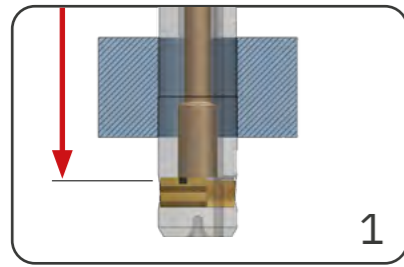


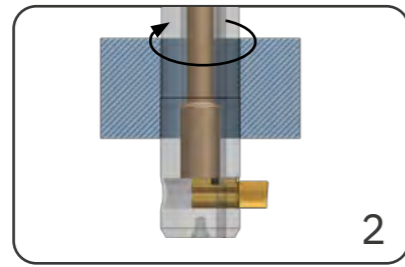
## SOLO PROCESS STEPS



- Spindle stop! Blade is retracted
- Rapid feed through the workpiece

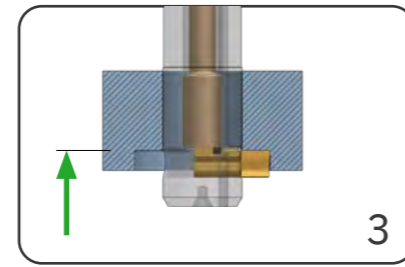
**Example** M5  
G0 Z-32.0<sup>1)</sup>

<sup>1)</sup> 32.0=30.0+2.0 (safety)



- Spindle rotation clockwise
- Spindle speed (>1900 rpm) – Blade extends
- Dwell time min. 1 sec.
- External/internal coolant on

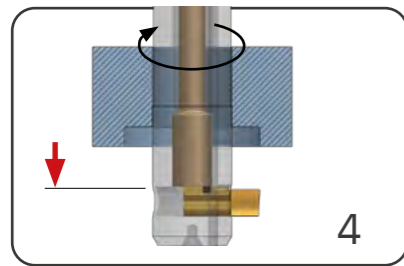
S2729 M3  
G4 X2  
M8 (M88)



- Working feed to counterbore depth

G1 Z-22.0<sup>2)</sup> F136

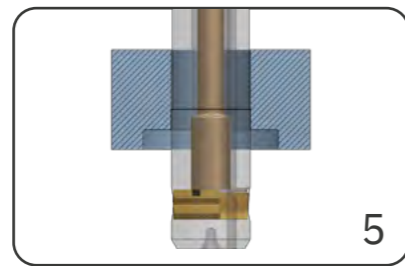
<sup>2)</sup> 22.0=30.0-8.0



- Rapid feed out of the workpiece
- External/internal coolant off

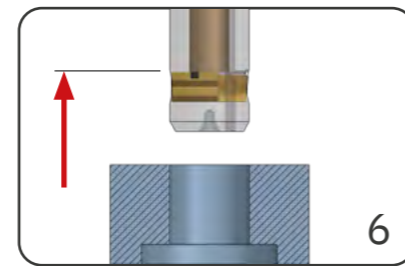
G0 Z-32.0<sup>3)</sup>  
M9 (M89)

<sup>3)</sup> 32.0=30.0+2.0 (safety)



- Spindle stop! Blade retracts
- Dwell time at least 1 sec.

M5  
G4 X2

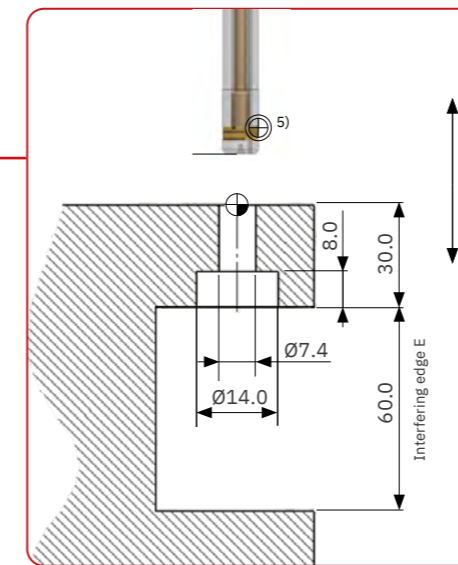


- Rapid feed out of the workpiece

G0 Z+13.3<sup>4)</sup>

<sup>4)</sup> 13.3=11.3+2.0 (safety)

## APPLICATION AND PROGRAMMING EXAMPLE



### Cylindrical counterbore on the back of the bore

#### Application data

Material: Aluminium  
Counterbore Ø: 14.0 mm  
Counterbore depth: 8.0 mm  
Bore Ø: 7.4 mm

#### Tool selection

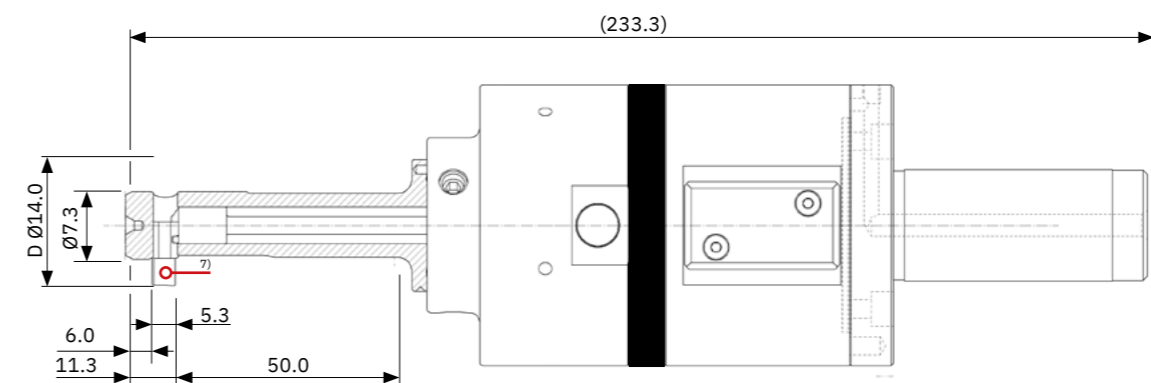
Tool: see below  
Blade: backward cutting only

#### Cutting data

Cutting speed  $V_c$ : 120 m/min.  
Tool working feed: 0.05 mm/rev

<sup>5)</sup> We recommend programming the zero point of the tool to the cutting edge of the blade.

## TOOL FOR APPLICATION <sup>6)</sup>



<sup>6)</sup> All SOLO tools are customised. The dimensions of this tool must not be used to program your own application. The applicable values can be found in your own tool drawing.

<sup>7)</sup> Attention: Blade position when spindle stops is RETRACTED. Minimum spindle speed for machining is >1900 rpm, as the activation speed is 1900 rpm.

## COUNTERBORING TOLERANCE

Bore Ø tolerance in mm	+0.1 0	+0.2 0
Counterbore Ø tolerance in mm	±0.2	±0.3



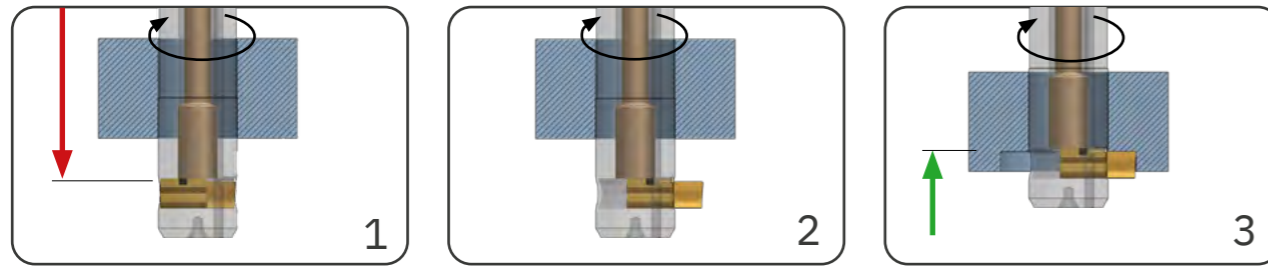
Please note the recommended value for the tolerance of the bore diameter. The larger the tolerance, the more the quality can be affected (damage to the bore, pressing, counterbore diameter becomes smaller).

### Note for commissioning the SOLO after extended idle period



A manual function check must be carried out after the tool has been idle for an extended period. Non-use can lead to the coolant and dirt drying out and the blade and blade control sticking together. This adhesive effect can lead to malfunction. To free them, the blade control and blade must be manipulated manually on the tool before it is put back into operation.

## PROCESS STEPS SOLO2 / SOLO25



- Activation speed (>1900 rpm)
  - Blade retracts
- Dwell time min. 1 sec.
- Rapid feed through the work-piece

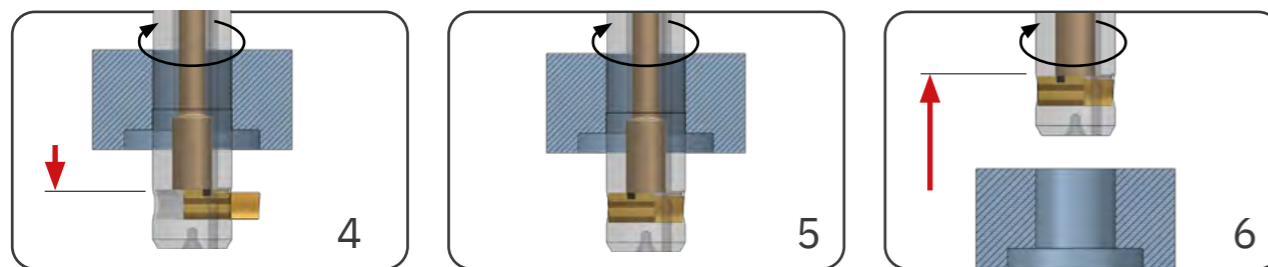
- Spindle stop! Blade extends
- Dwell time min. 1 sec.
- External/internal coolant on
- Spindle speed (max. 1500 rpm)

- Working feed to counterbore depth

**Example**  
S1900 M3  
G4 X2  
G0 Z-32.0<sup>1)</sup>  
<sup>1)</sup> 32.0=30.0+2.0 (safety)

M5 G4 X2  
M8 (M88)  
S227 M3

G1 Z-22.0<sup>2)</sup> F7  
<sup>2)</sup> 22.0=30.0-8.0



- Rapid feed out of the workpiece
- Spindle stop! Blade remains extended
- External/internal coolant off

- Activation speed (>1900 rpm)
  - Blade retracts
- Dwell time min. 1 sec.

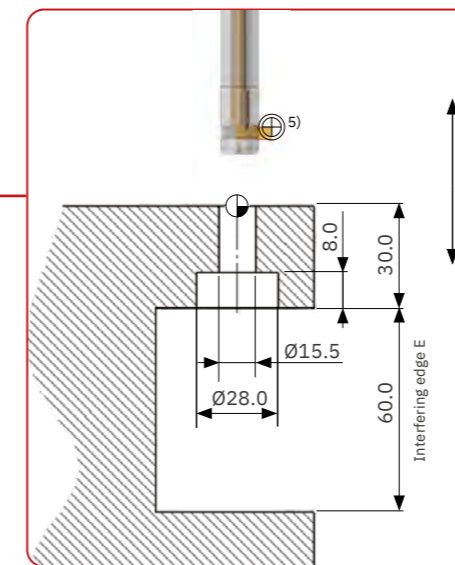
- Rapid feed out of the workpiece

G0 Z-32.0<sup>3)</sup>  
M5  
M9 (M89)  
<sup>3)</sup> 32.0=30.0+2.0 (safety)

S1900 M3  
G4 X2

G0 Z+13.3<sup>4)</sup>  
<sup>4)</sup> 13.3=11.3+2.0 (safety)

## APPLICATION AND PROGRAMMING EXAMPLE



### Cylindrical counterbore on the back of the bore

#### Application data

Material: X5CrNi1810  
Counterbore diameter: 28.0 mm  
Counterbore depth: 8.0 mm  
Bore diameter: 15.5 mm

#### Tool and blade selection

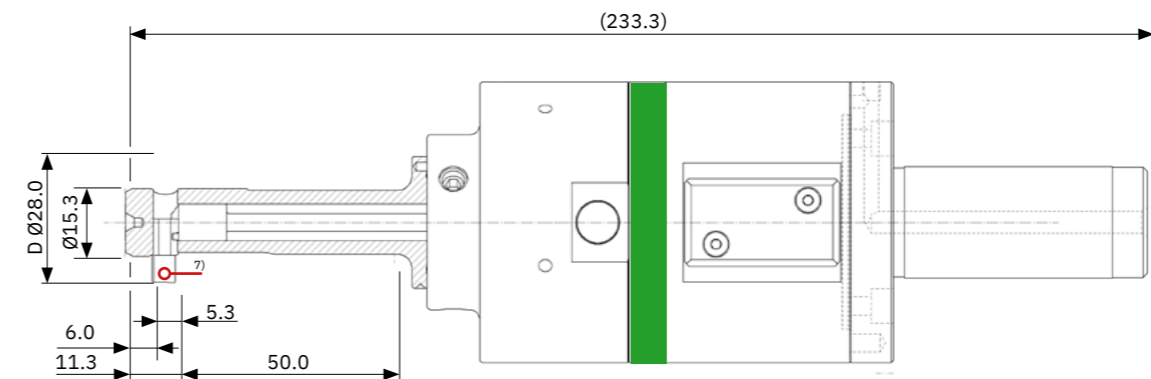
Tool: see below  
Blade: backward cutting only

#### Cutting data

Cutting speed  $V_c$ : 20 m/min.  
Tool working feed: 0.03 mm/rev

<sup>5)</sup> We recommend programming the zero point of the tool to the cutting edge of the blade.

## TOOL FOR APPLICATION<sup>6)</sup>



<sup>6)</sup> All SOLO tools are customised. The dimensions of this tool must not be used to program your own application. The applicable values can only be found in your own tool drawing.

<sup>7)</sup> Blade EXTENDED at standstill. Max. spindle speed 1500 rpm, as the activation speed is 1900 rpm.

## COUNTERBORING TOLERANCE

Bore Ø tolerance in mm	+0.1 0	+0.2 0
Counterbore Ø tolerance in mm	±0.2	±0.3



### Note for commissioning the SOLO after extended idle period

A manual function check must be carried out after the tool has been idle for an extended period. Non-use can lead to the coolant and dirt drying out and the blade and blade control sticking together. This adhesive effect can lead to malfunction. To free them, the blade control and blade must be manipulated manually on the tool before it is put back into operation.



Please note the recommended value for the tolerance of the bore diameter. The larger the tolerance, the more the quality can be affected (damage to the bore, pressing, counterbore diameter becomes smaller).