Superior Clamping and Gripping

Product Information

Deburring spindle RCV

Compliant. Flexible. Robust.

Deburring spindle RCV

Pneumatic deburring spindle with radial compensation for deburring workpieces

Field of application

for automatic deburring of different workpieces, geometries, and materials in a reproducible quality

Advantages – Your benefits

The compensation force can be adjusted means of compressed air. for high-quality deburring results in any installation position

Flexible use on the robot arm or as a stationary unit

Rotating piston air engine with high torque for high feed rates and a reduced machining time

Flexibility in radial direction for a simplified robot programming

Lock function for the Y axis for an oscillating compensation only in the X-axis

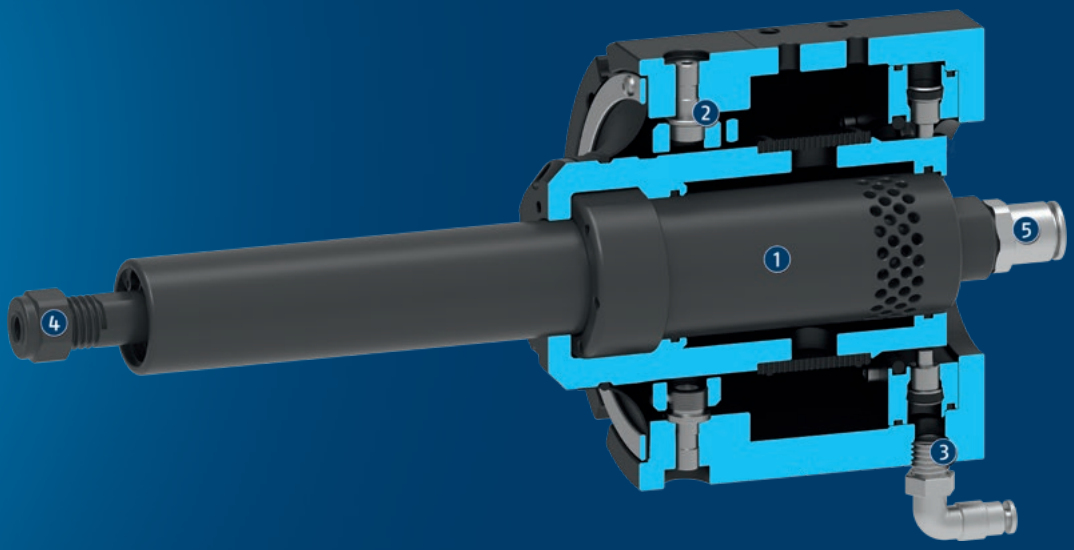
Simple exchange of wear parts for maximum system availability and minimum spare parts requirements

Robust bearing for an optimized service life

Sizes Quantity: 2	Idle speed max. 30000 .. 40000 1/min	Power 250 .. 490 W	Compensation angle, radial ±3°

Functional description

The unit is driven by a pneumatic rotating piston air engine. Its speed of rotation depends on the unit size. The motor is driven by filtered and oiled air. The spindle is gimbal-mounted to compensate for tolerances on the workpiece contour. The Y-axis can optionally be fixed by a set screw. This means that pendulum compensation is only possible in the X axis. The compliance force is controlled via a second air connection. Depending on the pressure setting, a variable pressure force acts on the tool.



① **Rotating piston air engine**
for a high torque and a short stopping time

② **Gimballed system**
for a robust compensation function

③ **Air connection**
for adjusting the compliance force

④ **Tool holder**
for ER-11 collets

⑤ **Air connection**
for the supply of the motor

General notes about the series

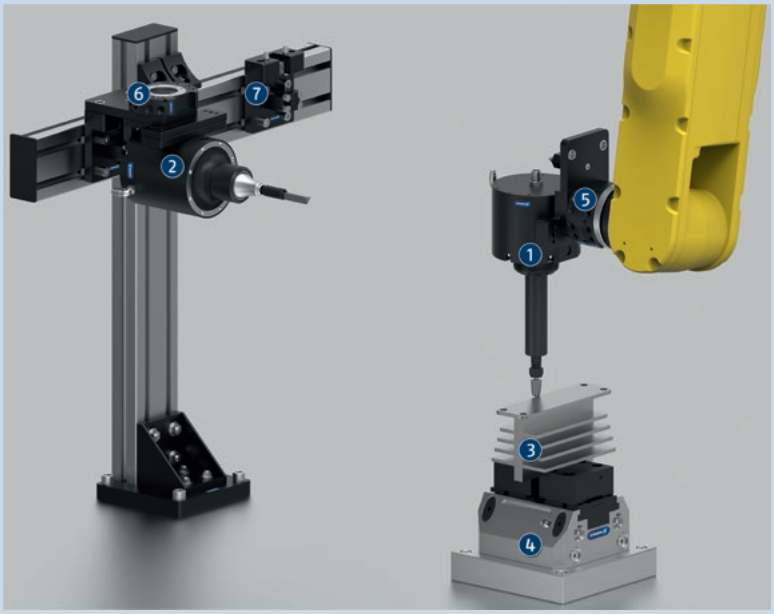
Mounting: on the robot arm or as a stationary unit

Actuation: pneumatic, via filtered (<5 µm, dry) and oiled compressed air (1–2 drops per minute)

Scope of delivery: Spindle with collet and pneumatic screw connections.

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 deburring of a milled part with complex contours.

1. Deburring spindle RCV
2. Pneumatic file tool CRT
3. Heat sink
4. TANDEM KSP plus
5. Quick-change system SWS
6. Quick-change adapter SWA
7. Storage module pin and bushing for RCV

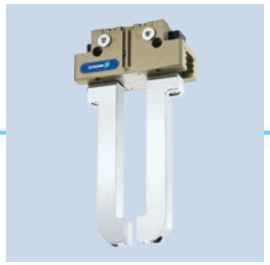
SCHUNK offers more ...

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

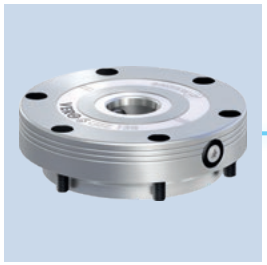
Quick change system

Manual change system

Force/torque sensor



2-finger parallel gripper



Quick-change Pallet System

Clamping force block

2-finger small components gripper

3-Finger Centric Gripper

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

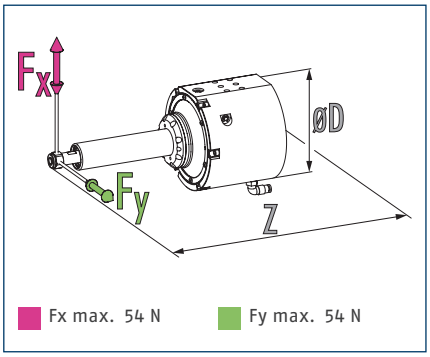
Options and special information

Universally: Its flexible assembly possibilities mean the RCV deburring spindle is not restricted to use on a robot arm. It can also be used as a fixed tool with a moving workpiece.

RCV 250

Deburring spindle

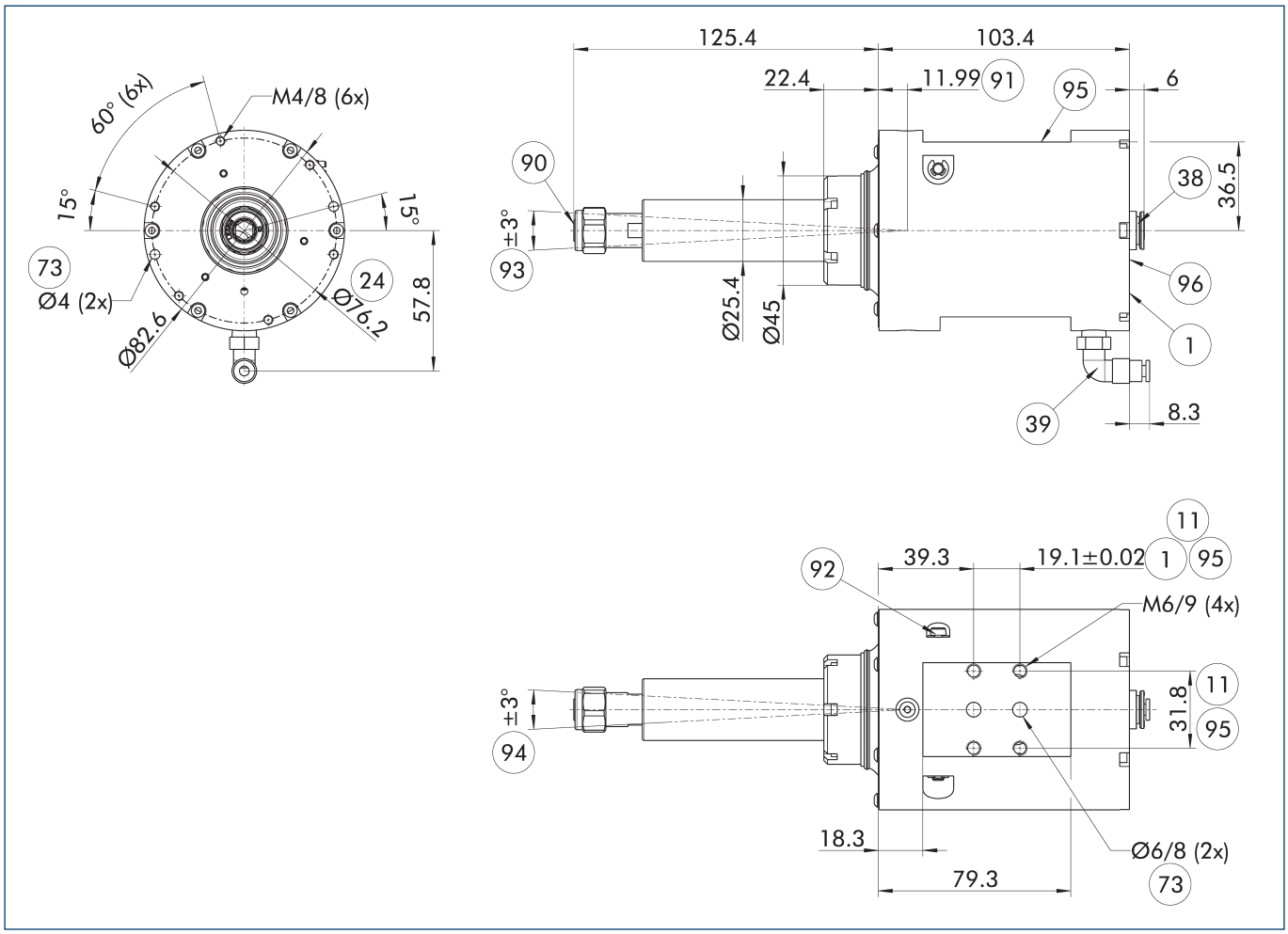
Dimensions and maximum loads



Technical data

Description		RCV-250
ID		1460804
Power	[W]	250
Idle speed	[1/min]	40000
Nominal speed	[1/min]	20000
Max. compensation angle X	[°]	±3
Max. compensation X	[mm]	±7.1
Max. compensation angle Y	[°]	±3
Max. compensation Y	[mm]	±7.1
Axis fixation		integrated
Recommended compensation path	[mm]	±3.5
Min./max. compensation force	[N]	9/54
Min./max. compensation pressure	[bar]	1/4.1
Operating pressure	[bar]	6.2
maximum air consumption	[l/s]	14.2
Tool holder		Collet ER-11 6 mm and 8 mm
Air connection spindle		10 mm
Compensation air connection		4 mm
Weight	[kg]	1.71
Min./max. ambient temperature	[°C]	5/35
Dimensions Ø D x Z	[mm]	82.6 x 228.8

Main view



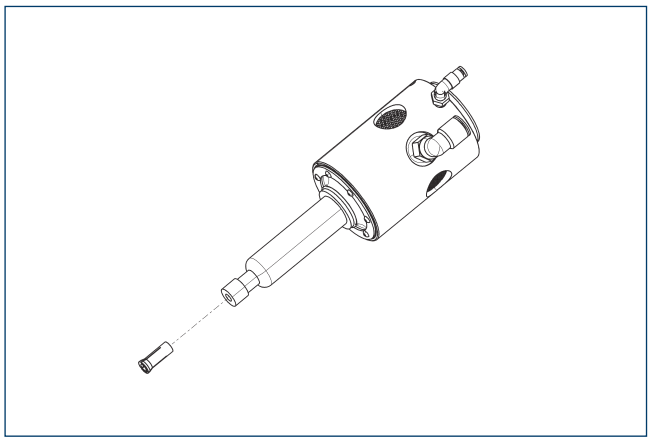
The drawing shows the unit in the basic version.

1 Robot-side connection
11 Drilling pattern on both sides
24 Bolt circle
38 Air connection spindle
39 Compensation air connection
73 Fit for centering pins
90 Tool holder
91 Pivot
92 Locking function for Y axis
93 max. radial compensation (x axis)
94 max. radial compensation (y axis, lockable)
95 radial mounting option
96 axial mounting option

RCV 250

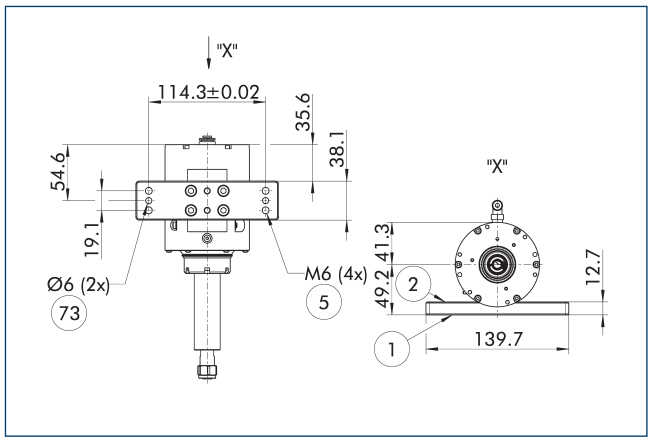
Deburring spindle

Collets



Description	ID	Diameter
Collet Chuck Mounting		
RCV-ER-11-Collet-6mm	1453567	6 mm
RCV-ER-11-Collet-8mm	1453568	8 mm

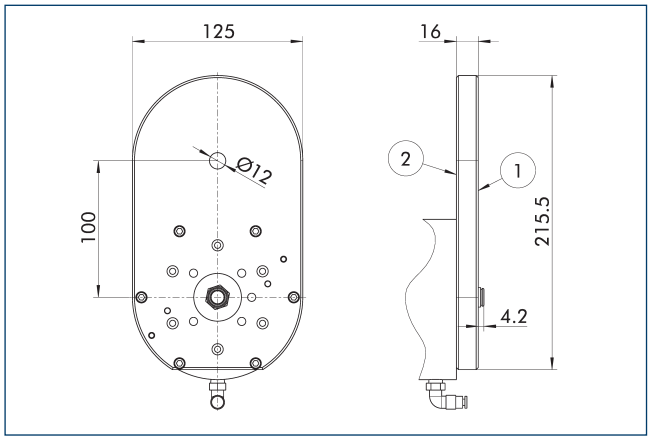
Adapter plates, radial



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

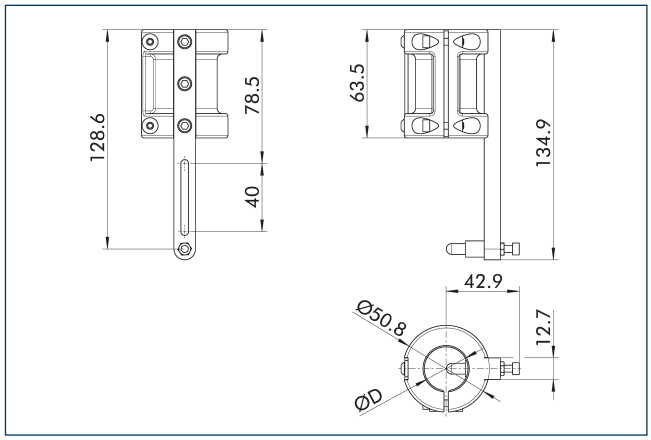


1 Robot-side connection
2 Tool-side connection

Tool-side blank adapter plate to be machined by the customer.

Description	ID	
Adapter plate		
A-RCV-250/490-Axial-Offset-Blank	1453502	

Profile follower



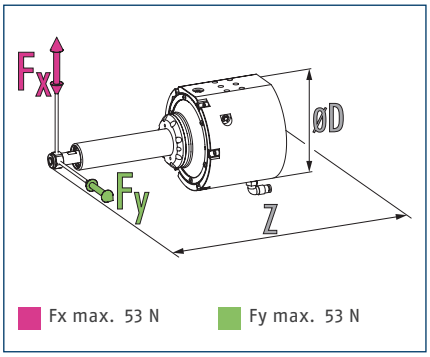
Profile follower for adjustably limiting the depth of cut along a surface

Description	ID	Diameter D
		[mm]
Profile follower		
RC-PF1-25,4mm	1453506	25.4

RCV 490

Deburring spindle

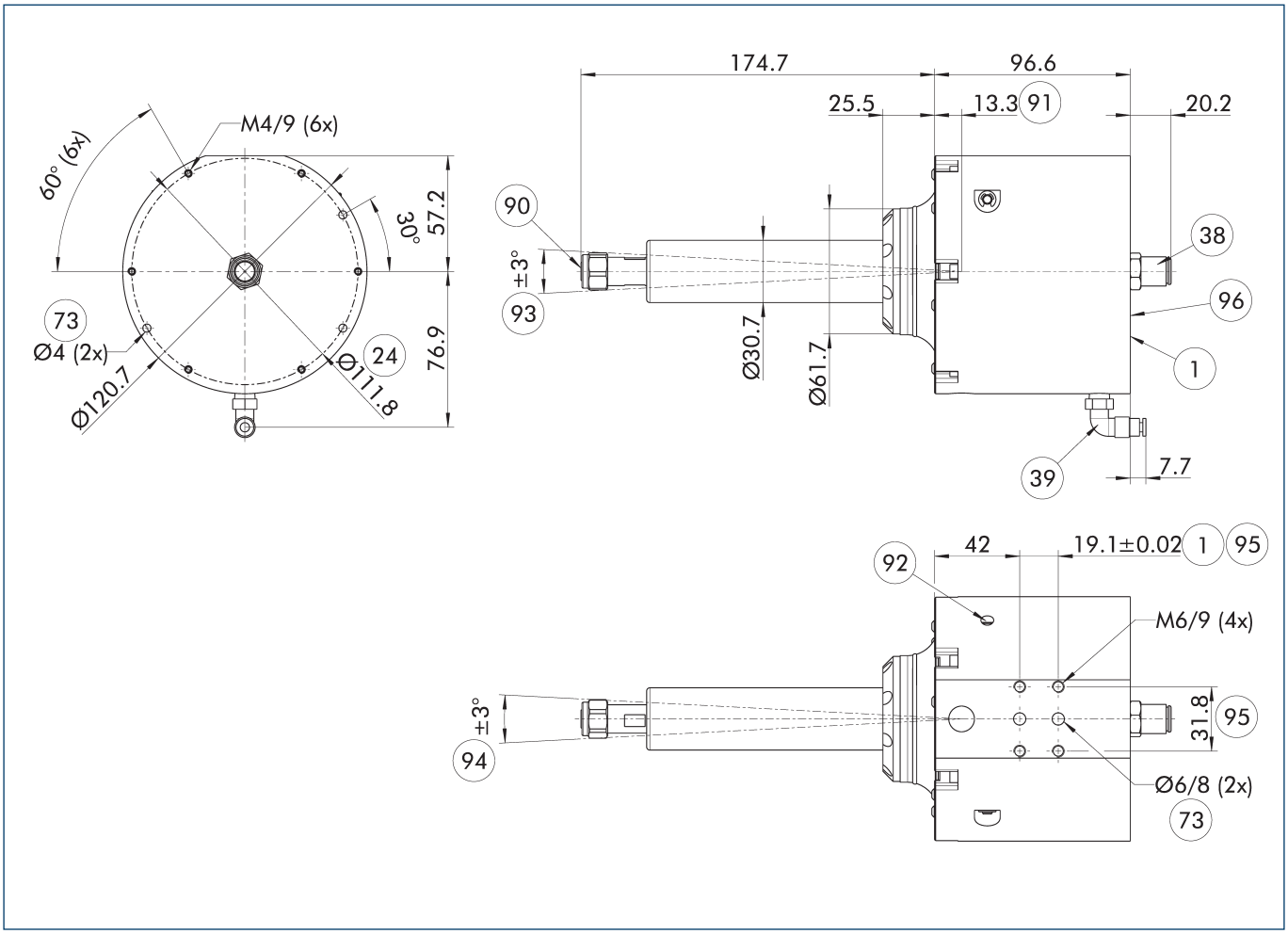
Dimensions and maximum loads



Technical data

Description		RCV-490
ID		1423327
Power	[W]	490
Idle speed	[1/min]	30000
Nominal speed	[1/min]	15000
Max. compensation angle X	[°]	±3
Max. compensation X	[mm]	±8.3
Max. compensation angle Y	[°]	±3
Max. compensation Y	[mm]	±8.3
Axis fixation		integrated
Recommended compensation path	[mm]	±4.1
Min./max. compensation force	[N]	7/53
Min./max. compensation pressure	[bar]	1/4.1
Operating pressure	[bar]	6.2
maximum air consumption	[l/s]	19
Tool holder		Collet ER-11 6 mm and 8 mm
Air connection spindle		10 mm
Compensation air connection		4 mm
Weight	[kg]	3.36
Min./max. ambient temperature	[°C]	5/35
Dimensions Ø D x Z	[mm]	120.7 x 271.3

Main view



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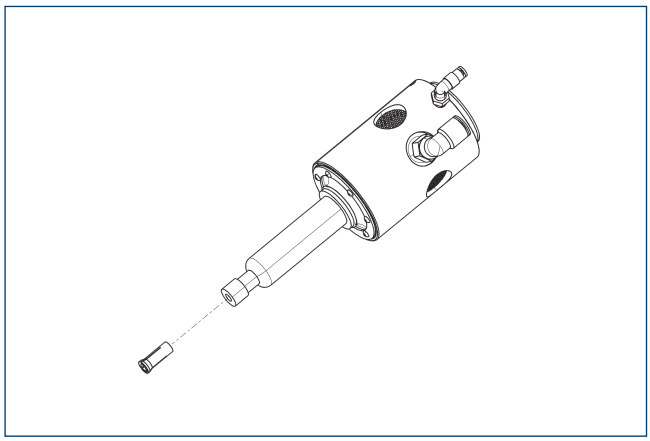
RCV 490

Deburring spindle

Collets



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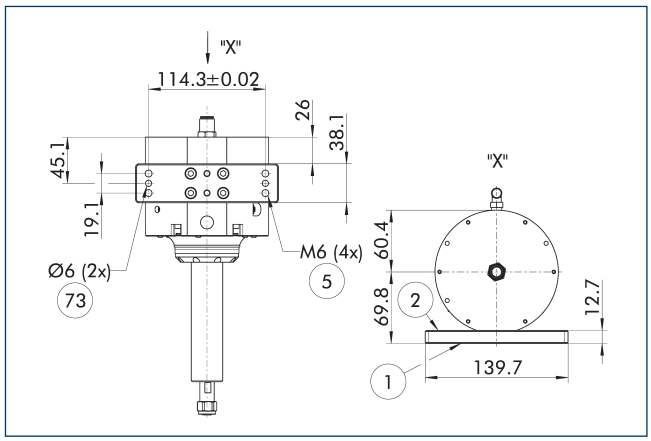
Adapter plates, radial



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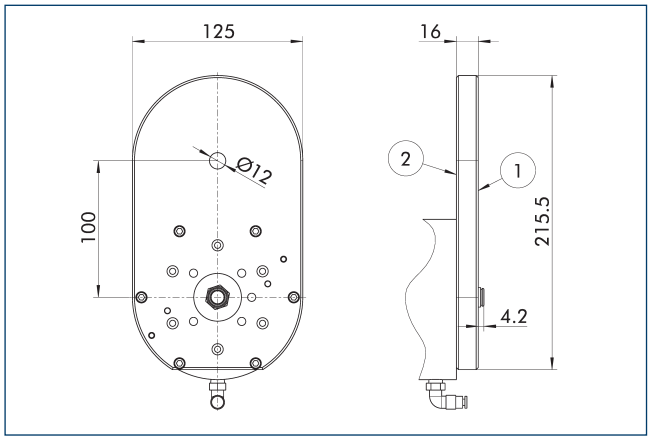
Adapter plate		
A-AOV/CRT/RCV-250/490/RCE-radial	1420116	

Adapter plates axial

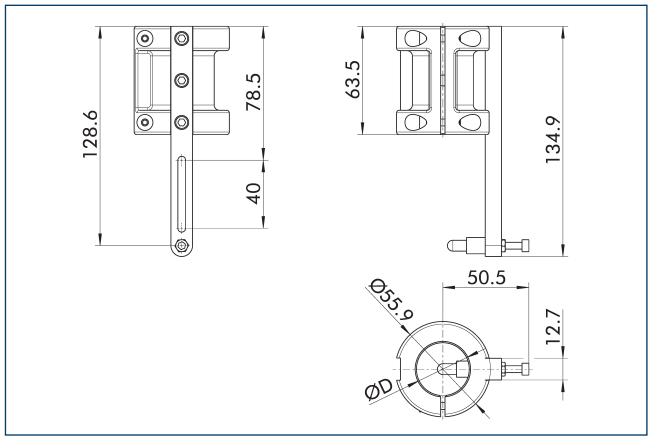


1 Robot-side connection
2 Tool-side connection

Tool-side blank adapter plate to be machined by the customer.

Description	ID	
Adapter plate		
A-RCV-250/490-Axial-Offset-Blank	1453502	

Profile follower



Profile follower for adjustably limiting the depth of cut along a surface

Description	ID	Diameter D
		[mm]
Profile follower		
RC-PF3-30,7mm	1453524	30.7

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