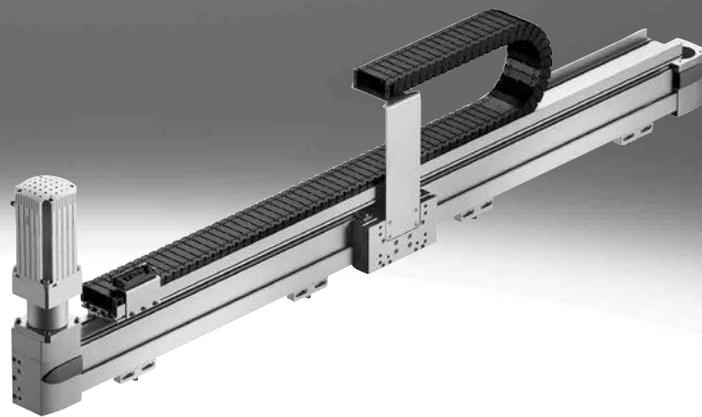


Single-axis systems

FESTO

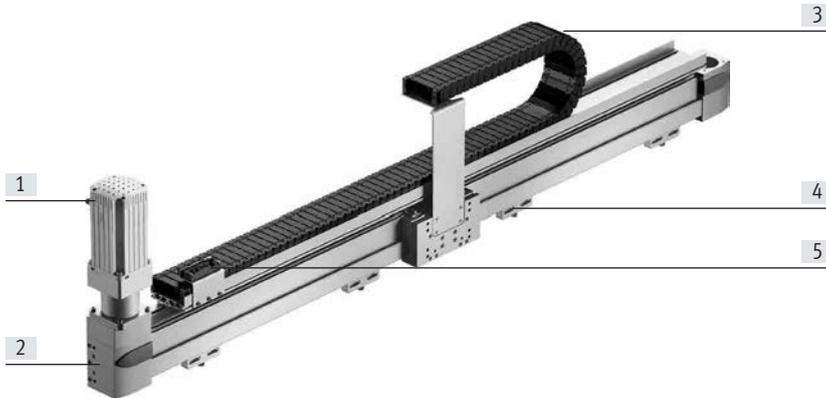


Key features

At a glance

A single-axis system (YXCS) is an axis module (EHM...) for any single-axis movement.

- Ideal for long gantry strokes and heavy loads
- High mechanical rigidity and sturdy design
- Use of tried-and-tested drives/axes from Festo



- [1] Servo motor for the Y-module
- [2] Y-axis
- [3] Energy chain for the Y-module
- [4] Profile mounting/adjusting kit
- [5] All electrical signals (such as for end-position sensing) are transferred via the multi-pin plug distributor

Description of the modules

Single-axis system

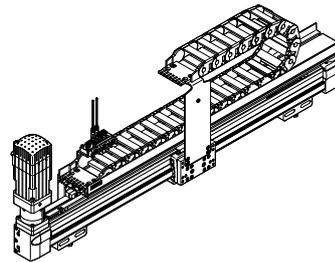
Structure:

The Y-module EHM Y comprises a linear axis which is powered by a servo motor.

The following components are located on the motor side:

- Energy chain
- Multi-pin plug distributor for a proximity sensor (if a sensor package has been selected)

Sample image:



Dispatch options

Fully assembled:

The single-axis system is fully assembled. All cables are installed and connected.

System overview¹⁾

Size	YXCS
Max. usable stroke	3000 mm
Max. payload	Dependent on the selected dynamic response
Mounting position	Horizontal

1) Drive package depending on configuration selected.

Key features

Configurator: Handling Guide Online (HGO)

Selecting a handling system

Planning complex handling systems takes a lot of time. You can use the configurator "Handling Guide Online" (HGO) to design a customised handling system for your application in just a few steps.

You can choose from the following systems:

- Single-axis system
- 2D linear gantry
- 2D planar surface gantry
- 3-dimensional gantry

Advantages:

- Automatic selection of all relevant components
- Automatic design and calculation of workload
- Quote created automatically
- CAD model available immediately
- Fully automated processing
- Fully assembled or unassembled systems can be ordered through the Online Shop
- Lots of possible options

Selecting the handling solution

Select your handling system

<input checked="" type="radio"/> Single-axis system		<p>Single-axis movement: Single-axis module as a complete system. Easy to connect to your own front unit.</p> <input type="checkbox"/> Animation
<input type="radio"/> 2D linear gantry		<p>Movements in 2D in the vertical working space: Linear gantries as complete systems. Electric and pneumatic axes can be combined</p> <input type="checkbox"/> Animation
<input type="radio"/> 2D gantry		<p>Movements in 2D in the horizontal working space: Planar surface gantries as complete systems. Combining electric axes. Easy to connect to your own Z unit.</p> <input type="checkbox"/> Animation
<input type="radio"/> 3D gantry		<p>Movements in 3D: Three-dimensional gantries as complete systems. Electric and pneumatic axes can be combined</p> <input type="checkbox"/> Animation

Entering the application data

- Payload
- Drive system of the axis
- Distance from the centre of the load
- Working stroke
- Reference cycle

Axis definition and payload

Axis definition

Drive system of the axis Electric: several positions

Required working stroke mm

Take the stroke reserve into account in your specification



Payload

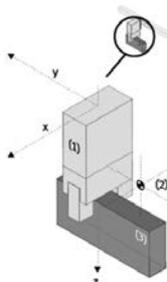
Sum of the weight of the front unit and the workpiece kg

Distance from the centre of the load

X mm

Y mm

Z mm



Key features

Result of calculation

You will be offered a selection of systems calculated based on the application data you entered.

The following are available immediately:

- CAD model
- Data sheet of the selected system
- Price information

Result of calculation

Select the appropriate system and continue with the configuration:

Selection Filter

No.	System series	System workload i	Repetition accuracy (+/-)	Your price
<input checked="" type="checkbox"/>	1 YXCS	57 %	0.08 mm	
<input type="checkbox"/>	3 YXCS	52 %	0.08 mm	
<input type="checkbox"/>	5 YXCS	21 %	0.08 mm	
<input type="checkbox"/>	7 YXCS	49 %	0.08 mm	
<input type="checkbox"/>	9 YXCS	6 %	0.08 mm	

Single-axis system YXCS: #1

Drive module	Toothed belt axis EGC-50
Kinematics type	Serial kinematics
Stroke	200 mm
Repetition accuracy (+/-)	0.08 mm
Gear unit	Without
Type of motor	Stepper motor EMMS-ST
Motor position	Left
Motor controller	CMMS-ST
Nominal voltage phases	DC voltage

Data protection

Back Continue

System overview

You will be given an overview of the whole system.

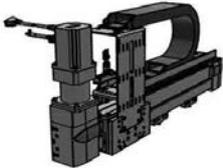
- Show price
- Send request
- Add to basket

You will also have the following options:

Your handling solution

Your selected system overview:

Exemplary representation



Update CAD Preview

Your system ID:
C1371013

Your next step:

[Show price](#)

[Send request](#)

[Add to basket](#)

Feature	Value
Handling type	Single-axis system
Payload	1 kg
Drive system of the axis	Electric; several positions
Working stroke	200 mm
Motor position on the axis	Left

Key features

Standard components within the handling system

The handling system comprises a number of tried-and-tested standard components from Festo. Different components are used depending on the configuration. The single axes installed will be displayed in the configurator HGO on the "Result of calculation" page.

Drives/axes

Y-axis

Toothed belt axis EGC-TB-KF



- Electric
- Rigid, closed profile
- Recirculating ball bearing guide for high loads and torques
- High dynamic response and minimum vibration

Toothed belt axis EGC-HD-TB



- Electric
- Flat drive unit with rigid, closed profile
- Duo guide rail
- For maximum loads and torques, high feed forces and speeds and long service life

Possible axis combinations¹⁾

YXCS	<ul style="list-style-type: none"> • Toothed belt axis EGC-50-TB-KF • Toothed belt axis EGC-80-TB-KF • Toothed belt axis EGC-120-TB-KF • Toothed belt axis EGC-185-TB-KF • Toothed belt axis with heavy-duty guide EGC-HD-125-TB • Toothed belt axis with heavy-duty guide EGC-HD-160-TB • Toothed belt axis with heavy-duty guide EGC-HD-220-TB
------	---

1) Drive package depending on configuration selected.

Key features

Standard components within the handling system

The handling system comprises a number of tried-and-tested standard components from Festo. Different components are used depending on the configuration. You can alter the scope and design of the drive package in the configurator HGO on the "System configuration" page.

Motors and controllers

Servo motors EMMS-AS



- Dynamic, brushless, permanently excited servo motor
 - Digital absolute displacement encoder in single-turn or multi-turn version
 - With optional brake
- Options:
- With or without brake
 - Encoder type: single-turn or multi-turn

Gear units EMGA



- Low-backlash planetary gear
- Gear ratio
i = 3 and 5
- Life-time lubrication

Motor controllers CMMP-AS, for servo motor



- Complete integration of all components for controller and power unit, including USB interface
- Integrated brake chopper
- Integrated EMC filters
- Automatic activation for a brake

Options:

- Safety function: safe torque off (STO)/category 4, Performance Level e
- Additional digital inputs and outputs

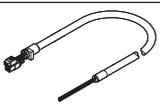
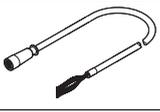
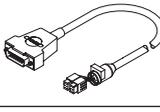
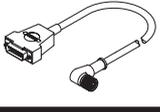
- Bus protocols
 - CANopen
 - DeviceNet
 - EtherCAT
 - EtherNet/IP
 - PROFIBUS DP
 - PROFINET

Ordering data – Accessories

Module/motor combinations

We recommend that the single-axis system is operated with the proposed motors from Festo. These precisely match the mechanical system. When using third-party motors, it is essential that the technical limits are observed.

Module	Motor
Y-module	
EHMY...-EGC-50-TB-KF	EMMS-AS-40-M-LS-...
EHMY...-EGC-80-TB-KF	EMMS-AS-70-S-LS-...
EHMY...-EGC-120-TB-KF	EMMS-AS-100-S-HS-...
EHMY...-EGC-125-TB-HD	EMMS-AS-70-S-LS-...
EHMY...-EGC-160-TB-HD	EMMS-AS-100-S-HS-...
EHMY...-EGC-185-TB-KF	EMMS-AS-100-S-HS-...
EHMY...-EGC-220-TB-HD	EMMS-AS-140-S-HS-...

Designation	Description	Cable length	Part no.	Type
Motor cable¹⁾				
	• For servo motor EMMS-AS-40-M-LS-...	5 m	550306	NEBM-T1G8-E-5-Q7N-LE8
		10 m	550307	NEBM-T1G8-E-10-Q7N-LE8
		15 m	550308	NEBM-T1G8-E-15-Q7N-LE8
Motor cable¹⁾				
	• For servo motor EMMS-AS-70-S-LS-.../ EMMS-AS-100-S-HS-.../EMMS-AS-140-S-HS-...	5 m	550310	NEBM-M23G8-E-5-Q9N-LE8
		10 m	550311	NEBM-M23G8-E-10-Q9N-LE8
		15 m	550312	NEBM-M23G8-E-15-Q9N-LE8
Encoder cable¹⁾				
	• For servo motor EMMS-AS-40-M-LS-...	5 m	550314	NEBM-T1G8-E-5-N-S1G15
		10 m	550315	NEBM-T1G8-E-10-N-S1G15
		15 m	550316	NEBM-T1G8-E-15-N-S1G15
Encoder cable¹⁾				
	• For servo motor EMMS-AS-70-S-LS-.../ EMMS-AS-100-S-HS-.../EMMS-AS-140-S-HS-...	5 m	550318	NEBM-M12W8-E-5-N-S1G15
		10 m	550319	NEBM-M12W8-E-10-N-S1G15
		15 m	550320	NEBM-M12W8-E-15-N-S1G15

1) Cables especially suitable for the motor controller and motor.
Degree of protection to IP65 (in assembled state)

Possible cable lengths

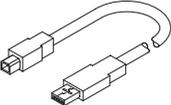
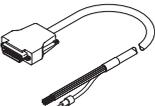
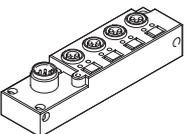
- Cables are selected so that the minimum length available from the energy chain output is the connection length specified when ordering.
- Cables are only available in fixed lengths as stated in the table below. This can mean that the cable plugs of the different cables do not end at the same point.

Length	2 m	5 m	7 m	10 m
Motor cable	■	■	■	■
Encoder cable	■	■	■	■
Multi-pin plug connecting cable	■	■	■	■

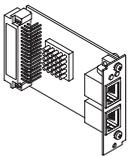
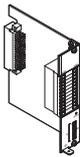
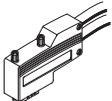
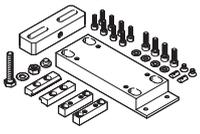
Ordering data – Accessories

Standard components within the handling system

The handling system comprises a number of tried-and-tested standard components from Festo. Different components are used depending on the configuration. You can alter the scope and design of the accessories in the configurator HGO on the "System configuration" page.

Designation	Description	Cable length	Part no.	Type	
Programming cable					
	<ul style="list-style-type: none"> High-speed USB 2.0 connecting cable 	1.8 m	1501332	NEBC-U1G4-K-1.8-N-U2G4	
Control cable					
	<ul style="list-style-type: none"> For I/O interface to any controller 	2.5 m	552254	NEBC-S1G25-K-2.5-N-LE26	
Proximity sensor (inductive) for sensing the position of the slide					
	Cable with open end				
	<ul style="list-style-type: none"> For toothed belt axis EGC-TB, EGC-HD-TB For direct voltage Flush mounting Included if a "Festo sensor package" is selected: 2 pieces 	PNP, N/C contact	7.5 m	551391	SIES-8M-PO-24V-K-7.5-OE
		PNP, N/O contact	7.5 m	551386	SIES-8M-PS-24V-K-7.5-OE
		NPN, N/C contact	7.5 m	551401	SIES-8M-NO-24V-K-7.5-OE
		NPN, N/O contact	7.5 m	551396	SIES-8M-NS-24V-K-7.5-OE
Plug socket with cable					
	<ul style="list-style-type: none"> Connection between multi-pin plug distributor and control cabinet 	5 m	525618	SIM-M12-8GD-5-PU	
		10 m	570008	SIM-M12-8GD-10-PU	
Plug					
	<ul style="list-style-type: none"> For connection to the multi-pin plug distributor 	–	562024	NECU-S-M8G3-HX	
Multi-pin plug distributor					
	<ul style="list-style-type: none"> With the help of the multi-pin plug distributor, all electrical signals, such as for end-position sensing, can be transferred Options: <ul style="list-style-type: none"> 4 individual connections 6 individual connections 	–	574586	NEDU-L4R1-M8G3L-M12G8	
			574587	NEDU-L6R1-M8G3L-M12G8	

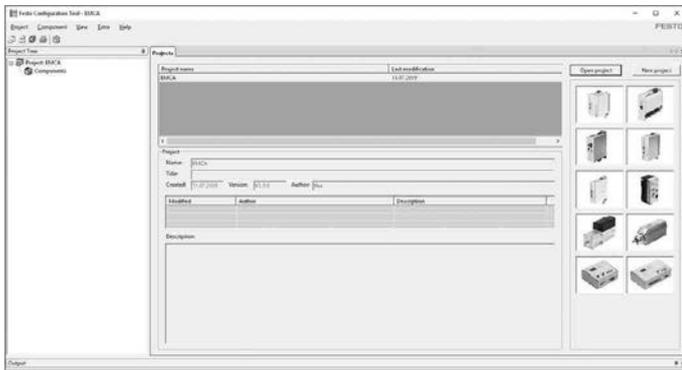
Ordering data – Accessories

Designation	Description	Part no.	Type	
Interface				
	For additional I/Os	567855	CAMC-D-8E8A	
	For DeviceNet	547451	CAMC-DN	
	For EtherCAT	567856	CAMC-EC	
	For EtherNet/IP	1911917	CAMC-F-EP	
	For PROFINET RT	1911916	CAMC-F-PN	
	For PROFIBUS DP	547450	CAMC-PB	
Safety module				
	For safe torque off (STO)	1501330	CAMC-G-S1	
Switch module				
	If the safety module CAMC-G-S1 is not used, the switch module is absolutely essential for operating the motor controller CMMP-AS-...-M3	1501329	CAMC-DS-M1	
Bus connection				
	For DeviceNet interface	525635	FBSD-KL-2X5POL	
Plug				
	For CANopen interface	533783	FBS-SUB-9-WS-CO-K	
	For PROFIBUS interface	533780	FBS-SUB-9-WS-PB-K	
Adjusting kit				
	<ul style="list-style-type: none"> Used to mount the handling system on a vertical surface Once mounted, the axis can be aligned horizontally 	EHMY-...-EGC-50-TB-KF	8047576	EADC-E16-50-E7
		EHMY-...-EGC-80-TB-KF	8047577	EADC-E16-80-E7
		EHMY-...-EGC-120-TB-KF	8047578	EADC-E16-120-E7
		EHMY-...-EGC-185-TB-KF	8047579	EADC-E16-185-E7
		EHMY-...-EGC-125-TB-HD	8047580	EADC-E16-125-E14
		EHMY-...-EGC-160-TB-HD	8047581	EADC-E16-160-E14
EHMY-...-EGC-220-TB-HD	8047582	EADC-E16-220-E14		

Programming aid

FCT software – Festo Configuration Tool

Software platform for electric drives from Festo (→ www.festo.com/sp/fct)



- All drives in a system can be managed and saved in a common project
- Project and data management for all supported types of equipment
- Easy to use thanks to graphically supported parameter entry
- Universal mode of operation for all drives
- Work offline at your desk or online at the machine

Festo - Your Partner in Automation



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