



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

# Multi-axis modular system

Key features



## The concept






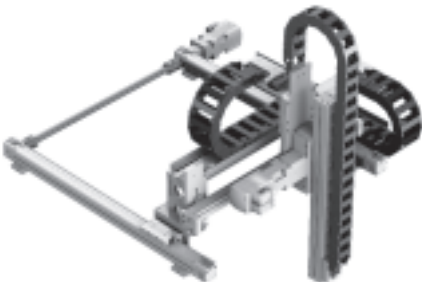
The multi-axis modular system for handling and assembly technology includes basic, connection and installation components for assembling multi-axis systems. These standardised axis combinations are the product of over ten years experience in the designing

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

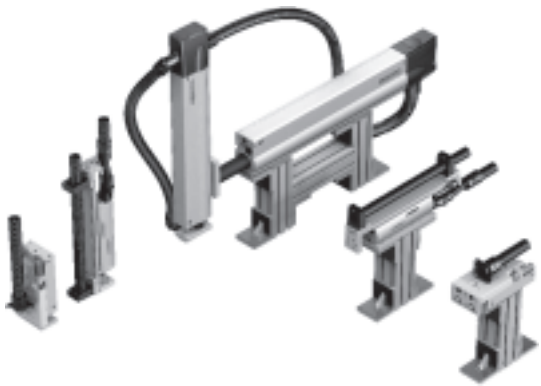
## Selection matrix

Pick & place	Linear gantries	3-Dimensional gantries
Pneumatic		Pneumatic/electrical
 <p>→4</p>	 <p>→22</p>	 <p>→36</p>
Pneumatic with end position controller SPC11 (Soft Stop)		
	 <p>→22</p>	
Electrical with spindle or toothed belt axis		
	 <p>→22</p>	 <p>→36</p>

# Multi-axis modular system

Key features

## Pick & place



## Linear gantries



## 3-Dimensional gantries

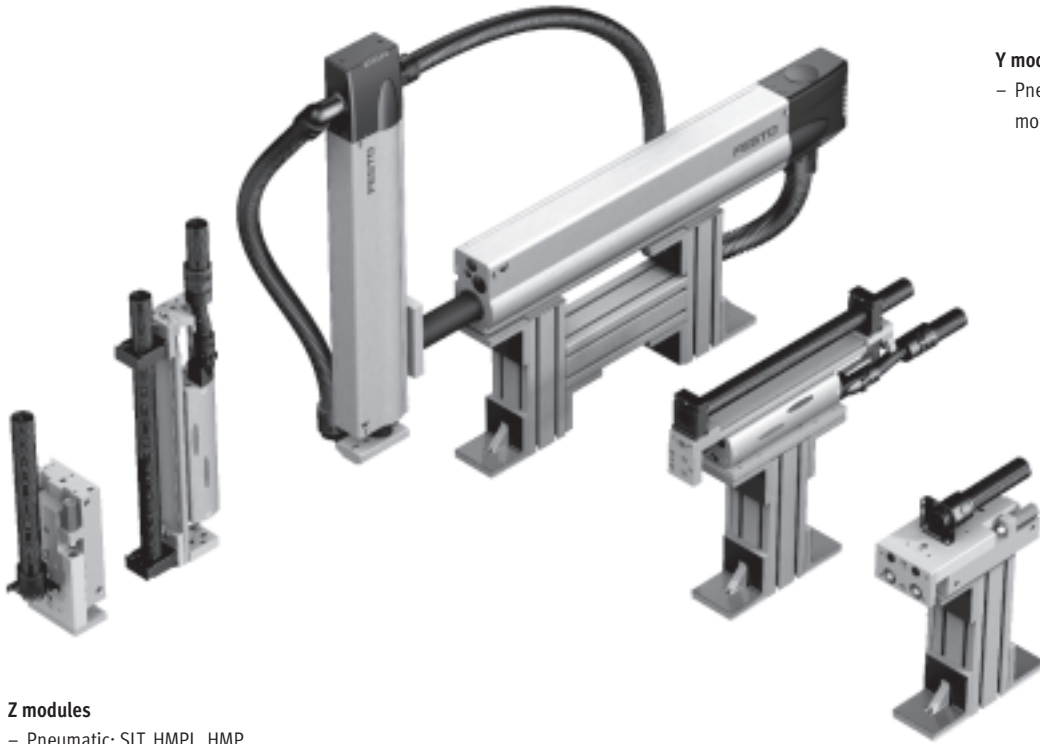


# Pick & place

Key features

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## Y and Z modules



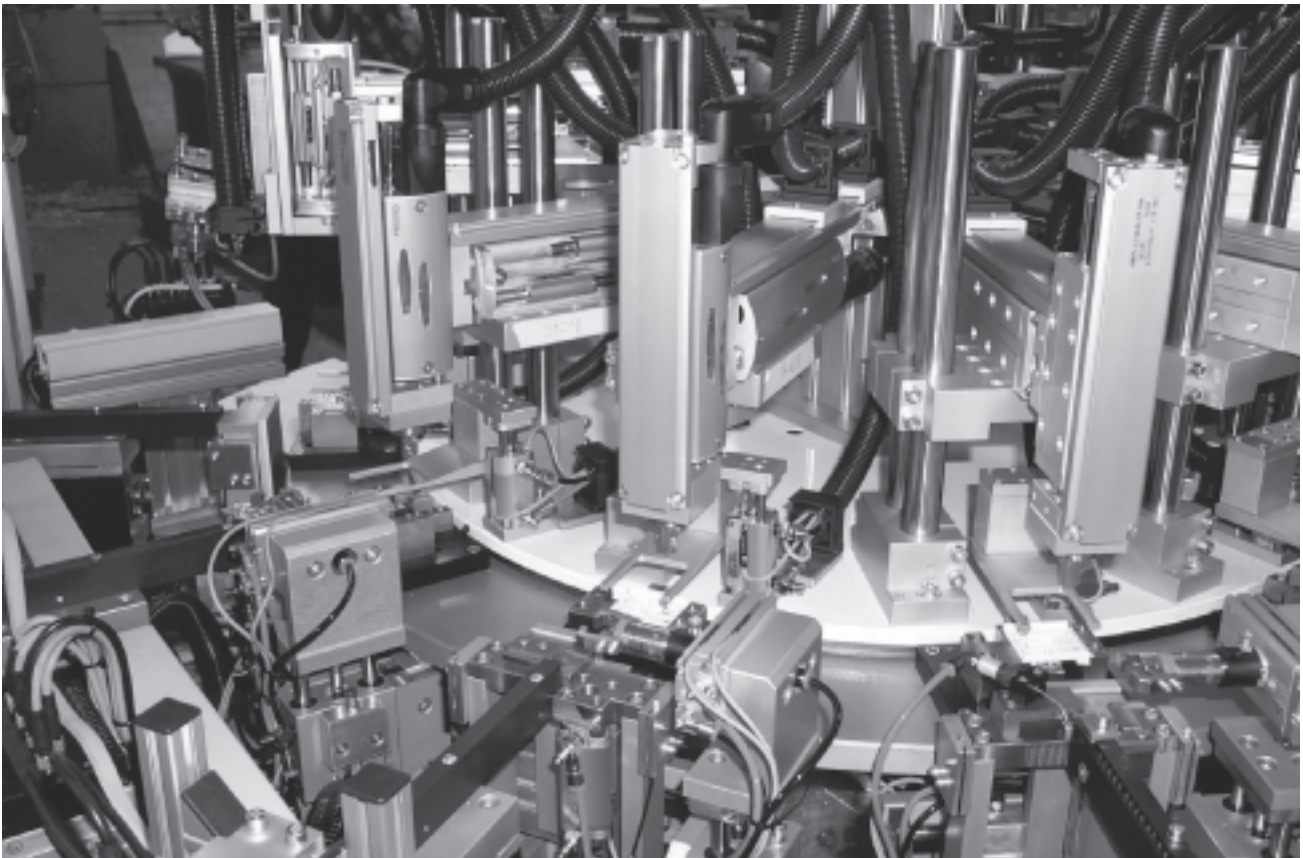
### Y modules

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

### Z modules

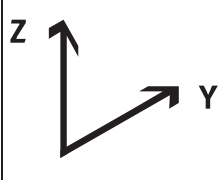






- Pneumatic: SLT, HMPL, HMP

## 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/Internet	6					

## 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 → 10	–	–
DGSL-20	30 ... 100	HMBSY-DGSL-2 → 10	–	–
	125 ... 200	HMBSY-DGSL-3 → 10	–	–
DGSL-25	30 ... 100	HMBSY-DGSL-4 → 10	–	–
	125 ... 200	HMBSY-DGSL-5 → 10	–	–
SLT-16	30 ... 150	–	HMBSY-SLT-1 → 11	–
SLT-20	30 ... 100	–	HMBSY-SLT-2 → 11	–
	125 ... 200	–	HMBSY-SLT-3 → 11	–
SLT-25	30 ... 100	–	HMBSY-SLT-4 → 11	–
	125 ... 200	–	HMBSY-SLT-5 → 11	–
HMPL-16	50 ... 160	–	–	HMBSY-HMPL-1 HMBSY-HMPL-2 → 12
HMPL-20	50 ... 200	–	–	HMBSY-HMPL-3 HMBSY-HMPL-4 → 12

# Pick & place

Selection aid for basic, connection and installation components

Y-axis				
Function	HMP, HME/DGSL, SLT	HMP, HME/HMPL	HMP, HME/HMP	
				
Pneumatic drives	Type			
Stroke [mm]				
HMP-16	150 ... 250	HMBSY-HMP-1 → 13	HMBSY-HMP-1 → 13	–
	320	HMBSY-HMP-2 → 13	HMBSY-HMP-2 → 13	–
HMP-20	100 ... 250	HMBSY-HMP-3 → 13	HMBSY-HMP-3 → 13	HMBSY-HMP-3 → 13
	320 ... 400	HMBSY-HMP-4 → 13	HMBSY-HMP-4 → 13	HMBSY-HMP-4 → 13
HMP-25	100 ... 200	HMBSY-HMP-5 → 14	–	HMBSY-HMP-5 → 14
	250 ... 400	HMBSY-HMP-6 → 14	–	HMBSY-HMP-6 → 14
HMP-32	100 ... 200	–	–	HMBSY-HMP-7 → 14
	250 ... 400	–	–	HMBSY-HMP-8 → 14

## 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  
→ 13  
Z-axis: HMBSZ-HMPL-3 or 4  
→ 19






**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

Z-axis				
Function	DGSL/DGSL	SLT/SLT	HMPL/HMPL	HMP, HME/DGSL
				
Pneumatic drives	Type			
DGSL-10	HMBSZ-DGSL-1 → 15	-	-	-
DGSL-16	HMBSZ-DGSL-2 → 15	-	-	HMBSZ-DGSL-4 → 16
DGSL-20	HMBSZ-DGSL-3 → 15	-	-	HMBSZ-DGSL-5 → 16
DGSL-25	-	-	-	HMBSZ-DGSL-6 → 16
SLT-10	-	HMBSZ-SLT-1 → 17	-	-
SLT-16	-	HMBSZ-SLT-2 → 17	-	-
SLT-20	-	HMBSZ-SLT-3 → 17	-	-
SLT-25	-	-	-	-
HMPL-12	-	-	HMBSZ-HMPL-1 HMBSZ-HMPL-2 → 19	-
HMPL-16	-	-		-
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 → 18	–	–
SLT-20	HMBSZ-SLT-5 → 18	–	–
SLT-25	HMBSZ-SLT-6 → 18	–	–
HMPL-16	–	HMBSZ-HMPL-3 HMBSZ-HMPL-4	–
HMPL-20	–	→ 19	–
HMP-16	–	–	HMBSZ-HMP-1 → 20
HMP-20	–	–	HMBSZ-HMP-2 → 20
HMP-25	–	–	HMBSZ-HMP-3 → 20

## 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  
→ 13  
Z-axis: HMBSZ-HMPL-3 or 4  
→ 19

### 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

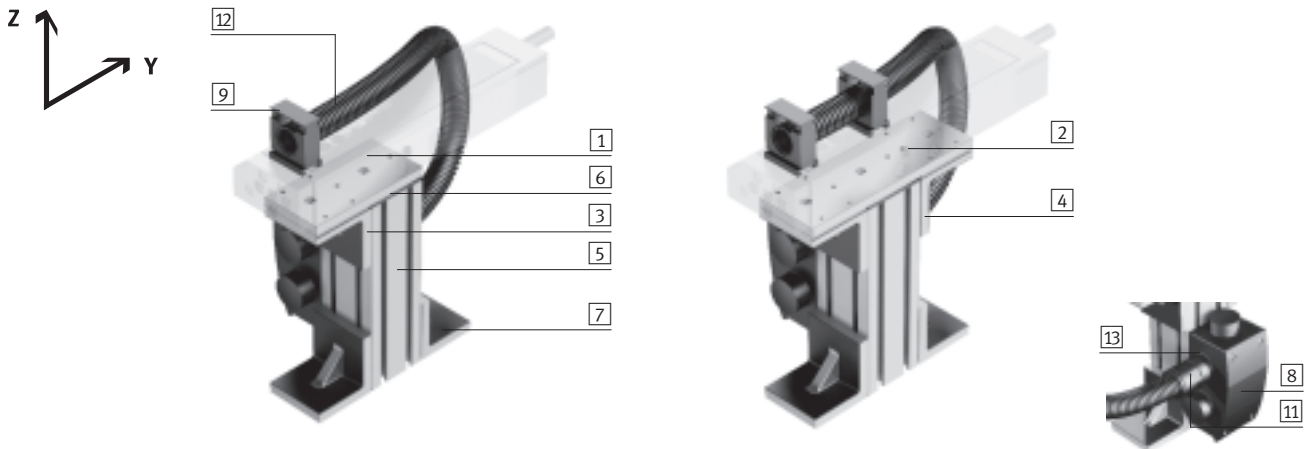
### Step 3

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				
For drives		DGSL-16	DGSL-20		DGSL-25					→ Page/Internet
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	
1	1	539 968 HMVY-1		539 969 HMVY-2		–		539 969 HMVY-2		8
2	1	–		–		539 970 HMVY-3		–	539 970 HMVY-3	
3	1	175 967 HMBV-ND		175 967 HMBV-ND		–		175 967 HMBV-ND		7
4	2	–		–		175 967 HMBV-ND		–	175 967 HMBV-ND	
5	1 <sup>1)</sup>	175 958 HMBS-80/80		175 958 HMBS-80/80		175 958 HMBS-80/80		175 958 HMBS-80/80		4
6	1	175 965 HMBSA-80/80		175 965 HMBSA-80/80		175 965 HMBSA-80/80		175 965 HMBSA-80/80		4
7	2	175 951 HMBF-DB		175 951 HMBF-DB		175 951 HMBF-DB		175 951 HMBF-DB		6
8	1	175 126 HMZV		175 126 HMZV		175 126 HMZV		175 126 HMZV		9
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		15
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		10
12	1 <sup>2)</sup>	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		8
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		13

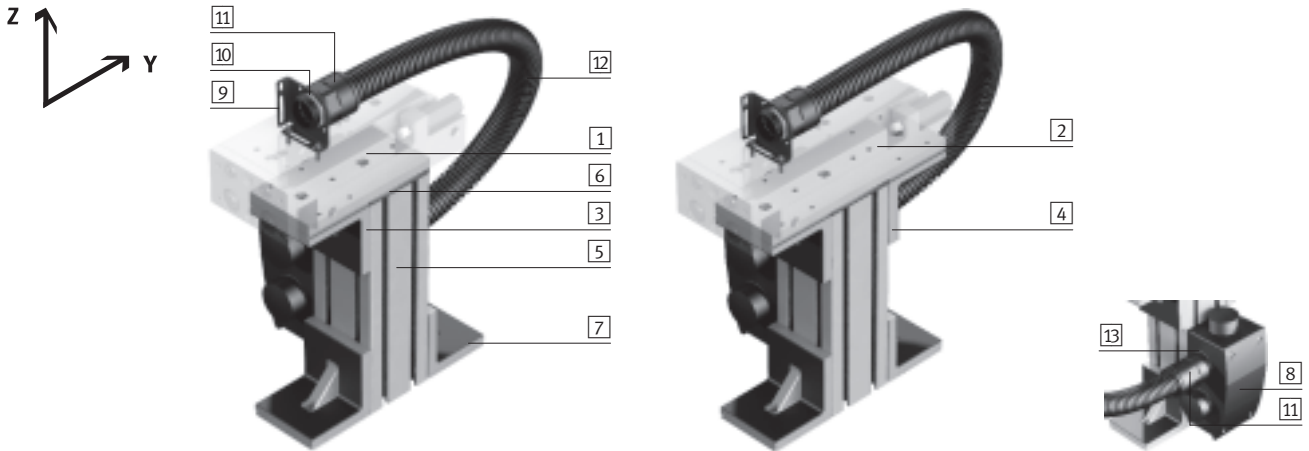
1) Height max. 500 mm

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/Internet
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	-		8
2	1	-		-		539 970	HMVY-3	-		539 970	HMVY-3	
3	1	175 967	HMBV-ND	175 967	HMBV-ND	-		175 967	HMBV-ND	-		7
4	2	-		-		175 967	HMBV-ND	-		175 967	HMBV-ND	
5	1 <sup>1)</sup>	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	4
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	4
7	2	175 951	HMBF-DB	175 951	HMBF-DB	175 951	HMBF-DB	175 951	HMBF-DB	175 951	HMBF-DB	6
8	1	175 126	HMZV	175 126	HMZV	175 126	HMZV	175 126	HMZV	175 126	HMZV	9
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	16
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	15
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	10
12	1 <sup>2)</sup>	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	8
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	13

1) Height max. 500 mm

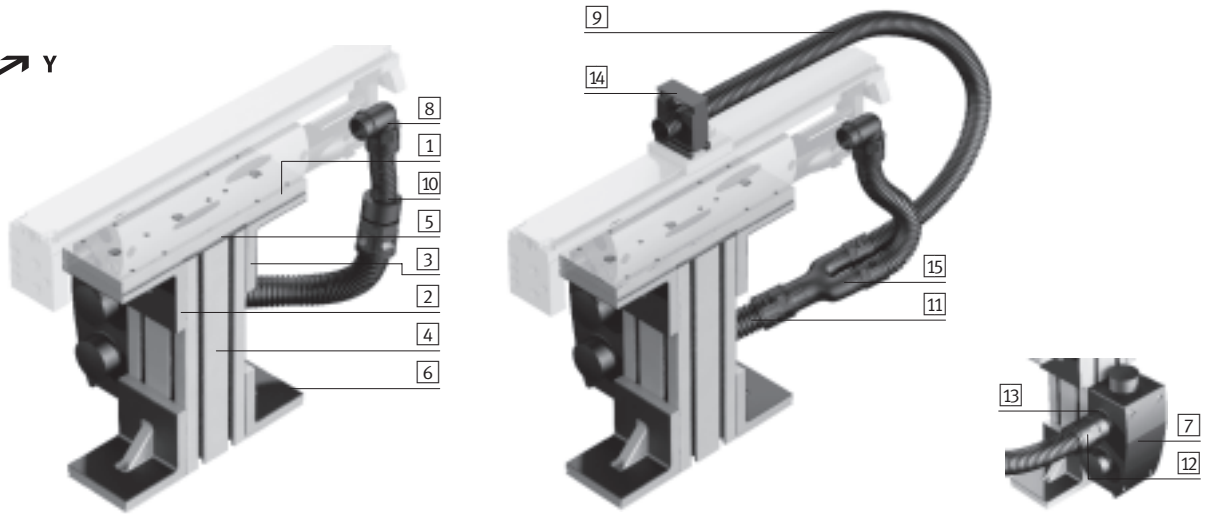
2) Length depends on the stroke of the drive

# Pick & place

Y modules

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## 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		→ Page/Internet	
Item	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	
1	1	539 968	HMVY-1	539 968	HMVY-1	539 970	HMVY-3	8
2	1	175 967	HMBV-ND	175 967	HMBV-ND	-	-	7
3	2	-	-	-	-	175 967	HMBV-ND	
4	1 <sup>1)</sup>	175 958	HMBS-80/80	175 958	HMBS-80/80	175 958	HMBS-80/80	4
5	1	175 965	HMBSA-80/80	175 965	HMBSA-80/80	175 965	HMBSA-80/80	4
6	2	175 951	HMBF-DB	175 951	HMBF-DB	175 951	HMBF-DB	6
7	1	175 126	HMZV	175 126	HMZV	175 126	HMZV	9
8	1	177 576	MKRL-16,5-PG-16	177 576	MKRL-16,5-PG-16	177 576	MKRL-16,5-PG-16	10
9	1 <sup>2)</sup>	177 566	MKR-16,5-PG-16	177 566	MKR-16,5-PG-16	177 566	MKR-16,5-PG-16	8
10	1	194 321	MKRT-23-16,5	-	-	194 321	MKRT-23-16,5	12
11	1 <sup>2)</sup>	177 567	MKR-23-PG-21	177 567	MKR-23-PG-21	177 567	MKR-23-PG-21	8
12	1	177 572	MKRV-23-PG-21	177 572	MKRV-23-PG-21	177 572	MKRV-23-PG-21	10
13	1	177 595	MKA-PG-29-PG-21	177 595	MKA-PG-29-PG-21	177 595	MKA-PG-29-PG-21	13
14	1 <sup>3)</sup>	-	-	192 289	MKRS-16,5-B	-	-	15
15	1	-	-	193 946	MKY-PG-21-2PG-16	-	-	12

1) Height max. 500 mm

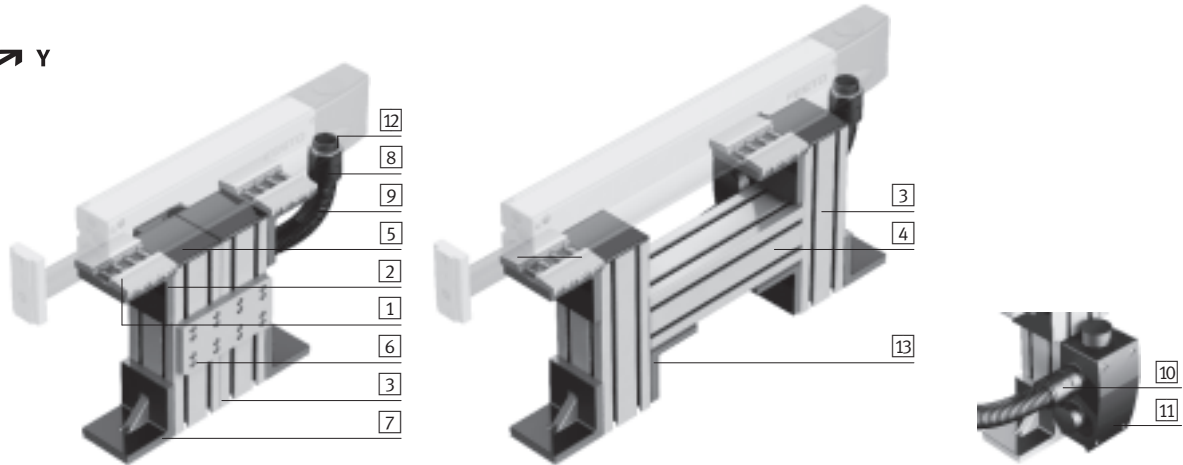
2) Length depends on the stroke of the drive, 2 conduits are required with an intermediate position.

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			
For drives		HMP-/HME-16		HMP-20				
Stroke [mm]		150 ... 250	320	100 ... 250	320 ... 400			→ Page/Internet
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	7
2	2	175 967	HMBV-ND	175 967	HMBV-ND	175 967	HMBV-ND	7
3	2 <sup>1)</sup>	175 958	HMBS-80/80	175 958	HMBS-80/80	175 958	HMBS-80/80	4
4	1 <sup>2)</sup>	-		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	4
6	1	175 972	HMBSV	-		175 972	HMBSV	5
7	2	175 951	HMBF-DB	175 951	HMBF-DB	175 951	HMBF-DB	6
8	2 <sup>4)</sup>	177 572	MKRV-23-PG-21	177 572	MKRV-23-PG-21	177 573	MKRV-29-PG-29	10
9	1 <sup>3)4)</sup>	177 567	MKR-23-PG-21	177 567	MKR-23-PG-21	177 568	MKR-29-PG-29	8
10	1 <sup>4)</sup>	177 595	MKA-PG-29-PG-21	177 595	MKA-PG-29-PG-21	-	-	13
11	1 <sup>4)</sup>	175 126	HMZV	175 126	HMZV	175 126	HMZV	9
12	1 <sup>4)</sup>	177 599	MKM-PG-21	177 599	MKM-PG-21	177 600	MKM-PG-29	15
13	2	-		178 228	HMBSW	-	178 228 HMBSW	5

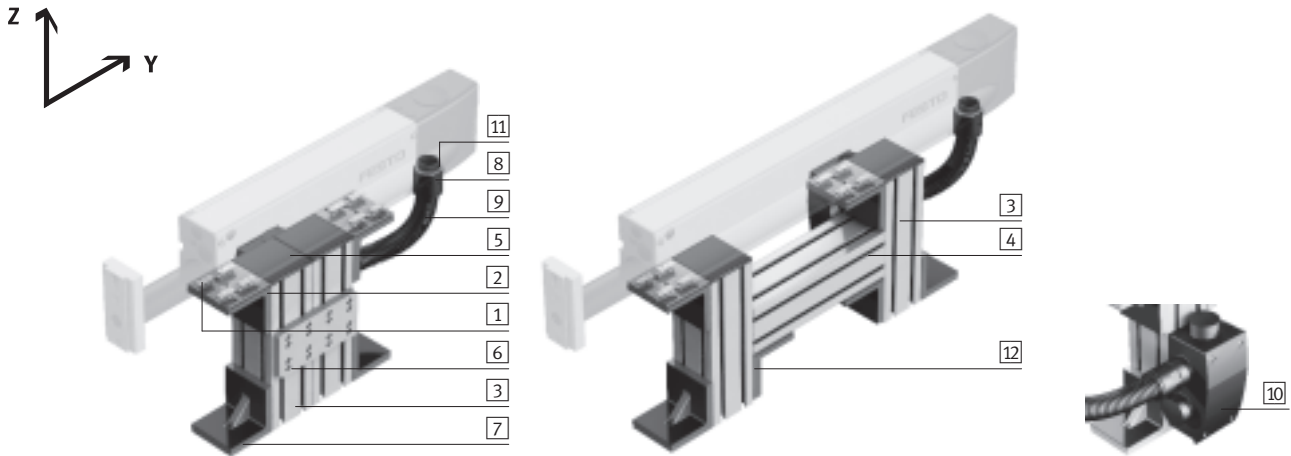
- 1) Height max. 500 mm
- 2) Length 250 mm
- 3) Length depends on the stroke of the drive
- 4) It is not suitable for use with linear module HME

# Pick & place

Y modules

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## Linear modules HMP, HME



Bill of materials								
Type	HMBSY-HMP-5		HMBSY-HMP-6		HMBSY-HMP-7		HMBSY-HMP-8	
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	→ Page/Internet
1	2	175 970	HMBK-ND	175 970	HMBK-ND	175 970	HMBK-ND	6
2	2	175 967	HMBV-ND	175 967	HMBV-ND	175 967	HMBV-ND	7
3	2 <sup>1)</sup>	175 958	HMBS-80/80	175 958	HMBS-80/80	175 958	HMBS-80/80	4
4	1 <sup>2)</sup>	–		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	4
6	1	175 972	HMBSV	–		175 972	HMBSV	5
7	2	175 951	HMBF-DB	175 951	HMBF-DB	175 951	HMBF-DB	6
8	2 <sup>4)</sup>	177 573	MKRV-29-PG-29	177 573	MKRV-29-PG-29	177 573	MKRV-29-PG-29	10
9	1 <sup>3)4)</sup>	177 568	MKR-29-PG-29	177 568	MKR-29-PG-29	177 568	MKR-29-PG-29	8
10	1 <sup>4)</sup>	175 126	HMZV	175 126	HMZV	175 126	HMZV	9
11	1 <sup>4)</sup>	177 600	MKM-PG-29	177 600	MKM-PG-29	177 600	MKM-PG-29	15
12	2	–		178 228	HMBSW	–	178 228 HMBSW	5

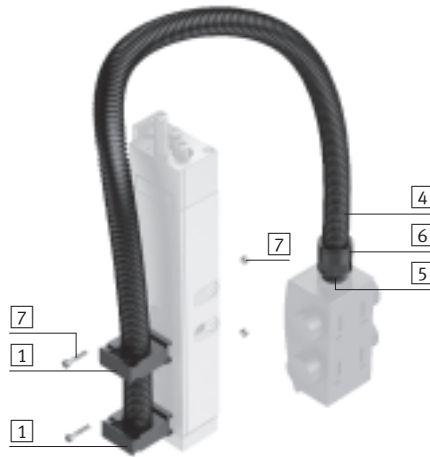
1) Height max. 500 mm

2) Length 350 mm

3) Length depends on the stroke of the drive

4) It is not suitable for use with linear module HME

## Mini slides DGSL



Bill of materials								
Type		HMBSZ-DGSL-1		HMBSZ-DGSL-2		HMBSZ-DGSL-3		→ Page/Internet
For drives		DGSL-10		DGSL-16		DGSL-20		
Item	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	
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	16
4	1 <sup>1)</sup>	177 566	MKR-16,5-PG-16	177 566	MKR-16,5-PG-16	177 567	MKR-23-PG-21	8
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	13
6	1	177 571	MKRV-16,5-PG-16	177 571	MKRV-16,5-PG-16	177 572	MKRV-23-PG-21	10
7	1	548 803	ZBV-M5-7	548 804	ZBV-M5-9	150 927	ZBH-9 <sup>2)</sup>	-

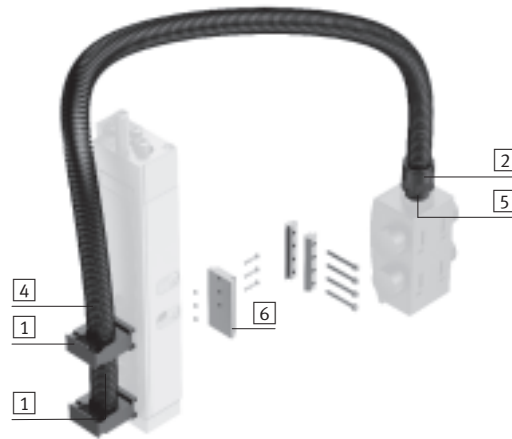
1) Length depends on the stroke of the drive

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

# Pick & place

Z modules

## Mini slides DGSL

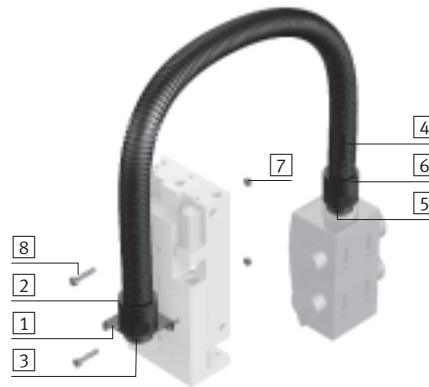


Bill of materials								
Type		HMBSZ-DGSL-4	HMBSZ-DGSL-5	HMBSZ-DGSL-6				
For drives		DGSL-16	DGSL-20	DGSL-25				
Item	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	→ Page/Internet
[1]	2	192 289	MKRS-16,5-B	192 290	MKRS-23-B	192 290	MKRS-23-B	15
		548 803	ZBV-M5-7	548 804	ZBV-M5-9	548 804	ZBV-M5-9	
[2]	1	177 571	MKRV-16,5-PG-16	177 572	MKRV-23-PG-21	177 572	MKRV-23-PG-21	10
[4]	1 <sup>1)</sup>	177 566	MKR-16,5-PG-16	177 567	MKR-23-PG-21	177 567	MKR-23-PG-21	8
[5]	1	193 949	MKA-PG-29-PG-16-KU	177 595	MKA-PG-29-PG-21	177 595	MKA-PG-29-PG-21	13
[6]	1	548 779	HMSV-49	548 779	HMSV-49	548 779	HMSV-49	10

1) Length depends on the stroke of the drive



## Mini slides SLT



Bill of materials						
Type	HMBSZ-SLT-1		HMBSZ-SLT-2		HMBSZ-SLT-3	
For drives	SLT-10		SLT-16		SLT-20	→ Page/Internet
Item	Quantity	Part No.	Type	Part No.	Type	
1	1	192 289	MKRS-16,5-B	193 124	HMZAS-PG-21	16
2	1	-		177 572	MKRV-23-PG-21	10
3	1	-		177 599	MKM-PG-21	15
4	1 <sup>1)</sup>	177 566	MKR-16,5-PG-16	177 567	MKR-23-PG-21	8
5	1	193 949	MKA-PG-29-PG-16-KU	177 595	MKA-PG-29-PG-21	13
6	1	177 571	MKRV-16,5-PG-16	177 572	MKRV-23-PG-21	10
7	- <sup>2)</sup>	186 717	ZBH-7	150 927	ZBH-9	-
8	2	M4x25 DIN 912		M5x30 DIN 912		-

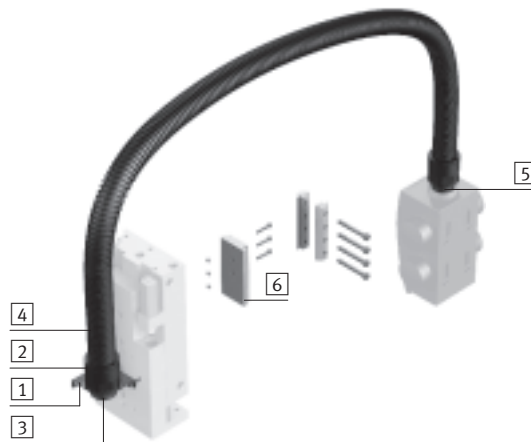
1) Length depends on the stroke of the drive

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

# Pick & place

Z modules

## Mini slides SLT



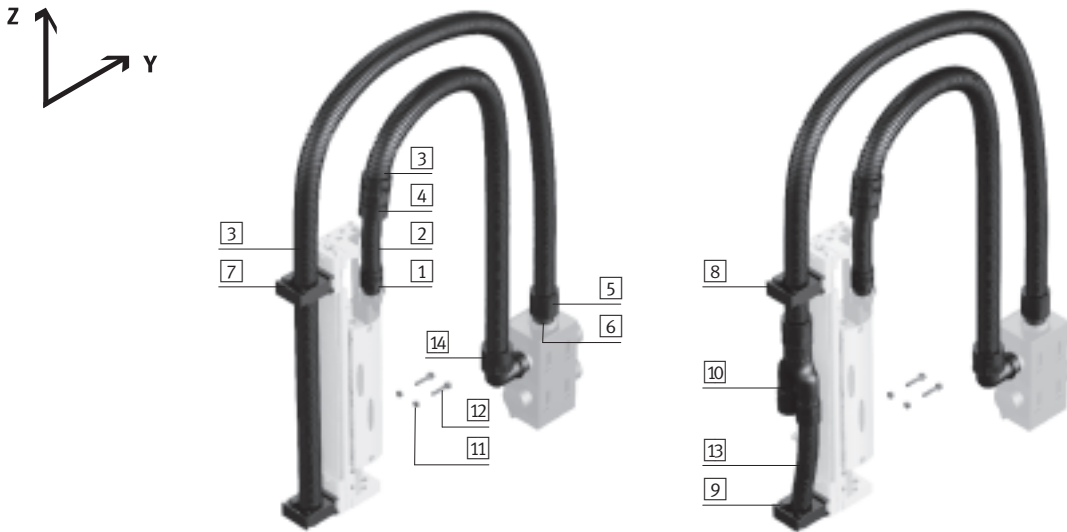
Bill of materials								
Type		HMBSZ-SLT-4	HMBSZ-SLT-5	HMBSZ-SLT-6				
For drives		SLT-16	SLT-20	SLT-25				
Item	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	
							→ Page/Internet	
[1]	1	193 124	HMZAS-PG-21	193 124	HMZAS-PG-21	193 124	HMZAS-PG-21	16
[2]	2	177 572	MKRV-23-PG-21	177 572	MKRV-23-PG-21	177 572	MKRV-23-PG-21	10
[3]	1	177 599	MKM-PG-21	177 599	MKM-PG-21	177 599	MKM-PG-21	15
[4]	1 <sup>1)</sup>	177 567	MKR-23-PG-21	177 567	MKR-23-PG-21	177 567	MKR-23-PG-21	8
[5]	1	177 595	MKA-PG-29-PG-21	177 595	MKA-PG-29-PG-21	177 595	MKA-PG-29-PG-21	13
[6]	1	178 331	HMSV-36	178 332	HMSV-37	178 332	HMSV-37	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			
		without intermediate position	with intermediate position	without intermediate position	with intermediate position		→ Page/Internet	
Item	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	
1	1	177 571	MKRV-16,5-PG-16	177 571	MKRV-16,5-PG-16	177 571	MKRV-16,5-PG-16	10
2	1 <sup>1)</sup>	177 566	MKR-16,5-PG-16	177 566	MKR-16,5-PG-16	177 566	MKR-16,5-PG-16	8
3	2 <sup>1)</sup>	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	12
5	1	177 572	MKRV-23-PG-21	177 572	MKRV-23-PG-21	177 572	MKRV-23-PG-21	10
6	2	177 595	MKA-PG-29-PG-21	177 595	MKA-PG-29-PG-21	177 595	MKA-PG-29-PG-21	13
7	2 <sup>2)</sup>	192 290	MKRS-23-B	-		192 290	MKRS-23-B	15
8	1 <sup>2)</sup>	-		192 290	MKRS-23-B	-		
9	1 <sup>2)</sup>	-		192 289	MKRS-16,5-B	-		
10	1	-		193 946	MKY-PG-21-2PG-16	-		12
11	1 <sup>3)</sup>	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 <sup>1)</sup>	-		177 566	MKR-16,5-PG-16	-		8
14	1	177 577	MKRL-23-PG-21	177 577	MKRL-23-PG-21	177 577	MKRL-23-PG-21	11

1) Length depends on the stroke of the drive

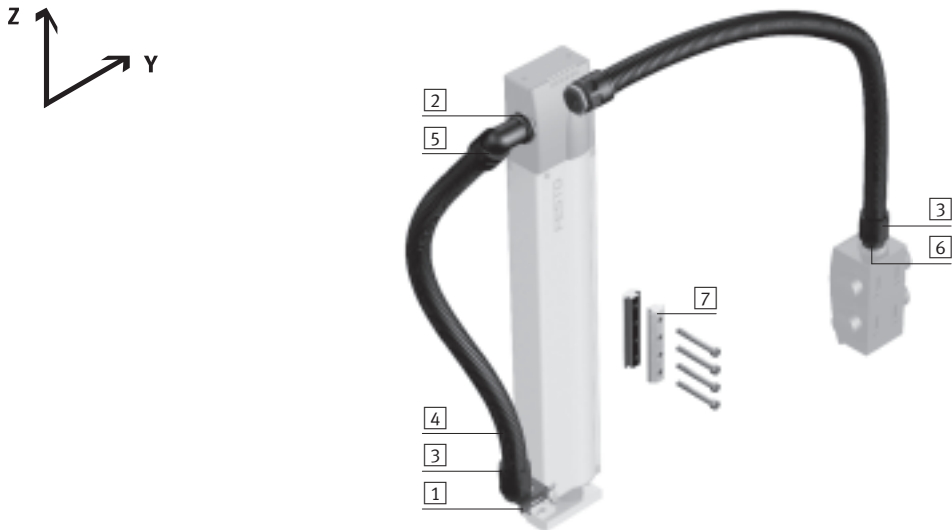
2) In order to be able to mount the retaining clip MKRS, a clamping component (2x code J) must be selected as an accessory in the order for the linear module HMPL.

3) 10 per packaging unit

# Pick & place

Z modules

## Linear modules HMP



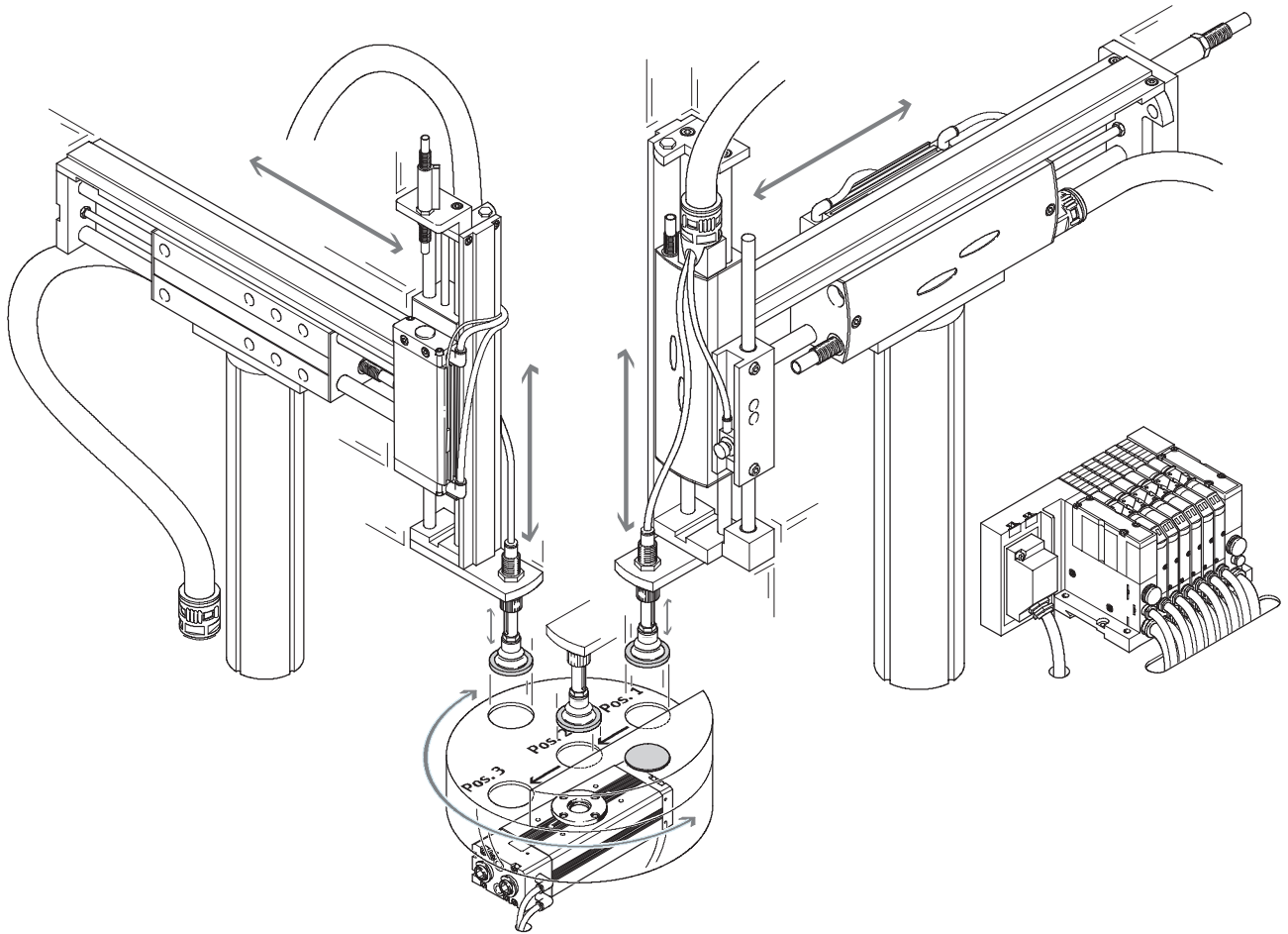
Bill of materials								
Type		HMBSZ-HMP-1		HMBSZ-HMP-2		HMBSZ-HMP-3		→ Page/Internet
For drives		HMP-16		HMP-20		HMP-25		
Item	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	
[1]	1	193 124	HMZAS-PG-21	177 603	HMZAS-PG-29	177 603	HMZAS-PG-29	16
[2]	3	177 599	MKM-PG-21	177 600	MKM-PG-29	177 600	MKM-PG-29	15
[3]	3	177 572	MKRV-23-PG-21	177 573	MKRV-29-PG-29	177 573	MKRV-29-PG-29	10
[4]	2 <sup>1)</sup>	177 567	MKR-23-PG-21	177 568	MKR-29-PG-29	177 568	MKR-29-PG-29	8
[5]	1	177 577	MKRL-23-PG-21	177 578	MKRL-29-PG-29	177 578	MKRL-29-PG-29	11
[6]	1	177 595	MKA-PG-29-PG-21	-		-		13
[7]	1	177 647	HMSV-1	177 649	HMSV-3	177 653	HMSV-7	14

1) Length depends on the stroke of the drive

# Pick & place

System example

Combination with handling modules HMPL

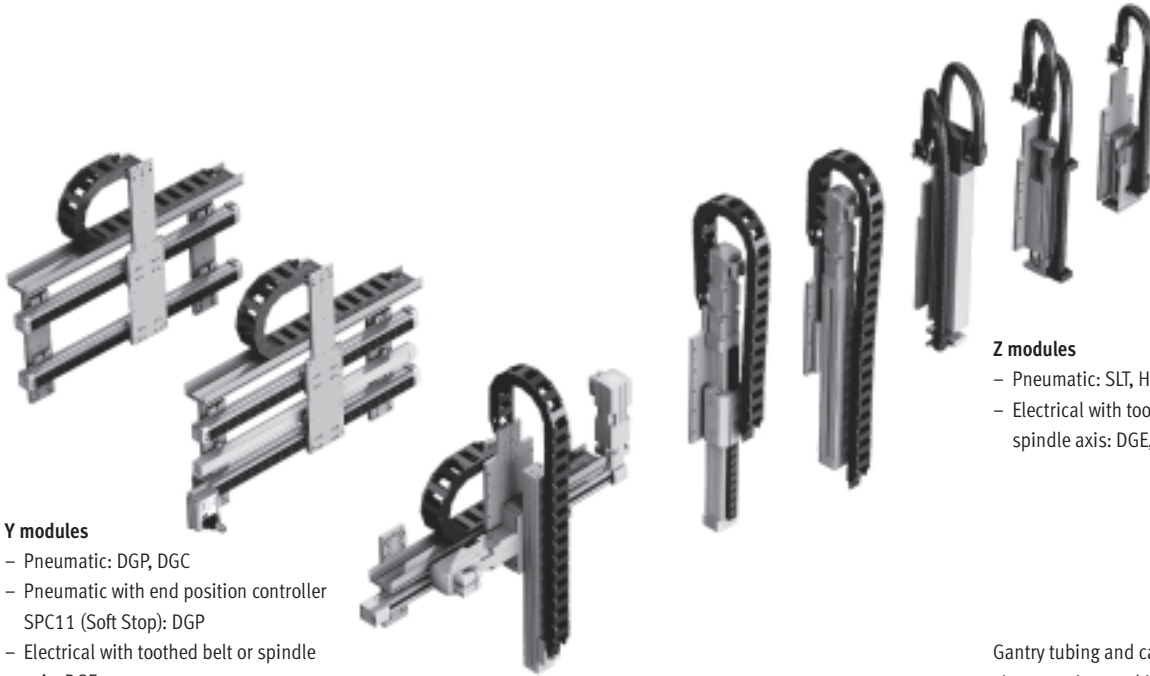


# Linear gantries

Key features

FESTO

## Y and Z modules



### Y modules

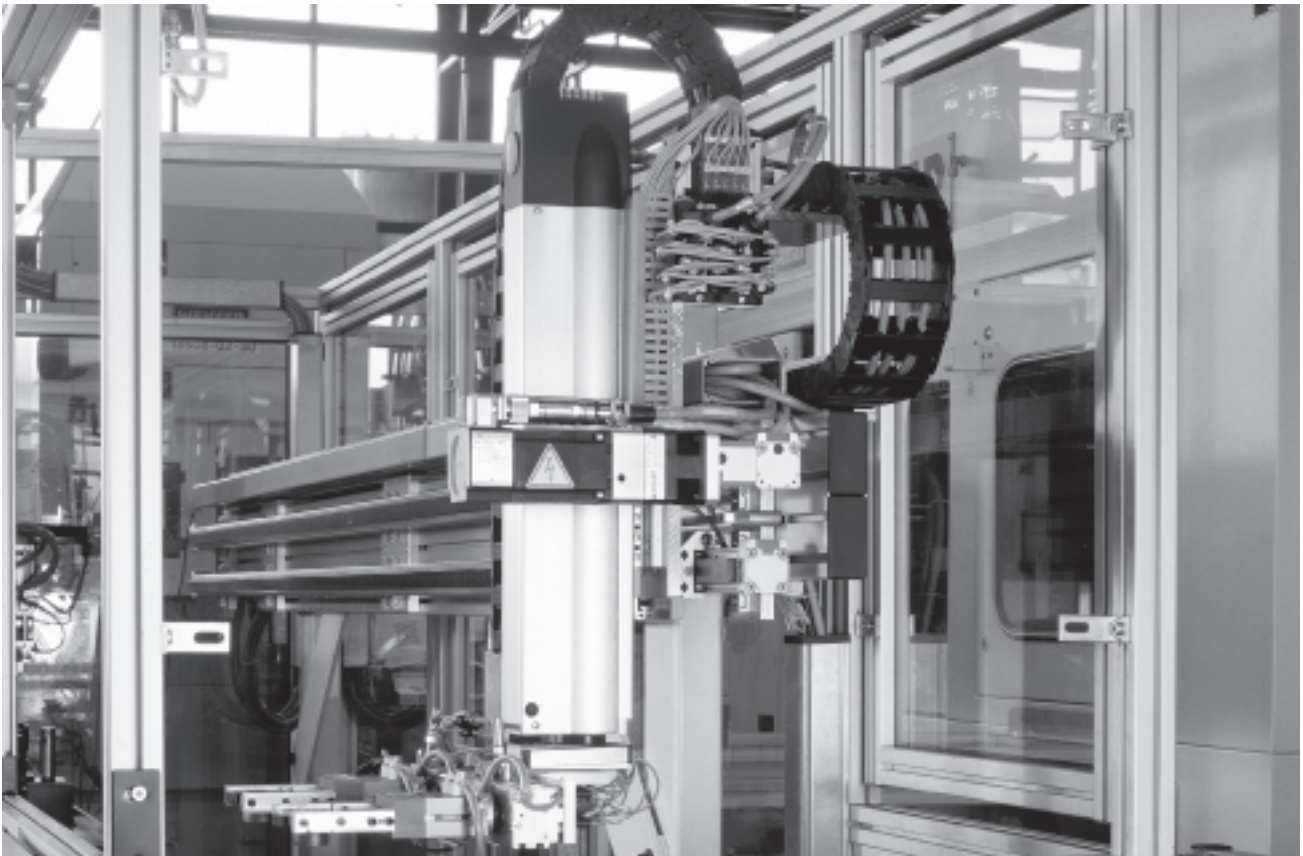
- Pneumatic: DGP, DGC
- Pneumatic with end position controller SPC11 (Soft Stop): DGP
- Electrical with toothed belt or spindle axis: DGE
- Single-axis systems (mono) or drives with guide axis (duo)

### Z modules

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

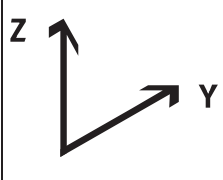


Gantry tubing and cables are routed via protective trunking. Festo uses a base profile for this purpose specially designed for handling technology.

## Application






# Linear gantries

Product range overview

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	
<b>Working load [kg]</b>				
1	■	■	■	■
2	■	■	■	■
3	-	■	■	■
4	-	■	■	■
6	-	-	■	■
10	-	-	-	■
→ Page/Internet	24			

# 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 → 26	–	HMBSY-LP-D25-1 → 28	–
DGC-25	HMBSY-LP-M25-2 → 26	–	HMBSY-LP-D25-2 → 28	–
DGPL-25 with SPC11	HMBSY-LP-M25-3 → 26	–	HMBSY-LP-D25-3 → 28	–
DGPL-40	–	HMBSY-LP-M40-1 → 27	–	HMBSY-LP-D40-1 → 29
DGC-40	–	HMBSY-LP-M40-2 → 27	–	HMBSY-LP-D40-2 → 29
DGPL-40 with SPC11	–	HMBSY-LP-M40-3 → 27	–	HMBSY-LP-D40-3 → 29
Electrical drives	Type			
DGE-25 -SP-KF -ZR-KF -ZR-RF	HMBSY-LP-M25-1 → 26 HMBSY-LP-M25-4 → 26	–	HMBSY-LP-D25-1 → 28 HMBSY-LP-D25-4 → 28	–
DGE-40 -SP-KF -ZR-KF -ZR-RF	–	HMBSY-LP-M40-1 → 27	–	HMBSY-LP-D40-1 → 29

### 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  
→ 28  
Z-axis: HMBSZ-SLT-7  
→ 31

#### 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 → 30	–	–	–
DGSL-20	–	HMBSZ-DGSL-8 → 30	–	–
DGSL-25	–	HMBSZ-DGSL-8 → 30	HMBSZ-DGSL-8 → 30	–
SLT-16	HMBSZ-SLT-7 → 31	–	–	–
SLT-20	–	HMBSZ-SLT-7 → 31	HMBSZ-SLT-7 → 31	–
SLT-25	–	–	HMBSZ-SLT-7 → 31	–
HMPL-16	HMBSZ-HMPL-5 HMBSZ-HMPL-6 → 32	–	–	–
HMPL-20	–	HMBSZ-HMPL-5 HMBSZ-HMPL-6 → 32	HMBSZ-HMPL-5 HMBSZ-HMPL-6 → 32	–
HMP-16	–	HMBSZ-HMP-4 → 33	HMBSZ-HMP-4 → 33	–
HMP-20	–	–	HMBSZ-HMP-5 → 33	–
HMP-25	–	–	–	HMBSZ-HMP-6 → 33
Electrical drives	Type			
DGEA-18	HMBSZ-DGEA-1 → 34	HMBSZ-DGEA-1 → 34	HMBSZ-DGEA-1 → 34	–
DGEA-25	–	–	HMBSZ-DGEA-2 → 34	HMBSZ-DGEA-3 → 34
DGE-25-SP	–	HMBSZ-DGE-1 → 35	HMBSZ-DGE-1 → 35	–
DGE-40-SP	–	–	HMBSZ-DGE-2 → 35	HMBSZ-DGE-3 → 35

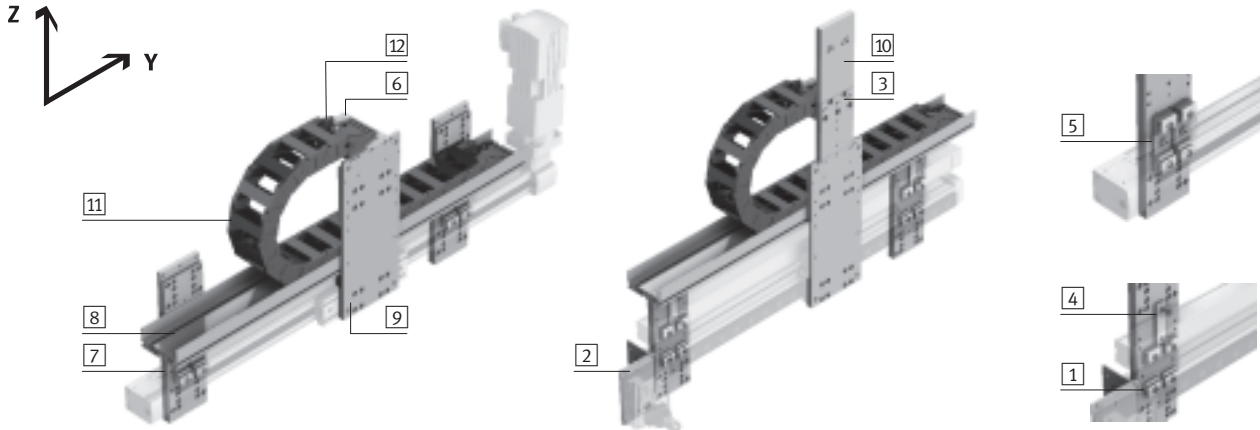
# Linear gantries

Y modules

FESTO

## 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/Internet
1	2 <sup>1)</sup>	150 736		–		150 736		59
	1 <sup>1)</sup>	–		531 753		–		64
2	1	–		–		539 367		17
3	1	–		–		539 364		24
4	1 <sup>1)</sup>	–		–		539 973		16
5	2 <sup>1)</sup>	–		–		–		16
6	1	539 366		539 366		539 366		24
7	2 <sup>2)</sup>	539 972		539 972		539 972		12
8	1 <sup>3)</sup>	539 378		539 378		539 378		23
9	1	539 368		539 368		539 368		14
10	1	–		–		539 365		22
11	1	IGUS E2 medium 240.05.100 and 211 or KABELSCHLEPP MC 0320.60-01-100 and TS O/ηT2					–	
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

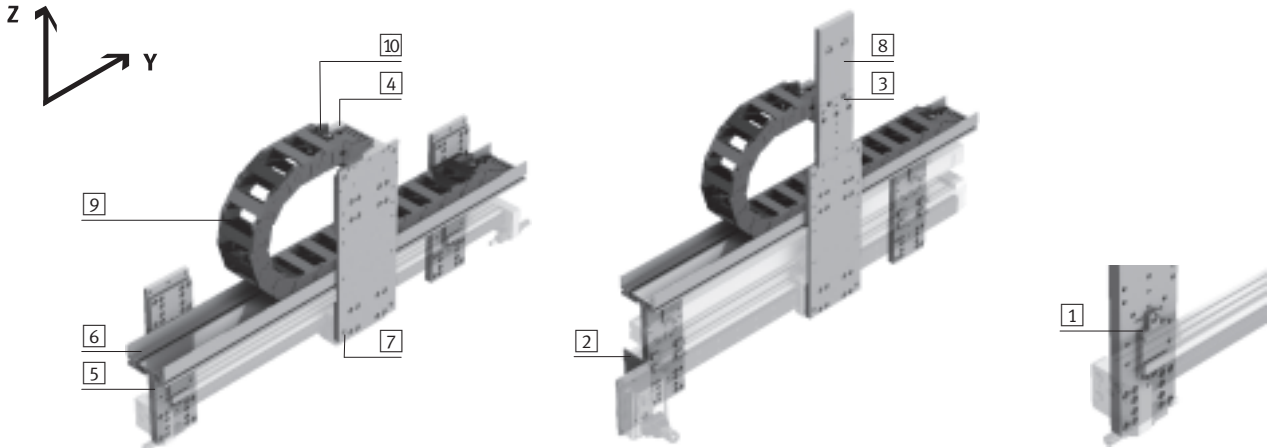
# Linear gantries

Y modules

FESTO

## 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/Internet	
1	1 <sup>1)</sup>	-		531 755	MUC-40	-		64	
2	1	-		-		539 367	HMVW-SPC	17	
3	1	-		-		539 364	HMIM-LP	24	
4	1	539 366	HMIO-AP-1	540 121	HMIO-AP-2	539 366	HMIO-AP-1	24	
5	2 <sup>2)</sup>	539 972	HMVM-LP-DL25/40	539 972	HMVM-LP-DL25/40	539 972	HMVM-LP-DL25/40	12	
6	1 <sup>3)</sup>	539 378	HMIA-E05	539 378	HMIA-E05	539 378	HMIA-E05	23	
7	1	539 369	HMVS-DL40	539 369	HMVS-DL40	539 369	HMVS-DL40	14	
8	1	-		-		539 365	HMIZB-E03	22	
9	1	IGUS E2 medium 240.05.100 and 211 or KABELSCHLEPP MC 0320.60-01-100 and TS 0/n <sub>T</sub> 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

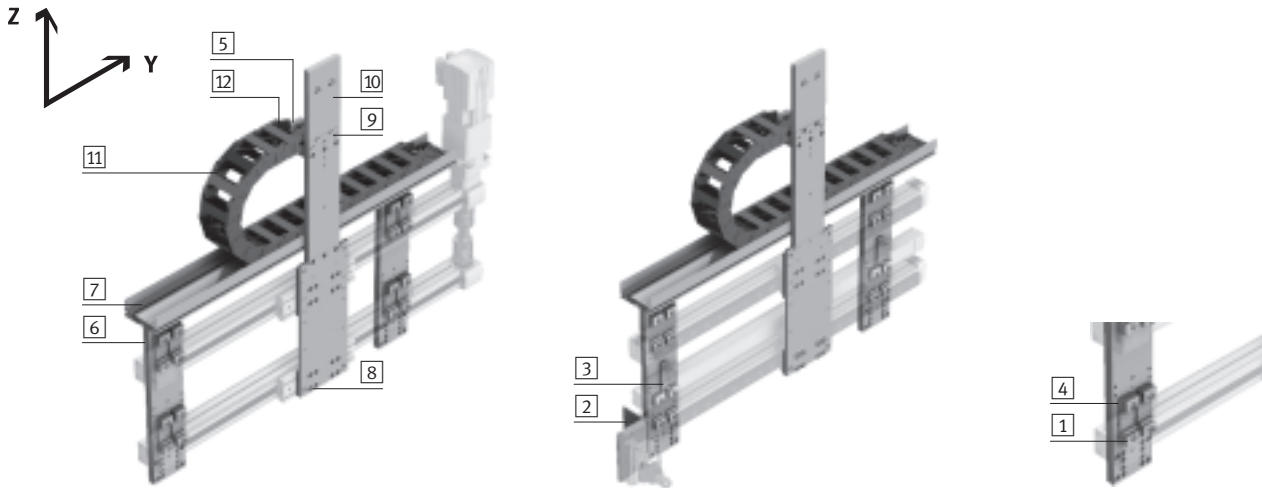
# Linear gantries

Y modules

FESTO

## 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/Internet
1	4 <sup>1)</sup>	150 736	MUP-18/25	–	–	150 736	MUP-18/25	59
	2 <sup>1)</sup>	–	–	531 753	MUC-25	–	–	64
2	1	–	–	–	–	539 367	HMVW-SPC	17
3	1 <sup>1)</sup>	–	–	–	–	539 973	HMVO-POT	16
4	4 <sup>1)</sup>	–	–	–	–	–	539 362 HMVO-RF25	16
5	1	539 366	HMIO-AP-1	539 366	HMIO-AP-1	539 366	HMIO-AP-1	24
6	2 <sup>2)</sup>	539 971	HMVD-LP-DL25/40	539 971	HMVD-LP-DL25/40	539 971	HMVD-LP-DL25/40	12
7	1 <sup>3)</sup>	539 378	HMIA-E05	539 378	HMIA-E05	539 378	HMIA-E05	23
8	1	539 368	HMVS-DL25	539 368	HMVS-DL25	539 368	HMVS-DL25	14
9	1	539 363	HMID-LP	539 363	HMID-LP	539 363	HMID-LP	24
10	1	539 365	HMIZB-E03	539 365	HMIZB-E03	539 365	HMIZB-E03	22
11	1	IGUS E2 medium 240.05.100 and 211 or KABELSCHLEPP MC 0320.60-01-100 and TS O/η <sub>T</sub> 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.

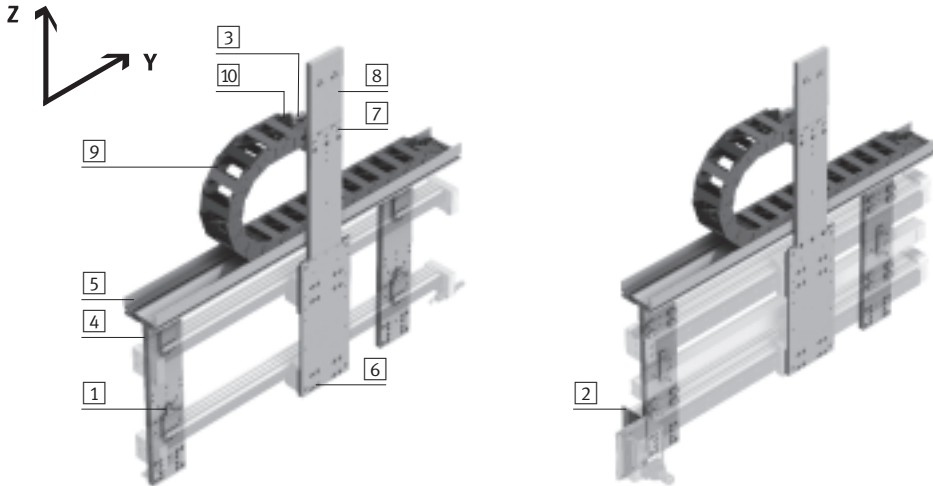
3) Length depends on the stroke of the drive

# 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				
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	→ Page/Internet	
1	2 <sup>1)</sup>	-		531 755	MUC-40	-		64	
2	1	-		-		539 367	HMVW-SPC	17	
3	1	539 366	HMIO-AP-1	540 121	HMIO-AP-2	539 366	HMIO-AP-1	24	
4	2 <sup>2)</sup>	539 971	HMVD-LP-DL25/40	539 971	HMVD-LP-DL25/40	539 971	HMVD-LP-DL25/40	12	
5	1 <sup>3)</sup>	539 378	HMIA-E05	539 378	HMIA-E05	539 378	HMIA-E05	23	
6	1	539 369	HMVS-DL40	539 369	HMVS-DL40	539 369	HMVS-DL40	14	
7	1	539 363	HMID-LP	539 363	HMID-LP	539 363	HMID-LP	24	
8	1	539 365	HMIZB-E03	539 365	HMIZB-E03	539 365	HMIZB-E03	22	
9	1	IGUS E2 medium 240.05.100 and 211 or KABELSCHLEPP MC 0320.60-01-100 and TS O/n <sub>T</sub> 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

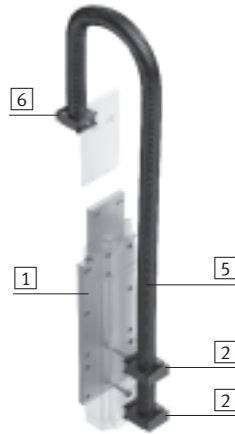
# Linear gantries

Z modules

FESTO

Z modules

Mini slides DGSL



Bill of materials								
Type		HMBSZ-DGSL-7		HMBSZ-DGSL-8		→ Page/Internet		
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	15
2	1	192 289	MKRS-16,5-B	192 290	MKRS-23-B	192 290	MKRS-23-B	15
		548 803	ZBV-M5-7	548 804	ZBV-M5-9	548 804	ZBV-M5-9	
5	1 <sup>1)</sup>	177 566	MKR-16,5-PG-16	177 567	MKR-23-PG-21	177 567	MKR-23-PG-21	8
6	1	192 289	MKRS-16,5-B	192 290	MKRS-23-B	192 290	MKRS-23-B	15

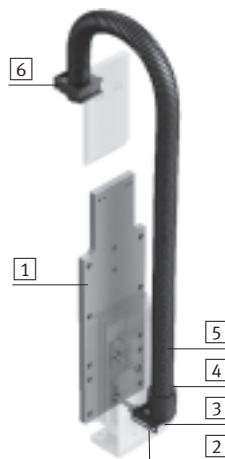
1) Length depends on the stroke of the drive

# Linear gantries

Z modules

**Mono/Duo system**

Mini slides SLT



Bill of materials								
Type		HMBSZ-SLT-7				→ Page/Internet		
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	15
2	1	193 124	HMZAS-PG-21	193 124	HMZAS-PG-21	193 124	HMZAS-PG-21	16
3	1	177 599	MKM-PG-21	177 599	MKM-PG-21	177 599	MKM-PG-21	15
4	1	177 572	MKRV-23-PG-21	177 572	MKRV-23-PG-21	177 572	MKRV-23-PG-21	10
5	1 <sup>1)</sup>	177 567	MKR-23-PG-21	177 567	MKR-23-PG-21	177 567	MKR-23-PG-21	8
6	1	192 290	MKRS-23-B	192 290	MKRS-23-B	192 290	MKRS-23-B	15

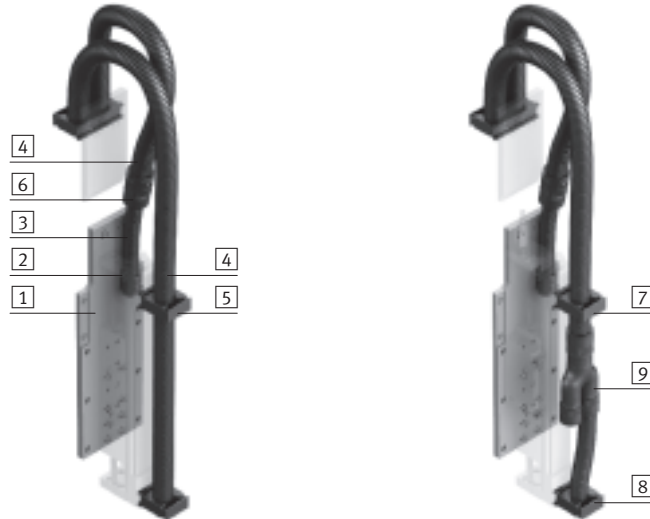
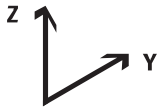
1) Length depends on the stroke of the drive

# Linear gantries

Z modules

## Mono/Duo system

Linear modules HMPL



Bill of materials							→ Page/Internet
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
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 <sup>1)</sup>	177 566	MKR-16,5-PG-16	177 566	MKR-16,5-PG-16	177 566	MKR-16,5-PG-16
4	1 <sup>2)</sup>	177 567	MKR-23-PG-21	177 567	MKR-23-PG-21	177 567	MKR-23-PG-21
5	4 <sup>3)</sup>	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 <sup>3)</sup>	-	-	-	-	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.

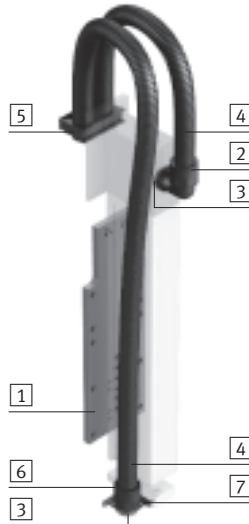
3) In order to be able to mount the retaining clip MKRS, a clamping component (2x code J) must be selected as an accessory in the order for the linear module HMPL.



# Linear gantries

Z modules

Mono/Duo system  
Linear modules HMP



Bill of materials						
Type		HMBSZ-HMP-4	HMBSZ-HMP-5	HMBSZ-HMP-6	→ Page/Internet	
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	
1	1	539 374	HMVZ-3	539 374	HMVZ-3	15
2	1	177 577	MKRL-23-PG-21	177 578	MKRL-29-PG-29	11
3	2	177 599	MKM-PG-21	177 600	MKM-PG-29	15
4	1 <sup>1)</sup>	177 567	MKR-23-PG-21	177 568	MKR-29-PG-29	8
5	2	192 290	MKRS-23-B	192 291	MKRS-29-B	15
6	1	177 572	MKRV-23-PG-21	177 573	MKRV-29-PG-29	10
7	1	193 124	HMZAS-PG-21	177 603	HMZAS-PG-29	16

1) Length depends on the stroke of the drive

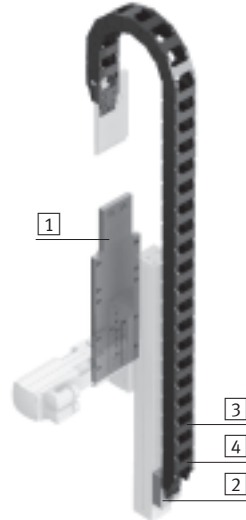
# Linear gantries

Z modules

FESTO

## 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				
					→ Page/Internet			
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	15
[2]	1	539 370	HMIZF-E03-DA18	539 371	HMIZF-E03-DA25	539 371	HMIZF-E03-DA25	22
[3]	1 <sup>1)</sup>	IGUS E2 medium 240.03.075.0 and 211 or KABELSCHLEPP MC 0320.40-01-77 and TS O/n <sub>T</sub> 2						-
[4]	1	IGUS E2 medium 2030.12.PZB or KABELSCHLEPP MC FA/MA						-

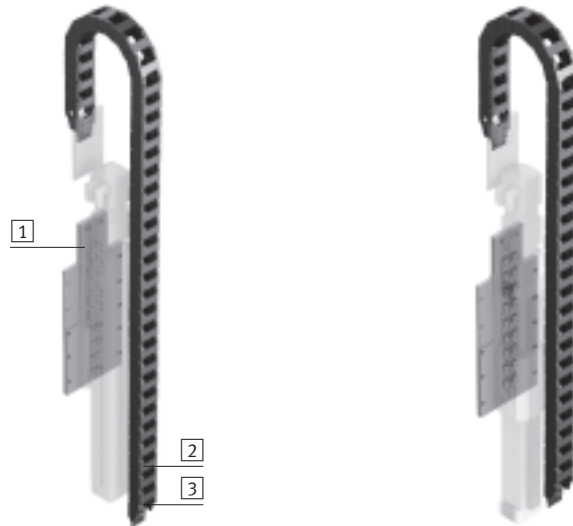
1) Length depends on the stroke of the drive

# Linear gantries

Z modules

**Mono/Duo system**

Spindle axes DGE



Bill of materials						
Type	HMBSZ-DGE-1		HMBSZ-DGE-2		HMBSZ-DGE-3	→ Page/Internet
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	
1	1	539 374	HMVZ-3	539 375	HMVZ-4	15
2	1 <sup>1)</sup>	IGUS E2 medium 240.03.075.0 and 211 or KABELSCHLEPP MC 0320.40-01-77 and TS 0/n <sub>r</sub> 2				-
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

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

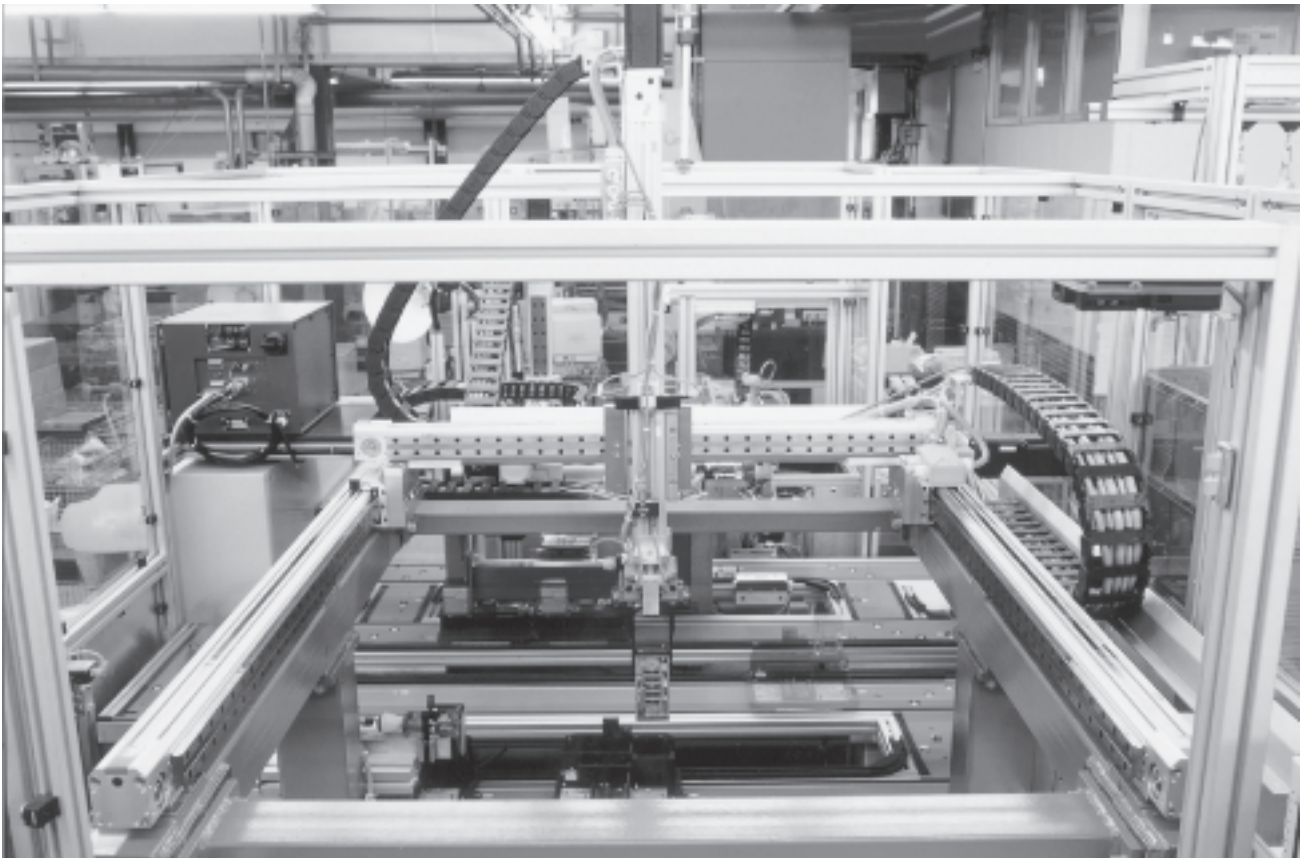
- Pneumatic: SLT, HMPL, HMP
- Electrical with toothed belt or spindle axis: DGE, DGEA

### X modules

- Electrical with toothed belt axis: DGE

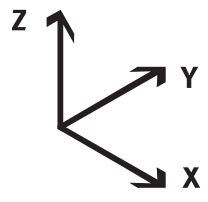




The components in the multi-axis modular system consist mainly of aluminium plates that are connected to each other and attached to the drives using screw connections and slot nut connectors. This permits fast and easy assembly.

## 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/Internet	38				

## 3-Dimensional gantries

Selection aid for basic, connection and installation components

FESTO

X-axis					
System type		Mono 25	Mono 40	Duo 25	Duo 40
					
Electrical drives		Type			
DGE-25	-ZR-KF	HMBSX-RP/FP-25-1 → 41	HMBSX-RP/FP-25-1 → 41	HMBSX-RP/FP-25-1 → 41	–
	-ZR-RF	HMBSX-RP/FP-25-2 → 41	HMBSX-RP/FP-25-2 → 41	HMBSX-RP/FP-25-2 → 41	–
DGE-40	-ZR-KF	–	HMBSX-RP/FP-40-1 → 41	HMBSX-RP/FP-40-1 → 41	HMBSX-RP/FP-40-1 → 41
	-ZR-RF	–	HMBSX-RP/FP-40-2 → 41	HMBSX-RP/FP-40-2 → 41	HMBSX-RP/FP-40-2 → 41

### Selection example:

Project engineering produced the following drive combination:

X-axis: DGE-40-ZR-KF

Y-axis: Mono 40 system with DGC-40

Z-axis: HMPL-20 without intermediate position

#### 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.

X-axis: HMBSX-RP/FP-40-1  
→ 41

Y-axis: HMBSY-RP/FP-M40-2  
→ 42

Z-axis: HMBSZ-HMPL-5 or 6  
→ 46

#### Step 2

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

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

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




Z-axis: HMBSZ-HMPL-5

#### 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.




### 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 → 42	–	HMBSY-RP/FP-D25-1 → 43	–
DGC-25	HMBSY-RP/FP-M25-2 → 42	–	HMBSY-RP/FP-D25-2 → 43	–
DGPL-40	–	HMBSY-RP/FP-M40-1 → 42	–	HMBSY-RP/FP-D40-1 → 43
DGC-40	–	HMBSY-RP/FP-M40-2 → 42	–	HMBSY-RP/FP-D40-2 → 43
Electrical drives	Type			
DGE-25 -SP-KF -ZR-KF -ZR-RF	HMBSY-RP/FP-M25-1 → 42	–	HMBSY-RP/FP-D25-1 → 43	–
DGE-40 -SP-KF -ZR-KF -ZR-RF	–	HMBSY-RP/FP-M40-1 → 42	–	HMBSY-RP/FP-D40-1 → 43

## 3-Dimensional 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 → 44	–	–	–
DGSL-20	–	HMBSZ-DGSL-8 → 44	–	–
DGSL-25	–	HMBSZ-DGSL-8 → 44	HMBSZ-DGSL-8 → 44	–
SLT-16	HMBSZ-SLT-7 → 45	–	–	–
SLT-20	–	HMBSZ-SLT-7 → 45	HMBSZ-SLT-7 → 45	–
SLT-25	–	–	HMBSZ-SLT-7 → 45	–
HMPL-16	HMBSZ-HMPL-5 HMBSZ-HMPL-6 → 46	–	–	–
HMPL-20	–	HMBSZ-HMPL-5 HMBSZ-HMPL-6 → 46	HMBSZ-HMPL-5 HMBSZ-HMPL-6 → 46	–
HMP-16	–	HMBSZ-HMP-4 → 47	HMBSZ-HMP-4 → 47	–
HMP-20	–	–	HMBSZ-HMP-5 → 47	–
HMP-25	–	–	–	HMBSZ-HMP-6 → 47
Electrical drives	Type			
DGEA-18	HMBSZ-DGEA-1 → 48	HMBSZ-DGEA-1 → 48	HMBSZ-DGEA-1 → 48	–
DGEA-25	–	–	HMBSZ-DGEA-2 v48	HMBSZ-DGEA-3 → 48
DGE-25-SP	–	HMBSZ-DGE-1 → 49	HMBSZ-DGE-1 → 49	–
DGE-40-SP	–	–	HMBSZ-DGE-2 → 49	HMBSZ-DGE-3 → 49

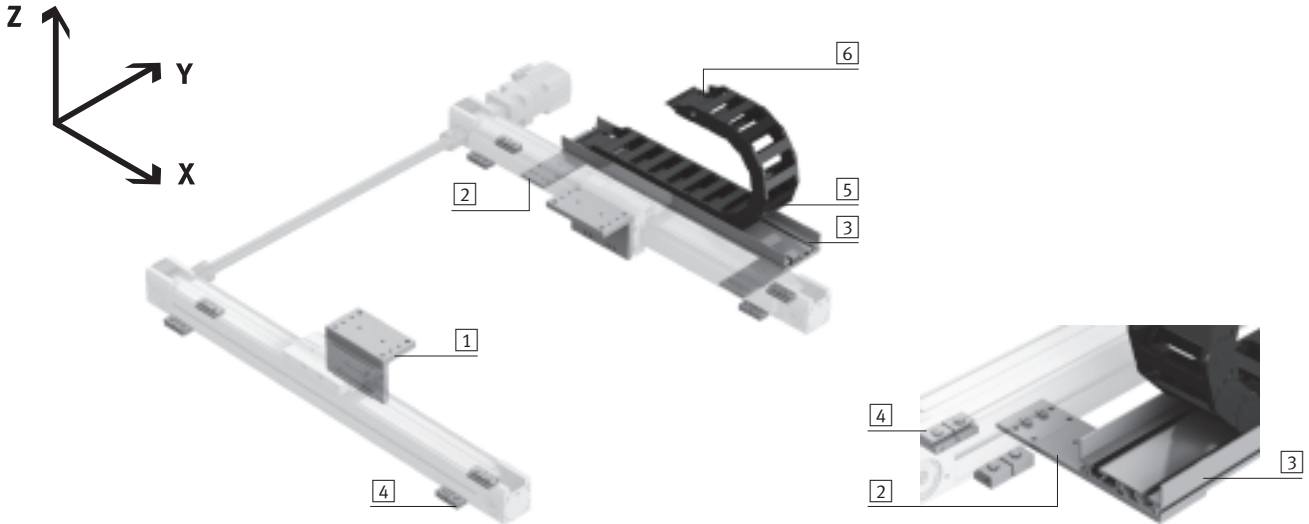


# 3-Dimensional gantries

X modules

## Basic system

Toothed belt axes DGE



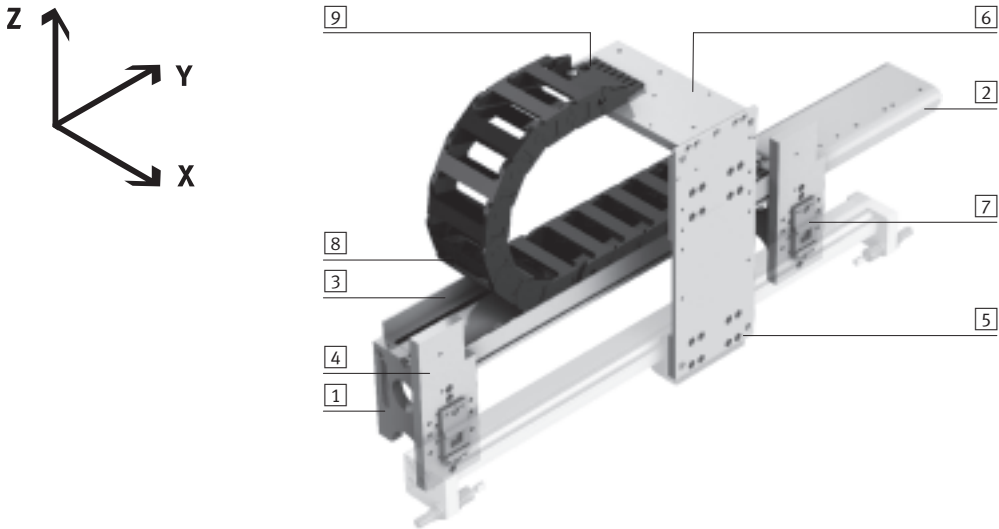
Bill of materials									
Type		HMBSX-RP/FP-25-1	HMBSX-RP/FP-25-2	HMBSX-RP/FP-40-1	HMBSX-RP/FP-40-2				
	For drives	DGE-25-ZR-KF	DGE-25-ZR-RF	DGE-40-ZR-KF	DGE-40-ZR-RF				
Item	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	→ Page/Internet	
1	1	539 651	HMVW-DL25	539 652	HMVS-RF25	540 325	HMVW-DL40	539 653	9
2	2 <sup>1)</sup>	539 654	HMIXB-RP/FP	539 654	HMIXB-RP/FP	539 654	HMIXB-RP/FP	539 654	25
3	1 <sup>2)</sup>	539 379	HMIA-E07	539 379	HMIA-E07	539 379	HMIA-E07	539 379	23
4	2 <sup>3)</sup>	150 736	MUP-18/25	150 736	MUP-18/25	–	–	–	mup
	1 <sup>3)</sup>	–	–	–	–	150 738	MUP-40	150 738	mup
5	1 <sup>2)</sup>	IGUS E2 medium 240.07.100.0 and 211 or KABELSCHLEPP MC 0320.80-01 and TS O/n <sub>T</sub> 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



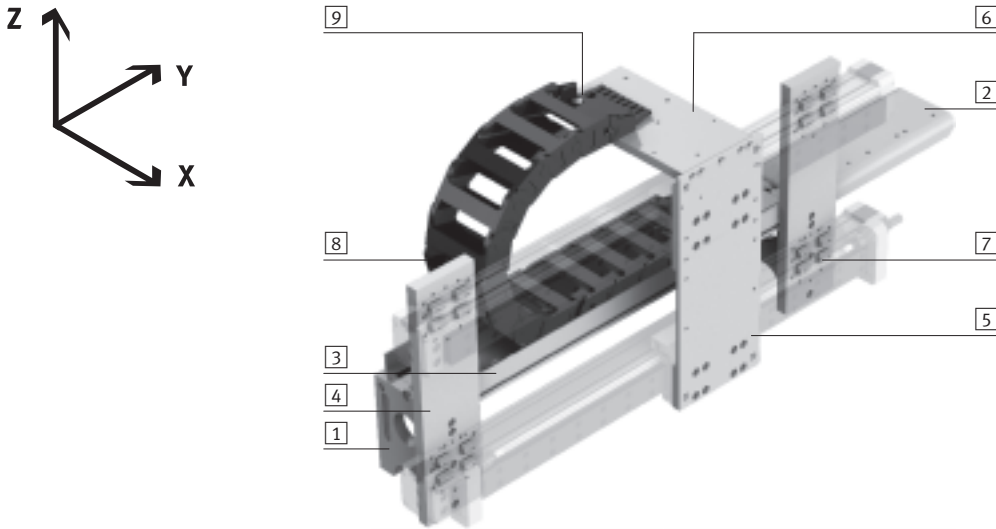
Bill of materials								
Type	HMBSY-RP/FP-M25-1		HMBSY-RP/FP-M25-2		HMBSY-RP/FP-M40-1		HMBSY-RP/FP-M40-2	
For drives	DGE-25-SP-KF DGE-25-ZR-KF DGE-25-ZR-RF DGPL-25		DGC-25		DGE-40-SP-KF DGE-40-ZR-KF DGE-40-ZR-RF DGPL-40		DGC-40	
System type	Mono 25				Mono 40			
Item	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	→ Page/Internet
1	2	539 657	HMVV-RP/FP	539 657	HMVV-RP/FP	539 657	HMVV-RP/FP	11
2	1	539 658	HMIXF-RP/FP	539 658	HMIXF-RP/FP	539 658	HMIXF-RP/FP	11
3	1 <sup>1)</sup>	539 379	HMIA-E07	539 379	HMIA-E07	539 379	HMIA-E07	23
4	2 <sup>3)</sup>	539 656	HMVM-RP/FP-DL25/40	539 656	HMVM-RP/FP-DL25/40	539 656	HMVM-RP/FP-DL25/40	13
5	1	539 368	HMVS-DL25	539 368	HMVS-DL25	539 369	HMVS-DL40	14
6	1	539 659	HMIYF-RF/DL25	539 659	HMIYF-RF/DL25	539 660	HMIYF-RF/DL40	26
7	2 <sup>2)</sup>	150 736	MUP-18/25	–	–	–	–	59
	1 <sup>2)</sup>	–	–	531 753	MUC-25	–	531 755 MUC-40	64
	1 <sup>2)</sup>	–	–	–	–	150 738	MUP-40	59
8	1 <sup>1)</sup>	IGUS E2 medium 240.07.100.0 and 211 or KABELSCHLEPP MC 0320.80-01 and TS O/n <sub>T</sub> 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/Internet
1	2	539 657	HMVV-RP/FP	539 657	HMVV-RP/FP	539 657	HMVV-RP/FP	11
2	1	539 658	HMIXF-RP/FP	539 658	HMIXF-RP/FP	539 658	HMIXF-RP/FP	11
3	1 <sup>1)</sup>	539 379	HMIA-E07	539 379	HMIA-E07	539 379	HMIA-E07	23
4	2 <sup>3)</sup>	539 655	HMVD-RP/FP-DL25/40	539 655	HMVD-RP/FP-DL25/40	539 655	HMVD-RP/FP-DL25/40	13
5	1	539 368	HMVS-DL25	539 368	HMVS-DL25	539 369	HMVS-DL40	14
6	1	539 659	HMIYF-RF/DL25	539 659	HMIYF-RF/DL25	539 660	HMIVF-RF/DL40	26
7	4 <sup>2)</sup>	150 736	MUP-18/25	-	-	-	-	59
	2	-	-	531 753	MUC-25	-	531 755	MUC-40
8	1 <sup>1)</sup>	IGUS E2 medium 240.07.100.0 and 211 or KABELSCHLEPP MC 0320.80-01 and TS O/nT2						-
9	1	IGUS E2 medium 2070.12.PZB or KABELSCHLEPP MC FA/MA						-

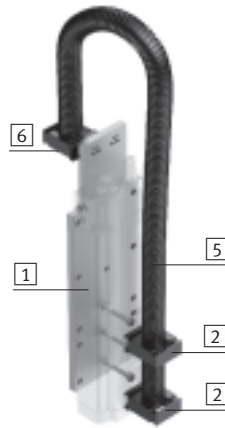
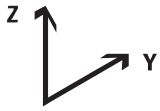
1) Length depends on the stroke of the drive  
 2) Per basic kit HMVD-RP/FP-DL25/40  
 3) Quantity with stroke ≤ 500 mm. With stroke > 500 mm, a basic kit HMVD-RP/FP-DL25/40 must be additionally ordered per 500 mm stroke or part thereof.

# 3-Dimensional gantries

Z modules

**Mono/Duo system**

Mini slides DGSL



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

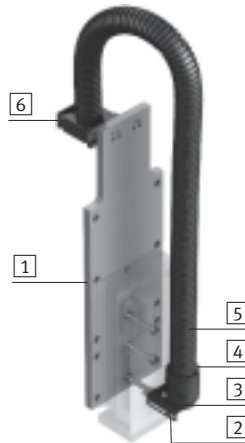
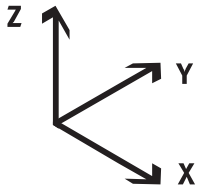
1) Length depends on the stroke of the drive

# 3-Dimensional gantries

Z modules

**Mono/Duo system**

Mini slides SLT



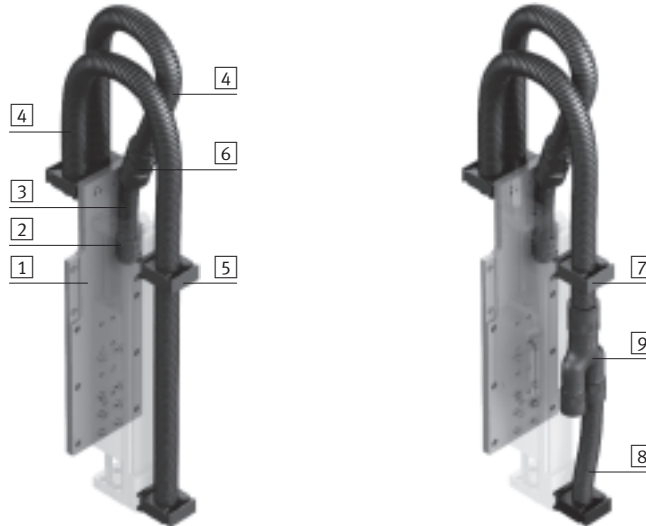
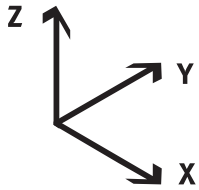
Bill of materials								
Type		HMBSZ-SLT-7				→ Page/Internet		
For drives		SLT-16	SLT-20	SLT-25				
System type		Mono 25	Mono 40 Duo 25	Duo 25				
Item	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	
1	1	539 373	HMVZ-2	539 373	HMVZ-2	539 373	HMVZ-2	15
2	1	193 124	HMZAS-PG-21	193 124	HMZAS-PG-21	193 124	HMZAS-PG-21	16
3	1	177 599	MKM-PG-21	177 599	MKM-PG-21	177 599	MKM-PG-21	15
4	1	177 572	MKRV-23-PG-21	177 572	MKRV-23-PG-21	177 572	MKRV-23-PG-21	10
5	1 <sup>1)</sup>	177 567	MKR-23-PG-21	177 567	MKR-23-PG-21	177 567	MKR-23-PG-21	8
6	1	192 290	MKRS-23-B	192 290	MKRS-23-B	192 290	MKRS-23-B	15

1) Length depends on the stroke of the drive

# 3-Dimensional gantries

Z modules

**Mono/Duo system**  
Linear modules HMPL



Bill of materials							→ Page/Internet			
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	15
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	10
3	1 <sup>1)</sup>	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	8
4	1 <sup>2)</sup>	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 <sup>3)</sup>	192 290	MKRS-23-B	192 290	MKRS-23-B	-	-	-	-	15
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	12
7	3 <sup>3)</sup>	-	-	-	-	192 290	MKRS-23-B	192 290	MKRS-23-B	15
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	12

1) Length 200 mm

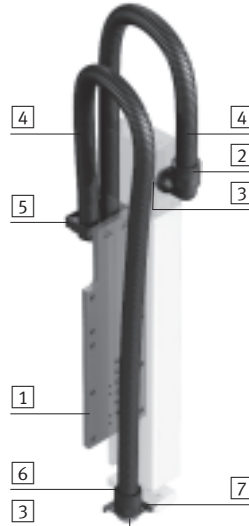
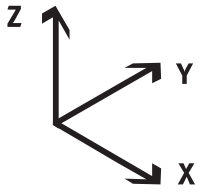
2) Length depends on the stroke of the drive, 2 conduits are required with an intermediate position.

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/Internet
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
1	1	539 374	HMVZ-3	539 374	HMVZ-3
				539 377	HMVZ-6
2	1	177 577	MKRL-23-PG-21	177 578	MKRL-29-PG-29
3	2	177 599	MKM-PG-21	177 600	MKM-PG-29
4	1 <sup>1)</sup>	177 567	MKR-23-PG-21	177 568	MKR-29-PG-29
5	2	192 290	MKRS-23-B	192 291	MKRS-29-B
6	1	177 572	MKRV-23-PG-21	177 573	MKRV-29-PG-29
7	1	193 124	HMZAS-PG-21	177 603	HMZAS-PG-29

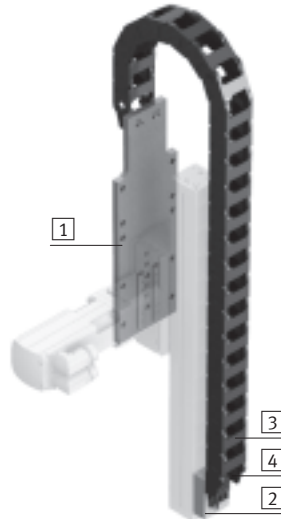
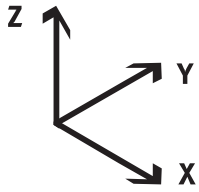
1) Length depends on the stroke of the drive

# 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				
					→ Page/Internet			
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	15
2	1	539 370	HMIZF-E03-DA18	539 371	HMIZF-E03-DA25	539 371	HMIZF-E03-DA25	22
3	1 <sup>1)</sup>	IGUS E2 medium 240.03.075.0 and 211 or KABELSCHLEPP MC 0320.40-01-77 and TS O/n <sub>T</sub> 2						-
4	1	IGUS E2 medium 2030.12.PZB or KABELSCHLEPP MC FA/MA						-

1) Length depends on the stroke of the drive

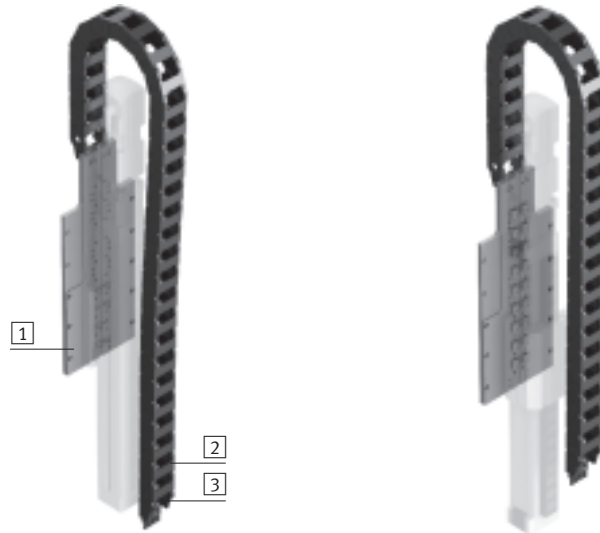
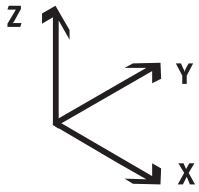


# 3-Dimensional gantries

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		→ Page/Internet	
Item	Quantity	Part No.	Type	Part No.		Type
1	1	539 374 HMVZ-3		539 375 HMVZ-4	539 377 HMVZ-6	15
2	1 <sup>1)</sup>	IGUS E2 medium 240.03.075.0 and 211 or KABELSCHLEPP MC 0320.40-01-77 and TS 0/n <sub>r</sub> 2				-
3	1	IGUS E2 medium 2030.12.PZB or KABELSCHLEPP MC FA/MA				-

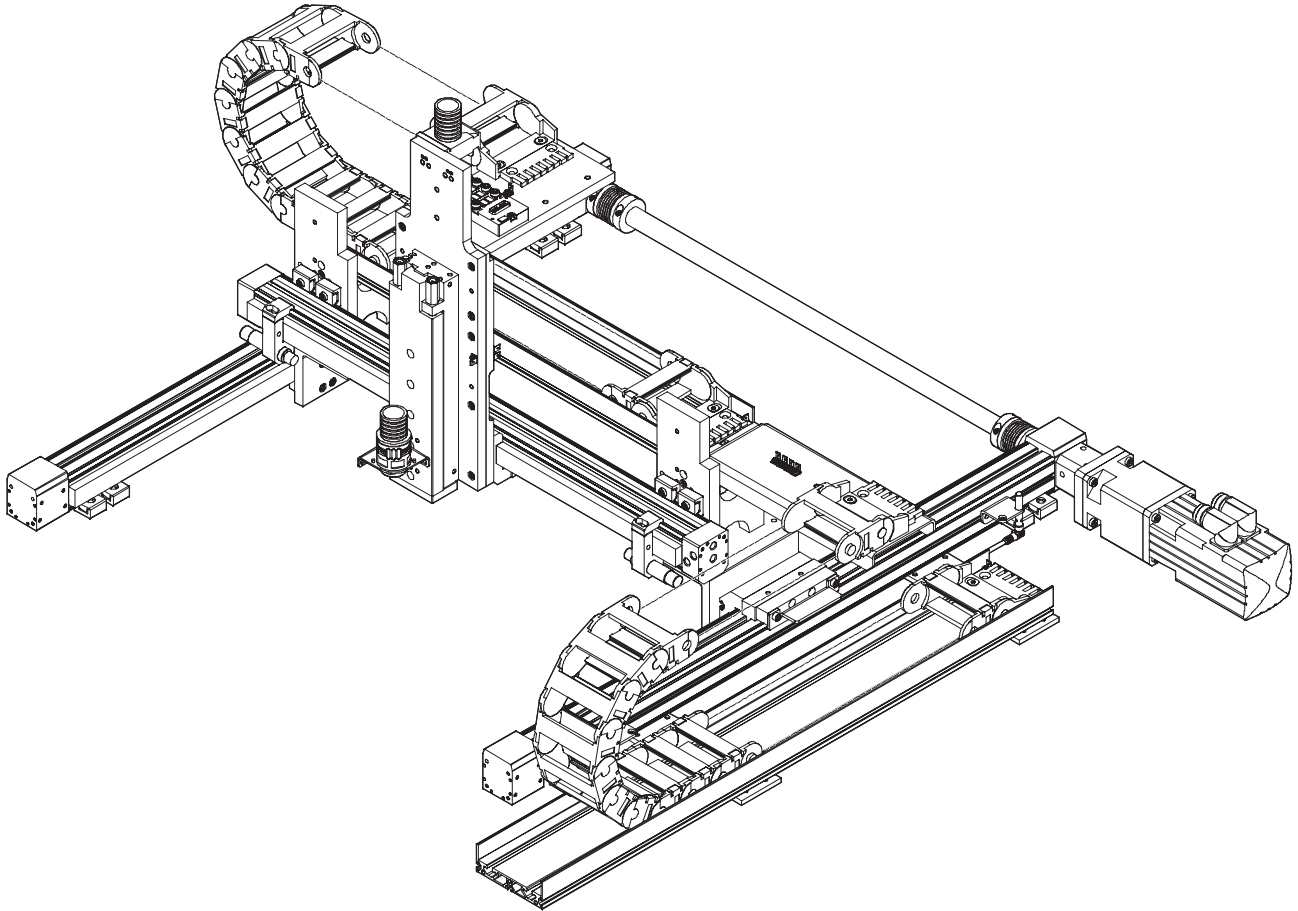
1) Length depends on the stroke of the drive

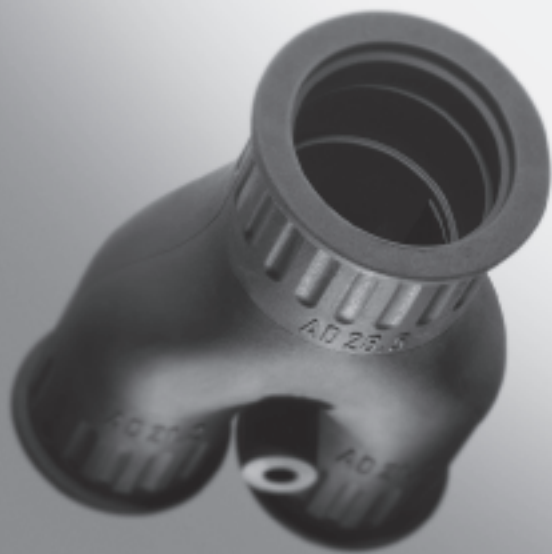
## 3-Dimensional gantries

System example

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



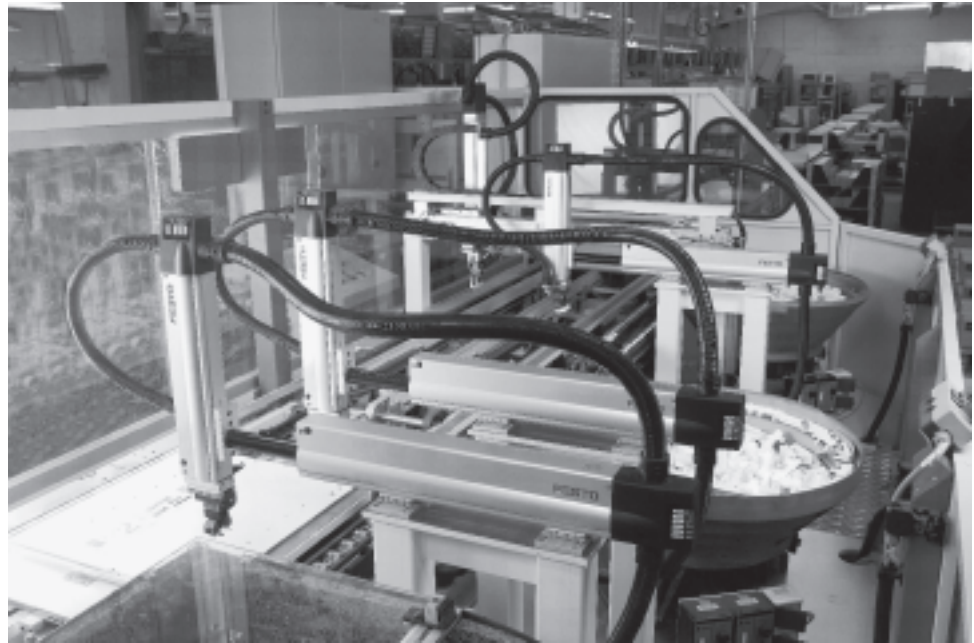


- Reliable guidance
- Rapid assembly and disassembly
- Low space requirement
- Low noise levels

# 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.



## 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.

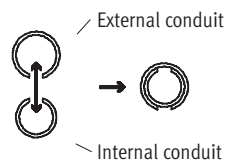
## Junction box HMZV



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

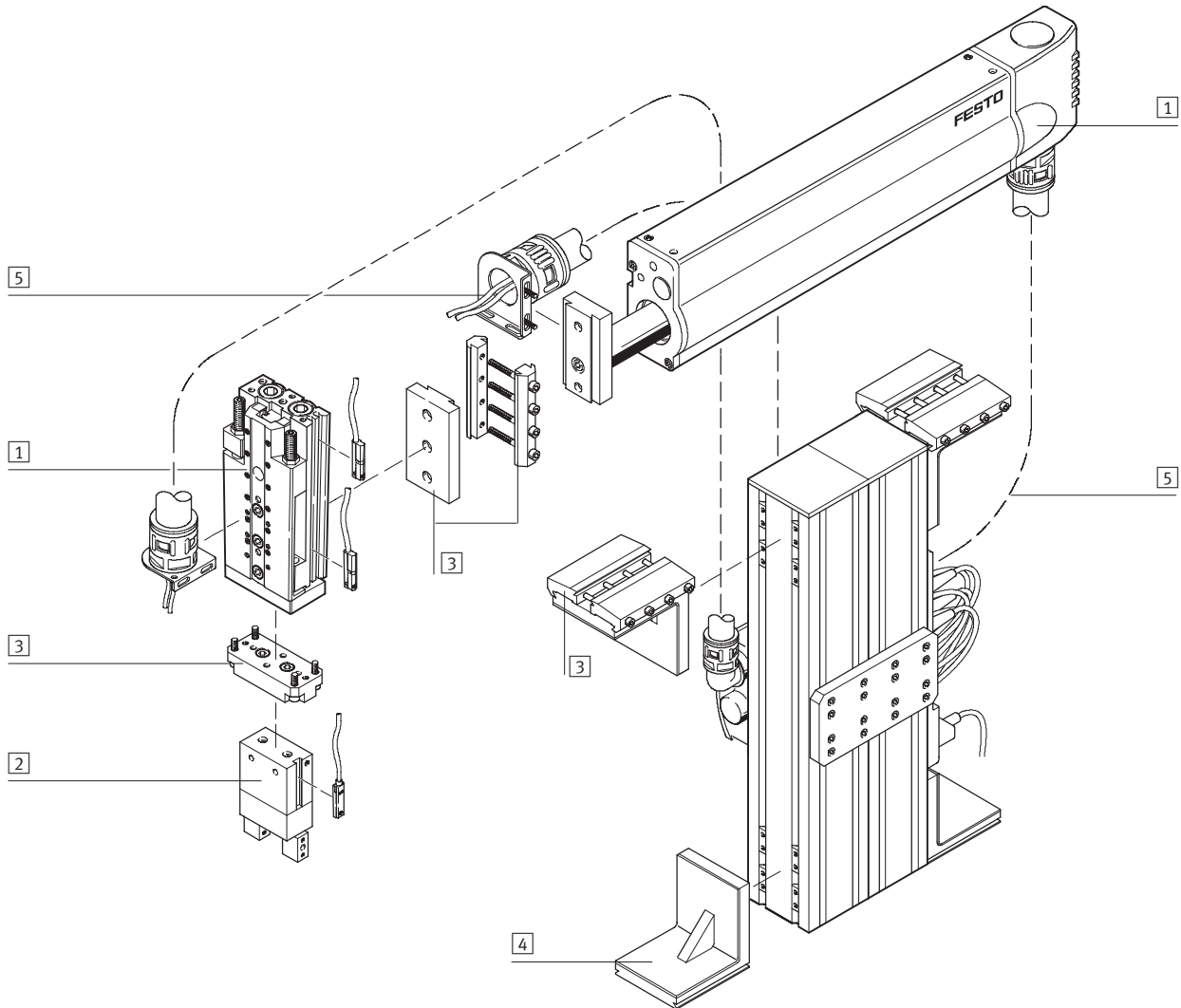


# Installation components, for short strokes

System example

FESTO

System product for handling and assembly technology

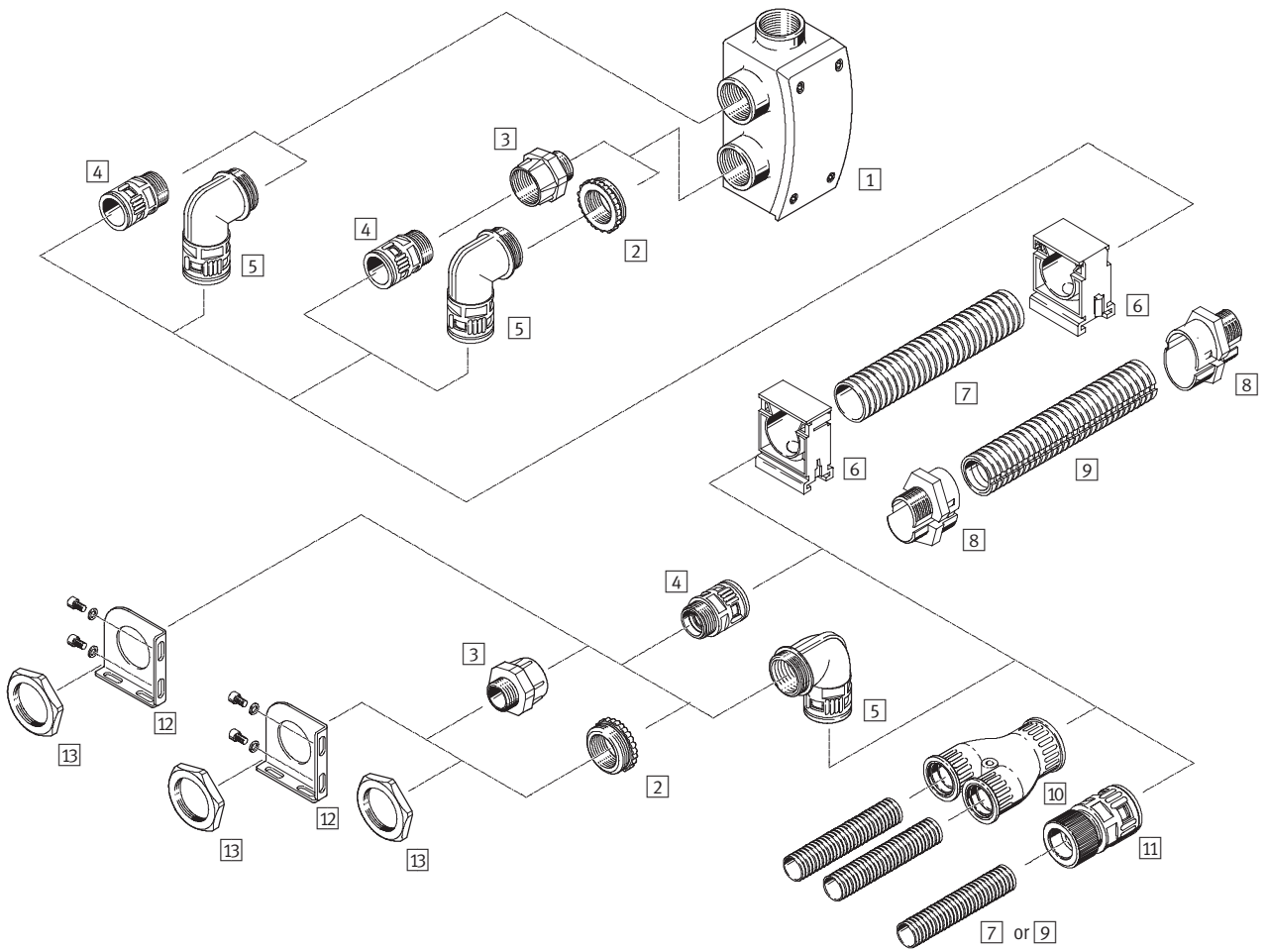


System elements and accessories		
	Brief description	→ Page/Internet
1	Drives	Wide range of combination options within handling and assembly technology drive
2	Grippers	Wide range of combination options within handling and assembly technology gripper
3	Adapters	For combining drives with drives and drives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

# Installation components, for short strokes

Peripherals overview

FESTO













# Installation components, for short strokes

Peripherals overview

Variants and accessories		
Type	Brief description	→ Page/Internet
1 Junction box HMZV	For bundling or distributing lines and tubing	9
2 Reducing connector MKA	For reducing thread size Material: Brass	13
3 Reducing connector MKA-KU	For reducing or enlarging thread size Material: Polyamide	14
4 Protective conduit connector MKRV	For securing the protective conduit	10
5 Elbow connector for protective conduit MKRL	For securing the protective conduit	11
6 Retaining clip MKRS	For securing the protective conduit over long distances	15
7 Protective conduit MKR	For protecting lines and tubing	8
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.	13
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.	9
10 Y distributor MKY	For distributing lines and tubing	12
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.	12
12 Adapter plate HMZAS	For securing protective conduit connectors at the drive	16
13 Lock nut MKM	For securing connectors at adapter plates	15

# Installation components, for short strokes







Selection aid

Accessories		Protective conduit						Junction box		→ Page/Internet
		MKR			MKG, separable			HMZV		
										
Connecting thread		Pg 9	Pg 11	Pg 16	Pg 21	Pg 29	Pg 21	Pg 29	Pg 29	
<b>Protective conduit connector MKRV</b>										
	Pg 9	■	-	-	-	-	-	-	-	10
	Pg 11	-	■	-	-	-	-	-	-	
	Pg 16	-	-	■	-	-	-	-	-	
	Pg 21	-	-	-	■	-	-	-	-	
	Pg 29	-	-	-	-	■	-	-	■	
<b>Elbow connector for protective conduit MKRL</b>										
	Pg 9	■	-	-	-	-	-	-	-	11
	Pg 11	-	■	-	-	-	-	-	-	
	Pg 16	-	-	■	-	-	-	-	-	
	Pg 21	-	-	-	■	-	-	-	-	
	Pg 29	-	-	-	-	■	-	-	■	
<b>Y distributor MKY</b>										
	Pg 21	-	-	-	■	-	-	-	-	12
	Pg 29	-	-	-	-	■	-	-	-	
<b>Protective conduit connector MKRT</b>										
	Pg 16	-	-	■	■	-	-	-	-	12
	Pg 21	-	-	■	■	-	-	-	-	
<b>Protective conduit connector MKGV, separable</b>										
	Pg 21	-	-	-	-	-	■	-	-	13
	Pg 29	-	-	-	-	-	-	■	■	
<b>Reducing connector MKA</b>										
	Pg 29	-	-	-	-	-	-	-	■	13
<b>Reducing connector MKA-KU</b>										
	Pg 29	-	-	-	-	-	-	-	■	14
Technical data → Page/Internet		8				9		9		



# Installation components, for short strokes

Selection aid

Accessories		Protective conduit						Junction box		→ Page/Internet
		MKR				MKG, separable		HMZV		
										
Connecting thread		Pg 9	Pg 11	Pg 16	Pg 21	Pg 29	Pg 21	Pg 29	Pg 29	
<b>Lock nut MKM</b>										
	Pg 9	■	-	-	-	-	-	-	-	15
	Pg 11	-	■	-	-	-	-	-	-	
	Pg 16	-	-	■	-	-	-	-	-	
	Pg 21	-	-	-	■	-	■	-	-	
	Pg 29	-	-	-	-	■	-	■	-	
<b>Retaining clip MKRS</b>										
	Pg 9	■	-	-	-	-	-	-	-	15
	Pg 11	-	■	-	-	-	-	-	-	
	Pg 16	-	-	■	-	-	-	-	-	
	Pg 21	-	-	-	■	-	■	-	-	
	Pg 29	-	-	-	-	■	-	■	-	
<b>Adapter plate HMZAS</b>										
	For connecting thread Pg 21 and Pg 29									16
Technical data → Page/Internet		8					9		9	

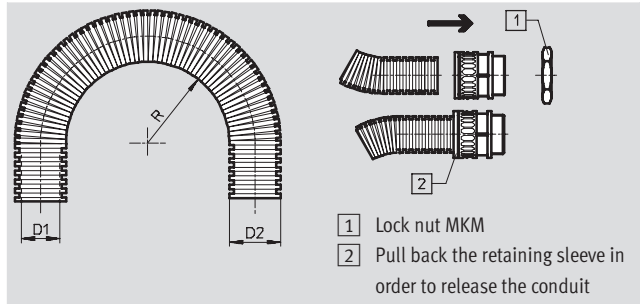
# Installation components, for short strokes

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 <sup>1)</sup>	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

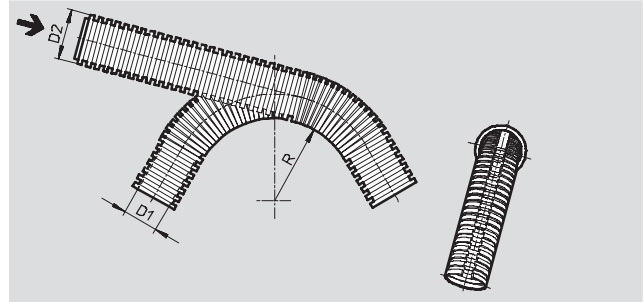
1) Corrosion resistance class 2 according to Festo standard 940 070  
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating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

# Installation components, for short strokes

Technical data

## Protective conduit MKG, separable for Pg connecting thread

Material:  
Polypropylene  
Free of copper, PTFE and silicone



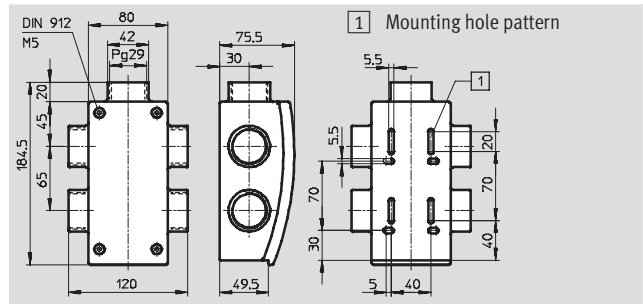
Dimensions and ordering data					
Pg connecting thread	D1 ∅	D2 ∅	R	Temperature range [°C]	Protection class
Pg 21	19.5	25.5	≥ 130	-20 ... +90	IP 50
Pg 29	24.2	31	≥ 155		
	31	41.4	≥ 205		

Pg connecting thread	Mounting position	CRC <sup>1)</sup>	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 <sup>1)</sup>	Weight [g]	Part No. Type
Pg 29	-10 ... +60	IP 50	Any	2	280	175 126 HMZV

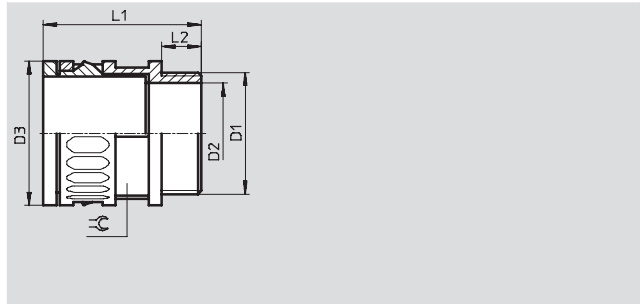
1) Corrosion resistance class 2 according to Festo standard 940 070  
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating 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
Ø	Ø	Ø				[°C]
Pg 9	10	20	35	10	18	-30 ... +100
Pg 11	12.5	23	37		21	
Pg 16	17	29.5	43.5	12	27	
Pg 21	23.5	37	46		34	
Pg 29	30.5	44	48		40	

Pg connecting thread D1	Protection class	Mounting position	CRC <sup>1)</sup>	Weight	Part No.	Type
Ø				[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				22	177 573	MKRV-29-PG-29

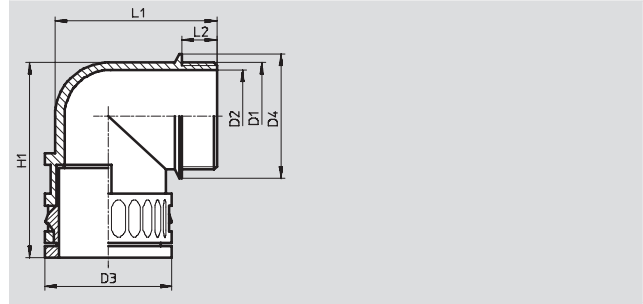
1) Corrosion resistance class 2 according to Festo standard 940 070  
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating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

# Installation components, for short strokes

Technical data

## 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	12
Pg 21	24	37	34	57	55	
Pg 29	32	44	43	68	63	

Pg connecting thread D1	Temperature range [°C]	Protection class	Mounting position	CRC <sup>1)</sup>	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.

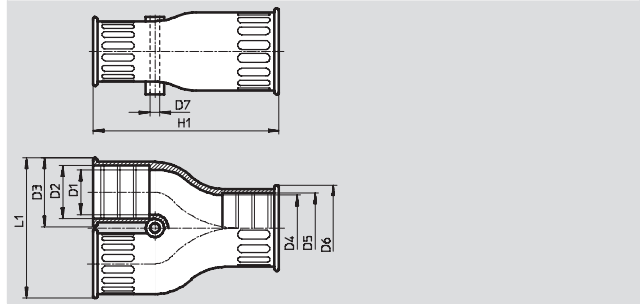
# Installation components, for short strokes

Technical data

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## Y distributor MKY

Material:  
Thermoplastic rubber  
Free of copper, PTFE and silicone



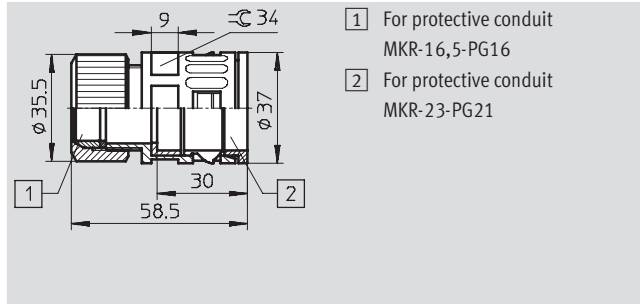
Dimensions and ordering data							
Pg connecting thread D1	D2	D3	D4	D5	D6	D7	H1
∅	∅	∅	∅	∅	∅	∅	
Pg 21	21.2	29.5	25.5	28.5	36.5	4	81.5
Pg 29	28.5	36.5	31.5	34.5	42.5		86

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

## 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 <sup>1)</sup>	Weight [g]	Part No.	Type
Pg 16/Pg 21	-10 ... +60	IP 67	Any	2	40	<b>194 321</b>	<b>MKRT-23-16,5</b>

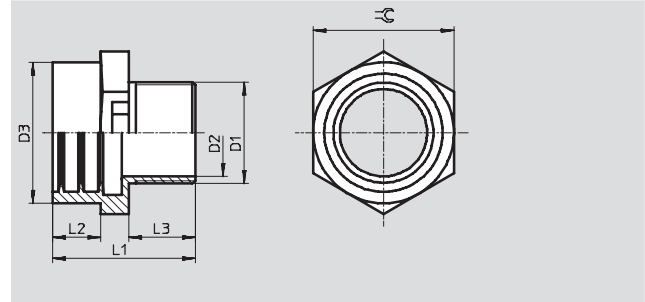
1) Corrosion resistance class 2 according to Festo standard 940 070  
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating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

# Installation components, for short strokes

Technical data

## Protective conduit connector MKGV, separable

Material:  
Polyamide  
Free of copper, PTFE and silicone



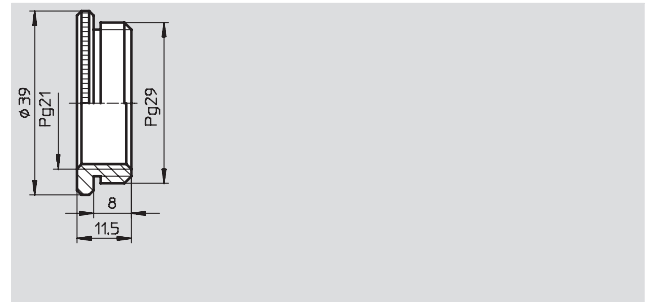
Dimensions and ordering data						
Pg connecting thread D1	D2	D3	L1	L2	L3	⊕
∅	∅	∅				
Pg 21	20	26	34	12	17	32
Pg 29	31	32	42	13	21	41
		42	50	17	22	50

Pg connecting thread D1	Temperature range [°C]	Protection class	Mounting position	CRC <sup>1)</sup>	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 <sup>1)</sup>	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

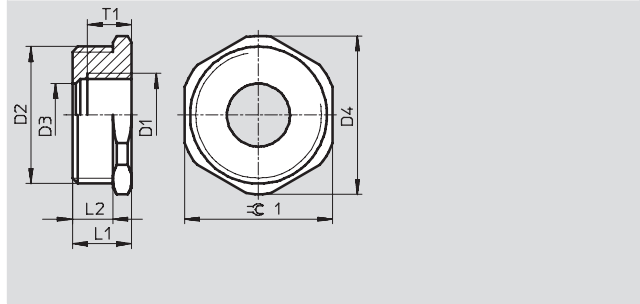
For reducing Pg 21 to Pg 16

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 <sup>1)</sup>	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.

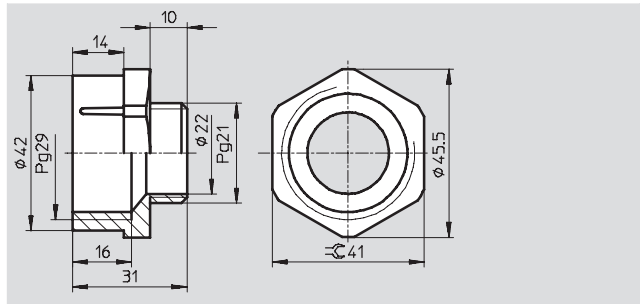
## Reducing connector MKA-KU

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 <sup>1)</sup>	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.

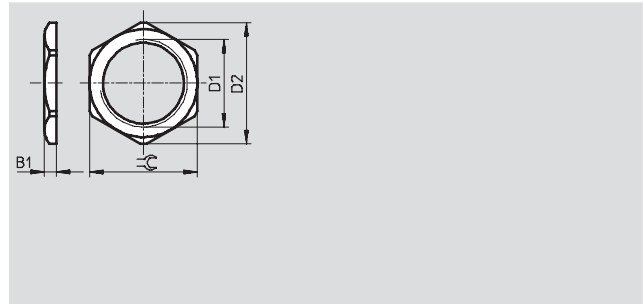


# Installation components, for short strokes

Technical data

## Lock nut MKM

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

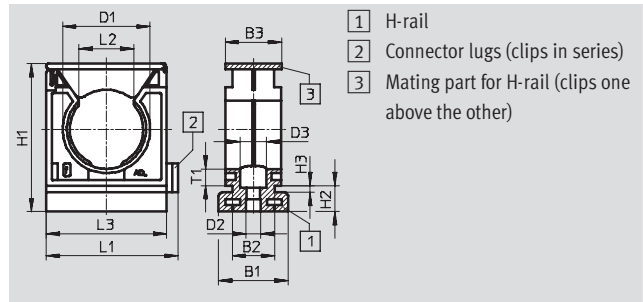


Dimensions and ordering data										
Pg connecting thread D1	D2	D3	⌀	Mounting position	CRC <sup>1)</sup>	Weight [g]	Part No.	Type		
Pg 9	20	2.8	18	Any	2	2	177 596	MKM-PG-9		
Pg 11	23.5	3	21			3	177 597	MKM-PG-11		
Pg 16	29		26			5	177 598	MKM-PG-16		
Pg 21	35.5	3.5	32			8	177 599	MKM-PG-21		
Pg 29	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



- 1 H-rail
- 2 Connector lugs (clips in series)
- 3 Mating part for H-rail (clips one above the other)

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

Pg connecting thread	L2	L3	T1	Temperature range [°C]	CRC <sup>1)</sup>	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	32.5	8			192 289	MKRS-16,5-B	
Pg 21	20	43.5	6.8			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



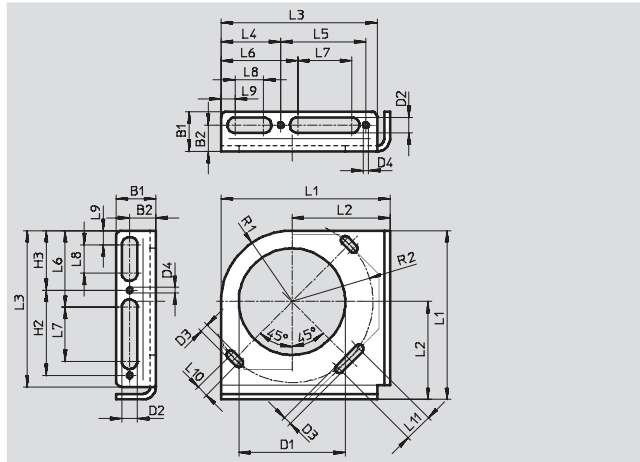
## Installation kit HMZAS

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

Material:

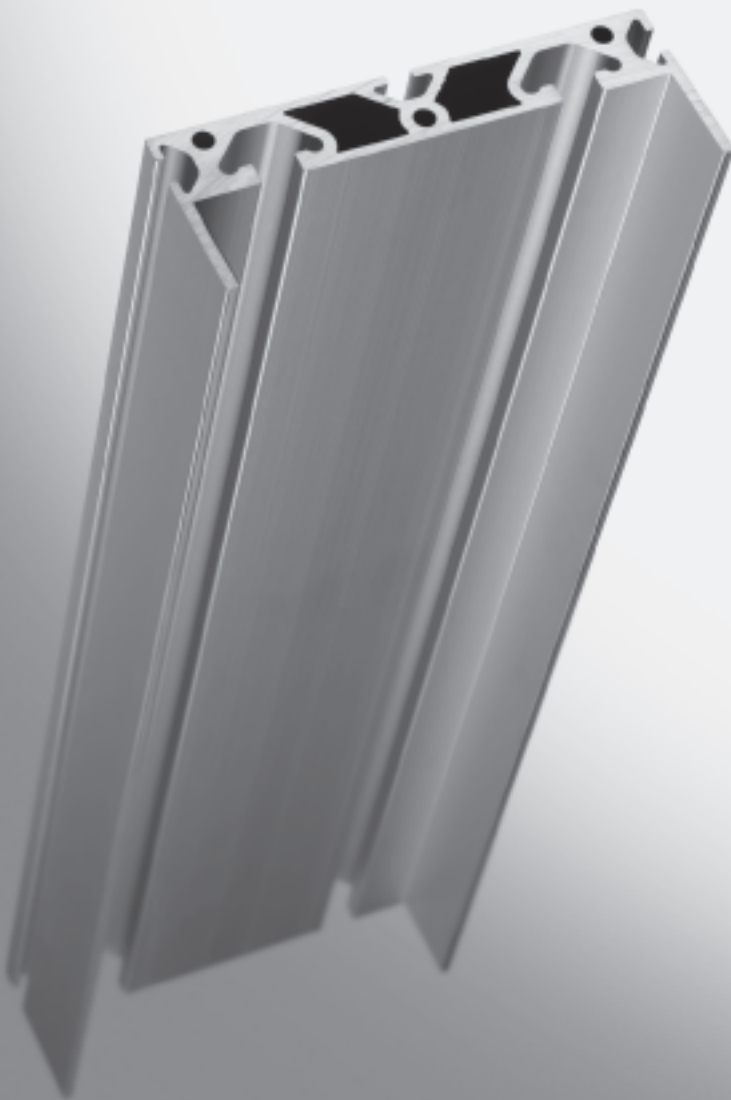
Powder coated steel

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 <sup>1)</sup>	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.



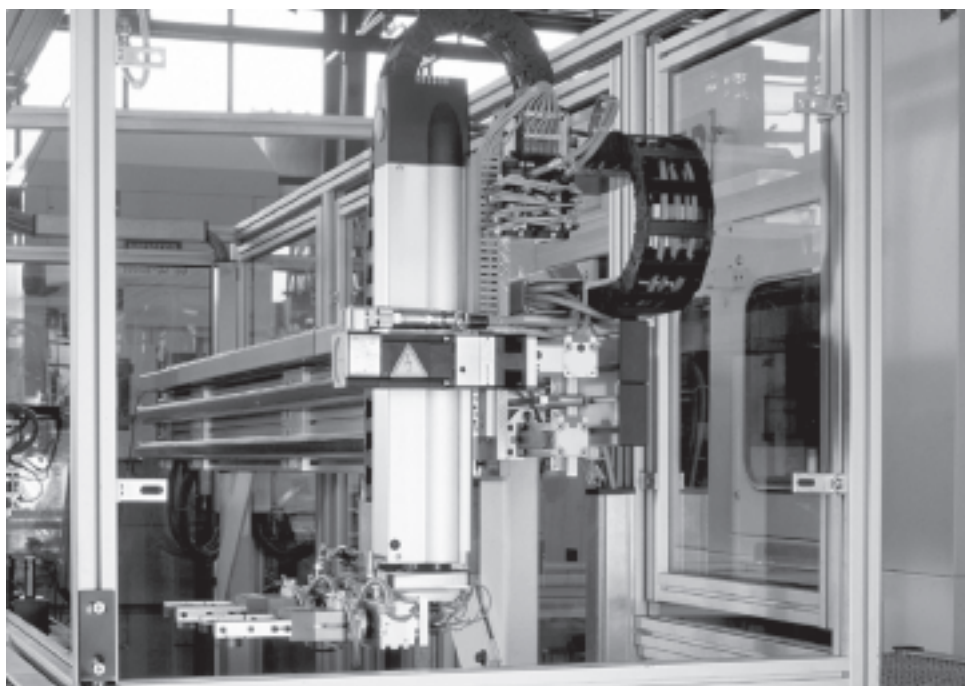
- Reliable guidance
- Rapid assembly and dismantling
- Low space requirement

## Installation components, for long 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. They are mainly used for long strokes in gantries and cantilever axes for connecting protective trunking for the drives along the X- and Y-axes.

All the parts required for the combination are included in the scope of delivery



#### Base profile

HMA



The base profile for protective trunking is ideally suited for the requirements of handling and assembly technology thanks to its lightweight, compact and functional design. This guarantees fast assembly of the protective trunking and profile via slot nut connections.

#### Installation kits

HMIXB-RP/FP



The installation kits permit easy and fast attachment of the protective trunking to the connectors of the multi-axis modular system. The kits are harmonised with the connectors for each standard so that the moving part of the protective trunking is always horizontal.

HMIXF-RP/FP



This means that cables and tubing are optimally routed over long strokes.

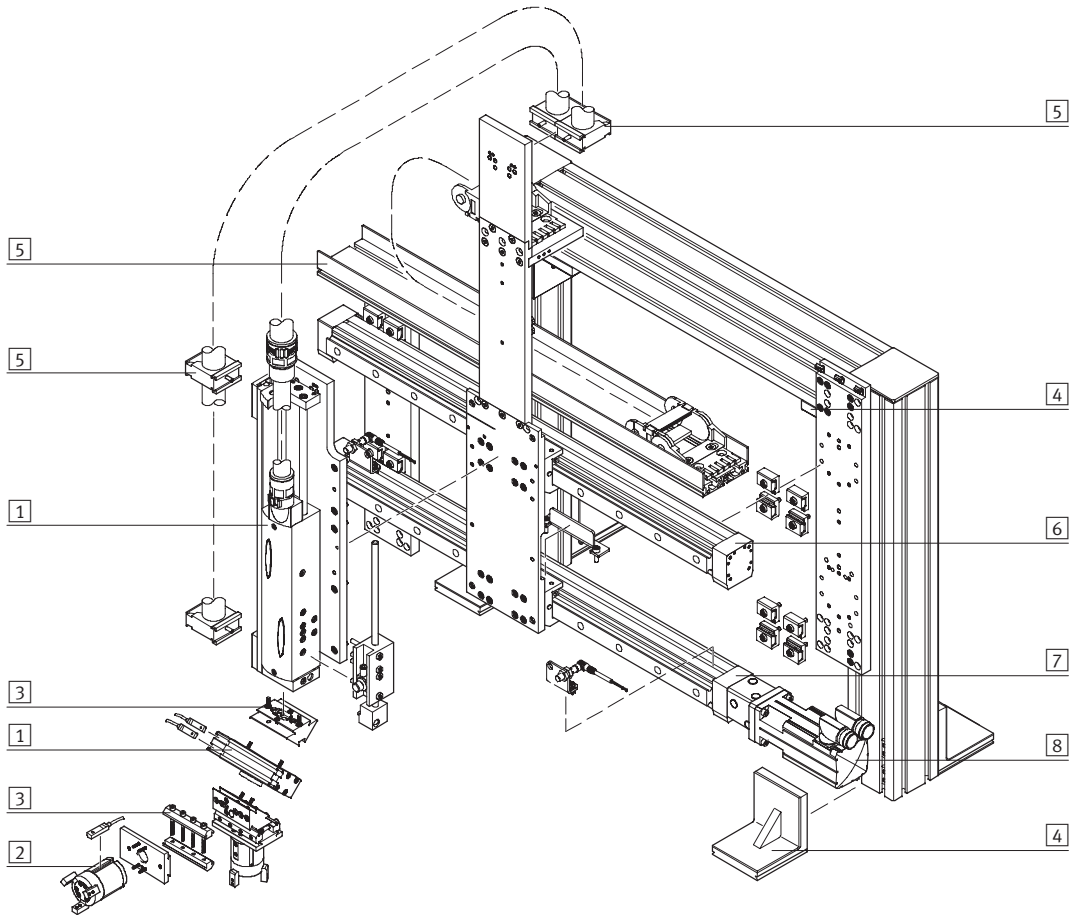
#### Accessories

- Slot nuts
- Protective trunking (IGUS/KABELSCHLEPP)

# Installation components, for long strokes

System example





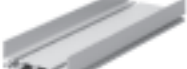


## System product for handling and assembly technology



System elements and accessories		
	Brief description	→ Page/Internet
1	Drives	Wide range of combinations options within handling and assembly technology drive
2	Grippers	Wide range of combination options within handling and assembly technology gripper
3	Adapters	For drive/drive and drive/gripper combinations adapter kit
4	Basic components	Profiles and profile connections as well as profile/drive connections basic component
5	Installation components	For achieving a clear-cut, safe layout of electrical cables and tubing installation component
6	Passive guide axes	To increase force and torque capacity in multi-axis modular systems axes
7	Axes	Wide range of combinations options within handling and assembly technology axes
8	Motors	Servo and stepper motors, with or without gearing motor







# Installation components, for long strokes

Selection aid

Installation kits and base profiles	Protective trunking			KABELSCHLEPP MC series		
	IGUS E2 medium series 240					
	Energy chain			Energy chain		
	240.03.075	240.05.100	240.07.100	0320.40-01-077	0320.60-01-100	0320.80-01-100
	Connecting piece			Connecting piece		
	2030.12.PZB	2050.12.PZB	2070.12.PZB	FA/MA	FA/MA	FA/MA
	Internal divider			Internal divider		
	211	211	211	TS 0-n <sub>T</sub> 2	TS 0-n <sub>T</sub> 2	TS 0-n <sub>T</sub> 2
Installation kit HMIZB-E03 	→ 22	-	-	→ 22	-	-
Installation kit HMIZF-E03-DA18 	→ 22	-	-	→ 22	-	-
Installation kit HMIZF-E03-DA25 	→ 22	-	-	→ 22	-	-
Base profile HMIA-E05 	-	→ 23	-	-	→ 23	-
Base profile HMIA-E07 	-	-	→ 23	-	-	→ 23
Installation kit HMIO-AP-1 	-	→ 23	-	-	→ 23	-
Installation kit HMIO-AP-2 	-	→ 23	-	-	→ 23	-

# Installation components, for long strokes

Selection aid

Installation kits and base profiles	Protective trunking			KABELSCHLEPP MC series		
	IGUS E2 medium series 240			Energy chain		
	Energy chain			Energy chain		
	240.03.075	240.05.100	240.07.100	0320.40-01-077	0320.60-01-100	0320.80-01-100
	Connecting piece			Connecting piece		
	2030.12.PZB	2050.12.PZB	2070.12.PZB	FA/MA	FA/MA	FA/MA
	Internal divider			Internal divider		
	211	211	211	TS 0-n <sub>T</sub> 2	TS 0-n <sub>T</sub> 2	TS 0-n <sub>T</sub> 2
Installation kit HMIXF-RP/FP 	-	-	→ 23	-	-	→ 23
Installation kit HMIYF-RF/DL25 	-	-	→ 26	-	-	→ 26
Installation kit HMIYF-RF/DL40 	-	-	→ 26	-	-	→ 26
Installation kit HMIM-LP 	→ 24			→ 24		
Installation kit HMID-LP 	→ 24			→ 24		
Installation kit HMIXB-RP/FP 	→ 25			→ 25		

# Installation components, for long strokes

Technical data

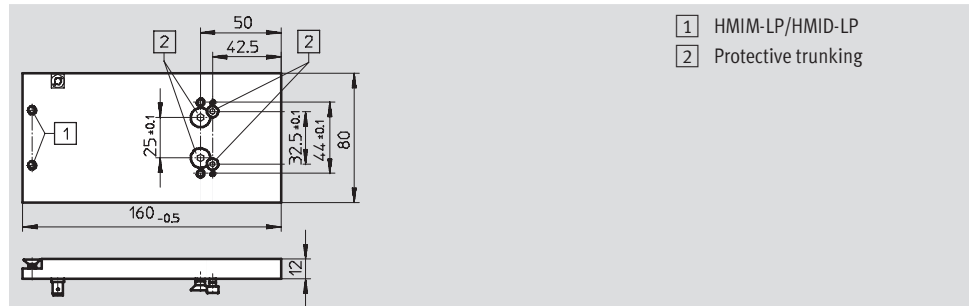


## Installation kit HMIZB-E03

For connecting protective trunking and protective conduits to the Z-axis in linear gantries

- Cantilever axes DGEA
- Spindle axes DGE
- Linear modules HMP and HMPL
- Mini slides SLT
- Fastening material and earthing kits are included in delivery

Material:  
Anodised aluminium  
Free of copper, PTFE and silicone



Technical data and ordering codes			
CRC <sup>1)</sup>	Weight	Part No.	Type
	[g]		
2	410	539 365	HMIZB-E03

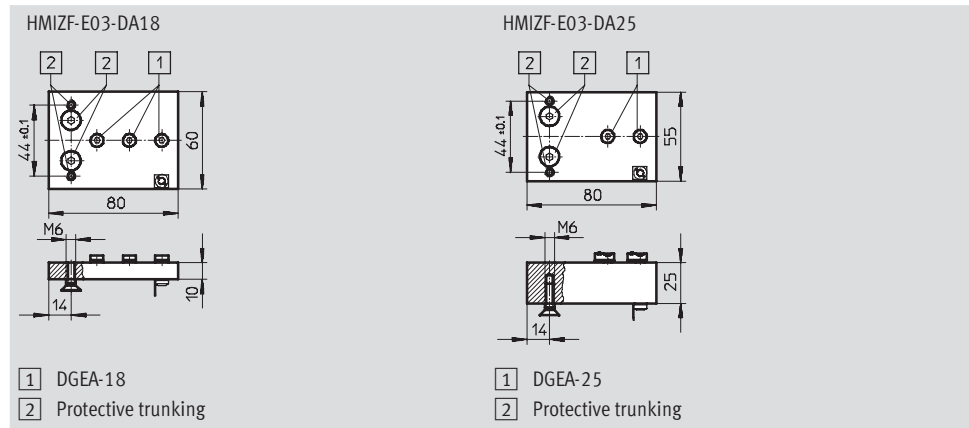
1) Corrosion resistance class 2 according to Festo standard 940 070  
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

## Installation kit HMIZF-E03

For connecting protective trunking to the Z-axis in gantries

- Cantilever axes DGEA
- Fastening material and earthing kits are included in delivery

Material:  
Anodised aluminium  
Free of copper, PTFE and silicone



Technical data and ordering codes			
CRC <sup>1)</sup>	Weight	Part No.	Type
	[g]		
2	130	539 370	HMIZF-E03-DA18
	300	539 371	HMIZF-E03-DA25

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 normal industrial environment or media such as coolants or lubricating agents.



# Installation components, for long strokes

Technical data



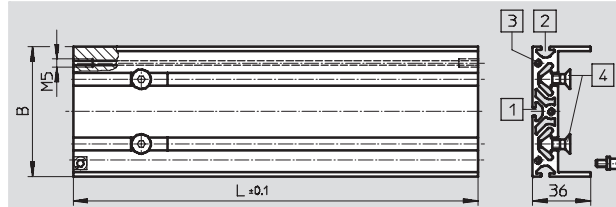
## Base profile HMIA



For mounting and routing the protective trunking in gantries along the X- and Y-axes

- Fastening material and earthing kits are included in delivery

Material:  
Anodised aluminium  
Free of copper, PTFE and silicone



- 1 HMIXB-RP/FP
- 2 HMVM-LP-DL25/40, HMVD-LP-DL25/40
- 3 HMVV-RP/FP
- 4 Protective trunking

The length L depends on the stroke length and must be specified with the order (L<sub>max.</sub> = 3 m).

### Technical data and ordering codes

B [mm]	CRC <sup>1)</sup>	Weight per metre [g]	Part No.	Type
80	2	2120	539 378	HMIA-E05
100		2340	539 379	HMIA-E07

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 normal industrial environment or media such as coolants or lubricating agents.

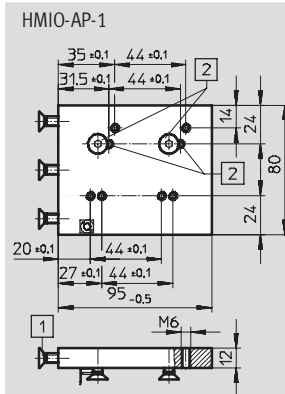
## Installation kit HMIO-AP



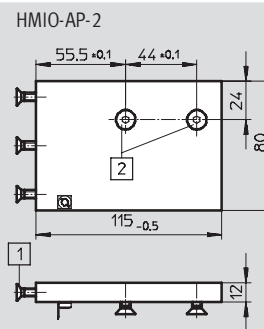
For mounting the protective trunking along the Y-axis in linear gantries

- Fastening material and earthing kits are included in delivery

Material:  
Anodised aluminium  
Free of copper, PTFE and silicone



- 1 HMVS-DL25, HMVS-DL40  
HMIM-LD  
HMID-LD
- 2 Protective trunking



- 1 HMVS-DL40  
HMID-LD
- 2 Protective trunking

### Technical data and ordering codes

CRC <sup>1)</sup>	Weight [g]	Part No.	Type
2	240	539 366	HMIO-AP-1
	300	540 121	HMIO-AP-2

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 normal industrial environment or media such as coolants or lubricating agents.

# Installation components, for long strokes

Technical data

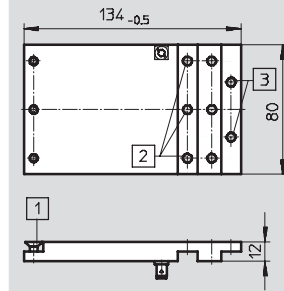


## Installation kit HMIM-LP

Extension plate for linear gantries for height compensation in mono systems and systems with end position controller SPC-11

- Fastening material and earthing kits are included in delivery

Material:  
Anodised aluminium  
Free of copper, PTFE and silicone



- 1 HMVS-DL25, HMVS-DL40
- 2 HMIO-AP-1
- 3 HMIZB-E03

Technical data and ordering codes			
CRC <sup>1)</sup>	Weight	Part No.	Type
	[g]		
2	300	539 364	HMIM-LP

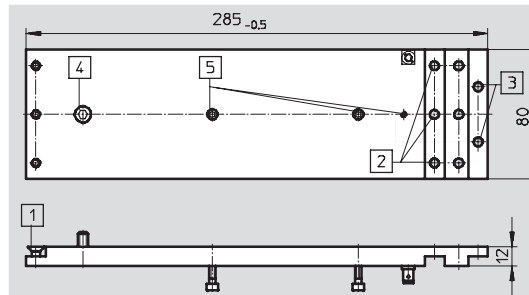
1) Corrosion resistance class 2 according to Festo standard 940 070  
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

## Installation kit HMID-LP

Extension plate for linear gantries for height compensation in duo systems

- Fastening material and earthing kits are included in delivery

Material:  
Anodised aluminium  
Free of copper, PTFE and silicone



- 1 HMVS-DL25, HMVS-DL40
- 2 HMIO-AP-1, HMIO-AP-2
- 3 HMIZB-E03
- 4 HMVZ
- 5 MPV-E/A08-M8, MPV-E/A12-M8

Technical data and ordering codes			
CRC <sup>1)</sup>	Weight	Part No.	Type
	[g]		
2	700	539 363	HMID-LP

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 normal industrial environment or media such as coolants or lubricating agents.

# Installation components, for long strokes

Technical data

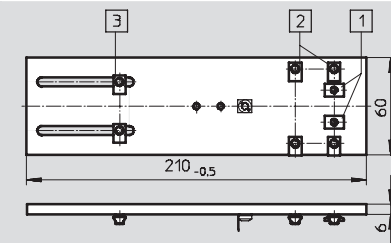
## Installation kit HMIXB-RP/FP



For mounting the base profile  
HMIA-E07 along the X-axis in  
3-dimensional gantries

- Fastening material and earthing kits are included in delivery

Material:  
Anodised aluminium  
Free of copper, PTFE and silicone



- 1 DGE-25
- 2 DGE-40
- 3 HMIA-E07

### Technical data and ordering codes

CRC <sup>1)</sup>	Weight [g]	Part No.	Type
2	200	539 654	HMIXB-RP/FP

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 normal industrial environment or media such as coolants or lubricating agents.

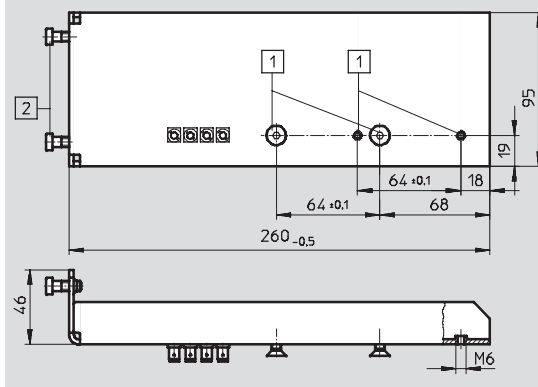
## Installation kit HMIXF-RP/FP



For mounting the protective trunking  
along the X-axis in 3-dimensional  
gantries

- Fastening material and earthing kits are included in delivery

Material:  
Galvanised steel  
Free of copper, PTFE and silicone



- 1 Protective trunking
- 2 HMV-VP/FP

### Technical data and ordering codes

CRC <sup>1)</sup>	Weight [g]	Part No.	Type
2	330	539 658	HMIXF-RP/FP

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 normal industrial environment or media such as coolants or lubricating agents.

# Installation components, for long strokes

Technical data

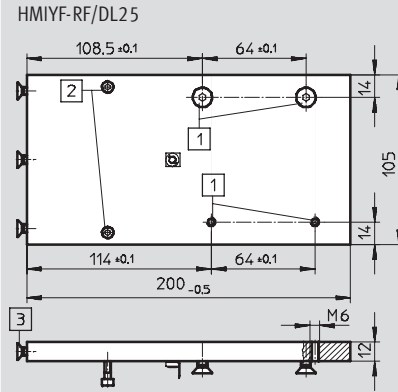


## Installation kit HMIYF-RF/DL

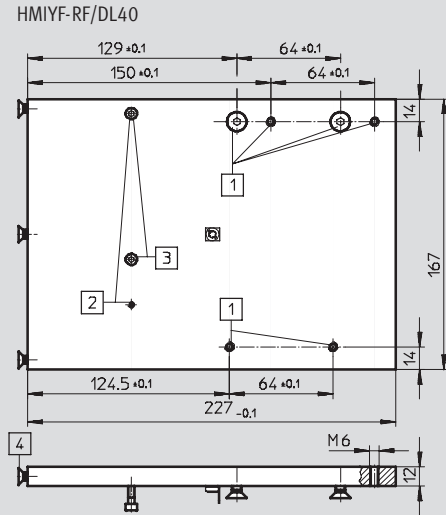
For mounting the protective trunking along the Y-axis in 3-dimensional gantries

- Fastening material and earthing kits are included in delivery

Material:  
Anodised aluminium  
Free of copper, PTFE and silicone



- 1 Protective trunking
- 2 MPV-E/A08-M8
- 3 HMVS-DL25



- 1 Protective trunking
- 2 MPV-E/A12-M8
- 3 MPV-E/A08-M8
- 4 HMVS-DL40

Technical data and ordering codes			
CRC <sup>1)</sup>	Weight	Part No.	Type
	[g]		
2	700	539 659	HMIYF-RF/DL25
	1200	539 660	HMIYF-RF/DL40

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 normal industrial environment or media such as coolants or lubricating agents.