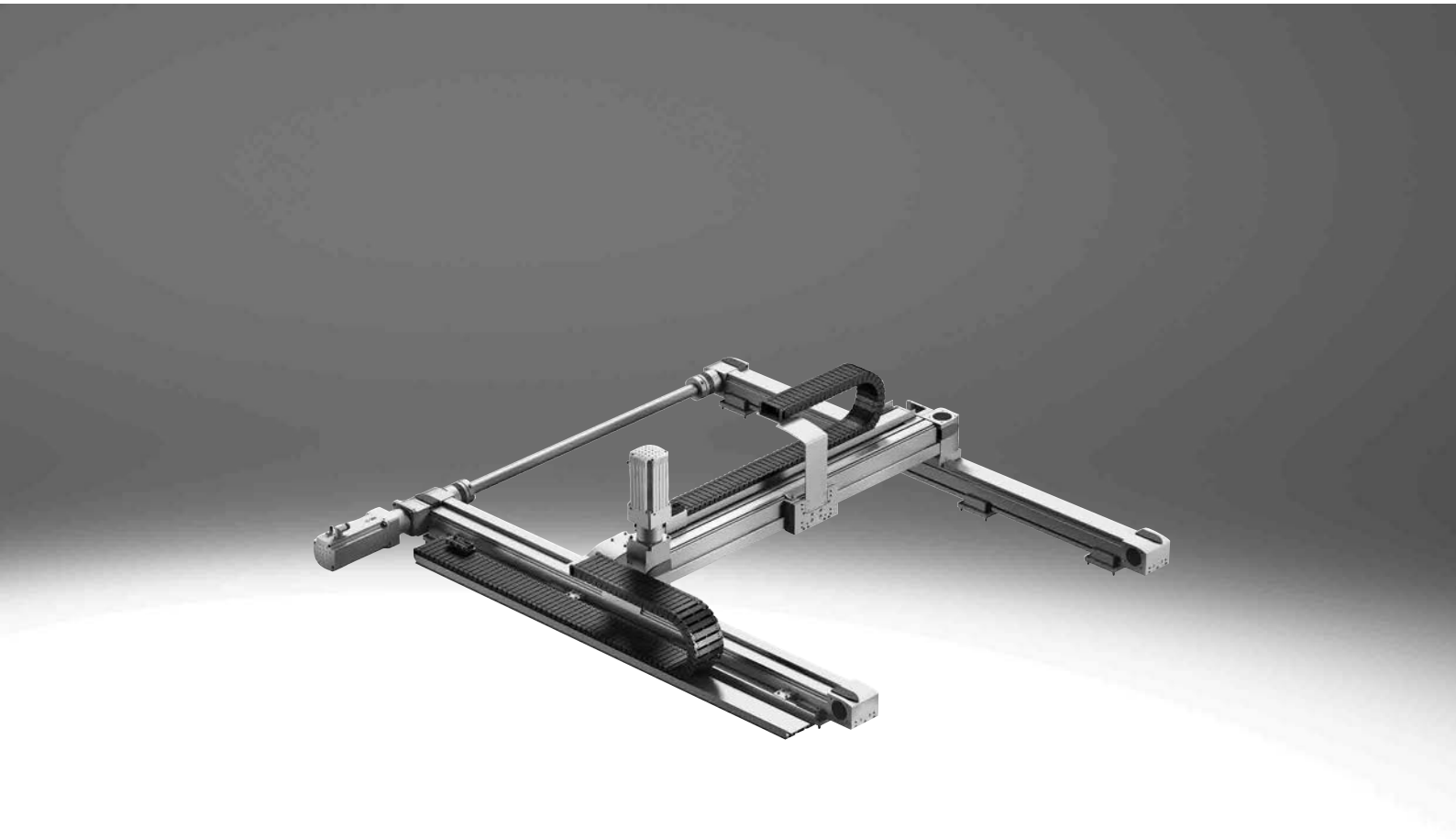
# Planar surface gantries

FESTO



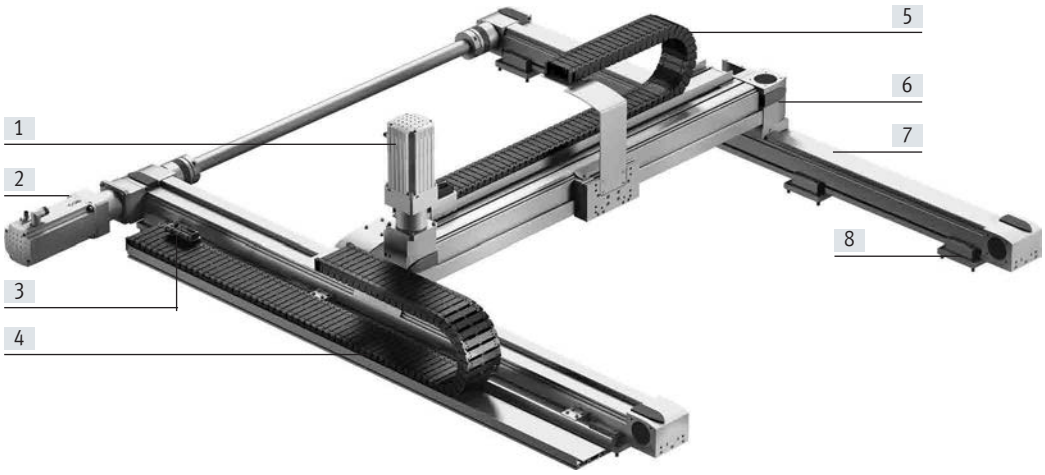
# Key features

## At a glance

The planar surface gantry facilitates movement in 2D space.
Depending on the requirements, the gantry is either composed of several axis modules (YXCF) or using the planar surface gantries EXCM or EXCH (YXMF). All of these are tried-and-tested components from Festo.

- Can be used universally for handling light to heavy workpieces or high payloads
- Especially suitable for very long strokes
- High mechanical rigidity and sturdy design
- Freely positionable/any intermediate positions

Range of application:
- For any movements in 2D space
- Very high requirements for precision and/or very heavy workpieces combined with long strokes




[1] Servo motor for the Y-module
[2] Servo motor for the X-module
[3] Multi-pin plug distributor which collectively transfers all electrical signals such as for end-position sensing
[4] Energy chain for the X-module
[5] Energy chain for the Y-module
[6] Y-axis
[7] X-axis
[8] Profile mounting/adjusting kit

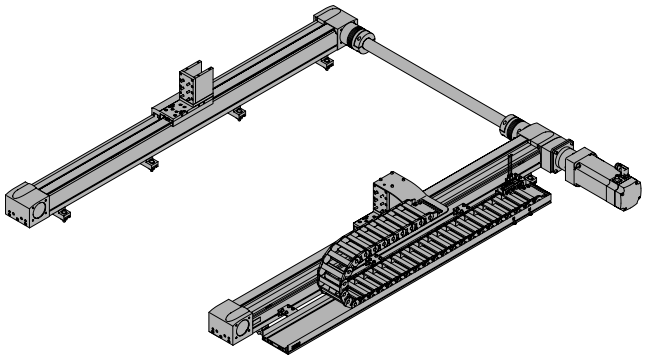
## Description of the modules

X-module

Structure:

The X-module EHMX comprises two parallel toothed belt axes which are connected by a connecting shaft. They are powered by a servo motor.
Adapters are mounted on the slides of the X-axes to connect the Y-module.
The position of the motor and energy chain can be selected using the configurator.
The following components are located on the motor side:
- Energy chain
- Multi-pin plug distributor for the proximity sensor (if sensor package has been selected)

Sample image:



# Key features

**Description of the modules**

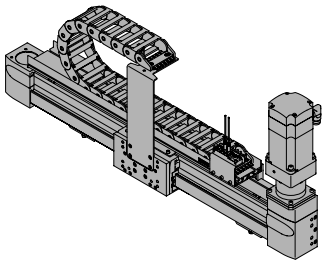
Y-module

Structure:

The Y-module EHMY comprises a linear axis which is powered by a servo motor. The position of the motor and energy chain is dependent on the position of the motor on the X-module.
The following components are located on the motor side:

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

Sample image:

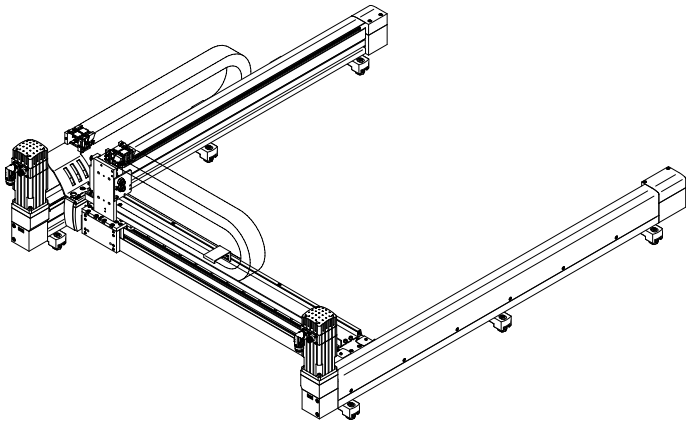


XY-module (EXCM, EXCH)

Structure::

A slide is moved in a 2-dimensional space (X-axis/Y-axis) via a toothed belt. The system is powered by two fixed motors that are coupled to the toothed belt. The belt is guided via pulleys so that the slide can move to any position in a working space when the motors are actuated.
When using attachment components, additional processes can be carried out by independent Z-axes.

Sample image:



Dispatch options

Fully assembled:

The planar surface gantry is fully assembled. All cables are installed and connected. The system is already set up on delivery, but must be adapted to the particular mounting surface during installation.
Note flatness → table below.

Partially assembled:

The planar surface gantry is delivered partially assembled. This means that both axis modules (X-/Y-axis) are assembled, each with optional motors. The partially assembled system must be completed by the customer. Help can be found in the assembly instructions provided.
Optional accessories (→ page 9) are enclosed.
Note flatness → table below.

**System overview**[1)]

| Size | YXCF-1 | YXCF-2 | YXCF-3 | YXCF-4 | YXMF-1 | YXMF-2 | YXMF-3 |
|---|---|---|---|---|---|---|---|
| Max. working stroke | X: 1900 mm<br>Y: 1900 mm | X: 3000 mm<br>Y: 2000 mm | X: 3000 mm<br>Y: 2000 mm | X: 3000 mm<br>Y: 2000 mm | X: 700 mm<br>Y: 510 mm | X: 2000 mm<br>Y: 1000 mm | X: 2500 mm<br>Y: 1500 mm |
| Max. payload | Dependent on the selected dynamic response | | | | | | |
| Required flatness of the mounting surface | ≤ 0.1 mm/m | | | | | | |
| Mounting position | Horizontal | | | | | | |

1) Drive package depends on configuration selected.

# Key features

**Configurator: Handling Guide Online (HGO)**

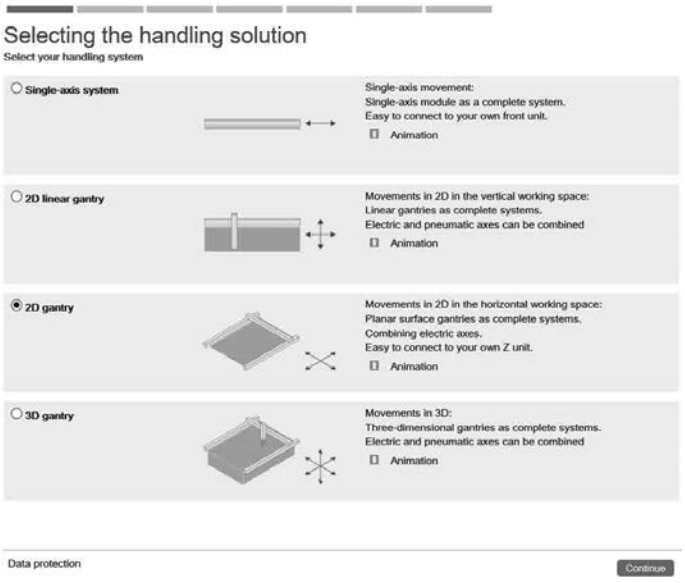
Selecting a handling system

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
- Planar surface gantry
- 3-dimensional gantry

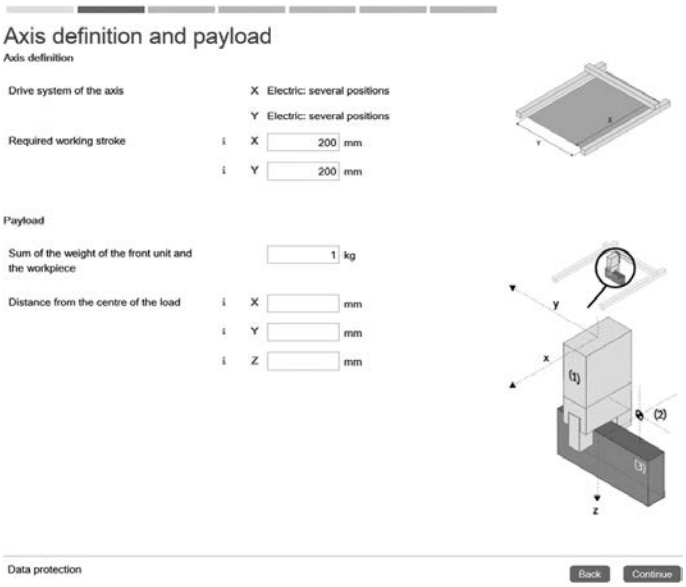
**Advantages:**

- 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




Entering the application data

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



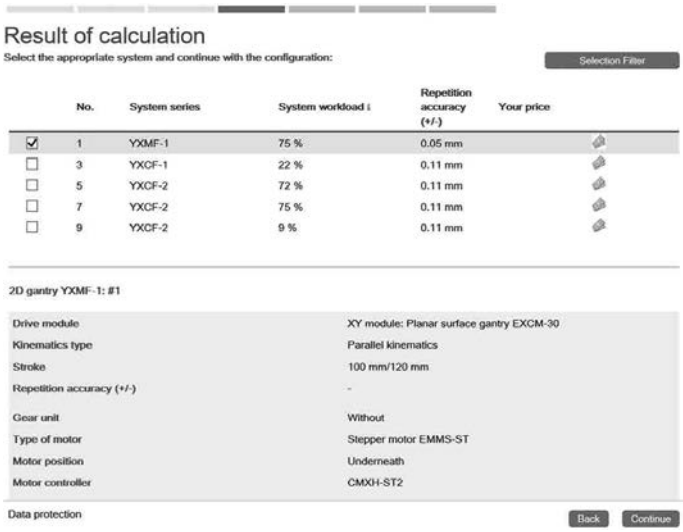
# Key features

**Configurator: Handling Guide Online (HGO)**

## 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




## System overview

You will be given an overview of the whole system.
You will also have the following options:

- Request price
- Send request
- Add to basket

# 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**

X-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

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)]

| Size | X-module | Y-module |
|---|---|---|
| YXCF-1 | • Toothed belt axis EGC-50-TB-KF | • Toothed belt axis EGC-50-TB-KF |
| YXCF-2 | • Toothed belt axis EGC-80-TB-KF | • Toothed belt axis EGC-80-TB-KF<br>• Toothed belt axis with heavy-duty guide EGC-HD-125-TB |
| YXCF-3 | • Toothed belt axis EGC-120-TB-KF | • Toothed belt axis EGC-120-TB-KF<br>• Toothed belt axis with heavy-duty guide EGC-HD-160-TB |
| YXCF-4 | • Toothed belt axis EGC-185-TB-KF | • Toothed belt axis EGC-185-TB-KF<br>• Toothed belt axis with heavy-duty guide EGC-HD-220-TB |
| YXMF-1 | • Planar surface gantry EXCM-30 | • Planar surface gantry EXCM-30 |
| YXMF-2 | • Planar surface gantry EXCM-40, EXCH-40 | • Planar surface gantry EXCM-40, EXCH-40 |
| YXMF-3 | • Planar surface gantry EXCH-60 | • Planar surface gantry EXCH-60 |

1) Drive package depends 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

**Servo motors EMME-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**

- 2-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

# 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.

**Motor controllers CMMP-AS for servo motor**

- Complete integration of all components for controller and power section, 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

**Motor controller CMMS-ST for stepper motor**

- Complete integration of all components for controller and power section, including RS232 interface
- Integrated brake chopper
- Integrated EMC filters
- Automatic activation for a brake

Options:
- Safety function: safe torque off (STO)/category 3, Performance Level d

- Bus protocols
  - CANopen
  - DeviceNet
  - PROFIBUS DP

**Controller CMXH-ST2, for stepper motor**

- The controller controls two stepper motors in servo mode which drive an H-shaped recirculating toothed belt. The toothed belt moves a slide whose position is calculated by the controller using the encoder signals from the motors

Options:
- Safety function: safe torque off (STO)/category 3, Performance Level e

- Bus protocols
  - I/O interface
  - CAN interface
  - Ethernet TCP/IP

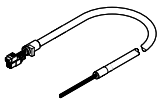
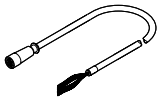
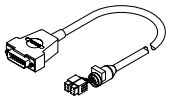
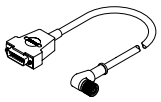
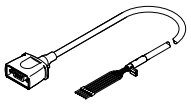
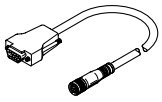
# Ordering data – Accessories

## Module/motor combinations

We recommend that the planar surface gantry 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 | Servo motor | Stepper motor |
| **X-module** | | | |
| EHMX-EGC-50-TB-KF | – | EMME-AS-40-M-LV-... | EMMS-ST-42-S-... |
| EHMX-EGC-80-TB-KF | EMMS-AS-70-M-LS-... | EMME-AS-60-M-LS-... | EMMS-ST-57-S-... |
| EHMX-EGC-120-TB-KF | EMMS-AS-100-M-HS-... | EMME-AS-80-S-LS-... | – |
| EHMX-EGC-185-TB-KF | EMMS-AS-140-L-HS-... | – | – |
| | | | |
| **Y-module** | | | |
| EHMY-...-EGC-50-TB-KF | – | EMME-AS-40-S-LV-... | EMMS-ST-57-M-... |
| EHMY-...-EGC-80-TB-KF | EMMS-AS-55-S-LS-... | EMME-AS-60-M-LS-... | EMMS-ST-57-S-... |
| EHMY-...-EGC-120-TB-KF | EMMS-AS-100-S-HS-... | EMME-AS-80-S-LS-... | EMMS-ST-87-S-... |
| EHMY-...-EGC-125-TB-HD | EMMS-AS-70-S-LS-... | EMME-AS-60-M-LS-... | EMMS-ST-57-S-... |
| EHMY-...-EGC-160-TB-HD | EMMS-AS-100-S-HS-... | EMME-AS-80-S-LS-... | EMMS-ST-87-S-... |
| EHMY-...-EGC-185-TB-KF | EMMS-AS-100-M-HS-... | EMME-AS-100-M-HS-... | – |
| | EMMS-AS-140-S-HS-... | | |
| EHMY-...-EGC-220-TB-HD | EMMS-AS-100-M-HS-... | EMME-AS-100-M-HS-... | – |
| | EMMS-AS-140-S-HS-... | | |
| | | | |
| **XY-module (EXCM, EXCH)** | | | |
| EXCM-30 | – | – | EMMS-ST-42-S-... |
| EXCM-40 | – | – | EMMS-ST-57-M-... |
| EXCH-40 | EMMS-AS-70-M-LS-... | – | – |
| EXCH-40 | EMMS-AS-100-S-HS-... | – | – |
| EXCH-60 | EMMS-AS-100-M-HS-... | – | – |
| EXCH-60 | EMMS-AS-140-S-HV-... | – | – |

# Ordering data – Accessories

| Designation | Description | Cable length | Part no. | Type |
|---|---|---|---|---|
| **For servo motor** | | | | |
| **Motor cable**[1] | | | | |
|  | • 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 cable**[1] | | | | |
|  | • For servo motor EMMS-AS-70-S-LS-.../ EMMS-AS-70-M-LS-.../EMMS-AS-100-S-HS-.../ EMMS-AS-100-M-HS-.../EMMS-AS-140-S-HS-.../ EMMS-AS-140-L-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 cable**[1] | | | | |
|  | • 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 cable**[1] | | | | |
|  | • For servo motor EMMS-AS-70-S-LS-.../ EMMS-AS-70-M-LS-.../EMMS-AS-100-S-HS-.../ EMMS-AS-100-M-HS-.../EMMS-AS-140-S-HS-.../ EMMS-AS-140-L-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** |
| **For stepper motor** | | | | |
| **Motor cable**[1] | | | | |
|  | • For stepper motor EMMS-ST-42-S-.../EMMS-ST-57-M-... | 2.5 m | **1450369** | **NEBM-S1G9-E-2.5-Q5-LE6** |
| | | 5 m | **1450370** | **NEBM-S1G9-E-5-Q5-LE6** |
| **Encoder cable**[1] | | | | |
|  | • For stepper motor EMMS-ST-42-S-.../EMMS-ST-57-M-... and motor controller CMMS-ST | 5 m | **550748** | **NEBM-M12G8-E-5-S1G9** |
| | | 10 m | **550749** | **NEBM-M12G8-E-10-S1G9** |
| | | 15 m | **550750** | **NEBM-M12G8-E-15-S1G9** |

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

## Possible cable lengths

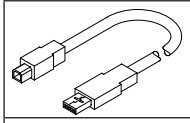
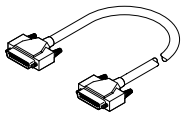
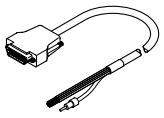
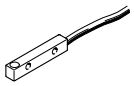
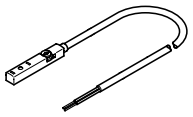
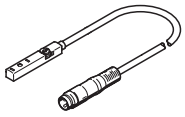
- Cables are selected so that the minimum length available from the energy chain output is the connection length specified when ordering.
- Cables are only available in fixed lengths as stated in the table below. This can mean that the cable plugs of the different cables do not end at the same point.

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

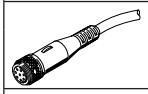
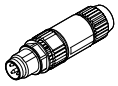
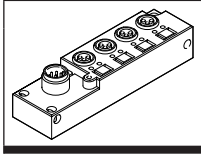
# Ordering data – Accessories

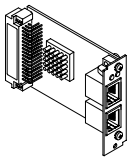
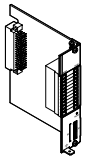
**Standard components within the handling system**

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.

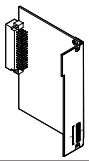
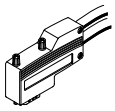
| Designation | Description | | Cable length | Part no. | Type |
|---|---|---|---|---|---|
| **Programming cable** | | | | | |
|  | • High-speed USB 2.0 connecting cable<br>• For controller CMMP-AS | | 1.8 m | **1501332** | **NEBC-U1G4-K-1.8-N-U2G4** |
|  | • For controller CMMS-ST | | 2 m | **160786** | **PS1-ZK11-NULLMODEM-2.0M** |
| **Control cable (for I/O interface to any controller)** | | | | | |
|  | • For controller CMMP-AS, CMMS-ST | | 2.5 m | **552254** | **NEBC-S1G25-K-2.5-N-LE26** |
| | • For controller CMXH-ST2 | | 2.5 m | **2052917** | **NEBC-S1H15-E-2.5-N-LE15** |
| **Proximity sensor for sensing the position of the slide on the X-axis** | | | | | |
|  | • For EXCM-40, EXCH-40, EXCH-60 | N/O contact | – | **150491** | **SIES-V3B-PS-S-L** |
|  | • For EXCM-40, EXCH-40, EXCH-60 | N/C contact | – | **174552** | **SIES-Q8B-PO-K-L** |
| **Proximity sensor (inductive) for sensing the position of the slide on the X-axis** | | | | | |
|  | **Cable with open end** | | | | |
| | • For toothed belt axis EGC-TB<br>• For direct voltage<br>Included if the "Festo sensor package" is selected:<br>• 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** |
| **Proximity sensor (inductive) for sensing the position of the slide on the Y-axis** | | | | | |
|  | **Cable with plug** | | | | |
| | • For toothed belt axis EGC-TB, EGC-HD-TB<br>• For direct voltage<br>Included if the "Festo sensor package" is selected:<br>• 2 pieces | PNP, N/C contact | 0.3 | **551392** | **SIES-8M-PO-24V-K-0.3-M8D** |
| | | PNP, N/C contact | 2.5 | **551393** | **SIES-8M-PO-24V-K-2.5-M8D** |
| | | PNP, N/O contact | 0.3 | **551387** | **SIES-8M-PS-24V-K-0.3-M8D** |
| | | PNP, N/O contact | 2.5 | **551388** | **SIES-8M-PS-24V-K-2.5-M8D** |
| | | NPN, N/C contact | 0.3 | **551402** | **SIES-8M-NO-24V-K-0.3-M8D** |
| | | NPN, N/C contact | 2.5 | **551403** | **SIES-8M-NO-24V-K-2.5-M8D** |
| | | NPN, N/O contact | 0.3 | **551397** | **SIES-8M-NS-24V-K-0.3-M8D** |
| | | NPN, N/O contact | 2.5 | **551398** | **SIES-8M-NS-24V-K-2.5-M8D** |

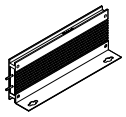
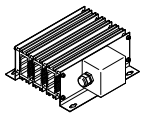
# Ordering data – Accessories

| 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** |
| **Plugs** | | | | |
|  | • 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<br>Options:<br>– 4 individual connections<br>– 6 individual connections | – | **574586** | **NEDU-L4R1-M8G3L-M12G8** |
| | | | **574587** | **NEDU-L6R1-M8G3L-M12G8** |

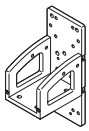
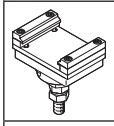
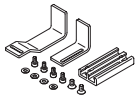
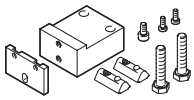
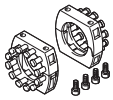
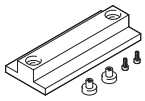
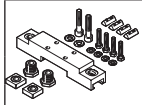
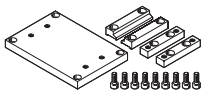
| Designation | Description | Part no. | Type |
|---|---|---|---|
| **Interface** | | | |
|  | For additional I/Os | **567855** | **CAMC-D-8E8A** |
| | For DeviceNet | **547451** | **CAMC-DN** |
| | For EtherCAT | **567856** | **CAMC-EC** |
| | For EtherNet/IP | **1911917** | **CAMC-F-EP** |
| | For PROFINET RT | **1911916** | **CAMC-F-PN** |
| | For PROFIBUS DP | **547450** | **CAMC-PB** |
| **Safety module** | | | |
|  | For safe torque off (STO) | **1501330** | **CAMC-G-S1** |

# Ordering data – Accessories

| Designation | Description | Part no. | Type |
|---|---|---|---|
| **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** |
| **Plugs** | | | |
|  | For CANopen interface | **533783** | **FBS-SUB-9-WS-CO-K** |
| | For PROFIBUS interface | **533780** | **FBS-SUB-9-WS-PB-K** |

| Designation | Description | Part no. | Type |
|---|---|---|---|
| **Braking resistor** | | | |
|  | • For EXCH-40<br>• Essential in the case of a vertical mounting position | **2882342** | **CACR-LE2-50-W500** |
|  | • For EXCH-60<br>• Essential in the case of a vertical mounting position | **2882343** | **CACR-KL2-40-W2000** |

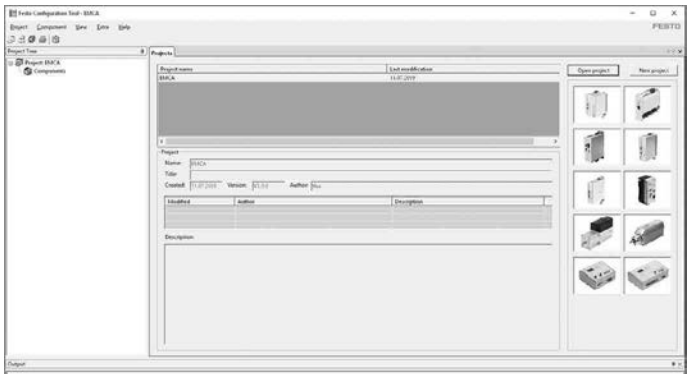
# Ordering data – Accessories

| Designation | Description | | Part no. | Type |
|---|---|---|---|---|
| **Mounting kit** | | | | |
|  | • Mounting kit for the energy chain and a Z-axis, such as EGSL, DGSL | • EXCM-30 | **4070088** | **EAHT-E9-FB-3D-30** |
| **Adjusting kit** | | | | |
|  | • Height-adjustable mounting kit | • EXCM-30 | **4070088** | **EADC-E11-30** |
| **Sensor mounting** | | | | |
|  | • For homing in combination with third-party motors | • EXCM-30 | **4070088** | **EAPR-E11-30** |
| **Sensor mounting** | | | | |
|  | • For mounting the proximity sensors SIES-Q8B, SIES-V3B on the X-axis | • EXCM-40, EXCH-40 | **2536353** | **EAPR-E12-40** |
| | | • EXCH-60 | **2478805** | **EAPR-E12-60** |
| **Energy chain** | | | | |
|  | • For routing the cables for the Z-axis | • EXCM-30 | **8059999** | **EADH-U-3D-30** |
| | | | **8060324** | **EADH-U-3D-40** |
| **Connector set** | | | | |
|  | • Holder for mounting the energy chain | • EXCM-30 | **8060325** | **EAHT-AE-3D-30** |
| | | | **8060326** | **EAHT-AE-3D-40** |
| **Adjusting tool** | | | | |
|  | • For aligning and checking the flatness of the planar surface gantry | | **3197697** | **EADT-W-E12** |
| **Adjusting kit** | | | | |
|  | • Used to mount the handling system on the supporting surface<br>• Can be used to easily compensate for any unevenness in the supporting surface | EHMY-...-EGC-50-TB-KF | **8047565** | **EADC-E15-50-E7** |
| | | EHMY-...-EGC-80-TB-KF | **8047566** | **EADC-E15-80-E7** |
| | | EHMY-...-EGC-120-TB-KF | **8047567** | **EADC-E15-120-E7** |
| | | EHMY-...-EGC-185-TB-KF | **8047568** | **EADC-E15-185-E7** |
| **Profile mounting** | | | | |
|  | • Used to mount the handling system on the supporting surface<br>• It is not height-adjustable | | – | |

# 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



**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

**4 Regional Service Center**

7777 Columbia Road
Mason, OH 45040

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

**Connect with us**

www.festo.com/socialmedia

**www.festo.com**

Subject to change