



Slovak Art Glass Automatic

SAGARYT SGA

Machine Program Operation

The screenshot displays the SAGARYT SGA software interface. The main window is divided into several sections:

- Files:** Project: [empty], Dekor: 16do.DKR, Shape: samp2.prf
- Machine:** Speed: 18.000 mm/s, tools: 1
- Shape:** Glass diameter: 100.000 mm, 314.159 mm; Glass height: 200.000 mm (perimeter)
- Dekor settings:** Dekor width: 248.713 mm, 360.000 °; Dekor height: 89.633 mm, 44.816 %; x - position: 0.000 mm, 0.000 °; y - position: 5.184 mm, 2.592 %; Aspect ratio: 2.775; join correction: 1.0000, 0.000 x1
- Options:** Mirror x, Mirror y, Ear Cut, Lock aspect ratio x:y, CCW, Projection
- USB:** USB: 3804 KB/s
- Dimensions:** D: 0.0 mm, h: 0.0 mm, N: 32; h0: 0.0 mm, h1: 0.0 mm, spd: 100.0

A diagnostic window titled "Processing diagnostics" is open, showing the following data:

```
HW Version:  
HW Info:  
Shade: 0 0.000 0.000 0.000 Lost: 0 0  
Send: -1/0 packets Threads: 2 Wtg: 00000000  
Done: 2630 packets 0 useks dsize: 0  
mult: 0 path: 0 path0: -1 path1: -1 dir: +1  
time: 5.647 s dt: 0.024 s  
Info: 0 Byte  
Send: 1902 KB/s  
Recv: 1902 KB/s  
Buff: 0 KB  
0 KB  
FIFO:PC<-Shade(0) PC->Shade(0)  
In: start init blok in0 in1 in2 in3  
Out: hold ksmask out0 out1 out2 endp endu endd  
pause  
PWMI:test(0)  
PWMO:PWM0(0) PWM1(0) PWM2(0) PWM3(0)  
Fi:  
Fo:  
Tool:Tool0 Tool1 Tool2 Tool3 Tool4  
x- x+ kx- kx+ 0.000 deg 0.00 KHz 0 st  
y- y+ ky- ky+ 0.000 mm 0.00 KHz 0 st  
z1- z1+ kz1- kz1+ 0.000 deg 0.00 KHz 0 st  
z2- z2+ kz2- kz2+ 0.000 deg 0.00 KHz 0 st  
z3- z3+ kz3- kz3+ 0.000 deg 0.00 KHz 0 st  
z4- z4+ kz4- kz4+ 0.000 deg 0.00 KHz 0 st  
z5- z5+ kz5- kz5+ 0.000 deg 0.00 KHz 0 st  
z6- z6+ kz6- kz6+ 0.000 deg 0.00 KHz 0 st  
IRC: scann(AB0 0 st 0.000 mm)  
Cnt: test(255)  
Processing diagnostics
```

At the bottom right, there is a "Shade diagnostics" control panel with various buttons (up, down, stop) and settings:

- USB: 3804 KB/s
- HW: 243.454 KHz
- Start button
- Revers
- Diameter: 0.0 mm
- x 0 l: 10.0 mm

SAGARYT SGA

The SAGARYT machine, version SGA, is supplied with pre-installed programs directly on the computer.

Machine control and design drawing are divided into two separate programs.



SAGARYT
4.169

The SAGARYT 4 program is used for designing and editing decorations.







Panthograp...
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The Panthograp program is used for operating the machine and decorating the patterns created in the SAGARYT 4 program.

Top Tool Palette

Files

Project:  

Dekor:  

Shape:  

Machine

Speed: 18.000 mm/s tools: 1

Shape

Glass diameter: 100.000 mm 314.159 mm

Glass height: 200.000 mm (perimeter)

Dekor settings

Dekor width: 287.897 mm 402.399 °

Dekor height: 60.000 mm 30.000 %

x - position: 0.820 mm 1.146 °


y - position: 10.000 mm 5.000 %




Aspect ratio: 4.798

join correction: 1.0000 0.000 x1

Mirror x Mirror y Ear Cut

Lock aspect ratio x:y







CCW x y 




  d: 4.500 


Projection


Time Buffer

USB

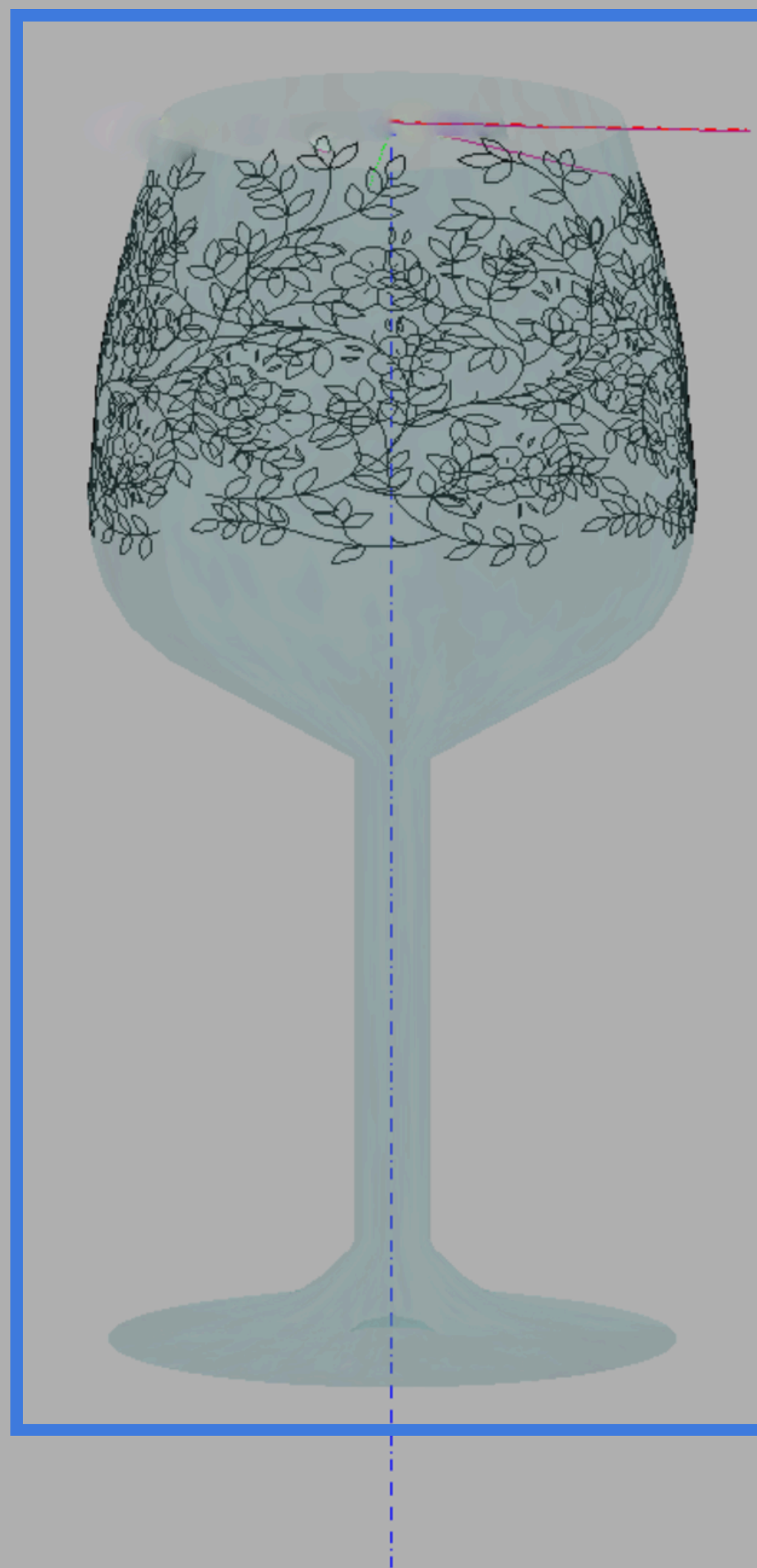
      Shade[Null]

   USB: 0 KB/s

 D: 0.0 mm h: 0.0 mm N: 32

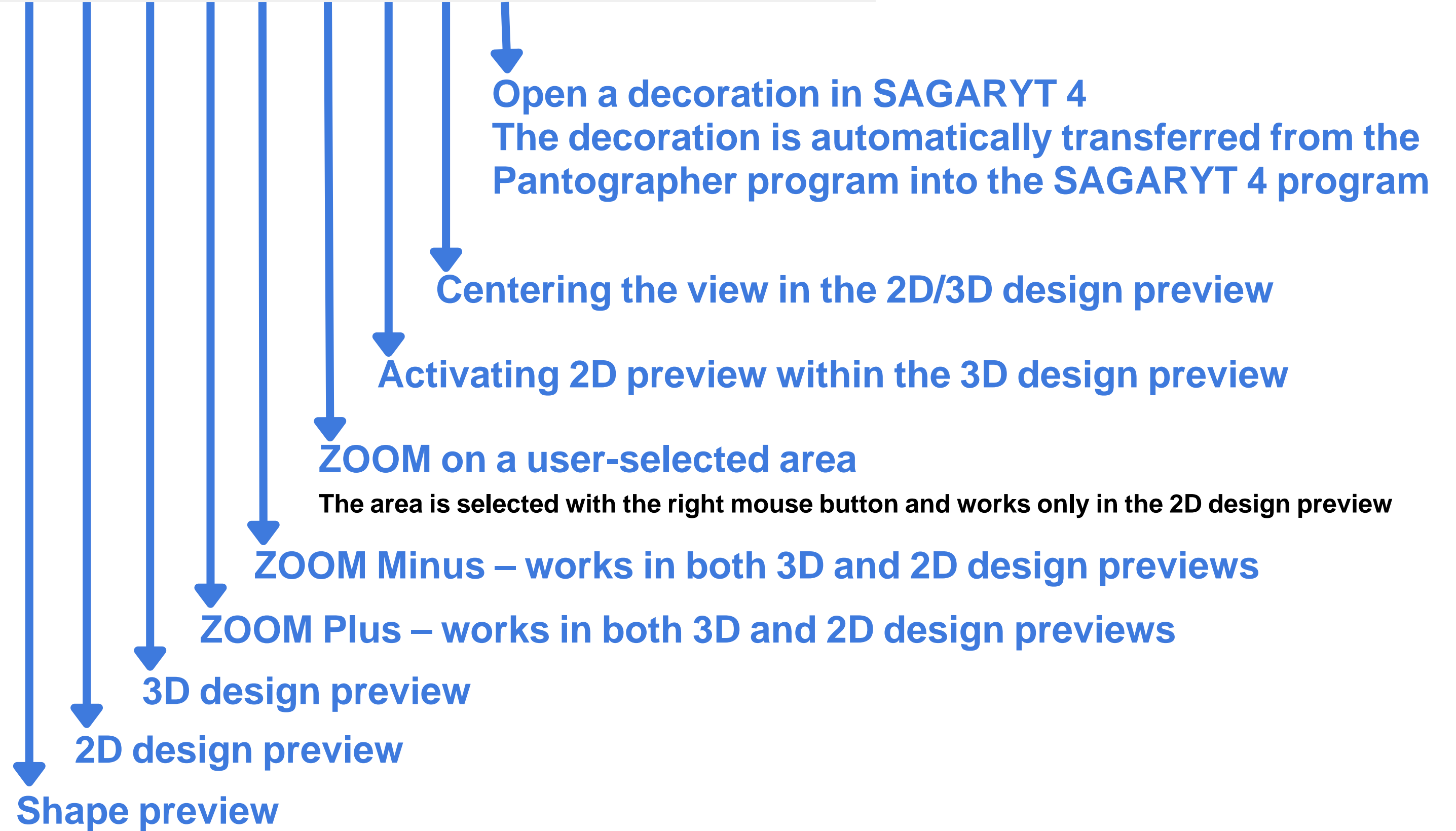
 h0: 0.0 mm h1: 0.0 mm spd: 100.0

- Projects
- Decoration parameters
- Machine parameters

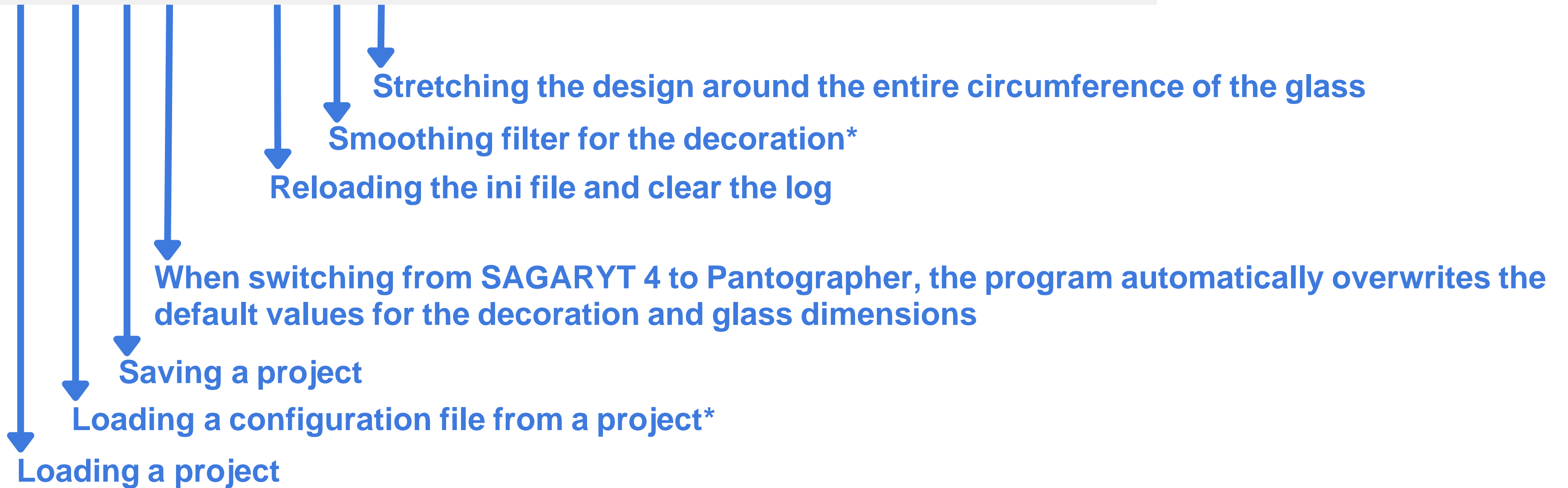
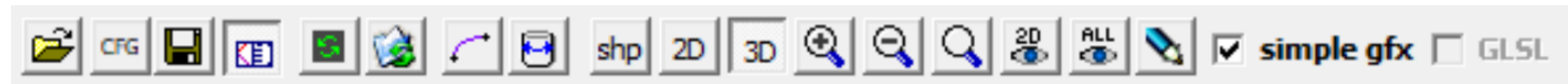


3D Display of design on the glass cup
The 3D shape of the glass cup is set under "Shape"

Layout of the Top Tool Palette – 1





Layout of the Top Tool Palette – 2






* The configuration file contains characteristic settings such as line colors, grinding speed, and motor rotation speed. These settings are assigned to each color characteristic. They are saved in every project and can be reloaded from the project.

* The smoothing filter is used for unedited designs with low-quality, jagged lines. The filter smooths these irregularities, but the design may lose some details.

Files

Project:  

Dekor: 

Shape:  

Machine

Speed: 18.000 mm/s tools: 1

Shape

Glass diameter: 100.000 mm 314.159 mm

Glass height: 200.000 mm (perimeter)

Dekor settings

Dekor width: 287.897 mm 402.399 °

Dekor height: 60.000 mm 30.000 %

x - position: 0.820 mm 1.146 °

y - position: 10.000 mm 5.000 %

Aspect ratio: 4.798

join correction: 1.0000 0.000 x1

Mirror x Mirror y Ear Cut







Lock aspect ratio x:y

CCW x y

Projection

Time Buffer

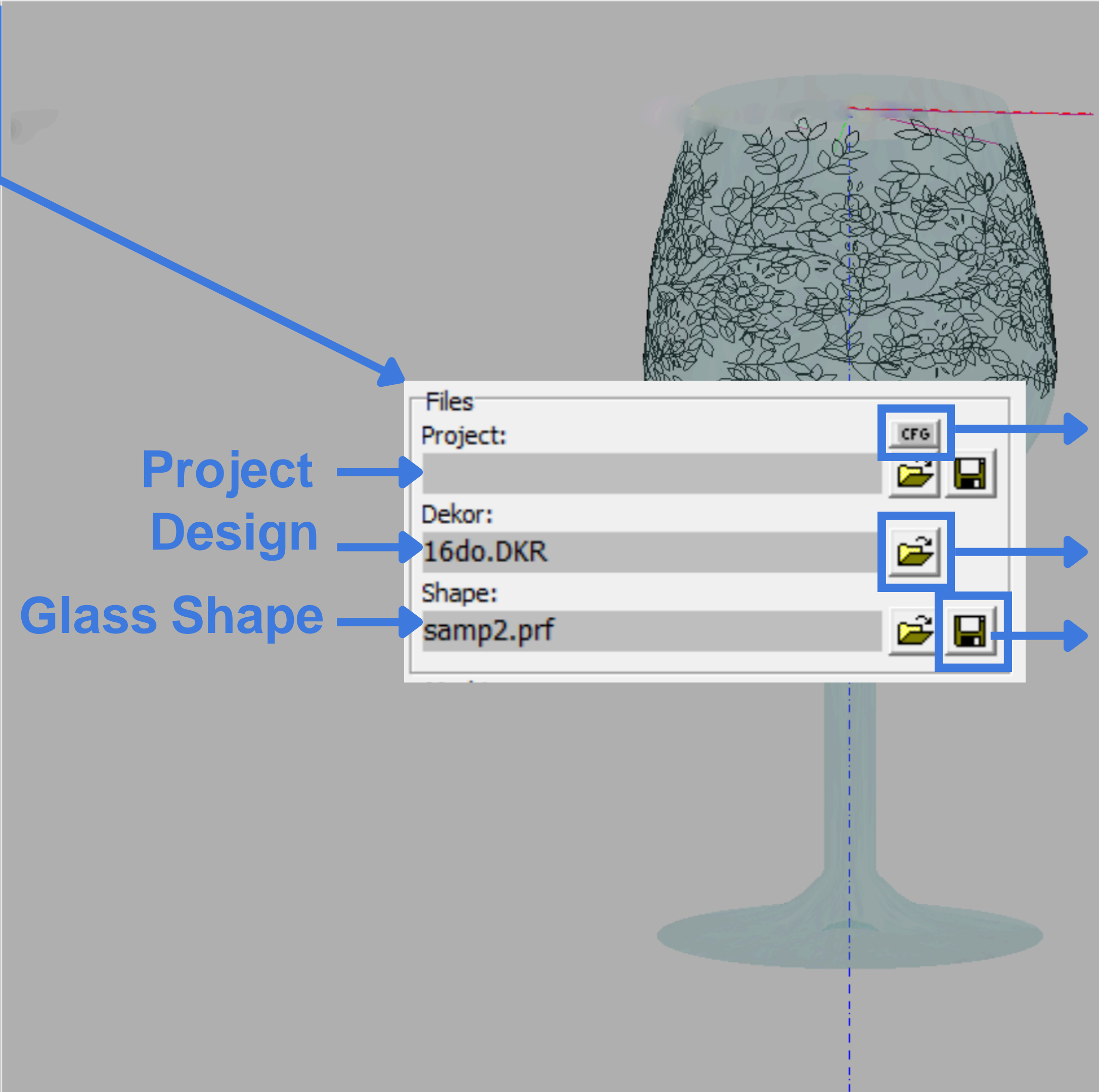
USB

      Shade[Null]

USB: 0 KB/s

D: 0.0 mm h: 0.0 mm N: 32



h0: 0.0 mm h1: 0.0 mm spd: 100.0





Project Design

Glass Shape

Files

Project:  

Dekor: 

Shape:  

Load Configuration from project Icon

Load Icon

Save Icon

Files

Project: [cf6]

Dekor: 16do.DKR

Shape: samp2.prf

Machine

Speed: 18.000 mm/s tools: 1

Shape

Glass diameter: 100.000 mm 314.159 mm

Glass height: 200.000 mm (perimeter)

Dekor settings

Dekor width: 287.897 mm 402.399 °

Dekor height: 60.000 mm 30.000 %

x - position: 0.820 mm 1.146 °

y - position: 10.000 mm 5.000 %

Aspect ratio: 4.798

join correction: 1.0000 0.000 x1

Mirror x Mirror y Ear Cut

Lock aspect ratio x:y

CCW x y

d: 4.500

Projection

Time Buffer

USB

Shade[Null]

USB: 0 KB/s

D: 0.0 mm h: 0.0 mm N: 32

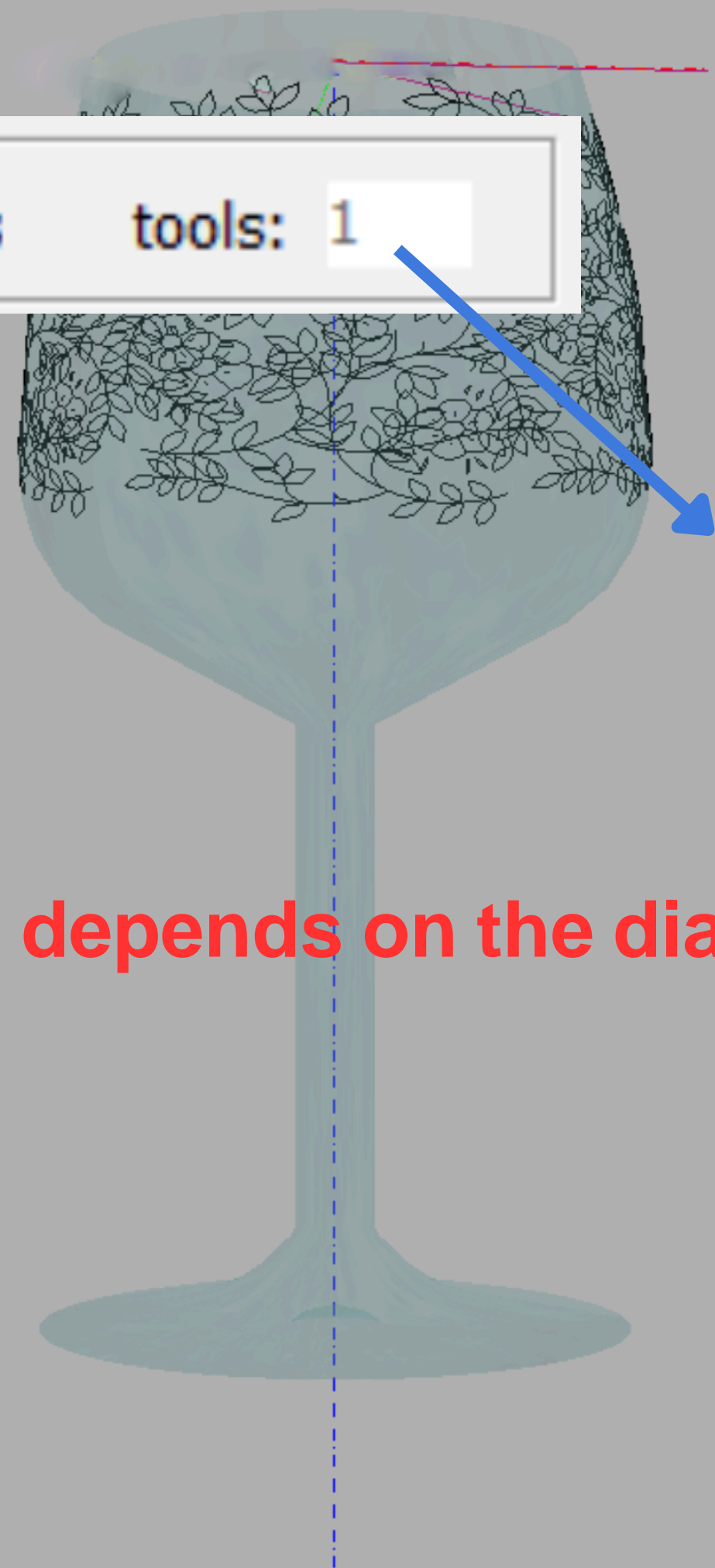
h0: 0.0 mm h1: 0.0 mm spd: 100.0

Machine
 Speed: 18.000 mm/s tools: 1

Decoration speed
 in mm per second

Number of machine
 tools (fixed value)

Attention!
 Decoration speed also depends on the diameter of the glass.



Files
 Project:
 Dekor: 16do.DKR
 Shape: samp2.prf

Machine
 Speed: 18.000 mm/s tools: 1

Shape
 Glass diameter: 100.000 mm 314.159 mm
 Glass height: 200.000 mm (perimeter)

Dekor settings
 Dekor width: 287.897 mm 402.399 °
 Dekor height: 60.000 mm 30.000 %
 x - position: 0.820 mm 1.146 °
 y - position: 10.000 mm 5.000 %
 Aspect ratio: 4.798
 join correction: 1.0000 0.000 x 1
 Mirror x Mirror y Ear Cut
 Lock aspect ratio x:y
 CCW x y
 d: 4.500
 Projection
 Time Buffer

USB
 Shade[Null]
 USB: 0 KB/s

D: 0.0 mm h: 0.0 mm N: 32
 h0: 0.0 mm h1: 0.0 mm spd: 100.0

Glass diameter

Shape
 Glass diameter: 100.000 mm 314.159 mm
 Glass height: 200.000 mm (perimeter)

Glass circumference

Glass height

Attention!

The Glass height refers to the total height of the cup, not only the decorated part.

Files

Project:

Dekor: 16do.DKR

Shape: samp2.prf

Machine

Speed: 18.000 mm/s tools: 1

Shape

Glass diameter: 100.000 mm 314.159 mm

Glass height: 200.000 mm (perimeter)

Dekor settings

Dekor width:	287.897 mm	402.399 °
Dekor height:	60.000 mm	30.000 %
x - position:	0.820 mm	1.146 °
y - position:	10.000 mm	5.000 %
Aspect ratio:	4.798	
join correction:	1.0000	0.000 x 1

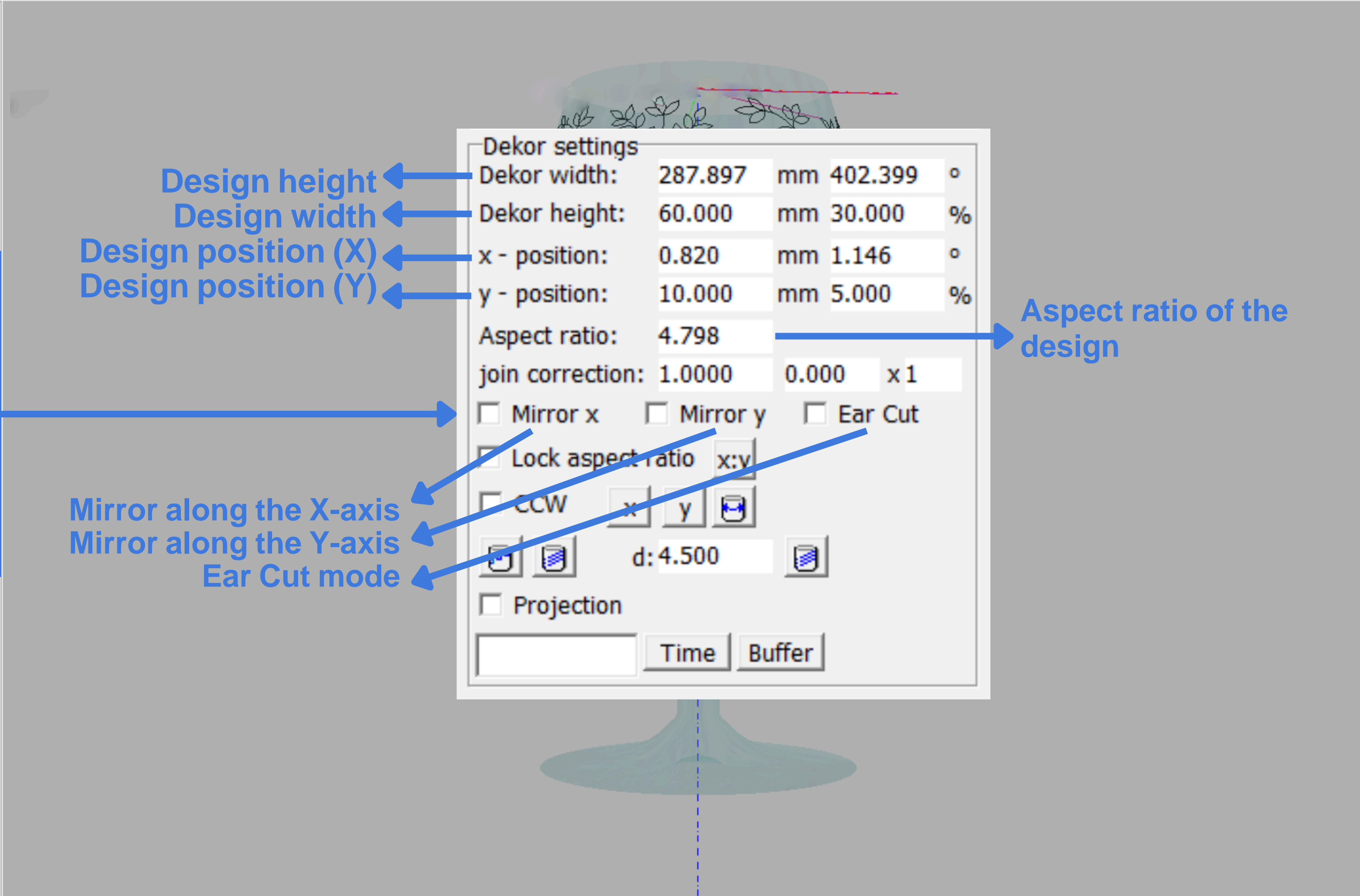
Mirror x Mirror y Ear Cut

Lock aspect ratio x:y

CCW x y

Projection

Time Buffer



Design height ←

Design width ←

Design position (X) ←

Design position (Y) ←

Dekor settings

Dekor width:	287.897 mm	402.399 °
Dekor height:	60.000 mm	30.000 %
x - position:	0.820 mm	1.146 °
y - position:	10.000 mm	5.000 %
Aspect ratio:	4.798	
join correction:	1.0000	0.000 x 1

Mirror x Mirror y Ear Cut

Lock aspect ratio x:y

CCW x y

Projection

Time Buffer

Aspect ratio of the design →

Mirror along the X-axis ←

Mirror along the Y-axis ←

Ear Cut mode ←

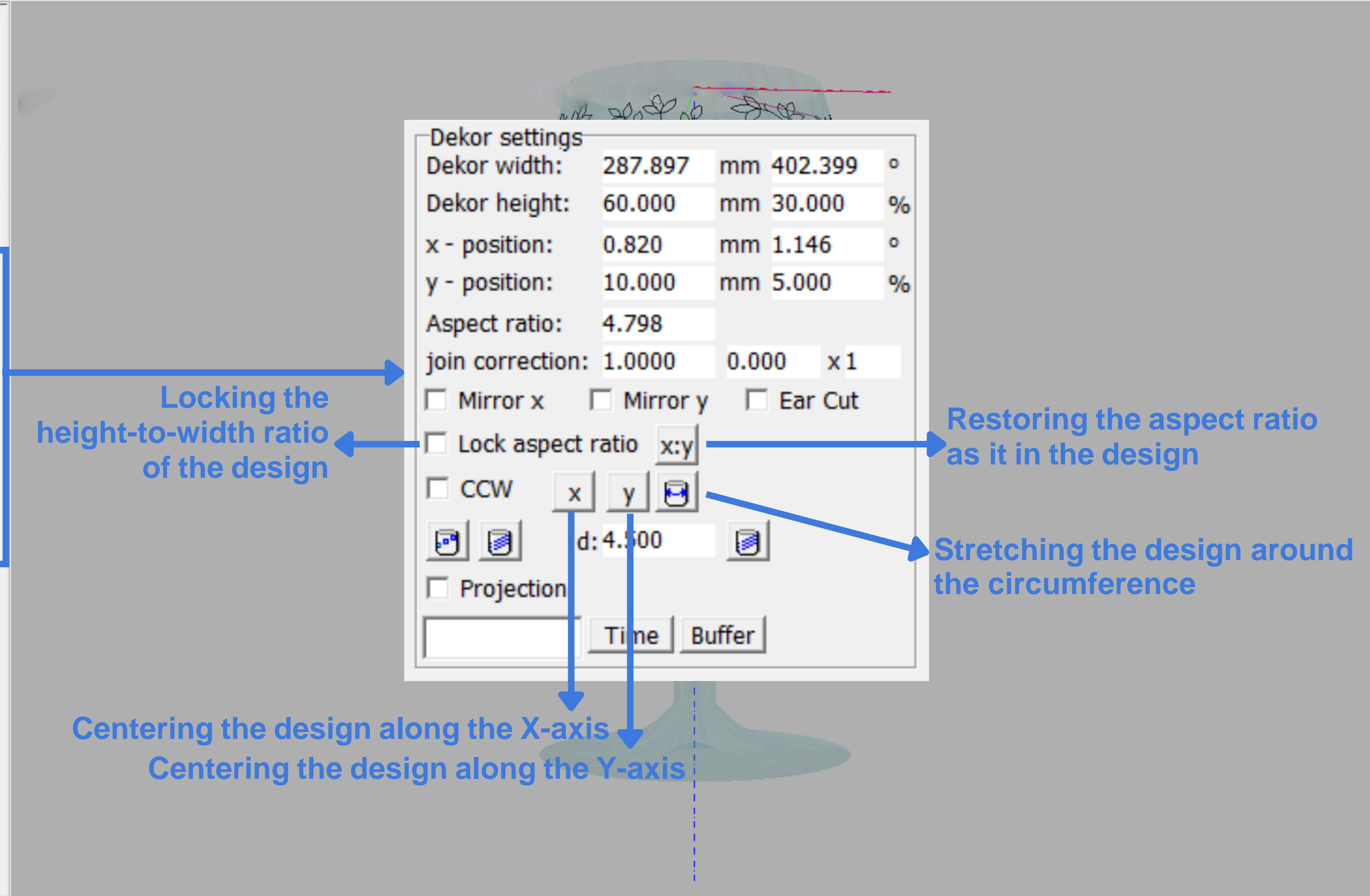
Files
Project: [CFG] [Save] [Open]
Dekor: 16do.DKR [Open]
Shape: samp2.prf [Open] [Save]

Machine
Speed: 18.000 mm/s tools: 1

Shape
Glass diameter: 100.000 mm 314.159 mm
Glass height: 200.000 mm (perimeter)

Dekor settings
Dekor width: 287.897 mm 402.399 °
Dekor height: 60.000 mm 30.000 %
x - position: 0.820 mm 1.146 °
y - position: 10.000 mm 5.000 %
Aspect ratio: 4.798
join correction: 1.0000 0.000 x 1
 Mirror x Mirror y Ear Cut
 Lock aspect ratio x:y
 CCW x y [Save]
d: 4.500 [Save]
 Projection
Time Buffer

USB
Shade[Null]
USB: 0 KB/s
D: 0.0 mm h: 0.0 mm N: 32
h0: 0.0 mm h1: 0.0 mm spd: 100.0



Dekor settings
Dekor width: 287.897 mm 402.399 °
Dekor height: 60.000 mm 30.000 %
x - position: 0.820 mm 1.146 °
y - position: 10.000 mm 5.000 %
Aspect ratio: 4.798
join correction: 1.0000 0.000 x 1
 Mirror x Mirror y Ear Cut
 Lock aspect ratio x:y
 CCW x y [Save]
d: 4.500 [Save]
 Projection
Time Buffer

Locking the height-to-width ratio of the design

Restoring the aspect ratio as it in the design

Stretching the design around the circumference

Centering the design along the X-axis
Centering the design along the Y-axis

Files
Project: [CFG] [Save] [Open]
Dekor: 16do.DKR [Open]
Shape: samp2.prf [Open] [Save]

Machine
Speed: 18.000 mm/s tools: 1

Shape
Glass diameter: 100.000 mm 314.159 mm
Glass height: 200.000 mm (perimeter)

Dekor settings
Dekor width: 287.897 mm 402.399 °
Dekor height: 60.000 mm 30.000 %
x - position: 0.820 mm 1.146 °
y - position: 10.000 mm 5.000 %
Aspect ratio: 4.798
join correction: 1.0000 0.000 x 1
 Mirror x Mirror y Ear Cut
 Lock aspect ratio x:y
 CCW x y [Save]
d: 4.500 [Save]
 Projection
Time Buffer

USB
Shade[Null]
USB: 0 KB/s
D: 0.0 mm h: 0.0 mm N: 32
h0: 0.0 mm h1: 0.0 mm spd: 100.0

Dekor settings
Dekor width: 287.897 mm 402.399 °
Dekor height: 60.000 mm 30.000 %
x - position: 0.820 mm 1.146 °
y - position: 10.000 mm 5.000 %
Aspect ratio: 4.798
join correction: 1.0000 0.000 x 1
 Mirror x Mirror y Ear Cut
 Lock aspect ratio x:y
 CCW x y [Save]
d: 4.500 [Save]
 Projection
Time Buffer

Calculation of decoration time based on parameters

Files
 Project:

Dekor:
 16do.DKR

Shape:
 samp2.prf

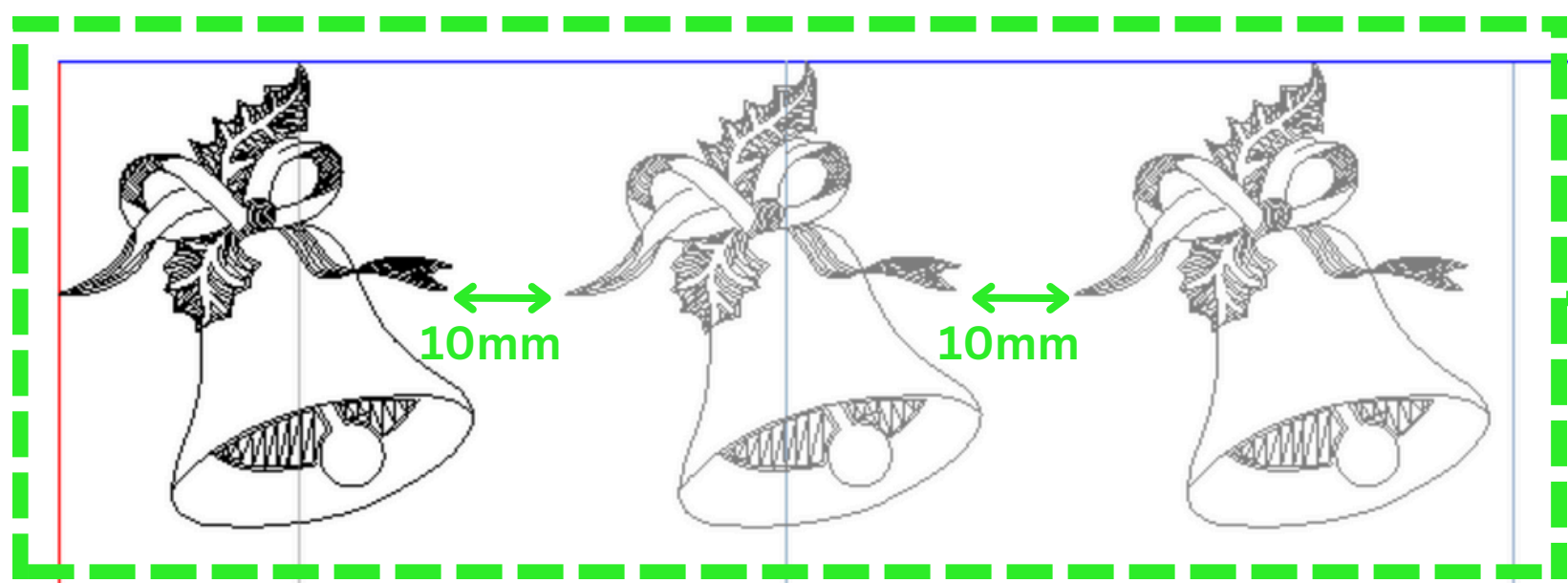
Machine
 Speed: 18.000 mm/s tools: 1

Shape
 Glass diameter: 100.000 mm 314.159 mm
 Glass height: 200.000 mm (perimeter)

Dekor settings
 Dekor width: 134.295 mm 153.891 °
 Dekor height: 50.000 mm 25.000 %
 x - position: 0.000 mm 0.000 °
 y - position: 0.000 mm 0.000 %
 Aspect ratio: 0.895
 join correction: 1.0000 10.000 x 3
 Mirror x Mirror y Ear Cut
 Lock aspect ratio x:y
 CCW x y
 d: 4.482
 Projection
 Time Buffer

USB
 Shade[Null]
 USB: 0 KB/s

D: 0.0 mm h: 0.0 mm N: 32
 h0: 0.0 mm h1: 0.0 mm spd: 100.0



Distance between design repeats (in mm)

join correction: 1.0000 10.000 x 3

Number of design repeats

Dekor settings
 Dekor width: 134.295 mm 153.891 °
 Dekor height: 50.000 mm 25.000 %
 x - position: 0.000 mm 0.000 °
 y - position: 0.000 mm 0.000 %
 Aspect ratio: 0.895
 join correction: 1.0000 10.000 x 3
 Mirror x Mirror y Ear Cut
 Lock aspect ratio x:y
 CCW x y
 d: 4.482
 Projection
 Time Buffer

Design repetition parameters

Files
Project: [CFG] [Save] [Open]

Dekor:
16do.DKR [Save] [Open]

Shape:
samp2.prf [Save] [Open]

Machine
Speed: 18.000 mm/s tools: 1

Shape
Glass diameter: 100.000 mm 314.159 mm
Glass height: 200.000 mm (perimeter)

Dekor settings
Dekor width: 287.897 mm 402.399 °
Dekor height: 60.000 mm 30.000 %
x - position: 0.820 mm 1.146 °
y - position: 10.000 mm 5.000 %
Aspect ratio: 4.798
join correction: 1.0000 0.000 x1
 Mirror x Mirror y Ear Cut
 Lock aspect ratio x:y
 CCW x y [Save]
d: 4.500 [Save]
 Projection
Time Buffer

USB
Shade[Null]
USB: 0 KB/s

D: 0.0 mm h: 0.0 mm N: 32
h0: 0.0 mm h1: 0.0 mm spd: 100.0

Dekor settings
Dekor width: 287.897 mm 402.399 °
Dekor height: 60.000 mm 30.000 %
x - position: 0.820 mm 1.146 °
y - position: 10.000 mm 5.000 %
Aspect ratio: 4.798
join correction: 1.0000 0.000 x1
 Mirror x Mirror y Ear Cut
 Lock aspect ratio x:y
 CCW x y [Save]
d: 4.500 [Save]
 Projection
Time Buffer

Spiral parameters

Direction of spiral decoration

CCW x y [Save]
d: 4.500 [Save]

Activating spiral mode

Number of spiral turns

Counting the turns of a spiral so that it starts and ends at a single point on the X axis

Files

Project:

Dekor:

Shape:

Machine

Speed: 18.000 mm/s tools: 1

Shape

Glass diameter: 100.000 mm 314.159 mm

Glass height: 200.000 mm (perimeter)

Dekor settings

Dekor width: 287.897 mm 402.399 °

Dekor height: 60.000 mm 30.000 %

x - position: 0.820 mm 1.146 °

y - position: 10.000 mm 5.000 °

Aspect ratio: 4.798

join correction: 1.0000 0.000 x

Mirror x Mirror y Ear cut

Lock aspect ratio x:y

CCW x y

d: 4.500

Projection

Time Buffer

Start the decoration program

Pause the decoration program

Cancel the decoration program

USB

mm mm

mm mm

Attention!

After starting the decoration program, the software begins generating the program. Progress can be monitored on two horizontal blue indicators.

USB

mm mm

mm mm

USB

mm mm

mm mm

USB

mm mm

mm mm

If the program is generated correctly, the arrow will turn green, indicating that the machine is waiting for the Start button to be pressed on the control panel to start the decorating process.

Files
Project: [CFG] [Save]

Dekor:
16do.DKR [Save]

Shape:
samp2.prf [Save]

Machine
Speed: 18.000 mm/s tools: 1

Shape
Glass diameter: 100.000 mm 314.159 mm
Glass height: 200.000 mm (perimeter)

Dekor settings
Dekor width: 287.897 mm 402.399 °
Dekor height: 60.000 mm 30.000 %
x - position: 0.820 mm 1.146 °
y - position: 10.000 mm 5.000 °
Aspect ratio: 4.798
join correction: 1.0000 0.000 x 1

Mirror x Mirror y Ear cut
 Lock aspect ratio x:y
 CCW x y [Save]
d: 4.500 [Save]
 Projection
Time Buffer

***Computer disconnected from the machine**

USB

▶ || ■ [Hammer] [i] [t] [T] [CDT] [w] Shade [Null]

USB: 0 KB/s

D: 0.0 mm h: 0.0 mm N: 32

h0: 0.0 mm h1: 0.0 mm spd: 100.0

Field for selecting USB hardware

Field for USB hardware speed

Attention!
When the machine is connected to the computer, these two fields display:

Hardware board ID

Transfer speed

Attention!
If the machine is disconnected from the computer, the first field will show "Shade [Null]" and the transfer speed will be 0 KB/s.

Files
Project: [CFG] [Save] [Load]

Dekor:
16do.DKR [Save] [Load]

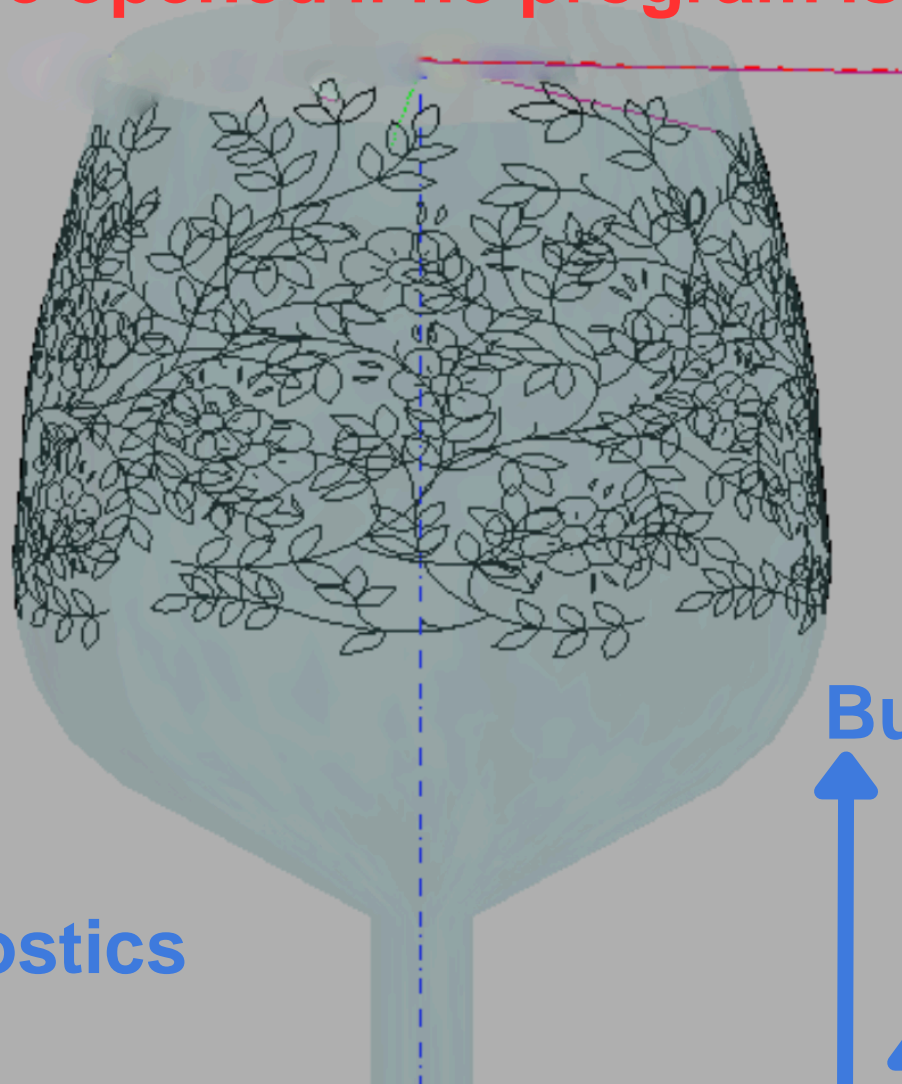
Shape:
samp2.prf [Save] [Load]

Machine
Speed: 18.000 mm/s tools: 1

Shape
Glass diameter: 100.000 mm 314.159 mm
Glass height: 200.000 mm (perimeter)

Dekor settings
Dekor width: 287.897 mm 402.399 °
Dekor height: 60.000 mm 30.000 %
x - position: 0.820 mm 1.146 °
y - position: 10.000 mm 5.000 %
Aspect ratio: 4.798
join correction: 1.0000 0.000 x 1
 Mirror x Mirror y Ear Cut
 Lock aspect ratio x:y
 CCW x y [Save]
d: 4.500 [Save]
 Projection
Time Buffer

Attention! Diagnostics can only be opened if no program is active on the machine.



Button to open the machine diagnostics window

Button to release the glasses

Button to manually start the tool

USB [Play] [Pause] [Stop] [Wrench] [i] [t] [T] [Shade[Null]]

CDT [w] [USB: 0 KB/s]

D: 0.0 mm h: 0.0 mm N: 32
h0: 0.0 mm h1: 0.0 mm spd: 100.0

USB [Play] [Pause] [Stop] [Wrench] [i] [t] [T] [Shade[Null]]

CDT [w] [USB: 0 KB/s]

D: 0.0 mm h: 0.0 mm N: 32
h0: 0.0 mm h1: 0.0 mm spd: 100.0

Shade diagnostics

[Up] [Down] [Left] [Right] [STOP] [STOP] [STOP] [STOP] [STOP] [STOP]

USB: 3652 KB/s [Start button] [Revers] [Diameter: 0.0 mm] [x 0 l: 10.0 mm]

In Out PWM In PWM Out Freq In Freq Out Tool

ID: []
Bit: 0000000000000000h
Freq: 0.0

Buttons for manually moving the machine mechanics:

Move up/down
Rotate the plate CW/CCW

Files

Project:

Dekor:

16do.DKR

Shape:

samp2.prf

Machine

Speed: 18.000 mm/s tools: 1

Shape

Glass diameter: 100.000 mm 314.159 mm

Glass height: 200.000 mm (perimeter)

Dekor settings

Dekor width: 287.897 mm 402.399 °

Dekor height: 60.000 mm 30.000 %

x - position: 0.820 mm 1.146 °

y - position: 10.000 mm 5.000 %

Aspect ratio: 4.798

join correction: 1.0000 0.000 x 1

Mirror x Mirror y Ear Cut

Lock aspect ratio x:y

CCW x y d: 4.500

Projection

Time Buffer

```

HW Version:
HW Info:
Shade: 0 0.000 0.000 0.000 Lost: 0 0
Send: -1/0 packets Threads: 2 Wtg: 00000000
Done: 801695 packets 0 useks dsize: 0
mult: 0 path: 0 path0: -1 path1: -1 dir: +1
time: 1853.967 s dt: 0.024 s
Info: 0 Byte
Send: 1810 KB/s
Recv: 1810 KB/s
Buff: 0 KB
0 KB

FIFO:PC<-Shade(0) PC->Shade(0)
In: start init blok in0 in1 in2 in3
Out: hold ksmask out0 out1 out2 endp endu endd
pause
PwMi:test(0)
PwMo:PwM0(0) PwM1(0) PwM2(0) PwM3(0)
Fi:
Fo:
Tool:Tool0 Tool1 Tool2 Tool3 Tool4
x- x+ kx- kx+ 0.000 deg 0.00 KHz 0 st
y- y+ ky- ky+ 0.000 mm 0.00 KHz 0 st
z1- z1+ kz1- kz1+ 0.000 deg 0.00 KHz 0 st
z2- z2+ kz2- kz2+ 0.000 deg 0.00 KHz 0 st
z3- z3+ kz3- kz3+ 0.000 deg 0.00 KHz 0 st
z4- z4+ kz4- kz4+ 0.000 deg 0.00 KHz 0 st
z5- z5+ kz5- kz5+ 0.000 deg 0.00 KHz 0 st
z6- z6+ kz6- kz6+ 0.000 deg 0.00 KHz 0 st
IRC: scann(AB0 0 st 0.000 mm)
Cnt: test(255)
Processing diagnostics
  
```

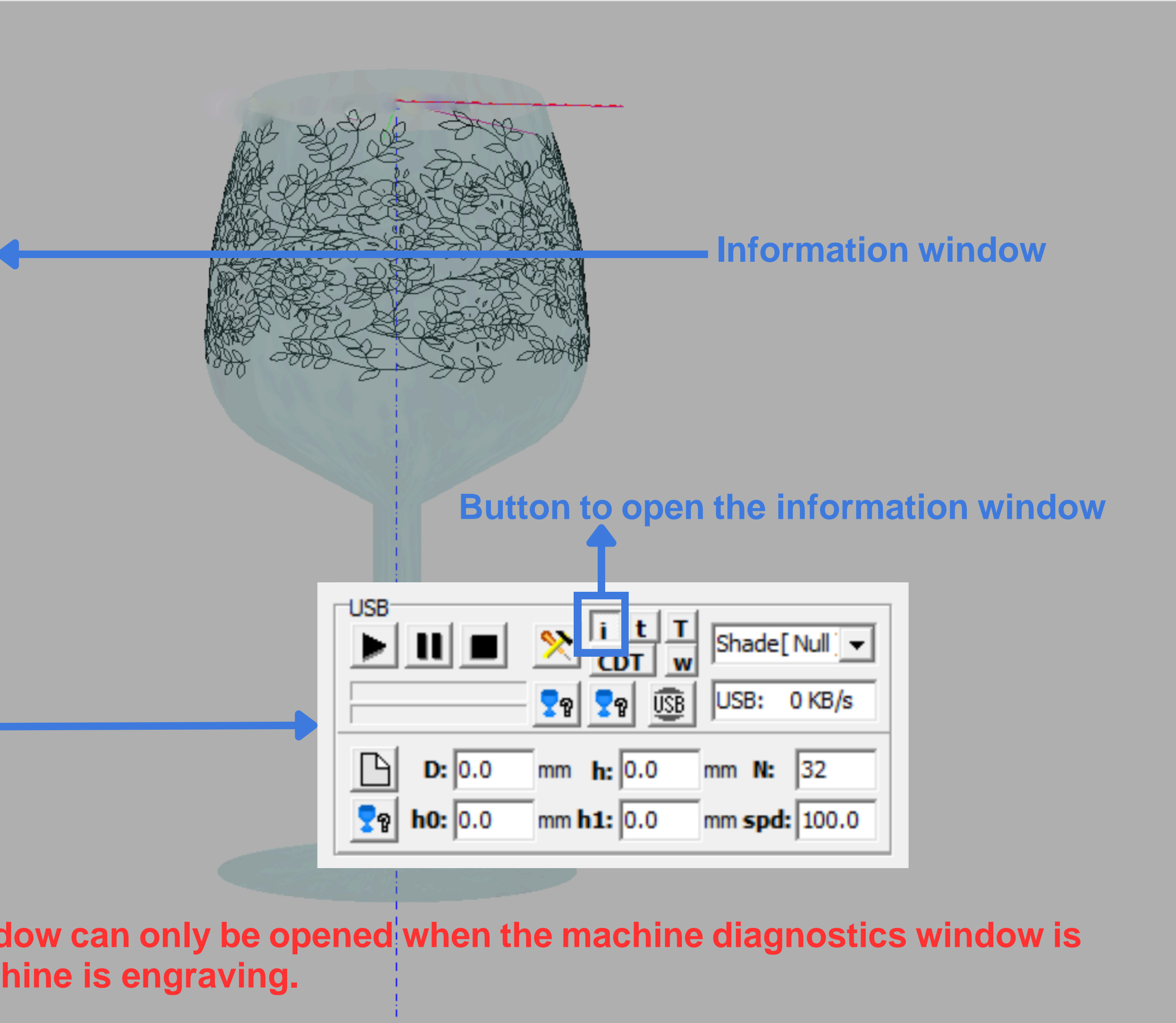
USB

i **t** **T** **CDT** **w** Shade[Null]

USB: 0 KB/s

D: 0.0 mm h: 0.0 mm N: 32

h0: 0.0 mm h1: 0.0 mm spd: 100.0



Information window

Button to open the information window

Attention!
The information window can only be opened when the machine diagnostics window is activated or the machine is engraving.