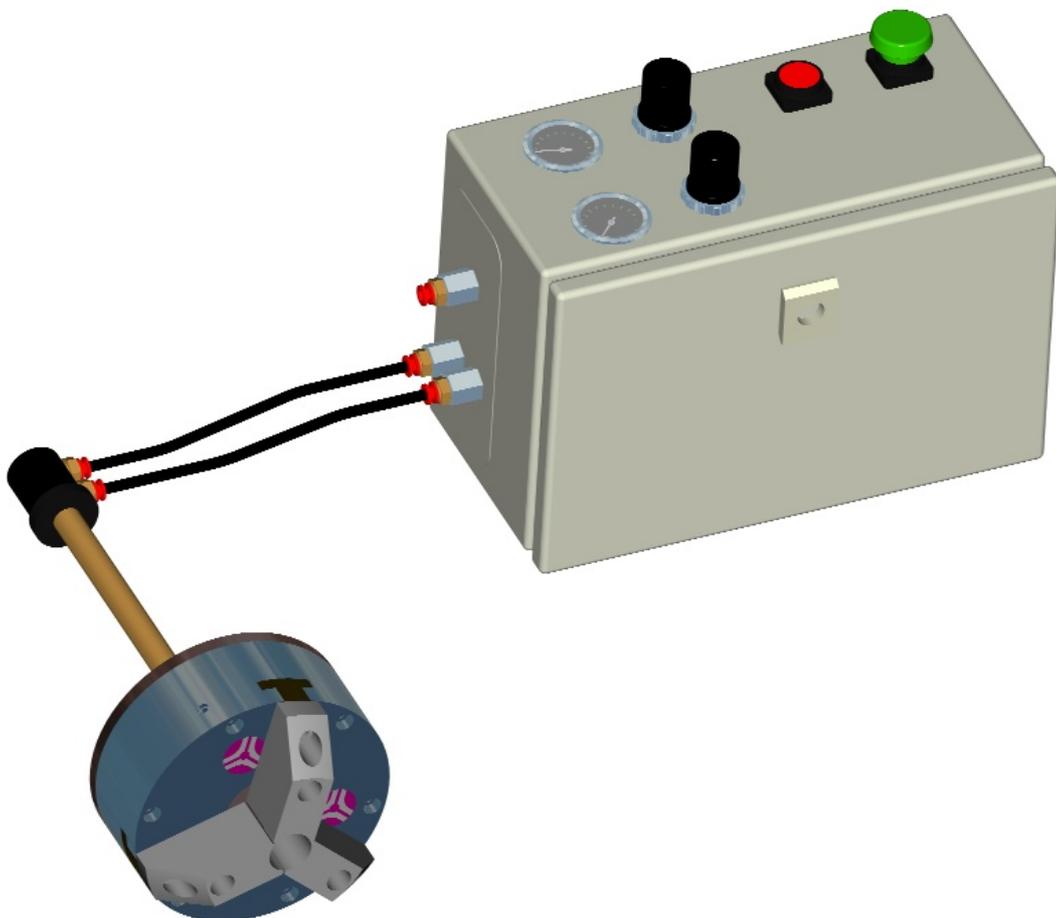


# Control unit Operating manual



## **Index**

### 1. Introduction

### 2. General

2.1 Features of the control unit

2.2 Security notices

### 3. System description

3.1 BE-2: Connection and operating

3.2 BE-3: Connection and operating

3.3 BE-4: Connection and operating

### 4. Care and maintenance

## 1. Introduction

Thank you very much for the purchase of an MicroCentric control unit. We wish you a good success on your work with it. Please read the operation manual carefully before you start the work with this product. The consideration of this manual will help you to avoid accidents, breakdowns and damages.

Clamping systems are the most important components of tool machines, when you have to produce high precision parts with high accuracy and concentricity. Our products have several advantages and are in usage for different applications, e.g. turning, grinding and milling.

Please call our sales- and service engineers if you would like to get additional information.

## 2. General

### 2.1 Features of control units

MicroCentric control units are designed according to the actual stand of technique and correspond to the requirements of modern clamping systems:

- Stepless adjustable closing pressure between 0,5 and 10 bar
- Stepless adjustable opening pressure between 0,5 and 10 bar
- Manometer for pressure reading
- Operation of clamping system through buttons (fungus button for closing, push button for opening)
- The control units are according to the valid instructions to avoid accidents.

The BE-2 is used to control pneumatic clamping systems. The tool has built in 2 manometer, 2 air control valves and buttons for opening and closing. Inside of the control unit cabinet is a hand valve, which is used for the disconnection of air pressure and for changing the opening and closing lines.

With the BE-3 a cylinder can be operated additionally . This unit has a second hand valve built in.

The control unit BE-4 has in addition to the BE-2 a further air control valve, manometer and button for a second closing pressure.

### 2.2 Security notices

Please read and pay attention to the following security notices very carefully. If you will get faults or damages through the non-observance of this manual, MicroCentric can not take over the liability.

1. All applications of the control unit must be according to this operation manual resp. to an arrangement with us.
2. Please connect all tubes between the control unit and the clamping system very carefully.
3. Periodically you should verify, if the air supply hoses are fixed without an air pressure lost.
4. The supplied air must be without humidity or pollution. Please never exceed the maximum air pressure of 10 bar.
5. For a proper function of the control unit, please use as minimum air pressure 0,5 bar.
6. Please let us know first and immediately in every cases, when the control unit works abnormal or it has no function. Our well educated service engineers will support you well and solve your problems soon.
7. On the usage of our clamping systems the valid instructions and laws to avoid accidents must be observed.

### 3. System description

#### 3.1 BE-2: Connection and operating

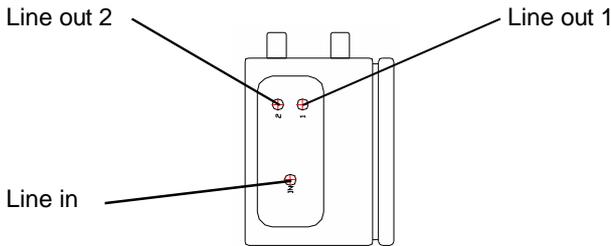


Fig. 1

The control unit **BE-2** will be connected between the with IN named fitting (1/4") and the air pressure, which is present in your workshop. Line out 1 and Line out 2 has to connect with the rotary air journal of the air tube, the journal of the air cylinder or on stationary applications with the vice.

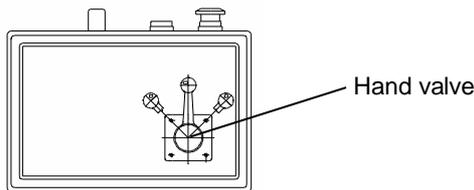


Fig. 2

After connection of the devices, please open the cover of the cabinet and move hand valve corresponding to your need. With position 0 of the valve the air supply is disconnected. With a movement of the hand valve lever to the left or right, you can change from inside clamping to outside clamping. Please pay attention: Close the chuck always with the fungus button.

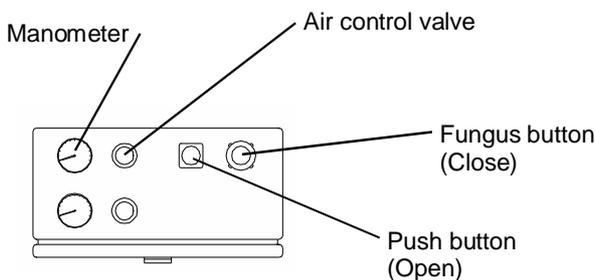


Fig. 3

With the two air control valves the pressure for opening and closing can be adjusted. For a change of the air pressure pull the operating button of the air control valve upwards and turn it. Turning clockwise to increase the air pressure, turning counter-clockwise to decrease the air pressure. After adjusting the pressure, push the button downwards and engage it. With the fungus button close the clamping system. With the push button open it. If the operating direction is reverse, please move the hand valve as described above (see Fig. 2).

#### 3.2 BE-3: Connection and operating

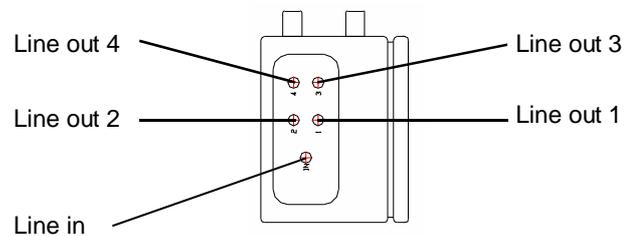


Fig. 4

The control unit **BE-3** will be connected between the with IN named fitting (1/4") and the air pressure, which is present in your workshop. Line out 1 and line out 2 has to connect with the rotary air journal of the air tube. Line out 3 and line out 4 has to connect with the journal of the air cylinder. Please pay attention, that through line out 3 the cylinder must move into rear direction. If you use your chuck without air cylinder, please close the fittings for line out 3 and 4 with plugs.

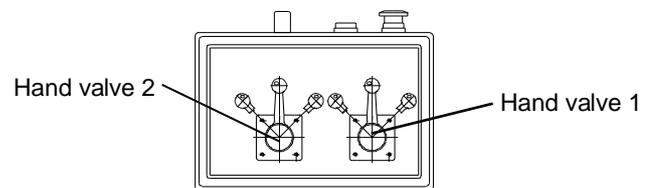


Fig. 5

After connection of the devices, please open the cover of the cabinet. You will see 2 hand valves. Valve 1 is for the operating of the chuck. With position 0 of this valve the air supply is disconnected. With a movement of the hand valve lever to the left or right, you can change from inside clamping to outside clamping. Please pay attention: Close the chuck always with the fungus button. With hand valve 2 you can switch between chuck operation and cylinder operation (e.g. for collets).

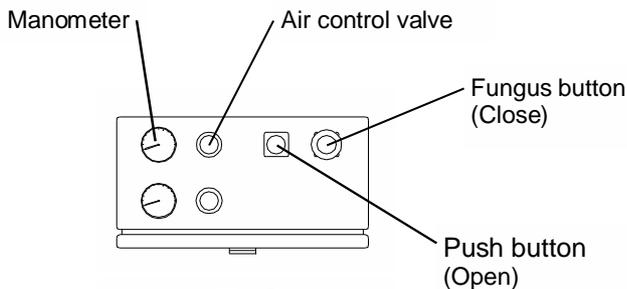


Fig. 6

With the two air control valves the pressure for opening and closing can be adjusted. For a change of the air pressure pull the operating button of the air control valve upwards and turn it. Turning clockwise to increase the air pressure, turning counter-clockwise to decrease the air pressure. After adjusting the pressure, push the button downwards and engage it. With the fungus button close the clamping system. With the push button open it. If the operation direction is reverse, please move the hand valve as described above (see Fig. 5).

### **Description of the usage from MK-adaper plates and LDZ-SZ-cylinders:**

#### **1. Air chuck operating:**

1. Bring hand valve lever 1 in middle position and hand valve lever 2 in right position. Move the cylinder with the push button frontwards.
2. Stick the Morse cone adapter into the machine spindle and fix it with the drawtube.
3. Bring lever of hand valve 2 in the left position and clamp the drawtube with the fungus button.
4. Mount the chuck onto the Morse cone adapter and adjust it radially. Fix the chuck equally.
5. Push the air tube through the cylinder into the machine spindle and fix it into the chuck.
6. Connect the hoses of the air tube with the fittings line out 1 and 2 of the control unit.

7. Bring the lever of hand valve 1 in the position (left or right), that you clamp the workpiece with the fungus button.

#### **2. Collet operating:**

1. Bring hand valve lever 1 in middle position, lever of hand valve 2 in left position. Move the cylinder into the front direction by using the push button.
2. Stick the collet into the machine spindle and fix it with the drawtube, so that the collet has a close position to the collet seat.
3. With the two buttons of the control unit the collets can be opened and closed.

### **3.3 BE-4: Connection an operating**

Please connect the control unit **BE-4** as described above for unit BE-2 (Fig. 1).

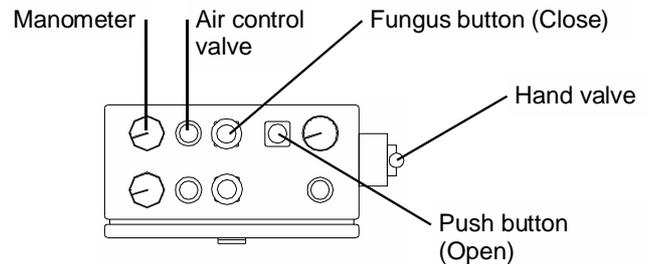


Fig. 7

Also the hand valve has the same function as described above (Fig. 2). But on the BE-4 the hand valve is mounted outside of the cabinet.

Different to the BE-2 the control unit BE-4 has 3 air control valves and 3 manometer. With these the pressure for closing (double) and opening can be adjusted. For a change of the air pressure pull the operating button of the air control valve upwards and turn it in the corresponding direction. Turning clockwise to increase the air pressure, turning counter-clockwise to decrease the air pressure. After adjusting the pressure, push the button downwards and engage it. With the two fungus buttons close the clamping system. Fungus button 1 is for the closing with pressure 1, button 2 for the closing with pressure 2. With the push button open the clamping system. If the operation direction is reverse, please operate the hand valve (see Fig. 5).

## **4. Care and maintenance**

1. In normal cases the control unit is maintenance free. Several times per year you should clean the control unit.
2. Do never exceed the maximum air pressure. The control unit could be damaged.
3. Protect the control unit, when the system is not on your machine. Please clean it and protect the control unit against dust and humidity (corrosion).
4. The control unit may not dismantled from uneducated employments. When the control unit is dismantled without our agreement, we can not guarantee further for the function and the security of the chuck system.
5. Please call us in all cases, where the control unit is working abnormally or it has no function. Our service engineers will support you to remove faults from your clamping system.

---

## **Notices**