



Additional instructions for Basic-Line electrical installation kit ITG

For motors with integrated output stages

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Introduction

These additional instructions contain supplementary information on the “Assembly instructions for the CNC portal milling machine Basic-Line” in order to prepare the CNC portal milling machine for electrical installation.

The supplied electrical assembly kit is only intended for installation on the Basic Line CNC portal milling machines.



Caution!

Only carry out the work if you are familiar with the necessary actions and have suitable Tools available.

Sorotec GmbH assumes no liability for damage to property or personal injury that occurs during the assembly or operation of the CNC portal milling machine!

Scope of delivery

| Illustration | Description | Number |
|--------------|---|--------|
| | 71 Drag chain 18x37 mm Length each 1000 mm | 2 |
| | 72 Connection kit Drag chain | 2 |
| | Cabel Canal 40 x 40 x 250 mm with lid | 1 |
| | Housing reference (2 parts) | 3 |
| | Cable gland M12 with nut | 1 |
| | Hammer nut Slot 8 M4 G0 | 1 |
| | Button flange head screw with pressed washer ISO 7380 M4 x 10 T1 | 6 |

| Illustration | Description | Number |
|--------------|--|-------------|
| | Flat headed screw ISO7380 M5 x 8 K1 | 2 |
| | Nut DIN934 M4 P1 | 2 |
| | Countersunk screw DIN7991 M4 x 6 R1 M4 x 10 R2 M4 x 16 R3 | 2 3 2 |
| | Large washer 4,2 Y1 | |

Required tools

The following tools and aids must or should be available during assembly:

- Common hand tools, such as Allen keys, screwdrivers, plastic hammers, etc.
- Marking tools and center punch
- Drill bits 3.3 mm, 4.2 mm, 5 mm, 8 mm, 12.5 mm and 20 mm¹⁾
- Taps M4, M5 and M6

¹⁾ 20 mm preferably as a peeling or step drill

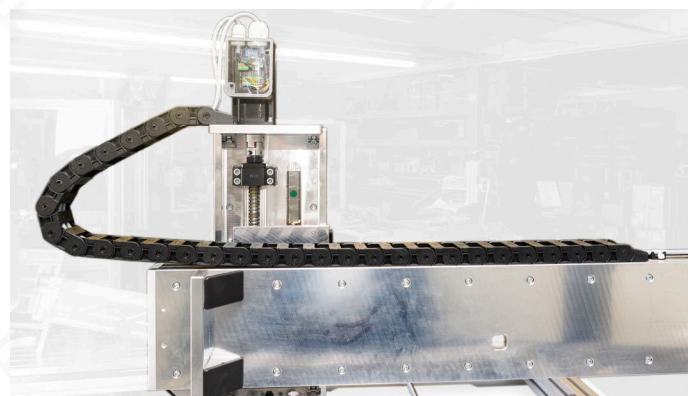
Assembly

i Note:

The drag chain of the X-axis is mounted on the left side of the machine with cable feed from the rear.

Some of the components shown are part of the CNC portal milling machine kit.

The supplied drag chains with 1 m each can be shortened or lengthened as required.



Figures 1 and 2: drag chains on the X and Y axes of the Basic Line

Drag chain X axis

- Screw the 20 x 20 mm bracket angle **34** to the rear face plate using cylinder head screws **C1** and nuts **P2**.
- Screw the drag chain holder **37** with countersunk screws **R2** and nuts **P1** to the 20 x 20 mm angle.
- Mount the mounting bracket **38** with the cylinder head screw **C1** and washer **Y2** together with the drag chain on the portal cheek.

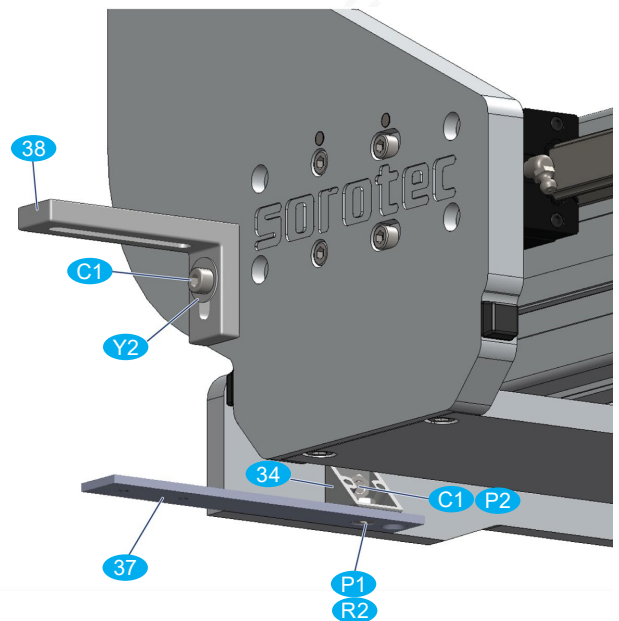


Fig. 3: Drag chain holder and mounting bracket

- Equip the end of the drag chain **71** with a connection kit **72**.
- Screw the drag chain to the bracket **38** using countersunk screws **R3**, washers **Y1** and nuts **P1**.

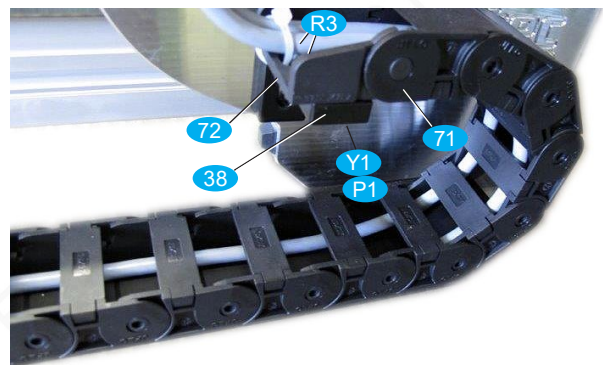


Fig. 4: Mounting drag chain with connection kit on bracket

- Equip the other end of the drag chain **71** with a connection kit **72**.
- Screw the drag chain to the drag chain holder **37** using countersunk screws **R1**.

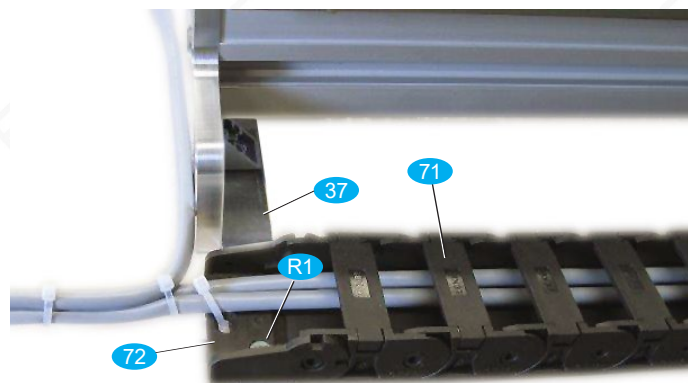


Fig. 5: Mounting drag chain with connection kit on holder

Drag chain Y axis

Equip the end of the drag chain **71** with the connection kit **72** and screw it to the motor flange Z **19** using countersunk screws **R2**.



Fig. 6: Mounting drag chain on motor flange

Equip the other end of the drag chain **71** with the connection kit **72** and screw it to the aluminum profile of the portal with countersunk screw **R3** and hammer nut **G0**.

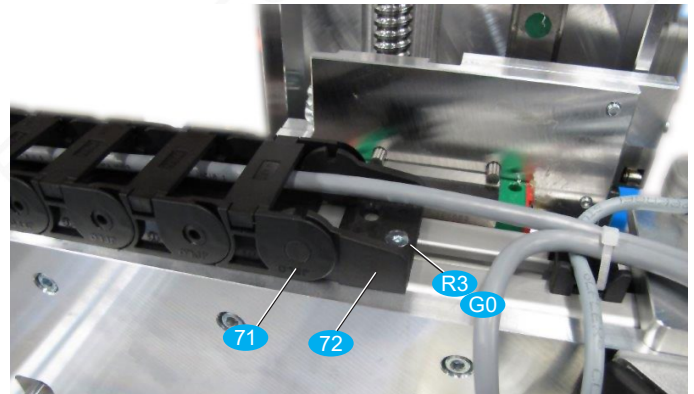


Fig. 7: Installation of drag chain on portal profile

Cable Canal

Screw the cable duct **79** to the portal cheek using flat-head screws **K1**. Fig. 8 shows the location of the screws at the back of the duct, not the screws themselves.

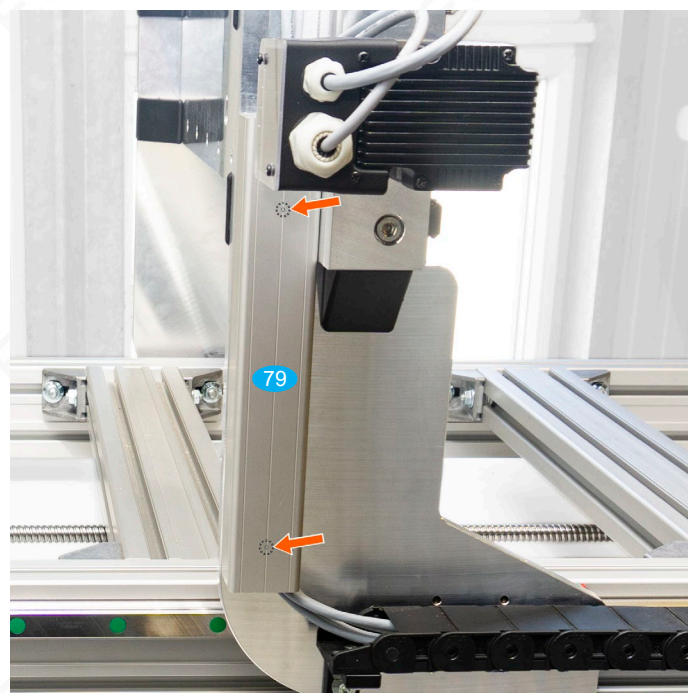


Fig. 8: Installation of cable duct on portal cheek

Housing for reference switch

The switch housing reference switches are designed in two parts. When assembling the switch housings, the shims from the CNC portal milling machine kit are no longer used.

The connecting cables of the reference switches are routed out through the recess in the switch housing.

Installation is carried out at the installation locations described in the installation instructions of the mill kit:

- X-Axis - Page 11
- Y-Axis - Page 16
- Z-Axis - Page 21

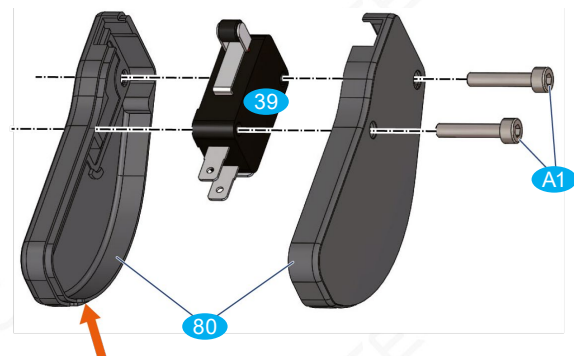


Fig. 9: Housing with reference switch. The red arrow indicates the recess for cable entry

Motor connection

The electrical connection of the axis drives is described in the control instructions, the associated circuit diagrams and in the motor data sheets.

The mechanical design is shown as an example in Figures 10 and 11. We strongly recommend using the protective cap shown with cable glands to protect the connection panel against dust and chips.

The covers, which were 3D printed specifically for this purpose, are available in the Sorotec shop (ESM. ZB.JMC.ABD) and fit both the closed-loop systems from JMC and the Leadshine motors with integrated power stage.

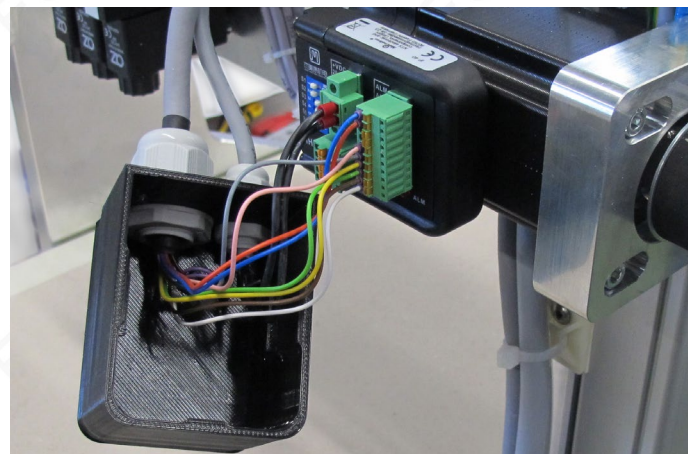


Fig. 10: Connection panel of a JMC iHSV57 servo motor



Fig. 11: The cover protects against dust and chips