



Superior Clamping and Gripping



Product Information

Random orbit sander A0V

Compliant. Compact. Flexible.

Pneumatic random orbit sander

Pneumatic random orbit sander with axial compensation for grinding and polishing of workpiece surfaces

Field of application

Automated grinding and polishing of workpiece surfaces with a constant, adjustable contact pressure for reproducible quality.



Advantages – Your benefits

Flexibility in axial direction for a simplified robot programming

Use of proven, adhesive grinding and polishing wheels for simplified automation of manual grinding and polishing tasks

Optional media change system for automated exchange of grinding or polishing wheels

Optional connection for suction for reduced contamination and susceptibility to faults

Compensation can be adjusted by means of a double-action pneumatic cylinder for a constant contact pressure independent of the orientation of the tool

Simple exchange of wear parts for maximum system availability and minimum spare parts requirements



Sizes
Quantity: 1



Idle speed max.
10000 1/min



Max. extension
compensation force
66.7 N



Max. retraction
compensation force
33.3 N

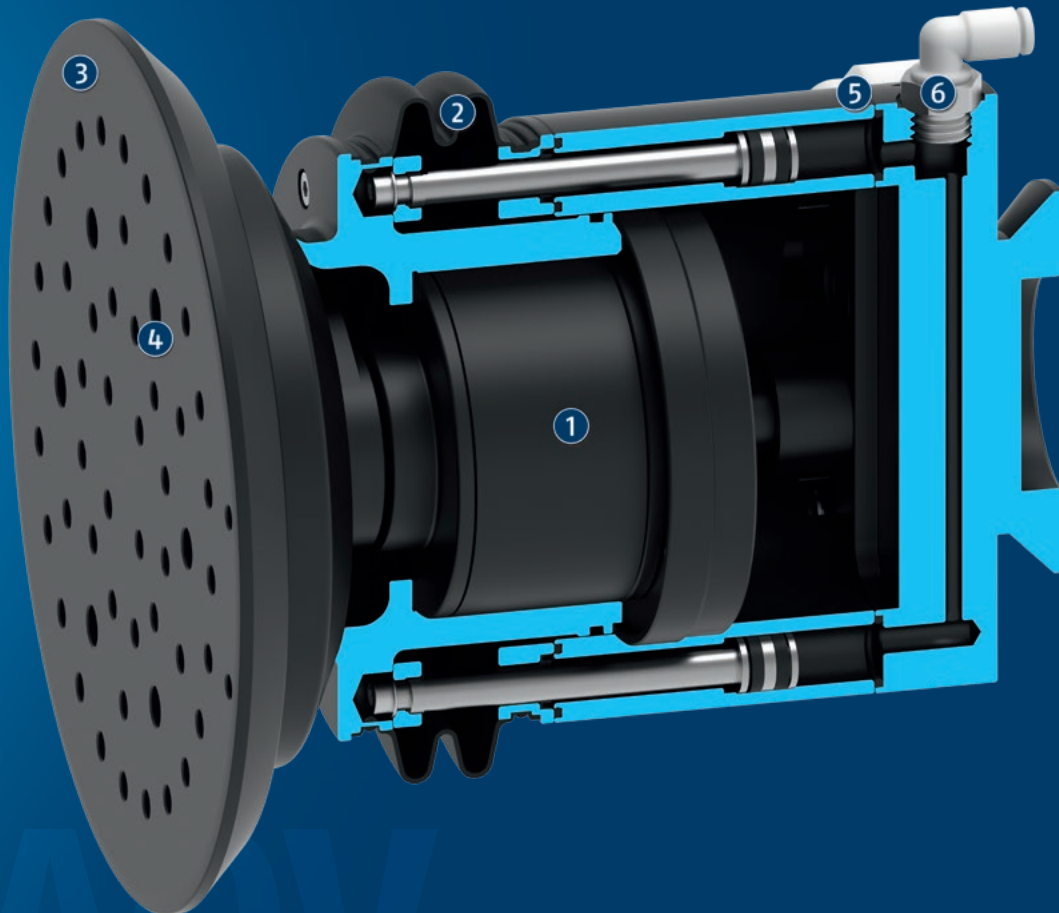


Compensation Z
12.7 mm

Functional description

The random orbit sander is driven by a vane-type air motor. The motor is driven by filtered and oiled air. The motor is axially and flexibly mounted to compensate for tolerances on the workpiece surface and to ensure a constant contact force during the grinding or polishing process. The contact force can be controlled separately in

two directions (retracting and extending) via two air connections, so that a variable contact pressure can be achieved. The random orbit sander can be used with two different sanding pad diameters and can be optionally equipped with a connection for an extraction system.



- ① **Rotating piston air engine**
for a high torque and a short stopping time
- ② **Dust cover**
protects the bearing against contamination
- ③ **Grinding pad**
for adhesive grinding or polishing wheels

- ④ **Bore holes**
for extraction of grinding and polishing dust
- ⑤ **Air connection**
for the supply of the motor
- ⑥ **Air connection**
for adjusting the contact pressure to the workpiece

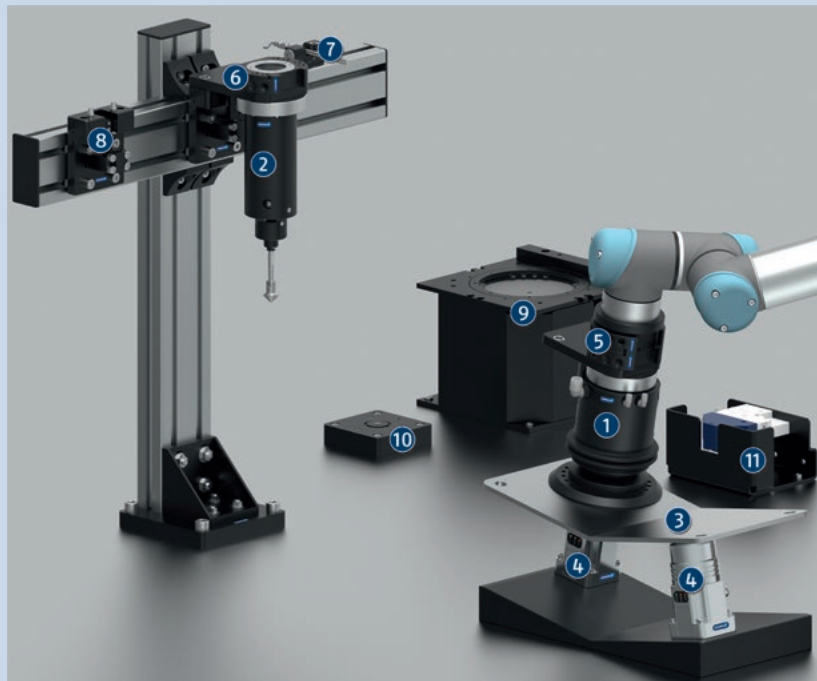
General notes about the series

Mounting: on the robot arm or as a stationary unit

Actuation: pneumatic, via filtered (<5 µm, dry) and oiled compressed air (2–3 drops per hour)

Warranty: 24 months

Ambient conditions: Please note that the unit is not suitable for use in an area where coolants or cutting fluids are present.



Application example

Robot-guided surface treatment of sheet metal with automatic abrasive changer consisting of disk magazine, presence detector and remover.

- | | |
|----------------------------|-----------------------------------|
| ① Orbital Sander Tool AOV | ⑦ Tool stand module CDB |
| ② Deburring tool CDB | ⑧ Mounting module pin and bushing |
| ③ Workpiece | ⑨ Washer rack |
| ④ Magnetic gripper EMH | ⑩ Washer presence detector |
| ⑤ Quick-change system SWS | ⑪ Washer remover |
| ⑥ Quick-change adapter SWA | |

SCHUNK offers more ...

The following components make the product A0V even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.



Quick change system



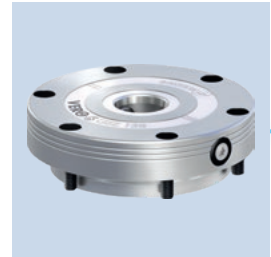
Manual change system



Force/torque sensor



Clamping force block



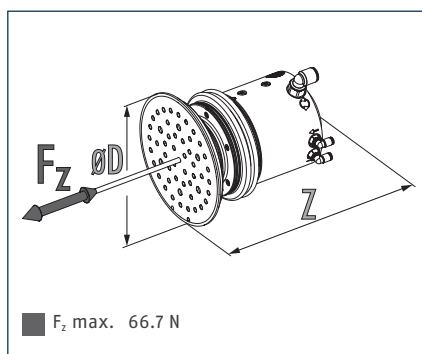
Quick-change Pallet System

① For more information on these products can be found on the following product pages or at [schunk.com](https://www.schunk.com). Please contact us: SCHUNK technical hotline +49-7133-103-2696

AOV 10

Random orbit sander

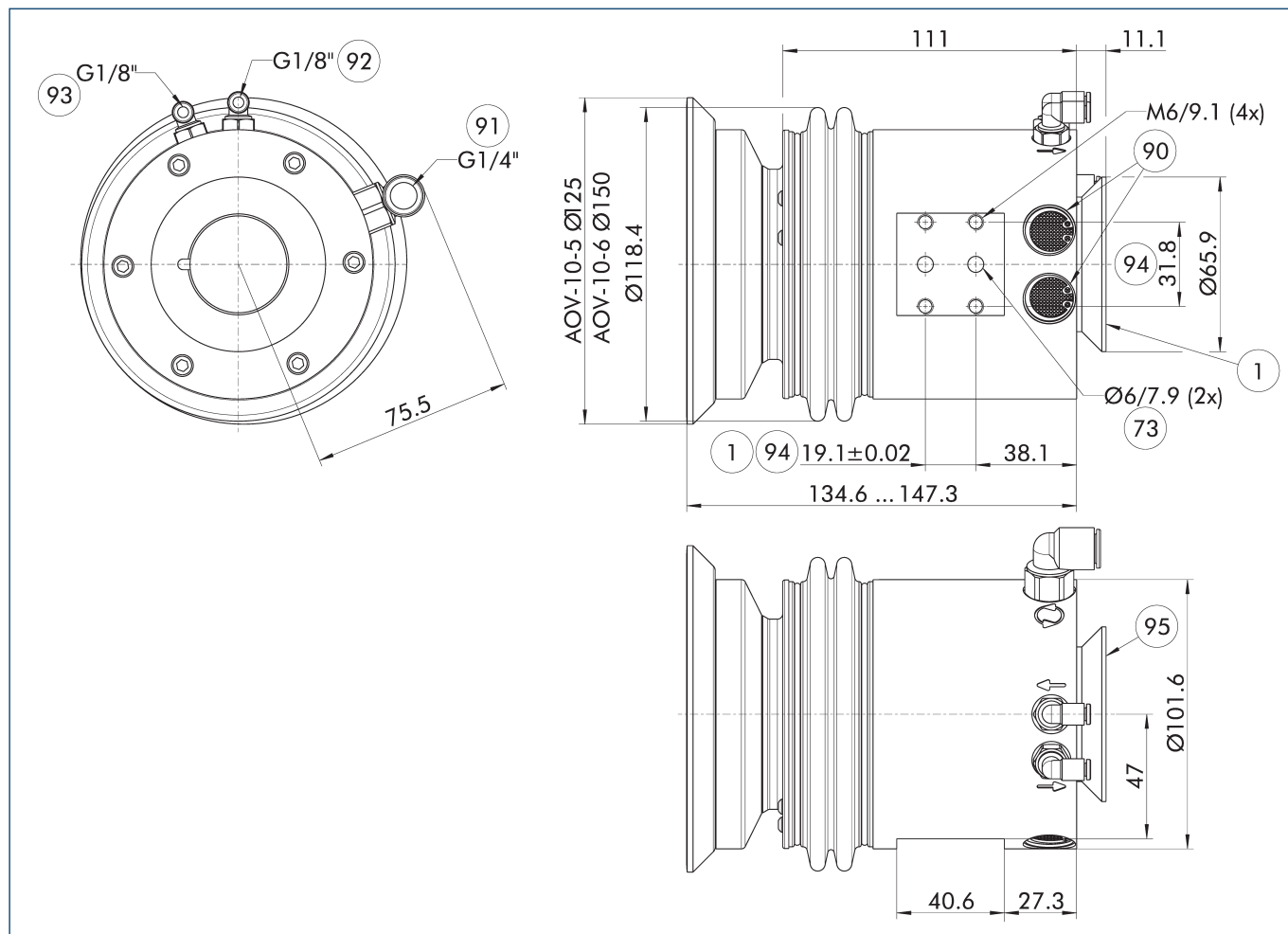
Dimensions and maximum loads



Technical data

Description		AOV-10-5	AOV-10-6
ID		1434817	1435146
Grinding disk size		125 mm (5")	150 mm (6")
Compensation Z	[mm]	12.7	12.7
Recommended compensation path	[mm]	±5	±5
Min./max. extension compensation force	[N]	13.3/66.7	13.3/66.7
Min./max. retraction compensation force	[N]	6.7/33.3	6.7/33.3
Min./max. compensation pressure	[bar]	1/4.1	1/4.1
Grinding stroke	[mm]	5	5
Idle speed	[1/min]	10000	10000
Operating pressure	[bar]	6.2	6.2
Noise emission	[dB(A)]	<85	<85
maximum air consumption	[l/s]	9.5	9.5
Air connection motor		10 mm	10 mm
Compensation air connection		10 mm	10 mm
Weight	[kg]	2.68	2.68
Min./max. ambient temperature	[°C]	5/35	5/35
Dimensions Ø D x Z	[mm]	125 x 148	150 x 148
Options and their characteristics			
Description		AOV-10-5-V	AOV-10-6-V
with optional connection for suction		1434818	1435148

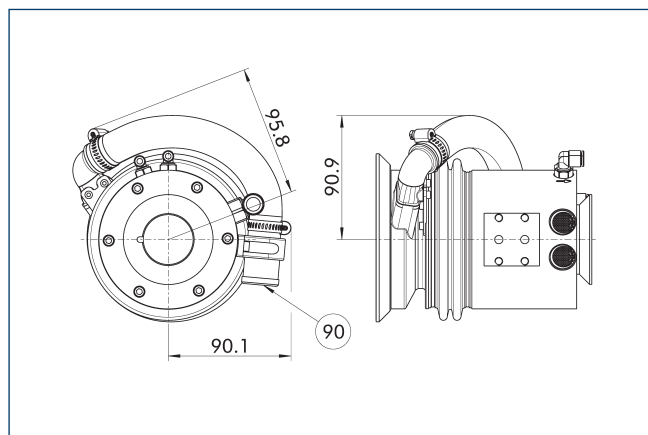
Main view



The drawing shows the unit in the basic version.

- | | |
|---|---|
| ① Robot-side connection | ⑨② Extend air connection compensation, hose screw connection for 4 mm hose |
| ⑦③ Fit for centering pins | ⑨③ Retract air connection compensation, hose screw connection for 4 mm hose |
| ⑨④ Ventilation opening | ⑨④ radial mounting option |
| ⑨① Air connection motor, hose screw connection for 10 mm hose | ⑨⑤ axial mounting option |

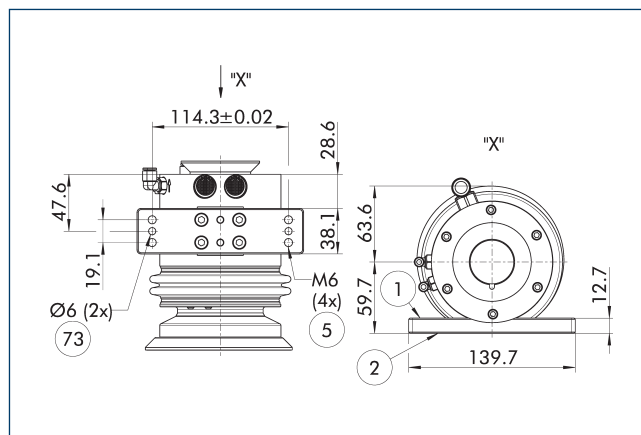
Suction connection



⑨⑩ Vacuum connection \varnothing 25.4 mm

The drawing shows the unit with the optional connection for a suction unit.

Adapter plates, radial



① Robot-side connection

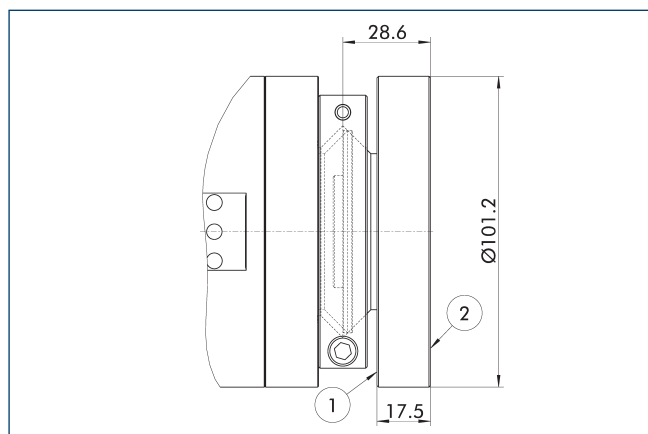
② Tool-side connection

⑤ Through hole for connection with screws

⑦③ Fit for centering pins

Description	ID
Adapter plate	
A-AOV/CRT/RVC-250/490/RCE-radial	1420116

Adapter plates axial

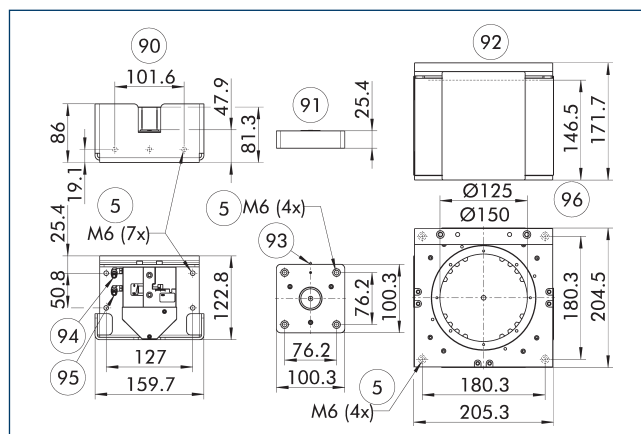


① Robot-side connection

② Tool-side connection

Description	ID
Adapter plate	
A-AOV-Axial-ISO-A50	1453540
A-FDB-660-1040/RCE-710/AOV-Axial	0322211

Automated media changer



⑤ Through hole for connection with screws

⑨⑩ Washer remover

⑨① Washer presence detector

⑨② Washer rack

⑨③ Cable outlet, proximity switch

⑨④ Retract air connection needles

⑨⑤ Extend air connection needles

⑨⑥ max. media storage capacity

The drawing shows the three necessary components of the media changer.

Description	ID	Disk diameter
Automated media changer		
AOV-MCH	1460790	
AOV-MF5	1460781	125 mm (5")
AOV-MF6	1460783	150 mm (6")
AOV-MRA	1460797	

① All three components are necessary in order to use the media changer. These can be ordered separately and positioned individually.

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