



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

# Multi-axis modular system

Key features



## The concept






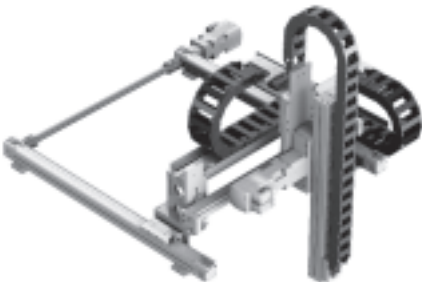
The multi-axis modular system for handling and assembly technology includes basic, connection and installation components for assembling multi-axis systems. These standardised axis combinations are the product of over ten years experience in the designing

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

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

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

## Selection matrix

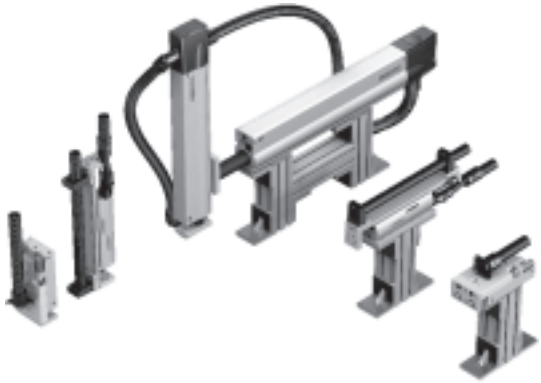
Pick & place	Linear gantries	3-Dimensional gantries
Pneumatic		Pneumatic/electrical
 <p>→ 5 / 3.3-40</p>	 <p>→ 5 / 3.3-58</p>	 <p>→ 5 / 3.3-72</p>
Pneumatic with end position controller SPC11 (Soft Stop)		
	 <p>→ 5 / 3.3-58</p>	
Electrical with spindle or toothed belt axis		
	 <p>→ 5 / 3.3-58</p>	 <p>→ 5 / 3.3-72</p>

# Multi-axis modular system

Key features

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## Pick & place



## Linear gantries



## 3-Dimensional gantries



System components  
Multi-axis modular system

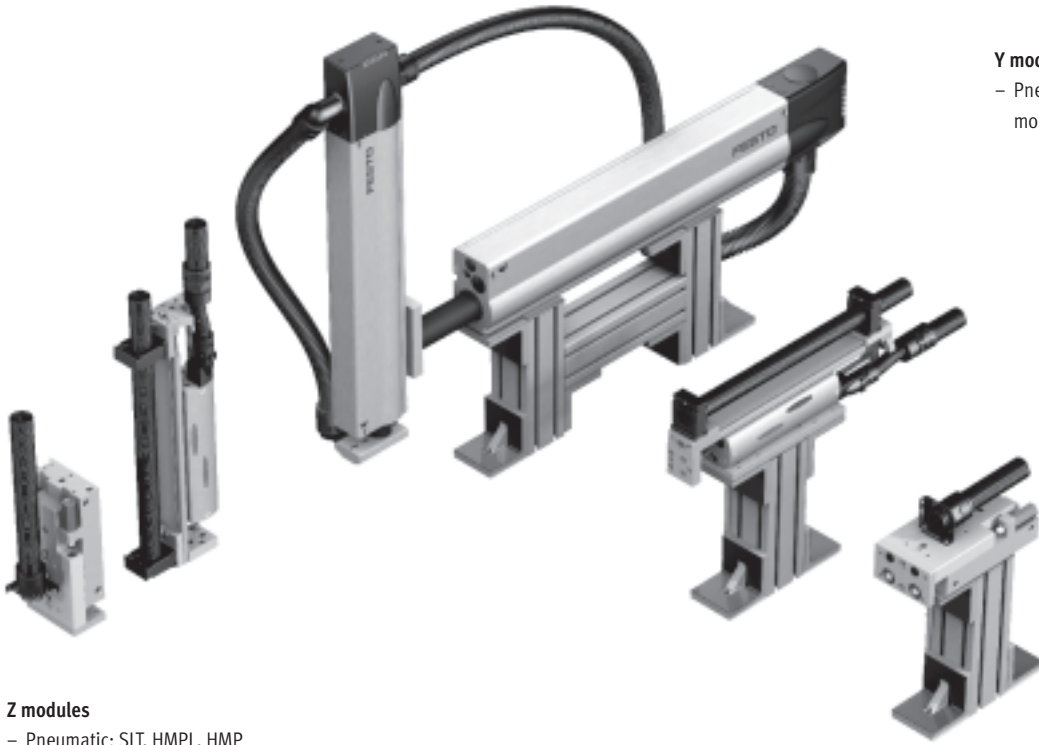
3.3

# Pick & place

Key features



## Y and Z modules



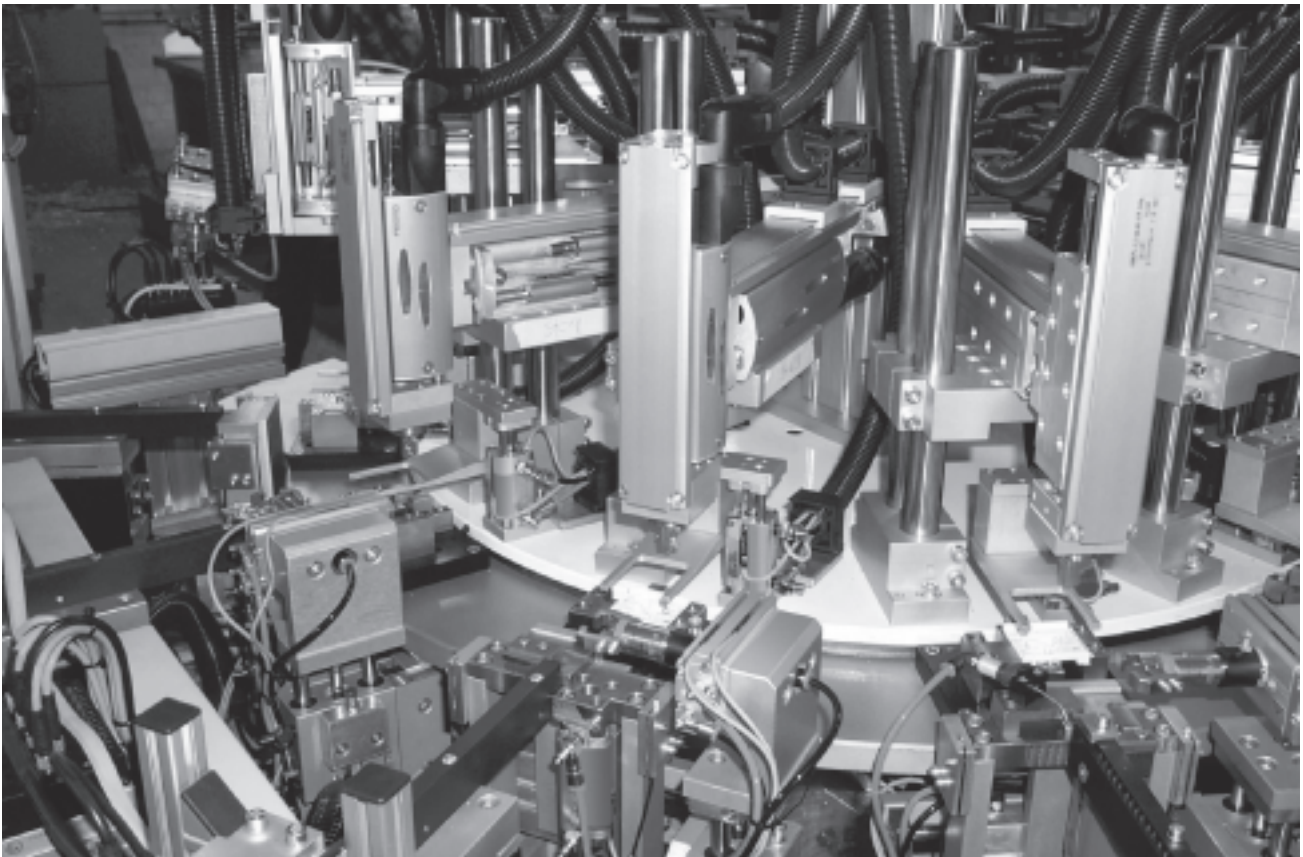
### Y modules

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

### Z modules

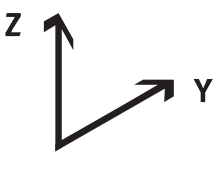





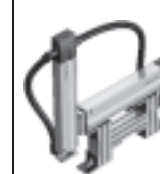
- Pneumatic: SLT, HMPL, HMP

## Application



# Pick & place





Product range overview

Selection aid						
Function	DGSL/DGSL	SLT/SLT	HMPL/HMPL	HM.../DGSL, SLT	HMP.../HMPL	HM.../HMP
						
Y-axis	DGSL	SLT	HMPL	HMP, HME	HMP, HME	HMP, HME
Drive function	Pneumatic					
Options	Shock absorber, adjustable/non-adjustable cushioning	Shock absorber, adjustable/non-adjustable cushioning	Intermediate position, clamping cartridge	Intermediate position		
Z-axis	DGSL	SLT	HMPL	DGSL, SLT	HMPL	HMP
Drive function	Pneumatic					
Options	Shock absorber, adjustable/non-adjustable cushioning	Shock absorber, adjustable/non-adjustable cushioning	Intermediate position, clamping cartridge	Shock absorber, adjustable/non-adjustable cushioning	Intermediate position, clamping cartridge	
Working load [kg]						
	1	■	■	■	■	■
	2	■	■	■	■	■
	3	■	■	■	■	■
	4	-	-	-	■	■
	6	-	-	-	■	■
	10	-	-	-	-	■
→ Page	5 / 3.3-42					

## Pick & place





Selection aid for basic, connection and installation components

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Y-axis				
Function	DGSL/DGSL		SLT/SLT	HMPL/HMPL
				
Pneumatic drives	Stroke [mm]	Type		
DGSL-16	30 ... 150	HMBSY-DGSL-1 → 5 / 3.3-46	–	–
DGSL-20	30 ... 100	HMBSY-DGSL-2 → 5 / 3.3-46	–	–
	125 ... 200	HMBSY-DGSL-3 → 5 / 3.3-46	–	–
DGSL-25	30 ... 100	HMBSY-DGSL-4 → 5 / 3.3-46	–	–
	125 ... 200	HMBSY-DGSL-5 → 5 / 3.3-46	–	–
SLT-16	30 ... 150	–	HMBSY-SLT-1 → 5 / 3.3-47	–
SLT-20	30 ... 100	–	HMBSY-SLT-2 → 5 / 3.3-47	–
	125 ... 200	–	HMBSY-SLT-3 → 5 / 3.3-47	–
SLT-25	30 ... 100	–	HMBSY-SLT-4 → 5 / 3.3-47	–
	125 ... 200	–	HMBSY-SLT-5 → 5 / 3.3-47	–
HMPL-16	50 ... 160	–	–	HMBSY-HMPL-1 HMBSY-HMPL-2 → 5 / 3.3-48
HMPL-20	50 ... 200	–	–	HMBSY-HMPL-3 HMBSY-HMPL-4 → 5 / 3.3-48

## 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	Stroke [mm]	Type		
HMP-16	150 ... 250	HMBSY-HMP-1 → 5 / 3.3-49	HMBSY-HMP-1 → 5 / 3.3-49	–
	320	HMBSY-HMP-2 → 5 / 3.3-49	HMBSY-HMP-2 → 5 / 3.3-49	–
HMP-20	100 ... 250	HMBSY-HMP-3 → 5 / 3.3-49	HMBSY-HMP-3 → 5 / 3.3-49	HMBSY-HMP-3 → 5 / 3.3-49
	320 ... 400	HMBSY-HMP-4 → 5 / 3.3-49	HMBSY-HMP-4 → 5 / 3.3-49	HMBSY-HMP-4 → 5 / 3.3-49
HMP-25	100 ... 200	HMBSY-HMP-5 → 5 / 3.3-50	–	HMBSY-HMP-5 → 5 / 3.3-50
	250 ... 400	HMBSY-HMP-6 → 5 / 3.3-50	–	HMBSY-HMP-6 → 5 / 3.3-50
HMP-32	100 ... 200	–	–	HMBSY-HMP-7 → 5 / 3.3-50
	250 ... 400	–	–	HMBSY-HMP-8 → 5 / 3.3-50

### Selection example

Project engineering produced the following drive combination:

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

#### Step 1

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

Y-axis: HMBSY-HMP-1  
→ 5 / 3.3-49  
Z-axis: HMBSZ-HMPL-3 or 4  
→ 5 / 3.3-55

#### 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





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Z-axis				
Function	DGSL/DGSL	SLT/SLT	HMPL/HMPL	HMP, HME/DGSL
				
Pneumatic drives	Type			
DGSL-10	HMBSZ-DGSL-1 → 5 / 3.3-51	-	-	-
DGSL-16	HMBSZ-DGSL-2 → 5 / 3.3-51	-	-	HMBSZ-DGSL-4 → 5 / 3.3-52
DGSL-20	HMBSZ-DGSL-3 → 5 / 3.3-51	-	-	HMBSZ-DGSL-5 → 5 / 3.3-52
DGSL-25	-	-	-	HMBSZ-DGSL-6 → 5 / 3.3-52
SLT-10	-	HMBSZ-SLT-1 → 5 / 3.3-53	-	-
SLT-16	-	HMBSZ-SLT-2 → 5 / 3.3-53	-	-
SLT-20	-	HMBSZ-SLT-3 → 5 / 3.3-53	-	-
SLT-25	-	-	-	-
HMPL-12	-	-	HMBSZ-HMPL-1 HMBSZ-HMPL-2	-
HMPL-16	-	-	→ 5 / 3.3-55	-
HMPL-20	-	-	-	-
HMP-16	-	-	-	-
HMP-20	-	-	-	-
HMP-25	-	-	-	-



## Pick & place

Selection aid for basic, connection and installation components

Z-axis			
Function	HMP, HME/SLT	HMP, HME/HMPL	HMP, HME/HMP
			
Pneumatic drives	Type		
SLT-16	HMBSZ-SLT-4 → 5 / 3.3-54	–	–
SLT-20	HMBSZ-SLT-5 → 5 / 3.3-54	–	–
SLT-25	HMBSZ-SLT-6 → 5 / 3.3-54	–	–
HMPL-16	–	HMBSZ-HMPL-3 HMBSZ-HMPL-4 → 5 / 3.3-55	–
HMPL-20	–	–	–
HMP-16	–	–	HMBSZ-HMP-1 → 5 / 3.3-56
HMP-20	–	–	HMBSZ-HMP-2 → 5 / 3.3-56
HMP-25	–	–	HMBSZ-HMP-3 → 5 / 3.3-56

### Selection example

Project engineering produced the following drive combination:

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

#### Step 1

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

Y-axis: HMBSY-HMP-1  
→ 5 / 3.3-49  
Z-axis: HMBSZ-HMPL-3 or 4  
→ 5 / 3.3-55

#### 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

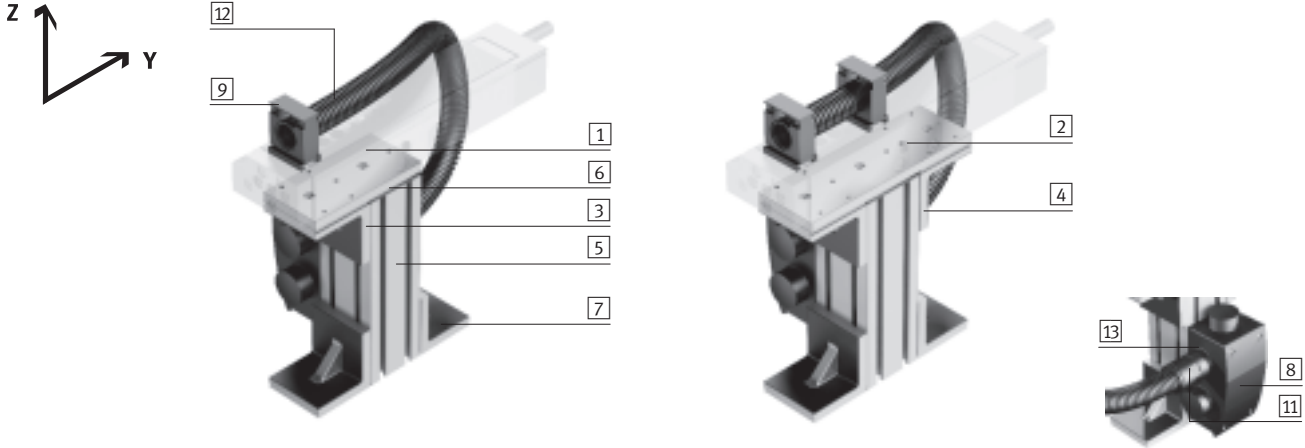
Technical data on the basic, connection and installation components can be found on the specified pages. Further accessories for the selected drives, for example proximity sensors, centring sleeves, etc. are documented with the drives.

# 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	125 ... 200		DGSL-25						
Stroke [mm]		30 ... 150	30 ... 100	125 ... 200		30 ... 100	125 ... 200					
Item	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	Part No.	Type	Part No.	Type	→ Page
[1]	1	539 968 HMVY-1		539 969 HMVY-2		–		539 969 HMVY-2		–		5 / 3.3-124
[2]	1	–		–		539 970 HMVY-3		–		539 970 HMVY-3		
[3]	1	175 967 HMBV-ND		175 967 HMBV-ND		–		175 967 HMBV-ND		–		5 / 3.3-108
[4]	2	–		–		175 967 HMBV-ND		–		175 967 HMBV-ND		
[5]	1 <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		5 / 3.3-105
[6]	1	175 965 HMBSA-80/80		175 965 HMBSA-80/80		175 965 HMBSA-80/80		175 965 HMBSA-80/80		175 965 HMBSA-80/80		5 / 3.3-105
[7]	2	175 951 HMBF-DB		175 951 HMBF-DB		175 951 HMBF-DB		175 951 HMBF-DB		175 951 HMBF-DB		5 / 3.3-107
[8]	1	175 126 HMZV		175 126 HMZV		175 126 HMZV		175 126 HMZV		175 126 HMZV		5 / 3.3-143
[9]	1	192 289 MKRS-16,5-B 548 803 ZBV-M5-7		192 290 MKRS-23-B 548 804 ZBV-M5-9		192 290 MKRS-23-B 548 804 ZBV-M5-9		192 290 MKRS-23-B 548 804 ZBV-M5-9		192 290 MKRS-23-B 548 804 ZBV-M5-9		5 / 3.3-149
[11]	1	177 571 MKRV-16,5-PG-16		177 572 MKRV-23-PG-21		177 572 MKRV-23-PG-21		177 572 MKRV-23-PG-21		177 572 MKRV-23-PG-21		5 / 3.3-144
[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		177 567 MKR-23-PG-21		5 / 3.3-142
[13]	1	193 949 MKA-PG-29-PG-16-KU		177 595 MKA-PG-29-PG-21		177 595 MKA-PG-29-PG-21		177 595 MKA-PG-29-PG-21		177 595 MKA-PG-29-PG-21		5 / 3.3-147

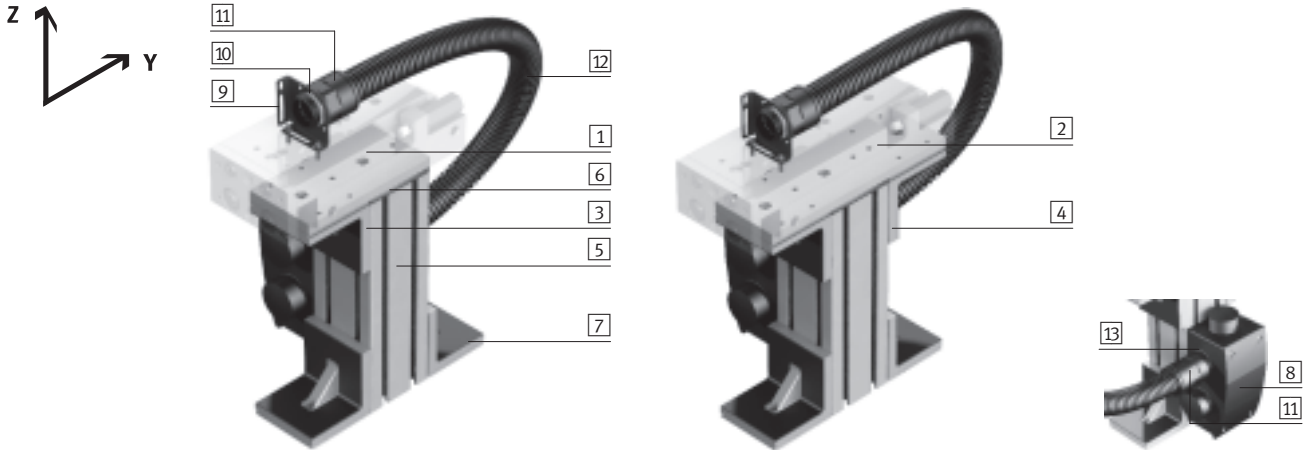
1) Height max. 500 mm

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		
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	→ Page
1	1	539 968	HMVY-1	539 969	HMVY-2	-		539 969	HMVY-2	-		5 / 3.3-124
2	1	-		-		539 970	HMVY-3	-		539 970	HMVY-3	
3	1	175 967	HMBV-ND	175 967	HMBV-ND	-		175 967	HMBV-ND	-		5 / 3.3-108
4	2	-		-		175 967	HMBV-ND	-		175 967	HMBV-ND	
5	1 <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	5 / 3.3-105
6	1	175 965	HMBSA-80/80	175 965	HMBSA-80/80	175 965	HMBSA-80/80	175 965	HMBSA-80/80	175 965	HMBSA-80/80	5 / 3.3-105
7	2	175 951	HMBF-DB	175 951	HMBF-DB	175 951	HMBF-DB	175 951	HMBF-DB	175 951	HMBF-DB	5 / 3.3-107
8	1	175 126	HMZV	175 126	HMZV	175 126	HMZV	175 126	HMZV	175 126	HMZV	5 / 3.3-143
9	1	193 124	HMZAS-PG-21	193 124	HMZAS-PG-21	193 124	HMZAS-PG-21	193 124	HMZAS-PG-21	193 124	HMZAS-PG-21	5 / 3.3-150
10	1	177 599	MKM-PG-21	177 599	MKM-PG-21	177 599	MKM-PG-21	177 599	MKM-PG-21	177 599	MKM-PG-21	5 / 3.3-149
11	2	177 572	MKRV-23-PG-21	177 572	MKRV-23-PG-21	177 572	MKRV-23-PG-21	177 572	MKRV-23-PG-21	177 572	MKRV-23-PG-21	5 / 3.3-144
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	5 / 3.3-142
13	1	177 595	MKA-PG-29-PG-21	177 595	MKA-PG-29-PG-21	177 595	MKA-PG-29-PG-21	177 595	MKA-PG-29-PG-21	177 595	MKA-PG-29-PG-21	5 / 3.3-147

1) Height max. 500 mm

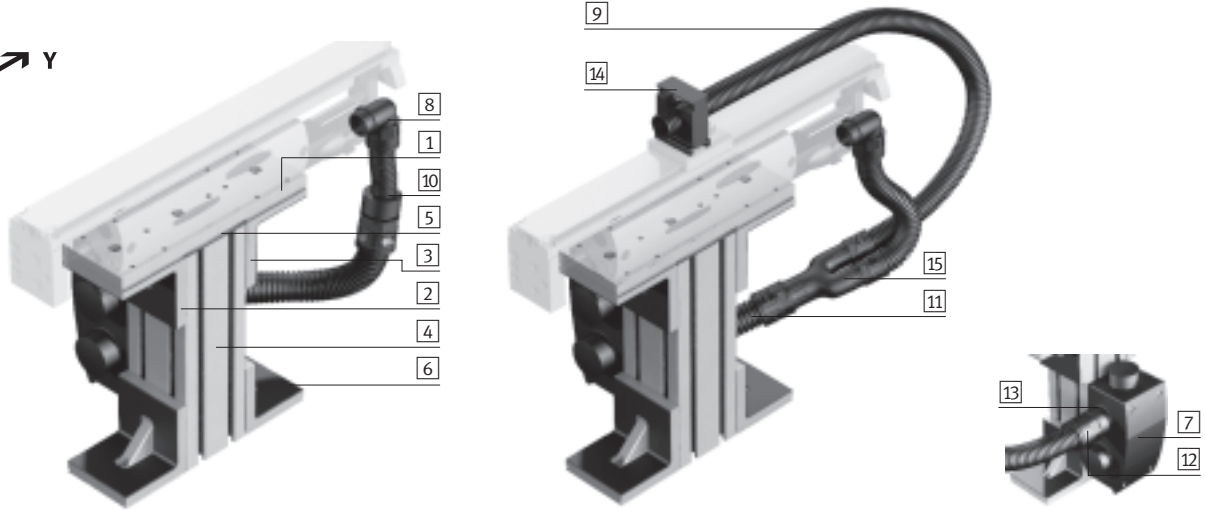
2) Length depends on the stroke of the drive

# 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		HMPL-20		HMPL-20	
	without intermediate position		with intermediate position		without intermediate position		with intermediate position	
Item	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	→ Page
1	1	539 968	HMVY-1	539 968	HMVY-1	539 970	HMVY-3	5 / 3.3-124
2	1	175 967	HMBV-ND	175 967	HMBV-ND	-	-	5 / 3.3-108
3	2	-	-	-	-	175 967	HMBV-ND	5 / 3.3-105
4	1 <sup>1)</sup>	175 958	HMBS-80/80	175 958	HMBS-80/80	175 958	HMBS-80/80	5 / 3.3-105
5	1	175 965	HMBSA-80/80	175 965	HMBSA-80/80	175 965	HMBSA-80/80	5 / 3.3-107
6	2	175 951	HMBF-DB	175 951	HMBF-DB	175 951	HMBF-DB	5 / 3.3-143
7	1	175 126	HMZV	175 126	HMZV	175 126	HMZV	5 / 3.3-144
8	1	177 576	MKRL-16,5-PG-16	177 576	MKRL-16,5-PG-16	177 576	MKRL-16,5-PG-16	5 / 3.3-142
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	5 / 3.3-146
10	1	194 321	MKRT-23-16,5	-	-	194 321	MKRT-23-16,5	5 / 3.3-142
11	1 <sup>2)</sup>	177 567	MKR-23-PG-21	177 567	MKR-23-PG-21	177 567	MKR-23-PG-21	5 / 3.3-144
12	1	177 572	MKRV-23-PG-21	177 572	MKRV-23-PG-21	177 572	MKRV-23-PG-21	5 / 3.3-147
13	1	177 595	MKA-PG-29-PG-21	177 595	MKA-PG-29-PG-21	177 595	MKA-PG-29-PG-21	5 / 3.3-149
14	1 <sup>3)</sup>	-	-	192 289	MKRS-16,5-B	-	-	5 / 3.3-146
15	1	-	-	193 946	MKY-PG-21-2PG-16	-	-	

1) Height max. 500 mm

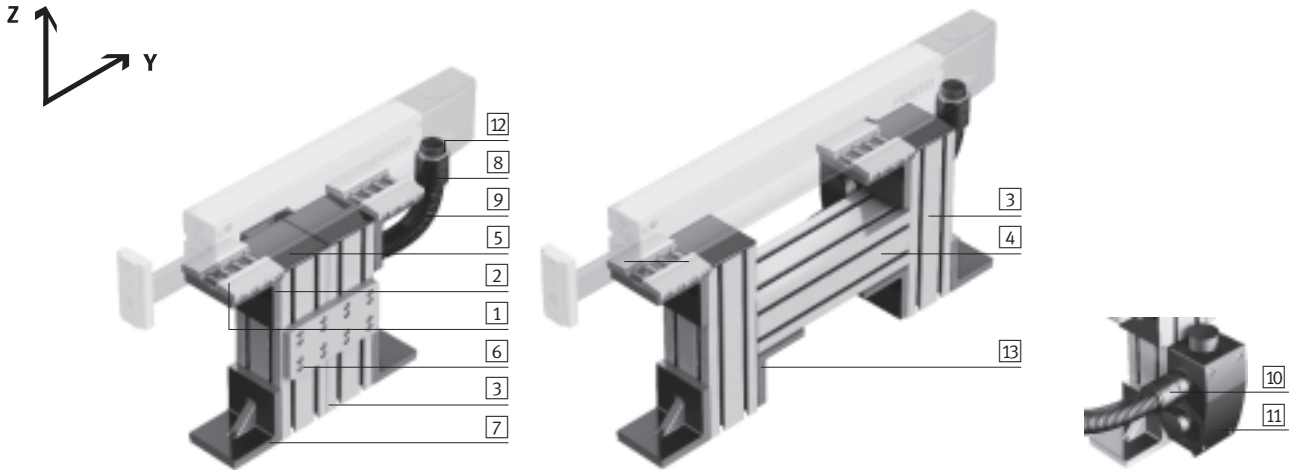
2) Length depends on the stroke of the drive, 2 conduits are required with an intermediate position.

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

# Pick & place

Y modules

## Linear modules HMP, HME



Bill of materials								
Type	HMBSY-HMP-1		HMBSY-HMP-2		HMBSY-HMP-3		HMBSY-HMP-4	→ Page
For drives	HMP-/HME-16				HMP-20			
Stroke [mm]	150 ... 250		320		100 ... 250		320 ... 400	
Item	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	
1	2	175 975	HMBK-WS	175 975	HMBK-WS	175 975	HMBK-WS	5 / 3.3-123
2	2	175 967	HMBV-ND	175 967	HMBV-ND	175 967	HMBV-ND	5 / 3.3-108
3	2 <sup>1)</sup>	175 958	HMBS-80/80	175 958	HMBS-80/80	175 958	HMBS-80/80	5 / 3.3-105
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	5 / 3.3-105
6	1	175 972	HMBSV	-		175 972	HMBSV	5 / 3.3-106
7	2	175 951	HMBF-DB	175 951	HMBF-DB	175 951	HMBF-DB	5 / 3.3-107
8	2 <sup>4)</sup>	177 572	MKRV-23-PG-21	177 572	MKRV-23-PG-21	177 573	MKRV-29-PG-29	5 / 3.3-144
9	1 <sup>3)4)</sup>	177 567	MKR-23-PG-21	177 567	MKR-23-PG-21	177 568	MKR-29-PG-29	5 / 3.3-142
10	1 <sup>4)</sup>	177 595	MKA-PG-29-PG-21	177 595	MKA-PG-29-PG-21	-		5 / 3.3-147
11	1 <sup>4)</sup>	175 126	HMZV	175 126	HMZV	175 126	HMZV	5 / 3.3-143
12	1 <sup>4)</sup>	177 599	MKM-PG-21	177 599	MKM-PG-21	177 600	MKM-PG-29	5 / 3.3-149
13	2	-		178 228	HMBSW	-	178 228 HMBSW	5 / 3.3-106

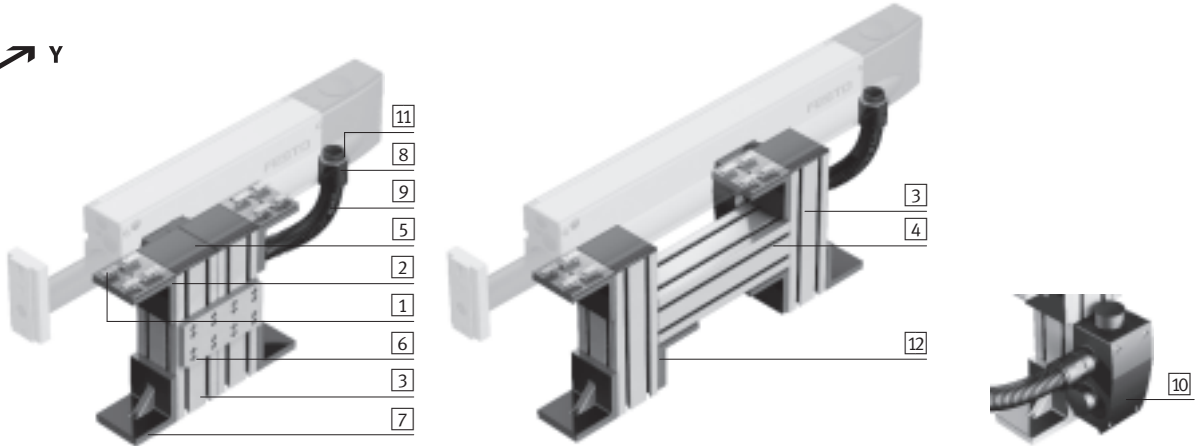
- 1) Height max. 500 mm
- 2) Length 250 mm
- 3) Length depends on the stroke of the drive
- 4) It is not suitable for use with linear module HME

# Pick & place

Y modules



## Linear modules HMP, HME



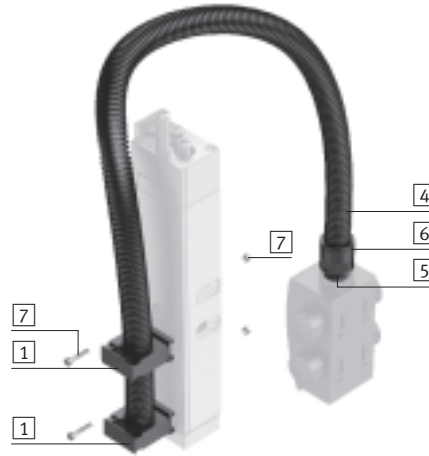
Bill of materials										
Type	HMBSY-HMP-5		HMBSY-HMP-6		HMBSY-HMP-7		HMBSY-HMP-8		→ Page	
For drives	HMP-/HME-25				HMP-32					
Stroke [mm]	100 ... 200		250 ... 400		100 ... 200		250 ... 400			
Item	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	Part No.		Type
[1]	2	175 970	HMBK-ND	175 970	HMBK-ND	175 970	HMBK-ND	175 970	HMBK-ND	5 / 3.3-122
[2]	2	175 967	HMBV-ND	175 967	HMBV-ND	175 967	HMBV-ND	175 967	HMBV-ND	5 / 3.3-108
[3]	2 <sup>1)</sup>	175 958	HMBS-80/80	175 958	HMBS-80/80	175 958	HMBS-80/80	175 958	HMBS-80/80	5 / 3.3-105
[4]	1 <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	175 965	HMBSA-80/80	5 / 3.3-105
[6]	1	175 972	HMBSV	–		175 972	HMBSV	–		5 / 3.3-106
[7]	2	175 951	HMBF-DB	175 951	HMBF-DB	175 951	HMBF-DB	175 951	HMBF-DB	5 / 3.3-107
[8]	2 <sup>4)</sup>	177 573	MKRV-29-PG-29	177 573	MKRV-29-PG-29	177 573	MKRV-29-PG-29	177 573	MKRV-29-PG-29	5 / 3.3-144
[9]	1 <sup>3)4)</sup>	177 568	MKR-29-PG-29	177 568	MKR-29-PG-29	177 568	MKR-29-PG-29	177 568	MKR-29-PG-29	5 / 3.3-142
[10]	1 <sup>4)</sup>	175 126	HMZV	175 126	HMZV	175 126	HMZV	175 126	HMZV	5 / 3.3-143
[11]	1 <sup>4)</sup>	177 600	MKM-PG-29	177 600	MKM-PG-29	177 600	MKM-PG-29	177 600	MKM-PG-29	5 / 3.3-149
[12]	2	–		178 228	HMBSW	–		178 228	HMBSW	5 / 3.3-106

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

# Pick & place

Z modules

## Mini slides DGSL



Bill of materials								
Type		HMBSZ-DGSL-1		HMBSZ-DGSL-2		HMBSZ-DGSL-3		
For drives		DGSL-10		DGSL-16		DGSL-20		
Item	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	
							→ Page	
1	2	192 289	MKRS-16,5-B M4x12 DIN 912	192 289	MKRS-16,5-B 548 803 ZBV-M5-7	192 290	MKRS-23-B 548 804 ZBV-M5-9	5 / 3.3-150
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	5 / 3.3-142
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	5 / 3.3-147
6	1	177 571	MKRV-16,5-PG-16	177 571	MKRV-16,5-PG-16	177 572	MKRV-23-PG-21	5 / 3.3-144
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

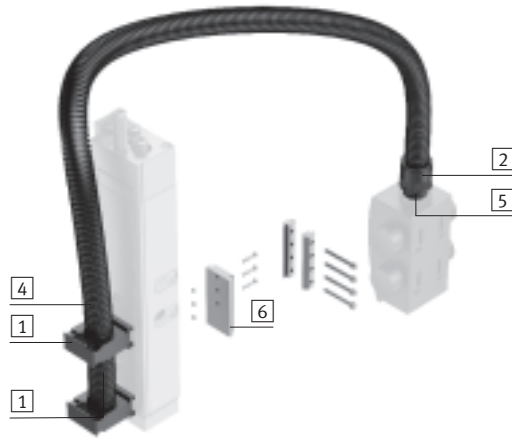
2) Centring sleeves are included in the scope of delivery of the mini slide DGSL.



# Pick & place

Z modules

## Mini slides DGSL



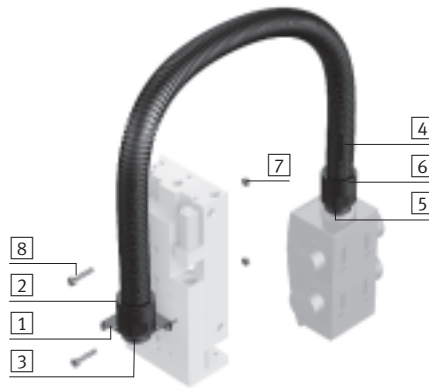
Bill of materials							
Type	HMBSZ-DGSL-4		HMBSZ-DGSL-5		HMBSZ-DGSL-6		→ Page
For drives	DGSL-16		DGSL-20		DGSL-25		
Item	Quantity	Part No.	Type	Part No.	Type	Part No.	
[1]	2	192 289 MKRS-16,5-B 548 803 ZBV-M5-7		192 290 MKRS-23-B 548 804 ZBV-M5-9		192 290 MKRS-23-B 548 804 ZBV-M5-9	5 / 3.3-149
[2]	1	177 571 MKRV-16,5-PG-16		177 572 MKRV-23-PG-21		177 572 MKRV-23-PG-21	5 / 3.3-144
[4]	1 <sup>1)</sup>	177 566 MKR-16,5-PG-16		177 567 MKR-23-PG-21		177 567 MKR-23-PG-21	5 / 3.3-142
[5]	1	193 949 MKA-PG-29-PG-16-KU		177 595 MKA-PG-29-PG-21		177 595 MKA-PG-29-PG-21	5 / 3.3-147
[6]	1	548 779 HMSV-49		548 779 HMSV-49		548 779 HMSV-49	5 / 3.2-10

1) Length depends on the stroke of the drive

# Pick & place

Z modules

## Mini slides SLT



Bill of materials								
Type		HMBSZ-SLT-1		HMBSZ-SLT-2		HMBSZ-SLT-3		
For drives		SLT-10		SLT-16		SLT-20		
Item	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	
							→ Page	
[1]	1	192 289	MKRS-16,5-B	193 124	HMZAS-PG-21	193 124	HMZAS-PG-21	5 / 3.3-150
[2]	1	-		177 572	MKRV-23-PG-21	177 572	MKRV-23-PG-21	5 / 3.3-144
[3]	1	-		177 599	MKM-PG-21	177 599	MKM-PG-21	5 / 3.3-149
[4]	1 <sup>1)</sup>	177 566	MKR-16,5-PG-16	177 567	MKR-23-PG-21	177 567	MKR-23-PG-21	5 / 3.3-142
[5]	1	193 949	MKA-PG-29-PG-16-KU	177 595	MKA-PG-29-PG-21	177 595	MKA-PG-29-PG-21	5 / 3.3-147
[6]	1	177 571	MKRV-16,5-PG-16	177 572	MKRV-23-PG-21	177 572	MKRV-23-PG-21	5 / 3.3-144
[7]	- <sup>2)</sup>	186 717	ZBH-7	150 927	ZBH-9	189 653	ZBH-12	-
[8]	2	M4x25 DIN 912		M5x30 DIN 912		M6x40 DIN 912		-

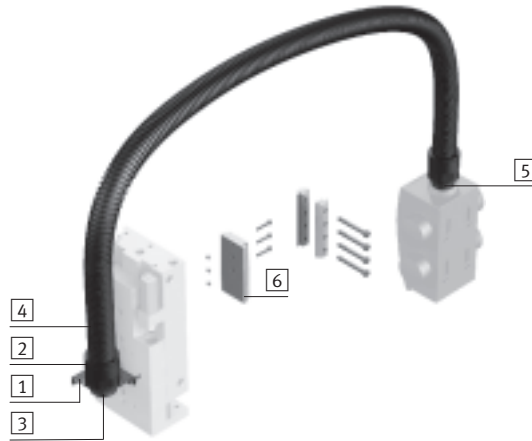
1) Length depends on the stroke of the drive

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

# Pick & place

Z modules

## Mini slides SLT



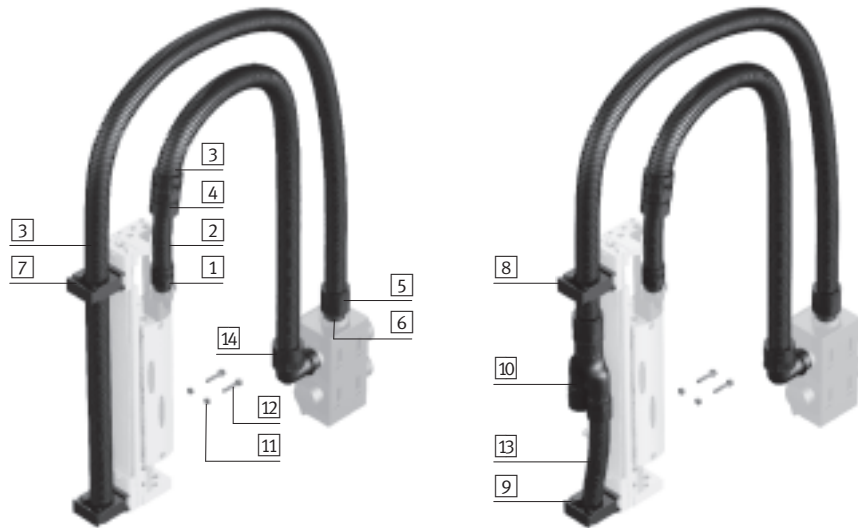
Bill of materials								
Type		HMBSZ-SLT-4		HMBSZ-SLT-5		HMBSZ-SLT-6		
For drives		SLT-16		SLT-20		SLT-25		
Item	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	→ Page
[1]	1	193 124	HMZAS-PG-21	193 124	HMZAS-PG-21	193 124	HMZAS-PG-21	5 / 3.3-150
[2]	2	177 572	MKRV-23-PG-21	177 572	MKRV-23-PG-21	177 572	MKRV-23-PG-21	5 / 3.3-144
[3]	1	177 599	MKM-PG-21	177 599	MKM-PG-21	177 599	MKM-PG-21	5 / 3.3-149
[4]	1 <sup>1)</sup>	177 567	MKR-23-PG-21	177 567	MKR-23-PG-21	177 567	MKR-23-PG-21	5 / 3.3-142
[5]	1	177 595	MKA-PG-29-PG-21	177 595	MKA-PG-29-PG-21	177 595	MKA-PG-29-PG-21	5 / 3.3-147
[6]	1	178 331	HMSV-36	178 332	HMSV-37	178 332	HMSV-37	5 / 3.2-11

1) Length depends on the stroke of the drive

# Pick & place

Z modules

## Linear modules HMPL



Bill of materials								
Type		HMBSZ-HMPL-1	HMBSZ-HMPL-2	HMBSZ-HMPL-3	HMBSZ-HMPL-4			
For drives		HMPL-12	HMPL-12	HMPL-16	HMPL-16			
		HMPL-16	HMPL-16	HMPL-20	HMPL-20			
		HMPL-20	HMPL-20					
		without intermediate position	with intermediate position	without intermediate position	with intermediate position			
Item	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	→ Page
1	1	177 571	MKRV-16,5-PG-16	177 571	MKRV-16,5-PG-16	177 571	MKRV-16,5-PG-16	5 / 3.3-144
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	5 / 3.3-142
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	5 / 3.3-146
5	1	177 572	MKRV-23-PG-21	177 572	MKRV-23-PG-21	177 572	MKRV-23-PG-21	5 / 3.3-144
6	2	177 595	MKA-PG-29-PG-21	177 595	MKA-PG-29-PG-21	177 595	MKA-PG-29-PG-21	5 / 3.3-147
7	2 <sup>2)</sup>	192 290	MKRS-23-B	-		192 290	MKRS-23-B	5 / 3.3-149
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	-		5 / 3.3-146
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	-		5 / 3.3-142
14	1	177 577	MKRL-23-PG-21	177 577	MKRL-23-PG-21	177 577	MKRL-23-PG-21	5 / 3.3-145

1) Length depends on the stroke of the drive

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

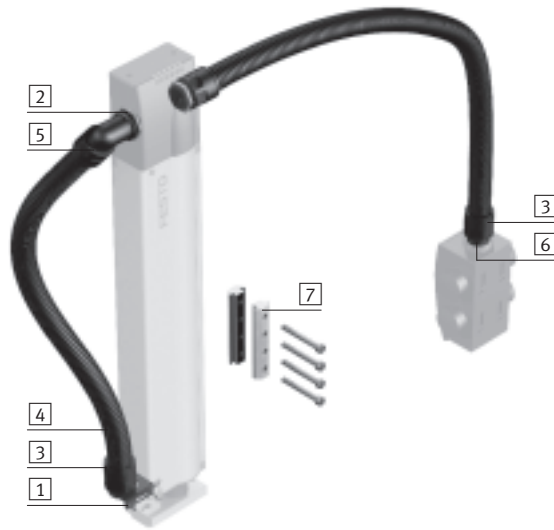
3) 10 per packaging unit

# Pick & place

Z modules



## Linear modules HMP



### Bill of materials

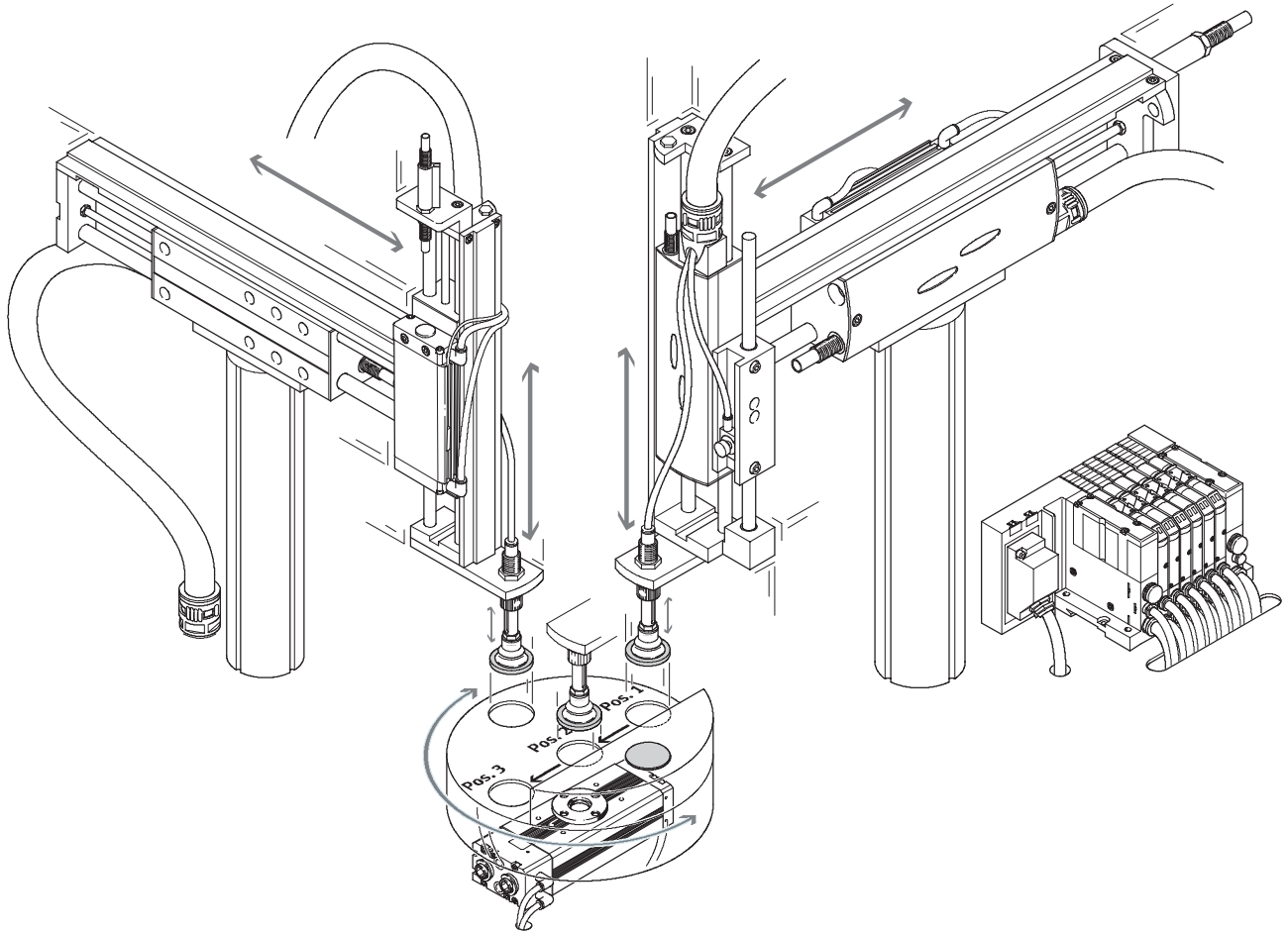
Type	HMBSZ-HMP-1		HMBSZ-HMP-2		HMBSZ-HMP-3		→ Page
For drives	HMP-16		HMP-20		HMP-25		
Item	Quantity	Part No.	Type	Part No.	Type	Part No.	Type
[1]	1	193 124		177 603		177 603	5 / 3.3-150
		HMZAS-PG-21		HMZAS-PG-29		HMZAS-PG-29	
[2]	3	177 599		177 600		177 600	5 / 3.3-149
		MKM-PG-21		MKM-PG-29		MKM-PG-29	
[3]	3	177 572		177 573		177 573	5 / 3.3-144
		MKRV-23-PG-21		MKRV-29-PG-29		MKRV-29-PG-29	
[4]	2 <sup>1)</sup>	177 567		177 568		177 568	5 / 3.3-142
		MKR-23-PG-21		MKR-29-PG-29		MKR-29-PG-29	
[5]	1	177 577		177 578		177 578	5 / 3.3-145
		MKRL-23-PG-21		MKRL-29-PG-29		MKRL-29-PG-29	
[6]	1	177 595		-		-	5 / 3.3-147
		MKA-PG-29-PG-21					
[7]	1	177 647		177 649		177 653	5 / 3.3-115
		HMSV-1		HMSV-3		HMSV-7	

1) Length depends on the stroke of the drive

# Pick & place

System example

## Combination with handling modules HMPL



# Linear gantries

Key features



## Y and Z modules



### Y modules

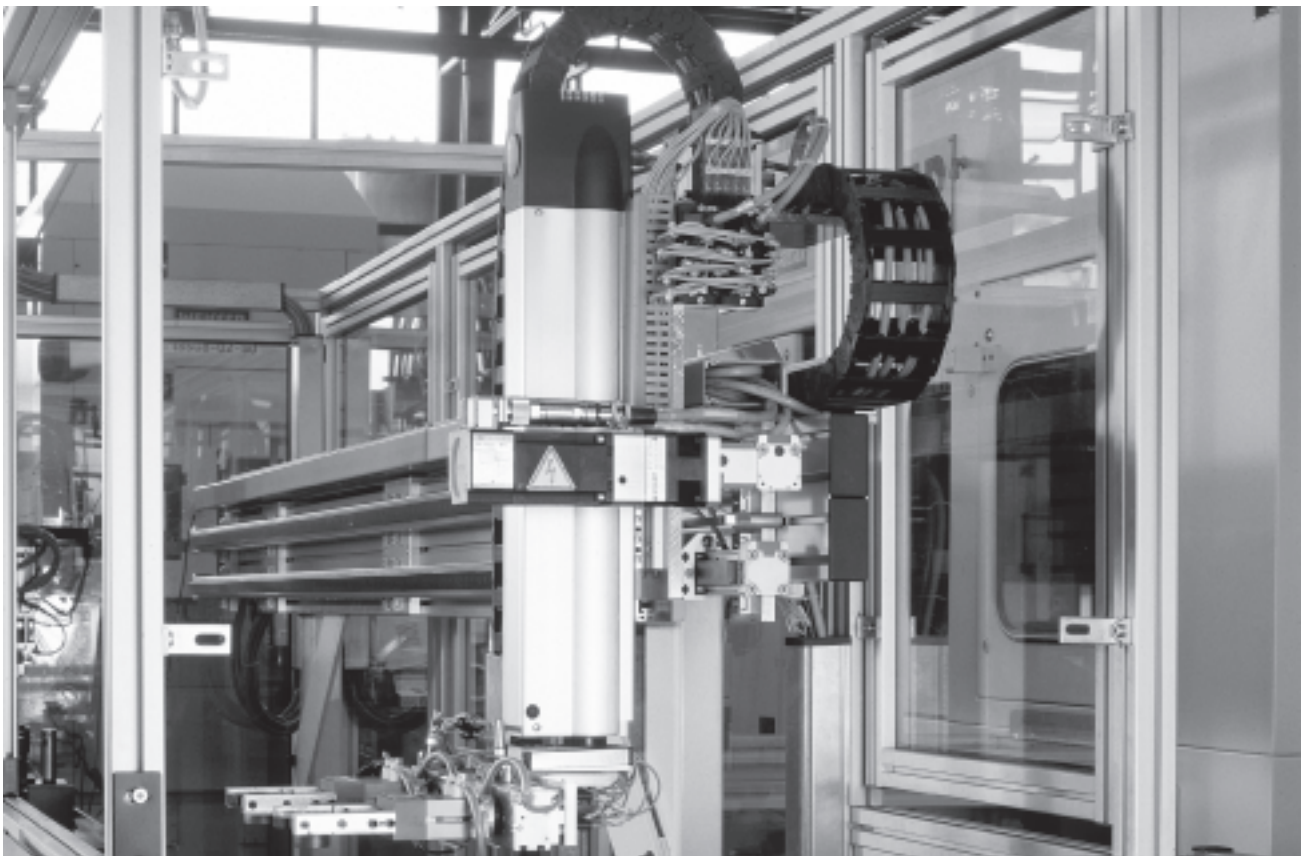
- Pneumatic: DGP, DGC
- Pneumatic with end position controller SPC11 (Soft Stop): DGP
- Electrical with toothed belt or spindle axis: DGE
- Single-axis systems (mono) or drives with guide axis (duo)

### Z modules

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

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

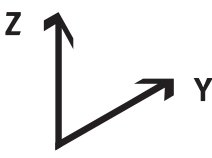


## Application





# Linear gantries




Product range overview

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	5 / 3.3-60			

# Linear gantries

Selection aid for basic, connection and installation components



Y-axis				
System type	Mono 25	Mono 40	Duo 25	Duo 40
				
Pneumatic drives	Type			
DGPL-25	HMBSY-LP-M25-1 → 5 / 3.3-62	–	HMBSY-LP-D25-1 → 5 / 3.3-64	–
DGC-25	HMBSY-LP-M25-2 → 5 / 3.3-62	–	HMBSY-LP-D25-2 → 5 / 3.3-64	–
DGPL-25 with SPC11	HMBSY-LP-M25-3 → 5 / 3.3-62	–	HMBSY-LP-D25-3 → 5 / 3.3-64	–
DGPL-40	–	HMBSY-LP-M40-1 → 5 / 3.3-63	–	HMBSY-LP-D40-1 → 5 / 3.3-65
DGC-40	–	HMBSY-LP-M40-2 → 5 / 3.3-63	–	HMBSY-LP-D40-2 → 5 / 3.3-65
DGPL-40 with SPC11	–	HMBSY-LP-M40-3 → 5 / 3.3-63	–	HMBSY-LP-D40-3 → 5 / 3.3-65
Electrical drives	Type			
DGE-25 -SP-KF	HMBSY-LP-M25-1 → 5 / 3.3-62	–	HMBSY-LP-D25-1 → 5 / 3.3-64	–
-ZR-KF				
-ZR-RF	HMBSY-LP-M25-4 → 5 / 3.3-62	–	HMBSY-LP-D25-4 → 5 / 3.3-64	–
DGE-40 -SP-KF	–	HMBSY-LP-M40-1 → 5 / 3.3-63	–	HMBSY-LP-D40-1 → 5 / 3.3-65
-ZR-KF				
-ZR-RF				

**Selection example:**

Project engineering produced the following drive combination:

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

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

Y-axis: HMBSY-LP-D25-4  
→ 5 / 3.3-64  
Z-axis: HMBSZ-SLT-7  
→ 5 / 3.3-67




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

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

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

# Linear gantries

Selection aid for basic, connection and installation components

Z-axis				
System type	Mono 25	Mono 40	Duo 25	Duo 40
				
Pneumatic drives	Type			
DGSL-16	HMBSZ-DGSL-7 → 5 / 3.3-66	–	–	–
DGSL-20	–	HMBSZ-DGSL-8 → 5 / 3.3-66	–	–
DGSL-25	–	HMBSZ-DGSL-8 → 5 / 3.3-66	HMBSZ-DGSL-8 → 5 / 3.3-66	–
SLT-16	HMBSZ-SLT-7 → 5 / 3.3-67	–	–	–
SLT-20	–	HMBSZ-SLT-7 → 5 / 3.3-67	HMBSZ-SLT-7 → 5 / 3.3-67	–
SLT-25	–	–	HMBSZ-SLT-7 → 5 / 3.3-67	–
HMPL-16	HMBSZ-HMPL-5 HMBSZ-HMPL-6 → 5 / 3.3-68	–	–	–
HMPL-20	–	HMBSZ-HMPL-5 HMBSZ-HMPL-6 → 5 / 3.3-68	HMBSZ-HMPL-5 HMBSZ-HMPL-6 → 5 / 3.3-68	–
HMP-16	–	HMBSZ-HMP-4 → 5 / 3.3-69	HMBSZ-HMP-4 → 5 / 3.3-69	–
HMP-20	–	–	HMBSZ-HMP-5 → 5 / 3.3-69	–
HMP-25	–	–	–	HMBSZ-HMP-6 → 5 / 3.3-69
Electrical drives	Type			
DGEA-18	HMBSZ-DGEA-1 → 5 / 3.3-70	HMBSZ-DGEA-1 → 5 / 3.3-70	HMBSZ-DGEA-1 → 5 / 3.3-70	–
DGEA-25	–	–	HMBSZ-DGEA-2 → 5 / 3.3-70	HMBSZ-DGEA-3 → 5 / 3.3-70
DGE-25-SP	–	HMBSZ-DGE-1 → 5 / 3.3-71	HMBSZ-DGE-1 → 5 / 3.3-71	–
DGE-40-SP	–	–	HMBSZ-DGE-2 → 5 / 3.3-71	HMBSZ-DGE-3 → 5 / 3.3-71

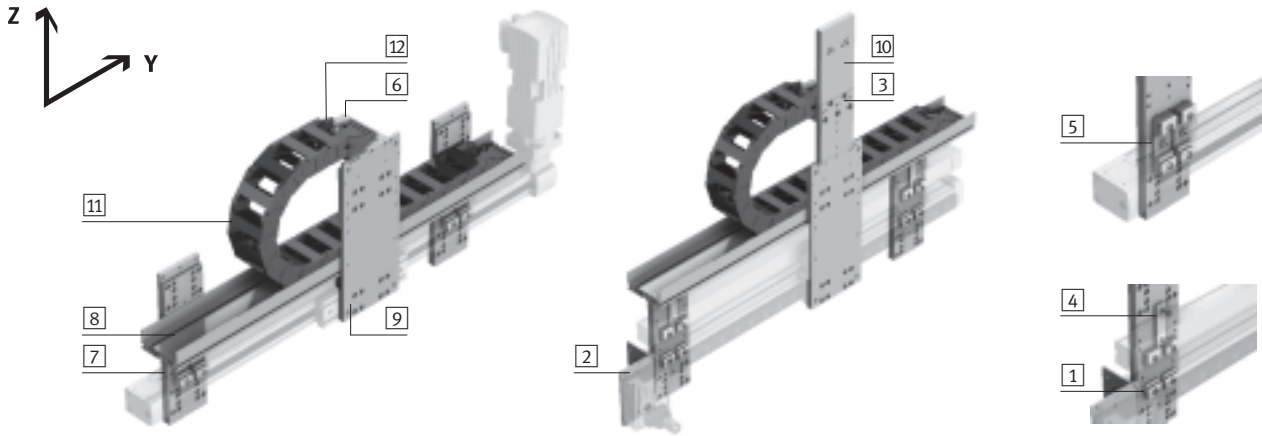
# Linear gantries

Y modules



## Mono system

Toothed belt axes DGE, linear drives DGC, DGPL



## Bill of materials

Type	HMBSY-LP-M25-1	HMBSY-LP-M25-2	HMBSY-LP-M25-3	HMBSY-LP-M25-4				
For drives	DGPL-25 DGE-25-SP-KF DGE-25-ZR-KF	DGC-25	DGPL-25 with SPC11	DGE-25-ZR-RF				
System type	Mono 25							
Item	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	Page
1	2 <sup>1)</sup>	150 736		–		150 736	150 736	Volume 1
	1 <sup>1)</sup>	–		531 753		–	–	Volume 1
		MUP-18/25		MUC-25		MUP-18/25	MUP-18/25	
2	1	–		–		539 367	–	5 / 3.3-133
						HMVW-SPC		
3	1	–		–		539 364	–	5 / 3.3-94
						HMIM-LP		
4	1 <sup>1)</sup>	–		–		539 973	–	5 / 3.3-132
						HMVO-POT		
5	2 <sup>1)</sup>	–		–		–	539 362	5 / 3.3-132
							HMVO-RF25	
6	1	539 366		539 366		539 366	539 366	5 / 3.3-94
		HMIO-AP1		HMIO-AP1		HMIO-AP1	HMIO-AP1	
7	2 <sup>2)</sup>	539 972		539 972		539 972	539 972	5 / 3.3-128
		HMVM-LP-DL25/40		HMVM-LP-DL25/40		HMVM-LP-DL25/40	HMVM-LP-DL25/40	
8	1 <sup>3)</sup>	539 378		539 378		539 378	539 378	5 / 3.3-93
		HMIA-E05		HMIA-E05		HMIA-E05	HMIA-E05	
9	1	539 368		539 368		539 368	539 368	5 / 3.3-130
		HMVS-DL25		HMVS-DL25		HMVS-DL25	HMVS-DL25	
10	1	–		–		539 365	–	5 / 3.3-92
						HMIZB-E03		
11	1	IGUS E2 medium 240.05.100 and 211 or KABELSCHLEPP MC 0320.60-01-100 and TS O/n <sub>T</sub> 2						–
12	1	IGUS E2 medium 2050.12.PZB or KABELSCHLEPP MC FA/MA						–

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

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

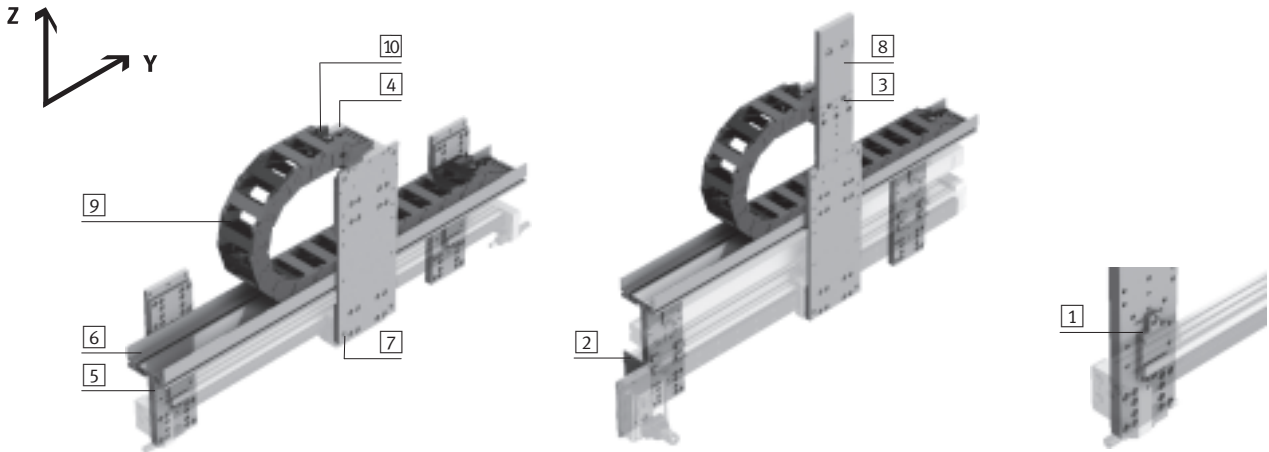
3) Length depends on the stroke of the drive

# Linear gantries

Y modules

## Mono system

Toothed belt axes DGE, linear drives DGC, DGPL



Bill of materials								
Type	HMBSY-LP-M40-1		HMBSY-LP-M40-2		HMBSY-LP-M40-3			
For drives	DGPL-40 DGE-40-SP-KF DGE-40-ZR-KF DGE-40-ZR-RF		DGC-40		DGPL-40 with SPC11			
System type	Mono 40							
Item	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	→ Page
1	1 <sup>1)</sup>	-		531 755 MUC-40		-		Volume 1
2	1	-		-		539 367 HMVW-SPC		5 / 3.3-133
3	1	-		-		539 364 HMIM-LP		5 / 3.3-94
4	1	539 366 HMIO-AP-1		540 121 HMIO-AP-2		539 366 HMIO-AP-1		5 / 3.3-94
5	2 <sup>2)</sup>	539 972 HMVM-LP-DL25/40		539 972 HMVM-LP-DL25/40		539 972 HMVM-LP-DL25/40		5 / 3.3-128
6	1 <sup>3)</sup>	539 378 HMIA-E05		539 378 HMIA-E05		539 378 HMIA-E05		5 / 3.3-93
7	1	539 369 HMVS-DL40		539 369 HMVS-DL40		539 369 HMVS-DL40		5 / 3.3-130
8	1	-		-		539 365 HMIZB-E03		5 / 3.3-92
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 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

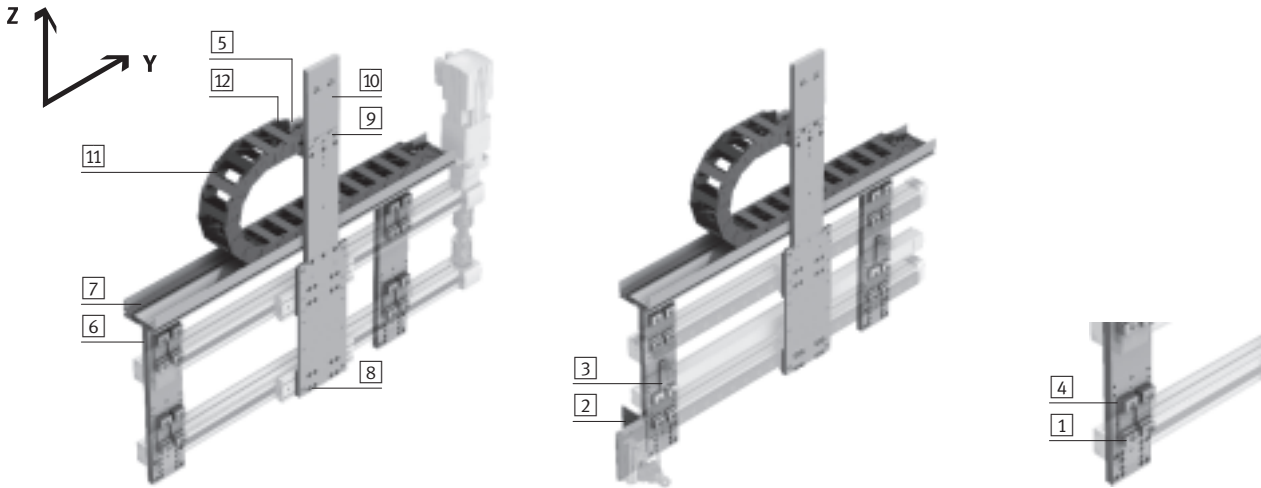
# Linear gantries

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
1	4 <sup>1)</sup>	150 736		–		150 736	150 736	Volume 1
	2 <sup>1)</sup>	–		531 753		–	–	Volume 1
			MUP-18/25		MUC-25		MUP-18/25	
2	1	–		–		539 367	–	5 / 3.3-133
						HMVW-SPC		
3	1 <sup>1)</sup>	–		–		539 973	–	5 / 3.3-132
						HMVO-POT		
4	4 <sup>1)</sup>	–		–		–	539 362	5 / 3.3-132
							HMVO-RF25	
5	1	539 366		539 366		539 366	539 366	5 / 3.3-94
			HMIO-AP-1		HMIO-AP-1		HMIO-AP-1	
6	2 <sup>2)</sup>	539 971		539 971		539 971	539 971	5 / 3.3-128
			HMVD-LP-DL25/40		HMVD-LP-DL25/40		HMVD-LP-DL25/40	
7	1 <sup>3)</sup>	539 378		539 378		539 378	539 378	5 / 3.3-93
			HMIA-E05		HMIA-E05		HMIA-E05	
8	1	539 368		539 368		539 368	539 368	5 / 3.3-130
			HMVS-DL25		HMVS-DL25		HMVS-DL25	
9	1	539 363		539 363		539 363	539 363	5 / 3.3-94
			HMID-LP		HMID-LP		HMID-LP	
10	1	539 365		539 365		539 365	539 365	5 / 3.3-92
			HMI-ZB-E03		HMI-ZB-E03		HMI-ZB-E03	
11	1	IGUS E2 medium 240.05.100 and 211 or KABELSCHLEPP MC 0320.60-01-100 and TS O/n_T2						–
12	1	IGUS E2 medium 2050.12.PZB or KABELSCHLEPP MC FA/MA						–

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

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

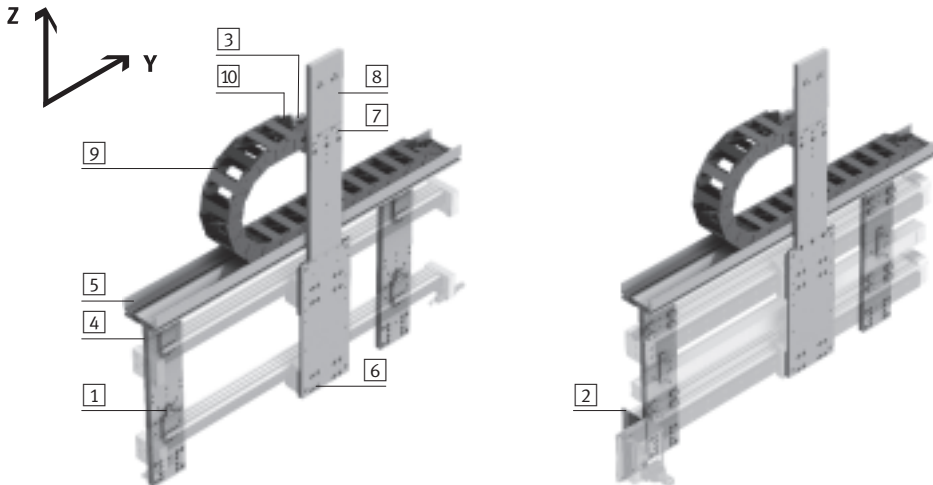
3) Length depends on the stroke of the drive

# Linear gantries

Y modules

## Duo system

Toothed belt axes DGE, linear drives DGC, DGPL



Bill of materials									
Type	HMBSY-LP-D40-1		HMBSY-LP-D40-2		HMBSY-LP-D40-3		→ Page		
For drives	DGPL-40 DGE-40-SP-KF DGE-40-ZR-KF DGE-40-ZR-RF		DGC-40		DGPL-40 with SPC11				
System type	Duo 40								
Item	Quantity	Part No.	Type	Part No.	Type	Part No.		Type	
1	2 <sup>1)</sup>	–		531 755 MUC-40		–		Volume 1	
2	1	–		–		539 367 HMVW-SPC		5 / 3.3-133	
3	1	539 366	HMIO-AP-1	540 121	HMIO-AP-2	539 366	HMIO-AP-1	5 / 3.3-94	
4	2 <sup>2)</sup>	539 971	HMVD-LP-DL25/40	539 971	HMVD-LP-DL25/40	539 971	HMVD-LP-DL25/40	5 / 3.3-128	
5	1 <sup>3)</sup>	539 378	HMIA-E05	539 378	HMIA-E05	539 378	HMIA-E05	5 / 3.3-93	
6	1	539 369	HMVS-DL40	539 369	HMVS-DL40	539 369	HMVS-DL40	5 / 3.3-130	
7	1	539 363	HMID-LP	539 363	HMID-LP	539 363	HMID-LP	5 / 3.3-94	
8	1	539 365	HMIZB-E03	539 365	HMIZB-E03	539 365	HMIZB-E03	5 / 3.3-92	
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.

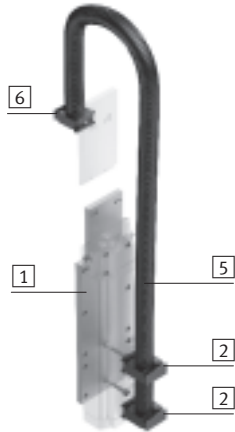
3) Length depends on the stroke of the drive



# Linear gantries

Z modules

Z modules  
Mini slides DGSL



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

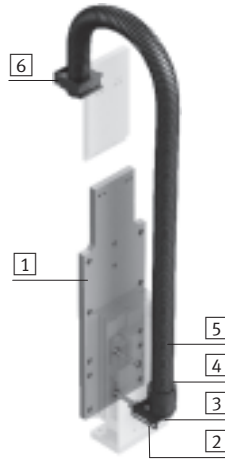
1) Length depends on the stroke of the drive

# Linear gantries

Z modules

**Mono/Duo system**

Mini slides SLT



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

1) Length depends on the stroke of the drive

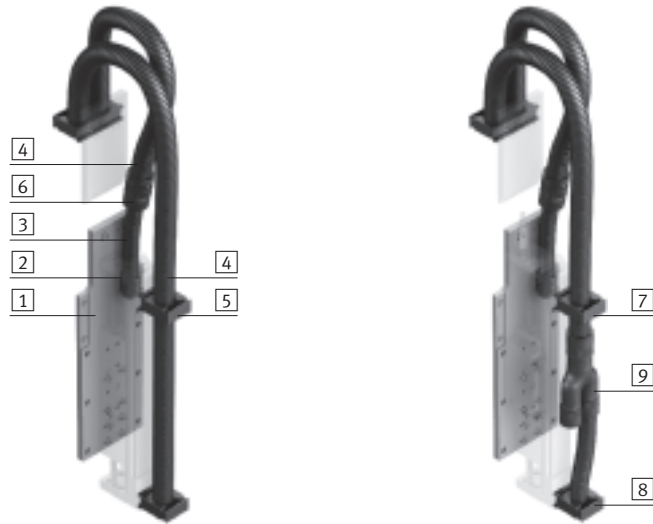
# Linear gantries

Z modules



## Mono/Duo system

Linear modules HMPL



### Bill of materials

Type		HMBSZ-HMPL-5		HMBSZ-HMPL-6		→ Page	
For drives		HMPL-16	HMPL-20	HMPL-16	HMPL-20		
		without intermediate position		with intermediate position			
System type		Mono 25	Mono 40 Duo 25	Mono 25	Mono 40 Duo 25		
Item	Quantity	Part No.	Type	Part No.	Type	Part No.	Type
1	1	539 375	HMVZ-4	539 375	HMVZ-4	539 375	HMVZ-4
2	1	177 571	MKRV-16,5-PG-16	177 571	MKRV-16,5-PG-16	177 571	MKRV-16,5-PG-16
3	1 <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

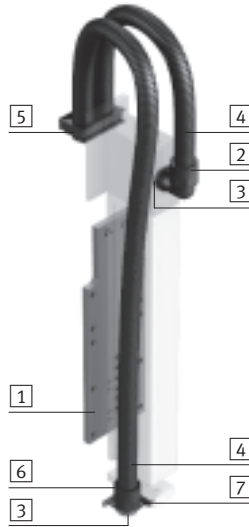
2) Length depends on the stroke of the drive, 2 conduits are required with an intermediate position.

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
For drives	HMP-16		HMP-20		HMP-25		
System type	Mono 40 Duo 25		Duo 25		Duo 40		
Item	Quantity	Part No.	Type	Part No.	Type	Part No.	Type
1	1	539 374	HMVZ-3	539 374	HMVZ-3	539 377	HMVZ-6
2	1	177 577	MKRL-23-PG-21	177 578	MKRL-29-PG-29	177 578	MKRL-29-PG-29
3	2	177 599	MKM-PG-21	177 600	MKM-PG-29	177 600	MKM-PG-29
4	1 <sup>1)</sup>	177 567	MKR-23-PG-21	177 568	MKR-29-PG-29	177 568	MKR-29-PG-29
5	2	192 290	MKRS-23-B	192 291	MKRS-29-B	192 291	MKRS-29-B
6	1	177 572	MKRV-23-PG-21	177 573	MKRV-29-PG-29	177 573	MKRV-29-PG-29
7	1	193 124	HMZAS-PG-21	177 603	HMZAS-PG-29	177 603	HMZAS-PG-29

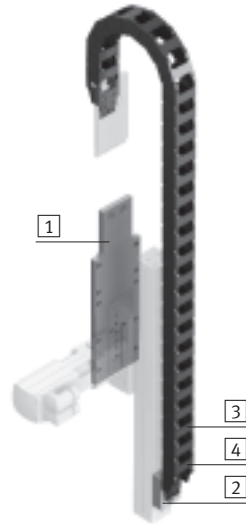
1) Length depends on the stroke of the drive

# Linear gantries

Z modules

## Mono/Duo system

Cantilever axes DGEA



### Bill of materials

Type	HMBSZ-DGEA-1	HMBSZ-DGEA-2	HMBSZ-DGEA-3		
For drives	DGEA-18	DGEA-25	DGEA-25		
System type	Mono 25 Mono 40 Duo 25	Duo 25	Duo 40		
Item	Quantity	Part No. Type	Part No. Type	Part No. Type	→ Page
1	1	539 374 HMVZ-3	539 375 HMVZ-4	539 377 HMVZ-6	5 / 3.3-131
2	1	539 370 HMIZF-E03-DA18	539 371 HMIZF-E03-DA25	539 371 HMIZF-E03-DA25	5 / 3.3-92
3	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>T</sub> 2			-
4	1	IGUS E2 medium 2030.12.PZB or KABELSCHLEPP MC FA/MA			-

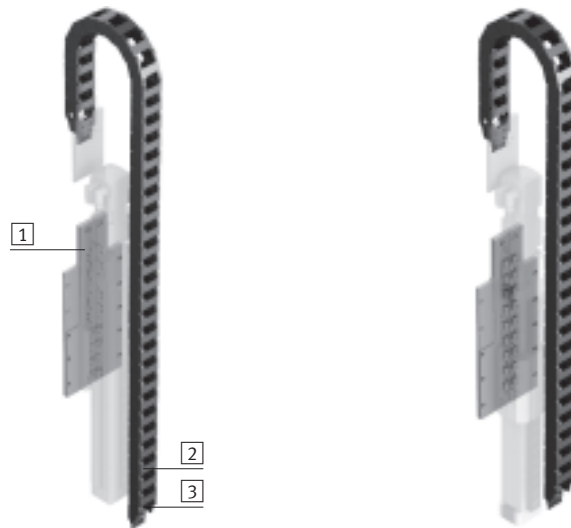
1) Length depends on the stroke of the drive

# Linear gantries

Z modules

**Mono/Duo system**

Spindle axes DGE



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

1) Length depends on the stroke of the drive

# 3-Dimensional gantries

Key features



## X, Y and Z modules



### Y modules

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

### Z modules

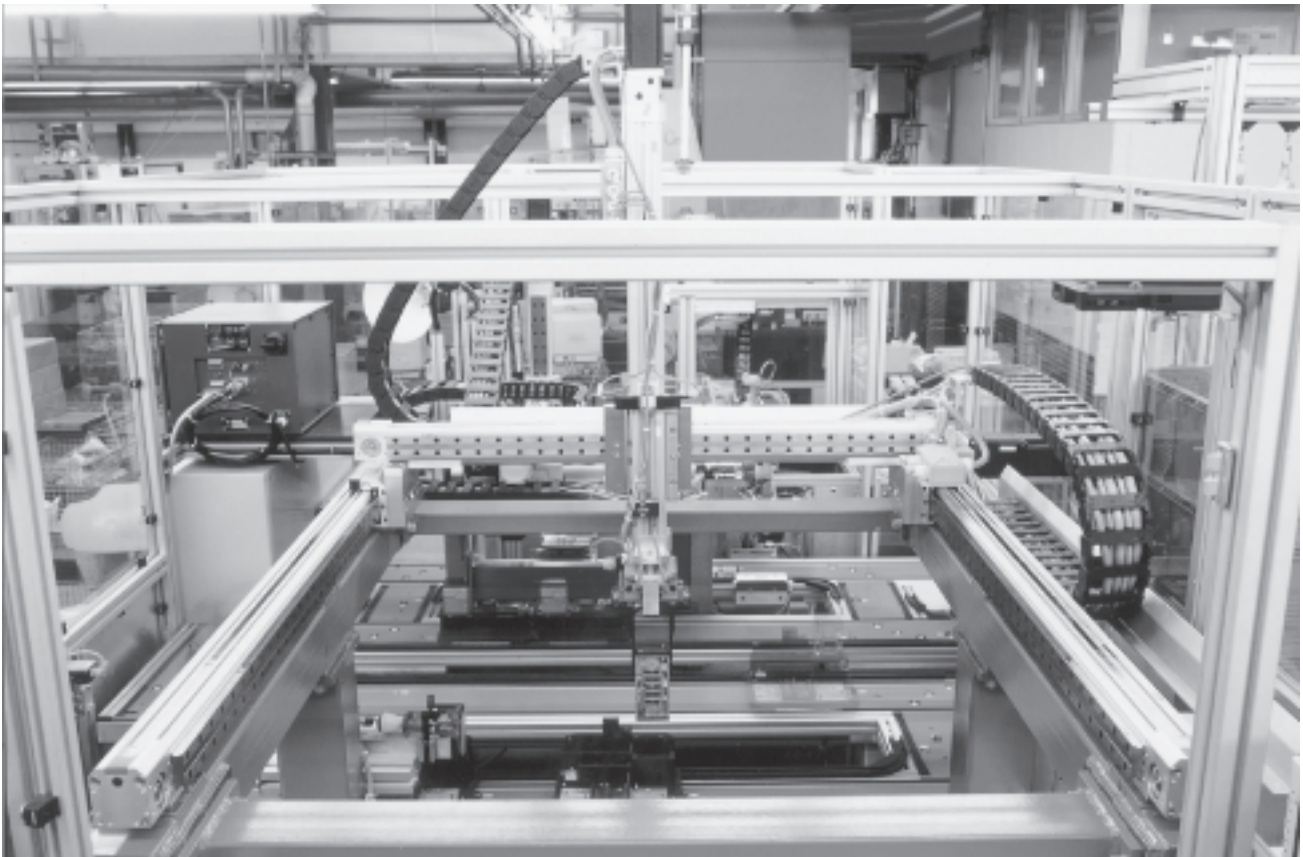
- Pneumatic: SLT, HMPL, HMP
- Electrical with toothed belt or spindle axis: DGE, DGEA

### X modules

- Electrical with toothed belt axis: DGE

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

## Application



# 3-Dimensional gantries

Product range overview



Selection aid					
System type	Mono 25	Mono 40	Duo 25		Duo 40
X-axis	DGE-25-ZR	DGE-40-ZR	DGE-25-ZR	DGE-40-ZR	DGE-40-ZR
Drive function	Electrical				
Options	Ball bearing or roller guide				
Y-axis	DG...-25	DG...-40	DG...-25	DG...-40	
Drive function	Pneumatic and electrical				
Options	Spindle or toothed belt axis				
Z-axis	DGSL-16 SLT-16 HMPL-16	DGSL-20 SLT-20 HMPL-20 HMP-16	DGSL-25 SLT-25 HMP-20	HMP-25	
Drive function	Pneumatic				
Options	Intermediate position with HMPL	Intermediate position with HMPL, HMP		Intermediate position with HMP	
Z-axis	DGEA-18	DGEA-18 DGE-25-SP-KF	DGEA-25 DGE-40-SP-KF	DGEA-25 DGE-40-SP-KF	
Drive function	Electrical				
Options	-	Spindle or toothed belt axis		Spindle or toothed belt axis	
Working load [kg]					
	1	■	■	■	■
	2	■	■	■	■
	3	-	■	■	■
	4	-	■	■	■
	6	-	-	■	■
	10	-	-	-	■
→ Page	5 / 3.3-74				



# 3-Dimensional gantries

Selection aid for basic, connection and installation components



X-axis					
System type		Mono 25	Mono 40	Duo 25	Duo 40
		Electrical drives			
DGE-25	-ZR-KF	HMBSX-RP/FP-25-1 → 5 / 3.3-77	HMBSX-RP/FP-25-1 → 5 / 3.3-77	HMBSX-RP/FP-25-1 → 5 / 3.3-77	-
	-ZR-RF	HMBSX-RP/FP-25-2 → 5 / 3.3-77	HMBSX-RP/FP-25-2 → 5 / 3.3-77	HMBSX-RP/FP-25-2 → 5 / 3.3-77	-
DGE-40	-ZR-KF	-	HMBSX-RP/FP-40-1 → 5 / 3.3-77	HMBSX-RP/FP-40-1 → 5 / 3.3-77	HMBSX-RP/FP-40-1 → 5 / 3.3-77
	-ZR-RF	-	HMBSX-RP/FP-40-2 → 5 / 3.3-77	HMBSX-RP/FP-40-2 → 5 / 3.3-77	HMBSX-RP/FP-40-2 → 5 / 3.3-77

**Selection example:**

Project engineering produced the following drive combination:

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

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

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

X-axis: DGE-40-ZR-KF

X-axis: HMBSX-RP/FP-40-1  
→ 5 / 3.3-77

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

Y-axis: Mono 40 system with DGC-40

Y-axis: HMBSY-RP/FP-M40-2  
→ 5 / 3.3-78

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

Z-axis: HMPL-20 without intermediate position




Z-axis: HMBSZ-HMPL-5 or 6  
→ 5 / 3.3-82

Z-axis: HMBSZ-HMPL-5

## 3-Dimensional gantries

Selection aid for basic, connection and installation components




FESTO

Y-axis				
System type	Mono 25	Mono 40	Duo 25	Duo 40
				
Pneumatic drives	Type			
DGPL-25	HMBSY-RP/FP-M25-1 → 5 / 3.3-78	–	HMBSY-RP/FP-D25-1 → 5 / 3.3-79	–
DGC-25	HMBSY-RP/FP-M25-2 → 5 / 3.3-78	–	HMBSY-RP/FP-D25-2 → 5 / 3.3-79	–
DGPL-40	–	HMBSY-RP/FP-M40-1 → 5 / 3.3-78	–	HMBSY-RP/FP-D40-1 → 5 / 3.3-79
DGC-40	–	HMBSY-RP/FP-M40-2 → 5 / 3.3-78	–	HMBSY-RP/FP-D40-2 → 5 / 3.3-79
Electrical drives	Type			
DGE-25 -SP-KF -ZR-KF -ZR-RF	HMBSY-RP/FP-M25-1 → 5 / 3.3-78	–	HMBSY-RP/FP-D25-1 → 5 / 3.3-79	–
DGE-40 -SP-KF -ZR-KF -ZR-RF	–	HMBSY-RP/FP-M40-1 → 5 / 3.3-78	–	HMBSY-RP/FP-D40-1 → 5 / 3.3-79

## 3-Dimensional gantries

Selection aid for basic, connection and installation components

FESTO

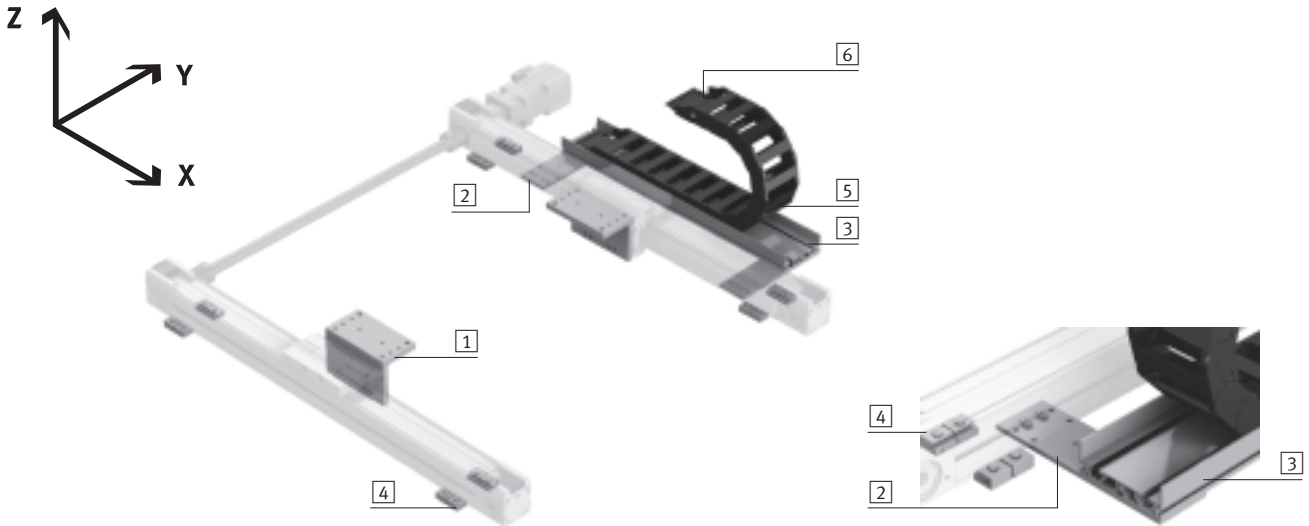
Z-axis				
System type	Mono 25	Mono 40	Duo 25	Duo 40
				
Pneumatic drives	Type			
DGSL-16	HMBSZ-DGSL-7 → 5 / 3.3-80	–	–	–
DGSL-20	–	HMBSZ-DGSL-8 → 5 / 3.3-80	–	–
DGSL-25	–	HMBSZ-DGSL-8 → 5 / 3.3-80	HMBSZ-DGSL-8 → 5 / 3.3-80	–
SLT-16	HMBSZ-SLT-7 → 5 / 3.3-81	–	–	–
SLT-20	–	HMBSZ-SLT-7 → 5 / 3.3-81	HMBSZ-SLT-7 → 5 / 3.3-81	–
SLT-25	–	–	HMBSZ-SLT-7 → 5 / 3.3-81	–
HMPL-16	HMBSZ-HMPL-5 HMBSZ-HMPL-6 → 5 / 3.3-82	–	–	–
HMPL-20	–	HMBSZ-HMPL-5 HMBSZ-HMPL-6 → 5 / 3.3-82	HMBSZ-HMPL-5 HMBSZ-HMPL-6 → 5 / 3.3-82	–
HMP-16	–	HMBSZ-HMP-4 → 5 / 3.3-83	HMBSZ-HMP-4 → 5 / 3.3-83	–
HMP-20	–	–	HMBSZ-HMP-5 → 5 / 3.3-83	–
HMP-25	–	–	–	HMBSZ-HMP-6 → 5 / 3.3-83
Electrical drives	Type			
DGEA-18	HMBSZ-DGEA-1 → 5 / 3.3-84	HMBSZ-DGEA-1 → 5 / 3.3-84	HMBSZ-DGEA-1 → 5 / 3.3-84	–
DGEA-25	–	–	HMBSZ-DGEA-2 v5 / 3.3-84	HMBSZ-DGEA-3 → 5 / 3.3-84
DGE-25-SP	–	HMBSZ-DGE-1 → 5 / 3.3-85	HMBSZ-DGE-1 → 5 / 3.3-85	–
DGE-40-SP	–	–	HMBSZ-DGE-2 → 5 / 3.3-85	HMBSZ-DGE-3 → 5 / 3.3-85

# 3-Dimensional gantries

X modules

**Basic system**

Toothed belt axes DGE



Bill of materials							Page	
Type		HMBSX-RP/FP-25-1	HMBSX-RP/FP-25-2	HMBSX-RP/FP-40-1	HMBSX-RP/FP-40-2			
For drives		DGE-25-ZR-KF	DGE-25-ZR-RF	DGE-40-ZR-KF	DGE-40-ZR-RF			
Item	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	
1	1	539 651	HMVW-DL25	539 652	HMVS-RF25	540 325	HMVW-DL40	
		539 653	HMVS-RF40			539 653	HMVS-RF40	
2	2 <sup>1)</sup>	539 654	HMIXB-RP/FP	539 654	HMIXB-RP/FP	539 654	HMIXB-RP/FP	
3	1 <sup>2)</sup>	539 379	HMIA-E07	539 379	HMIA-E07	539 379	HMIA-E07	
4	2 <sup>3)</sup>	150 736	MUP-18/25	150 736	MUP-18/25	-	-	
	1 <sup>3)</sup>	-	-	-	-	150 738	MUP-40	
		150 738	MUP-40			150 738	MUP-40	
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

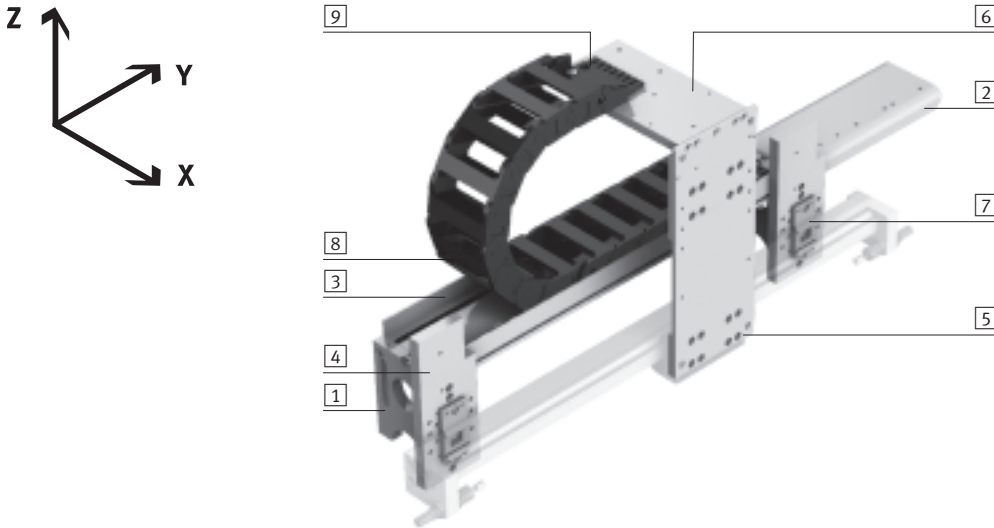
# 3-Dimensional gantries

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	
[1]	2	539 657	HMVV-RP/FP	539 657	HMVV-RP/FP	539 657	HMVV-RP/FP	5 / 3.3-127	
[2]	1	539 658	HMIXF-RP/FP	539 658	HMIXF-RP/FP	539 658	HMIXF-RP/FP	5 / 3.3-127	
[3]	1 <sup>1)</sup>	539 379	HMIA-E07	539 379	HMIA-E07	539 379	HMIA-E07	5 / 3.3-93	
[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	5 / 3.3-129	
[5]	1	539 368	HMVS-DL25	539 368	HMVS-DL25	539 369	HMVS-DL40	5 / 3.3-130	
[6]	1	539 659	HMIYF-RF/DL25	539 659	HMIYF-RF/DL25	539 660	HMIYF-RF/DL40	5 / 3.3-96	
[7]	2 <sup>2)</sup>	150 736	MUP-18/25	-	-	-	-	Volume 1	
	1 <sup>2)</sup>	-	-	531 753	MUC-25	-	531 755	MUC-40	Volume 1
	1 <sup>2)</sup>	-	-	-	-	150 738	MUP-40	Volume 1	
[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>7</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

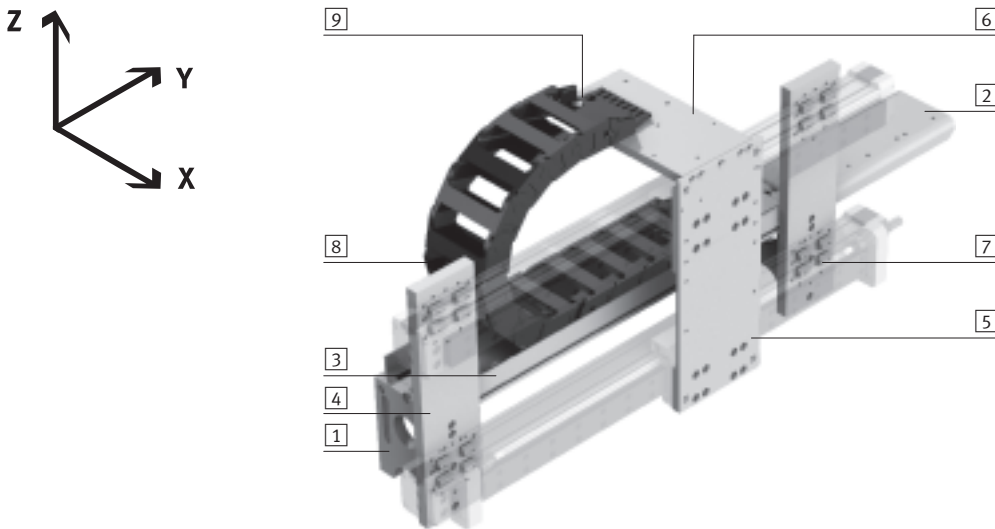
3) Quantity with stroke ≤ 500 mm. With stroke > 500 mm, a basic kit HMVM-RP/FP-DL25/40 must be additionally ordered per 500 mm stroke or part thereof.

# 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
1	2	539 657	HMVV-RP/FP	539 657	HMVV-RP/FP	539 657	HMVV-RP/FP	5 / 3.3-127
2	1	539 658	HMIXF-RP/FP	539 658	HMIXF-RP/FP	539 658	HMIXF-RP/FP	5 / 3.3-127
3	1 <sup>1)</sup>	539 379	HMIA-E07	539 379	HMIA-E07	539 379	HMIA-E07	5 / 3.3-93
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	5 / 3.3-129
5	1	539 368	HMVS-DL25	539 368	HMVS-DL25	539 369	HMVS-DL40	5 / 3.3-130
6	1	539 659	HMIYF-RF/DL25	539 659	HMIYF-RF/DL25	539 660	HMIYF-RF/DL40	5 / 3.3-96
7	4 <sup>2)</sup>	150 736	MUP-18/25	-	-	-	-	Volume 1
	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/η <sub>2</sub>						-
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.

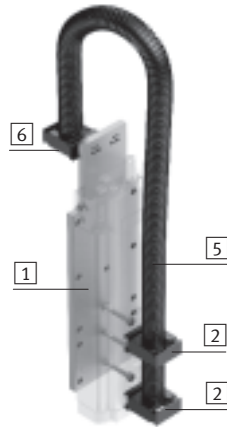
# 3-Dimensional gantries

Z modules



## Mono/Duo system

Mini slides DGSL



### Bill of materials

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

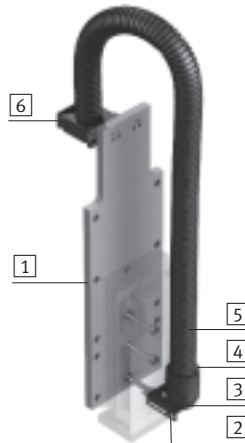
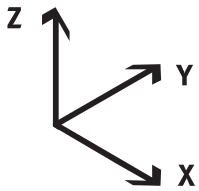
1) Length depends on the stroke of the drive

# 3-Dimensional gantries

Z modules

**Mono/Duo system**

Mini slides SLT



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

1) Length depends on the stroke of the drive



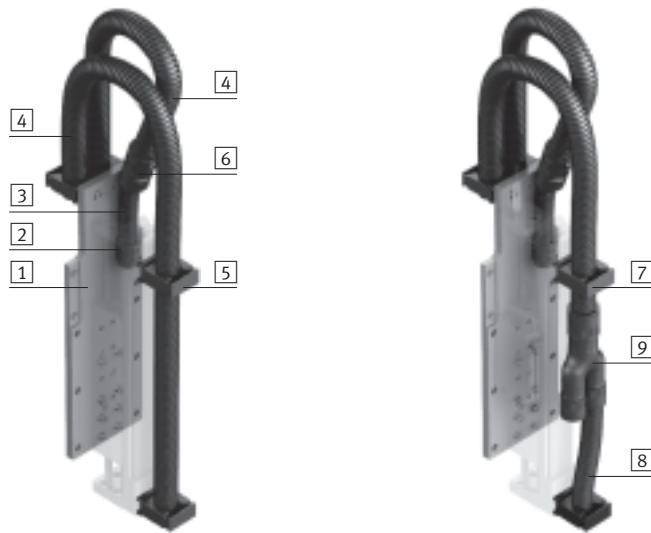
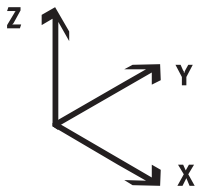
# 3-Dimensional gantries

Z modules



## Mono/Duo system

Linear modules HMPL



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

1) Length 200 mm

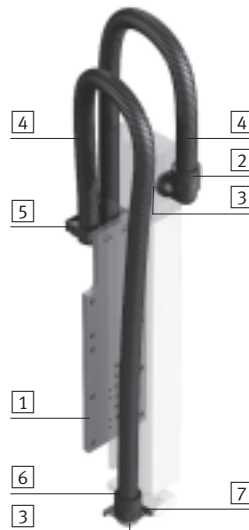
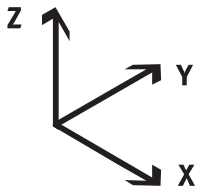
2) Length depends on the stroke of the drive, 2 conduits are required with an intermediate position.

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

# 3-Dimensional gantries

Z modules

**Mono/Duo system**  
Linear modules HMP



Bill of materials								
Type		HMBSZ-HMP-4		HMBSZ-HMP-5		HMBSZ-HMP-6		→ Page
For drives		HMP-16		HMP-20		HMP-25		
System type		Mono 40 Duo 25		Duo 25		Duo 40		
Item	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	
1	1	539 374	HMVZ-3	539 374	HMVZ-3	539 377	HMVZ-6	5 / 3.3-131
2	1	177 577	MKRL-23-PG-21	177 578	MKRL-29-PG-29	177 578	MKRL-29-PG-29	5 / 3.3-145
3	2	177 599	MKM-PG-21	177 600	MKM-PG-29	177 600	MKM-PG-29	5 / 3.3-149
4	1 <sup>1)</sup>	177 567	MKR-23-PG-21	177 568	MKR-29-PG-29	177 568	MKR-29-PG-29	5 / 3.3-142
5	2	192 290	MKRS-23-B	192 291	MKRS-29-B	192 291	MKRS-29-B	5 / 3.3-149
6	1	177 572	MKRV-23-PG-21	177 573	MKRV-29-PG-29	177 573	MKRV-29-PG-29	5 / 3.3-144
7	1	193 124	HMZAS-PG-21	177 603	HMZAS-PG-29	177 603	HMZAS-PG-29	5 / 3.3-150

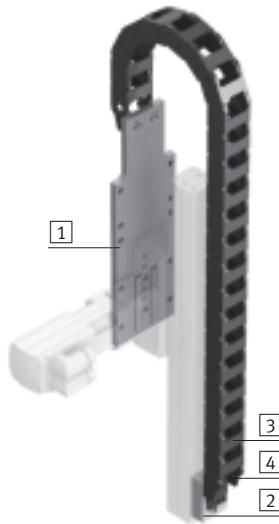
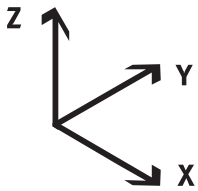
1) Length depends on the stroke of the drive

# 3-Dimensional gantries

Z modules

## Mono/Duo system

Cantilever axes DGEA



### Bill of materials

Type	HMBSZ-DGEA-1	HMBSZ-DGEA-2	HMBSZ-DGEA-3					
For drives	DGEA-18	DGEA-25	DGEA-25					
System type	Mono 25 Mono 40 Duo 25	Duo 25	Duo 40					
Item	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	→ Page
[1]	1	539 374	HMVZ-3	539 375	HMVZ-4	539 377	HMVZ-6	5 / 3.3-131
[2]	1	539 370	HMIZF-E03-DA18	539 371	HMIZF-E03-DA25	539 371	HMIZF-E03-DA25	5 / 3.3-92
[3]	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>T</sub> 2						-
[4]	1	IGUS E2 medium 2030.12.PZB or KABELSCHLEPP MC FA/MA						-

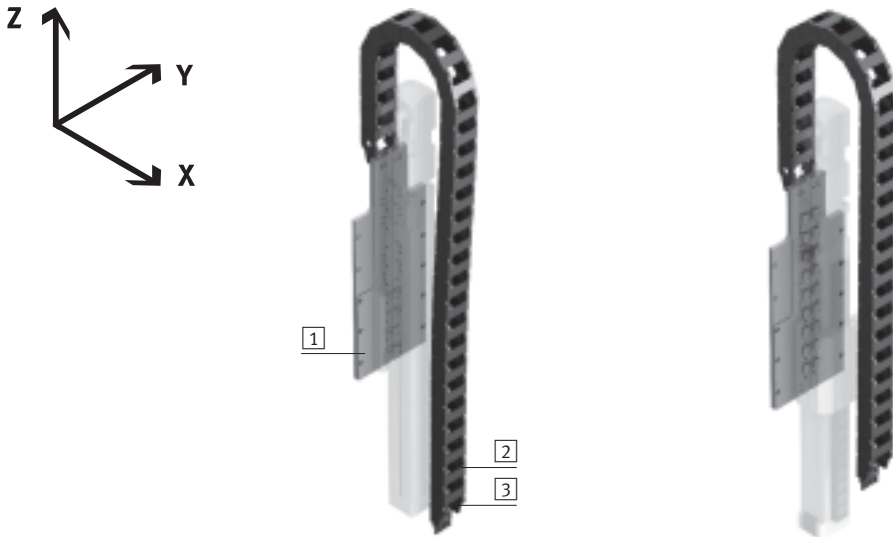
1) Length depends on the stroke of the drive

# 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			
Item	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	
1	1	539 374	HMVZ-3	539 375	HMVZ-4	539 377	HMVZ-6	
2	1 <sup>1)</sup>	IGUS E2 medium 240.03.075.0 and 211 or KABELSCHLEPP MC 0320.40-01-77 and TS O/nT2						-
3	1	IGUS E2 medium 2030.12.PZB or KABELSCHLEPP MC FA/MA						-

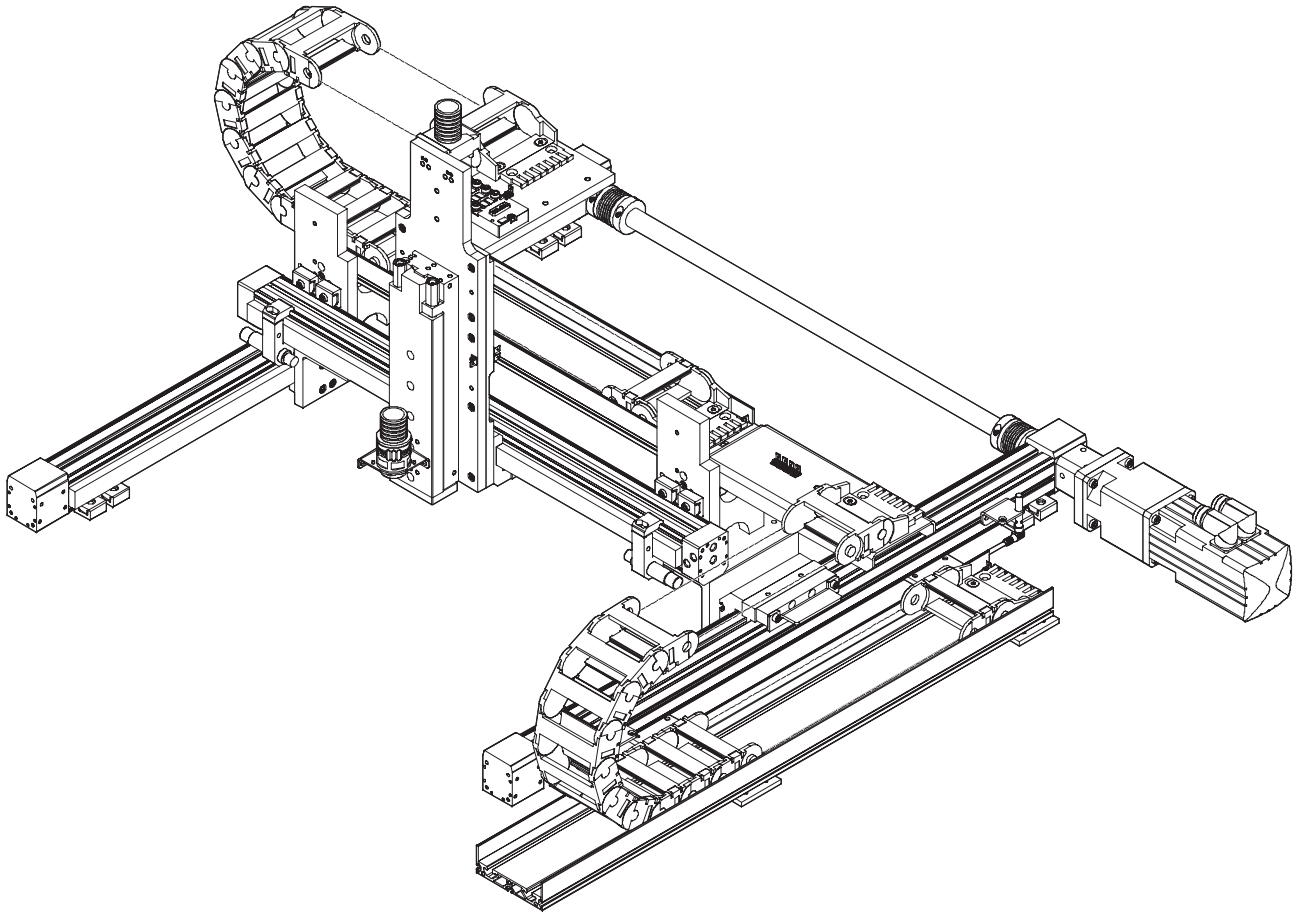
1) Length depends on the stroke of the drive

# 3-Dimensional gantries

System example

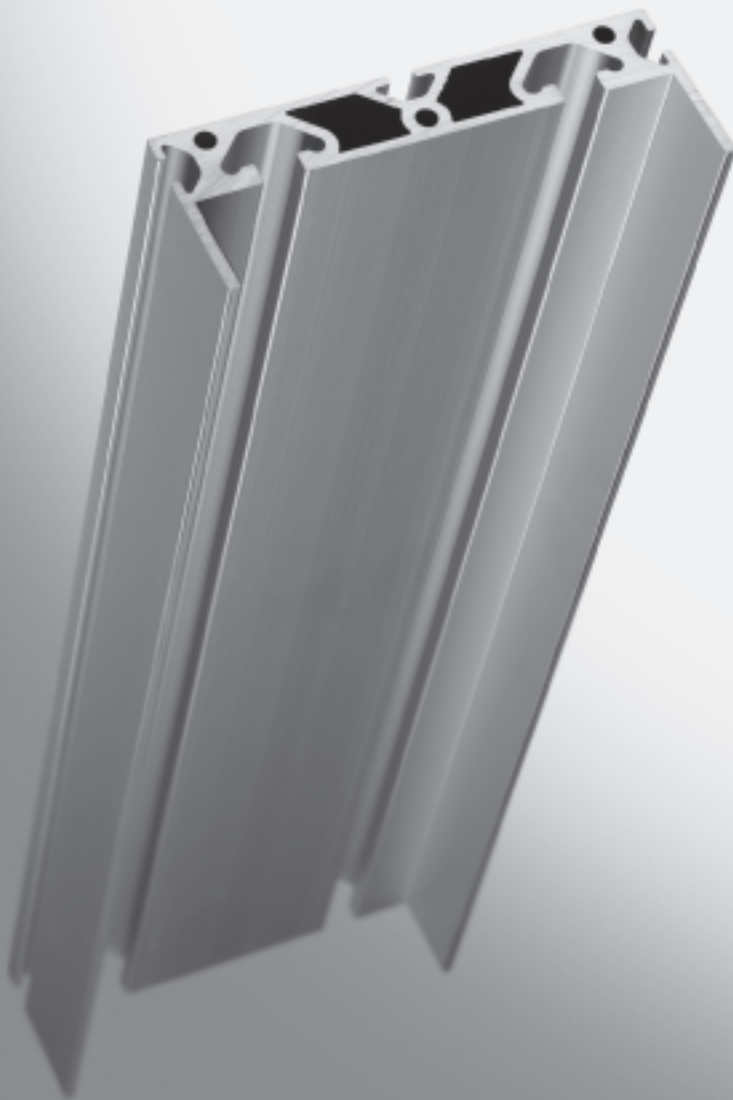


Combination with toothed-belt axis DGE-RF/linear drive DGC/mini-slide SLT



System components  
Multi-axis modular system

3.3



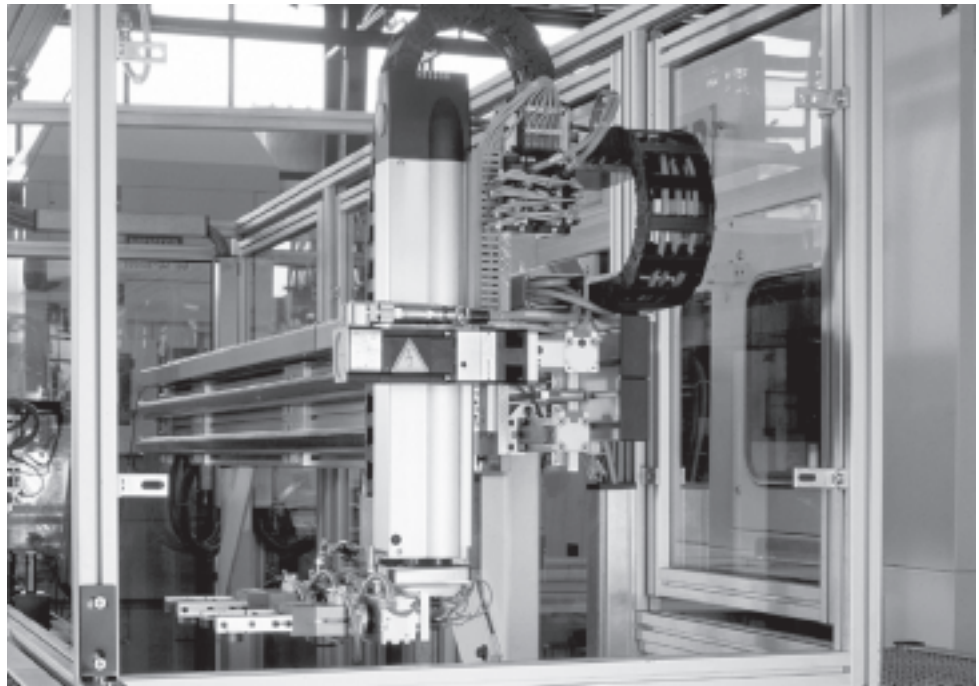
- **Reliable guidance**
- **Rapid assembly and dismantling**
- **Low space requirement**

# Installation components, for long strokes

Key features

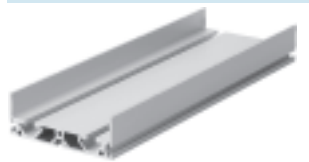
Installation components facilitate a clear-cut, safe layout of electrical cables and pneumatic tubing. They can be quickly dismantled and reassembled if servicing is required. They are mainly used for long strokes in gantries and cantilever axes for connecting protective trunking for the drives along 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      HMIXF-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.



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

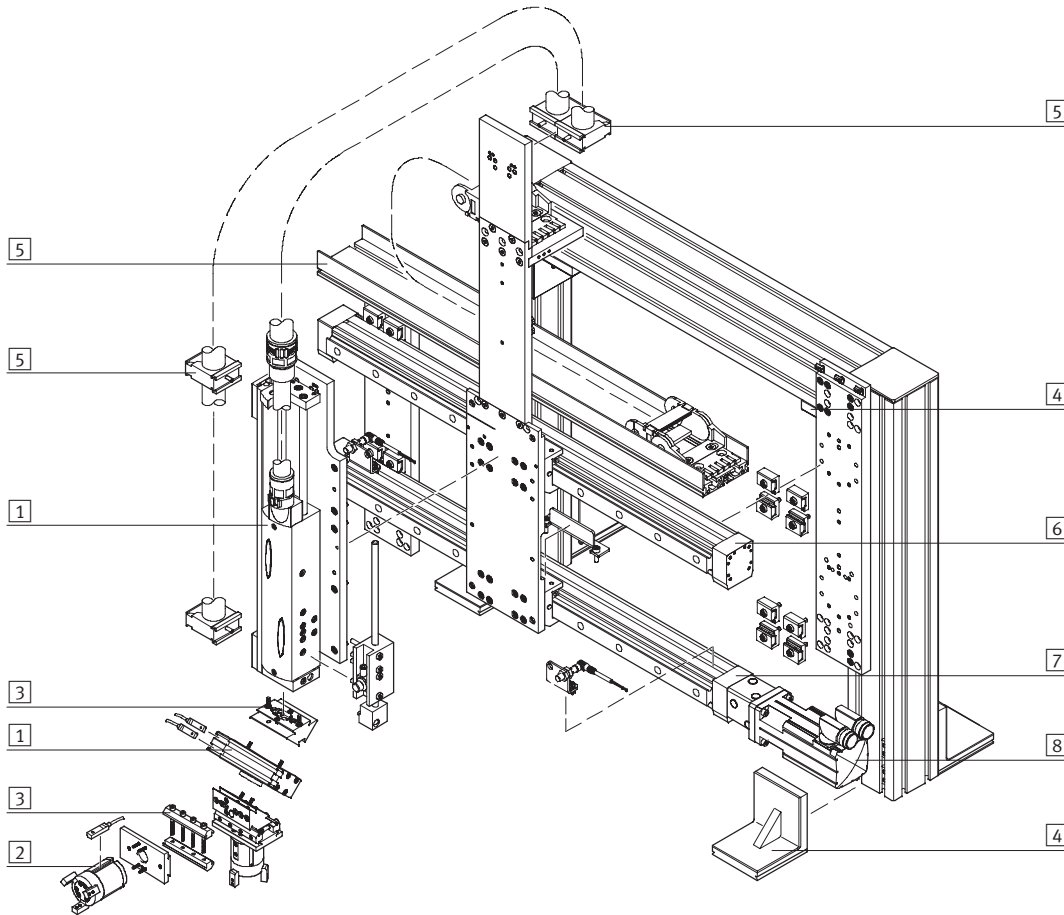
### Accessories

- Slot nuts
- Protective trunking (IGUS/KABELSCHLEPP)

# Installation components, for long strokes

System example

System product for handling and assembly technology





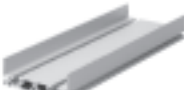




System elements and accessories			
	Brief description	→ Page	
1	Drives	Wide range of combinations options within handling and assembly technology	Volume 1
2	Grippers	Wide range of combination options within handling and assembly technology	Volume 1
3	Adapters	For drive/drive and drive/gripper combinations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









# 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 	→ 5 / 3.3-92	-	-	→ 5 / 3.3-92	-	-
Installation kit HMIZF-E03-DA18 	→ 5 / 3.3-92	-	-	→ 5 / 3.3-92	-	-
Installation kit HMIZF-E03-DA25 	→ 5 / 3.3-92	-	-	→ 5 / 3.3-92	-	-
Base profile HMIA-E05 	-	→ 5 / 3.3-93	-	-	→ 5 / 3.3-93	-
Base profile HMIA-E07 	-	-	→ 5 / 3.3-93	-	-	→ 5 / 3.3-93
Installation kit HMIO-AP-1 	-	→ 5 / 3.3-93	-	-	→ 5 / 3.3-93	-
Installation kit HMIO-AP-2 	-	→ 5 / 3.3-93	-	-	→ 5 / 3.3-93	-

# Installation components, for long strokes

Selection aid

Installation kits and base profiles	Protective trunking					
	IGUS E2 medium series 240			KABELSCHLEPP MC series		
	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 	-	-	→ 5 / 3.3-93	-	-	→ 5 / 3.3-93
Installation kit HMIYF-RF/DL25 	-	-	→ 5 / 3.3-96	-	-	→ 5 / 3.3-96
Installation kit HMIYF-RF/DL40 	-	-	→ 5 / 3.3-96	-	-	→ 5 / 3.3-96
Installation kit HMIM-LP 	→ 5 / 3.3-94			→ 5 / 3.3-94		
Installation kit HMID-LP 	→ 5 / 3.3-94			→ 5 / 3.3-94		
Installation kit HMIXB-RP/FP 	→ 5 / 3.3-95			→ 5 / 3.3-95		

# Installation components, for long strokes

Technical data

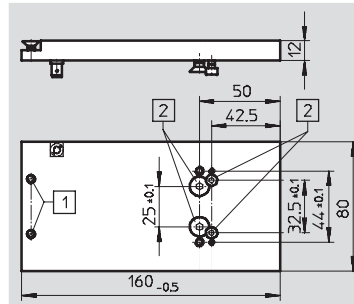


## Installation kit HMIZB-E03

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



- 1 HMIM-LP/HMID-LP
- 2 Protective trunking

### Technical data and ordering codes

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

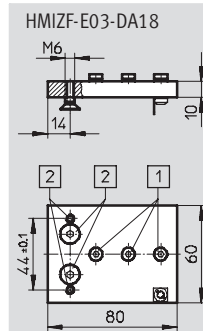
1) Corrosion resistance class 2 according to Festo standard 940 070  
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

## Installation kit HMIZF-E03

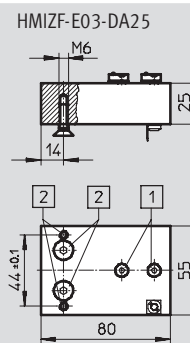
For connecting protective trunking to the Z-axis in gantries

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

Material:  
Anodised aluminium  
Free of copper, PTFE and silicone



- 1 DGEA-18
- 2 Protective trunking



- 1 DGEA-25
- 2 Protective trunking

### Technical data and ordering codes

CRC <sup>1)</sup>	Weight [g]	Part No.	Type
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



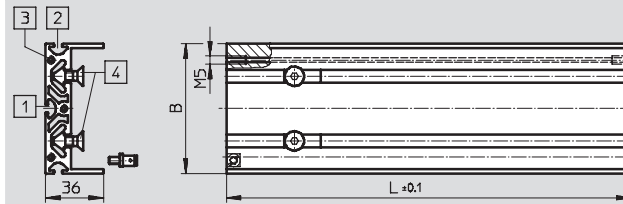
## Base profile HMIA



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	CRC <sup>1)</sup>	Weight per metre	Part No.	Type
[mm]		[g]		
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.

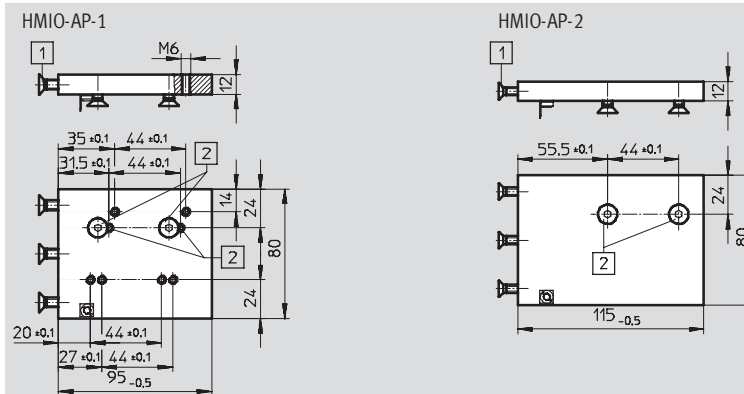
## Installation kit HMIO-AP



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	Part No.	Type
	[g]		
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

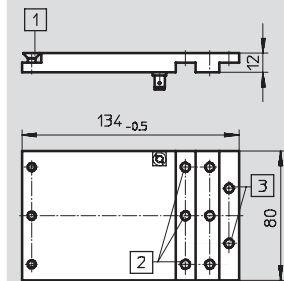


## Installation kit HMIM-LP

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

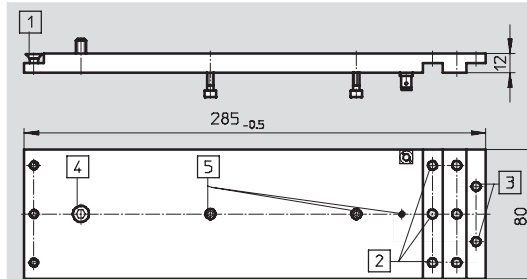
1) Corrosion resistance class 2 according to Festo standard 940 070  
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

## 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

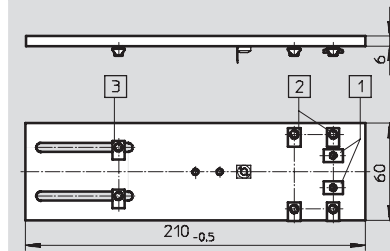
## Installation kit HMIXB-RP/FP



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.

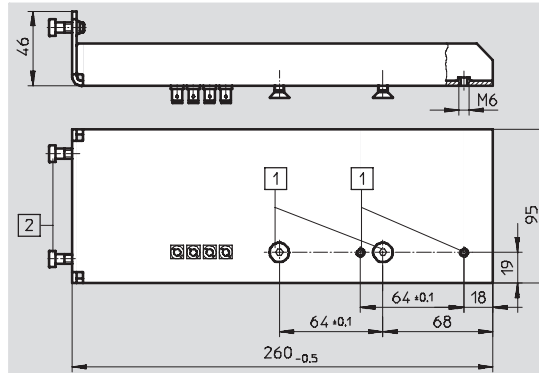
## Installation kit HMIXF-RP/FP



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 HMVV-RP/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

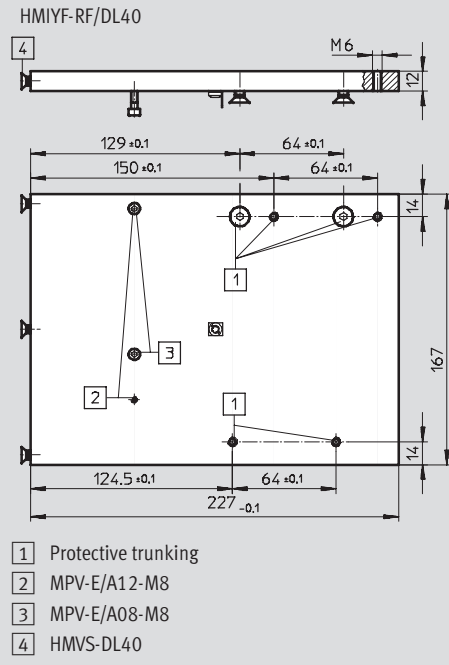
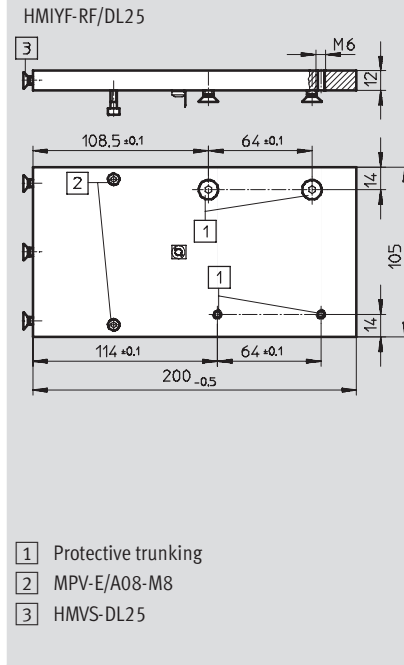


## Installation kit HMIYF-RF/DL

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



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.