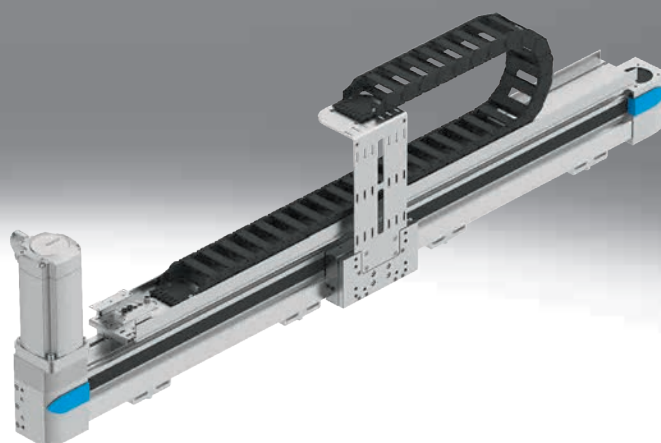


Single-axis systems

FESTO

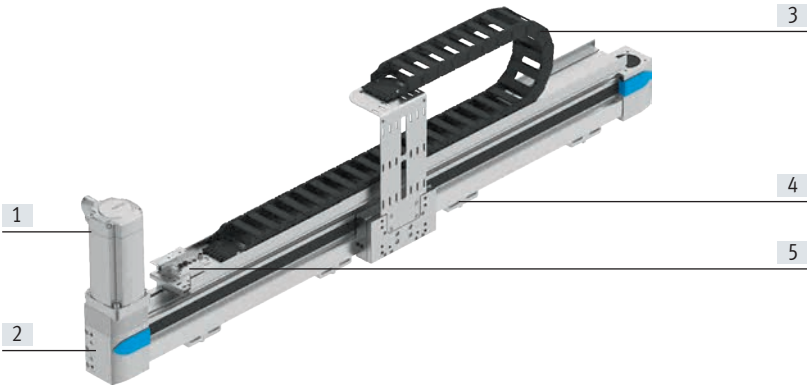


Key features

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] Electrical signals (such as for end-position sensing) are transferred collectively via the multi-pin plug distributor

Description of the modules

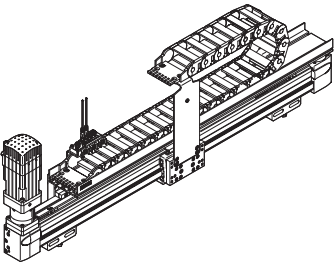
Single-axis system

Design:

The Y-module EHY 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 proximity switch (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 overview ¹⁾ | |
|-------------------------------|--|
| Size | YXCS |
| Max. working stroke | 3000 mm |
| Max. payload | Dependent on the selected dynamic response |
| Mounting position | Horizontal |

1) Drive package depends on the configuration selected.

Characteristics

Configurator: Handling Guide Online (HGO)

Selecting a handling system

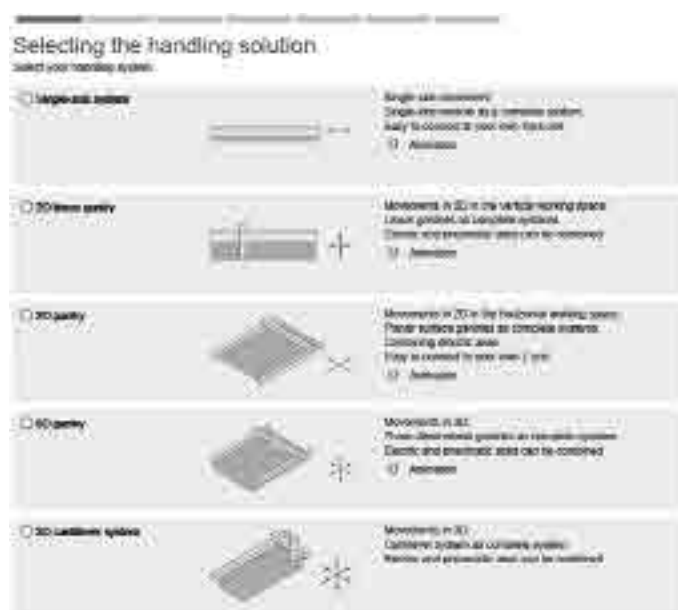
Planning complex handling systems takes a lot of time. You can use the configurator "Handling Guide Online" (HGO) to design a customised handling system for your application in just a few steps.

You can choose from the following systems:

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

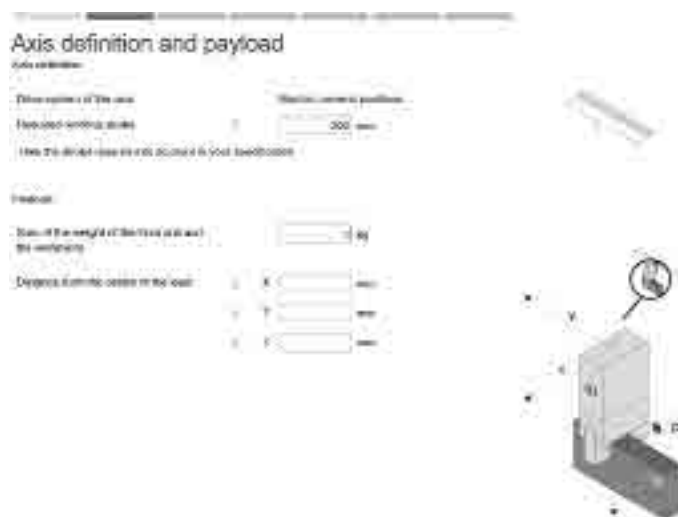
Advantages:

- Automatic selection of all relevant components
- Automatic design and calculation of the workload
- Quote created automatically
- CAD model available immediately
- Configuration-specific parameters for servo drives available immediately
- Complete Eplan project can be ordered according to the individual configuration
- Fully automated processing
- You can order fully or partially assembled systems through the Online Shop
- Lots of possible options



Entering the application data

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



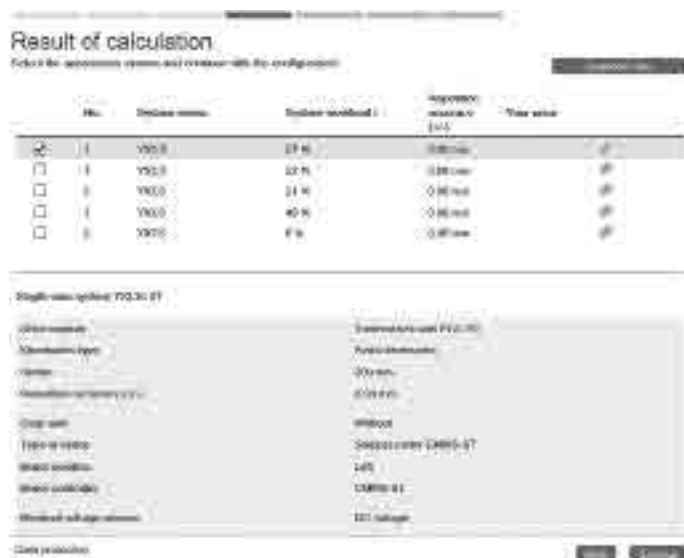
Characteristics

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
- Datasheet of the selected system
- Price information



System overview

You will be given an overview of the complete system.

You will also have the following options:

- Show price
- Send request
- Add to basket



Characteristics

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 combinations ¹⁾ | |
|--|---|
| 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 depends on the configuration selected.

Characteristics

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 EMMT-AS



- Dynamic, brushless, permanently excited servo motor
- Digital absolute displacement encoder in single-turn or multi-turn version
- With optional brake

Stepper motors EMMS-ST



- Two-phase hybrid technology
- Step angle 1.8°
- With optional brake

Gear unit EMGA



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

Servo drive CMMT-AS, for servo motor



- Universal servo drive
- For synchronous servo motors
- Integrated EMC filters
- Integrated brake chopper
- Integrated braking resistor
- Position controller
- Speed controller
- Force controller
- Range of control functions

Options:

- Safety function: safe torque off (STO)/category 4, Performance Level e
- Safe stop 1 (SS1)
- Safe brake control (SBC) up to SIL3/ category 3, Performance Level e

- Bus protocols
 - EtherCAT
 - PROFINET RT/IRT
 - EtherNet/IP
 - Modbus TCP

Servo drive CMMT-ST, for stepper motor



- Servo drive for operating stepper motors and brushless direct current motors
- Options for point-to-point and interpolating motion and for precise positioning
- Primary voltage from 24 ... 48 V DC
- Position controller
- Speed controller
- Force controller
- Range of control functions

Options:

- Safety function: safe torque off (STO)/category 3, Performance Level e
- Safe stop 1 time controlled (SS1-t)

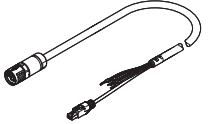
- Bus protocols
 - EtherCAT
 - PROFINET RT/IRT
 - EtherNet/IP
 - Modbus TCP

Ordering data – Accessories

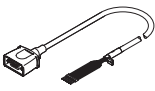
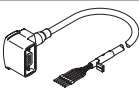
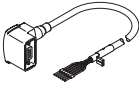
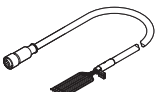
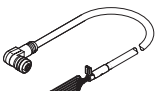
Module/motor combinations

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 Servo motor | Stepper motor |
|------------------------|------------------------|------------------|
| Y-module | | |
| EHMY-...-EGC-50-TB-KF | – | EMMS-ST-57-M-... |
| EHMY-...-EGC-80-TB-KF | EMMT-AS-60-S-LS-... | EMMS-ST-57-S-... |
| EHMY-...-EGC-120-TB-KF | EMMT-AS-80-L-LS-... | EMMS-ST-87-S-... |
| | EMMT-AS-80-L-HS-... | – |
| EHMY-...-EGC-125-TB-HD | EMMT-AS-60-L-LS-... | EMMS-ST-57-S-... |
| EHMY-...-EGC-160-TB-HD | EMMT-AS-80-M-LS-... | EMMS-ST-87-S-... |
| | EMMT-AS-80-L-HS-... | – |
| EHMY-...-EGC-185-TB-KF | EMMT-AS-100-L-HS-... | – |
| | EMMT-AS-100-H-HS-... | – |
| | EMMT-AS-150-M-HV-R3... | – |
| EHMY-...-EGC-220-TB-HD | EMMT-AS-100-L-HS-... | – |
| | EMMT-AS-100-H-HS-... | – |
| | EMMT-AS-150-M-HV-R3... | – |

| Ordering data | | Cable length [m] | Part no. | Type |
|---|--|---------------------|----------|---------------------------------|
| For servo motor EMMT-AS | | | | |
| Motor cable | | | | |
|  | • For EMMT-AS-60/80-...-R2... with CMMT-AS | 2.5 | 5251374 | NEBM-M23G15-EH-2.5-Q7N-R3LEG14 |
| | | 5 | 5251375 | NEBM-M23G15-EH-5-Q7N-R3LEG14 |
| | | 7.5 | 5251376 | NEBM-M23G15-EH-7.5-Q7N-R3LEG14 |
| | | 10 | 5251377 | NEBM-M23G15-EH-10-Q7N-R3LEG14 |
| | | 15 | 5251378 | NEBM-M23G15-EH-15-Q7N-R3LEG14 |
| | | 20 | 5251379 | NEBM-M23G15-EH-20-Q7N-R3LEG14 |
| | • For EMMT-AS-100-...-R2... with CMMT-AS | 2.5 | 5251381 | NEBM-M23G15-EH-2.5-Q9N-R3LEG14 |
| | | 5 | 5251382 | NEBM-M23G15-EH-5-Q9N-R3LEG14 |
| | | 7.5 | 5251383 | NEBM-M23G15-EH-7.5-Q9N-R3LEG14 |
| | | 10 | 5251384 | NEBM-M23G15-EH-10-Q9N-R3LEG14 |
| | | 15 | 5251385 | NEBM-M23G15-EH-15-Q9N-R3LEG14 |
| | | 20 | 5251386 | NEBM-M23G15-EH-20-Q9N-R3LEG14 |
| | • For EMMT-AS-150-...-R3... with CMMT-AS | 2.5 | 5251395 | NEBM-M40G15-EH-2.5-Q11N-R3LEG14 |
| | | 5 | 5251396 | NEBM-M40G15-EH-5-Q11N-R3LEG14 |
| | | 7.5 | 5251397 | NEBM-M40G15-EH-7.5-Q11N-R3LEG14 |
| | | 10 | 5251398 | NEBM-M40G15-EH-10-Q11N-R3LEG14 |
| | | 15 | 5251399 | NEBM-M40G15-EH-15-Q11N-R3LEG14 |
| | | 20 | 5251400 | NEBM-M40G15-EH-20-Q11N-R3LEG14 |

Ordering data – Accessories

| Designation | Description | Cable length [m] | Part no. | Type |
|--|--|---------------------|----------|-------------------------|
| For stepper motor EMMS-ST | | | | |
| Motor cable ¹⁾ | | | | |
|  | <ul style="list-style-type: none">For stepper motor EMMS-ST-57 with CMMT-STStraight plug | 2.5 | 1450369 | NEBM-S1G9-E-2.5-Q5-LE6 |
| | | 5 | 1450370 | NEBM-S1G9-E-5-Q5-LE6 |
| | | 7 | 1450371 | NEBM-S1G9-E-7-Q5-LE6 |
| | | 10 | 1450372 | NEBM-S1G9-E-10-Q5-LE6 |
| | | 15 | 5085055 | NEBM-S1G9-E-15-Q5-LE6 |
| | | 20 | 5085056 | NEBM-S1G9-E-20-Q5-LE6 |
|  | <ul style="list-style-type: none">For stepper motor EMMS-ST-57 with CMMT-STAngled plug | 2.5 | 1450737 | NEBM-S1W9-E-2.5-Q5-LE6 |
| | | 5 | 1450738 | NEBM-S1W9-E-5-Q5-LE6 |
| | | 7 | 1450739 | NEBM-S1W9-E-7-Q5-LE6 |
| | | 10 | 1450740 | NEBM-S1W9-E-10-Q5-LE6 |
| | | 15 | 610856 | NEBM-S1W9-E-15-Q5-LE6 |
|  | <ul style="list-style-type: none">For stepper motor EMMS-ST-87 with CMMT-STAngled plug | 2.5 | 1450944 | NEBM-S1W15-E-2.5-Q7-LE6 |
| | | 5.0 | 1450945 | NEBM-S1W15-E-5-Q7-LE6 |
| | | 7.0 | 1450946 | NEBM-S1W15-E-7-Q7-LE6 |
| | | 10 | 1450947 | NEBM-S1W15-E-10-Q7-LE6 |
| | | 15 | 610857 | NEBM-S1W15-E-15-Q7-LE6 |
| Encoder cable ¹⁾ | | | | |
|  | <ul style="list-style-type: none">For stepper motor EMMS-ST-57/87 with CMMT-STStraight plug | 2.5 | 1451587 | NEBM-M12G8-E-2.5-LE8 |
| | | 5 | 1451588 | NEBM-M12G8-E-5-LE8 |
| | | 7 | 1451589 | NEBM-M12G8-E-7-LE8 |
| | | 10 | 1451590 | NEBM-M12G8-E-10-LE8 |
| | | 15 | 611110 | NEBM-M12G8-E-15-LE8 |
| | | 20 | 611111 | NEBM-M12G8-E-20-LE8 |
|  | <ul style="list-style-type: none">For stepper motor EMMS-ST-57/87 with CMMT-STAngled plug | 2.5 | 1451675 | NEBM-M12W8-E-2.5-LE8 |
| | | 5 | 1451676 | NEBM-M12W8-E-5-LE8 |
| | | 7 | 1451677 | NEBM-M12W8-E-7-LE8 |
| | | 10 | 1451678 | NEBM-M12W8-E-10-LE8 |
| | | 15 | 610858 | NEBM-M12W8-E-15-LE8 |

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

Possible cable lengths

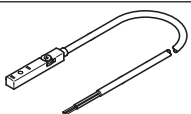
- Cables are selected so that the length specified when ordering will be the minimum connection length from the energy chain output.
- Cables are only available in fixed lengths as stated in the table below. This can mean that the cable plugs of the different cables do not end at the same point.


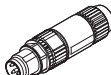
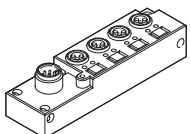
| Length | 2 m | 5 m | 7 m | 10 m |
|---------------------------------|-----|-----|-----|------|
| Motor cable | ■ | ■ | ■ | ■ |
| Encoder cable | ■ | ■ | ■ | ■ |
| Multi-pin plug connecting cable | ■ | ■ | ■ | ■ |

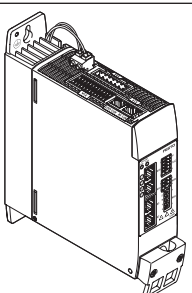
Ordering data – Accessories

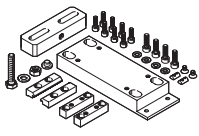
Standard components within the handling system

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 | |
|---|--|------------------|----------|--------|-------------------------|
| Proximity switch (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-TBFor DC voltageFlush mounting Included if the "Festo sensor package" is selected: <ul style="list-style-type: none">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 |
| | | | | | |

| Designation | Description | Cable length | Part no. | Type |
|---|--|--------------|----------|-----------------------|
| Plug socket with cable | | | | |
|  | • 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 | | | | |
|  | • For connection to the multi-pin plug distributor | – | 562024 | NECU-S-M8G3-HX |
| Multi-pin plug distributor | | | | |
|  | • With the help of the multi-pin plug distributor, electrical signals such as for end-position sensing can be transferred collectively Options: – 4 individual connections – 6 individual connections | – | 574586 | NEDU-L4R1-M8G3L-M12G8 |
| | | | 574587 | NEDU-L6R1-M8G3L-M12G8 |

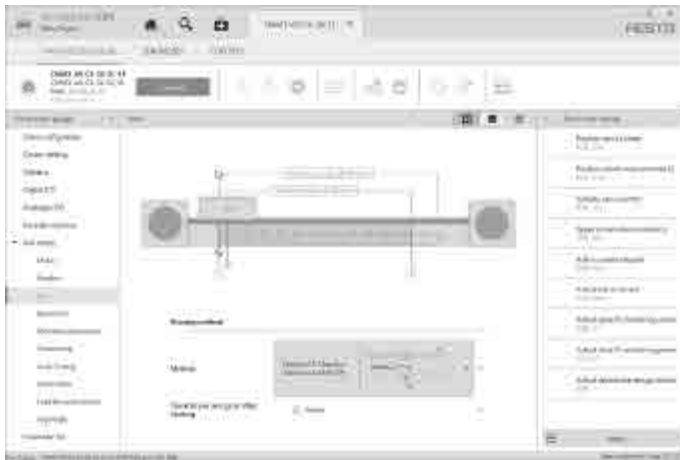
| Designation | Description |
|---|--|
| Motor controller/servo drive | |
|  | The accessories for the relevant motor controllers/servo drives can be found at: • www.festo.com/catalogue/cmmt |

| Designation | Description | Part no. | Type | |
|---|--|------------------------|---------|------------------|
| Adjusting kit | | | | |
|  | <ul style="list-style-type: none">Used to mount the handling system on a vertical surfaceOnce 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

Festo Automation Suite

Parameterisation and programming software for electronic devices from Festo



- Parameterisation, programming and commissioning in a clear and user-friendly interface
- Optimum support for complex processes thanks to guided wizards (e.g. for commissioning, drive configuration, etc.)
- Fast access to the required documents and additional information
- Easy integration of electric drives in the controller programming

Festo - Your Partner in Automation



1 Festo Inc.
5300 Explorer Drive
Mississauga, ON L4W 5G4
Canada

Festo Customer Interaction Center
Tel: 1 877 463 3786
Fax: 1 877 393 3786
Email: customer.service.ca@festo.com



2 Festo Pneumatic
Av. Ceylán 3,
Col. Tequesquináhuac
54020 Tlalnepantla,
Estado de México

Multinational Contact Center
01 800 337 8669
ventas.mexico@festo.com




3 Festo Corporation
1377 Motor Parkway
Suite 310
Islandia, NY 11749

Festo Customer Interaction Center
1 800 993 3786
1 800 963 3786
customer.service.us@festo.com



4 Regional Service Center
7777 Columbia Road
Mason, OH 45040

Connect with us

www.festo.com/socialmedia



www.festo.com

Subject to change