

OPERATION MANUAL 10/2022-WW

# BALL DEBURRING TOOLS

# THANK YOU VERY MUCH,

for purchasing a ball deburring tool from the system TRUMPF, developed and produced by PASS Stanztechnik AG.

It is our utmost intention to guarantee you a long-term service with your new PASS product.

Therefore, we have prepared a detailed operation manual for you including notes on technology requirements, application area, installation, drawing and parts list, cleaning and care as well as general information.

Please feel free to contact us in any case of questions.

Yours

PASS Stanztechnik AG

ps:®ball-deburr-V3

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## BALL DEBURRING TOOLS

### A. TECHNOLOGY REQUIREMENTS

#### Machines

Usable for machine group I:

- TruPunch 1000/2000/2020/3000/5000
- TruMatic 1000/3000/6000/7000

#### Control system

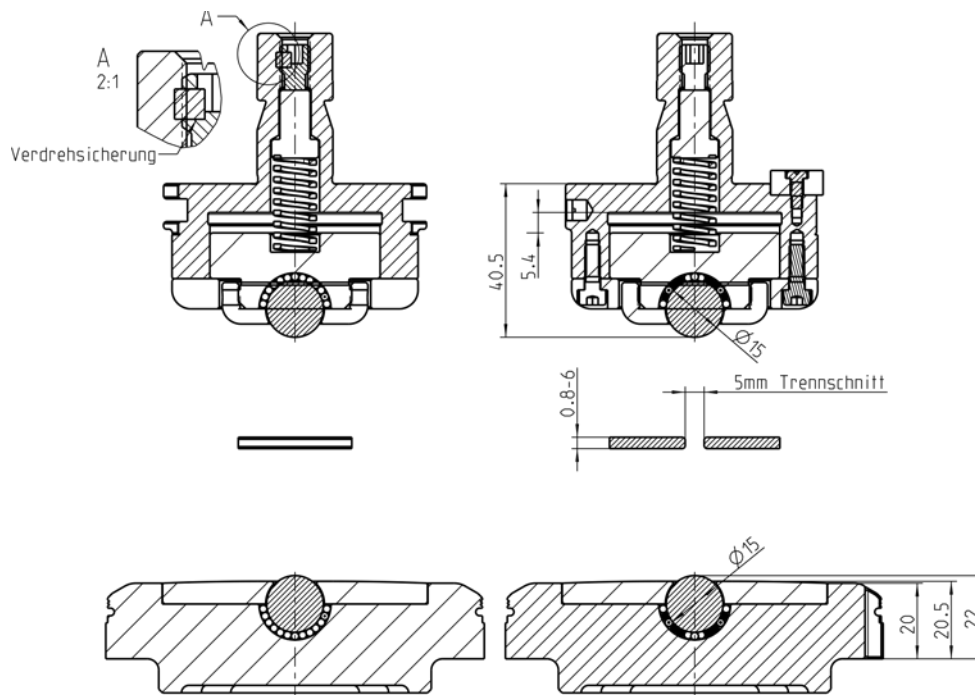
In TruTrops, the function tool type 37 must be enabled for programming as a wheel tool and the function tool type 33 must be enabled for programming as engraving tool.

### B. APPLICATION AREA

Typically, the tool is used for automated deburring of sheets.

- sheet quality: aluminium / steel / stainless steel
- sheet thickness:  $s = 0,8$  up to  $6,0$  mm

### C. INSTALLATION



# ps:<sup>®</sup>ball-deburr-V3

## BALL DEBURRING TOOLS

### Programming as wheel tool

- tool type 37 in TruTops
- tool length: 38,0 mm
- UT-offset in PPT tab in each sheet thickness: 0
- do not use VU value (S value)

### Programming as engraving tool

- tool type 33 in TruTops
- tool length: 38,0 mm
- UT-offset in PPT tab: +2
- do not use VU value (S value)
- in order to track the contour, an equidistant (auxiliary line) must be created at a distance from the contour
- a short step must be entered at the machine (technology correction)

### Method of operation

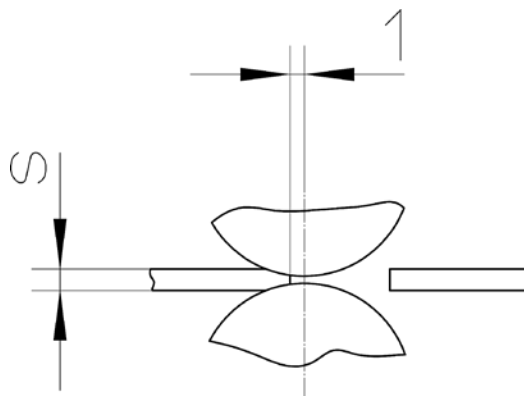
The sheet movement speed\* depends on empirical data that have to be determined by tests.

- Close to the clamps, it is possible to work with a faster sheet movement speed as the sheet lies on the machine table very stable (small space between clamps and tool).
- Far away from clamps should be worked with slight movement!

\* Theoretical values:

- close to clamps up to 50 m/min possible
- far away from clamps approx. 20 m/min possible

When working with sheets with a thickness less than 1,5 mm, it has to be observed that only one side can be deburred. The distance from tool axis to the sheet edge which has to be handled should be 1,0 mm.

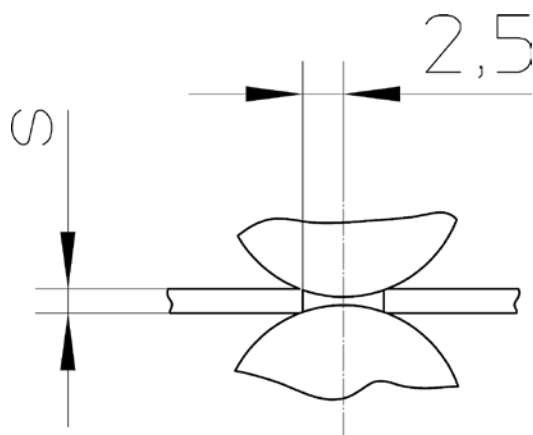


# ps:<sup>®</sup>ball-deburr-V3

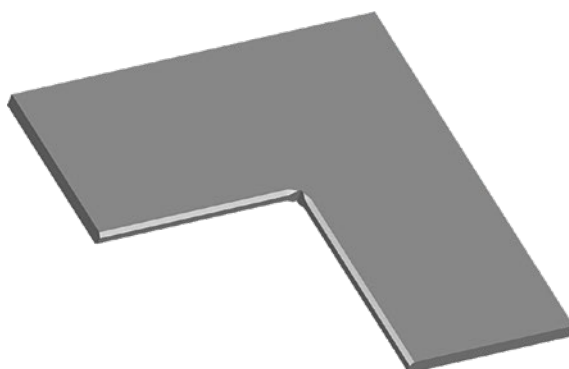
## BALL DEBURRING TOOLS

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From a sheet thickness of 1,5 mm it is possible to process a common slitting cut with a width of 5,0 mm.



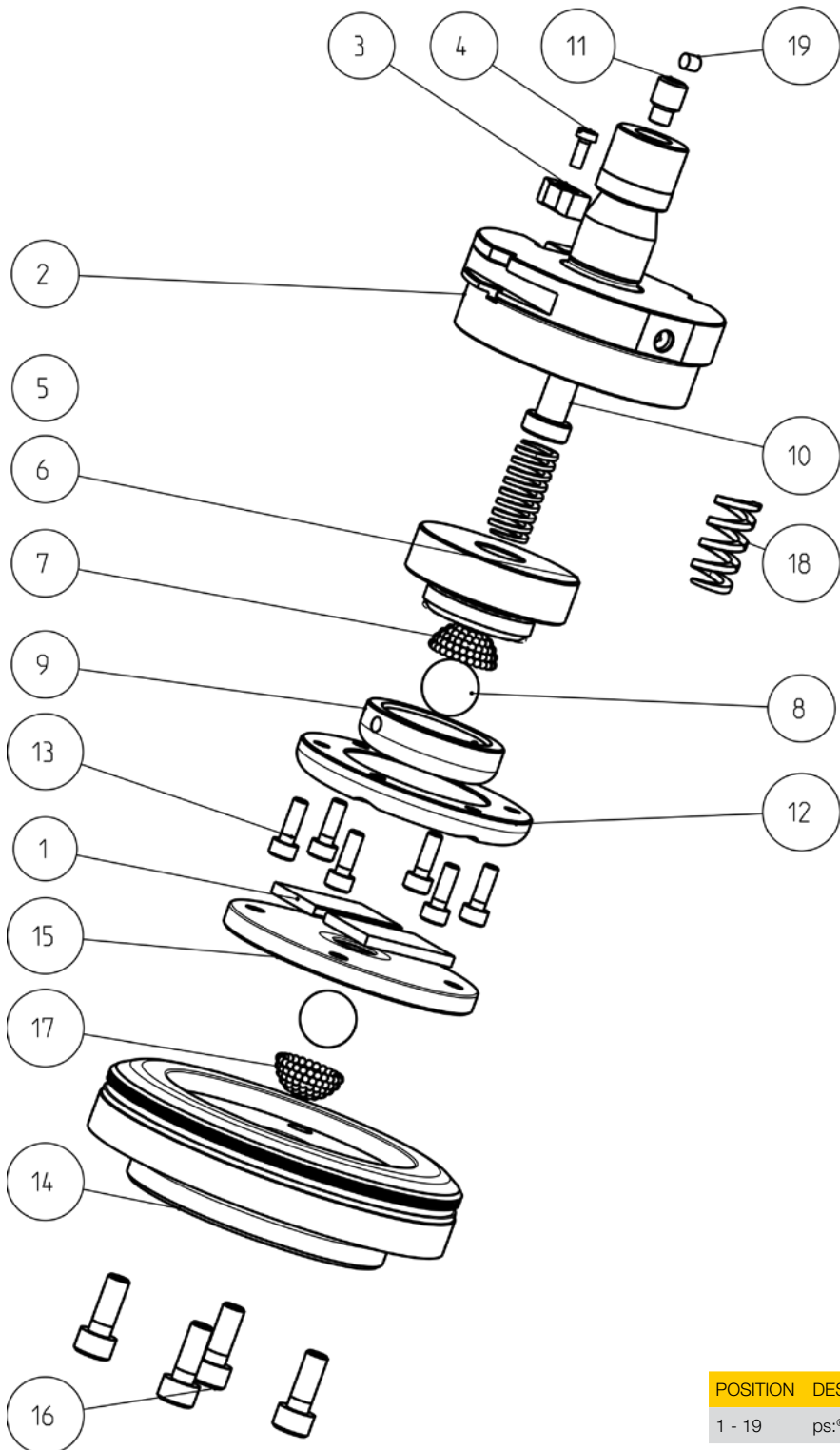
A double-side deburring close to the inside edges is possible (a complete deburring is possible from an edge radius of min.  $R = 3,0$  mm).



# ps:®ball-deburr-V3

BALL DEBURRING TOOLS

## D. DRAWING AND PARTS LIST



POSITION	DESCRIPTION	PIECES	PART-NO.
1 - 19	ps:®wheel-deburr-V3 complete	1	195100000

# ps:®ball-deburr-V3

## BALL DEBURRING TOOLS

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### E. CLEANING & CARE

We recommend to check and if necessary to clean the tool daily. Especially when you work with stainless steel, periodic visual inspections for wear and tear should be made more frequently. Sharpening or grinding the material in time increases the tool life enormously.



#### NOTE

**Carry out periodic (daily) visual inspections and clean the tool if necessary!**

Especially when soft and galvanised or foil-coated sheets are processed, abrasion of material, zinc or foils can get into the tool and can lead to a damage of the tool!

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### Disassembly

- disassemble the ball (Ø 15 mm) over a suitable collecting container
- open the tool above the container with the ball pointing upwards
- remove the old ball from the ball rack
- put the new ball in
- distribute the balls from the ball rack evenly
- assemble the cover

### F. GENERAL INFORMATION

- the pre-loaded spring can be changed with the adjusting screw (pos. 11)
- installed steel spring (red) for working with aluminium and steel
- supplied steel spring (yellow) for working with galvanised steel and stainless steel
- increased operational safety due to spring-loaded ball in the upper part



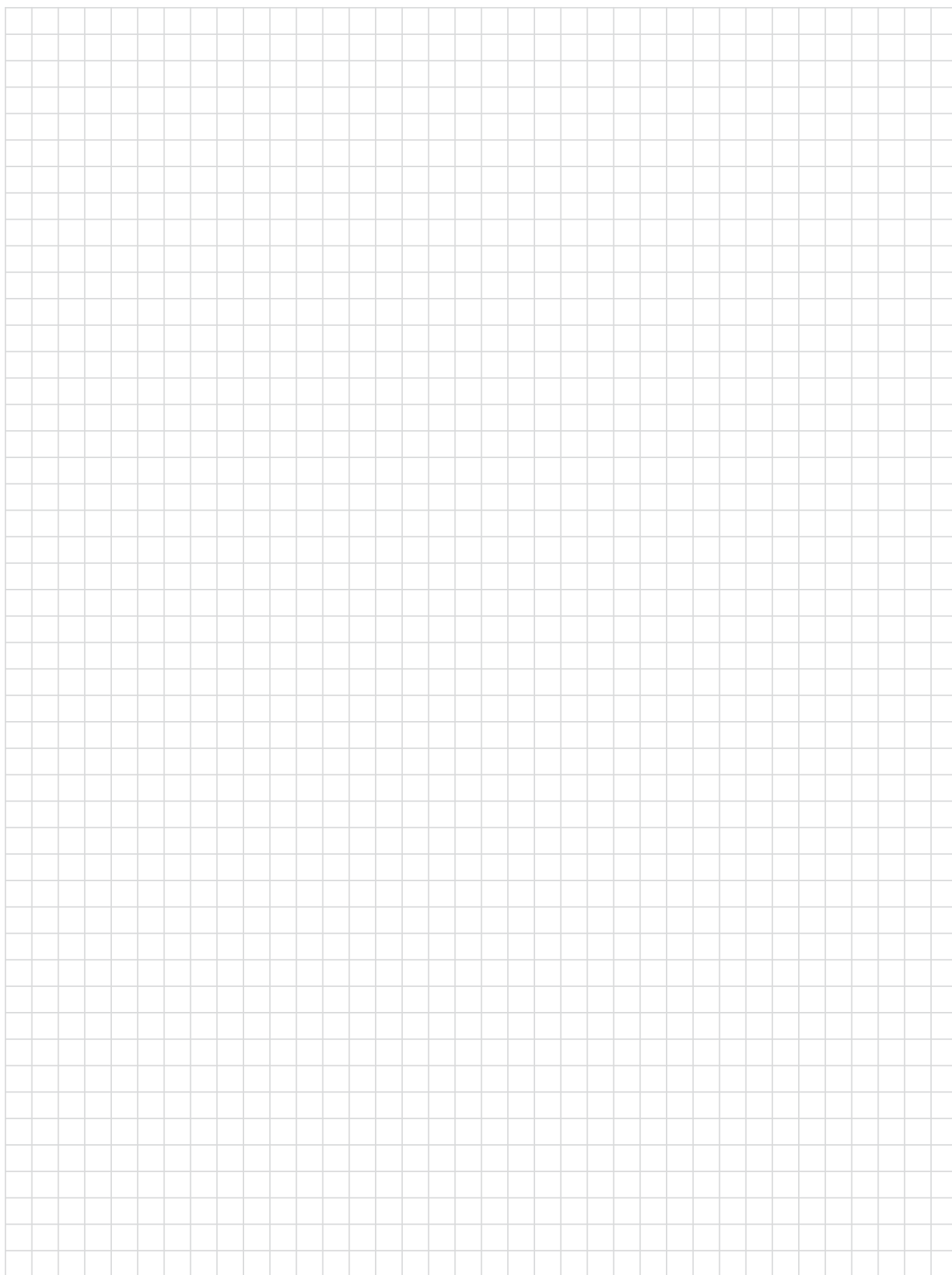
#### NOTE

**Only use oil for assembly and operation - no grease!**

Otherwise the operating characteristics of the ball will be impaired!

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# ps:® ball-deburr-V4

## BALL DEBURRING TOOLS

### A. TECHNOLOGY REQUIREMENTS

#### Machines

Usable for machine group I:

- TruPunch 1000/2000/2020/3000/5000
- TruMatic 1000/3000/6000/7000

#### Control system

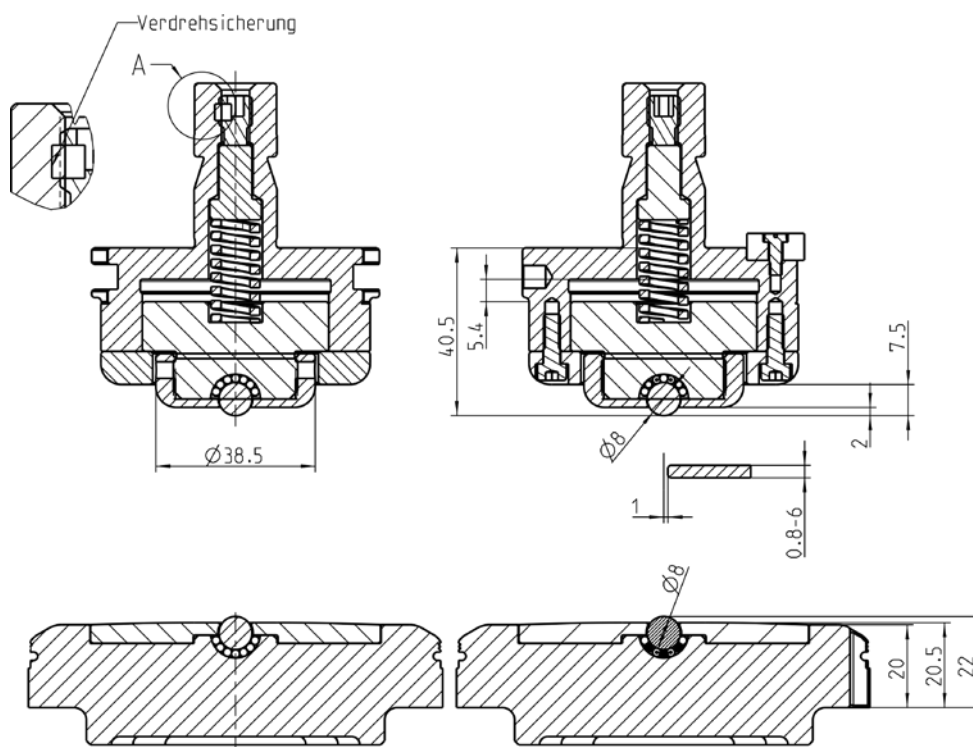
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### B. APPLICATION AREA

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- sheet quality: aluminium / steel / stainless steel
- sheet thickness: s = 0,8 up to 6,0 mm

### C. INSTALLATION



# ps:<sup>®</sup>ball-deburr-V4

## BALL DEBURRING TOOLS

### Programming as wheel tool

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- tool length: 38,0 mm
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- in order to track the contour, an equidistant (auxiliary line) must be created at a distance from the contour
- a short step must be entered at the machine (technology correction)

### Method of operation

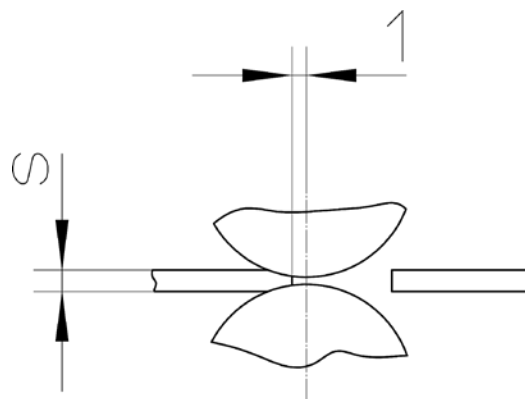
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- Far away from clamps should be worked with slight movement!

\* Theoretical values:

- close to clamps up to 50 m/min possible
- far away from clamps approx. 20 m/min possible

Only one sheet edge may be deburred. The distance from tool axis to the sheet edge which has to be handled should be 1,0 mm.

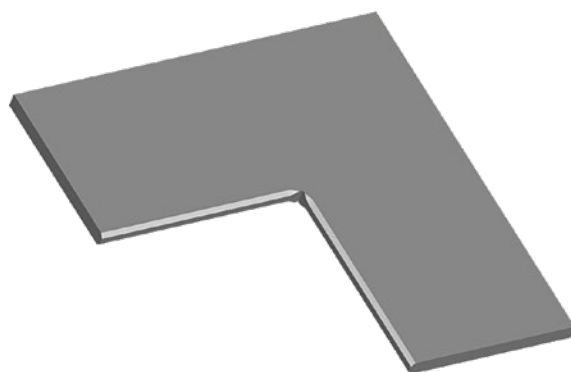


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## BALL DEBURRING TOOLS

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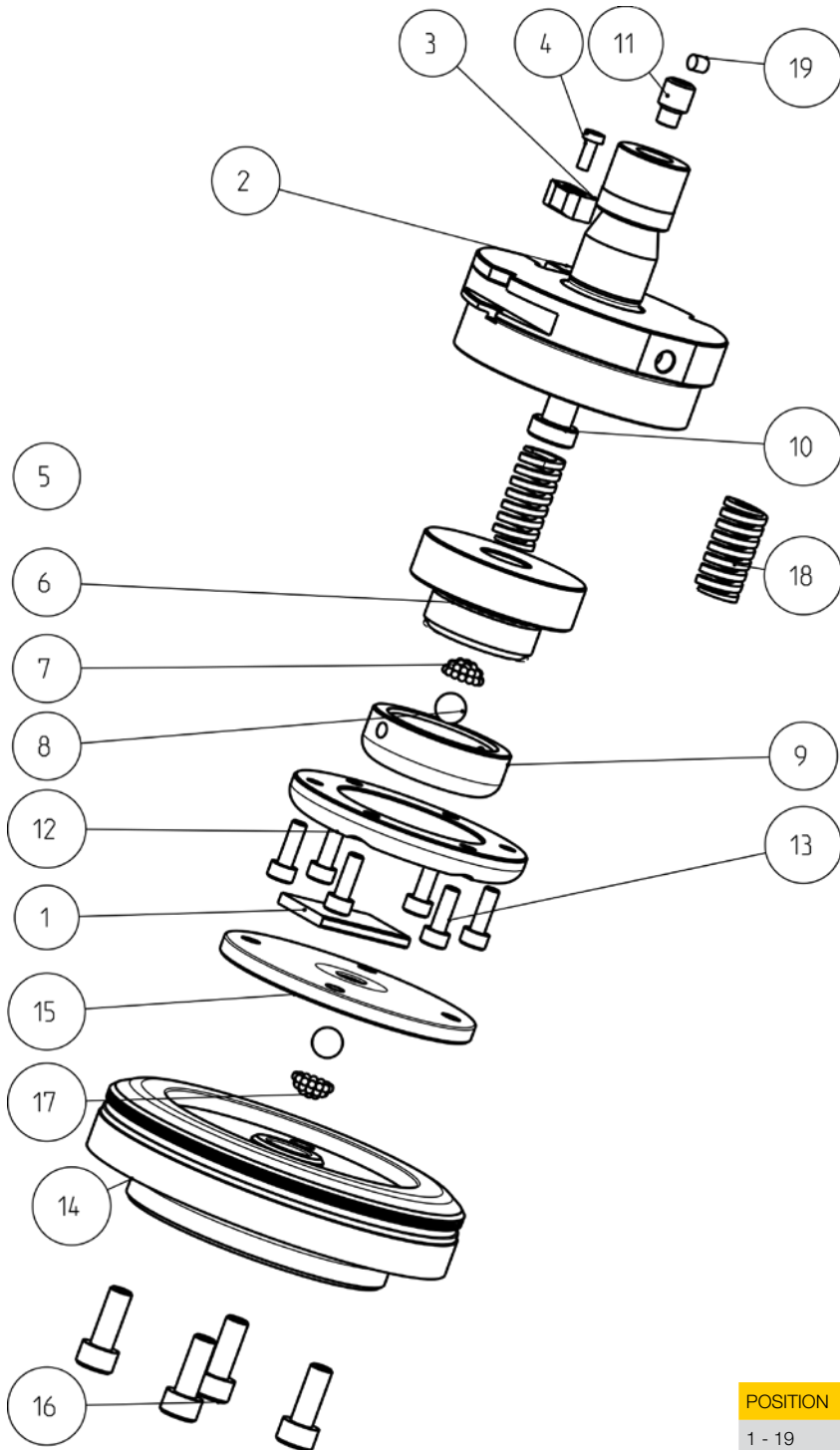
A double-side deburring close to the inside edges is possible (a complete deburring is possible from an edge radius of min. R = 1,5 mm).



# ps:<sup>®</sup>ball-deburr-V4

BALL DEBURRING TOOLS

## D. DRAWING AND PARTS LIST



POSITION	DESCRIPTION	PIECES	PART-NO.
1 - 19	ps: <sup>®</sup> wheel-deburr-V4 complete	1	195100005

# ps:® ball-deburr-V4

## BALL DEBURRING TOOLS

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### E. CLEANING & CARE

We recommend to check and if necessary to clean the tool daily. Especially when you work with stainless steel, periodic visual inspections for wear and tear should be made more frequently. Sharpening or grinding the material in time increases the tool life enormously.



Note

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**Carry out periodic (daily) visual inspections and clean the tool if necessary!**

Especially when soft and galvanised or foil-coated sheets are processed, abrasion of material, zinc or foils can get into the tool and can lead to a damage of the tool!

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#### Disassembly

- disassemble the ball (Ø 8 mm) over a suitable collecting container
- open the tool above the container with the ball pointing upwards
- remove the old ball from the ball rack
- put the new ball in
- distribute the balls from the ball rack evenly
- assemble the cover

### F. GENERAL INFORMATION

- the pre-loaded spring can be changed with the adjusting screw (pos. 11)
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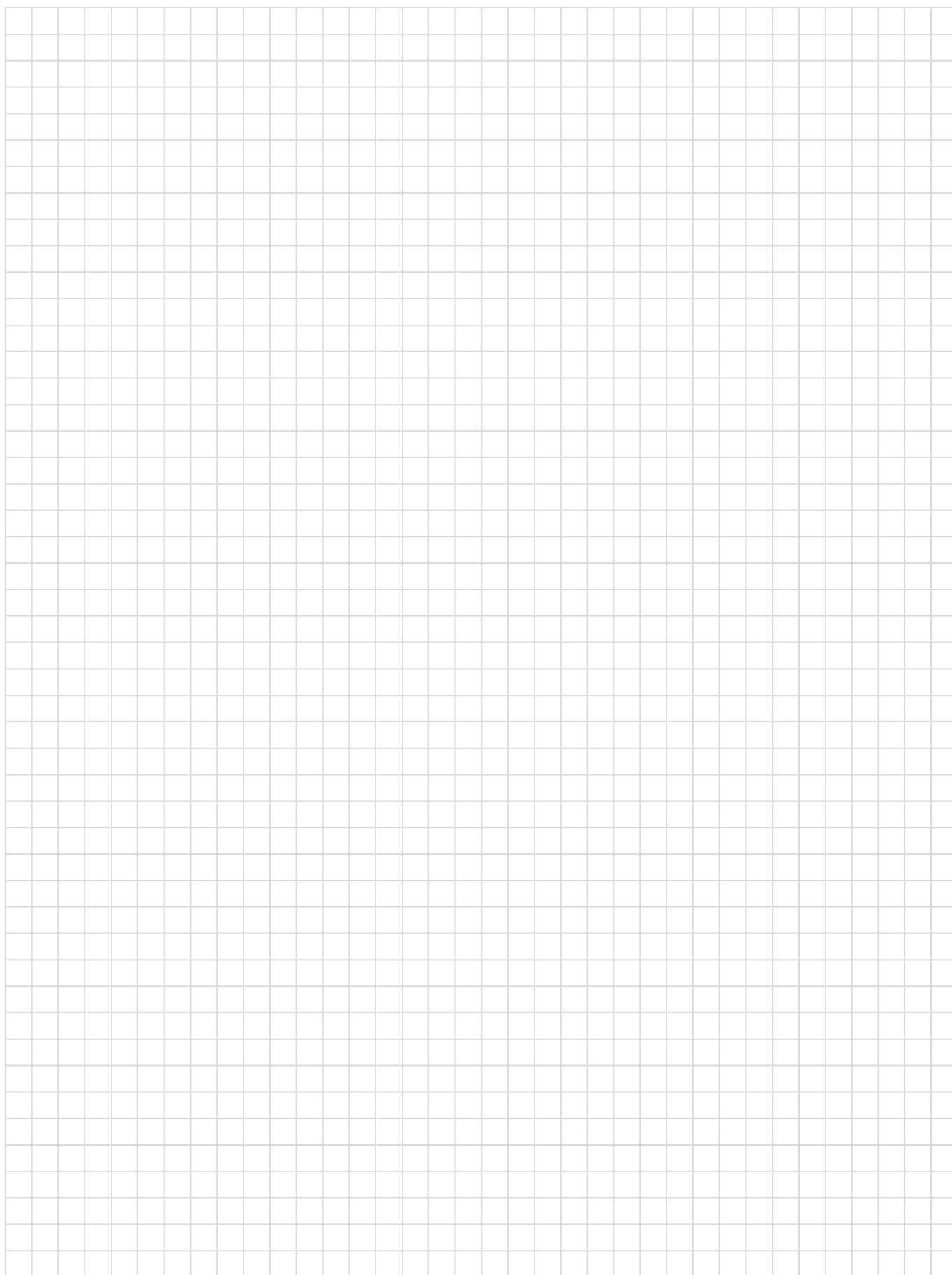
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#### NOTE

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Otherwise the operating characteristics of the ball will be impaired!

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SALVAGNINI | THICK TURRET | TRUMPF



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