

Compliant. Reliable. Flexible.

FDB-AC Deburring Spindle

Flexible deburring spindle for use with robots.

Field of Application

Standard solution for versatile and robot-guided deburring of all sorts of workpieces

Advantages – Your benefit

Flexible high-frequency spindle for maximum flexibility when deburring

Pneumatically-adjustable rigidity of the cutting spindle for clean chamfer edges in every installation position

High RPM for high feed rates

Flexible use on robot arm or as stationary unit



Sizes
Quantity: 2



Idle speed max.
30000 1/min



Power
250 W

Functional Description

The unit is driven via a pneumatic spindle, which is available in straight and 90° version at a speed of up to 30,000 rotations per minute. The spindle is axially mounted and therefore can compensate tolerances while following up the machining contour. The maximum path

at the milling cutter tip amounts to ± 4 mm. The power (rigidity), which is required for moving the spindle (axially), is controlled via a second air connection. Depending on the pressure, a force between 1 N to 25 N effects on the cut surface.



- ① **Milling cutter**
conical 90° for optimal deburring
- ② **Compensation piston**
for adjusting the pressure force on the workpiece
- ③ **Pneumatic spindle**
High performance spindle with up to 30,000 1/min
- ④ **Pneumatic connection for the spindle**
with large cross-section for compressed air motor
- ⑤ **Pneumatic connection for compensation**
Adjustable stiffness of the compensating spindle via oiled air

CAD data, operating manuals and other current product documents are available at www.schunk.com

General Notes to the Series

Mounting: on robot arm or as stationary unit

Actuation: pneumatic, via oiled air pressure

Scope of delivery: Clamping tool and mills

Warranty: 24 months (details, general terms and conditions and operation manuals can be downloaded at www.schunk.com)

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

Application example

Robot-controlled deburring of connecting rod cast parts

- 1 SWS Quick-change System
- 2 FDB-AC-90 Axially-Compliant Deburring Spindle
- 3 Clamping Force Block



SCHUNK offers more ...

The following components make the FDB-AC even more productive – the perfect complement for highest functionality, flexibility, and process reliability.



Milling Cutter



SWS Quick-change Systems



DDF 2 Rotary Feed-through



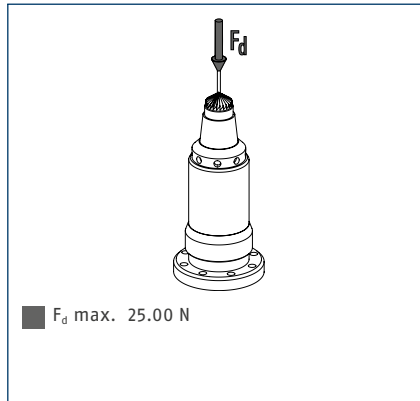
HWS Manual Gripper Change Systems

① Further information regarding the products can be found on the following products pages or at www.schunk.com. Please contact us for further information: SCHUNK technical hotline +49-7133-103-2696

FDB-AC 180

Robot Accessories | Finishing | Deburring Spindle

Forces and moments

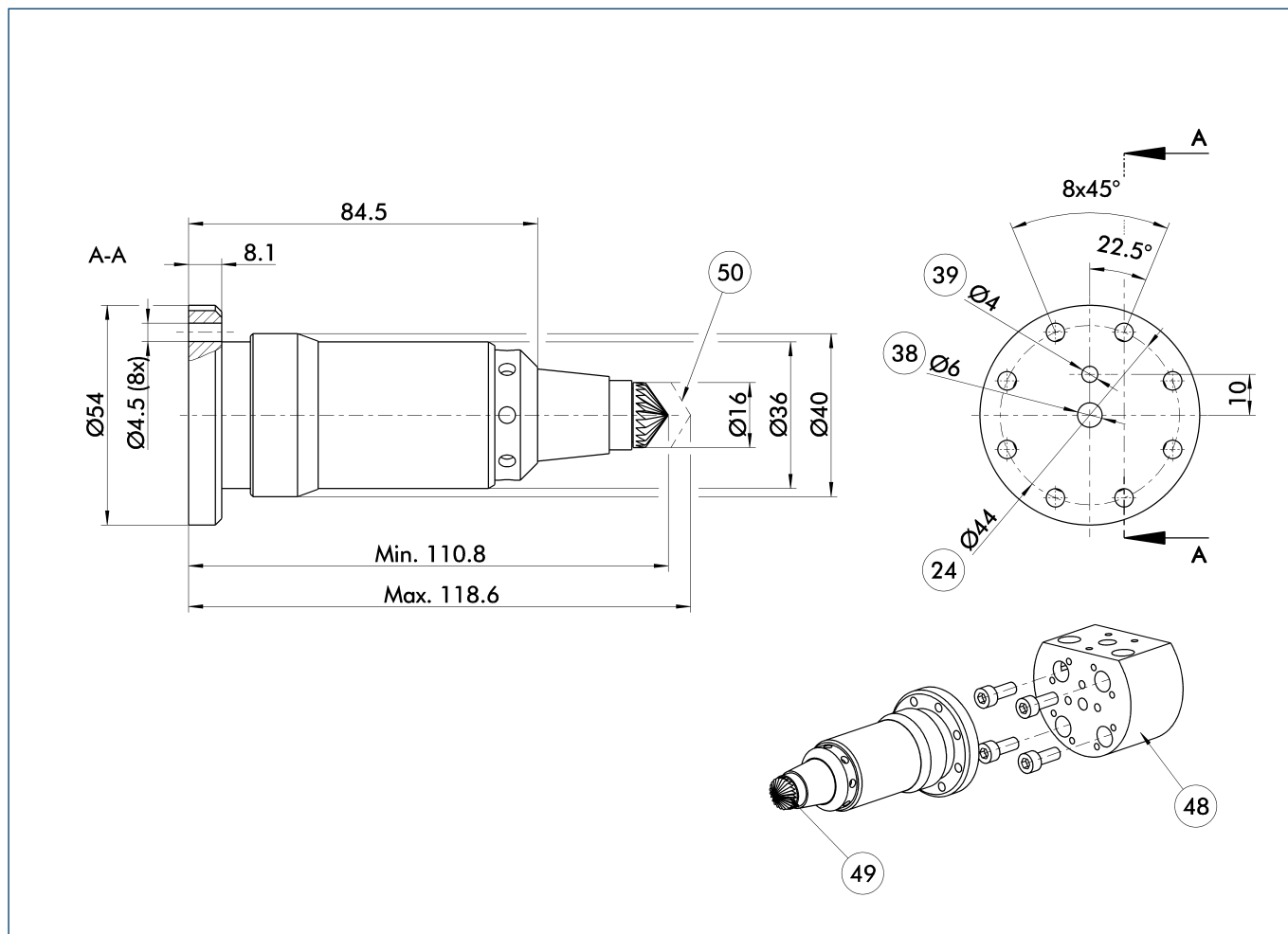


① The shown force shows the maximum compensation force.

Technical data

Description		FDB-AC-180
ID		0322207
Power	[W]	250
max. compensation	[mm]	±4.1
Recommended compensation	[µm]	±2
min. compliance force	[N]	1
max. compliance force	[N]	25
min. compliance pressure	[bar]	1
max. compliance pressure	[bar]	3
Idle speed	[1/min]	30000
Idle air consumption	[l/s]	6.6
Mass	[kg]	0.51
min. / max. ambient temperature	[°C]	5/60

Main view



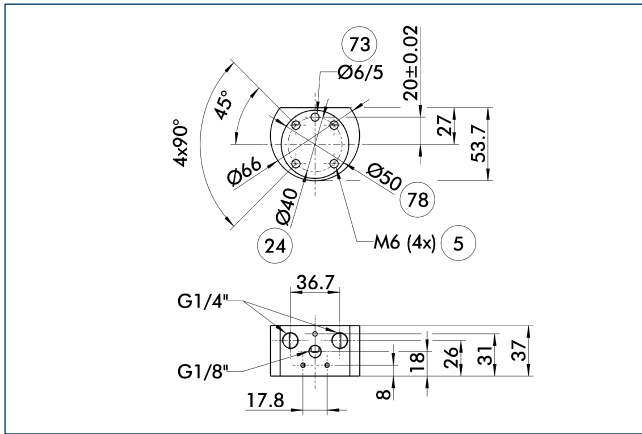
The main view shows the unit in its basic version.

- ②④ Bolt circle
- ③⑧ Spindle air connection
- ③⑨ Compensation air connection
- ④⑧ Adapter is needed for air supply
- ④⑨ Milling cutter
- ⑤⑩ Axial compensation

FDB-AC 180

Robot Accessories | Finishing | Deburring Spindle

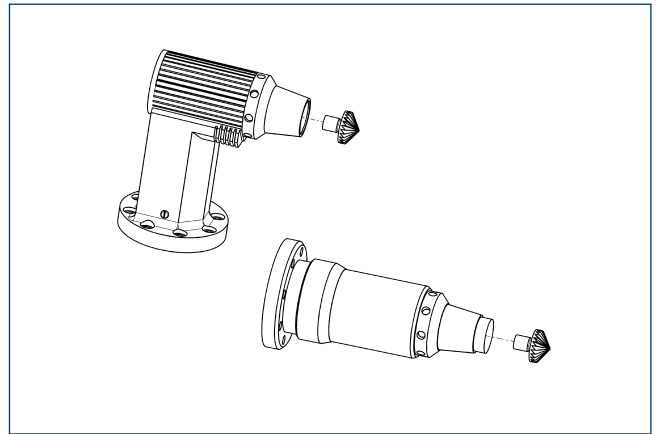
Adapter for air supply



- ⑤ Through-hole for connection with screws
- ⑦③ Fit for a centering pin
- ②④ Bolt circle
- ⑦⑧ Fitting for centering

Description	ID	Height
Robot-side		
A-FDB-AC	9951358	37 mm

Cutters for replacements



Description	ID	Application	Angle
FDB-AC-DT-4579-C2	9951359	Hard metal	90°
FDB-AC-DT-4579-C5	9951360	Steel	90°
FDB-AC-DT-4153-C5	9955883	Finishing	90°
FDB-AC-DT-43967	9871164	Plastics / Compounds	90°
FDB-AC-DT-1010-C2	9954737	Soft metal	80°

