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## Instruction Manual

### Universal Deburring Machine

# **FACETTE<sup>®</sup> STAR EF**



#### 0) Technical data, Facette Star EF, Part no. W01.00000

Supply voltage	230 V 50Hz / 110V 60Hz
Motor power	Input 500W, Output 350W
speed regulation	12'000 - 30'000 min <sup>-1</sup> Infinitely adjustable
Table support surface	250 x 250 mm
Max. table load	10kg
Weight with accessories	18kg

Housing and controller are earthed.

## Safety instructions



Read the operating instructions before commissioning.



Wear protective goggles.



Wear hearing protection.



Do not touch the rotating cutter. It may cause injury.



Do not wear gloves when milling.



**Attention:** If the table is folded up while the machine is running, the machine is automatically switched off by the inductive limit switch (76). When the table is in the working position again, the machine can be restarted with the start button (78).

## **Intended use**

The FACETTE STAR EF is exclusively designed for deburring and chamfering contours. The parts may weigh a maximum of 10 kg and can be made of different materials (aluminium, steel, stainless steel, plastic, etc.).

The machine may only be used for its intended purpose.

Observance of the safety instructions as well as the commissioning and the operating mode in the operating manual are also part of the intended use.

The manufacturer accepts no liability for damage caused by improper or incorrect use.

Only accessories and spare parts from the manufacturer's product range may be used.

Persons who operate the machine and carry out maintenance work must be familiar with it and informed about possible dangers. Furthermore, the applicable accident prevention regulation must be strictly observed.

Any changes to the machine exclude any liability of the manufacturer and any resulting damage.

All other applications are expressly excluded and are considered improper use.

## **Other Risks**

As with all machines, there are dangers typical for the machine during operation and handling. Attentive operation and correct handling of the machine considerably reduce possible risks of accidents. If the normal precautionary measures are disregarded, the operator may be at risk of an accident.

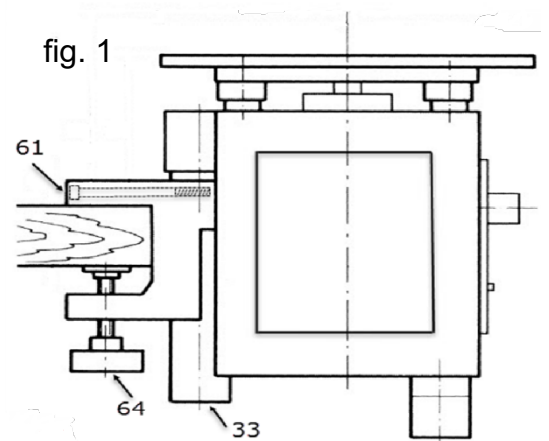
## **Actions to be taken in the event of an incident or accident**

Immediately turn the machine off on the ON/OFF switch (77), see Fig. 2 and unplug the machine.

<p>This deburring machine is built according to the guidelines 2006/42/EC + 2014/30 EU and is spark suppressed.</p>
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### 3) Installation (fig 1)

- 3.1 Fix the machine to the workbench or a solid table.
- 3.2 Clamp to the table top (thickness 35-60mm) with the knurled screw (64).
- 3.3 Loosen screw (61).
- 3.4 Slide the machine over tube (33) to adjust it to an ideal working height.
- 3.5 Tighten screw (61) again.
- 3.6 Connect the mains cable to the device plug (11) and to the mains.



### 4) Operation (fig. 2 and 3)

- 4.1 **Safeguard provisions:** Wear safety goggles before operating the machine.
- 4.2 Open up the table to install the milling cutter.

**Switch the machine off before folding the table up and wait until the milling cutter has stopped.**

- 4.3 Insert the desired milling cutter with plastic cover into the collet.
- 4.4 Hold the spindle with a 13 mm open-end wrench.
- 4.5 Tighten the collet chuck with the supplied T-socket wrench with cutter depth stop. Slide the wrench all the way down over the collet to ensure that the spring-loaded cutter is correctly adjusted in height.
- 4.6 Due to the parallel table height adjustment upto 16 mm you can deburr on parts with straight edges and on contours, inside and outside.
- 4.7 **Caution:** Do not fold up the table if the milling cutter extends beyond it.
- 4.8 Press the ON/OFF switch (77). The ON position is illuminated. After switching the machine on, press the start button (79).
4. Set the optimum speed with the speed regulator (78).

fig. 2

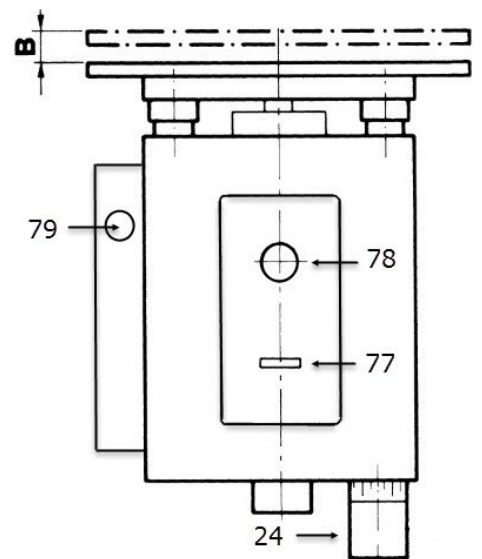
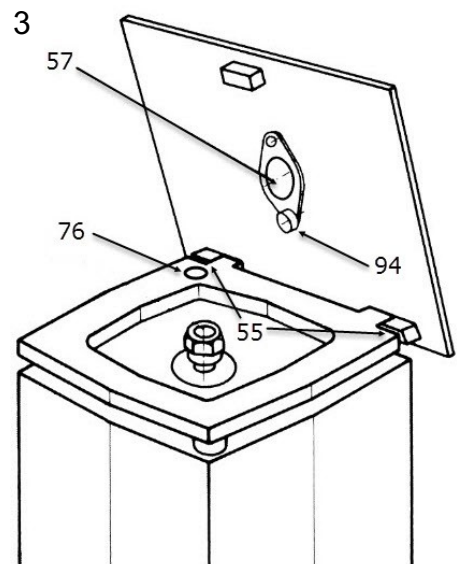


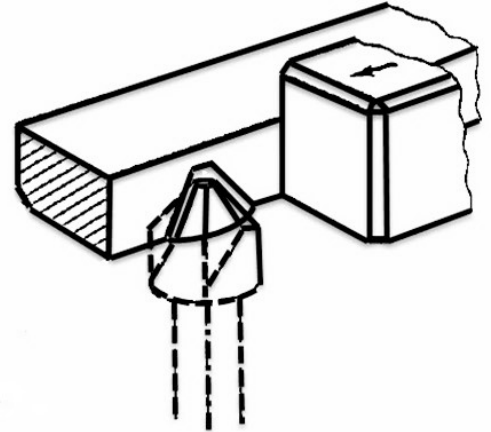
fig. 3



## 5) Deburring of straight edges (fig. 4)

- 5.1 Mount the guide rail (5).
- 5.2 The guide rail can accommodate different sizes. The side with the 45 degree edge is for the larger deburring, while the 90 degree side is for smaller parts.
- 5.3 Use cutter ASP.1090.00
- 5.4 For approx adjustment, push the guide bar sideways over the milling cutter. By moving the guide bar sideways from the largest to the smallest cutter diameter, the entire cutting edge length can be used.
- 5.5 Turn the rotary knob (24) for feeding and fine adjustment, see Fig. 2. The adjustment range (B) is 18 mm.
- 5.6 Chamfers of over 1 mm x 45° should be done in two passes. To achieve maximum surface quality, we recommend milling first in counter-direction and then, with the same setting, in synchronous operation.
- 5.7 Small chamfers on soft material can be done in one operation.

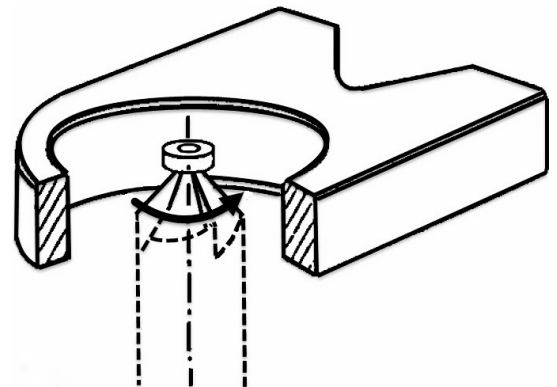
fig. 4



## 6) Milling of contours (fig. 5)

- 6.1 Install the milling cutter with guide pin or ball bearing. The workpiece is pushed along the guide pin (bearing), which also serves as a stop.
- 6.2 The rough adjustment is carried out during assembly with the T-socket wrench, see points 4.4 - 4.7.
- 6.3 For feed and fine adjustments as well as setting the chamfer height by means of the rotary knob (24) see Fig. 2.
- 6.4 Avoid significant pressure on the workpiece, guide pins and ball bearings.
- 6.5 Keep the table surface as clean as possible with a brush or compressed air.
- 6.6 **Attention:** Working with the special milling cutter requires some practice.
- 6.7 Installation of the guides in the cutters see Fig. 10.

fig. 5



## 7) Working with guide fingers (fig. 7 - 9)

- 7.1 Attention:** Before any installation or replacement of guide fingers, always set the table to the top by turning the knob (24), see Fig. 2
- 7.2** Fold the table up.
- 7.3** After loosening the knurled nut (94) turn the clamp (57C) clockwise, see Fig. 3.
- 7.4** Clean the finger base to avoid uneven chamfer, see Fig. 3.
- 7.5** Insert guide finger, swivel clamp, holder back completely and clamp with the knurled nut, see Fig. 4.
- 7.6** Only use milling cutters **without** individual guide.
- 7.7** The fixed guide pin or ball bearing is height adjustable and is clamped with the screw, see Fig. 6.
- 7.8** The guide finger, part no. W07.03002 in conjunction with the milling cutters No. ASP.0690.00 or ASP.0890.00 serves to break the edges right into the sharp inner corner, see Fig. 7.

For material less than 2.8mm thick use guide finger No. 921.2010.00 with insert No. 921.2011.02 see Fig. 8.

fig. 6

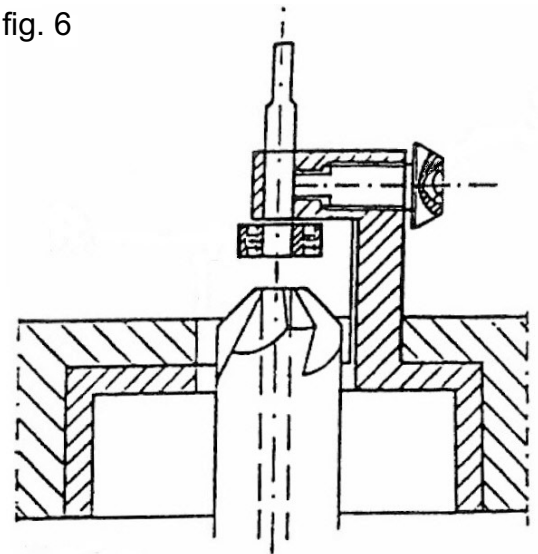


fig. 7

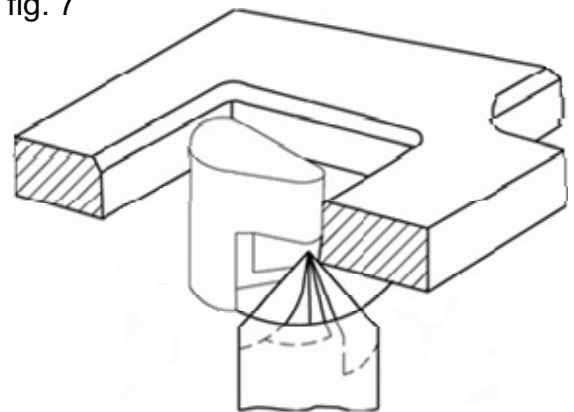
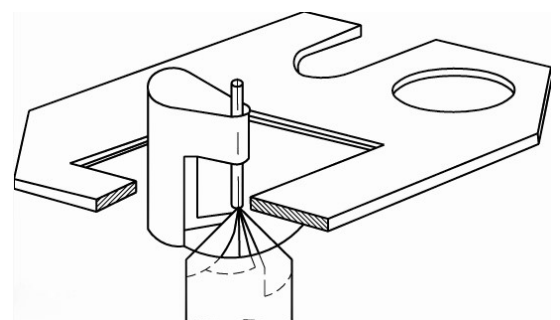


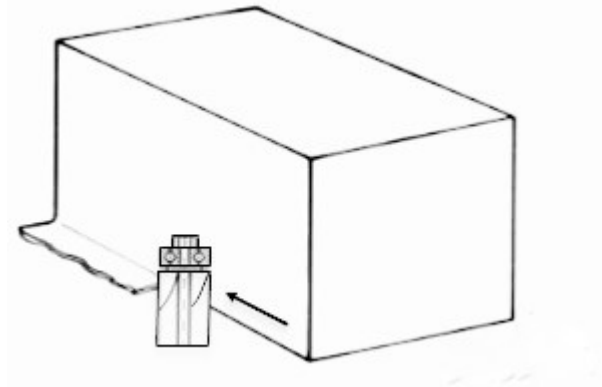
fig. 8



## 8) Edging without a chamfer (fig. 9)

- 8.1 To achieve a clean end faces on straight edges without chamfering, use the cylindrical milling cutter part no. ASP.0618.15 together with the guide rail.
- 8.2 Use the Cutter, part no. ASP.0618.60 with 6mm Bearing for clean end edge on contours inside or out.

fig. 9

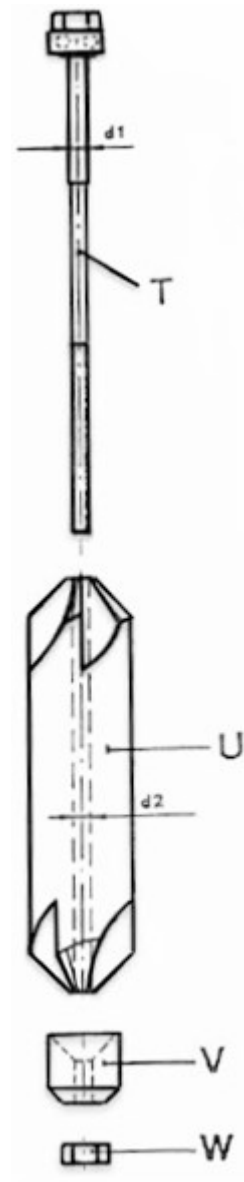


## 9) Assemble bearing and cutter with bore (fig. 10)

- 9.1 Fit the bearing shaft (d1) into the bore (d2) of the milling cutter.
- 9.2 Screw on the plastic nut (V) and tighten by hand.
- 9.3 Secure with the steel nut (W), key  
Use No. 921.900.848 SW 3 mm.

**Attention:** Do not overtighten thread M1.4

fig. 10



## 10) Maintenance

For a perfect result the machine should be cleaned before every use and tool change. In particular, the spindle and the collet chuck must be free from dirt.

### 10.1 Remove motor from housing as follows:

- Unplug the power cable.
- Remove adjustment knob (24) and housing cover (10), see Fig. 11
- Loosen the four screws (32)
- Open the frequency converter housing
- Disconnect the wires U, V, W and ground
- Pull the motor cable carefully through the hole in the housing
- Remove the foam insert (81)
- Remove the motor
- Installation in reverse order

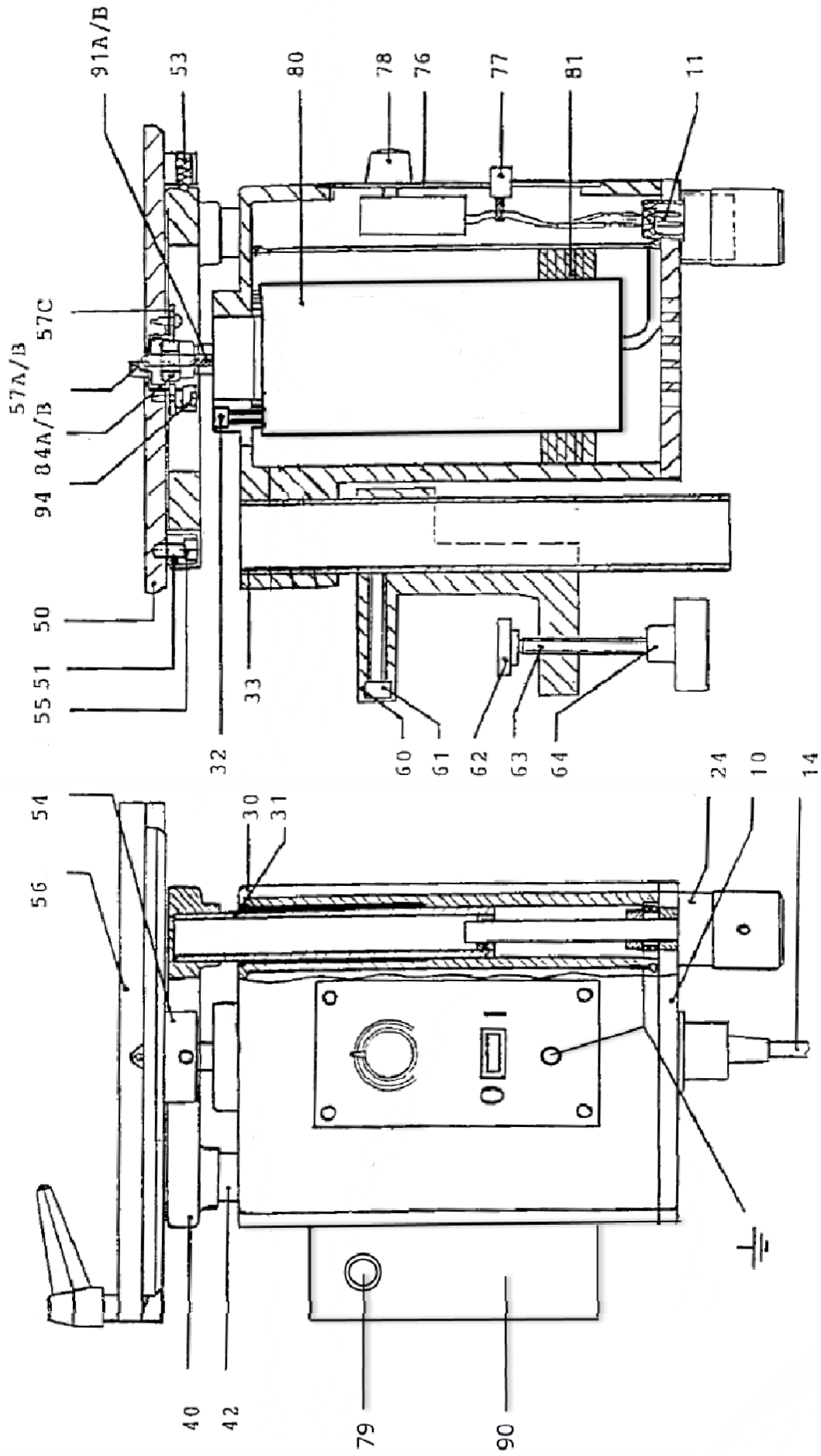
Repair of the motor and frequency converter may only be carried out by the manufacturer.

### 10.2 If, when working with the guide finger, the milling cutter and the guide are not align (unequal facets), align the table as follows:

- Unplug the power plug
- Fold up table
- Install guide finger No.921.2000.02 and cutter part no. ASP.0690.00
- Loosen screws (55), see Fig. 11  
(No other screws need to be loosened)
- Fold the table down again
- Roughly align table, align guide finger to cutter
- Tighten screws (55) slightly
- Plug the power plug in again
- Test milling on three edges with stopping of the workpiece at the guide finger on the left, front and right. If the bevels are different, move the table in the appropriate direction by tapping lightly with a plastic hammer until the bevels are even
- Retighten screws (55)



fig. 11



## Spare parts for FACETTE STAR EF

Please always indicate spare part and machine number when ordering.

Pos.	Number	Description
10	921.900.100	Cover
11	921.800.110	Apparatus plug
14		Device connection cable (see standard accessories)
24	921.900.240	Adjusting knob
30	921.900.300	Housing
31	921.900.310	Scraper
32	921.900.320	Cylinder screws with 1 hexagon (4 pieces)
33	921.900.330	Pipe
40	921.900.401	Adjustable frame
43	921.900.430	Guide tube with nut
40-431	921.900.400	Adjustable frame complete
50	921.900.500	Table top
51	921.900.511	Swivel pieces 16/16x30 mm (2 pieces)
53	921.900.530	Spring loaded thrust piece M8x16 mm
54	921.900.540	abutment 16/16x50 mm
55	921.900.550	cylinder screw with 1 hexagon M5x16
56A	921.900.561	Ruler
56B	921.900.562	Stop
56C	921.900.563	Clamping stop
59	921.900.590	Clamping lever
56A-59	921.900.560	Guide rail complete
57A/B		Support fingers (see leaflet)
57C	921.900.573	Clamp holder
60	921.900.601	Bracket
61	921.900.610	cheese head screw with 1 hexagon
62	921.900.620	Pressure piece
63	921.900.630	Grub screw M10x80
64	921.900.640	Knurled handle
60-64	921.900.600	Clamping bracket complete
76	923.800.560	Inductive limit switch
77	921.800.771	Switch
78	921.800.780	Rotary knob for speed governor
80	921.800.550	MF-V2-500Hz engine 230V / 50 Hz
81	921.800.810	Foam insert
84A	921.900.841	Collet D6 mm with nut
84B	921.900.842	Collet D8 mm with nut
90	921.800.112	Frequency converter MFR 1500 PFC-B
91A	921.900.910	Pressure spring D6 mm
91B	921.900.911	Pressure spring D8 mm
94	921.900.940	Knurled nut

## Important Information:

### Machine ON:



- To start, push ON/OFF switch; the ON-Position is illuminated.
- Push start-button.
- Turn speed adjusting knob to set optimum rpm according to cutter diameter and material to be chamfered.



### Toolchanging:

- When lifting the table the electric current is automatically interrupted by a proximity switch and the motor will stop immediately
- To restart the machine the table must be brought back into working position.
- Push start-button

