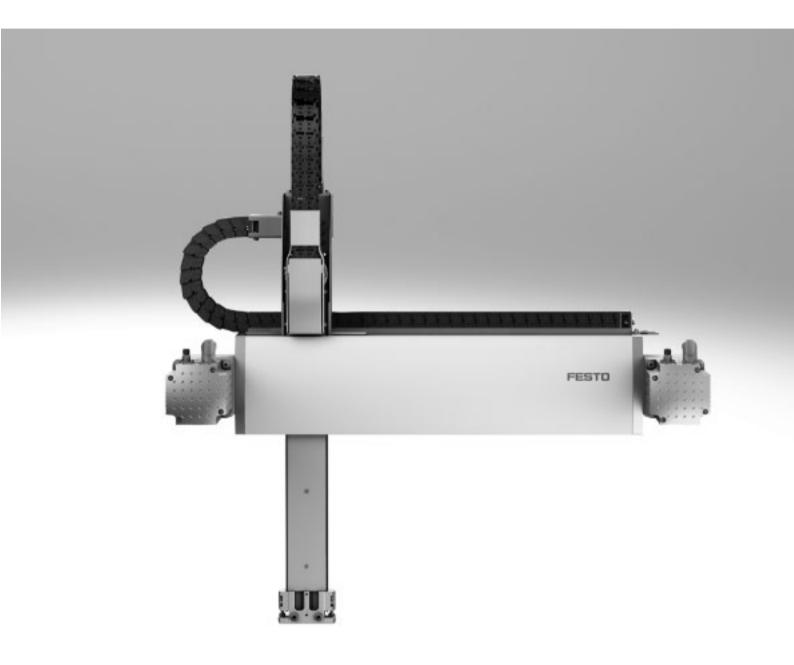
Linear gantries EXCT

FESTO



Linear gantries EXCT

FESTO

Key features

At a glance

General

- Optimal dynamic response when compared with other Cartesian gantry systems
- The drive concept ensures low moving dead weight
- Flat system design
- Perfectly matched drive and controller package
- High acceleration in both axial directions
- Interface for many grippers from Festo

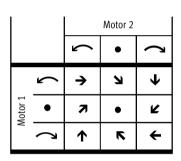
Application examples

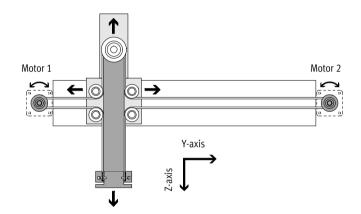
- Fast repositioning of parts and modules in a large, rectangular working space, e.g.:
 - Sorting
 - Loading and unloading
 - Gluing and cutting

Operating principle

Two fixed servo motors drive a toothed belt arranged in a T-shape. The toothed belt moves the slide of the Y-axis and the interface on the Z-axis in a 2-dimensional space. A controller calculates the position of the interface. The controlled interaction of the motors results in the corresponding movement of the interface.

The use of attachment components enables additional processes to be carried out.





Туре		EXCT-15	EXCT-30	EXCT-100	
Guide		Recirculating ball bearing	Recirculating ball bearing guide		
Stroke of the					
Y-axis	[mm]	100 1000	100 1500	100 2000	
Z-axis	[mm]	100, 200	250, 500	250, 500, 800	
Nominal load for max. dynamic response ¹⁾	[kg]	1.5	3	10	
Repetition accuracy	[mm]	±0.1			

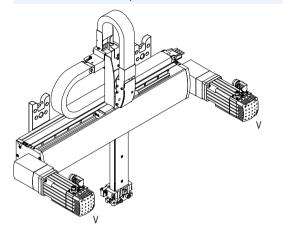
¹⁾ Nominal load = tool load (attachment component + gripper, for example) + payload

Linear gantries EXCTKey features

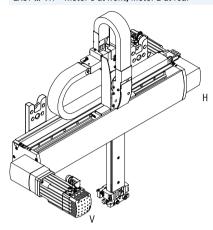


Motor attachment variants

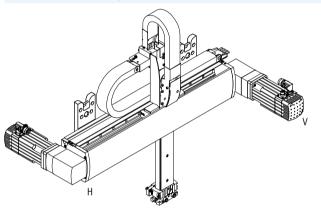
EXCT-...-VV – Motor 1 at front, motor 2 at front



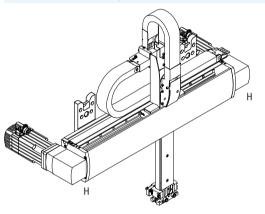
EXCT-...-VH - Motor 1 at front, motor 2 at rear



EXCT-...-HV - Motor 1 at rear, motor 2 at front

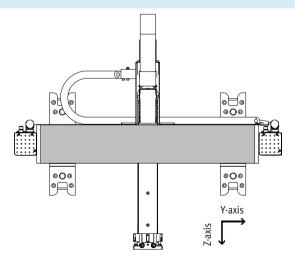


EXCT-...-HH - Motor 1 at rear, motor 2 at rear



Mounting position

The linear gantry may only be mounted and operated with a vertical Z-axis. The interface for attachment components must be positioned at the bottom.



Linear gantries EXCT

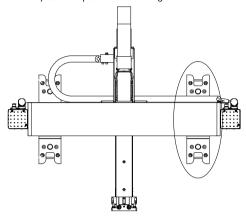
FESTO

Key features

Mounting options

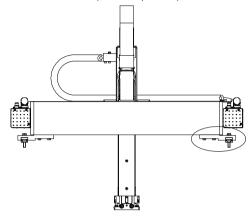
Using mounting kit EAHM-E17-K1-...

- For wall mounting
- No adjustment option after mounting



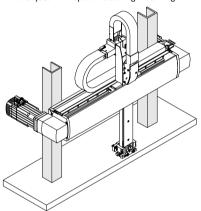
Using mounting kit EAHM-E17-K2-...

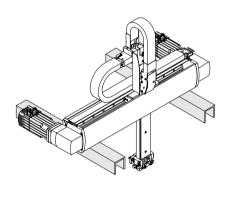
- For self-supported mounting
- Each side can be adjusted independently of each other



Mounting with slot nuts

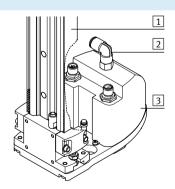
- For mounting directly on the machine frame
- No adjustment option following mounting





Attachment component for front unit

- A front unit (rotary drive) can be ordered via the modular product system or as an accessory; the front unit is mounted on the Z-axis by means of an adapter plate
- The front unit is available in two sizes (torque 0.75 Nm or 1.8 Nm)
- The front unit can optionally be selected with or without a rotary through-feed (for vacuum or excess pressure)
- When ordering via the modular product system, the front unit, connecting cables and compressed air tubing are installed and connected
- Requires motor controller CMMP-AS → page 34



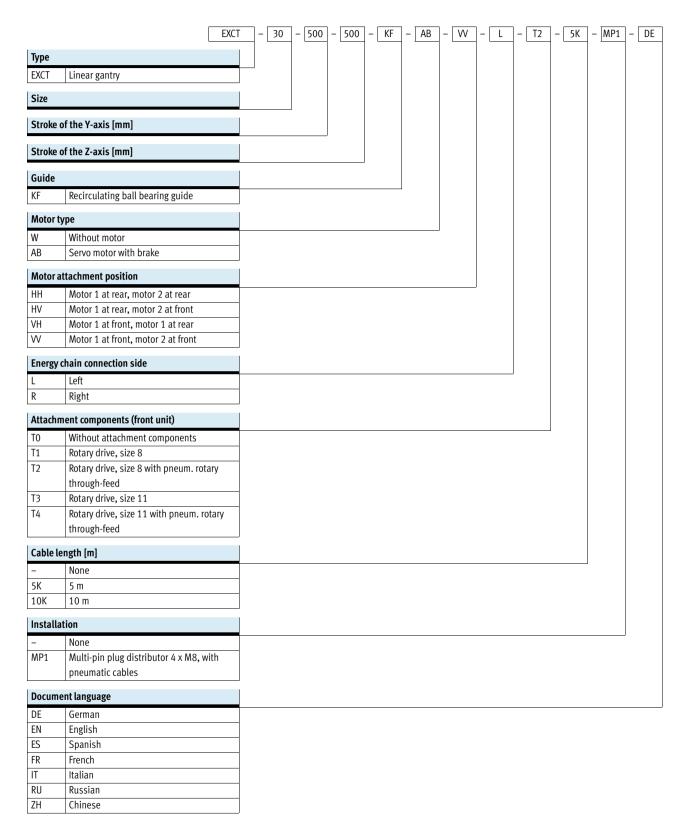
Technical data → page 22

- 1 Linear gantry EXCT-...
- 2 Rotary through-feed
- Rotary drive EXCT-...-T1 to T4

Linear gantries EXCT

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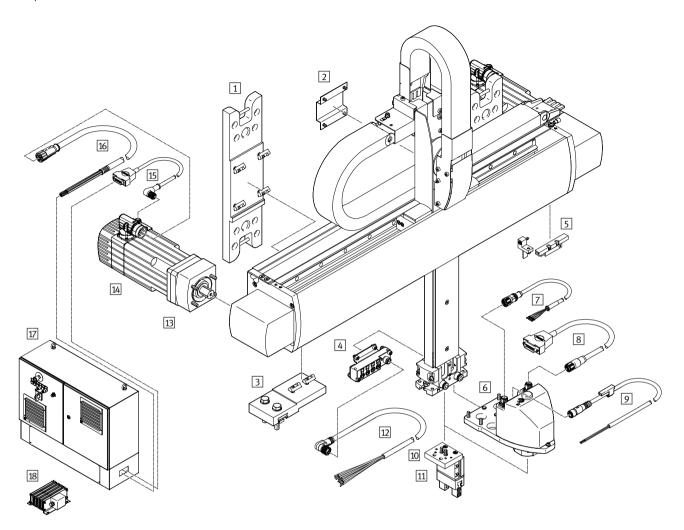
Type codes





Linear gantries EXCTPeripherals overview





Linear gantries EXCT Peripherals overview





Atta	chments and accessories		
Туре		Description	→ Page/Internet
1	Mounting kit	For mouting on a wall	28
	EAHM-E17-K1	 Included in the scope of delivery of the linear gantry EXCT 	
2	Adapter kit	For mounting e.g. valves, vacuum generators etc. Mounting holes must be drilled by the	32
	EAHM-E17-U	customer	
		Not included in the scope of delivery of the linear gantry	
3	Mounting kit	Height-adjustable mounting kit	29
	EAHM-E17-K2	Not included in the scope of delivery of the linear gantry	
4	Multi-pin plug set	For connecting up to 4 inputs/outputs	31
	EADH-E17-MP1	• Included in the scope of delivery of the linear gantry EXCTMP1	
5	Sensing kit	For position sensing on the Y-axis	30
	EAPR-E17-S	• Included in the scope of delivery: proximity sensor SIES-Q8B, sensor bracket, switch lug,	
		mounting bracket and screws	
		Not included in the scope of delivery of the linear gantry	
6	Front unit	Choose from:	33
	ERMHE17	Without front unit (rotary drive T0)	
		• With front unit (rotary drive T1 to T4). The connecting cables and compressed air tubing are	
		delivered installed and connected	
7	Motor cable	Connecting cable between motor for the front unit and motor controller	34
	NEBM-M12G4	• Included in the scope of delivery of the linear gantry EXCTT	
8	Encoder cable	Connecting cable between motor for the front unit and motor controller	34
	NEBM-M12G12	• Included in the scope of delivery of the linear gantry EXCTT	
9	Connecting cable	Connecting cable between reference switch for the front unit and motor controller	34
	NEBU	• Included in the scope of delivery of the linear gantry EXCTT	
10	Adapter plate	For connecting linear gantry and gripper	35
	HMSV, DHAA		
11	Gripper	A wide range of grippers is available	35
12	Plug socket with cable	Connecting cable between multi-pin plug distributor and controller	33
	NEBU	• Included in the scope of delivery of the linear gantry EXCTMP1; delivered connected	
13	Coupling housing	For connecting third-party motors	33
	EAMK		
14	Servo motor	Motor sizes specially matched to the axis	emms-as
	EMMS-AS		
15	Encoder cable	Connecting cable between motor on the Y-axis and motor controller	34
	NEBM-M12W8	• Included in the scope of delivery of the linear gantry EXCTAB	
16	Motor cable	Connecting cable between motor on the Y-axis and motor controller	34
	NEBM-M23G8	• Included in the scope of delivery of the linear gantry EXCTAB	
17	Control system	For controlling the linear gantry	27
L	CMCA		
18	Braking resistor	Braking resistors are essential for operation	33
	CACR		

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Size 15, 30, 100



General technical data					
Size		15	30	100	
Design		Linear gantry			
Guide		Recirculating ball bearing	g guide		
Stroke of the					
Y-axis	[mm]	100 1000	100 1500	100 2000	
Z-axis	[mm]	100, 200	250, 500	250, 500, 800	
Nominal load for max. dynamic	[kg]	1.5	3	10	
response ¹⁾					
Max. process force in Z direction	[N]	100	300	500	
Max. torque ²⁾	[Nm]	7.75	12.5	22.1	
Max. idling torque ²⁾³⁾	[Nm]	0.51	1.28	2.56	
Max. acceleration	$[m/s^2]$	50	50	30	
Max. speed ⁴⁾	[m/s]	4.8	5	4	
Repetition accuracy [mm]		±0.1	±0.1		
Mounting position		Vertical	Vertical		
Type of mounting		With mounting kit and slot nuts			

- Nominal load = tool load (attachment component + gripper, for example) + payload
- These values must also be complied with during installation of third-party motors At v=0.2 m/s and 45° travel.

 These data apply only under ideal conditions.

 For a precise configuration please consult a sales engineer from Festo.

Operating and environmental cond	litions				
Size		15	30	100	
Degree of protection		IP40			
Operating pressure ¹⁾	[bar]	-0.95 +8			
Operating medium		Compressed air to 8573-1:2010 [7:4:4]			
Note on operating and pilot medium		Lubricated operation possible (in which case lubricated operation will always be required)			
Ambient temperature ²⁾ [°C]		+10 +40			
Storage temperature [°C]		-10 +60			
Relative air humidity	Relative air humidity [%]		0 90 (non-condensing)		
Noise level [dB(A)]		70	78	77	
Duty cycle [%] 100					
CE marking (see declaration of conformity)		To EU EMC Directive ³⁾			

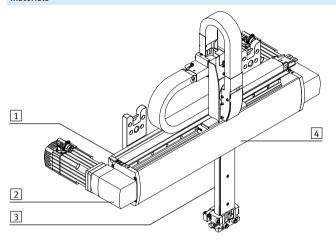
- Permissible operating pressure for connections P1 and P2
- Note operating range of proximity sensors and motors

 For information about the applicability of the component see the manufacturer's EC declaration of conformity at: www.festo.com/sp

 Certificates.

 If the component is subject to restrictions on usage in residential, office or commercial environments or small businesses, further measures to reduce the emitted interference may be necessary.

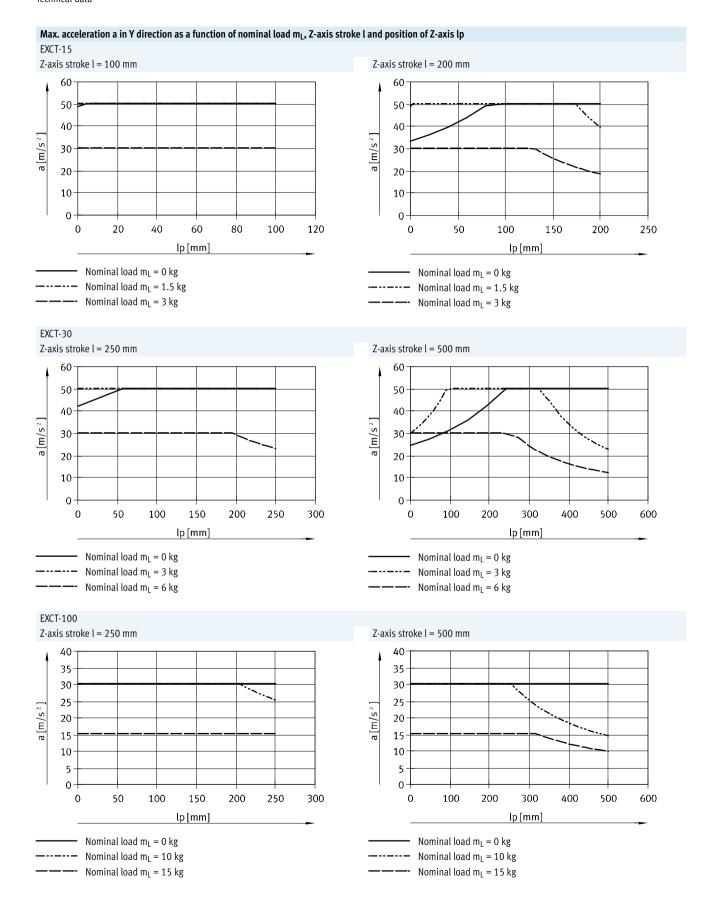
Materials



Size		15	30	100
1	Profile of the Y-axis	Anodised aluminium		
2	Drive housing	Anodised aluminium		
3	Profile of the Z-axis	Anodised aluminium		
4	Cover	Anodised aluminium		
-	Guide	High-alloy steel		
	Ball bearings	Steel		
	Toothed belt	PU with steel cord		
Note	on materials	RoHS compliant		
		Contains paint-wetting impairment subs	stances	

Weight [kg]				
Size	15	30	100	
Product weight at 0 mm stroke (wi	thout nominal load, motors, axia	l kits, mounting kits)		
Y/Z-axis	12.1	25.38	31.65	
Additional weight per 100 mm stro	oke	·	·	
Y-axis	0.95	1.48	1.86	
Z-axis	0.32	0.37	0.39	
Coupling housing	0.45	1.4	1.5	
Motor including flange	2.95	7.35	9.55	
Attachment component				
EXCTT1	1.08	1.1	-	
EXCTT2	1.08	1.1	-	
EXCTT3	-	1.30	1.30	
EXCTT4	-	1.30	1.30	
Multi-pin plug distributor	0.1	0.1	0.1	

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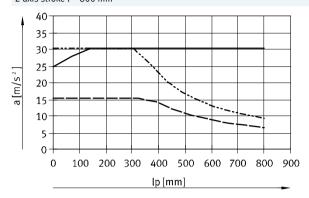


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Max. acceleration a in Y direction as a function of nominal load m_L, Z-axis stroke l and position of Z-axis lp

EXCT-100

Z-axis stroke l = 800 mm



Nominal load $m_L = 0 \text{ kg}$ --- Nominal load m_L = 10 kg Nominal load $m_1 = 15 \text{ kg}$

Torque M as a function of rotational speed n

Typical motor characteristic curve with nominal voltage and optimal motor controller.

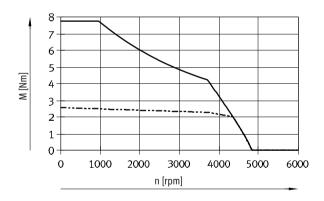
The torque may briefly exceed the

nominal torque. The rms value of the torque for the respective positioning cycle must remain below the nominal torque.

EXCT-15

In conjunction with:

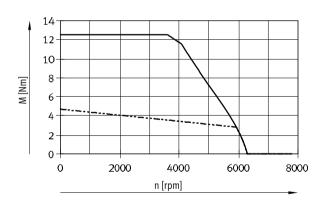
EMMS-AS-70-M-LS-RMB and CMMP-AS-C5-3A



EXCT-30

In conjunction with:

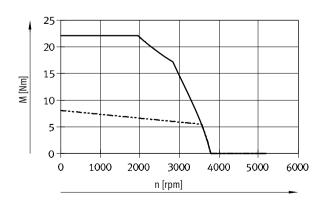
EMMS-AS-100-S-HS-RMB and CMMP-AS-C5-11A



EXCT-100

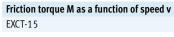
In conjunction with:

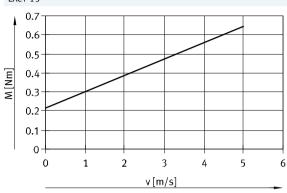
EMMS-AS-100-M-HS-RMB and CMMP-AS-C5-11A

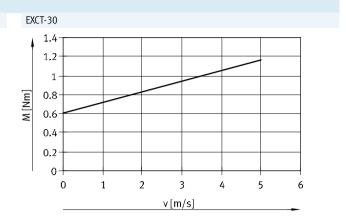


Max. torque ---- Nominal torque

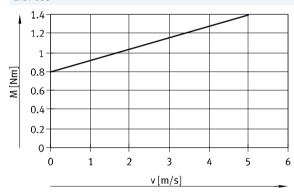








EXCT-100



Linear gantries EXCT

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Technical data

Characteristic load values

The system is subject to the greatest load in the case of 45° travel.

The following data apply in this case:

Formula for calculating the required torque M and the required nominal rotary speed n

For EXCT-15:

$$n_{45^{\circ}} = 942.8 \times v$$

and Z-axis stroke = 100 mm:

$$M_{45^{\circ}} = a \times (10.1 \times m_L + 9.87 \times J_m + 44.4) \times 10^{-3} + 0.07 \times (2.3 + m_L) + M_R$$

and Z-axis stroke = 200 mm:

$$M_{45^{\circ}} = a \times (10.1 \times m_L + 9.87 \times J_m + 47.5) \times 10^{-3} + 0.07 \times (2.6 + m_L) + M_R$$

For EXCT-30:

$$n_{45^{\circ}} = 848.5 \times v$$

and Z-axis stroke = 250 mm:

$$M_{45^{\circ}} = a \times (11.3 \times m_L + 8.89 \times J_m + 99.1) \times 10^{-3} + 0.08 \times (4.7 + m_I) + M_R$$

and Z-axis stroke = 500 mm:

$$M_{45^{\circ}} = a \times (11.3 \times m_L + 8.89 \times J_m + 108.1) \times 10^{-3} + 0.08 \times (5.5 + m_L) + M_R$$

For EXCT-100:

$$n_{45^{\circ}} = 678.8 \times v$$

and Z-axis stroke = 250 mm:

$$M_{45^{\circ}} = a \times (14.1 \times m_L + 7.11 \times J_m + 164.2) \times 10^{-3} + 0.098 \times (6 + m_L) + M_R$$

and Z-axis stroke = 500 mm:

$$M_{\Delta 5^{\circ}} = a \times (14.1 \times m_1 + 7.11 \times J_m + 178.3) \times 10^{-3} + 0.098 \times (7 + m_1) + M_R$$

and Z-axis stroke = 800 mm:

$$M_{45^{\circ}} = a \times (14.1 \times m_1 + 7.11 \times J_m + 193.8) \times 10^{-3} + 0.098 \times (8.1 + m_1) + M_R$$

 $a = acceleration [m/s^2]$

v = speed [m/s]

m_L = attachment component (Z-axis) [kg] with payload

 $J_m = moment of inertia of motor [kgcm²]$

→ table below

M_R = friction torque [Nm]

→ page 12

 $n_{45^{\circ}}$ = nominal speed at 45° travel [rpm]

Allocation of linear gantry – servo motor – motor controller			
Linear gantry	Servo motor	Moment of inertia of motor [kgcm²]	
EXCT-15	EMMS-AS-70-M-LS-RMB	0.680	
EXCT-30	EMMS-AS-100-S-HS-RMB	3.085	
EXCT-100	EMMS-AS-100-M-HS-RMB	5.285	



Sample calculation

1. What is the max. load permitted by the mechanical system?

Given:

EXCT-15-500-200-KF-AB-VV-... with attached motor EMMS-AS-70-M-LS-RMB

 $a_{max} = 20 \text{ m/s}^2$ $v_{max} = 2 \text{ m/s}$

Nominal load $m_L = 3 \text{ kg (gripper + workpiece)}$

Position of Z-axis = 70 mm (at max. acceleration in Y-direction)

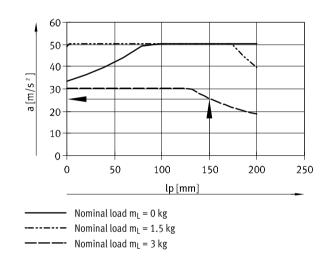
Calculation:

1. What is the max. acceleration permitted by the mechanical system?

Nominal load $m_L = 3 \text{ kg}$ Z-axis stroke = 200 mm Position of Z-axis = 150 mm

From the graph:

 $a = ca. 26 \text{ m/s}^2$



With a moving mass of 3 kg and a position of the Z-axis of 150 mm, the max. permissible acceleration in the Y-direction is 26 m/s². The required acceleration of 20 ms/s² is thus permissible.

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Sample calculation

2. Is the envisaged motor sufficient for this load?

Given:

$$a_{max.} = 20 \text{ m/s}^2$$

$$v_{max.} = 2 \text{ m/s}$$

Nominal load m_L = 3 kg (gripper + workpiece)

$$J_{m} = 0.680 \text{ kgcm}^{2}$$

$$M_{45^{\circ}} = a \times (10.1 \times m_L + 9.87 \times J_m + 39.2) \times 10^{-3} + 0.07 \times (2.14 + m_L) + M_R$$

$$n_{45^{\circ}} = 942.7 \times v$$

$$v = speed [m/s]$$

attachment component (Z-axis) [kg]

with payload

moment of inertia of motor [kgcm²]

→ table below

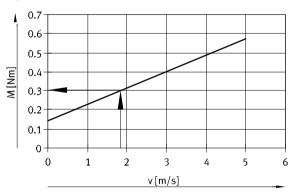
M_R = friction torque [Nm]

→ page 12

 $n_{45^{\circ}}$ = nominal speed at 45° travel [rpm]

Determining M₄₅°:

$$n_{45^{\circ}} = 942.7 \times 2 \text{ m/s} = 1885.4 \text{ 1/min}$$

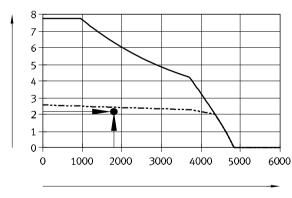


$$M_R = 0.3 \text{ Nm}$$

$$M_{45^{\circ}} = a \times (10.1 \times m_1 + 9.87 \times J_m + 39.2) \times 10^{-3} + 0.07 \times (2.14 + m_1) + M_R$$

$$M_{45^{\circ}} = 20 \text{ m/s}^2 \times (10.1 \times 3 \text{ kg} + 9.87 \times 0.680 \text{ kgcm}^2 + 39.2) \times 10^{-3} + 0.07 \times (2.14 + 3 \text{ kg}) + 0.3 \text{ Nm} = 2.18 \text{ Nm}$$

Result:



 Max. torque ---- Nominal torque

Result:

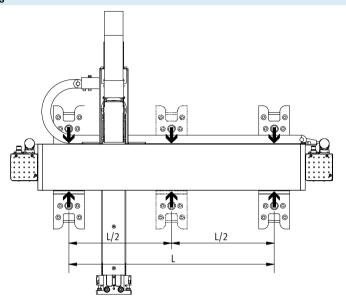
The value for the torque is just below the nominal torque.

This torque is only required in the acceleration phases.

The design is therefore fine.

Maximum permissible support spacing

In order to limit deflection in the case of large stroke lengths, the axis may need to be supported. An additional mounting kit is therefore required for strokes greater than L = 1500 mm.



Recommended deflection limits

To avoid impairing the functionality of the gantry, we recommend that the following deflection limits are observed. Deformations greater than these may lead to increased friction, increased wear and reduced service life.

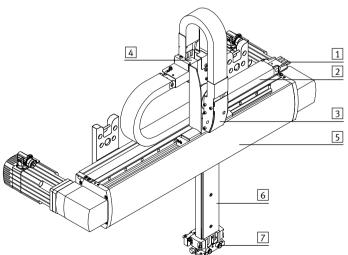
Size	15	30	100
Dynamic deflection	0.03% 1)	0.03% ¹⁾	0.03% 1)
(load is moving)	Max. 0.3 mm	Max. 0.45 mm	Max. 0.6 mm
Static deflection	0.05% ¹⁾	0.05% ¹⁾	0.05% ¹⁾
(stationary load)			

¹⁾ Of the length of the axis

Energy chain

- The cable routing from the cable outlet to the Z-axis uses energy chains 2
- When ordering the linear gantry it is possible to select whether the cable outlet to the control cabinet 1 should be to the left or the right
- The cables are routed within the Z-axis 6 as far as the interface. At the interface, there are two permanent air connections 7.
- 2 cable lengths (5 m or 10 m) can be selected via the modular product system → page 26. This specifies the length of the motor and encoder cables for the drive motors.

The tubing and cables that project from the output of the energy chain at the Y-axis 5 are at least 10 m in length.



- 1 Cable outlet to the control cabinet
- Energy chain
- Transfer to the Z-axis
- 4 Transfer of the two energy chains
- 5 Y-axis
- 6 Z-axis
- Interface with air connections

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Pin allocations Motors for the Y-axis

Motor (M23, pins)



	1_	7
2 (+	() + †	1)6
8	<u>+</u>	<i>₩</i>

Encoder (M12, pins)

PIN	Funct	ion	Colour
1	U	Phase U	BK (1)
PE	PE	Protective earth	GNYE
3	W	Phase W	BK (3)
4	V	Phase V	BK (2)
Α	M _T +	Temperature sensor	WH
В	M _T -	Temperature sensor	BN
С	BR+	Brake	GN
D	BR-	Brake	YE

PIN	Function
1	-SENS
2	+SENS
3	DATA
4	DATA/
5	0 V
6	CLOCK/
7	CLOCK
8	UP

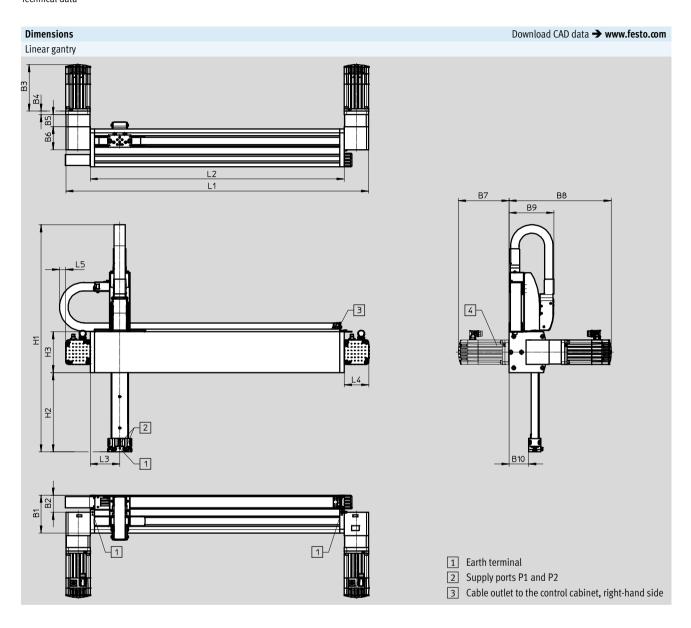
Allocation of linear gantry – servo motor – motor controller			
Linear gantry	Servo motor	Motor controller	
EXCT-15	EMMS-AS-70-M-LS-RMB	CMMP-AS-C5-3A	
EXCT-30	EMMS-AS-100-S-HS-RMB	CMMP-AS-C5-11A-P3	
EXCT-100	EMMS-AS-100-M-HS-RMB	CMMP-AS-C5-11A-P3	

Note

Third-party motors that have an overly high drive torque may damage the linear gantry. When selecting the motors, please observe the limits specified in the technical data.

During commissioning, the motor brake must be released for safety purposes. We recommend the teach pendant CDSA (→ modular product system) for this purpose.







Size	B1	B2	В3	B4	B5	В6	В7	В8	В9	B10	Н3	L4	L5
15	121	57.6	187.3	12.2	29.2	89	202	375	138.1	66	120	71	25
30	157	71	192.3	14.5	49.5	96	209	423	186	81.5	170	102	25
100	184	94	243.3	14.5	49	123	260	524	211	106.5	200	102	25

Stroke-d	ependent	' dimer	ารเกทร

Size	Y-axis stroke	L1	L2	L3
15	100 1000	336+stroke	194+stroke	94+software end positions
30	100 1500	456+stroke	252+stroke	122+software end positions
100	100 2000	468+stroke	264+stroke	128+software end positions

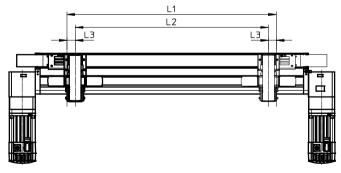
Size	Z-axis stroke	H1	H2
15	100	636	170
	200	736	270
	Stroke	536+stroke	70+stroke
30	250	942	328
	500	1192	578
	Stroke	692+stroke	78+stroke
100	250	991	336
	500	1241	586
	800	1541	886
	Stroke	741+stroke	86+stroke



Requirements for the evenness of the support surface and for the attachments → www.festo.com/sp User documentation

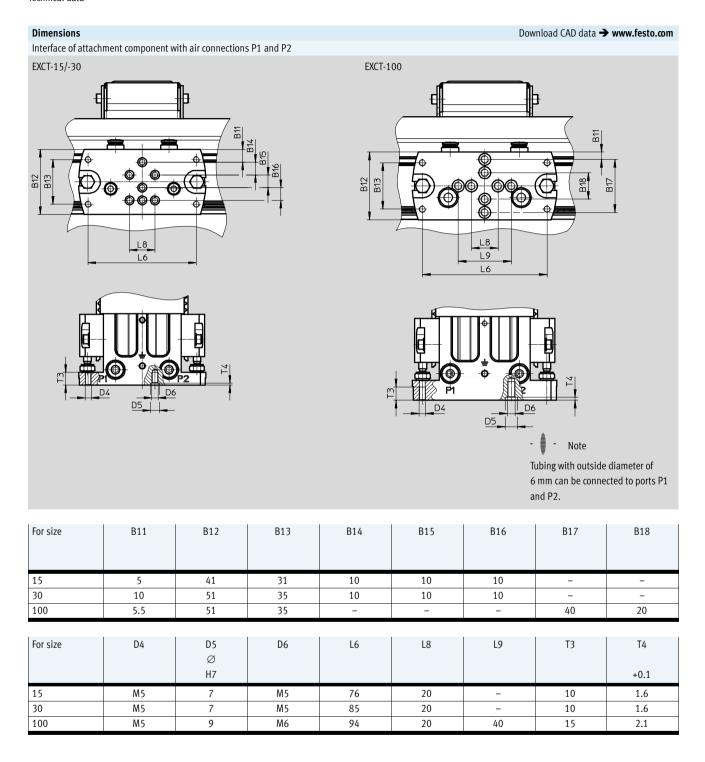
Factoring in software end positions

When selecting the strokes for the Yand Z-axis, the dimension L3 for the software end positions must be factored into the working stroke L2. This dimension is freely selectable. Adjustment pieces with L3 = 30 mm are included in the scope of delivery of the linear gantry.

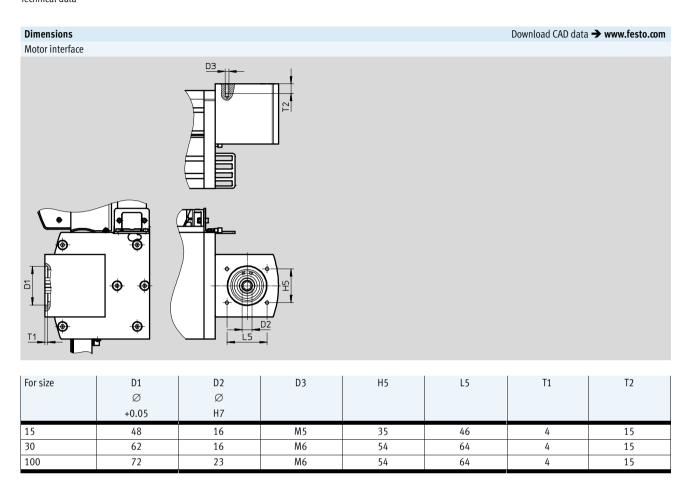


Stroke L1 = working stroke L2 + 2x software end position L3









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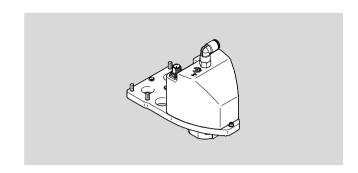
Technical data – Front unit

EXCT-...-T...

Can be ordered via: Modular product system → page 26 Or accessories → page 33

Requires motor controller CMMP-AS

→ page 34



Technical data								
Туре		EXCT	EXCT					
		T1	T2	T3	T4			
Design		Electromechanical rotary drive						
		-	With rotary through-feed	-	With rotary through-feed			
Motor type		Servo motor	,	-	,			
Size		8		11				
Rotation angle		Infinite						
Pneumatic connection		_	G1/8	-	G1/8			
Nominal width	[mm]	_	4	-	4			
Standard flow rate	[l/min]	_	350	-	350			
Gear ratio		30:1	·					
Repetition accuracy	[°]	±0.01						
Max. output speed	[rpm]	200						
Nominal torque	[Nm]	0.75		1.8				
Peak torque	[Nm]	1.8		4.5				
Max. axial force	[N]	200		300				
Max. pull-out torque, static	[Nm]	15		40				

Electrical data							
Туре		EXCT					
		T1	T2	T3	T4		
Nominal voltage	[V AC]	230					
Nominal current	[A]	0.31	0.31	0.74	0.74		
Peak current	[A]	0.61	0.61	1.5	1.5		
Rated output	[W]	9.2	9.2	22.1	22.1		
Duty cycle	[%]	100	·	<u>.</u>	<u>.</u>		
Measuring system ¹⁾		Encoder					

¹⁾ Homing required

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Operating and environmental of	onditions							
Туре		EXCT	EXCT					
		T1	T2	T3	T4			
Operating pressure	[bar]	-	-0.9 +8	-	-0.9 +8			
Ambient temperature	[°C]	0 40		<u>'</u>	,			
Storage temperature	[°C]	-10 +60						
Degree of protection		IP40						
Note on materials		RoHS compliant						

Front unit motor

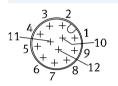
Motor



	2
	+ 🔊
3(+	+)1
	+/
	4

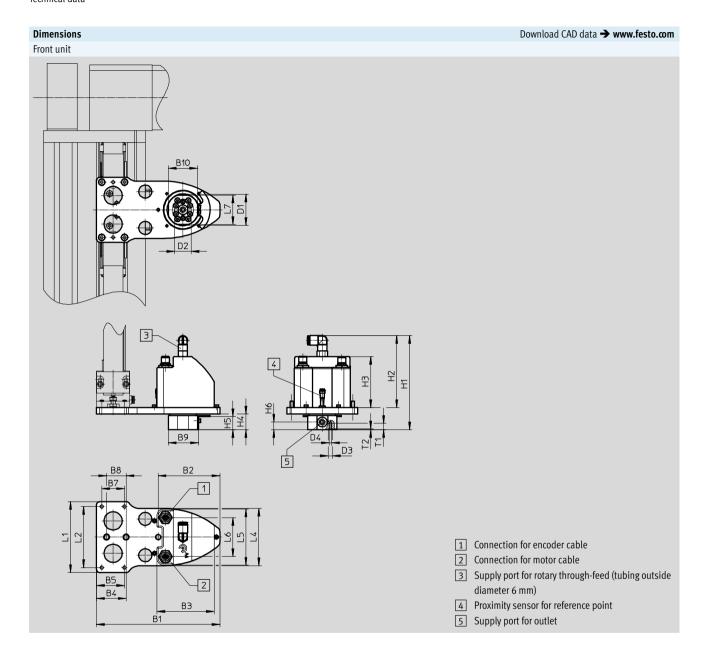
PIN	Function
1	Operating voltage U
2	Operating voltage V
3	Operating voltage W
4	Protective earth conductor PE

Encoder



PIN	Function
1	Signal trace A
2	Signal trace A\
3	Signal trace B
4	Signal trace B\
5	Signal trace Z
6	Signal trace Z\
7	Signal trace U
8	Signal trace V
9	Signal trace W
10	GND encoder
11	Power supply 5V
12	Screening









For linear gantry	Туре	B1	B2	В3	B4		35	B7	B8	В9	B10
EXCT-15T1	ERMH-8-E17-15	170	95	88	36		36	31	30	46.5	45
EXCT-15T2	ERMH-8-P-E17-15	170	95	88	36		36	31	30	46.5	45
EXCT-30T1	ERMH-8-E17-30	190	95	88	41		¥3	35	30	46.5	45
EXCT-30T2	ERMH-8-P-E17-30	190	95	88	41		¥3	35	30	46.5	45
EXCT-30T3	ERMH-11-E17-30	190	95	88	41		¥3	35	30	46.5	45
EXCT-30T4	ERMH-11-P-E17-30	190	95	88	41		¥3	35	30	46.5	45
EXCT-100T3	ERMH-11-E17-100	190	95	88	45.	5	13	35	30	46.5	45
EXCT-100T4	ERMH-11-P-E17-100	190	95	88	45.	5 .	¥3	35	30	46.5	45
For linear gantry	Туре	D1	D2	D3	D4	H1	H2	Н3	H4	H5	H6
		Ø	Ø	Ø H7						119	110
EXCT-15T1	ERMH-8-E17-15	48	25		M4	116.4	83.8	78.4	22.6	20.5	12
EXCT-15T1 EXCT-15T2	ERMH-8-E17-15 ERMH-8-P-E17-15	,-		H7	M4 M4	116.4 141	83.8 106.7	78.4 78.4	22.6		
		48	25	H7	,					20.5	12
EXCT-15T2	ERMH-8-P-E17-15	48 48	25 25	H7 7 7	M4	141	106.7	78.4	22.6	20.5	12
EXCT-15T2 EXCT-30T1	ERMH-8-P-E17-15 ERMH-8-E17-30	48 48 48	25 25 25	H7 7 7 7	M4 M4	141 116.4	106.7 83.8	78.4 78.4	22.6 22.6	20.5 20.5 20.5	12 12 12
EXCT-15T2 EXCT-30T1 EXCT-30T2	ERMH-8-P-E17-15 ERMH-8-E17-30 ERMH-8-P-E17-30	48 48 48 48	25 25 25 25 25	H7 7 7 7 7	M4 M4 M4	141 116.4 141	106.7 83.8 106.7	78.4 78.4 78.4	22.6 22.6 22.6	20.5 20.5 20.5 20.5	12 12 12 12
EXCT-15T2 EXCT-30T1 EXCT-30T2 EXCT-30T3	ERMH-8-P-E17-15 ERMH-8-E17-30 ERMH-8-P-E17-30 ERMH-11-E17-30	48 48 48 48 48	25 25 25 25 25 25	H7 7 7 7 7 7 7	M4 M4 M4 M4	141 116.4 141 116.4	106.7 83.8 106.7 83.8	78.4 78.4 78.4 78.4	22.6 22.6 22.6 24.3	20.5 20.5 20.5 20.5 20.5	12 12 12 12 12

For linear gantry	Туре	L1	L2	L4	L5	L6	L7	T1	T2
EXCT-15T1	ERMH-8-E17-15	92	76	88	86.3	60	45	10	1.6
EXCT-15T2	ERMH-8-P-E17-15	92	76	88	86.3	60	45	10	1.6
EXCT-30T1	ERMH-8-E17-30	100	85	88	86.3	60	45	10	1.6
EXCT-30T2	ERMH-8-P-E17-30	100	85	88	86.3	60	45	10	1.6
EXCT-30T3	ERMH-11-E17-30	100	85	88	86.3	60	45	10	1.6
EXCT-30T4	ERMH-11-P-E17-30	100	85	88	86.3	60	45	10	1.6
EXCT-100T3	ERMH-11-E17-100	109	94	88	86.3	60	45	10	1.6
EXCT-100T4	ERMH-11-P-E17-100	109	94	88	86.3	60	45	10	1.6

Linear gantries EXCTOrdering data – Modular product system



	ring table						1	
ize			15	30	100	Condi-	Code	Entry
						tions		code
M N	Nodule no.		8026575	8026576	8026577			
Р	roduct type		T series				EXCT	EXCT
S	ize		15	30	100			
Y	-axis stroke	[mm]	100 1000	100 1500	100 2000			
Z	-axis stroke	[mm]	100, 200	250, 500	250, 500, 800			
G	iuide		Recirculating ball be	aring guide			-KF	-KF
N	Notor type		Without motor			1	-W	
			Servo motor with bra	ıke			-AB	
N	Notor attachment position		Motor 1 at rear, moto	or 2 at rear			-HH	
			Motor 1 at rear, moto	or 2 at front			-HV	
			Motor 1 at front, mo	tor 2 at rear			-VH	
			Motor 1 at front, mo	tor 2 at front			-VV	
E	nergy chain connection side		Left-hand				-L	
			Right-hand				-R	
A	ttachment components (fror	nt unit)	None				-T0	
			Rotary drive, size 8		-		-T1	
			Rotary drive, size 8 w	vith pneum. rotary through	-feed -		-T2	
			-	Rotary drive, size 1	l		-T3	
			_	Rotary drive, size 11	with pneum. rotary through-		-T4	
				feed	, , ,			

1 W Not in combination with 5K, 10K, MP1

M	Mandatory data

O Options

iransfer order code											
	EXCT	-	-	-	-	KF	-	-	-	-[

Linear gantries EXCTOrdering data – Modular product system



Ordering table						
Size	15	30	100	Condi- tions	Code	Entry code
O Line length	None					
	5 m				-5K	
	10 m				-10K	
Installation	None					
	Multi-pin plug	distributor 4 x M8, with pr	eumatic cables		-MP1	
M Document language	German				-DE	
	English				-EN	
	Spanish				-ES	
	French				-FR	
	Italian				-IT	
	Russian				-RU	
	Chinese				-ZH	

Combinations o	f attachment components for motor controller	
Linear gantry	Attachment components for Z-axis	Motor controller
EXCT-15	TO	2x CMMP-AS-C5-3A
	One attachment component (T1, T2)	2x CMMP-AS-C5-3A, 1x CMMP-AS-C2-3A
	Two attachment components (T1, T2 and electric gripper)	2x CMMP-AS-C5-3A, 2x CMMP-AS-C2-3A
EXCT-30	TO	2x CMMP-AS-C5-11A-P3
	One attachment component (T1, T2, T3, T4)	2x CMMP-AS-C5-11A-P3, 1x CMMP-AS-C2-3A
	Two attachment components (T1, T2, T3, T4 and electric gripper)	2x CMMP-AS-C5-11A-P3, 2x CMMP-AS-C2-3A
EXCT-100	TO	2x CMMP-AS-C5-11A-P3
	One attachment component (T3, T4)	2x CMMP-AS-C5-11A-P3, 1x CMMP-AS-C2-3A
	Two attachment components (T3, T4 and electric gripper)	2x CMMP-AS-C5-11A-P3, 2x CMMP-AS-C2-3A

- 🏺 - Note The motor controller must be ordered

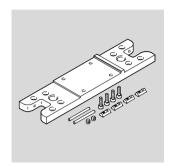
separately as an accessory → page 34. Control system on request.

M	Mandatory data
0	Options

Tra	nsfer order code			
-		-	-	

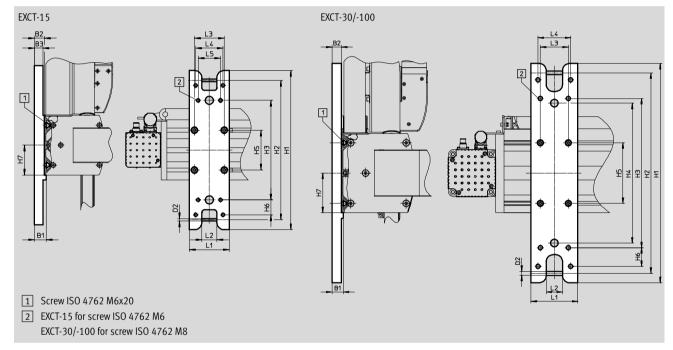
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Mountingkit EAHM-E17-K1



For wall mounting

Materials: Wrought aluminium alloy



Dimensions and o	Dimensions and ordering data													
For size	B1	B2	В3	D2	H1	H2	Н3	H4	H5	Н6	H7			
				Ø										
15	24	20	17	5	320	280	200	-	80	30	60			
30	24	20	-	8	470	430	320	300	130	40	85			
100	24	20	-	8	470	430	320	300	160	40	100			

For size	L1	L2	L3	L4	L5	Weight	Part No.	Туре
						[g]		
15	80	30	60	55	45	1150	3995047	EAHM-E17-K1-15
30	100	35	60	70	-	2350	3823208	EAHM-E17-K1-30
100	100	35	60	70	-	2350	4055845	EAHM-E17-K1-100

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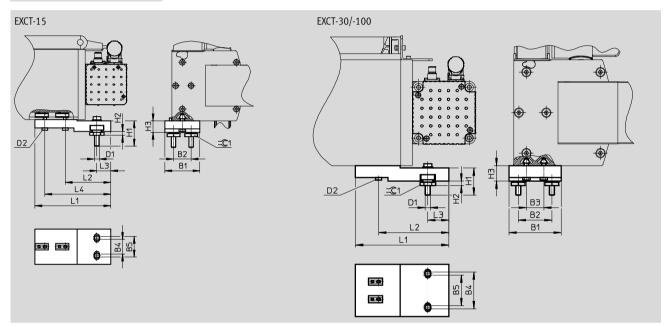
ar gantries EXCT FESTO

Mounting kit EAHM-E17-K2



For mounting and aligning on a bearing surface.
The kit is height-adjustable

Materials: Galvanised steel



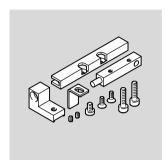
Dimensions and o	limensions and ordering data													
For size	B1	B2	В3	B4	B5	D1	D2	H1	H2 +3	Н3				
15	60	30	-	25	35	M8	M6	43.4	6.8	20				
30	84	54	28	49	59	M8	M6	43.4	6.8	25				
100	110	70	50	65	75	M8	M6	43.4	6.8	25				

For size	L1	L2	L3	L4	=©1	Weight [g]	Part No.	Туре
15	130	78	24	113	22	1015	3838164	EAHM-E17-K2-15
30	150	113	34	-	22	2050	3838337	EAHM-E17-K2-30
100	170	133	29	ı	22	3000	3838404	EAHM-E17-K2-100



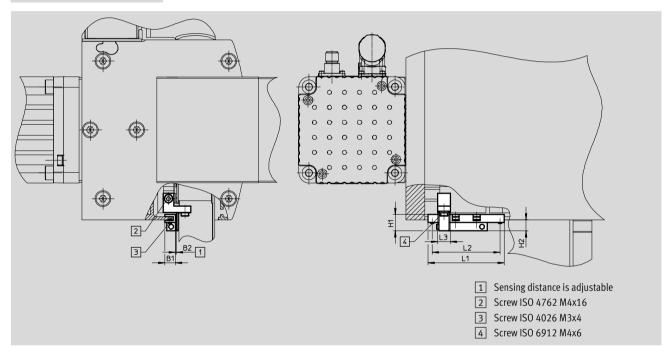
Sensing kit EAPR-E17-S

30



Included in the scope of delivery: proximity sensor SIES-Q8B, sensor bracket, switch lug, mounting bracket and screws

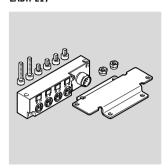
Materials: Switch lug: Steel Sensor bracket: Wrought aluminium



Dimensions and o	Dimensions and ordering data													
For size	B1	B2	H1	H2	L1	L2	L3	Weight [g]	Part No.	Туре				
15, 30, 100	10	1	15.5	10.5	72	64	12	30	2478427	EAPR-E17-S				

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Multi-pin plug set EADH-E17



For connecting up to 4 inputs/outputs

Materials:

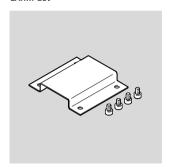
Housing: PBT reinforced Bracket: aluminium



Dimensions and ordering data												
For size	B1	D1	D2	H1	H2	Н3	L1	L2	L3	Weight [g]	Part No.	Туре
15, 30, 100	31.5	M12	M8	47	38	24	87	53	44	70	2972137	EADH-E17-MP1

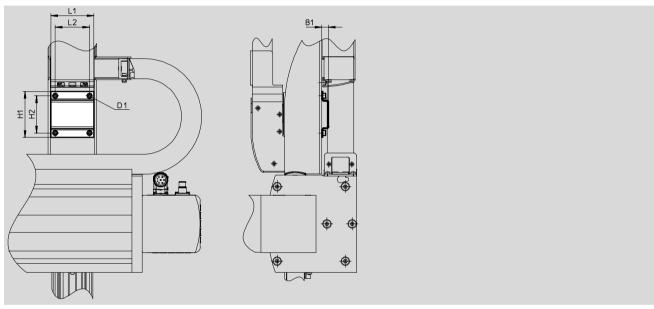


Adapter kit EAHM-E17



For mounting e.g. valves, vacuum generators etc. on the Z-axis

Materials: Stainless steel



Dimensions and ordering data									
For size	B1	D1	H1	H2	L1	L2	Weight [g]	Part No.	Туре
15	11.5	M4x6	70	55	65	50	50	3018429	EAHM-E17-U-15
30	11.5	M5x8	80	65	75	60	95	3018428	EAHM-E17-U-30
100	11.5	M5x8	80	65	85	60	110	3018426	EAHM-E17-U-100



Ordering data – Front unit (rotary d	rive) ¹⁾				Download CAD data → www.festo.com
	Description	For size	Order code	Part No.	Туре
	Without pneumatic rotary	15	T1	3383157	ERMH-8-E17-15
	through-feed	30	T1	3385151	ERMH-8-E17-30
		30	T3	3385153	ERMH-11-E17-30
		100	T3	3383152	ERMH-11-E17-100
€)	With pneumatic rotary through-	15	T2	3383151	ERMH-8-P-E17-15
	feed	30	T2	3385152	ERMH-8-P-E17-30
		30	T4	3385154	ERMH-11-P-E17-30
		100	T4	3383156	ERMH-11-P-E17-100

¹⁾ Included in the scope of delivery: motor cable, encoder cable and reference switch

Ordering data – Braking resistor								
	For size	Resistance value $[\Omega]$	Nominal power [W]	Weight [g]	Part No.	Туре		
	15	50	200	550	2882342	CACR-LE2-50-W500		
	30, 100	40	800	2400	2882343	CACR-KL2-40-W2000		

Ordering data							
	Description	For size	Possible screws	Tightening torque [Nm]	Part No.	Type	PU ¹⁾
Plug socket with cable NEBU for mu	lti-pin plug set EAD	Н				<u>'</u>	
	-	15, 30, 100	-	_	8048086	NEBU-M12W8-K-15-N-LE8	1
Coupling housing EAMK-A-E17 ²⁾							
\wedge	For connecting	15	ISO 4762-M5xn ³⁾	6	3780303	EAMK-A-E17-15	2
	third-party	30	ISO 4762-M6xn ³⁾	8.5	3780304	EAMK-A-E17-30	
	motors	100	ISO 4762-M6xn ³⁾	8.5	3780305	EAMK-A-E17-100	

Packaging unit quantity
 Mounting screws are not included in the scope of delivery
 The length n must be determined as a function of the motor flange used



Ordering data								
	Switching output	Switching element function	Cable length [m]	Part No.	Туре			
Proximity sensor for sensing kit EAPR-E17								
	PNP	N/O contact	2.5	178294	SIES-Q8B-PS-K-L			
60								

Ordering data – Cables		1	
	Cable length	Part No.	Туре
	[m]		
For Y-axis			
	Motor cable NEBM		
	5	550310	NEBM-M23G8-E-5-Q9N-LE8
	10	550311	NEBM-M23G8-E-10-Q9N-LE8
	15	550312	NEBM-M23G8-E-15-Q9N-LE8
	Encoder cable NEBM		
	5	550318	NEBM-M12W8-E-5-N-S1G15
	10	550319	NEBM-M12W8-E-10-N-S1G15
9	15	550320	NEBM-M12W8-E-15-N-S1G15
For front unit			
	Motor cable NEBM		
	15	571907	NEBM-M12G4-RS-15-N-LE4
	Encoder cable NEBM		
	15	571915	NEBM-M12G12-RS-15-N-S1G15
For reference switch for front unit			
	Connecting cable NEBU		
	15	575986	NEBU-M8G3-K-15-LE3

Ordering data – Motor controller								
	For size	Output voltage	Nominal output current	Nominal power	Part No.	Туре		
		[V AC]	[A]	[VA]				
1	For linear gantry							
	15	3x 0 270	5	1000	1622902	CMMP-AS-C5-3A-M0		
	30, 100	3x 0 360	5	3000	1622903	CMMP-AS-C5-11A-P3-M0		
 ••• 	For attachment co	mponents						
	15, 30, 100	3x 0 270	2.5	500	1622901	CMMP-AS-C2-3A-M0		



Permissible combinations without front unit



Combination with	Linear gantry	Drive/gripper	Adapter ki	t			
	Size	Size	CRC ¹⁾	Part No.	Туре		
Semi-rotary drive				ĺ			
DRRD	EXCT	DRRD	DHAA				
	15	10		2728486	DHAA-D-E8-45-Q11-10		
	15, 30	12		2715152	DHAA-D-E8-45/55-Q11-12		
	30	16	2	1926914	DHAA-D-E8-55-Q11-16		
0 0	100	16		1928306	DHAA-D-E8-75-Q11-16		
	100	20		1930038	DHAA-D-E8-75-Q11-20		
Parallel gripper							
DHPS	EXCT	DHPS	HMSV				
	15, 30	16		548785	HMSV-55		
	100	20, 25	2	548786	HMSV-56		
HGPD, sealed	EXCT	HGPD	DHAA, HAF	PG			
	15, 30	25		564952	DHAA-G-G6-16-B8-25		
	100	25, 35		537175	HAPG-79		
	100	40	2	564951	DHAA-G-G6-20-B8-40		
HGPL, heavy-duty with long stroke	EXCT	HGPL	DHAA/HAF	PG			
<i>?</i>	15, 30	14-20		2406159	DHAA-G-G6-16-B6-14		
	100	14-20		2410181	DHAA-G-G6-20-B6-14		
	15, 30	14-40, 14-60, 14-80	2	538055	HAPG-89		
a comment	100	14-40, 14-60, 14-80		539274	HAPG-90		
	100	25		539274	HAPG-90		
HGPP, precision	EXCT	HGPP	HAPG, HM	SV			
	15, 30	10		529018	HAPG-58		
	15, 30	12	2	191266	HAPG-48		
	100	12		191267	HAPG-49		
10	100	16		191269	HAPG-51		
HGPT-B, heavy-duty	EXCT	HGPT-B	DHAA, HAF	PG			
	15, 30	25		564952	DHAA-G-G6-16-B8-25		
	100	40	2	564951	DHAA-G-G6-20-B8-40		
	100	25, 35	2	537175	HAPG-79		
HGPLE, electric	EXCT	HGPLE	DHAA				
	15, 30	14		2519367	DHAA-G-G6-16-B17-14		
	100	14	2	2515219	DHAA-G-G6-20-B17-14		

¹⁾ Corrosion resistance class CRC 2 to Festo standard FN 940070 Moderate corrosion stress, Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.



Permissible combinations without front unit

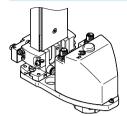


Combination with	Linear gantry	Drive/gripper	Adapter ki	t	
	Size	Size	CRC ¹⁾	Part No.	Туре
Radial gripper					
DHRS	EXCT	DHRS	HMSV		
	15, 30	16		548785	HMSV-55
	100	25, 32	2	548786	HMSV-56
HGRT, heavy-duty	EXCT	HGRT	DHAA		
	15, 30	20		1278364	DHAA-G-G6-12-B11-20
	15, 30	25	2	1279418	DHAA-G-E8-45-B11-25
	100	25	2	1468307	DHAA-G-G6-20-B11-25
	100	32		1280494	DHAA-G-G6-25-B11-32
	<u> </u>				
Angle gripper					
DHWS	EXCT	DHWS	HMSV		
*	15, 30	16		548785	HMSV-55
	100	25, 32	2	548786	HMSV-56
Three-point gripper					
HGDD, sealed	EXCT	HGDD	DHAA		
	15, 30, 100	35		2371422	DHAA-G-G3-20-B13-35
	100	40	2	2373773	DHAA-G-H2-16-B13-40
	100	50		2377625	DHAA-G-H2-20-B13-50
	EXCT	HGDD-G1/G2	DHAA/HAF	PG	
	15, 30, 100	35		542436	HAPG-94
	100	40	2	542437	HAPG-95
	100	50		2378415	DHAA-G-H2-20-B13G-50
HGDT, heavy-duty	EXCT	HGDT	HAPG		
5500	15, 30	25		542439	HAPG-SD2-32
	15, 30, 100	35	2	542436	HAPG-94
	100	40	2	542437	HAPG-95
	100	50		542443	HAPG-SD2-36

¹⁾ Corrosion resistance class CRC 2 to Festo standard FN 940070 Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.

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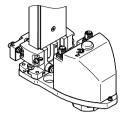
Permissible combinations with front unit (EXCT-...-T1/T2/T3/T4)



Combination with	Linear gantry	Drive/gripper		Adapter kit			
	Size	Size	CRC ¹⁾	Part No.	Туре		
Parallel gripper							
DHPS	EXCT with ERMH	DHPS	HMSV	1			
	15, 30, 100	6		187566	HAPG-SD2-12		
		10	2	184477	HAPG-SD2-1		
The state of the s		16		184478	HAPG-SD2-2		
HGPD, sealed	EXCT with ERMH	HGPD	DHAA, HAP	G			
	15, 30, 100	16, 20		564959	DHAA-G-Q5-16-B8-16		
		25	2	544642	HAPG-SD2-48		
HGPL, heavy-duty with long stroke	EXCT with ERMH	HGPL	DHAA/HAP	G			
	15, 30, 100	14	2	544644	HAPG-SD2-45		
HGPT-B, heavy-duty	EXCT with ERMH	HGPT-B	DHAA, HAP	G			
∠	15, 30, 100	16, 20		564959	DHAA-G-Q5-16-B8-16		
		25	2	544642	HAPG-SD2-48		
HGPC	EXCT with ERMH	HGPC	DHAA, HAP	G			
ſ∂l	15, 30, 100	12		542671	HAPG-SD2-41		
		16	2	542668	HAPG-SD2-42		
Radial gripper							
DHRS	EXCT with ERMH	DHRS	HMSV				
A	15, 30, 100	10	TIIVISV	187566	HAPG-SD2-12		
	25, 50, 100	16		184477	HAPG-SD2-12		
		25	2	184478	HAPG-SD2-2		
HGRT, heavy-duty	EXCT with ERMH	HGRT	DHAA				
	15, 30, 100	16	2	1273999	DHAA-G-Q5-16-B11-16		
HGRC	EXCT with ERMH	HGRC	HMSV				
	15, 30, 100	12		542671	HAPG-SD2-41		
		16	2	542668	HAPG-SD2-42		

¹⁾ Corrosion resistance class CRC 2 to Festo standard FN 940070 Moderate corrosion stress, Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.

Permissible combinations with front unit (EXCT-...-T1/T2/T3/T4)



Combination with	Linear gantry	Drive/gripper	Adapter kit		
	Size	Size	CRC ¹⁾	Part No.	Туре
Angle gripper					
DHWS	EXCT with ERMH	DHWS	HMSV		
	15, 30, 100	10		187566	HAPG-SD2-12
		16	2	184477	HAPG-SD2-1
		25		184478	HAPG-SD2-2
HGWC	EXCT with ERMH	HGWC	HMSV		
	15, 30, 100	12		542671	HAPG-SD2-41
		16	2	542668	HAPG-SD2-42
Three-point gripper					
DHDS	EXCT with ERMH	DHDS	HAPG		
	15, 30, 100	16	2	187567	HAPG-SD2-13
HGDT, heavy-duty	EXCT with ERMH	HGDT	HAPG		
	15, 30, 100	25	2	542439	HAPG-SD2-32

Moderate corrosion stress, Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.

Linear gantries EXCT

Accessories



Control systems CMCA

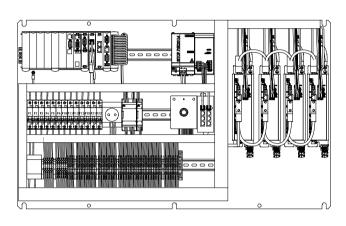
A suitable control system CMCA (control cabinet) matched to the respective linear gantry EXCT can be ordered → Internet: cmca

This is available in three versions:

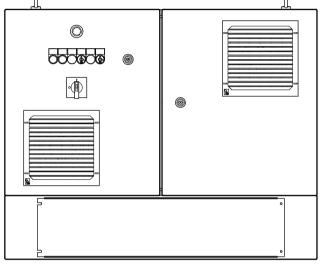
- · Mounting plate
- Mounting plate in a control cabinet housing
- Mounting plate in a control cabinet housing with base

The control system includes the multi-axis controller CMXR and motor controller CMMP required for actuation. There is also an integrated safety circuit, which together with the teach pendant CDSA establishes the basic functionality. The version with the control cabinet housing also features control elements and fans in the door.

Mounting plate



Mounting plate in a control cabinet housing (with base)



Relationship between the linear gantry EXCT and the control system CMCA

Depending on the configuration of the linear portal EXCT

- With or without attachment component
- Control system variant

the following order codes are available for the control system CMCA.

The control systems include the motor controllers CMMP-AS as listed in the table.

Allocation table			
Linear gantry	Attachment components for Z-axis	Control system CMCA	Motor controllers CMMP-AS
EXCT-15	T0	CMCA-C2-B1-CS2	2x CMMP-AS-C5-3A
	One attachment component (T1, T2)	CMCA-C2-B2-CS2	2x CMMP-AS-C5-3A, 1x CMMP-AS-C2-3A
	Two attachment components (T1, T2 and	CMCA-C2-B3-CS2	2x CMMP-AS-C5-3A, 2x CMMP-AS-C2-3A
	electric gripper)		
EXCT-30	TO To	CMCA-C2-B6-CS2	2x CMMP-AS-C5-11A-P3
	One attachment component (T1, T2, T3, T4)	CMCA-C2-B7-CS2	2x CMMP-AS-C5-11A-P3, 1x CMMP-AS-C2-3A
	Two attachment components (T1, T2, T3, T4	CMCA-C2-B8-CS2	2x CMMP-AS-C5-11A-P3, 2x CMMP-AS-C2-3A
	and electric gripper)		
EXCT-100	TO To	CMCA-C2-B6-CS2	2x CMMP-AS-C5-11A-P3
	One attachment component (T3, T4)	CMCA-C2-B7-CS2	2x CMMP-AS-C5-11A-P3, 1x CMMP-AS-C2-3A
	Two attachment components (T3, T4 and	CMCA-C2-B8-CS2	2x CMMP-AS-C5-11A-P3, 2x CMMP-AS-C2-3A
	electric gripper)		