

EAMM-U-...-V...-...A/P/R-2  
Parallel kit

**FESTO**

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8133039

Assembly instructions  
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2022-11c  
[8133041]

Translation of the original instructions  
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1 Applicable documents

All available documents for the product → [www.festo.com/sp](http://www.festo.com/sp).

Document	Product	Table of contents
Operating instruction	Motor	–
Operating instruction	Axis	–

Tab. 1: Applicable documents

2 Safety

2.1 Safety instructions

- Only mount the product on components that are in a condition to be safely operated.
- Clean the shafts. The coupling hub [17] will grip without slipping only on a shaft journal that is dry and free of grease.
- Maintain the alignment of the coupling hub [17].
- If the motor is loosened or turned, homing must be carried out on the axis.
- Select required mounting components. The kit contains all the mounting components that may be required.
- Observe the tightening torques. Unless otherwise specified, the tolerance is ± 20%.

2.2 Intended use

2.2.1 Use

The parallel kit connects an axis to a motor in a parallel configuration.

2.2.2 Permissible axes and motors

**NOTICE**

**Overloading can cause malfunction and material damage.**  
The motor's output variables must not exceed the permissible values of the components used.  
Permissible values → [www.festo.com/catalogue](http://www.festo.com/catalogue).

- Limit the motor's output variables accordingly.

- Take the axis and the motor from the interface codes.  
Example: EAMM-U-...-V25-40P  
V25: axis interface  
40P: motor interface

Axis interface	Axis
V20	EGSC-BS-25, EPCC-BS-25
V25	EGSC-BS-32, ELGC-BS-32, EPCC-BS-32
V32	EGSC-BS-45, ELGC-BS-45, EPCC-BS-45

Tab. 2: Permissible axes

Motor interface	Motor
28A	EMMS-ST-28
28AA	Third-party motor
35A	EMMB-ST-35, third-party motor
40P	EMMB-/EMME-AS-40
42A	EMCS-/EMMS-ST-42, third-party motor
42AB	Third-party motor

Tab. 3: Permissible motors

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It is the responsibility of users to qualify third-party motors with the matching mechanical interface for the combination.  
To find out which third-party motors are suitable, consult your regional Festo contact or → [www.festo.com/sp](http://www.festo.com/sp).

2.3 Training of qualified personnel

Work on the product may only be carried out by qualified personnel who can evaluate the work and detect dangers. Personnel must have the relevant mechanical training.

3 Additional information

- Contact the regional Festo contact if you have technical problems.
- Accessories → [www.festo.com/catalogue](http://www.festo.com/catalogue).
- Spare parts and accessories → [www.festo.com/spareparts](http://www.festo.com/spareparts).

4 Product Range Overview

4.1 Scope of delivery

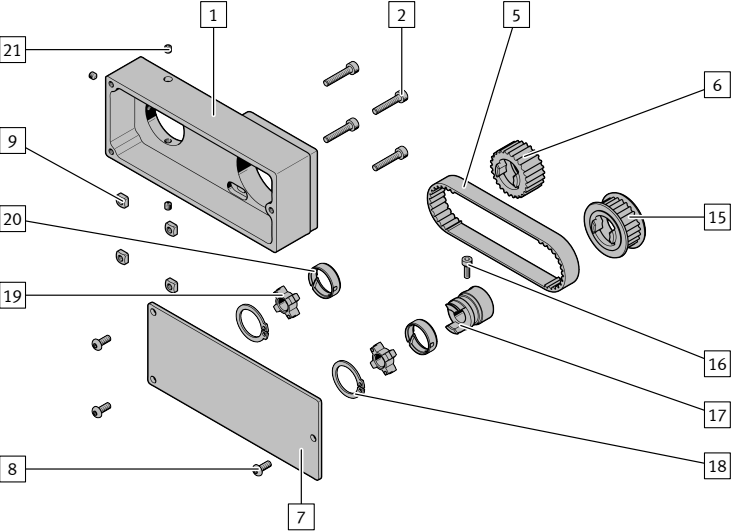


Fig. 1: Scope of delivery

1 Housing (1x)	15 Toothed belt pulley motor (1x)
2 Screw (4x)	16 Clamping screw (1x)
5 Toothed belt (1x)	17 Coupling hub (1x)
6 Toothed belt pulley axis (1x)	18 Retaining ring (2x)
7 Cover (1x)	19 Elastomer spider (2x)
8 Screw (3x)	20 Slip ring (2x)
9 Square nut (4x)	21 Threaded pin (3x)

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The square nut [9] is not included with EAMM-U-...-V...-28A/28AA/35A/42A/42AB.  
The slip ring [20] is not included with EAMM-U-...-V20.

5 Assembly

5.1 Assembly

5.1.1 Preassembly of coupling

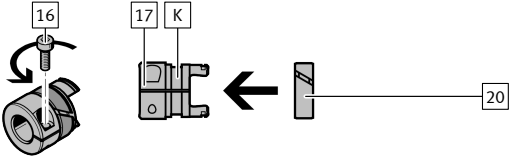


Fig. 2: Insert slip ring, motor side

1. Insert the slip ring [20] into the slot [K] of the motor-side coupling hub [17].  
Exception: a slip ring is not inserted with EAMM-U-...-V20.
2. Screw on the clamping screw [16].

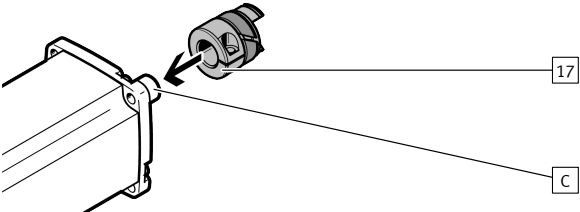


Fig. 3: Push on coupling hub

- Slide the coupling hub [17] with the appropriate hole onto the drive shaft adapter [C].

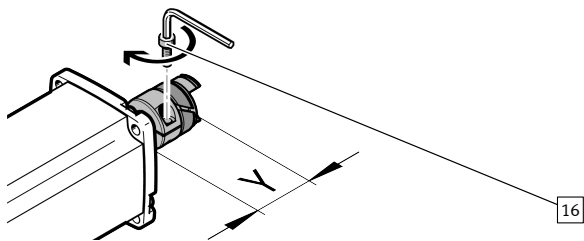


Fig. 4: Aligning coupling hub

1. Maintain distance (Y) → 5.1.2 Alignment of coupling.
2. Tighten the motor-side clamping screw [16].

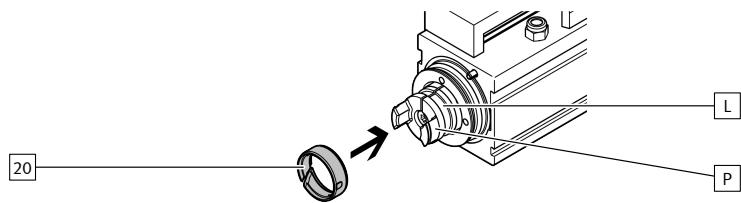


Fig. 5: Insert slip ring, axis side

- Insert the slip ring [20] into the slot [L] of the axis-side coupling hub [P].  
Exception: a slip ring is not inserted with EAMM-U-...-V20.

### 5.1.2 Alignment of coupling

#### NOTICE

#### Faulty coupling alignment

If dimension Y is incorrectly adjusted, this will cause increased wear of the toothed belt and may result in mechanical contact between the toothed belt pulley and the housing or cover.

- Observe distance.

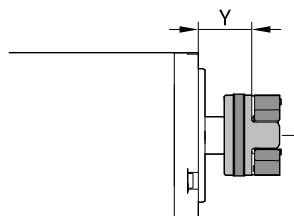


Fig. 6: Alignment of coupling hub

EAMM-U-	Y ± 0.3 [mm]
30-V20-28A	20
30-V20-28AA	15.9
38-V25-35A	20
45-V25-40P	20
45-V25-42A	19
45-V25-42AB	19
45-V32-40P	20
45-V32-42A	19
45-V32-42AB	19

Tab. 4: Coupling distance Y

### 5.1.3 Motor and axis connection

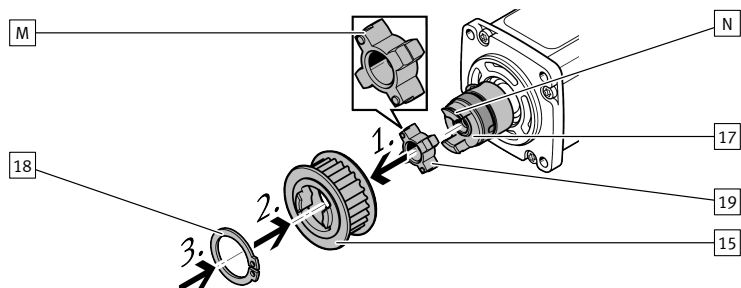


Fig. 7: Mounting toothed belt pulley, motor side

1. Place elastomer spider [19] with recess [M] outwards into the toothed belt pulley [15].
2. Push the toothed belt pulley [15] with elastomer spider [19] on the coupling hub [17] to the stop.
3. Insert the retaining ring [18] into the slot [N] of the coupling hub [17].

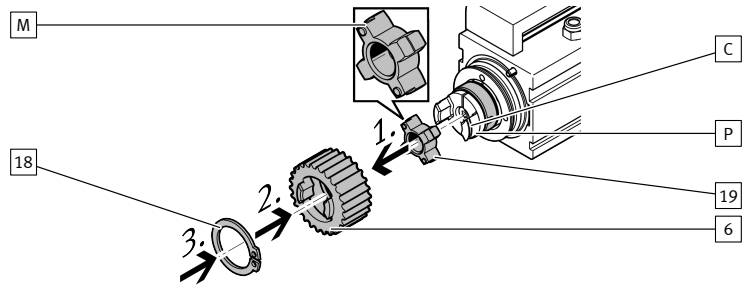


Fig. 8: Mounting toothed belt pulley, axis-side

1. Place elastomer spider [19] with recess [M] outwards into the toothed belt pulley [6].
2. Push the toothed belt pulley [6] with elastomer spider [19] on the coupling hub [P] to the stop.
3. Insert the retaining ring [18] into the slot [C] of the coupling hub [P].

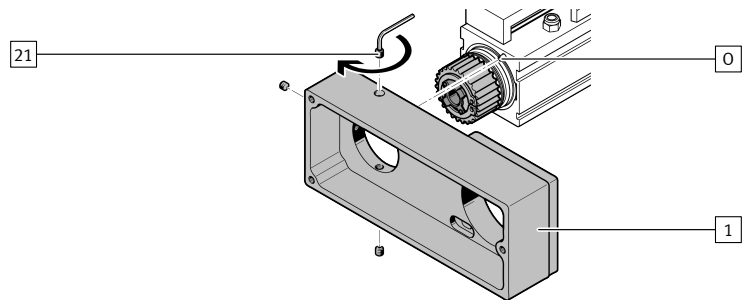


Fig. 9: Mounting housing on axis

1. Place the housing [1] on the centring collar of the axis.  
↳ The anti-twist pin [O] of the axis locks into the drilled hole of the housing [1].
2. Mount the housing [1] in the V-slot of the centring collar with the threaded pins [21].

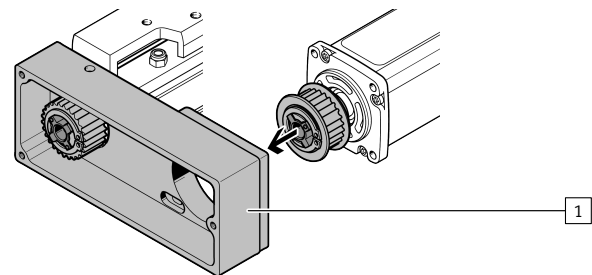


Fig. 10: Positioning motor

- Position the motor on the housing [1].  
↳ The motor is movable and can be easily tilted.

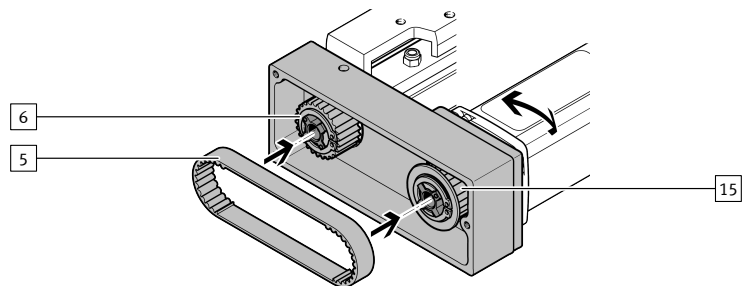


Fig. 11: Inserting toothed belt

1. Push the motor in the direction of the axis up to the stop and tilt it slightly.
2. Position the toothed belt [5] first on the toothed belt pulley [15] and on the toothed belt pulley [6].

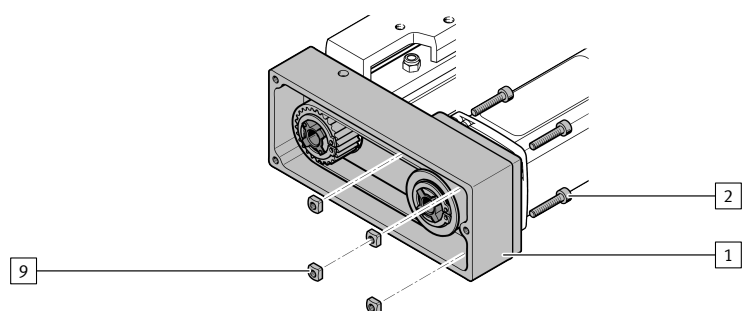


Fig. 12: Fastening motor

- Fasten the motor to the housing [1] with the screws [2] and the square nuts [9].  
↳ The motor is movable, but it can no longer be tilted.

Exception: the mounting direction is different with EAMM-U-...-V...-28A/28AA/35A/42A/42AB. Attach the housing [1] to the motor with the screws [2]. The square nuts [9] are not required.

5.1.4 Tensioning the toothed belt

NOTICE

**Toothed belt pretensioning too high.**  
Impermissible radial loads or shaft break.  
Increased wear of the toothed belt and the bearings of axis and motor.  
• Avoid excessive toothed belt pretension.  
A low toothed belt pretension is recommended.

The toothed belt [5] is tensioned when the strands [D] run approximately parallel:  
– Untensioned:  $y > x$   
– Tensioned:  $y \approx 1 \dots 1.05 \times$

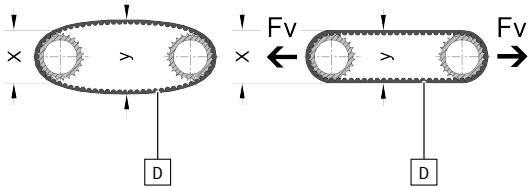


Fig. 13: Strands of the toothed belt

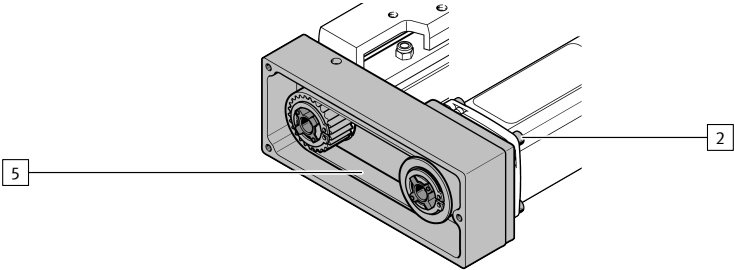


Fig. 14: Tensioning toothed belt  
1. Move the motor until clamping force  $F_v$  is exerted on the toothed belt [5].  
2. Tighten the screws [2].

EAMM-U	Clamping force $F_v$ [N]
30	5 ... 15
38	17 ... 40
45	17 ... 40

Tab. 5: Permissible clamping force of the toothed belt

5.1.5 Mounting the cover

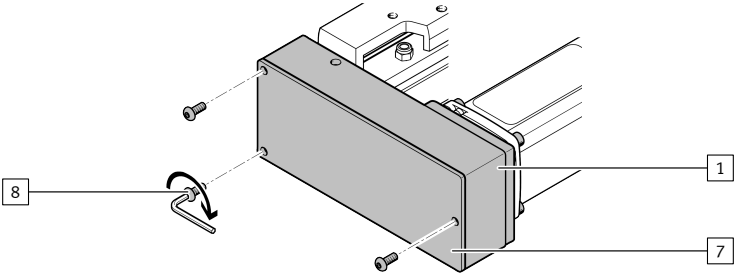


Fig. 15: Mounting cover  
• Before commissioning: fasten the cover [7] to the housing [8] with the screws [1].

5.2 Supporting frame for the axis-motor combination

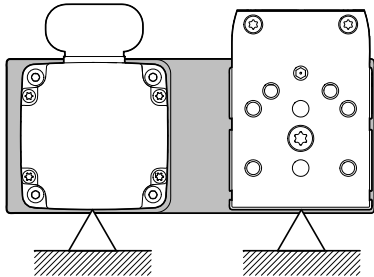


Fig. 16: Support the combination so it is free from tension  
• Support the combination so it is free from tension to avoid damage.

6 In operation

**CAUTION**  
**Risk of injury from touching hot surfaces.**  
The motor connecting kit becomes hot due to the heat dissipation of the motor.  
• Do not touch the motor connecting kit during operation or immediately afterward.

**WARNING**  
**Risk of injury due to unexpected movement of components if toothed belt fails.**  
• Take supplemental safeguarding measures.

7 Maintenance

7.1 Checking the toothed belt

The toothed belt [5] is a wearing part → [www.festo.com/spareparts](http://www.festo.com/spareparts).  
1. Check the toothed belt [5] regularly:  
– during maintenance of the machine  
– when replacing an axis  
2. Replace the toothed belt [5] at the following indicators of wear:  
– excessive accumulation of wear particles in the housing  
– cracks on the back of the toothed belt  
– visible glass fibre cords in the tooth base

7.2 Demounting the toothed belt

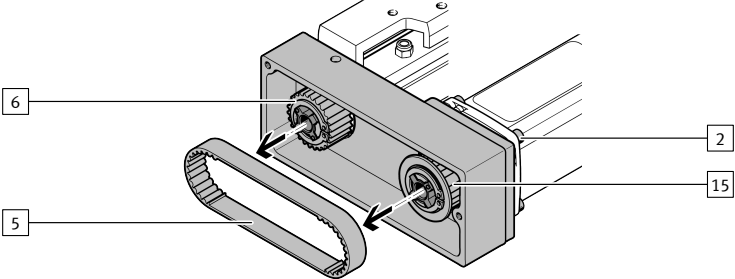


Fig. 17: Demounting toothed belt

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With vertical or diagonal mounting position of the axis:  
• Observe applicable safety instructions in the instruction manual for the axis.

1. Remove the screws [2].  
→ The motor is movable and can be easily tilted.
2. Push the motor in the direction of the axis up to the stop and tilt it slightly.
3. Remove the toothed belt [5] from the toothed belt pulleys [6] and [15].

8 Technical data

8.1 Screw sizes and tightening torques

EAMM-U-	[2]	[Nm]	[8]	[Nm]	[16]	[Nm]	[21]	[Nm]
30-V20-28A	M2.5x12	0.8	M2x5	0.5	M1.6x5	0.25	M2.5x3	0.5
30-V20-28AA	M2.5x8	0.8	M2x5	0.5	M1.6x5	0.25	M2.5x3	0.5
38-V25-35A	M3x10	1.2	M3x8	1.2	M2.5x8	1.0	M3x6	0.8
45-V25-40P	M3x16	1.2	M3x8	1.2	M2.5x8	1.0	M3x6	0.8
45-V25-42A	M3x10	1.2	M3x8	1.2	M2.5x8	1.0	M3x6	0.8
45-V25-42AB	M3x10	1.2	M3x8	1.2	M2.5x8	1.0	M3x6	0.8
45-V32-40P	M3x16	1.2	M3x8	1.2	M2.5x8	1.0	M3x6	0.8
45-V32-42A	M3x10	1.2	M3x8	1.2	M2.5x8	1.0	M3x6	0.8
45-V32-42AB	M3x10	1.2	M3x8	1.2	M2.5x8	1.0	M3x6	0.8

Tab. 6: Screws [2] ... [21]