EWELLIX
MAKERS IN MOTION

INSTALLATION INSTRUCTIONS

CASM electric cylinders and axial adapters for brushless DC motors

1. Intended use

The adapter kit allows an axial motor mounting of the specified brushless DC motor – linear unit combinations in **chapter 2**.

2. Recommended motors

In principle, beside the recommended motors, also 3rd party motors may be fitted. It is important that torque and speed specifications of the motor do not exceed the permitted values of the linear unit. Detailed information may be found in the technical notes relating to the electrical cylinders. Ewellix recommends the following brushless DC motors (↳ **table 1**).

Table 1

CASM linear unit/ brushless DC motor combinations

Linear unit	CASM32			CASM40			CASM63		
Spindle	Lead screw 9×1,5	Ball screw 10×3	Ball screw 10×10	Lead screw 12,5×2,5	Ball screw 12×5	Ball screw 12,7×12,7	Lead screw 20×4	Ball screw 20×10	Ball screw 20×20
Motor	BG 45			BG 65S, BG 75			BG 75		

3. Screws and tightening torques M_A

Table 2

Screw size/tightening torques (↳ **Fig. 1**)

	S1 (Coupling housing)		S2 (Motor adapter)		S3 (Motor)		S4 (Coupling)	
	Screw	Torque M_A	Screw	Torque M_A	Screw	Torque M_A	Screw	Torque M_A
CASM-32 BG 45	M6×30	4,0 Nm ± 0,5 Nm	M4×8	3,0 Nm ± 0,3 Nm	M3×10	0,8 Nm ± 0,2 Nm	M2×6	0,6 Nm ± 0,2 Nm
CASM-40 BG 65S	M6×25	4,0 Nm ± 0,5 Nm	M4×8	3,0 Nm ± 0,3 Nm	M3×10	3,0 Nm ± 0,3 Nm	M4×12	4,0 Nm ± 0,5 Nm

Fig. 1

For BG 45 and BG 65S

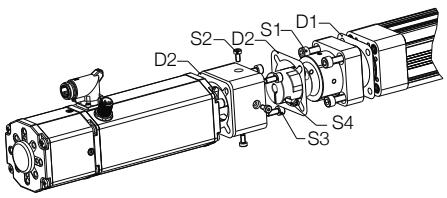


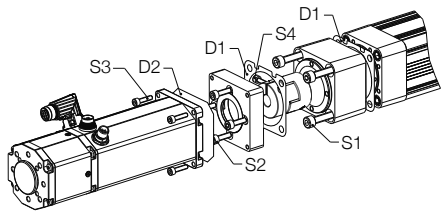
Table 3

Screw size/tightening torques (↳ **Fig. 2**)

	S1 (Coupling housing)		S2 (Motor adapter)		S3 (Motor)		S4 (Coupling)	
	Screw	Torque M_A	Screw	Torque M_A	Screw	Torque M_A	Screw	Torque M_A
CASM-40 BG 75	M6×30	4,0 Nm ± 0,5 Nm	M4×12	3,0 Nm ± 0,3 Nm	M5×20	10,1 Nm ± 0,8 Nm	M4×12	4,0 Nm ± 0,5 Nm
CASM-63 BG 75	M8×30	8,0 Nm ± 0,8 Nm	M6×20	10,1 Nm ± 0,8 Nm	M5×20	10,1 Nm ± 0,8 Nm	M5×18	8,0 Nm ± 0,8 Nm

Fig. 2

For BG 75

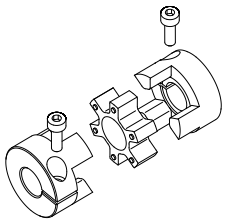


4. Coupling installation

Step 1

Separate the two coupling halves (↳ **Fig. 3**)

Fig. 3



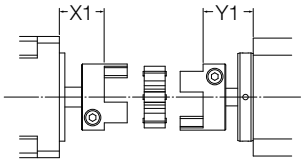
Step 2

Note: If you are using a BG 75 motor, first add the center ring (**CR**) to the motor before mounting the coupling (centering ring **CR** ↳ **fig. 4**).

Align the coupling halves to the motor and linear unit shafts, following the specifications of **table 4** or **5**. Tighten the screws (**S4**) according the specified torques in **table 2** or **table 3**.

Table 4

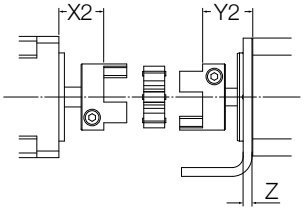
Positioning dimensions for coupling



	Standard Motor X1	Linear unit Y1
	mm	mm
CASM-32/ BG 45	15,7	17,0
CASM-40/ BG 65S	23,3	18,9
CASM-40/ BG 75	22,5	18,9
CASM-63/ BG 75	24,2	26,9

Table 5

Positioning dimensions for coupling with foot mounting



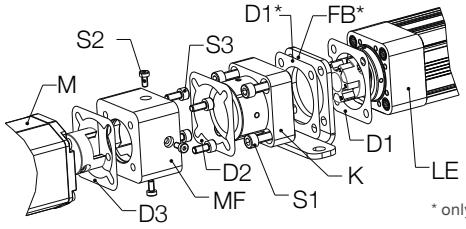
	Standard Motor X2	Linear unit Y2	Z
	mm	mm	mm
CASM-32/ BG 45	19,4	17,3	4
CASM-40/ BG 65S	25,1	21,1	4
CASM-40/ BG 75	24,6	21,1	4
CASM-63/ BG 75	29,2	26,9	5

5. Adapter kit installation

Note: The relevant seal must always be fitted between all components to ensure the requisite degree of IP protection.
Note: For the following steps, tighten the screws according to **table 2** or **table 3**. If you are using the foot mounting option, please go to **section 6**.

Fig. 4

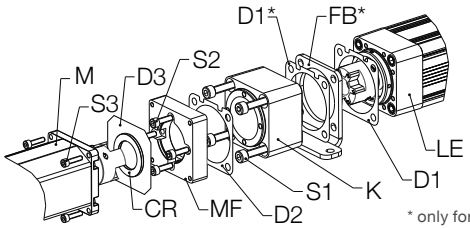
For BG 45 and BG 65S



* only for foot mounting

Fig. 5

For BG 75



* only for foot mounting

Step 1

Mount the coupling housing (**K**) onto the linear unit (**LE**) by inserting the square seal with the cut-out (**D1**) between the two components and tightening the housing using four Allen screws (**S1**) (**Foot mounting option chapter 6**).

For the **BG 45** and **BG 65S** adapters, follow **Steps 2** and **3**
For the **BG 75** adapter, follow **Steps 4** and **5**

Step 2

Mount the motor flange (**MF**) to the motor (**M**) by inserting the seal (**D3**) in between and using the four screws (**S3**) (↳ **fig. 4**).

Step 3

Mount the motor flange (**MF**) to the coupling housing (**K**) by inserting the circular seal (**D2**) in between them. Make sure that the coupling is positioned according to **table 4** for the configuration without the foot mounting kit or **table 5** when using the foot mounting kit. Tighten the four screws (**S2**) to finish the installation (↳ **fig. 4**).

Step 4

Mount the motor flange (**MF**) to the coupling housing (**K**) by inserting the circular seal (**D2**) in between them. Make sure that the coupling is positioned according to **table 4** for the configuration without the foot mounting kit or **table 5** when using the foot mounting kit. Tighten the screws (**S2**) according to **table 2**.

Step 5

Mount the motor flange (**MF**) to the motor (**M**) by inserting the seal (**D3**) in between. Make sure that the center ring (**CR**) is placed on the motor centering diameter. Tighten the four screws (**S3**) (↳ **fig. 3**) according to **table 3** to finish the installation.

Note: The center ring (**CR**) must be connected to the motor centering.

6. Foot mounting option

First fit the foot mounting (**FB**) to the linear unit (**LE**) and then the coupling housing (**K**). Insert one square seal with cut-out (**D1**) between each of the components and secure the coupling housing (**K**) using four Allen screws (**S1**) to the linear unit (BG45 and BG65S ↳ **fig. 4** and BG75 ↳ **fig. 5**). Continue with **Step 2** (BG45 and BG64S) or **Step 4** (BG75) as described in **chapter 5**.

PUB NUM TC-08020-EN-June 2020