



**Z-axis precision  
manipulator,  
motorized, stainless  
steel, DN 63 CF**

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# Z-Axis manipulator

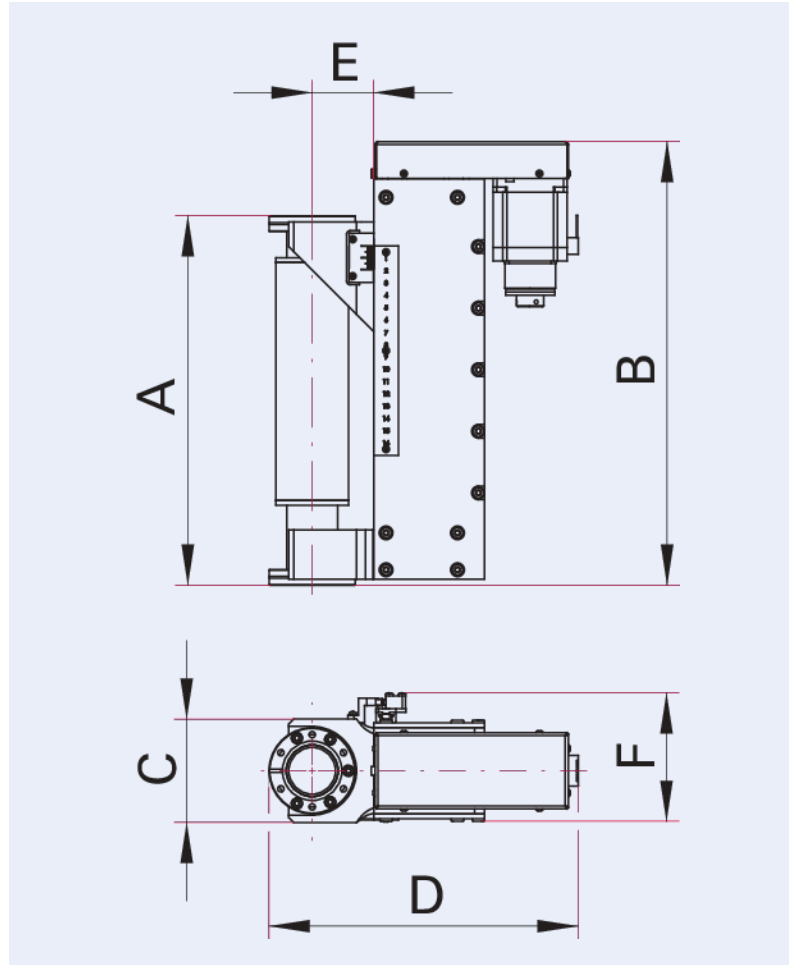


Illustration only

## **Z-axis precision manipulator, motorized, stainless steel, DN 63 CF**

- Recirculating ball bearing guides and recirculating ball screw drive
- Zero backlash and no slip-stick effect
- Guide and drive are wear-free and maintenance-free
- Extremely stable design concept minimizes position offset due to pressure changes
- Limit switches fully adjustable
- Fixing brake (currentless closed) prevents independent movement
- Power consumption brake: 24 V DC, 0.5 A
- Connection flange with through holes, traversable flange with threaded holes

## Dimensions



|   |              |
|---|--------------|
| A | 190 - 490 mm |
| B | 550 mm       |
| C | 128 mm       |
| D | 293 mm       |
| E | 70 mm        |
| F | 104 mm       |

| <b>Technical Data</b>                      | <b>Z-axis precision manipulator, motorized, stainless steel, DN 63 CF</b>   |
|--|---|
| Motor rating                               | Motor, 4.8 V DC, max. 2.8 A/phase bipolar parallel  |
| Motor type                                 | 2-ph stepping motor   |
| Pitch of ball screw drive                  | 2 mm/Rotation   |
| Bakeout temperature without electric parts | 230 °C  |
| Bakeout temperature with electric parts    | 80 °C   |
| Bellows guidance necessary                 | Yes, for movement without vacuum  |
| Operating temperature                      | -10 – 50 °C   |
| Mounting orientation                       | Arbitrary   |
| Tightness                                  | <1 · 10 <sup>-11</sup> Pa m <sup>3</sup> /s   <7.5 · 10 <sup>-11</sup> Torr l/s   <1 · 10 <sup>-10</sup> mbar l/s |
| Stroke                                     | 300 mm   11.81103 inch  |
| Bakeout temperature without electric parts | 230 °C   446 °F   503.15 K  |
| Bakeout temperature with electric parts    | 80 °C   176 °F   353.15 K   |
| Maximum allowable payload                  | 25 kg   55.12 lb  |
| Resolution                                 | 1.25 µm (at 1/8 motor step)   |
| Power consumption                          | Motor: 4.8 V DC; max. 2.8 A/phase bipolar parallel; brake: 24 V DC, 0.5 A   |
| Repeatable precision                       | 1.25 µm (at 1/8 motor step)   |
| Connection flange                          | DN 63 CF  |
| Pressure range                             | 1 · 10 <sup>-10</sup> hPa – to ambient pressure   |
| Inner diameter                             | DN 40: 38 mm; DN 63: 65 mm; DN 100: 102 mm  |
| Material                                   | Stainless steel (bellows: 316L, flange and tube 304L, housing 304)  |

| <b>Order number</b>  | <b>Z-axis precision manipulator, motorized, stainless steel, DN 63 CF</b> |
|--|---|
| Z-axis precision manipulator, motorized, stainless steel, DN 63 CF | 420MZA063-300-m   |



Errors and/or changes excepted. - 5/14/2025

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