



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

Multi-axis modular system

Key features

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The concept

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

of handling systems.

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

Standard solutions with specifications on stroke, working load and intermediate positions offer practical module combinations.

The advantages of this modularity are as follows:

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

Selection matrix		
Pick & place	Linear gantries	3-Dimensional gantries
Pneumatic	Pneumatic/electrical	
 → 5 / 3.3-132	 → 5 / 3.3-144	 → 5 / 3.3-158
Pneumatic with end position controller SPC11 (Soft Stop)		
	 → 5 / 3.3-144	
Electrical with spindle or toothed belt axis		
	 → 5 / 3.3-144	 → 5 / 3.3-158

Multi-axis modular system

Key features

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Pick & place



Linear gantries



3-Dimensional gantries

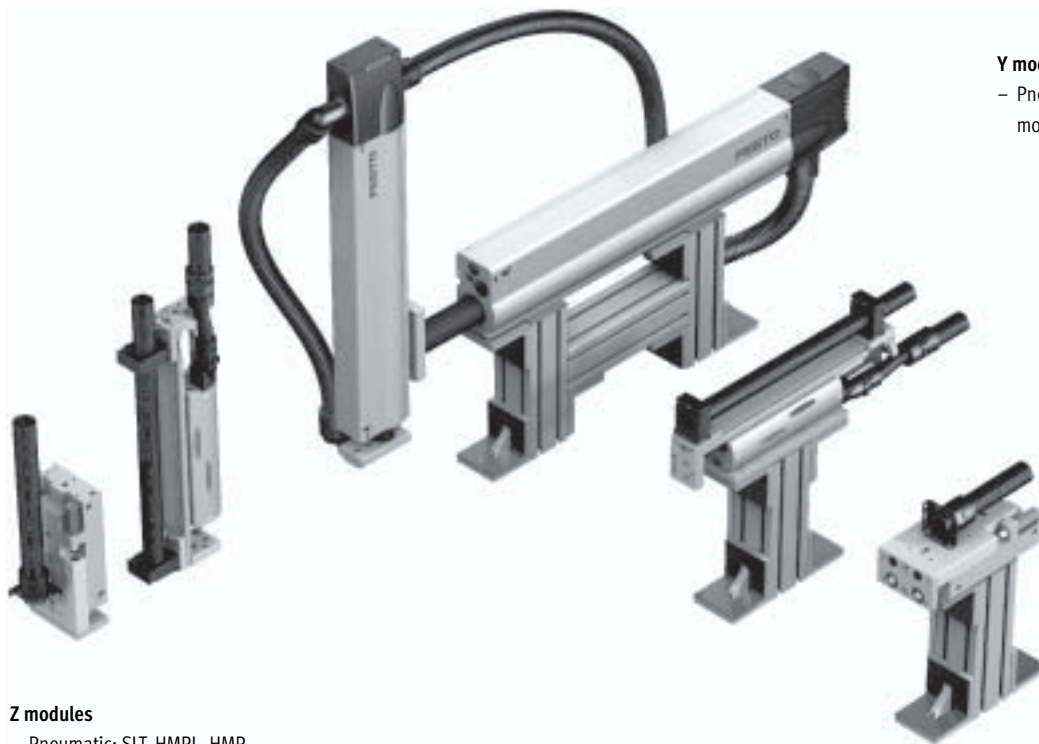


Pick & place

Key features

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Y and Z modules



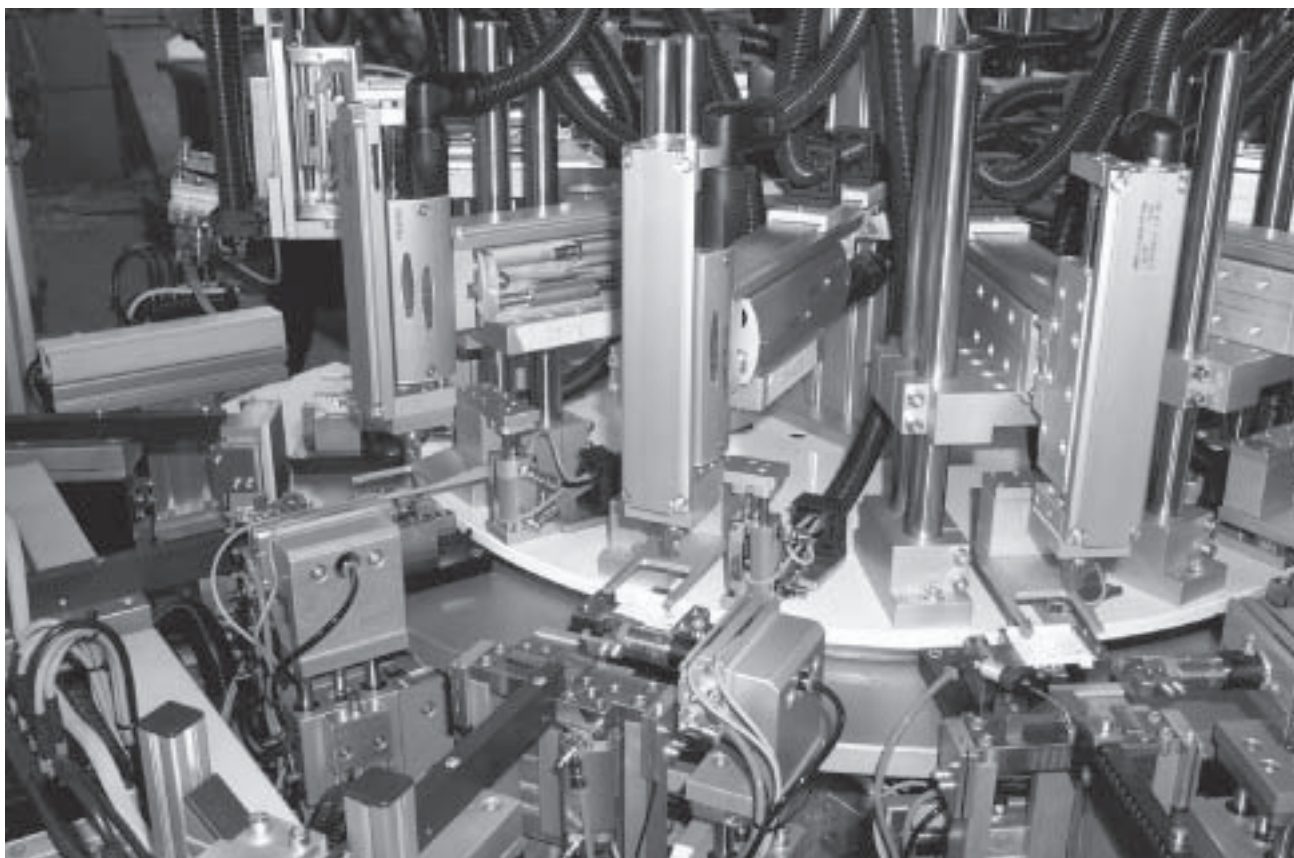
Y modules

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

Z modules

- Pneumatic: SLT, HMPL, HMP

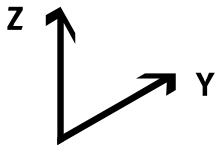
Application



Pick & place

Product range overview

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Selection aid						
Function	SLT/SLT	HMPL/HMPL	HMP/SLT	HMP/HMPL	HMP/HMP	
						
Y-axis	SLT	HMPL	HMP	HMP	HMP	
Drive function	Pneumatic					
Options	Shock absorber, adjustable/non-adjustable cushioning	Intermediate position, clamping cartridge	Intermediate position			
Z-axis	SLT	HMPL	SLT	HMPL	HMP	
Drive function	Pneumatic					
Options	Shock absorber, adjustable/non-adjustable cushioning	Intermediate position, clamping cartridge	Shock absorber, adjustable/non-adjustable cushioning	Intermediate position, clamping cartridge		
Working load [kg]						
	1	■	■	■	■	
	2	■	■	■	■	
	3	■	■	■	■	
	4	–	–	■	■	■
	6	–	–	■	■	■
	10	–	–	–	–	■
→ Page	5 / 3.3-134					

- - Note

Applicable stroke ranges:

→ Volume 1

Pick & place

Selection aid for basic, connection and installation components

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Y-axis						
Function		SLT/SLT	HMPL/HMPL	HMP/SLT	HMP/HMPL	HMP/HMP
						
Pneumatic drives	Stroke [mm]	Type				
SLT-16	30 ... 150	HMBSY-SLT-1 5 / 3.3-136	–	–	–	–
SLT-20	30 ... 100	HMBSY-SLT-2 5 / 3.3-136	–	–	–	–
	125 ... 200	HMBSY-SLT-3 5 / 3.3-136	–	–	–	–
SLT-25	30 ... 100	HMBSY-SLT-4 5 / 3.3-136	–	–	–	–
	125 ... 200	HMBSY-SLT-5 5 / 3.3-136	–	–	–	–
HMPL-16	50 ... 160	–	HMBSY-HMPL-1 HMBSY-HMPL-2 5 / 3.3-137	–	–	–
HMPL-20	50 ... 200	–	HMBSY-HMPL-3 HMBSY-HMPL-4 5 / 3.3-137	–	–	–
HMP-16	150 ... 250	–	–	HMBSY-HMP-1 5 / 3.3-138	HMBSY-HMP-1 5 / 3.3-138	–
	320	–	–	HMBSY-HMP-2 5 / 3.3-138	HMBSY-HMP-2 5 / 3.3-138	–
HMP-20	100 ... 250	–	–	HMBSY-HMP-3 5 / 3.3-138	HMBSY-HMP-3 5 / 3.3-138	HMBSY-HMP-3 5 / 3.3-138
	320 ... 400	–	–	HMBSY-HMP-4 5 / 3.3-138	HMBSY-HMP-4 5 / 3.3-138	HMBSY-HMP-4 5 / 3.3-138
HMP-25	100 ... 200	–	–	HMBSY-HMP-5 5 / 3.3-139	–	HMBSY-HMP-5 5 / 3.3-139
	250 ... 400	–	–	HMBSY-HMP-6 5 / 3.3-139	–	HMBSY-HMP-6 5 / 3.3-139
HMP-32	100 ... 200	–	–	–	–	HMBSY-HMP-7 5 / 3.3-139
	250 ... 400	–	–	–	–	HMBSY-HMP-8 5 / 3.3-139

Selection example

Project engineering produced the following drive combination:

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

Step 1

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

Y-axis: HMBSY-HMP-1
→ 5 / 3.3-138
Z-axis: HMBSZ-HMPL-3 or 4
→ 5 / 3.3-142

Step 2

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

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

Step 3

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

Pick & place

Selection aid for basic, connection and installation components

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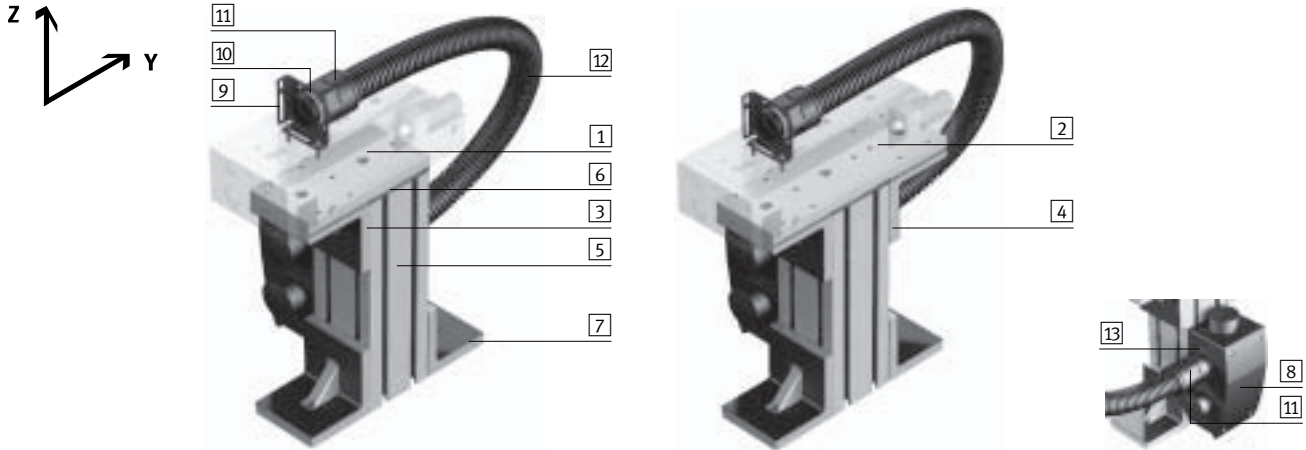
Z-axis					
Function	SLT/SLT	HMPL/HMPL	HMP/SLT	HMP/HMPL	HMP/HMP
					
Pneumatic drives	Type				
SLT-10	HMBSZ-SLT-1 5 / 3.3-140	–	–	–	–
SLT-16	HMBSZ-SLT-2 5 / 3.3-140	–	HMBSZ-SLT-4 5 / 3.3-141	–	–
SLT-20	HMBSZ-SLT-3 5 / 3.3-140	–	HMBSZ-SLT-5 5 / 3.3-141	–	–
SLT-25	–	–	HMBSZ-SLT-6 5 / 3.3-141	–	–
HMPL-12	–	HMBSZ-HMPL-1 HMBSZ-HMPL-2 5 / 3.3-142	–	–	–
HMPL-16	–		–	HMBSZ-HMPL-3 HMBSZ-HMPL-4 5 / 3.3-142	–
HMPL-20	–		–		–
HMP-16	–	–	–	–	HMBSZ-HMP-1 5 / 3.3-143
HMP-20	–	–	–	–	HMBSZ-HMP-2 5 / 3.3-143
HMP-25	–	–	–	–	HMBSZ-HMP-3 5 / 3.3-143

Pick & place

Y modules

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Mini slides SLT



Bill of materials												
Type		HMBSY-SLT-1		HMBSY-SLT-2		HMBSY-SLT-3		HMBSY-SLT-4		HMBSY-SLT-5		→ Page
For drives		SLT-16		SLT-20				SLT-25				
Stroke [mm]		30 ... 150		30 ... 100		125 ... 200		30 ... 100		125 ... 200		
Item	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	Part No.	Type	Part No.	Type	
[1]	1	539 968 HMOVY-1		539 969 HMOVY-2		–		539 969 HMOVY-2		–		5 / 3.3-192
[2]	1	–		–		539 970 HMOVY-3		–		539 970 HMOVY-3		
[3]	1	175 967 HMBV-ND		175 967 HMBV-ND		–		175 967 HMBV-ND		–		
[4]	2	–		–		175 967 HMBV-ND		–		175 967 HMBV-ND		
[5]	1 ¹⁾	175 958 HMBS-80/80		175 958 HMBS-80/80		175 958 HMBS-80/80		175 958 HMBS-80/80		175 958 HMBS-80/80		5 / 3.3-174
[6]	1	175 965 HMBSA-80/80		175 965 HMBSA-80/80		175 965 HMBSA-80/80		175 965 HMBSA-80/80		175 965 HMBSA-80/80		5 / 3.3-174
[7]	2	175 951 HMBF-DB		175 951 HMBF-DB		175 951 HMBF-DB		175 951 HMBF-DB		175 951 HMBF-DB		5 / 3.3-176
[8]	1	175 126 HMZV		175 126 HMZV		175 126 HMZV		175 126 HMZV		175 126 HMZV		5 / 3.3-211
[9]	1	193 124 HMZAS-PG-21		193 124 HMZAS-PG-21		193 124 HMZAS-PG-21		193 124 HMZAS-PG-21		193 124 HMZAS-PG-21		5 / 3.3-218
[10]	1	177 599 MKM-PG-21		177 599 MKM-PG-21		177 599 MKM-PG-21		177 599 MKM-PG-21		177 599 MKM-PG-21		5 / 3.3-217
[11]	2	177 572 MKRV-23-PG-21		177 572 MKRV-23-PG-21		177 572 MKRV-23-PG-21		177 572 MKRV-23-PG-21		177 572 MKRV-23-PG-21		5 / 3.3-212
[12]	1 ²⁾	177 567 MKR-23-PG-21		177 567 MKR-23-PG-21		177 567 MKR-23-PG-21		177 567 MKR-23-PG-21		177 567 MKR-23-PG-21		5 / 3.3-210
[13]	1	177 595 MKA-PG-29-PG-21		177 595 MKA-PG-29-PG-21		177 595 MKA-PG-29-PG-21		177 595 MKA-PG-29-PG-21		177 595 MKA-PG-29-PG-21		5 / 3.3-215

1) Height max. 500 mm

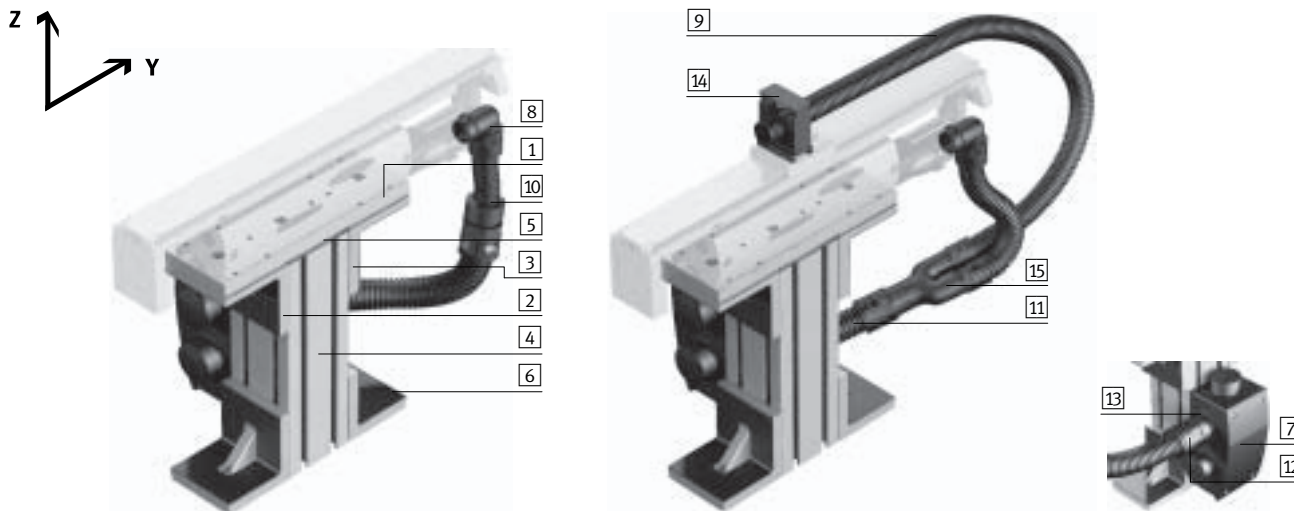
2) Length depends on the stroke of the drive

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		→ Page
For drives		HMPL-16				HMPL-20				
		without intermediate position		with intermediate position		without intermediate position		with intermediate position		
Item	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	Part No.	Type	
[1]	1	539 968 HMVY-1		539 968 HMVY-1		539 970 HMVY-3		539 970 HMVY-3		5 / 3.3-192
[2]	1	175 967 HMBV-ND		175 967 HMBV-ND		–		–		5 / 3.3-177
[3]	2	–		–		175 967 HMBV-ND		175 967 HMBV-ND		
[4]	1 ¹⁾	175 958 HMBS-80/80		175 958 HMBS-80/80		175 958 HMBS-80/80		175 958 HMBS-80/80		5 / 3.3-174
[5]	1	175 965 HMBSA-80/80		175 965 HMBSA-80/80		175 965 HMBSA-80/80		175 965 HMBSA-80/80		5 / 3.3-174
[6]	2	175 951 HMBF-DB		175 951 HMBF-DB		175 951 HMBF-DB		175 951 HMBF-DB		5 / 3.3-176
[7]	1	175 126 HMZV		175 126 HMZV		175 126 HMZV		175 126 HMZV		5 / 3.3-211
[8]	1	177 576 MKRL-16,5-PG-16		177 576 MKRL-16,5-PG-16		177 576 MKRL-16,5-PG-16		177 576 MKRL-16,5-PG-16		5 / 3.3-212
[9]	1 ²⁾	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		5 / 3.3-210
[10]	1	194 321 MKRT-23-16,5		–		194 321 MKRT-23-16,5		–		5 / 3.3-214
[11]	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 / 3.3-210
[12]	1	177 572 MKRV-23-PG-21		177 572 MKRV-23-PG-21		177 572 MKRV-23-PG-21		177 572 MKRV-23-PG-21		5 / 3.3-212
[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		5 / 3.3-215
[14]	1 ³⁾	–		192 289 MKRS-16,5-B		–		192 289 MKRS-16,5-B		5 / 3.3-217
[15]	1	–		193 946 MKY-PG-21-2PG-16		–		193 946 MKY-PG-21-2PG-16		5 / 3.3-214

1) Height max. 500 mm

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

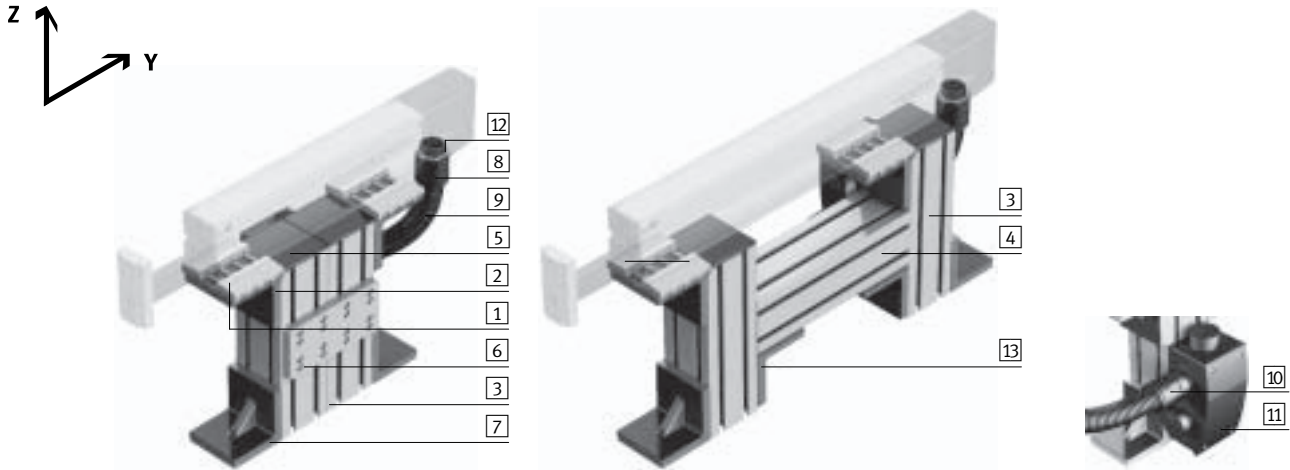
3) In order to be able to mount the retaining clip MKRS, a clamping component (1x code J) must be selected as an accessory in the order for the linear module HMPL.

Pick & place

Y modules

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Linear modules HMP



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

1) Height max. 500 mm

2) Length 250 mm

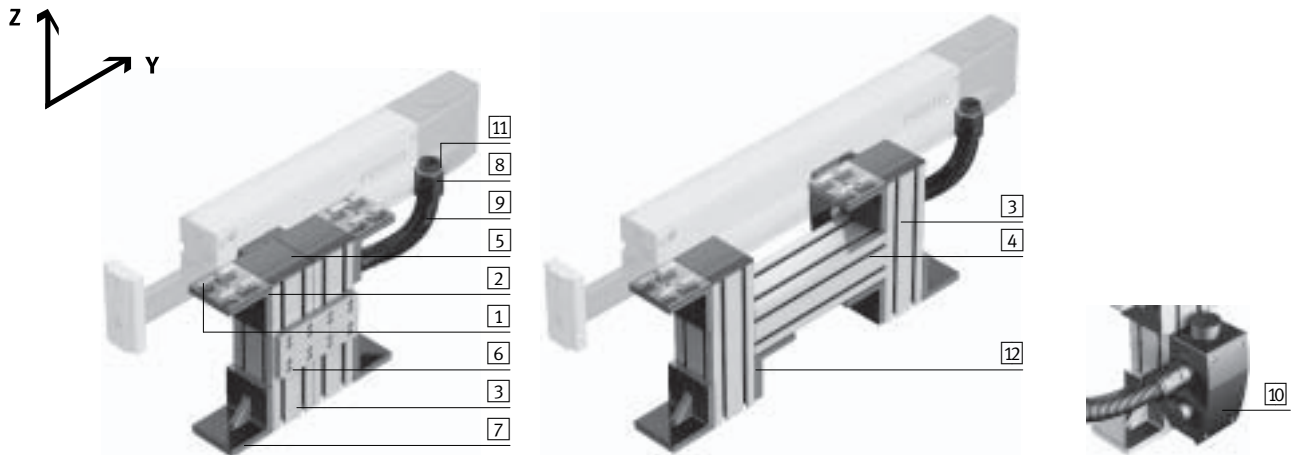
3) Length depends on the stroke of the drive

Pick & place

Y modules

FESTO

Linear modules HMP



Bill of materials										
Type		HMBSY-HMP-5		HMBSY-HMP-6		HMBSY-HMP-7		HMBSY-HMP-8		
For drives		HMP-25				HMP-32				
Stroke [mm]		100 ... 200		250 ... 400		100 ... 200		250 ... 400		
Item	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	Part No.	Type	
[1]	2	175 970 HMBK-ND		175 970 HMBK-ND		175 970 HMBK-ND		175 970 HMBK-ND		5 / 3.3-190
[2]	2	175 967 HMBV-ND		175 967 HMBV-ND		175 967 HMBV-ND		175 967 HMBV-ND		5 / 3.3-177
[3]	2 ¹⁾	175 958 HMBS-80/80		175 958 HMBS-80/80		175 958 HMBS-80/80		175 958 HMBS-80/80		5 / 3.3-174
[4]	1 ²⁾	–		175 958 HMBS-80/80		–		175 958 HMBS-80/80		
[5]	2	175 965 HMBSA-80/80		175 965 HMBSA-80/80		175 965 HMBSA-80/80		175 965 HMBSA-80/80		5 / 3.3-174
[6]	1	175 972 HMBSV		–		175 972 HMBSV		–		5 / 3.3-175
[7]	2	175 951 HMBF-DB		175 951 HMBF-DB		175 951 HMBF-DB		175 951 HMBF-DB		5 / 3.3-176
[8]	2	177 573 MKRV-29-PG-29		177 573 MKRV-29-PG-29		177 573 MKRV-29-PG-29		177 573 MKRV-29-PG-29		5 / 3.3-212
[9]	1 ³⁾	177 568 MKR-29-PG-29		177 568 MKR-29-PG-29		177 568 MKR-29-PG-29		177 568 MKR-29-PG-29		5 / 3.3-210
[10]	1	175 126 HMZV		175 126 HMZV		175 126 HMZV		175 126 HMZV		5 / 3.3-211
[11]	1	177 600 MKM-PG-29		177 600 MKM-PG-29		177 600 MKM-PG-29		177 600 MKM-PG-29		5 / 3.3-217
[12]	2	–		178 228 HMBSW		–		178 228 HMBSW		5 / 3.3-175

1) Height max. 500 mm

2) Length 350 mm

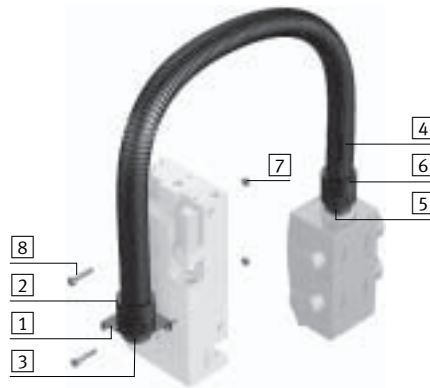
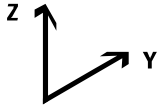
3) Length depends on the stroke of the drive

Pick & place

Z modules

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Mini slides SLT



Bill of materials								
Type		HMBSZ-SLT-1		HMBSZ-SLT-2		HMBSZ-SLT-3	→ Page	
For drives		SLT-10		SLT-16		SLT-20		
Item	Quantity	Part No.	Type	Part No.	Type	Part No.		Type
[1]	1	192 289		193 124		193 124		5 / 3.3-218
		MKRS-16,5-PG-9		HMZAS-PG-21		HMZAS-PG-21		
[2]	1	–		177 572		177 572		5 / 3.3-212
				MKRV-23-PG-21		MKRV-23-PG-21		
[3]	1	–		177 599		177 599		5 / 3.3-217
				MKM-PG-21		MKM-PG-21		
[4]	1 ¹⁾	177 566		177 567		177 567		5 / 3.3-210
		MKR-16,5-PG-16		MKR-23-PG-21		MKR-23-PG-21		
[5]	1	193 949		177 595		177 595		5 / 3.3-215
		MKA-PG-29-PG-16-KU		MKA-PG-29-PG-21		MKA-PG-29-PG-21		
[6]	1	177 571		177 572		177 572		5 / 3.3-212
		MKRV-16,5-PG-16		MKRV-23-PG-21		MKRV-23-PG-21		
[7]	– ²⁾	186 717		150 927		189 653		–
		ZBH-7		ZBH-9		ZBH-12		
[8]	2	M4x25 DIN 912		M5x30 DIN 912		M6x40 DIN 912		–

1) Length depends on the stroke of the drive

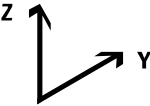
2) Centring sleeves are included in the scope of delivery of the mini slide SLT.

Pick & place

Z modules

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Mini slides SLT



Bill of materials								
Type		HMBSZ-SLT-4		HMBSZ-SLT-5		HMBSZ-SLT-6		
For drives		SLT-16		SLT-20		SLT-25		
Item	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	➔ Page
1	1	193 124		193 124		193 124		5 / 3.3-218
		HMZAS-PG-21		HMZAS-PG-21		HMZAS-PG-21		
2	2	177 572		177 572		177 572		5 / 3.3-212
		MKRV-23-PG-21		MKRV-23-PG-21		MKRV-23-PG-21		
3	1	177 599		177 599		177 599		5 / 3.3-217
		MKM-PG-21		MKM-PG-21		MKM-PG-21		
4	1 ¹⁾	177 567		177 567		177 567		5 / 3.3-210
		MKR-23-PG-21		MKR-23-PG-21		MKR-23-PG-21		
5	1	177 595		177 595		177 595		5 / 3.3-215
		MKA-PG-29-PG-21		MKA-PG-29-PG-21		MKA-PG-29-PG-21		
6	1	178 331		178 332		178 332		5 / 3.2-10
		HMSV-36		HMSV-37		HMSV-37		

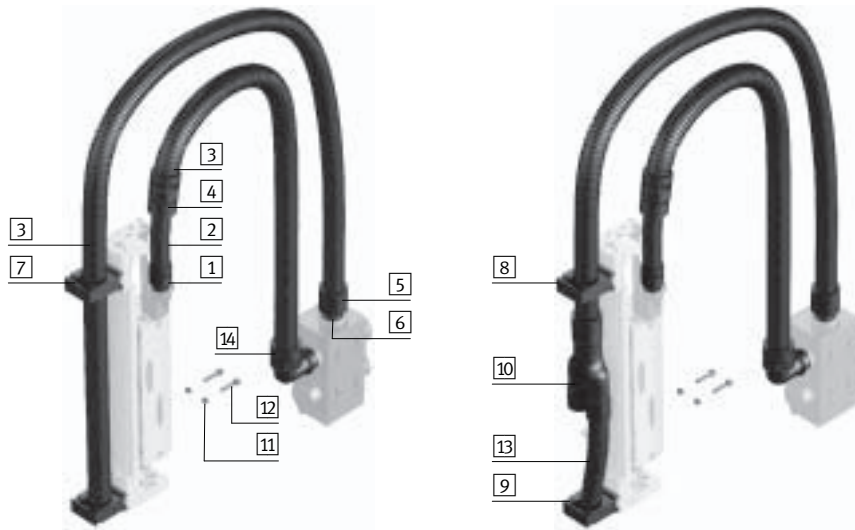
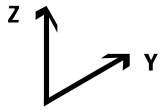
1) Length depends on the stroke of the drive

Pick & place

Z modules

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Linear modules HMPL



Bill of materials										
Type		HMBSZ-HMPL-1		HMBSZ-HMPL-2		HMBSZ-HMPL-3		HMBSZ-HMPL-4		
For drives		HMPL-12		HMPL-12		HMPL-16		HMPL-16		
		HMPL-16		HMPL-16		HMPL-20		HMPL-20		
		HMPL-20		HMPL-20						
		without intermediate position		with intermediate position		without intermediate position		with intermediate position		
Item	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	Part No.	Type	→ Page
[1]	1	177 571		177 571		177 571		177 571		5 / 3.3-212
		MKRV-16,5-PG-16		MKRV-16,5-PG-16		MKRV-16,5-PG-16		MKRV-16,5-PG-16		
[2]	1 ¹⁾	177 566		177 566		177 566		177 566		5 / 3.3-210
		MKR-16,5-PG-16		MKR-16,5-PG-16		MKR-16,5-PG-16		MKR-16,5-PG-16		
[3]	2 ¹⁾	177 567		177 567		177 567		177 567		
		MKR-23-PG-21		MKR-23-PG-21		MKR-23-PG-21		MKR-23-PG-21		
[4]	1	194 321		194 321		194 321		194 321		5 / 3.3-214
		MKRT-23-16,5		MKRT-23-16,5		MKRT-23-16,5		MKRT-23-16,5		
[5]	1	177 572		177 572		177 572		177 572		5 / 3.3-212
		MKRV-23-PG-21		MKRV-23-PG-21		MKRV-23-PG-21		MKRV-23-PG-21		
[6]	2	177 595		177 595		177 595		177 595		5 / 3.3-215
		MKA-PG-29-PG-21		MKA-PG-29-PG-21		MKA-PG-29-PG-21		MKA-PG-29-PG-21		
[7]	2 ²⁾	192 290		–		192 290		–		5 / 3.3-217
		MKRS-23-B				MKRS-23-B				
[8]	1 ²⁾	–		192 290		–		192 290		
				MKRS-23-B				MKRS-23-B		
[9]	1 ²⁾	–		192 289		–		192 289		
				MKRS-16,5-B				MKRS-16,5-B		
[10]	1	–		193 946		–		193 946		5 / 3.3-214
				MKY-PG-21-2PG-16				MKY-PG-21-2PG-16		
[11]	1 ³⁾	150 927		150 927		150 927		150 927		–
		ZBH-9		ZBH-9		ZBH-9		ZBH-9		
[12]	2	M5x16 DIN 912		M5x16 DIN 912		M5x22 DIN 912		M5x22 DIN 912		–
[13]	1 ¹⁾	–		177 566		–		177 566		5 / 3.3-210
				MKR-16,5-PG-16				MKR-16,5-PG-16		
[14]	1	177 577		177 577		177 577		177 577		5 / 3.3-213
		MKRL-23-PG-21		MKRL-23-PG-21		MKRL-23-PG-21		MKRL-23-PG-21		

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.

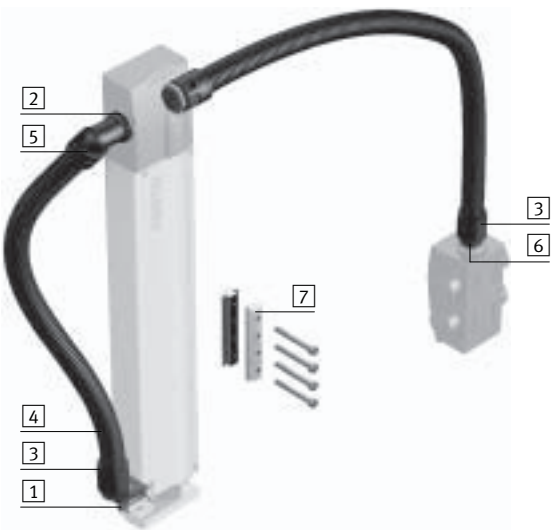
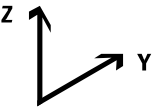
3) 10 per packaging unit

Pick & place

Z modules

FESTO

Linear modules HMP



Bill of materials							
Type		HMBSZ-HMP-1		HMBSZ-HMP-2		HMBSZ-HMP-3	
For drives		HMP-16		HMP-20		HMP-25	
Item	Quantity	Part No.	Type	Part No.	Type	Part No.	Type
1	1	193 124	HMZAS-PG-21	177 603	HMZAS-PG-29	177 603	HMZAS-PG-29
2	3	177 599	MKM-PG-21	177 600	MKM-PG-29	177 600	MKM-PG-29
3	3	177 572	MKRV-23-PG-21	177 573	MKRV-29-PG-29	177 573	MKRV-29-PG-29
4	2 ¹⁾	177 567	MKR-23-PG-21	177 568	MKR-29-PG-29	177 568	MKR-29-PG-29
5	1	177 577	MKRL-23-PG-21	177 578	MKRL-29-PG-29	177 578	MKRL-29-PG-29
6	1	177 595	MKA-PG-29-PG-21	–	–	–	–
7	1	177 647	HMSV-1	177 649	HMSV-3	177 653	HMSV-7

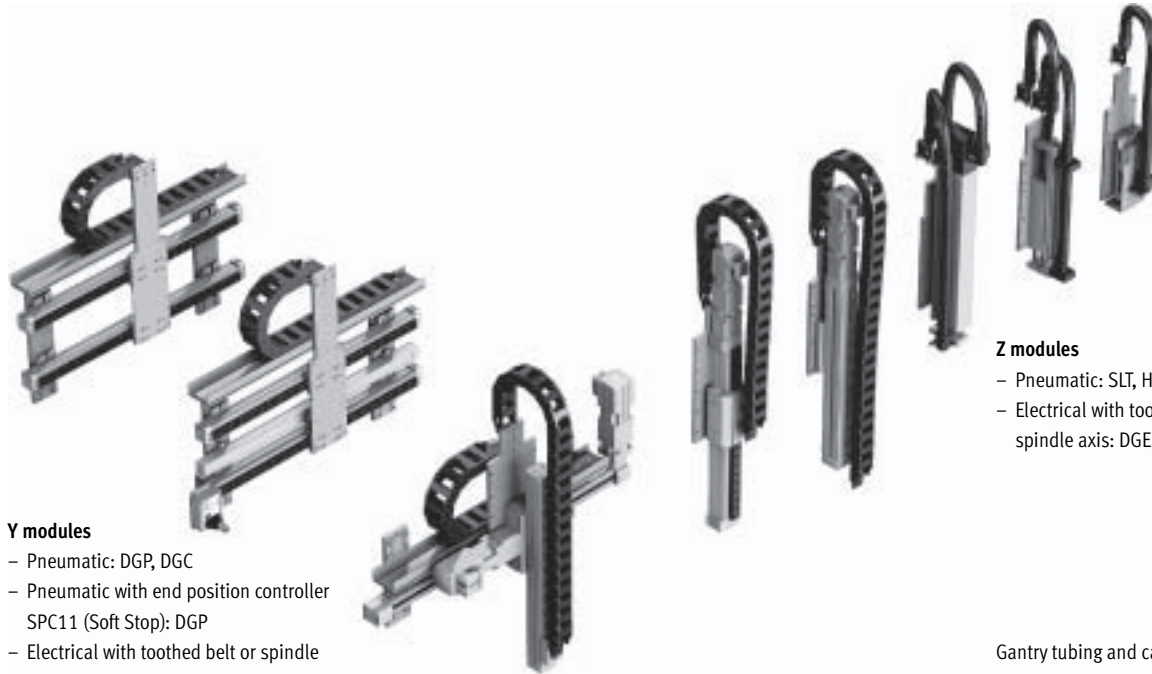
1) Length depends on the stroke of the drive

Linear gantries

Key features

FESTO

Y and Z modules



Y modules

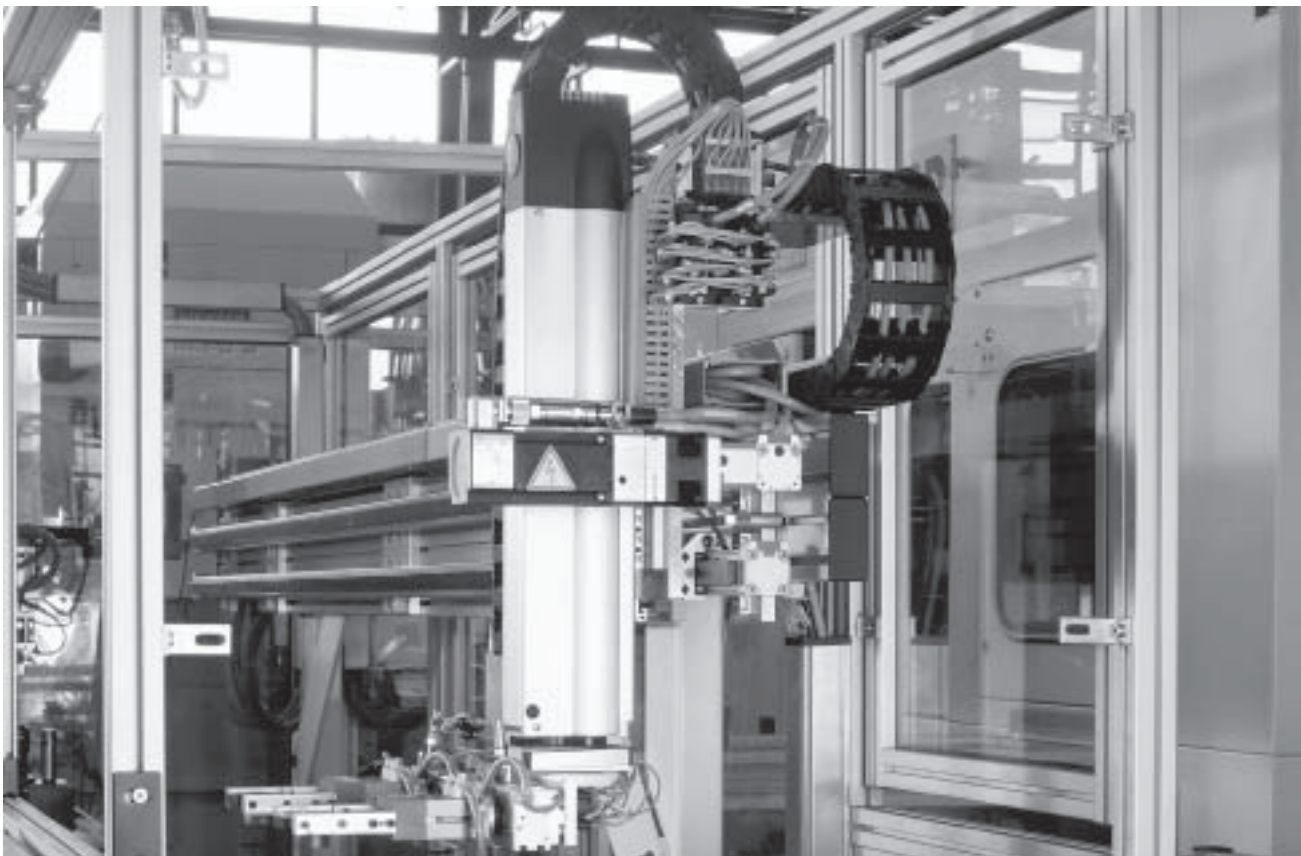
- Pneumatic: DGP, DGC
- Pneumatic with end position controller SPC11 (Soft Stop): DGP
- Electrical with toothed belt or spindle axis: DGE
- Single-axis systems (mono) or drives with guide axis (duo)

Z modules

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

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

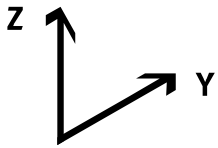
Application



Linear gantries

Product range overview

FESTO

Selection aid				
System type	Mono 25	Mono 40	Duo 25	Duo 40
				
Y-axis	DG...-25	DG...-40	DG...-25	DG...-40
Drive function	Pneumatic, pneumatic with end position controller SPC11 (Soft Stop) or electrical			
Options	Spindle or toothed belt axis			
Z-axis	SLT-16 HMPL-16	SLT-20 HMPL-20 HMP-16	SLT-25 HMP-20	HMP-25
Drive function	Pneumatic			
Options	Intermediate position with HMPL	Intermediate position with HMPL, HMP	Intermediate position with HMP	
Z-axis	DGEA-18	DGEA-18 DGE-25-SP-KF	DGEA-25 DGE-40-SP-KF	DGEA-25 DGE-40-SP-KF
Drive function	Electrical			
Options	–	Spindle or toothed belt axis	Spindle or toothed belt axis	
Working load [kg]				
	1	■	■	■
	2	■	■	■
	3	–	■	■
	4	–	■	■
	6	–	–	■
	10	–	–	–
→ Page	5 / 3.3-146			

 Note
 Applicable stroke ranges:
 → Volume 1

Linear gantries

Selection aid for basic, connection and installation components

FESTO

Y-axis				
System type	Mono 25	Mono 40	Duo 25	Duo 40
				
Pneumatic drives	Type			
DGPL-25	HMBSY-LP-M25-1 5 / 3.3-148	–	HMBSY-LP-D25-1 5 / 3.3-150	–
DGC-25	HMBSY-LP-M25-2 5 / 3.3-148	–	HMBSY-LP-D25-2 5 / 3.3-150	–
DGPL-25 with SPC11	HMBSY-LP-M25-3 5 / 3.3-148	–	HMBSY-LP-D25-3 5 / 3.3-150	–
DGPL-40	–	HMBSY-LP-M40-1 5 / 3.3-149	–	HMBSY-LP-D40-1 5 / 3.3-151
DGC-40	–	HMBSY-LP-M40-2 5 / 3.3-149	–	HMBSY-LP-D40-2 5 / 3.3-151
DGPL-40 with SPC11	–	HMBSY-LP-M40-3 5 / 3.3-149	–	HMBSY-LP-D40-3 5 / 3.3-151
Electrical drives	Type			
DGE-25 -SP-KF	HMBSY-LP-M25-1 5 / 3.3-148	–	HMBSY-LP-D25-1 5 / 3.3-150	–
-ZR-KF				
-ZR-RF	HMBSY-LP-M25-4 5 / 3.3-148	–	HMBSY-LP-D25-4 5 / 3.3-150	–
DGE-40 -SP-KF	–	HMBSY-LP-M40-1 5 / 3.3-149	–	HMBSY-LP-D40-1 5 / 3.3-151
-ZR-KF				
-ZR-RF				

Selection example:

Project engineering produced the following drive combination:

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

Step 1

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

Y-axis: HMBSY-LP-D25-4
→ 5 / 3.3-150
Z-axis: HMBSZ-SLT-7
→ 5 / 3.3-152

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

FESTO

Z-axis				
System type	Mono 25	Mono 40	Duo 25	Duo 40
				
Pneumatic drives	Type			
SLT-16	HMBSZ-SLT-7 5 / 3.3-152	–	–	–
SLT-20	–	HMBSZ-SLT-7 5 / 3.3-152	HMBSZ-SLT-7 5 / 3.3-152	–
SLT-25	–	–	HMBSZ-SLT-7 5 / 3.3-152	–
HMPL-16	HMBSZ-HMPL-5 HMBSZ-HMPL-6 5 / 3.3-153	–	–	–
HMPL-20	–	HMBSZ-HMPL-5 HMBSZ-HMPL-6 5 / 3.3-153	HMBSZ-HMPL-5 HMBSZ-HMPL-6 5 / 3.3-153	–
HMP-16	–	HMBSZ-HMP-4 5 / 3.3-154	HMBSZ-HMP-4 5 / 3.3-154	–
HMP-20	–	–	HMBSZ-HMP-5 5 / 3.3-154	–
HMP-25	–	–	–	HMBSZ-HMP-6 5 / 3.3-154
Electrical drives	Type			
DGEA-18	HMBSZ-DGEA-1 5 / 3.3-155	HMBSZ-DGEA-1 5 / 3.3-155	HMBSZ-DGEA-1 5 / 3.3-155	–
DGEA-25	–	–	HMBSZ-DGEA-2 5 / 3.3-155	HMBSZ-DGEA-3 5 / 3.3-155
DGE-25-SP	–	HMBSZ-DGE-1 5 / 3.3-156	HMBSZ-DGE-1 5 / 3.3-156	–
DGE-40-SP	–	–	HMBSZ-DGE-2 5 / 3.3-156	HMBSZ-DGE-3 5 / 3.3-156

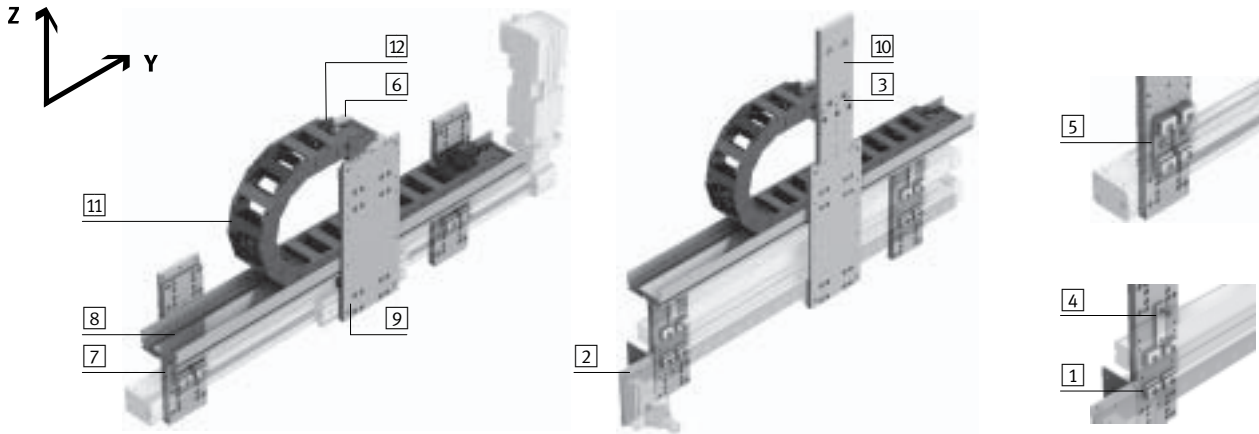
Linear gantries

Y modules

FESTO

Mono system

Toothed belt axes DGE, linear drives DGC, DGPL



Bill of materials										
Type		HMBSY-LP-M25-1		HMBSY-LP-M25-2		HMBSY-LP-M25-3		HMBSY-LP-M25-4		
For drives		DGPL-25 DGE-25-SP-KF DGE-25-ZR-KF		DGC-25		DGPL-25 with SPC11		DGE-25-ZR-RF		
System type		Mono 25								
Item	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	Part No.	Type	→ Page
1	2 ¹⁾	150 736		–		150 736		150 736		Volume 1
		MUP-18/25				MUP-18/25		MUP-18/25		
1	1 ¹⁾	–		531 753		–		–		Volume 1
				MUC-25						
2	1	–		–		539 367		–		5 / 3.3-201
3	1	–		–		539 364		–		5 / 3.3-226
						HMIM-LP				
4	1 ¹⁾	–		–		539 973		–		5 / 3.3-200
5	2 ¹⁾	–		–		–		539 362		5 / 3.3-200
								HMVO-RF25		
6	1	539 366		539 366		539 366		539 366		5 / 3.3-226
7	2 ²⁾	539 972		539 972		539 972		539 972		5 / 3.3-196
		HMVM-LP-DL25/40		HMVM-LP-DL25/40		HMVM-LP-DL25/40		HMVM-LP-DL25/40		
8	1 ³⁾	539 378		539 378		539 378		539 378		5 / 3.3-225
9	1	539 368		539 368		539 368		539 368		5 / 3.3-198
		HMVS-DL25		HMVS-DL25		HMVS-DL25		HMVS-DL25		
10	1	–		–		539 365		–		5 / 3.3-224
10						HMIZB-E03				
11	1	IGUS E2 medium 240.05.100 and 211 or KABELSCHLEPP MC 0320.60-01-100 and TS O/n _T 2								–
12	1	IGUS E2 medium 2050.12.PZB or KABELSCHLEPP MC FA/MA								–

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

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

3) Length depends on the stroke of the drive

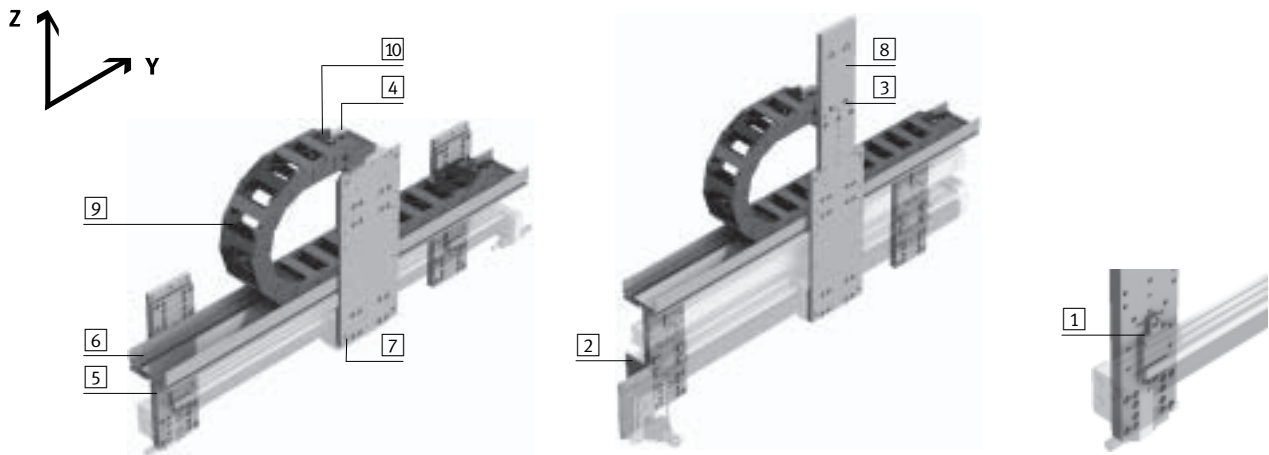
Linear gantries

Y modules

FESTO

Mono system

Toothed belt axes DGE, linear drives DGC, DGPL



Bill of materials							
Type		HMBSY-LP-M40-1		HMBSY-LP-M40-2		HMBSY-LP-M40-3	→ Page
For drives		DGPL-40		DGC-40		DGPL-40 with SPC11	
		DGE-40-SP-KF DGE-40-ZR-KF DGE-40-ZR-RF					
System type		Mono 40					
Item	Quantity	Part No.	Type	Part No.	Type	Part No.	Type
[1]	1 ¹⁾	–		531 755 MUC-40		–	
[2]	1	–		–		539 367 HMVW-SPC	5 / 3.3-201
[3]	1	–		–		539 364 HMIM-LP	5 / 3.3-226
[4]	1	539 366 HMIO-AP-1		540 121 HMIO-AP-2		539 366 HMIO-AP-1	5 / 3.3-226
[5]	2 ²⁾	539 972 HMVM-LP-DL25/40		539 972 HMVM-LP-DL25/40		539 972 HMVM-LP-DL25/40	5 / 3.3-196
[6]	1 ³⁾	539 378 HMIA-E05		539 378 HMIA-E05		539 378 HMIA-E05	5 / 3.3-225
[7]	1	539 369 HMVS-DL40		539 369 HMVS-DL40		539 369 HMVS-DL40	5 / 3.3-198
[8]	1	–		–		539 365 HMIZB-E03	5 / 3.3-224
[9]	1	IGUS E2 medium 240.05.100 and 211 or KABELSCHLEPP MC 0320.60-01-100 and TS O/nT2					–
[10]	1	IGUS E2 medium 2050.12.PZB or KABELSCHLEPP MC FA/MA					–

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

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

3) Length depends on the stroke of the drive

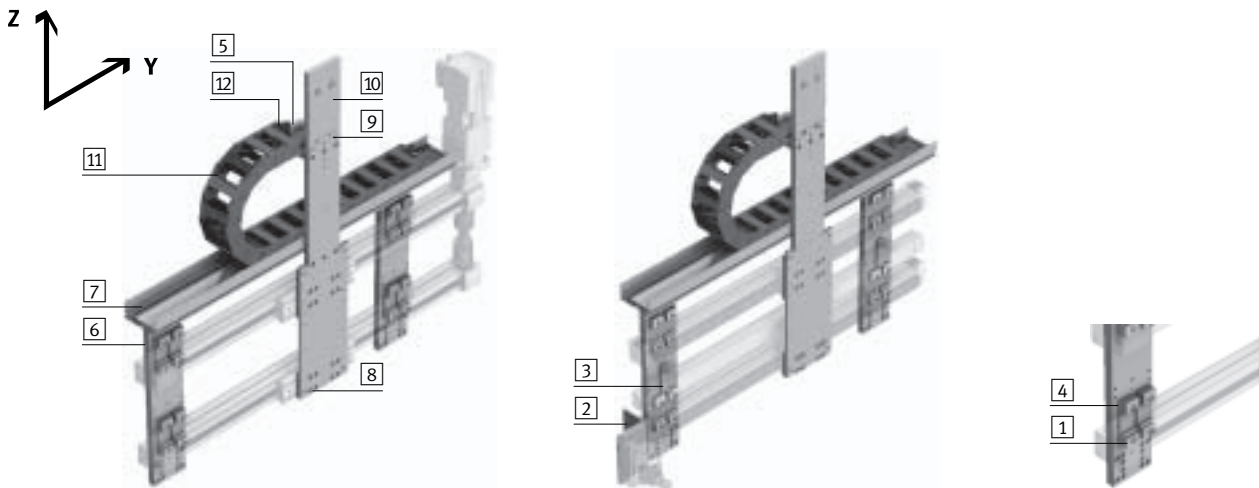
Linear gantries

Y modules

FESTO

Duo system

Toothed belt axes DGE, linear drives DGC, DGPL



Bill of materials										
Type		HMBSY-LP-D25-1		HMBSY-LP-D25-2		HMBSY-LP-D25-3		HMBSY-LP-D25-4		→ Page
For drives		DGPL-25 DGE-25-SP-KF DGE-25-ZR-KF		DGC-25		DGPL-25 with SPC11		DGE-25-ZR-RF		
System type		Duo 25								
Item	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	Part No.	Type	
1	4 ¹⁾	150 736		–		150 736		150 736		Volume 1
		MUP-18/25				MUP-18/25		MUP-18/25		
2	2 ¹⁾	–		531 753		–		–		Volume 1
				MUC-25						
2	1	–		–		539 367		–		5 / 3.3-201
3	1 ¹⁾	–		–		539 973		–		5 / 3.3-200
						HMVO-POT				
4	4 ¹⁾	–		–		–		539 362		5 / 3.3-200
5								HMVO-RF25		
	1	539 366		539 366		539 366		539 366		5 / 3.3-226
6		HMIO-AP-1		HMIO-AP-1		HMIO-AP-1		HMIO-AP-1		
	2 ²⁾	539 971		539 971		539 971		539 971		5 / 3.3-196
7		HMVD-LP-DL25/40		HMVD-LP-DL25/40		HMVD-LP-DL25/40		HMVD-LP-DL25/40		
	1 ³⁾	539 378		539 378		539 378		539 378		5 / 3.3-225
8		HMIA-E05		HMIA-E05		HMIA-E05		HMIA-E05		
	1	539 368		539 368		539 368		539 368		5 / 3.3-198
9		HMVS-DL25		HMVS-DL25		HMVS-DL25		HMVS-DL25		
	1	539 363		539 363		539 363		539 363		5 / 3.3-226
10		HMID-LP		HMID-LP		HMID-LP		HMID-LP		
	1	539 365		539 365		539 365		539 365		5 / 3.3-224
11		HMIZB-E03		HMIZB-E03		HMIZB-E03		HMIZB-E03		
	1	IGUS E2 medium 240.05.100 and 211 or KABELSCHLEPP MC 0320.60-01-100 and TS O/n _T 2								–
12	1	IGUS E2 medium 2050.12.PZB or KABELSCHLEPP MC FA/MA								–

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

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

3) Length depends on the stroke of the drive

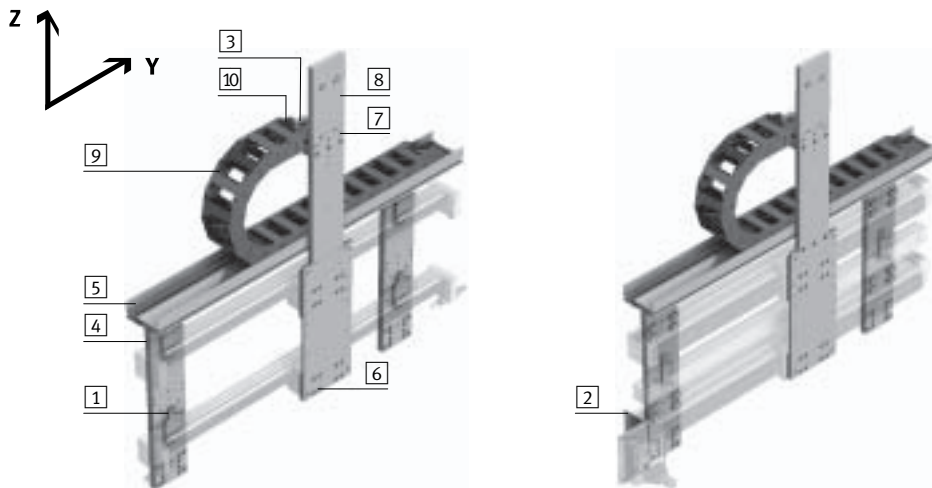
Linear gantries

Y modules

FESTO

Duo system

Toothed belt axes DGE, linear drives DGC, DGPL



Bill of materials								
Type		HMBSY-LP-D40-1		HMBSY-LP-D40-2		HMBSY-LP-D40-3		
For drives		DGPL-40 DGE-40-SP-KF DGE-40-ZR-KF DGE-40-ZR-RF		DGC-40		DGPL-40 with SPC11		
System type		Duo 40						
Item	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	→ Page
[1]	2 ¹⁾	–		531 755 MUC-40		–		Volume 1
[2]	1	–		–		539 367 HMVW-SPC		5 / 3.3-201
[3]	1	539 366 HMIO-AP-1		540 121 HMIO-AP-2		539 366 HMIO-AP-1		5 / 3.3-226
[4]	2 ²⁾	539 971 HMVD-LP-DL25/40		539 971 HMVD-LP-DL25/40		539 971 HMVD-LP-DL25/40		5 / 3.3-196
[5]	1 ³⁾	539 378 HMIA-E05		539 378 HMIA-E05		539 378 HMIA-E05		5 / 3.3-225
[6]	1	539 369 HMVS-DL40		539 369 HMVS-DL40		539 369 HMVS-DL40		5 / 3.3-198
[7]	1	539 363 HMID-LP		539 363 HMID-LP		539 363 HMID-LP		5 / 3.3-226
[8]	1	539 365 HMIZB-E03		539 365 HMIZB-E03		539 365 HMIZB-E03		5 / 3.3-224
[9]	1	IGUS E2 medium 240.05.100 and 211 or KABELSCHLEPP MC 0320.60-01-100 and TS O/n _T 2						–
[10]	1	IGUS E2 medium 2050.12.PZB or KABELSCHLEPP MC FA/MA						–

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

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

3) Length depends on the stroke of the drive

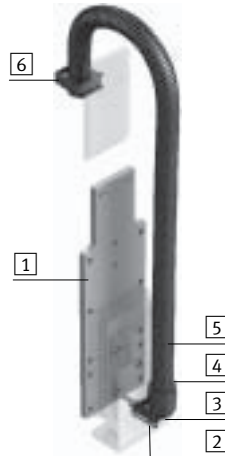
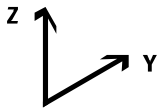
Linear gantries

Z modules

FESTO

Mono/Duo system

Mini slides SLT



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

1) Length depends on the stroke of the drive

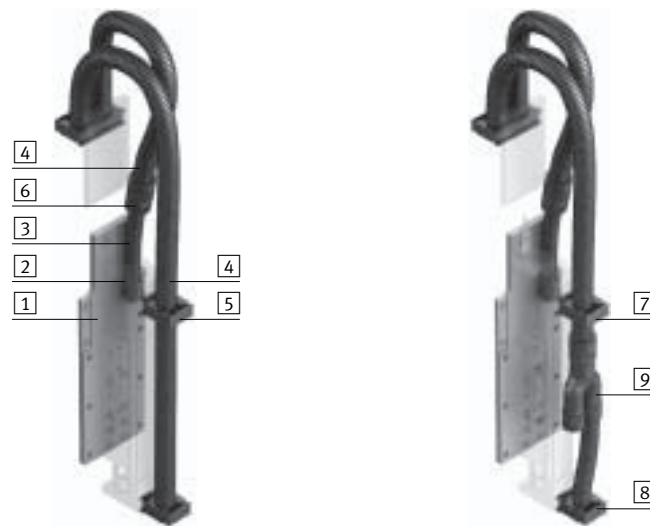
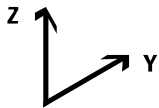
Linear gantries

Z modules

FESTO

Mono/Duo system

Linear modules HMPL



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

1) Length 200 mm

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

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

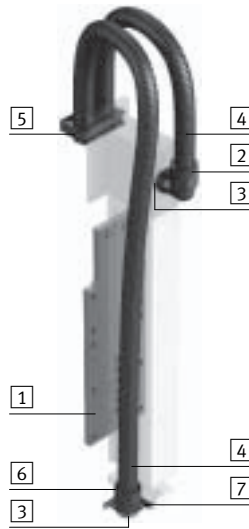
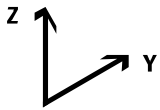
Linear gantries

Z modules

FESTO

Mono/Duo system

Linear modules HMP



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

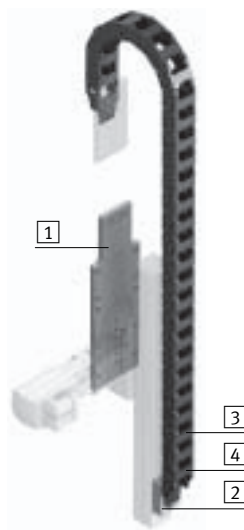
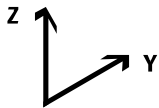
1) Length depends on the stroke of the drive

Linear gantries

Z modules

FESTO

Mono/Duo system
Cantilever axes DGEA



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

1) Length depends on the stroke of the drive

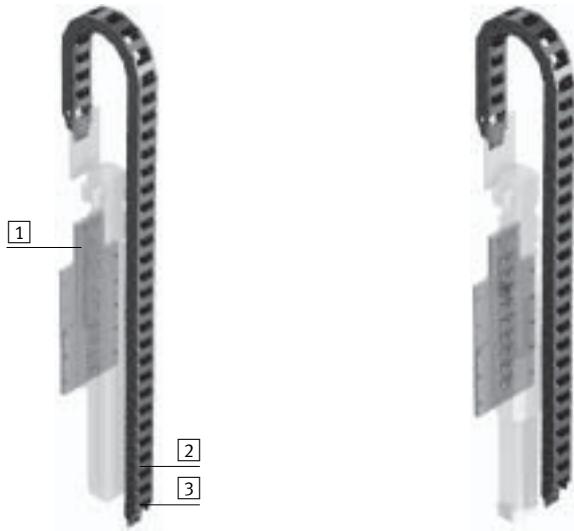
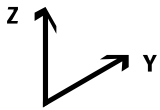
Linear gantries

Z modules

FESTO

Mono/Duo system

Spindle axes DGE



Bill of materials								
Type		HMBSZ-DGE-1		HMBSZ-DGE-2		HMBSZ-DGE-3		
For drives		DGE-25-SP		DGE-40-SP		DGE-40-SP		
System type		Mono 40 Duo 25		Duo 25		Duo 40		
Item	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	→ Page
[1]	1	539 374 HMVZ-3		539 375 HMVZ-4		539 377 HMVZ-6		5 / 3.3-199
[2]	1 ¹⁾	IGUS E2 medium 240.03.075.0 and 211 or KABELSCHLEPP MC 0320.40-01-77 and TS O/n _T 2						–
[3]	1	IGUS E2 medium 2030.12.PZB or KABELSCHLEPP MC FA/MA						–

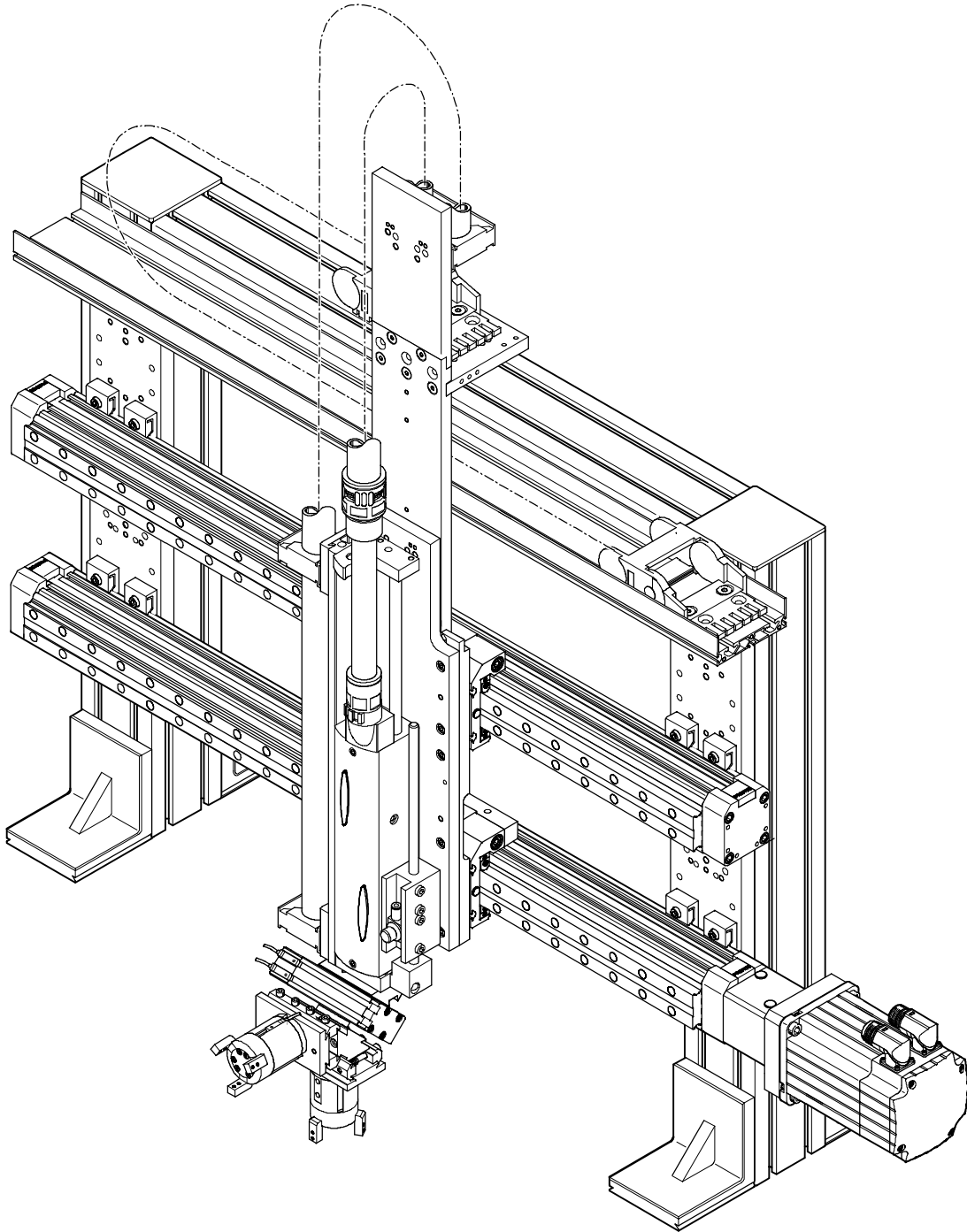
1) Length depends on the stroke of the drive

Linear gantries

System example

FESTO

Duo system DG/HMPL



System components
Multi-axis modular system

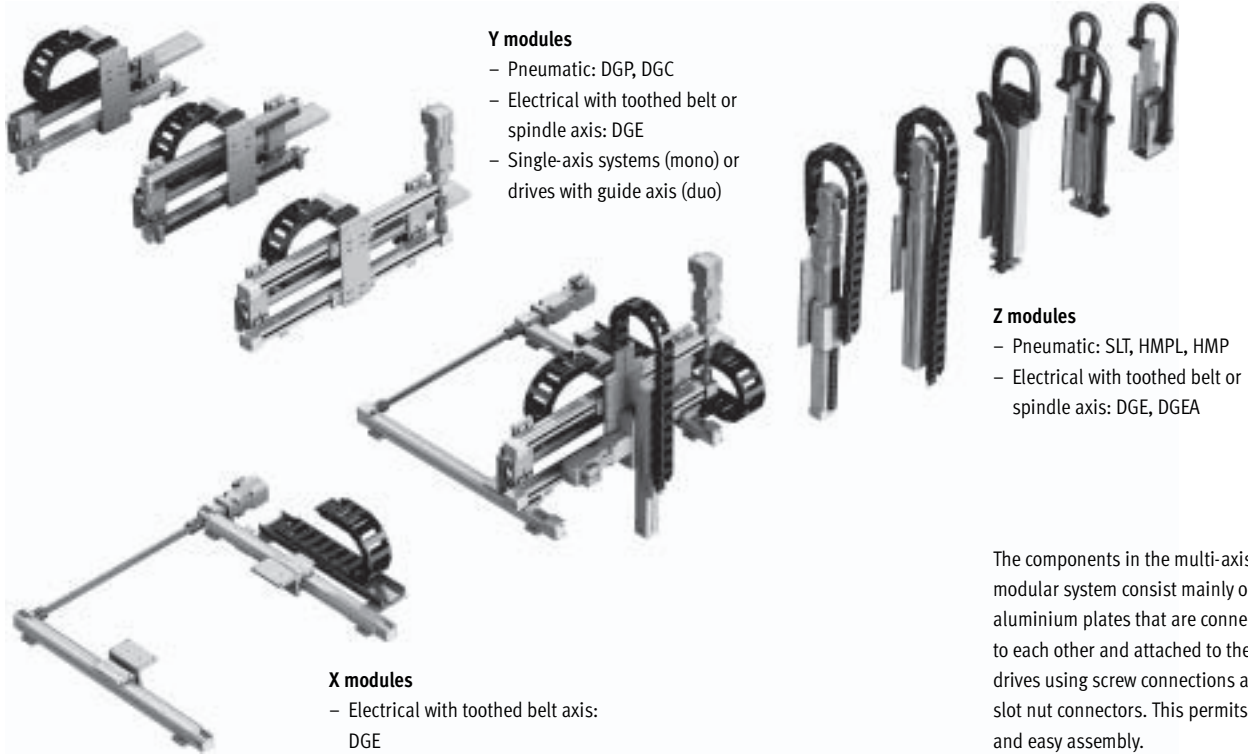
3.3

3-Dimensional gantries

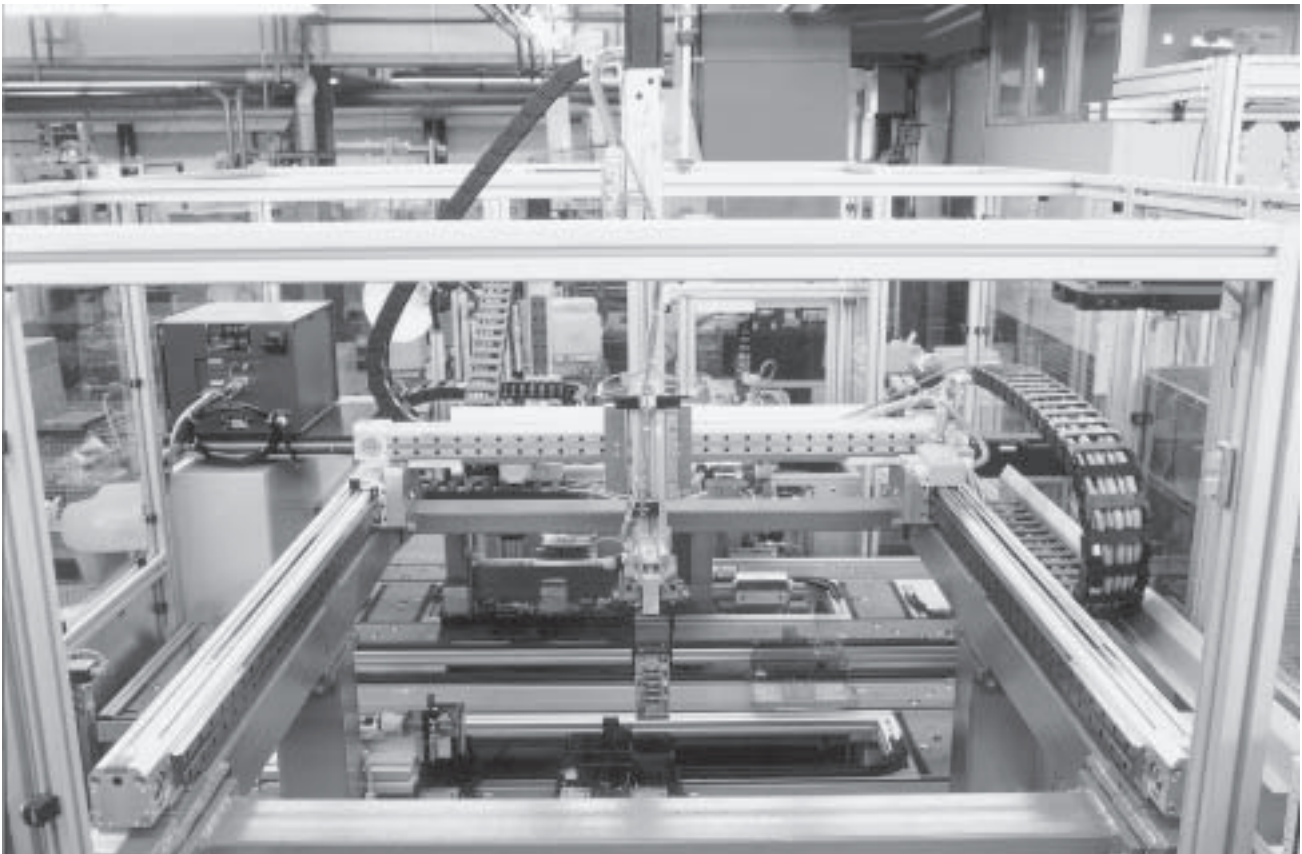
Key features

FESTO

X, Y and Z modules



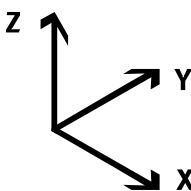
Application



3-Dimensional gantries

Product range overview

FESTO

Selection aid					
System type	Mono 25	Mono 40	Duo 25		Duo 40
					
X-axis	DGE-25-ZR	DGE-40-ZR	DGE-25-ZR	DGE-40-ZR	DGE-40-ZR
Drive function	Electrical				
Options	Ball bearing or roller guide				
Y-axis	DG...-25	DG...-40	DG...-25		DG...-40
					
Drive function	Pneumatic and electrical				
Options	Spindle or toothed belt axis				
Z-axis	SLT-16 HMPL-16	SLT-20 HMPL-20 HMP-16	SLT-25 HMP-20	HMP-25	
Drive function	Pneumatic				
Options	Intermediate position with HMPL	Intermediate position with HMPL, HMP		Intermediate position with HMP	
Z-axis	DGEA-18	DGEA-18 DGE-25-SP-KF	DGEA-25 DGE-40-SP-KF	DGEA-25 DGE-40-SP-KF	
Drive function	Electrical				
Options	–	Spindle or toothed belt axis		Spindle or toothed belt axis	
Working load [kg]					
	1	■	■	■	■
	2	■	■	■	■
	3	–	■	■	■
	4	–	■	■	■
	6	–	–	■	■
	10	–	–	–	■
→ Page	5 / 3.3-160				

-  - Note

Applicable stroke ranges:

→ Volume 1

3-Dimensional gantries

Selection aid for basic, connection and installation components

FESTO

X-axis					
System type		Mono 25	Mono 40	Duo 25	Duo 40
					
Electrical drives		Type			
DGE-25	-ZR-KF	HMBSX-RP/FP-25-1 5 / 3.3-163	HMBSX-RP/FP-25-1 5 / 3.3-163	HMBSX-RP/FP-25-1 5 / 3.3-163	–
	-ZR-RF	HMBSX-RP/FP-25-2 5 / 3.3-163	HMBSX-RP/FP-25-2 5 / 3.3-163	HMBSX-RP/FP-25-2 5 / 3.3-163	–
DGE-40	-ZR-KF	–	HMBSX-RP/FP-40-1 5 / 3.3-163	HMBSX-RP/FP-40-1 5 / 3.3-163	HMBSX-RP/FP-40-1 5 / 3.3-163
	-ZR-RF	–	HMBSX-RP/FP-40-2 5 / 3.3-163	HMBSX-RP/FP-40-2 5 / 3.3-163	HMBSX-RP/FP-40-2 5 / 3.3-163

Selection example:

Project engineering produced the following drive combination:

Step 1

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

Step 2

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

Step 3

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

X-axis: DGE-40-ZR-KF

X-axis: HMBSX-RP/FP-40-1
→ 5 / 3.3-163

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

Y-axis: Mono 40 system with DGC-40

Y-axis: HMBSY-RP/FP-M40-2
→ 5 / 3.3-164

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

Z-axis: HMPL-20 without intermediate position

Z-axis: HMBSZ-HMPL-5 or 6
→ 5 / 3.3-167

Z-axis: HMBSZ-HMPL-5

3-Dimensional gantries

Selection aid for basic, connection and installation components

FESTO

Y-axis				
System type	Mono 25	Mono 40	Duo 25	Duo 40
				
Pneumatic drives	Type			
DGPL-25	HMBSY-RP/FP-M25-1 5 / 3.3-164	–	HMBSY-RP/FP-D25-1 5 / 3.3-165	–
DGC-25	HMBSY-RP/FP-M25-2 5 / 3.3-164	–	HMBSY-RP/FP-D25-2 5 / 3.3-165	–
DGPL-40	–	HMBSY-RP/FP-M40-1 5 / 3.3-164	–	HMBSY-RP/FP-D40-1 5 / 3.3-165
DGC-40	–	HMBSY-RP/FP-M40-2 5 / 3.3-164	–	HMBSY-RP/FP-D40-2 5 / 3.3-165
Electrical drives	Type			
DGE-25 -SP-KF -ZR-KF -ZR-RF	HMBSY-RP/FP-M25-1 5 / 3.3-164	–	HMBSY-RP/FP-D25-1 5 / 3.3-165	–
DGE-40 -SP-KF -ZR-KF -ZR-RF	–	HMBSY-RP/FP-M40-1 5 / 3.3-164	–	HMBSY-RP/FP-D40-1 5 / 3.3-165

3-Dimensional gantries

Selection aid for basic, connection and installation components

FESTO



Z-axis				
System type	Mono 25	Mono 40	Duo 25	Duo 40
Pneumatic drives	Type			
SLT-16	HMBSZ-SLT-7 5 / 3.3-166	–	–	–
SLT-20	–	HMBSZ-SLT-7 5 / 3.3-166	HMBSZ-SLT-7 5 / 3.3-166	–
SLT-25	–	–	HMBSZ-SLT-7 5 / 3.3-166	–
HMPL-16	HMBSZ-HMPL-5 HMBSZ-HMPL-6 5 / 3.3-167	–	–	–
HMPL-20	–	HMBSZ-HMPL-5 HMBSZ-HMPL-6 5 / 3.3-167	HMBSZ-HMPL-5 HMBSZ-HMPL-6 5 / 3.3-167	–
HMP-16	–	HMBSZ-HMP-4 5 / 3.3-168	HMBSZ-HMP-4 5 / 3.3-168	–
HMP-20	–	–	HMBSZ-HMP-5 5 / 3.3-168	–
HMP-25	–	–	–	HMBSZ-HMP-6 5 / 3.3-168
Electrical drives	Type			
DGEA-18	HMBSZ-DGEA-1 5 / 3.3-169	HMBSZ-DGEA-1 5 / 3.3-169	HMBSZ-DGEA-1 5 / 3.3-169	–
DGEA-25	–	–	HMBSZ-DGEA-2 5 / 3.3-169	HMBSZ-DGEA-3 5 / 3.3-169
DGE-25-SP	–	HMBSZ-DGE-1 5 / 3.3-170	HMBSZ-DGE-1 5 / 3.3-170	–
DGE-40-SP	–	–	HMBSZ-DGE-2 5 / 3.3-170	HMBSZ-DGE-3 5 / 3.3-170

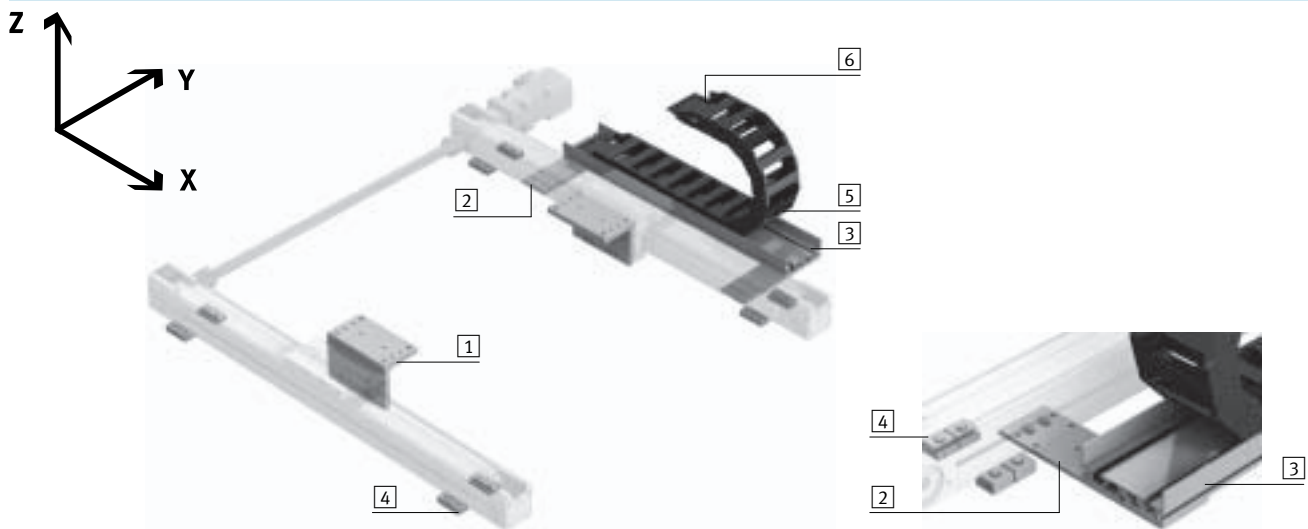
3-Dimensional gantries

X modules

FESTO

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
For drives		DGE-25-ZR-KF		DGE-25-ZR-RF		DGE-40-ZR-KF		DGE-40-ZR-RF		
Item	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	Part No.	Type	
[1]	1	539 651 HMVW-DL25		539 652 HMVS-RF25		540 325 HMVW-DL40		539 653 HMVS-RF40		5 / 3.3-193
[2]	2 ¹⁾	539 654 HMIXB-RP/FP		539 654 HMIXB-RP/FP		539 654 HMIXB-RP/FP		539 654 HMIXB-RP/FP		5 / 3.3-227
[3]	1 ²⁾	539 379 HMIA-E07		539 379 HMIA-E07		539 379 HMIA-E07		539 379 HMIA-E07		5 / 3.3-225
[4]	2 ³⁾	150 736 MUP-18/25		150 736 MUP-18/25		–		–		Volume 1
	1 ³⁾	–		–		150 738 MUP-40		150 738 MUP-40		Volume 1
[5]	1 ²⁾	IGUS E2 medium 240.07.100.0 and 211 or KABELSCHLEPP MC 0320.80-01 and TS O/η _T 2								–
[6]	1	IGUS E2 medium 2070.12.PZB or KABELSCHLEPP MC FA/MA								–

1) Quantity with stroke ≤ 500 mm. With stroke > 500 mm, an installation kit HMIXB-RP/FP must be additionally ordered per 500 mm stroke or part thereof.

2) Length depends on the stroke of the drive

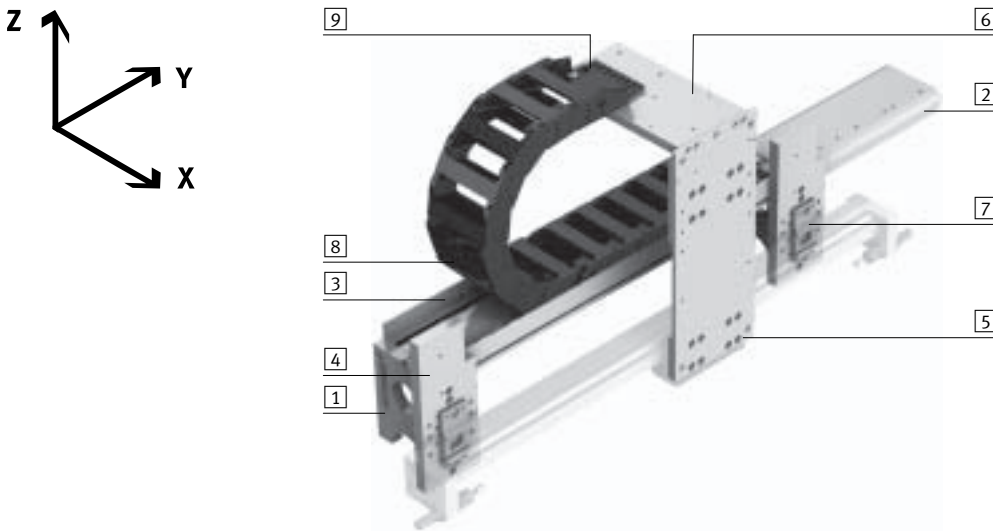
3) Every 500 mm per axis

3-Dimensional gantries

Y modules

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		DGC-25		DGE-40-SP-KF		DGC-40		
		DGE-25-ZR-KF				DGE-40-ZR-KF				
		DGE-25-ZR-RF				DGE-40-ZR-RF				
		DGPL-25				DGPL-40				
System type		Mono 25				Mono 40				
Item	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	Part No.	Type	➔ Page
[1]	2	539 657		539 657		539 657		539 657		5 / 3.3-195
		HMVV-RP/FP		HMVV-RP/FP		HMVV-RP/FP		HMVV-RP/FP		
[2]	1	539 658		539 658		539 658		539 658		5 / 3.3-195
		HMIXF-RP/FP		HMIXF-RP/FP		HMIXF-RP/FP		HMIXF-RP/FP		
[3]	1 ¹⁾	539 379		539 379		539 379		539 379		5 / 3.3-225
		HMIA-E07		HMIA-E07		HMIA-E07		HMIA-E07		
[4]	2 ³⁾	539 656		539 656		539 656		539 656		5 / 3.3-197
		HMVM-RP/FP-DL25/40		HMVM-RP/FP-DL25/40		HMVM-RP/FP-DL25/40		HMVM-RP/FP-DL25/40		
[5]	1	539 368		539 368		539 369		539 369		5 / 3.3-198
		HMVS-DL25		HMVS-DL25		HMVS-DL40		HMVS-DL40		
[6]	1	539 659		539 659		539 660		539 660		5 / 3.3-228
		HMIYF-RF/DL25		HMIYF-RF/DL25		HMIYF-RF/DL40		HMIYF-RF/DL40		
[7]	2 ²⁾	150 736		–		–		–		Volume 1
		MUP-18/25								
	1 ²⁾	–		531 753		–		531 755		Volume 1
				MUC-25				MUC-40		
	1 ²⁾	–		–		150 738		–		Volume 1
						MUP-40				
[8]	1 ¹⁾	IGUS E2 medium 240.07.100.0 and 211 or KABELSCHLEPP MC 0320.80-01 and TS O/n ₇ 2								–
[9]	1	IGUS E2 medium 2070.12.PZB or KABELSCHLEPP MC FA/MA								–

1) Length depends on the stroke of the drive

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

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

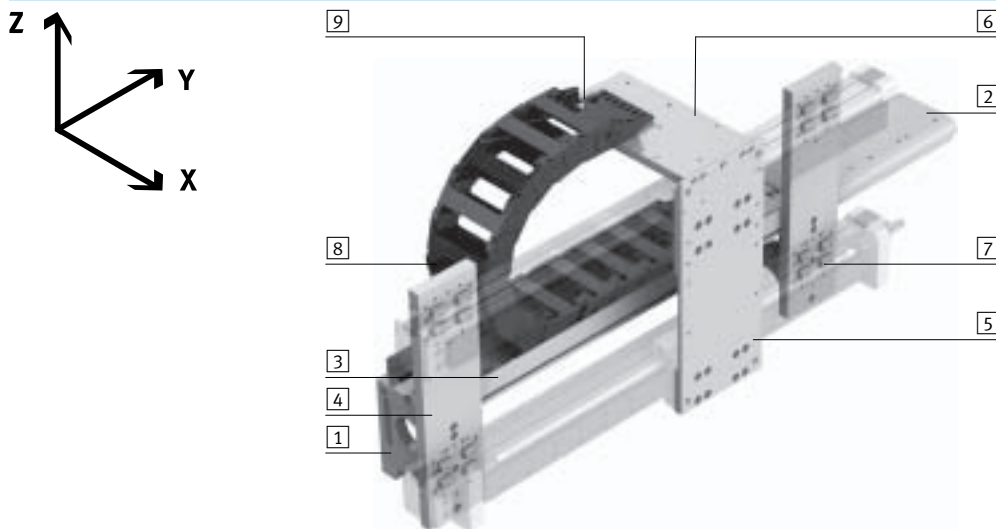
3-Dimensional gantries

Y modules

FESTO

Duo system

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



Bill of materials										
Type		HMBSY-RP/FP-D25-1		HMBSY-RP/FP-D25-2		HMBSY-RP/FP-D40-1		HMBSY-RP/FP-D40-2		
For drives		DGE-25-SP-KF DGE-25-ZR-KF DGE-25-ZR-RF DGPL-25		DGC-25		DGE-40-SP-KF DGE-40-ZR-KF DGE-40-ZR-RF DGPL-40		DGC-40		
System type		Duo 25				Duo 40				
Item	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	Part No.	Type	
[1]	2	539 657	HMVV-RP/FP	539 657	HMVV-RP/FP	539 657	HMVV-RP/FP	539 657	HMVV-RP/FP	5 / 3.3-195
[2]	1	539 658	HMIXF-RP/FP	539 658	HMIXF-RP/FP	539 658	HMIXF-RP/FP	539 658	HMIXF-RP/FP	5 / 3.3-195
[3]	1 ¹⁾	539 379	HMIA-E07	539 379	HMIA-E07	539 379	HMIA-E07	539 379	HMIA-E07	5 / 3.3-225
[4]	2 ³⁾	539 655	HMVD-RP/FP-DL25/40	539 655	HMVD-RP/FP-DL25/40	539 655	HMVD-RP/FP-DL25/40	539 655	HMVD-RP/FP-DL25/40	5 / 3.3-197
[5]	1	539 368	HMVS-DL25	539 368	HMVS-DL25	539 369	HMVS-DL40	539 369	HMVS-DL40	5 / 3.3-198
[6]	1	539 659	HMIYF-RF/DL25	539 659	HMIYF-RF/DL25	539 660	HMIYF-RF/DL40	539 660	HMIYF-RF/DL40	5 / 3.3-228
[7]	4 ²⁾	150 736	MUP-18/25	–		–		–		Volume 1
	2	–		531 753	MUC-25	–		531 755	MUC-40	Volume 1
[8]	1 ¹⁾	IGUS E2 medium 240.07.100.0 and 211 or KABELSCHLEPP MC 0320.80-01 and TS O/n ₂								–
[9]	1	IGUS E2 medium 2070.12.PZB or KABELSCHLEPP MC FA/MA								–

1) Length depends on the stroke of the drive

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

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

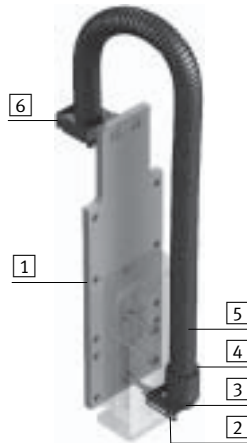
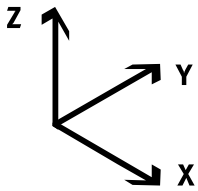
3-Dimensional gantries

Z modules

FESTO

Mono/Duo system

Mini slides SLT



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

1) Length depends on the stroke of the drive

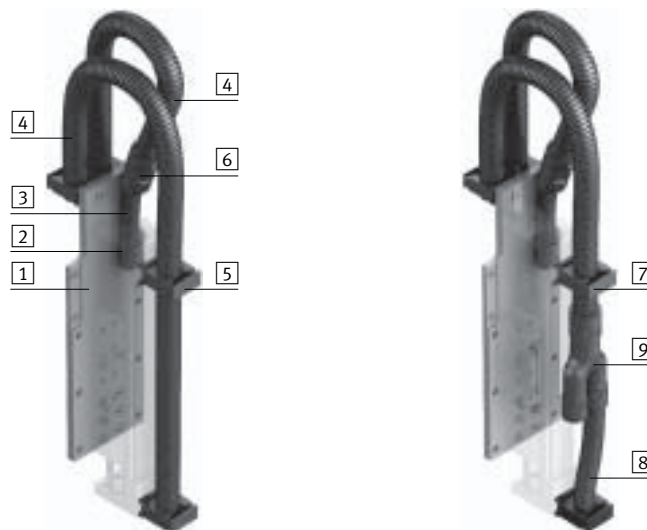
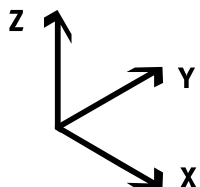
3-Dimensional gantries

Z modules

FESTO

Mono/Duo system

Linear modules HMPL



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

1) Length 200 mm

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

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

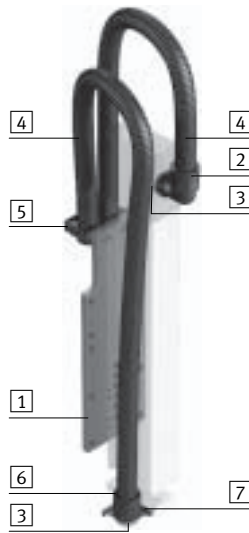
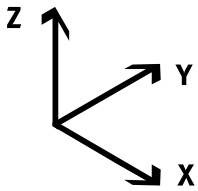
3-Dimensional gantries

Z modules

FESTO

Mono/Duo system

Linear modules HMP



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

1) Length depends on the stroke of the drive

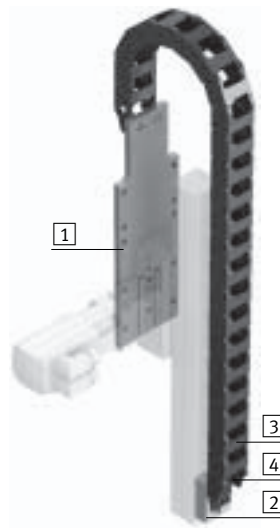
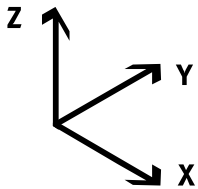
3-Dimensional gantries

Z modules

FESTO

Mono/Duo system

Cantilever axes DGEA



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

1) Length depends on the stroke of the drive

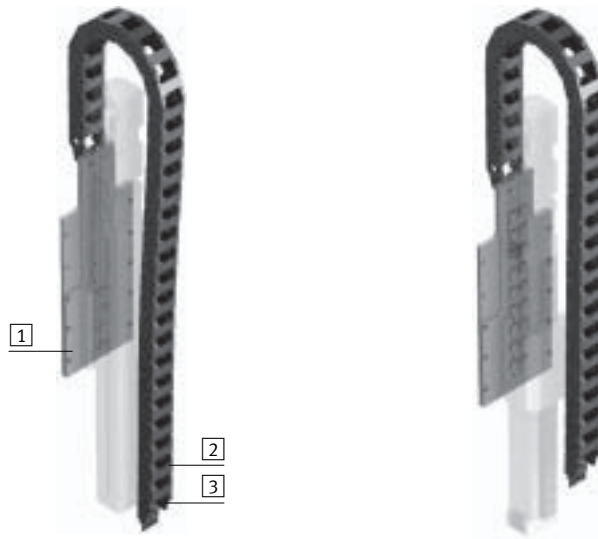
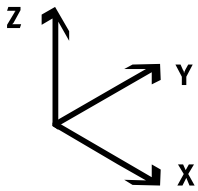
3-Dimensional gantries

Z modules

FESTO

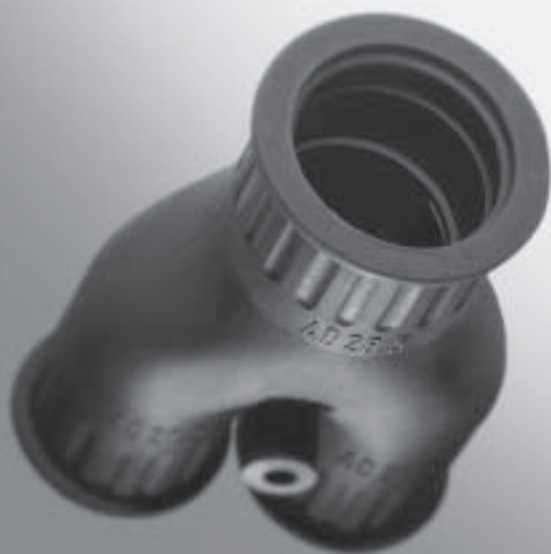
Mono/Duo system

Toothed belt axes DGE



Bill of materials								
Type		HMBSZ-DGE-1		HMBSZ-DGE-2		HMBSZ-DGE-3		
For drives		DGE-25-SP		DGE-40-SP		DGE-40-SP		
System type		Mono 40 Duo 25		Duo 25		Duo 40		
Item	Quantity	Part No.	Type	Part No.	Type	Part No.	Type	➔ Page
[1]	1	539 374 HMOV-3		539 375 HMOV-4		539 377 HMOV-6		5 / 3.3-199
[2]	1 ¹⁾	IGUS E2 medium 240.03.075.0 and 211 or KABELSCHLEPP MC 0320.40-01-77 and TS O/ηT2						–
[3]	1	IGUS E2 medium 2030.12.PZB or KABELSCHLEPP MC FA/MA						–

1) Length depends on the stroke of the drive

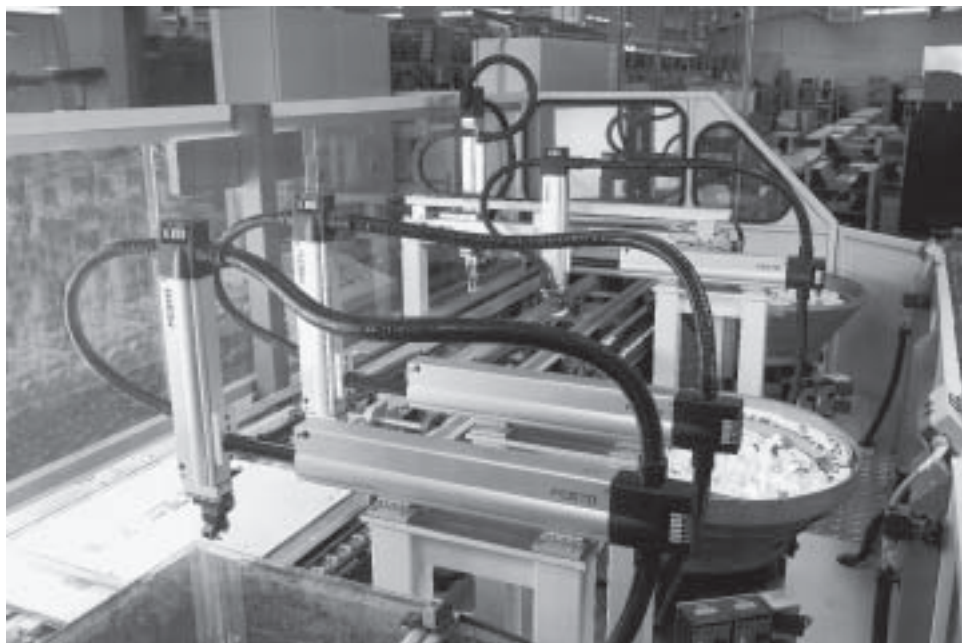


- Reliable guidance
- Rapid assembly and disassembly
- Low space requirement
- Low noise levels

Installation components, for short strokes

Key features

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



Protective conduit

MKR



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

Separable protective conduit

MKG



With separable connector

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

Junction box

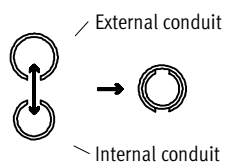
HMZV



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

Accessories

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

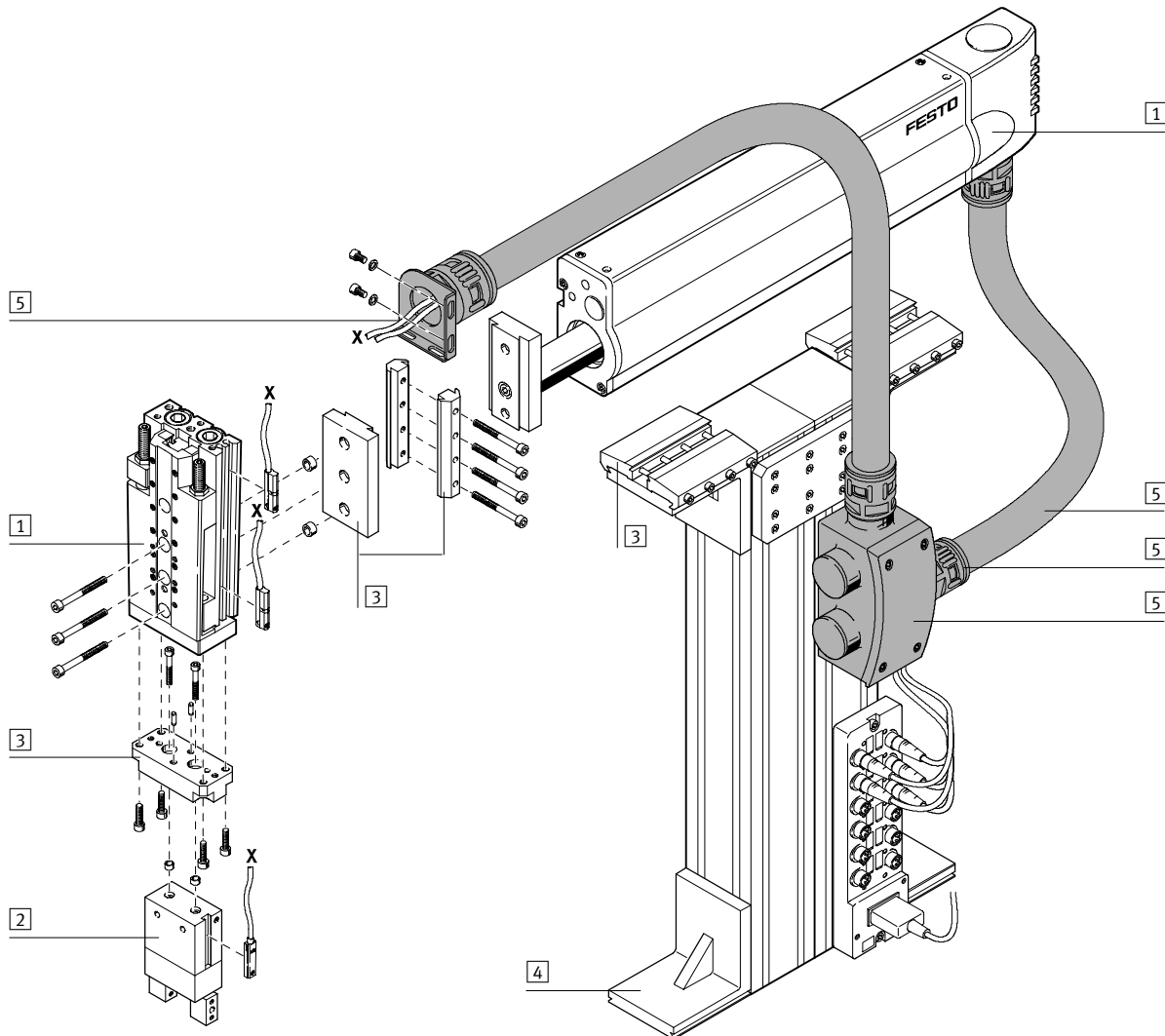


Installation components, for short strokes

System example

FESTO

System product for handling and assembly technology



System components
Multi-axis modular system

3.3

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

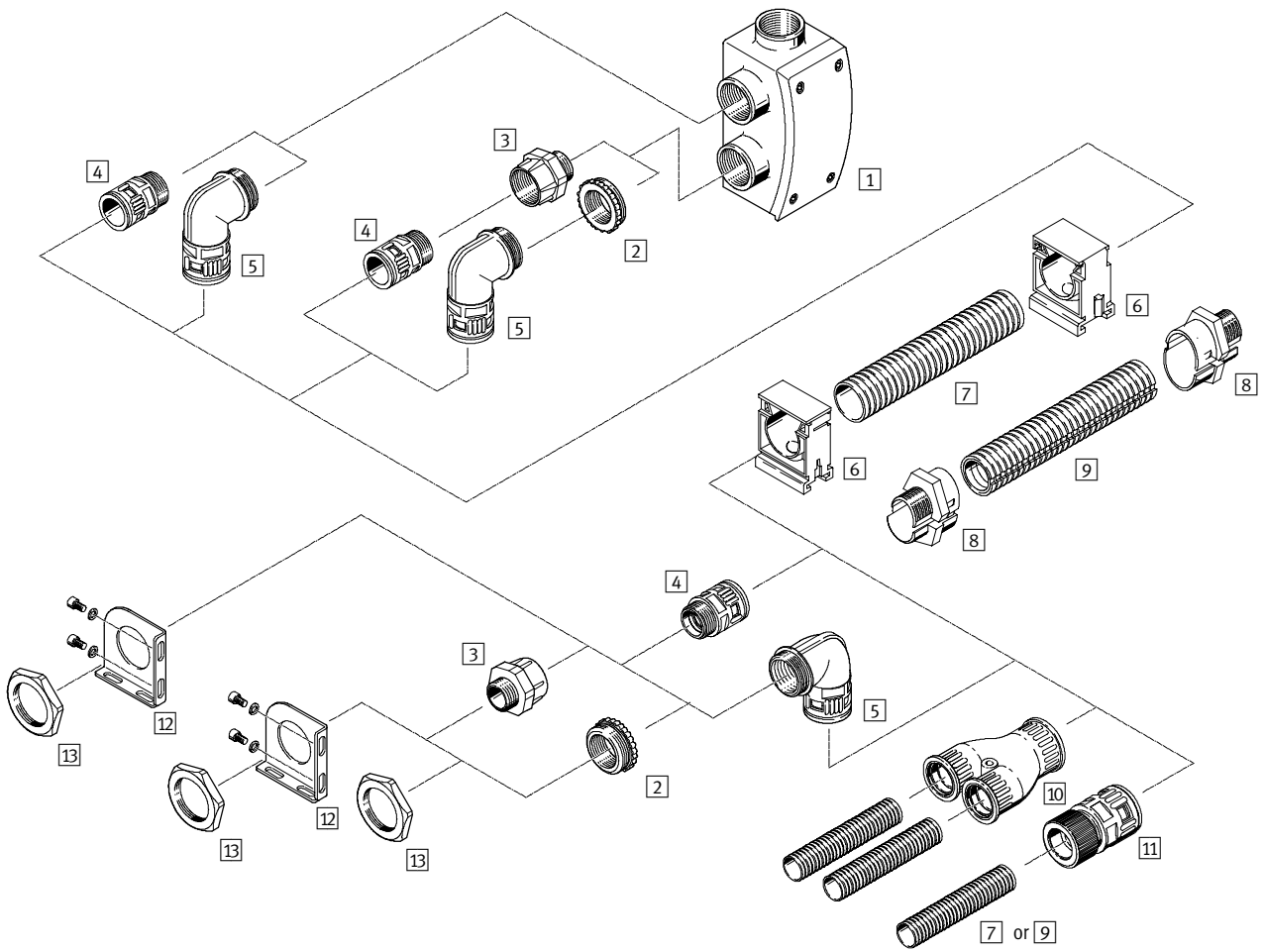
Installation components, for short strokes

Peripherals overview

FESTO

System components
Multi-axis modular system

3.3



Installation components, for short strokes

Peripherals overview

FESTO

Variants and accessories			
Type	Brief description		→ Page
1 Junction box HMZV	For bundling or distributing lines and tubing		5 / 3.3-211
2 Reducing connector MKA	For reducing thread size Material: Brass		5 / 3.3-215
3 Reducing connector MKA-KU	For reducing or enlarging thread size Material: Polyamide		5 / 3.3-216
4 Protective conduit connector MKRV	For securing the protective conduit		5 / 3.3-212
5 Elbow connector for protective conduit MKRL	For securing the protective conduit		5 / 3.3-213
6 Retaining clip MKRS	For securing the protective conduit over long distances		5 / 3.3-217
7 Protective conduit MKR	For protecting lines and tubing		5 / 3.3-210
8 Separable conduit connector MKG	For securing the protective conduit. The connector is separable so that lines and tubing in the system can be easily replaced.		5 / 3.3-215
9 Separable protective conduit MKG	For protecting lines and tubing. The conduit is separable so that lines and tubing in the system can be easily replaced.		5 / 3.3-211
10 Y distributor MKY	For distributing lines and tubing		5 / 3.3-214
11 Protective conduit connector MKRT	The protective conduits (different sizes) can be pushed into one another by releasing the connector. This permits easy replacement of lines and tubing.		5 / 3.3-214
12 Adapter plate HMZAS	For securing protective conduit connectors at the drive		5 / 3.3-218
13 Lock nut MKM	For securing connectors at adapter plates		5 / 3.3-217

Installation components, for short strokes

Selection aid

FESTO

Accessories		Protective conduit						Junction box	→ Page
		MKR				MKG, separable		HMZV	
									
Connecting thread		Pg 9	Pg 11	Pg 16	Pg 21	Pg 29	Pg 21	Pg 29	Pg 29
Protective conduit connector MKRV									
	Pg 9	■	–	–	–	–	–	–	5 / 3.3-212
	Pg 11	–	■	–	–	–	–	–	
	Pg 16	–	–	■	–	–	–	–	
	Pg 21	–	–	–	■	–	–	–	
	Pg 29	–	–	–	–	■	–	■	
Elbow connector for protective conduit MKRL									
	Pg 9	■	–	–	–	–	–	–	5 / 3.3-213
	Pg 11	–	■	–	–	–	–	–	
	Pg 16	–	–	■	–	–	–	–	
	Pg 21	–	–	–	■	–	–	–	
	Pg 29	–	–	–	–	■	–	■	
Y distributor MKY									
	Pg 21	–	–	–	■	–	–	–	5 / 3.3-214
	Pg 29	–	–	–	–	■	–	–	
Protective conduit connector MKRT									
	Pg 16	–	–	■	■	–	–	–	5 / 3.3-214
	Pg 21	–	–	■	■	–	–	–	
Protective conduit connector MKGV, separable									
	Pg 21	–	–	–	–	–	■	–	5 / 3.3-215
	Pg 29	–	–	–	–	–	–	■ ■	
Reducing connector MKA									
	Pg 29	–	–	–	–	–	–	– ■	5 / 3.3-215
Reducing connector MKA-KU									
	Pg 29	–	–	–	–	–	–	– ■	5 / 3.3-216
Technical data → Page		5 / 3.3-210				5 / 3.3-211		5 / 3.3-211	

Installation components, for short strokes

Selection aid

FESTO

Accessories		Protective conduit						Junction box	→ Page
		MKR				MKG, separable		HMZV	
									
Connecting thread		Pg 9	Pg 11	Pg 16	Pg 21	Pg 29	Pg 21	Pg 29	Pg 29
Lock nut MKM									
	Pg 9	■	–	–	–	–	–	–	5 / 3.3-217
	Pg 11	–	■	–	–	–	–	–	
	Pg 16	–	–	■	–	–	–	–	
	Pg 21	–	–	–	■	–	■	–	
	Pg 29	–	–	–	–	■	–	■	
Retaining clip MKRS									
	Pg 9	■	–	–	–	–	–	–	5 / 3.3-217
	Pg 11	–	■	–	–	–	–	–	
	Pg 16	–	–	■	–	–	–	–	
	Pg 21	–	–	–	■	–	■	–	
	Pg 29	–	–	–	–	■	–	■	
Adapter plate HMZAS									
	For connecting thread Pg 21 and Pg 29								5 / 3.3-218
Technical data → Page		5 / 3.3-210				5 / 3.3-211		5 / 3.3-211	

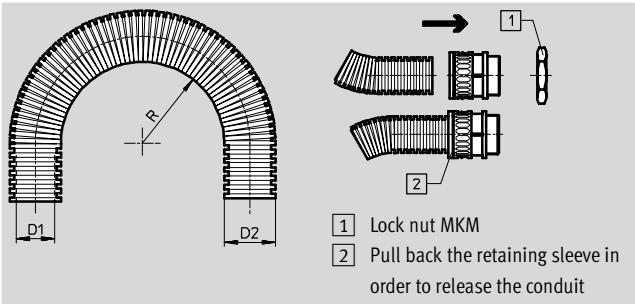
Installation components, for short strokes

Technical data



Protective conduit MKR for Pg connecting thread

Material:
Polyamide
Free of copper, PTFE and silicone



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

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

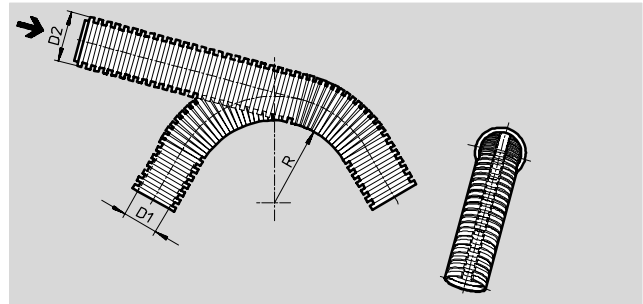
Installation components, for short strokes

Technical data

FESTO

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		

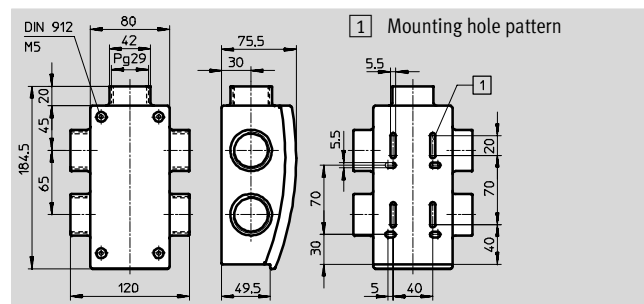
Pg connecting thread	Mounting position	Corrosion resistance CRC ¹⁾	Weight [g/m]	Part No.	Type
Pg 21	Any	2	82	177 588	MKG-20-PG-21
Pg 29			123	177 589	MKG-23-PG-29
			195	177 590	MKG-37-PG-29

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

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

Junction box HMZV with mounting kit for profile column HMBS

Material:
Polyamide
Free of copper, PTFE and silicone



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

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

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

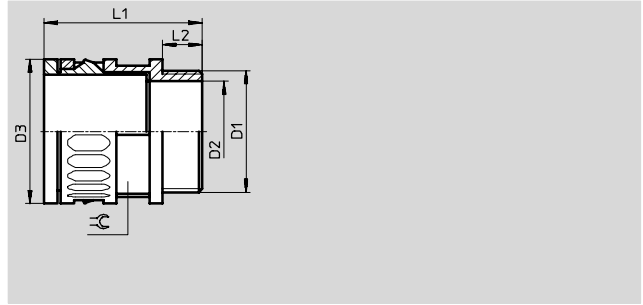
Installation components, for short strokes

Technical data

FESTO

Protective conduit connector MKRV

Material:
Polyamide
Free of copper, PTFE and silicone



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

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

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

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

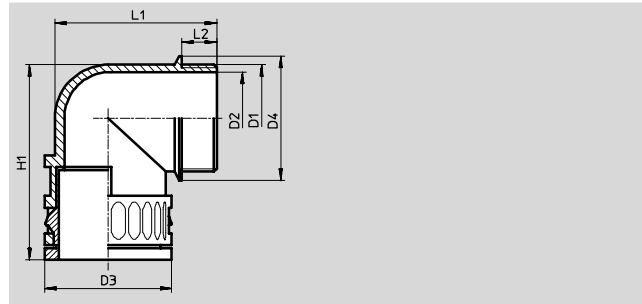
Installation components, for short strokes

Technical data

FESTO

Elbow connector for protective conduit MKRL

Material:
Polyamide
Free of copper, PTFE and silicone



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

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

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

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

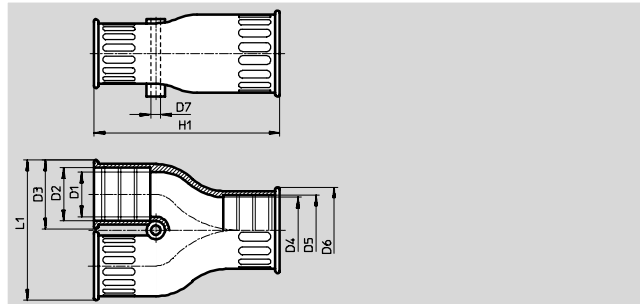
Installation components, for short strokes

Technical data

FESTO

Y distributor MKY

Material:
Thermoplastic rubber
Free of copper, PTFE and silicone



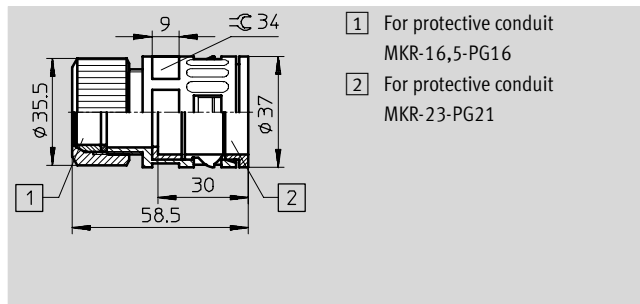
Dimensions and ordering data							
Pg connecting thread D1	D2	D3	D4	D5	D6	D7	H1
Ø	Ø	Ø	Ø	Ø	Ø	Ø	
Pg 21	21.2	29.5	25.5	28.5	36.5	4	81.5
Pg 29	28.5	36.5	31.5	34.5	42.5		86

Pg connecting thread D1	L1	Temperature range [°C]	Protection class	Mounting position	Corrosion resistance 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 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents.

Protective conduit connector MKRT

Material:
Polyamide
Free of copper, PTFE and silicone



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

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

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

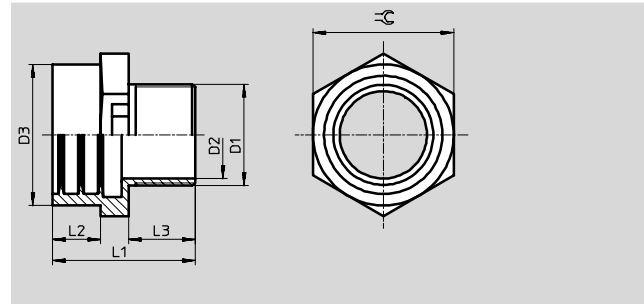
Installation components, for short strokes

Technical data

FESTO

Protective conduit connector MKGV, separable

Material:
Polyamide
Free of copper, PTFE and silicone



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

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

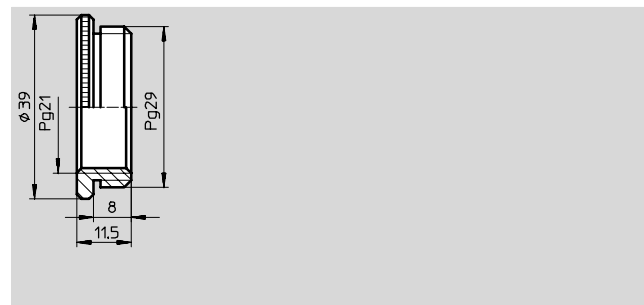
1) Corrosion resistance class 2 according to Festo standard 940 070

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

Reducing connector MKA

For reducing Pg 29 to Pg 21

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



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

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

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

Installation components, for short strokes

Technical data

FESTO

Reducing connector MKA-KU

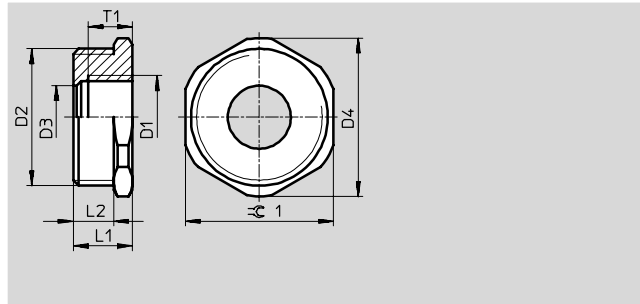
For reducing Pg 21 to Pg 16

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 Ø	D4 Ø	L1	L2	T1 Ø
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	Corrosion resistance CRC ¹⁾	Weight [g]	Part No.	Type
Pg 21/Pg 16	81.5	-30 ... +80	IP 50	Any	2	8	193 948	MKA-PG-21-PG-16-KU
Pg 29/Pg 16	86					12	193 949	MKA-PG-29-PG-16-KU

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

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

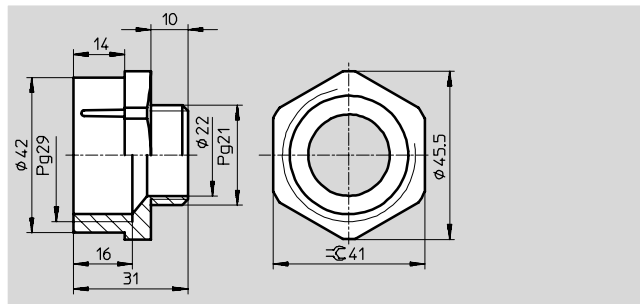
Reducing connector MKA-KU

For enlarging Pg 21 to Pg 29

Material:

Polyamide

Free of copper, PTFE and silicone



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

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

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

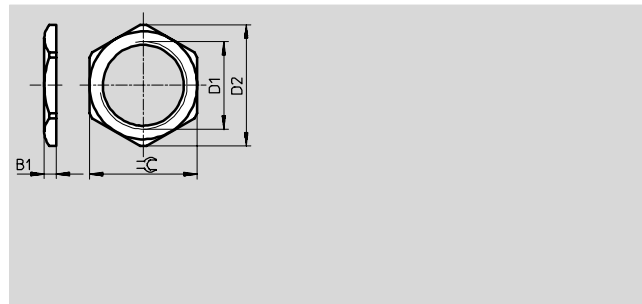
Installation components, for short strokes

Technical data

FESTO

Lock nut MKM

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



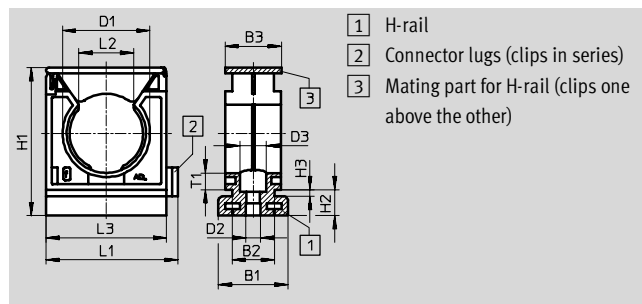
Dimensions and ordering data								
Pg connecting thread D1	D2	D3	$\approx \text{C}$	Mounting position	Corrosion resistance CRC ¹⁾	Weight [g]	Part No.	Type
$\varnothing$	$\varnothing$	$\varnothing$						
Pg 9	20	2.8	18	Any	2	2	177 596	MKM-PG-9
Pg 11	23.5	3	21			3	177 597	MKM-PG-11
Pg 16	29		26			5	177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

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

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

Retaining clip MKRS

Material:
Polyamide
Free of copper, PTFE and silicone



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

Pg connecting thread	L2	L3	T1	Temperature range [°C]	Corrosion resistance CRC ¹⁾	Weight [g]	Part No.	Type
Pg 9	8.5	26	5.7	-30 ... +80	2	5	192 287	MKRS-10-B
Pg 11	10					6	192 288	MKRS-12-B
Pg 16	16.6	32.5	6.8			8	192 289	MKRS-16,5-B
Pg 21	20	43.5				12	192 290	MKRS-23-B
Pg 29	25.5					14	192 291	MKRS-29-B

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

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

Installation components, for short strokes

Technical data

FESTO

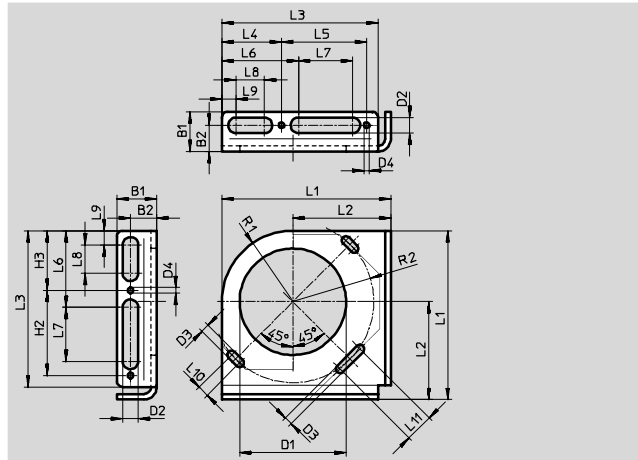
Installation kit HMZAS

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

Material:

Powder coated steel

Free of copper, PTFE and silicone



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

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

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

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