



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

Multi-axis modular systems

Key features





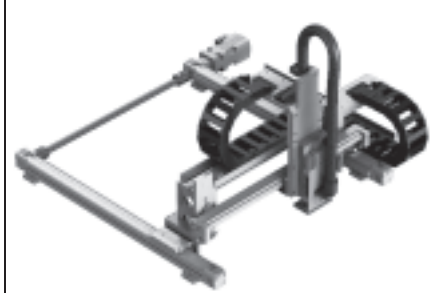



Concept

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

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

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

Selection matrix		
Pick & Place	Linear gantries	Three-dimensional gantries
Pneumatic		Pneumatic/electrical
 <p>→4</p>	 <p>→24</p>	 <p>→40</p>
Pneumatic with end-position controller SPC11 (Soft Stop)		
	 <p>→24</p>	
Electrical with spindle or toothed belt axis		
	 <p>→24</p>	 <p>→40</p>

Multi-axis modular systems

Key features

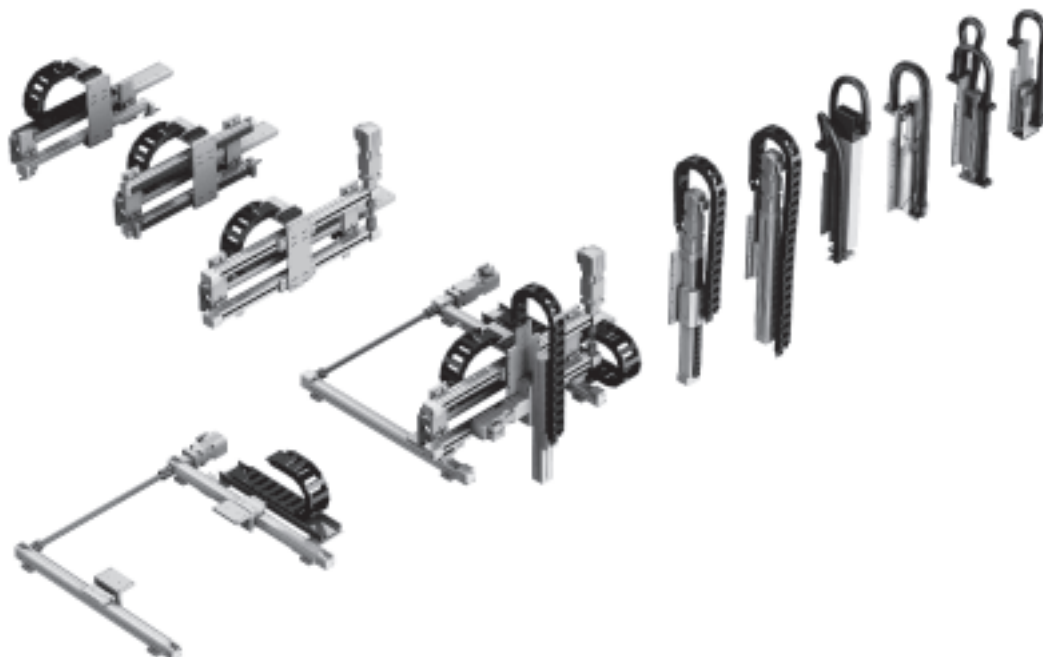
Pick & Place



Linear gantries



Three-dimensional gantries

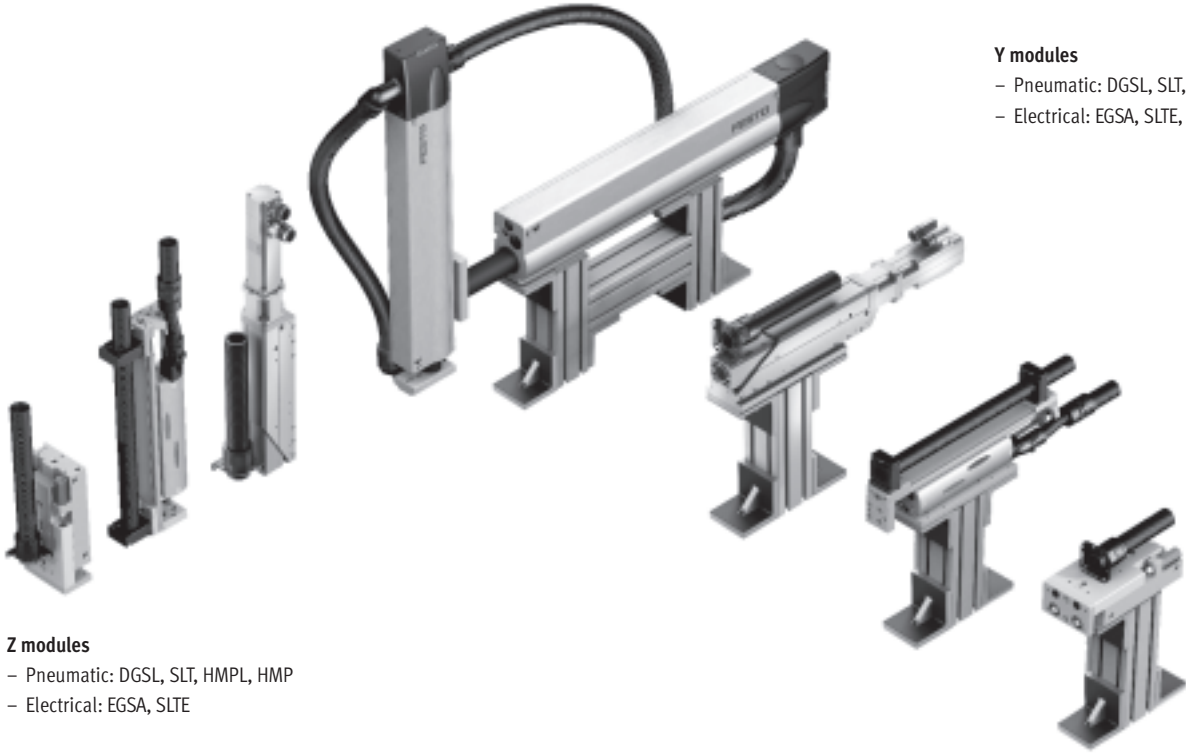


Pick & Place

Key features

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Y and Z modules



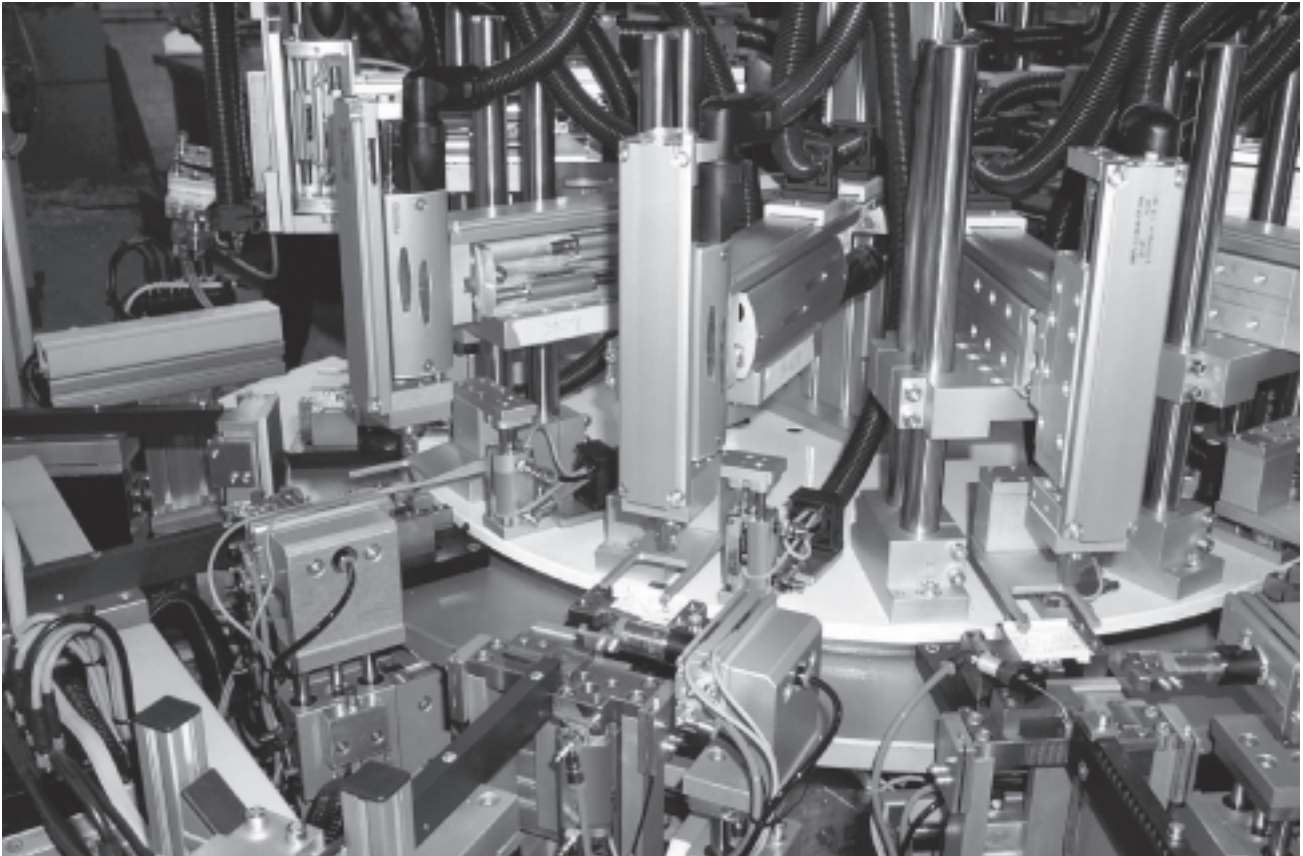
Y modules

- Pneumatic: DGSL, SLT, HMPL, HMP
- Electrical: EGSA, SLTE, HME,

Z modules

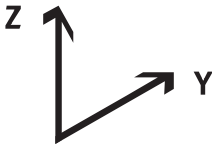







- Pneumatic: DGSL, SLT, HMPL, HMP
- Electrical: EGSA, SLTE

Application



Pick & Place

Product range overview

Selection aid							
Function	DGSL/DGSL	SLT(E)/SLT(E)	HMPL/HMPL	EGSA/EGSA	HM.../DGSL, SLT(E)	HM.../HMPL	HM.../HMP
							
Y-axis	DGSL	SLT(E)	HMPL	EGSA	HMP, HME	HMP, HME	HMP, HME
Drive type	Pneumatic/electrical						
Options	Shock absorber, adjustable/non-adjustable cushioning	Shock absorber, adjustable/non-adjustable cushioning	Intermediate position, clamping unit	Parallel kit for motor attachment	Intermediate position module		
Z-axis	DGSL	SLT(E)	HMPL	EGSA/DGSL	DGSL, SLT(E)	HMPL	HMP
Drive type	Pneumatic/electrical						
Options	Shock absorber, adjustable/non-adjustable cushioning	Shock absorber, adjustable/non-adjustable cushioning	Intermediate position, clamping unit	Parallel kit for motor attachment	Shock absorber, adjustable/non-adjustable cushioning	Intermediate position, clamping unit	
Effective load [kg]							
	1	■	■	■	■	■	■
	2	■	■	■	■	■	■
	3	■	■	■	■	■	■
	4	■	-	-	-	■	■
	6	-	-	-	-	■	■
	10	-	-	-	-	-	■
→ Page/Internet	6						





Pick & Place

Selection aid for basic, connection and installation components

Y-axis					
Function	DGSL/DGSL	SLT/SLT	HMPL/HMPL	EGSA/EGSA, DGSL	
Pneumatic drives	Stroke [mm]	Type			
DGSL-12	30 ... 150	HMBSY-DGSL-1 → 10	-	-	-
DGSL-16	30 ... 150	HMBSY-DGSL-1 → 10	-	-	-
DGSL-20	30 ... 100	HMBSY-DGSL-2 → 10	-	-	-
	125 ... 200	HMBSY-DGSL-3 → 10	-	-	-
DGSL-25	30 ... 100	HMBSY-DGSL-4 → 10	-	-	-
	125 ... 200	HMBSY-DGSL-5 → 10	-	-	-
SLT-16	30 ... 150	-	HMBSY-SLT-1 → 11	-	-
SLT-20	30 ... 100	-	HMBSY-SLT-2 → 11	-	-
	125 ... 200	-	HMBSY-SLT-3 → 11	-	-
SLT-25	30 ... 100	-	HMBSY-SLT-4 → 11	-	-
	125 ... 200	-	HMBSY-SLT-5 → 11	-	-
HMPL-16	50 ... 160	-	-	HMBSY-HMPL-1 HMBSY-HMPL-2 → 12	-
HMPL-20	50 ... 200	-	-	HMBSY-HMPL-3 HMBSY-HMPL-4 → 12	-
Electric drives	Stroke [mm]	Type			
EGSA-50	100	-	-	-	HMBSY-EGSA-1 → 13
EGSA-60	100 ... 300	-	-	-	HMBSY-EGSA-1 → 13

Pick & Place

Selection aid for basic, connection and installation components

Y-axis				
Function	HMP, HME/DGSL, SLT	HMP, HME/HMPL	HMP, HME/HMP	
				
Pneumatic drives	Type			
Stroke [mm]				
HMP-16	150 ... 250	HMBSY-HMP-1 → 14	HMBSY-HMP-1 → 14	–
	320	HMBSY-HMP-2 → 14	HMBSY-HMP-2 → 14	–
HMP-20	100 ... 250	HMBSY-HMP-3 → 14	HMBSY-HMP-3 → 14	HMBSY-HMP-3 → 14
	320 ... 400	HMBSY-HMP-4 → 14	HMBSY-HMP-4 → 14	HMBSY-HMP-4 → 14
HMP-25	100 ... 200	HMBSY-HMP-5 → 15	–	HMBSY-HMP-5 → 15
	250 ... 400	HMBSY-HMP-6 → 15	–	HMBSY-HMP-6 → 15
HMP-32	100 ... 200	–	–	HMBSY-HMP-7 → 15
	250 ... 400	–	–	HMBSY-HMP-8 → 15

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
→ 14
Z-axis: HMBSZ-HMPL-3 or 4
→ 22







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

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

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





Pick & Place

Selection aid for basic, connection and installation components

Z-axis					
Function	DGSL/DGSL	SLT/SLT	HMPL/HMPL	EGSA/DGSL, EGSA	HMP, HME/DGSL
					
Pneumatic drives	Type				
DGSL-10	HMBSZ-DGSL-1 → 16	-	-	HMBSZ-DGSL-10 → 18	-
DGSL-12	HMBSZ-DGSL-9 →	-	-	HMBSZ-DGSL-11/-12 → 18	-
DGSL-16	HMBSZ-DGSL-2 → 16	-	-	HMBSZ-DGSL-12 → 18	HMBSZ-DGSL-4 → 17
DGSL-20	HMBSZ-DGSL-3 → 16	-	-	-	HMBSZ-DGSL-5 → 17
DGSL-25	-	-	-	-	HMBSZ-DGSL-6 → 17
SLT-10	-	HMBSZ-SLT-1 → 19	-	-	-
SLT-16	-	HMBSZ-SLT-2 → 19	-	-	-
SLT-20	-	HMBSZ-SLT-3 → 19	-	-	-
SLT-25	-	-	-	-	-
HMPL-12	-	-	HMBSZ-HMPL-1 HMBSZ-HMPL-2 → 22	-	-
HMPL-16	-	-		-	-
HMPL-20	-	-		-	-
HMP-16	-	-	-	-	-
HMP-20	-	-	-	-	-
HMP-25	-	-	-	-	-
Electric drives	Type				
EGSA-50	-	-	-	HABSZ-EGSA-1 → 21	-

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 → 20	–	–
SLT-20	HMBSZ-SLT-5 → 20	–	–
SLT-25	HMBSZ-SLT-6 → 20	–	–
HMPL-16	–	HMBSZ-HMPL-3 HMBSZ-HMPL-4 → 22	–
HMPL-20	–		–
HMP-16	–	–	HMBSZ-HMP-1 → 23
HMP-20	–	–	HMBSZ-HMP-2 → 23
HMP-25	–	–	HMBSZ-HMP-3 → 23

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
→ 14
Z-axis: HMBSZ-HMPL-3 or 4
→ 22

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

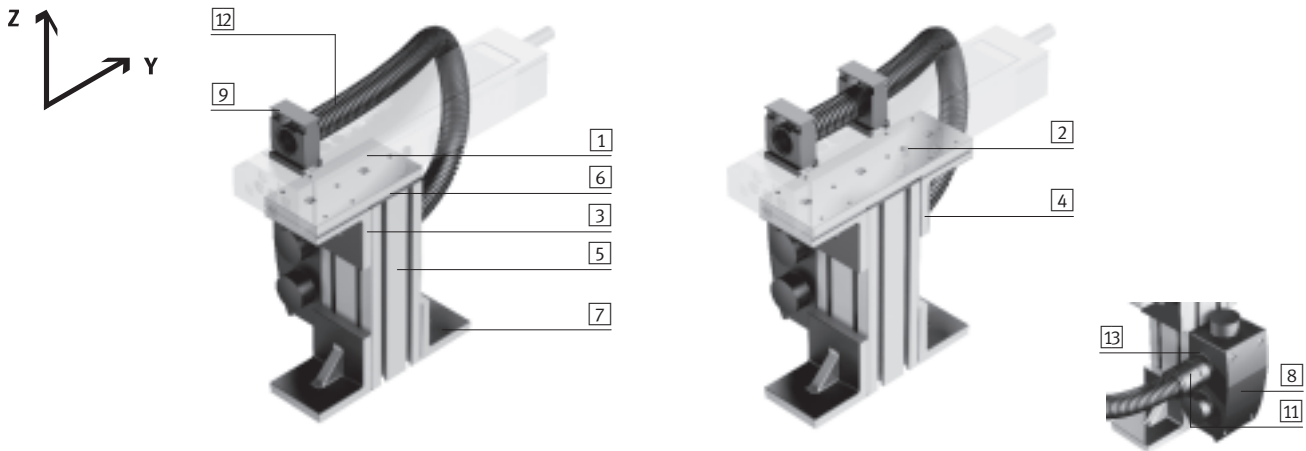
Step 3
Technical data on the basic, connection and installation components can be found on the specified pages.
Further accessories for the selected drives, for example proximity sensors, centring sleeves, etc. are documented with the drives.

Pick & Place

Y modules

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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-12/-16	DGSL-20		DGSL-25					
Stroke [mm]		30 ... 150	30 ... 100	125 ... 200	30 ... 100	125 ... 200				
Position	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	Part No.	Type	→ Page/Internet
1	1	539 968 HMVY-1		539 969 HMVY-2		-		539 969 HMVY-2		76
2	1	-		-		539 970 HMVY-3		-		539 970 HMVY-3
3	1	175 967 HMBV-ND		175 967 HMBV-ND		-		175 967 HMBV-ND		61
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		58
6	1	175 965 HMBSA-80/80		175 965 HMBSA-80/80		175 965 HMBSA-80/80		175 965 HMBSA-80/80		58
7	2	175 951 HMBF-DB		175 951 HMBF-DB		175 951 HMBF-DB		175 951 HMBF-DB		60
8	1	175 126 HMZV		175 126 HMZV		175 126 HMZV		175 126 HMZV		95
9	1	192 289 MKRS-16,5-B		192 290 MKRS-23-B		192 290 MKRS-23-B		192 290 MKRS-23-B		101
		548 803 ZBV-M5-7		548 804 ZBV-M6-9		548 804 ZBV-M6-9		548 804 ZBV-M6-9		67
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		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		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		99

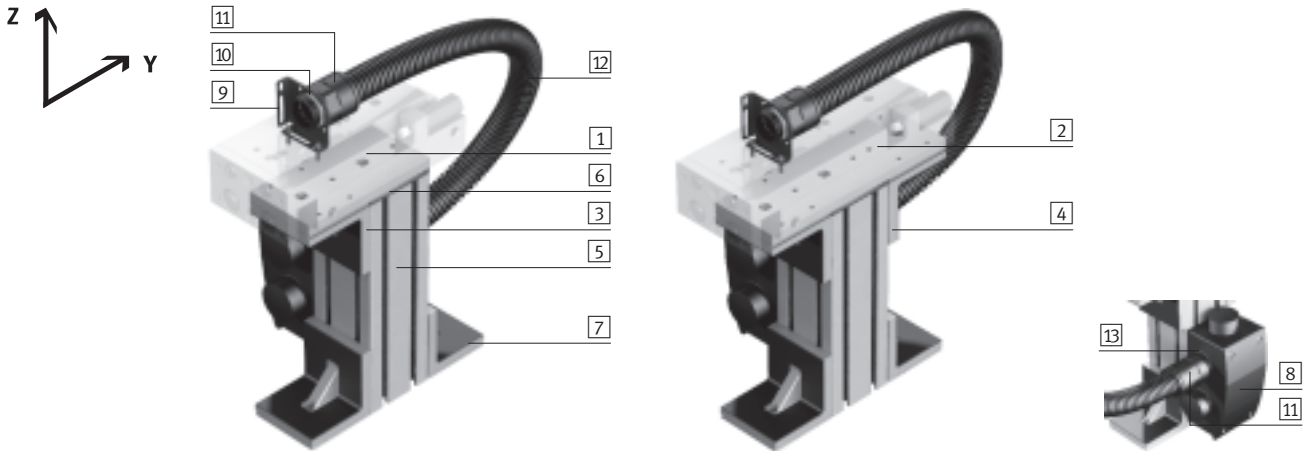
1) Height max. 500 mm

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/Internet
For drives		SLT-16		SLT-20				SLT-25				
Stroke [mm]		30 ... 150		30 ... 100		125 ... 200		30 ... 100		125 ... 200		
Position	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	-		76
2	1	-		-		539 970	HMVY-3	-		539 970	HMVY-3	
3	1	175 967	HMBV-ND	175 967	HMBV-ND	-		175 967	HMBV-ND	-		61
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	58
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	58
7	2	175 951	HMBF-DB	175 951	HMBF-DB	175 951	HMBF-DB	175 951	HMBF-DB	175 951	HMBF-DB	60
8	1	175 126	HMZV	175 126	HMZV	175 126	HMZV	175 126	HMZV	175 126	HMZV	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	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	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	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	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	99

1) Height max. 500 mm

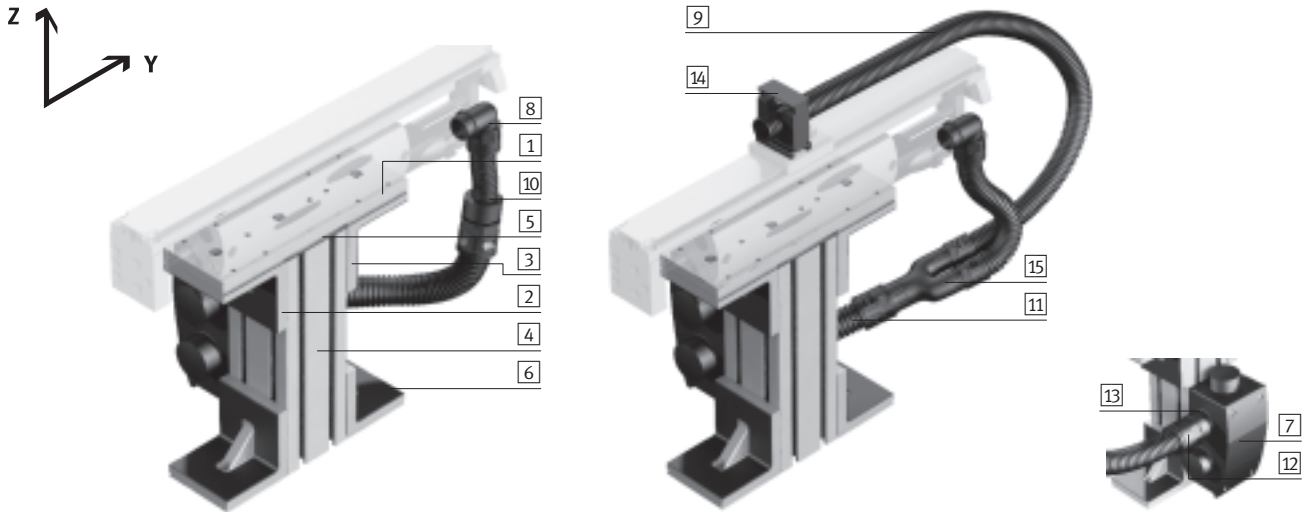
2) Length depends on the stroke of the drive

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			
	without intermediate position		with intermediate position		without intermediate position		with intermediate position	
Position	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	→ Page/Internet
1	1	539 968	HMVY-1	539 968	HMVY-1	539 970	HMVY-3	76
2	1	175 967	HMBV-ND	175 967	HMBV-ND	-	-	61
3	2	-	-	-	-	175 967	HMBV-ND	61
4	1 ¹⁾	175 958	HMBS-80/80	175 958	HMBS-80/80	175 958	HMBS-80/80	58
5	1	175 965	HMBSA-80/80	175 965	HMBSA-80/80	175 965	HMBSA-80/80	58
6	2	175 951	HMBF-DB	175 951	HMBF-DB	175 951	HMBF-DB	60
7	1	175 126	HMZV	175 126	HMZV	175 126	HMZV	95
8	1	177 576	MKRL-16,5-PG-16	177 576	MKRL-16,5-PG-16	177 576	MKRL-16,5-PG-16	96
9	1 ²⁾	177 566	MKR-16,5-PG-16	177 566	MKR-16,5-PG-16	177 566	MKR-16,5-PG-16	94
10	1	194 321	MKRT-23-16,5	-	-	194 321	MKRT-23-16,5	98
11	1 ²⁾	177 567	MKR-23-PG-21	177 567	MKR-23-PG-21	177 567	MKR-23-PG-21	94
12	1	177 572	MKRV-23-PG-21	177 572	MKRV-23-PG-21	177 572	MKRV-23-PG-21	96
13	1	177 595	MKA-PG-29-PG-21	177 595	MKA-PG-29-PG-21	177 595	MKA-PG-29-PG-21	99
14	1 ³⁾	-	-	192 289	MKRS-16,5-B	-	-	101
15	1	-	-	193 946	MKY-PG-21-2PG-16	-	-	98

1) Height max. 500 mm

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

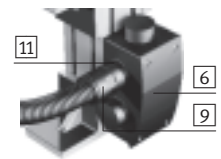
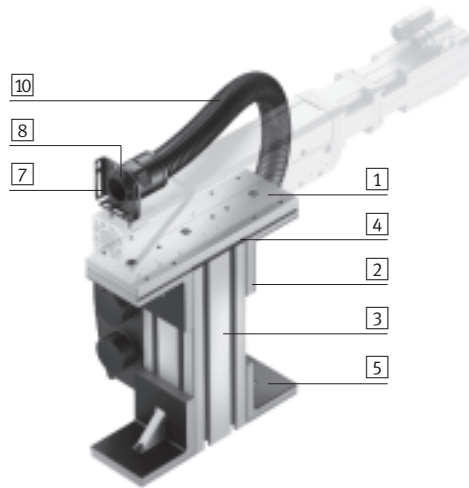
3) In order to be able to mount the retaining clip MKRS, a clamping component (1x code J) must be selected as an accessory in the order for the linear module HMPL

Pick & Place

Y modules

FESTO

Cantilever axes EGSA



Bill of materials						
Type		HMBSY-EGSA-1		HMBSY-EGSA-1		→ Page/Internet
For drives		EGSA-50		EGSA-60		
Stroke [mm]		100		100 ... 300		
Position	Quantity	Part No.	Type	Part No.	Type	
1	1	560 020 HMVY-4		560 020 HMVY-4		76
2	2	175 967 HMBV-ND		175 967 HMBV-ND		61
3	1 ¹⁾	175 958 HMBS-80/80		175 958 HMBS-80/80		58
4	1	175 965 HMBSA-80/80		175 965 HMBSA-80/80		58
5	2	175 951 HMBF-DB		175 951 HMBF-DB		60
6	1	175 126 HMZV		175 126 HMZV		95
7	1	193 124 HMZAS-PG-21		193 124 HMZAS-PG-21		102
8	1	177 599 MKM-PG-21		177 599 MKM-PG-21		101
9	2	177 572 MKRV-23-PG-21		177 572 MKRV-23-PG-21		96
10	1 ²⁾	177 567 MKR-23-PG-21		177 567 MKR-23-PG-21		94
11	1	177 595 MKA-PG-29-PG-21		177 595 MKA-PG-29-PG-21		99

1) Height max. 500 mm

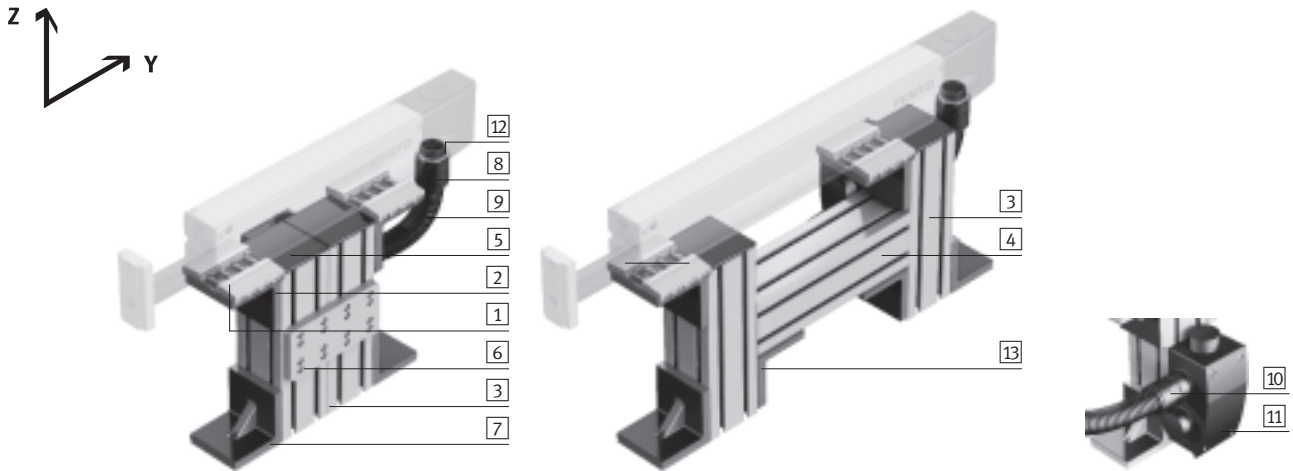
2) Length depends on the stroke of the drive

Pick & Place

Y modules

FESTO

Linear modules HMP, HME



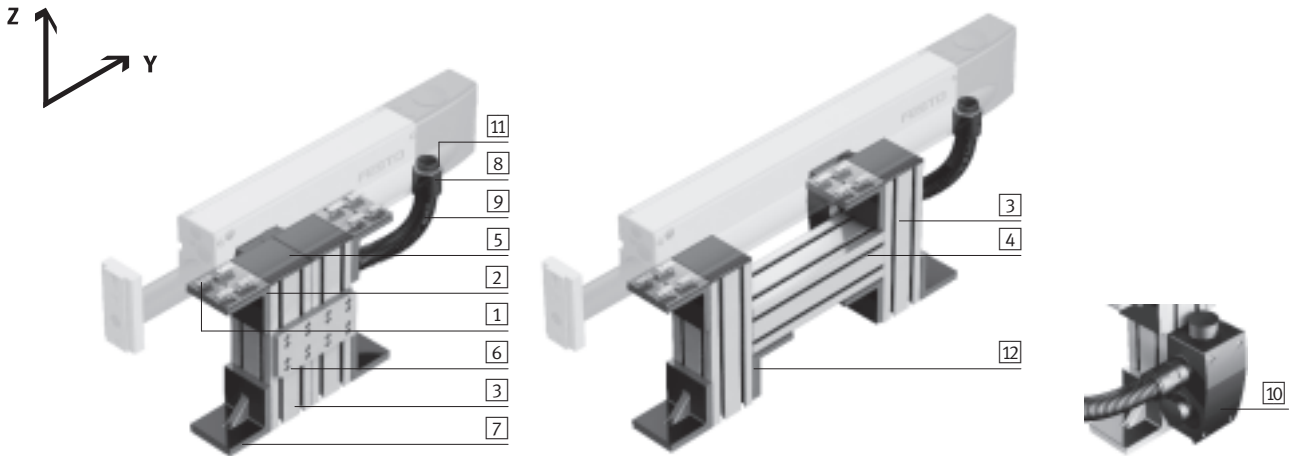
Bill of materials								
Type	HMBSY-HMP-1		HMBSY-HMP-2		HMBSY-HMP-3		HMBSY-HMP-4	
For drives	HMP-/HME-16			HMP-20				
Stroke [mm]	150 ... 250		320		100 ... 250		320 ... 400	
Position	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	→ Page/Internet
1	2	175 975	HMBK-WS	175 975	HMBK-WS	175 975	HMBK-WS	75
2	2	175 967	HMBV-ND	175 967	HMBV-ND	175 967	HMBV-ND	61
3	2 ¹⁾	175 958	HMBS-80/80	175 958	HMBS-80/80	175 958	HMBS-80/80	58
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	58
6	1	175 972	HMBSV	–		175 972	HMBSV	59
7	2	175 951	HMBF-DB	175 951	HMBF-DB	175 951	HMBF-DB	60
8	2 ⁴⁾	177 572	MKRV-23-PG-21	177 572	MKRV-23-PG-21	177 573	MKRV-29-PG-29	96
9	1 ³⁾⁴⁾	177 567	MKR-23-PG-21	177 567	MKR-23-PG-21	177 568	MKR-29-PG-29	94
10	1 ⁴⁾	177 595	MKA-PG-29-PG-21	177 595	MKA-PG-29-PG-21	–	–	99
11	1 ⁴⁾	175 126	HMZV	175 126	HMZV	175 126	HMZV	95
12	1 ⁴⁾	177 599	MKM-PG-21	177 599	MKM-PG-21	177 600	MKM-PG-29	101
13	2	–		178 228	HMBSW	–	178 228 HMBSW	59

- 1) Height max. 500 mm
- 2) Length 250 mm
- 3) Length depends on the stroke of the drive
- 4) Not possible 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/Internet	
For drives	HMP-/HME-25				HMP-32					
Stroke [mm]	100 ... 200		250 ... 400		100 ... 200		250 ... 400			
Position	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	74
2	2	175 967	HMBV-ND	175 967	HMBV-ND	175 967	HMBV-ND	175 967	HMBV-ND	61
3	2 ¹⁾	175 958	HMBS-80/80	175 958	HMBS-80/80	175 958	HMBS-80/80	175 958	HMBS-80/80	58
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	58
6	1	175 972	HMBSV	-		175 972	HMBSV	-		59
7	2	175 951	HMBF-DB	175 951	HMBF-DB	175 951	HMBF-DB	175 951	HMBF-DB	60
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	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	94
10	1 ⁴⁾	175 126	HMZV	175 126	HMZV	175 126	HMZV	175 126	HMZV	95
11	1 ⁴⁾	177 600	MKM-PG-29	177 600	MKM-PG-29	177 600	MKM-PG-29	177 600	MKM-PG-29	101
12	2	-		178 228	HMBSW	-		178 228	HMBSW	59

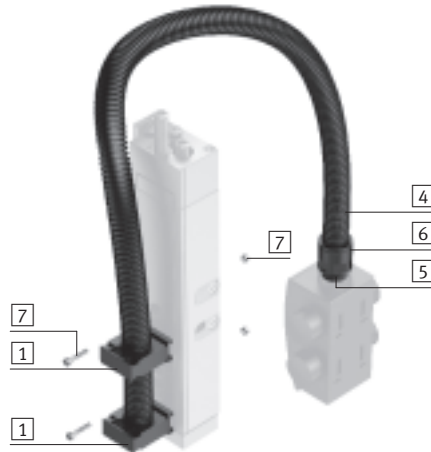
- 1) Height max. 500 mm
- 2) Length 350 mm
- 3) Length depends on the stroke of the drive
- 4) Not possible with linear module HME

Pick & Place

Z modules

FESTO

Mini slides DGSL



Bill of materials								
Type		HMBSZ-DGSL-1	HMBSZ-DGSL-9	HMBSZ-DGSL-2	HMBSZ-DGSL-3			
For drives		DGSL-10	DGSL-12	DGSL-16	DGSL-20			
Position	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	→ Page/Internet
[1]	2	192 289	MKRS-16,5-B	192 289	MKRS-16,5-B	192 289	MKRS-16,5-B	102
			M4x12 DIN 912	548 803	ZBV-M5-7	548 803	ZBV-M5-7	67
[4]	1 ¹⁾	177 566	MKR-16,5-PG-16	177 566	MKR-16,5-PG-16	177 566	MKR-16,5-PG-16	94
[5]	1	193 949	MKA-PG-29-PG-16-KU	193 949	MKA-PG-29-PG-16-KU	193 949	MKA-PG-29-PG-16-KU	99
[6]	1	177 571	MKRV-16,5-PG-16	177 571	MKRV-16,5-PG-16	177 571	MKRV-16,5-PG-16	96
[7]	1	548 803	ZBV-M5-7	-		548 804	ZBV-M6-9	67
				186 717	ZBH-7 ²⁾			66
							150 927	ZBH-9 ²⁾
[7]	2	-		M5x14 DIN 912		-		
							M6x20 DIN 912	-

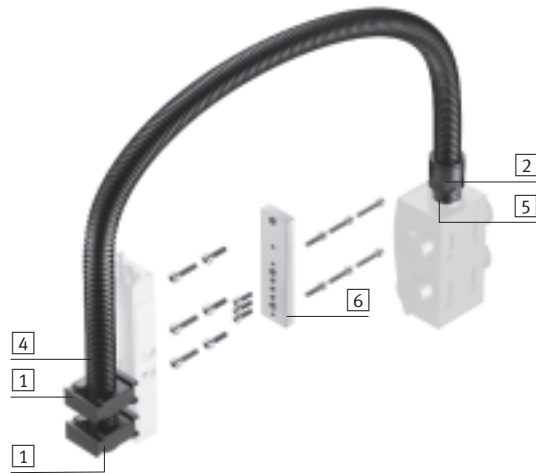
1) Length depends on the stroke of the drive

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

Pick & Place

Z modules

Mini slides DGSL



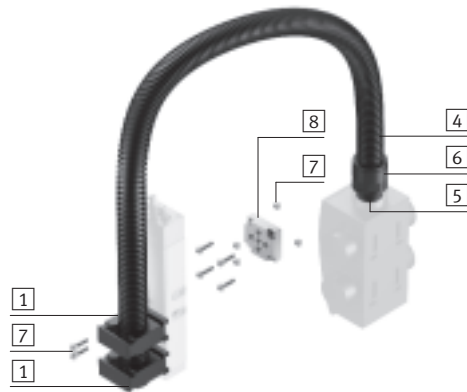
Bill of materials								
Type		HMBSZ-DGSL-4		HMBSZ-DGSL-5		HMBSZ-DGSL-6		→ Page/Internet
For drives		DGSL-16		DGSL-20		DGSL-25		
Position	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	
1	2	192 289	MKRS-16,5-B	192 290	MKRS-23-B	192 290	MKRS-23-B	101
		548 803	ZBV-M5-7	548 804	ZBV-M6-9	548 804	ZBV-M6-9	67
		177 571	MKRV-16,5-PG-16	177 572	MKRV-23-PG-21	177 572	MKRV-23-PG-21	96
4	1 ¹⁾	177 566	MKR-16,5-PG-16	177 567	MKR-23-PG-21	177 567	MKR-23-PG-21	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	99
6	1	548 779	HMSV-49	548 779	HMSV-49	548 779	HMSV-49	10

1) Length depends on the stroke of the drive

Pick & Place

Z modules

Mini slides DGSL



Bill of materials					
Type		HMBSZ-DGSL-10	HMBSZ-DGSL-11	HMBSZ-DGSL-12	
For drives		DGSL-10	DGSL-12	DGSL-12/-16	
Position	Quantity	Part No. Type	Part No. Type	Part No. Type	→ Page/Internet
1	2	192 289 MKRS-16,5-B	192 289 MKRS-16,5-B	192 289 MKRS-16,5-B	102
		M4x12 DIN 912	548 803 ZBV-M5-7	548 803 ZBV-M5-7	67
4	1 ¹⁾	177 566 MKR-16,5-PG-16	177 566 MKR-16,5-PG-16	177 566 MKR-16,5-PG-16	94
5	1	193 949 MKA-PG-29-PG-16-KU	193 949 MKA-PG-29-PG-16-KU	193 949 MKA-PG-29-PG-16-KU	99
6	1	177 571 MKRV-16,5-PG-16	177 571 MKRV-16,5-PG-16	177 571 MKRV-16,5-PG-16	96
7	1	548 803 ZBV-M5-7	–	548 804 ZBV-M6-9	67
	1	–	186 717 ZBH-7 ²⁾	–	66
	2	–	M5x14 DIN 912	–	–
8	1	560 017 HMSV-61	560 017 HMSV-61	560 018 HMSV-62	39

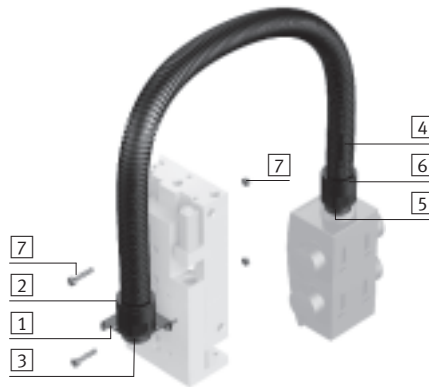
1) Length depends on the stroke of the drive

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

Pick & Place

Z modules

Mini slides SLT



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

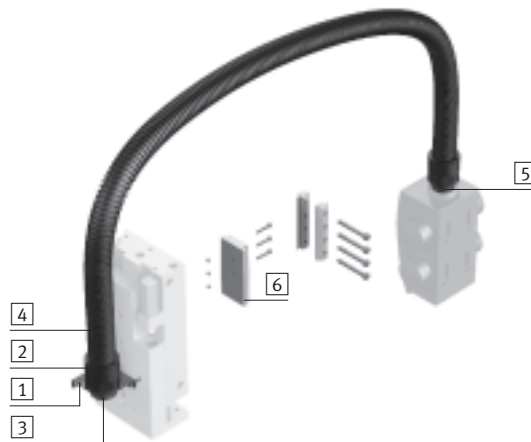
1) Length depends on the stroke of the drive

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

Pick & Place

Z modules

Mini slides SLT



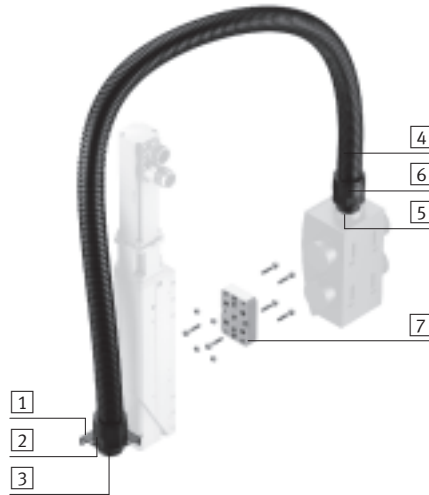
Bill of materials						
Type		HMBSZ-SLT-4	HMBSZ-SLT-5	HMBSZ-SLT-6		
For drives		SLT-16	SLT-20	SLT-25		
Position	Quantity	Part No.	Type	Part No.	Type	→ Page/Internet
[1]	1	193 124	HMZAS-PG-21	193 124	HMZAS-PG-21	102
[2]	2	177 572	MKRV-23-PG-21	177 572	MKRV-23-PG-21	96
[3]	1	177 599	MKM-PG-21	177 599	MKM-PG-21	101
[4]	1 ¹⁾	177 567	MKR-23-PG-21	177 567	MKR-23-PG-21	94
[5]	1	177 595	MKA-PG-29-PG-21	177 595	MKA-PG-29-PG-21	99
[6]	1	178 331	HMSV-36	178 332	HMSV-37	11

1) Length depends on the stroke of the drive

Pick & Place

Z modules

Cantilever axes EGSA



Bill of materials				
Type	HMBSZ-EGSA-1			
For drives	EGSA-50			
Position	Quantity	Part No.	Type	→ Page/Internet
1	1	193 124	HMZAS-PG-21	102
2	1	177 572	MKRV-23-PG-21	96
3	1	177 599	MKM-PG-21	101
4	1 ¹⁾	177 567	MKR-23-PG-21	94
5	1	177 595	MKA-PG-29-PG-21	99
6	1	177 572	MKRV-23-PG-21	96
7	1	560 019	HMSV-63	39

1) Length depends on the stroke of the drive

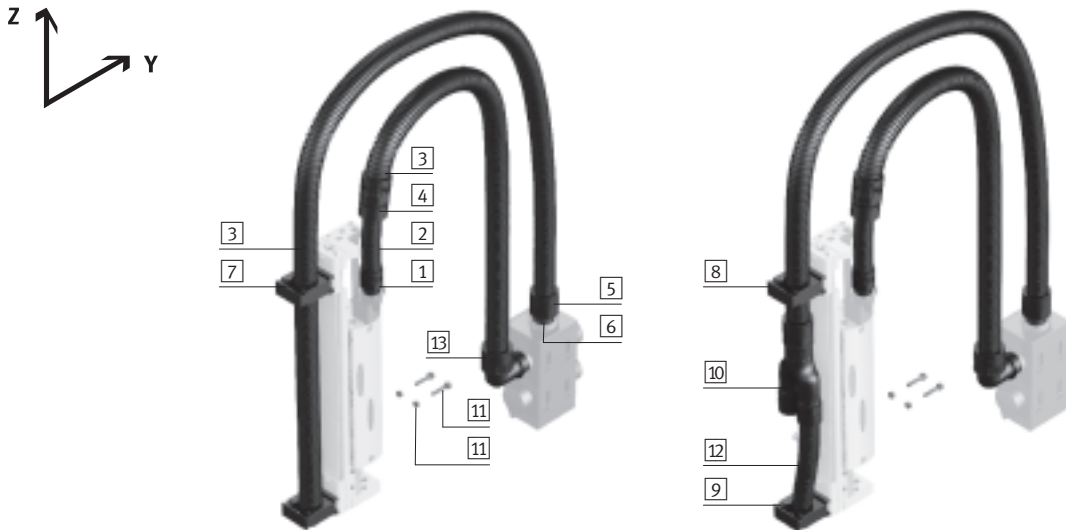
2) Centring sleeves are included in the scope of delivery of the mini slide SLT.

Pick & Place

Z modules

FESTO

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	→ Page/Internet		
		HMPL-16	HMPL-16	HMPL-20	HMPL-20			
		without intermediate pos.	with intermediate position	without intermediate pos.	with intermediate position			
Position	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	
1	1	177 571	MKRV-16,5-PG-16	177 571	MKRV-16,5-PG-16	177 571	MKRV-16,5-PG-16	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	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	98
5	1	177 572	MKRV-23-PG-21	177 572	MKRV-23-PG-21	177 572	MKRV-23-PG-21	96
6	2	177 595	MKA-PG-29-PG-21	177 595	MKA-PG-29-PG-21	177 595	MKA-PG-29-PG-21	99
7	2 ²⁾	192 290	MKRS-23-B	-	-	192 290	MKRS-23-B	101
8	1 ²⁾	-	-	192 290	MKRS-23-B	-	192 290	
9	1 ²⁾	-	-	192 289	MKRS-16,5-B	-	192 289	
10	1	-	-	193 946	MKY-PG-21-2PG-16	-	193 946	98
11	1 ³⁾	150 927	ZBH-9	150 927	ZBH-9	150 927	ZBH-9	-
	2	M5x16 DIN 912	M5x16 DIN 912	M5x22 DIN 912	M5x22 DIN 912	M5x22 DIN 912	M5x22 DIN 912	-
12	1 ¹⁾	-	-	177 566	MKR-16,5-PG-16	-	177 566	94
13	1	177 577	MKRL-23-PG-21	177 577	MKRL-23-PG-21	177 577	MKRL-23-PG-21	97

1) Length depends on the stroke of the drive

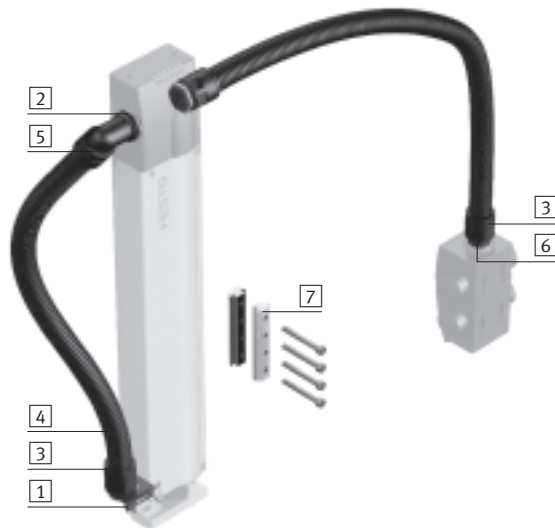
2) In order to be able to mount the retaining clip MKRS, a clamping component (2x code J) must be selected as an accessory in the order for the linear module HMPL.

3) 10 per packaging unit

Pick & Place

Z modules

Linear modules HMP



Bill of materials								
Type		HMBSZ-HMP-1		HMBSZ-HMP-2		HMBSZ-HMP-3		→ Page/Internet
For drives		HMP-16		HMP-20		HMP-25		
Position	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	102
2	3	177 599	MKM-PG-21	177 600	MKM-PG-29	177 600	MKM-PG-29	101
3	3	177 572	MKRV-23-PG-21	177 573	MKRV-29-PG-29	177 573	MKRV-29-PG-29	96
4	2 ¹⁾	177 567	MKR-23-PG-21	177 568	MKR-29-PG-29	177 568	MKR-29-PG-29	94
5	1	177 577	MKRL-23-PG-21	177 578	MKRL-29-PG-29	177 578	MKRL-29-PG-29	97
6	1	177 595	MKA-PG-29-PG-21	-	-	-	-	99
7	1	177 647	HMSV-1	177 649	HMSV-3	177 653	HMSV-7	68

1) Length depends on the stroke of the drive

Linear gantries

Key features

FESTO

Y and Z modules



Y modules

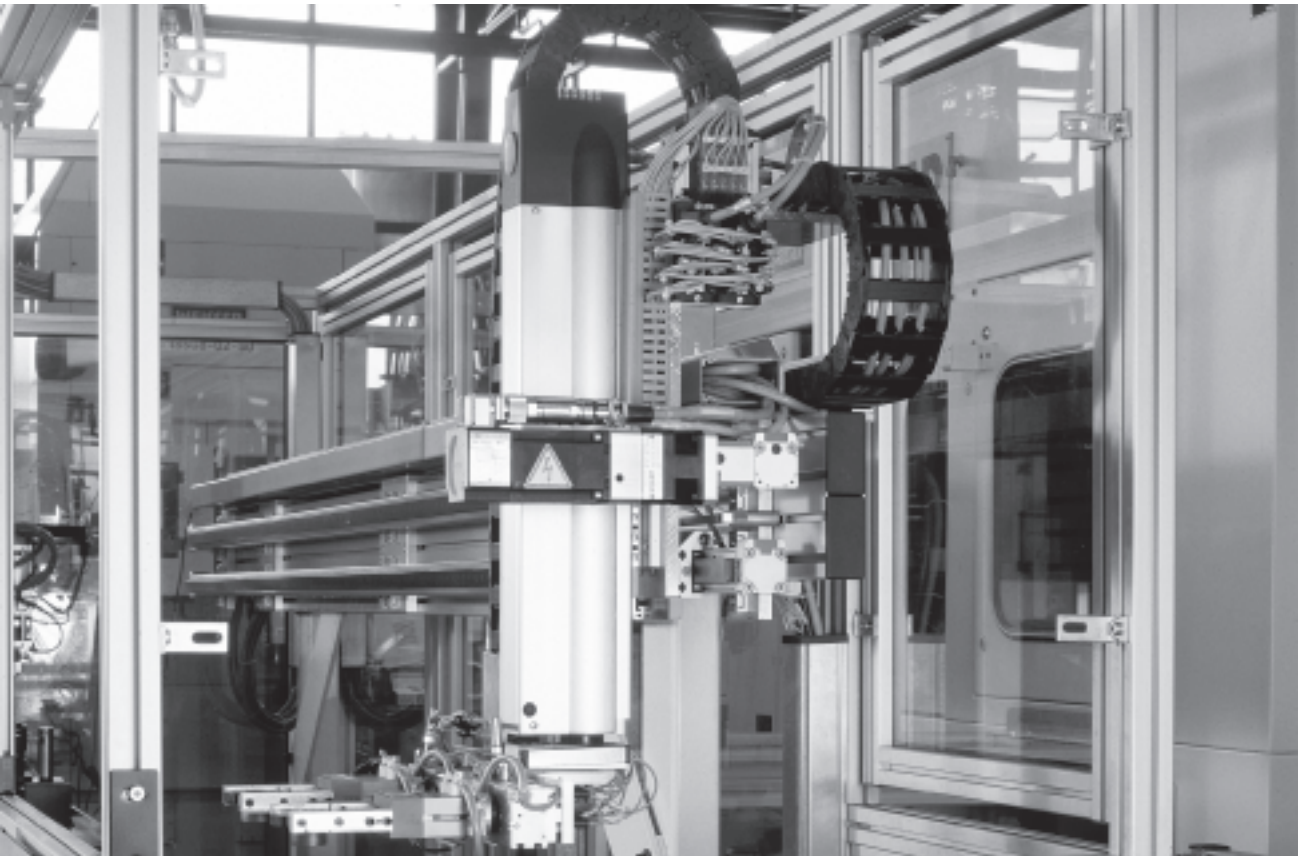
- Pneumatic: DGP, DGC
- Pneumatic with end-position controller SPC11 (Soft Stop): DGP
- Electrical: DGE
- Single-axis systems (mono) or drives with guide axis (duo)

Z modules

- Pneumatic: DGSL, SLT, HMPL, HMP
- Electrical: EGSA, DGE, DGEA

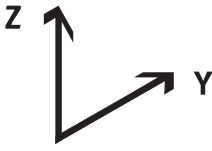


Gantry tubing and cables are routed via energy chains. Festo uses a support profile for this purpose specially designed for handling technology.

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 type	Pneumatic, pneumatic with end-position controller SPC11 (Soft Stop) or electrical			
Options	Spindle or toothed belt axis			
Z-axis	DGSL-12 SLT-16 HMPL-16	DGSL-16 SLT-20 HMPL-20 HMP-16	DGSL-20 SLT-25 HMP-20	DGSL-25 HMP-25
Drive type	Pneumatic			
Options	Intermediate position with HMPL	Intermediate position with HMPL, HMP	Intermediate position with HMP	
Z-axis	EGSA-50 DGEA-18	EGSA-60 DGEA-18 DGE-25-SP-KF	EGSA-60 DGEA-25 DGE-40-SP-KF	DGEA-25 DGE-40-SP-KF
Drive type	Electrical			
Options	-	Spindle or toothed belt axis	Spindle or toothed belt axis	
Effective load [kg]				
1	■	■	■	■
2	■	■	■	■
3	-	■	■	■
4	-	■	■	■
6	-	-	■	■
10	-	-	-	■
→ Page/Internet	26			

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 → 28	–	HMBSY-LP-D25-1 → 30	–
DGC-25	HMBSY-LP-M25-2 → 28	–	HMBSY-LP-D25-2 → 30	–
DGPL-25 with SPC11	HMBSY-LP-M25-3 → 28	–	HMBSY-LP-D25-3 → 30	–
DGPL-40	–	HMBSY-LP-M40-1 → 29	–	HMBSY-LP-D40-1 → 31
DGC-40	–	HMBSY-LP-M40-2 → 29	–	HMBSY-LP-D40-2 → 31
DGPL-40 with SPC11	–	HMBSY-LP-M40-3 → 29	–	HMBSY-LP-D40-3 → 31
Electric drives	Type			
DGE-25 -SP-KF -ZR-KF -ZR-RF	HMBSY-LP-M25-1 → 28 HMBSY-LP-M25-4 → 28	–	HMBSY-LP-D25-1 → 30 HMBSY-LP-D25-4 → 30	–
DGE-40 -SP-KF -ZR-KF -ZR-RF	–	HMBSY-LP-M40-1 → 29	–	HMBSY-LP-D40-1 → 31

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
→ 30
Z-axis: HMBSZ-SLT-7
→ 33

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-12	HMBSZ-DGSL-7 → 32	–	–	–
DGSL-16	–	HMBSZ-DGSL-7 → 32	HMBSZ-DGSL-7 → 32	–
DGSL-20	–	–	HMBSZ-DGSL-8 → 32	–
DGSL-25	–	–	–	HMBSZ-DGSL-8 → 32
SLT-16	HMBSZ-SLT-7 → 33	–	–	–
SLT-20	–	HMBSZ-SLT-7 → 33	HMBSZ-SLT-7 → 33	–
SLT-25	–	–	HMBSZ-SLT-7 → 33	–
HMPL-16	HMBSZ-HMPL-5 HMBSZ-HMPL-6 → 34	–	–	–
HMPL-20	–	HMBSZ-HMPL-5 HMBSZ-HMPL-6 → 34	HMBSZ-HMPL-5 HMBSZ-HMPL-6 → 34	–
HMP-16	–	HMBSZ-HMP-4 → 36	HMBSZ-HMP-4 → 36	–
HMP-20	–	–	HMBSZ-HMP-5 → 36	–
HMP-25	–	–	–	HMBSZ-HMP-6 → 36
Electric drives	Type			
EGSA-50	HMBSZ-EGSA-2 → 35	–	–	–
EGSA-60	–	HMBSZ-EGSA-2 → 35	HMBSZ-EGSA-2 → 35	–
DGEA-18	HMBSZ-DGEA-1 → 37	HMBSZ-DGEA-1 → 37	HMBSZ-DGEA-1 → 37	–
DGEA-25	–	–	HMBSZ-DGEA-2 → 37	HMBSZ-DGEA-3 → 37
DGE-25-SP	–	HMBSZ-DGE-1 → 38	HMBSZ-DGE-1 → 38	–
DGE-40-SP	–	–	HMBSZ-DGE-2 → 38	HMBSZ-DGE-3 → 38

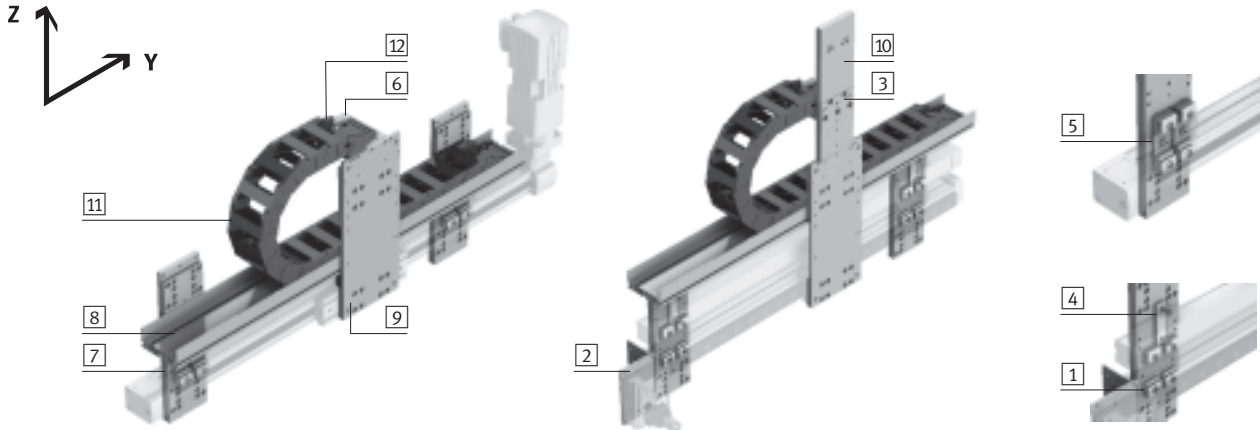
Linear gantries

Y modules

FESTO

Mono system

Toothed belt axes DGE, linear drives DGC, DGPL



Bill of materials							→ Page/Internet
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						
Position	Quantity	Part No.	Type	Part No.	Type	Part No.	Type
1	2 ¹⁾	150 736		–		150 736	
		MUP-18/25				MUP-18/25	
	1 ¹⁾	–		531 753		–	
				MUC-25			
2	1	–		–		539 367	
						HMVW-SPC	
3	1	–		–		539 364	
						HMIM-LP	
4	1 ¹⁾	–		–		539 973	
						HMVO-POT	
5	2 ¹⁾	–		–		–	
						539 362	
						HMVO-RF25	
6	1	539 366		539 366		539 366	
		HMIO-AP1		HMIO-AP1		HMIO-AP1	
7	2 ²⁾	539 972		539 972		539 972	
		HMVM-LP-DL25/40		HMVM-LP-DL25/40		HMVM-LP-DL25/40	
8	1 ³⁾	539 378		539 378		539 378	
		HMIA-E05		HMIA-E05		HMIA-E05	
9	1	539 368		539 368		539 368	
		HMVS-DL25		HMVS-DL25		HMVS-DL25	
10	1	–		–		539 365	
						HMIZB-E03	
11	1	IGUS E2 medium 240.05.100 and 211 or ENERGY CHAIN MC 0320.60-01-100 and TS O/n ₇ 2					–
12	1	IGUS E2 medium 2050.12.PZB or ENERGY CHAIN 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.

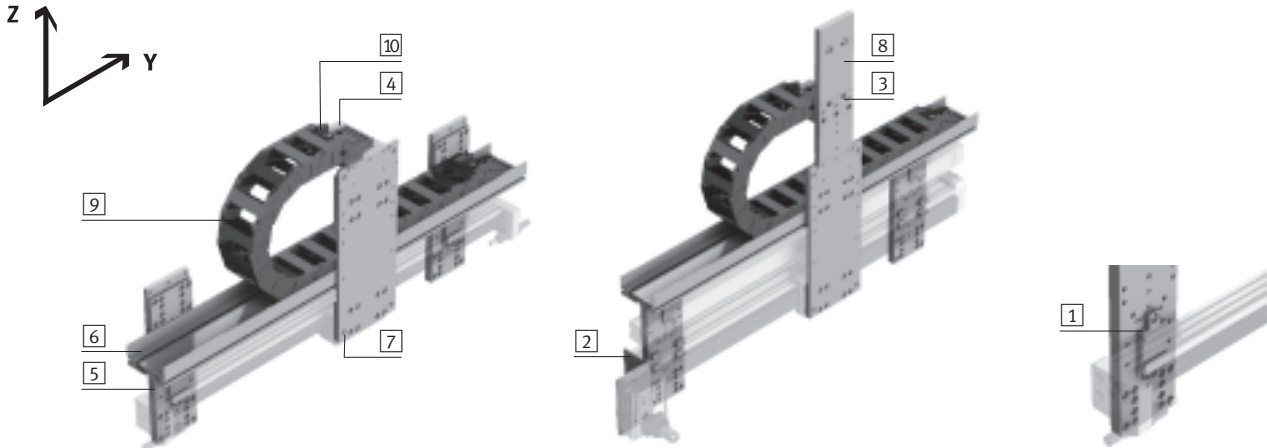
3) Length depends on the stroke of the drive

Linear gantries

Y modules

Mono system

Toothed belt axes DGE, linear drives DGC, DGPL



Bill of materials						→ Page/Internet			
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								
Position	Quantity	Part No.	Type	Part No.	Type	Part No.	Type		
1	1 ¹⁾	-		531 755	MUC-40	-		muc	
2	1	-		-		539 367	HMVW-SPC	86	
3	1	-		-		539 364	HMIM-LP	110	
4	1	539 366	HMIO-AP-1	540 121	HMIO-AP-2	539 366	HMIO-AP-1	110	
5	2 ²⁾	539 972	HMVM-LP-DL25/40	539 972	HMVM-LP-DL25/40	539 972	HMVM-LP-DL25/40	80	
6	1 ³⁾	539 378	HMIA-E05	539 378	HMIA-E05	539 378	HMIA-E05	109	
7	1	539 369	HMVS-DL40	539 369	HMVS-DL40	539 369	HMVS-DL40	84	
8	1	-		-		539 365	HMIZB-E03	108	
9	1	IGUS E2 medium 240.05.100 and 211 or ENERGY CHAIN MC 0320.60-01-100 and TS O/η ₂					-		-
10	1	IGUS E2 medium 2050.12.PZB or ENERGY CHAIN 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

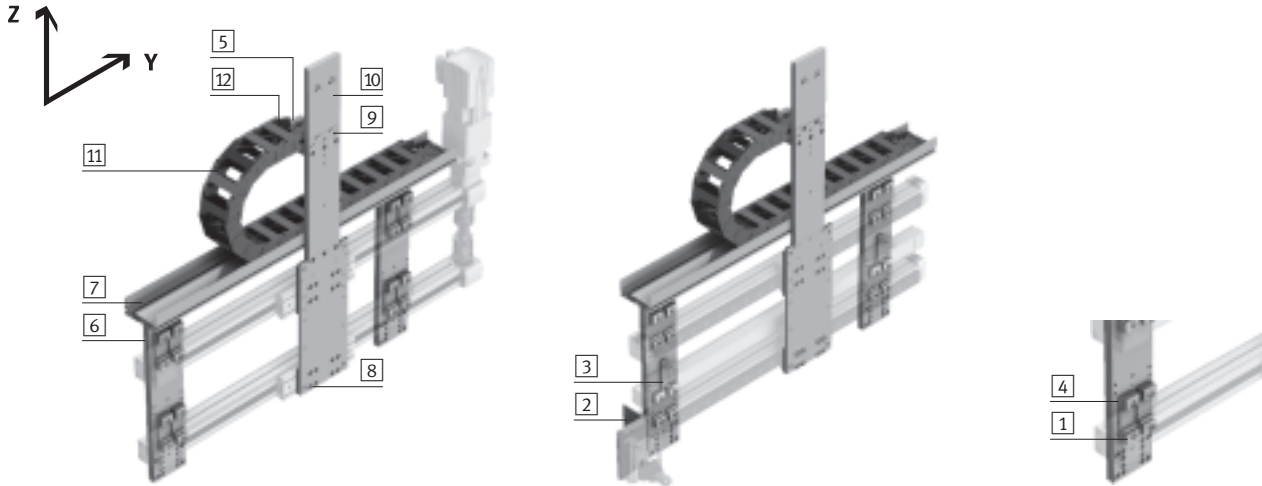
Linear gantries

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						
Position	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	→ Page/Internet
1	4 ¹⁾	150 736		–		150 736		mup
	2 ¹⁾	–		531 753		–		muc
		MUP-18/25		MUC-25		MUP-18/25		
2	1	–		–		539 367		86
						HMVW-SPC		
3	1 ¹⁾	–		–		539 973		85
						HMVO-POT		
4	4 ¹⁾	–		–		–		85
						539 362		
						HMVO-RF25		
5	1	539 366		539 366		539 366		110
		HMIO-AP-1		HMIO-AP-1		HMIO-AP-1		
6	2 ²⁾	539 971		539 971		539 971		80
		HMVD-LP-DL25/40		HMVD-LP-DL25/40		HMVD-LP-DL25/40		
7	1 ³⁾	539 378		539 378		539 378		109
		HMIA-E05		HMIA-E05		HMIA-E05		
8	1	539 368		539 368		539 368		84
		HMVS-DL25		HMVS-DL25		HMVS-DL25		
9	1	539 363		539 363		539 363		110
		HMID-LP		HMID-LP		HMID-LP		
10	1	539 365		539 365		539 365		108
		HMIZB-E03		HMIZB-E03		HMIZB-E03		
11	1	IGUS E2 medium 240.05.100 and 211 or ENERGY CHAIN MC 0320.60-01-100 and TS O/n72						–
12	1	IGUS E2 medium 2050.12.PZB or ENERGY CHAIN 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.

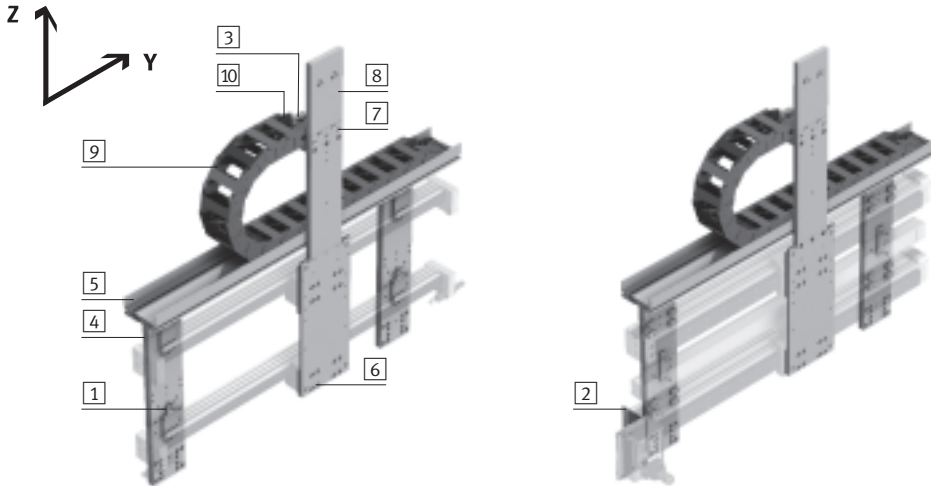
3) Length depends on the stroke of the drive

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							
Position	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	→ Page/Internet
1	2 ¹⁾	-		531 755	MUC-40	-		muc
2	1	-		-		539 367	HMVW-SPC	86
3	1	539 366	HMIO-AP-1	540 121	HMIO-AP-2	539 366	HMIO-AP-1	110
4	2 ²⁾	539 971	HMVD-LP-DL25/40	539 971	HMVD-LP-DL25/40	539 971	HMVD-LP-DL25/40	80
5	1 ³⁾	539 378	HMIA-E05	539 378	HMIA-E05	539 378	HMIA-E05	109
6	1	539 369	HMVS-DL40	539 369	HMVS-DL40	539 369	HMVS-DL40	84
7	1	539 363	HMID-LP	539 363	HMID-LP	539 363	HMID-LP	110
8	1	539 365	HMIZB-E03	539 365	HMIZB-E03	539 365	HMIZB-E03	108
9	1	IGUS E2 medium 240.05.100 and 211 or ENERGY CHAIN MC 0320.60-01-100 and TS O/n _T 2						-
10	1	IGUS E2 medium 2050.12.PZB or ENERGY CHAIN MC FA/MA						-

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

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

3) Length depends on the stroke of the drive

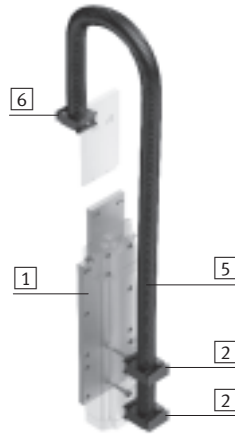
Linear gantries

Z modules

FESTO

Mono/Duo system

Mini slides DGSL



Bill of materials								
Type		HMBSZ-DGSL-7		HMBSZ-DGSL-8		→ Page/Internet		
For drives		DGSL-12	DGSL-16	DGSL-20	DGSL-25			
System type		Mono 25	Mono 40 Duo 25	Duo 25	Duo 40			
Position	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	
1	1	539 373	HMVZ-2	539 373	HMVZ-2	539 373	HMVZ-2	82
2	1	192 289	MKRS-16,5-B	192 289	MKRS-16,5-B	192 290	MKRS-23-B	101
		548 803	ZBV-M5-7	548 803	ZBV-M5-7	548 804	ZBV-M5-9	67
5	1 ¹⁾	177 566	MKR-16,5-PG-16	177 566	MKR-16,5-PG-16	177 567	MKR-23-PG-21	94
6	1	192 289	MKRS-16,5-B	192 289	MKRS-16,5-B	192 290	MKRS-23-B	101

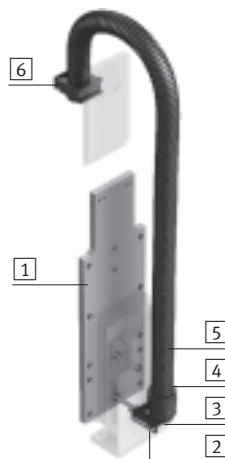
1) Length depends on the stroke of the drive

Linear gantries

Z modules

Mono/Duo system

Mini slides SLT



Bill of materials						
Type		HMBSZ-SLT-7				→ Page/Internet
For drives		SLT-16	SLT-20	SLT-25		
System type		Mono 25	Mono 40 Duo 25	Duo 25		
Position	Quantity	Part No.	Type	Part No.	Type	
1	1	539 373	HMVZ-2	539 373	HMVZ-2	82
2	1	193 124	HMZAS-PG-21	193 124	HMZAS-PG-21	102
3	1	177 599	MKM-PG-21	177 599	MKM-PG-21	101
4	1	177 572	MKRV-23-PG-21	177 572	MKRV-23-PG-21	96
5	1 ¹⁾	177 567	MKR-23-PG-21	177 567	MKR-23-PG-21	94
6	1	192 290	MKRS-23-B	192 290	MKRS-23-B	101

1) Length depends on the stroke of the drive

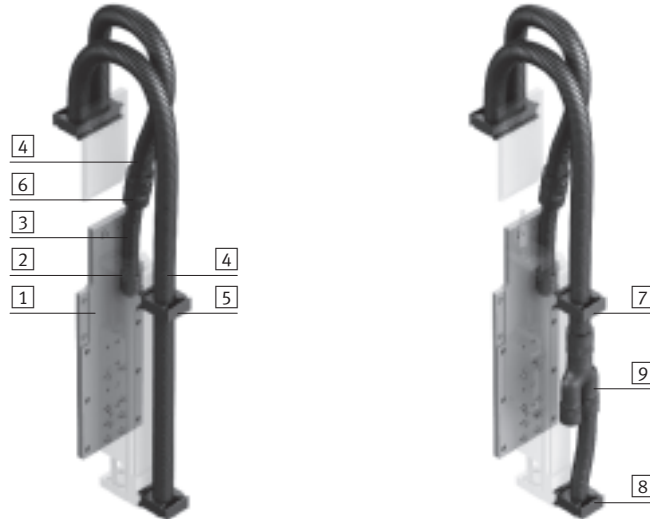
Linear gantries

Z modules

FESTO

Mono/Duo system

Linear modules HMPL



Bill of materials							
Type	HMBSZ-HMPL-5			HMBSZ-HMPL-6			→ Page/Internet
For drives	HMPL-16		HMPL-20	HMPL-16		HMPL-20	
System type	without intermediate position			with intermediate position			
	Mono 25		Mono 40 Duo 25	Mono 25		Mono 40 Duo 25	
Position	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

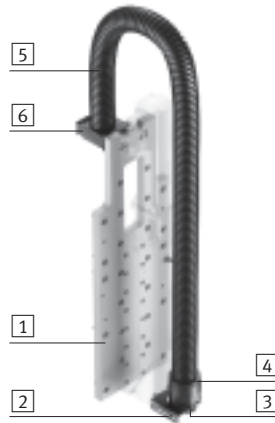
2) Length depends on the stroke of the drive, 2 conduits are required with an intermediate position.

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
Cantilever axes EGSA



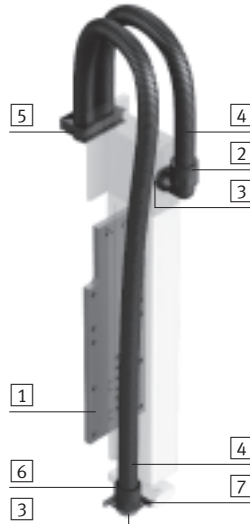
Bill of materials				
Type		HMBSZ-EGSA-2		
For drives		EGSA-50	EGSA-60	
System type		Mono 25	Mono 40 Duo 25	
Position	Quantity	Part No.	Type	→ Page/Internet
1	1	560 021	HMVZ-7	82
2	1	193 124	HMZAS-PG21	96
3	1	177 599	MKM-PG-21	94
4	1	177 572	MKRV-23-PG-21	
5	1 ¹⁾	177 567	MKR-23-PG-21	101
6	1	192 290	MKRS-23-B	98

1) Length depends on the stroke of the drive.

Linear gantries

Z modules

Mono/Duo system
Linear modules HMP



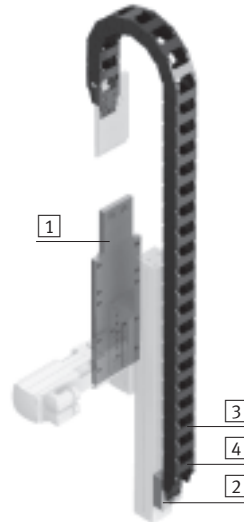
Bill of materials						
Type	HMBSZ-HMP-4	HMBSZ-HMP-5	HMBSZ-HMP-6			
For drives	HMP-16	HMP-20	HMP-25			
System type	Mono 40 Duo 25	Duo 25	Duo 40			
Position	Quantity	Part No.	Type	Part No.	Type	→ Page/Internet
1	1	539 374	HMVZ-3	539 374	HMVZ-3	82
2	1	177 577	MKRL-23-PG-21	177 578	MKRL-29-PG-29	97
3	2	177 599	MKM-PG-21	177 600	MKM-PG-29	101
4	1 ¹⁾	177 567	MKR-23-PG-21	177 568	MKR-29-PG-29	94
5	2	192 290	MKRS-23-B	192 291	MKRS-29-B	101
6	1	177 572	MKRV-23-PG-21	177 573	MKRV-29-PG-29	96
7	1	193 124	HMZAS-PG-21	177 603	HMZAS-PG-29	102

1) Length depends on the stroke of the drive

Linear gantries

Z modules

Mono/Duo system
Cantilever axes DGEA



Bill of materials						→ Page/Internet	
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		
Position	Quantity	Part No.	Type	Part No.	Type		
1	1	539 374	HMVZ-3	539 375	HMVZ-4	539 377 HMVZ-6	82
2	1	539 370	HMIZF-E03-DA18	539 371	HMIZF-E03-DA25	539 371 HMIZF-E03-DA25	108
3	1 ¹⁾	IGUS E2 medium 240.03.075.0 and 211 or ENERGY CHAIN MC 0320.40-01-77 and TS O/n ₁ 2					-
4	1	IGUS E2 medium 2030.12.PZB or ENERGY CHAIN MC FA/MA					-

1) Length depends on the stroke of the drive

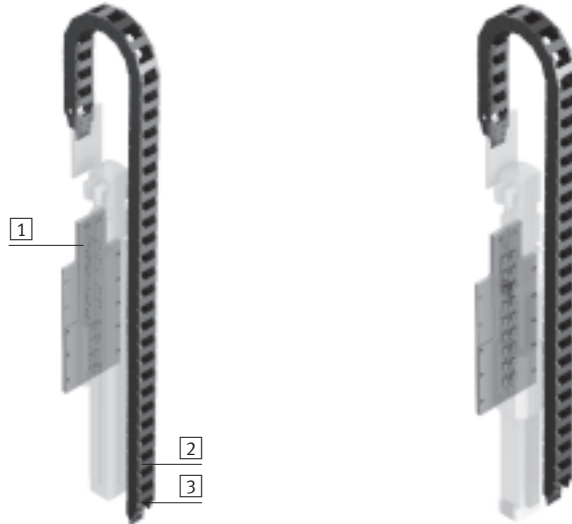
Linear gantries

Z modules

FESTO

Mono/Duo system

Spindle axes DGE



Bill of materials								
Type	HMBSZ-DGE-1		HMBSZ-DGE-2		HMBSZ-DGE-3		→ Page/Internet	
For drives	DGE-25-SP		DGE-40-SP		DGE-40-SP			
System type	Mono 40 Duo 25		Duo 25		Duo 40			
Position	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	
1	1	539 374	HMVZ-3	539 375	HMVZ-4	539 377	HMVZ-6	82
2	1 ¹⁾	IGUS E2 medium 240.03.075.0 and 211 or ENERGY CHAIN MC 0320.40-01-77 and TS O/n _T 2					-	
3	1	IGUS E2 medium 2030.12.PZB or ENERGY CHAIN MC FA/MA					-	

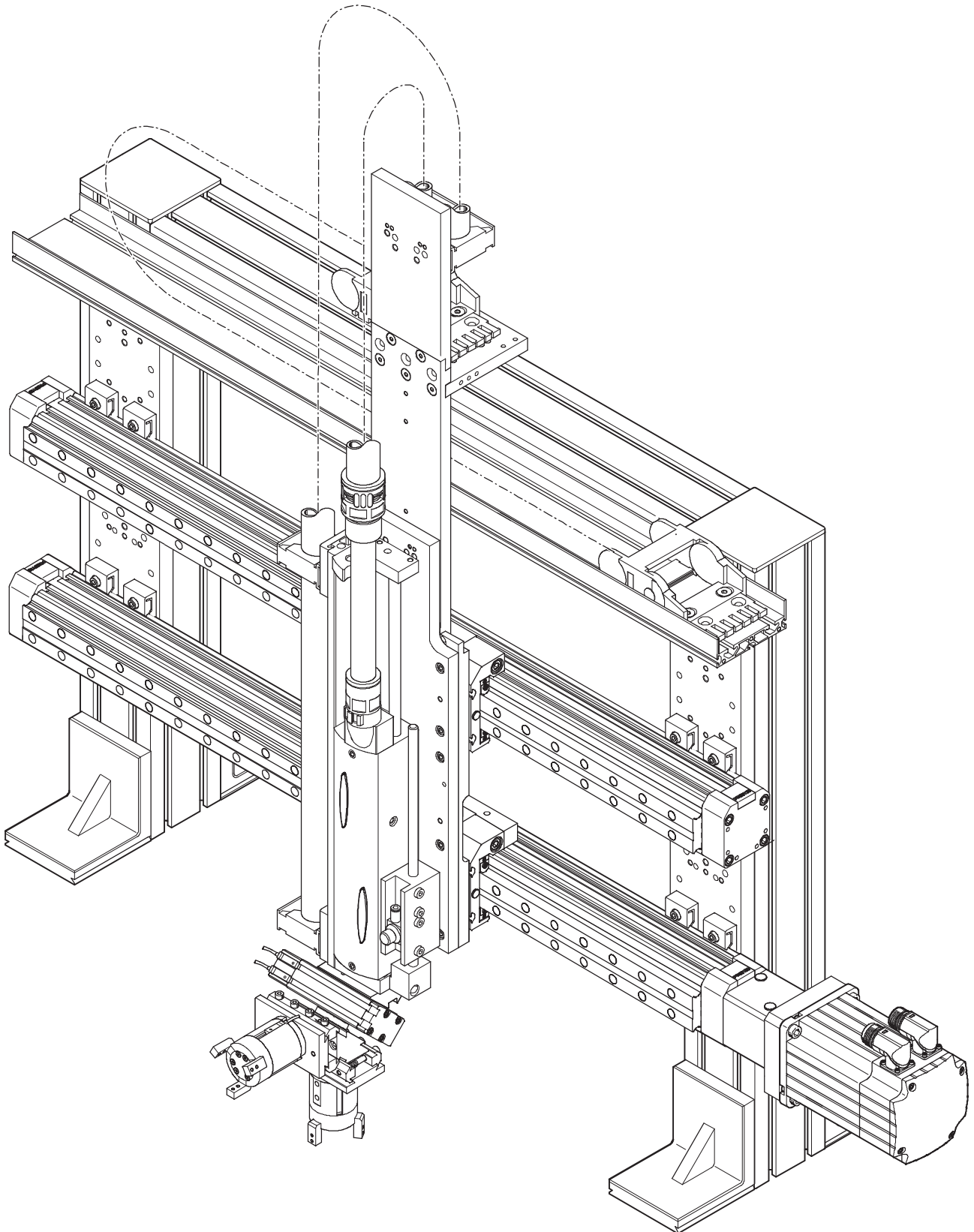
1) Length depends on the stroke of the drive

Linear gantries

System example

FESTO

Combination with handling module HMPL, swivel module DRQD and three-point gripper HGD

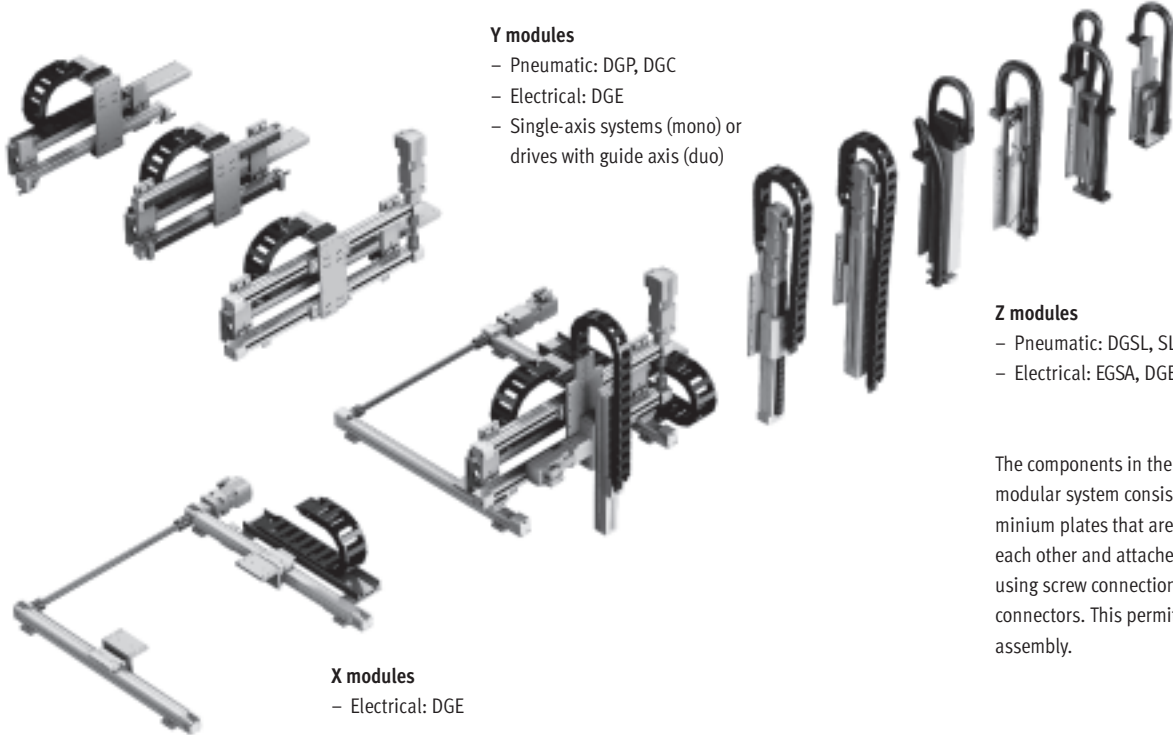


Three-dimensional gantries

Key features

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X, Y and Z modules



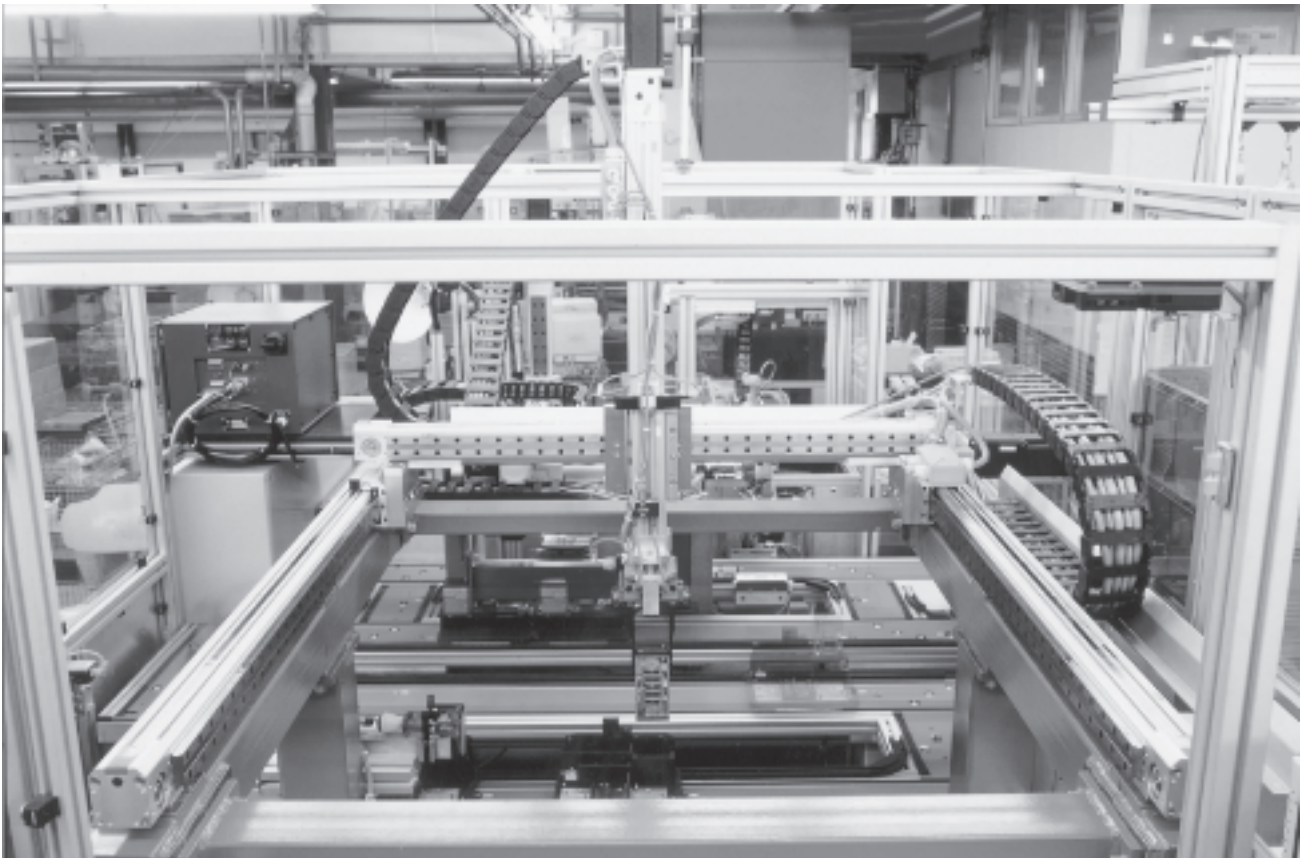
- Y modules**
- Pneumatic: DGP, DGC
 - Electrical: DGE
 - Single-axis systems (mono) or drives with guide axis (duo)

- Z modules**
- Pneumatic: DGSL, SLT, HMPL, HMP
 - Electrical: EGSA, DGE, DGEA

- X modules**
- Electrical: DGE

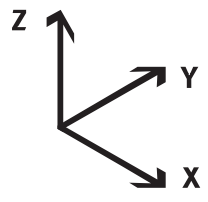






The components in the multi-axis modular system consist mainly of aluminium plates that are connected to each other and attached to the drives using screw connections and slot nut connectors. This permits fast and easy assembly.

Application






Three-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 type	Electric				
Options	Ball bearing or roller guide				
Y-axis	DG...-25	DG...-40	DG...-25	DG...-40	
	 		 		
Drive type	Pneumatic and electric				
Options	Spindle or toothed belt axis				
Z-axis	DGSL-12 SLT-16 HMPL-16	DGSL-16 SLT-20 HMPL-20 HMP-16	DGSL-20 SLT-25 HMP-20	DGSL-25 HMP-25	
Drive type	Pneumatic				
Options	Intermediate position with HMPL	Intermediate position with HMPL, HMP		Intermediate position with HMP	
Z-axis	EGSA-50 DGEA-18	EGSA-60 DGEA-18 DGE-25-SP-KF	EGSA-60 DGEA-25 DGE-40-SP-KF	DGEA-25 DGE-40-SP-KF	
Drive type	Electric				
Options	-	Spindle or toothed belt axis		Spindle or toothed belt axis	
Effective load [kg]					
	1	■	■	■	■
	2	■	■	■	■
	3	-	■	■	■
	4	-	■	■	■
	6	-	-	■	■
	10	-	-	-	■
→ Page/Internet	42				

Three-dimensional gantries

Selection aid for basic, connection and installation components

X-axis					
System type		Mono 25	Mono 40	Duo 25	Duo 40
					
Electric drives	Type				
DGE-25	-ZR-KF	HMBSX-RP/FP-25-1 → 45	HMBSX-RP/FP-25-1 → 45	HMBSX-RP/FP-25-1 → 45	–
	-ZR-RF	HMBSX-RP/FP-25-2 → 45	HMBSX-RP/FP-25-2 → 45	HMBSX-RP/FP-25-2 → 45	–
DGE-40	-ZR-KF	–	HMBSX-RP/FP-40-1 → 45	HMBSX-RP/FP-40-1 → 45	HMBSX-RP/FP-40-1 → 45
	-ZR-RF	–	HMBSX-RP/FP-40-2 → 45	HMBSX-RP/FP-40-2 → 45	HMBSX-RP/FP-40-2 → 45

Selection example:

Project engineering produced the following drive combination:

X-axis: DGE-40-ZR-KF
Y-axis: Mono 40 system with DGC-40
Z-axis: HMPL-20 without intermediate position

Step 1

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

X-axis: HMBSX-RP/FP-40-1
→ 45
Y-axis: HMBSY-RP/FP-M40-2
→ 46
Z-axis: HMBSZ-HMPL-5 or 6
→ 50

Step 2

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




X-axis: HMBSX-RP/FP-40-1
Y-axis: HMBSY-RP/FP-M40-2
Z-axis: HMBSZ-HMPL-5

Step 3

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




Three-dimensional gantries

Selection aid for basic, connection and installation components

Y-axis				
System type	Mono 25	Mono 40	Duo 25	Duo 40
				
Pneumatic drives	Type			
DGPL-25	HMBSY-RP/FP-M25-1 → 46	–	HMBSY-RP/FP-D25-1 → 47	–
DGC-25	HMBSY-RP/FP-M25-2 → 46	–	HMBSY-RP/FP-D25-2 → 47	–
DGPL-40	–	HMBSY-RP/FP-M40-1 → 46	–	HMBSY-RP/FP-D40-1 → 47
DGC-40	–	HMBSY-RP/FP-M40-2 → 46	–	HMBSY-RP/FP-D40-2 → 47
Electric drives	Type			
DGE-25 -SP-KF -ZR-KF -ZR-RF	HMBSY-RP/FP-M25-1 → 46	–	HMBSY-RP/FP-D25-1 → 47	–
DGE-40 -SP-KF -ZR-KF -ZR-RF	–	HMBSY-RP/FP-M40-1 → 46	–	HMBSY-RP/FP-D40-1 → 47

Three-dimensional gantries

Selection aid for basic, connection and installation components

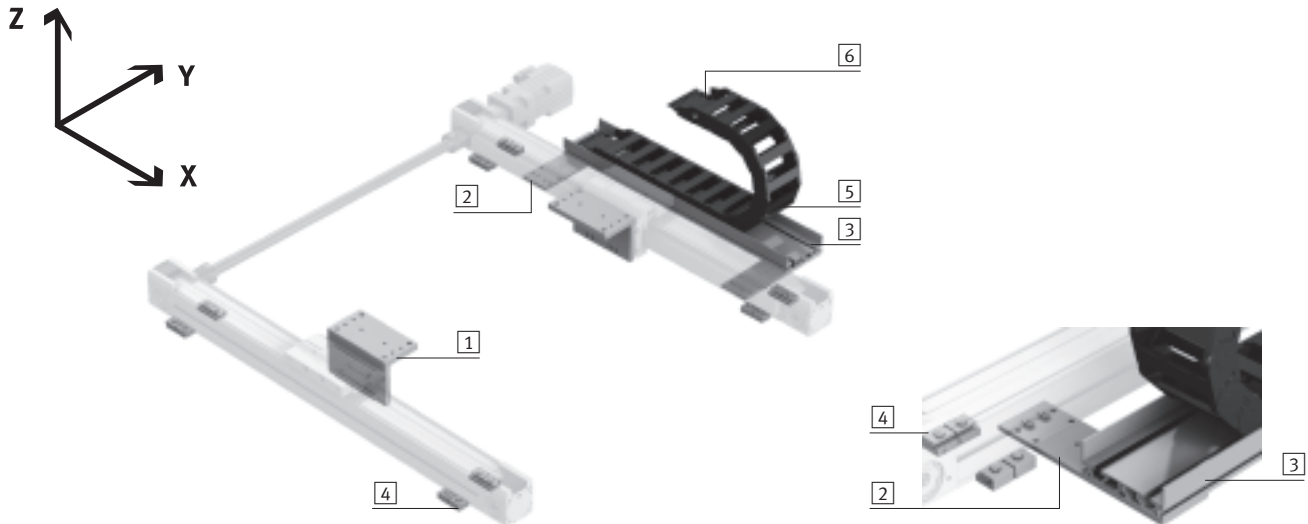
Z-axis				
System type	Mono 25	Mono 40	Duo 25	Duo 40
				
Pneumatic drives	Type			
DGSL-12	HMBSZ-DGSL-7 → 48	–	–	–
DGSL-16	–	HMBSZ-DGSL-7 → 48	HMBSZ-DGSL-7 → 48	–
DGSL-20	–	–	HMBSZ-DGSL-8 → 48	–
DGSL-25	–	–	–	HMBSZ-DGSL-8 → 48
SLT-16	HMBSZ-SLT-7 → 49	–	–	–
SLT-20	–	HMBSZ-SLT-7 → 49	HMBSZ-SLT-7 → 49	–
SLT-25	–	–	HMBSZ-SLT-7 → 49	–
HMPL-16	HMBSZ-HMPL-5 HMBSZ-HMPL-6 → 50	–	–	–
HMPL-20	–	HMBSZ-HMPL-5 HMBSZ-HMPL-6 → 50	HMBSZ-HMPL-5 HMBSZ-HMPL-6 → 50	–
HMP-16	–	HMBSZ-HMP-4 → 51	HMBSZ-HMP-4 → 51	–
HMP-20	–	–	HMBSZ-HMP-5 → 51	–
HMP-25	–	–	–	HMBSZ-HMP-6 → 51
Electric drives	Type			
EGSA-50	HMBSZ-EGSA-2 → 52	–	–	–
EGSA-60	–	HMBSZ-EGSA-2 → 52	HMBSZ-EGSA-2 → 52	–
DGEA-18	HMBSZ-DGEA-1 → 53	HMBSZ-DGEA-1 → 53	HMBSZ-DGEA-1 → 53	–
DGEA-25	–	–	HMBSZ-DGEA-2 → 53	HMBSZ-DGEA-3 → 53
DGE-25-SP	–	HMBSZ-DGE-1 → 54	HMBSZ-DGE-1 → 54	–
DGE-40-SP	–	–	HMBSZ-DGE-2 → 54	HMBSZ-DGE-3 → 54

Three-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		→ Page/Internet	
For drives	DGE-25-ZR-KF		DGE-25-ZR-RF		DGE-40-ZR-KF		DGE-40-ZR-RF			
Position	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	Part No.	Type	
1	2	539 651	HMVW-DL25	539 652	HMVS-RF25	540 325	HMVW-DL40	539 653	HMVS-RF40	77
2	2 ¹⁾	539 654	HMIXB-RP/FP	539 654	HMIXB-RP/FP	539 654	HMIXB-RP/FP	539 654	HMIXB-RP/FP	111
3	1 ²⁾	539 379	HMIA-E07	539 379	HMIA-E07	539 379	HMIA-E07	539 379	HMIA-E07	109
4	2 ³⁾	150 736	MUP-18/25	150 736	MUP-18/25	-	-	-	-	mup
	1 ³⁾	-	-	-	-	150 738	MUP-40	150 738	MUP-40	mup
5	1 ²⁾	IGUS E2 medium 240.07.100.0 and 211 or ENERGY CHAIN MC 0320.80-01 and TS O/n _T 2						-	-	-
6	1	IGUS E2 medium 2070.12.PZB or ENERGY CHAIN 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

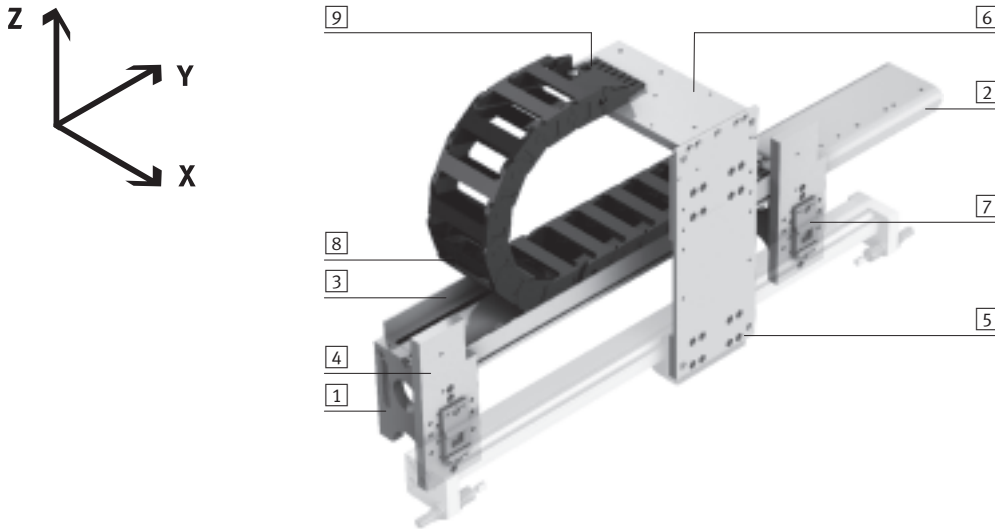
Three-dimensional gantries

Y modules

FESTO

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						
Position	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	→ Page/Internet	
1	2	539 657	HMVV-RP/FP	539 657	HMVV-RP/FP	539 657	HMVV-RP/FP	79	
2	1	539 658	HMIXF-RP/FP	539 658	HMIXF-RP/FP	539 658	HMIXF-RP/FP	79	
3	1 ¹⁾	539 379	HMIA-E07	539 379	HMIA-E07	539 379	HMIA-E07	109	
4	2 ³⁾	539 656	HMVM-RP/FP-DL25/40	539 656	HMVM-RP/FP-DL25/40	539 656	HMVM-RP/FP-DL25/40	81	
5	1	539 368	HMVS-DL25	539 368	HMVS-DL25	539 369	HMVS-DL40	84	
6	1	539 659	HMIYF-RF/DL25	539 659	HMIYF-RF/DL25	539 660	HMIYF-RF/DL40	112	
7	2 ²⁾	150 736	MUP-18/25	–	–	–	–	mup	
	1 ²⁾	–	–	531 753	MUC-25	–	531 755	MUC-40	muc
	1 ²⁾	–	–	–	–	150 738	MUP-40	mup	
8	1 ¹⁾	IGUS E2 medium 240.07.100.0 and 211 or ENERGY CHAIN MC 0320.80-01 and TS O/ηT2					–	–	
9	1	IGUS E2 medium 2070.12.PZB or ENERGY CHAIN MC FA/MA					–	–	

1) Length depends on the stroke of the drive

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

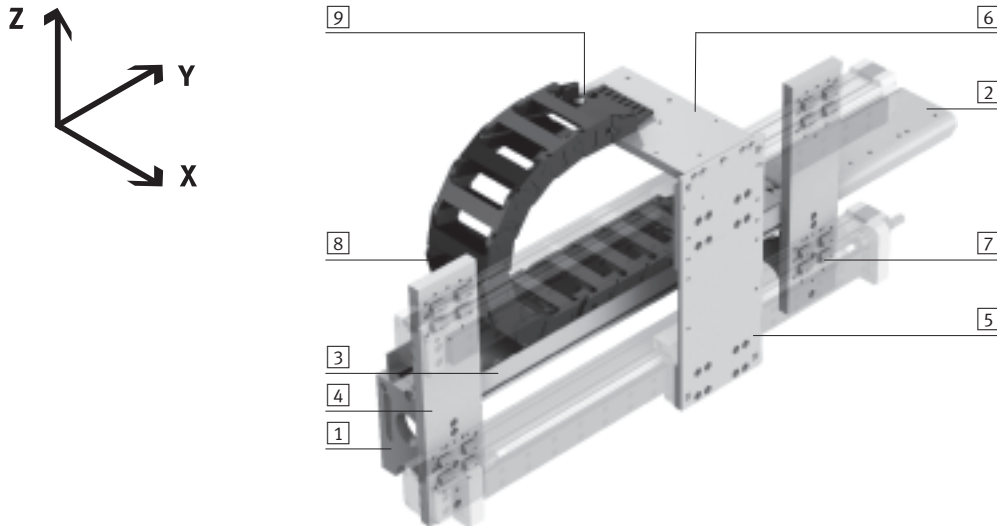
3) Quantity with stroke ≤ 500 mm. With stroke > 500 mm, a basic kit HMVM-RP/FP-DL25/40 must be additionally ordered per 500 mm stroke or part thereof.

Three-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			
Position	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	→ Page/Internet
1	2	539 657	HMVV-RP/FP	539 657	HMVV-RP/FP	539 657	HMVV-RP/FP	79
2	1	539 658	HMIXF-RP/FP	539 658	HMIXF-RP/FP	539 658	HMIXF-RP/FP	79
3	1 ¹⁾	539 379	HMIA-E07	539 379	HMIA-E07	539 379	HMIA-E07	109
4	2 ³⁾	539 655	HMVD-RP/FP-DL25/40	539 655	HMVD-RP/FP-DL25/40	539 655	HMVD-RP/FP-DL25/40	81
5	1	539 368	HMVS-DL25	539 368	HMVS-DL25	539 369	HMVS-DL40	84
6	1	539 659	HMIYF-RF/DL25	539 659	HMIYF-RF/DL25	539 660	HMIYF-RF/DL40	112
7	4 ²⁾	150 736	MUP-18/25	–	–	–	–	mup
	2	–	–	531 753	MUC-25	–	531 755	muc
8	1 ¹⁾	IGUS E2 medium 240.07.100.0 and 211 or ENERGY CHAIN MC 0320.80-01 and TS O/n _T 2						–
9	1	IGUS E2 medium 2070.12.PZB or ENERGY CHAIN MC FA/MA						–

1) Length depends on the stroke of the drive

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

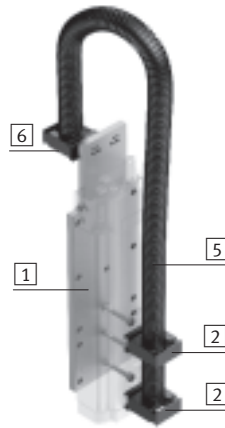
3) Quantity with stroke ≤ 500 mm. With stroke > 500 mm, a basic kit HMVD-RP/FP-DL25/40 must be additionally ordered per 500 mm stroke or part thereof.

Three-dimensional gantries

Z modules

Mono/Duo system

Mini slides DGSL



Bill of materials								
Type		HMBSZ-DGSL-7		HMBSZ-DGSL-8		→ Page/Internet		
For drives		DGSL-12	DGSL-16	DGSL-20	DGSL-25			
System type		Mono 25	Mono 40 Duo 25	Duo 25	Duo 40			
Position	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	
1	1	539 373	HMVZ-2	539 373	HMVZ-2	539 373	HMVZ-2	82
2	1	192 289	MKRS-16,5-B	192 289	MKRS-16,5-B	192 290	MKRS-23-B	101
		548 803	ZBV-M5-7	548 803	ZBV-M5-7	548 804	ZBV-M5-9	67
5	1 ¹⁾	177 566	MKR-16,5-PG-16	177 566	MKR-16,5-PG-16	177 567	MKR-23-PG-21	94
6	1	192 289	MKRS-16,5-B	192 289	MKRS-16,5-B	192 290	MKRS-23-B	101

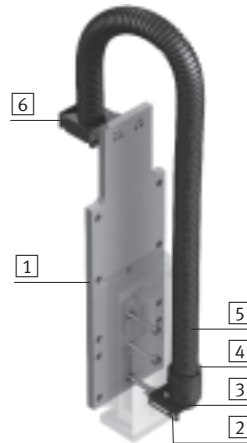
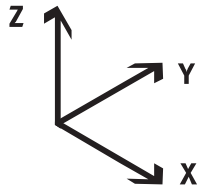
1) Length depends on the stroke of the drive

Three-dimensional gantries

Z modules

Mono/Duo system

Mini slides SLT



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

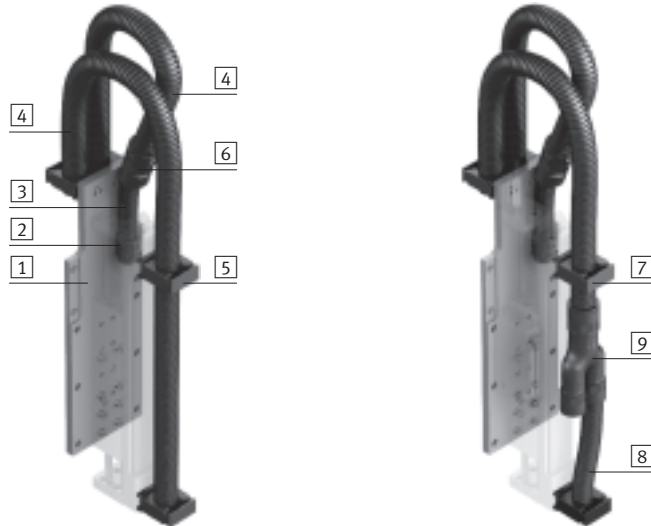
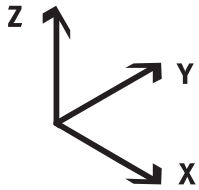
1) Length depends on the stroke of the drive

Three-dimensional gantries

Z modules

Mono/Duo system

Linear modules HMPL



Bill of materials										
Type		HMBSZ-HMPL-5		HMBSZ-HMPL-6						
For drives		HMPL-16		HMPL-20		HMPL-16		HMPL-20		
System type		without intermediate position		with intermediate position						
		Mono 25		Mono 40 Duo 25		Mono 25		Mono 40 Duo 25		
Position	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	Part No.	Type	→ Page/Internet
1	1	539 375	HMVZ-4	539 375	HMVZ-4	539 375	HMVZ-4	539 375	HMVZ-4	82
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	96
3	1 ¹⁾	177 566	MKR-16,5-PG-16	177 566	MKR-16,5-PG-16	177 566	MKR-16,5-PG-16	177 566	MKR-16,5-PG-16	94
4	1 ²⁾	177 567	MKR-23-PG-21	177 567	MKR-23-PG-21	177 567	MKR-23-PG-21	177 567	MKR-23-PG-21	
5	4 ³⁾	192 290	MKRS-23-B	192 290	MKRS-23-B	-	-	-	-	101
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	98
7	3 ³⁾	-	-	-	-	192 290	MKRS-23-B	192 290	MKRS-23-B	101
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	98

1) Length 200 mm

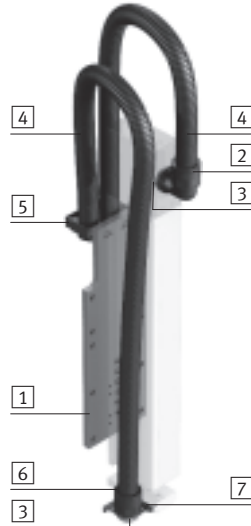
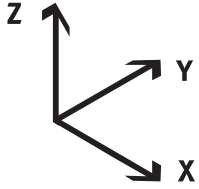
2) Length depends on the stroke of the drive, 2 conduits are required with an intermediate position.

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.

Three-dimensional gantries

Z modules

Mono/Duo system
Linear modules HMP



Bill of materials						
Type	HMBSZ-HMP-4		HMBSZ-HMP-5		HMBSZ-HMP-6	→ Page/Internet
For drives	HMP-16		HMP-20		HMP-25	
System type	Mono 40 Duo 25		Duo 25		Duo 40	
Position	Quantity	Part No.	Type	Part No.	Type	
1	1	539 374	HMVZ-3	539 374	HMVZ-3	82
2	1	177 577	MKRL-23-PG-21	177 578	MKRL-29-PG-29	97
3	2	177 599	MKM-PG-21	177 600	MKM-PG-29	101
4	1 ¹⁾	177 567	MKR-23-PG-21	177 568	MKR-29-PG-29	94
5	2	192 290	MKRS-23-B	192 291	MKRS-29-B	101
6	1	177 572	MKRV-23-PG-21	177 573	MKRV-29-PG-29	96
7	1	193 124	HMZAS-PG-21	177 603	HMZAS-PG-29	102

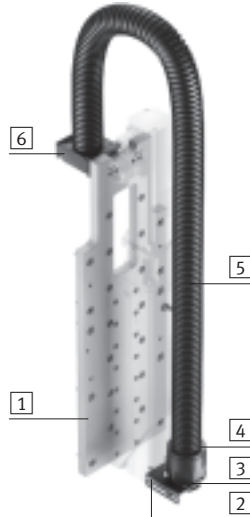
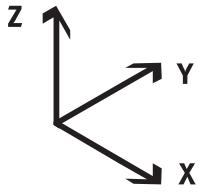
1) Length depends on the stroke of the drive

Three-dimensional gantries

Z modules

Mono/Duo system

Cantilever axes EGSA



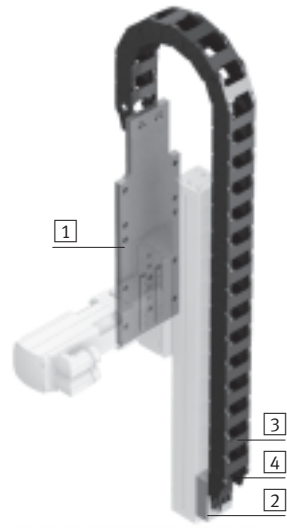
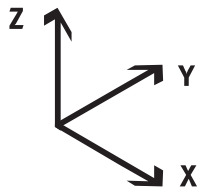
Bill of materials						
Type		HMBSZ-EGSA-2		→ Page/Internet		
For drives		EGSA-50				
System type		Mono 25				
Position	Quantity	Part No.	Type	Part No.	Type	
1	1	560 021	HMVZ-7	560 021	HMVZ-7	82
2	1	193 124	HMZAS-PG-21	193 124	HMZAS-PG-21	102
3	2	177 599	MKM-PG-21	177 599	MKM-PG-21	101
4	1	177 572	MKRV-23-PG-21	177 572	MKRV-23-PG-21	96
5	1 ¹⁾	177 567	MKR-23-PG-21	177 567	MKR-23-PG-21	94
6	1	192 290	MKRS-23-B	192 290	MKRS-23-B	101

1) Length depends on the stroke of the drive

Three-dimensional gantries

Z modules

Mono/Duo system
Cantilever axes DGEA



Bill of materials						→ Page/Internet	
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		
Position	Quantity	Part No.	Type	Part No.	Type		
1	1	539 374	HMVZ-3	539 375	HMVZ-4	539 377	82
2	1	539 370	HMIZF-E03-DA18	539 371	HMIZF-E03-DA25	539 371	108
3	1 ¹⁾	IGUS E2 medium 240.03.075.0 and 211 or ENERGY CHAIN MC 0320.40-01-77 and TS O/n ₁ 2					-
4	1	IGUS E2 medium 2030.12.PZB or ENERGY CHAIN MC FA/MA					-

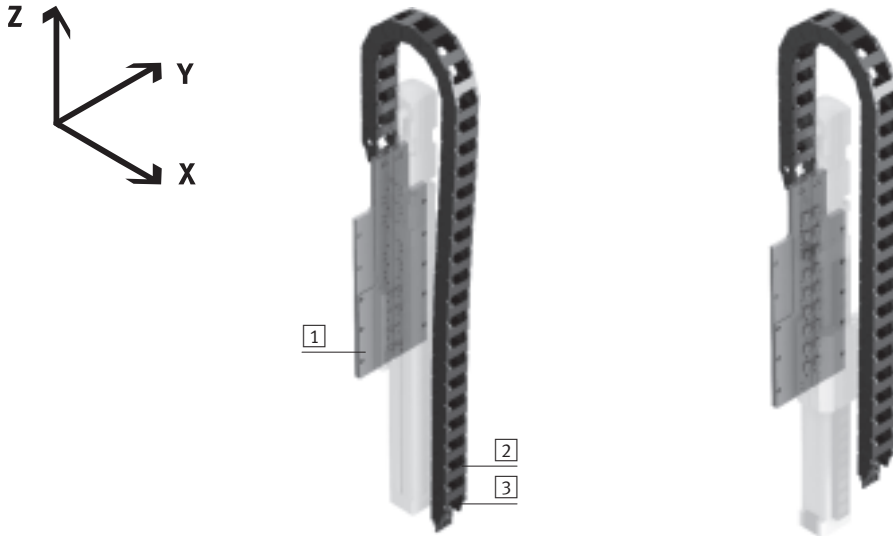
1) Length depends on the stroke of the drive

Three-dimensional gantries

Z modules

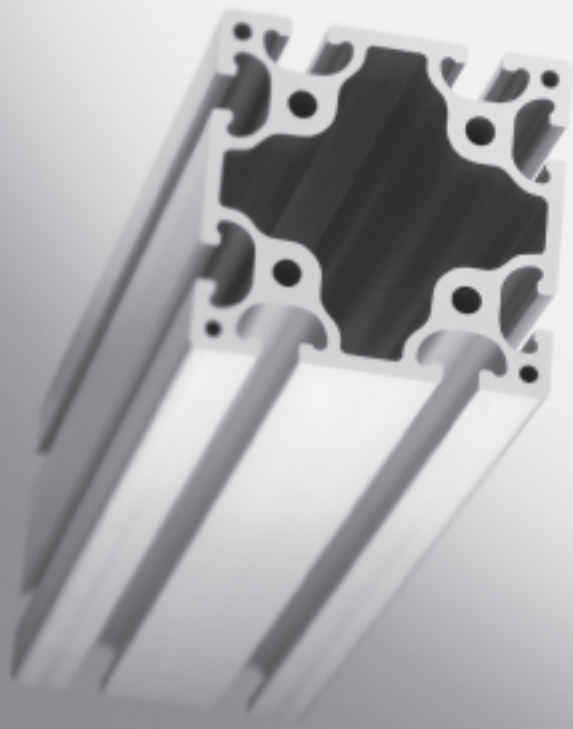
Mono/Duo system

Toothed belt axes DGE



Bill of materials								
Type	HMBSZ-DGE-1		HMBSZ-DGE-2		HMBSZ-DGE-3		→ Page/Internet	
For drives	DGE-25-SP		DGE-40-SP		DGE-40-SP			
System type	Mono 40 Duo 25		Duo 25		Duo 40			
Position	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	
1	1	539 374	HMVZ-3	539 375	HMVZ-4	539 377	HMVZ-6	82
2	1 ¹⁾	IGUS E2 medium 240.03.075.0 and 211 or ENERGY CHAIN MC 0320.40-01-77 and TS O/n _T 2					-	
3	1	IGUS E2 medium 2030.12.PZB or ENERGY CHAIN MC FA/MA					-	

1) Length depends on the stroke of the drive

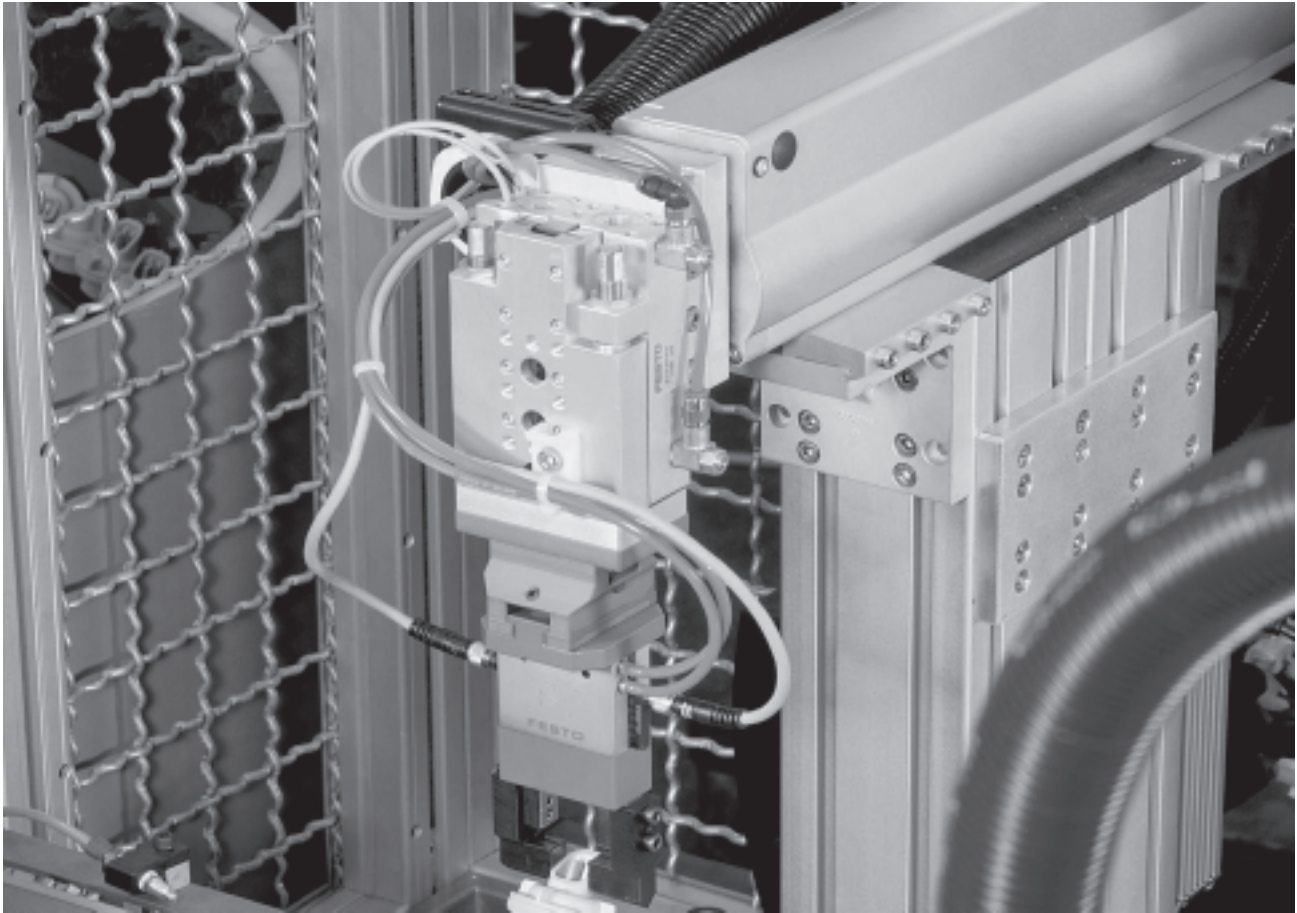


- Wide range of variants
- Robust
- Functional
- Flexible

Basic components

Key features

FESTO



Basic kits

Profile column HMBS

With slot width of 8 mm for mounting adapter and basic kits.

Cover cap HMBSA

For covering the end faces of profile columns HMBS.

Connecting kit HMBSV

For connecting 2 to 3 profile columns HMBS.

Connecting kit HMBSW

For connecting two profile columns HMBS or profile columns with 40 mm slot width.

Basic kit HMBF-DB

For direct mounting of profile columns on a base plate or on the machine rack.

Connecting kit HMBWS

For connecting one profile column (with 40 mm slot width) to another profile column (with a slot width other than 40 mm).

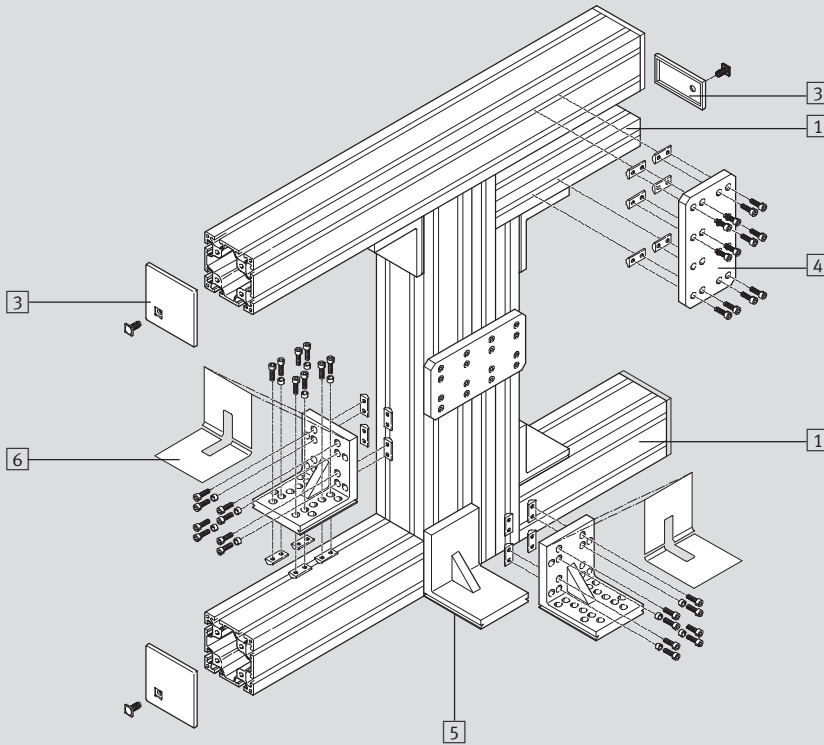
Connecting kit HMBV-ND

Interface for connecting basic components to Festo drives.

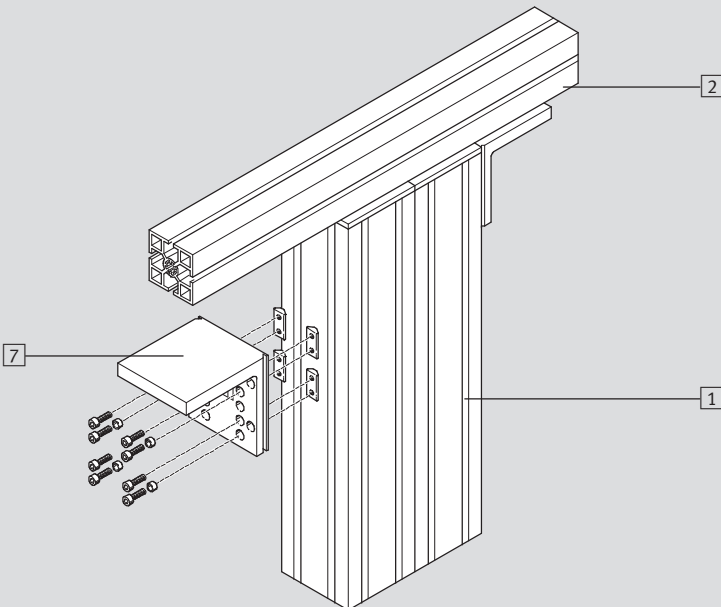
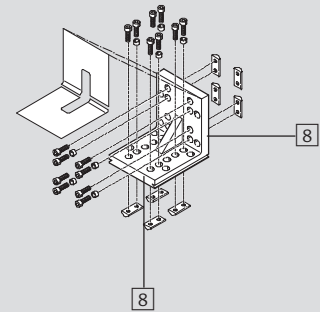
Basic components

Key features

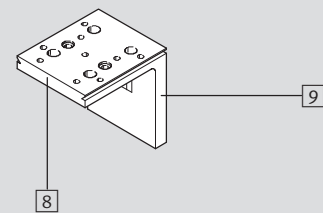
An optimum concept with multiple functionalities



6 Connecting kit HMBSW



7 Connecting kit HMBWS



- 1 Profile column HMBS
- 2 Bosch profile column
- 3 Cover cap HMBSA
- 4 Connecting kit HMBSV

- 5 Basic kit HMBF-DB
- 6 Connecting kit HMBSW
- 7 Connecting kit HMBWS

- 8 Angle bracket for mounting profile columns with a 40 mm hole pattern (Festo, item, May-Tec, Schuco, etc.)

- 9 Angle bracket for mounting profile columns with a hole pattern for slot widths \neq 40 mm (Bosch, Norgren, etc.)

Basic components

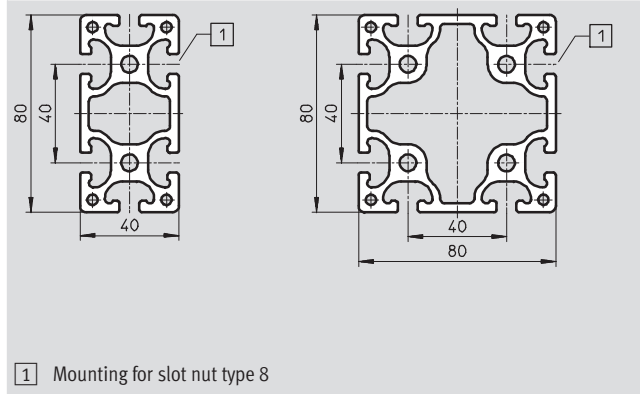
Technical data



Profile column HMBS

Scope of delivery:
1 support column

Material:
Aluminium
Free of copper, PTFE and silicone



1 Mounting for slot nut type 8

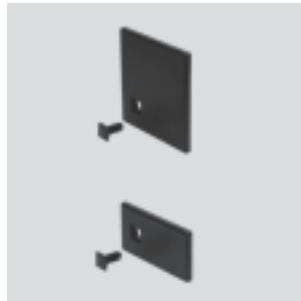
Ordering data				
Dimensions	CRC ¹⁾	Part No.	Type	PJ ²⁾
80x40	2	175 964	HMBS-80/40	1
80x80		175 958	HMBS-80/80	1
Accessories (to be ordered separately)				
Slot nuts	2	186 567	HMBN-8-2M5	10

- Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. 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.
- Packaging unit quantity. For HMBS: specify the desired length in mm ($L_{max.} = 6,000$ mm).

Cover cap HMBSA

Scope of delivery:
1 cover, 1 plug

Material:
Polyacetal
Free of copper, PTFE and silicone



Ordering data				
Dimensions	CRC ¹⁾	Part No.	Type	PJ ²⁾
80x40	2	175 966	HMBSA-80/40	1
80x80		175 965	HMBSA-80/80	1

- Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. 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.
- Packaging unit quantity

Basic components

Technical data

Connecting kit HMBSV

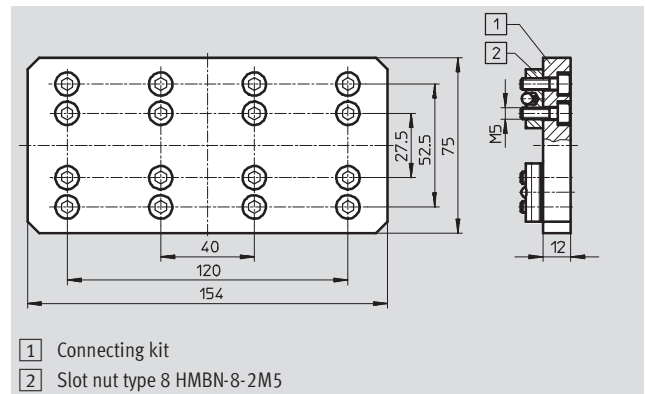
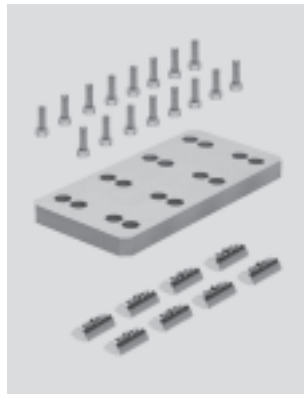
Scope of delivery:

1 mounting plate, 16 screws,
8 slot nuts

Material:

Aluminium

Free of copper, PTFE and silicone



1 Connecting kit
2 Slot nut type 8 HMBN-8-2M5

Ordering data				
	CRC ¹⁾	Part No.	Type	PU ²⁾
Connecting kit	2	175 972	HMBSV	1
Accessories (for reorder)				
Slot nuts	2	186 567	HMBN-8-2M5	10
Screws		M5x16		–

- Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. 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.
- Packaging unit quantity

Connecting kit HMBSW

Scope of delivery:

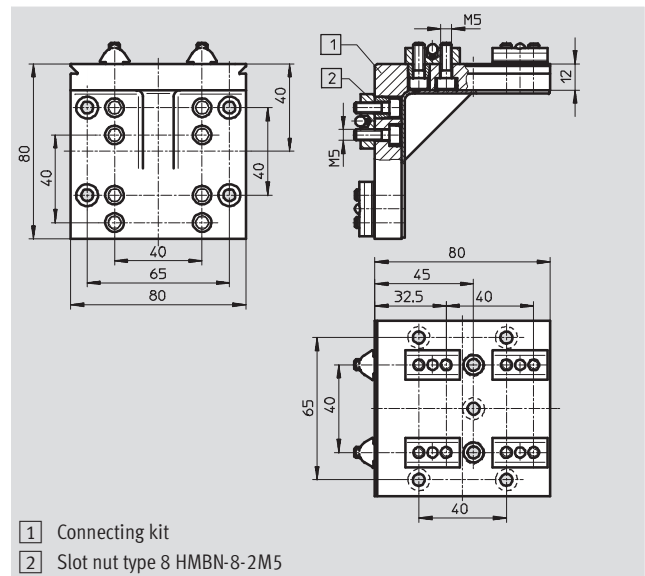
1 bracket, 16 screws, 8 slot nuts,
8 spacer rings, 2 cover caps

Material:

Aluminium

Cover cap: Polyacetal

Free of copper, PTFE and silicone



1 Connecting kit
2 Slot nut type 8 HMBN-8-2M5

Ordering data				
	CRC ¹⁾	Part No.	Type	PU ²⁾
Connecting kit HMBSW	2	178 228	HMBSW	1
Accessories (for reorder)				
Slot nuts	2	186 567	HMBN-8-2M5	10
Spacer rings		186 563	HMBRD	10
Screws		M5x16		–

- Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. 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.
- Packaging unit quantity

Basic components

Technical data



Basic kit HMBF-DB

Scope of delivery:

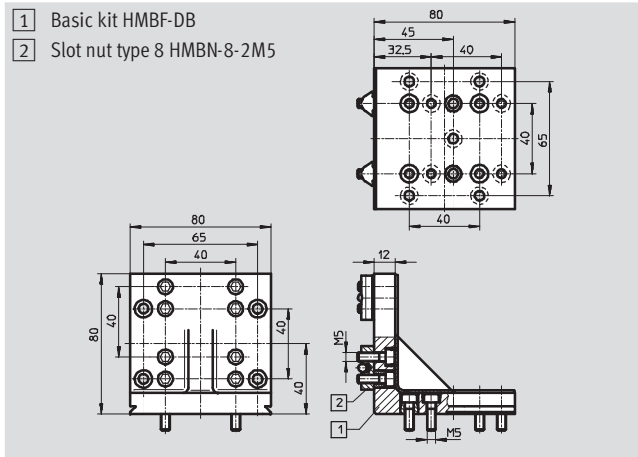
1 bracket, 16 screws, 4 slot nuts,
8 spacer rings, 2 cover caps

Material:

Aluminium

Cover cap: Polyacetal

Free of copper, PTFE and silicone



Ordering data				
	CRC ¹⁾	Part No.	Type	PJ ²⁾
Basic kit HMBF-DB	2	175 951	HMBF-DB	1
Accessories (for reorder)				
Slot nuts	2	186 567	HMBN-8-2M5	10
Spacer rings		186 563	HMBRD	10
Screws		M5x16		—

- 1) Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. 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.
- 2) Packaging unit quantity

Connecting kit HMBWS

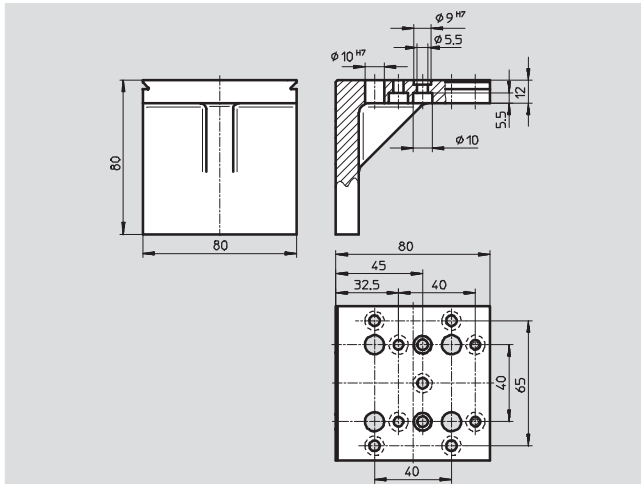
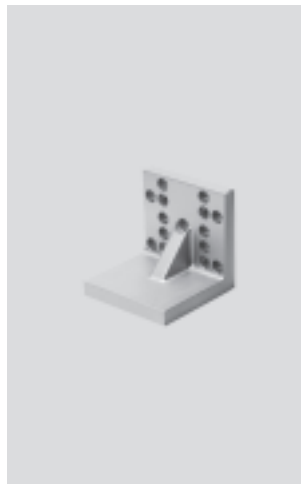
Scope of delivery:

1 bracket

Material:

Aluminium

Free of copper, PTFE and silicone



Ordering data				
	CRC ¹⁾	Part No.	Type	PJ ²⁾
Connecting kit HMBWS	2	189 486	HMBWS	1
Accessories (for reorder)				
Slot nuts	2	186 567	HMBN-8-2M5	10
Screws		M5x16		—

- 1) Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. 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.
- 2) Packaging unit quantity

Basic components

Technical data

Connecting kit HMBV-ND

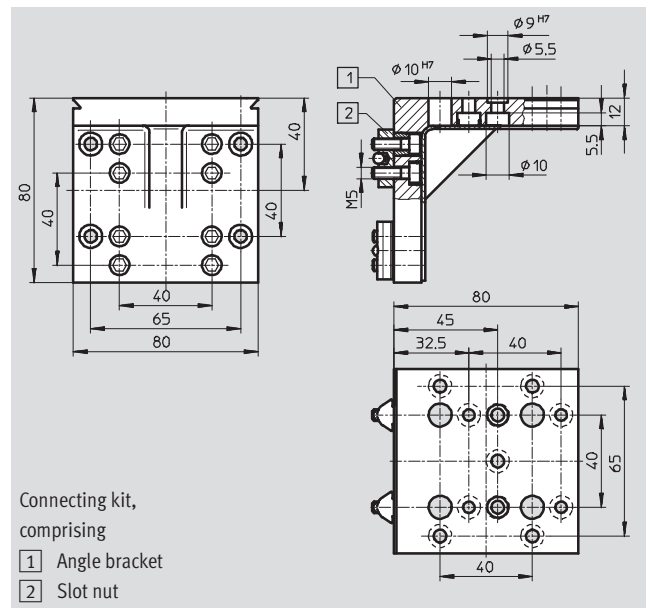
- for HMP, HMPL
- for SLT with HMBK-WS and HMSV-34 ... 37

Scope of delivery:

- 1 bracket, 8 screws, 4 slot nuts,
- 4 spacer rings, 2 cover caps

Material:

- Anodised aluminium
- Free of copper, PTFE and silicone



Ordering data				
	CRC ¹⁾	Part No.	Type	PU ²⁾
Connecting kit	2	175 967	HMBV-ND	1
Accessories (for reorder)				
Slot nuts	2	186 567	HMBN-8-2M5	10
Spacer rings		186 563	HMBRD	10
Screws		M5x16		-

1) Corrosion resistance class 2 as per Festo standard 940 070
 Components subject to moderate corrosion stress. 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.

2) Packaging unit quantity

Basic components

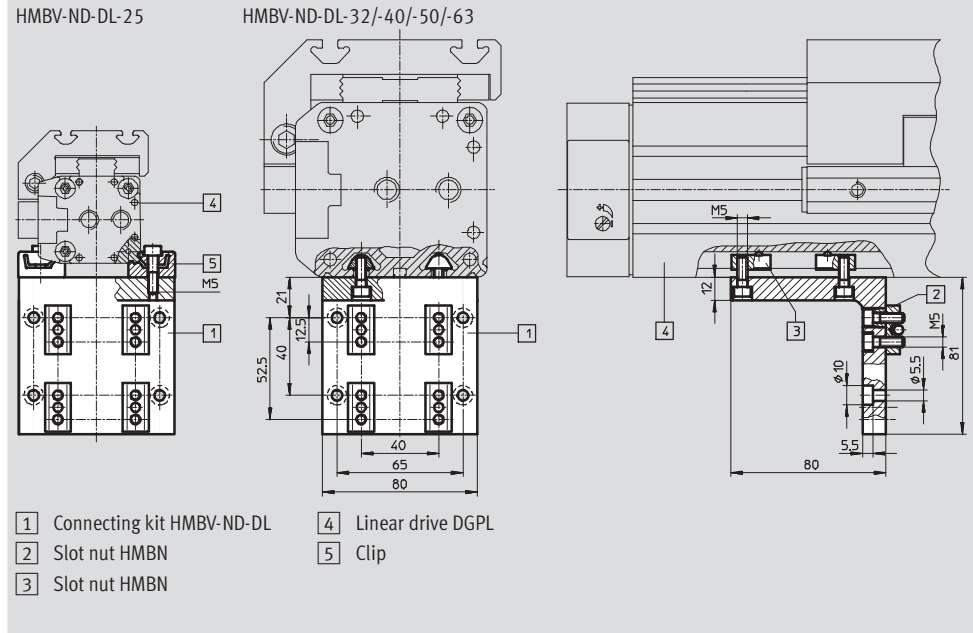
Technical data



Connecting kit HMBV-ND-DL
 – for DGPL-25/-32/-40/-50/-63

Scope of delivery:
 All individual parts required for mounting are included.

Material:
 Anodised aluminium
 Free of copper, PTFE and silicone



- 1 Connecting kit HMBV-ND-DL
- 2 Slot nut HMBN
- 3 Slot nut HMBN
- 4 Linear drive DGPL
- 5 Clip

Ordering data				
For Ø	CRC ¹⁾	Part No.	Type	PU ²⁾
25	2	175 985	HMBV-ND-DL25	1
32		175 988	HMBV-ND-DL32	1
40		175 991	HMBV-ND-DL40	1
50		175 994	HMBV-ND-DL50	1
63		175 997	HMBV-ND-DL63	1

- 1) Corrosion resistance class 2 as per Festo standard 940 070
 Components subject to moderate corrosion stress. 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.
- 2) Packaging unit quantity

Ordering data – Accessories (for reorder)									
For Ø	25	32	40	50	63	CRC ¹⁾	Part No.	Type	PU ²⁾
Slot nut	–	4	4	–	–	2	189 654	HMBN-5-M5	10
	–	–	–	4	4		189 655	HMBN-8-M5	10
	4	4	4	4	4		186 566	HMBN-8-2M5	10
Spacer rings	4	4	4	4	4		186 563	HMBRD	10
Central support	2	–	–	–	–		150 736	MUP-18/25	2
Screws	8	12	12	4	4		–	M5x16	–
	4	–	–	–	–		–	M5x20	–

- 1) Corrosion resistance class 2 as per Festo standard 940 070
 Components subject to moderate corrosion stress. 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.
- 2) Packaging unit quantity

Basic components

Technical data

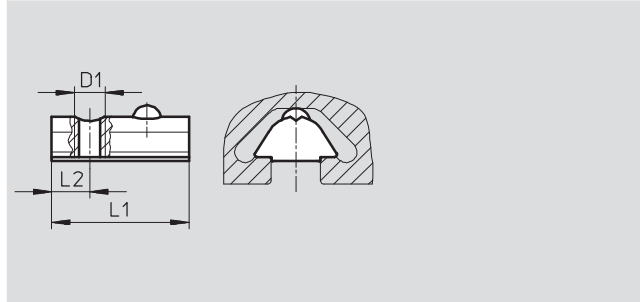
Combination options – Slot nuts/drives, profile column					
Drives		Slot nuts			
		HMBN-5-M5	HMBN-5-2M5	HMBN-8-M5	HMBN-8-2M5
Linear module HMP					
∅	16 ... 32	-	■	-	-
Linear drive DGPL, profile barrel					
∅	32	■	-	-	-
	40	■	-	-	-
	50	-	-	■	■
	63	-	-	■	■
Linear drive DGPL-HD, profile barrel at side					
∅	18	■	-	-	-
	25	■	-	-	-
	40	-	-	■	■
Linear drive DGPL-HD, profile barrel underneath					
∅	18	■	-	-	-
	25	-	-	■	■
	40	-	-	■	■
Profile column HMBS					
Dimensions	80x40	-	-	■	■
	80x80	-	-	■	■

Basic components

Technical data

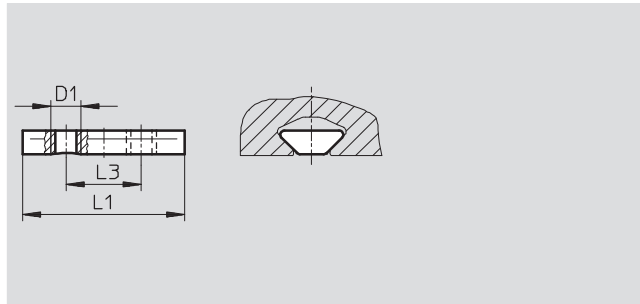
Slot nut HMBN-5-M5

Material:
Tempered steel, non-alloyed
Free of copper, PTFE and silicone



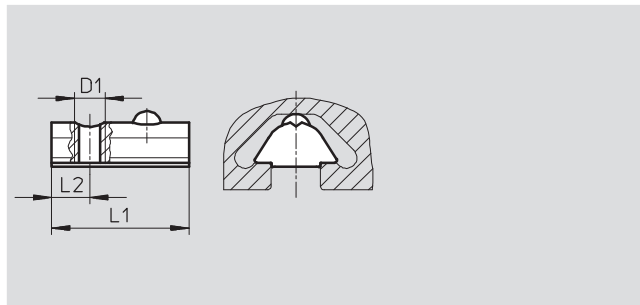
Slot nut HMBN-5-2M5

Material:
Tempered steel, non-alloyed
Free of copper, PTFE and silicone



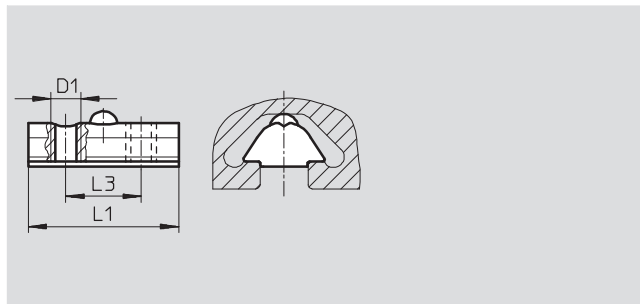
Slot nut HMBN-8-M5

Material:
Tempered steel, non-alloyed
Free of copper, PTFE and silicone



Slot nut HMBN-8-2M5

Material:
Tempered steel, non-alloyed
Free of copper, PTFE and silicone



Dimensions and ordering data							
D1	L1	L2	L3	CRC ¹⁾	Part No.	Type	PU ²⁾
M5	12	4	–	2	189 654	HMBN-5-M5	10
	27	–	12.5		186 566	HMBN-5-2M5	10
	22.5	6.25	–		189 655	HMBN-8-M5	10
	25	–	12.5		186 567	HMBN-8-2M5	10

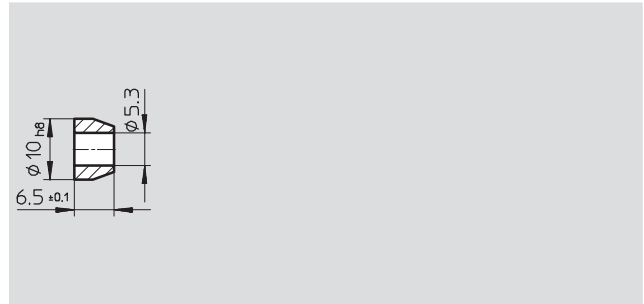
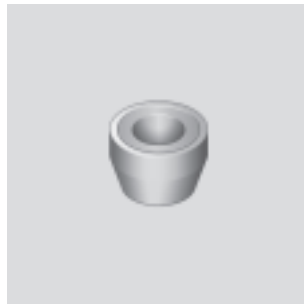
- Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.
- Packaging unit quantity

Basic components

Technical data

Spacer ring HMBRD

Material:
Steel, corrosion-resistant
Free of copper, PTFE and silicone

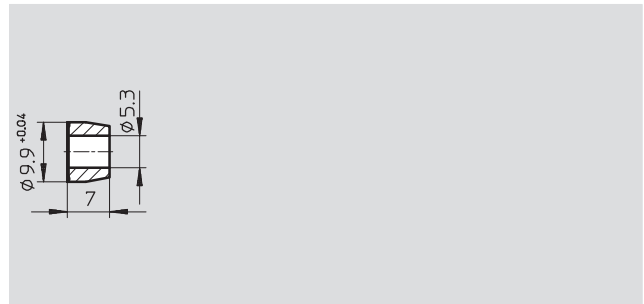
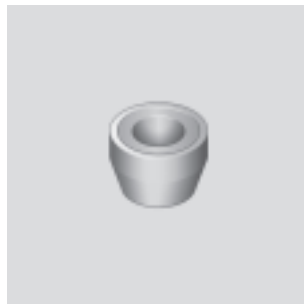


Ordering data			
CRC ¹⁾	Part No.	Type	PU ²⁾
2	186 563	HMBRD	10

- 1) Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. 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.
- 2) Packaging unit quantity

Cutting ring HMBRS

Material:
Steel, corrosion-resistant
Free of copper, PTFE and silicone



Ordering data			
CRC ¹⁾	Part No.	Type	PU ²⁾
2	186 564	HMBRS	10

- 1) Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. 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.
- 2) Packaging unit quantity

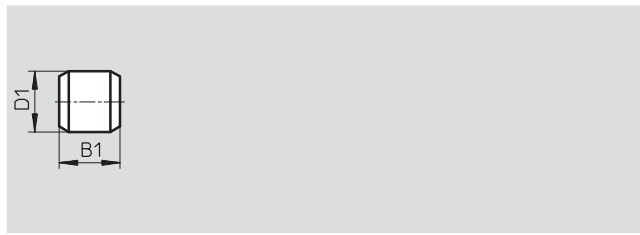
Basic components

Technical data

FESTO

Centring pin ZBS

Material:
Steel, corrosion-resistant
Free of copper, PTFE and silicone

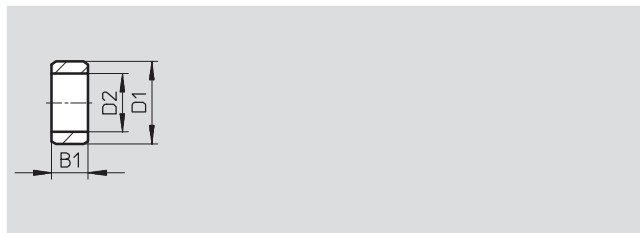
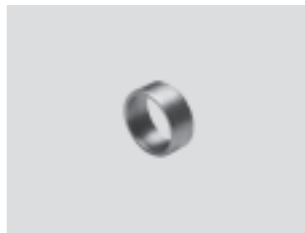


Dimensions and ordering data					
B1	D1	CRC ¹⁾	Part No.	Type	PU ²⁾
-0.2	∅ h8				
5	2	2	525 273	ZBS-2	10
5	5	2	150 928	ZBS-5	10

- 1) Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. 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.
- 2) Packaging unit quantity

Centring sleeve ZBH

Material:
Steel, corrosion-resistant
Free of copper, PTFE and silicone



Dimensions and ordering data						
B1	D1	D2	CRC ¹⁾	Part No.	Type	PU ²⁾
-0.2	∅ h7	∅				
2.4	5	3.2	2	189 652	ZBH-5	10
3	7	5.3	2	186 717	ZBH-7	10
4	9	6.4	2	150 927	ZBH-9	10
5	12	10.3 +0.1	2	189 653	ZBH-12	10

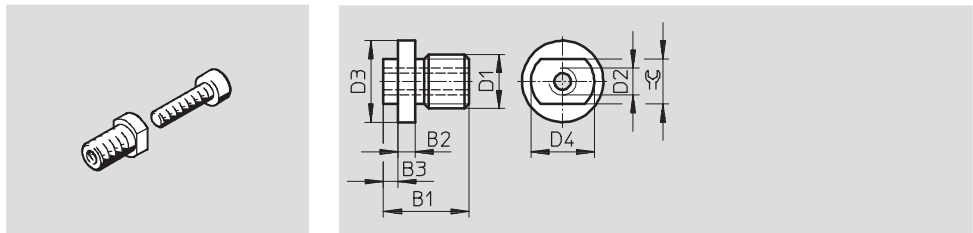
- 1) Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.
-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

Basic components

Technical data

Connecting sleeve ZBV-M...

Material:
Steel, corrosion-resistant
Free of copper, PTFE and silicone



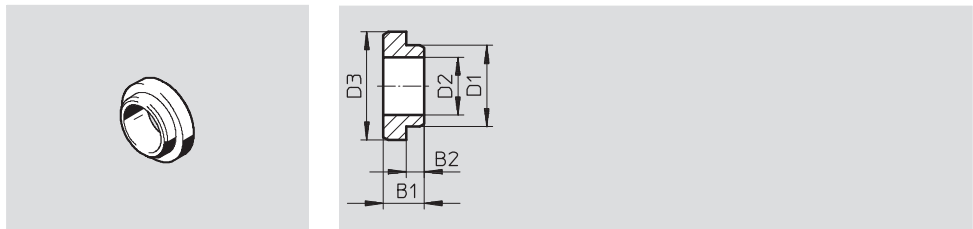
Dimensions and ordering data							
B1	B2	B3	D1	D2	D3	D4	⌀
8.7	1.4 ^{+0.1}	1.3 ^{+0.05}	M4	M2.5	7	5	h7
11	-	3 ^{+0.1}	M5	M3	-	7	h7
9.5	1.9 ^{+0.1}	1.6 ^{+0.05}	M6	M3	9	7	h7

CRC ¹⁾	Part No.	Type	PU ²⁾
2	548 802	ZBV-M4-7	3
2	548 803	ZBV-M5-7	3
2	548 804	ZBV-M6-9	3

- 1) Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. 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.
- 2) Packaging unit quantity

Connecting sleeve ZBV

Material:
Steel, corrosion-resistant
Free of copper, PTFE and silicone



Dimensions and ordering data								
B1	B2	D1	D2	D3	CRC ¹⁾	Part No.	Type	PU ²⁾
3.4	1.5 ^{+0.05}	7	5.5	9	2	548 805	ZBV-9-7	1
4.5	2 ^{-0.1}	9	6.4	12	2	548 806	ZBV-12-9	1

- 1) Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. 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.
- 2) Packaging unit quantity

Basic components

Technical data

FESTO

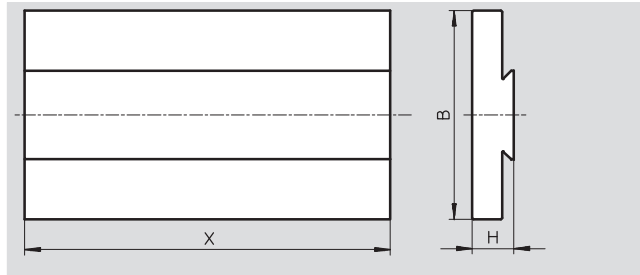
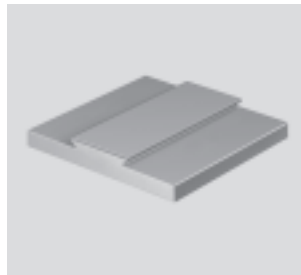
Adapter plate HMAV-...-X

Universal dovetail profile for attaching a base or mounting plate to linear modules HMP or HMPL

Material:

Anodised aluminium

Free of copper, PTFE and silicone



Dimensions and ordering data

H	B	X ¹⁾	CRC ²⁾	Part No.	Type	PJ ³⁾
16	80		2	189 451	HMAV-80-X	1
13	90		2	189 450	HMAV-90-X	1

1) The length in mm must be quoted when ordering.

2) Corrosion resistance class 2 as per Festo standard 940 070

Components subject to moderate corrosion stress. 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.

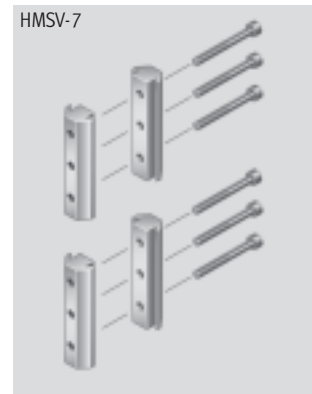
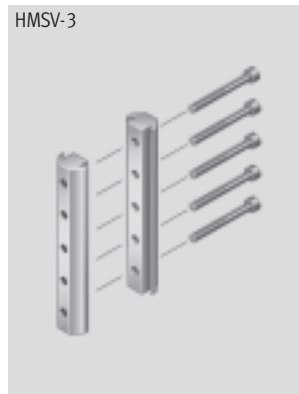
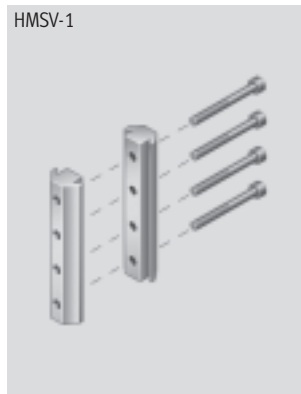
3) Packaging unit quantity

Adapter kit HMSV

Material:

Anodised aluminium

Free of copper, PTFE and silicone



Dimensions and ordering data

Length	CRC ¹⁾	Part No.	Type	PJ ²⁾
80	2	177 647	HMSV-1	1
100	2	177 649	HMSV-3	1
2x 60	2	177 653	HMSV-7	1

1) Corrosion resistance class 2 as per Festo standard 940 070

Components subject to moderate corrosion stress. 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.

2) Packaging unit quantity

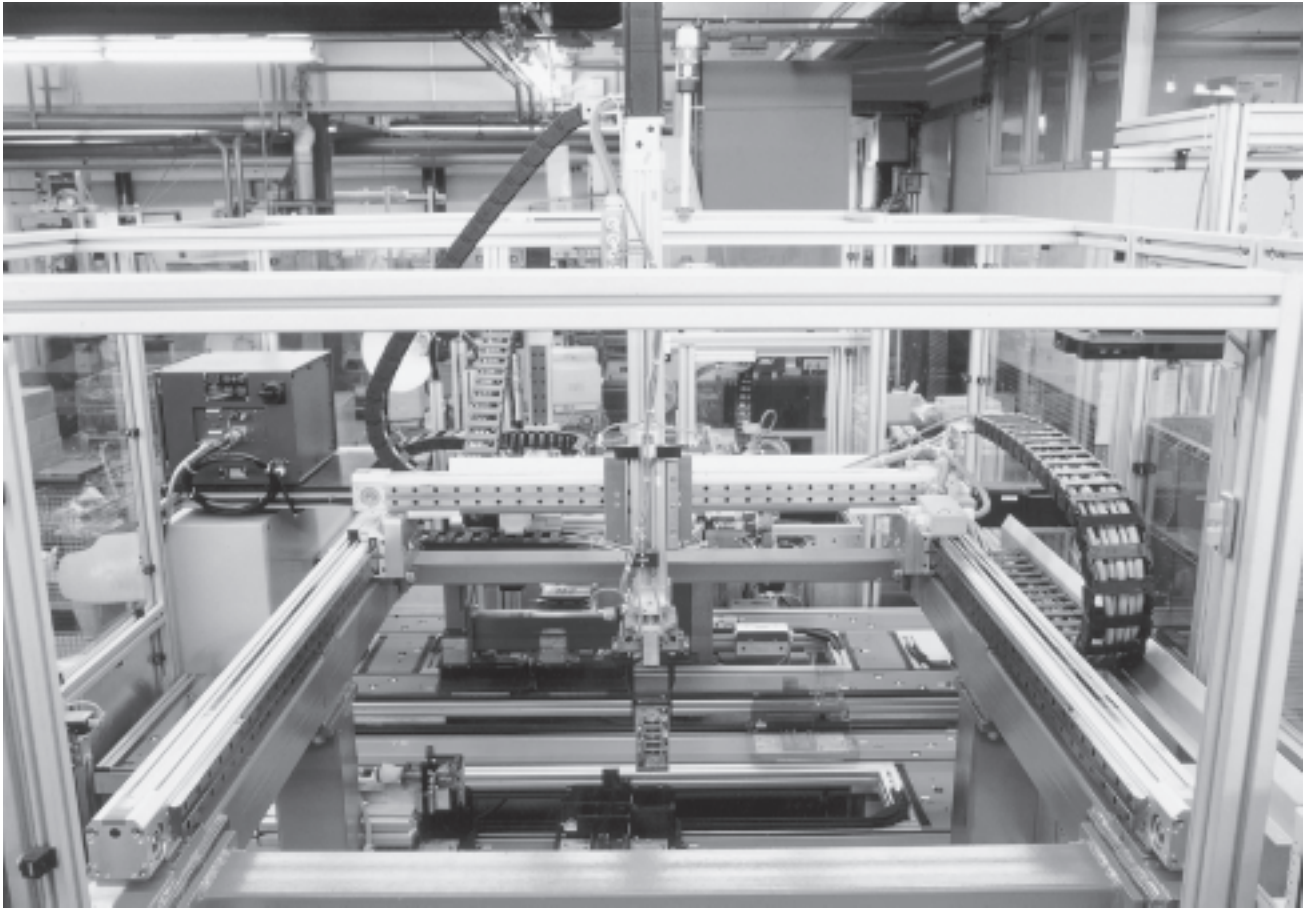


- Modular
- Functional
- Flexible

Connecting components

Key features

FESTO



Connecting kits

Basic kit

Kit that serves as the basis for the individual modules in a multi-axis system and as the interface to the surrounding machines.

Adapter kit

Kit for connecting drives to one another. Direct mounting or mounting via slot nuts.

Connecting kit

For connecting drives and basic components.

Reinforcing kit

Primarily used to reinforce an existing connection. Also used to mount the support profile for energy chains.

Mounting kit

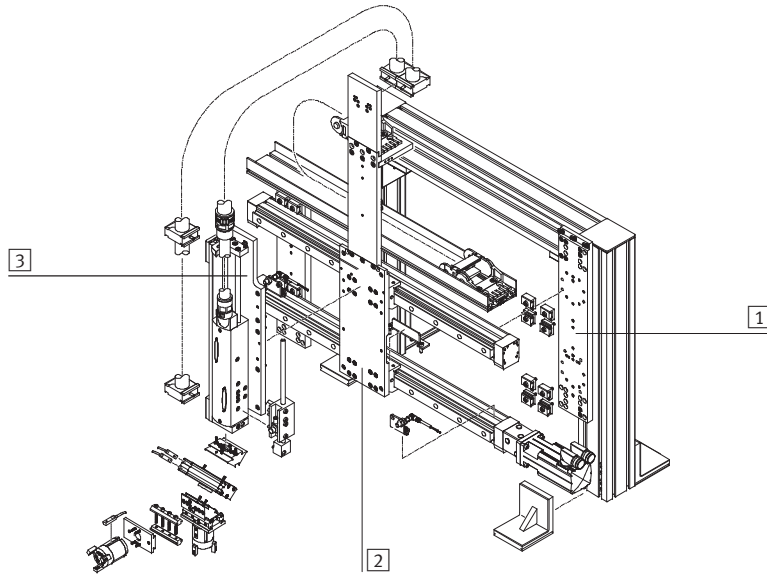
For mounting accessories such as controllers on multi-axis systems.

Connecting components

Key features

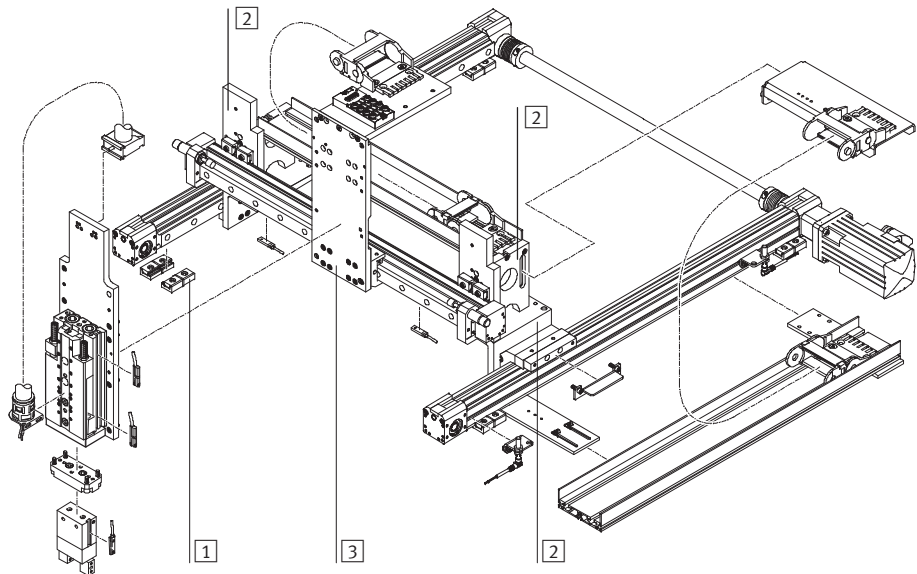
Linear gantry

- 1 Components for mounting basic axes (basic kit)
- 2 Components for connecting the drives (adapter kit)
- 3 Components for mounting the drives along the Z-axis in gantry designs



Three-dimensional gantry


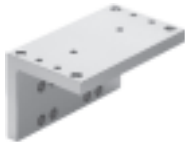






- 1 Components for mounting basic axes
- 2 Components for lateral mounting of an axis (adapter kit, reinforcing kit, basic kit)
- 3 Components for mounting the drives along the Z-axis in gantry designs



Connecting components







Product range overview

FESTO

Version	Brief description	→ Page/ Internet	Version	Brief description	→ Page/ Internet
Connecting kit HMBK-DB			Adapter kit HMVW-DL		
	<ul style="list-style-type: none"> • For Pick & Place • For direct mounting of linear modules HMP and HMPL 	74		<ul style="list-style-type: none"> • For three-dimensional gantries • For connecting X-axes and Y-axes • Mounting interface for reinforcing kit HMVV and basic kit HMVM • Mounting accessories included in scope of delivery 	77
Connecting kit HMBK-ND			Adapter kit HMVS-RF		
	<ul style="list-style-type: none"> • For Pick & Place • For direct mounting of linear modules HMP 	74		<ul style="list-style-type: none"> • For three-dimensional gantries • For connecting X-axes and Y-axes • For toothed belt axis DGE-RF with roller guide • Mounting interface for reinforcing kit HMVV and basic kit HMVM • Mounting accessories included in scope of delivery 	78
Connecting kit HMBK-WS			Reinforcing kit HMVV-RP/FP		
	<ul style="list-style-type: none"> • For Pick & Place • For dovetail mounting of linear modules HMP and HMPL and mini slides SLT 	75		<ul style="list-style-type: none"> • For three-dimensional gantries • Mounting interface for basic kit HMVM/HMVD, installation components, etc. • Mounting accessories included in scope of delivery 	79
Connecting kit HMVY			Basic kit HMVM-LP, HMVD-LP		
	<ul style="list-style-type: none"> • For Pick & Place • For connecting basic components and drives • Mounting accessories included in scope of delivery 	76		<ul style="list-style-type: none"> • For linear gantries • For Y-axis • For Mono and Duo systems • Mounting interface for profiles, drives and displacement encoders • Mounting accessories included in scope of delivery 	80

Connecting components

Product range overview

Version	Brief description	→ Page/ Internet	Version	Brief description	→ Page/ Internet
Basic kit HMVM-RP/FP, HMVD-RP/FP			Connecting plate HMVO-RF		
	<ul style="list-style-type: none"> • For three-dimensional gantries • For Y-axis • For Mono and Duo systems • Mounting interface for drives • Mounting accessories included in scope of delivery 	81		<ul style="list-style-type: none"> • For linear gantries • Compensating component for toothed belt axis DGE-RF to compensate for the difference in height with the axes DGE-ZR-KF and DGE-SP-KF 	85
Basic kit HMVZ			Connecting plate HMVO-POT		
	<ul style="list-style-type: none"> • For linear and three-dimensional gantries • For Z-axis • For Mono and Duo systems • Mounting interface for drives, installation components, etc. • Mounting accessories and earthing kit included in scope of delivery 	82		<ul style="list-style-type: none"> • For linear gantries • Compensating component for displacement encoder MLO-POT-TLF to compensate for the difference in height with the linear drive DGPL with MUP 	85
Adapter kit HMVS-DL			Mounting kit HMVW-SPC		
	<ul style="list-style-type: none"> • For linear and three-dimensional gantries • For Mono and Duo systems • Mounting interface for basic kit HMVZ • Mounting accessories and earthing kits included in scope of delivery 	84		<ul style="list-style-type: none"> • For mounting the axis interface on the end cap of the drive • Mounting accessories included in scope of delivery 	86

Connecting components

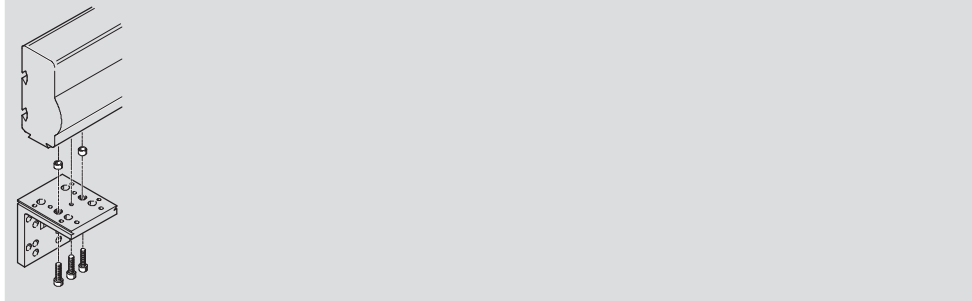
Technical data

Connecting kit
HMBK-DB

- For Pick & Place

- For direct mounting of linear modules HMP and HMPL

Material:
Steel
Free of copper, PTFE and silicone



Technical data and ordering codes			
CRC ¹⁾	Weight [g]	Part No.	Type
2	15	175 973	HMBK-DB

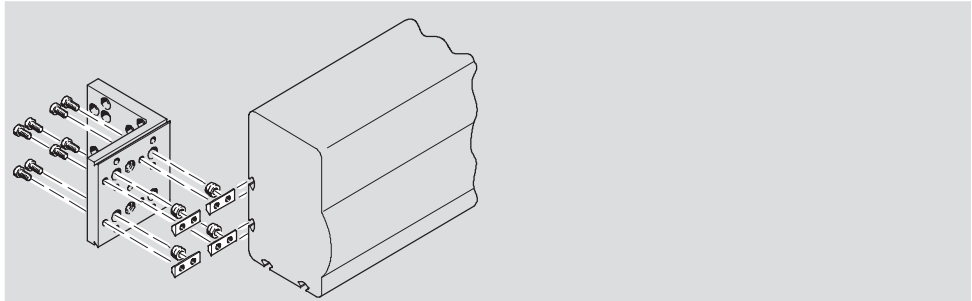
1) Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Connecting kit
HMBK-ND

- For Pick & Place

- For direct mounting of linear modules HMP

Material:
Tempered steel, non-alloyed
Free of copper, PTFE and silicone



Technical data and ordering codes			
CRC ¹⁾	Weight [g]	Part No.	Type
2	62	175 970	HMBK-ND

1) Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. 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.

Connecting components

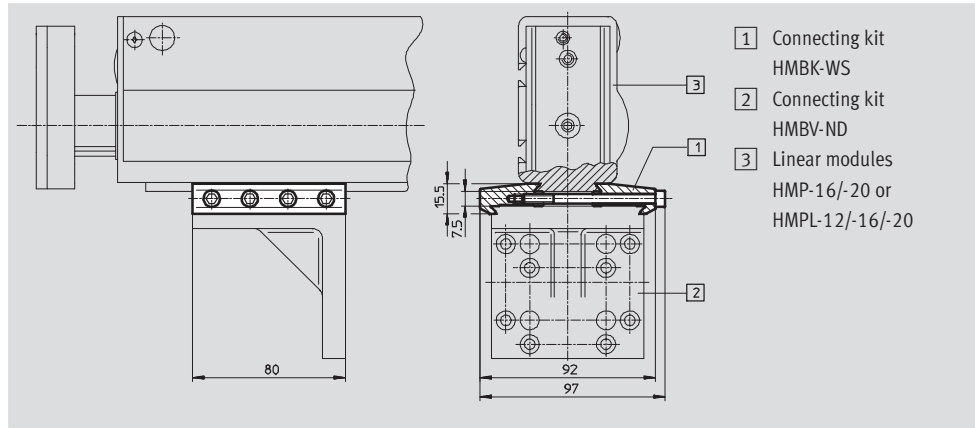
Technical data

Connecting kit HMBK-WS

- For Pick & Place

- For dovetail mounting of linear modules HMP and HMPL and mini slides SLT

Material:
Anodised aluminium
Free of copper, PTFE and silicone



Technical data and ordering codes			
CRC ¹⁾	Weight [g]	Part No.	Type
2	453	175 975	HMBK-WS

1) Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. 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.

Connecting components

Technical data

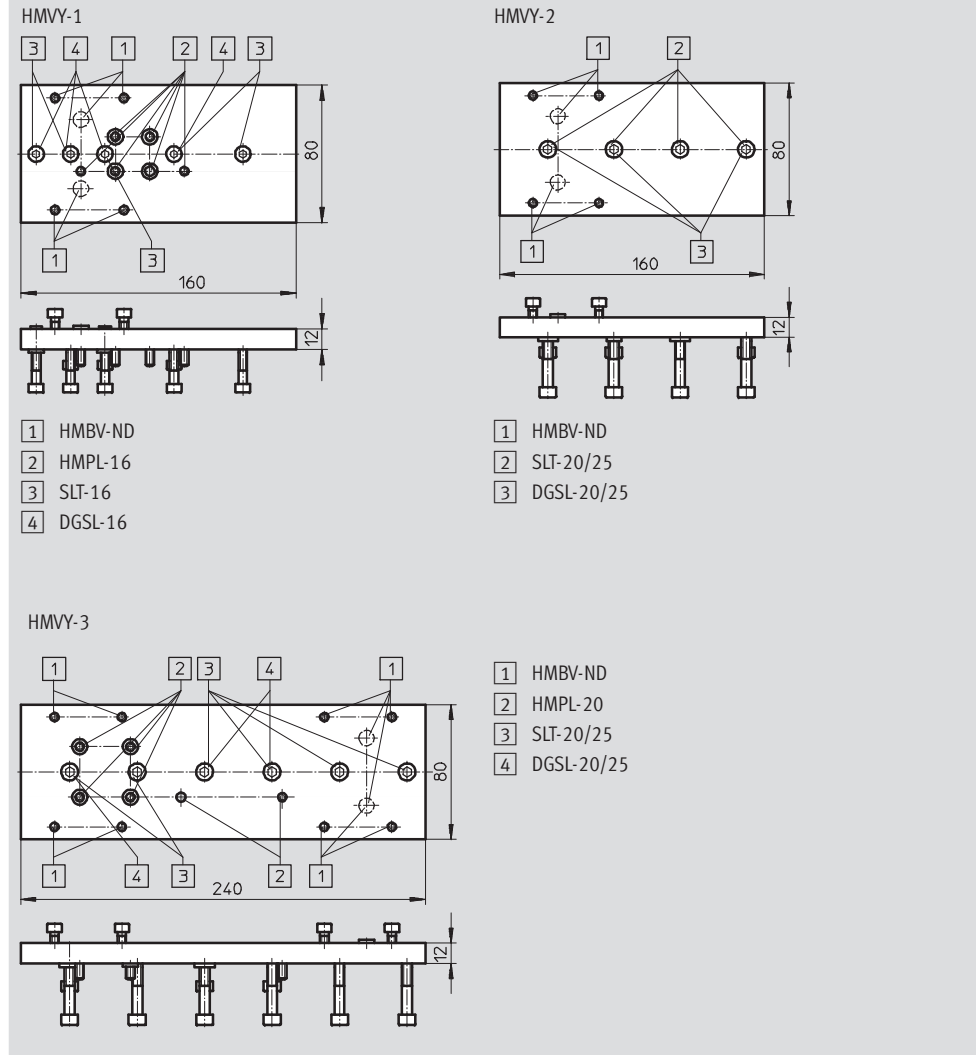
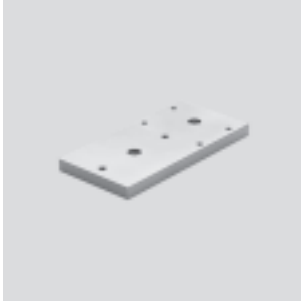


Connecting kit
HMVY

• For Pick & Place

- For connecting basic components and drives
- Mounting accessories included in scope of delivery

Material:
Anodised aluminium
Free of copper, PTFE and silicone



Technical data and ordering codes			
CRC ¹⁾	Weight	Part No.	Type
	[g]		
2	410	539 968	HMVY-1
	420	539 969	HMVY-2
	620	539 970	HMVY-3

1) Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. 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.

Connecting components

Technical data

**Adapter kit
HMVW-DL**

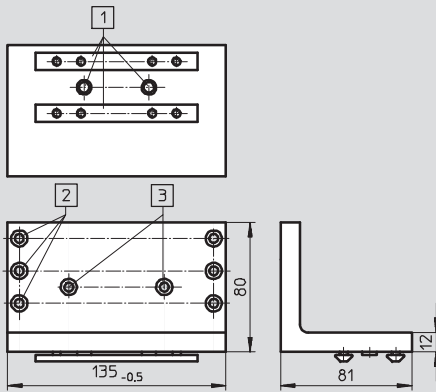
- For three-dimensional gantries
- For connecting X-axes and Y-axes

- Mounting interface for reinforcing kit HMVV and basic kit HMVM
- Mounting accessories included in scope of delivery

Material:
Anodised aluminium
Free of copper, PTFE and silicone

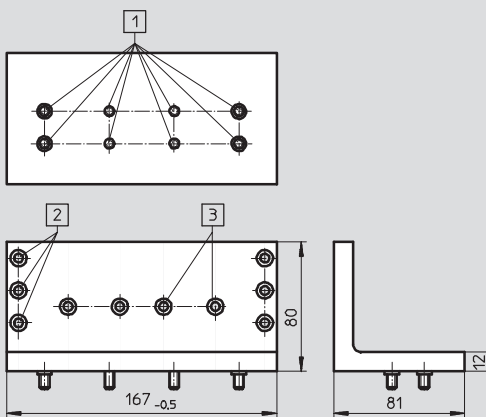


HMVW-DL25



- 1 DGE-25-ZR-KF
- 2 HMVM-RP/FP-DL25/40
HMVD-RP/FP-DL25/40
- 3 HMVV-RP/FP

HMVW-DL40



- 1 DGE-40-ZR-KF
- 2 HMVM-RP/FP-DL25/40
HMVD-RP/FP-DL25/40
- 3 HMVV-RP/FP

Technical data and ordering codes			
CRC ¹⁾	Weight	Part No.	Type
	[g]		
2	640	539 651	HMVW-DL25
	800	540 325	HMVW-DL40

1) Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. 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.

Connecting components

Technical data



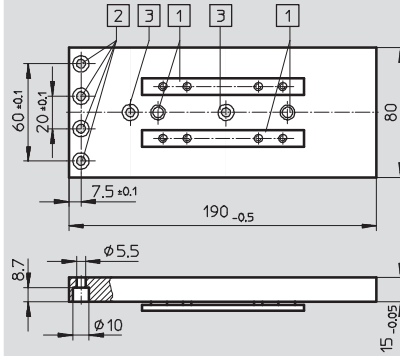
Adapter kit HMVS-RF

- For three-dimensional gantries
- For connecting X-axes and Y-axes
- For toothed belt axis DGE-RF with roller guide
- Mounting interface for reinforcing kit HMVV and basic kit HMVM
- Mounting accessories included in scope of delivery

Material:
Anodised aluminium
Free of copper, PTFE and silicone

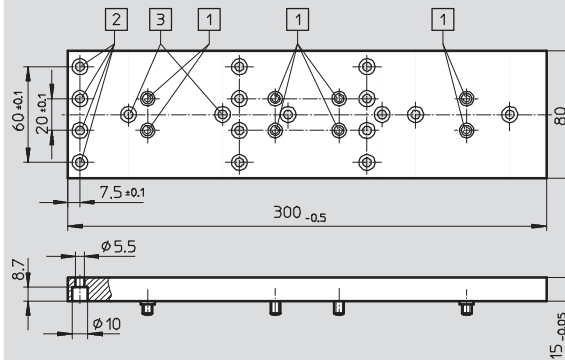


HMVS-RF-25



- 1 DGE-25-ZR-RF
- 2 HMVM-RP/FP-DL25/40
HMVD-RP/FP-DL25/40
- 3 HMVV-RP/FP

HMVS-RF-40



- 1 DGE-40-ZR-RF
- 2 HMVM-RP/FP-DL25/40
HMVD-RP/FP-DL25/40
- 3 HMVV-RP/FP

Technical data and ordering codes

CRC ¹⁾	Weight	Part No.	Type
	[g]		
2	600	539 652	HMVS-RF25
	930	539 653	HMVS-RF40

1) Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. 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.

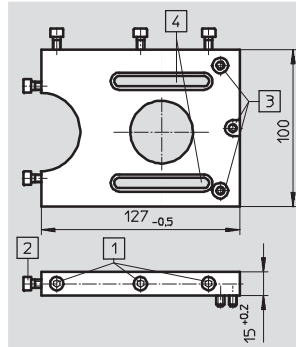
Connecting components

Technical data

Reinforcing kit HMVV-RP/FP

- For three-dimensional gantries
- Mounting interface for basic kit HMVM/HMVD, installation components, etc.
- Mounting accessories included in scope of delivery

Material:
Anodised aluminium
Free of copper, PTFE and silicone



- 1 HMVM-RP/FP-DL25/40
HMVD-RP/FP-DL25/40
- 2 HMVS-RF25/40
HMVW-DL25/40
- 3 HMIA-E07
- 4 HMIXF-RP/FP

Technical data and ordering codes			
CRC ¹⁾	Weight	Part No.	Type
	[g]		
2	400	539 657	HMVV-RP/FP

1) Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. 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.

Connecting components

Technical data



Basic kit
HMVM-LP
HMVD-LP

- For linear gantries
- For Y-axis
- For Mono and Duo systems
- Mounting interface for profiles, drives and displacement encoders
- Mounting accessories included in scope of delivery

Material:
Anodised aluminium
Free of copper, PTFE and silicone



HMVM-LP-DL-25/40

HMVD-LP-DL-25/40

- 1 MUP-18/25
(with DGE-25-...-RF, additionally HMVO-RF25)
- 2 MUC-25
- 3 MUC-40
- 4 DG...-40-...
- 5 HMIA-E05
- 6 MLO-POT-...-TLF
(with DGPL-25-...-KF, additionally HMVO-POT)

- 1 MUP-18/25
(with DGE-25-...-RF, additionally HMVO-RF25)
- 2 MUC-25
- 3 MUC-40
- 4 DG...-40-...
- 5 HMIA-E05
- 6 MLO-POT-...-TLF
(with DGPL-25-...-KF, additionally HMVO-POT)

Technical data and ordering codes				
For system type	CRC ¹⁾	Weight [g]	Part No.	Type
Mono	2	830	539 972	HMVM-LP-DL-25/40
Duo		1,320	539 971	HMVD-LP-DL-25/40

1) Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. 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.

Connecting components

Technical data

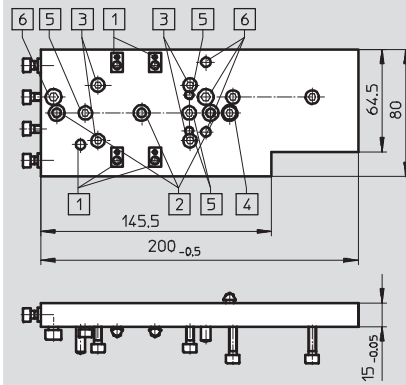
Basic kit
HMVM-RP/FP
HMVD-RP/FP

- For three-dimensional gantries
- For Y-axis
- For Mono and Duo systems
- Mounting interface for drives
- Mounting accessories included in scope of delivery

Material:
 Anodised aluminium
 Free of copper, PTFE and silicone

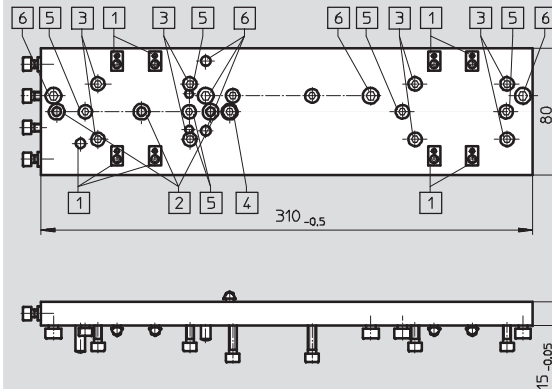


HMVM-RP/FP-DL-25/40



- 1 DG...-40
- 2 HMVV-RP/FP
- 3 MUP-18/25
- 4 HMIA-E07
- 5 MUC-25
- 6 MUC-40

HMVD-RP/FP-DL-25/40



- 1 DG...-40
- 2 HMVV-RP/FP
- 3 MUP-18/25
- 4 HMIA-E07
- 5 MUC-25
- 6 MUC-40

Technical data and ordering codes

For system type	CRC ¹⁾	Weight [g]	Part No.	Type
Mono	2	600	539 656	HMVM-RP/FP-DL-25/40
Duo		1,000	539 655	HMVD-RP/FP-DL-25/40

1) Corrosion resistance class 2 as per Festo standard 940 070
 Components subject to moderate corrosion stress. 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.

Connecting components

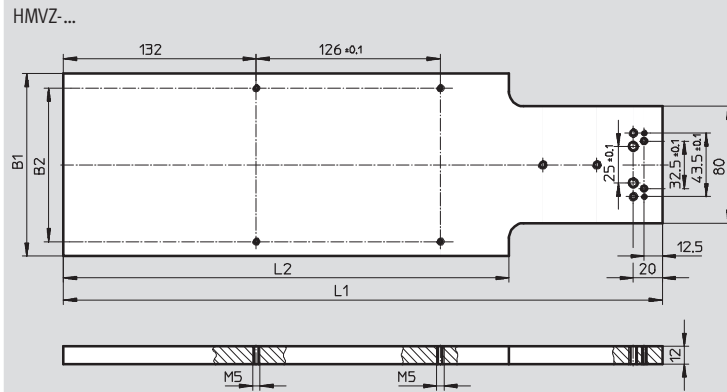
Technical data



Basic kit HMVZ

- For linear and three-dimensional gantries
- For Z-axis
- For Mono and Duo systems
- Mounting interface for drives, installation components, etc.

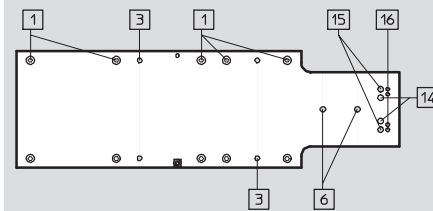
Material:
Anodised aluminium
Free of copper, PTFE and silicone



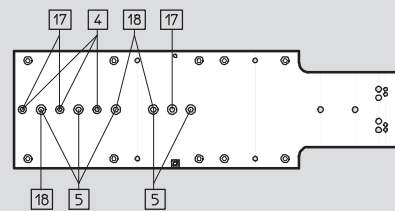
- Mounting accessories and earthing kit included in scope of delivery

- 1 HMVS-DL-25
- 3 Universal interface
- 4 SLT-16
- 5 SLT-20/25
- 6 HMID-LP
- 7 DGE-25/DGEA-18
- 8 HMP-16/20
- 9 HMPL-16/20
- 10 HMPL-16/20, HMPL-...:KP
- 11 DGE-40/DGEA-25
- 14 Energy chain
- 15 Energy chain
- 16 MKRS-16,5/23/29-B
- 17 DGSL-16
- 18 DGSL-20/25

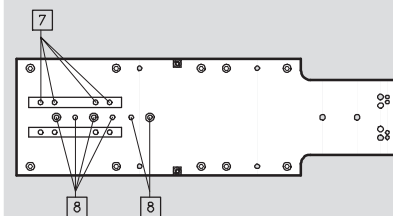
HMVZ-1



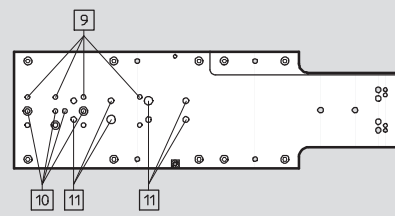
HMVZ-2



HMVZ-3



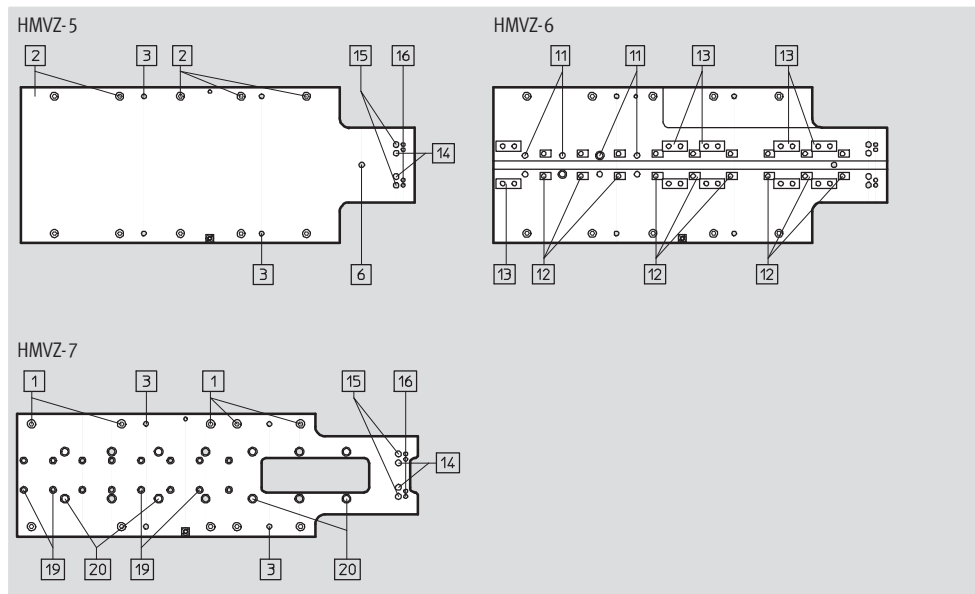
HMVZ-4



Connecting components

Technical data

- 1 HMVS-DL-25
- 2 HMVS-DL-40
- 3 Universal interface
- 6 HMID-LP
- 11 DGE-40/DGEA-25
- 12 DGE-40 (profile)
- 13 HMP-25
- 14 Energy chain
- 15 Energy chain
- 16 MKRS-16,5/23/29-B
- 19 EGSA-50
- 20 EGSA-60



Dimensions, technical data and ordering data						
B1	B2	L1	L2	CRC ¹⁾	Weight	Part No. Type
	± 0.02	- 0.5	- 0.5		[g]	
125	105	410	305	2	1,520	539 372 HMVZ-1
					1,510	539 373 HMVZ-2
					1,490	539 374 HMVZ-3
					1,450	539 375 HMVZ-4
					1,470	560 021 HMVZ-7
167	155	422	342	2	2,080	539 376 HMVZ-5
					1,900	539 377 HMVZ-6

1) Corrosion resistance class 2 as per Festo standard 940 070
 Components subject to moderate corrosion stress. 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.

Connecting components

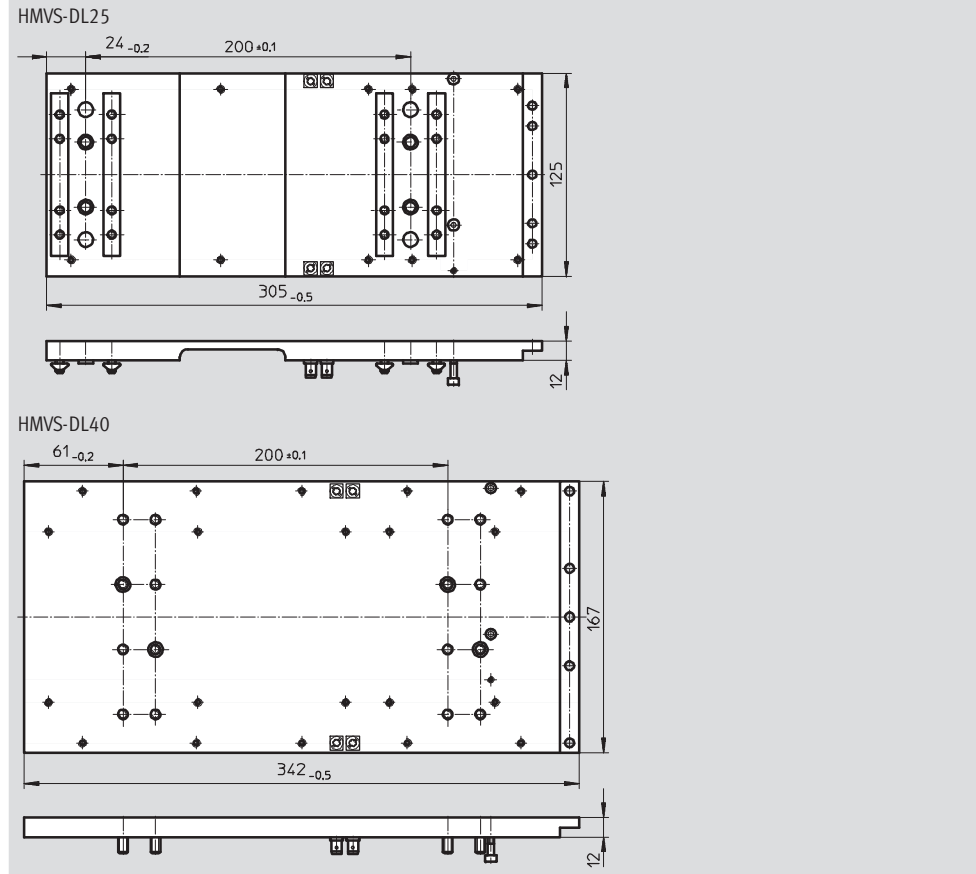
Technical data



Adapter kit HMVS-DL

- For linear and three-dimensional gantries
- For Mono and Duo systems
- Mounting interface for basic kit HMVZ
- Mounting accessories and earthing kits included in scope of delivery

Material:
Anodised aluminium
Free of copper, PTFE and silicone



Technical data and ordering codes			
CRC ¹⁾	Weight	Part No.	Type
	[g]		
2	1,050	539 368	HMVS-DL25
	1,800	539 369	HMVS-DL40

1) Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. 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.

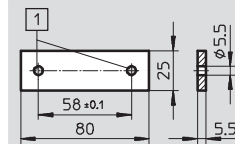
Connecting components

Technical data

Connecting plate HMVO-RF

- For linear gantries
- Compensating component for toothed belt axis DGE-RF to compensate for the difference in height with the axes DGE-ZR-KF and DGE-SP-KF

Material:
Anodised aluminium
Free of copper, PTFE and silicone



- 1) HMVM-LP-DL25/40
HMVD-LP-DL25/40
MUP-18/25

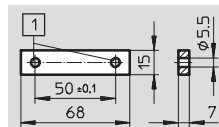
Technical data and ordering codes			
CRC ¹⁾	Weight	Part No.	Type
	[g]		
2	30	539 362	HMVO-RF25

1) Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. 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.

Connecting plate HMVO-POT

- For linear gantries
- Compensating component for displacement encoder MLO-POT-TLF to compensate for the difference in height with the linear drive DGPL with MUP

Material:
Anodised aluminium
Free of copper, PTFE and silicone



- 1) HMVM-LP-DL25/40
HMVD-LP-DL25/40
MLO-POT-TLF

Technical data and ordering codes			
CRC ¹⁾	Weight	Part No.	Type
	[g]		
2	20	539 973	HMVO-POT

1) Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. 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.

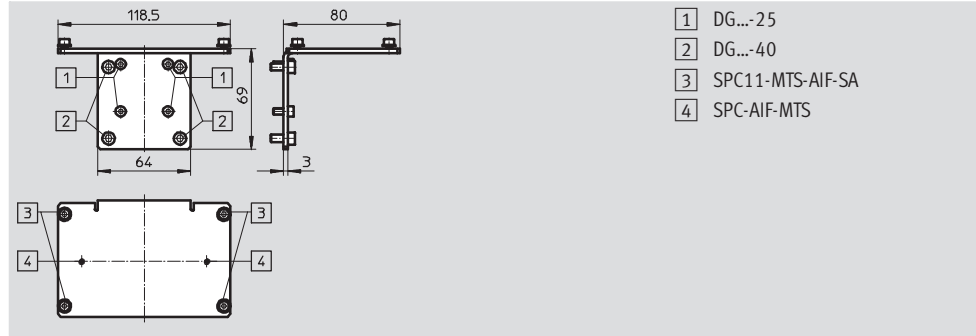
Connecting components

Technical data

Mounting kit HMVW-SPC

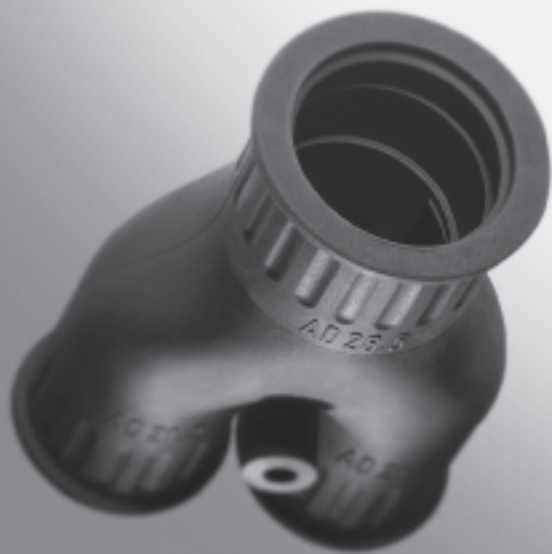
- For mounting the axis interface on the end cap of the drive
- Mounting accessories included in scope of delivery

Material:
Galvanised steel
Free of copper, PTFE and silicone



Technical data and ordering codes			
CRC ¹⁾	Weight	Part No.	Type
	[g]		
2	310	539 367	HMVW-SPC

1) Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. 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.

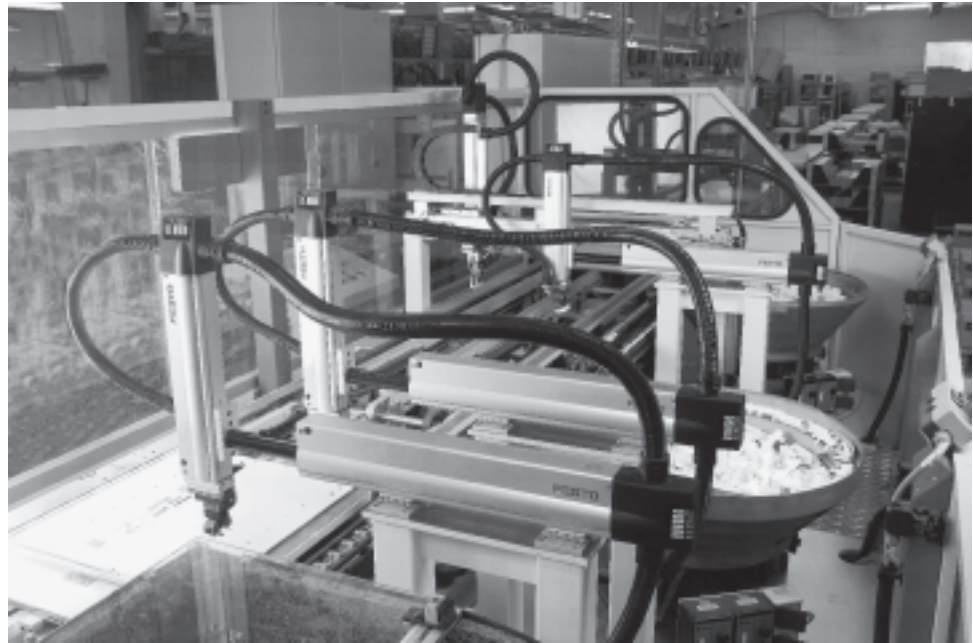


- Reliable guidance
- Rapid assembly and dismantling
- Low space requirement
- Low noise levels

Installation components for short strokes

Key features

Installation components facilitate a clear, safe layout of electrical cables and pneumatic tubing. They can be quickly dismantled and reassembled if servicing is required. They are mainly used for short strokes in Pick & Place systems and for installing drives along the Z-axis in gantry units.



Protective conduit MKR



Flexible conduit protects electrical cables and pneumatic tubing at machines and in installations. With the conduit connector MKRT a protective conduit with a small diameter can be inserted and fastened 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 can be laid in it. The matching connector can also be opened.

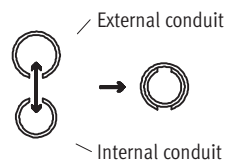
Junction box HMZV



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

Accessories

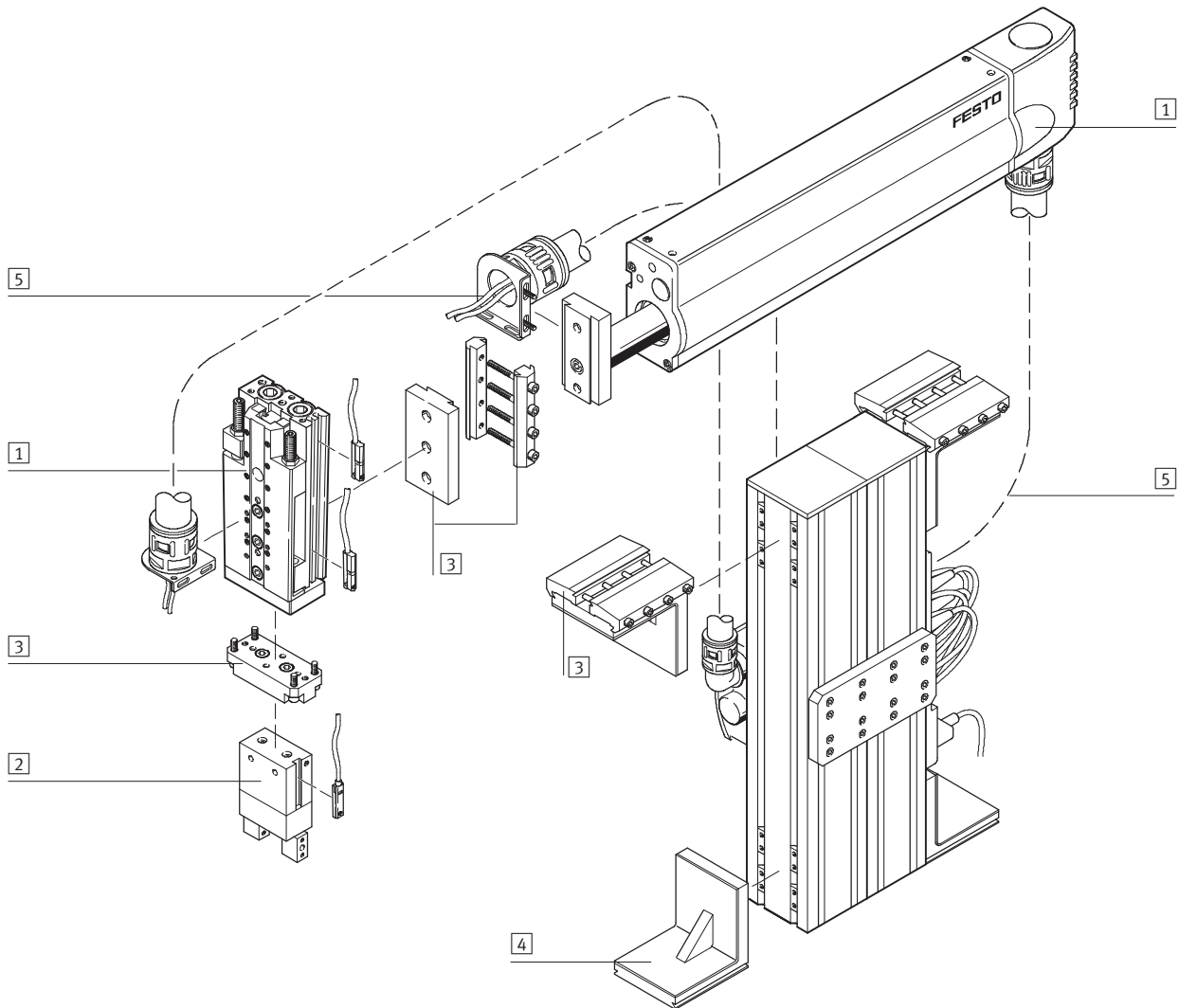
- Fittings and connectors
MKRV, MKGV, MKA, MKRL, MKRT, MKY
- Lock nut
MKM
- Retaining clip
MKRS
- Installation kit
HMZAS



Installation components for short strokes

System example

System product for handling and assembly technology

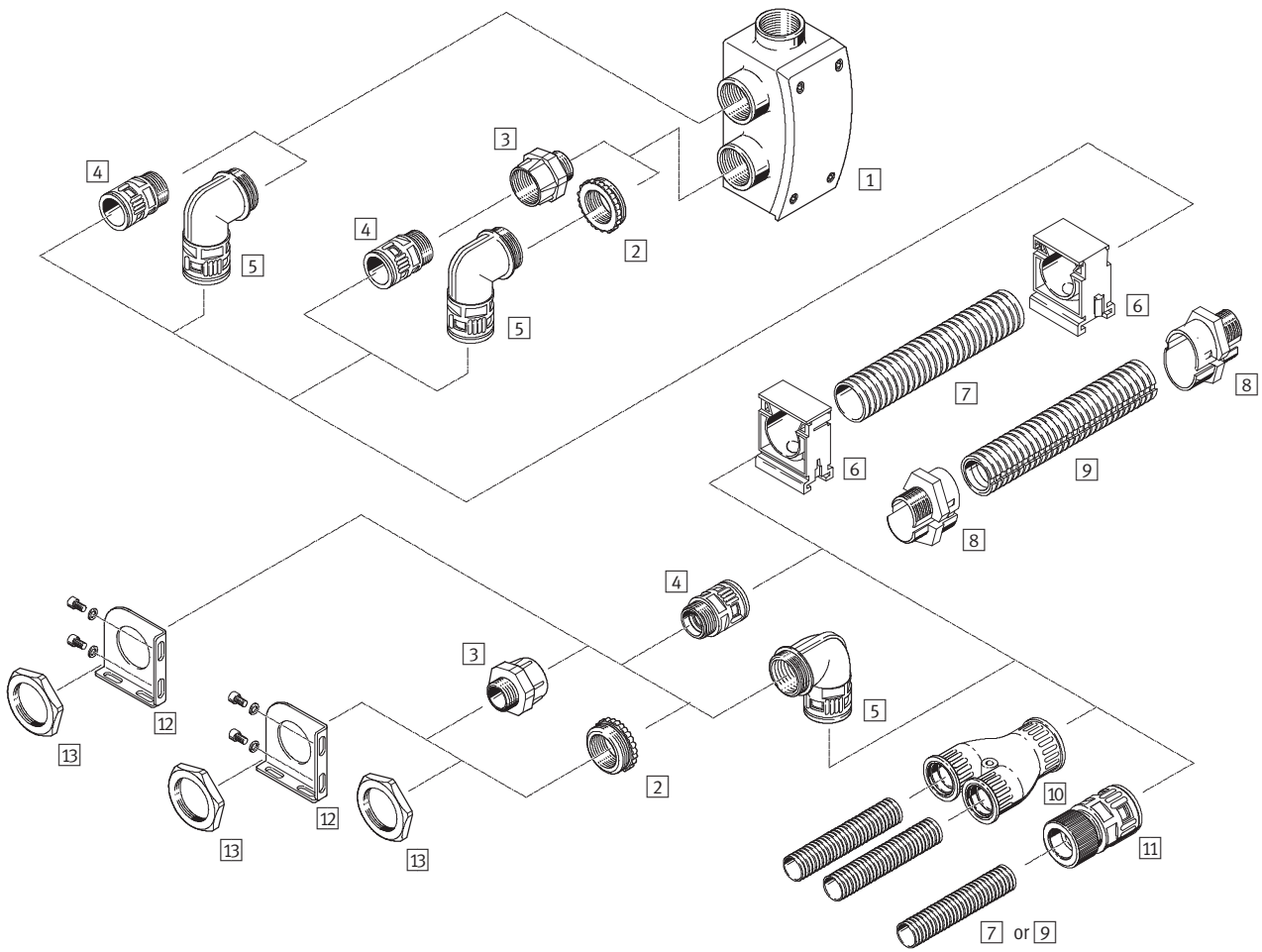


System components and accessories			
	Brief description	→ Page/Internet	
1	Drives	Wide range of combinations possible within handling and assembly technology	drive
2	Gripper	Wide range of variations possible within handling and assembly technology	gripper
3	Adapter	For drive/drive and drive/gripper connectors	adapter kit
4	Basic components	Profiles and profile combinations as well as profile/drive combinations	basic component
5	Installation components	For a clear, safe layout of electrical cables and tubing	installation component
-	Axes	Wide range of combinations possible within handling and assembly technology	axis
-	Motors	Servo and stepper motors, with or without gear unit	motor

Installation components for short strokes

Peripherals overview

FESTO













Installation components for short strokes

Peripherals overview

Variants and accessories		
Type	Brief description	→ Page/Internet
1 Junction box HMZV	For bundling or distributing cables and tubing	95
2 Reducing connector MKA	For reducing thread size Material: Brass	99
3 Reducing connector MKA-KU	For reducing or enlarging thread size Material: Polyamide	100
4 Protective conduit connector MKRV	For securing a protective conduit	96
5 Elbow connector for protective conduit MKRL	For securing a protective conduit	97
6 Retaining clip MKRS	For securing a protective conduit over long distances	101
7 Protective conduit MKR	For protecting cables and tubing	94
8 Separable protective conduit connector MKGV	For securing a protective conduit. The connector is separable so that cables and tubing in the system can be easily replaced	99
9 Separable protective conduit MKG	For protecting cables and tubing. The conduit is separable so that cables and tubing in the system can be easily replaced	95
10 Y-distributor MKY	For distributing cables and tubing	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 cables and tubing	98
12 Installation kit HMZAS	For securing protective conduit connectors at drives	102
13 Lock nut MKM	For securing connectors at adapter plates	101







Installation components for short strokes

Selection aid

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

Installation components for short strokes

Selection aid

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

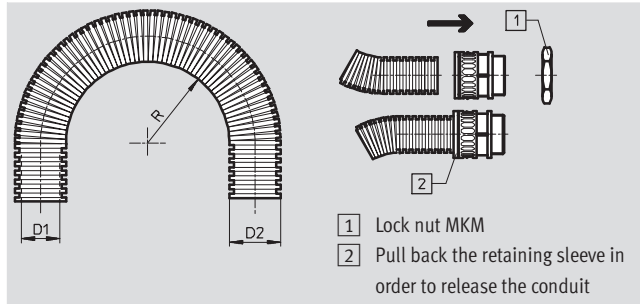
Installation components for short strokes

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

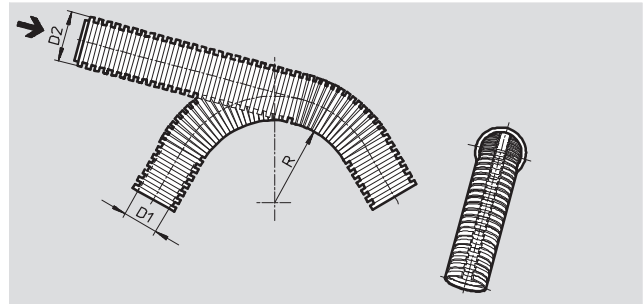
1) Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Installation components for short strokes

Technical data

Protective conduit MKG, separable for Pg connecting thread

Material:
Polypropylene
Free of copper, PTFE and silicone



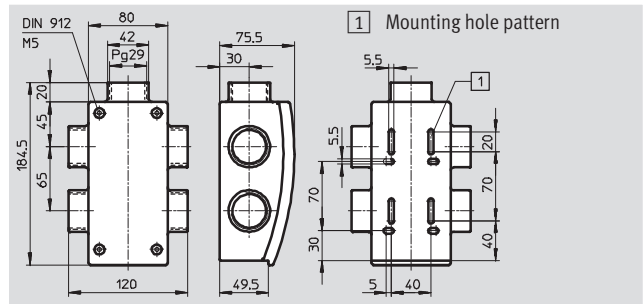
Dimensions and ordering data					
Pg connecting thread	D1 Ø	D2 Ø	R	Temperature range [°C]	Protection class
Pg 21	19.5	25.5	≥ 130	-20 ... +90	IP 50
Pg 29	24.2	31	≥ 155		
	31	41.4	≥ 205		

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

1) Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. 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.

Junction box HMZV with mounting kit for profile column HMBS

Material:
Polyamide
Free of copper, PTFE and silicone



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

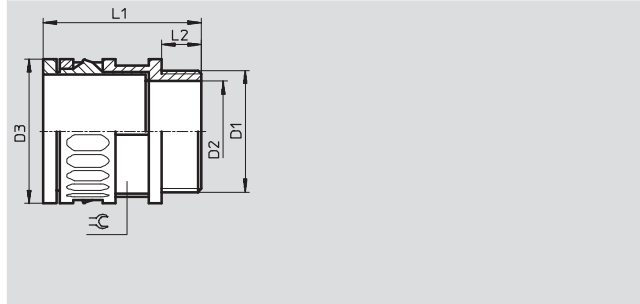
1) Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Installation components for short strokes

Technical data

Protective conduit fitting MKRV

Material:
Polyamide
Free of copper, PTFE and silicone



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

Pg connecting thread D1 Ø	Protection class	Mounting position	CRC ¹⁾	Weight [g]	Part No.	Type
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

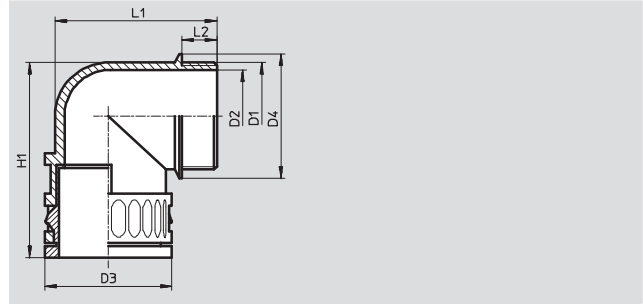
1) Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Installation components for 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 Ø	D2 Ø	D3 Ø	D4 Ø	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 Ø	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

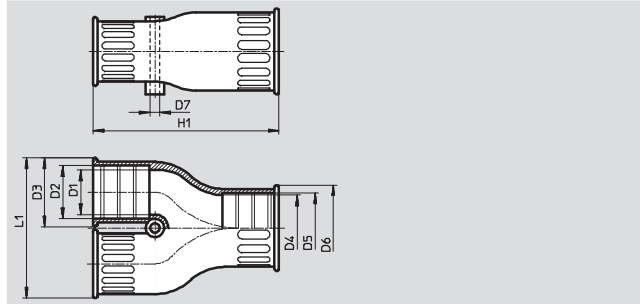
1) Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Installation components for short strokes

Technical data

Y distributor MKY

Material:
Thermoplastic rubber
Free of copper, PTFE and silicone



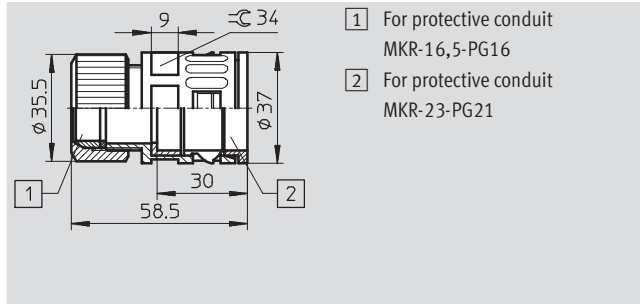
Dimensions and ordering data							
Pg connecting thread D1	D2	D3	D4	D5	D6	D7	H1
Ø	Ø	Ø	Ø	Ø	Ø	Ø	
Pg 21	21.2	29.5	25.5	28.5	36.5	4	81.5
Pg 29	28.5	36.5	31.5	34.5	42.5		86

Pg connecting thread D1	L1	Temperature range [°C]	Protection class	Mounting position	CRC ¹⁾	Weight [g]	Part No.	Type
Ø								
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 as per Festo standard 940 070
Components subject to moderate corrosion stress. 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.

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	IP67	Any	2	40	194 321	MKRT-23-16,5

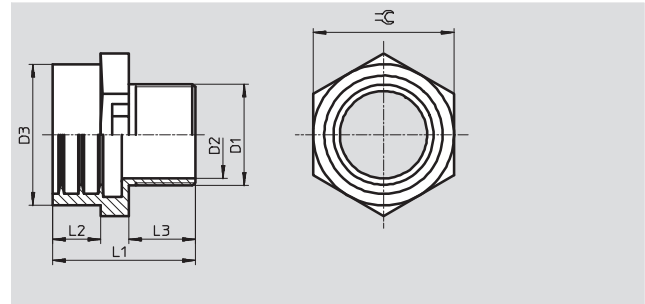
1) Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Installation components for short strokes

Technical data

Protective conduit connector MKGV, separable

Material:
Polyamide
Free of copper, PTFE and silicone



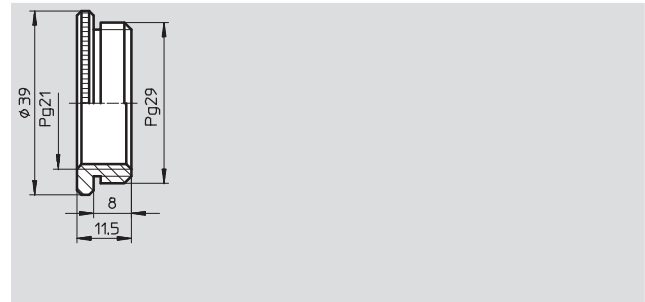
Dimensions and ordering data						
Pg connecting thread D1	D2	D3	L1	L2	L3	⊕
∅	∅	∅				
Pg 21	20	26	34	12	17	32
Pg 29	31	32	42	13	21	41
		42	50	17	22	50

Pg connecting thread D1	Temperature range	Protection class	Mounting position	CRC ¹⁾	Weight	Part No.	Type
∅	[°C]				[g]		
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 as per Festo standard 940 070
Components subject to moderate corrosion stress. 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.

Reducing connector MKA for reducing Pg 29 to Pg 21

Material:
Brass, nickel-plated
Free of copper, PTFE and silicone



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

1) Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. 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.

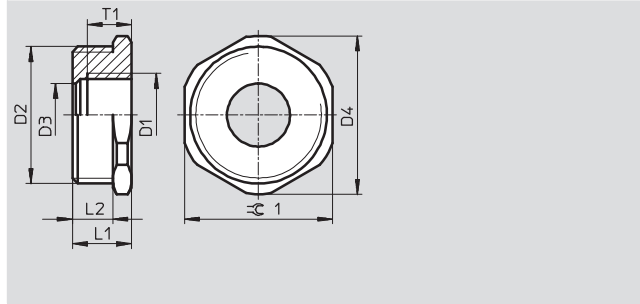
Installation components for short strokes

Technical data

Reducing connector MKA-KU

for reducing Pg 21 to Pg 16
for reducing Pg 29 to Pg 16

Material:
Polyamide
Free of copper, PTFE and silicone



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

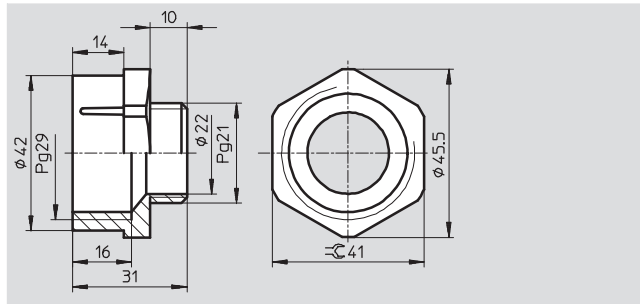
Pg connecting thread	∅	Temperature range [°C]	Protection class	Mounting position	CRC ¹⁾	Weight [g]	Part No.	Type
Pg 21/Pg 16	81.5	-30 ... +80	IP 50	Any	2	8	193 948	MKA-PG-21-PG-16-KU
Pg 29/Pg 16	86					12	193 949	MKA-PG-29-PG-16-KU

1) Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. 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.

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

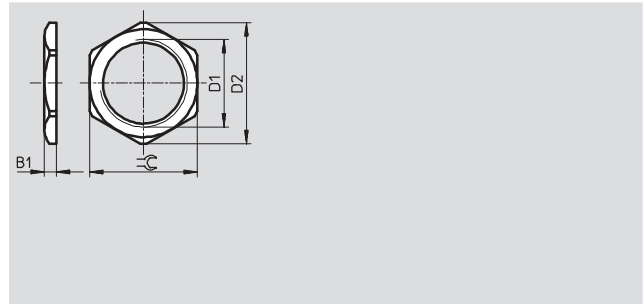
1) Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Installation components for short strokes

Technical data

Lock nut MKM

Material:
Brass, nickel-plated
Free of copper, PTFE and silicone

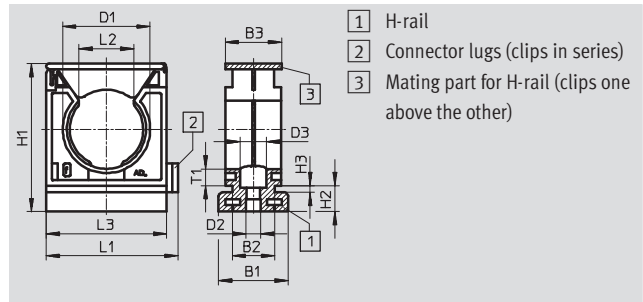


Dimensions and ordering data									
Pg connecting thread D1	D2	D3	⌀	Mounting position	CRC ¹⁾	Weight [g]	Part No.	Type	
Pg 9	20	2.8	18	Any	2	2	177 596	MKM-PG-9	
Pg 11	23.5	3	21			3	177 597	MKM-PG-11	
Pg 16	29		26			5	177 598	MKM-PG-16	
Pg 21	35.5	3.5	32			8	177 599	MKM-PG-21	
Pg 29	45	4	41			14	177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

1) Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. 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.

Retaining clip MKRS

Material:
Polyamide
Free of copper, PTFE and silicone



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	29	6.3	2.3	30	
Pg 11				15.8							37
Pg 16				21.2							
Pg 21				28.5			47.5				
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	8	192 289			MKRS-16,5-B			
Pg 21	20	12	192 290			MKRS-23-B			
Pg 29	25.5	14	192 291			MKRS-29-B			

1) Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. 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 short strokes

Technical data



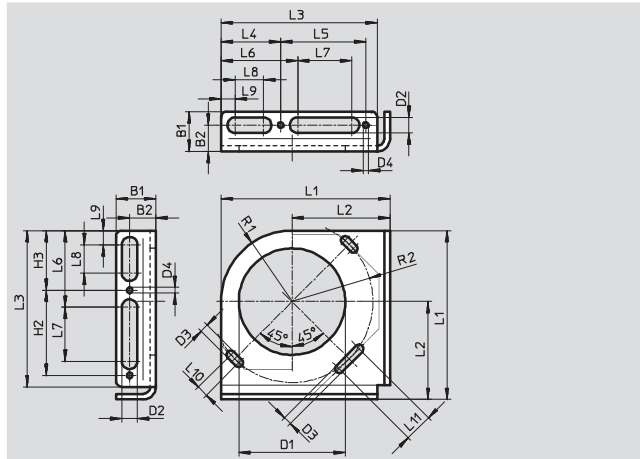
Installation kit HMZAS

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

Material:

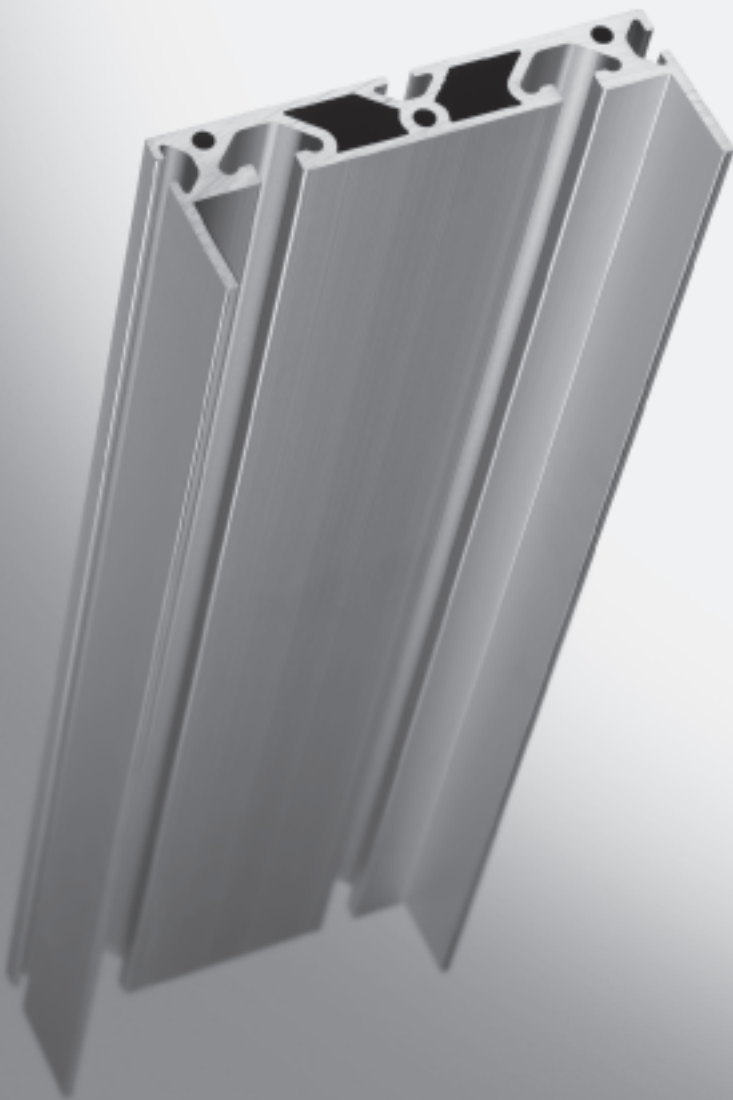
Powder-coated steel

Free of copper, PTFE and silicone



Dimensions and ordering data									
For linear module	B1	B2	D1 ∅	D2 ∅	D3 ∅	D4 ∅	H2	H3	L1
HMPL	14	9.25	28.6	5.3	3	-	-	-	54.5
HMP			37.5			2	30	21	59.5
For linear module	L2	L3	L4	L5	L6	L7	L8	L9	L10
HMPL	33.5	50	-	-	19	26	4.5	5	4
HMP	34.5	55	21	30	27	19	10	5	4
For linear module	L11	R1	R2	Mounting position	CRC ¹⁾	Weight [g]	Part No.	Type	
HMPL	10	21	22	Any	1	35	193 124	HMZAS-PG-21	
HMP	10	25	28.5			44	177 603	HMZAS-PG-29	

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



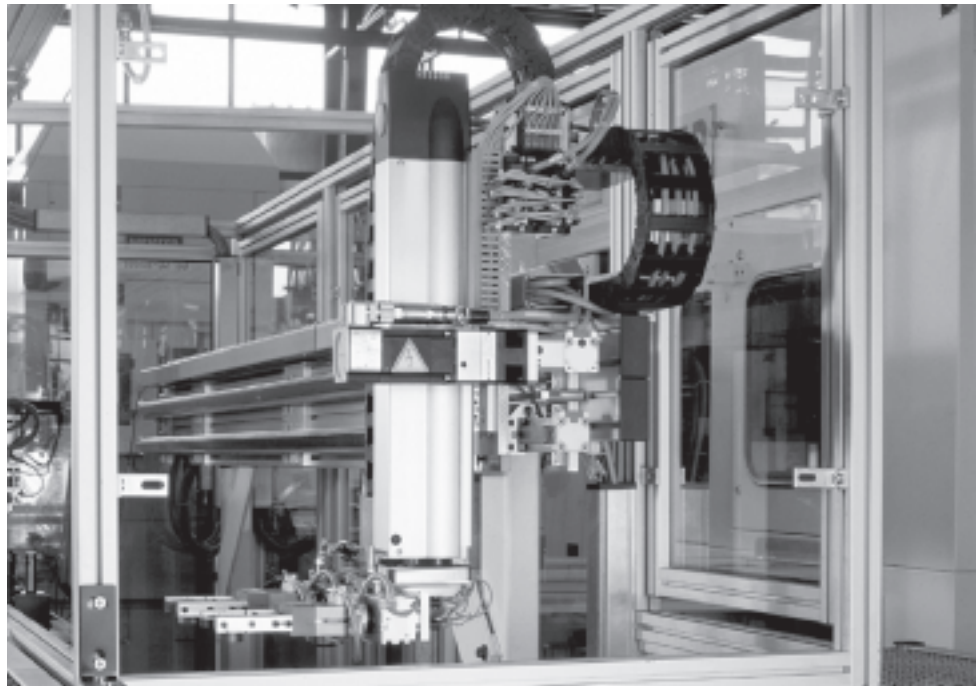
- Reliable guidance
- Rapid assembly and dismantling
- Low space requirement

Installation components for long strokes

Key features

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

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



Support profile

HMA



The support profile for energy chains 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 energy chains and profile via slot nut connections.

Installation kits

HMIXB-RP/FP



The installation kits permit easy and fast attachment of the energy chains 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 energy chain is always horizontal.

HMIXF-RP/FP



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

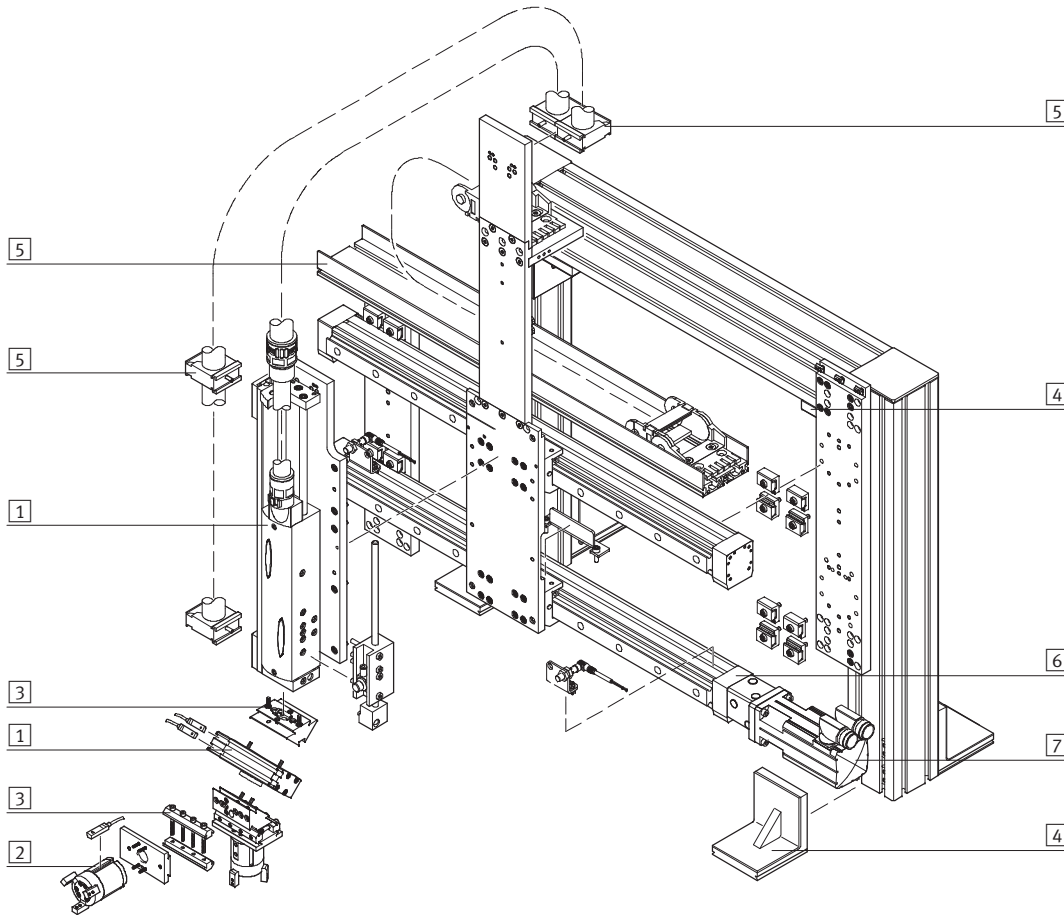
Accessories

- Slot nuts
- Energy chains (IGUS/ENERGY CHAIN)

Installation components for long strokes

System example





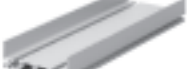


System product for handling and assembly technology



System components and accessories		
	Brief description	→ Page/Internet
1	Drives	Wide range of combinations possible within handling and assembly technology drive
2	Grippers	Wide range of variations possible within handling and assembly technology gripper
3	Adapters	For drive/drive and drive/gripper connections adapter kit
4	Basic components	Profiles and profile combinations as well as profile/drive combinations basic component
5	Installation components	For a clean, safe layout of electrical cables and tubing installation component
6	Axes	Wide range of combinations possible within handling and assembly technology axis
7	Motors	Servo and stepper motors, with or without gear unit motor







Installation components for long strokes

Selection aid

Installation kits and support profiles	Energy chains			ENERGY CHAIN MC series		
	IGUS E2 medium series 240			ENERGY CHAIN 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
	Connector			Connector		
	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 _T 2	TS 0-n _T 2	TS 0-n _T 2
Installation kit HMIZB-E03 	→ 108	-	-	→ 108	-	-
Installation kit HMIZF-E03-DA18 	→ 108	-	-	→ 108	-	-
Installation kit HMIZF-E03-DA25 	→ 108	-	-	→ 108	-	-
Support profile HMIA-E05 	-	→ 109	-	-	→ 109	-
Support profile HMIA-E07 	-	-	→ 109	-	-	→ 109
Installation kit HMIO-AP-1 	-	→ 109	-	-	→ 109	-
Installation kit HMIO-AP-2 	-	→ 109	-	-	→ 109	-

Installation components for long strokes

Selection aid

Installation kits and support profiles	Energy chains			ENERGY CHAIN MC series		
	IGUS E2 medium series 240			Energy chain		
	Energy chain			Energy chain		
	240.03.075	240.05.100	240.07.100	0320.40-01-077	0320.60-01-100	0320.80-01-100
	Connector			Connector		
	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 _T 2	TS 0-n _T 2	TS 0-n _T 2
Installation kit HMIXF-RP/FP 	-	-	→ 111	-	-	→ 111
Installation kit HMIYF-RF/DL25 	-	-	→ 112	-	-	→ 112
Installation kit HMIYF-RF/DL40 	-	-	→ 112	-	-	→ 112
Installation kit HMIM-LP 	→ 110			→ 110		
Installation kit HMID-LP 	→ 110			→ 110		
Installation kit HMIXB-RP/FP 	→ 111			→ 111		

Installation components for long strokes

Technical data

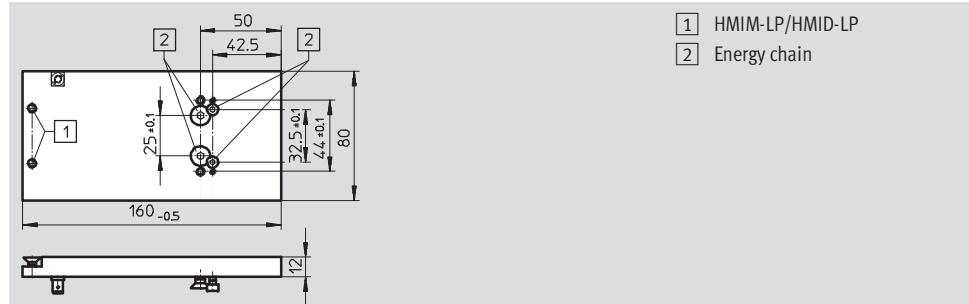


Installation kit HMIZB-E03

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

- Cantilever axes DGEA
- Spindle axes DGE
- Linear modules HMP and HMPL
- Mini slides SLT
- Mounting accessories and earthing kit included in scope of delivery

Material:
Anodised aluminium
Free of copper, PTFE and silicone



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

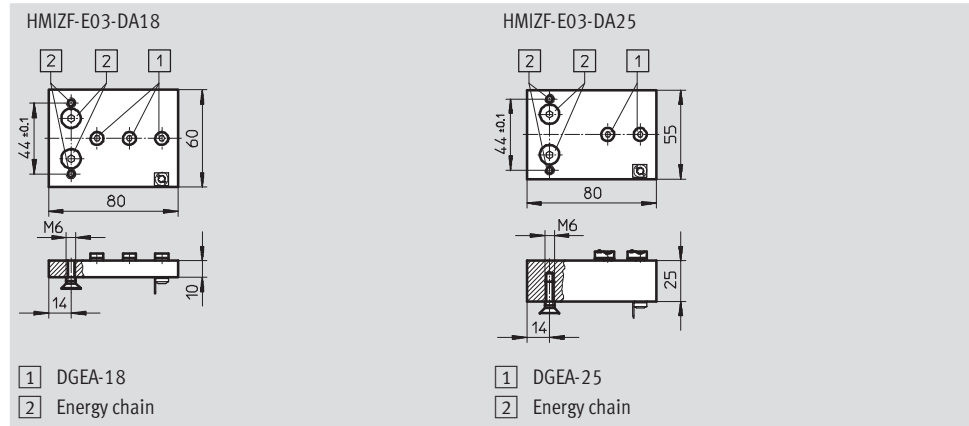
1) Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Installation kit HMIZF-E03

For connecting energy chains to the Z-axis in gantries

- Cantilever axes DGEA
- Mounting accessories and earthing kit included in scope of delivery

Material:
Anodised aluminium
Free of copper, PTFE and silicone



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

1) Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. 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



Support profile HMIA



For mounting and routing the energy chains in gantries along the X- and Y-axes

- Mounting accessories and earthing kit included in scope of delivery

Material:
Anodised aluminium
Free of copper, PTFE and silicone

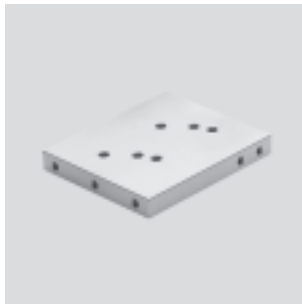
The length L is dependent on the stroke and must be quoted in the order ($L_{max.} = 3 \text{ m}$).

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

Technical data and ordering codes				
B [mm]	CRC ¹⁾	Weight per metre [g]	Part No.	Type
80	2	2,120	539 378	HMIA-E05-...
100		2,340	539 379	HMIA-E07-...

1) Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. 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 energy chains along the Y-axis in linear gantries

- Mounting accessories and earthing kit included in scope of delivery

Material:
Anodised aluminium
Free of copper, PTFE and silicone

- 1 HMVS-DL25, HMVS-DL40, HMIM-LD, HMID-LD
- 2 Energy chain

- 1 HMVS-DL40, HMID-LD
- 2 Energy chain

Technical data and ordering codes			
CRC ¹⁾	Weight [g]	Part No.	Type
2	240	539 366	HMIO-AP-1
	300	540 121	HMIO-AP-2

1) Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. 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

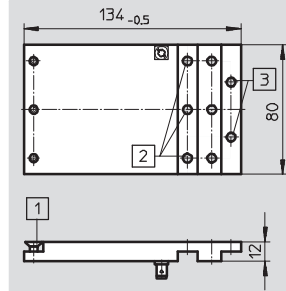


Installation kit HMIM-LP

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

- Mounting accessories and earthing kit included in scope of 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 ¹⁾	Weight	Part No.	Type
	[g]		
2	300	539 364	HMIM-LP

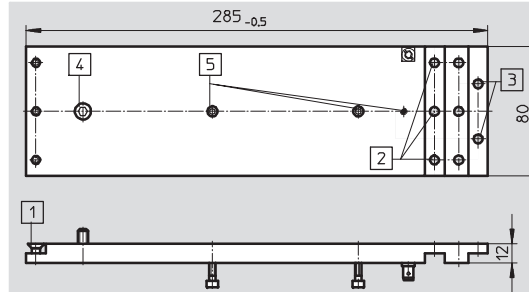
1) Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Installation kit HMID-LP

Extension plate for linear gantries for height compensation in duo systems

- Mounting accessories and earthing kit included in scope of 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 ¹⁾	Weight	Part No.	Type
	[g]		
2	700	539 363	HMID-LP

1) Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. 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

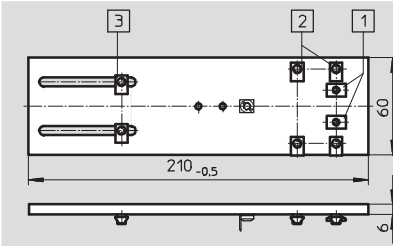
Installation kit HMIXB-RP/FP



For mounting the support profile HMIA-E07 along the X-axis in three-dimensional gantries

- Mounting accessories and earthing kit included in scope of 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 ¹⁾	Weight [g]	Part No.	Type
2	200	539 654	HMIXB-RP/FP

1) Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. 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.

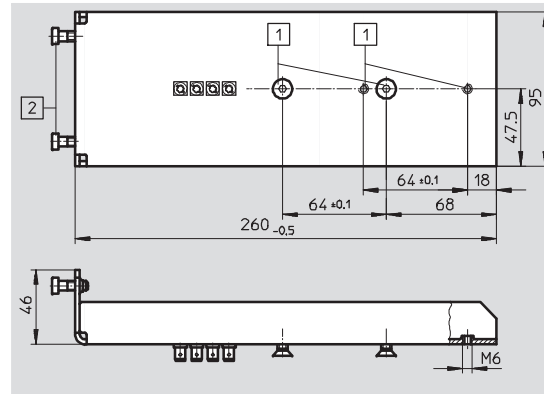
Installation kit HMIXF-RP/FP



For mounting the energy chain along the X-axis in three-dimensional gantries

- Mounting accessories and earthing kits included in scope of delivery

Material:
Galvanised steel
Free of copper, PTFE and silicone



- 1 Energy chain
- 2 HMVV-RP/FP

Technical data and ordering codes

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

1) Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. 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

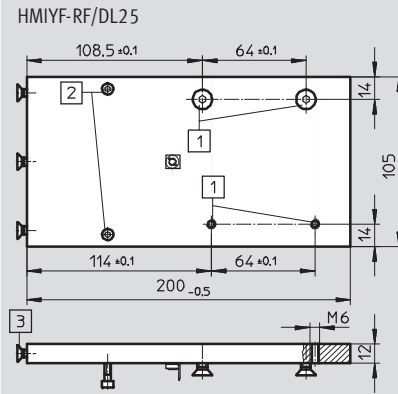


Installation kit HMIYF-RF/DL

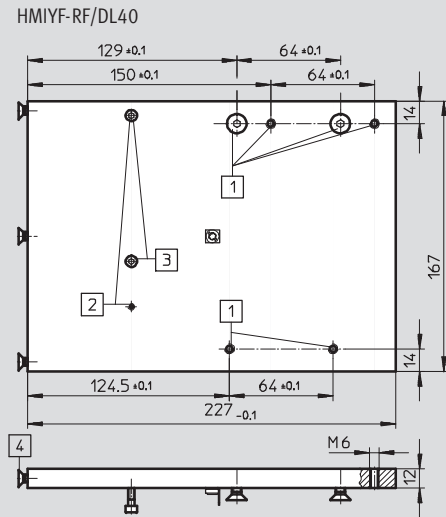
For mounting the energy chain along the Y-axis in three-dimensional gantries

- Mounting accessories and earthing kit included in scope of delivery

Material:
Anodised aluminium
Free of copper, PTFE and silicone



- 1 Energy chain
- 2 MPV-E/A08-M8
- 3 HMVS-DL25



- 1 Energy chain
- 2 MPV-E/A12-M8
- 3 MPV-E/A08-M8
- 4 HMVS-DL40

Technical data and ordering codes			
CRC ¹⁾	Weight	Part No.	Type
	[g]		
2	700	539 659	HMIYF-RF/DL25
	1,200	539 660	HMIYF-RF/DL40

1) Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. 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.