



Adapter-Plate AP-G

Operating Instructions

Note

The Operating instructions were originally written in German. Store in a safe place for future reference. Subject to technical changes without notice. No responsibility is taken for printing or other types of errors.

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1 Important Information

1.1 Note on Using this Document

J. Schmalz GmbH is generally referred to as Schmalz in these Operating instructions.

These Operating instructions contain important notes and information about the different operating phases of the product:

- Transport, storage, start of operations and decommissioning
- Safe operation, required maintenance, rectification of any faults

The Operating instructions describe the product at the time of delivery by Schmalz.

1.2 The technical documentation is part of the product

1. For problem-free and safe operation, follow the instructions in the documents.
2. Keep the technical documentation in close proximity to the product. The documentation must be accessible to personnel at all times.
3. Pass on the technical documentation to subsequent users.
 - ⇒ Failure to follow the instructions in these Operating instructions may result in injuries!
 - ⇒ Schmalz is not liable for damage or malfunctions that result from failure to heed these instructions.

If you still have questions after reading the technical documentation, contact Schmalz Service at:

www.schmalz.com/services

1.3 Warnings in This Document

Warnings warn against hazards that may occur when handling the product. This document contains three levels of danger that you can recognize by the signal word.

Signal word	Meaning
WARNING	Indicates a medium-risk hazard that could result in death or serious injury if not avoided.
CAUTION	Indicates a low-risk hazard that could result in minor or moderate injury if not avoided.
NOTE	Indicates a danger that leads to property damage.

1.4 Symbol



This symbol indicates useful and important information.

- ✓ This symbol represents a prerequisite that must be met prior to an operational step.
- ▶ This symbol represents an action to be performed.
- ⇒ This symbol represents the result of an action.

Actions that consist of more than one step are numbered:

1. First action to be performed.
2. Second action to be performed.

2 Fundamental Safety Instructions

2.1 Intended Use

The Adapter plate is built in accordance with the latest standards of technology and is shipped in safe condition. However, hazards can arise during use.

The Adapter-Plate (AP-G) is specially developed for use on nesting machine tables. The Adapter-Plate is evacuated through a vacuum hose that runs from a separate or higher-level machine. The Adapter-Plate forms a complete, functional unit only when combined with a vacuum block of the series VCBL-B.

This unit can also be used to attach workpieces during manual mounting or machine processing.

The product is intended for use in the areas of industry, trade, and handcraft.

Intended use includes observing the technical data and the installation and operating instructions in this manual.

2.2 Non-Intended Use

Schmalz accepts no liability for damages resulting from use other than as intended. In particular, the following are considered non-intended use:

- Operation of the Adapter-Plate with worn or damaged sealing gasket/O-ring
- Operation of the Adapter-Plate without vacuum block
- Suction of human or animal body parts
- Machining forces that lead to the Adapter-Plate and/or vacuum blocks or workpiece being displaced or torn off are not permitted.
- Use of the Adapter-Plate as a base, support or comparable aid
- Use with workpieces at risk of explosion
- Evacuation of highly inflammable or explosive media
- Mechanical overload of the Adapter-Plate
- Damaged Adapter-Plate and/or vacuum block must no longer be used.
- Contact with liquids, media or surfaces that lead to a reduction in the static friction or vacuum force of the Adapter-Plate
- Operation with a workpiece that does not cover the entire suction plate

2.3 Personnel Qualifications

Unqualified personnel cannot recognize dangers and are therefore exposed to higher risks!

1. Task only qualified personnel to perform the tasks described in this Operating instructions.
2. The product must be operated only by persons who have undergone appropriate training.

This Operating instructions is intended for fitters who are trained in handling the product and who can operate and install it.

2.4 Workplace Requirements

The following requirements must be fulfilled to ensure a safe workplace:

- The Adapter plate must not be used outdoors.
- The type plate and warning signs must be legible.
- The surroundings of the Adapter plate must be dry.
- The operator must have a clear view of the whole working area, the workplace must be adequately lit and free of glare, and the area around the workplace must be clean and clear.

2.5 Emissions

The Adapter plate emits noise as a result of operating with vacuum.



⚠ CAUTION

Noise pollution from leakage

Hearing damage

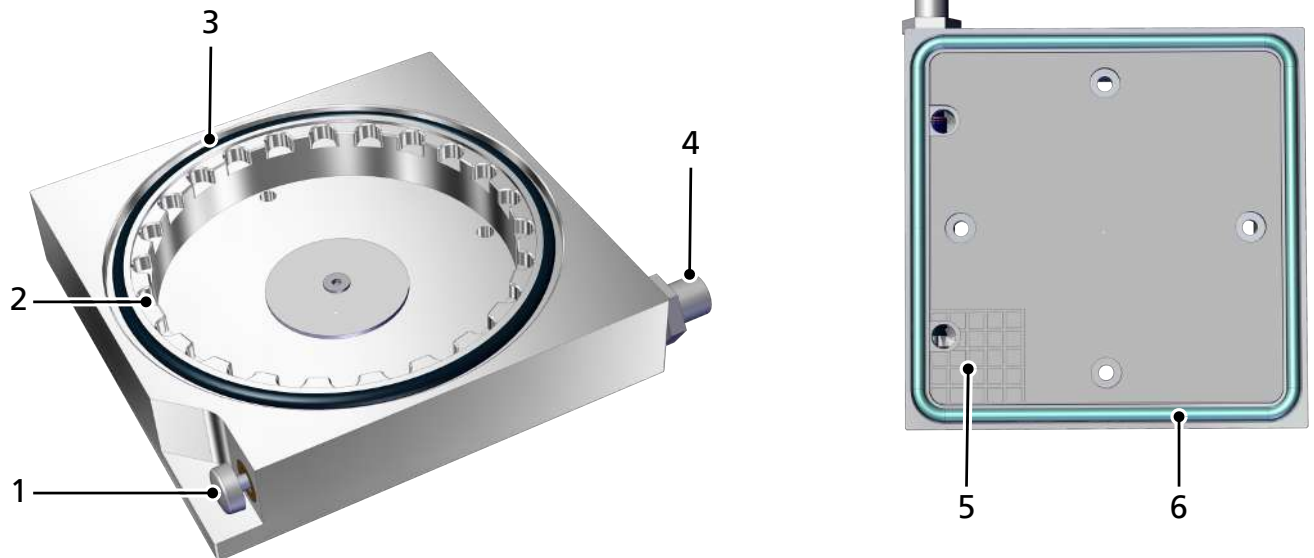
- ▶ Correct position.
- ▶ Wear ear protectors.

2.6 Modifications to the Product

Schmalz assumes no liability for consequences of modifications over which it has no control:

1. The product must be operated only in its original condition as delivered.
2. Use only original spare parts from Schmalz.
3. The product must be operated only in perfect condition.

3 Construction of the Adapter-Plate



1	Pushbutton for manual blow-off	2	Suction cup mount with 15° pitch
3	O-ring	4	Hose connection (vacuum)
5	Friction pad	6	Sealing frame

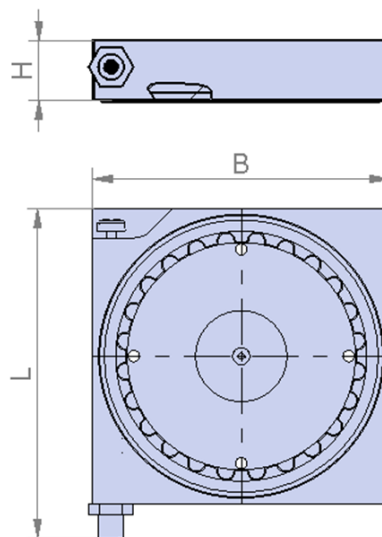
4 Technical Data

4.1 General Parameters

Parameter	Unit	Value
Mass	kg	0.74
Hose diameter	mm	4
Maximum ambient temperature	°C	5 ... 45

4.2 Dimensions

Parameter	Value [mm]
L	145
B	130
H	26



5 Transport and Storage

5.1 Checking the Delivery

The scope of delivery can be found in the order confirmation. The weights and dimensions are listed in the delivery notes.

1. Compare the entire delivery with the supplied delivery notes to make sure nothing is missing.
2. Damage caused by defective packaging or occurring in transit must be reported immediately to the carrier and J. Schmalz GmbH.

6 Installation

6.1 Installation Instructions



⚠ CAUTION

Vacuum close to the eye

Severe eye injury!

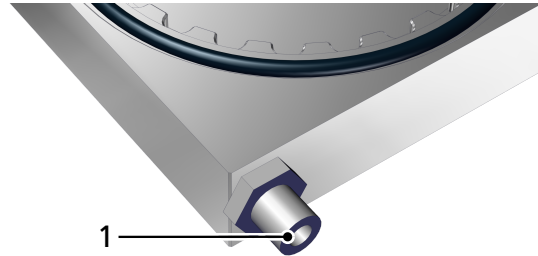
- ▶ Wear eye protection.
- ▶ Do not look into vacuum openings, e.g. suction cups.

Take note of the following when mounting:

- Dirt particles or foreign bodies in the Adapter-Plate connections, hoses or pipelines or in the interface to the vacuum block can lead to malfunctions or failure.
- Shorten the hoses and pipelines as much as possible.
- Evacuation time is increased if the selected internal diameter of the hoses or pipelines is too short.
- Hose lines must be laid without bends or crimps.

6.2 Connecting the Vacuum

- ▶ Connect the vacuum hose with an outside diameter of 6 mm to the hose connection (1) with a plug-in screw union.



7 Start of Operations

7.1 Specifications for Use



⚠ CAUTION

During machining, dust is released into the environment and can enter the respiratory tract.

Danger to health

- ▶ Use suction equipment or cover the machining area to ensure that no dust is released into the environment.
- ▶ If necessary, wear a breathing mask in accordance with class FFP1 or higher.

1. Monitor the vacuum value that is reached as close as possible to the Adapter-Plate (e.g. with a gauge).
2. Ensure that the operating vacuum is ≥ 600 mbar before machining the workpiece.
3. Before each machining process, clean chips and dust from the sealing plate, Adapter-Plate and vacuum block to achieve the required accuracy and adhesion as well as to prevent leakage.

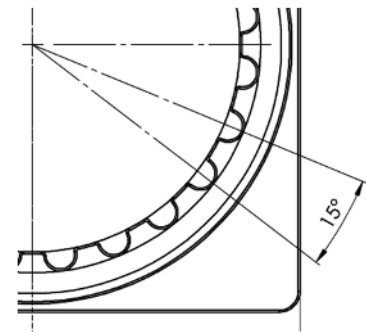
4. Check the circumferential sealing gasket on the bottom of the Adapter-Plate, the inserted O-ring and the suction plate of the vacuum block for signs of wear and replace if necessary.

7.2 Setting Up the Adapter-Plate

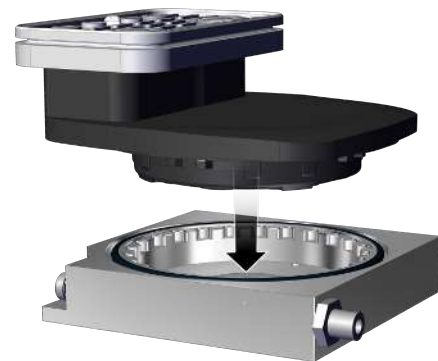
The Adapter-Plate is equipped with a special interface (form fit) to the vacuum block, which allows flexible positioning in 15° steps. It is therefore also possible to position the vacuum block at different angles on the Adapter-Plate.

The vacuum generated (normally -0.6 to -0.9 bar) on the bottom simultaneously sucks the vacuum block onto the adapter ring and the workpiece via the vacuum block.

Vacuum blocks VCBL-B are not included in the scope of delivery of the Adapter-Plate and must be ordered separately.

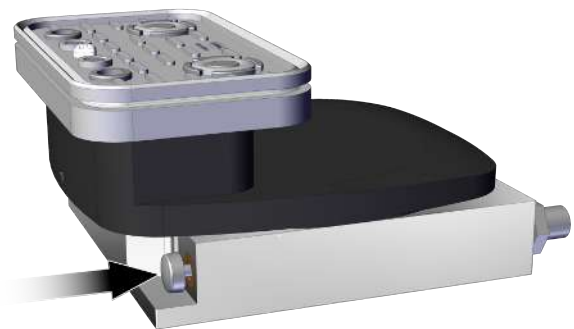


1. Place the vacuum blocks on the Adapter-Plate. The vacuum block VCBL-B that is used can be placed into the suction cup mount of the Adapter-Plate in 15° steps to align the suction area as desired.



2. Place the Adapter-Plate on the sealing plate with the suction cup inserted and the friction pad facing down.
3. Switch on the operating vacuum. The Adapter-Plate is evacuated and fixed to the sealing plate. At the same time, the vacuum block is secured in the Adapter-Plate.

4. The lateral pushbutton must be actuated to change the position of the Adapter-Plate. This will manually vent the bottom of the Adapter-Plate, which means that there is no vacuum force left.



5. By releasing the pushbutton, the AP-G is fixed to the sealing plate again.
6. By placing a plate-shaped workpiece on the suction plate of a VCBL-B that is inserted in the adapter, its touch valve is activated and the vacuum circuit for fixing the workpiece is opened and the workpiece is fixed.

⇒ The suction plate is completely covered.

7. Visually and manually check that the Adapter-Plate, vacuum block and workpiece are securely held before starting the machining process. It must not be possible to move or even loosen the workpiece.
8. Start the machining of the clamped workpiece.

If the operating vacuum is switched off, the Adapter-Plate is released from the sealing plate and the workpiece is released from the vacuum block. The workpiece can be removed.

7.3 Machining Limitations



WARNING

The workpiece comes loose during machining and is flung away by the machine.

Risk of injury from flying parts.

- ▶ Ascertain the maximum machining parameters and observe them.

The clamping force is limited, meaning that it can withstand machining forces only up to a certain point. Accordingly, the operator of the Adapter-Plate is obligated to establish for themselves (by experiment, slowly and carefully increasing the machining forces) the optimal settings and number of Adapter-Plates necessary to ensure that the workpiece does not slip or even come loose during the machining process.

This procedure should be performed in particular for new workpieces that have never been machined before or for uncertain cases with regard to the holding force.

Schmalz assumes no liability for damages resulting from slippage or release of workpieces due to faulty adjustment of machining parameters.

8 Warranty

This system is guaranteed in accordance with our general terms of trade and delivery. The same applies to spare parts, provided that these are original parts supplied by us.

Wearing parts are not covered by the warranty.

9 Cleaning the Adapter-Plate

1. For cleaning, do not use aggressive cleaning agents such as industrial alcohol, white spirit or thinners.
2. Remove dirt on the exterior of the device with a soft cloth and soap suds.

10 Spare and wearing parts

Part no.	Type	Designation	Part type
10.01.12.03165	VCBL-B 140x130x29 TV	Vacuum block VCBL-B 140x130x29 with touch valve	Accessory
10.01.12.03169	VCBL-B 140x130x48 TV	Vacuum block VCBL-B 140x130x48 with touch valve	Accessory
10.01.12.03173	VCBL-B 140x130x74 TV	Vacuum block VCBL-B 140x130x74 with touch valve	Accessory
10.01.12.03166	VCBL-B 125x75x29 TV	Vacuum block VCBL-B 125x75x29 with touch valve	Accessory
10.01.12.03170	VCBL-B 125x75x48 TV	Vacuum block VCBL-B 125x75x48 with touch valve	Accessory
10.01.12.03174	VCBL-B 125x75x74 TV	Vacuum block VCBL-B 125x75x74 with touch valve	Accessory
10.01.12.03167	VCBL-B 120x50x29 TV	Vacuum block VCBL-B 120x50x29 with touch valve	Accessory

Part no.	Type	Designation	Part type
10.01.12.03171	VCBL-B 120x50x48 TV	Vacuum block VCBL-B 120x50x48 with touch valve	Accessory
10.01.12.03175	VCBL-B 120x50x74 TV	Vacuum block VCBL-B 120x50x74 with touch valve	Accessory
10.01.12.03168	VCBL-B 130x30x29 TV	Vacuum block VCBL-B 130x30x29 with touch valve	Accessory
10.01.12.03172	VCBL-B 130x30x48 TV	Vacuum block VCBL-B 130x30x48 with touch valve	Accessory
10.01.12.03176	VCBL-B 130x30x74 TV	Vacuum block VCBL-B 130x30x74 with touch valve	Accessory
10.08.02.00157	STV-W G1/4-AG 4	Plug-in screw union, bracket	Accessory
10.08.02.00159	STV-W G1/4-AG 6	Plug-in screw union, bracket	Accessory
10.08.02.00161	STV-W G1/4-AG 8	Plug-in screw union, bracket	Accessory
10.08.02.00254	STV-W G1/4-AG 10	Plug-in screw union, bracket	Accessory
10.08.02.00162	STV-W G1/4-AG 12	Plug-in screw union, bracket	Accessory
10.08.02.00251	STV-GE G1/4-AG 10	Plug-in screw union, straight	Accessory
10.08.06.00044	VRS-SB G1/4-AG ISKT O-ring	Sealing screw with collar and O-ring	Accessory
10.07.04.00054	DI-PROF 4x6 MOS NK-20 HR	Bottom sealing profile, L = 1000 mm	Wearing part
10.07.08.00157	O-RING 112x4 NBR-70	O-ring, seal between Adapter-Plate and vacuum block	Wearing part

11 Disposing of the product

- ▶ Sort and dispose of all components according to the country-specific regulations.



For proper disposal, please contact a company specializing in the disposal of technical goods and instruct the company to observe the applicable disposal and environmental regulations. Schmalz is happy to assist you in finding a suitable company.

12 Notes