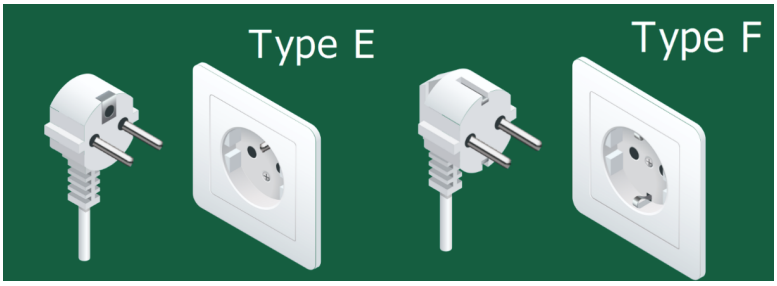
CUSTOMER'S PREPARATIONS

PREPARATIONS BEFORE THE INSTALLATION OF A COBY SYSTEM

1. **Power**

The Coby CNC system requires two 220-230VAC, single phase, type E or type F(Schuko) wall sockets. One socket is meant for the power supply to the stacker table + robot, the other socket is meant for the CobyBox.

The sockets must be positioned in the neighbourhood of the Coby CNC installation. Our systems will be delivered with a flexible electric cable of about 5 m.



(Images serve only as an example)

Sockets must be installed and protected in accordance with the standards and regulations applicable in the country where the system is installed.

2. **Air supply**

The Coby installation requires pressured air with a minimum pressure of 2.5 bar (36 psi). The air must be conditioned, it must be dried and can be lubricated. The maximum pressure that can be used on the robot's grippers is 8 bar (116 psi).

The grippers and the stacker tables have low air consumption, but the airblow option has higher air consumption while blowing.

The air supply connection point must be positioned in the neighbourhood of the robot or the stacker table. The system will come with a 10m tube (Ø8mm) and two possible connectors to connect the tube to your air connection. One connector will be an Ø8mm to 1/4-inch male connector, the other one an Ø8mm to 1/8-inch male connector. At your air connection we expect a 1/4-inch or a 1/8-inch female connector in which you can screw the provided male connector.

Met opmerkingen [SC1]: Hier geen illustratie?

3. **Machine**

Robot interface

Coby cannot work together with a robot interface on the machine.

The CobyBox is installed to operate the machine, i.e. open/close doors, open/close fixtures and start the NC program. It will also react to the necessary signals to automate the system: door is open/closed, fixture is open/closed, alarm, cycle finish and/or in cycle.

To connect the CobyBox to your machine, read the wiring diagrams and signal list. It is the customer's responsibility to make sure all necessary signals are retrieved from the machine and connected to the CobyBox.

Calibration between robot and machine

For the Coby system to know where the robot is we kindly ask you to have a drill bit of Ø10mm with a H7 fitting. Depending on the installation at a lathe or milling machine we will provide you with a schematic on how you can define the center for the robot within your machine.

We will provide a "Measuring Tool" and a "Center Finder" with the system. The "Measuring Tool" is a small piece that can be clamped in the robot jaws that can be inserted into a Ø10mmH7 hole. The "Center Finder" is a disk Ø80mm with a through hole Ø10mmH7 that will be used as an excercise tool.

- *Lathe machine*

  If the "Center Finder" can be clamped inside your fixture (Ø80mm) use this for the robot calibration. The center hole of the tool should be the center of your fixture.

  Otherwise:

  Clamp a disk inside your machine and drill out a hole with the Ø10mm H7 drill bit to a depth of >= 25mm. It can be less but then the hole should be fully through the disk. Chamfer the edges (2mm x 45°) of the hole to ensure a smooth insertion of the "Measuring Tool". Use a facing bit to flatten the front of the disk so that the "Measuring Tool" can be flush against the surface of your disk.

- *Milling machines*

  (Still under construction)

  Clamp a rectangular workpiece inside your vise and drill out 3 to 4 holes. The holes should be drilled with the delivered pattern.

Clamping devices

Clamping devices have to be automated and ready to use.

The supported clamping mechanisms are center clamping and clamping with one fixed leg. Clamping mechanisms where the fixed leg can be adjusted by hand are not supported.

There should be a clearance of at least 3 mm between the raw workpiece and clamping system when loading and unloading.

Doors

The door(s) have to be automated and ready for use before the start of the installation. Without automated door(s) the installation cannot take place.

Existing door(s) must be in a good condition and should have no wear on the guides.

Machine

Machine must be in a fully operating state at the start of the installation.

Operators of the machine must be able to program the machine.

4. INSTALLATION

Location

There must be sufficient space in front of the machine to move around with Coby. Coby requires at least 1.500mm x 1.100mm space in front of the machine. The system itself is 1.500mm x 800mm but should not be put flush against the machine, hence 1.100mm.

Lifting devices, such as a pump wagon, a forklift or overhead crane, are required to move Coby into location.

The floor on the installation site can have a floor flatness tolerance of maximum 9 mm per 2 m. The floor must be resistant to heavy mechanical loads.

5. COMMISSIONING

Workpieces

Coby is ready to use for work pieces between 25mm and 200mm in diameter (lathes) and up to 5kg in weight. If your parts fall below the minimum diameter, you can make your own grid plates and gripper fingers and try to use the Coby anyway. If your part height for a lathe is above 200mm or above 150mm for a milling machine, please contact RoboJob to provide you with a different solution than Coby.

All programs to manufacture the work pieces selected for commissioning must be programmed and running on the machine before start of the installation.

Training

Coby is a Do-It-Yourself system that is backed up with a broad database of existing users. You can talk to other users on the Coby forum, which will become available as of July 2023 and which you can find here: www.coby-cnc.com

Make sure sufficient raw workpieces and a finished workpiece are present. The operators should be able to produce the workpiece on the machine before the start of the installation.