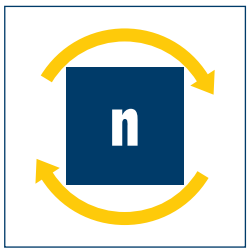

SCHUNK

MACHINING

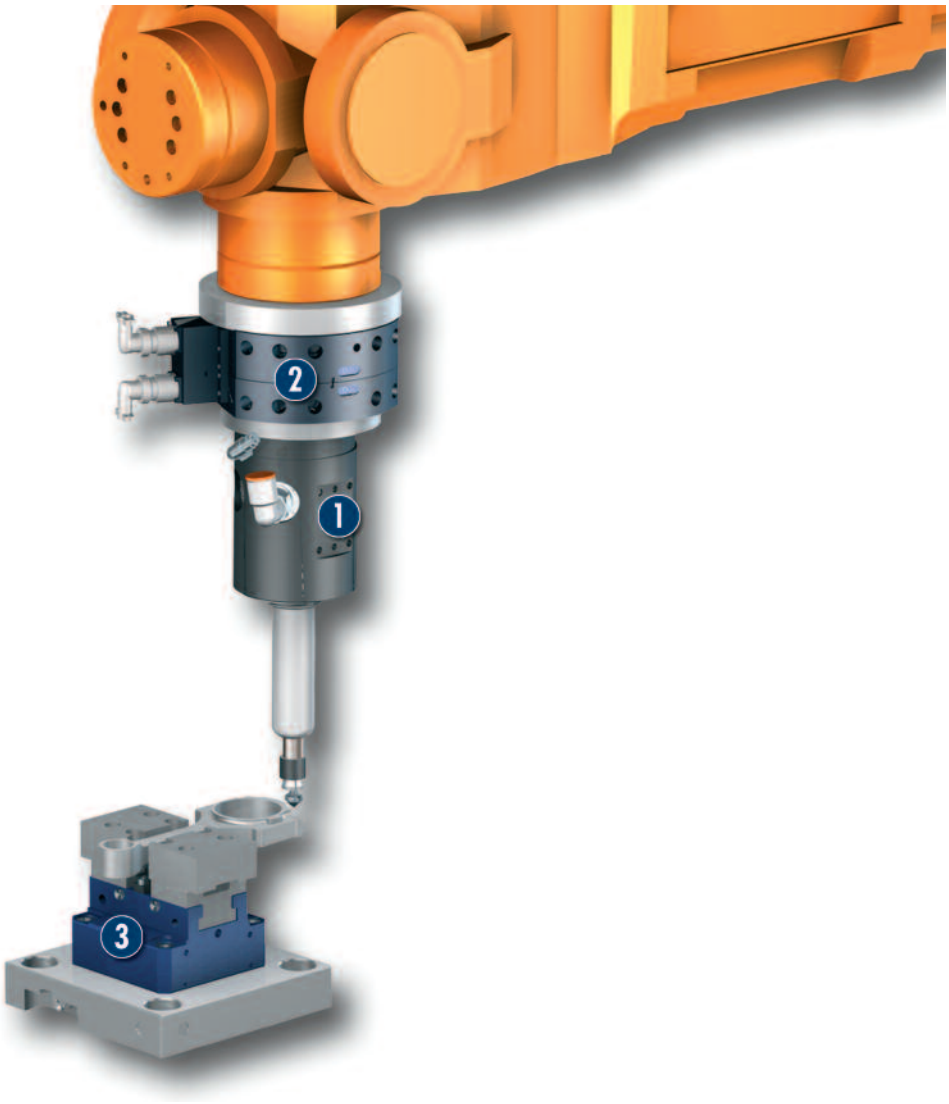
Sizes
150 .. 660



Max. speed
65000 RPM

Power consumption
150 W .. 660 W

Application example



Robot-controlled deburring of case connecting rods

Flexible Deburring Spindle FDB 300

Quick-change System SWS 41

Clamping Force Block KSP 100

Deburring Spindle

Flexible deburring spindle for use on robot

Area of application

Standard solution for flexible and robot-controlled deburring of various workpieces

Your advantages and benefits

Flexible high-frequency spindle
for maximum flexibility during deburring

Adjustable rigidity of spindle
for clean chamfering edges in any installation position

High RPMs
for fast feed rates

Flexible use
on robot arm or as a stationary unit

General information on the series

Mounting
on back or side

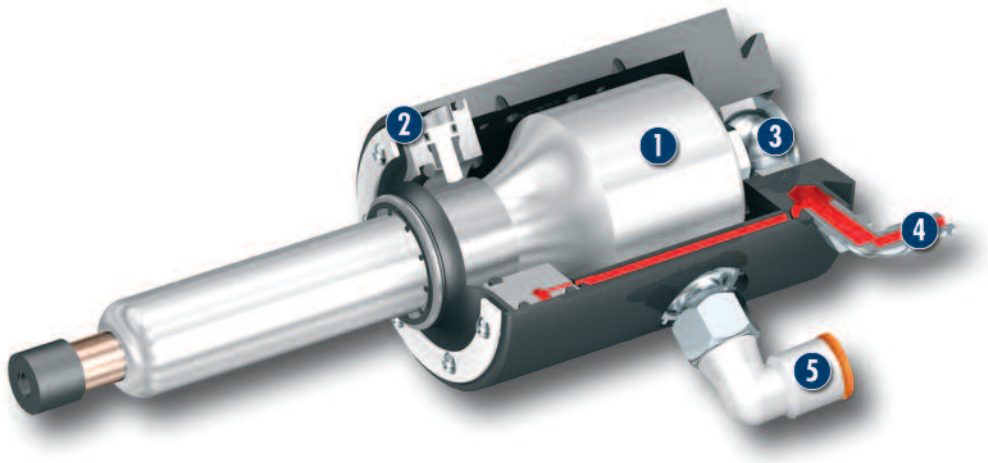
Drive
quiet-running compressed air spindle (less than 70 dbA)

Scope of delivery
spindle with collet and pneumatic screw connection

Warranty
24 months

Actuation
pneumatic, via filtered compressed air (10 µm): dry and non-lubricated

Sectional diagram



Pneumatic Spindle
High-performance spindle up to 65,000 RPM

Ring Cylinder
for adapting the pressure force to the workpiece

Bearing Point
of the pendulum suspension of the pneumatic motor

Air Connection
for actuation of the ring cylinder

Air Connection
with large diameter for pneumatic motor

Functional description

The unit is driven by a pneumatic spindle with a speed of up to 65,000 RPM depending on the size. The spindle is mounted on pendulum bearings in order to follow tolerances of the machining contour. The maximum path at the milling tip is +/- 9 mm. The force (rigidity) needed for the pendulum motion of the spindle is regulated via a second air connection. Depending on the pressure, a force of 3.1 N to 42.3 N is applied to the cutting surface.

Options and special information

Universal

Due to flexible mounting options, the FDB is not restricted to use on the robot arm. It can also be used as a permanently mounted tool with a moving workpiece.

Accessories

Accessories from SCHUNK – the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Collets

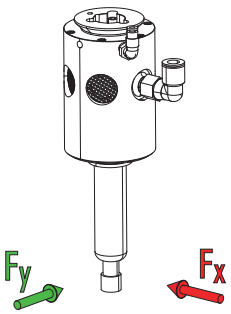
Adapter plates

Fittings

General information on the series

Please note that the unit is not suitable for use with coolants.

Forces and moments

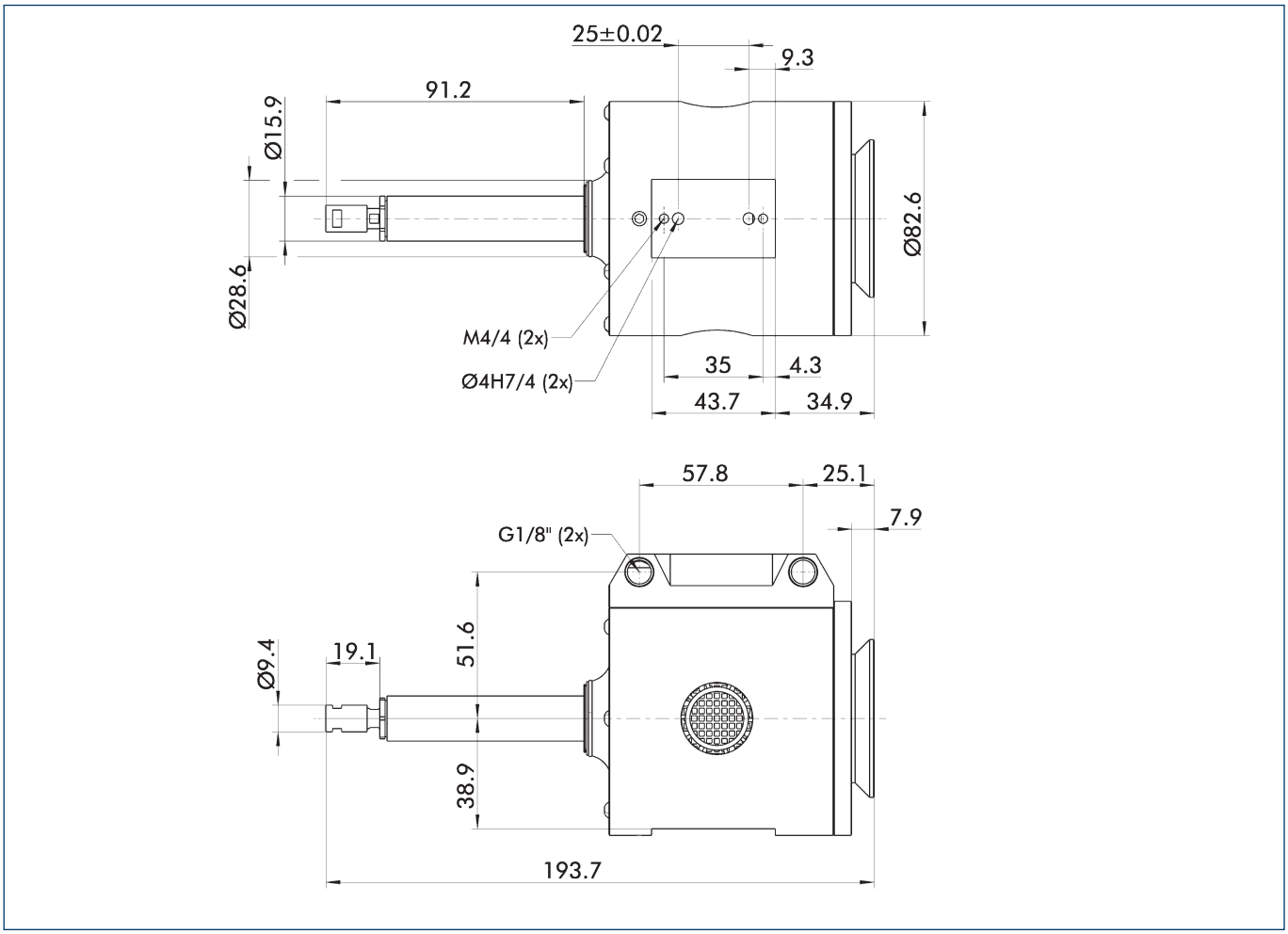


F_x max. 6.7 N
F_y max. 6.7 N

Technical data

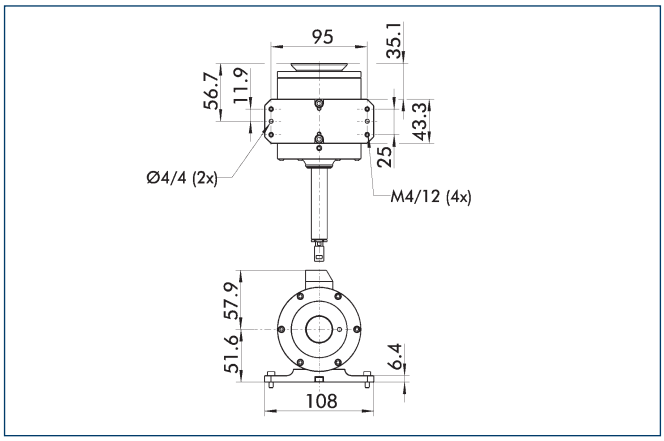
Designation		FDB 150
	ID	0322200
Weight	[kg]	1.11
Max. compensation path	[mm]	5.0
Recommended compensation path	[mm]	2.5
Min. compensation force	[N]	3.1
Max. compensation force	[N]	6.7
Min. compensation pressure	[bar]	1.4
Max. compensation pressure	[bar]	4.1
No-load speed	[RPM]	65000
Air consumption without load	[l/s]	1.4
Air consumption blocked	[l/s]	3.8
Collet diameter	[mm]	3.0
Power	[W]	150.0

Main views



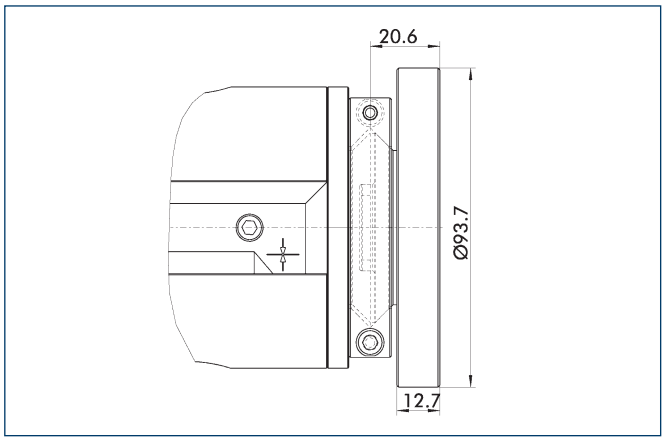
The drawing shows the basic version of the deburring spindle without dimensional consideration of the options described below.

Adapter plates, radial



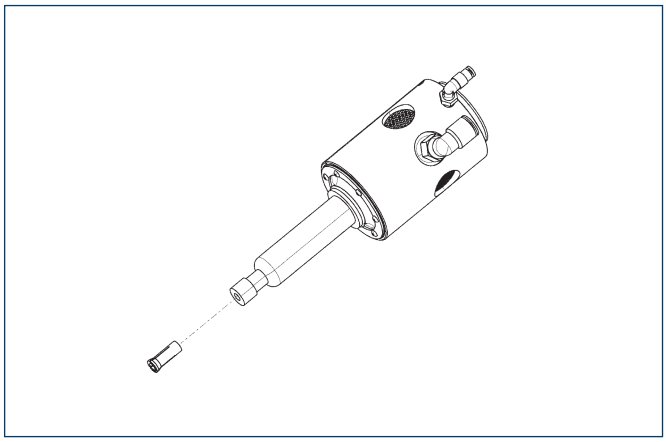
Designation	ID
FDB-APL-1054	0322212

Adapter plates, axial



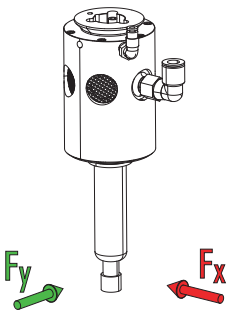
Designation	ID
FDB-APL-1005	0322210

Collets



Designation	ID	Diameter
Collets FDB-C-12142	**0322221**	3 mm
Collets FDB-C-12149	**0322224**	1/8 "

Forces and moments

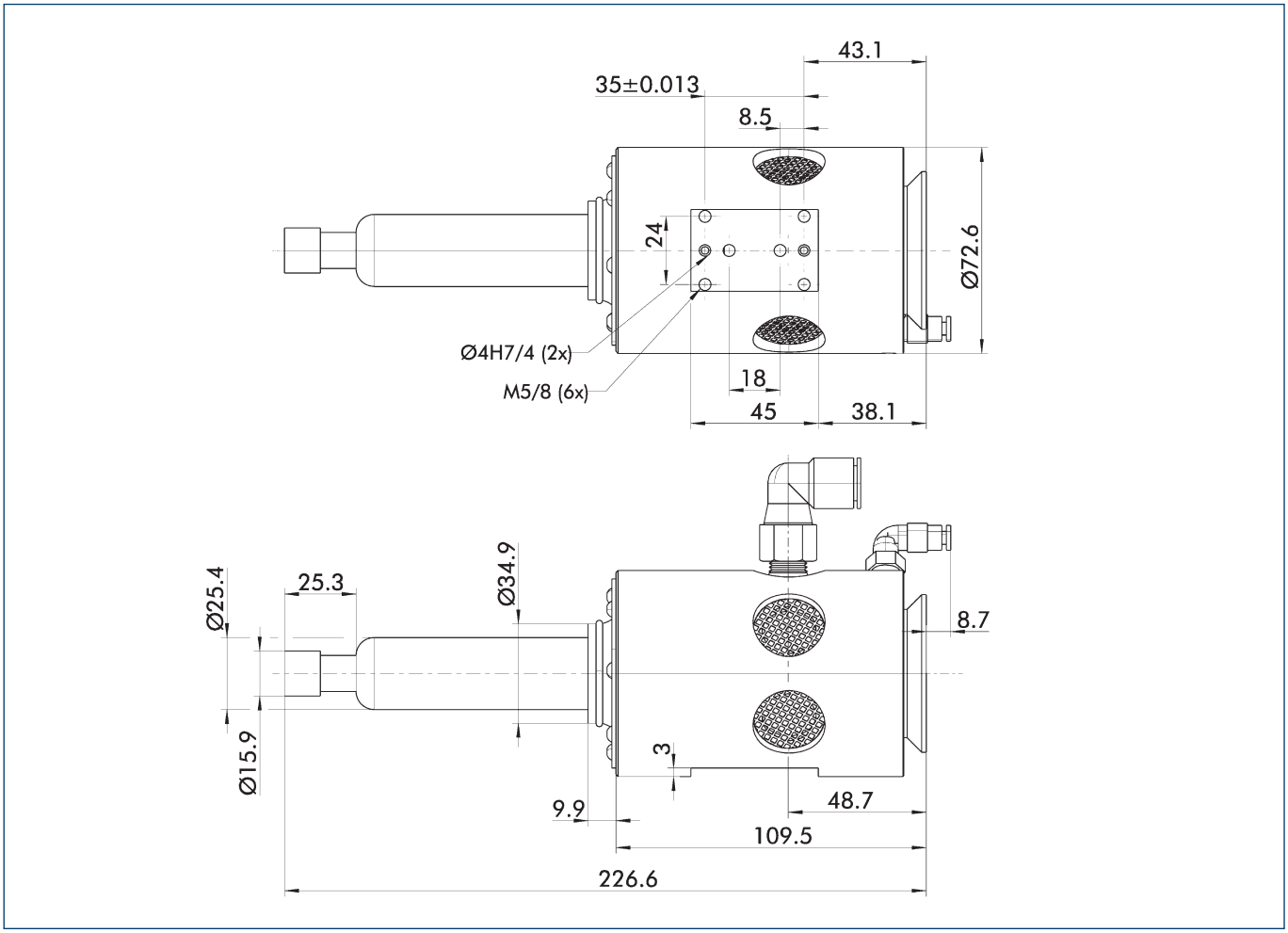


F_x max. 42.3 N
F_y max. 42.3 N

Technical data

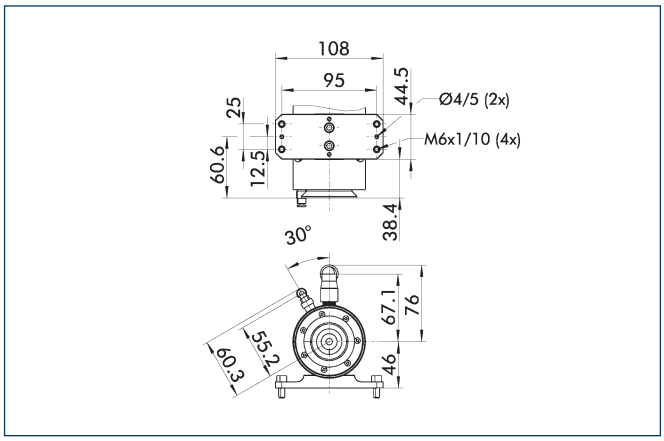
Designation		FDB 300
	ID	0322202
Weight	[kg]	1.15
Max. compensation path	[mm]	8.0
Recommended compensation path	[mm]	4.0
Min. compensation force	[N]	6.7
Max. compensation force	[N]	42.3
Min. compensation pressure	[bar]	0.3
Max. compensation pressure	[bar]	4.1
No-load speed	[RPM]	30000
Air consumption without load	[l/s]	2.8
Air consumption blocked	[l/s]	10.2
Collet diameter	[mm]	6.0
Power	[W]	300.0

Main views

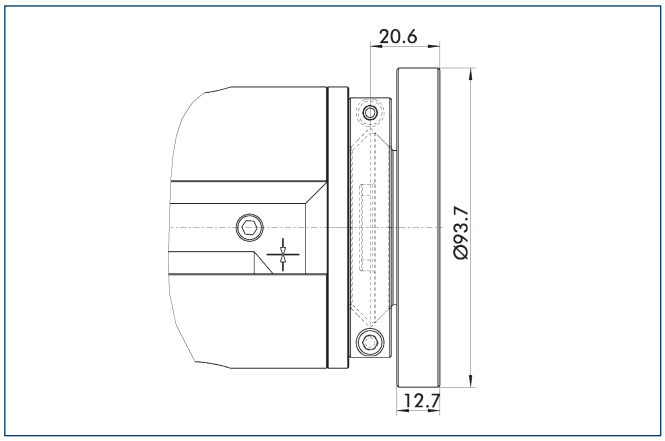


The drawing shows the basic version of the deburring spindle without dimensional consideration of the options described below.

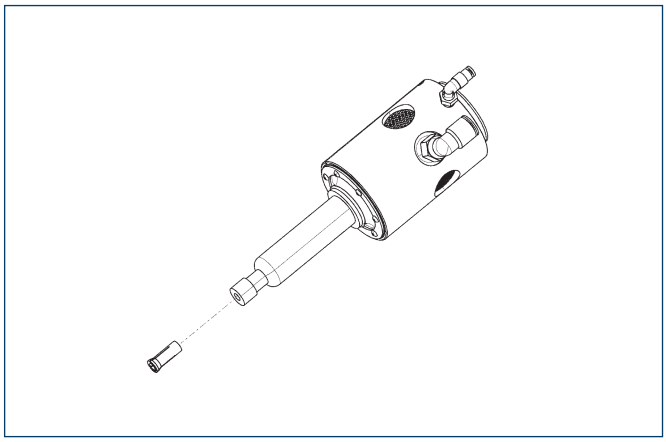
Adapter plates, radial



Adapter plates, axial

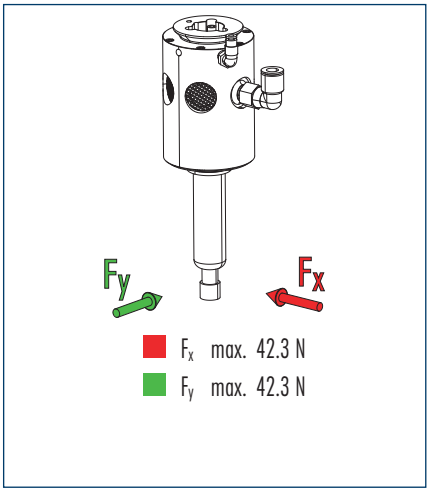


Collets



Designation	ID	Diameter
Collets FDB-C-12442	**0322220**	3 mm
Collets FDB-C-12443	**0322226**	1/8 "
Collets FDB-C-12445	**0322222**	6 mm
Collets FDB-C-12446	**0322225**	1/4 "

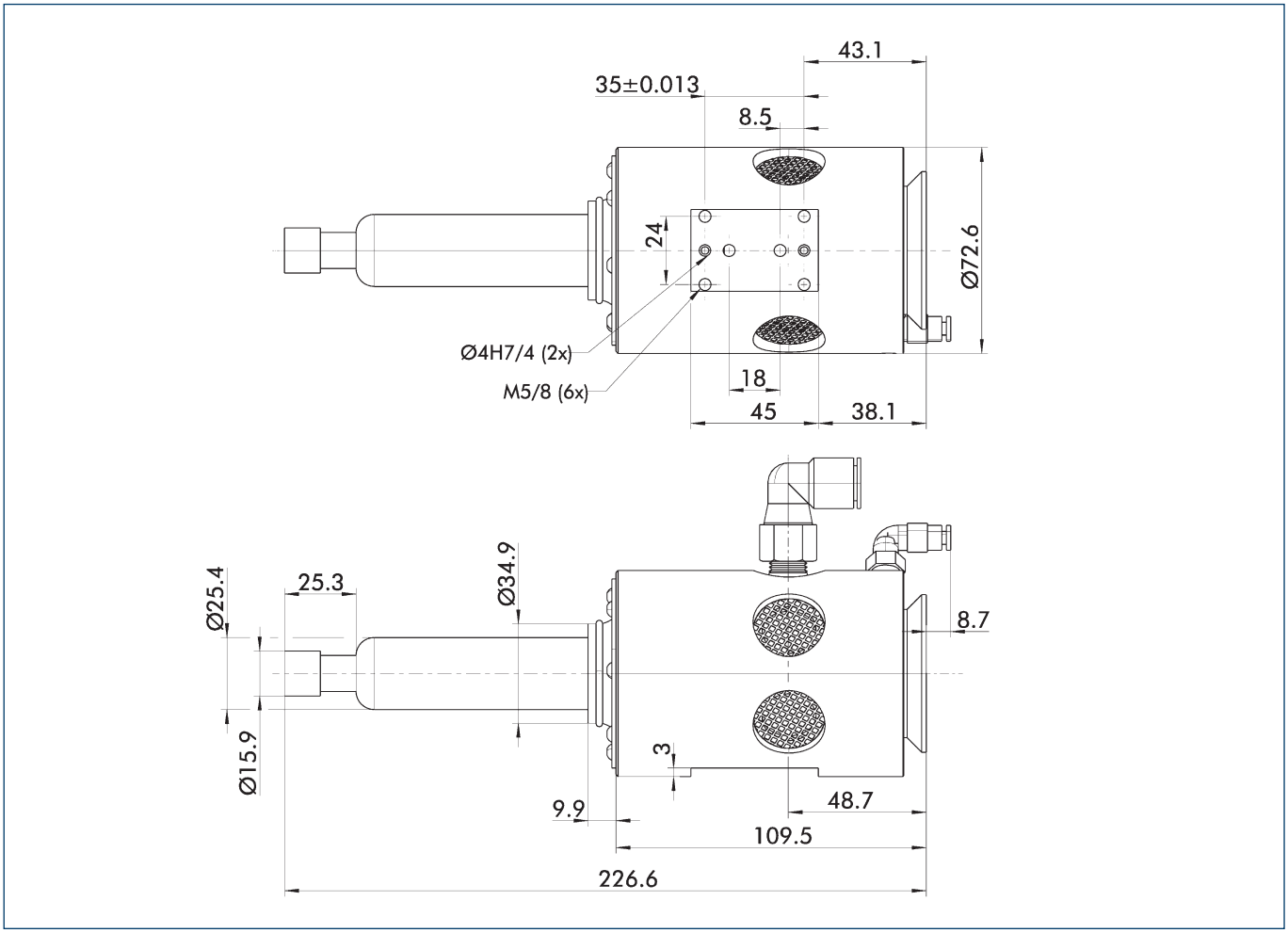
Forces and moments



Technical data

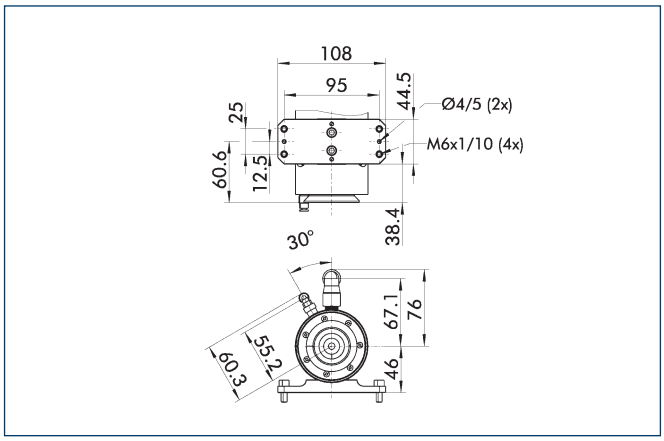
Designation		FDB 340
	ID	0322201
Weight	[kg]	1.15
Max. compensation path	[mm]	8.0
Recommended compensation path	[mm]	4.0
Min. compensation force	[N]	6.7
Max. compensation force	[N]	42.3
Min. compensation pressure	[bar]	0.3
Max. compensation pressure	[bar]	4.1
No-load speed	[RPM]	40000
Air consumption without load	[l/s]	2.8
Air consumption blocked	[l/s]	10.2
Collet diameter	[mm]	6.0
Power	[W]	340.0

Main views



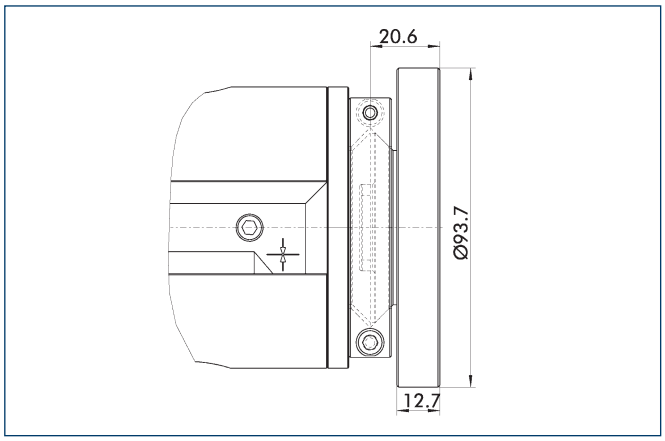
The drawing shows the basic version of the deburring spindle without dimensional consideration of the options described below.

Adapter plates, radial



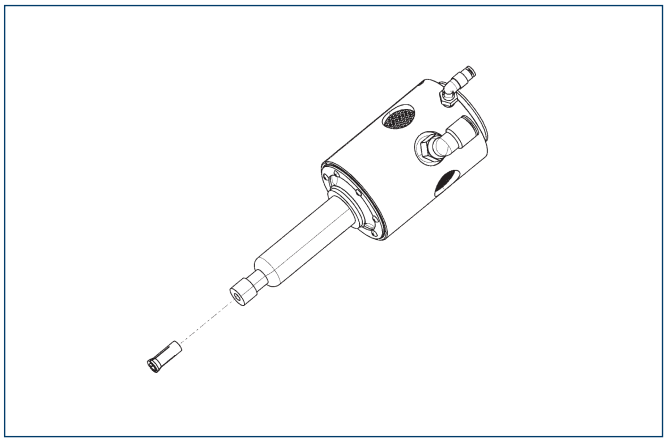
Designation	ID
FDB-APL-1003	0322213

Adapter plates, axial



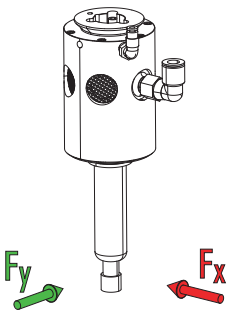
Designation	ID
FDB-APL-1005	0322210

Collets



Designation	ID	Diameter
Collets FDB-C-12442	**0322220**	3 mm
Collets FDB-C-12443	**0322226**	1/8 "
Collets FDB-C-12445	**0322222**	6 mm
Collets FDB-C-12446	**0322225**	1/4 "

Forces and moments

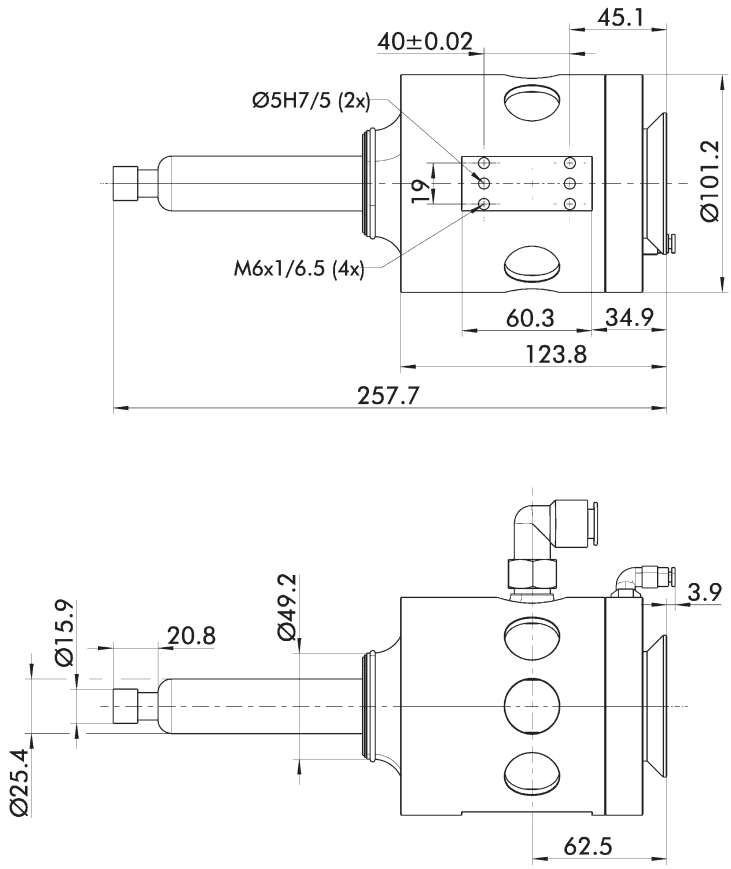


F_x max. 42.3 N
F_y max. 42.3 N

Technical data

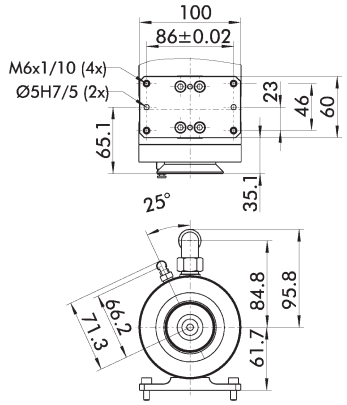
Designation		FDB 660
	ID	0322203
Weight	[kg]	2.2
Max. compensation path	[mm]	9.0
Recommended compensation path	[mm]	4.5
Min. compensation force	[N]	6.7
Max. compensation force	[N]	42.3
Min. compensation pressure	[bar]	0.3
Max. compensation pressure	[bar]	4.1
No-load speed	[RPM]	40000
Air consumption without load	[l/s]	5.4
Air consumption blocked	[l/s]	17.9
Collet diameter	[mm]	6.0
Power	[W]	660.0

Main views



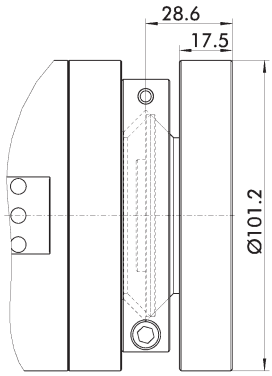
The drawing shows the basic version of the deburring spindle without dimensional consideration of the options described below.

Adapter plates, radial



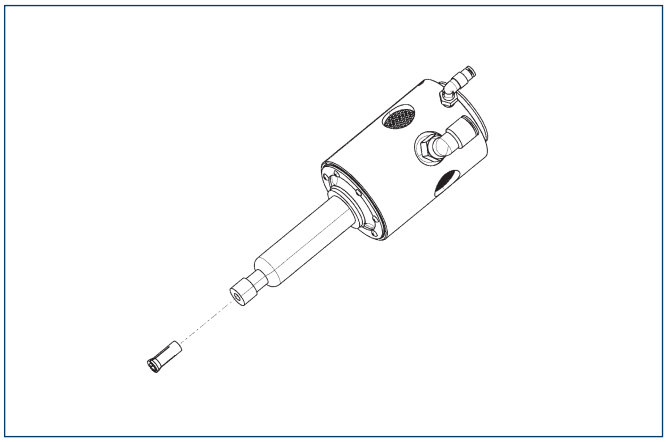
Designation	ID
FDB-APL-1029	0322214

Adapter plates, axial



Designation	ID
FDB-APL-1028	0322211

Collets



Designation	ID	Diameter
Collets FDB-C-12442	**0322220**	3 mm
Collets FDB-C-12443	**0322226**	1/8 "
Collets FDB-C-12445	**0322222**	6 mm
Collets FDB-C-12446	**0322225**	1/4 "