | - | 193 946 | MKY-PG-21-2PG-16 | 193 946 | MKY-PG-21-2PG-16 |

1) Length 200 mm

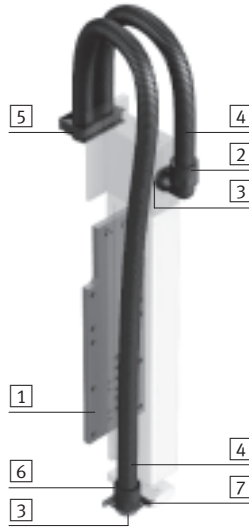
2) Length depends on the stroke of the drive, 2 conduits are required with an intermediate position.

3) In order to be able to mount the retaining clip MKRS, a clamping component (2x code J) must be selected as an accessory in the order for the linear module HMPL.

Linear gantries

Z modules

Mono/Duo system
Linear modules HMP



| Bill of materials | | | | | | | | |
|-------------------|-------------------|----------|---------------|----------|---------------|----------|---------------|-------------|
| Type | HMBSZ-HMP-4 | | HMBSZ-HMP-5 | | HMBSZ-HMP-6 | | → Page | |
| For drives | HMP-16 | | HMP-20 | | HMP-25 | | | |
| System type | Mono 40 Duo 25 | | Duo 25 | | Duo 40 | | | |
| Item | Quantity | Part No. | Type | Part No. | Type | Part No. | Type | |
| 1 | 1 | 539 374 | HMVZ-3 | 539 374 | HMVZ-3 | 539 377 | HMVZ-6 | 5 / 3.3-131 |
| 2 | 1 | 177 577 | MKRL-23-PG-21 | 177 578 | MKRL-29-PG-29 | 177 578 | MKRL-29-PG-29 | 5 / 3.3-93 |
| 3 | 2 | 177 599 | MKM-PG-21 | 177 600 | MKM-PG-29 | 177 600 | MKM-PG-29 | 5 / 3.3-97 |
| 4 | 1 ¹⁾ | 177 567 | MKR-23-PG-21 | 177 568 | MKR-29-PG-29 | 177 568 | MKR-29-PG-29 | 5 / 3.3-90 |
| 5 | 2 | 192 290 | MKRS-23-B | 192 291 | MKRS-29-B | 192 291 | MKRS-29-B | 5 / 3.3-97 |
| 6 | 1 | 177 572 | MKRV-23-PG-21 | 177 573 | MKRV-29-PG-29 | 177 573 | MKRV-29-PG-29 | 5 / 3.3-92 |
| 7 | 1 | 193 124 | HMZAS-PG-21 | 177 603 | HMZAS-PG-29 | 177 603 | HMZAS-PG-29 | 5 / 3.3-98 |

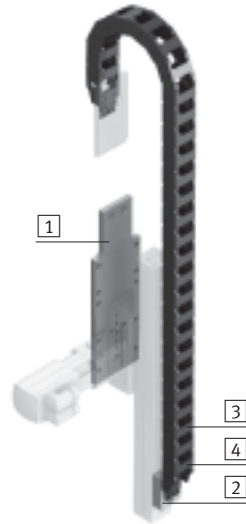
1) Length depends on the stroke of the drive

Linear gantries

Z modules

Mono/Duo system

Cantilever axes DGEA



| Bill of materials | | | | | | | | | |
|-------------------|-----------------|---|------|---------------------------|------|---------------------------|------|-------------|---|
| Type | | HMBSZ-DGEA-1 | | HMBSZ-DGEA-2 | | HMBSZ-DGEA-3 | | | |
| For drives | | DGEA-18 | | DGEA-25 | | DGEA-25 | | | |
| System type | | Mono 25 Mono 40 Duo 25 | | Duo 25 | | Duo 40 | | | |
| Item | Quantity | Part No. | Type | Part No. | Type | Part No. | Type | → Page | |
| [1] | 1 | 539 374 HMVZ-3 | | 539 375 HMVZ-4 | | 539 377 HMVZ-6 | | 5 / 3.3-131 | |
| [2] | 1 | 539 370 HMIZF-E03-DA18 | | 539 371 HMIZF-E03-DA25 | | 539 371 HMIZF-E03-DA25 | | 5 / 3.3-104 | |
| [3] | 1 ¹⁾ | IGUS E2 medium 240.03.075.0 and 211 or KABELSCHLEPP MC 0320.40-01-77 and TS 0/n _T 2 | | | | | | | - |
| [4] | 1 | IGUS E2 medium 2030.12.PZB or KABELSCHLEPP MC FA/MA | | | | | | | - |

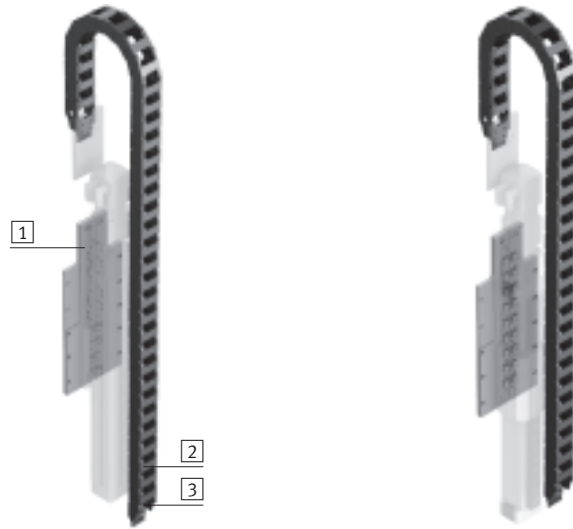
1) Length depends on the stroke of the drive

Linear gantries

Z modules

Mono/Duo system

Spindle axes DGE



| Bill of materials | | | | | | | | |
|-------------------|-------------------|--|-------------|----------|-------------|----------|--------|---|
| Type | HMBSZ-DGE-1 | | HMBSZ-DGE-2 | | HMBSZ-DGE-3 | | | |
| For drives | DGE-25-SP | | DGE-40-SP | | DGE-40-SP | | | |
| System type | Mono 40 Duo 25 | | Duo 25 | | Duo 40 | | | |
| Item | Quantity | Part No. | Type | Part No. | Type | Part No. | Type | |
| 1 | 1 | 539 374 | HMVZ-3 | 539 375 | HMVZ-4 | 539 377 | HMVZ-6 | |
| 2 | 1 ¹⁾ | IGUS E2 medium 240.03.075.0 and 211 or KABELSCHLEPP MC 0320.40-01-77 and TS O/nT2 | | | | | | - |
| 3 | 1 | IGUS E2 medium 2030.12.PZB or KABELSCHLEPP MC FA/MA | | | | | | - |
| | | | | | | | → Page | |

1) Length depends on the stroke of the drive

3-Dimensional gantries

Key features



X, Y and Z modules



Y modules

- Pneumatic: DGP, DGC
- Electrical with toothed belt or spindle axis: DGE
- Single-axis systems (mono) or drives with guide axis (duo)

Z modules

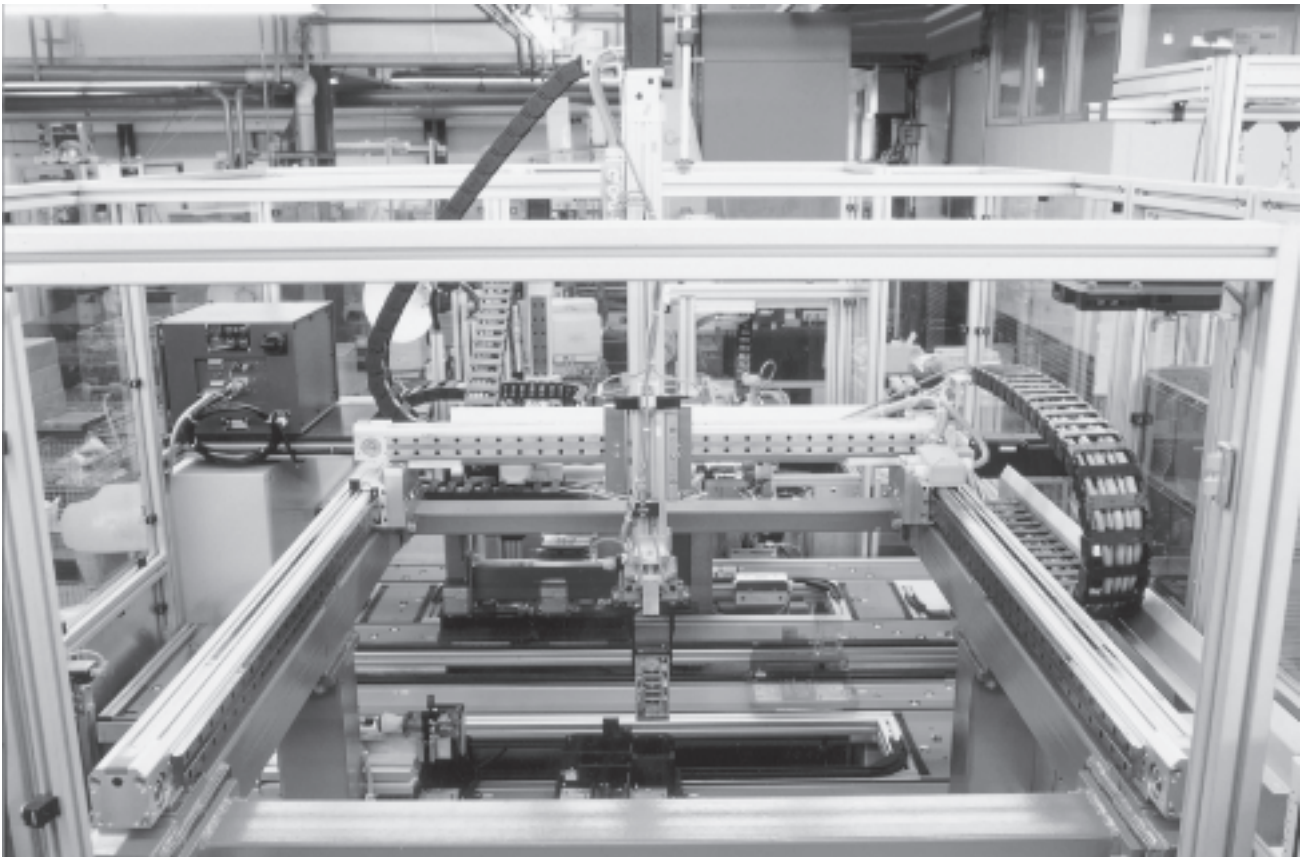
- Pneumatic: SLT, HMPL, HMP
- Electrical with toothed belt or spindle axis: DGE, DGEA

X modules

- Electrical with toothed belt axis: DGE

The components in the multi-axis modular system consist mainly of aluminium plates that are connected to each other and attached to the drives using screw connections and slot nut connectors. This permits fast and easy assembly.

Application



3-Dimensional gantries

Product range overview



| Selection aid | | | | | |
|-------------------|---------------------------------|--|-----------------------------|--------------------------------|-----------|
| System type | Mono 25 | Mono 40 | Duo 25 | | Duo 40 |
| | | | | | |
| X-axis | DGE-25-ZR | DGE-40-ZR | DGE-25-ZR | DGE-40-ZR | DGE-40-ZR |
| Drive function | Electrical | | | | |
| Options | Ball bearing or roller guide | | | | |
| Y-axis | DG...-25 | DG...-40 | DG...-25 | DG...-40 | |
| | | | | | |
| Drive function | Pneumatic and electrical | | | | |
| Options | Spindle or toothed belt axis | | | | |
| Z-axis | DGSL-16 SLT-16 HMPL-16 | DGSL-20 SLT-20 HMPL-20 HMP-16 | DGSL-25 SLT-25 HMP-20 | HMP-25 | |
| Drive function | Pneumatic | | | | |
| Options | Intermediate position with HMPL | Intermediate position with HMPL, HMP | | Intermediate position with HMP | |
| Z-axis | DGEA-18 | DGEA-18 DGE-25-SP-KF | DGEA-25 DGE-40-SP-KF | DGEA-25 DGE-40-SP-KF | |
| Drive function | Electrical | | | | |
| Options | - | Spindle or toothed belt axis | | Spindle or toothed belt axis | |
| Working load [kg] | | | | | |
| | 1 | ■ | ■ | ■ | ■ |
| | 2 | ■ | ■ | ■ | ■ |
| | 3 | - | ■ | ■ | ■ |
| | 4 | - | ■ | ■ | ■ |
| | 6 | - | - | ■ | ■ |
| | 10 | - | - | - | ■ |
| → Page | 5 / 3.3-70 | | | | |

3-Dimensional gantries

Selection aid for basic, connection and installation components



| X-axis | | | | | |
|-------------------|--------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| System type | | Mono 25 | Mono 40 | Duo 25 | Duo 40 |
| | | | | | |
| Electrical drives | | Type | | | |
| DGE-25 | -ZR-KF | HMBSX-RP/FP-25-1 → 5 / 3.3-73 | HMBSX-RP/FP-25-1 → 5 / 3.3-73 | HMBSX-RP/FP-25-1 → 5 / 3.3-73 | - |
| | -ZR-RF | HMBSX-RP/FP-25-2 → 5 / 3.3-73 | HMBSX-RP/FP-25-2 → 5 / 3.3-73 | HMBSX-RP/FP-25-2 → 5 / 3.3-73 | - |
| DGE-40 | -ZR-KF | - | HMBSX-RP/FP-40-1 → 5 / 3.3-73 | HMBSX-RP/FP-40-1 → 5 / 3.3-73 | HMBSX-RP/FP-40-1 → 5 / 3.3-73 |
| | -ZR-RF | - | HMBSX-RP/FP-40-2 → 5 / 3.3-73 | HMBSX-RP/FP-40-2 → 5 / 3.3-73 | HMBSX-RP/FP-40-2 → 5 / 3.3-73 |

Selection example:

Project engineering produced the following drive combination:

Step 1
Define the drive type in the selection aids for the X-, Y- or Z-axis. The associated bill of materials can be found on the specified page.

Step 2
The necessary basic, connection and installation components can be found in the bill of materials on the specified page.

Step 3
Technical data on the basic, connection and installation components can be found on the specified pages. Further accessories for the selected drives, for example proximity sensors, centring sleeves, etc. are documented with the drives.

X-axis: DGE-40-ZR-KF

X-axis: HMBSX-RP/FP-40-1
→ 5 / 3.3-73

X-axis: HMBSX-RP/FP-40-1

Y-axis: Mono 40 system with DGC-40

Y-axis: HMBSY-RP/FP-M40-2
→ 5 / 3.3-74

Y-axis: HMBSY-RP/FP-M40-2




Z-axis: HMPL-20 without intermediate position

Z-axis: HMBSZ-HMPL-5 or 6
→ 5 / 3.3-78

Z-axis: HMBSZ-HMPL-5

3-Dimensional gantries




Selection aid for basic, connection and installation components

| Y-axis | | | | | |
|---|---|-----------------------------------|---|-----------------------------------|--|
| System type | Mono 25 | Mono 40 | Duo 25 | Duo 40 | |
|  |  | |  | | |
| Pneumatic drives | Type | | | | |
| DGPL-25 | HMBSY-RP/FP-M25-1 → 5 / 3.3-74 | - | HMBSY-RP/FP-D25-1 → 5 / 3.3-75 | - | |
| DGC-25 | HMBSY-RP/FP-M25-2 → 5 / 3.3-74 | - | HMBSY-RP/FP-D25-2 → 5 / 3.3-75 | - | |
| DGPL-40 | - | HMBSY-RP/FP-M40-1 → 5 / 3.3-74 | - | HMBSY-RP/FP-D40-1 → 5 / 3.3-75 | |
| DGC-40 | - | HMBSY-RP/FP-M40-2 → 5 / 3.3-74 | - | HMBSY-RP/FP-D40-2 → 5 / 3.3-75 | |
| Electrical drives | Type | | | | |
| DGE-25 -SP-KF -ZR-KF -ZR-RF | HMBSY-RP/FP-M25-1 → 5 / 3.3-74 | - | HMBSY-RP/FP-D25-1 → 5 / 3.3-75 | - | |
| DGE-40 -SP-KF -ZR-KF -ZR-RF | - | HMBSY-RP/FP-M40-1 → 5 / 3.3-74 | - | HMBSY-RP/FP-D40-1 → 5 / 3.3-75 | |

3-Dimensional gantries

Selection aid for basic, connection and installation components

FESTO

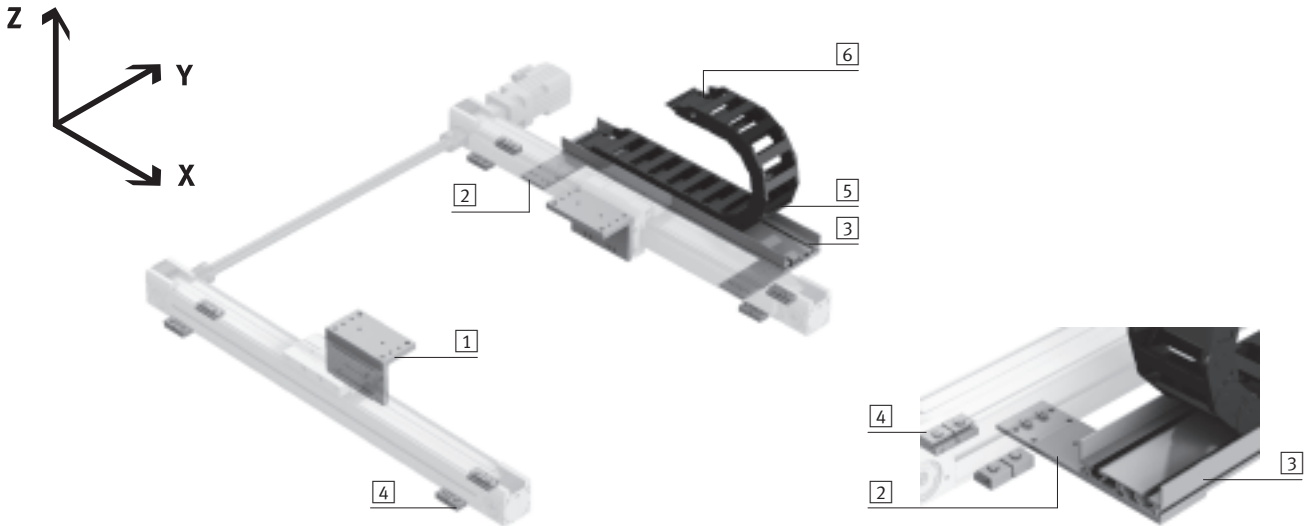
| Z-axis | | | | |
|---|---|--|---|------------------------------|
| System type | Mono 25 | Mono 40 | Duo 25 | Duo 40 |
|  |  | |  | |
| Pneumatic drives | Type | | | |
| DGSL-16 | HMBSZ-DGSL-7 → 5 / 3.3-76 | - | - | - |
| DGSL-20 | - | HMBSZ-DGSL-8 → 5 / 3.3-76 | - | - |
| DGSL-25 | - | HMBSZ-DGSL-8 → 5 / 3.3-76 | HMBSZ-DGSL-8 → 5 / 3.3-76 | - |
| SLT-16 | HMBSZ-SLT-7 → 5 / 3.3-77 | - | - | - |
| SLT-20 | - | HMBSZ-SLT-7 → 5 / 3.3-77 | HMBSZ-SLT-7 → 5 / 3.3-77 | - |
| SLT-25 | - | - | HMBSZ-SLT-7 → 5 / 3.3-77 | - |
| HMPL-16 | HMBSZ-HMPL-5 HMBSZ-HMPL-6 → 5 / 3.3-78 | - | - | - |
| HMPL-20 | - | HMBSZ-HMPL-5 HMBSZ-HMPL-6 → 5 / 3.3-78 | HMBSZ-HMPL-5 HMBSZ-HMPL-6 → 5 / 3.3-78 | - |
| HMP-16 | - | HMBSZ-HMP-4 → 5 / 3.3-79 | HMBSZ-HMP-4 → 5 / 3.3-79 | - |
| HMP-20 | - | - | HMBSZ-HMP-5 → 5 / 3.3-79 | - |
| HMP-25 | - | - | - | HMBSZ-HMP-6 → 5 / 3.3-79 |
| Electrical drives | Type | | | |
| DGEA-18 | HMBSZ-DGEA-1 → 5 / 3.3-80 | HMBSZ-DGEA-1 → 5 / 3.3-80 | HMBSZ-DGEA-1 → 5 / 3.3-80 | - |
| DGEA-25 | - | - | HMBSZ-DGEA-2 v5 / 3.3-80 | HMBSZ-DGEA-3 → 5 / 3.3-80 |
| DGE-25-SP | - | HMBSZ-DGE-1 → 5 / 3.3-81 | HMBSZ-DGE-1 → 5 / 3.3-81 | - |
| DGE-40-SP | - | - | HMBSZ-DGE-2 → 5 / 3.3-81 | HMBSZ-DGE-3 → 5 / 3.3-81 |

3-Dimensional gantries

X modules

Basic system

Toothed belt axes DGE



| Bill of materials | | | | | | | Page | | |
|-------------------|-----------------|---|------------------|------------------|------------------|----------|-------------|---------|-------------|
| Type | | HMBSX-RP/FP-25-1 | HMBSX-RP/FP-25-2 | HMBSX-RP/FP-40-1 | HMBSX-RP/FP-40-2 | | | | |
| | For drives | DGE-25-ZR-KF | DGE-25-ZR-RF | DGE-40-ZR-KF | DGE-40-ZR-RF | | | | |
| Item | Quantity | Part No. | Type | Part No. | Type | Part No. | Type | | |
| 1 | 1 | 539 651 | HMVW-DL25 | 539 652 | HMVS-RF25 | 540 325 | HMVW-DL40 | 539 653 | 5 / 3.3-125 |
| 2 | 2 ¹⁾ | 539 654 | HMIXB-RP/FP | 539 654 | HMIXB-RP/FP | 539 654 | HMIXB-RP/FP | 539 654 | 5 / 3.3-107 |
| 3 | 1 ²⁾ | 539 379 | HMIA-E07 | 539 379 | HMIA-E07 | 539 379 | HMIA-E07 | 539 379 | 5 / 3.3-105 |
| 4 | 2 ³⁾ | 150 736 | MUP-18/25 | 150 736 | MUP-18/25 | - | - | - | Volume 1 |
| | 1 ³⁾ | - | - | - | - | 150 738 | MUP-40 | 150 738 | Volume 1 |
| 5 | 1 ²⁾ | IGUS E2 medium 240.07.100.0 and 211 or KABELSCHLEPP MC 0320.80-01 and TS O/n _T 2 | | | | | - | - | - |
| 6 | 1 | IGUS E2 medium 2070.12.PZB or KABELSCHLEPP MC FA/MA | | | | | - | - | - |

- 1) Quantity with stroke ≤ 500 mm. With stroke > 500 mm, an installation kit HMIXB-RP/FP must be additionally ordered per 500 mm stroke or part thereof.
- 2) Length depends on the stroke of the drive
- 3) Every 500 mm per axis

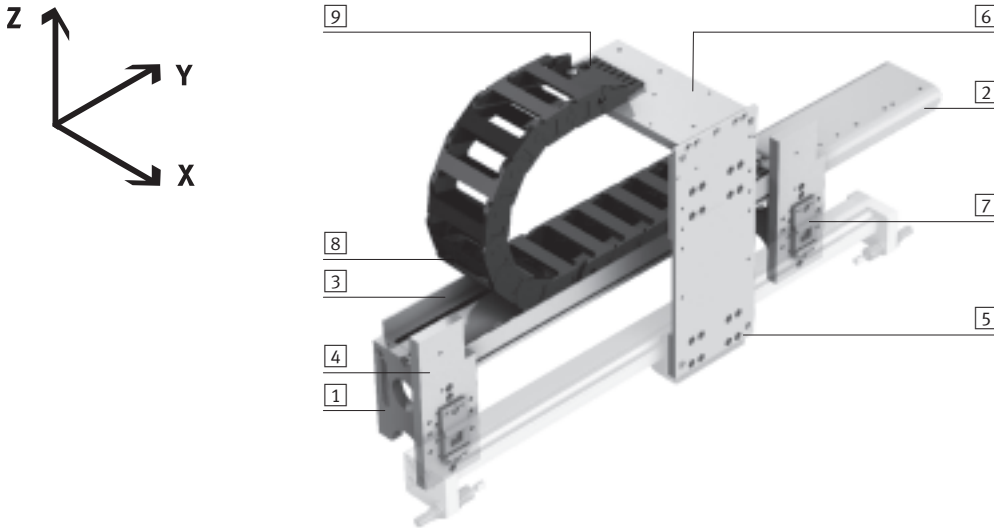
3-Dimensional gantries

Y modules



Mono system

Toothed belt/spindle axes DGE, linear drives DGC, DGPL



Bill of materials

| Type | HMBSY-RP/FP-M25-1 | HMBSY-RP/FP-M25-2 | HMBSY-RP/FP-M40-1 | HMBSY-RP/FP-M40-2 | | | | | |
|-------------|---|--|---|-------------------|--------------------|----------|--------------------|-------------|----------|
| For drives | DGE-25-SP-KF DGE-25-ZR-KF DGE-25-ZR-RF DGPL-25 | DGC-25 | DGE-40-SP-KF DGE-40-ZR-KF DGE-40-ZR-RF DGPL-40 | DGC-40 | | | | | |
| System type | Mono 25 | | Mono 40 | | | | | | |
| Item | Quantity | Part No. | Type | Part No. | Type | Part No. | Type | Page | |
| [1] | 2 | 539 657 | HMVV-RP/FP | 539 657 | HMVV-RP/FP | 539 657 | HMVV-RP/FP | 5 / 3.3-127 | |
| [2] | 1 | 539 658 | HMIXF-RP/FP | 539 658 | HMIXF-RP/FP | 539 658 | HMIXF-RP/FP | 5 / 3.3-127 | |
| [3] | 1 ¹⁾ | 539 379 | HMIA-E07 | 539 379 | HMIA-E07 | 539 379 | HMIA-E07 | 5 / 3.3-105 | |
| [4] | 2 ³⁾ | 539 656 | HMVM-RP/FP-DL25/40 | 539 656 | HMVM-RP/FP-DL25/40 | 539 656 | HMVM-RP/FP-DL25/40 | 5 / 3.3-129 | |
| [5] | 1 | 539 368 | HMVS-DL25 | 539 368 | HMVS-DL25 | 539 369 | HMVS-DL40 | 5 / 3.3-130 | |
| [6] | 1 | 539 659 | HMIYF-RF/DL25 | 539 659 | HMIYF-RF/DL25 | 539 660 | HMIYF-RF/DL40 | 5 / 3.3-108 | |
| [7] | 2 ²⁾ | 150 736 | MUP-18/25 | - | - | - | - | Volume 1 | |
| | 1 ²⁾ | - | - | 531 753 | MUC-25 | - | 531 755 | MUC-40 | Volume 1 |
| | 1 ²⁾ | - | - | - | - | 150 738 | MUP-40 | Volume 1 | |
| [8] | 1 ¹⁾ | IGUS E2 medium 240.07.100.0 and 211 or KABELSCHLEPP MC 0320.80-01 and TS O/n ₇ 2 | | | | | | - | |
| [9] | 1 | IGUS E2 medium 2070.12.PZB or KABELSCHLEPP MC FA/MA | | | | | | - | |

1) Length depends on the stroke of the drive

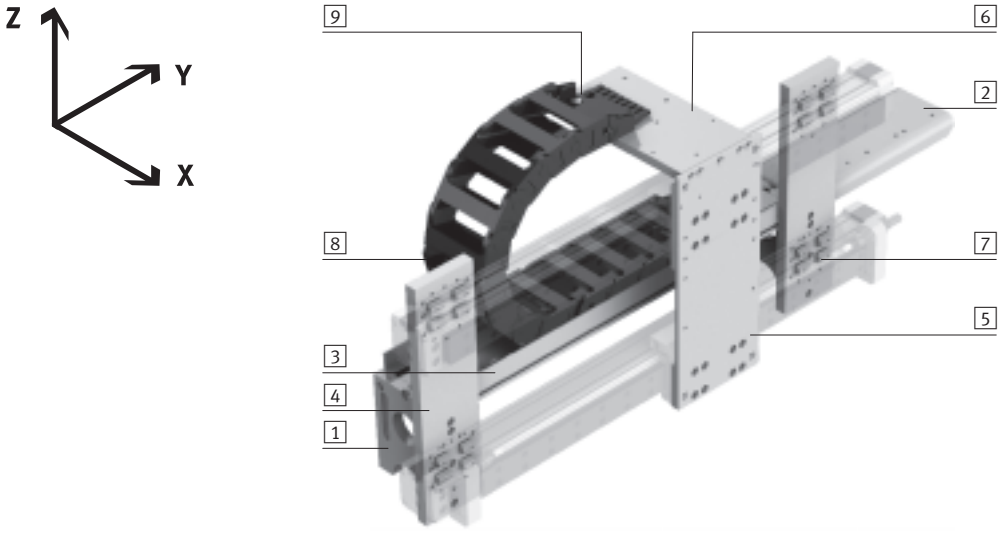
2) Per basic kit HMVM-RP/FP-DL25/40

3) Quantity with stroke ≤ 500 mm. With stroke > 500 mm, a basic kit HMVM-RP/FP-DL25/40 must be additionally ordered per 500 mm stroke or part thereof.

3-Dimensional gantries

Y modules

Duo system
Toothed belt/spindle axes DGE, linear drives DGC, DGPL



| Bill of materials | | | | | | | | |
|-------------------|---|--|--------------------|----------|---|----------|--------------------|-------------|
| Type | HMBSY-RP/FP-D25-1 | | HMBSY-RP/FP-D25-2 | | HMBSY-RP/FP-D40-1 | | HMBSY-RP/FP-D40-2 | |
| For drives | DGE-25-SP-KF DGE-25-ZR-KF DGE-25-ZR-RF DGPL-25 | | DGC-25 | | DGE-40-SP-KF DGE-40-ZR-KF DGE-40-ZR-RF DGPL-40 | | DGC-40 | |
| System type | Duo 25 | | | | Duo 40 | | | |
| Item | Quantity | Part No. | Type | Part No. | Type | Part No. | Type | Page |
| 1 | 2 | 539 657 | HMVV-RP/FP | 539 657 | HMVV-RP/FP | 539 657 | HMVV-RP/FP | 5 / 3.3-127 |
| 2 | 1 | 539 658 | HMIXF-RP/FP | 539 658 | HMIXF-RP/FP | 539 658 | HMIXF-RP/FP | 5 / 3.3-127 |
| 3 | 1 ¹⁾ | 539 379 | HMIA-E07 | 539 379 | HMIA-E07 | 539 379 | HMIA-E07 | 5 / 3.3-105 |
| 4 | 2 ³⁾ | 539 655 | HMVD-RP/FP-DL25/40 | 539 655 | HMVD-RP/FP-DL25/40 | 539 655 | HMVD-RP/FP-DL25/40 | 5 / 3.3-129 |
| 5 | 1 | 539 368 | HMVS-DL25 | 539 368 | HMVS-DL25 | 539 369 | HMVS-DL40 | 5 / 3.3-130 |
| 6 | 1 | 539 659 | HMIYF-RF/DL25 | 539 659 | HMIYF-RF/DL25 | 539 660 | HMIYF-RF/DL40 | 5 / 3.3-108 |
| 7 | 4 ²⁾ | 150 736 | MUP-18/25 | - | - | - | - | Volume 1 |
| | 2 | - | - | 531 753 | MUC-25 | - | 531 755 | MUC-40 |
| 8 | 1 ¹⁾ | IGUS E2 medium 240.07.100.0 and 211 or KABELSCHLEPP MC 0320.80-01 and TS O/η ₂ | | | | | | - |
| 9 | 1 | IGUS E2 medium 2070.12.PZB or KABELSCHLEPP MC FA/MA | | | | | | - |

1) Length depends on the stroke of the drive
 2) Per basic kit HMVD-RP/FP-DL25/40
 3) Quantity with stroke ≤ 500 mm. With stroke > 500 mm, a basic kit HMVD-RP/FP-DL25/40 must be additionally ordered per 500 mm stroke or part thereof.

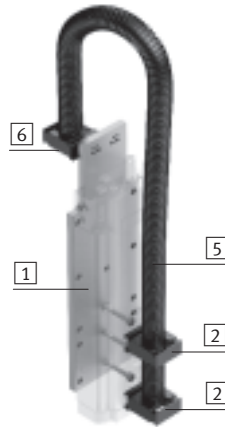
3-Dimensional gantries

Z modules



Mono/Duo system

Mini slides DGSL



| Bill of materials | | | | | | | |
|-------------------|-----------------|--------------|----------------|-------------------|--------------|----------|--------------|
| Type | | HMBSZ-DGSL-7 | | HMBSZ-DGSL-8 | | | |
| For drives | | DGSL-16 | | DGSL-20 | | DGSL-25 | |
| System type | | Mono 25 | | Mono 40 Duo 25 | | Duo 25 | |
| Item | Quantity | Part No. | Type | Part No. | Type | Part No. | Type |
| [1] | 1 | 539 373 | HMVZ-2 | 539 373 | HMVZ-2 | 539 373 | HMVZ-2 |
| [2] | 1 | 192 289 | MKRS-16,5-B | 192 290 | MKRS-23-B | 192 290 | MKRS-23-B |
| | | 548 803 | ZBV-M5-7 | 548 804 | ZBV-M5-9 | 548 804 | ZBV-M5-9 |
| [5] | 1 ¹⁾ | 177 566 | MKR-16,5-PG-16 | 177 567 | MKR-23-PG-21 | 177 567 | MKR-23-PG-21 |
| [6] | 1 | 192 289 | MKRS-16,5-B | 192 290 | MKRS-23-B | 192 290 | MKRS-23-B |

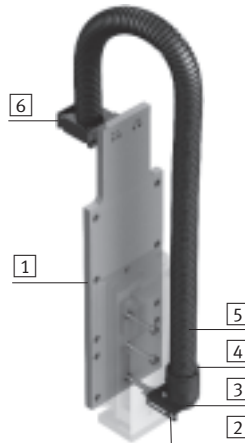
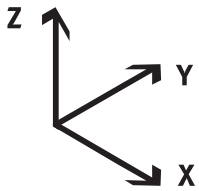
1) Length depends on the stroke of the drive

3-Dimensional gantries

Z modules

Mono/Duo system

Mini slides SLT



| Bill of materials | | | | | | | |
|-------------------|-----------------|-------------|---------------|-------------------|---------------|----------|---------------|
| Type | | HMBSZ-SLT-7 | | | | | |
| For drives | | SLF-16 | | SLF-20 | | SLF-25 | |
| System type | | Mono 25 | | Mono 40 Duo 25 | | Duo 25 | |
| Item | Quantity | Part No. | Type | Part No. | Type | Part No. | Type |
| 1 | 1 | 539 373 | HMVZ-2 | 539 373 | HMVZ-2 | 539 373 | HMVZ-2 |
| 2 | 1 | 193 124 | HMZAS-PG-21 | 193 124 | HMZAS-PG-21 | 193 124 | HMZAS-PG-21 |
| 3 | 1 | 177 599 | MKM-PG-21 | 177 599 | MKM-PG-21 | 177 599 | MKM-PG-21 |
| 4 | 1 | 177 572 | MKRV-23-PG-21 | 177 572 | MKRV-23-PG-21 | 177 572 | MKRV-23-PG-21 |
| 5 | 1 ¹⁾ | 177 567 | MKR-23-PG-21 | 177 567 | MKR-23-PG-21 | 177 567 | MKR-23-PG-21 |
| 6 | 1 | 192 290 | MKRS-23-B | 192 290 | MKRS-23-B | 192 290 | MKRS-23-B |

1) Length depends on the stroke of the drive

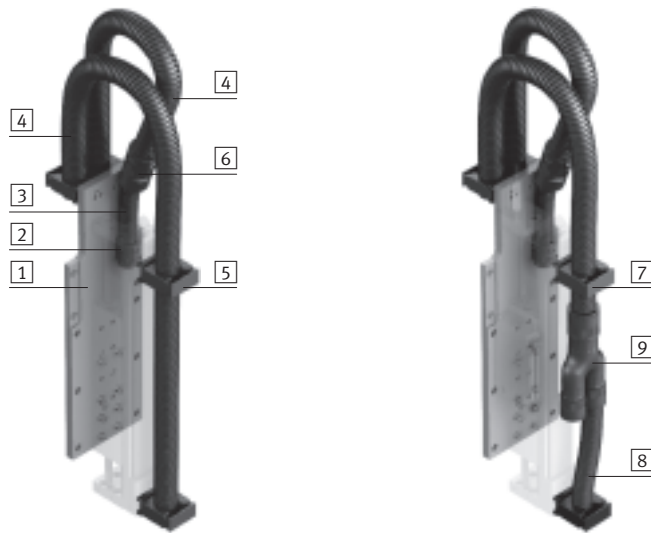
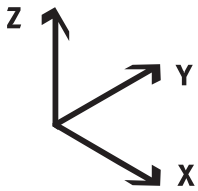
3-Dimensional gantries

Z modules



Mono/Duo system

Linear modules HMPL



Bill of materials

| Type | | HMBSZ-HMPL-5 | | HMBSZ-HMPL-6 | | → Page | |
|-------------|-----------------|-------------------------------|-------------------|----------------------------|-------------------|----------|------------------|
| For drives | | HMPL-16 | HMPL-20 | HMPL-16 | HMPL-20 | | |
| | | without intermediate position | | with intermediate position | | | |
| System type | | Mono 25 | Mono 40 Duo 25 | Mono 25 | Mono 40 Duo 25 | | |
| Item | Quantity | Part No. | Type | Part No. | Type | Part No. | Type |
| [1] | 1 | 539 375 | HMVZ-4 | 539 375 | HMVZ-4 | 539 375 | HMVZ-4 |
| [2] | 1 | 177 571 | MKRV-16,5-PG-16 | 177 571 | MKRV-16,5-PG-16 | 177 571 | MKRV-16,5-PG-16 |
| [3] | 1 ¹⁾ | 177 566 | MKR-16,5-PG-16 | 177 566 | MKR-16,5-PG-16 | 177 566 | MKR-16,5-PG-16 |
| [4] | 1 ²⁾ | 177 567 | MKR-23-PG-21 | 177 567 | MKR-23-PG-21 | 177 567 | MKR-23-PG-21 |
| [5] | 4 ³⁾ | 192 290 | MKRS-23-B | 192 290 | MKRS-23-B | - | - |
| [6] | 1 | 194 321 | MKRT-23-16,5 | 194 321 | MKRT-23-16,5 | 194 321 | MKRT-23-16,5 |
| [7] | 3 ³⁾ | - | - | - | - | 192 290 | MKRS-23-B |
| [8] | 1 | - | - | - | - | 192 289 | MKRS-16,5-B |
| [9] | 1 | - | - | - | - | 193 946 | MKY-PG-21-2PG-16 |

1) Length 200 mm

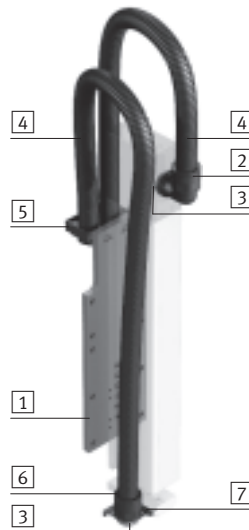
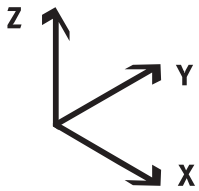
2) Length depends on the stroke of the drive, 2 conduits are required with an intermediate position.

3) In order to be able to mount the retaining clip MKRS, a clamping component (2x code J) must be selected as an accessory in the order for the linear module HMPL.

3-Dimensional gantries

Z modules

Mono/Duo system
Linear modules HMP



| Bill of materials | | | | | | | | |
|-------------------|-------------------|----------|---------------|----------|---------------|----------|---------------|-------------|
| Type | HMBSZ-HMP-4 | | HMBSZ-HMP-5 | | HMBSZ-HMP-6 | | → Page | |
| For drives | HMP-16 | | HMP-20 | | HMP-25 | | | |
| System type | Mono 40 Duo 25 | | Duo 25 | | Duo 40 | | | |
| Item | Quantity | Part No. | Type | Part No. | Type | Part No. | Type | |
| 1 | 1 | 539 374 | HMVZ-3 | 539 374 | HMVZ-3 | 539 377 | HMVZ-6 | 5 / 3.3-131 |
| 2 | 1 | 177 577 | MKRL-23-PG-21 | 177 578 | MKRL-29-PG-29 | 177 578 | MKRL-29-PG-29 | 5 / 3.3-93 |
| 3 | 2 | 177 599 | MKM-PG-21 | 177 600 | MKM-PG-29 | 177 600 | MKM-PG-29 | 5 / 3.3-97 |
| 4 | 1 ¹⁾ | 177 567 | MKR-23-PG-21 | 177 568 | MKR-29-PG-29 | 177 568 | MKR-29-PG-29 | 5 / 3.3-90 |
| 5 | 2 | 192 290 | MKRS-23-B | 192 291 | MKRS-29-B | 192 291 | MKRS-29-B | 5 / 3.3-97 |
| 6 | 1 | 177 572 | MKRV-23-PG-21 | 177 573 | MKRV-29-PG-29 | 177 573 | MKRV-29-PG-29 | 5 / 3.3-92 |
| 7 | 1 | 193 124 | HMZAS-PG-21 | 177 603 | HMZAS-PG-29 | 177 603 | HMZAS-PG-29 | 5 / 3.3-98 |

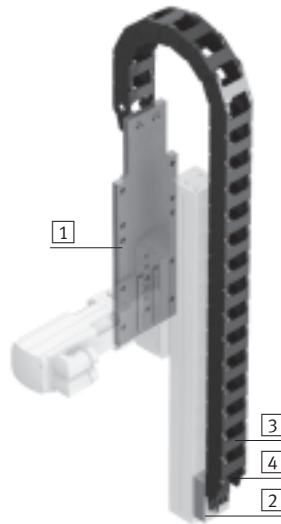
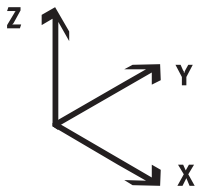
1) Length depends on the stroke of the drive

3-Dimensional gantries

Z modules

Mono/Duo system

Cantilever axes DGEA



Bill of materials

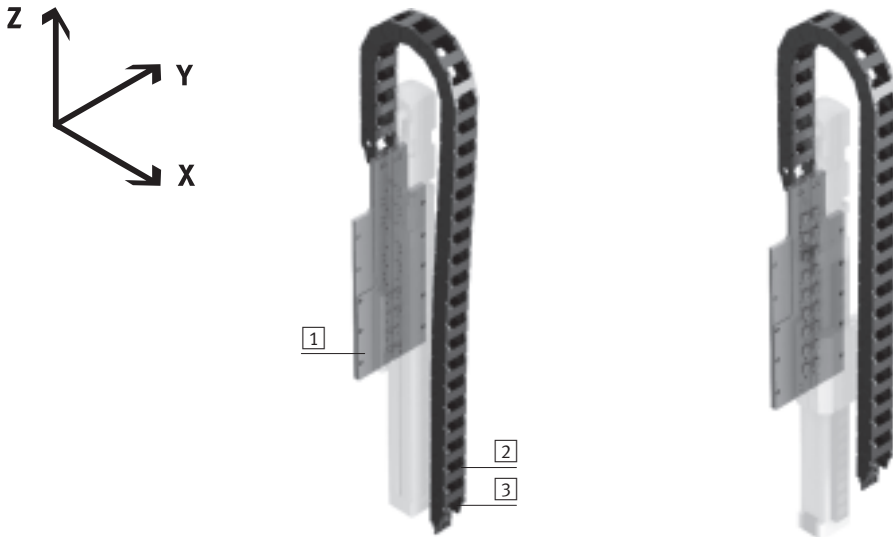
| Type | HMBSZ-DGEA-1 | HMBSZ-DGEA-2 | HMBSZ-DGEA-3 | | |
|-------------|------------------------------|---|---------------------------|---------------------------|-------------|
| For drives | DGEA-18 | DGEA-25 | DGEA-25 | | |
| System type | Mono 25 Mono 40 Duo 25 | Duo 25 | Duo 40 | | |
| Item | Quantity | Part No. Type | Part No. Type | Part No. Type | → Page |
| [1] | 1 | 539 374 HMVZ-3 | 539 375 HMVZ-4 | 539 377 HMVZ-6 | 5 / 3.3-131 |
| [2] | 1 | 539 370 HMIZF-E03-DA18 | 539 371 HMIZF-E03-DA25 | 539 371 HMIZF-E03-DA25 | 5 / 3.3-104 |
| [3] | 1 ¹⁾ | IGUS E2 medium 240.03.075.0 and 211 or KABELSCHLEPP MC 0320.40-01-77 and TS 0/n _r 2 | | | - |
| [4] | 1 | IGUS E2 medium 2030.12.PZB or KABELSCHLEPP MC FA/MA | | | - |

1) Length depends on the stroke of the drive

3-Dimensional gantries

Z modules

Mono/Duo system
Toothed belt axes DGE



| Bill of materials | | | | | | | | |
|-------------------|-------------------|--|-------------|----------|-------------|----------|--------|---|
| Type | HMBSZ-DGE-1 | | HMBSZ-DGE-2 | | HMBSZ-DGE-3 | | | |
| For drives | DGE-25-SP | | DGE-40-SP | | DGE-40-SP | | | |
| System type | Mono 40 Duo 25 | | Duo 25 | | Duo 40 | | | |
| Item | Quantity | Part No. | Type | Part No. | Type | Part No. | Type | |
| 1 | 1 | 539 374 | HMVZ-3 | 539 375 | HMVZ-4 | 539 377 | HMVZ-6 | |
| 2 | 1 ¹⁾ | IGUS E2 medium 240.03.075.0 and 211 or KABELSCHLEPP MC 0320.40-01-77 and TS O/nT2 | | | | | | - |
| 3 | 1 | IGUS E2 medium 2030.12.PZB or KABELSCHLEPP MC FA/MA | | | | | | - |

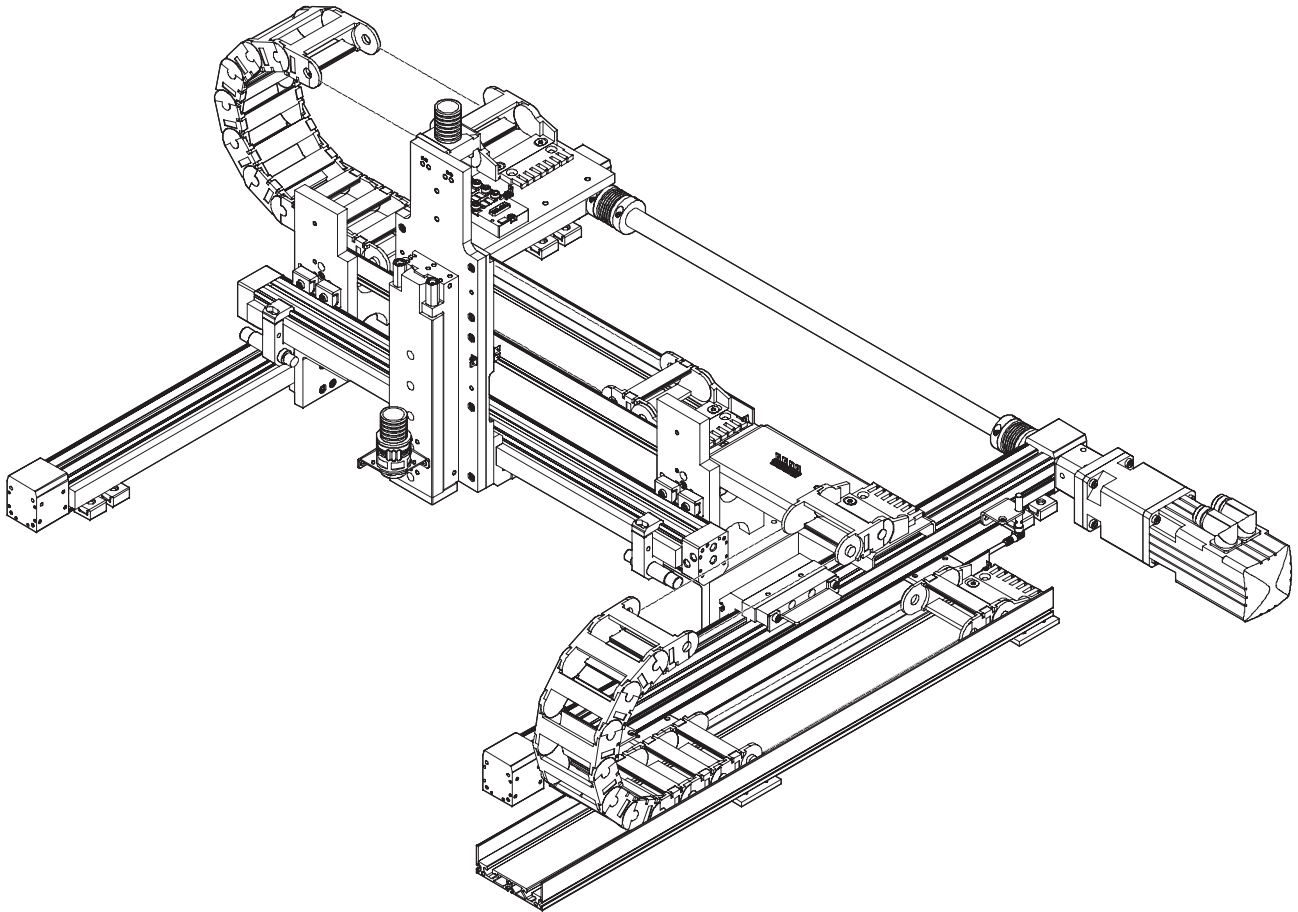
1) Length depends on the stroke of the drive

3-Dimensional gantries

System example

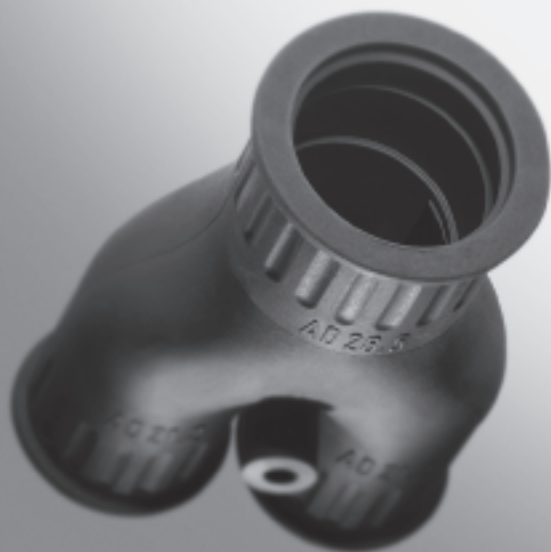


Combination with toothed-belt axis DGE-RF/linear drive DGC/mini-slide SLT



System components
Multi-axis modular system

3.3

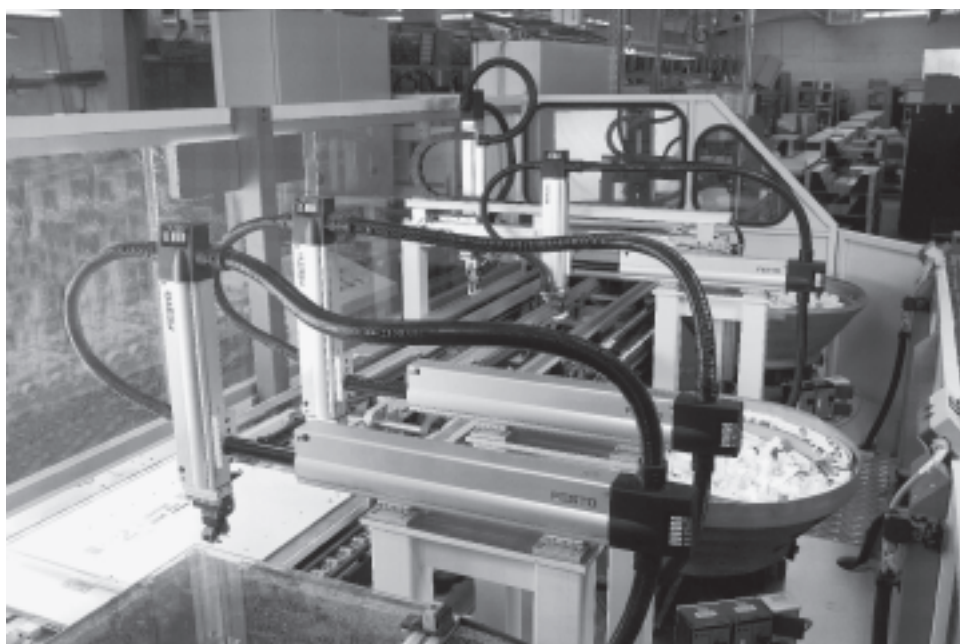


- Reliable guidance
- Rapid assembly and disassembly
- Low space requirement
- Low noise levels

Installation components, for short strokes

Key features

Installation components facilitate a clear-cut, safe layout of electrical cables and pneumatic tubing. They can be quickly dismantled and reassembled if servicing is required. As opposed to chain link trunking, they are distinguished by significantly reduced space requirements and lower noise levels, as well as excellent protection against environmental influences.



3.3

Protective conduit

MKR



Flexible conduit protects electrical cables and pneumatic tubing at machines and in installations. Corrugated conduit connector MKRT allows for insertion and fastening of a protective conduit with a small diameter into a protective conduit with a larger diameter. Intervention is thus possible at this point in the protective conduit system, for example for maintenance work.

Separable protective conduit

MKG



With separable connector

Internal and external conduits can be separated from one another. Electrical cables and pneumatic tubing need not be pulled through the protective conduit, but rather can be laid into it. The matching connector can also be opened.

Junction box

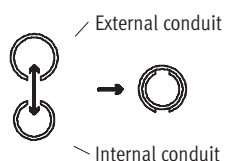
HMZV



Protected distribution for electrical cables and pneumatic tubing, especially for multi-axis systems.

Accessories

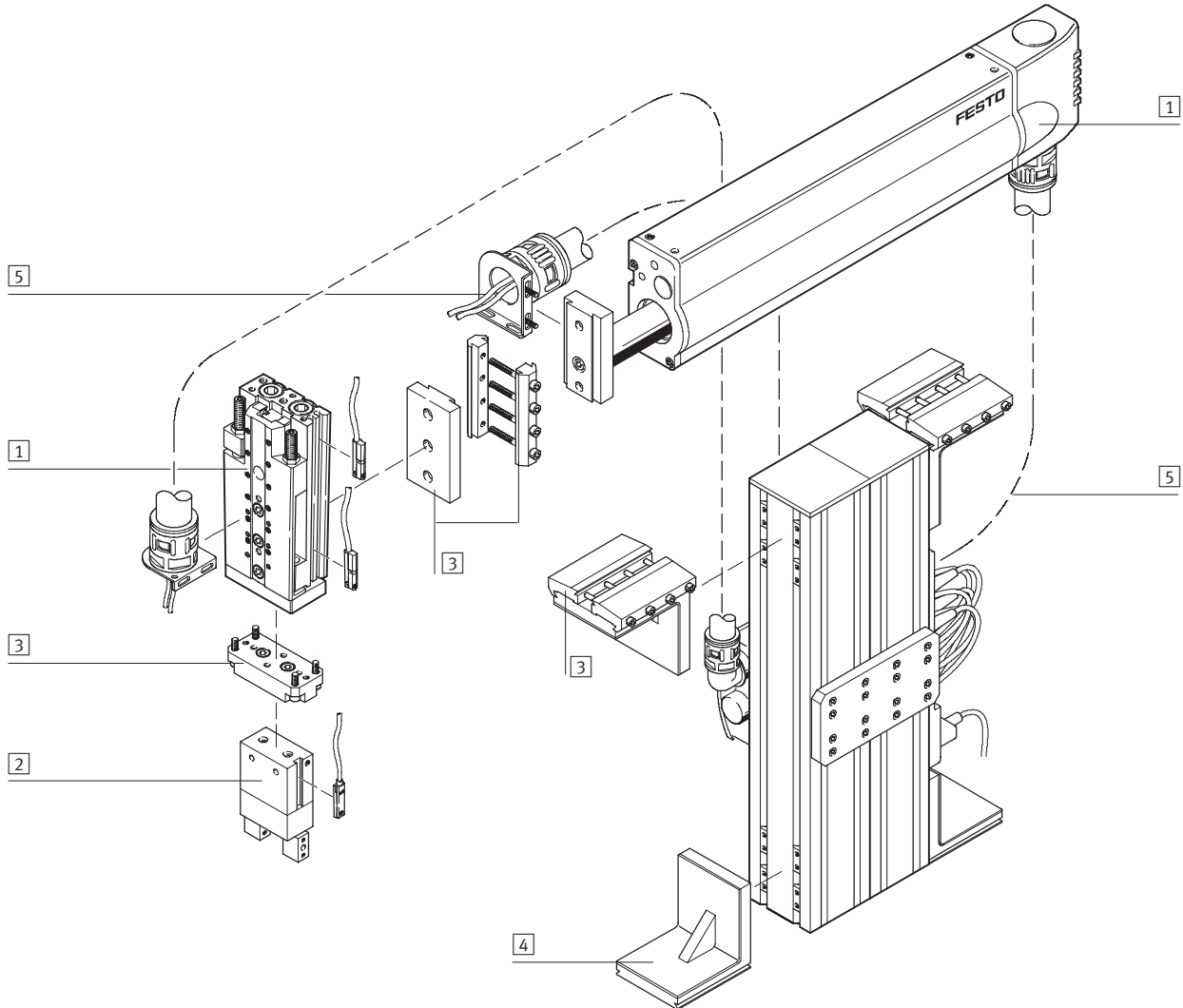
- Fittings and connectors
MKRV, MKGV, MKA, MKRL, MKRT, MKY
- Lock nut
MKM
- Retaining clip
MKRS
- Adapter plate
HMZAS



Installation components, for short strokes

System example

System product for handling and assembly technology



| System elements and accessories | | |
|---------------------------------|---------------------------|---|
| | Brief description | → Page |
| 1 | Drives | Wide range of combination options within handling and assembly technology |
| 2 | Grippers | Wide range of combination options within handling and assembly technology |
| 3 | Adapters | For combining drives with drives and drives with grippers |
| 4 | Basic mounting components | Profiles and profile combinations as well as profile/drive combinations |
| 5 | Installation components | For achieving a clear-cut, safe layout for electrical cables and tubing |
| - | Axes | Wide range of combination options within handling and assembly technology |
| - | Motors | Servo and stepper motors, with or without gearing |

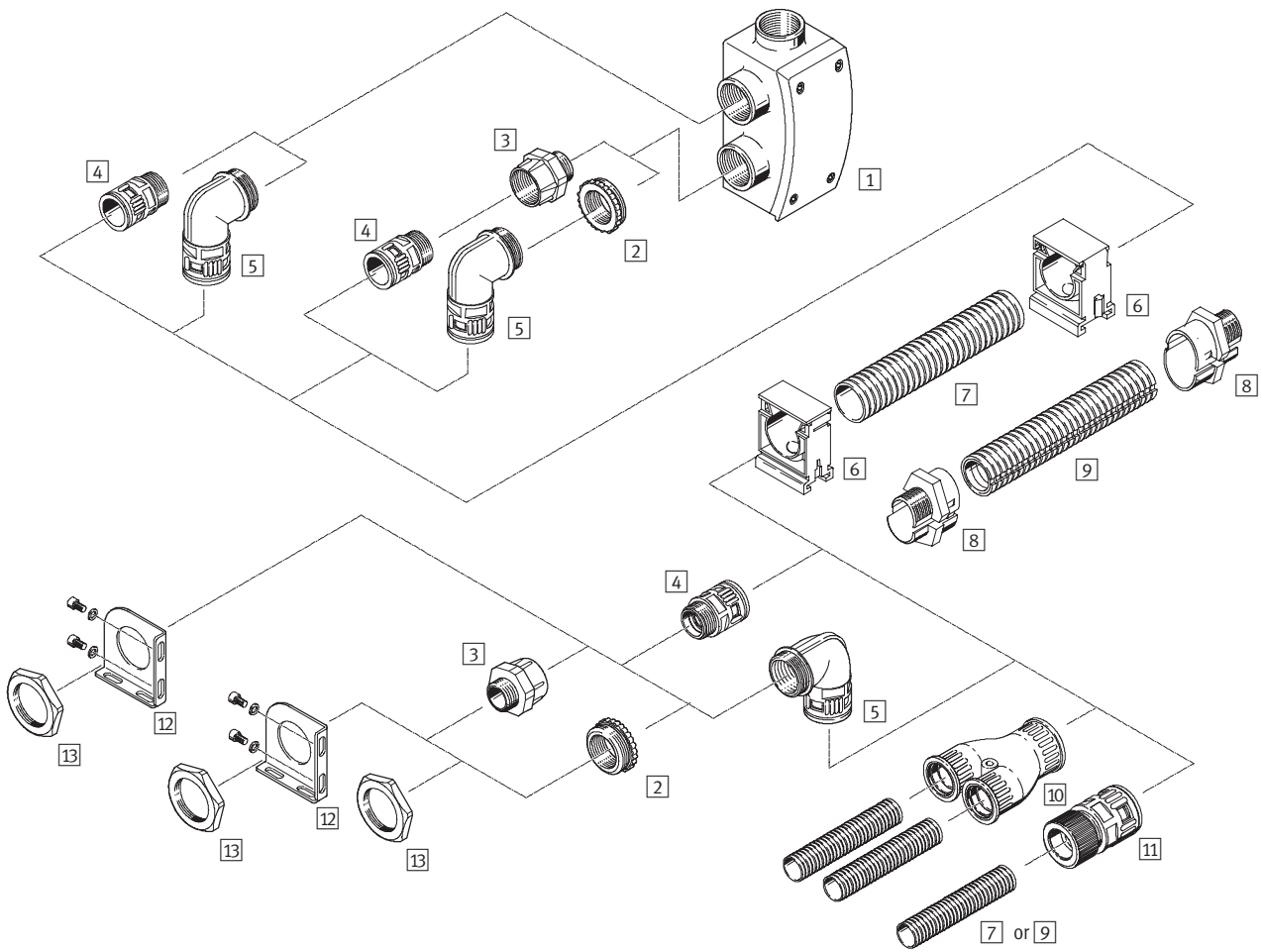
Installation components, for short strokes

Peripherals overview



System components
Multi-axis modular system

3.3



Installation components, for short strokes











Peripherals overview

| Variants and accessories | | |
|--|---|------------|
| Type | Brief description | → Page |
| 1 Junction box HMZV | For bundling or distributing lines and tubing | 5 / 3.3-91 |
| 2 Reducing connector MKA | For reducing thread size Material: Brass | 5 / 3.3-95 |
| 3 Reducing connector MKA-KU | For reducing or enlarging thread size Material: Polyamide | 5 / 3.3-96 |
| 4 Protective conduit connector MKRV | For securing the protective conduit | 5 / 3.3-92 |
| 5 Elbow connector for protective conduit MKRL | For securing the protective conduit | 5 / 3.3-93 |
| 6 Retaining clip MKRS | For securing the protective conduit over long distances | 5 / 3.3-97 |
| 7 Protective conduit MKR | For protecting lines and tubing | 5 / 3.3-90 |
| 8 Separable conduit connector MKGV | For securing the protective conduit. The connector is separable so that lines and tubing in the system can be easily replaced. | 5 / 3.3-95 |
| 9 Separable protective conduit MKG | For protecting lines and tubing. The conduit is separable so that lines and tubing in the system can be easily replaced. | 5 / 3.3-91 |
| 10 Y distributor MKY | For distributing lines and tubing | 5 / 3.3-94 |
| 11 Protective conduit connector MKRT | The protective conduits (different sizes) can be pushed into one another by releasing the connector. This permits easy replacement of lines and tubing. | 5 / 3.3-94 |
| 12 Adapter plate HMZAS | For securing protective conduit connectors at the drive | 5 / 3.3-98 |
| 13 Lock nut MKM | For securing connectors at adapter plates | 5 / 3.3-97 |

Installation components, for short strokes

Selection aid









| Accessories | | Protective conduit | | | | | | | Junction box HMZV | → Page |
|---|-------|---|-------|-------|-------|--|------------|-------|---|------------|
| | | MKR | | | | MKG, separable | | | | |
| | |  | | | |  | | |  | |
| Connecting thread | | Pg 9 | Pg 11 | Pg 16 | Pg 21 | Pg 29 | Pg 21 | Pg 29 | Pg 29 | |
| Protective conduit connector MKRV | | | | | | | | | | |
|  | Pg 9 | ■ | - | - | - | - | - | - | - | 5 / 3.3-92 |
| | Pg 11 | - | ■ | - | - | - | - | - | - | |
| | Pg 16 | - | - | ■ | - | - | - | - | - | |
| | Pg 21 | - | - | - | ■ | - | - | - | - | |
| | Pg 29 | - | - | - | - | ■ | - | - | ■ | |
| Elbow connector for protective conduit MKRL | | | | | | | | | | |
|  | Pg 9 | ■ | - | - | - | - | - | - | - | 5 / 3.3-93 |
| | Pg 11 | - | ■ | - | - | - | - | - | - | |
| | Pg 16 | - | - | ■ | - | - | - | - | - | |
| | Pg 21 | - | - | - | ■ | - | - | - | - | |
| | Pg 29 | - | - | - | - | ■ | - | - | ■ | |
| Y distributor MKY | | | | | | | | | | |
|  | Pg 21 | - | - | - | ■ | - | - | - | - | 5 / 3.3-94 |
| | Pg 29 | - | - | - | - | ■ | - | - | - | |
| Protective conduit connector MKRT | | | | | | | | | | |
|  | Pg 16 | - | - | ■ | ■ | - | - | - | - | 5 / 3.3-94 |
| | Pg 21 | - | - | ■ | ■ | - | - | - | - | |
| Protective conduit connector MKGV, separable | | | | | | | | | | |
|  | Pg 21 | - | - | - | - | - | ■ | - | - | 5 / 3.3-95 |
| | Pg 29 | - | - | - | - | - | - | ■ | ■ | |
| Reducing connector MKA | | | | | | | | | | |
|  | Pg 29 | - | - | - | - | - | - | - | ■ | 5 / 3.3-95 |
| Reducing connector MKA-KU | | | | | | | | | | |
|  | Pg 29 | - | - | - | - | - | - | - | ■ | 5 / 3.3-96 |
| Technical data → Page | | 5 / 3.3-90 | | | | | 5 / 3.3-91 | | 5 / 3.3-91 | |

Installation components, for short strokes

Selection aid



| Accessories | | Protective conduit | | | | | | Junction box HMZV | | → Page |
|---|---------------------------------------|---|-------|-------|-------|---|-------|---|-------|------------|
| | | MKR | | | | MKG, separable | | | | |
| | |  | | | |  | |  | | |
| Connecting thread | | Pg 9 | Pg 11 | Pg 16 | Pg 21 | Pg 29 | Pg 21 | Pg 29 | Pg 29 | |
| Lock nut MKM | | | | | | | | | | |
|  | Pg 9 | ■ | - | - | - | - | - | - | - | 5 / 3.3-97 |
| | Pg 11 | - | ■ | - | - | - | - | - | - | |
| | Pg 16 | - | - | ■ | - | - | - | - | - | |
| | Pg 21 | - | - | - | ■ | - | ■ | - | - | |
| | Pg 29 | - | - | - | - | ■ | - | ■ | - | |
| Retaining clip MKRS | | | | | | | | | | |
|  | Pg 9 | ■ | - | - | - | - | - | - | - | 5 / 3.3-97 |
| | Pg 11 | - | ■ | - | - | - | - | - | - | |
| | Pg 16 | - | - | ■ | - | - | - | - | - | |
| | Pg 21 | - | - | - | ■ | - | ■ | - | - | |
| | Pg 29 | - | - | - | - | ■ | - | ■ | - | |
| Adapter plate HMZAS | | | | | | | | | | |
|  | For connecting thread Pg 21 and Pg 29 | | | | | | | | | 5 / 3.3-98 |
| Technical data → Page | | 5 / 3.3-90 | | | | 5 / 3.3-91 | | 5 / 3.3-91 | | |

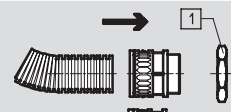
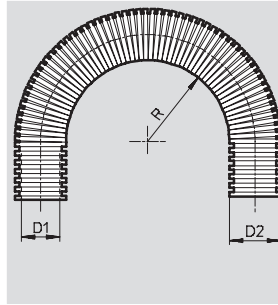
Installation components, for short strokes

Technical data



Protective conduit MKR
for Pg connecting thread

Material:
Polyamide
Free of copper, PTFE and silicone



- 1 Lock nut MKM
- 2 Pull back the retaining sleeve in order to release the conduit

Dimensions and ordering data

| Pg connecting thread | D1 ∅ | D2 ∅ | R min. | | Protection class |
|----------------------|---------|---------|-----------|---------|------------------|
| | | | static | dynamic | |
| Pg 9 | 10 | 13 | 15 | 45 | IP 68 |
| Pg 11 | 12 | 15.8 | 22 | 55 | |
| Pg 16 | 16.5 | 21.2 | 35 | 75 | |
| Pg 21 | 23 | 28.5 | 45 | 100 | |
| Pg 29 | 29 | 34.5 | 50 | 120 | |

| Pg connecting thread | Temperature range [°C] | Mounting position | CRC ¹⁾ | Weight [g/m] | Part No. | Type |
|----------------------|------------------------|-------------------|-------------------|--------------|----------|----------------|
| Pg 9 | -50 ... +100 | Any | 2 | 24 | 177 564 | MKR-10-PG-9 |
| Pg 11 | | | | 34 | 177 565 | MKR-12-PG-11 |
| Pg 16 | | | | 56 | 177 566 | MKR-16,5-PG-16 |
| Pg 21 | | | | 90 | 177 567 | MKR-23-PG-21 |
| Pg 29 | | | | 120 | 177 568 | MKR-29-PG-29 |

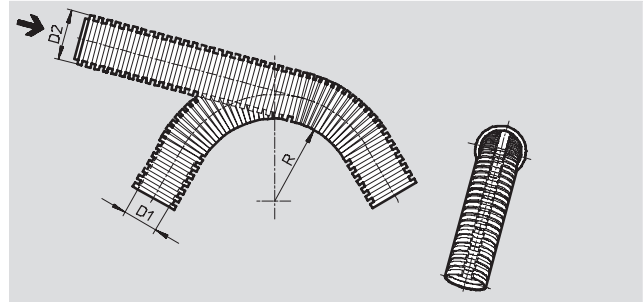
1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents.

Installation components, for short strokes

Technical data

Protective conduit MKG, separable for Pg connecting thread

Material:
Polypropylene
Free of copper, PTFE and silicone



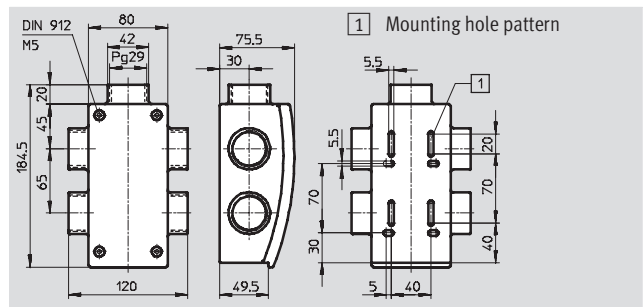
| Dimensions and ordering data | | | | | |
|------------------------------|---------|---------|-------|---------------------------|------------------|
| Pg connecting thread | D1 ∅ | D2 ∅ | R | Temperature range [°C] | Protection class |
| Pg 21 | 19.5 | 25.5 | ≥ 130 | -20 ... +90 | IP 50 |
| Pg 29 | 24.2 | 31 | ≥ 155 | | |
| | 31 | 41.4 | ≥ 205 | | |

| Pg connecting thread | Mounting position | CRC ¹⁾ | Weight [g/m] | Part No. | Type |
|----------------------|-------------------|-------------------|-----------------|----------|--------------|
| Pg 21 | Any | 2 | 82 | 177 588 | MKG-20-PG-21 |
| Pg 29 | | | 123 | 177 589 | MKG-23-PG-29 |
| | | | 195 | 177 590 | MKG-37-PG-29 |

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents.

Junction box HMZV with mounting kit for profile column HMBS

Material:
Polyamide
Free of copper, PTFE and silicone



| Dimensions and ordering data | | | | | | |
|------------------------------|---------------------------|------------------|-------------------|-------------------|---------------|---------------|
| Pg connecting thread | Temperature range [°C] | Protection class | Mounting position | CRC ¹⁾ | Weight [g] | Part No. Type |
| Pg 29 | -10 ... +60 | IP 50 | Any | 2 | 280 | 175 126 HMZV |

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents.

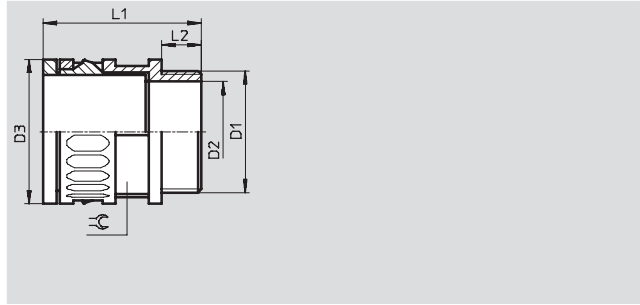
Installation components, for short strokes

Technical data



Protective conduit connector MKRV

Material:
Polyamide
Free of copper, PTFE and silicone



| Dimensions and ordering data | | | | | | |
|------------------------------|------|------|------|----|----|-------------------|
| Pg connecting thread D1 | D2 | D3 | L1 | L2 | ⌀ | Temperature range |
| ⌀ | ⌀ | ⌀ | | | | [°C] |
| Pg 9 | 10 | 20 | 35 | 10 | 18 | -30 ... +100 |
| Pg 11 | 12.5 | 23 | 37 | | 21 | |
| Pg 16 | 17 | 29.5 | 43.5 | | 27 | |
| Pg 21 | 23.5 | 37 | 46 | 12 | 34 | |
| Pg 29 | 30.5 | 44 | 48 | | 40 | |

| Pg connecting thread D1 | Protection class | Mounting position | CRC ¹⁾ | Weight | Part No. | Type |
|-------------------------|------------------|-------------------|-------------------|--------|----------|-----------------|
| ⌀ | | | | [g] | | |
| Pg 9 | IP 67 | Any | 2 | 5 | 177 569 | MKRV-10-PG-9 |
| Pg 11 | | | | 6 | 177 570 | MKRV-21-PG-11 |
| Pg 16 | | | | 10 | 177 571 | MKRV-16,5-PG-16 |
| Pg 21 | | | | 14 | 177 572 | MKRV-23-PG-21 |
| Pg 29 | | | | 18 | 177 573 | MKRV-29-PG-29 |
| | | | | 22 | | |

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents.

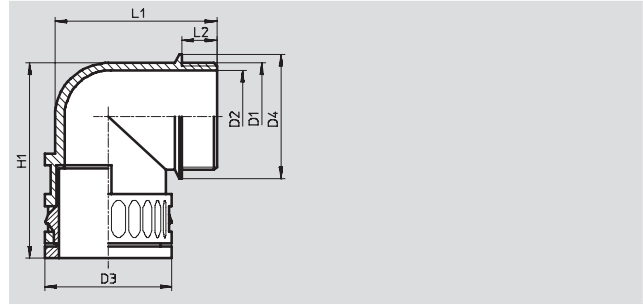
Installation components, for short strokes

Technical data



Elbow connector for protective conduit MKRL

Material:
Polyamide
Free of copper, PTFE and silicone



| Dimensions and ordering data | | | | | | |
|------------------------------|------|------|----|------|------|----|
| Pg connecting thread D1 | D2 | D3 | D4 | H1 | L1 | L2 |
| ∅ | ∅ | ∅ | ∅ | | | |
| Pg 9 | 12 | 20 | 20 | 36 | 34 | 10 |
| Pg 11 | 15.5 | 23 | 23 | 42 | 37.5 | |
| Pg 16 | 18 | 29.5 | 27 | 49.5 | 47 | |
| Pg 21 | 24 | 37 | 34 | 57 | 55 | 12 |
| Pg 29 | 32 | 44 | 43 | 68 | 63 | |

| Pg connecting thread D1 | Temperature range [°C] | Protection class | Mounting position | CRC ¹⁾ | Weight [g] | Part No. | Type |
|-------------------------|------------------------|------------------|-------------------|-------------------|------------|----------|-----------------|
| ∅ | | | | | | | |
| Pg 9 | -30 ... +100 | IP 67 | Any | 2 | 6 | 177 574 | MKRL-10-PG-9 |
| Pg 11 | | | | | 8 | 177 575 | MKRL-12-PG-11 |
| Pg 16 | | | | | 16 | 177 576 | MKRL-16,5-PG-16 |
| Pg 21 | | | | | 24 | 177 577 | MKRL-23-PG-21 |
| Pg 29 | | | | | 36 | 177 578 | MKRL-29-PG-29 |

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents.

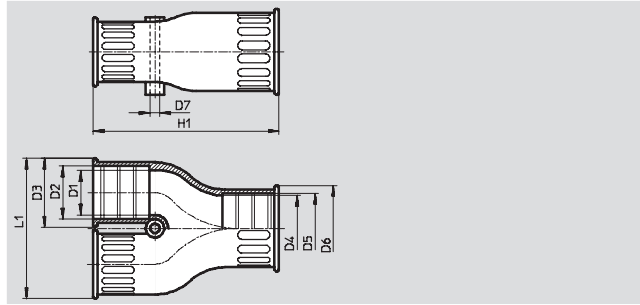
Installation components, for short strokes

Technical data



Y distributor MKY

Material:
Thermoplastic rubber
Free of copper, PTFE and silicone



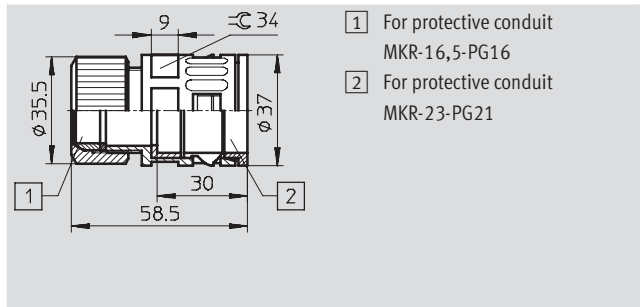
| Dimensions and ordering data | | | | | | | |
|------------------------------|------|------|------|------|------|----|------|
| Pg connecting thread D1 | D2 | D3 | D4 | D5 | D6 | D7 | H1 |
| ∅ | ∅ | ∅ | ∅ | ∅ | ∅ | ∅ | |
| Pg 21 | 21.2 | 29.5 | 25.5 | 28.5 | 36.5 | 4 | 81.5 |
| Pg 29 | 28.5 | 36.5 | 31.5 | 34.5 | 42.5 | | 86 |

| Pg connecting thread D1 | L1 | Temperature range [°C] | Protection class | Mounting position | CRC ¹⁾ | Weight [g] | Part No. | Type |
|-------------------------|----|------------------------|------------------|-------------------|-------------------|------------|----------------|-------------------------|
| ∅ | | | | | | | | |
| Pg 21 | 61 | -30 ... +80 | IP 67 | Any | 2 | 34 | 193 946 | MKY-PG-21-2PG-16 |
| Pg 29 | 79 | | | | | 50 | 193 947 | MKY-PG-29-2PG-21 |

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents.

Protective conduit connector MKRT

Material:
Polyamide
Free of copper, PTFE and silicone



- 1 For protective conduit MKR-16,5-PG16
- 2 For protective conduit MKR-23-PG21

| Dimensions and ordering data | | | | | | | |
|------------------------------|------------------------|------------------|-------------------|-------------------|------------|----------------|---------------------|
| Pg connecting thread | Temperature range [°C] | Protection class | Mounting position | CRC ¹⁾ | Weight [g] | Part No. | Type |
| Pg 16/Pg 21 | -10 ... +60 | IP 67 | Any | 2 | 40 | 194 321 | MKRT-23-16,5 |

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents.

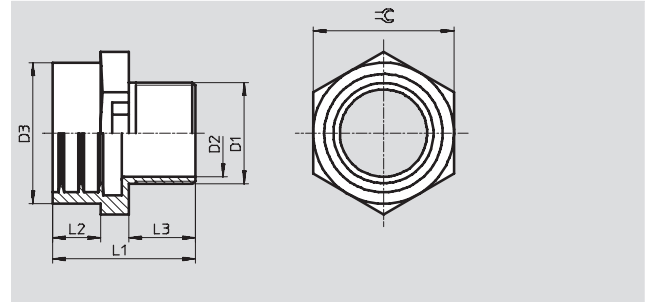
Installation components, for short strokes

Technical data



Protective conduit connector MKGV, separable

Material:
Polyamide
Free of copper, PTFE and silicone



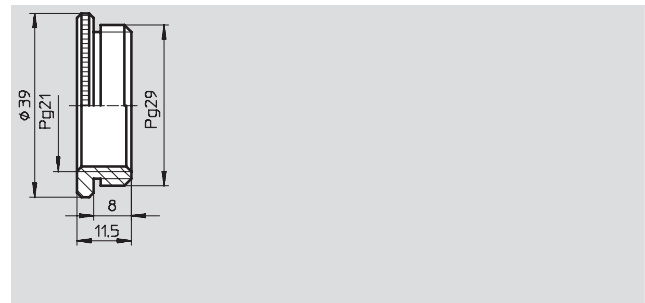
| Dimensions and ordering data | | | | | | |
|------------------------------|----|----|----|----|----|----|
| Pg connecting thread D1 | D2 | D3 | L1 | L2 | L3 | ⊕ |
| ∅ | ∅ | ∅ | | | | |
| Pg 21 | 20 | 26 | 34 | 12 | 17 | 32 |
| Pg 29 | 31 | 32 | 42 | 13 | 21 | 41 |
| | | 42 | 50 | 17 | 22 | 50 |

| Pg connecting thread D1 | Temperature range [°C] | Protection class | Mounting position | CRC ¹⁾ | Weight [g] | Part No. | Type |
|-------------------------|------------------------|------------------|-------------------|-------------------|------------|----------|---------------|
| ∅ | | | | | | | |
| Pg 21 | -20 ... +100 | IP 50 | Any | 2 | 11 | 177 591 | MKGV-20-PG-21 |
| Pg 29 | | | | | 19 | 177 592 | MKGV-23-PG-29 |
| | | | | | 27 | 177 593 | MKGV-37-PG-29 |

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents.

Reducing connector MKA For reducing Pg 29 to Pg 21

Material:
Nickel plated brass
Free of copper, PTFE and silicone



| Dimensions and ordering data | | | | | | | |
|------------------------------|------------------------|------------------|-------------------|-------------------|------------|----------|-----------------|
| Pg connecting thread | Temperature range [°C] | Protection class | Mounting position | CRC ¹⁾ | Weight [g] | Part No. | Type |
| Pg 29/Pg 21 | -30 ... +80 | IP 50 | Any | 2 | 41 | 177 595 | MKA-PG-29-PG-21 |

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents.

Installation components, for short strokes

Technical data



Reducing connector MKA-KU

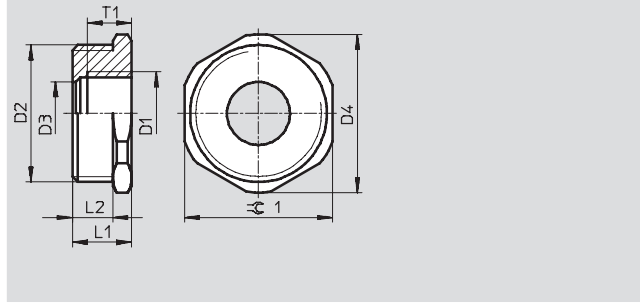
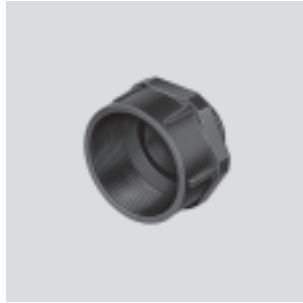
For reducing Pg 21 to Pg 16

For reducing Pg 29 to Pg 16

Material:

Polyamide

Free of copper, PTFE and silicone



| Dimensions and ordering data | | | | | | | |
|------------------------------|-------|-------|---------|---------|----|----|---------|
| Pg connecting thread | D1 | D2 | D3 ∅ | D4 ∅ | L1 | L2 | T1 ∅ |
| Pg 21/Pg 16 | Pg 16 | Pg 21 | 16 | 35.5 | 16 | 11 | 12 |
| Pg 29/Pg 16 | | Pg 29 | 17 | 42.8 | 17 | | |

| Pg connecting thread | ≅ | Temperature range [°C] | Protection class | Mounting position | CRC ¹⁾ | Weight [g] | Part No. | Type |
|----------------------|------|------------------------|------------------|-------------------|-------------------|------------|----------|--------------------|
| Pg 21/Pg 16 | 81.5 | -30 ... +80 | IP 50 | Any | 2 | 8 | 193 948 | MKA-PG-21-PG-16-KU |
| Pg 29/Pg 16 | 86 | | | | | 12 | 193 949 | MKA-PG-29-PG-16-KU |

1) Corrosion resistance class 2 according to Festo standard 940 070

Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents.

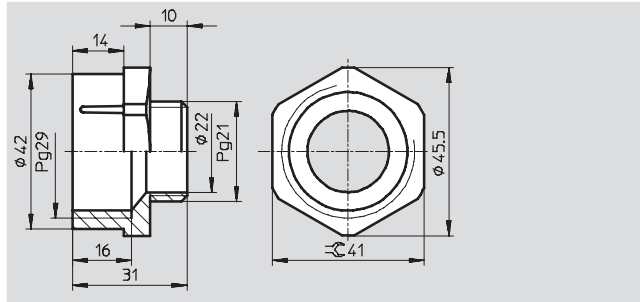
Reducing connector MKA-KU

For enlarging Pg 21 to Pg 29

Material:

Polyamide

Free of copper, PTFE and silicone



| Dimensions and ordering data | | | | | | | |
|------------------------------|------------------------|------------------|-------------------|-------------------|------------|----------|--------------------|
| Pg connecting thread | Temperature range [°C] | Protection class | Mounting position | CRC ¹⁾ | Weight [g] | Part No. | Type |
| Pg 21/Pg 29 | -30 ... +80 | IP 50 | Any | 2 | 36 | 177 594 | MKA-PG-21-PG-29-KU |

1) Corrosion resistance class 2 according to Festo standard 940 070

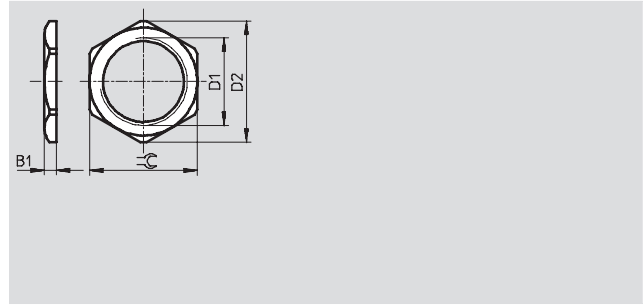
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents.

Installation components, for short strokes

Technical data

Lock nut MKM

Material:
Nickel plated brass
Free of copper, PTFE and silicone

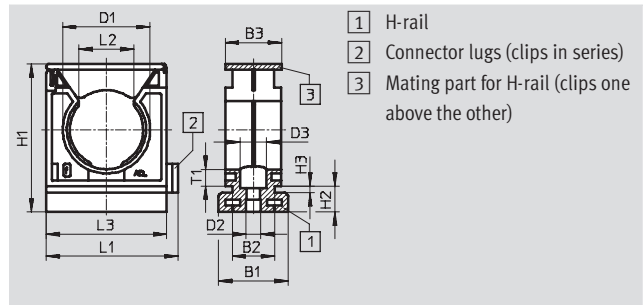


| Dimensions and ordering data | | | | | | | | | |
|------------------------------|---------------|---------------|--------------------|-------------------|-------------------|------------|----------|-----------|--|
| Pg connecting thread D1 | D2 | D3 | $\approx \text{C}$ | Mounting position | CRC ¹⁾ | Weight [g] | Part No. | Type | |
| \varnothing | \varnothing | \varnothing | | | | | | | |
| Pg 9 | 20 | 2.8 | 18 | Any | 2 | 2 | 177 596 | MKM-PG-9 | |
| Pg 11 | 23.5 | 3 | 21 | | | 3 | 177 597 | MKM-PG-11 | |
| Pg 16 | 29 | | 26 | | | 5 | 177 598 | MKM-PG-16 | |
| Pg 21 | 35.5 | 3.5 | 32 | | | 8 | 177 599 | MKM-PG-21 | |
| Pg 29 | 45 | 4 | 41 | | | 14 | 177 600 | MKM-PG-29 | |

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents.

Retaining clip MKRS

Material:
Polyamide
Free of copper, PTFE and silicone



| Dimensions and ordering data | | | | | | | | | | |
|------------------------------|----|----|----|------------------|------------------|------------------|------|-----|-----|------|
| Pg connecting thread | B1 | B2 | B3 | D1 \varnothing | D2 \varnothing | D3 \varnothing | H1 | H2 | H3 | L1 |
| Pg 9 | 25 | 15 | 20 | 13 | 4.2 | 8 | 32 | 9.3 | 2.3 | 30 |
| Pg 11 | | | | 15.8 | | | 40 | | | 36.5 |
| Pg 16 | | | | 21.2 | | | 53.5 | | | 47.5 |
| Pg 21 | | | | 28.5 | | | | | | |
| Pg 29 | | | | 34.5 | | | | | | |

| Pg connecting thread | L2 | L3 | T1 | Temperature range [°C] | CRC ¹⁾ | Weight [g] | Part No. | Type | |
|----------------------|------|------|-----|------------------------|-------------------|------------|----------|-------------|--|
| Pg 9 | 8.5 | 26 | 5.7 | -30 ... +80 | 2 | 5 | 192 287 | MKRS-10-B | |
| Pg 11 | 10 | | | | | 6 | 192 288 | MKRS-12-B | |
| Pg 16 | 16.6 | 43.5 | 6.8 | | | 8 | 192 289 | MKRS-16,5-B | |
| Pg 21 | 20 | | | | | 12 | 192 290 | MKRS-23-B | |
| Pg 29 | 25.5 | | | | | 14 | 192 291 | MKRS-29-B | |

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents.

Installation components, for short strokes

Technical data



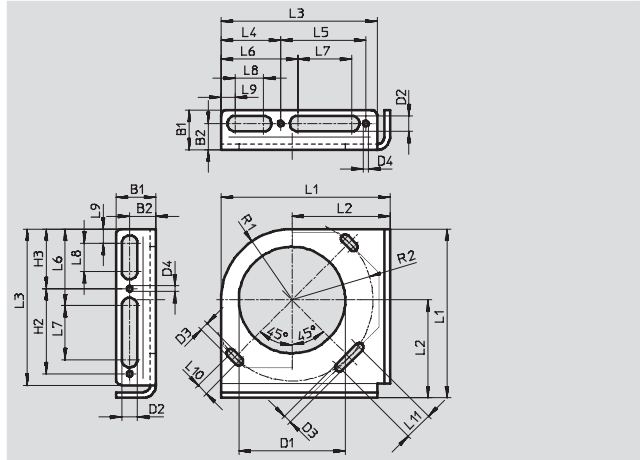
Installation kit HMZAS

For attaching a protective conduit to the front plate of linear modules

Material:

Powder coated steel

Free of copper, PTFE and silicone



| Dimensions and ordering data | | | | | | | | | |
|------------------------------|----|------|---------|---------|---------|---------|----|----|------|
| For linear module | B1 | B2 | D1 ∅ | D2 ∅ | D3 ∅ | D4 ∅ | H2 | H3 | L1 |
| HMPL | 14 | 9.25 | 28.6 | 5.3 | 3 | – | – | – | 54.5 |
| HMP | | | 37.5 | | | 2 | 30 | 21 | 59.5 |

| For linear module | L2 | L3 | L4 | L5 | L6 | L7 | L8 | L9 | L10 |
|-------------------|------|----|----|----|----|----|-----|----|-----|
| HMPL | 33.5 | 50 | – | – | 19 | 26 | 4.5 | 5 | 4 |
| HMP | 34.5 | 55 | 21 | 30 | 27 | 19 | 10 | 5 | 4 |

| For linear module | L11 | R1 | R2 | Mounting position | CRC ¹⁾ | Weight [g] | Part No. | Type |
|-------------------|-----|----|------|-------------------|-------------------|---------------|----------|-------------|
| HMPL | 10 | 21 | 22 | Any | 1 | 35 | 193 124 | HMZAS-PG-21 |
| HMP | 10 | 25 | 28.5 | | | 44 | 177 603 | HMZAS-PG-29 |

1) Corrosion resistance class 1 according to Festo standard 940 070
Components requiring low corrosion resistance. Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers.