Superior Clamping and Gripping

# Product Information

## Random orbit sander AOV

# 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

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

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

**Optional connection for suction** for reduced contamination and susceptibility to faults

**Flexibility in axial direction** for a simplified robot programming

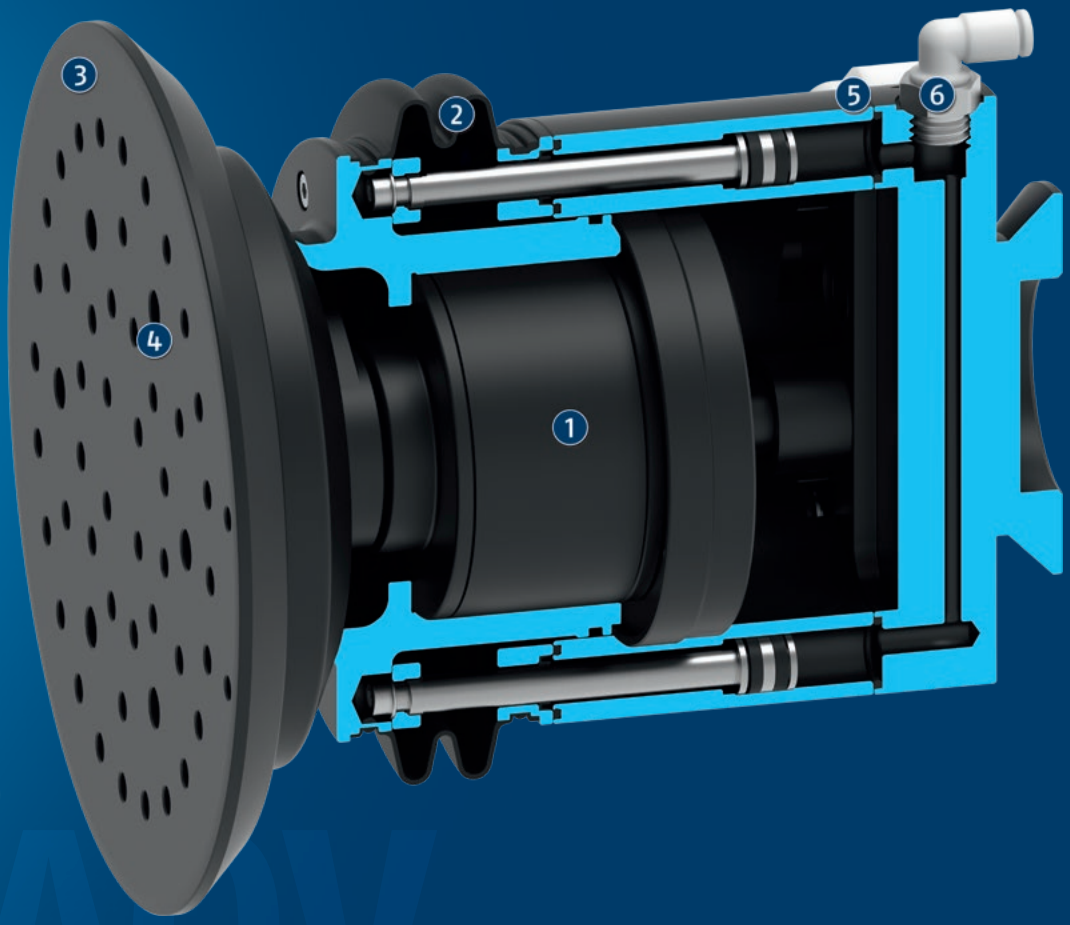
**Use of proven, adhesive grinding and polishing wheels** for simplified automation of manual grinding and polishing tasks

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

| Sizes<br>Quantity: 1 | Idle speed max.<br>10000 1/min | Max. extension compensation force<br>66.7 N | Max. retraction compensation force<br>33.3 N | Compensation Z<br>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

# AOV

Random orbit sander

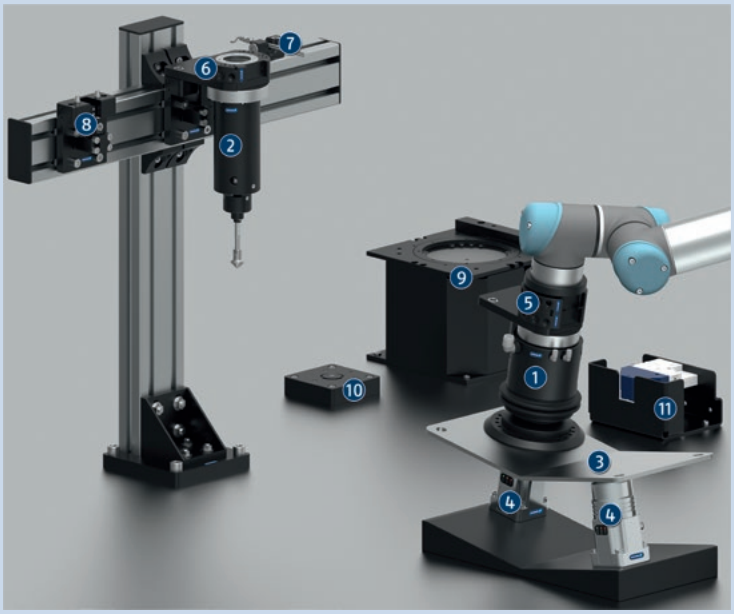
## General notes about the series

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

## SCHUNK offers more ...

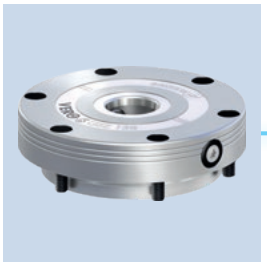
The following components make the product even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.

Quick change system

Manual change system

Force/torque sensor

Clamping force block



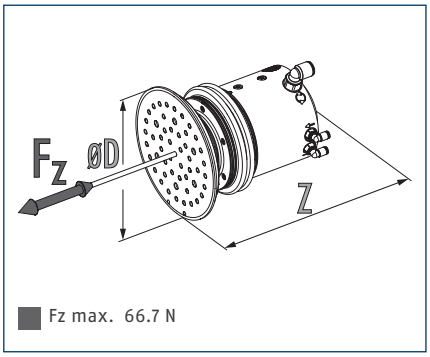
Quick-change Pallet System

ⓘ For more information on these products can be found on the following product pages or at schunk.com.

# AOV 10

Random orbit sander

## Dimensions and maximum loads

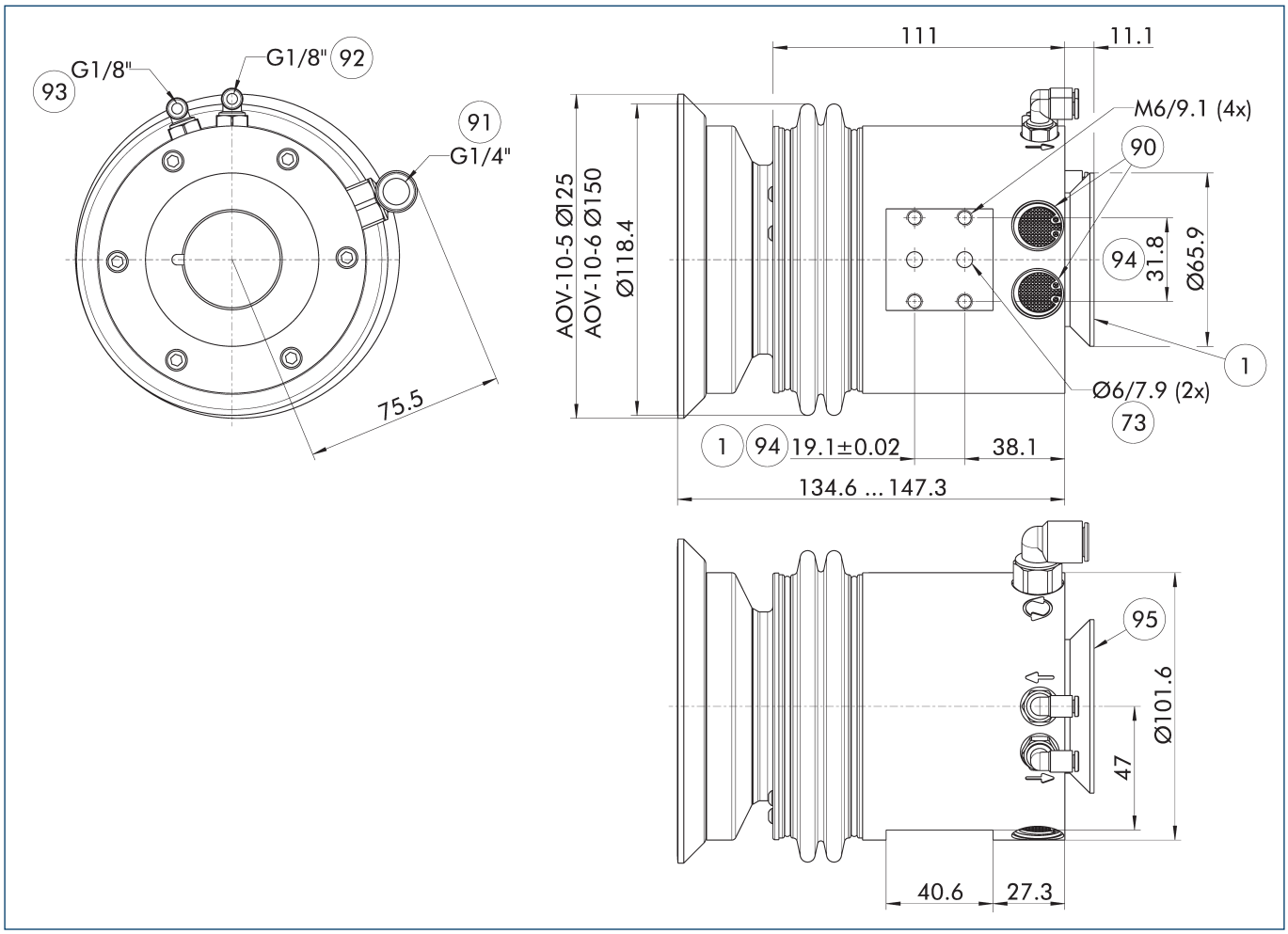



Fz max. 66.7 N

## 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 | | 4 mm | 4 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



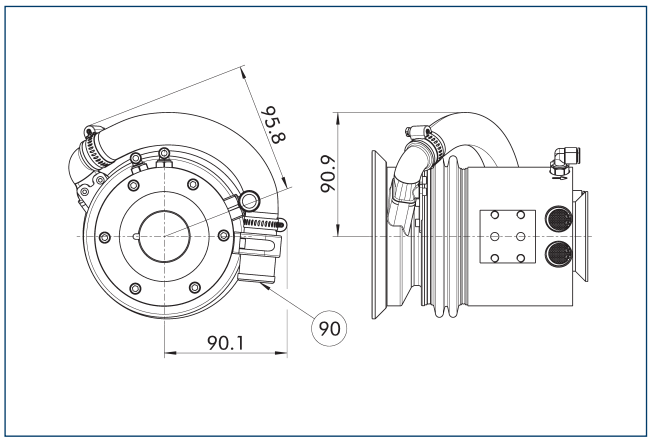

The drawing shows the unit in the basic version.

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

# AOV 10

Random orbit sander

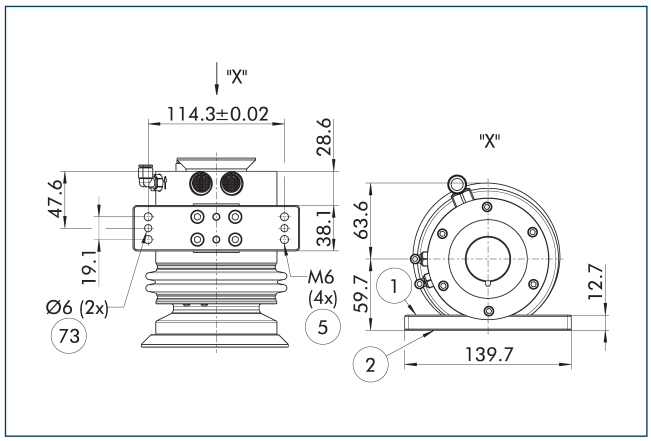
## Suction connection




(90) Vacuum connection Ø 25.4 mm

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

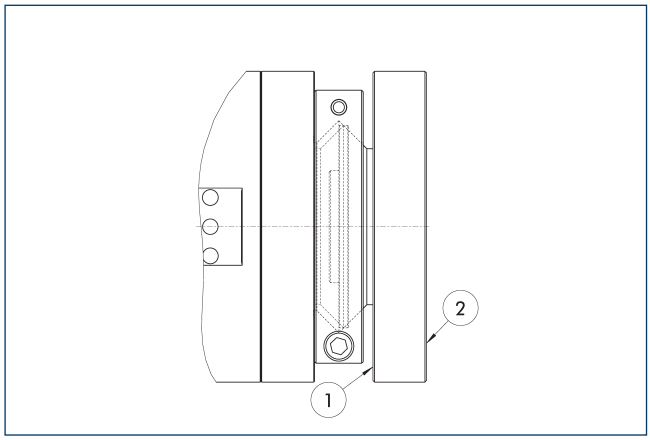
## Adapter plates, radial




(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/RCV-250/490/RCE-radial | 1420116 | |

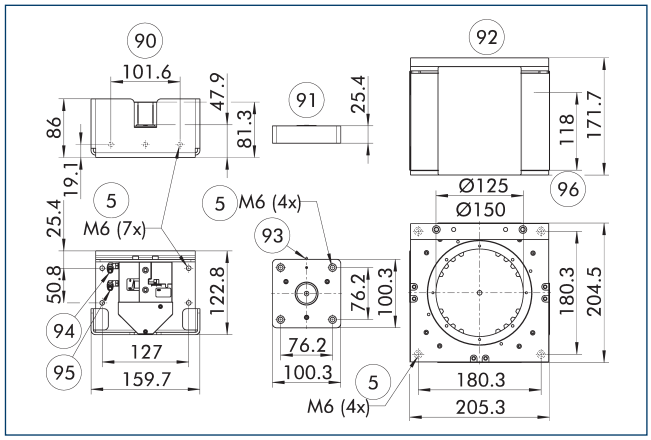
## Adapter plates axial




(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
(90) 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 | |

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

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