



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

Multi-axis modular system

Key features








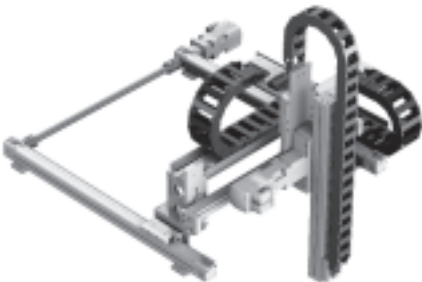
The concept

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

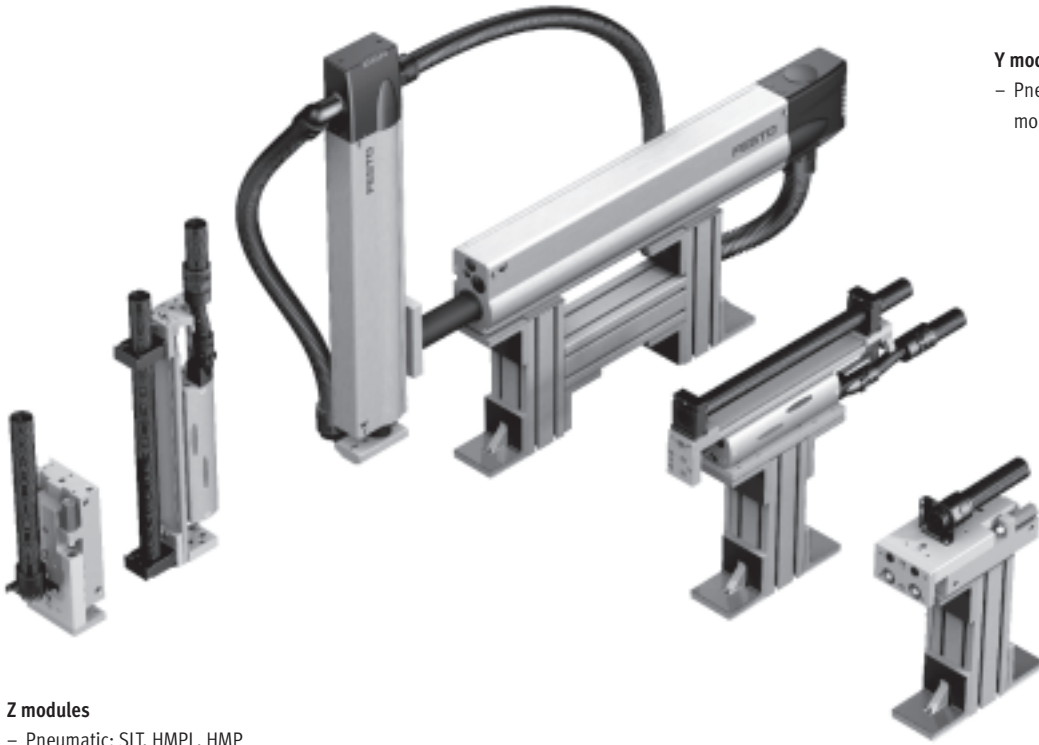


Pick & place

Key features



Y and Z modules



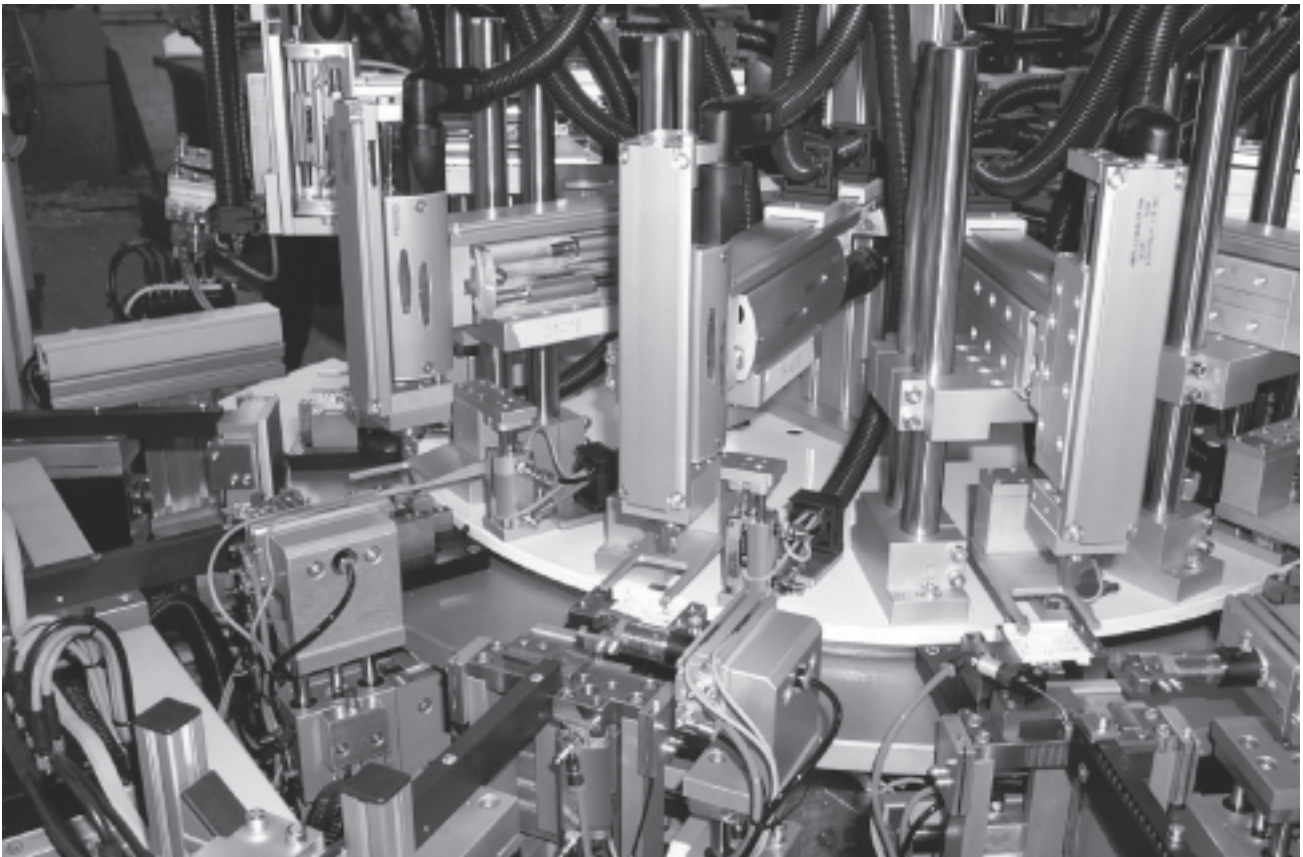
Y modules

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

Z modules

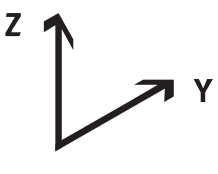





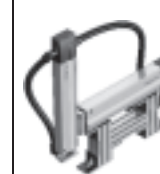
- Pneumatic: SLT, HMPL, HMP

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

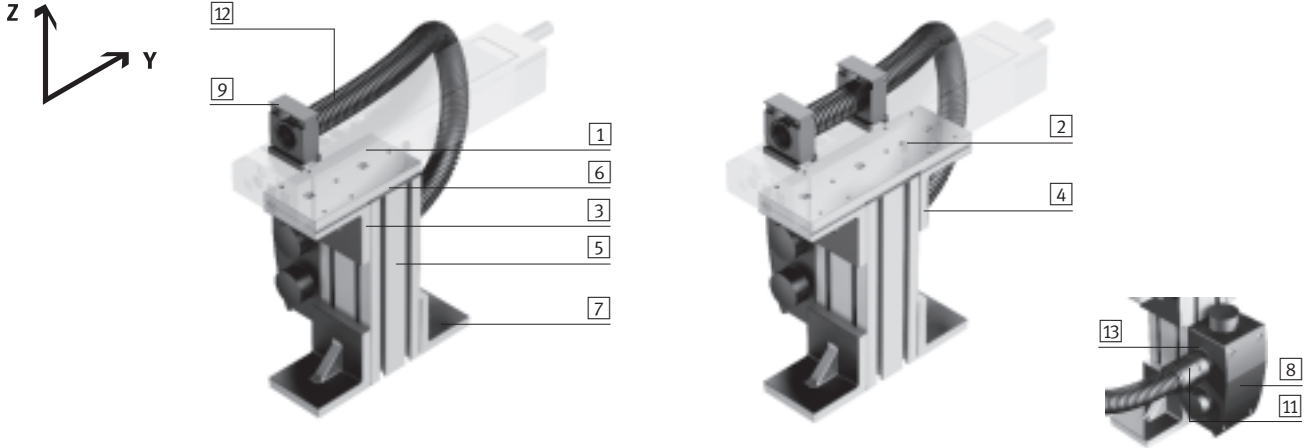
Technical data on the basic, connection and installation components can be found on the specified pages. Further accessories for the selected drives, for example proximity sensors, centring sleeves, etc. are documented with the drives.

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 ¹⁾	175 958 HMBS-80/80		175 958 HMBS-80/80		175 958 HMBS-80/80		175 958 HMBS-80/80		175 958 HMBS-80/80		5 / 3.3-105
[6]	1	175 965 HMBSA-80/80		175 965 HMBSA-80/80		175 965 HMBSA-80/80		175 965 HMBSA-80/80		175 965 HMBSA-80/80		5 / 3.3-105
[7]	2	175 951 HMBF-DB		175 951 HMBF-DB		175 951 HMBF-DB		175 951 HMBF-DB		175 951 HMBF-DB		5 / 3.3-107
[8]	1	175 126 HMZV		175 126 HMZV		175 126 HMZV		175 126 HMZV		175 126 HMZV		5 / 3.3-95
[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 / 3.3-101
[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 / 3.3-96
[12]	1 ²⁾	177 566 MKR-16,5-PG-16		177 567 MKR-23-PG-21		177 567 MKR-23-PG-21		177 567 MKR-23-PG-21		177 567 MKR-23-PG-21		5 / 3.3-94
[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 / 3.3-99

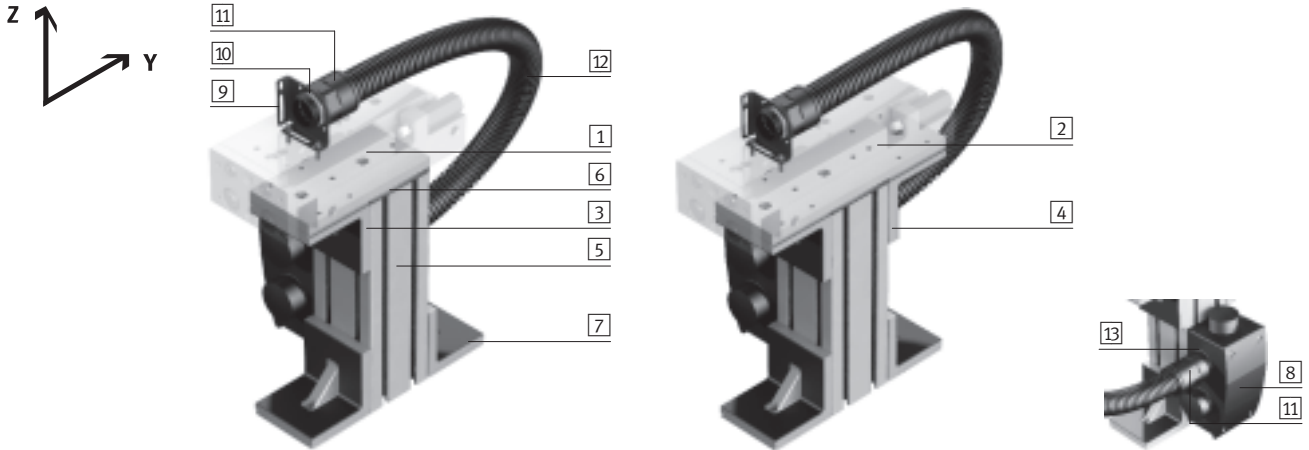
1) Height max. 500 mm

2) Length depends on the stroke of the drive

Pick & place

Y modules

Mini slides SLT



Bill of materials												
Type	HMBSY-SLT-1		HMBSY-SLT-2		HMBSY-SLT-3		HMBSY-SLT-4		HMBSY-SLT-5		→ Page	
For drives	SLT-16		SLT-20		SLT-25		SLT-25					
Stroke [mm]	30 ... 150		30 ... 100		125 ... 200		30 ... 100		125 ... 200			
Item	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	Part No.	Type	Part No.	Type	
1	1	539 968	HMVY-1	539 969	HMVY-2	-	-	539 969	HMVY-2	-	-	5 / 3.3-124
2	1	-	-	-	-	539 970	HMVY-3	-	-	539 970	HMVY-3	
3	1	175 967	HMBV-ND	175 967	HMBV-ND	-	-	175 967	HMBV-ND	-	-	5 / 3.3-108
4	2	-	-	-	-	175 967	HMBV-ND	-	-	175 967	HMBV-ND	
5	1 ¹⁾	175 958	HMBS-80/80	175 958	HMBS-80/80	175 958	HMBS-80/80	175 958	HMBS-80/80	175 958	HMBS-80/80	5 / 3.3-105
6	1	175 965	HMBSA-80/80	175 965	HMBSA-80/80	175 965	HMBSA-80/80	175 965	HMBSA-80/80	175 965	HMBSA-80/80	5 / 3.3-105
7	2	175 951	HMBF-DB	175 951	HMBF-DB	175 951	HMBF-DB	175 951	HMBF-DB	175 951	HMBF-DB	5 / 3.3-107
8	1	175 126	HMZV	175 126	HMZV	175 126	HMZV	175 126	HMZV	175 126	HMZV	5 / 3.3-95
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 / 3.3-102
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 / 3.3-101
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 / 3.3-96
12	1 ²⁾	177 567	MKR-23-PG-21	177 567	MKR-23-PG-21	177 567	MKR-23-PG-21	177 567	MKR-23-PG-21	177 567	MKR-23-PG-21	5 / 3.3-94
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 / 3.3-99

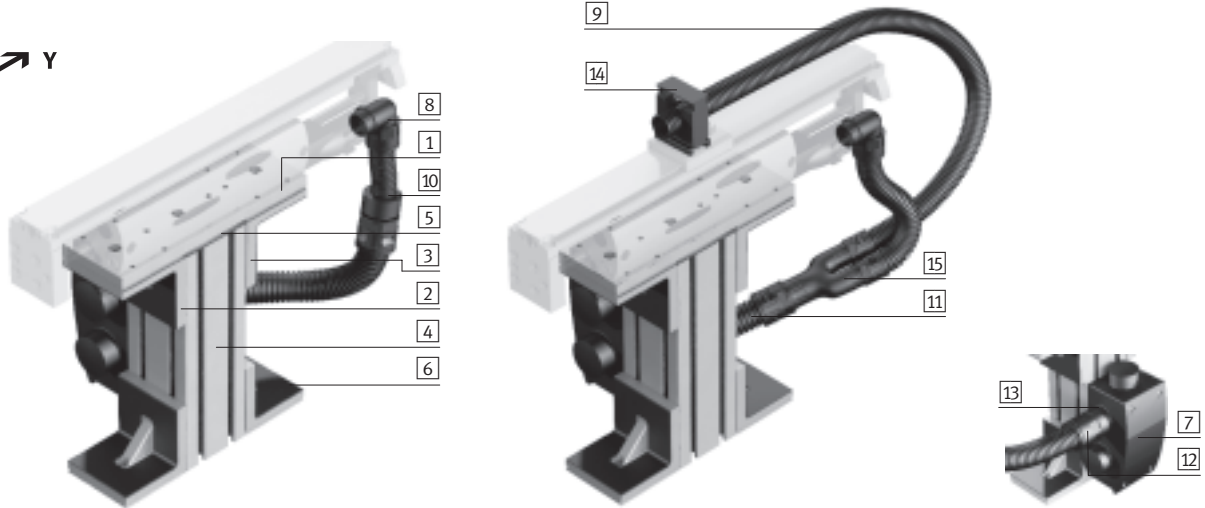
1) Height max. 500 mm
 2) Length depends on the stroke of the drive

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 ¹⁾	175 958	HMBS-80/80	175 958	HMBS-80/80	175 958	HMBS-80/80	5 / 3.3-105
5	1	175 965	HMBSA-80/80	175 965	HMBSA-80/80	175 965	HMBSA-80/80	5 / 3.3-107
6	2	175 951	HMBF-DB	175 951	HMBF-DB	175 951	HMBF-DB	5 / 3.3-95
7	1	175 126	HMZV	175 126	HMZV	175 126	HMZV	5 / 3.3-96
8	1	177 576	MKRL-16,5-PG-16	177 576	MKRL-16,5-PG-16	177 576	MKRL-16,5-PG-16	5 / 3.3-94
9	1 ²⁾	177 566	MKR-16,5-PG-16	177 566	MKR-16,5-PG-16	177 566	MKR-16,5-PG-16	5 / 3.3-98
10	1	194 321	MKRT-23-16,5	-	-	194 321	MKRT-23-16,5	5 / 3.3-94
11	1 ²⁾	177 567	MKR-23-PG-21	177 567	MKR-23-PG-21	177 567	MKR-23-PG-21	5 / 3.3-96
12	1	177 572	MKRV-23-PG-21	177 572	MKRV-23-PG-21	177 572	MKRV-23-PG-21	5 / 3.3-99
13	1	177 595	MKA-PG-29-PG-21	177 595	MKA-PG-29-PG-21	177 595	MKA-PG-29-PG-21	5 / 3.3-101
14	1 ³⁾	-	-	192 289	MKRS-16,5-B	-	-	5 / 3.3-98
15	1	-	-	193 946	MKY-PG-21-2PG-16	-	-	

1) Height max. 500 mm

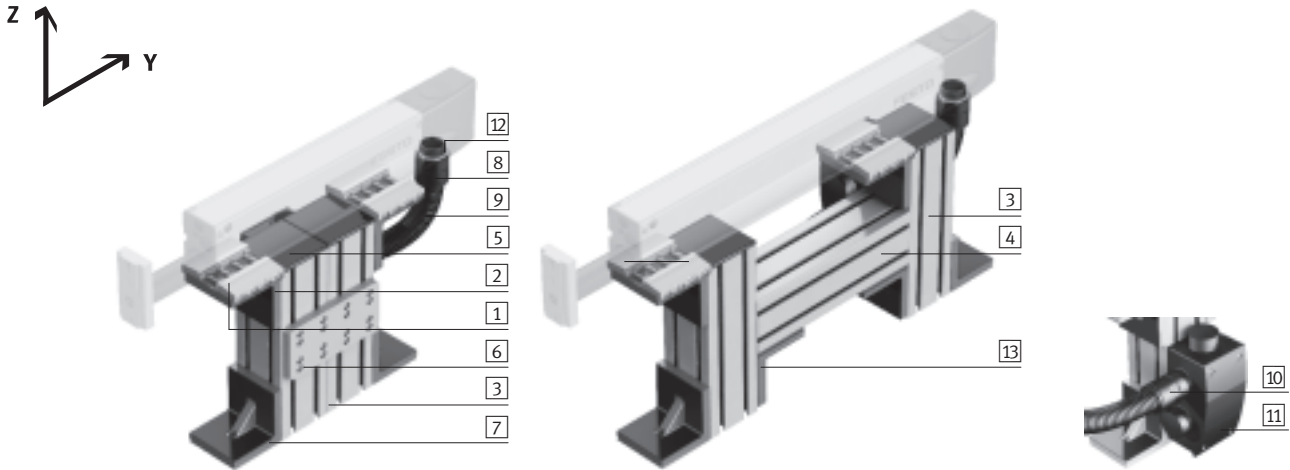
2) Length depends on the stroke of the drive, 2 conduits are required with an intermediate position.

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	
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	→ Page
1	2	175 975	HMBK-WS	175 975	HMBK-WS	175 975	HMBK-WS	5 / 3.3-123
2	2	175 967	HMBV-ND	175 967	HMBV-ND	175 967	HMBV-ND	5 / 3.3-108
3	2 ¹⁾	175 958	HMBS-80/80	175 958	HMBS-80/80	175 958	HMBS-80/80	5 / 3.3-105
4	1 ²⁾	-		175 958	HMBS-80/80	-	175 958 HMBS-80/80	
5	2	175 965	HMBSA-80/80	175 965	HMBSA-80/80	175 965	HMBSA-80/80	5 / 3.3-105
6	1	175 972	HMBSV	-		175 972	HMBSV	5 / 3.3-106
7	2	175 951	HMBF-DB	175 951	HMBF-DB	175 951	HMBF-DB	5 / 3.3-107
8	2 ⁴⁾	177 572	MKRV-23-PG-21	177 572	MKRV-23-PG-21	177 573	MKRV-29-PG-29	5 / 3.3-96
9	1 ³⁾⁴⁾	177 567	MKR-23-PG-21	177 567	MKR-23-PG-21	177 568	MKR-29-PG-29	5 / 3.3-94
10	1 ⁴⁾	177 595	MKA-PG-29-PG-21	177 595	MKA-PG-29-PG-21	-		5 / 3.3-99
11	1 ⁴⁾	175 126	HMZV	175 126	HMZV	175 126	HMZV	5 / 3.3-95
12	1 ⁴⁾	177 599	MKM-PG-21	177 599	MKM-PG-21	177 600	MKM-PG-29	5 / 3.3-101
13	2	-		178 228	HMBSW	-		5 / 3.3-106

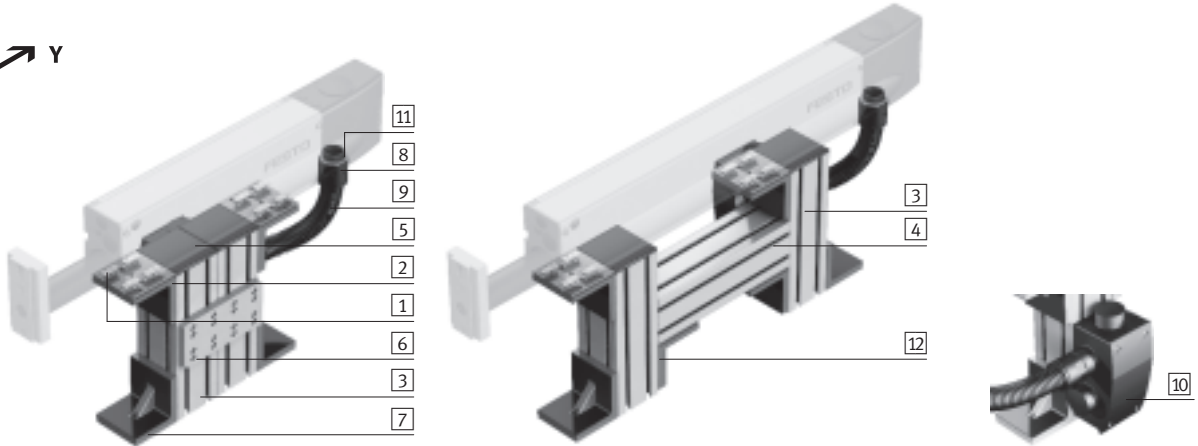
- 1) Height max. 500 mm
- 2) Length 250 mm
- 3) Length depends on the stroke of the drive
- 4) It is not suitable for use with linear module HME

Pick & place

Y modules



Linear modules HMP, HME



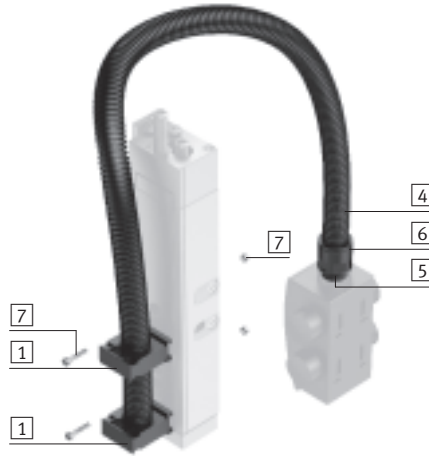
Bill of materials										
Type	HMBSY-HMP-5		HMBSY-HMP-6		HMBSY-HMP-7		HMBSY-HMP-8		→ Page	
For drives	HMP-/HME-25				HMP-32					
Stroke [mm]	100 ... 200		250 ... 400		100 ... 200		250 ... 400			
Item	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	Part No.		Type
[1]	2	175 970	HMBK-ND	175 970	HMBK-ND	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 ¹⁾	175 958	HMBS-80/80	175 958	HMBS-80/80	175 958	HMBS-80/80	175 958	HMBS-80/80	5 / 3.3-105
[4]	1 ²⁾	-		175 958	HMBS-80/80	-		175 958	HMBS-80/80	
[5]	2	175 965	HMBSA-80/80	175 965	HMBSA-80/80	175 965	HMBSA-80/80	175 965	HMBSA-80/80	5 / 3.3-105
[6]	1	175 972	HMBSV	-		175 972	HMBSV	-		5 / 3.3-106
[7]	2	175 951	HMBF-DB	175 951	HMBF-DB	175 951	HMBF-DB	175 951	HMBF-DB	5 / 3.3-107
[8]	2 ⁴⁾	177 573	MKRV-29-PG-29	177 573	MKRV-29-PG-29	177 573	MKRV-29-PG-29	177 573	MKRV-29-PG-29	5 / 3.3-96
[9]	1 ³⁾⁴⁾	177 568	MKR-29-PG-29	177 568	MKR-29-PG-29	177 568	MKR-29-PG-29	177 568	MKR-29-PG-29	5 / 3.3-94
[10]	1 ⁴⁾	175 126	HMZV	175 126	HMZV	175 126	HMZV	175 126	HMZV	5 / 3.3-95
[11]	1 ⁴⁾	177 600	MKM-PG-29	177 600	MKM-PG-29	177 600	MKM-PG-29	177 600	MKM-PG-29	5 / 3.3-101
[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 / 3.3-102
4	1 ¹⁾	177 566	MKR-16,5-PG-16	177 566	MKR-16,5-PG-16	177 567	MKR-23-PG-21	5 / 3.3-94
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 / 3.3-99
6	1	177 571	MKRV-16,5-PG-16	177 571	MKRV-16,5-PG-16	177 572	MKRV-23-PG-21	5 / 3.3-96
7	1	548 803	ZBV-M5-7	548 804	ZBV-M5-9	150 927	ZBH-9 ²⁾	–

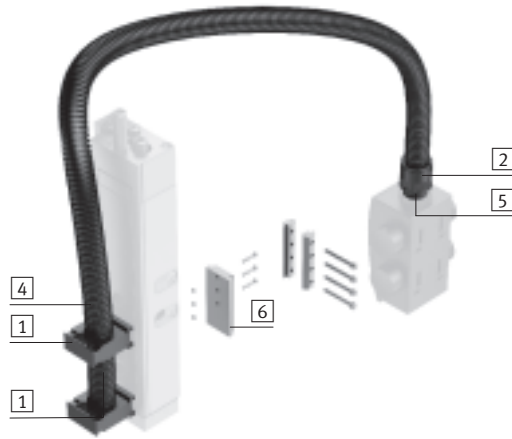
1) Length depends on the stroke of the drive

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

Pick & place

Z modules

Mini slides DGSL



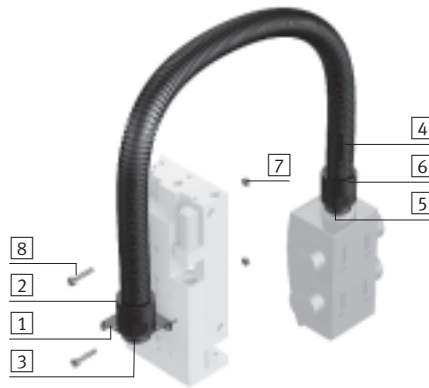
Bill of materials								
Type		HMBSZ-DGSL-4		HMBSZ-DGSL-5		HMBSZ-DGSL-6		
For drives		DGSL-16		DGSL-20		DGSL-25		
Item	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	→ Page
[1]	2	192 289	MKRS-16,5-B	192 290	MKRS-23-B	192 290	MKRS-23-B	5 / 3.3-101
		548 803	ZBV-M5-7	548 804	ZBV-M5-9	548 804	ZBV-M5-9	
[2]	1	177 571	MKRV-16,5-PG-16	177 572	MKRV-23-PG-21	177 572	MKRV-23-PG-21	5 / 3.3-96
[4]	1 ¹⁾	177 566	MKR-16,5-PG-16	177 567	MKR-23-PG-21	177 567	MKR-23-PG-21	5 / 3.3-94
[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 / 3.3-99
[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



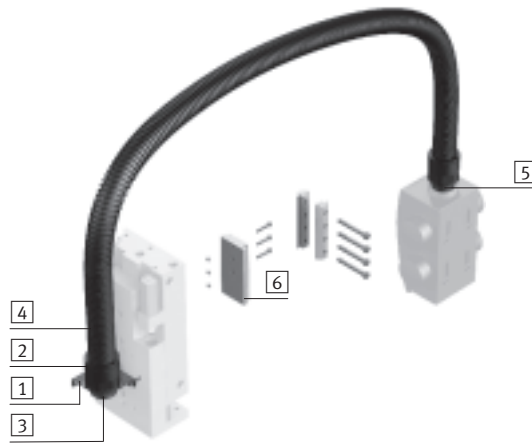
Bill of materials								
Type		HMBSZ-SLT-1		HMBSZ-SLT-2		HMBSZ-SLT-3		
For drives		SLT-10		SLT-16		SLT-20		
Item	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	
							→ Page	
1	1	192 289	MKRS-16,5-B	193 124	HMZAS-PG-21	193 124	HMZAS-PG-21	5 / 3.3-102
2	1	-		177 572	MKRV-23-PG-21	177 572	MKRV-23-PG-21	5 / 3.3-96
3	1	-		177 599	MKM-PG-21	177 599	MKM-PG-21	5 / 3.3-101
4	1 ¹⁾	177 566	MKR-16,5-PG-16	177 567	MKR-23-PG-21	177 567	MKR-23-PG-21	5 / 3.3-94
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 / 3.3-99
6	1	177 571	MKRV-16,5-PG-16	177 572	MKRV-23-PG-21	177 572	MKRV-23-PG-21	5 / 3.3-96
7	- ²⁾	186 717	ZBH-7	150 927	ZBH-9	189 653	ZBH-12	-
8	2	M4x25 DIN 912		M5x30 DIN 912		M6x40 DIN 912		-

- 1) Length depends on the stroke of the drive
- 2) Centring sleeves are included in the scope of delivery of the mini slide SLT.

Pick & place

Z modules

Mini slides SLT



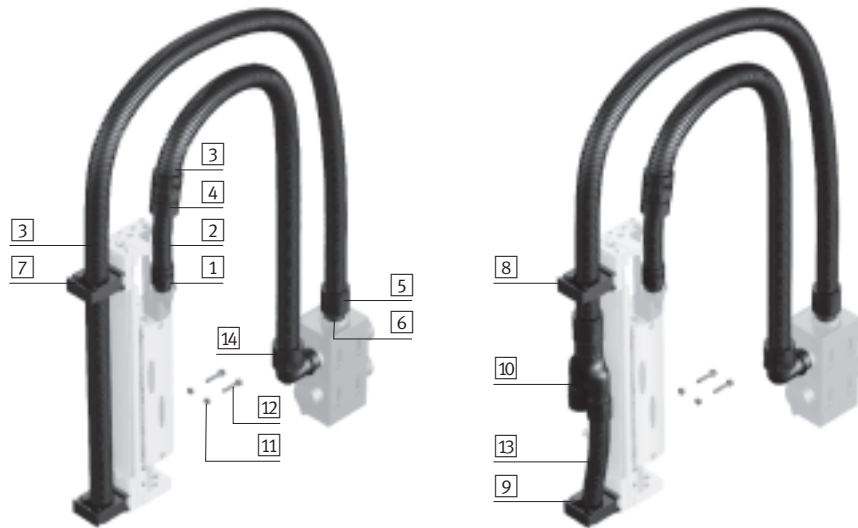
Bill of materials							
Type	HMBSZ-SLT-4		HMBSZ-SLT-5		HMBSZ-SLT-6		→ Page
For drives	SLT-16		SLT-20		SLT-25		
Item	Quantity	Part No.	Type	Part No.	Type	Part No.	
[1]	1	193 124	HMZAS-PG-21	193 124	HMZAS-PG-21	193 124	5 / 3.3-102
[2]	2	177 572	MKRV-23-PG-21	177 572	MKRV-23-PG-21	177 572	5 / 3.3-96
[3]	1	177 599	MKM-PG-21	177 599	MKM-PG-21	177 599	5 / 3.3-101
[4]	1 ¹⁾	177 567	MKR-23-PG-21	177 567	MKR-23-PG-21	177 567	5 / 3.3-94
[5]	1	177 595	MKA-PG-29-PG-21	177 595	MKA-PG-29-PG-21	177 595	5 / 3.3-99
[6]	1	178 331	HMSV-36	178 332	HMSV-37	178 332	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 / 3.3-96
2	1 ¹⁾	177 566	MKR-16,5-PG-16	177 566	MKR-16,5-PG-16	177 566	MKR-16,5-PG-16	5 / 3.3-94
3	2 ¹⁾	177 567	MKR-23-PG-21	177 567	MKR-23-PG-21	177 567	MKR-23-PG-21	
4	1	194 321	MKRT-23-16,5	194 321	MKRT-23-16,5	194 321	MKRT-23-16,5	5 / 3.3-98
5	1	177 572	MKRV-23-PG-21	177 572	MKRV-23-PG-21	177 572	MKRV-23-PG-21	5 / 3.3-96
6	2	177 595	MKA-PG-29-PG-21	177 595	MKA-PG-29-PG-21	177 595	MKA-PG-29-PG-21	5 / 3.3-99
7	2 ²⁾	192 290	MKRS-23-B	-		192 290	MKRS-23-B	5 / 3.3-101
8	1 ²⁾	-		192 290	MKRS-23-B	-		
9	1 ²⁾	-		192 289	MKRS-16,5-B	-		
10	1	-		193 946	MKY-PG-21-2PG-16	-		5 / 3.3-98
11	1 ³⁾	150 927	ZBH-9	150 927	ZBH-9	150 927	ZBH-9	-
12	2	M5x16 DIN 912		M5x16 DIN 912		M5x22 DIN 912		-
13	1 ¹⁾	-		177 566	MKR-16,5-PG-16	-		5 / 3.3-94
14	1	177 577	MKRL-23-PG-21	177 577	MKRL-23-PG-21	177 577	MKRL-23-PG-21	5 / 3.3-97

1) Length depends on the stroke of the drive

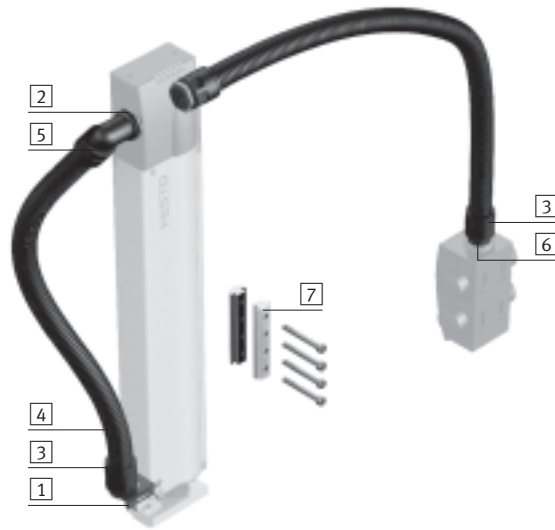
2) In order to be able to mount the retaining clip MKRS, a clamping component (2x code I) must be selected as an accessory in the order for the linear module HMPL.

3) 10 per packaging unit

Pick & place

Z modules

Linear modules HMP



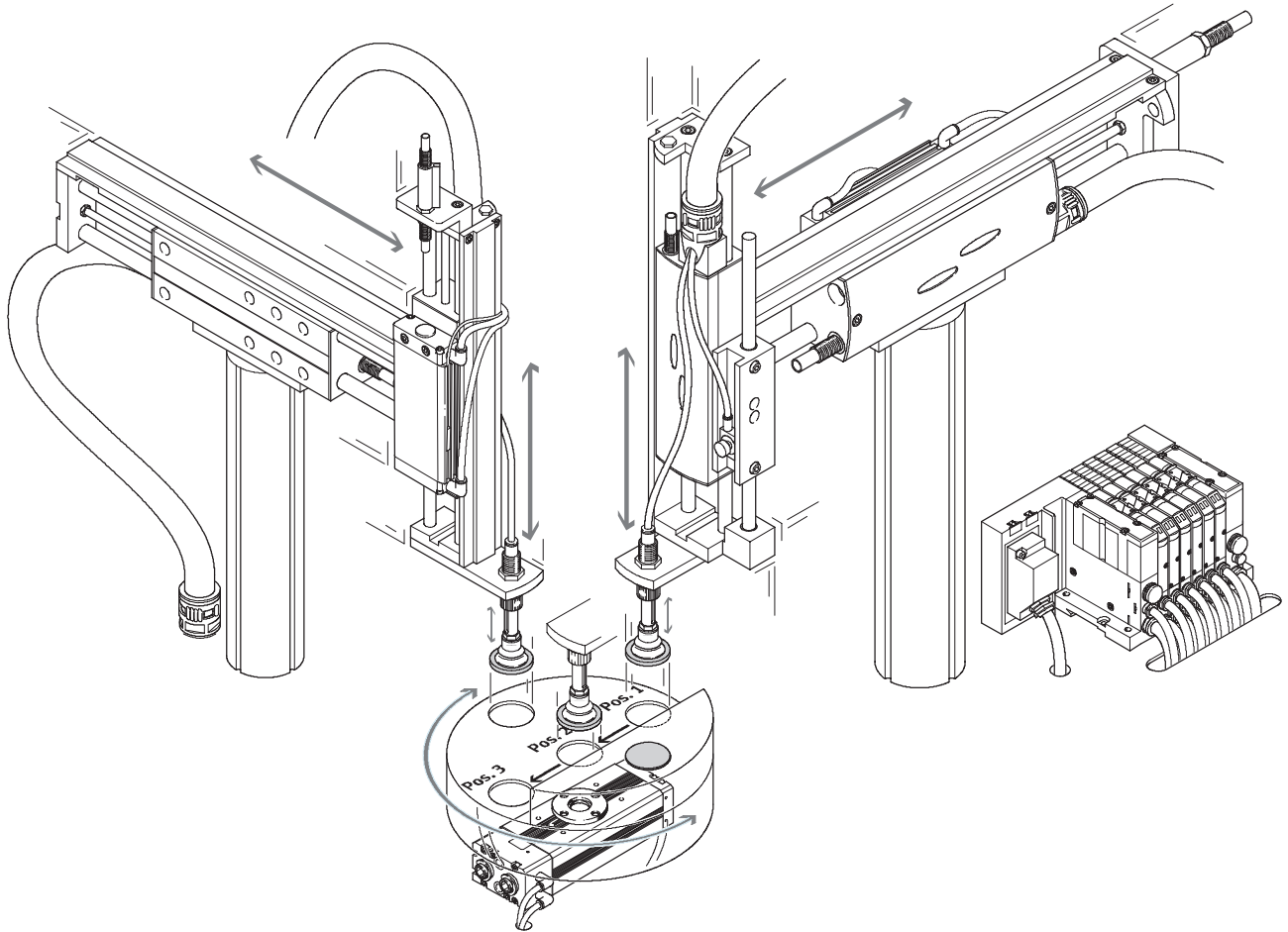
Bill of materials							
Type	HMBSZ-HMP-1		HMBSZ-HMP-2		HMBSZ-HMP-3		→ Page
For drives	HMP-16		HMP-20		HMP-25		
Item	Quantity	Part No.	Type	Part No.	Type	Part No.	Type
[1]	1	193 124 HMZAS-PG-21		177 603 HMZAS-PG-29		177 603 HMZAS-PG-29	5 / 3.3-102
[2]	3	177 599 MKM-PG-21		177 600 MKM-PG-29		177 600 MKM-PG-29	5 / 3.3-101
[3]	3	177 572 MKRV-23-PG-21		177 573 MKRV-29-PG-29		177 573 MKRV-29-PG-29	5 / 3.3-96
[4]	2 ¹⁾	177 567 MKR-23-PG-21		177 568 MKR-29-PG-29		177 568 MKR-29-PG-29	5 / 3.3-94
[5]	1	177 577 MKRL-23-PG-21		177 578 MKRL-29-PG-29		177 578 MKRL-29-PG-29	5 / 3.3-97
[6]	1	177 595 MKA-PG-29-PG-21		-		-	5 / 3.3-99
[7]	1	177 647 HMSV-1		177 649 HMSV-3		177 653 HMSV-7	5 / 3.3-115

1) Length depends on the stroke of the drive

Pick & place

System example

Combination with handling modules HMPL

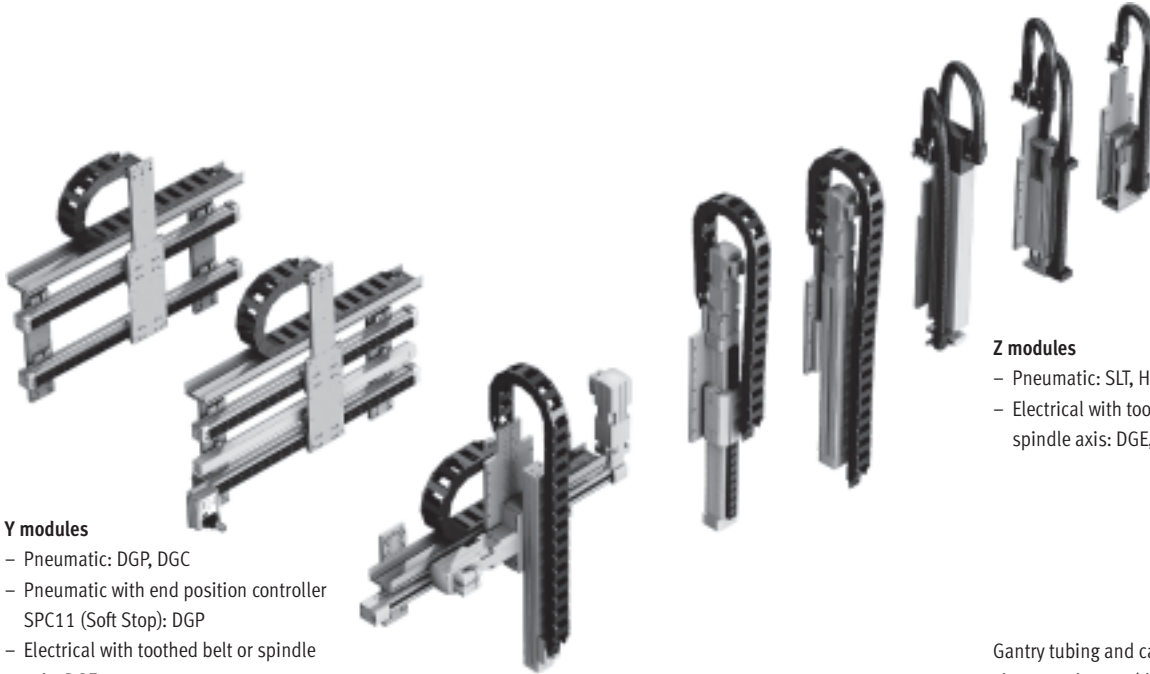


Linear gantries

Key features



Y and Z modules



Y modules

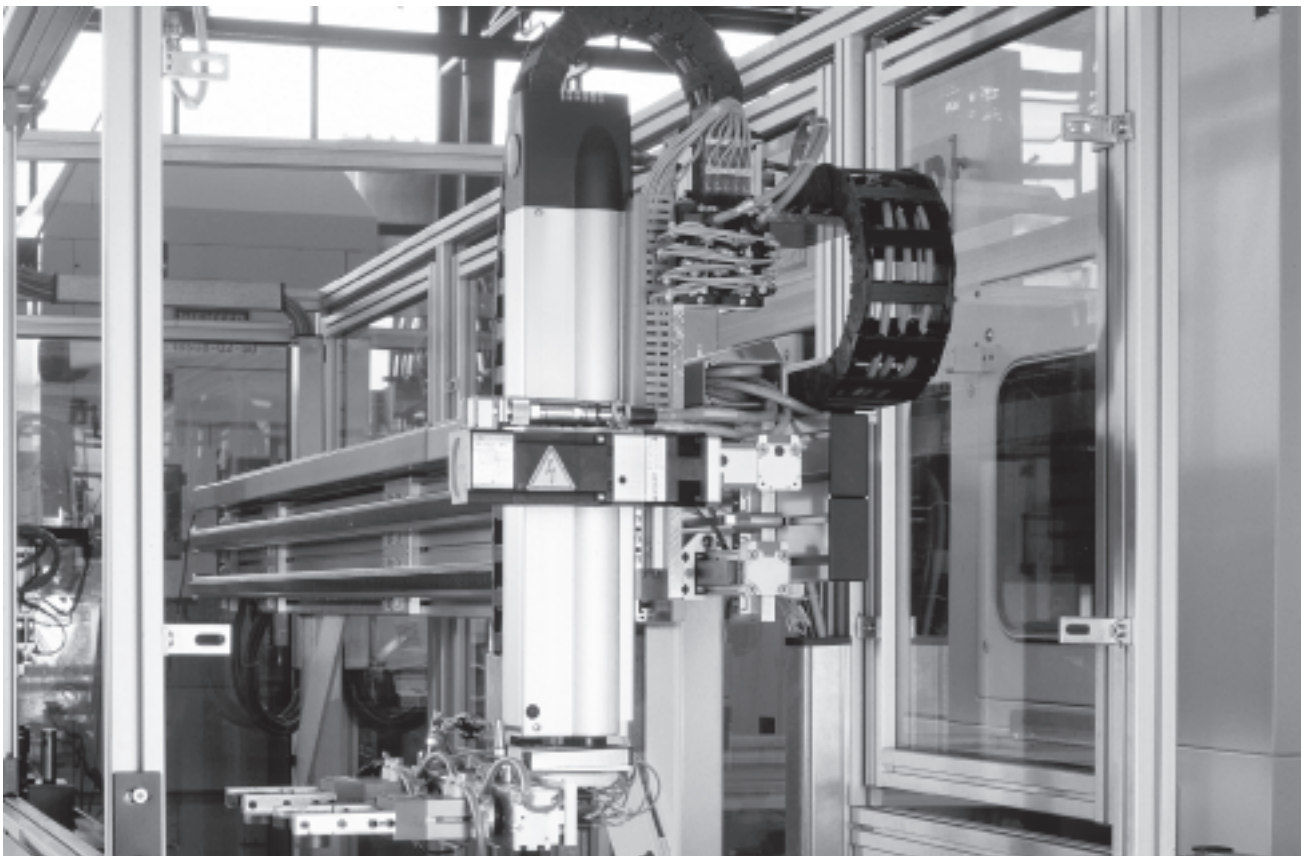
- Pneumatic: DGP, DGC
- Pneumatic with end position controller SPC11 (Soft Stop): DGP
- Electrical with toothed belt or spindle axis: DGE
- Single-axis systems (mono) or drives with guide axis (duo)

Z modules

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

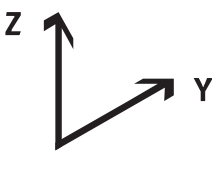


Gantry tubing and cables are routed via protective trunking. Festo uses a base profile for this purpose specially designed for handling technology.

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
Working load [kg]				
	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

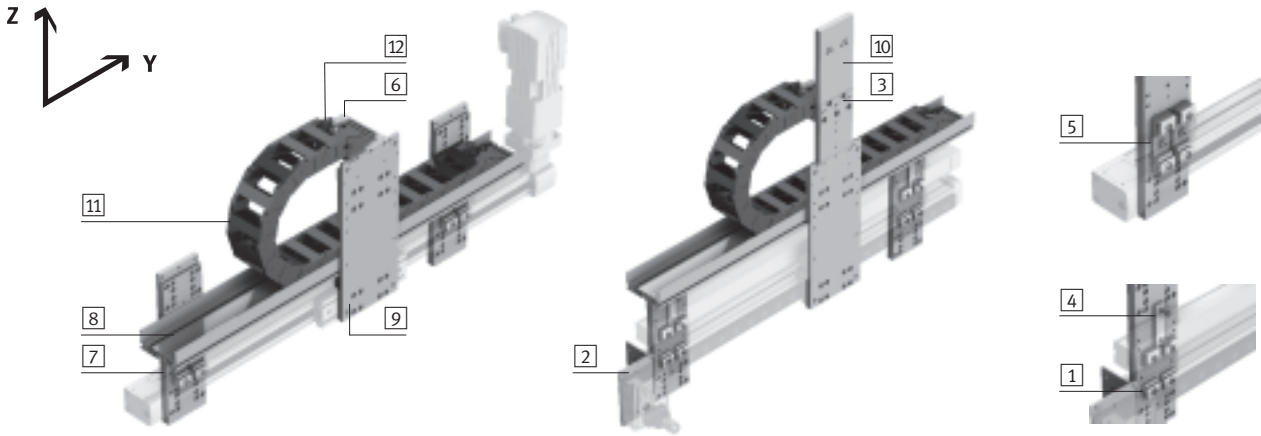
Linear gantries

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	Part No.	Type	→ Page
1	2 ¹⁾	150 736		–		150 736		150 736		Volume 1
	1 ¹⁾	–		531 753		–		–		Volume 1
		MUP-18/25		MUC-25		MUP-18/25		MUP-18/25		
2	1	–		–		539 367		–		5 / 3.3-133
						HMVW-SPC				
3	1	–		–		539 364		–		5 / 3.3-158
						HMIM-LP				
4	1 ¹⁾	–		–		539 973		–		5 / 3.3-132
						HMVO-POT				
5	2 ¹⁾	–		–		–		539 362		5 / 3.3-132
								HMVO-RF25		
6	1	539 366		539 366		539 366		539 366		5 / 3.3-158
		HMIO-AP1		HMIO-AP1		HMIO-AP1		HMIO-AP1		
7	2 ²⁾	539 972		539 972		539 972		539 972		5 / 3.3-128
		HMVM-LP-DL25/40		HMVM-LP-DL25/40		HMVM-LP-DL25/40		HMVM-LP-DL25/40		
8	1 ³⁾	539 378		539 378		539 378		539 378		5 / 3.3-157
		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 / 3.3-156
						HMIZB-E03				
11	1	IGUS E2 medium 240.05.100 and 211 or KABELSCHLEPP MC 0320.60-01-100 and TS O/n _T 2								–
12	1	IGUS E2 medium 2050.12.PZB or KABELSCHLEPP MC FA/MA								–

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

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

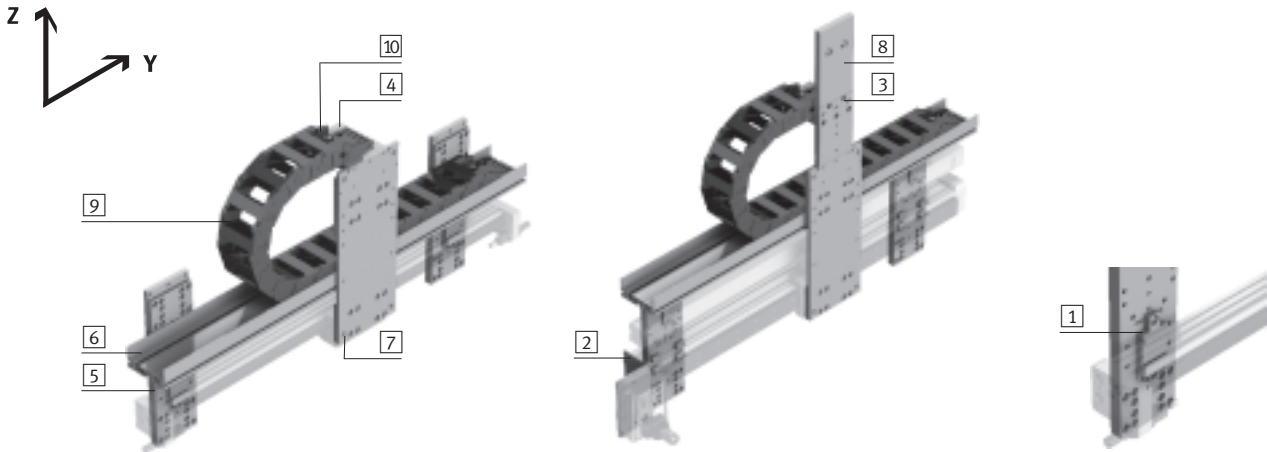
3) Length depends on the stroke of the drive

Linear gantries

Y modules

Mono system

Toothed belt axes DGE, linear drives DGC, DGPL



Bill of materials									
Type	HMBSY-LP-M40-1		HMBSY-LP-M40-2		HMBSY-LP-M40-3				
For drives	DGPL-40 DGE-40-SP-KF DGE-40-ZR-KF DGE-40-ZR-RF		DGC-40		DGPL-40 with SPC11				
System type	Mono 40								
Item	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	→ Page	
1	1 ¹⁾	-		531 755	MUC-40	-		Volume 1	
2	1	-		-		539 367	HMVW-SPC	5 / 3.3-133	
3	1	-		-		539 364	HMIM-LP	5 / 3.3-158	
4	1	539 366	HMIO-AP-1	540 121	HMIO-AP-2	539 366	HMIO-AP-1	5 / 3.3-158	
5	2 ²⁾	539 972	HMVM-LP-DL25/40	539 972	HMVM-LP-DL25/40	539 972	HMVM-LP-DL25/40	5 / 3.3-128	
6	1 ³⁾	539 378	HMIA-E05	539 378	HMIA-E05	539 378	HMIA-E05	5 / 3.3-157	
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 / 3.3-156	
9	1	IGUS E2 medium 240.05.100 and 211 or KABELSCHLEPP MC 0320.60-01-100 and TS O/n _T 2							-
10	1	IGUS E2 medium 2050.12.PZB or KABELSCHLEPP MC FA/MA							-

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

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

3) Length depends on the stroke of the drive

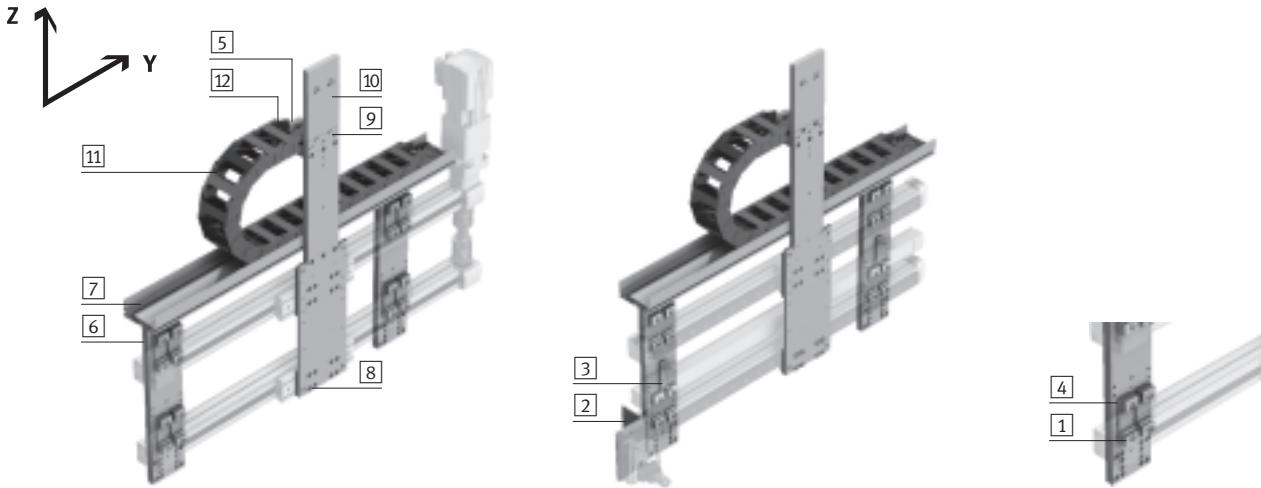
Linear gantries

Y modules



Duo system

Toothed belt axes DGE, linear drives DGC, DGPL



Bill of materials

Type	HMBSY-LP-D25-1	HMBSY-LP-D25-2	HMBSY-LP-D25-3	HMBSY-LP-D25-4		
For drives	DGPL-25 DGE-25-SP-KF DGE-25-ZR-KF	DGC-25	DGPL-25 with SPC11	DGE-25-ZR-RF		
System type	Duo 25					
Item	Quantity	Part No. Type	Part No. Type	Part No. Type	Part No. Type	→ Page
1	4 ¹⁾	150 736 MUP-18/25	–	150 736 MUP-18/25	150 736 MUP-18/25	Volume 1
	2 ¹⁾	–	531 753 MUC-25	–	–	Volume 1
2	1	–	–	539 367 HMVW-SPC	–	5 / 3.3-133
3	1 ¹⁾	–	–	539 973 HMVO-POT	–	5 / 3.3-132
4	4 ¹⁾	–	–	–	539 362 HMVO-RF25	5 / 3.3-132
5	1	539 366 HMIO-AP-1	539 366 HMIO-AP-1	539 366 HMIO-AP-1	539 366 HMIO-AP-1	5 / 3.3-158
6	2 ²⁾	539 971 HMVD-LP-DL25/40	539 971 HMVD-LP-DL25/40	539 971 HMVD-LP-DL25/40	539 971 HMVD-LP-DL25/40	5 / 3.3-128
7	1 ³⁾	539 378 HMIA-E05	539 378 HMIA-E05	539 378 HMIA-E05	539 378 HMIA-E05	5 / 3.3-157
8	1	539 368 HMVS-DL25	539 368 HMVS-DL25	539 368 HMVS-DL25	539 368 HMVS-DL25	5 / 3.3-130
9	1	539 363 HMID-LP	539 363 HMID-LP	539 363 HMID-LP	539 363 HMID-LP	5 / 3.3-158
10	1	539 365 HMIZB-E03	539 365 HMIZB-E03	539 365 HMIZB-E03	539 365 HMIZB-E03	5 / 3.3-156
11	1	IGUS E2 medium 240.05.100 and 211 or KABELSCHLEPP MC 0320.60-01-100 and TS O/h _T 2				–
12	1	IGUS E2 medium 2050.12.PZB or KABELSCHLEPP MC FA/MA				–

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

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

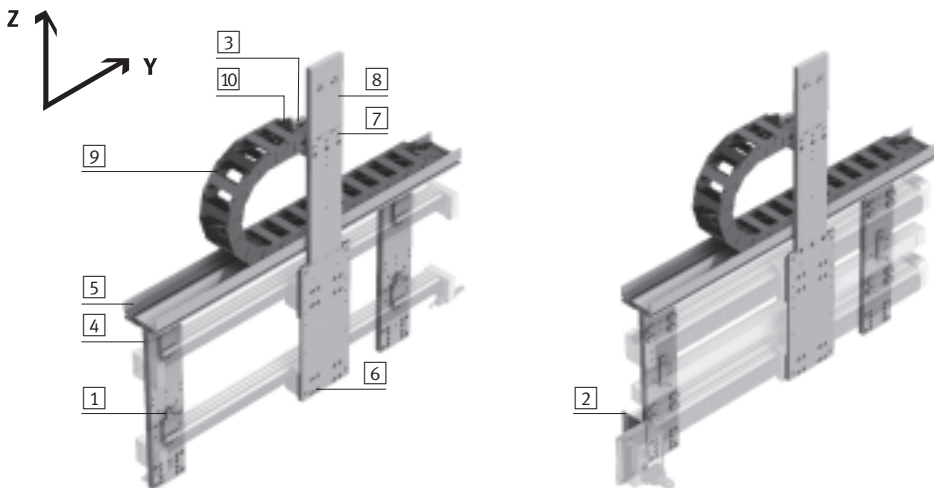
3) Length depends on the stroke of the drive

Linear gantries

Y modules

Duo system

Toothed belt axes DGE, linear drives DGC, DGPL



Bill of materials									
Type	HMBSY-LP-D40-1		HMBSY-LP-D40-2		HMBSY-LP-D40-3				
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	
1	2 ¹⁾	-		531 755	MUC-40	-		Volume 1	
2	1	-		-		539 367	HMVW-SPC	5 / 3.3-133	
3	1	539 366	HMIO-AP-1	540 121	HMIO-AP-2	539 366	HMIO-AP-1	5 / 3.3-158	
4	2 ²⁾	539 971	HMVD-LP-DL25/40	539 971	HMVD-LP-DL25/40	539 971	HMVD-LP-DL25/40	5 / 3.3-128	
5	1 ³⁾	539 378	HMIA-E05	539 378	HMIA-E05	539 378	HMIA-E05	5 / 3.3-157	
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 / 3.3-158	
8	1	539 365	HMIZB-E03	539 365	HMIZB-E03	539 365	HMIZB-E03	5 / 3.3-156	
9	1	IGUS E2 medium 240.05.100 and 211 or KABELSCHLEPP MC 0320.60-01-100 and TS O/n _T 2							-
10	1	IGUS E2 medium 2050.12.PZB or KABELSCHLEPP MC FA/MA							-

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

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

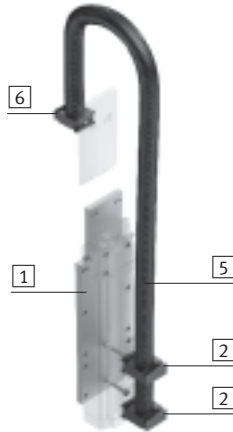
3) Length depends on the stroke of the drive

Linear gantries

Z modules



Z modules
Mini slides DGSL



System components
Multi-axis modular system

3.3

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

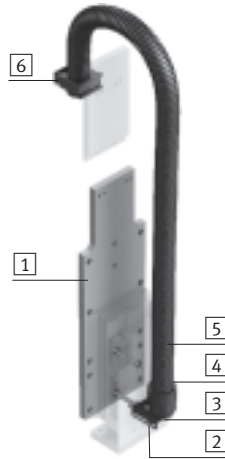
1) Length depends on the stroke of the drive

Linear gantries

Z modules

Mono/Duo system

Mini slides SLT



Bill of materials								
Type		HMBSZ-SLT-7						→ Page
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	5 / 3.3-131
2	1	193 124	HMZAS-PG-21	193 124	HMZAS-PG-21	193 124	HMZAS-PG-21	5 / 3.3-102
3	1	177 599	MKM-PG-21	177 599	MKM-PG-21	177 599	MKM-PG-21	5 / 3.3-101
4	1	177 572	MKRV-23-PG-21	177 572	MKRV-23-PG-21	177 572	MKRV-23-PG-21	5 / 3.3-96
5	1 ¹⁾	177 567	MKR-23-PG-21	177 567	MKR-23-PG-21	177 567	MKR-23-PG-21	5 / 3.3-94
6	1	192 290	MKRS-23-B	192 290	MKRS-23-B	192 290	MKRS-23-B	5 / 3.3-101

1) Length depends on the stroke of the drive

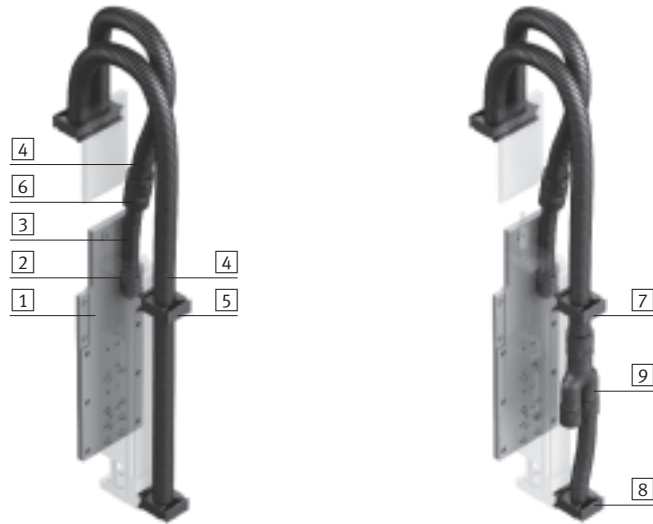
Linear gantries

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 ¹⁾	177 566	MKR-16,5-PG-16	177 566	MKR-16,5-PG-16	177 566	MKR-16,5-PG-16
[4]	1 ²⁾	177 567	MKR-23-PG-21	177 567	MKR-23-PG-21	177 567	MKR-23-PG-21
[5]	4 ³⁾	192 290	MKRS-23-B	192 290	MKRS-23-B	–	–
[6]	1	194 321	MKRT-23-16,5	194 321	MKRT-23-16,5	194 321	MKRT-23-16,5
[7]	3 ³⁾	–	–	–	–	192 290	MKRS-23-B
[8]	1	–	–	–	–	192 289	MKRS-16,5-B
[9]	1	–	–	–	–	193 946	MKY-PG-21-2PG-16

1) Length 200 mm

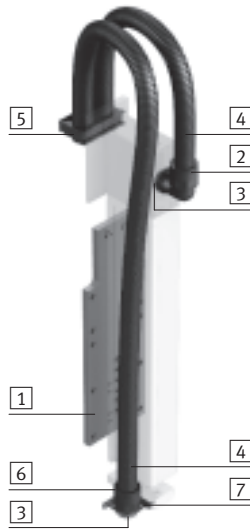
2) Length depends on the stroke of the drive, 2 conduits are required with an intermediate position.

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

Linear gantries

Z modules

Mono/Duo system
Linear modules HMP



Bill of materials								
Type	HMBSZ-HMP-4		HMBSZ-HMP-5		HMBSZ-HMP-6		→ Page	
For drives	HMP-16		HMP-20		HMP-25			
System type	Mono 40 Duo 25		Duo 25		Duo 40			
Item	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	
1	1	539 374	HMVZ-3	539 374	HMVZ-3	539 377	HMVZ-6	5 / 3.3-131
2	1	177 577	MKRL-23-PG-21	177 578	MKRL-29-PG-29	177 578	MKRL-29-PG-29	5 / 3.3-97
3	2	177 599	MKM-PG-21	177 600	MKM-PG-29	177 600	MKM-PG-29	5 / 3.3-101
4	1 ¹⁾	177 567	MKR-23-PG-21	177 568	MKR-29-PG-29	177 568	MKR-29-PG-29	5 / 3.3-94
5	2	192 290	MKRS-23-B	192 291	MKRS-29-B	192 291	MKRS-29-B	5 / 3.3-101
6	1	177 572	MKRV-23-PG-21	177 573	MKRV-29-PG-29	177 573	MKRV-29-PG-29	5 / 3.3-96
7	1	193 124	HMZAS-PG-21	177 603	HMZAS-PG-29	177 603	HMZAS-PG-29	5 / 3.3-102

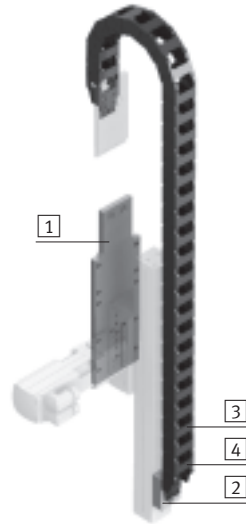
1) Length depends on the stroke of the drive

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 / 3.3-156	
[3]	1 ¹⁾	IGUS E2 medium 240.03.075.0 and 211 or KABELSCHLEPP MC 0320.40-01-77 and TS 0/n _T 2							-
[4]	1	IGUS E2 medium 2030.12.PZB or KABELSCHLEPP MC FA/MA							-

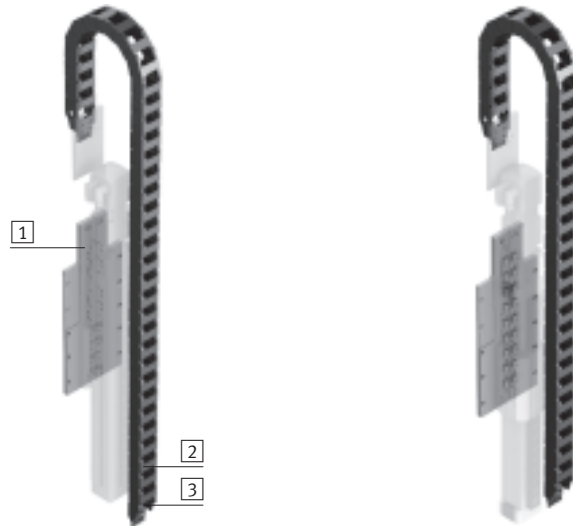
1) Length depends on the stroke of the drive

Linear gantries

Z modules

Mono/Duo system

Spindle axes DGE



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

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

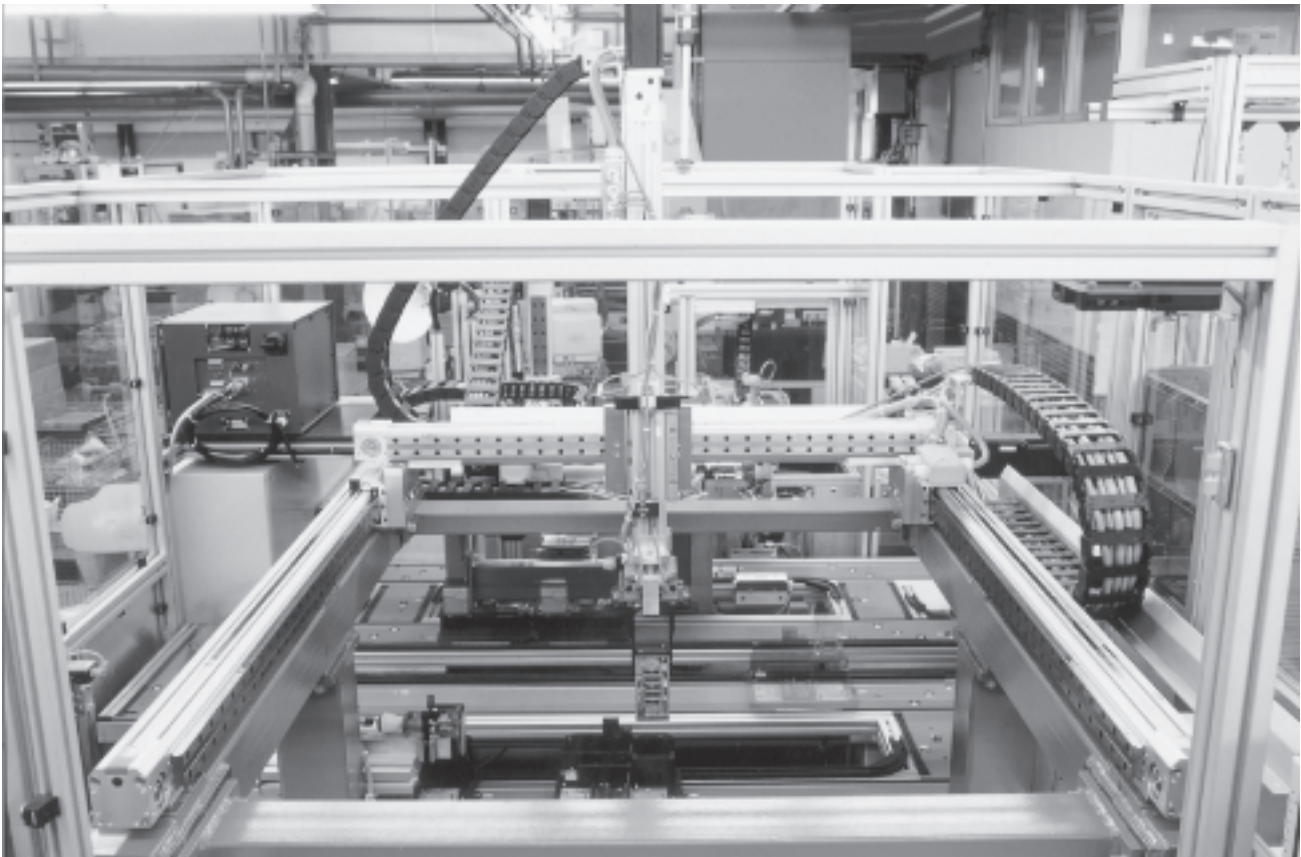
- Pneumatic: SLT, HMPL, HMP
- Electrical with toothed belt or spindle axis: DGE, DGEA

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

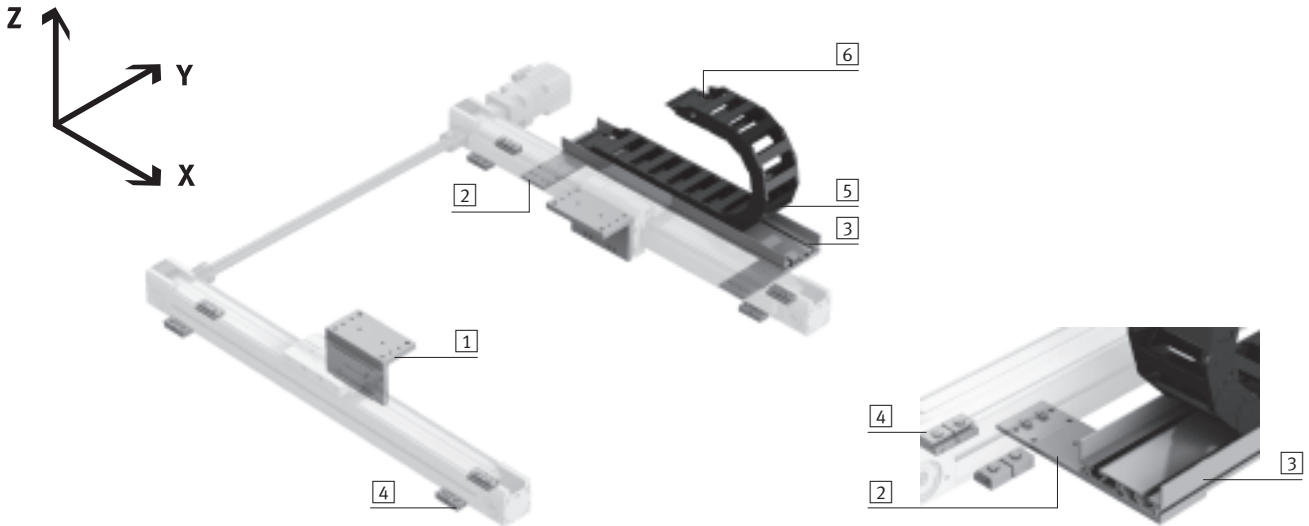
Z-axis				
System type	Mono 25	Mono 40	Duo 25	Duo 40
				
Pneumatic drives	Type			
DGSL-16	HMBSZ-DGSL-7 → 5 / 3.3-80	–	–	–
DGSL-20	–	HMBSZ-DGSL-8 → 5 / 3.3-80	–	–
DGSL-25	–	HMBSZ-DGSL-8 → 5 / 3.3-80	HMBSZ-DGSL-8 → 5 / 3.3-80	–
SLT-16	HMBSZ-SLT-7 → 5 / 3.3-81	–	–	–
SLT-20	–	HMBSZ-SLT-7 → 5 / 3.3-81	HMBSZ-SLT-7 → 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

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	Part No. Type	→ Page
1	1	539 651 HMVW-DL25	539 652 HMVS-RF25	540 325 HMVW-DL40	539 653 HMVS-RF40	5 / 3.3-125
2	2 ¹⁾	539 654 HMIXB-RP/FP	539 654 HMIXB-RP/FP	539 654 HMIXB-RP/FP	539 654 HMIXB-RP/FP	5 / 3.3-159
3	1 ²⁾	539 379 HMIA-E07	539 379 HMIA-E07	539 379 HMIA-E07	539 379 HMIA-E07	5 / 3.3-157
4	2 ³⁾	150 736 MUP-18/25	150 736 MUP-18/25	–	–	Volume 1
	1 ³⁾	–	–	150 738 MUP-40	150 738 MUP-40	Volume 1
5	1 ²⁾	IGUS E2 medium 240.07.100.0 and 211 or KABELSCHLEPP MC 0320.80-01 and TS O/n _T 2				–
6	1	IGUS E2 medium 2070.12.PZB or KABELSCHLEPP MC FA/MA				–

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

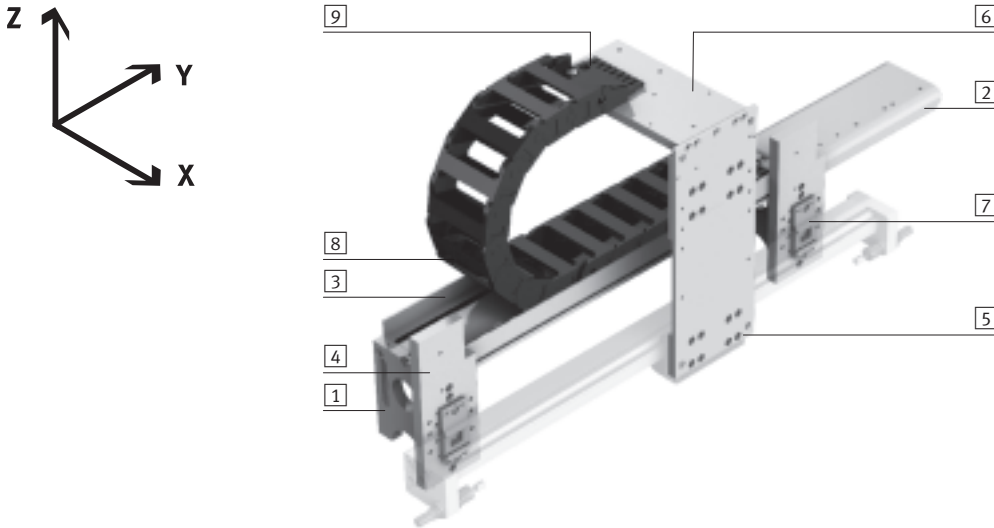
3-Dimensional gantries

Y modules



Mono system

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



Bill of materials

Type	HMBSY-RP/FP-M25-1	HMBSY-RP/FP-M25-2	HMBSY-RP/FP-M40-1	HMBSY-RP/FP-M40-2		
For drives	DGE-25-SP-KF DGE-25-ZR-KF DGE-25-ZR-RF DGPL-25	DGC-25	DGE-40-SP-KF DGE-40-ZR-KF DGE-40-ZR-RF DGPL-40	DGC-40		
System type	Mono 25		Mono 40			
Item	Quantity	Part No. Type	Part No. Type	Part No. Type	Part No. Type	→ Page
[1]	2	539 657 HMVV-RP/FP	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	539 658 HMIXF-RP/FP	5 / 3.3-127
[3]	1 ¹⁾	539 379 HMIA-E07	539 379 HMIA-E07	539 379 HMIA-E07	539 379 HMIA-E07	5 / 3.3-157
[4]	2 ³⁾	539 656 HMVM-RP/FP-DL25/40	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	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	539 660 HMIYF-RF/DL40	5 / 3.3-160
[7]	2 ²⁾	150 736 MUP-18/25	–	–	–	Volume 1
	1 ²⁾	–	531 753 MUC-25	–	531 755 MUC-40	Volume 1
	1 ²⁾	–	–	150 738 MUP-40	–	Volume 1
[8]	1 ¹⁾	IGUS E2 medium 240.07.100.0 and 211 or KABELSCHLEPP MC 0320.80-01 and TS O/n ₇ 2				–
[9]	1	IGUS E2 medium 2070.12.PZB or KABELSCHLEPP MC FA/MA				–

1) Length depends on the stroke of the drive

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

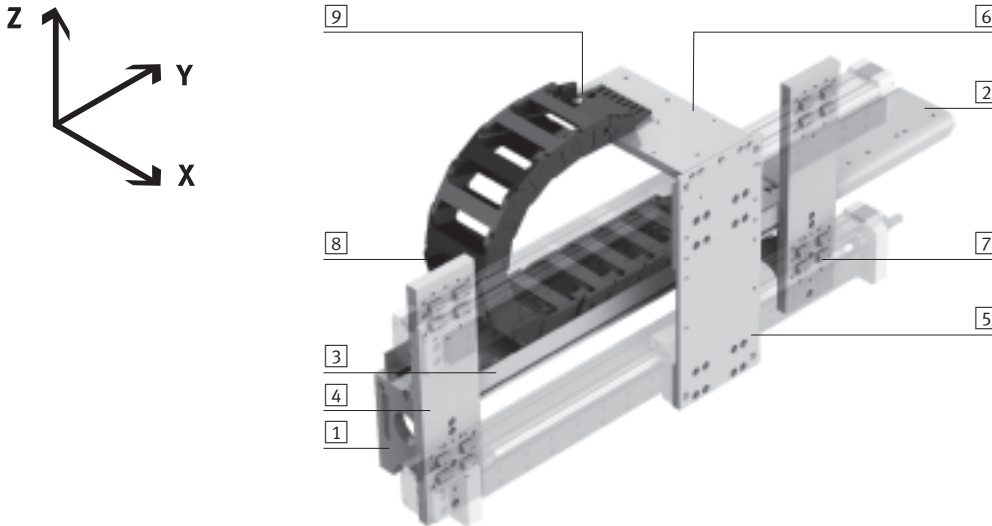
3) Quantity with stroke ≤ 500 mm. With stroke > 500 mm, a basic kit HMVM-RP/FP-DL25/40 must be additionally ordered per 500 mm stroke or part thereof.

3-Dimensional gantries

Y modules

Duo system

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



Bill of materials								
Type	HMBSY-RP/FP-D25-1		HMBSY-RP/FP-D25-2		HMBSY-RP/FP-D40-1		HMBSY-RP/FP-D40-2	
For drives	DGE-25-SP-KF DGE-25-ZR-KF DGE-25-ZR-RF DGPL-25		DGC-25		DGE-40-SP-KF DGE-40-ZR-KF DGE-40-ZR-RF DGPL-40		DGC-40	
System type	Duo 25				Duo 40			
Item	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	Page
1	2	539 657	HMVV-RP/FP	539 657	HMVV-RP/FP	539 657	HMVV-RP/FP	5 / 3.3-127
2	1	539 658	HMIXF-RP/FP	539 658	HMIXF-RP/FP	539 658	HMIXF-RP/FP	5 / 3.3-127
3	1 ¹⁾	539 379	HMIA-E07	539 379	HMIA-E07	539 379	HMIA-E07	5 / 3.3-157
4	2 ³⁾	539 655	HMVD-RP/FP-DL25/40	539 655	HMVD-RP/FP-DL25/40	539 655	HMVD-RP/FP-DL25/40	5 / 3.3-129
5	1	539 368	HMVS-DL25	539 368	HMVS-DL25	539 369	HMVS-DL40	5 / 3.3-130
6	1	539 659	HMIYF-RF/DL25	539 659	HMIYF-RF/DL25	539 660	HMIYF-RF/DL40	5 / 3.3-160
7	4 ²⁾	150 736	MUP-18/25	-	-	-	-	Volume 1
	2	-	-	531 753	MUC-25	-	531 755	MUC-40
8	1 ¹⁾	IGUS E2 medium 240.07.100.0 and 211 or KABELSCHLEPP MC 0320.80-01 and TS O/η ₂						-
9	1	IGUS E2 medium 2070.12.PZB or KABELSCHLEPP MC FA/MA						-

1) Length depends on the stroke of the drive

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

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

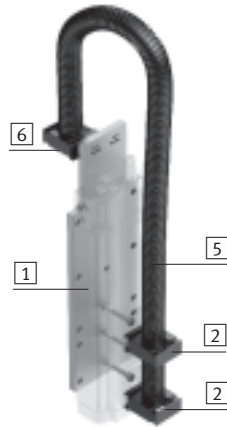
3-Dimensional gantries

Z modules



Mono/Duo system

Mini slides DGSL



Bill of materials								
Type		HMBSZ-DGSL-7		HMBSZ-DGSL-8				
For drives		DGSL-16		DGSL-20		DGSL-25		
System type		Mono 25		Mono 40 Duo 25		Duo 25		
Item	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	→ Page
[1]	1	539 373 HMVZ-2		539 373 HMVZ-2		539 373 HMVZ-2		5 / 3.3-131
[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 / 3.3-101
[5]	1 ¹⁾	177 566 MKR-16,5-PG-16		177 567 MKR-23-PG-21		177 567 MKR-23-PG-21		5 / 3.3-94
[6]	1	192 289 MKRS-16,5-B		192 290 MKRS-23-B		192 290 MKRS-23-B		5 / 3.3-101

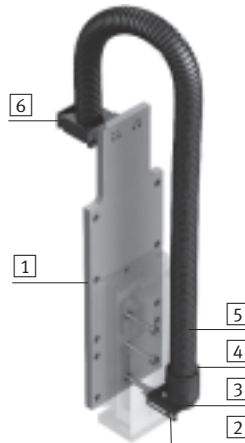
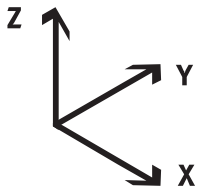
1) Length depends on the stroke of the drive

3-Dimensional gantries

Z modules

Mono/Duo system

Mini slides SLT



Bill of materials								
Type		HMBSZ-SLT-7						→ Page
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	5 / 3.3-131
2	1	193 124	HMZAS-PG-21	193 124	HMZAS-PG-21	193 124	HMZAS-PG-21	5 / 3.3-102
3	1	177 599	MKM-PG-21	177 599	MKM-PG-21	177 599	MKM-PG-21	5 / 3.3-101
4	1	177 572	MKRV-23-PG-21	177 572	MKRV-23-PG-21	177 572	MKRV-23-PG-21	5 / 3.3-96
5	1 ¹⁾	177 567	MKR-23-PG-21	177 567	MKR-23-PG-21	177 567	MKR-23-PG-21	5 / 3.3-94
6	1	192 290	MKRS-23-B	192 290	MKRS-23-B	192 290	MKRS-23-B	5 / 3.3-101

1) Length depends on the stroke of the drive

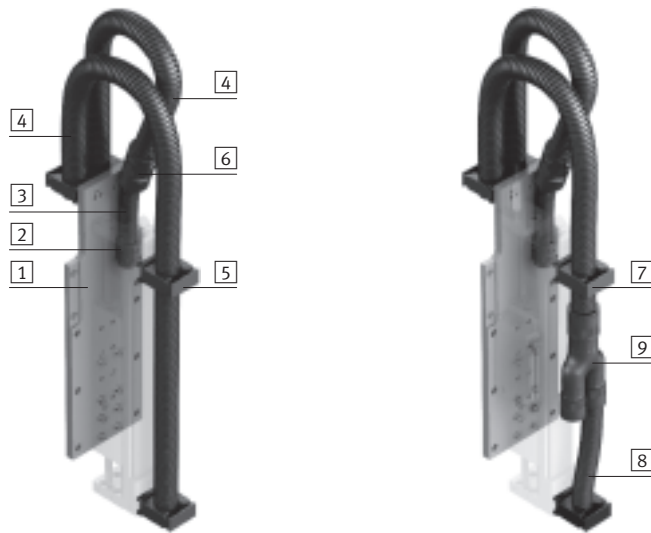
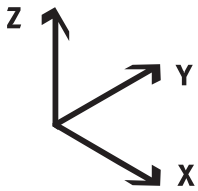
3-Dimensional gantries

Z modules



Mono/Duo system

Linear modules HMPL



Bill of materials

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

1) Length 200 mm

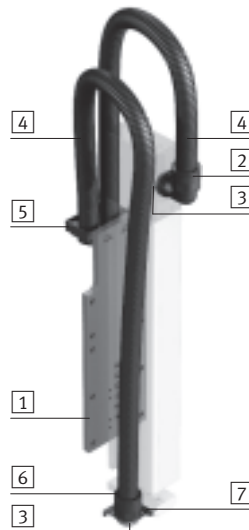
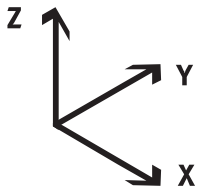
2) Length depends on the stroke of the drive, 2 conduits are required with an intermediate position.

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

3-Dimensional gantries

Z modules

Mono/Duo system
Linear modules HMP



Bill of materials							
Type	HMBSZ-HMP-4		HMBSZ-HMP-5		HMBSZ-HMP-6		
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 ¹⁾	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

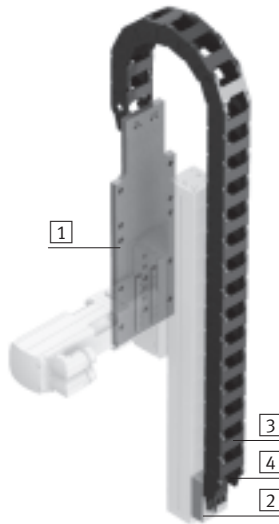
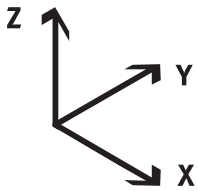
1) Length depends on the stroke of the drive

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 / 3.3-156
[3]	1 ¹⁾	IGUS E2 medium 240.03.075.0 and 211 or KABELSCHLEPP MC 0320.40-01-77 and TS 0/n _T 2			-
[4]	1	IGUS E2 medium 2030.12.PZB or KABELSCHLEPP MC FA/MA			-

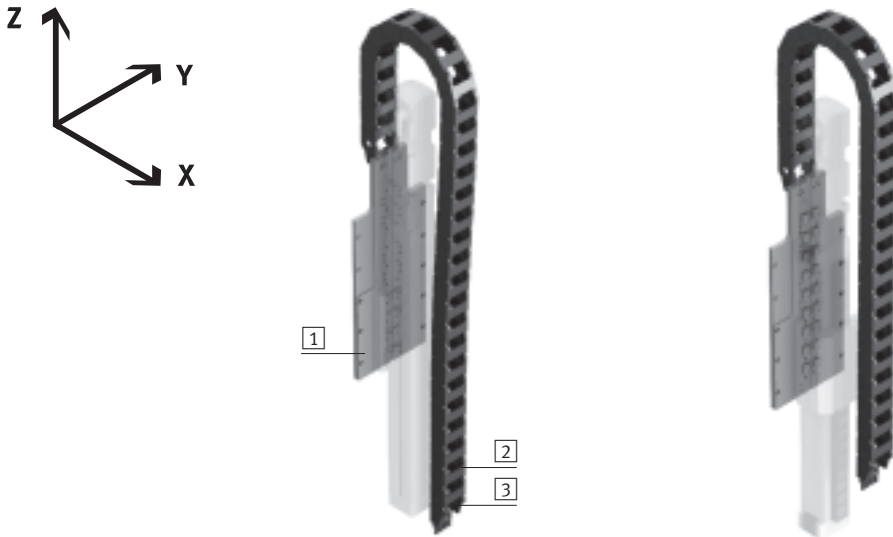
1) Length depends on the stroke of the drive

3-Dimensional gantries

Z modules

Mono/Duo system

Toothed belt axes DGE



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

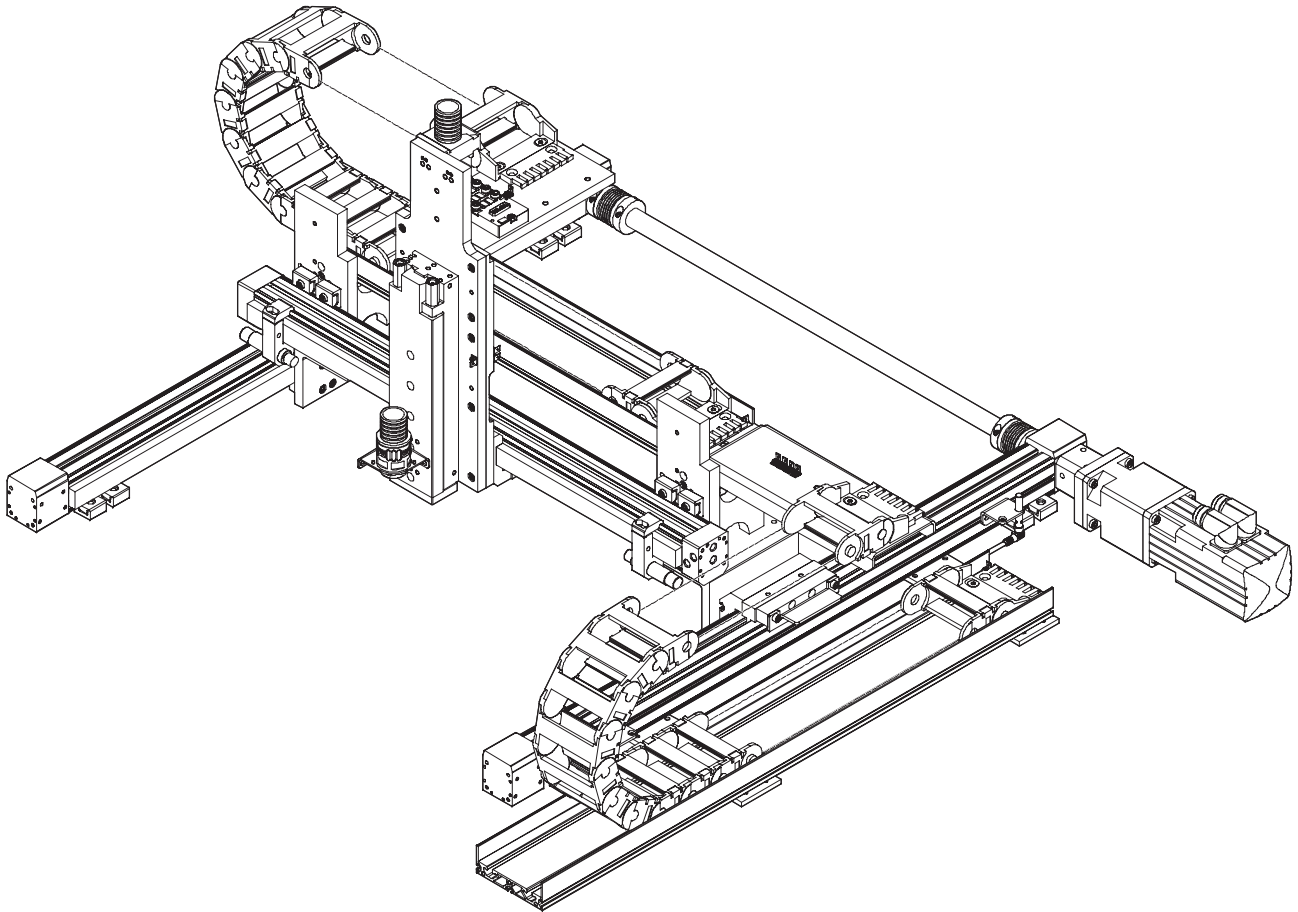
1) Length depends on the stroke of the drive

3-Dimensional gantries

System example

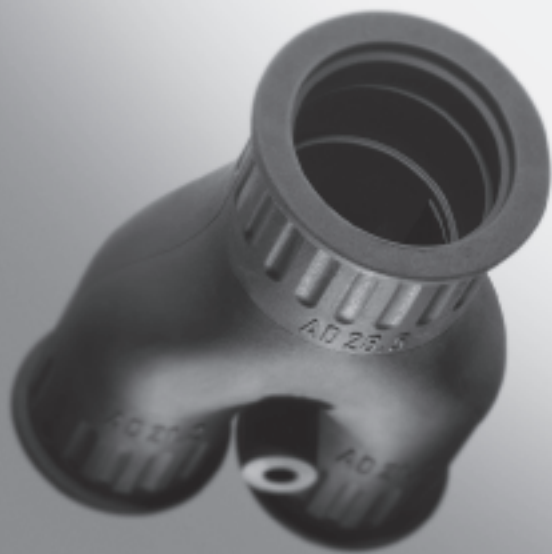


Combination with toothed-belt axis DGE-RF/linear drive DGC/mini-slide SLT



System components
Multi-axis modular system

3.3

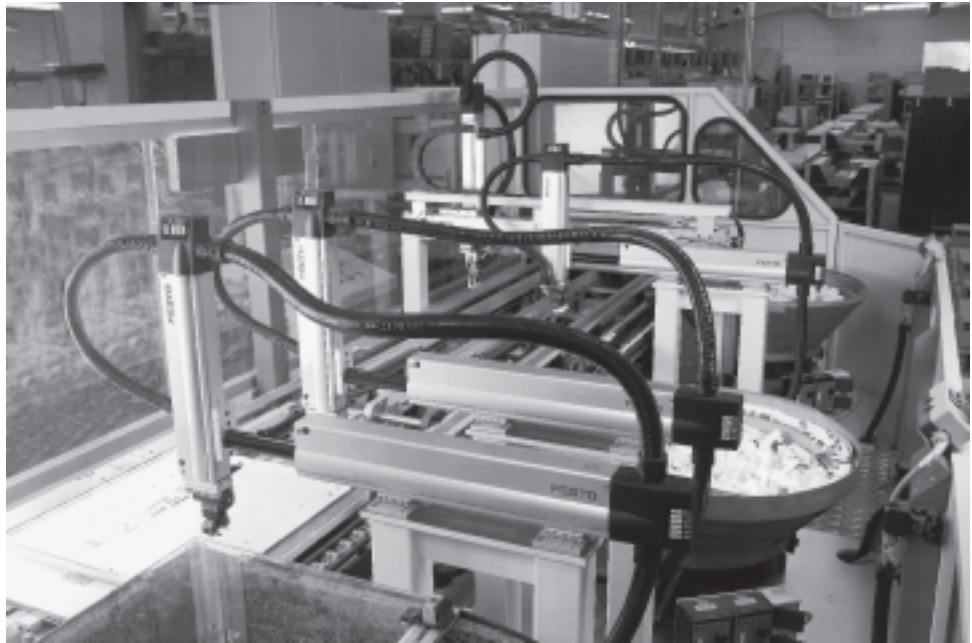


- **Reliable guidance**
- **Rapid assembly and disassembly**
- **Low space requirement**
- **Low noise levels**

Installation components, for short strokes

Key features

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



Protective conduit MKR



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

Separable protective conduit MKG



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

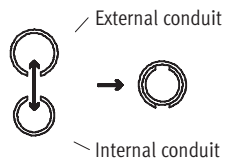
Junction box HMZV



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

Accessories

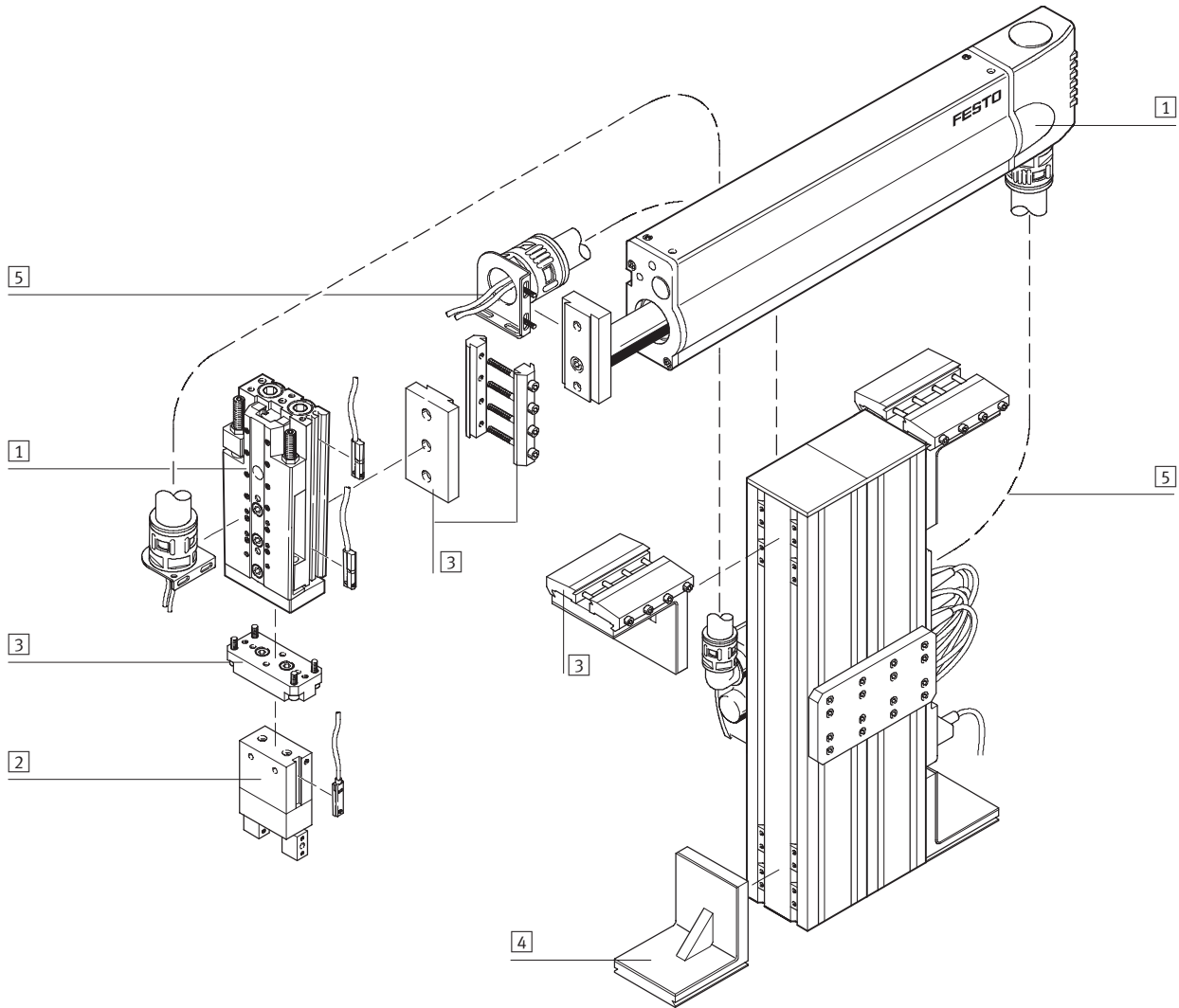
- Fittings and connectors
MKRV, MKGV, MKA, MKRL, MKRT, MKY
- Lock nut
MKM
- Retaining clip
MKRS
- Adapter plate
HMZAS



Installation components, for short strokes

System example

System product for handling and assembly technology



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











Installation components, for short strokes

Peripherals overview

Variants and accessories		
Type	Brief description	→ Page
1 Junction box HMZV	For bundling or distributing lines and tubing	5 / 3.3-95
2 Reducing connector MKA	For reducing thread size Material: Brass	5 / 3.3-99
3 Reducing connector MKA-KU	For reducing or enlarging thread size Material: Polyamide	5 / 3.3-100
4 Protective conduit connector MKRV	For securing the protective conduit	5 / 3.3-96
5 Elbow connector for protective conduit MKRL	For securing the protective conduit	5 / 3.3-97
6 Retaining clip MKRS	For securing the protective conduit over long distances	5 / 3.3-101
7 Protective conduit MKR	For protecting lines and tubing	5 / 3.3-94
8 Separable conduit connector MKGV	For securing the protective conduit. The connector is separable so that lines and tubing in the system can be easily replaced.	5 / 3.3-99
9 Separable protective conduit MKG	For protecting lines and tubing. The conduit is separable so that lines and tubing in the system can be easily replaced.	5 / 3.3-95
10 Y distributor MKY	For distributing lines and tubing	5 / 3.3-98
11 Protective conduit connector MKRT	The protective conduits (different sizes) can be pushed into one another by releasing the connector. This permits easy replacement of lines and tubing.	5 / 3.3-98
12 Adapter plate HMZAS	For securing protective conduit connectors at the drive	5 / 3.3-102
13 Lock nut MKM	For securing connectors at adapter plates	5 / 3.3-101







Installation components, for short strokes

Selection aid

Accessories		Protective conduit						Junction box		→ Page	
		MKR			MKG, separable			HMZV			
											
Connecting thread		Pg 9	Pg 11	Pg 16	Pg 21	Pg 29	Pg 21	Pg 29	Pg 29		
Protective conduit connector MKRV											
	Pg 9	■	-	-	-	-	-	-	-	5 / 3.3-96	
	Pg 11	-	■	-	-	-	-	-	-		
	Pg 16	-	-	■	-	-	-	-	-		
	Pg 21	-	-	-	■	-	-	-	-		
	Pg 29	-	-	-	-	■	-	-	■		
Elbow connector for protective conduit MKRL											
	Pg 9	■	-	-	-	-	-	-	-	5 / 3.3-97	
	Pg 11	-	■	-	-	-	-	-	-		
	Pg 16	-	-	■	-	-	-	-	-		
	Pg 21	-	-	-	■	-	-	-	-		
	Pg 29	-	-	-	-	■	-	-	■		
Y distributor MKY											
	Pg 21	-	-	-	■	-	-	-	-	5 / 3.3-98	
	Pg 29	-	-	-	-	■	-	-	-		
Protective conduit connector MKRT											
	Pg 16	-	-	■	■	-	-	-	-	5 / 3.3-98	
	Pg 21	-	-	■	■	-	-	-	-		
Protective conduit connector MKGV, separable											
	Pg 21	-	-	-	-	-	■	-	-	5 / 3.3-99	
	Pg 29	-	-	-	-	-	-	■	■		
Reducing connector MKA											
	Pg 29	-	-	-	-	-	-	-	■	5 / 3.3-99	
Reducing connector MKA-KU											
	Pg 29	-	-	-	-	-	-	-	■	5 / 3.3-100	
Technical data → Page		5 / 3.3-94					5 / 3.3-95		5 / 3.3-95		

Installation components, for short strokes

Selection aid

Accessories		Protective conduit							Junction box	→ Page
		MKR					MKG, separable		HMZV	
										
Connecting thread		Pg 9	Pg 11	Pg 16	Pg 21	Pg 29	Pg 21	Pg 29	Pg 29	
Lock nut MKM										
	Pg 9	■	-	-	-	-	-	-	-	5 / 3.3-101
	Pg 11	-	■	-	-	-	-	-	-	
	Pg 16	-	-	■	-	-	-	-	-	
	Pg 21	-	-	-	■	-	■	-	-	
	Pg 29	-	-	-	-	■	-	■	-	
Retaining clip MKRS										
	Pg 9	■	-	-	-	-	-	-	-	5 / 3.3-101
	Pg 11	-	■	-	-	-	-	-	-	
	Pg 16	-	-	■	-	-	-	-	-	
	Pg 21	-	-	-	■	-	■	-	-	
	Pg 29	-	-	-	-	■	-	■	-	
Adapter plate HMZAS										
	For connecting thread Pg 21 and Pg 29									5 / 3.3-102
Technical data → Page		5 / 3.3-94					5 / 3.3-95		5 / 3.3-95	

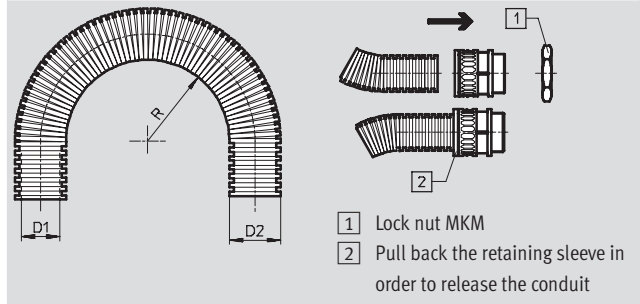
Installation components, for short strokes

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

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

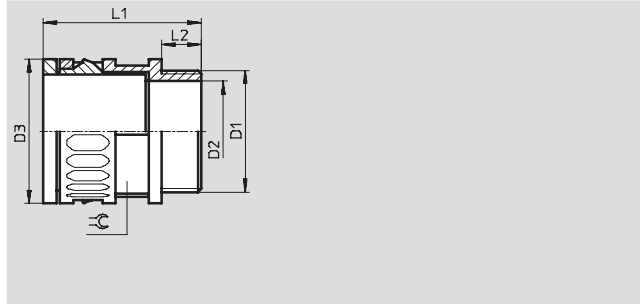
1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating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

Installation components, for short strokes

Technical data

Protective conduit 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 ¹⁾	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

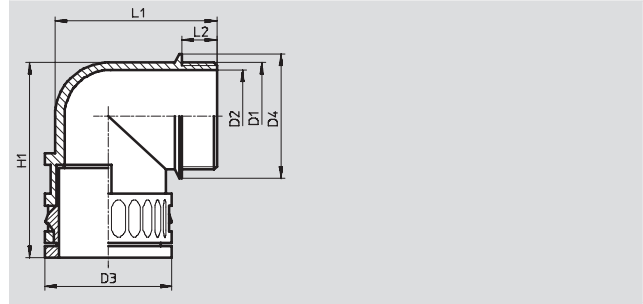
1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating 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 ¹⁾	Weight [g]	Part No.	Type
∅							
Pg 9	-30 ... +100	IP 67	Any	2	6	177 574	MKRL-10-PG-9
Pg 11					8	177 575	MKRL-12-PG-11
Pg 16					16	177 576	MKRL-16,5-PG-16
Pg 21					24	177 577	MKRL-23-PG-21
Pg 29					36	177 578	MKRL-29-PG-29

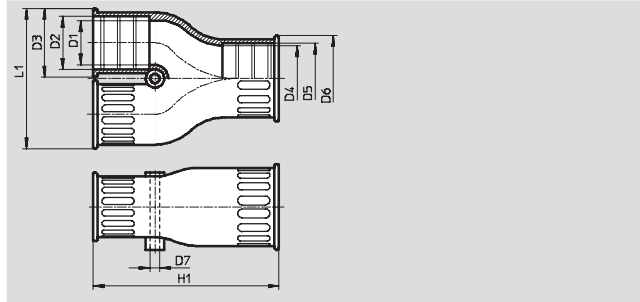
1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating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

Installation components, for short strokes

Technical data

Y distributor MKY

Material:
Thermoplastic rubber
Free of copper, PTFE and silicone



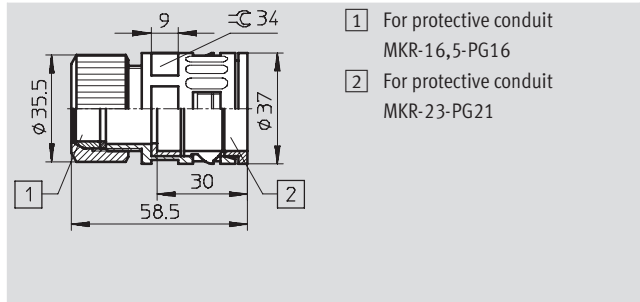
Dimensions and ordering data							
Pg connecting thread D1	D2	D3	D4	D5	D6	D7	H1
∅	∅	∅	∅	∅	∅	∅	
Pg 21	21.2	29.5	25.5	28.5	36.5	4	81.5
Pg 29	28.5	36.5	31.5	34.5	42.5		86

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

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

Protective conduit connector MKRT

Material:
Polyamide
Free of copper, PTFE and silicone



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

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

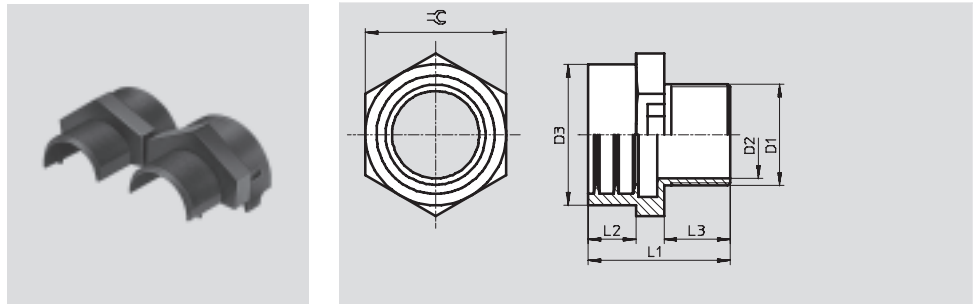
1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating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

Installation components, for short strokes

Technical data

Protective conduit connector MKGV, separable

Material:
Polyamide
Free of copper, PTFE and silicone



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

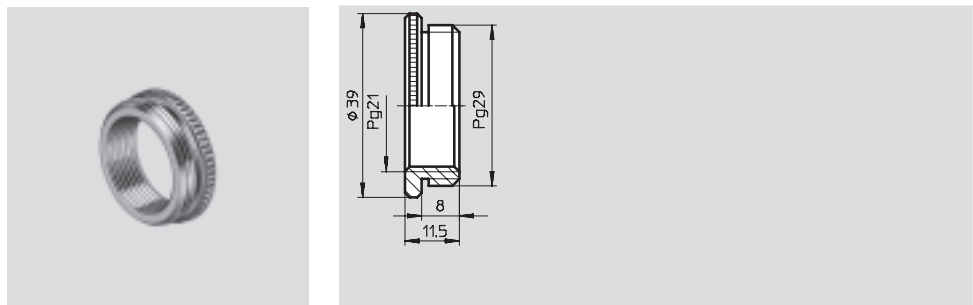
Pg connecting thread D1	Temperature range [°C]	Protection class	Mounting position	CRC ¹⁾	Weight [g]	Part No.	Type
Ø							
Pg 21	-20 ... +100	IP 50	Any	2	11	177 591	MKGV-20-PG-21
Pg 29					19	177 592	MKGV-23-PG-29
					27	177 593	MKGV-37-PG-29

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

Reducing connector MKA

For reducing Pg 29 to Pg 21

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



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

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

Installation components, for short strokes

Technical data

Reducing connector MKA-KU

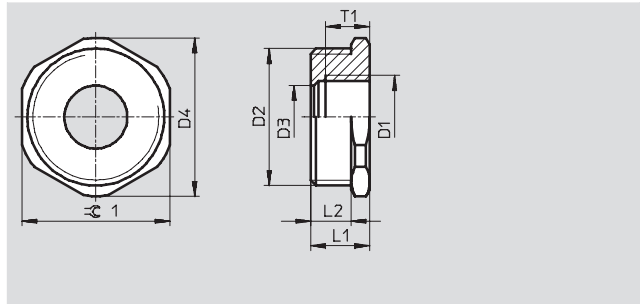
For reducing Pg 21 to Pg 16

For reducing Pg 29 to Pg 16

Material:

Polyamide

Free of copper, PTFE and silicone



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

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

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

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

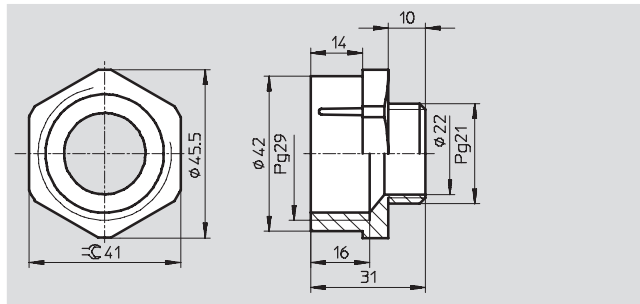
Reducing connector MKA-KU

For enlarging Pg 21 to Pg 29

Material:

Polyamide

Free of copper, PTFE and silicone



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

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

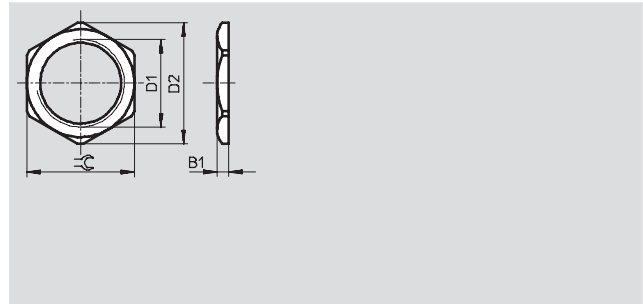
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents.

Installation components, for short strokes

Technical data

Lock nut MKM

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

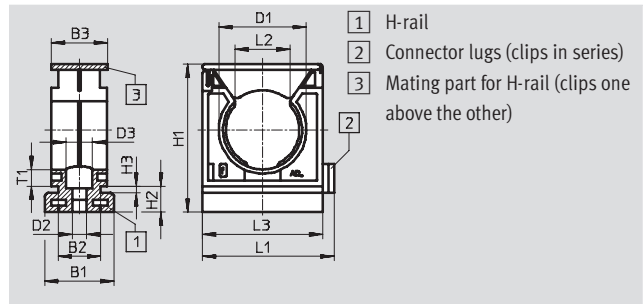


Dimensions and ordering data									
Pg connecting thread D1	D2	D3	⌀	Mounting position	CRC ¹⁾	Weight [g]	Part No.	Type	
Pg 9	20	2.8	18	Any	2	2	177 596	MKM-PG-9	
Pg 11	23.5	3	21			3	177 597	MKM-PG-11	
Pg 16	29		26			5	177 598	MKM-PG-16	
Pg 21	35.5	3.5	32			8	177 599	MKM-PG-21	
Pg 29	45	4	41			14	177 600	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						36.5
Pg 16				21.2						47.5
Pg 21				28.5						
Pg 29				34.5						

Pg connecting thread	L2	L3	T1	Temperature range [°C]	CRC ¹⁾	Weight [g]	Part No.	Type	
Pg 9	8.5	26	5.7	-30 ... +80	2	5	192 287	MKRS-10-B	
Pg 11	10					6	192 288	MKRS-12-B	
Pg 16	16.6	32.5	6.8			8	192 289	MKRS-16,5-B	
Pg 21	20	43.5				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



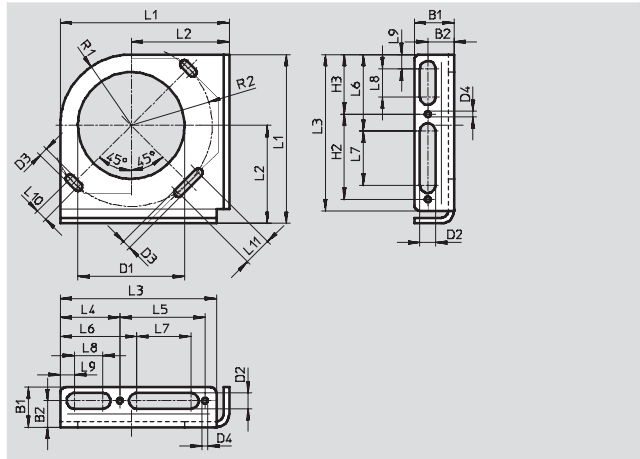
Installation kit HMZAS

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 Ø	D2 Ø	D3 Ø	D4 Ø	H2	H3	L1
HMPL	14	9.25	28.6	5.3	3	-	-	-	54.5
HMP			37.5			2	30	21	59.5

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

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

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