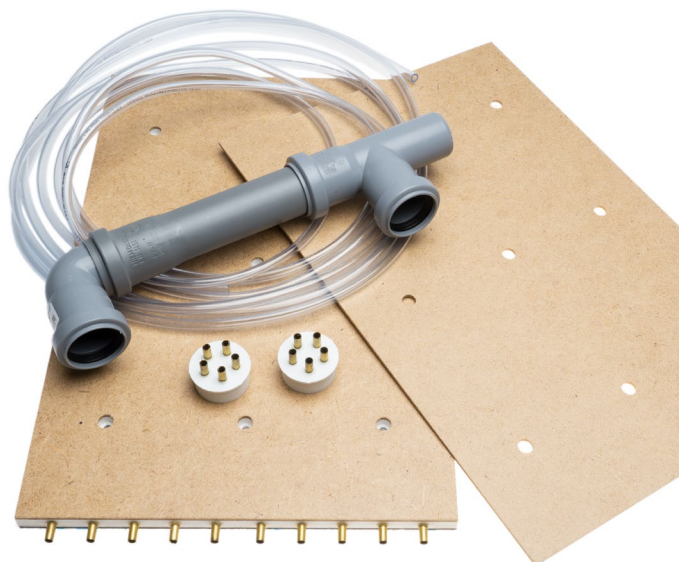


Vacuum Table Eco



Description

The material MDF - medium-density fiber board - has an amazing property: it is air-permeable, much better than the first appearance suggests. Using this otherwise rather secondary quality for the surface on a vacuum table is downright groundbreaking for use in CNC machines such as those in Sorotec's Hobby Line.

Because the price and performance of the Eco vacuum tables are a perfect match for the most common task of such portal milling machines, the processing of wood in panel form. An expensive vacuum pump is also not required: A standard vacuum cleaner is completely sufficient. In this way, perhaps the most effective clamping method of all - place the workpiece, align it if necessary, switch on the vacuum - is also available inexpensively for the hobby chipper.

Intended Use

The Eco vacuum table is used for the simple and quick attachment of workpieces, in particular panel material made of wood or plastic, with the help of atmospheric negative pressure for processing in a CNC portal milling machine. Any use other than this is not intended by the manufacturer and is not described in these instructions.



Attention!

Please read these instructions before using the vacuum table and observe the information contained therein. Sorotec GmbH assumes no liability for injuries and damage caused by use other than the intended purpose or by improper or negligent use.

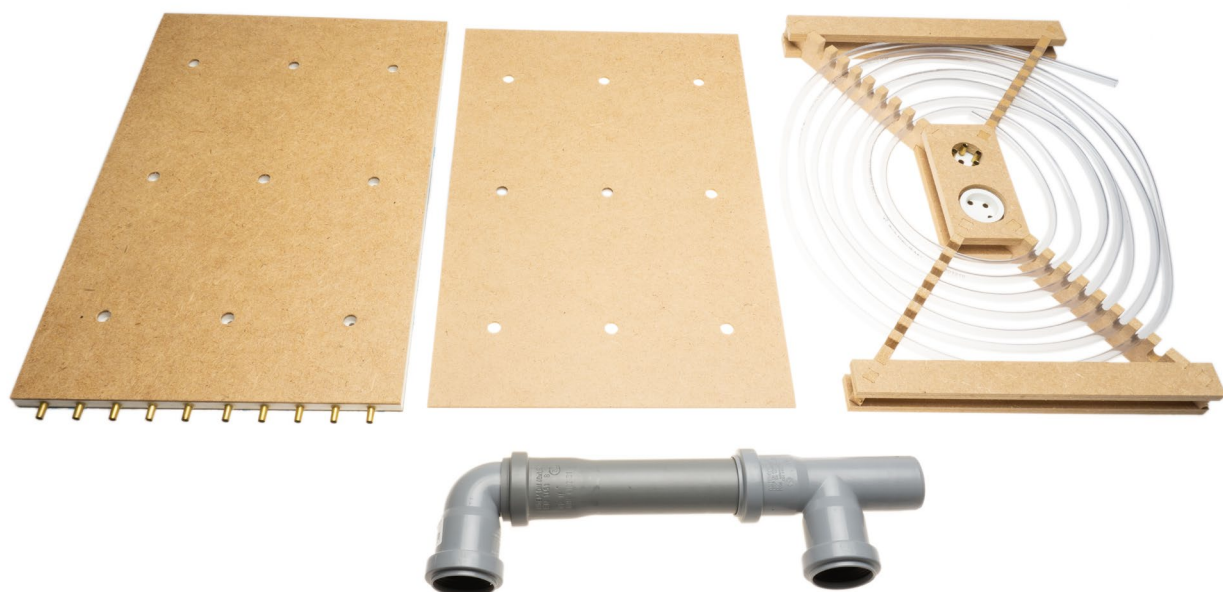


Fig. 1: The vacuum table Eco after unpacking. The number of parts may vary depending on the size.

i Notice:

Cylinder head screws M6 x 12 are required for attachment, when mounting on a grooved plate also nuts M6, when using on an MDF or screen printing plate screw-in nuts („Rampa sleeves“) M6 x 12. Screws and nuts are not included in the scope of delivery.

Assembly

The assembly of the vacuum table differs depending on the equipment of the machine. It is intended to be screwed to a grooved plate or to a workpiece support made of MDF, as offered in the Sorotec web shop as an accessory for the Hobby Line portal milling machines.

i Notice:

When used in machines other than the Hobby Line and with other bases, the type of assembly may differ. It is important to use all fastening bores in order to achieve the best possible flatness.

Mounting on grooved plate

- Equip all fastening bores of the sandwich plate with cylinder head screws M6 x 12. Screw on the nuts loosely.
- Slide the vacuum table onto the grooved plate from the front. The nuts slide into the grooves.
- Systematically tighten all mounting screws evenly.
- Place the MDF cover plate loosely on top.

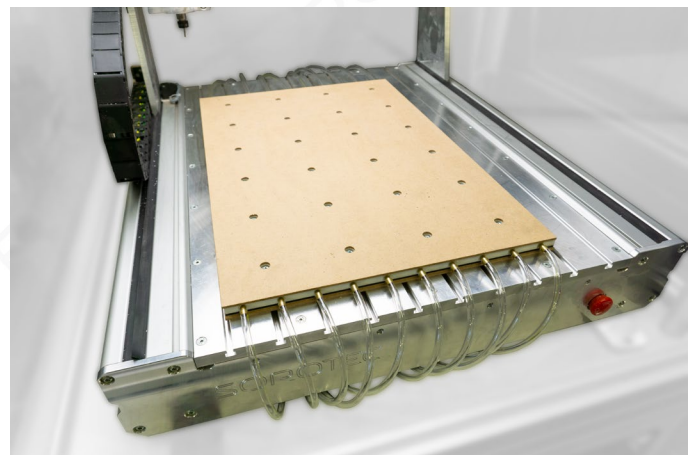


Fig. 2: The vacuum table on a grooved plate

Mounting on workpiece support made of MDF

- Transfer the hole pattern of the vacuum table to the workpiece support. The hole spacing is 100 mm in the X direction and 150 mm in the Y direction. Bore diameter is 8 mm.

Notice:

You can have your machine drill the hole pattern as a CNC task. A suitable DXF file is available for download in the web shop in the product description of your vacuum table in the „Documentation“ tab.

- Provide the holes with screw-in nuts („Rampa sleeves“) M6 x 12. Order number in the shop: MED.RAMPA.0612.10
- Screw the sandwich plate with cylinder head screws M6 x 12.
- Place the MDF cover plate loosely on top.

Vacuum connection

It may be worth doing some basic considerations before making the hose connections. Should the vacuum table remain installed permanently? Then it can make sense to fasten the collecting pipe under the machine and to route the connection to the vacuum cleaner through the tabletop on which the machine is standing. Or do you want to remain as flexible as possible and not unnecessarily complicate the conversion to other clamping options? Then a holder for the collecting pipe next to the machine will prove useful, for example with HT pipe clamps from the plumbing trade.

Notice:

The performance of the vacuum table is only marginally affected by the length of the connecting hoses.

In any case, the tidier the workplace and the less „flying“ the installation, the easier it will be to work with the entire system. The arrangement of the parts and the necessary hose lengths are to be determined as a result of the considerations.

Hose connections

- Assemble the collector from the HT pipe, 90° elbow and T-piece(s) and secure the assembly in your chosen location.
- Insert the hose adapters into the openings on the elbows and T-pieces.
- Connect the connecting tubes of the sandwich panel to the adapters. It is essential to avoid kinks in the hose, as they occur when the radii are too tight.
- Connect your vacuum cleaner to the collector.

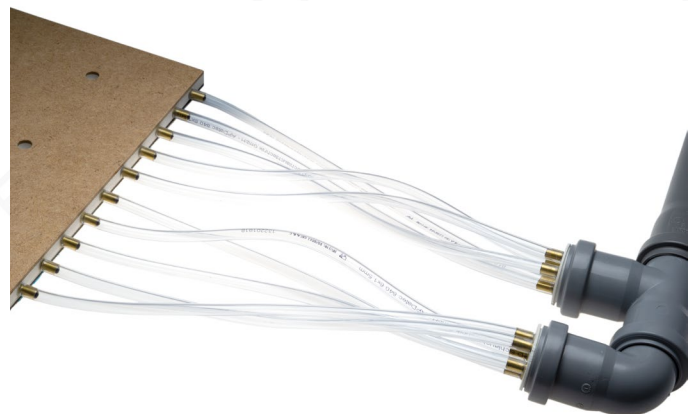


Fig. 3: Connection of vacuum table and collector

Operation

Preparation

Second cover plate

In principle, the MDF cover is designed as a sacrificial panel. At the points where the workpiece is separated from its surroundings, the cover plate is also affected. Gradually it is cut and must be replaced when a stable support of the workpiece can no longer be guaranteed.

If the depth of the milling process is set correctly, the sandwich panel, especially the center with the air ducts, should not be affected by milling through. However, at your own discretion, a second cover plate can also be placed to gain additional distance and security.

Clamping

The holding force with which a workpiece is held in place by the vacuum table depends on the strength of the vacuum. If secondary air is sucked in, this reduces the vacuum and the holding force decreases. If the suction power is not enough to hold the workpiece, you can cover parts of the table with foil, paper, tape, etc.

However, please note the warning on the right! Household vacuum cleaners usually have an air slide in the handle that you can use as a bypass valve. When using an industrial vacuum cleaner without a bypass slide, the vacuum table should never be completely covered.

Notice:

The cover plates are wear parts and can be reordered in packs of five from the Sorotec web shop.



Attention!

Pay attention to the operating temperature of your vacuum cleaner! Most units rely on a minimum of airflow for cooling and can quickly overheat if the intake air is completely shut off.



Fig. 4: Covering of unused areas, here as an example with sheet metal