



Superior Clamping and Gripping



## Product Information

Deburring spindle FDB-AC

# FDB-AC

Deburring spindle

## Compliant. Reliable. Flexible.

### FDB-AC deburring spindle

Flexible deburring spindle for use in robotic applications

#### Field of application

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

#### Advantages – Your benefits

**Flexible high-frequency spindle** for maximum flexibility when deburring

**Pneumatically adjustable rigidity of the cutting spindle via compressed air** for clean chamfer edges in every installation position

**High speeds** For high feed rates

**Flexible use** on the robot arm or as a stationary unit



Sizes  
Quantity: 2



Idle speed max.  
25000 .. 30000 1/  
min



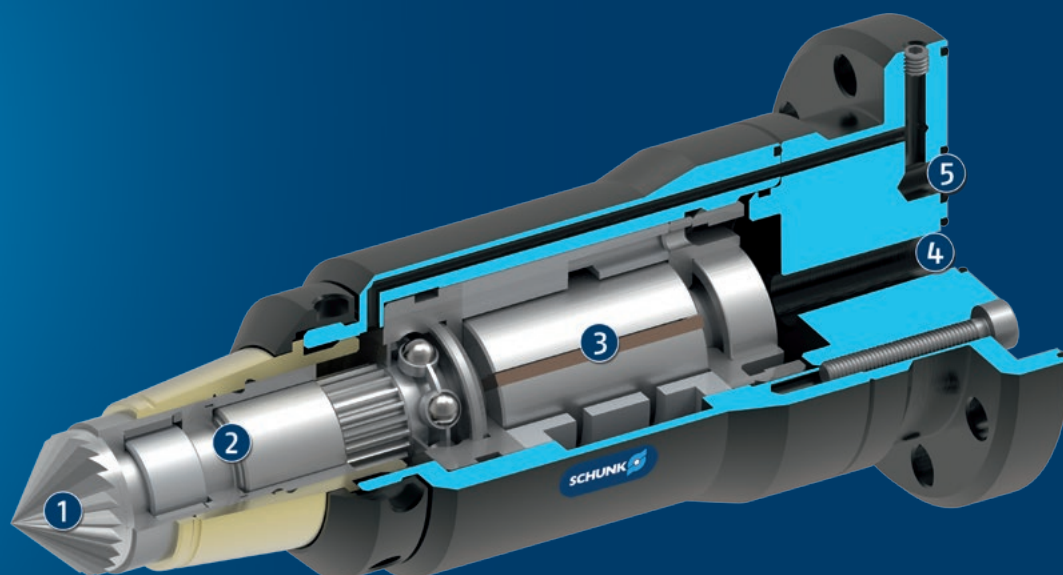
Power  
250 W

## Functional description

The unit is driven by a pneumatic spindle in straight and 90° version at a speed of up to 30,000 rpm. For being able to follow the tolerances of the machining contour, the spindle is axially seated.

The maximum travel on the milling tip amounts to  $\pm 9$  mm.

The force (rigidity) needed to move the spindle (axially) is controlled by a second air connection. Depending on the pressure, the force on the milling cut surface is between 1 N and 25 N.



- ① **Milling cutter**  
conical 90° for optimal deburring
- ② **Compensation piston**  
for adjusting the contact pressure to the workpiece
- ③ **Pneumatic spindle**  
High performance spindle with up to 30,000 rpm
- ④ **Pneumatic connection for the spindle**  
with large cross-section for compressed air motor
- ⑤ **Pneumatic connection for the compensation**  
adjustable rigidity of the spindle via oiled compressed air

CAD data, operating manuals and other current product documents can be found online.

# FDB-AC

Deburring spindle

## General notes about the series

**Mounting:** on the robot arm or as a stationary unit

**Actuation:** pneumatic, via oiled compressed air

**Scope of delivery:** Clamping tool and milling cutters

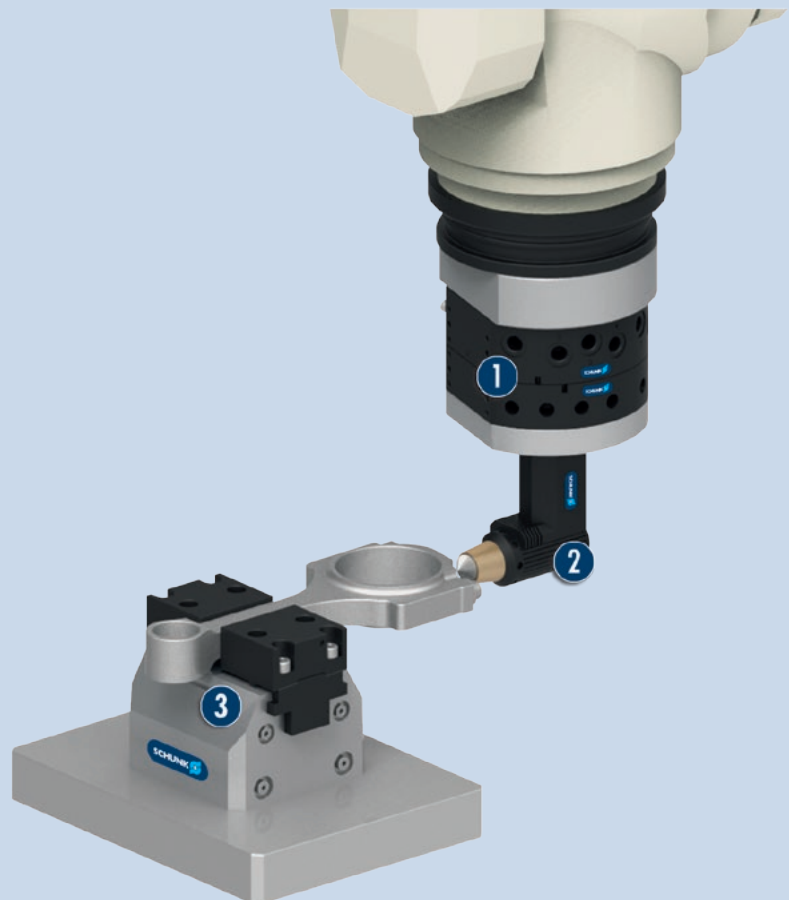
**Warranty:** 24 months

**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 deburring of connecting rod cast parts with changing system for the spindle

- 1 SWS quick-change system
- 2 Compliant deburring spindle FDB-AC-90
- 3 Clamping force block



## SCHUNK offers more ...

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



Adapter plates



Milling cutter



Quick-change Systems



Rotary feed-through



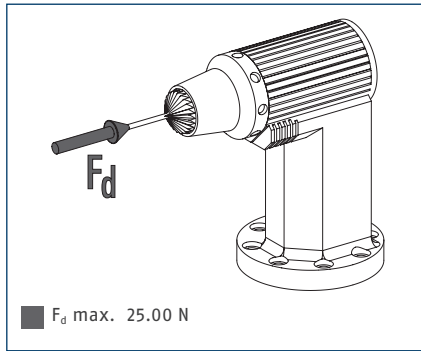
manual gripper change systems

① Additional information regarding the products can be found on the following product pages or at [www.schunk.com](http://www.schunk.com). Please contact us for further information: SCHUNK technical hotline +49-7133-103-2696

# FDB-AC 90

Deburring spindle

## Forces and moments

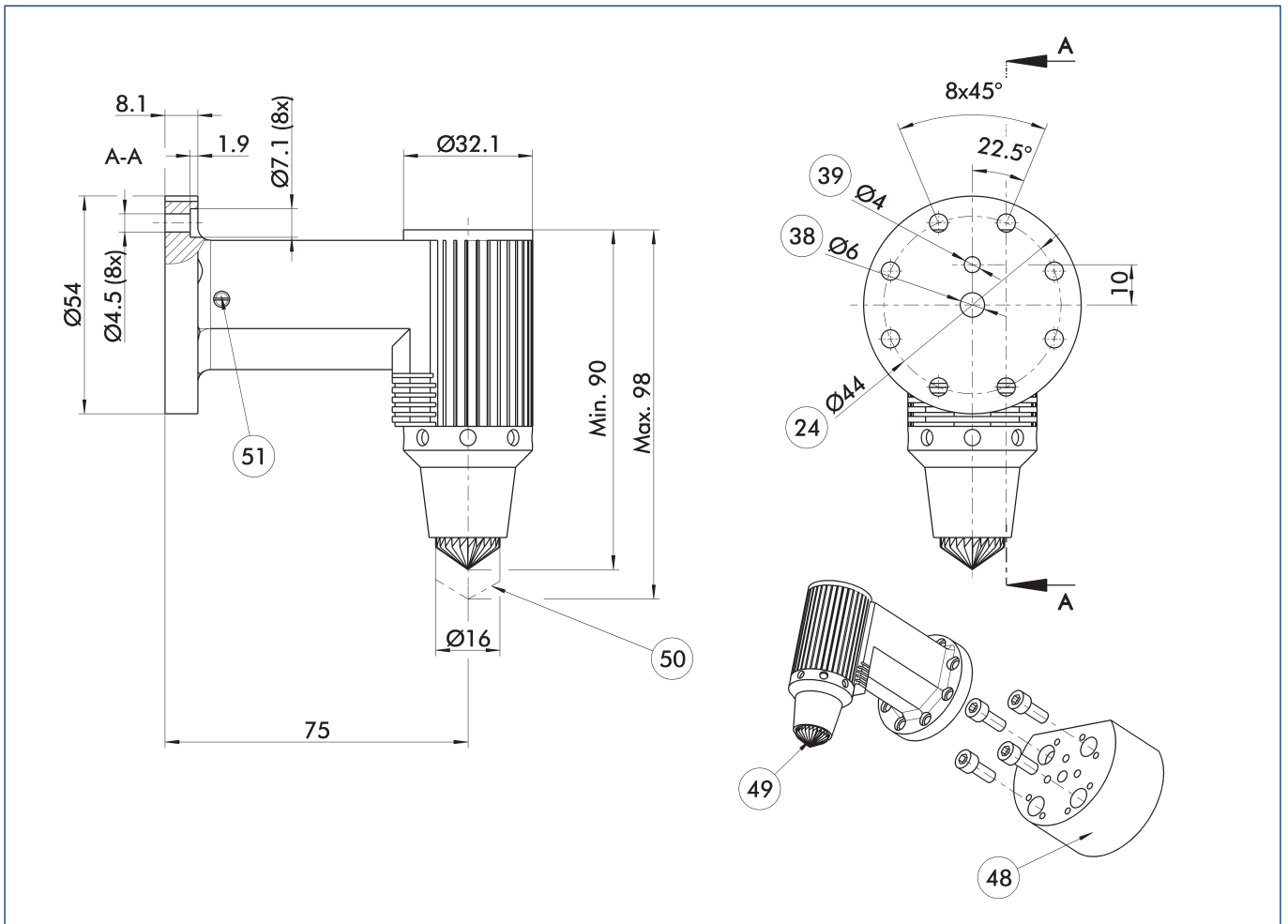


① The indicated forces show the maximum payload.

## Technical data

Description		FDB-AC-90
ID		0322206
Power	[W]	250
max. compensation stroke	[mm]	$\pm 4.1$
Recommended compensation path	[mm]	$\pm 2$
min. compliance force	[N]	1
max. compliance force	[N]	25
min. compliance pressure	[bar]	1
max. compliance pressure	[bar]	3
Idle speed	[1/min]	25000
Idle air consumption	[l/s]	6.6
Weight	[kg]	0.5
min./max. ambient temperature	[°C]	5/60

Main view



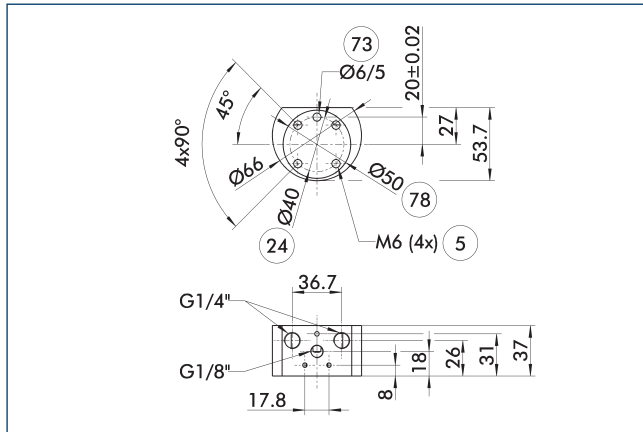
The main view shows the unit in its basic version.

- ②4 Bolt circle
- ③8 Air connection spindle
- ③9 Compensation air connection
- ④8 Adapter
- ④9 Milling cutter
- ⑤0 Axial compensation
- ⑤1 Adjustment screw

# FDB-AC 90

Deburring spindle

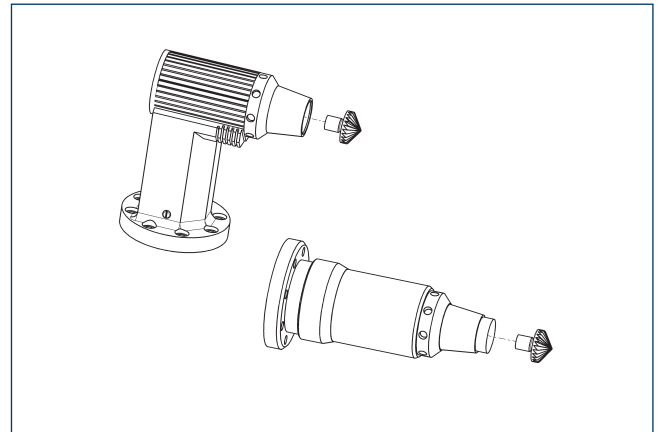
## Adapter plate



- ⑤ Through hole for connection with screws
- ②④ Bolt circle
- ⑦③ Fit for centering pins
- ⑦⑧ Fit for centering

Description	ID	Height
		[mm]
<b>Robot side</b>		
A-FDB-AC	9951358	37

## Cutters for replacements



Description	ID	Application	Angle
<b>Cutters for Deburring Spindle</b>			
FDB-AC-DT-4579-C2	9951359	Hard metal	90
FDB-AC-DT-4579-C5	9951360	Steel	90

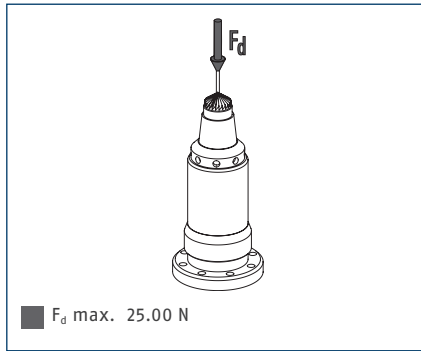




# FDB-AC 180

Deburring spindle

## Forces and moments

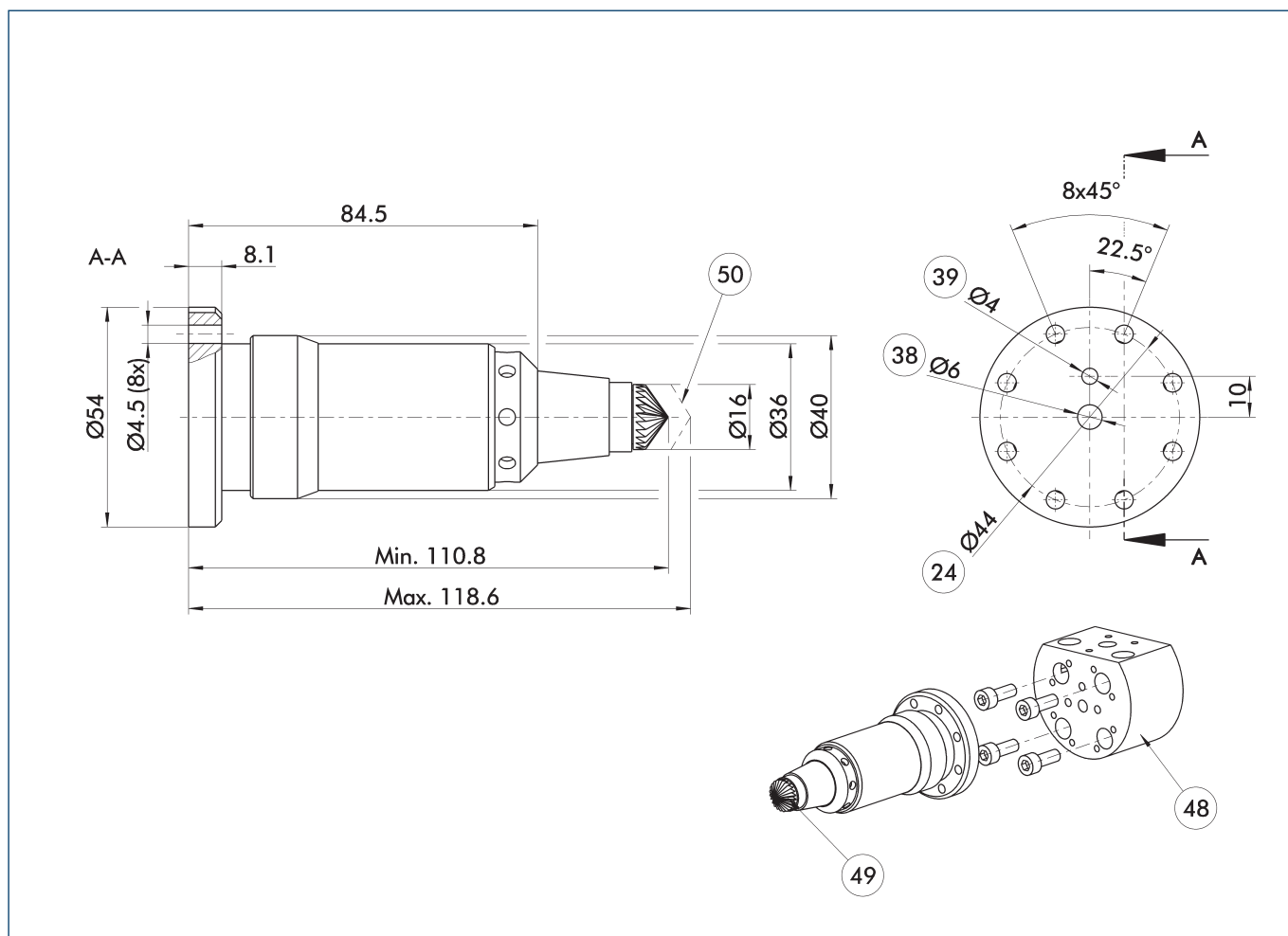


① The indicated forces show the maximum payload.

## Technical data

Description		FDB-AC-180
ID		0322207
Power	[W]	250
max. compensation stroke	[mm]	± 4.1
Recommended compensation path	[mm]	± 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
Weight	[kg]	0.51
min./max. ambient temperature	[°C]	5/60

### Main view



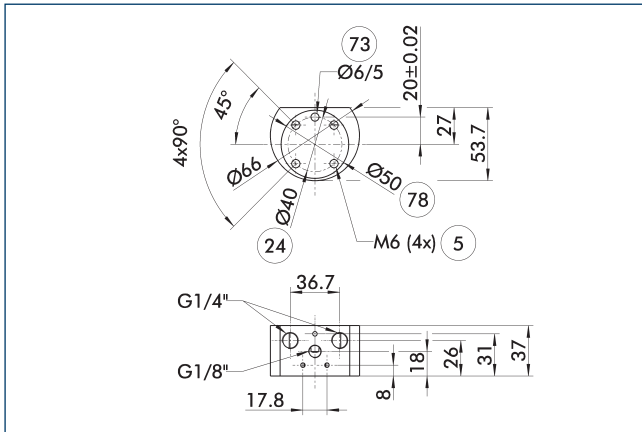
The main view shows the unit in its basic version.

- |                                |                       |
|--------------------------------|-----------------------|
| ②4 Bolt circle                 | ④8 Adapter            |
| ③8 Air connection spindle      | ④9 Milling cutter     |
| ③9 Compensation air connection | ⑤0 Axial compensation |

# FDB-AC 180

Deburring spindle

## Adapter plate



⑤ Through hole for connection with screws

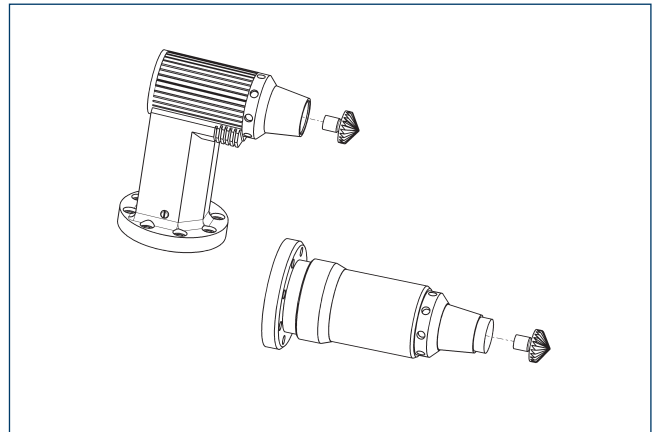
⑦③ Fit for centering pins

②④ Bolt circle

⑦⑧ Fit for centering

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

## Cutters for replacements






Description	ID	Application	Angle
Cutters for Deburring Spindle			
FDB-AC-DT-4579-C2	9951359	Hard metal	90
FDB-AC-DT-4579-C5	9951360	Steel	90



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Jens Lehmann, German goalkeeper legend, SCHUNK brand ambassador since 2012 for precise gripping and safe holding.  
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