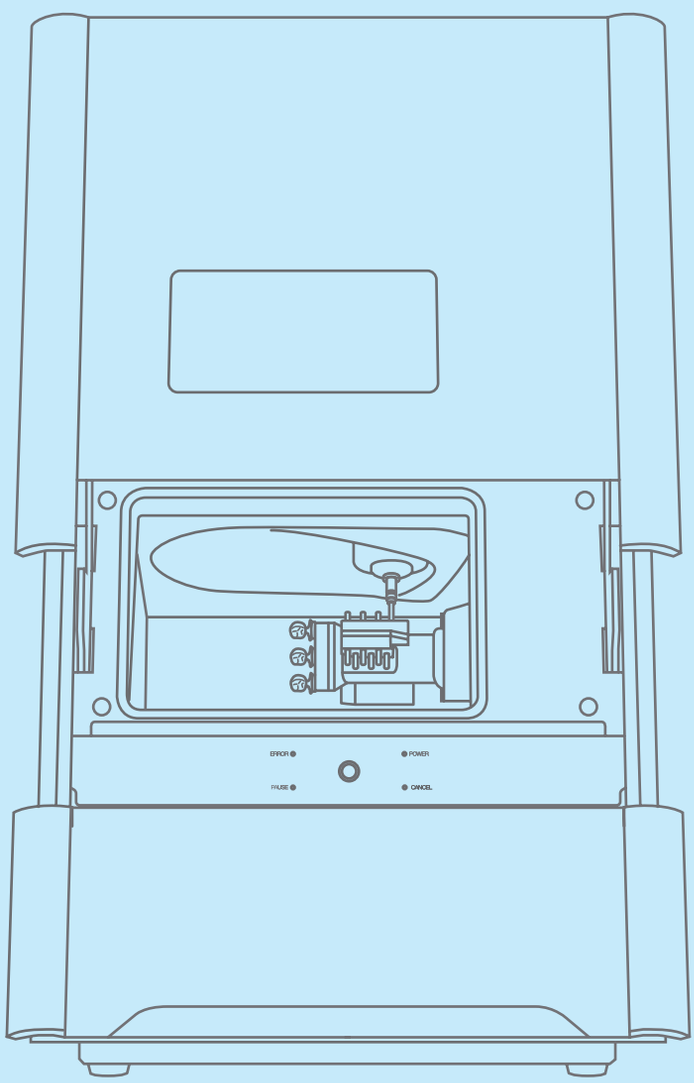
DGSHAPE

DWX-42W

User's Manual



1 Basic Operation

2 Milling

3 Maintenance

4 Useful Functions

5 Troubleshooting

Contents

Contents 1

1. Basic Operation 4

Switching the Power On or Off 5
- Switching the Power On 5
- Switching the Power Off 5

VPanel Basic Operation 6
- What Is VPanel? 6
- Displaying VPanel 6
- VPanel Display in the Task Tray 7
- Using the [Emergency release] Button 8
- Exiting VPanel 9

Milling Machine Display 10
- Built-in Panel Display 10
- Statuses Indicated by the Status Light 11

2. Milling 12

Checks before Milling 13
- Usable Workpieces 13
- Usable Milling Burs 13
- Preparing Compressed Air (Setting the Regulator) 13

Registering Milling Burs 14
- Registering Milling Burs in VPanel 14
- Enabling Automatic Switching of Milling Burs at the End of Their Service Lives 17

Starting Milling 22
- Step 1: Filling the Machine with Coolant 22
- Step 2: Setting Milling Burs 28
- Step 3: Spindle run-in (short) 29
- Step 4: Mounting the workpiece 30
- Step 5: Outputting Milling Data 32

Checking the Operation Status 36
- Checking the Milling Data Status 36
- Checking the Estimated Milling Time 37
- Checking the Basic Status of the Milling Machine 38
- Checking the Operation Status of the Milling Machine 40
- Checking the Milling Bur Usage Status (Replacement Time) 41

Pausing or Aborting Milling 42
- Pausing or Aborting Milling 42
- Deleting Standby Milling Data 43

Following Daily Operations 44
- Collet Maintenance, Cleaning of Dummy Pin, and Checking of Coolant Flow Rate 44
- Cleaning after Milling Finishes 51

3. Maintenance 54

Maintenance Precautions 55
- Maintenance Precautions 55

Periodic Care and Maintenance 56
- Correcting the Milling Machine 56
- Replacing the Coolant 61
- Care and Storage of the Automatic Correction Jig 67
- Care of the Regulator Bowl 68
- Cleaning the Coolant Nozzle 70

Replacing Consumable Parts 72
- Replacing the Spindle Unit 72
- Replacing Milling Burs 72
- Replacing Coolant Filters 72
- Replacing the Collet 83

Extended Periods of Non-Use / Moving the Machine 88
Draining the Coolant Lines 88
Attaching the Retainer 93
Spindle Run-In (Long) 95

4. Useful Functions 98

Setting the Connection with the Computer 99
Connecting over a LAN instead of by USB 99
Registering Multiple Machines in VPanel 108
Registration of Multiple Machines 108
Adding USB-connected Machines 108
Adding LAN-connected Machines 113
Operation When Multiple Machines are Registered in VPanel 118
Switching the Machine to Operate 118
Listing the Machines to Connect to and Selecting the Machine to Operate 118
Switching the Machine to Register in VPanel 119
Changing the Display Order of the Machines 121
Email Notification Settings 122
Receiving Milling Machine Status Notification Email 122
Using NC Codes 124
Selecting the NC Code Numeric Value Interpretation Method 124
Advanced Correction Function 125
Milling Machine Manual Correction 125
Other Functions 127
Milling bur change test 127
Changing the Name of the Machine Displayed in VPanel 128
Changing the Image of the Machine Displayed in VPanel 129
Checking the VPanel/Firmware Version 130
Displaying System Reports/Error Logs 131
Preventing VPanel from Starting on Computer Startup 132

5. Troubleshooting 133

Machine Problems 134
The Machine Does Not Run/Cannot Generate Output 134
The Operation Button Does Not Respond 134
VPanel Does Not Recognize the Machine 134
The Machine Recognized by VPanel Is Displayed as OFFLINE 134
The Computer Shuts Down When Connecting Multiple Machines 135
Compressed Air Does Not Come Out 135
Automatic Correction Fails 136
Collet Maintenance Cannot Continue Due to an Error Occurring 136
Milling Quality Problems 137
The Milling Results Are Not Attractive 137
There Is a Line of Level Difference in the Milling Results 137
The Dimensions of the Milling Results Do Not Match 137
Chipping Occurs (Edges of Milling Products Become Chipped) 138
A Hole Opens in the Milling Results 138
Installation Problems 139
Installing the Driver Separately (USB Connection) 139
Installing the Driver Separately (LAN Connection) 141
Installing the Software and the Electronic-format Manual Separately 141
Driver Installation Is Impossible 142
Uninstalling the Driver 146
Uninstalling VPanel 149
Cannot Connect via LAN (Resetting the Machine IP Address) 150
Responding to Error Messages 151

Error Message List 151
"1000-****" The % limit switch was not found. 152
"1006-02**" The % axis position has been shifted. 152
"101C-0000" The milling bur sensor was not found. 153
"101D-000*" The % milling bur cannot be released. 153
"101D-010*" The % milling bur cannot be released. It might be broken from the root. 154
"101E-000*" The % milling bur might be broken. 155
"101F-000*" The % milling bur chucking has slipped out. 156
"1020/1021-000*" The % milling bur is too long/too short. 157
"1022-000*" The % milling bur was not found. 158
"1023-0000 to 1028-0000" Milling data error. 159
"1029-0000" The spindle experienced an overload. 160
"102A-000*" The spindle experienced overcurrent. 161
"102B-0000" The spindle motor temperature is too high. 162
"102E-0000" The mechanical part has collided. 162
"1033-000*" The coolant has run out. 163
"1034-0000" The coolant tank is not installed. 163
"1038-0000" Milling data error. No milling bur is selected. 165
"103A-000*" DANGER!! The coolant is leaking!! 165
"103B-0000" The automatic correction is not yet finished. 166
"103D-0000" Milling data error. The milling bur cannot reach the milling position. 166
"105E-0000" The pressure of the compressed air is too high or low. 167
"****-****" An unknown error occurred. 167

Thank you very much for purchasing this product.

- To ensure correct and safe usage with a full understanding of this product's performance, please be sure to read through this manual completely and store it in a safe location.
- At the time of purchase, verify that the provided "Warranty" is affixed with the dealer's signature, address, and purchase date. Keep this warranty in a safe location.
- Unauthorized copying or transferal, in whole or in part, of this manual is prohibited.
- The contents of this operation manual and the specifications of this product are subject to change without notice.
- The operation manual and the product have been prepared and tested as much as possible. If you find any misprint or error, please inform Roland DG Corporation.
- DGSHAPE Corporation assumes no responsibility for any direct or indirect loss or damage which may occur through use of this product, regardless of any failure to perform on the part of this product.
- DGSHAPE Corporation assumes no responsibility for any direct or indirect loss or damage which may occur with respect to any article made using this product.

http://www.dgshape.com/

Company names and product names are trademarks or registered trademarks of their respective holders.

Copyright © 2018 DGSHAPE Corporation

1. Basic Operation

Switching the Power On or Off 5
- Switching the Power On 5
- Switching the Power Off 5

VPanel Basic Operation 6
- What Is VPanel? 6
- Displaying VPanel 6
- VPanel Display in the Task Tray 7
- Using the [Emergency release] Button 8
- Exiting VPanel 9

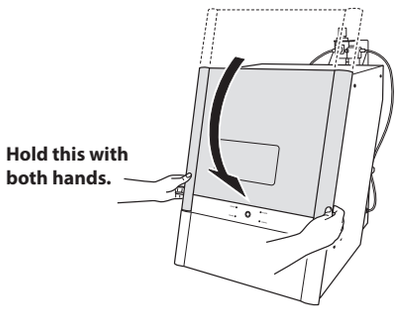
Milling Machine Display 10
- Built-in Panel Display 10
- Statuses Indicated by the Status Light 11

Switching the Power On or Off

Switching the Power On

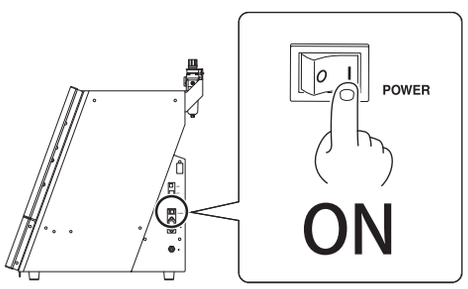
Procedure

1 **Close the front cover.**



2 **Switch on the machine's power switch.**

The machine starts the initial operations. When the status light stops flashing and remains steadily lit (in blue), the initial operations are complete.



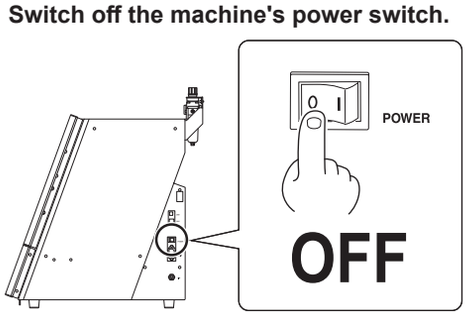
Leave the machine and the compressor on at all times.

- **Turning the machine off leads to moisture collecting inside of the machine, which may lead to malfunction.**
- **If the compressor is turned off, the supply of air to the machine's spindle unit will be stopped, which may lead to malfunction.**

Switching the Power Off

Procedure

Switch off the machine's power switch.

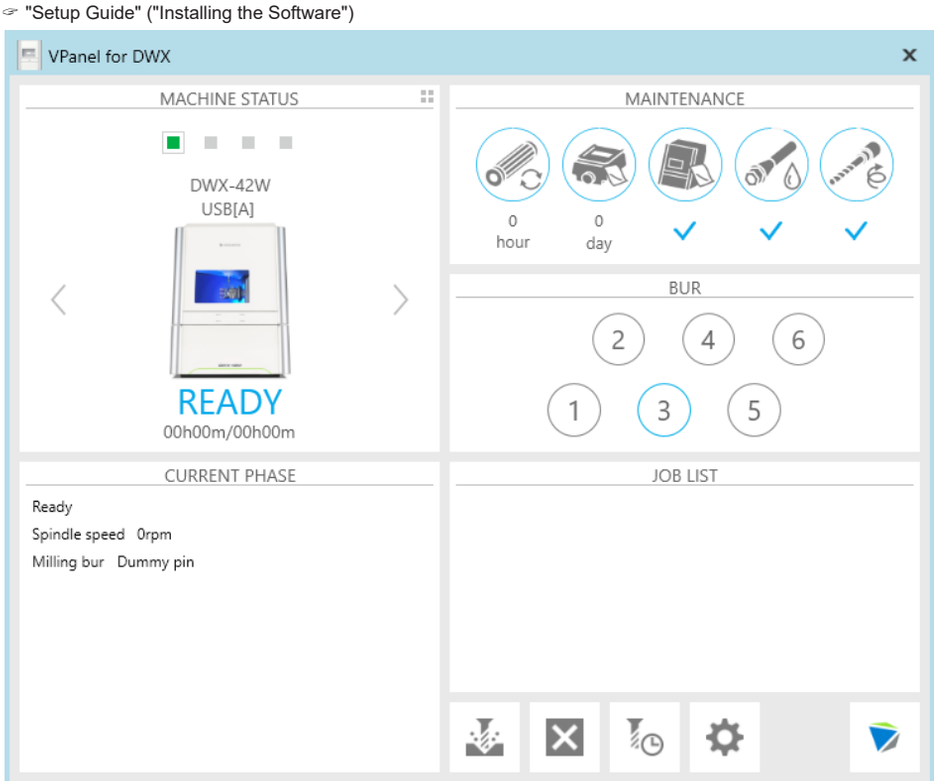


VPanel Basic Operation

What Is VPanel?

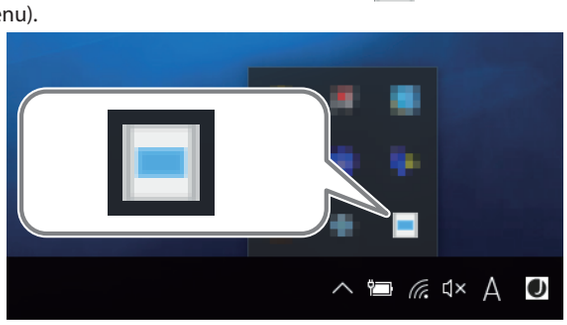
VPanel is an application that allows milling machine operation on a computer screen. It has functions to output milling data, perform maintenance, and make various corrections. It also displays milling machine error messages.
When more than one milling machine is connected, the machine to operate is the one displayed in the MACHINE STATUS area.

☞ "Setup Guide" ("Installing the Software")



Displaying VPanel

Click (the VPanel icon) in the task tray on the desktop.
VPanel will be displayed. If you cannot find in the task tray, start the program from the Windows [Start] screen (or the [Start] menu).



Starting from the Windows [Start] Screen (or [Start] Menu)

Windows 10 and 7

From the [Start] menu, click [All apps] (or [All Programs]), [VPanel for DWX], and then click [VPanel for DWX].

Windows 8.1

Click on the [Start] screen. From the [Apps] screen, click the [VPanel for DWX] icon under [VPanel for DWX].

MEMO: VPanel serves as resident software.

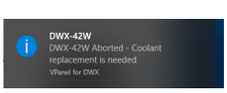
VPanel works as resident software that is constantly working to manage the milling machine, send emails,* and so on. It is recommended to configure the settings so that VPanel starts automatically when the computer starts.

Also, clicking × in the upper-right corner of the top window will minimize the program to the task tray. The application window disappears from the display, but the program is not exited. While VPanel is running, is constantly displayed in the task tray.

* Emails are sent to notify the user of milling completion or errors that occur. (☞ P. 122 "Email Notification Settings")

VPanel Display in the Task Tray

When the VPanel icon is displayed in the task tray, the status of the connected milling machine is always monitored. The display of the VPanel icon changes depending on the status of the milling machine. The meanings of the displays are shown below.

	Indicates that at least one of the connected milling machines is on (is online).
	Indicates that all the connected milling machines are off.
	Indicates that an error has occurred on at least one of the connected milling machines. If you hover the mouse pointer over this icon, you can check which machine has the error.
	Messages are displayed automatically if an error occurs, during milling, and in similar situations. Even after the message disappears, if you hover the mouse pointer over this icon, the status of each connected machine (such as Ready, Milling, Finished, Completed, and Offline) will be displayed. In these situations, perform the maintenance work indicated by the message.

Using the [Emergency release] Button

If the initial operations cannot be performed because of a problem such as the milling bur caught on the workpiece, you can use the [Emergency release] button to remove the milling bur from the spindle unit.

Procedure

1. **Turn off the power.**

   ☞ P. 5 "Switching the Power Off"

2. **Open the front cover.**

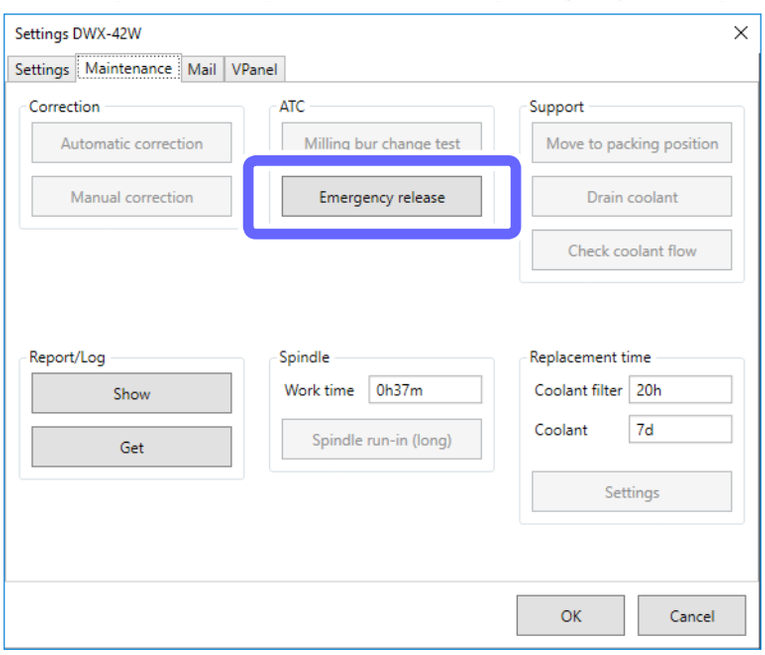
3. **Turn on the power.**

   ☞ P. 5 "Switching the Power On"

4. **Show VPanel.**

   ☞ P. 6 "Displaying VPanel"

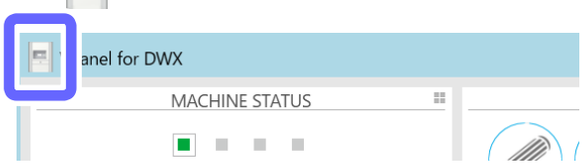
5. **Click the [Maintenance] tab, and then click [Emergency release].**



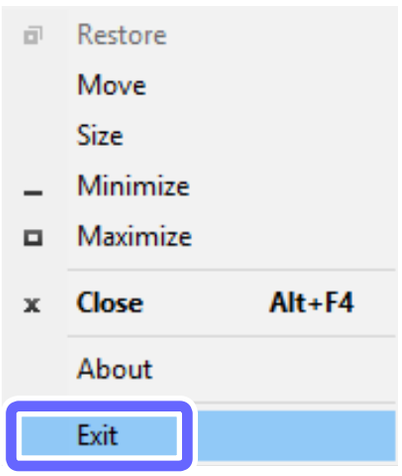
Exiting VPanel

Procedure

1. **Click in the upper-left corner of the VPanel window.**



2. **Click [Exit].**

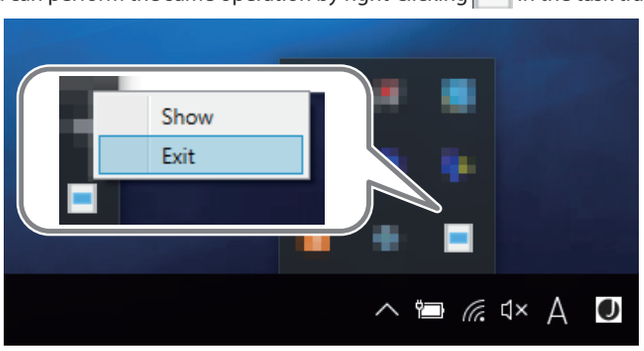


MEMO 1:

You can perform the same operation by right-clicking the title bar at the top of the VPanel window.

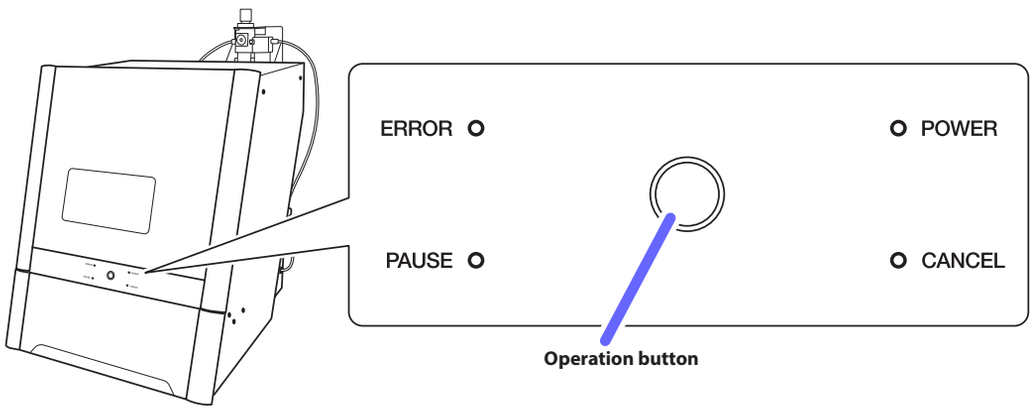
MEMO 2:

You can perform the same operation by right-clicking in the task tray.



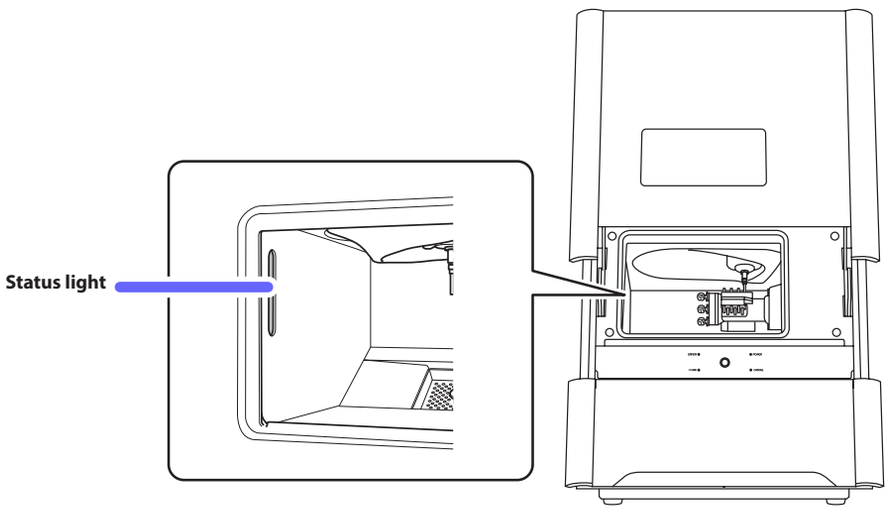
Milling Machine Display

Built-in Panel Display



ERROR	Flashes when an error has occurred.		
PAUSE	Illuminates when operation is paused. Flashes when operation is ongoing (from the point when the operation button is pressed during milling to the point when operation is paused).		
POWER	Lights when the power is turned on.		
CANCEL	Flashes when data is being cancelled and during the initial operations. Milling data received while this light is flashing will be cancelled.		
Operation button	Flashes during the initial operations and when mechanisms near the spindle unit are operating. Lights under any other status while the power is on.		
	During milling	Press	Pauses or resumes operation. Clears some errors. ☞ P. 151 "Responding to Error Messages"
		Hold	Aborts milling or clears some errors. ☞ P. 151 "Responding to Error Messages"
	During standby	Press	Rotates the rotary axis by 180 degrees.
		Hold	Clears some errors (when an error has occurred). ☞ P. 151 "Responding to Error Messages"

Statuses Indicated by the Status Light



	Blue	Lit	The front cover is closed in the standby status.
		Flashing	During initial operations or during maintenance in the standby status.
	White	Lit	Milling is in operation or is paused. Alternatively, the front cover is open in the standby status.
	Yellow	Lit	An error has occurred. The level of this error is such that milling can be resumed immediately by clearing the error. Check the error details shown on VPanel. Press the operation button on the built-in panel to resume milling. ☞ P. 151 "Responding to Error Messages"
	Red	Lit	An error has occurred. The level of this error is such that milling cannot be resumed immediately and you will have to redo the procedure from the beginning. Check the error details shown on VPanel. Milling stops as soon as the error occurs. ☞ P. 151 "Responding to Error Messages"
		Flashing	A serious error has occurred. Turn off the power, and then check the error details displayed in VPanel. Milling stops as soon as the error occurs. ☞ P. 151 "Responding to Error Messages"
	Off	The machine is in the sleep status or the power is off.	

2. Milling

Checks before Milling 13
Usable Workpieces 13
Usable Milling Burs 13
Preparing Compressed Air (Setting the Regulator) 13
Registering Milling Burs 14
Registering Milling Burs in VPanel 14
Enabling Automatic Switching of Milling Burs at the End of Their Service Lives 17
Starting Milling 22
Step 1: Filling the Machine with Coolant 22
Step 2: Setting Milling Burs 28
Step 3: Spindle run-in (short) 29
Step 4: Mounting the workpiece 30
Step 5: Outputting Milling Data 32
Checking the Operation Status 36
Checking the Milling Data Status 36
Checking the Estimated Milling Time 37
Checking the Basic Status of the Milling Machine 38
Checking the Operation Status of the Milling Machine 40
Checking the Milling Bur Usage Status (Replacement Time) 41
Pausing or Aborting Milling 42
Pausing or Aborting Milling 42
Deleting Standby Milling Data 43
Following Daily Operations 44
Collet Maintenance, Cleaning of Dummy Pin, and Checking of Coolant Flow Rate 44
Cleaning after Milling Finishes 51

Checks before Milling

⚠CAUTION **Securely fasten the milling tool and workpiece in place. After securing in place, make sure no spanners or other articles have been left behind inadvertently.**
Otherwise, such articles may be thrown from the machine with force, posing a risk of injury.

⚠CAUTION **Under no circumstances should you move the Z-axis unit with your hands.**
Doing so may cause a breakdown.

Usable Workpieces

Workpiece Materials

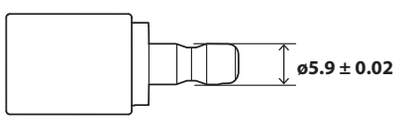
- Glass ceramics
- Composite resins

Types and Sizes of Workpieces

- Type: Type with pin
- Maximum number of mountable workpieces: 3
- Maximum size of mountable workpieces: 40 (W) × 20 (D) × 20 (H) mm

* However, the workpiece size is limited by the number of workpieces mounted in the machine, and the number of mountable workpieces is limited by the size of the workpieces mounted in the machine.

Pin diameter: 6 mm



Usable Milling Burs

- Dedicated milling bur

Preparing Compressed Air (Setting the Regulator)

Recommended Set Pressure

- 0.18 MPa to 0.22 MPa

Registering Milling Burs

Registering Milling Burs in VPanel

Registering milling burs in VPanel has the following advantages.

- The milling bur work time can be managed.
- Intelligent Tool Control (ITC), which maintains milling quality and enables long-term continuous milling, can be used.

Intelligent Tool Control (ITC)

Intelligent Tool Control (ITC) is a function for switching a milling bur with a new one with the appropriate timing (even during milling), which is enabled by setting the [Replacement time] of the milling bur. Using ITC enables long-term continuous milling in which the milling quality is maintained.

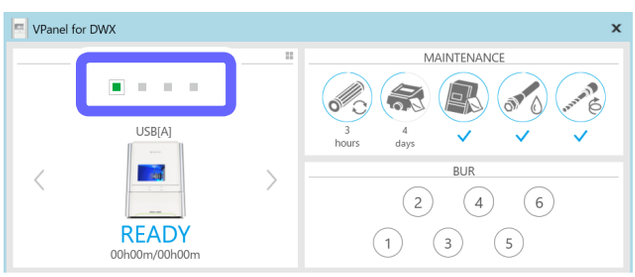
☞ P. 17 "Enabling Automatic Switching of Milling Burs at the End of Their Service Lives"

1. Register the milling burs to use.

1 Show VPanel.

☞ P. 6 "Displaying VPanel"

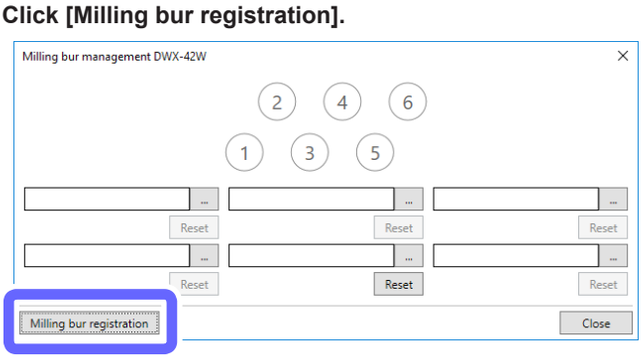
2 Select the machine to operate.



3 Click .

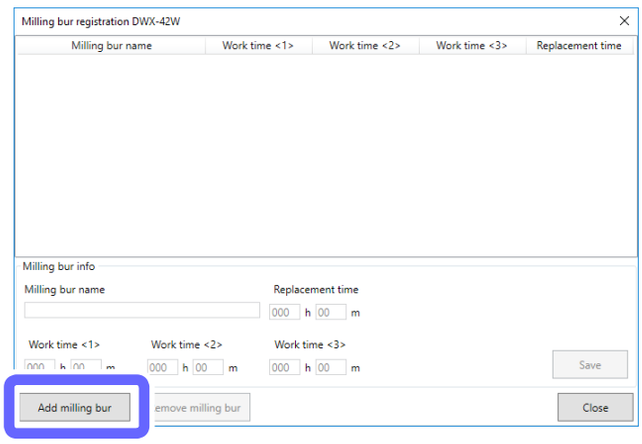
The [Milling bur management] window is displayed.

4 Click [Milling bur registration].



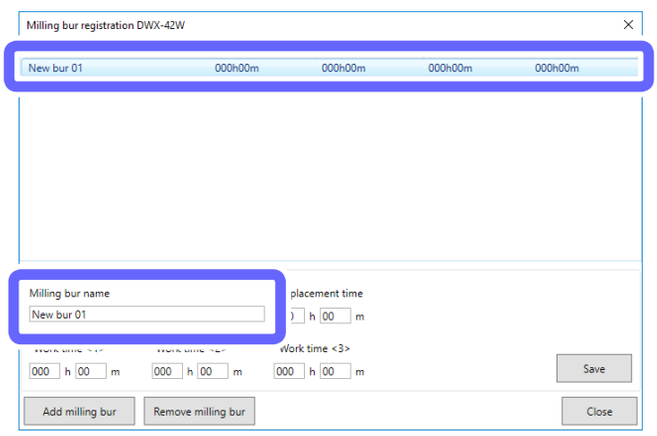
The [Milling bur registration] window is displayed.

5 **Click [Add milling bur].**



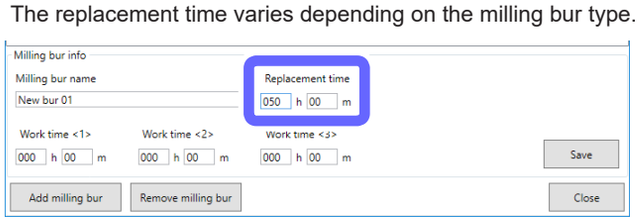
A new milling bur is added to the milling bur list.

6 **Click the new milling bur that has been added to the milling bur list, and then enter a name in the [Milling bur name] field.**



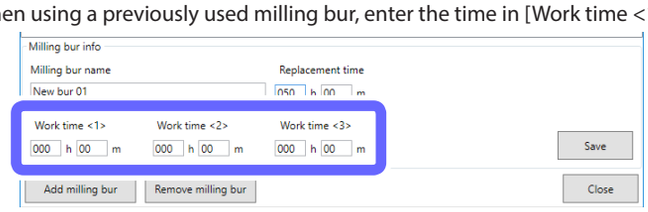
7 **Enter the time from the start of use to the replacement of the milling bur in [Replacement time].**

The replacement time varies depending on the milling bur type.

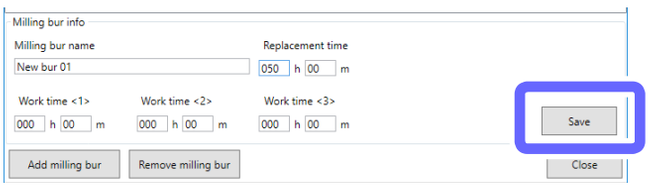


Point: Entering values for [Work time]

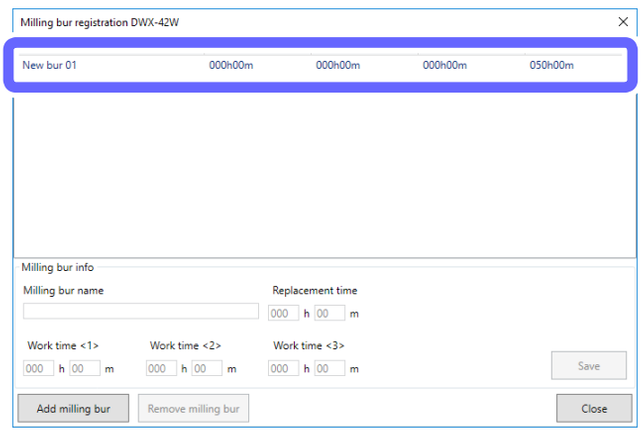
When using a previously used milling bur, enter the time in [Work time <1>].



8 **Click [Save].**



The milling bur name and replacement time are applied to the milling bur list.



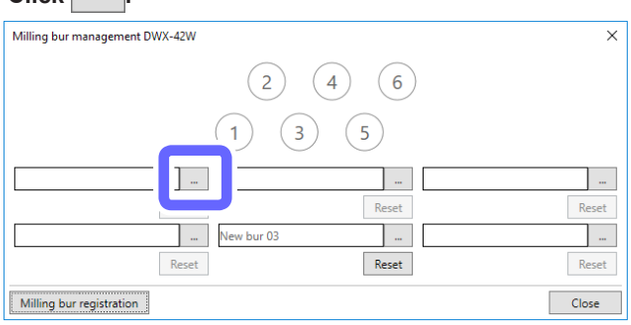
9 **If you want to continue registering milling burs, repeat steps 5 to 8.**

10 **Click [Close].**

The [Milling bur registration] window closes.

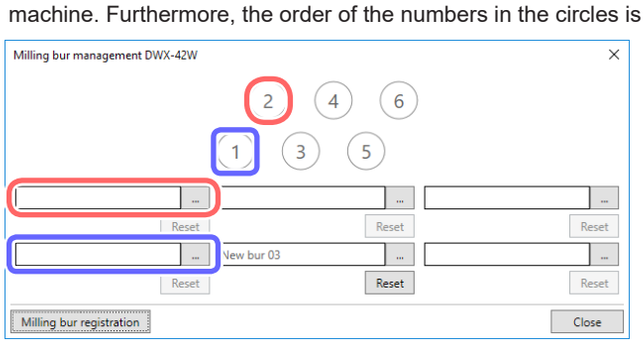
2. Assign the stocker numbers in which to set the milling burs.

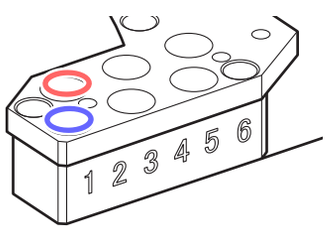
1 **Click [...].**



Point

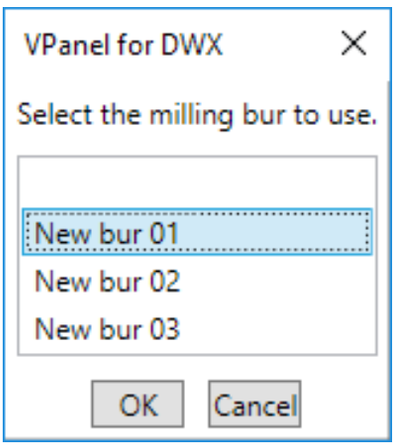
The numbers in the circles in the [Milling bur management] window match the stocker numbers of the milling machine. Furthermore, the order of the numbers in the circles is applied to the milling bur selection area.





2 **Click the milling bur to use, and then click [OK].**

Select the appropriate milling bur at the location of the stocker number to use.



3 **After you have selected all the milling burs, click [Close].**

Enabling Automatic Switching of Milling Burs at the End of Their Service Lives

This machine can be set so that if the milling bur reaches its replacement time (the end of its service life) during milling, the milling bur is switched automatically with one of the same type. This function is called Intelligent Tool Control (ITC).
Up to three milling burs of the same type can be registered.

Intelligent Tool Control (ITC)

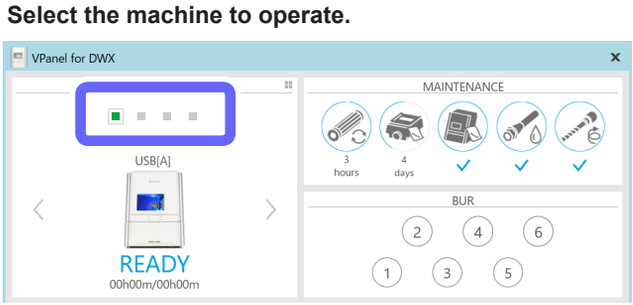
Intelligent Tool Control (ITC) is a function for switching a milling bur with a new one with the appropriate timing (even during milling), which is enabled by setting the [Replacement time] of the milling bur. Using ITC enables long-term continuous milling in which the milling quality is maintained.

1. Register the first milling bur.

1 **Show VPanel.**

☞ P. 6 "Displaying VPanel"

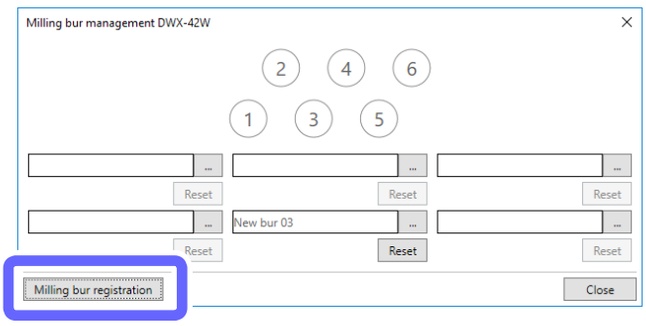
2 **Select the machine to operate.**



3 **Click** .

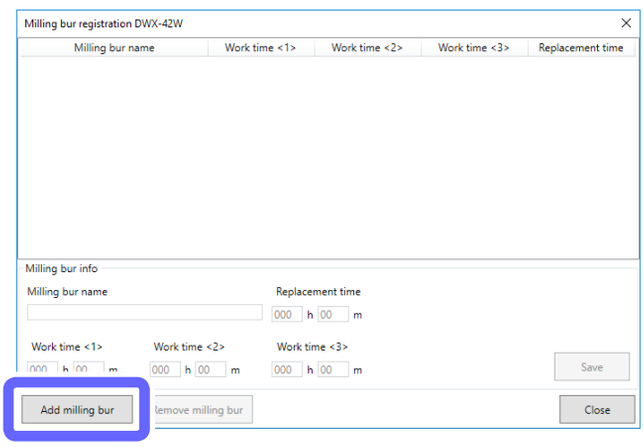
The [Milling bur management] window is displayed.

4 **Click [Milling bur registration].**



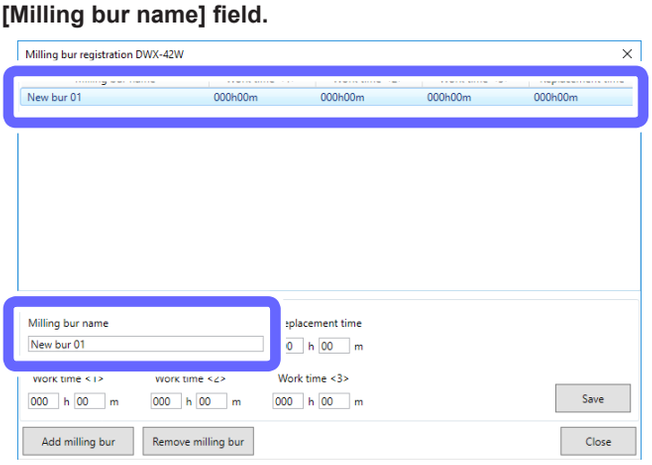
The [Milling bur registration] window is displayed.

5 **Click [Add milling bur].**



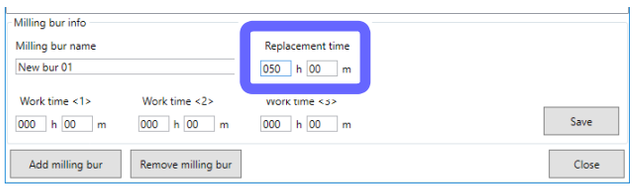
A new milling bur is added to the milling bur list.

6 **Click the new milling bur that has been added to the milling bur list, and then enter a name in the [Milling bur name] field.**



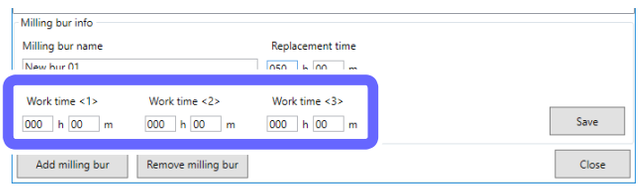
7 **Enter the time from the start of use to the replacement of the milling bur in [Replacement time].**

The replacement time varies depending on the milling bur type.

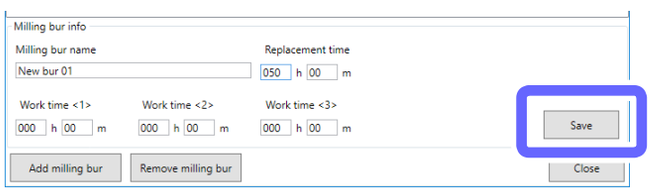


Point: Entering values for [Work time]

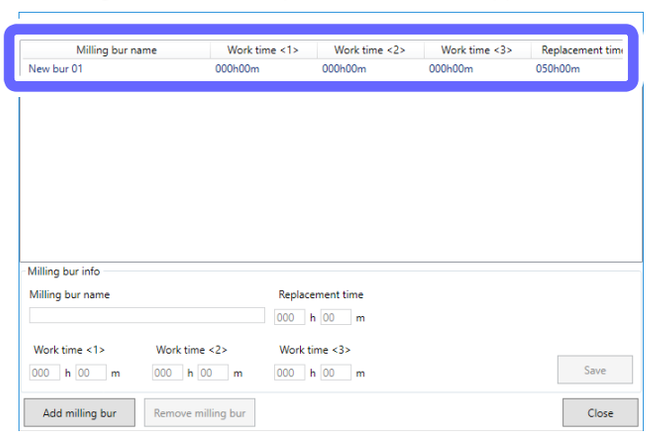
When using a previously used milling bur, enter the time in [Work time <1>]. If the second or third milling bur has previously been used, enter its work time in [Work time <2>] or [Work time <3>], respectively.



8 **Click [Save].**



The milling bur name and replacement time are applied to the milling bur list.

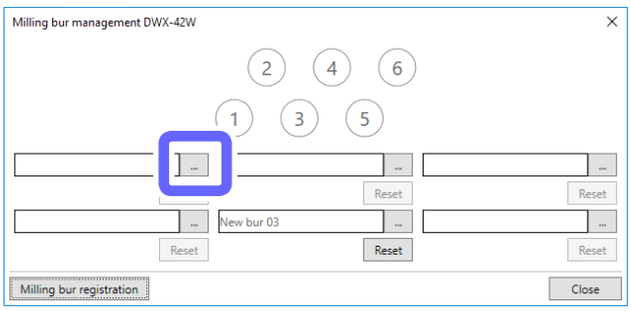


9 **Click [Close].**

The [Milling bur registration] window closes.

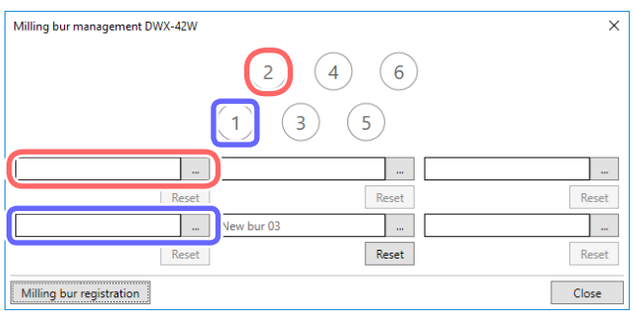
2. Assign the stocker number in which to set the first milling bur.

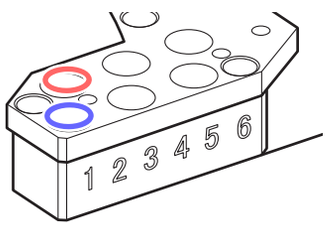
1 **Click** [...].



Point

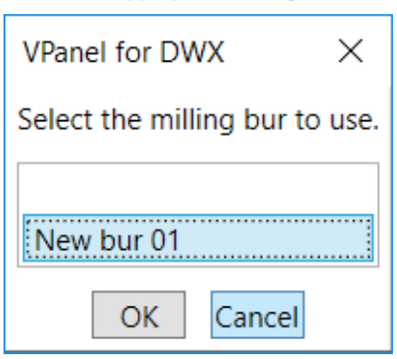
The numbers in the circles in the [Milling bur management] window match the stocker numbers of the milling machine. Furthermore, the order of the numbers in the circles is applied to the milling bur selection area.





2 **Click the milling bur to use, and then click [OK].**

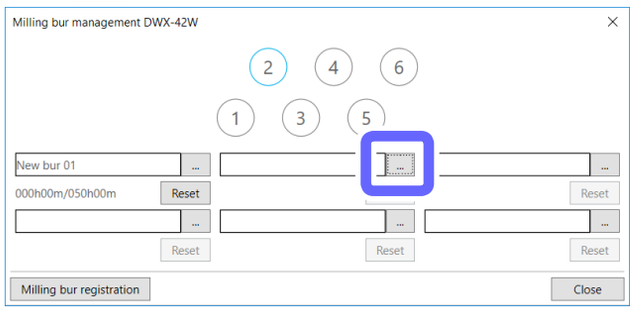
Select the appropriate milling bur at the location of the stocker number to use.



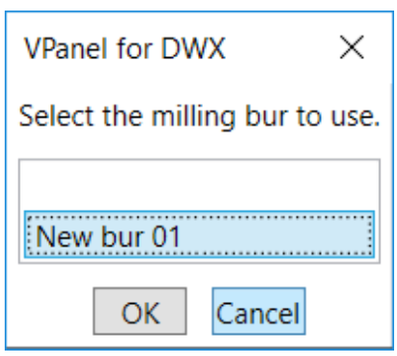
3 **Click [Close].**

3. Assign the stocker numbers in which to set the second and third milling burs.

❶ **Click [...] for the stocker in which to set the second milling bur.**



❷ **Click a milling bur with the same name as the first milling bur, and then click [OK].**



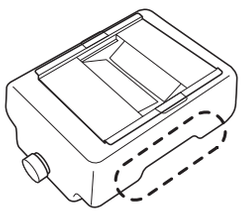
❸ **Repeat steps ❶ and ❷ to determine the stocker in which to set the third milling bur.**

Starting Milling

Step 1: Filling the Machine with Coolant

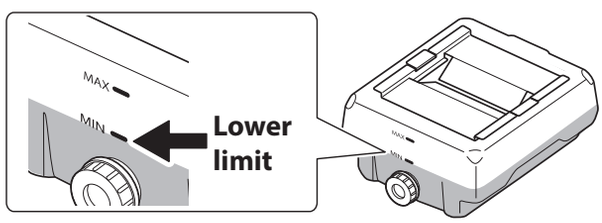
⚠CAUTION **Do not overfill or tilt the coolant tank.**
The fluid inlet on the coolant tank is open. Overfilling or tilting will cause fluid to spill out.

⚠CAUTION **When raising or lowering the coolant tank, hold the position indicated in the following figure.**
Failing to do so may result in your fingers being pinched, leading to injury.



Situations Requiring This Work

- When first using the machine.
- When the fluid level in the tank reaches the lower limit.



* When the usage period exceeds a certain length of time, the coolant must be replaced.

☞ P. 61 "Replacing the Coolant"

Items to Prepare Separately

- Water: Use soft or purified water. Using hard water may have a negative effect on the service life of the milling bur and on the quality of the product.
- Additive (ZAW-1000D): You will need to prepare the designated additive separately. To purchase this item, contact your authorized Roland DG Corporation dealer.
- Chelating reagent (ZCH-100D): You will need to prepare the designated additive separately. To purchase this item, contact your authorized Roland DG Corporation dealer.

Handling Additives

- Store additives in a cool, dark place.
- Due to the characteristics of the internal components, the color may change and deposits of separated components may form, but these do not indicate any problems with the use of the additives.
- If component deposits form, lightly shake the container to mix the components before use.

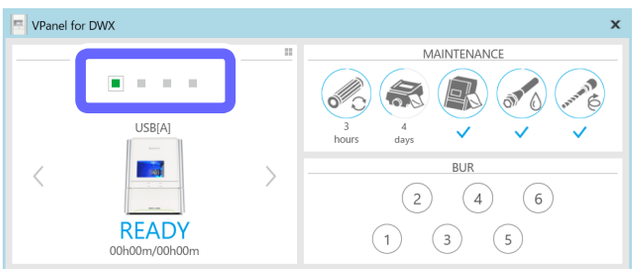
Filling

1. Remove the coolant tank.

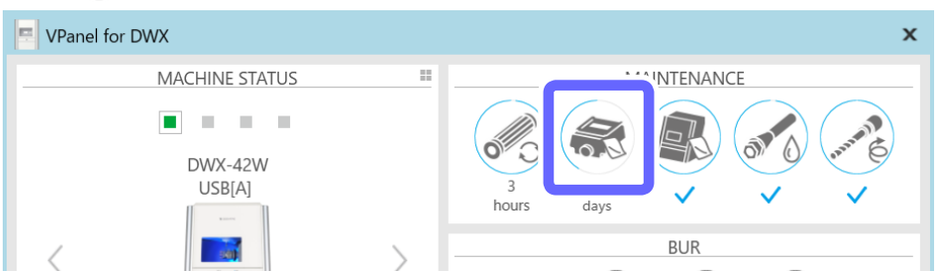
1 Show VPanel.

☞ P. 6 "Displaying VPanel"

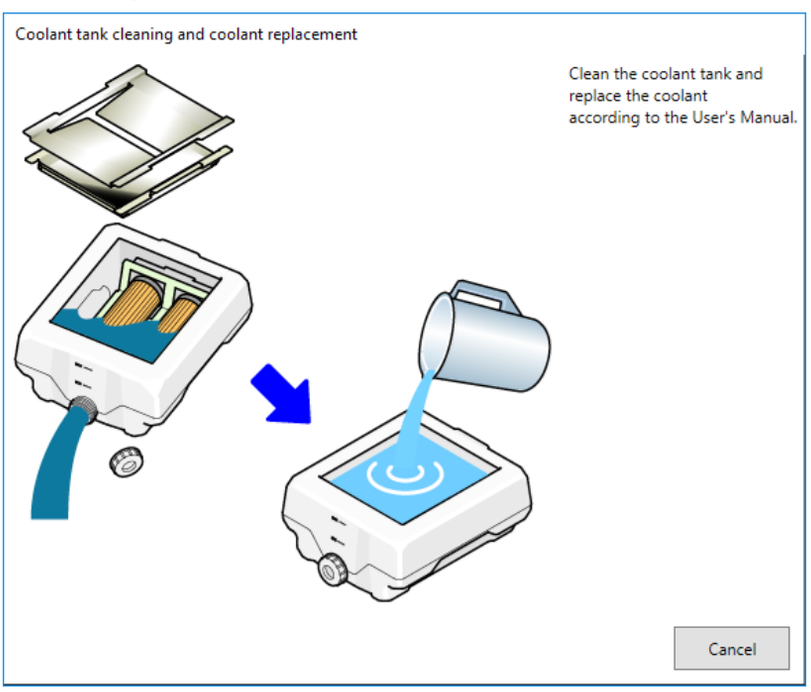
2 Select the machine to operate.



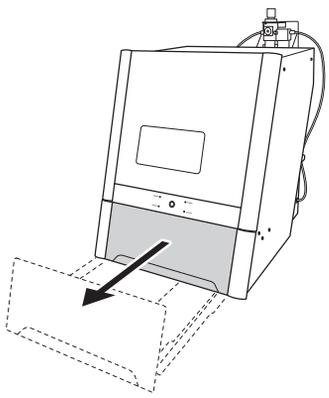
3 Click **.**



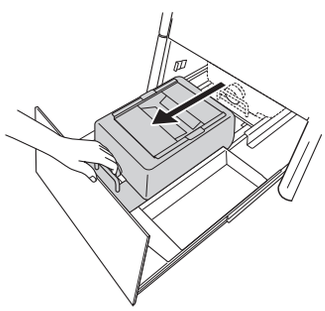
The following window is displayed.



4 **Open the bottom cover.**



5 **Pull out the coolant tank.**



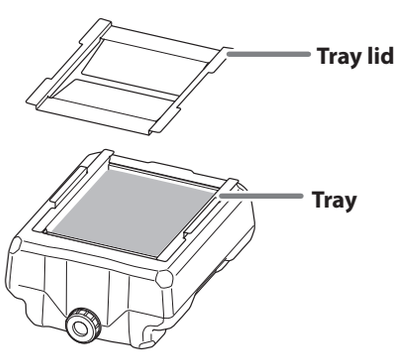
Important

Move the coolant tank slowly. Forcefully moving the coolant tank may cause the coolant to spray out.

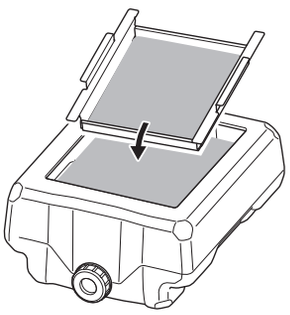
6 **Remove the coolant tank.**

2. Fill the machine with coolant.

1 **Remove the lid of the coolant tank tray.**



2 Tilt the coolant tank tray slightly to pour the accumulated coolant into the tank.



3 Make the coolant.

To make the coolant, mix the water, additive (ZAW-1000D), and chelating reagent (ZCH-100D) at fixed ratios. Use the included measuring cup for measuring.

① **Water: Mix water and additive in the ratio of "95:5" (water:additive).**

There is no need to stir the solution.

The capacity of the coolant tank is approximately 5 L. To fill the tank, use 4,750 ml of water and 250 ml of additive.

② **Water + additive solution: Mix the water + additive solution and chelating reagent in the ratio of "400:1" (water + additive solution:chelating reagent).**

There is no need to stir the solution.

To fill the tank, use 5,000 ml of water + additive solution and 12.5 ml of chelating reagent.

① **Water: additive = 95:5**

* When filling the tank: water = 4,750 ml and additive = 250 ml

② **Water + additive solution: chelating reagent = 400:1**

* When filling the tank: water + additive solution = 5,000 ml and chelating reagent = 12.5 ml

⚠CAUTION **Be sure to use the specified additive.**

Additives are effective in reducing coolant deterioration and raising the milling efficiency in order to maintain product performance. Furthermore, if additives are not used, the coolant may generate an unpleasant odor.

⚠CAUTION **Be sure to use the specified chelating reagent.**

The chelating reagent works to make calcium and similar substances contained in the water inactive, making it easier to clean off milling powder that adheres to the machine and the cutting tool after milling.

Refer to the appropriate safety data sheet (SDS) for the chemical substances used in the additive and chelating reagent and the safety related to those substances.

To purchase additives, contact your authorized DGSHAPE Corporation dealer or access our website (http://www.dgshape.com/).

Important

Add an additional 12.5 ml of chelating reagent to the coolant if:

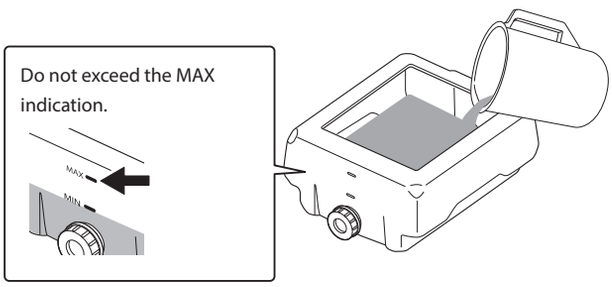
- It is easy for milling waste to adhere to the inside of the machine.
- The milling time exceeds 8 hours, regardless of whether milling waste adheres to the machine.

☞ P. 22 "Step 1: Filling the Machine with Coolant"

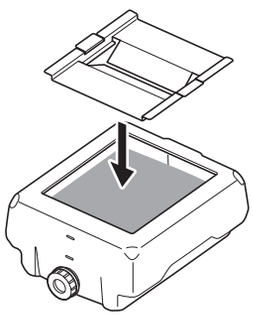
MEMO

The ratios required to create approximately one liter of coolant are written on the label affixed close to the coolant tank.

4 **Fill the coolant tank with the coolant.**

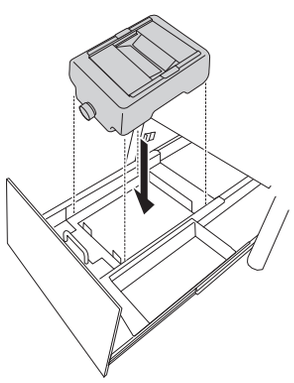


5 **After inserting the coolant, put the tray and lid on the coolant tank.**



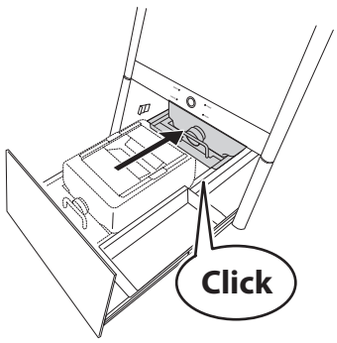
3. Return the coolant tank to its original position.

1 **Return the coolant tank to its original position.**



2 **Push the coolant tank toward the back of the machine.**

Push the coolant tank to the point where you feel a click.

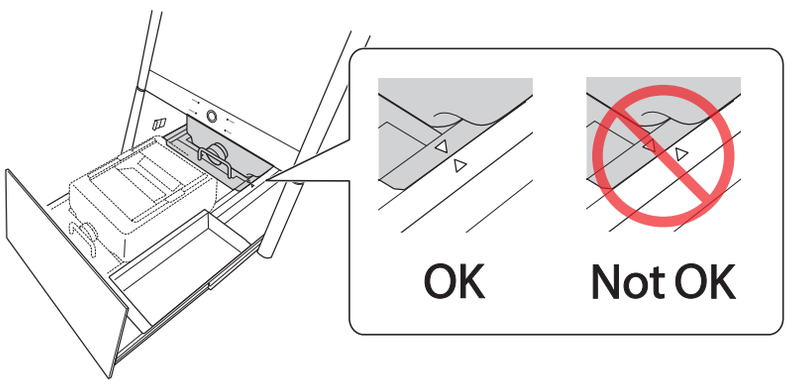


Important

Do not push the tank using the bottom cover.

Point

Align the ▷ label affixed to the right side of the tank with the ◁ label affixed to the machine.



Important

Move the coolant tank slowly. Forcefully moving the coolant tank may cause the coolant to spray out.

3 **Close the bottom cover.**

This completes the filling of the coolant tank.

Step 2: Setting Milling Burs

Procedure

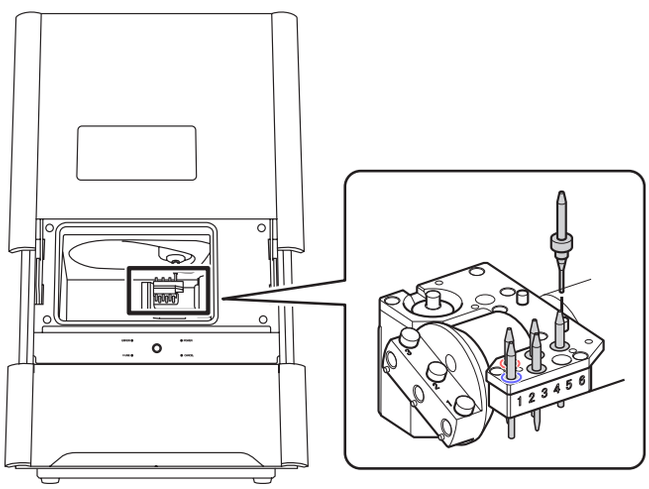
1. **Open the front cover.**

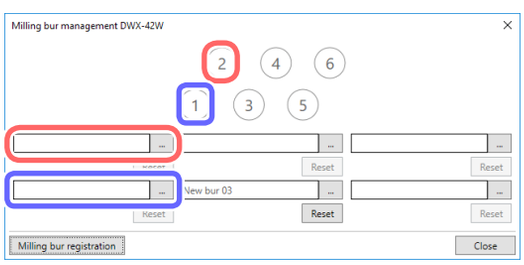
2. **Set the milling burs in the stockers according to the settings made in the [Milling bur management] window in VPanel.**

   Set the milling burs in stockers 1 to 6 in the ATC magazine.

Important

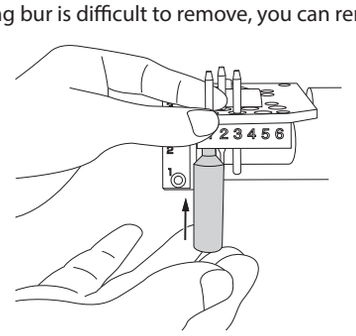
- Set milling burs with their tips facing down.
- Push milling burs in until the top of each milling bur holder is at the same height as the ATC magazine surface.
- Do not set a milling bur in the stocker for the dummy pin.





MEMO: When the milling bur is difficult to remove (using the milling bur removal jig)

When the milling bur is difficult to remove, you can remove it easily by using the milling bur removal jig.



Insert the tip of the milling bur into the tip (the narrow end) of the milling bur removal jig, and then push the milling bur up.

⚠CAUTION **Be careful around the tip and other sharp edges.**

Be careful not to touch the tool tip or any other sharp edges. Doing so may cause injury.

Step 3: Spindle run-in (short)

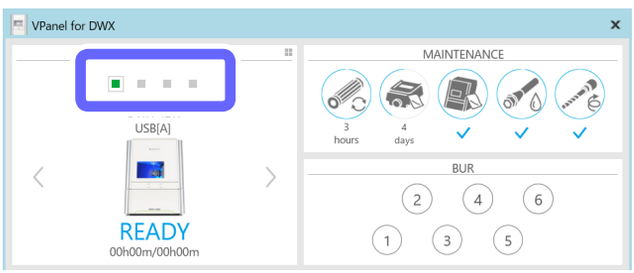
Be sure to perform the following tasks before daily operations. These tasks are necessary for maintaining a favorable machine condition and for ensuring a high level of product quality. If these tasks are not executed, a message prompting operation will be displayed in VPanel.

Procedure

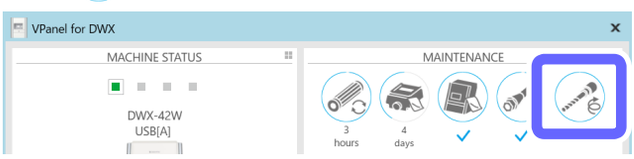
1 Show VPanel.

☞ P. 6 "Displaying VPanel"

2 Select the machine to operate.



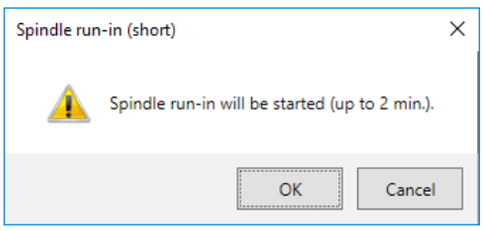
3 Click .



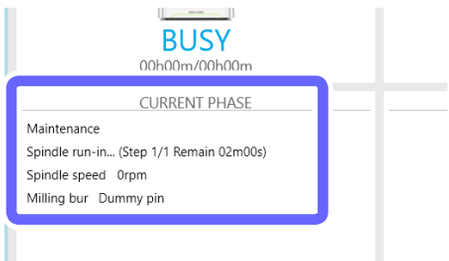
MEMO

If the icon is displayed as , run-in (long) is necessary. Refer to P. 95 "Spindle Run-In (Long)" and perform the run-in.

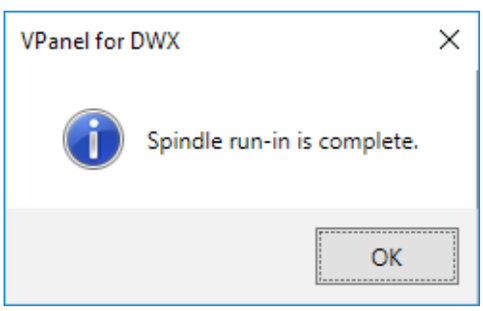
4 **Click [OK].**



The spindle run-in (short) starts. The machine status light will flash blue. The remaining work time will be displayed on VPanel.



5 **When the following window is displayed, click [OK].**



Step 4: Mounting the workpiece

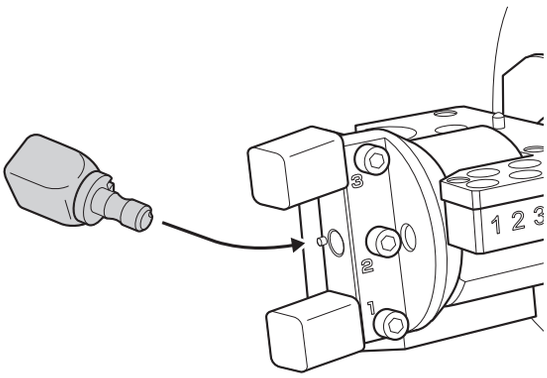
Procedure

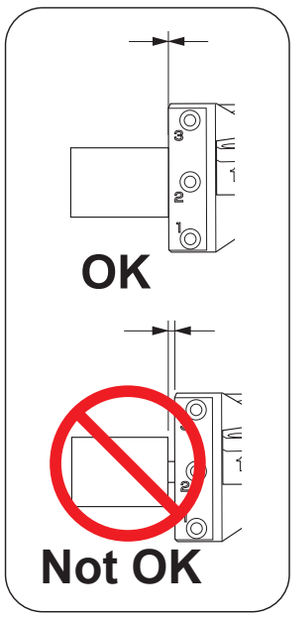
1 **Open the front cover.**

2 **Insert the pin portion of the workpiece into the hole on the rotary axis.**

Align the notch on the root of the workpiece's pin with the protrusion on the rotary axis so as to eliminate the gap between the attaching surfaces.

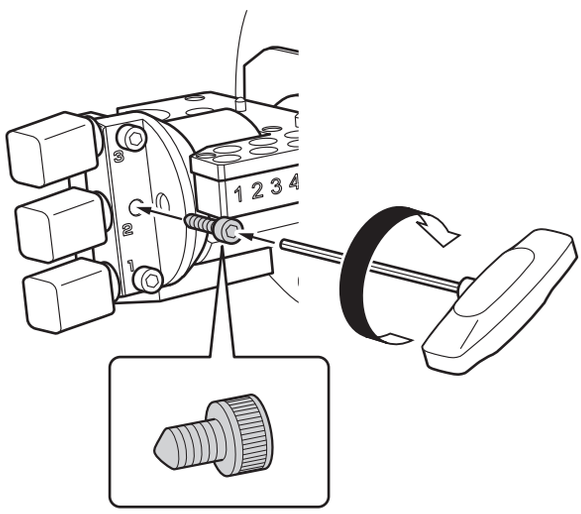
You can install a maximum of three workpieces.





3 **Use a mounting screw to secure the workpiece in place.**

Tighten with a hexagonal screwdriver.



4 **Close the front cover.**

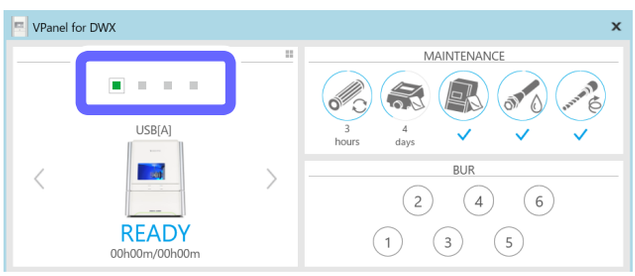
Step 5: Outputting Milling Data

* You can also use commercially available CAM software to output milling data. For information on compatible CAM software, contact your authorized Roland DG Corporation dealer.

⚠CAUTION **Do not place any electronic devices in the vicinity of this machine.**
Because coolant flows within this machine, water may be sprayed on objects in the vicinity of the machine when its front cover is opened. To prevent malfunctions, do not place any electronic devices in the vicinity of this machine.

Procedure

1. **Select the machine to operate.**

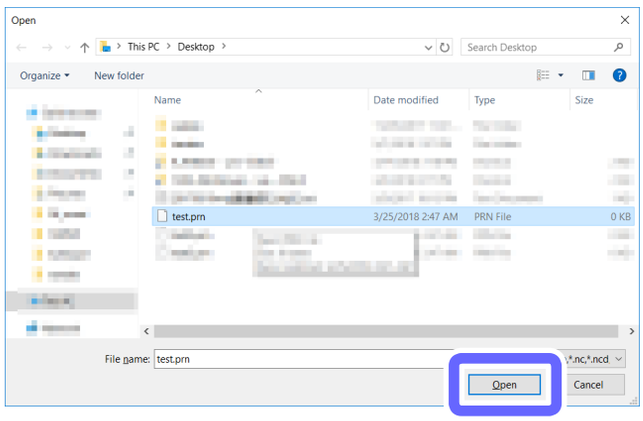


2. **Click** **.**

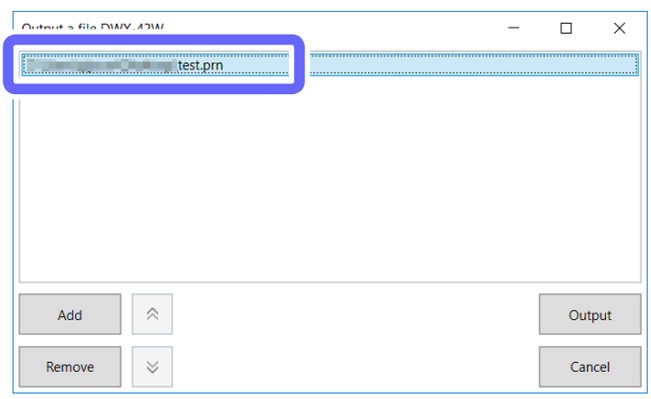
The [Output a file] window is displayed, and then the [Open] window is displayed.

3 Select the milling data, and then click [Open].

You can also select multiple files at the same time while holding down the "Alt" or "Shift" key on the keyboard.



The selected milling data is displayed in the data list of the [Output a file] window.



Click [Add] to return to the [Open] window and add milling data.

4 Check that:

- **The coolant has been set.**

☞ P. 22 "Step 1: Filling the Machine with Coolant"

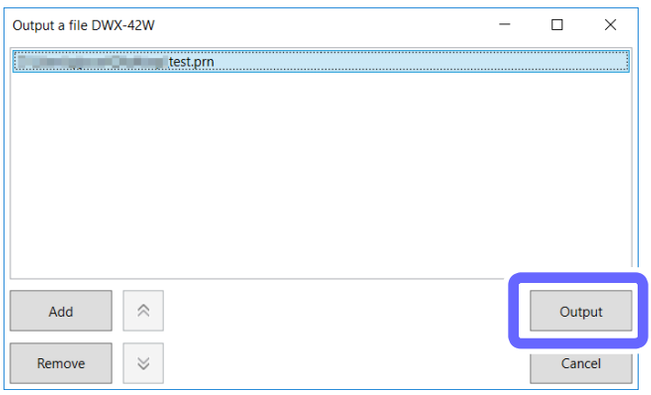
- **The milling burs have been set.**

☞ P. 28 "Step 2: Setting Milling Burs"

- **The workpieces have been set.**

☞ P. 30 "Step 4: Mounting the workpiece"

5 **Click [Output].**



Point

- **Changing the data list order**

  You can change the output order by selecting the milling data in the data list and clicking or . (The milling data is output from the top of the data list.)

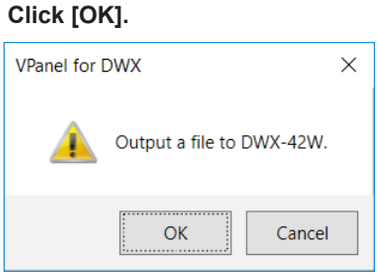
- **Removing milling data in the data list**

  You can remove milling data in the data list by selecting the milling data and clicking [Remove].

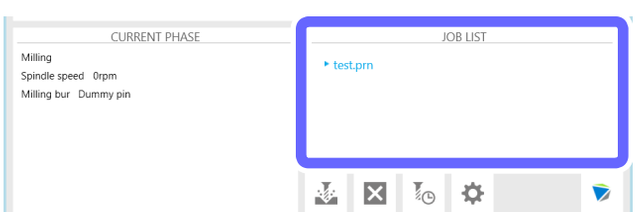
- **Adding milling data by dragging and dropping**

  You can also add milling data by dragging it to the [Output a file] window.

6 **Click [OK].**



The output milling data is displayed in the JOB LIST of the top window, and then milling starts.

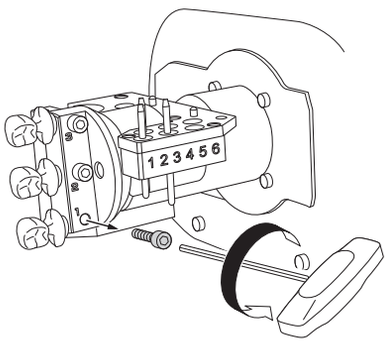


A sound will be emitted when milling has finished.

7 **After milling has finished, open the front cover.**

Even if milling has finished, you cannot open the front cover until the spindle stops rotating completely.

8 **Remove the product.**



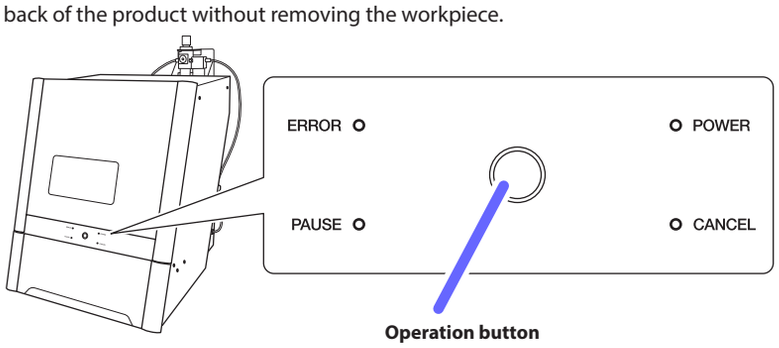
⚠CAUTION **Be careful around milling waste.**
Sharp milling waste may become mixed. To avoid injury, exercise caution.

⚠CAUTION **Do not touch the spindle unit or the surrounding areas immediately after milling has ended.**
Doing so may result in burns.

⚠CAUTION **After milling, wash away any products with purified water or the like.**
After milling, there will be coolant on the product. Using the product as is may cause an inflammation or the like.

MEMO

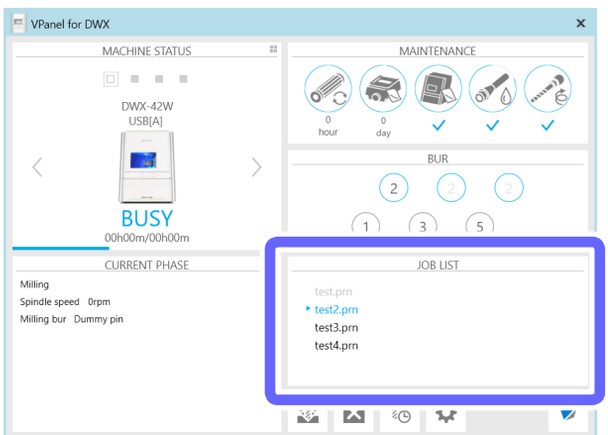
Press the operation button during standby to rotate the rotary axis 180 degrees. This function is useful when you want to view the back of the product without removing the workpiece.

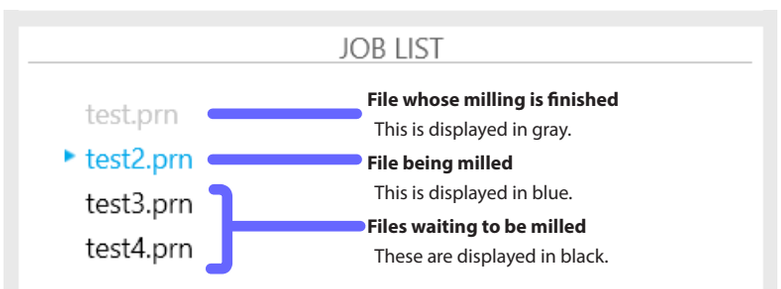


Checking the Operation Status

Checking the Milling Data Status

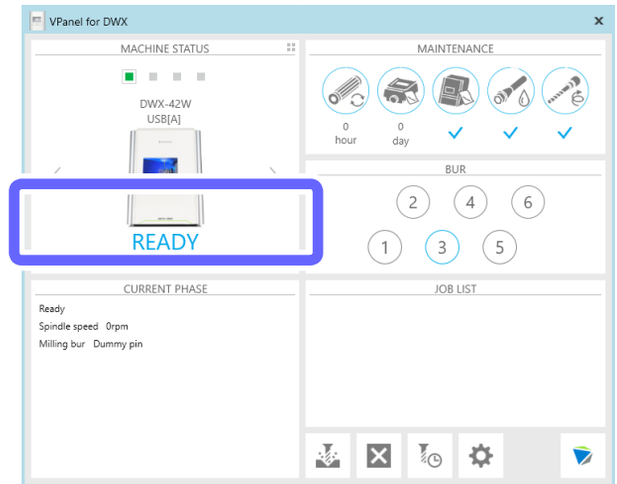
You can check the milling data status with the [JOB LIST] area in VPanel.





Checking the Estimated Milling Time

You can check the estimated milling time with the [MACHINE STATUS] area in VPanel.

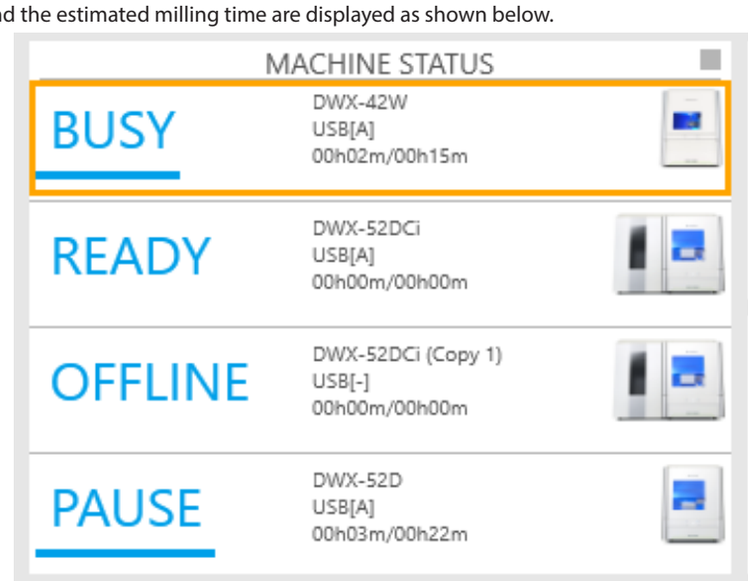


Progress bar
Displays the milling progress. When the bar reaches the right side, the progress is 100%.

Elapsed time and estimated milling time
The elapsed milling time is displayed on the left and the estimated milling time on the right.

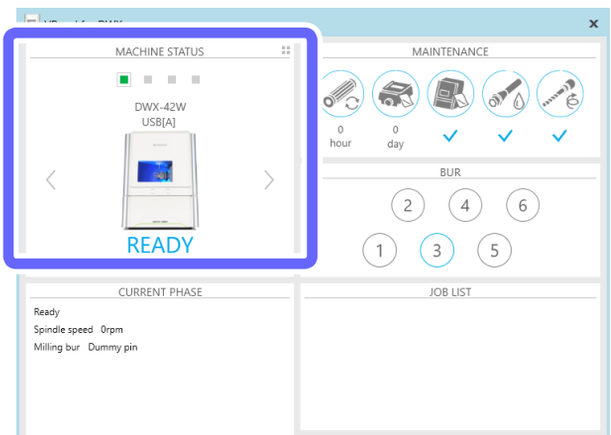
Checking the registered machines from a list (when multiple machines are registered)

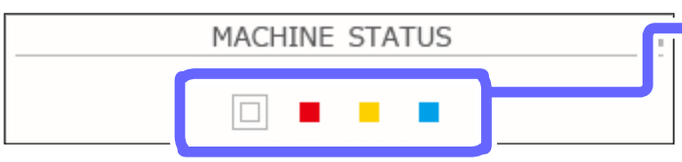
When the list is displayed (P. 118 "Listing the Machines to Connect to and Selecting the Machine to Operate"), the elapsed time and the estimated milling time are displayed as shown below.



Checking the Basic Status of the Milling Machine

You can check the basic status with the [MACHINE STATUS] area in VPanel.





Operation status

Displays an overview of the operation status as a color

	Gray	No milling machine assigned.
	Black	The power of the milling machine is off.
	Green	Milling data can be received.
	White	Operation is in progress.
	Red	An error has occurred.
	Yellow	Operation is paused or the front cover is open.
	Blue	Milling is finished.

Machine name

Displays the name of the selected model

Connection status

Displays the USB serial ID for a USB connection and the IP address for a LAN connection

Machine image

Displays the machine image of the selected model

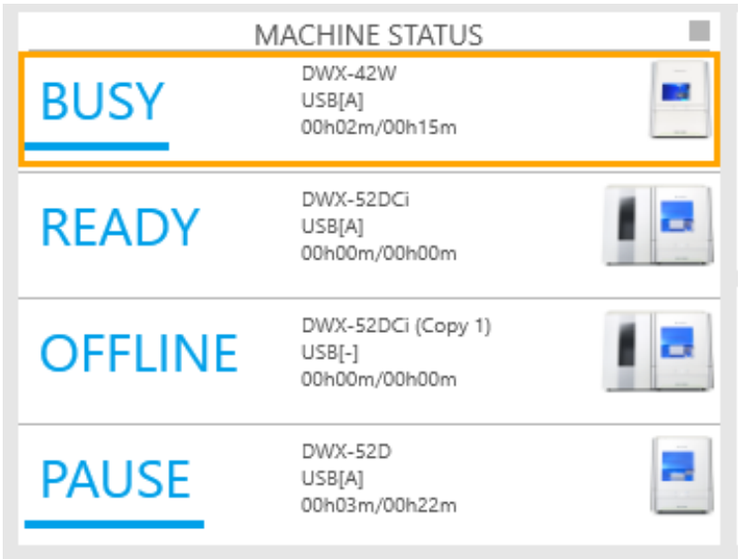
Operation status

Displays an overview of the operation status as text

READY	Milling data can be received.
OFFLINE	The power of the milling machine is off.
BUSY	Operation is in progress.
ERROR	An error has occurred.
PAUSE	Operation is paused.
COVER	The front cover is open.
FINISH	Milling is finished.

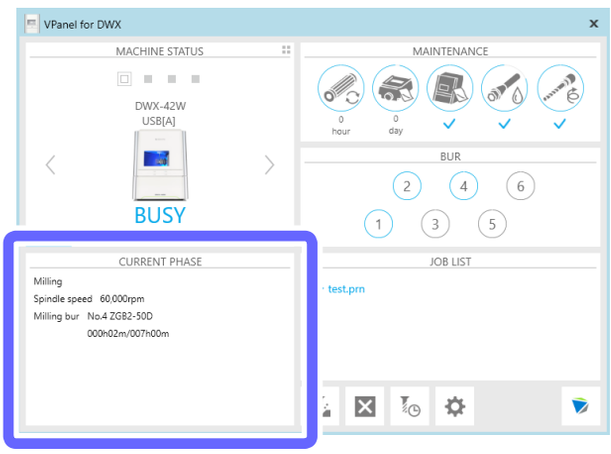
Checking the registered machines from a list (when multiple machines are registered)

When the list is displayed (P. 118 "Listing the Machines to Connect to and Selecting the Machine to Operate"), details such as the operation status are displayed as shown below. In this situation, the operation status is not displayed with different colors.

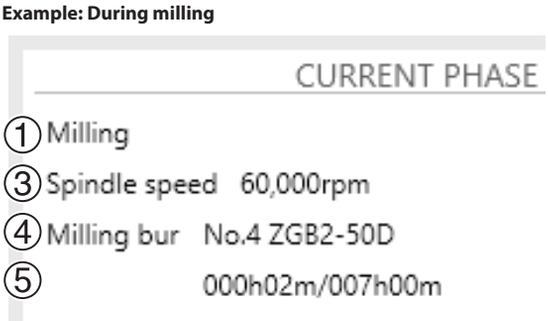


Checking the Operation Status of the Milling Machine

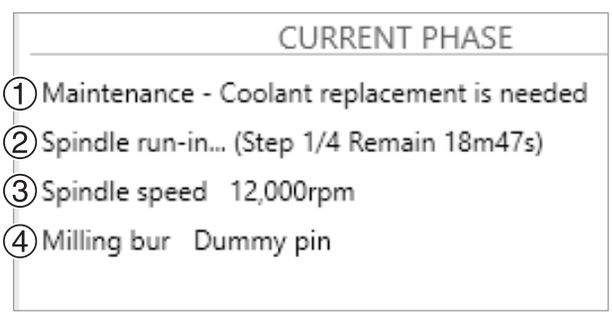
You can check the operation status with the [CURRENT PHASE] area in VPanel.



Example: During milling



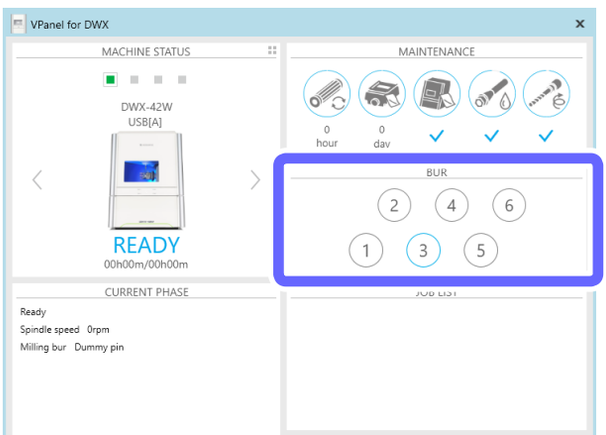
Example: During maintenance

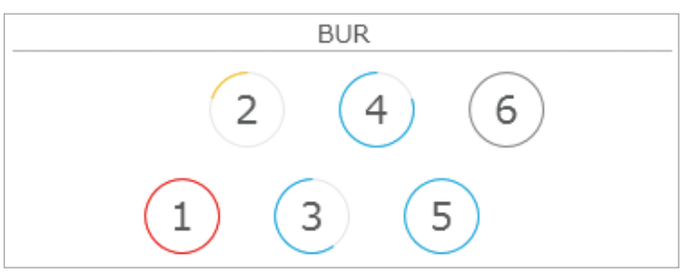


	Display type	Content
①	Status/sub status	Displays the main status such as [Milling] and [Error] and the sub status (maintenance notification) such as [Spindle run-in required] and [Collet maintenance required].
②	Maintenance	Displays [Automatic correction], [Milling bur change test], and other such messages indicating the maintenance progress. Displays [The operation is being aborted] when an instruction is given to cancel milling.
③	Spindle	Displays the spindle rotating speed.
④	Milling bur type	Displays the number and name of the grasped milling bur.
⑤	Milling bur work time and replacement time	Displays the work time (left side) and replacement time (right side) of the grasped milling bur.

Checking the Milling Bur Usage Status (Replacement Time)

You can check the milling bur usage status with the [BUR] area in VPanel.





Each stocker's circular frame visually indicates how close its assigned milling bur is to replacement.

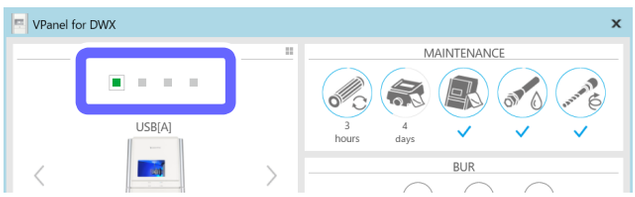
Closeness to replacement	Unused	0%	25%	50%	75%	80%	90%	100%
Circular frame display								

Pausing or Aborting Milling

Aborting Milling from VPanel

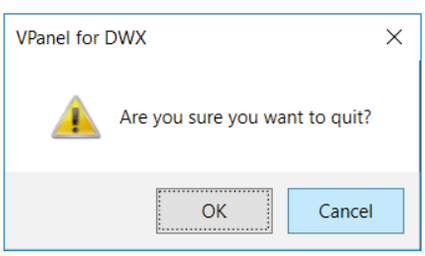
Procedure

1. **Select the machine to operate.**



2. **Click** **.**

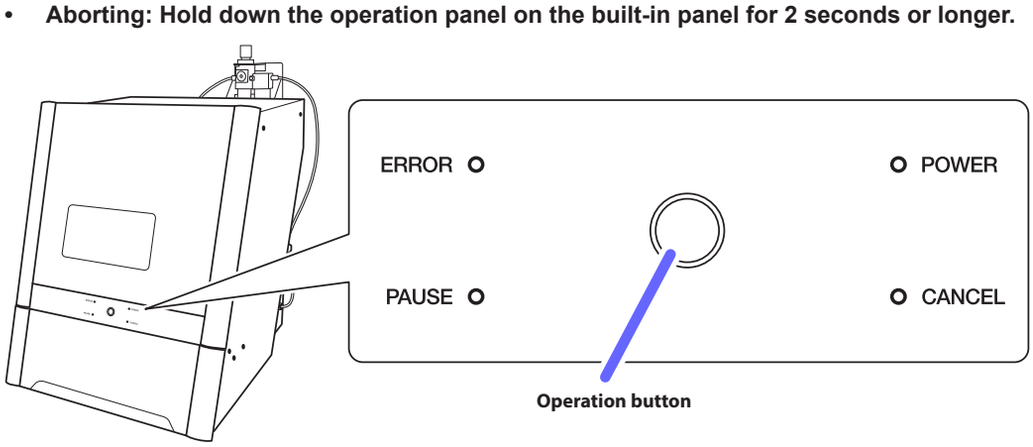
The message shown in the figure will be displayed.



3. **To abort milling, click [OK]. Click [Cancel] to not abort the operation.**

Pausing or Aborting Milling from the Built-in Panel

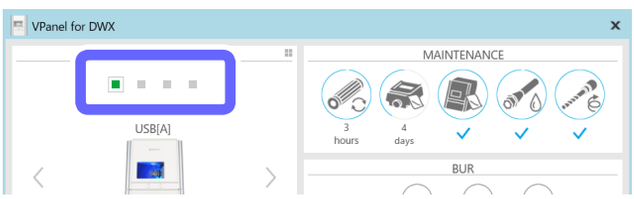
- **Pausing: Press the operation button on the built-in panel.**
- **Resuming: With operation paused, press the operation button on the built-in panel.**
- **Aborting: Hold down the operation panel on the built-in panel for 2 seconds or longer.**



Deleting Standby Milling Data

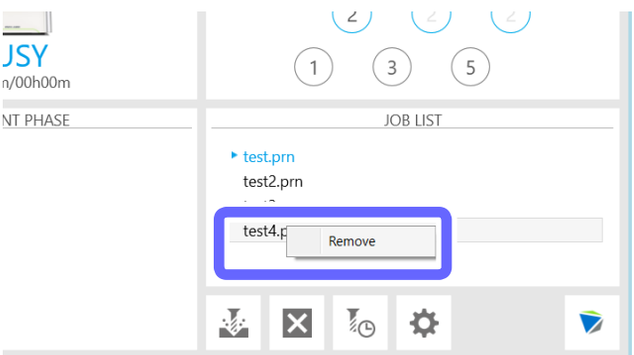
Procedure

1 **Select the machine to operate.**



2 **In the output list, right-click the milling data to delete, and then click [Remove].**

You can only remove milling data that is in standby (milling data that is second from the top or lower in the JOB LIST).

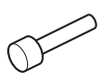
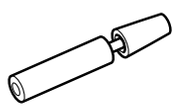
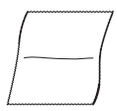


Following Daily Operations

Collet Maintenance, Cleaning of Dummy Pin, and Checking of Coolant Flow Rate

Be sure to perform the following tasks after daily operations. These tasks are necessary for maintaining a favorable machine condition and for ensuring a high level of product quality.
If these tasks are not executed, a message prompting operation will be displayed in VPanel.

Required Tools

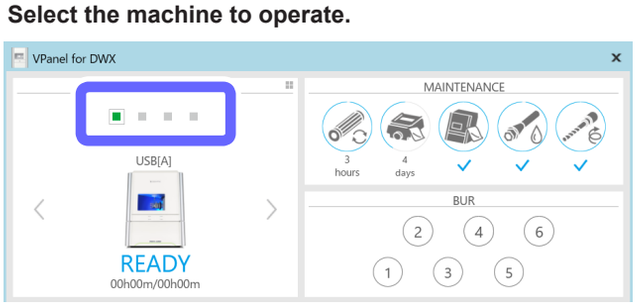
Included items					Commercially available item
Collet replacement jig	 Collet tap	 Taper cleaner	Collet brush	Grease	 Clean, dry cloth

1. Remove the collet.

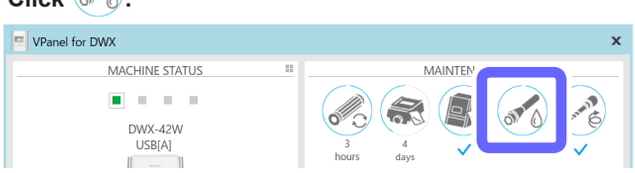
1. **Open the front cover.**
2. **Remove the workpiece, rotary axis correction jig, and magazine correction jig.**
3. **Close the front cover.**
4. **Show VPanel.**

☞ P. 6 "Displaying VPanel"

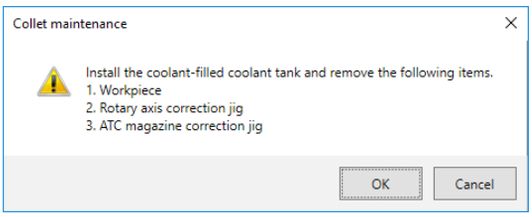
5. **Select the machine to operate.**



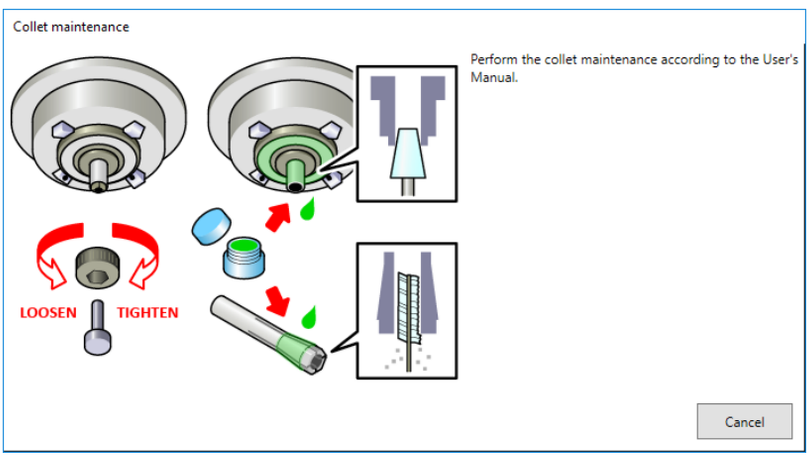
6. **Click** **.**



7 **Check that the workpiece, rotary axis correction jig, and magazine correction jig have been removed, and then click [OK].**



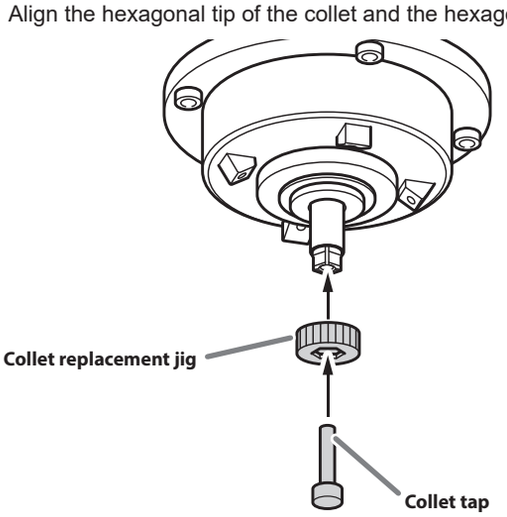
The following window is displayed automatically.



8 **Open the front cover.**

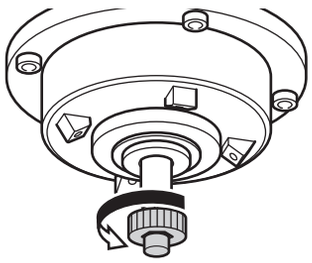
9 **Press the collet replacement jig against the collet, and then insert the collet tap.**

Align the hexagonal tip of the collet and the hexagonal portion of the collet replacement jig.



⑩ **While gently pressing the collet tap up into the hole, rotate the collet replacement jig in the direction indicated in the figure.**

Rotate the collet replacement jig until the collet naturally comes free.



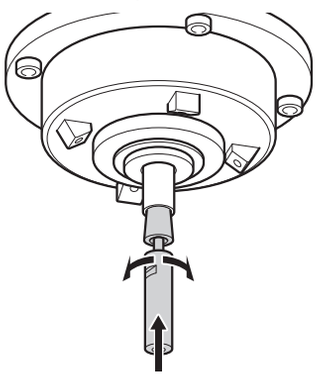
⚠**CAUTION** **Rotate the collet replacement jig with the collet tap inserted.**

If the collet replacement jig is rotated without the collet tap inserted, the collet may be damaged.

2. Clean the inside of the spindle, the collet and the dummy pin.

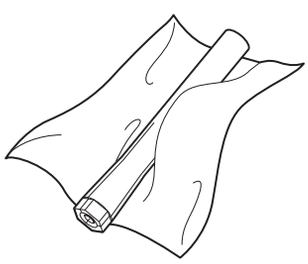
❶ **Clean the inside of the spindle (where contact with the collet is made) with the taper cleaner.**

Rotate the taper cleaner left and right as if you are brushing the inner portion of the spindle.



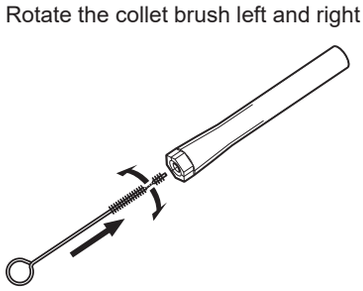
❷ **Wipe the outer portion of the collet with a clean, dry cloth.**

Do not hold the tapered portion tightly. This part being deformed may result in malfunctions.



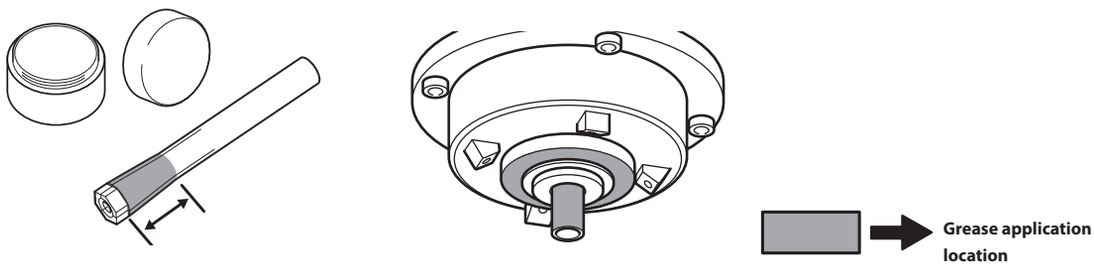
❸ **Clean the inner portion of the collet with the collet brush.**

Rotate the collet brush left and right as if you are brushing the inner portion of the collet.

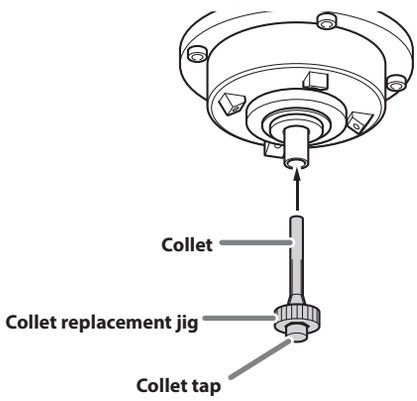


4 **Apply a thin layer of grease to the tapered part (the slanted part) of the outer diameter of the collet and the spindle head (in two locations).**

A thin application is sufficient. Do not apply excessively.

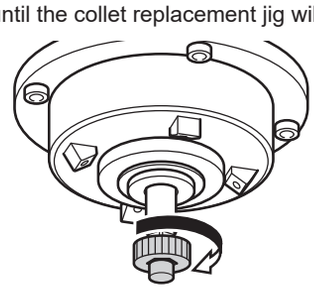


5 **Assemble the collet, collet replacement jig, and collet tap as shown in the figure, and then insert this assembly into the spindle.**

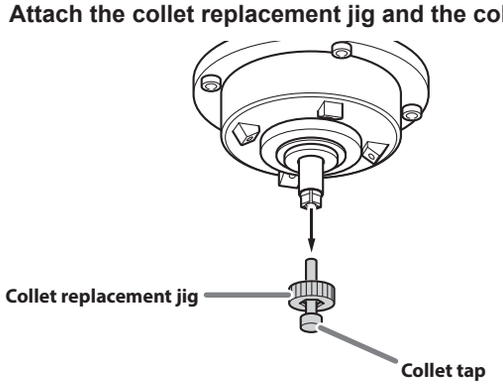


6 **While gently pressing the collet tap up into the hole, rotate the collet replacement jig in the direction indicated in the figure to tighten the collet.**

Keep rotating until the collet replacement jig will not rotate any more.



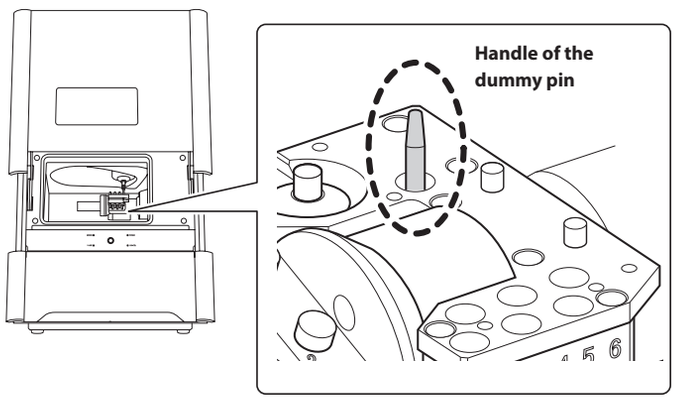
7 **Attach the collet replacement jig and the collet tap.**



❽ **Clean the handle of the dummy pin with a dry cloth.**

Important

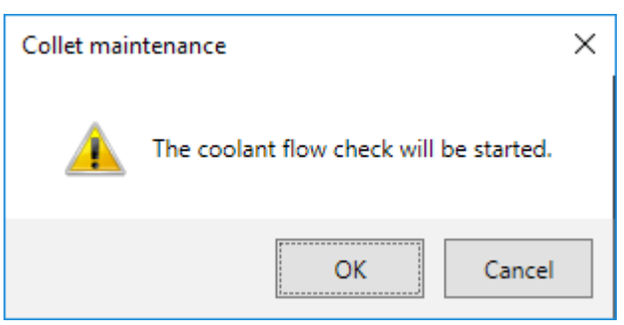
Clean only the handle of the dummy pin with it inserted. Do not pull the dummy pin out.



3. Check the coolant flow rate.

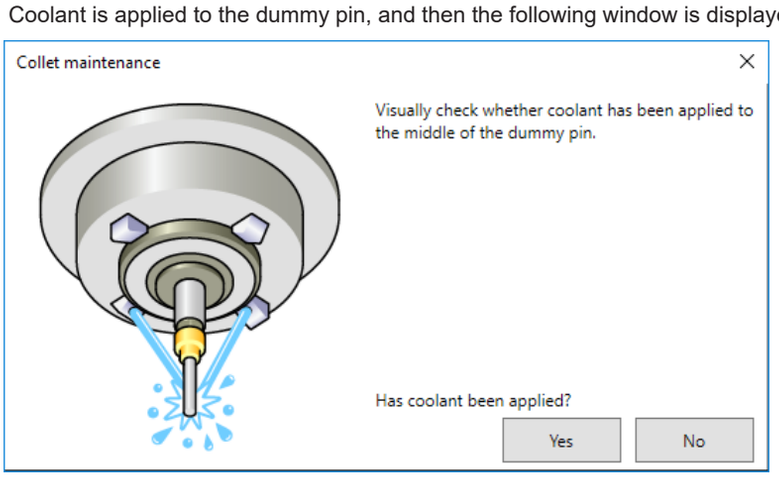
❶ **Close the front cover.**

The following window is displayed.



❷ **Click [OK].**

Coolant is applied to the dummy pin, and then the following window is displayed.

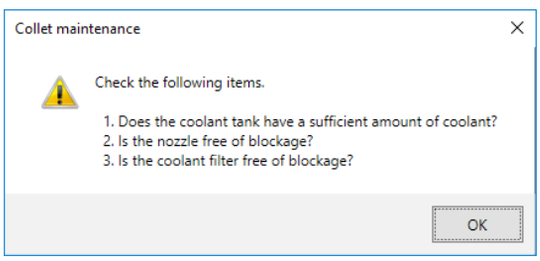


3 **Visually check that coolant is applied to the middle of the dummy pin.**

If coolant is not applied to the middle of the dummy pin

① **Click [No].**

The following window is displayed.



② **Click [OK], and then check the following items.**

- **Coolant amount**

☞ P. 22 "Step 1: Filling the Machine with Coolant".

- **Coolant nozzle clogging**

☞ P. 70 "Cleaning the Coolant Nozzle".

- **Coolant filter clogging**

☞ P. 72 "Replacing Coolant Filters".

③ **Once more, visually check that coolant is applied to the middle of the dummy pin.**

Proceed to step *4*.

If coolant is applied to the middle of the dummy pin

Click [Yes].

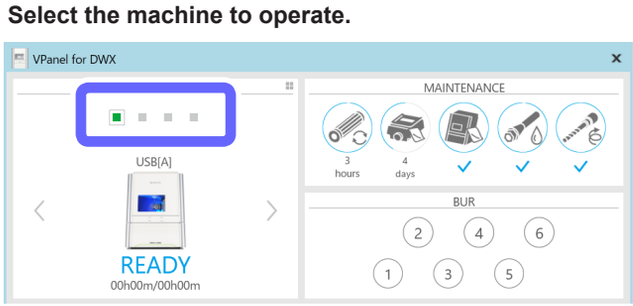
This completes the collet maintenance.

4. Check the coolant flow rate again.

1 **Show VPanel.**

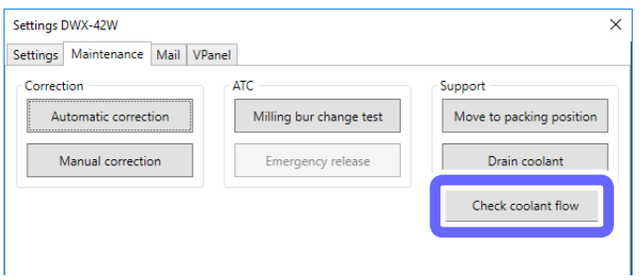
☞ P. 6 "Displaying VPanel"

2 **Select the machine to operate.**

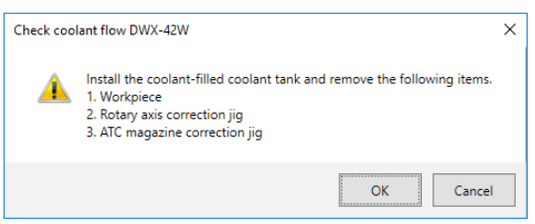


3 **Click** **.**

4 **Click [Check coolant flow].**

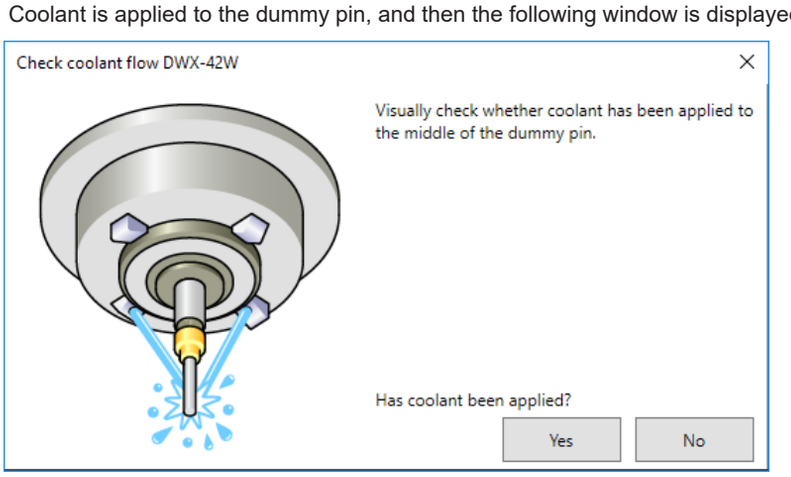


The following window is displayed automatically.



5 **Click [OK].**

Coolant is applied to the dummy pin, and then the following window is displayed.

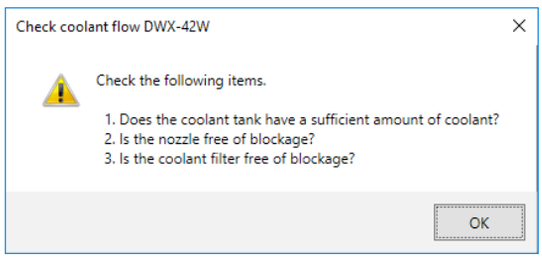


6 **Visually check that coolant is applied to the middle of the dummy pin.**

If coolant is not applied to the middle of the dummy pin

① **Click [No].**

The following window is displayed.



② **Click [OK], and then check the following items.**

- **Coolant amount**

☞ P. 22 "Step 1: Filling the Machine with Coolant".

- **Coolant nozzle clogging**

☞ P. 70 "Cleaning the Coolant Nozzle".

- **Coolant filter clogging**

☞ P. 72 "Replacing Coolant Filters".

③ **Once more, visually check that coolant is applied to the middle of the dummy pin.**

Proceed to step *4*.

If the coolant flow rate is still insufficient even after adding coolant and cleaning the coolant nozzles, contact your authorized Roland DG Corporation dealer.

If coolant is applied to the middle of the dummy pin

Click [Yes].

This completes the collet maintenance.

Cleaning after Milling Finishes

After milling finishes, clean inside the machine with a dry cloth. Carefully wipe around the spindle head and the rotary axis parts shown in the following figure as fluid and milling waste in these areas may affect milling results.

⚠CAUTION **Use a dry cloth to clean the inside of the equipment.**

Failure to do so may cause the components inside the equipment to degrade, which can lead to injury.

⚠CAUTION **Be careful of the pointed portion inside the front cover.**

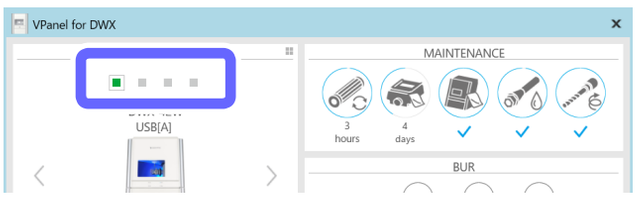
There is a pointed portion inside the front cover. Exercise caution when cleaning.

Procedure

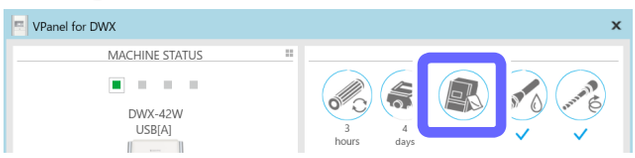
1 **Show VPanel.**

☞ P. 6 "Displaying VPanel"

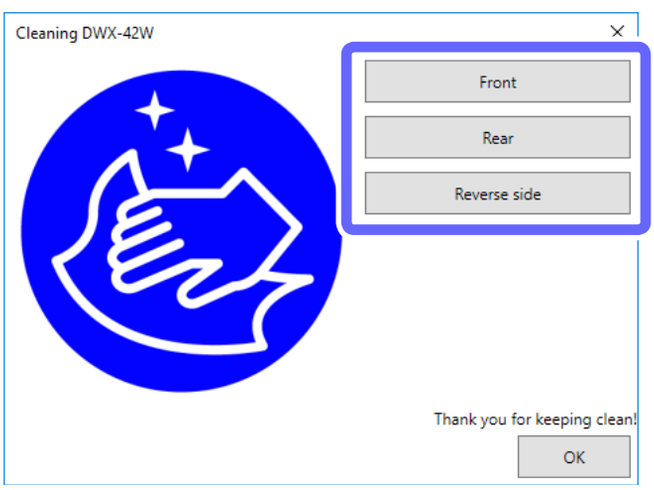
2 **Select the machine to operate.**



3 **Click** .



4 **Click [Front], [Rear], or [Reverse side] to match the location you want to clean.**



- **Front: The rotary axis unit moves to the front of the machine and the spindle head moves to the left side of the machine.**
- **Rear: The rotary axis unit moves to the back of the machine and the spindle head moves to the right side of the machine.**
- **Reverse side: The rotary axis unit turns over.**

5 **Open the front cover.**

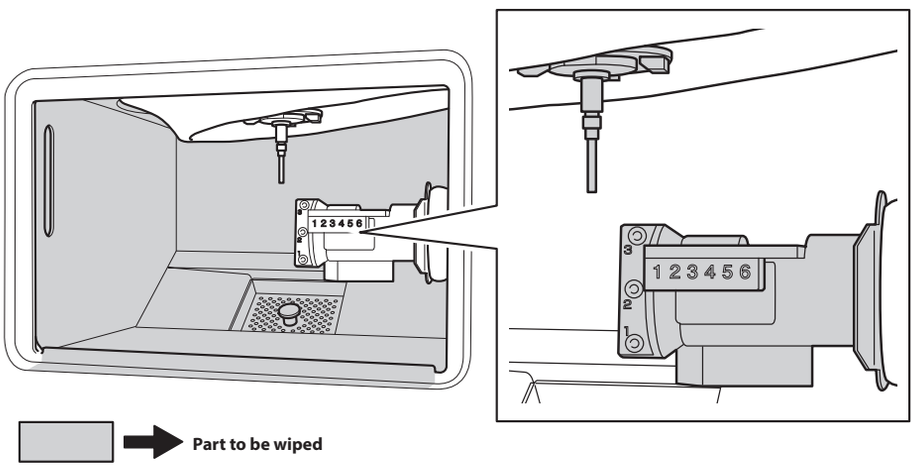
6 **Clean the inside of the machine with a focus on the locations shown below.**

In particular, carefully clean the portions shown in the following figures.

⚠CAUTION **Be careful around milling waste.**

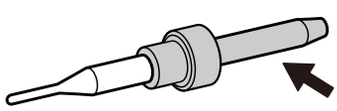
Sharp milling waste may become mixed. To avoid injury, exercise caution.

Inside the machine



Part to be wiped

Milling bur



Important

The front cover window scratches easily, so do not wipe it off with a cloth.

7 **Close the front cover.**

8 **Click [OK].**

3. Maintenance

Maintenance Precautions 55
Maintenance Precautions 55
Periodic Care and Maintenance 56
Correcting the Milling Machine 56
Replacing the Coolant 61
Care and Storage of the Automatic Correction Jig 67
Care of the Regulator Bowl 68
Cleaning the Coolant Nozzle 70
Replacing Consumable Parts 72
Replacing the Spindle Unit 72
Replacing Milling Burs 72
Replacing Coolant Filters 72
Replacing the Collet 83
Extended Periods of Non-Use / Moving the Machine 88
Draining the Coolant Lines 88
Attaching the Retainer 93
Spindle Run-In (Long) 95

Maintenance Precautions

Maintenance Precautions

⚠WARNING **Never use a pneumatic blower.**
This machine is not compatible with a pneumatic blower. Milling waste may get inside the machine and cause fire or electrical shock.

⚠WARNING **Never use a solvent such as gasoline, alcohol, or thinner to perform cleaning.**
Doing so may cause a fire.

⚠WARNING **Caution: High Temperature**
The milling tool and spindle motor become hot. Exercise caution to avoid fire or burns.

⚠CAUTION **Be careful around the milling tool.**
The milling tool is sharp. Broken milling tools are also dangerous. To avoid injury, exercise caution.

⚠CAUTION **Use a dry cloth when cleaning silicone resin parts, and be careful to prevent the silicone resin from being damaged.**
The silicone resin being damaged may lead to electric leakage.

⚠CAUTION **Under no circumstances should you move the Z-axis unit with your hands.**
Doing so may cause a breakdown.

- This machine is a precision device. Carry out daily care and maintenance.
- Carefully wipe away any fluid or milling waste. Operating the machine with fluid or milling waste present may cause malfunction or breakdown.
- Never install this machine in an environment where silicone substances (oil, grease, spray, etc.) are present. Doing so may cause poor switch contact.

Periodic Care and Maintenance

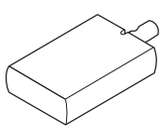
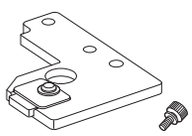
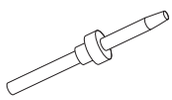
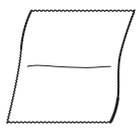
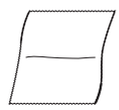
Correcting the Milling Machine

The accuracy of the milling machine may change if it is used for a long period of time or the surrounding environment changes. Automatic correction corrects the positions of the rotary axis and ATC magazine.

Situations Requiring This Work

- When the milling position is misaligned
- When symptoms such as a line of level difference or a hole in the Z direction occurs in the milling results
- When the machine is moved to a different location

Required Tools

Included items				Commercially available item
				
Rotary axis correction jig	ATC magazine correction jig/A screw	Detection pin for correction	Cloth for care and maintenance	Clean, dry cloth

Important

Handle the detection pin for correction and the dummy pin separately to be absolutely sure that you do not confuse them.

If the detection pin for correction is used as the dummy pin even once, the detection pin for correction cannot be used to provide proper correction. If for some reason the detection pin for correction is used as the dummy pin, a new detection pin for correction will be necessary. Contact your authorized DGSHAPE Corporation dealer or access our website (http://www.dgshape.com/).

1. Clean the detection point for use during correction.

1 **Open the front cover.**

2 **Remove all the milling burs.**

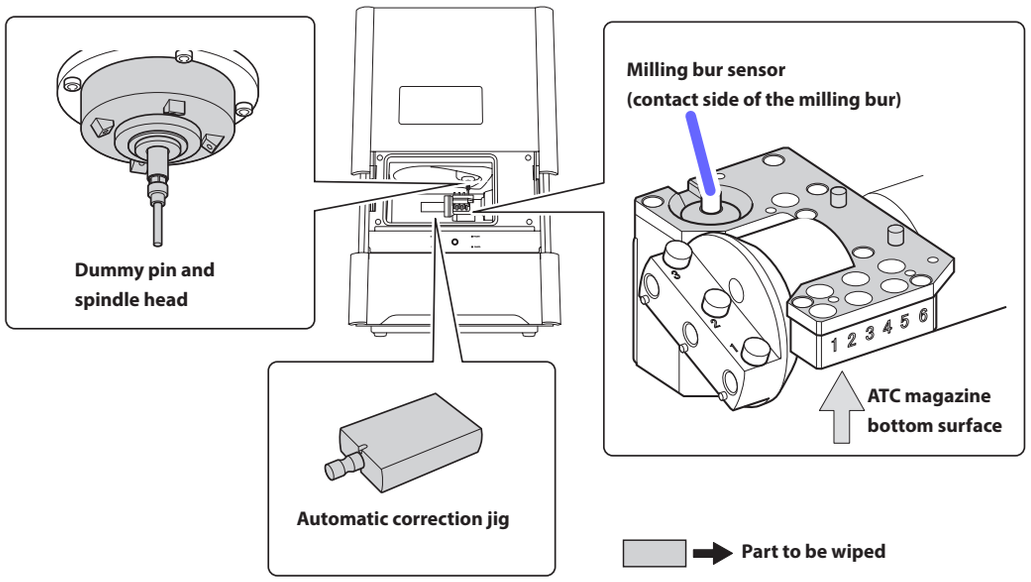
When the milling bur is difficult to remove, using the milling bur removal jig.

☞ P. 28 "MEMO: When the milling bur is difficult to remove (using the milling bur removal jig)"

3 **If the inside of the machine is wet, wipe it off with a clean, dry cloth.**

4 **Use the cloth for care and maintenance to wipe the locations shown in the following figures clean of fluid and dirt.**

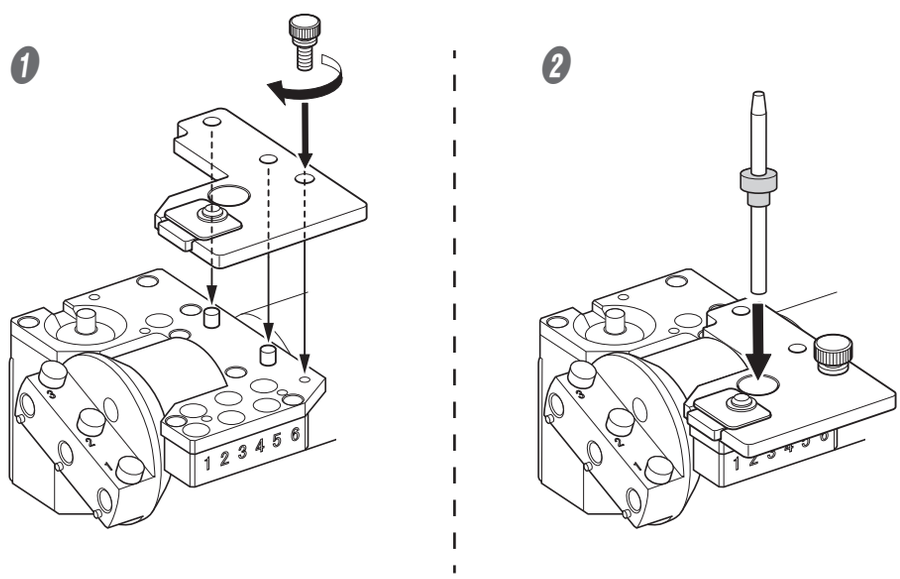
If any fluid or dirt is present in these locations, correction might not occur properly.



2. Attach the automatic correction jig.

1 **Attach the ATC magazine correction jig.**

2 **Push the detection pin for correction as far as it will go into stocker number 4 in the ATC magazine.**



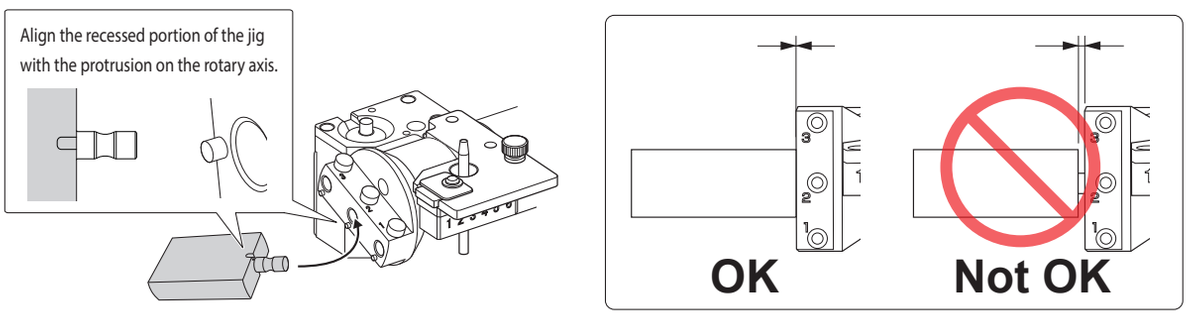
Important

The tapered (slanted) end is the top of the detection pin for correction. Be careful not to confuse which side is up and which is down.

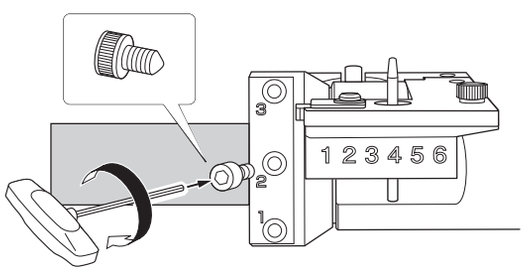
3 **Attach the rotation correction jig to hole "2" on the rotary axis.**

① **Align the recessed portion of the jig with the protrusion on the rotary axis, and then insert the jig.**

Ensure that there is no gap between the surfaces. It does not matter which of the two recesses on the jig is aligned to the protrusion.



② **Use a hexagonal screwdriver to secure the jig in place with a mounting screw.**



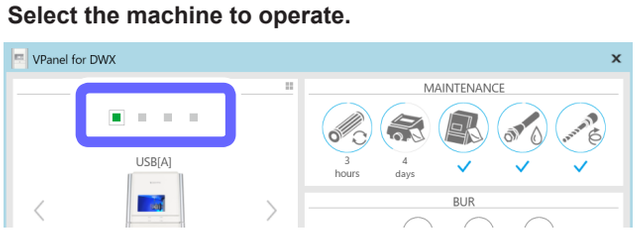
4 **Close the front cover.**

3. Start automatic correction.

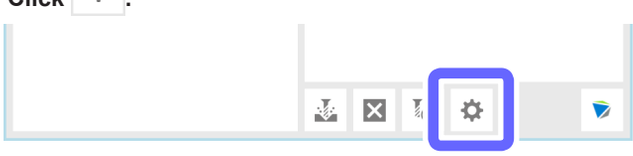
1 **Show VPanel.**

☞ P. 6 "Displaying VPanel"

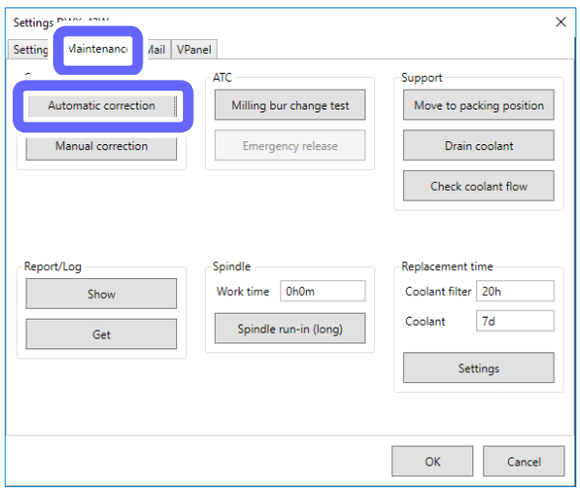
2 **Select the machine to operate.**



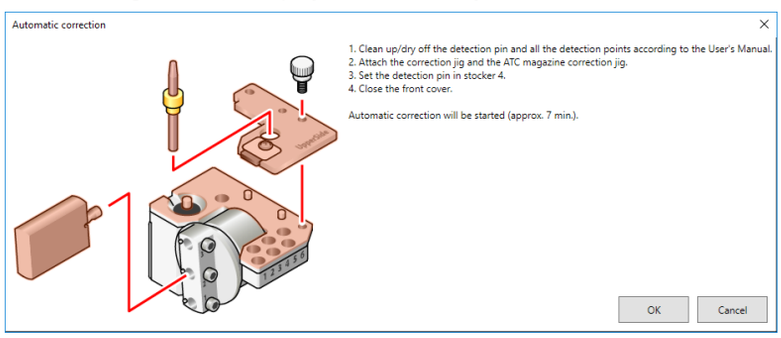
3 **Click** ⚙ **.**



4 **Click the [Maintenance] tab, and then click [Automatic correction].**



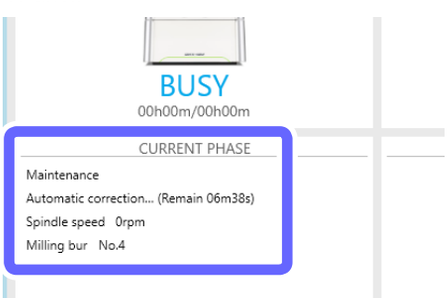
The following window is displayed automatically.



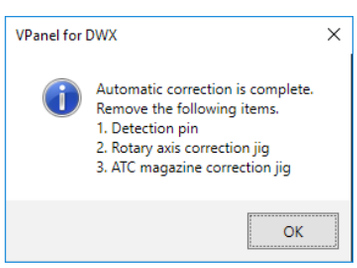
5 **Check that the work displayed on the screen is complete.**

6 **Click [OK].**

Automatic correction starts. The machine status light will flash blue. The remaining work time will be displayed on VPanel.



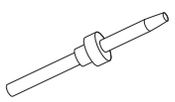
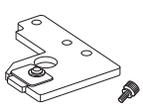
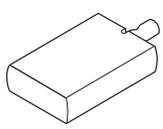
The automatic correction is finished when the message shown in the figure is displayed.



7 **Click [OK].**

8 **Open the front cover.**

9 **Remove the correction pin and jig.**

		
Detection pin for correction	ATC magazine correction jig	Rotary axis correction jig

10 **Close the front cover.**

MEMO

To check whether the following symptoms have been improved, actually output milling data.

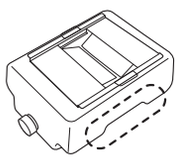
- When the milling position is misaligned
- When symptoms such as a level difference or a hole in the Z direction occur in the milling results

☞ P. 22 "Starting Milling"

Replacing the Coolant

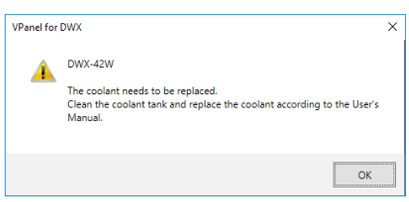
⚠CAUTION **Do not overfill or tilt the coolant tank.**
The fluid inlet on the coolant tank is open. Overfilling or tilting will cause fluid to spill out.

⚠CAUTION **When raising or lowering the coolant tank, hold the position indicated in the following figure.**
Failing to do so may result in your fingers being pinched, leading to injury.



When to Perform This Task

- Once a week
- When the following message is displayed in VPanel



Message

Important

Using coolant that is past its expiration date will decrease the durability of the filters.
Be sure to replace the coolant once per week or when instructed to do so by the message displayed in VPanel.

Items to Prepare Separately

- **Water (soft or purified water)**

  This is required in order to make the coolant. Use soft or purified water. Using hard water may have a negative effect on the service life of the milling bur and on the quality of the product.
- **Additive (ZAW-1000D)**

  To make the coolant, you have to prepare the specified additive separately. To purchase additives, contact your authorized DGSHAPE Corporation dealer or access our website (http://www.dgshape.com/).
- **Chelating reagent (ZCH-100D)**

  The ZCH-100D (hereinafter referred to as the "chelating reagent") works to make calcium and other substances contained in water inactive. Including it in this product makes it easier to clean off milling powder that adheres to the machine and the cutting tool after milling. To purchase chelating reagent, contact your authorized DGSHAPE Corporation dealer or access our website (http://www.dgshape.com/).

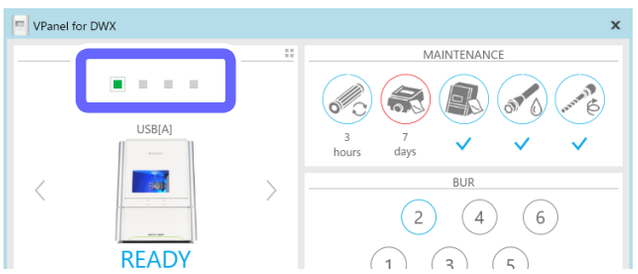
Replacing the Coolant

1. Drain the old coolant.

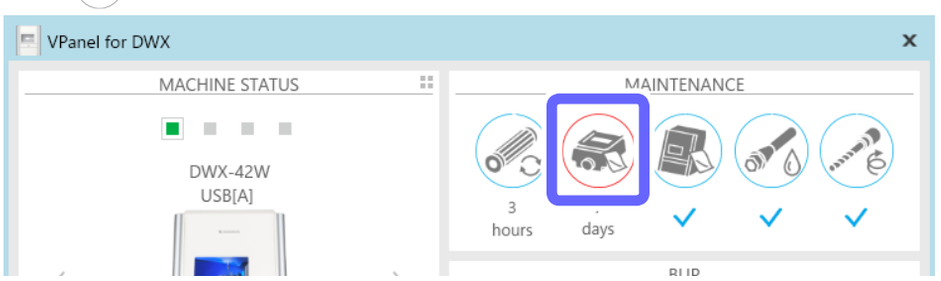
1 **Show VPanel.**

☞ P. 6 "Displaying VPanel"

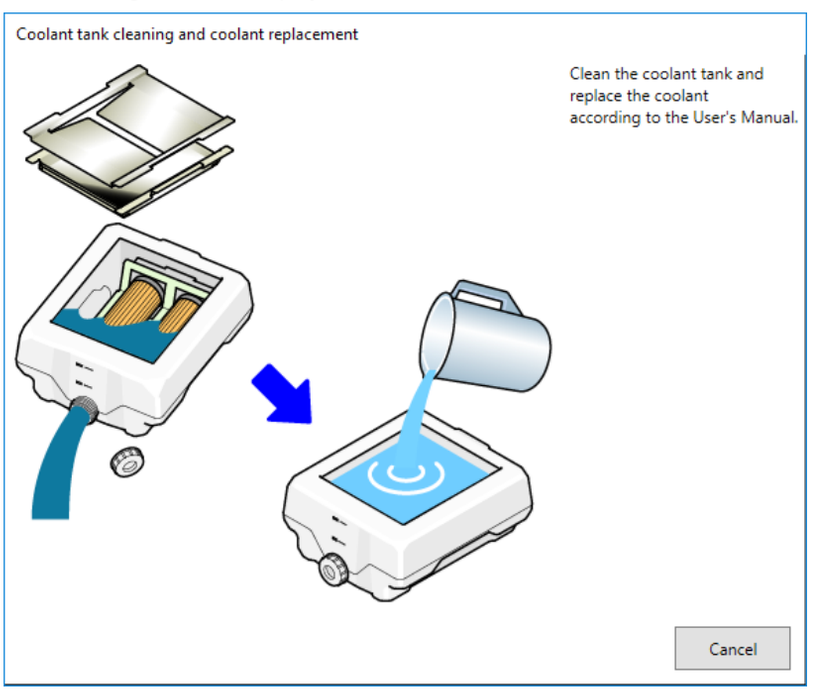
2 **Select the machine to operate.**



3 **Click** **.**

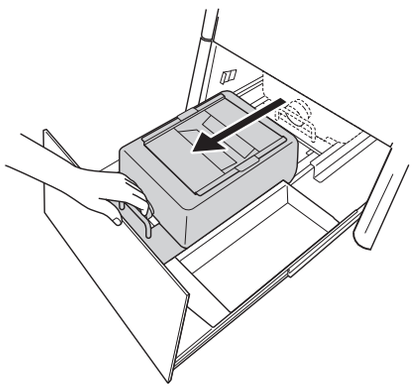


The following window is displayed.



4 **Open the bottom cover.**

5 **Pull out the coolant tank.**

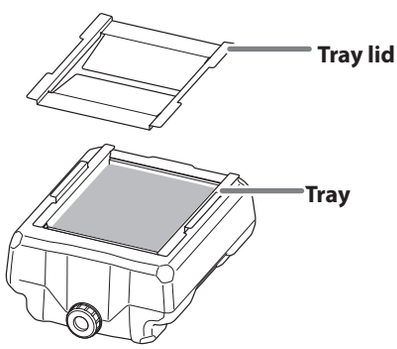


Important

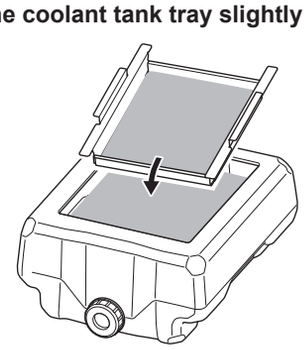
Move the coolant tank slowly. Forcefully moving the coolant tank may cause the coolant to spray out.

2. Dispose of the old coolant.

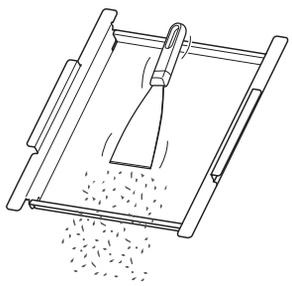
1 **Remove the lid of the coolant tank tray.**



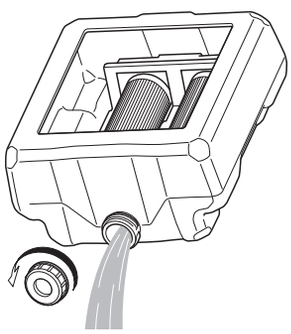
2 **Tilt the coolant tank tray slightly to pour the accumulated coolant into the tank.**



3 **Remove any milling waste that remains on the tray.**



4 **Remove the drain cap of the coolant tank, and then drain the coolant.**



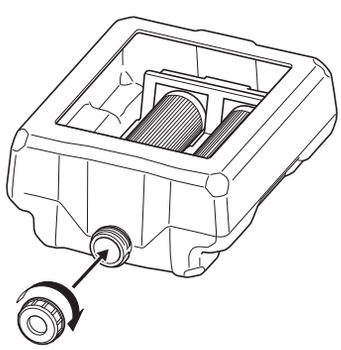
Note

Dispose of coolant and milling waste appropriately in accordance with local regulations. Do not thoughtlessly dispose of them in sewers or rivers or dump them in inappropriate locations. Doing so may have an adverse impact on the environment.

5 **Clean the inside of the coolant tank.**

Pour a little tap water into the tank, shake the tank to the left and right, and then dispose of the dirty water. Repeat this operation two or three times.

6 **Attach the drain cap to the coolant tank.**



3. Pour in the new coolant.

1 Make the coolant.

To make the coolant, mix the water, additive (ZAW-1000D), and chelating reagent (ZCH-100D) at fixed ratios. Use the included measuring cup for measuring.

① **Water: Mix water and additive in the ratio of "95:5" (water:additive).**

There is no need to stir the solution.

The capacity of the coolant tank is approximately 5 L. To fill the tank, use 4,750 ml of water and 250 ml of additive.

② **Water + additive solution: Mix the water + additive solution and chelating reagent in the ratio of "400:1" (water + additive solution:chelating reagent).**

There is no need to stir the solution.

To fill the tank, use 5,000 ml of water + additive solution and 12.5 ml of chelating reagent.

① **Water: additive = 95:5**

* When filling the tank: water = 4,750 ml and additive = 250 ml

② **Water + additive solution: chelating reagent = 400:1**

* When filling the tank: water + additive solution = 5,000 ml and chelating reagent = 12.5 ml

⚠CAUTION **Be sure to use the specified additive.**

Additives are effective in reducing coolant deterioration and raising the milling efficiency in order to maintain product performance. Furthermore, if additives are not used, the coolant may generate an unpleasant odor.

⚠CAUTION **Be sure to use the specified chelating reagent.**

The chelating reagent works to make calcium and similar substances contained in the water inactive, making it easier to clean off milling powder that adheres to the machine and the cutting tool after milling.

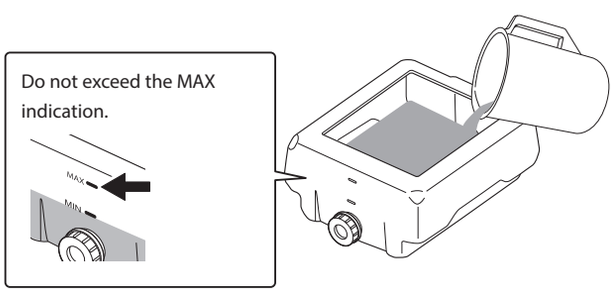
Refer to the appropriate safety data sheet (SDS) for the chemical substances used in the additive and chelating reagent and the safety related to those substances.

To purchase additives, contact your authorized DGSHAPE Corporation dealer or access our website (http://www.dgshape.com/).

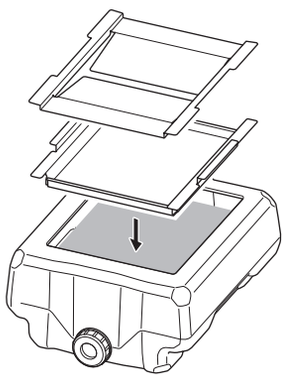
MEMO

The ratios required to create approximately one liter of coolant are written on the label affixed close to the coolant tank.

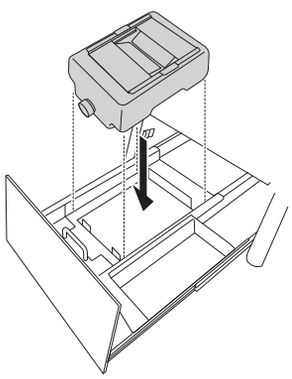
2 Pour in the coolant.



3 **After filling the tank with coolant, put the tray and lid on the coolant tank.**

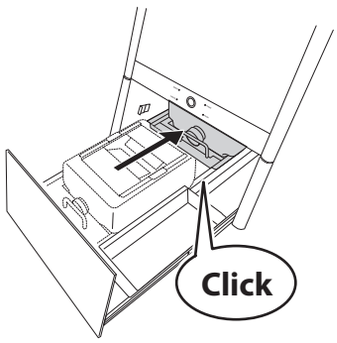


4 **Return the coolant tank to its original position.**



5 **Push the coolant tank toward the back of the machine.**

Push the coolant tank to the point where you feel a click.

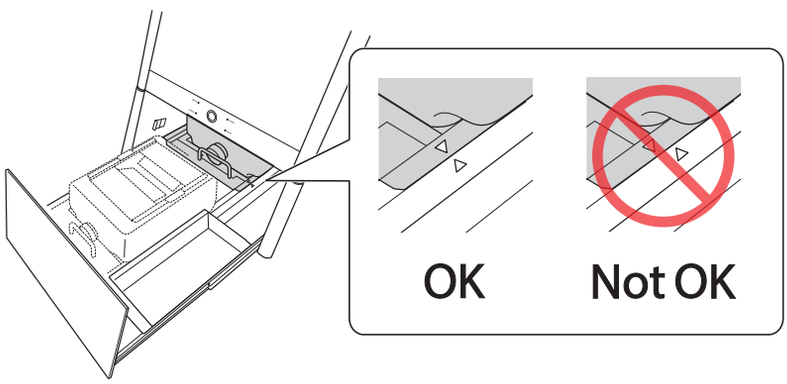


Important

Do not push the tank using the bottom cover.

Point

Align the ▷ label affixed to the right side of the tank with the ◁ label affixed to the machine.



Important

Move the coolant tank slowly. Forcefully moving the coolant tank may cause the coolant to spray out.

6 **Close the bottom cover.**

This completes the procedure for replacing the coolant.

Care and Storage of the Automatic Correction Jig

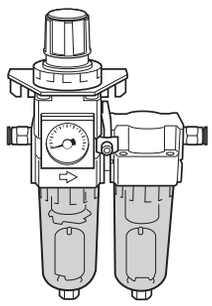
The automatic correction jig being damaged, dirty, or rusted will make it impossible to make accurate detections. This may inhibit the intended milling and may even lead to machine damage.

Care and Storage

- Before use, wipe clean using a dry, clean cloth, and make sure that no dust, rust, or scratches are found.
- When the item will be out of use for a prolonged period, store in a location with low humidity and little fluctuation in temperature.

Care of the Regulator Bowl

If the inside of the bowl becomes dirty, remove and wash the bowl.



⚠WARNING **Be sure to bleed off the air pressure before removing the regulator bowl.**
Failure to do so may result in a rupture or components flying off.

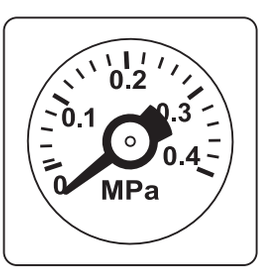
⚠WARNING **Before removing or attaching the regulator and before performing maintenance, make sure that the bowl is securely attached.**
If the bowl is not properly attached, it may come flying off when compressed air is supplied.

⚠WARNING **Clean the regulator bowl using a neutral detergent. Never use solvents such as gasoline, alcohol, or thinner.**
Using solvents may degrade the bowl and may result in a rupture.

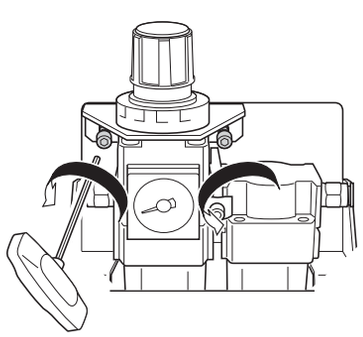
Procedure

1. **Stop the supply of compressed air.**

2. **Make sure that the pressure gauge reads "0."**

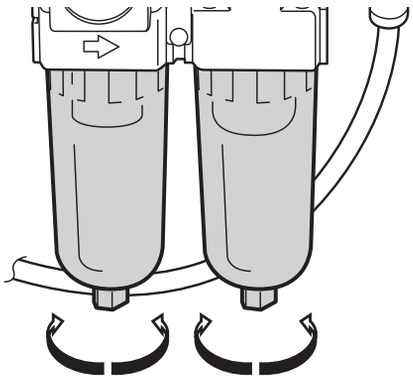


3. **Remove the regulator.**
   Loosen the screws indicated in the figure.



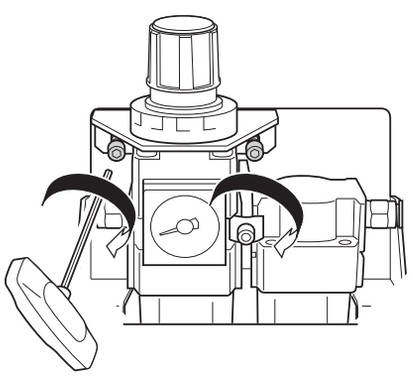
4 **Remove the bowl.**

Wash the bowl using a neutral detergent.



5 **After making sure that the bowl is completely dry, attach the bowl.**

6 **Secure the regulator in its original position.**



7 **Return the supply of compressed air to its previous state.**

Make adjustments until the meter reads between 0.18 and 0.22 MPa.

Cleaning the Coolant Nozzle

When to Perform This Task

- Once a week

Required Tools

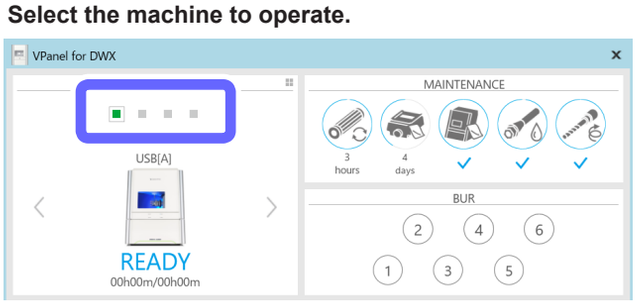
Included items
Nozzle cleaner

Procedure

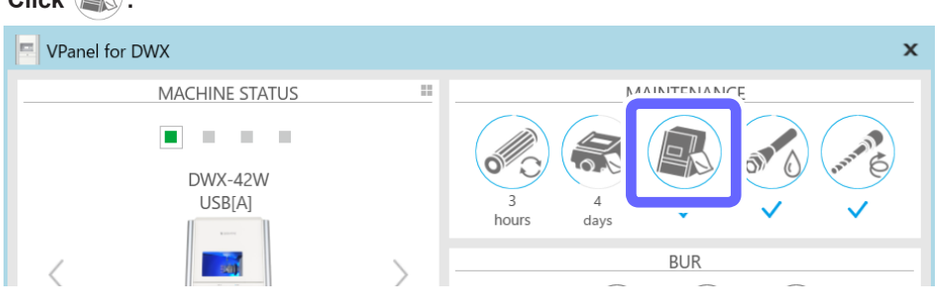
1 **Show VPanel.**

☞ P. 6 "Displaying VPanel"

2 **Select the machine to operate.**



3 **Click** **.**

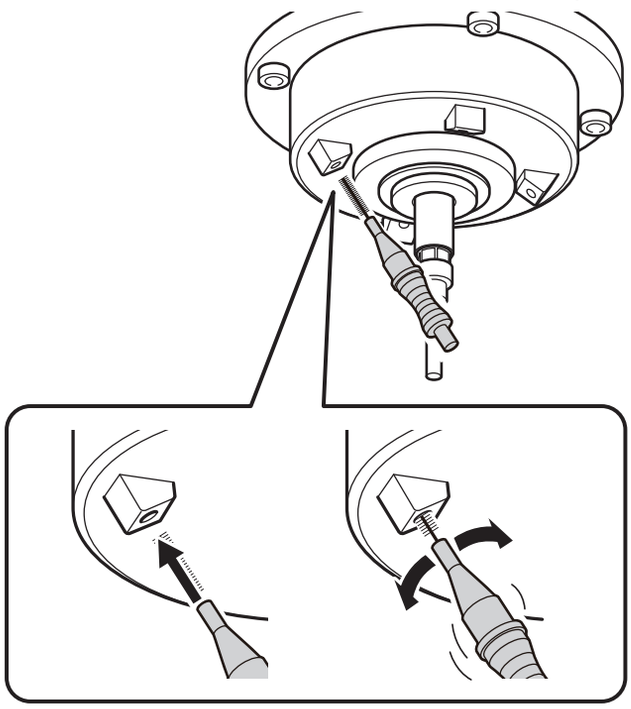


The following window is displayed.

4. **Click [Front].**

5. **Open the front cover.**

6. **Use the nozzle cleaner to clean the coolant nozzle (in two locations).**



7. **Close the front cover.**

Replacing Consumable Parts

Replacing the Spindle Unit

Replacement time

- Spindle working time: Over 1,500 hours (varies depending on usage conditions)

Remarks

- You can use VPanel to view the working time of the spindle. Refer to VPanel to determine when replacement is needed.
- The spindle unit is a part that wears out. Contact your authorized Roland DG Corporation dealer when it is time for replacement.

Replacing Milling Burs

Replacement time

- Work time: More than 7 hours

Remarks

- The milling bur work time can be viewed in VPanel.

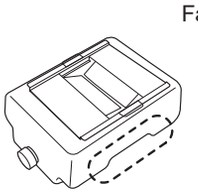
☞ P. 41 "Checking the Milling Bur Usage Status (Replacement Time)"

- The milling bur is a consumable part. To purchase this part, contact your authorized DGSHAPE Corporation dealer or access our website (http://www.dgshape.com/).

Replacing Coolant Filters

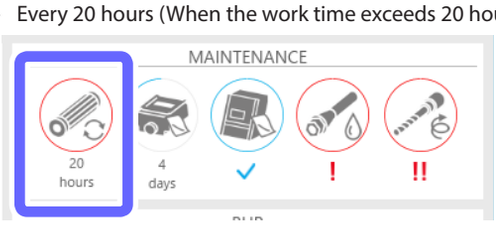
⚠CAUTION **Do not overfill or tilt the coolant tank.**
The fluid inlet on the coolant tank is open. Overfilling or tilting will cause fluid to spill out.

⚠CAUTION **When raising or lowering the coolant tank, hold the position indicated in the following figure.**
Failing to do so may result in your fingers being pinched, leading to injury.

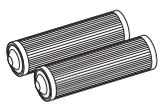


Replacement time

- When a coolant filter is dirty
- Every 20 hours (When the work time exceeds 20 hours, changes to the display shown below.)



Required Tools

Included items
 Coolant filters

* To purchase new coolant filters, contact your authorized DGSHAPE Corporation dealer or access our website (http://www.dgshape.com/).

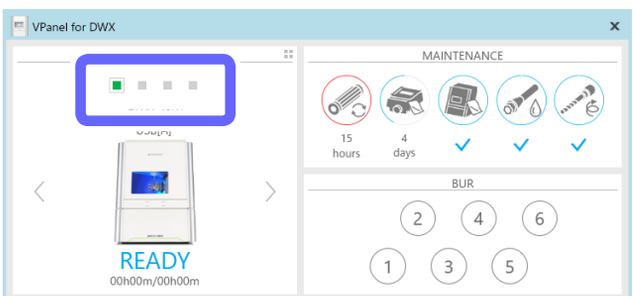
Cleaning

1. Remove the coolant tank.

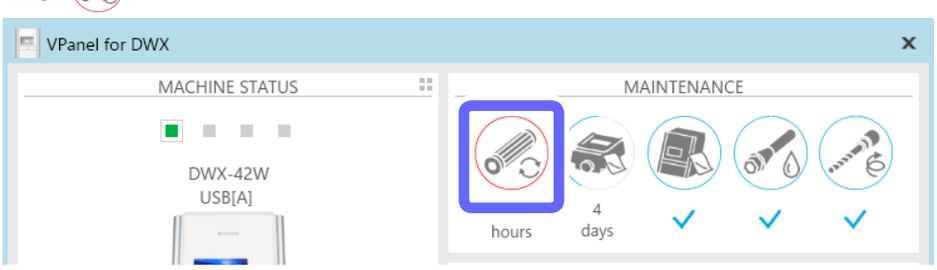
1 Show VPanel.

☞ P. 6 "Displaying VPanel"

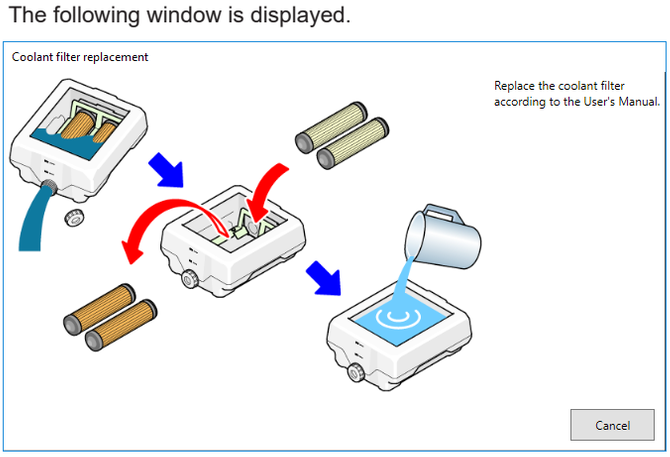
2 Select the machine to operate.



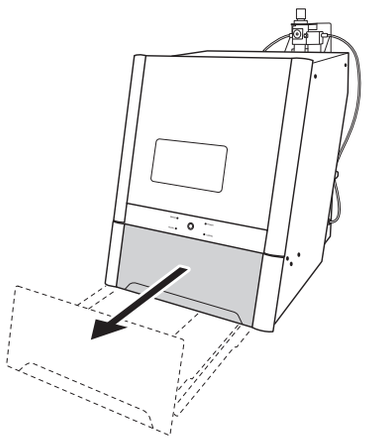
3 Click .



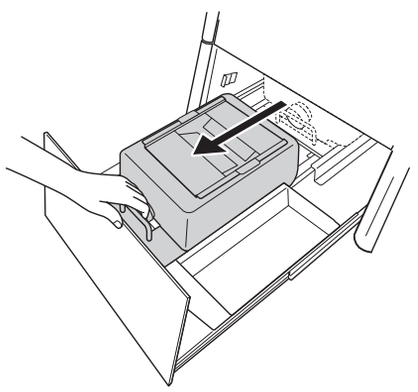
The following window is displayed.



4 **Open the bottom cover.**



5 **Pull out the coolant tank.**

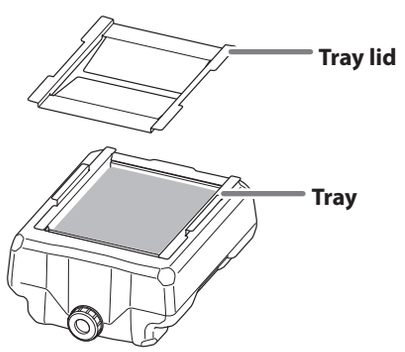


Important

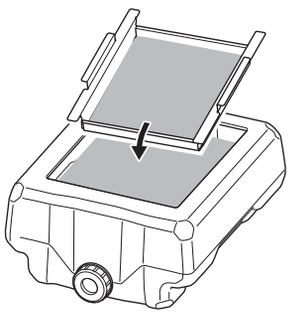
Move the coolant tank slowly. Forcefully moving the coolant tank may cause the coolant to spray out.

2. Replace the coolant filters.

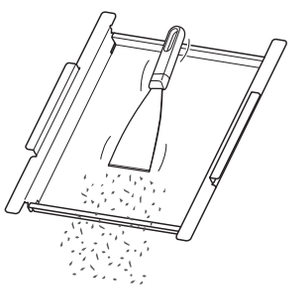
1 **Remove the lid of the coolant tank tray.**



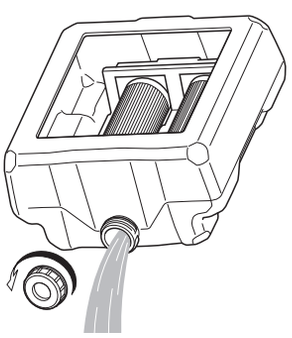
2 **Tilt the coolant tank tray slightly to pour the accumulated coolant into the tank.**



3 **Remove any milling waste that remains on the tray.**



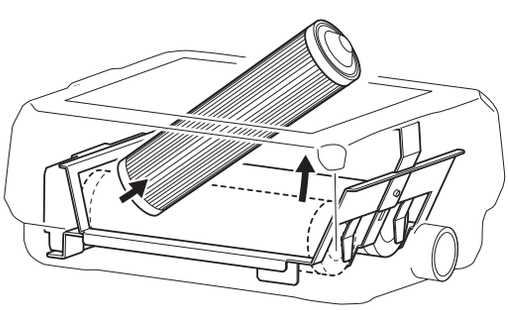
4 **Remove the drain cap of the coolant tank, and then drain the coolant.**



Note

Dispose of coolant and milling waste appropriately in accordance with local regulations. Do not thoughtlessly dispose of them in sewers or rivers or dump them in inappropriate locations. Doing so may have an adverse impact on the environment.

5 **Remove the coolant filters.**



Important

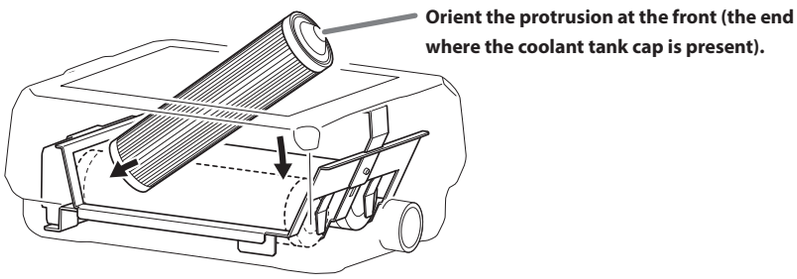
Fluid that has soaked into the coolant filters may spill out. We recommend that you place a towel or something similar below the tank.

6 **Clean the inside of the coolant tank.**

Pour a little tap water into the tank, and then shake the tank to the left and right. Dispose of any dirty water. Repeat this step until the water does not become dirty when you shake the tank.

7 **Install (two) new coolant filters.**

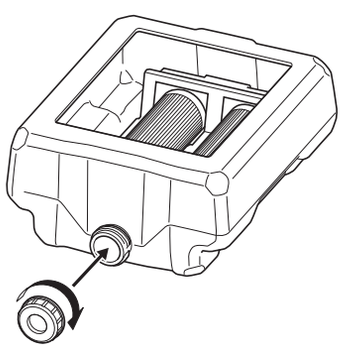
Orient the coolant filters so that the end with the protrusion is at the front (the end where the coolant tank cap is present).



⚠CAUTION **Handle the coolant filter carefully.**

Dropping the filter or grasping it too strongly may damage the filter. If the filtration function does not work due to damage, the coolant line may be clogged with milling waste, which may lead to coolant leaks and fire and electrical shock due to current leakage.

8 **Attach the drain cap to the coolant tank.**



3. Pour in the new coolant.

1 Make the coolant.

To make the coolant, mix the water, additive (ZAW-1000D), and chelating reagent (ZCH-100D) at fixed ratios. Use the included measuring cup for measuring.

① **Water: Mix water and additive in the ratio of "95:5" (water:additive).**

There is no need to stir the solution.

The capacity of the coolant tank is approximately 5 L. To fill the tank, use 4,750 ml of water and 250 ml of additive.

② **Water + additive solution: Mix the water + additive solution and chelating reagent in the ratio of "400:1" (water + additive solution:chelating reagent).**

There is no need to stir the solution.

To fill the tank, use 5,000 ml of water + additive solution and 12.5 ml of chelating reagent.

① **Water: additive = 95:5**

* When filling the tank: water = 4,750 ml and additive = 250 ml

② **Water + additive solution: chelating reagent = 400:1**

* When filling the tank: water + additive solution = 5,000 ml and chelating reagent = 12.5 ml

⚠CAUTION **Be sure to use the specified additive.**

Additives are effective in reducing coolant deterioration and raising the milling efficiency in order to maintain product performance. Furthermore, if additives are not used, the coolant may generate an unpleasant odor.

⚠CAUTION **Be sure to use the specified chelating reagent.**

The chelating reagent works to make calcium and similar substances contained in the water inactive, making it easier to clean off milling powder that adheres to the machine and the cutting tool after milling.

Refer to the appropriate safety data sheet (SDS) for the chemical substances used in the additive and chelating reagent and the safety related to those substances.

To purchase additives, contact your authorized DGSHAPE Corporation dealer or access our website (http://www.dgshape.com/).

Important

Add an additional 12.5 ml of chelating reagent to the coolant if:

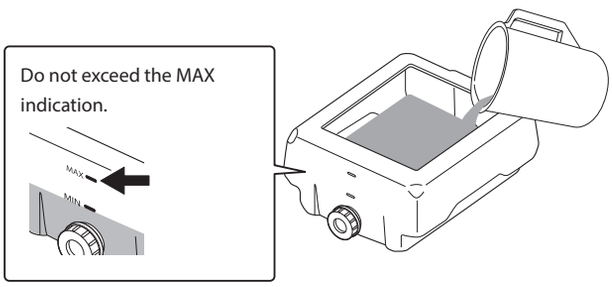
- It is easy for milling waste to adhere to the inside of the machine.
- The milling time exceeds 8 hours, regardless of whether milling waste adheres to the machine.

☞ P. 22 "Step 1: Filling the Machine with Coolant"

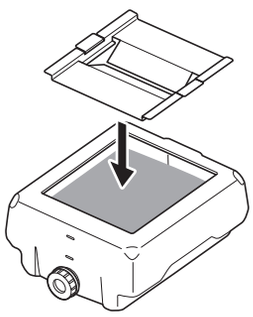
MEMO

The ratios required to create approximately one liter of coolant are written on the label affixed close to the coolant tank.

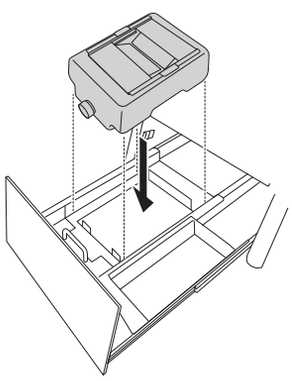
2 **Fill the coolant tank with the coolant.**



3 **After inserting the coolant, put the tray and lid on the coolant tank.**



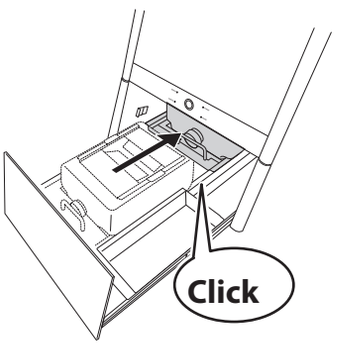
4 **Return the coolant tank to its original position.**



4. Check the coolant flow rate.

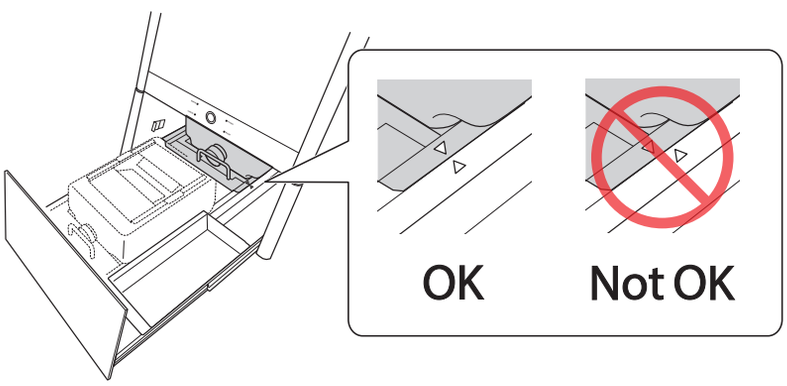
1 Push the coolant tank toward the back of the machine.

Push the coolant tank to the point where you feel a click.



Point

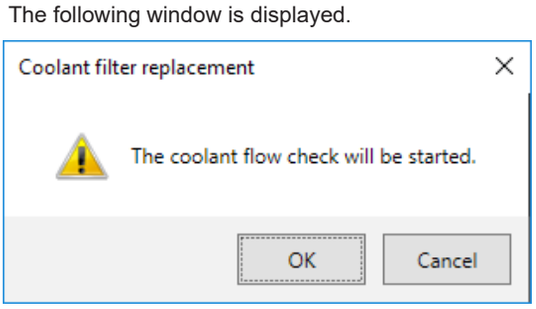
Align the ▷ label affixed to the right side of the tank with the ◁ label affixed to the machine.



Important

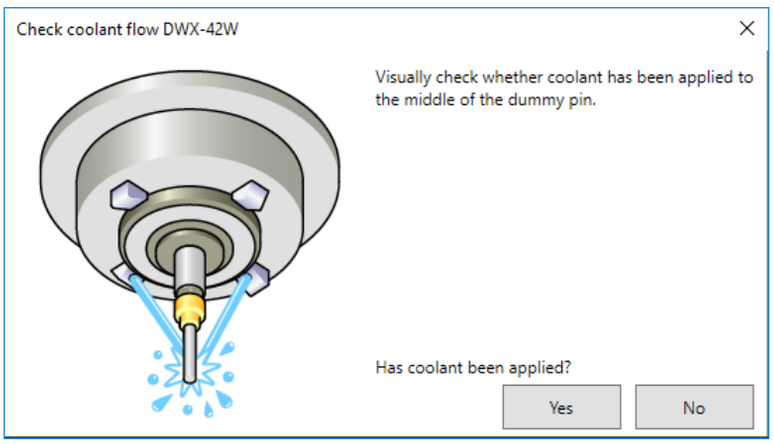
Move the coolant tank slowly. Forcefully moving the coolant tank may cause the coolant to spray out.

The following window is displayed.



2 **Click [OK].**

Coolant is applied to the dummy pin, and then the following window is displayed.

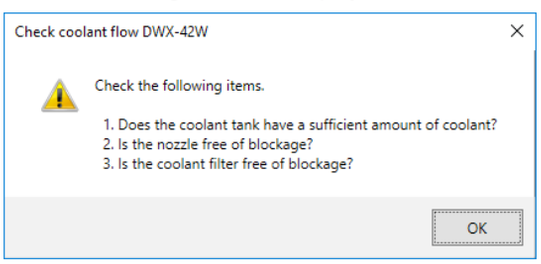


3 **Visually check that coolant is applied to the middle of the dummy pin.**

If coolant is not applied to the middle of the dummy pin

① **Click [No].**

The following window is displayed.



② **Click [OK], and then check the following items.**

- **Coolant amount**

☞ P. 22 "Step 1: Filling the Machine with Coolant".

- **Coolant nozzle clogging**

☞ P. 70 "Cleaning the Coolant Nozzle".

- **Coolant filter clogging**

☞ P. 72 "Replacing Coolant Filters".

③ **Once more, visually check that coolant is applied to the middle of the dummy pin.**

Proceed to step *5*.

If the coolant flow rate is still insufficient even after adding coolant and cleaning the coolant nozzles, contact your authorized Roland DG Corporation dealer.

If coolant is applied to the middle of the dummy pin

Click [Yes].

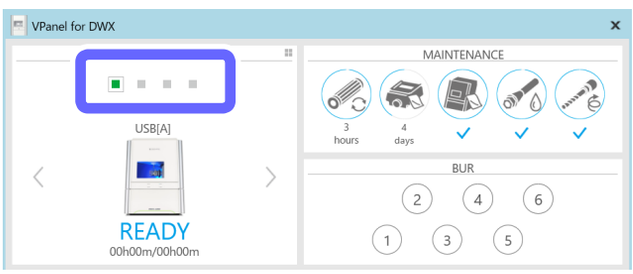
This completes the procedure for replacing coolant filters.

5. Check the coolant flow rate again.

1 Show VPanel.

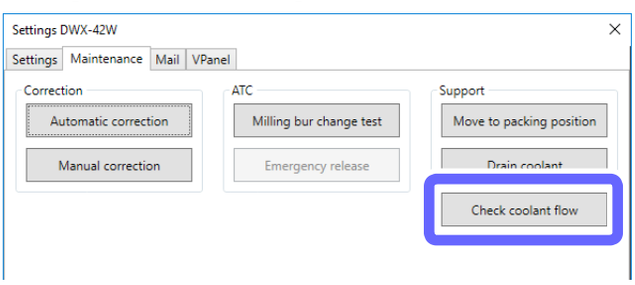
☞ P. 6 "Displaying VPanel"

2 Select the machine to operate.

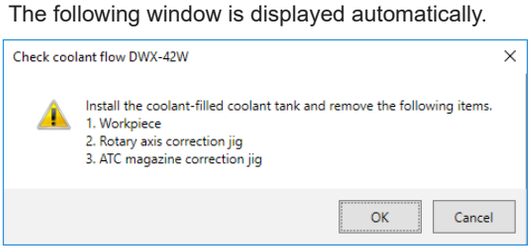


3 Click ⚙.

4 Click [Check coolant flow].

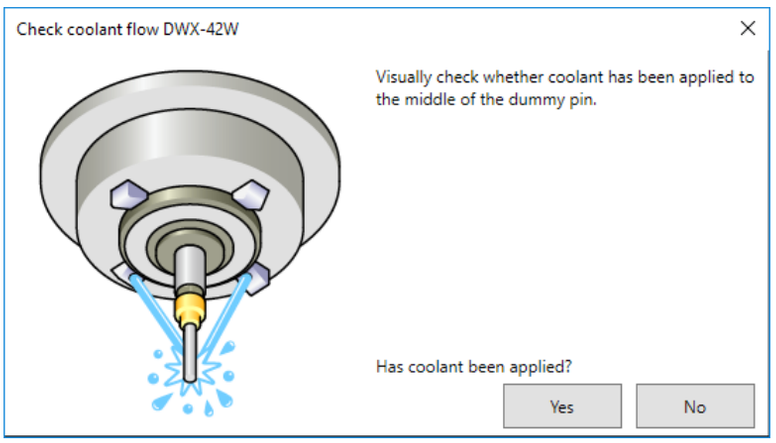


The following window is displayed automatically.



5 **Click [OK].**

Coolant is applied to the dummy pin, and then the following window is displayed.

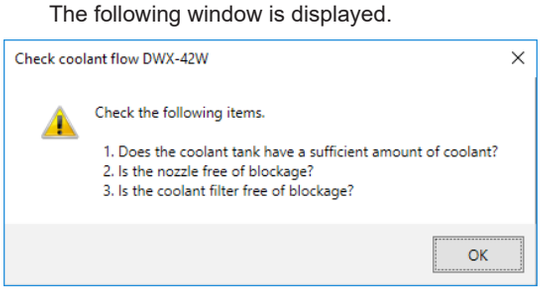


6 **Visually check that coolant is applied to the middle of the dummy pin.**

If coolant is not applied to the middle of the dummy pin

① **Click [No].**

The following window is displayed.



② **Click [OK], and then check the following items.**

- **Coolant amount**

☞ P. 22 "Step 1: Filling the Machine with Coolant"

- **Coolant nozzle clogging**

☞ P. 70 "Cleaning the Coolant Nozzle".

- **Coolant filter clogging**

☞ P. 72 "Replacing Coolant Filters".

③ **Once more, visually check that coolant is applied to the middle of the dummy pin.**

Proceed to step *5*.

If the coolant flow rate is still insufficient even after adding coolant and cleaning the coolant nozzles, contact your authorized Roland DG Corporation dealer.

If coolant is applied to the middle of the dummy pin

Click [Yes].

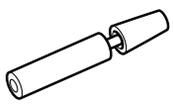
This completes the procedure for replacing coolant filters.

Replacing the Collet

Replacement time

- When scratches or rust appears on the tapered portion of the collet
- If the collet is deformed

Required Tools

Included items				
				
Collet replacement jig	Collet tap	Taper cleaner	Collet brush	Grease

Remarks

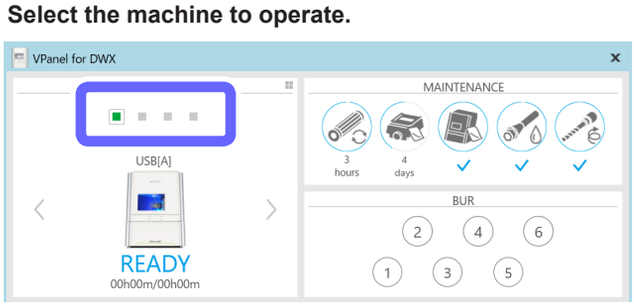
- If a large force, such as an overload during milling, is applied to the collet, the collet may have become deformed.
- To purchase a replacement collet, contact your authorized DGSHAPE Corporation dealer or access our website (http://www.dgshape.com/).

1. Remove the collet.

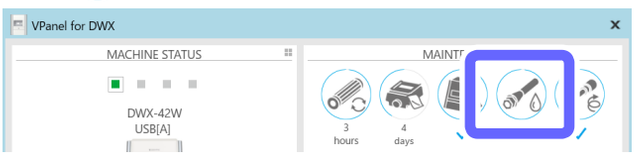
❶ Show VPanel.

☞ P. 6 "Displaying VPanel"

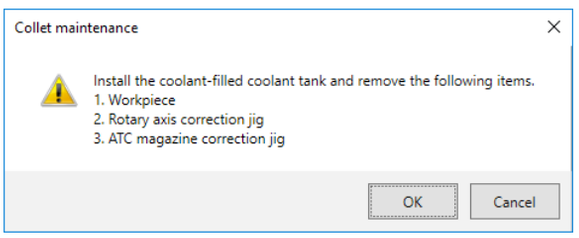
❷ Select the machine to operate.



3 **Click** .



The following window is displayed.

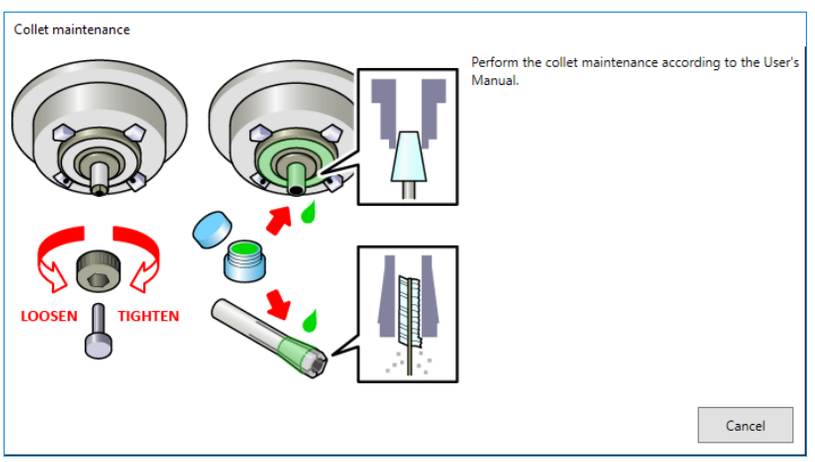


4 **Open the front cover.**

5 **Remove the workpiece, rotary axis correction jig, and ATC magazine correction jig.**

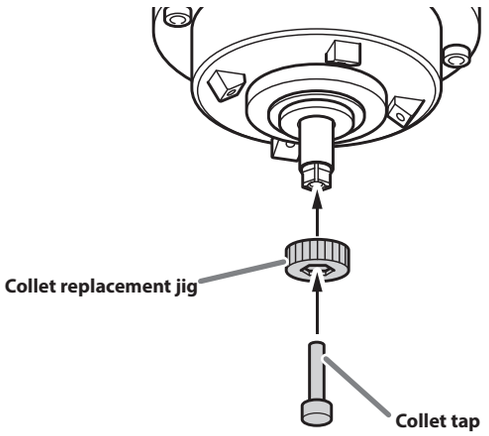
6 **Click [OK].**

The following window is displayed automatically.



7 **Press the collet replacement jig against the collet, and then insert the collet tap.**

Align the hexagonal tip of the collet and the hexagonal portion of the collet replacement jig.

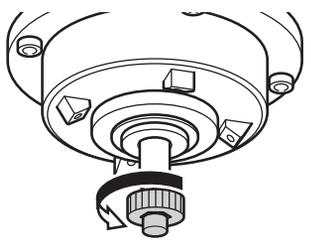


⚠**CAUTION** **Rotate the collet replacement jig with the collet tap inserted.**

If the collet replacement jig is rotated without the collet tap inserted, the collet may be damaged.

8 **While gently pressing the collet tap up into the hole, rotate the collet replacement jig in the direction indicated in the figure.**

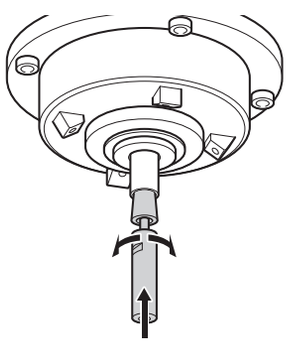
Rotate the collet replacement jig until the collet naturally comes free.



2. Attach the new collet.

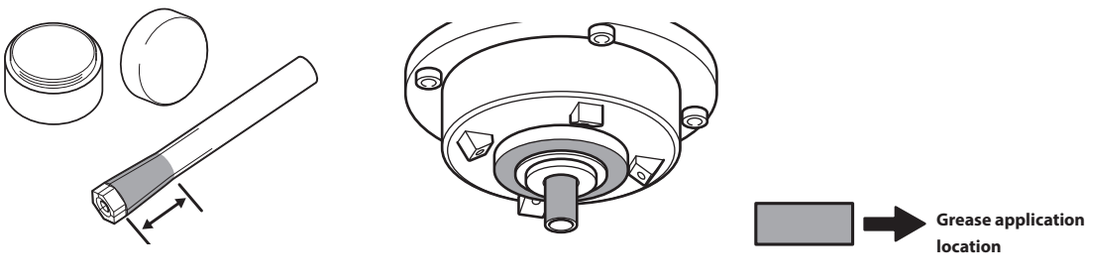
1 **Clean the inside of the spindle (where contact with the collet is made) with the taper cleaner.**

Rotate the taper cleaner left and right as if you are brushing the inner portion of the spindle.

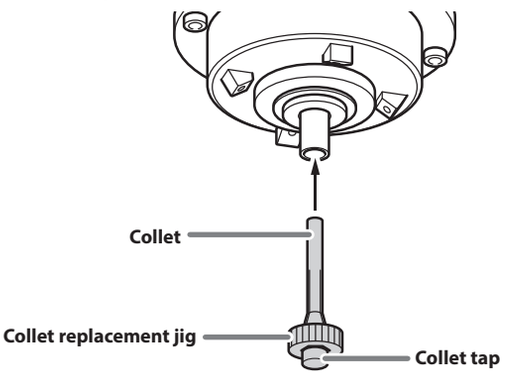


2 **Apply a thin layer of grease to the tapered part (the slanted part) of the outer diameter of the new collet and the spindle head (in two locations).**

A thin application is sufficient. Do not apply excessively.

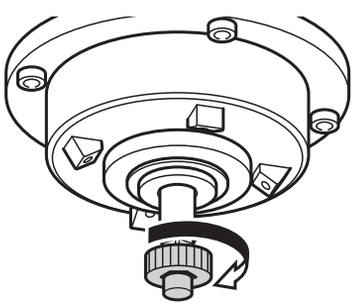


3 **Assemble the collet, collet replacement jig, and collet tap as shown in the figure, and then insert this assembly into the spindle.**

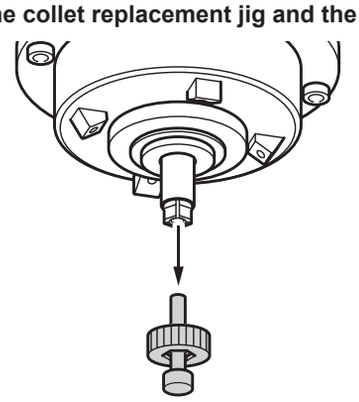


4 **While gently pressing the collet tap up into the hole, rotate the collet replacement jig in the direction indicated in the figure to tighten the collet.**

Keep rotating until the collet replacement jig will not rotate any more.

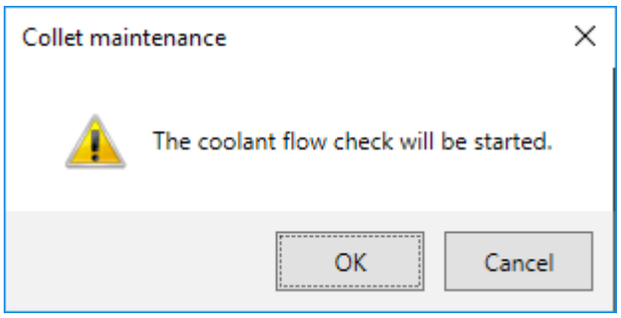


5 **Attach the collet replacement jig and the collet tap.**



6 **Close the front cover.**

7 **When the following window is displayed, click [Cancel].**



This completes the procedure for replacing the collet.

Extended Periods of Non-Use / Moving the Machine

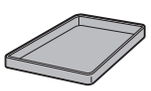
Draining the Coolant Lines

Drain the fluid collected in the coolant lines running through the machine.

Situations Requiring This Work

- When there are no plans to use the machine for 1 week or longer (or when the machine has not been used for 1 week or longer)
- Before moving the machine (especially when it is possible that coolant has spilled)

Required Tools

Commercially available item

Tray

Draining

1. Drain the coolant.

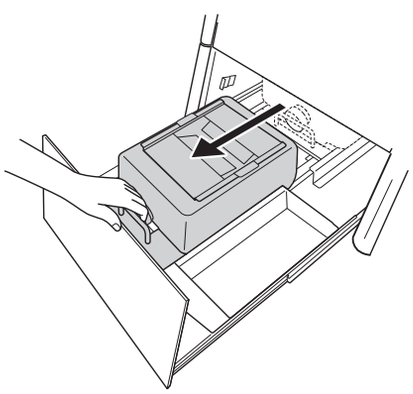
❶ **Remove the workpiece, milling burs, correction jigs, and other such items attached to the machine.**

Important

Do not remove the dummy pin held by the spindle.

❷ **Open the bottom cover.**

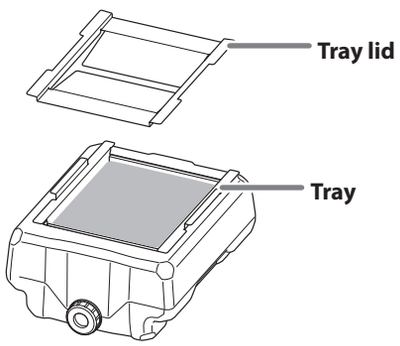
❸ **Pull out the coolant tank.**



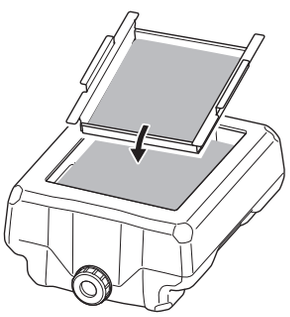
Important

Move the coolant tank slowly. Forcefully moving the coolant tank may cause the coolant to spray out.

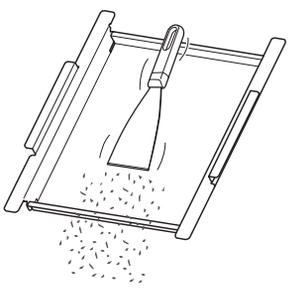
4 **Remove the lid of the coolant tank tray.**



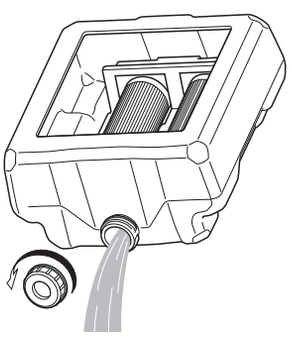
5 **Tilt the coolant tank tray slightly to pour the accumulated coolant into the tank.**



6 **Remove any milling waste that remains on the tray.**



7 **Remove the drain cap of the coolant tank, and then drain the coolant.**

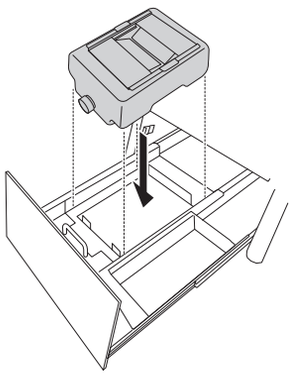


Note

Dispose of coolant and milling waste appropriately in accordance with local regulations. Do not thoughtlessly dispose of them in sewers or rivers or dump them in inappropriate locations. Doing so may have an adverse impact on the environment.

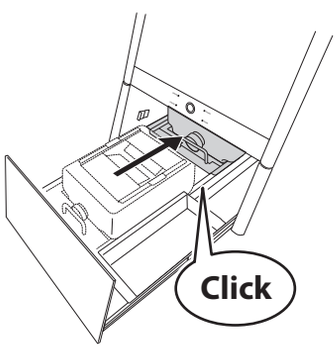
2. Drain the coolant within the machine.

1 Return the empty coolant tank to its original position.



2 Push the coolant tank toward the back of the machine.

Push the coolant tank to the point where you feel a click.

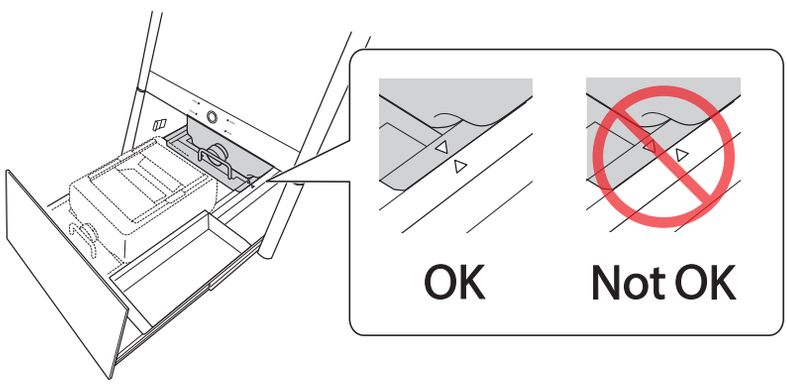


Important

Do not push the tank using the bottom cover.

Point

Align the ▷ label affixed to the right side of the tank with the ◁ label affixed to the machine.



Important

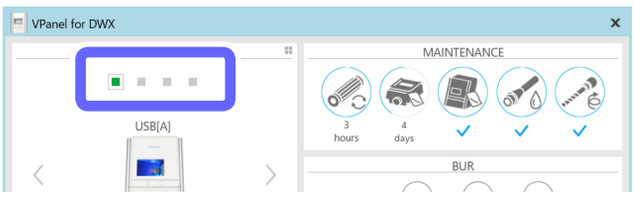
Water may drip out of the machine while the lines are drained, so return the coolant tank to its original position before starting this work.

3 Close the bottom cover.

4 **Show VPanel.**

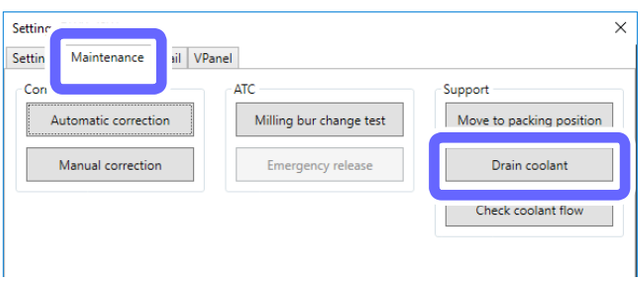
☞ P. 6 "Displaying VPanel"

5 **Select the machine to operate.**

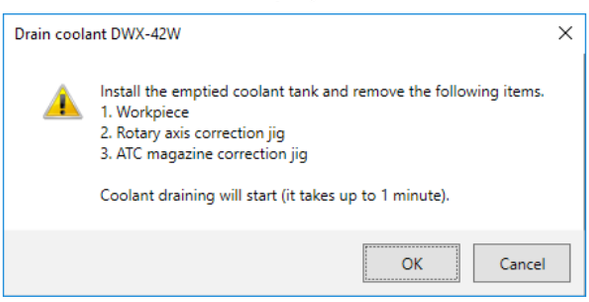


6 **Click** **.**

7 **Click the [Maintenance] tab, and then click [Drain coolant].**



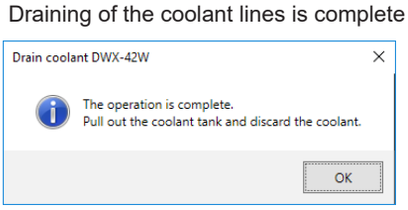
8 **Check that the work displayed on the screen is complete.**



9 **Click [OK].**

The draining of the coolant starts.

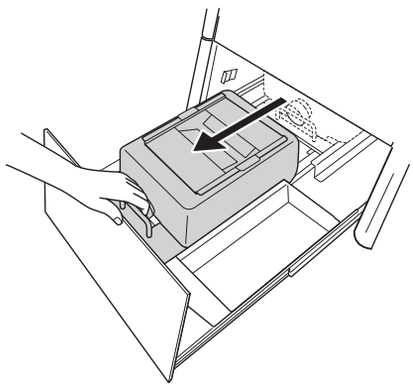
Draining of the coolant lines is complete once the message in the figure is displayed.



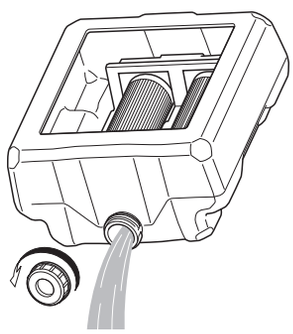
10 **Click [OK].**

3. Dispose of the drained coolant.

1. **Open the bottom cover.**
2. **Pull out the coolant tank.**



3. **Remove the drain cap, and then drain the coolant.**



Note

Dispose of coolant and milling waste appropriately in accordance with local regulations. Do not thoughtlessly dispose of them in sewers or rivers or dump them in inappropriate locations. Doing so may have an adverse impact on the environment.

4. **Return the coolant tank to its original position.**
5. **Close the bottom cover.**

Attaching the Retainer

Situations Requiring This Work

- When moving the machine

  Attach the retainer to protect the machine from vibration during shipment.

Attaching the Retainer

Important

Make sure to drain all coolant lines before attaching the retainer.

☞ P. 88 "Draining the Coolant Lines"

1. Move the position of the spindle head.

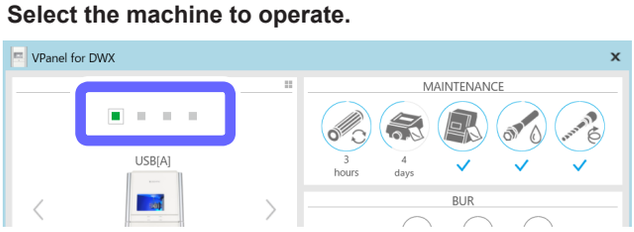
1 Check that no workpieces, milling burs, or correction jigs are present.

2 Close the front cover.

3 Show VPanel.

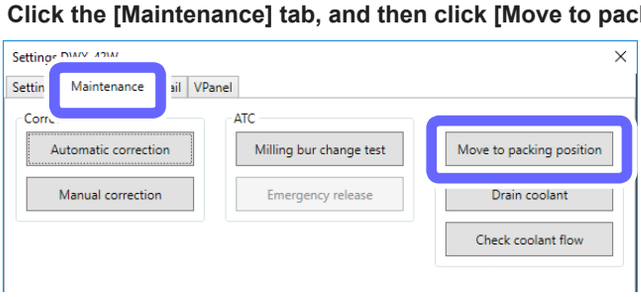
☞ P. 6 "Displaying VPanel"

4 Select the machine to operate.



5 Click .

6 Click the [Maintenance] tab, and then click [Move to packing position].



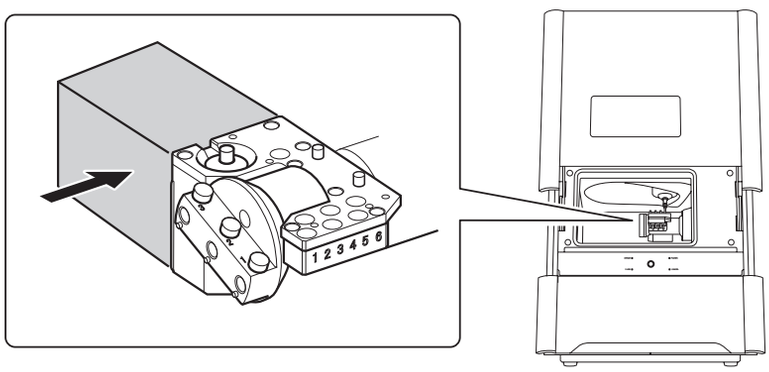
2. Attach the retainer inside the front cover.

1 **Make sure the front cover is closed, and turn off the power.**

2 **Open the front cover.**

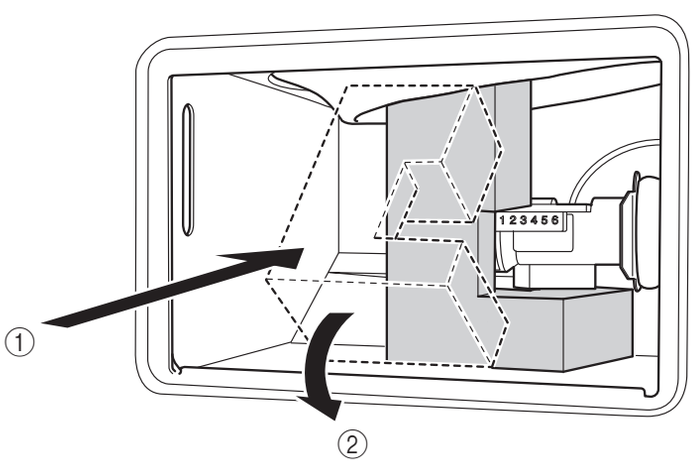
3 **Attach the retainer (small).**

Attach the retainer (small) by pushing it into the area behind the rotary axis unit.



4 **Attach the retainer (large).**

Attach the retainer (large) by moving it in the order indicated with (1) and (2).



Important

Be careful not to pinch the silicone portion around the spindle head with the retainer. Doing so may weaken the secureness of the retainer.

5 **Close the front cover.**

Spindle Run-In (Long)

Situations Requiring This Work

- When the machine has not been used for 1 month or longer
- When the machine is moved
- When a spindle error (1029-0000, 102A-000*, or 102B-0000) occurs

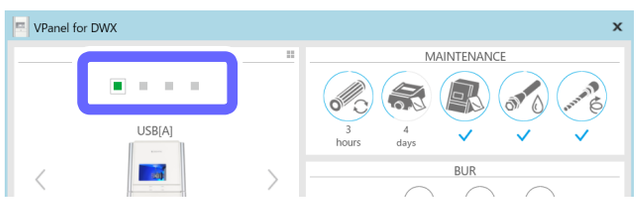
Performing Run-In

Procedure

1. **Remove the workpiece, rotary axis correction jig, and ATC magazine correction jig if they are attached.**
2. **Close the front cover.**
3. **Show VPanel.**

☞ P. 6 "Displaying VPanel"

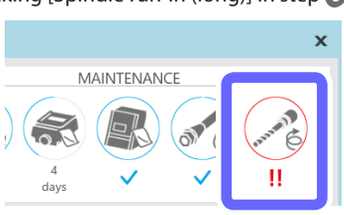
4. **Select the machine to operate.**



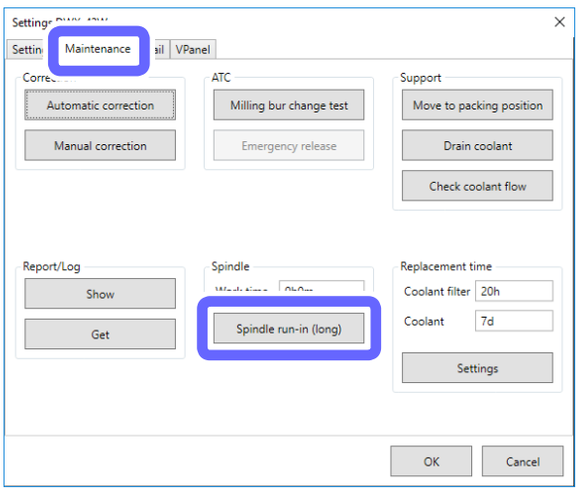
5. **Click** **.**

MEMO

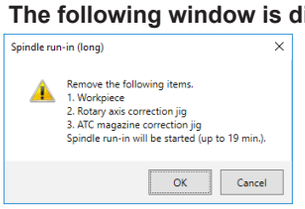
If the display in the [MAINTENANCE] area in VPanel is as shown below, click . Clicking this icon displays the same window as clicking [Spindle run-in (long)] in step 6. Proceed directly to step 7.



6 **Click the [Maintenance] tab, and then click [Spindle run-in (long)].**

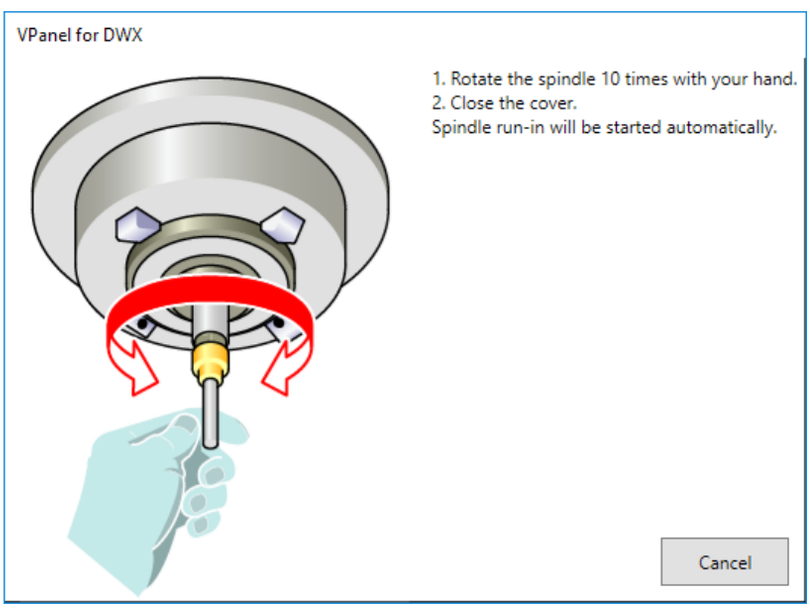


The following window is displayed.



7 **Click [OK].**

The following window is displayed automatically.

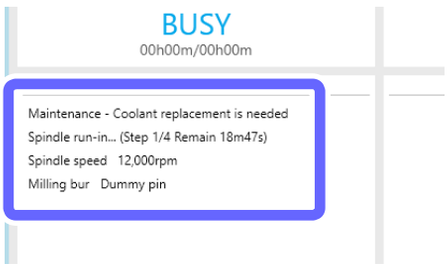


8 **Open the front cover.**

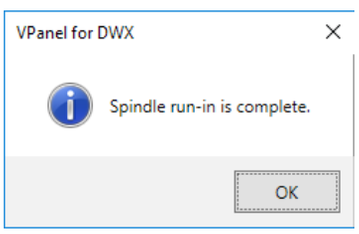
9 **Spin the spindle around 10 times in either direction by hand.**

⑩ Close the front cover.

Spindle run-in will begin. The machine status light will flash blue. The remaining work time will be displayed on VPanel.



⑪ When the message in the figure is displayed, click [OK].



This completes the procedure for spindle run-in (long).

4. Useful Functions

Setting the Connection with the Computer 99
Connecting over a LAN instead of by USB..... 99
Registering Multiple Machines in VPanel..... 108
Registration of Multiple Machines..... 108
Adding USB-connected Machines..... 108
Adding LAN-connected Machines 113
Operation When Multiple Machines are Registered in VPanel 118
Switching the Machine to Operate..... 118
Listing the Machines to Connect to and Selecting the Machine to Operate 118
Switching the Machine to Register in VPanel..... 119
Changing the Display Order of the Machines..... 121
Email Notification Settings 122
Receiving Milling Machine Status Notification Email 122
Using NC Codes 124
Selecting the NC Code Numeric Value Interpretation Method 124
Advanced Correction Function..... 125
Milling Machine Manual Correction 125
Other Functions 127
Milling bur change test..... 127
Changing the Name of the Machine Displayed in VPanel..... 128
Changing the Image of the Machine Displayed in VPanel 129
Checking the VPanel/Firmware Version 130
Displaying System Reports/Error Logs..... 131
Preventing VPanel from Starting on Computer Startup..... 132

Setting the Connection with the Computer

Connecting over a LAN instead of by USB

MEMO

This section explains how to connect only over a LAN without using a USB connection.
However, by establishing a USB connection and a LAN connection, you can reduce the risk of operations being stopped due to unexpected network problems, so we recommend that you use a USB connection in general cases.

Important: Windows firewall function

During LAN communication, this machine uses TCP ports 9100, 9500, and 9501. If you are using the Windows firewall function, set it so that these ports are not blocked.

Important: Network settings

The settings listed here are only an example. The procedure and settings given in this manual do not match every environment. In an environment where the computer being used is connected to multiple network devices and the Internet, inappropriate settings will have a large effect on the entire network. For detailed information about the settings, consult your network administrator.

1. Record the computer's current network environment.

1 **Log on to Windows as the computer's administrator or as a member of the "Administrators" group.**

2 **Verify the computer is connected through wired LAN.**

The following settings cannot be configured if using wireless LAN. Be sure to connect only through wired LAN.

3 **Display the [Internet Protocol Version 4 (TCP/IP) Properties] window on the computer.**

Windows 10

① **On the [Start] menu, click [Settings].**
② **Click [Network & Internet] then [Network and Sharing Center].**
③ **Click [Change adapter settings] from the list on the left side of the window.**
④ **Right-click [Ethernet].**
⑤ **Click [Properties].**

Windows 8.1

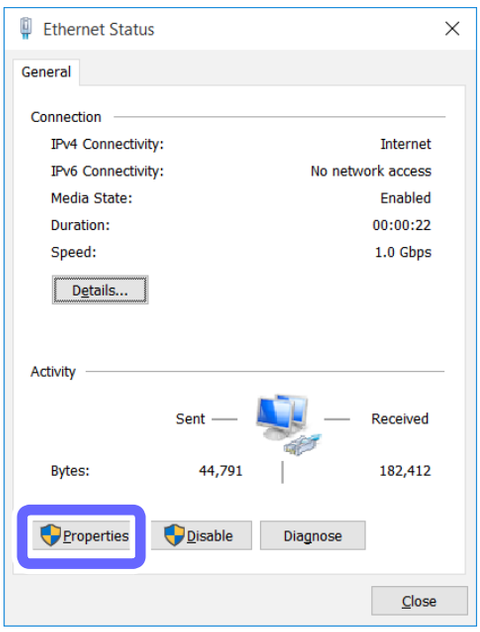
① **On the [Start] menu, click [PC settings] then [Control Panel].**
② **Click [Network & Internet] then [Network and Sharing Center].**
③ **Click [Change adapter settings] from the list on the left side of the window.**
④ **Right-click [Ethernet].**
⑤ **Click [Properties].**

Windows 7

① **On the [Start] menu, click [Control Panel].**
② **Click [Network & Internet] then [Network and Sharing Center].**
③ **Click [Change adapter settings] from the list on the left side of the window.**
④ **Right-click [Local Area Connection].**
⑤ **Click [Properties].**

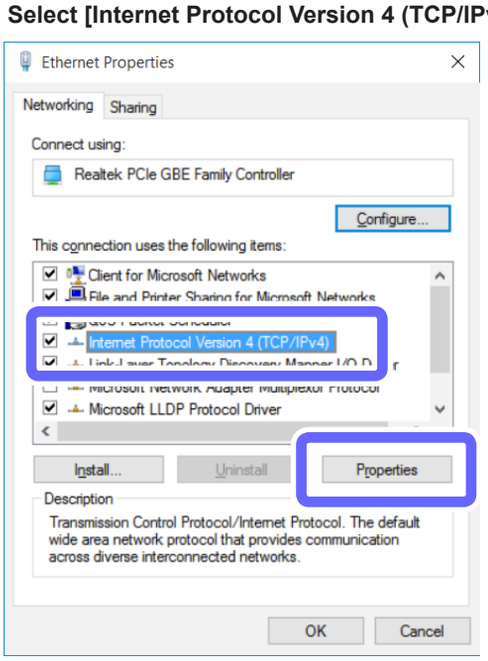
4 **Click [Properties].**

If the [User Account Control] dialog box appears, click [Continue].



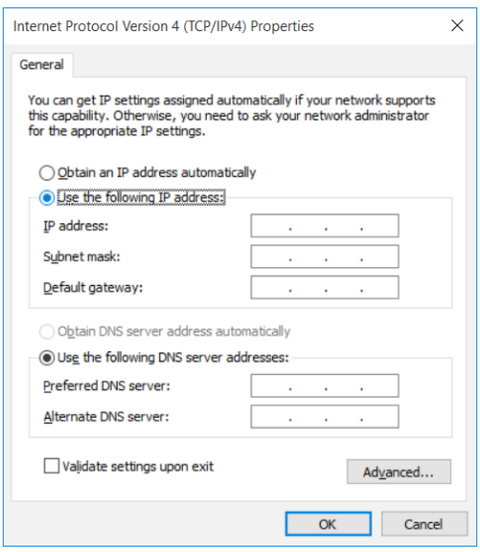
* On Windows 7, the name of this window is [Local Area Connection Status].

5 **Select [Internet Protocol Version 4 (TCP/IPv4)], and then click [Properties].**



* On Windows 7, the name of this window is [Local Area Connection Properties].

6 Record the settings displayed in this window.



Point

After changing the settings with the operations described here, it is necessary to return the settings to their original values. Be sure to record the current settings by writing a memo or saving a screenshot.

2. Change the computer's network environment (temporarily).

1 Check the network address for temporarily connecting the computer and milling machine.

Once completed, connect the computer directly to the milling machine using a LAN cable. Set the IP address of the milling machine and the subnet mask of the computer and milling machine as shown below. Determine the IP address of the computer after checking with your network administrator.

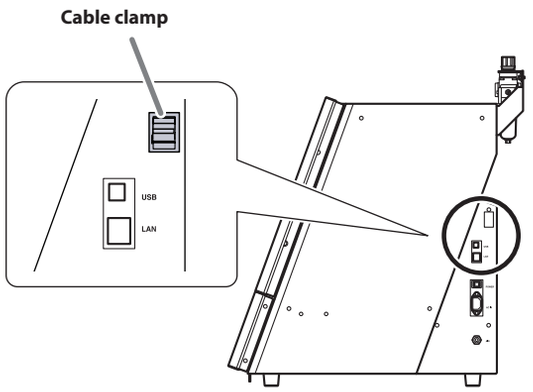
	Computer	Milling machine	Remarks
IP address	192.168.1.XXX	192.168.1.254	"XXX" should be a numeric value that does not overlap with the milling machine and other network equipment.
Subnet mask	255.255.255.0	255.255.255.0	Be sure to set the subnet mask to this value.
Default gateway	No setting required	No setting required	

❷ Connect the machine and the computer with a LAN cable.

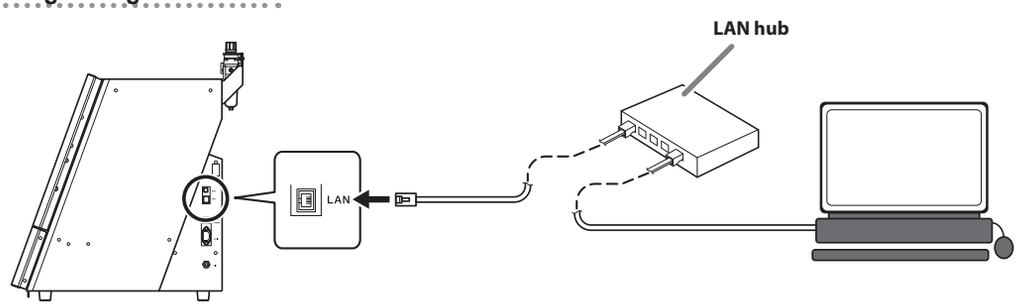
- You have to prepare a LAN cable (Category 5 or higher) separately.
- We recommend 100BASE-TX for the Ethernet.

Important

- Do not bind the LAN cable with the cable clamp.
- Wire the LAN cable so that it does not come into contact with the power cord. The LAN cable coming into contact with any other cables will result in communication malfunctions due to electrical noise.



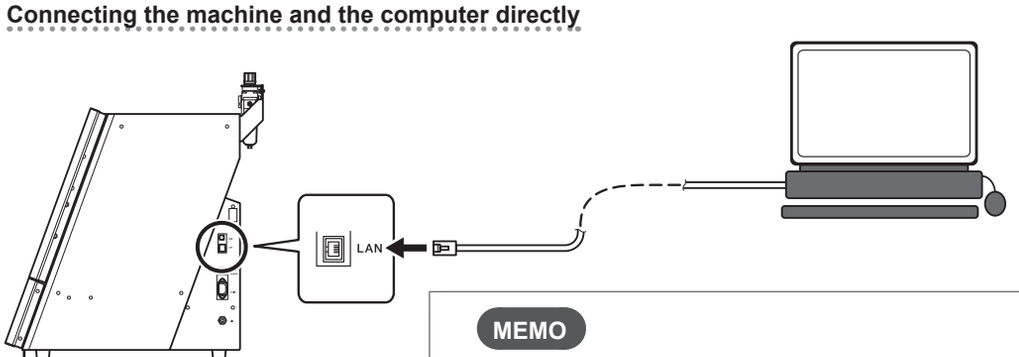
Connecting through a LAN hub



Important: Do not connect any device other than the machine and a computer to the LAN hub.

Do not connect any device other than the designated machine and a computer to the LAN hub being used here. Connecting any other device will prevent the settings from being configured correctly and may cause problems with the network settings of connected devices.

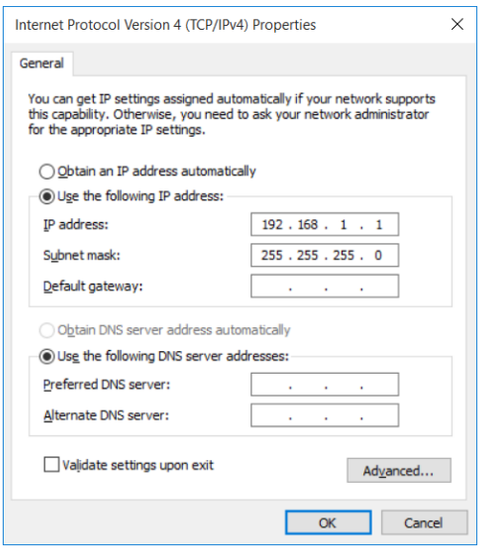
Connecting the machine and the computer directly



MEMO

A direct connection to the machine is possible when using a crossover cable. In addition, if the computer supports AUTO MDI/MDI-X, a direct connection to the machine is possible when using a straight cable.

❸ **Select [Use the following IP address] and enter the computer's IP address and subnet mask confirmed in step 2.-❶.**



The value entered for [IP address] is an example. Enter the value confirmed in step 2.-❶.

❹ **Click [OK].**

❺ **Click [OK] in the [Ethernet Properties] window (the [Local Area Connection Properties] window on Windows 7).**

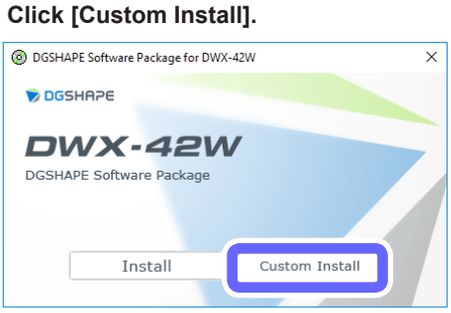
❻ **Click [Close] in the [Ethernet Status] window (the [Local Area Connection Status] window on Windows 7).**

3. Install the Windows driver on the computer.

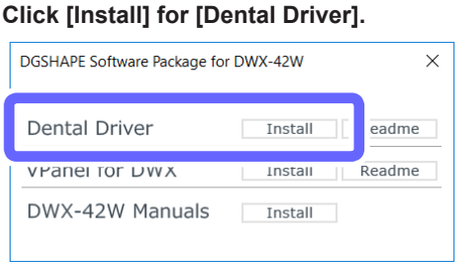
❶ **Insert the DGSHAPE Software Package CD into the CD-ROM drive of the computer.**

When the automatic playback window appears, click [Run menu.exe]. If a [User Account Control] window appears, click [Allow] or [Yes], and then continue with the installation. The setup menu screen appears automatically.

❷ **Click [Custom Install].**

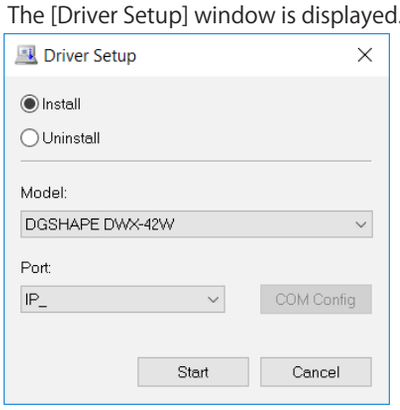


❸ **Click [Install] for [Dental Driver].**

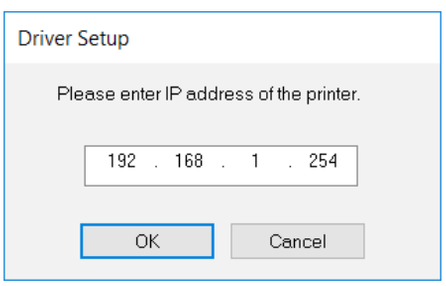


4 Select [Install], [DGSHAPE DWX-42W] for the model name, and [IP_] for the port, and then click [Start].

The [Driver Setup] window is displayed.

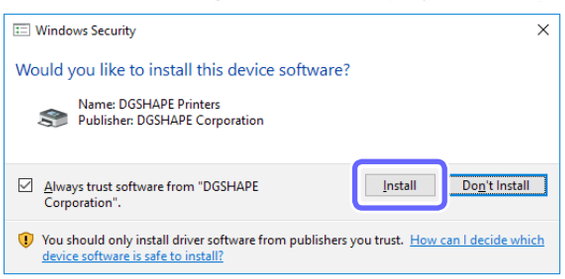


5 **Enter [192.168.1.254].**

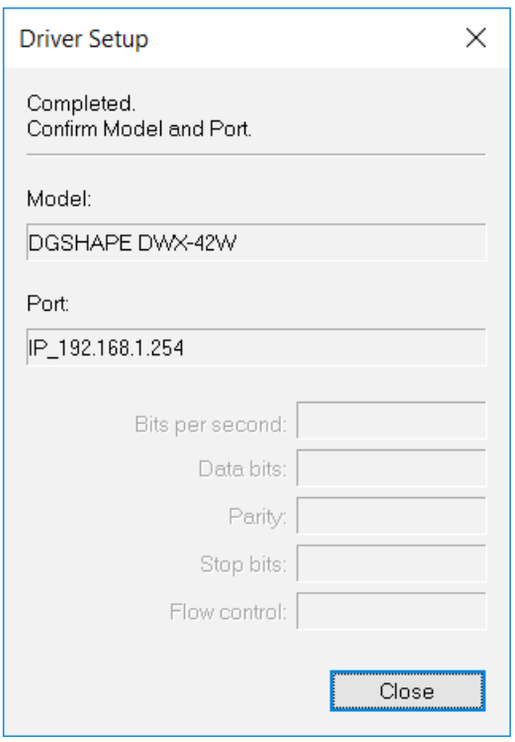


6 **Click [OK].**

7 **When the following window is displayed, click [Install].**



8 **When the following window is displayed, click [Close].**



4. Set the machine's network environment.

1 **Show VPanel.**

☞ P. 6 "Displaying VPanel"

2 **Check the following items for the machine connected with a LAN cable.**

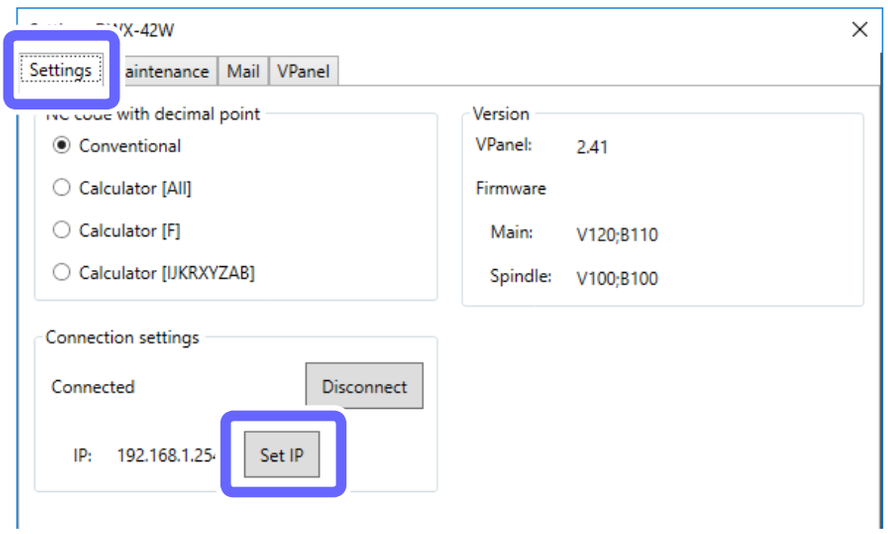
- **The operating status is [READY].**
- **The machine's status light flashes when you click the machine's image.**

After checking the above items, proceed to the next step. If you cannot verify these items, the connection has failed, so redo the procedure from the beginning.

3 **Click** ⚙ **.**

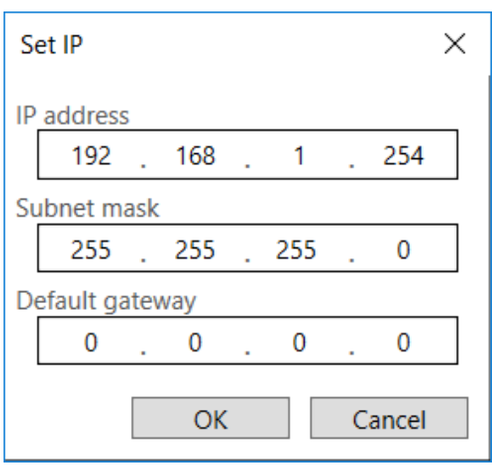
The [Settings] window is displayed.

4 **Click the [Settings] tab, and then click [Set IP].**



5 **Enter the IP address, subnet mask, and default gateway.**

Enter arbitrary numbers after checking with your network administrator. The values confirmed in step *2.*-**1** are acceptable.



The input information here is for example use only.

6 **Click [OK].**

5. Return the computer's network environment to its original values.

* This step is not necessary if the computer and the machine are directly connected during use.

1 Disconnect the LAN cable that connects the computer and the machine.

2 Return the computer's network environment to the state recorded in step *1*..

3 Connect the machine and the computer using the appropriate network.

Consult your network administrator before connecting the machine and the computer using the workplace network.

4 Check the following items for the machine connected with a LAN cable.

- **The operating status is [READY].**
- **The set IP address is displayed.**
- **The machine's status light flashes when you click the machine's image.**

Checking the above items completes the connection procedure.

MEMO

- The machine is added to [Devices and Printers] in Control Panel.
- If you want to change the network settings of the milling machine, click [IP Settings] on the [Settings] tab in the [Settings] window in VPanel.

Registering Multiple Machines in VPanel

Registration of Multiple Machines

- **Up to four machines can be registered in VPanel.**
- **By registering multiple units, output and maintenance work can be performed efficiently.**
- **USB connections and LAN connections can be used at the same time.**
  - ➢ With USB connections, IDs (A, B, C, D) are assigned to differentiate between machines.
  - ➢ With LAN connections, different IP addresses are assigned to differentiate between machines.

☞ P. 108 "Adding USB-connected Machines"," P. 113 "Adding LAN-connected Machines"

MEMO

Five or more machines can be connected to the computer. When five or more machines are connected, it is necessary to select which machine to register in VPanel.

☞ P. 119 "Switching the Machine to Register in VPanel"

Adding USB-connected Machines

This section explains how to add USB-connected machines when the first machine has already been connected.

1. Set the first machine to [OFFLINE].

❶ **Turn off the first connected machine, and then disconnect the USB cable or LAN cable that connects the machine and the computer.**

❷ **Click (the VPanel icon) in the task tray on the desktop.**

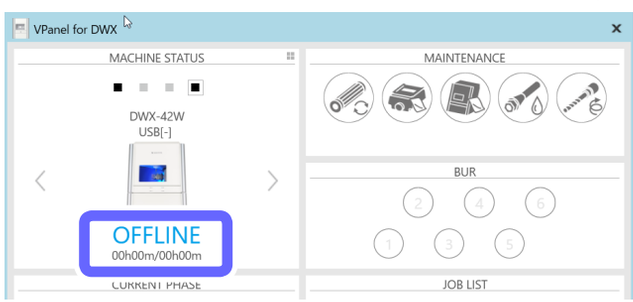
VPanel will be displayed.

If you cannot find in the task tray, start the program from the Windows [Start] screen (or the [Start] menu).

☞ Setup Guide

❸ **Verify that the machine's operating status is [OFFLINE].**

Ensure that not even one machine is connected to the computer.



2. Connect the second machine to the computer and set the ID.

1 **Use a USB cable to connect the computer and the machine that is being newly connected.**

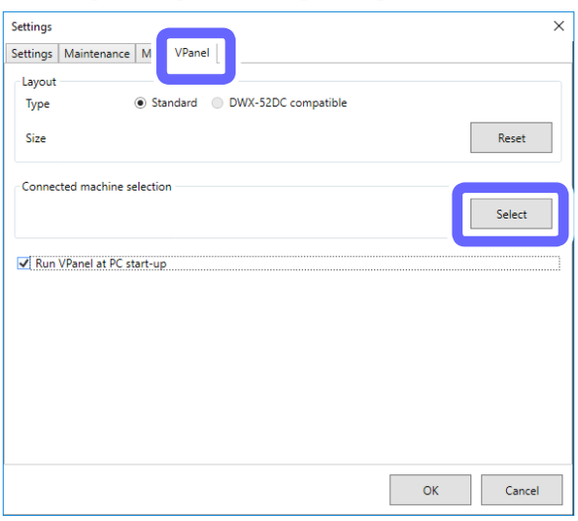
Important

- **Configure the connection settings one machine at a time. Be sure to only connect the machine that is being set. Simultaneously connecting multiple machines before configuring the settings will result in duplicate machine IDs, which may lead to the computer shutting down or it being impossible to install the driver.**
- **Use the included USB cable.**
- **Do not use a USB hub. Connection may not be possible.**
- **Secure the USB cable with a cable clamp.**
- **Wire the USB cable so that it does not come into contact with the power cord or LAN cable. The USB cable coming into contact with any other cables will result in communication malfunctions due to electrical noise.**

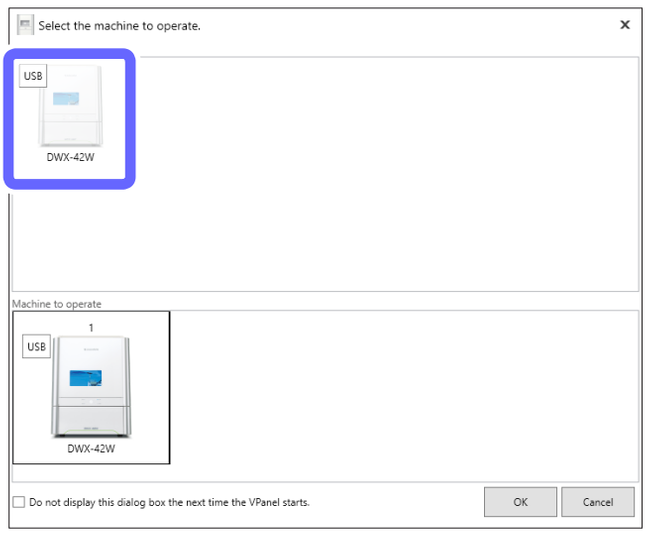
2 **Click ⚙.**

The [Settings] window is displayed.

3 **On the [VPanel] tab, click [Select].**



4 **Select [DWX-42W] as the machine to connect to from the [Usable machine list].**

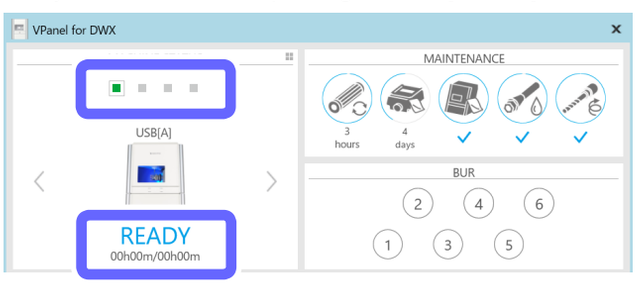


5 **Click [OK].**

6 **Turn on the machine.**

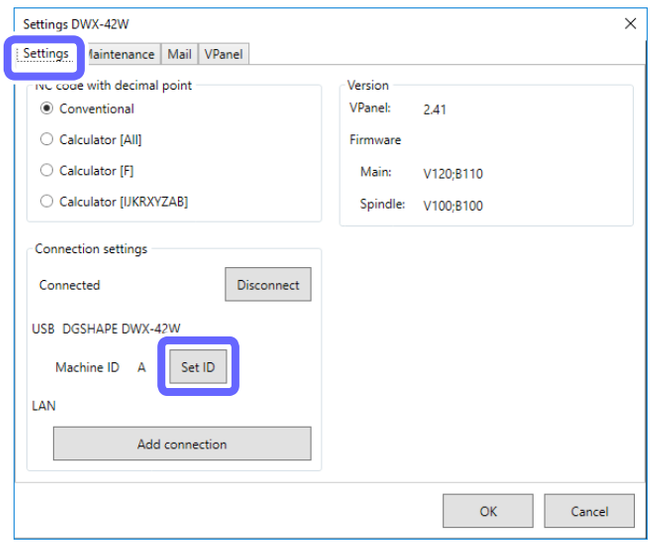
7 **Select the connected machine.**

Verify that the machine's operating status is [READY].



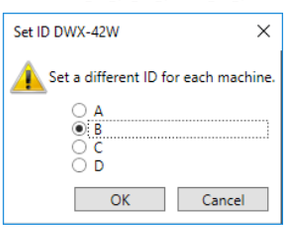
8 **Click ⚙.**

9 **Click the [Settings] tab, and then click [Set ID].**



The [Set ID] window is displayed.

10 **Select [B], [C], or [D], and then click [OK].**

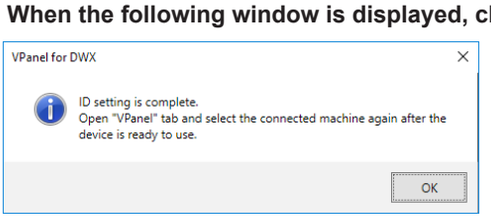


Point

- **It is important that machine IDs are unique.**
- **In the initial settings at the time of shipment, all machines are set to ID [A], so the ID of the first machine is [A]. Therefore, be sure to select [B], [C], or [D] for the second and later machines.**

⚠CAUTION **Do not set duplicate IDs.**
Simultaneously connecting multiple machines with the same ID may lead to the computer shutting down or it being impossible to install the driver.

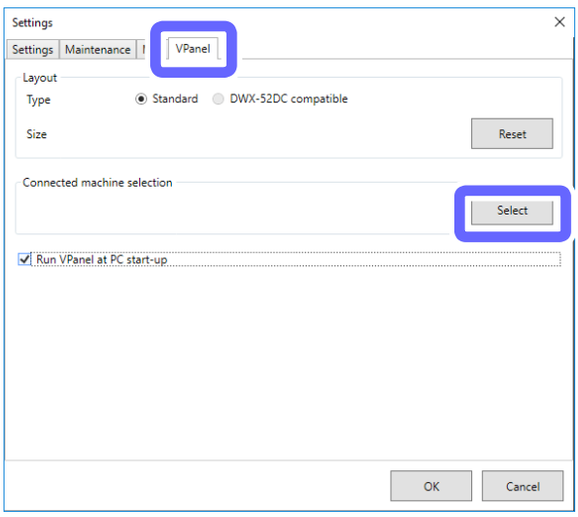
11 **When the following window is displayed, click [OK].**



The machine restarts automatically.

The driver is installed. This may take a few minutes. Wait for the machine to restart, and then proceed to the next operation.

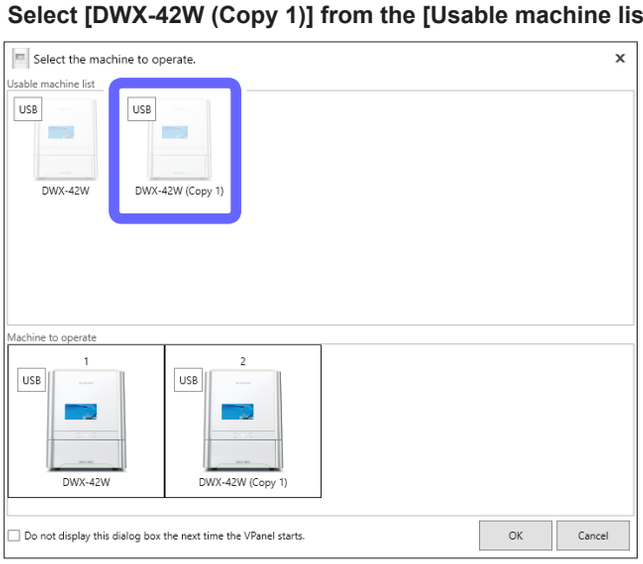
⑫ **On the [VPanel] tab, click [Select].**



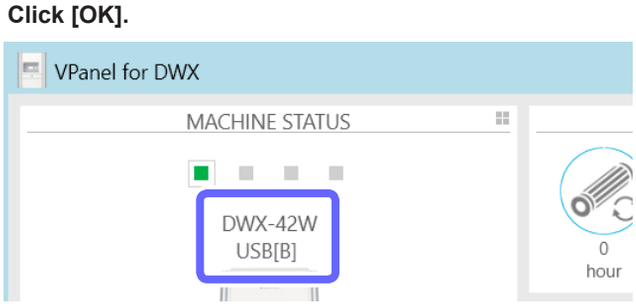
MEMO

If the [Select] button is not enabled, check that machines other than the one that you want to connect to the computer are not connected to the computer.

⑬ **Select [DWX-42W (Copy 1)] from the [Usable machine list].**



⑭ **Click [OK].**



This enables the ID set in step ⑤ and completes the procedure for connecting the second machine.
Verify that the set ID is displayed in the top window.

MEMO

The name and image of the machine displayed in VPanel can be changed. For the change method, see the corresponding page in the user's manual.

3. Add the third and fourth machines.

MEMO

LAN connections can also be used for the third and fourth machines.

☞ P. 113 "Adding LAN-connected Machines"

1 Turn off the connected machine, and then disconnect the USB cable or LAN cable that connects the machine and the computer.

2 Verify that the machine's operating status is [OFFLINE] in VPanel.

3 The same as the second machine, connect the machine to the computer and set the ID.

☞ P. 109 "2. Connect the second machine to the computer and set the ID."

⚠CAUTION **Do not set duplicate IDs.**
Simultaneously connecting multiple machines with the same ID may lead to the computer shutting down or it being impossible to install the driver.

4 When the ID setting is complete on all the machines to connect, use USB cables to connect all the machines to the computer.

MEMO

[DWX-42W (Copy 1)] is displayed for the name of the machine (third machine: [DWX-42W (Copy 2)], fourth machine: [DWX-42W (Copy 3)]).

Adding LAN-connected Machines

Check that the following operations are complete.

☞ Setup Guide (reference page)

- The USB driver is installed.
- The first machine is connected over a LAN (the computer's IP address has been set).

1. Set the first machine to [OFFLINE].

1 Turn off the first connected machine, and then disconnect the USB cable or LAN cable that connects the machine and the computer.

Ensure that not even one machine is connected to the computer.

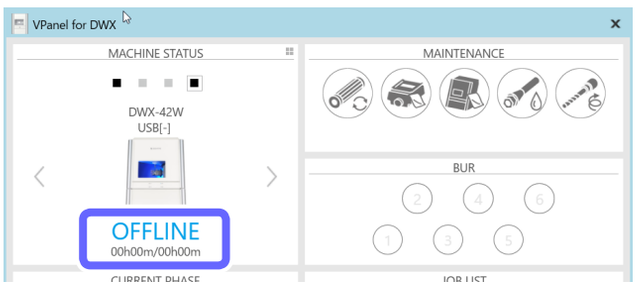
2 Click (the VPanel icon) in the task tray on the desktop.

VPanel will be displayed.

If you cannot find in the task tray, start the program from the Windows [Start] screen (or the [Start] menu).

☞ Setup Guide

3 **Verify that the machine's operating status is [OFFLINE].**



2. Add the second machine.

1 **Use a USB cable to connect the computer and the machine that is being newly connected.**

To configure the machine's additional settings, it is necessary to first connect it with a USB cable.

2 **Click (the VPanel icon) in the task tray on the desktop.**

VPanel will be displayed.

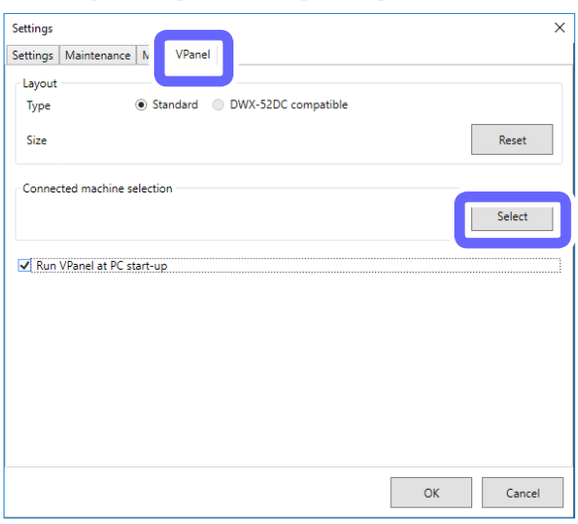
If you cannot find in the task tray, start the program from the Windows [Start] screen (or the [Start] menu).

☞ Setup Guide

3 **Click .**

The [Settings] window is displayed.

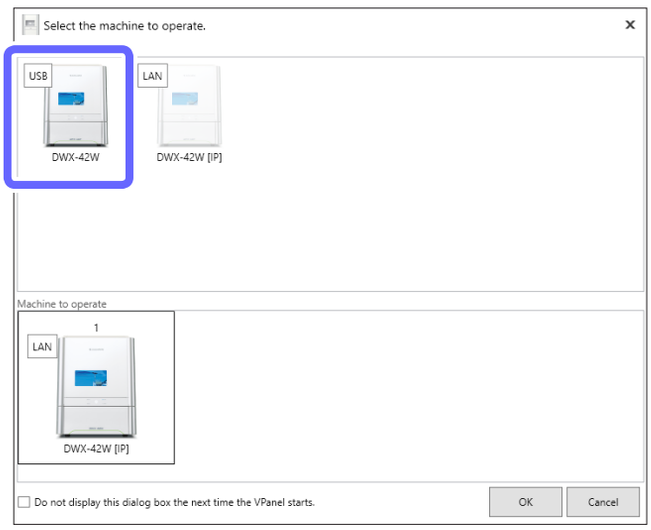
4 **On the [VPanel] tab, click [Select].**



MEMO

If the [Select] button is not enabled, check that machines other than the one that you want to connect to the computer are not connected to the computer.

5 **Select [DWX-42W] as the machine to connect to from the [Usable machine list].**

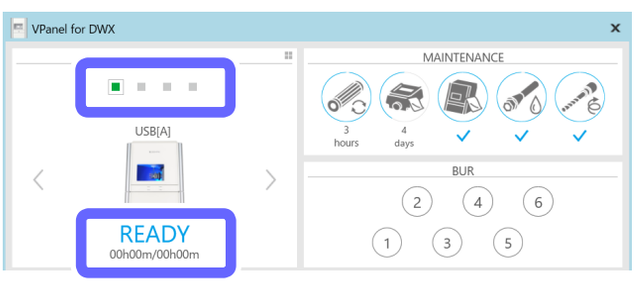


6 **Click [OK].**

7 **Turn on the machine.**

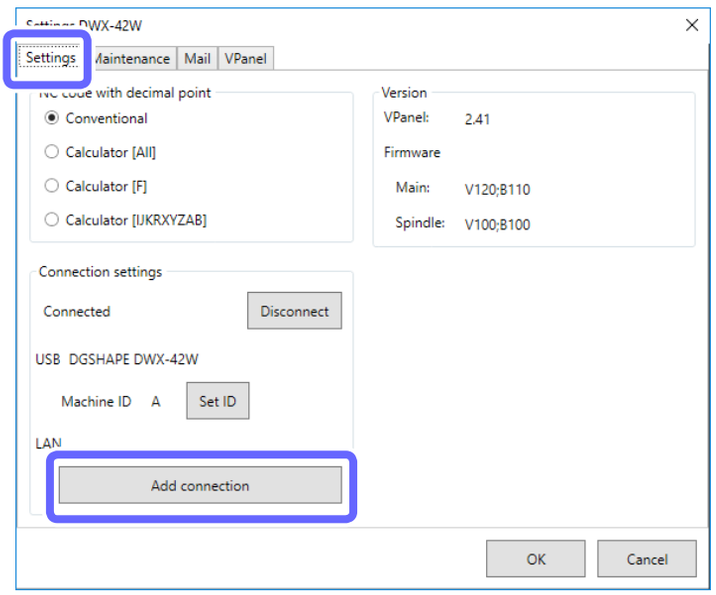
8 **Select the connected machine.**

Verify that the machine's operating status is [READY].



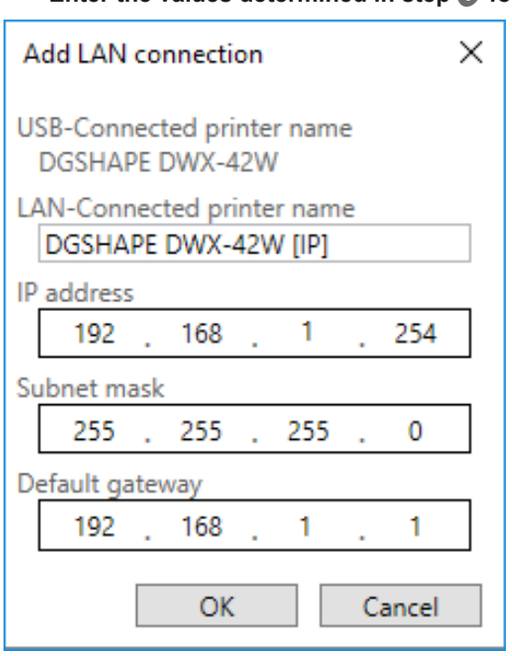
9 **Click** ⚙.

⑩ **Click the [Settings] tab, and then click [Add connection].**



⑪ **Enter the items.**

- **Enter a unique name for [LAN-connected printer name]. The name you enter here will be displayed in VPanel and as the name of the computer's printer.**
- **Enter the values determined in step ❶ for the [IP address], [Subnet mask], and [Default gateway].**



⑫ **Click [OK].**

The machine restarts automatically.

The driver is installed. This may take a few minutes. Wait for the machine to restart, and then proceed to the next operation.

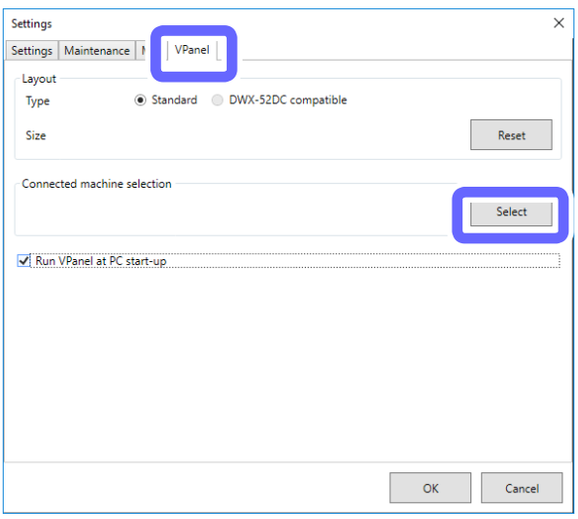
MEMO

- The machine is added to [Devices and Printers] in Control Panel with the name entered for [LAN-connected printer name].
- The name entered for [LAN-connected printer name] is displayed on the [Settings] tab in the [Settings] window in VPanel.
- If you want to change the network settings of the milling machine, click [IP Settings] on the [Settings] tab in the [Settings] window in VPanel.

⓭ **Disconnect the USB cable that connects the machine and the computer.**

⓮ **Use a LAN cable to connect the computer and the machine that is being newly connected.**

⓯ **On the [VPanel] tab, click [Select].**

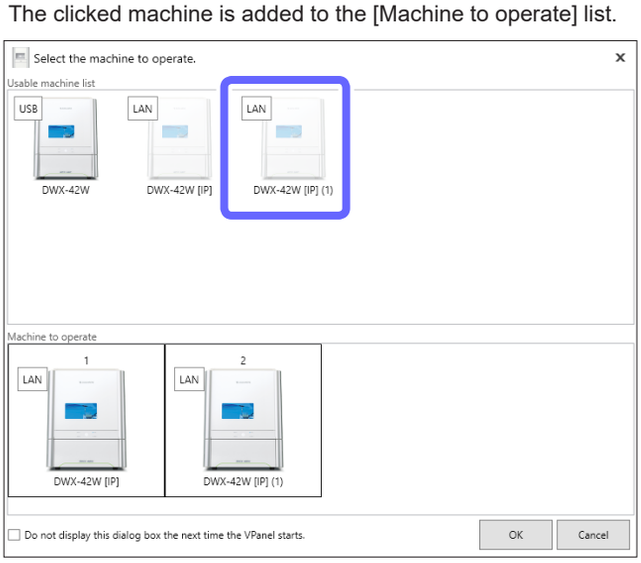


Important: When the machine is connected to multiple computers

If the same machine is selected as the [Machine to operate] on multiple computers, communication may become unstable. Before selecting the machine that was connected this time, check that it is not displayed as the [Machine to operate] in the VPanel window on other computers.

⓰ **Select [DWX-42W[IP](1)] as the machine to connect to from the [Usable machine list].**

The clicked machine is added to the [Machine to operate] list.



⓱ **Click [OK].**

3. Add the third and fourth machines.

Repeat the steps in "2. Add the second machine." to configure the LAN connection settings in VPanel.

MEMO

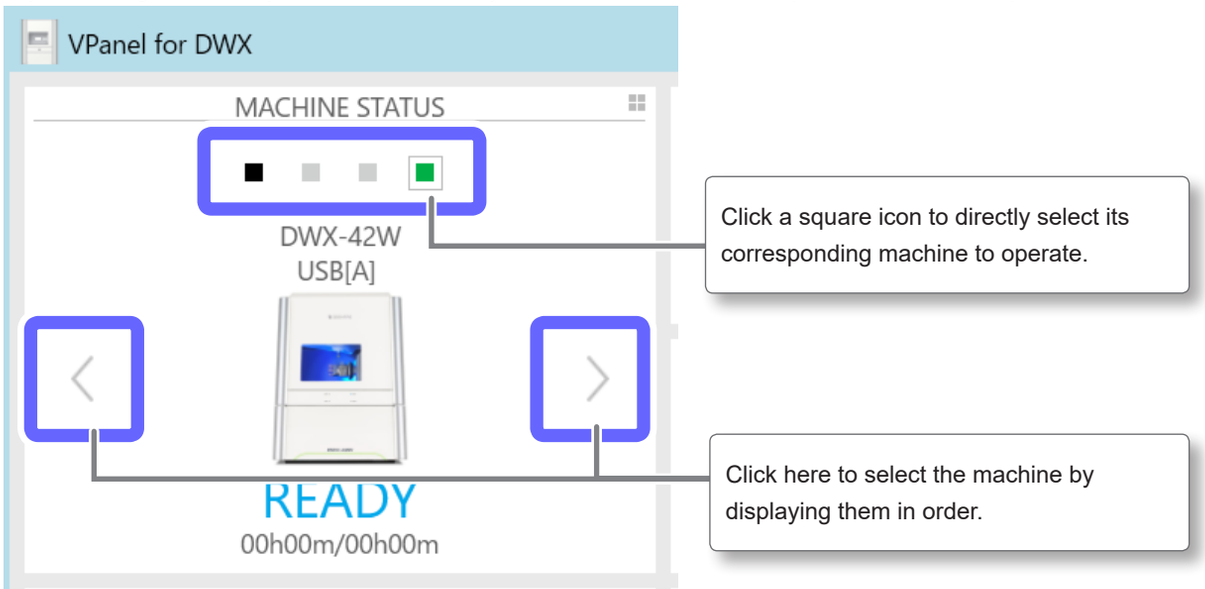
USB connections can also be used for the third and fourth machines.

☞ P. 108 "Adding USB-connected Machines"

Operation When Multiple Machines are Registered in VPanel

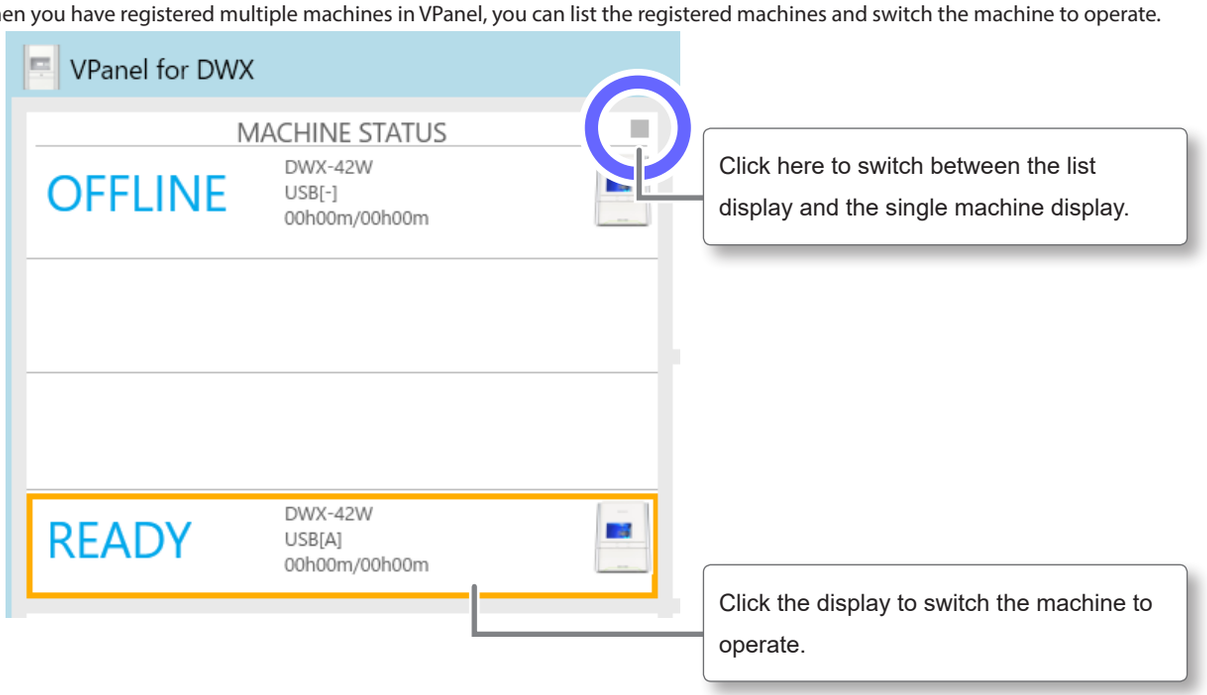
Switching the Machine to Operate

When you have registered multiple machines in VPanel, you can switch the machine to operate on the VPanel top window.



Listing the Machines to Connect to and Selecting the Machine to Operate

When you have registered multiple machines in VPanel, you can list the registered machines and switch the machine to operate.



Switching the Machine to Register in VPanel

In VPanel, you can register up to four machines. However, five or more machines can be connected to the computer. This section explains how to switch the machine to register in VPanel when five or more machines are connected.

* Some models are not supported. For details, contact your authorized DGSHAPE Corporation dealer or access our website (http://www.dgshape.com/).

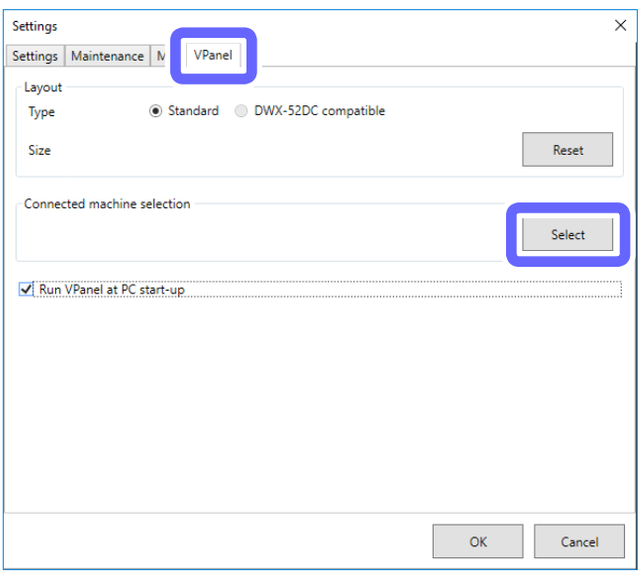
Procedure

1 **Show VPanel.**

☞ P. 6 "Displaying VPanel"

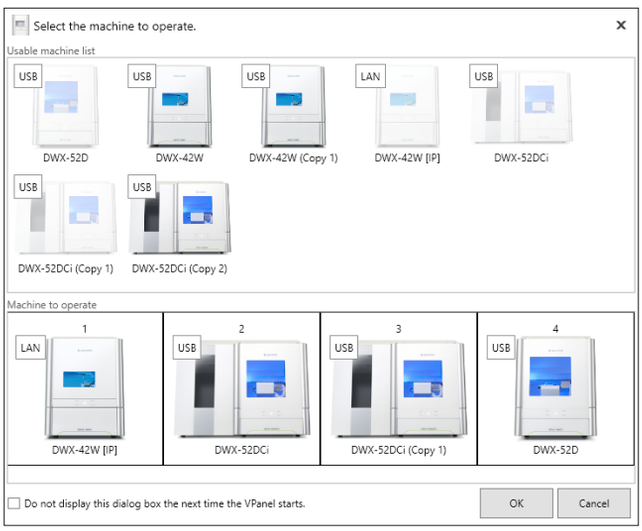
2 **Click** **.**

3 **Click the [VPanel] tab, and then click [Select].**



4 **From the [Usable machine list], click the image of the machine that you want to operate.**

The clicked machine is displayed under [Machine to operate] and is displayed dimly in the [Usable machine list]. If you click the same machine again in the [Usable machine list], the machine disappears from the [Machine to operate] field.



Important: When the machine is connected to multiple computers over a LAN

If the same machine is selected as the [Machine to operate] on multiple computers, communication may become unstable. Before selecting the machine that was connected this time, check that it is not displayed as the [Machine to operate] in the VPanel window on other computers.

MEMO

You can set up to four machines for operation. If four machines have already been selected, you have to delete one machine from the list of machines to operate. To delete the machine, use one of the following methods.

- Click the machine to remove in the [Usable machine list].
- Click the machine under [Machine to operate], and then click ×.

5 **Click [OK].**

Changing the Display Order of the Machines

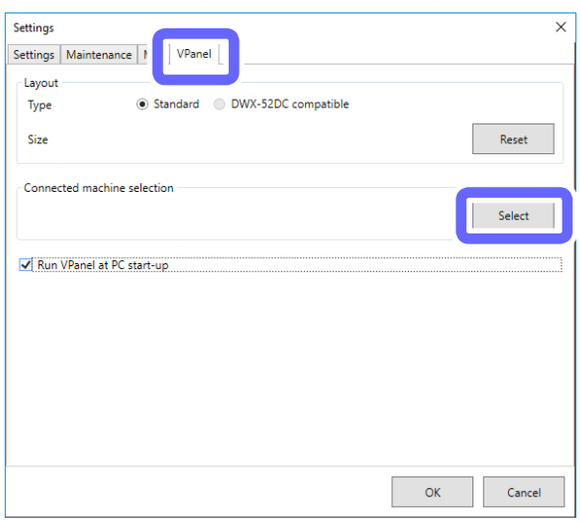
Procedure

1 **Show VPanel.**

☞ P. 6 "Displaying VPanel"

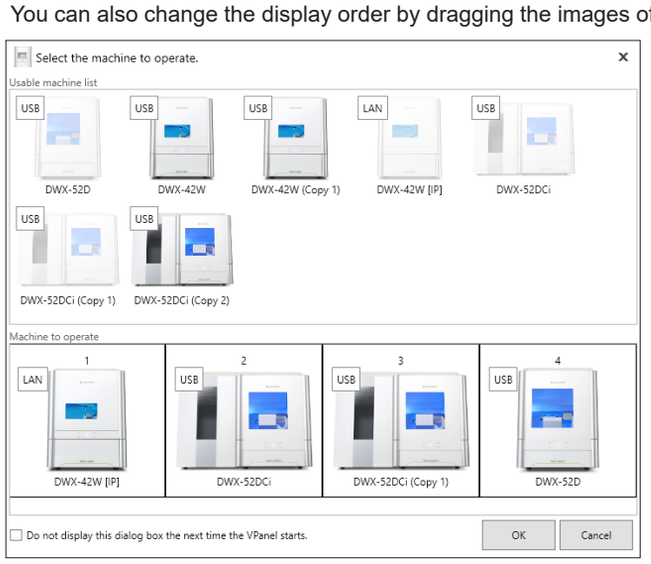
2 **Click** .

3 **Click the [VPanel] tab, and then click [Select].**



4 **From the [Machine to operate], select the image of the machine of which you want to change the display position, and then click < or >.**

You can also change the display order by dragging the images of the machines.



5 Click [OK].

Email Notification Settings

Receiving Milling Machine Status Notification Email

You can use VPanel to configure the settings in order to receive email with notifications of the following items.

- Milling finished
- An error has occurred.
- Maintenance finished

MEMO

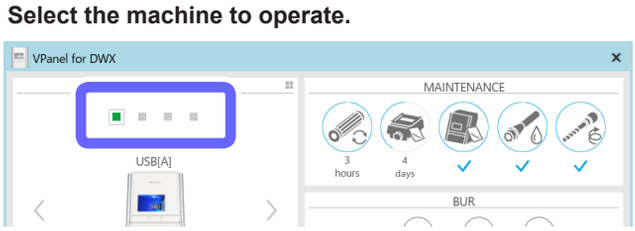
When more than one machine is connected, all of the machines become the targets for the settings. You cannot select a specific machine to target.

Procedure

1. **Show VPanel.**

   ☞ P. 6 "Displaying VPanel"

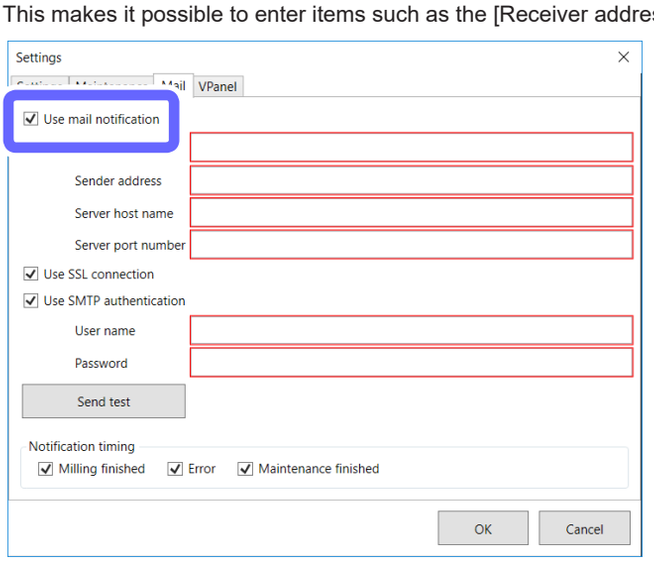
2. **Select the machine to operate.**



3. **Click** ⚙ **.**

4. **Click the [Mail] tab, and then select the [Use mail notification] check box.**

   This makes it possible to enter items such as the [Receiver address].



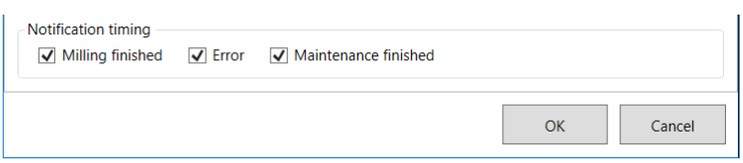
5 **Refer to the following table and enter the items.**

Item	Setting details
Receiver address	Enter the receiver's email address. You can enter multiple addresses by separating them with commas.
Sender address	Enter the sender's email address. Enter the email address used on the computer on which VPanel is installed.
Server host name	Enter the name (SMTP server name) of the outgoing mail server for the email address entered for the sender's address.
Server port number	Enter the port number of the outgoing mail server for the email address entered for the sender's address.
Use SSL connection	Select this check box to use a security-protected connection (SSL). Select or clear this check box according to the settings of the outgoing mail server for the email address entered for the sender's address.
Use SMTP authentication	Select this check box to perform authentication before sending emails. Input the user name and password for authentication. Select or clear this check box according to the settings of the outgoing mail server for the email address entered for the sender's address.

6 **Determine when to send notifications.**

You can select to send notifications in the following situations.

- **Milling finished**
- **An error has occurred.**
- **Maintenance finished**



7 **Perform a sending test.**

Click [Send test] to send a test email. If the settings have been configured correctly, the following email will be received at the address entered in [Receiver address].

- **Subject: (Machine name)**
- **Body: Test**

* If the email fails to send, the message [The email could not be sent.] will be displayed in VPanel. Check the content in the input fields again.

Important

* It may be impossible to send emails because of the settings of security software or similar programs. If emails cannot be sent, check the settings of the security software being used as anti-virus software or for a similar purpose.

* For detailed information about the email settings, consult your network administrator.

* VPanel does not support SMTP over SSL (SMTPs).

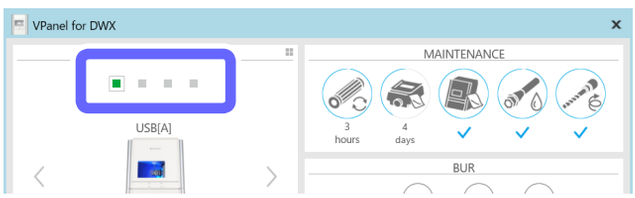
Selecting the NC Code Numeric Value Interpretation Method

Procedure

1. **Show VPanel.**

☞ P. 6 "Displaying VPanel"

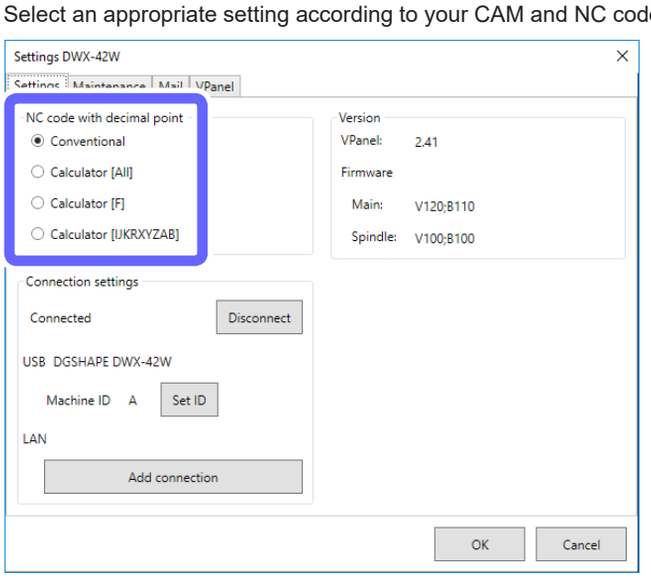
2. **Select the machine to operate.**



3. **Click** **.**

4. **Click the [Settings] tab, and then select a setting under [NC code with decimal point].**

Select an appropriate setting according to your CAM and NC code.



Item	Setting details
Conventional	The unit is interpreted as millimeter (or inch) when there is a decimal point and as 1/1000 millimeter (or 1/10000 inch) when there is no decimal point.
Calculator (All/F/IJKRXYZAB)	The unit is always interpreted as millimeter (or inch) regardless of whether there is a decimal point. Select the scope of the application when selecting [Calculator].

5. **Click [OK].**

Advanced Correction Function

Milling Machine Manual Correction

You can manually correct the milling machine. Perform correction to precisely adjust accuracy. When more than one machine is connected, the machine selected in the top window becomes the target for correction.

* Before performing this correction, perform automatic correction.

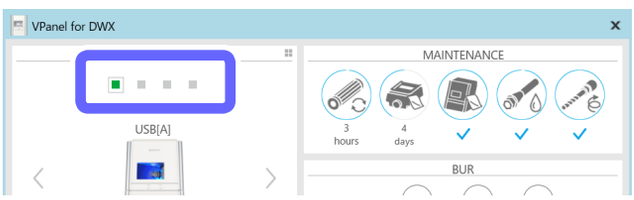
☞ P. 56 "Correcting the Milling Machine"

Procedure

1 Show VPanel.

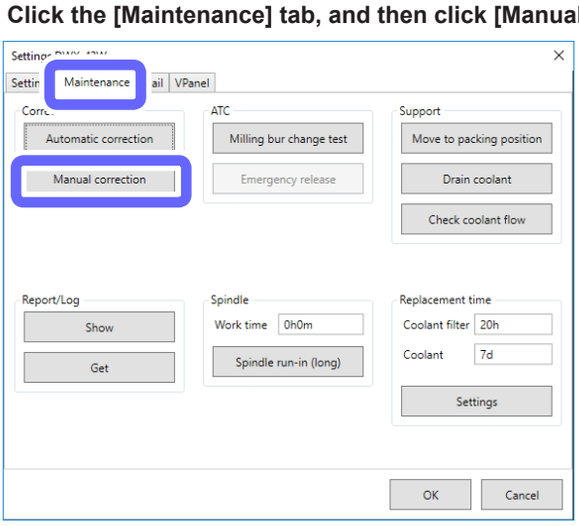
☞ P. 6 "Displaying VPanel"

2 Select the machine to operate.

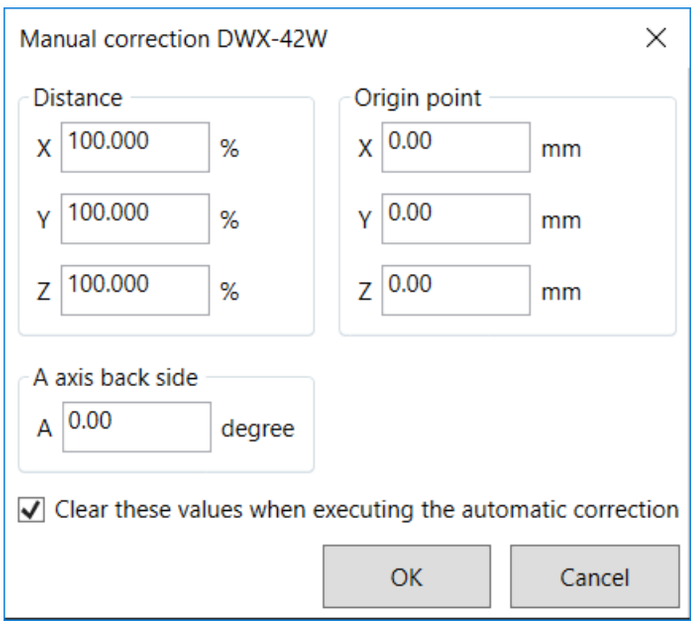


3 Click .

4 Click the [Maintenance] tab, and then click [Manual correction].



5 **Enter the correction values for the items.**



Item	Setting details
Distance	Correct moving distances in the X, Y, and Z directions. Set the correction value while considering the initial moving distance as 100.000%. * Initial setting: 100.000%
A axis back side	Correct the angle when the A axis is rotated 180 degrees. Set the correction value while considering the initial setting as 0.00 degrees. * Initial setting: 0.00 degrees
Origin point	Correct the origins of the X, Y, and Z axes. Set the correction value while considering the initial setting as 0.00 mm. * Initial setting: 0.00 mm
Clear these values when executing the automatic correction	Select this check box to reset the values for [Distance], [Origin point], and [A axis back side] when performing automatic correction. * Initial setting: Selected

6 **Click [OK].**

Milling bur change test

Check whether the milling bur has been set in the correct position at the correct length.

Procedure

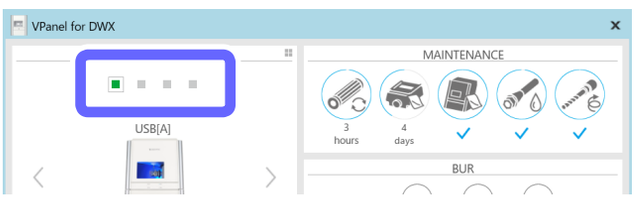
1. **Verify the milling bur is set in the ATC magazine.**

☞ P. 28 "Step 2: Setting Milling Burs"

2. **Show VPanel.**

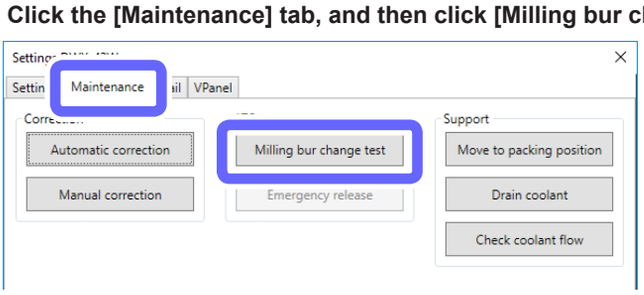
☞ P. 6 "Displaying VPanel"

3. **Select the machine to operate.**



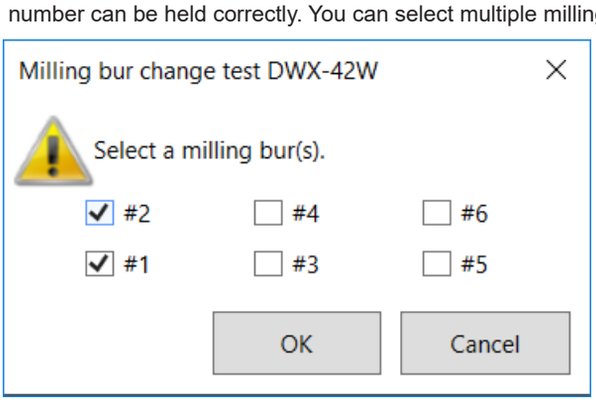
4. **Click** **.**

5. **Click the [Maintenance] tab, and then click [Milling bur change test].**



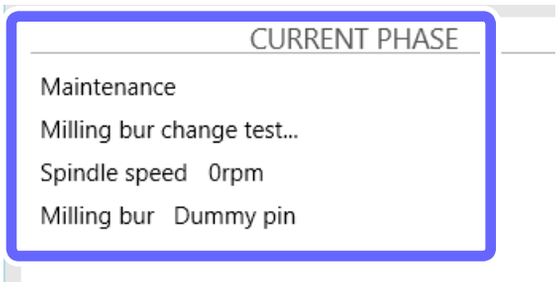
6. **Select which milling bur you want to perform the change test for.**

The numbers correspond to the ATC magazine numbers. This test checks whether the milling bur set to the selected number can be held correctly. You can select multiple milling burs.

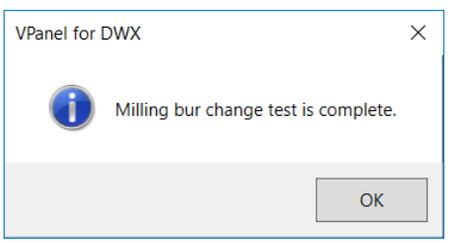


7 **Click [OK].**

The milling bur change test starts. The number of the milling bur being replaced is displayed in the CURRENT PHASE area in VPanel.

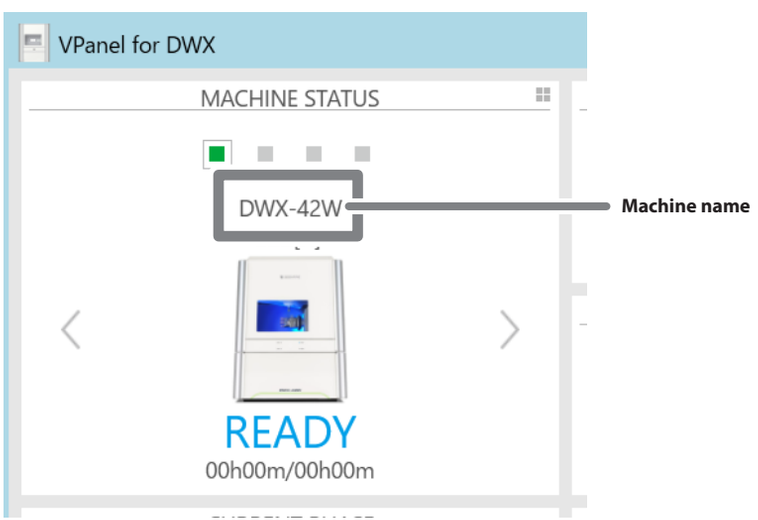


The milling bur change test is finished when the message shown in the figure is displayed.



8 **Click [OK].**

Changing the Name of the Machine Displayed in VPanel



Procedure

1 **Open the [Devices and Printers] folder.**

Windows 10 and 8.1

Right-click the [Start] button, click [Control Panel], and then click [View devices and printers] or [Devices and Printers].

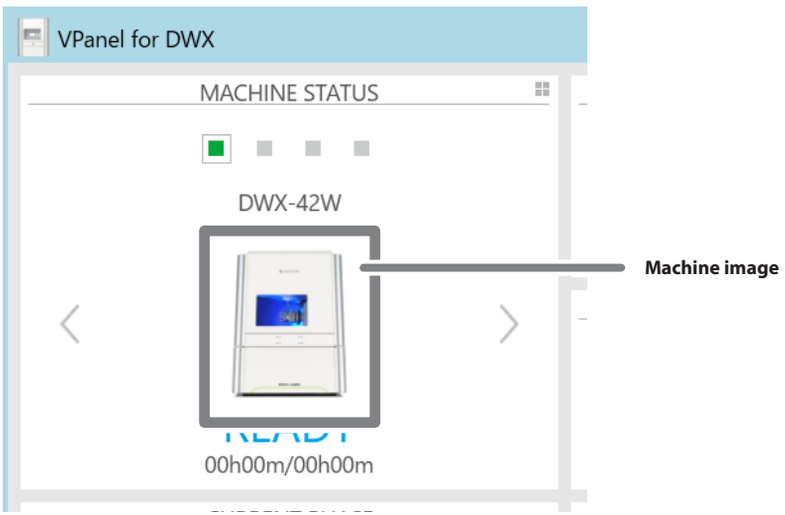
Windows 7

On the [Start] menu, click [Control Panel], and then click [View devices and printers] or [Devices and Printers].

2. **Select and change the name of the model (printer) being used.**

3. **Restart VPanel.**
   The changed name appears on the top window.

Changing the Image of the Machine Displayed in VPanel



Procedure

1. **Display the VPanel top window.**

2. **Right-click the image of the machine that is displayed under MACHINE STATUS, and then click "Change image."**

3. **On the "Open" screen, select the image file that you want to display.**
   The changed image appears in the top window.

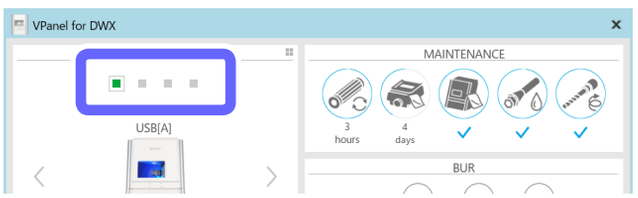
Checking the VPanel/Firmware Version

Procedure

1. **Show VPanel.**

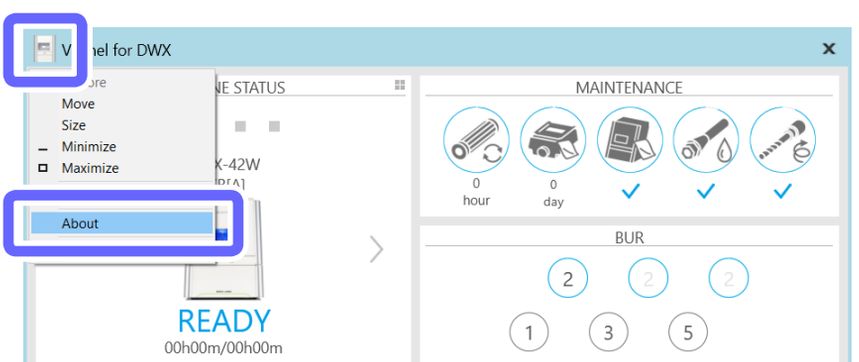
☞ P. 6 "Displaying VPanel"

2. **Select the machine to operate.**

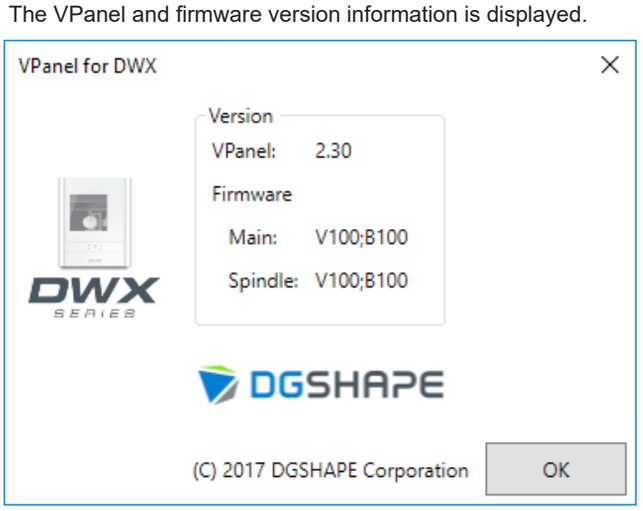


3. **Click** **in the upper-left corner of the VPanel window.**

4. **Click [About].**



The VPanel and firmware version information is displayed.



5. **Click [OK].**

The version information window closes.

Displaying System Reports/Error Logs

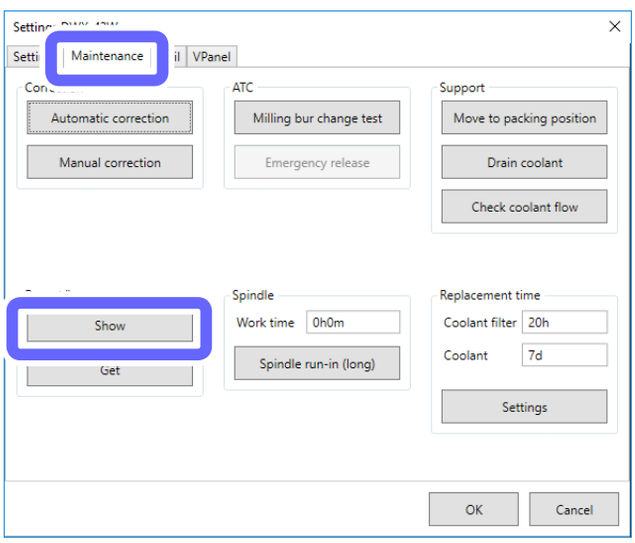
Procedure

1 **Show VPanel.**

☞ P. 6 "Displaying VPanel"

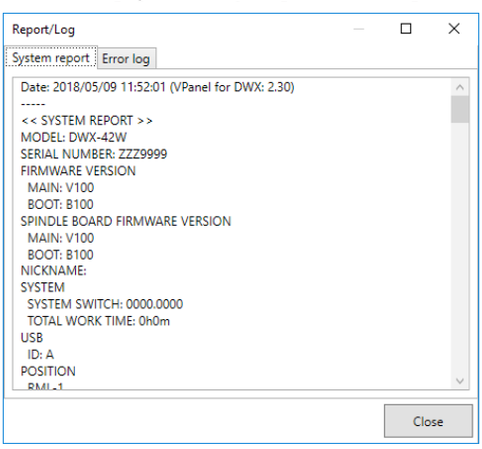
2 **Click** .

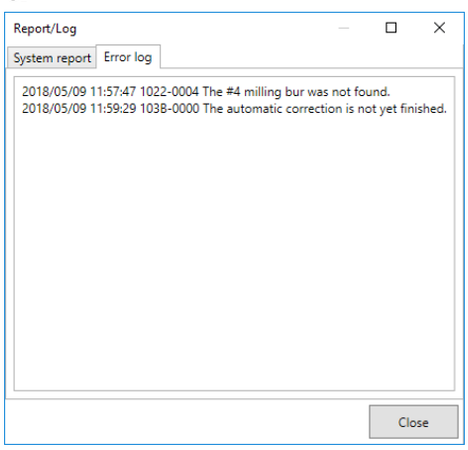
3 **Click the [Maintenance] tab, and then click [Show].**



The [Report/Log] window is displayed.

4 **Click the [System report] tab or the [Error log] tab and view the details.**





5 **Click [Close].**

Preventing VPanel from Starting on Computer Startup

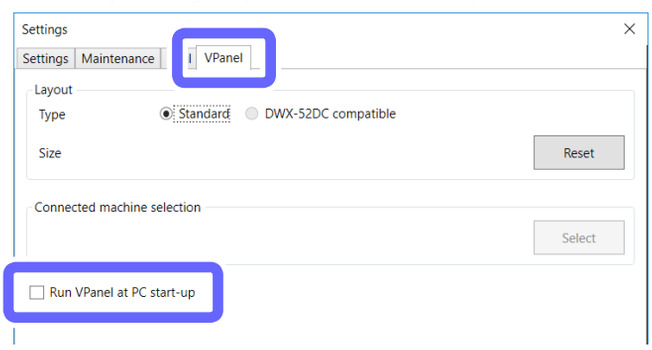
Procedure

1. **Show VPanel.**

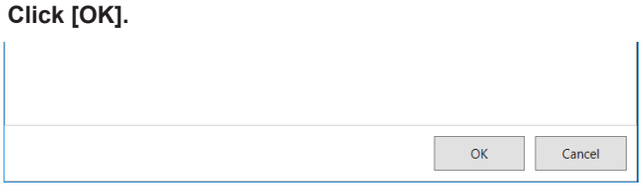
☞ P. 6 "Displaying VPanel"

2. **Click** ⚙ **.**

3. **Click the [VPanel] tab, and then clear the [Run VPanel at PC start-up] check box.**



4. **Click [OK].**



5. Troubleshooting

Machine Problems 134
The Machine Does Not Run/Cannot Generate Output 134
The Operation Button Does Not Respond 134
VPanel Does Not Recognize the Machine 134
The Machine Recognized by VPanel Is Displayed as OFFLINE 134
The Computer Shuts Down When Connecting Multiple Machines 135
Compressed Air Does Not Come Out 135
Automatic Correction Fails 136
Collet Maintenance Cannot Continue Due to an Error Occurring 136
Milling Quality Problems 137
The Milling Results Are Not Attractive 137
There Is a Line of Level Difference in the Milling Results 137
The Dimensions of the Milling Results Do Not Match 137
Chipping Occurs (Edges of Milling Products Become Chipped) 138
A Hole Opens in the Milling Results 138
Installation Problems 139
Installing the Driver Separately (USB Connection) 139
Installing the Driver Separately (LAN Connection) 141
Installing the Software and the Electronic-format Manual Separately 141
Driver Installation Is Impossible 142
Uninstalling the Driver 146
Uninstalling VPanel 149
Cannot Connect via LAN (Resetting the Machine IP Address) 150
Responding to Error Messages 151
Error Message List 151
"1000-****" The % limit switch was not found. 152
"1006-02**" The % axis position has been shifted. 152
"101C-0000" The milling bur sensor was not found. 153
"101D-000*" The % milling bur cannot be released. 153
"101D-010*" The % milling bur cannot be released. It might be broken from the root. 154
"101E-000*" The % milling bur might be broken. 155
"101F-000*" The % milling bur chucking has slipped out. 156
"1020/1021-000*" The % milling bur is too long/too short. 157
"1022-000*" The % milling bur was not found. 158
"1023-0000 to 1028-0000" Milling data error. 159
"1029-0000" The spindle experienced an overload. 160
"102A-000*" The spindle experienced overcurrent. 161
"102B-0000" The spindle motor temperature is too high. 162
"102E-0000" The mechanical part has collided. 162
"1033-000*" The coolant has run out. 163
"1034-0000" The coolant tank is not installed. 163
"1038-0000" Milling data error. No milling bur is selected. 165
"103A-000*" DANGER!! The coolant is leaking!! 165
"103B-0000" The automatic correction is not yet finished. 166
"103D-0000" Milling data error. The milling bur cannot reach the milling position. 166
"105E-0000" The pressure of the compressed air is too high or low. 167
"****-****" An unknown error occurred. 167

Machine Problems

The Machine Does Not Run/Cannot Generate Output

Check	Action	Refer to
Is the front cover open?	Keep the front cover closed during startup. For safety, the initial operations are not performed if a cover is open when the machine starts.	—
Is anything caught on the spindle unit or rotary axis unit?	Temporarily turn the power off, and then check whether something has become caught and is impeding initialization. After you remove the obstruction, turn on the machine.	—
Is the milling bur caught on anything?	It may not be possible to perform initialization if the milling bur attached to the spindle unit is caught on the rotary axis unit or workpiece. Try to detach the milling bur using the emergency release function in VPanel.	☞ P. 8 "Using the [Emergency release] Button"

The Operation Button Does Not Respond

Check	Action	Refer to
Is the front cover open?	This machine restricts some operations when the front cover is open. Close the front cover.	—
Are you wearing gloves?	The built-in panel's operation button will not respond if you are wearing gloves. Operate the button with a bare hand.	—

VPanel Does Not Recognize the Machine

Check	Action	Refer to
Is the driver installed correctly?	If the connection to the computer is not made in the procedure described, the driver may fail to install correctly. VPanel will not function normally if the driver is not configured correctly. Check again to ensure that the connection was made using the correct procedure.	☞ P. 139 "Installing the Driver Separately (USB Connection)"
Did you verify the connection procedure when connecting more than one machine?	There is a possibility that the connection procedure was performed incorrectly. Make sure that connections were performed correctly. See the "Setup Guide" ("Connecting Multiple Units").	☞ P. 108 "Registering Multiple Machines in VPanel"
Was the machine ID changed?	When you change the machine ID, restart VPanel.	☞ P. 108 "Registering Multiple Machines in VPanel"

The Machine Recognized by VPanel Is Displayed as OFFLINE

Check	Action	Refer to
Is the cable connected?	Make sure that the cables are connected. ☞"Setup Guide" ("Connecting the Cables")	Setup Guide
If the LAN cable is connected, are there problems in the network environment?	Contact the network administrator and revise the network environment.	—

No Data Is Being Output to the Machine or the Machine Will Not Operate Even Though Data Is Being Output

Check	Action	Refer to
Is the front cover open?	If the front cover is open, the machine will not start milling even if milling data is being received. Close the front cover, and then press the built-in panel's operation button to start milling.	—
Does VPanel recognize the machine?	Verify that a message other than [OFFLINE] is shown in VPanel. If [OFFLINE] is shown in VPanel regardless of the machine being on, check the cable connections and similar items.	—
If multiple machines are connected, is the correct machine selected?	Select the machine to output milling data to on the VPanel screen.	—
Is operation paused?	When operation is paused, this is indicated in VPanel and the PAUSE LED on the built-in panel lights in white. When the machine is paused, milling stops and some operations are restricted. Quickly pressing the built-in panel's operation button of the machine will cancel the pause. Holding down the operation button will abort milling.	—
Is initialization or a data cancel in progress?	Milling data received during the initial operations or during a data cancel will be cancelled. Make sure to output milling data after confirming that [READY] is displayed for the machine's operation status in the VPanel top window.	—
Is the milling data correct?	There may be problems in the milling data parameters. Check the milling data.	—
Has an error occurred?	The error LED will flash if an error occurs. A description of the error is displayed in VPanel.	—

The Computer Shuts Down When Connecting Multiple Machines

Check	Action	Refer to
Are machines with the same ID connected to the computer at the same time?	Connecting more than one machine with the same ID to a computer at the same time may cause the computer to shut down. If the computer shuts down, turn off the power of all connected machines, and then disconnect the USB cables from the computer. Restart the computer, and then start VPanel. If VPanel will not start, reinstall it. After that, configure the settings so that no machines are assigned the same ID.	☞ P. 118 "Operation When Multiple Machines are Registered in VPanel"

Compressed Air Does Not Come Out

Check	Action	Refer to
Is the power switched on?	Compressed air is not supplied when the power is off.	—
Is the regulator properly connected and are the pressure settings correctly configured?	Check the connection. If there are no connection problems, check whether the regulator scale indicates zero. If the set pressure of the regulator is zero, compressed air will not be supplied. ☞ "Setup Guide" ("Preparing the Regulator")	—
Is the compressed air supply hose bent or flattened?	If the hose is bent or flattened, straighten it to enable the flow of compressed air. Replace the hose if it has deteriorated to the point that air does not pass through it.	—

Automatic Correction Fails

Check	Action	Refer to
Are any of the following correction parts dirty? • **ATC magazine correction jig** • **Rotary axis correction jig** • **Detection pin for correction** • **Milling bur sensor tip**	Clean any correction parts that are dirty. Fouling due to buildup of milling waste or the like on any of these may impede correct sensor operation, making correct detection impossible.	—
Is the ATC magazine correction jig or the rotary axis correction jig properly attached?	Verify that the ATC magazine correction jig or the rotary axis correction jig is properly attached.	—

Collet Maintenance Cannot Continue Due to an Error Occurring

Check	Action	Refer to
Is anything caught on the spindle unit or rotary axis unit?	Check whether something has become caught and is impeding the initial operations.	—
Did you forget to attach the collet?	Use the emergency release function in VPanel, and then attach the collet.	☞ P. 8 "Using the [Emergency release] Button"

Milling Quality Problems

The Milling Results Are Not Attractive

Check	Action	Refer to
Is the workpiece firmly secured in place?	Check the mounting condition of the workpiece. Fasten the workpiece in place securely so that it will not slip out of place or come loose because of milling bur pressure or vibration during milling.	—
Is the milling bur worn?	If the same milling bur is used for milling for a long period of time, it will become worn and affect milling results. Try replacing the milling bur with a new one. The work time of the milling bur can also be managed in VPanel.	—
Are the milling conditions too strict?	Strict milling conditions may affect milling results. Review the CAM milling conditions.	—
Is the machine out of correction?	The origin point may become out of position due to prolonged use or relocating the machine, which can result in a line of level difference. Perform automatic correction. If the expected results cannot be obtained even after performing automatic correction, perform manual correction. With manual correction, changing the Y value in Origin point may improve the situation.	—

There Is a Line of Level Difference in the Milling Results

Check	Action	Refer to
Correction may be necessary.	The origin point may become out of position due to prolonged use or relocating the machine, which can result in a line of level difference. Perform automatic correction. If the expected results cannot be obtained even after performing automatic correction, perform manual correction. With manual correction, changing the Y value in Origin point may improve the situation.	—
Are the CAM milling conditions correct?	Incorrect CAM milling settings may lead to line of level differences. Review the CAM milling conditions.	—

The Dimensions of the Milling Results Do Not Match

Check	Action	Refer to
Does the milling bur diameter match the CAM settings?	Check the CAM settings.	—
Does the set temperature of the sintering program match the workpiece?	Check the set temperature of the sintering program to see if it matches the workpiece of the manufacturer used.	—

Chipping Occurs (Edges of Milling Products Become Chipped)

Check	Action	Refer to
Is the installation base of the machine secure?	The vibration from cutting can shake the installation base.	—
Is the workpiece firmly secured in place?	Check the mounting condition of the workpiece. Fasten the workpiece in place securely so that it will not slip out of place or come loose because of milling bur pressure or vibration during milling.	—
Is the milling bur worn?	If the same milling bur is used for milling for a long period of time, it will become worn and affect milling results. Try replacing the milling bur with a new one. The work time of the milling bur can also be managed in VPanel.	—
Is the collet deformed?	The collet may be deformed if the tip of the spindle strikes the rotary axis, etc., or if the spindle is locked. Replace the collet if it is deformed.	—
Is the thickness specified in the milling data excessively thin?	If the workpiece thickness is excessively thin, chipping is likely to occur. Check the shape specified in the milling data.	
Are the milling conditions too strict?	Strict milling conditions may affect milling results. Review the CAM milling conditions.	

A Hole Opens in the Milling Results

Check	Action	Refer to
Does the milling bur diameter match the CAM settings?	Check the CAM's milling bur settings.	—
Is the machine out of correction?	The origin point may become out of position due to prolonged use or relocating the machine, which can affect milling results. Perform automatic correction. If the expected results cannot be obtained even after performing automatic correction, perform manual correction. With manual correction, changing the Z value in the + direction in Origin point may improve the situation.	—
Are the milling conditions too strict?	Strict milling conditions may affect milling results. Review the CAM milling conditions.	—
Is the thickness specified in the milling data excessively thin?	The finish thickness of milled products needs to be 0.8 mm or more. Check the thickness specified in the milling data.	—

Installing the Driver Separately (USB Connection)

MEMO

With this machine, you can also install the driver, software, and electronic-format manual all at once. To install all at once, see "Setup Guide" ("Installing the Software").

Procedure

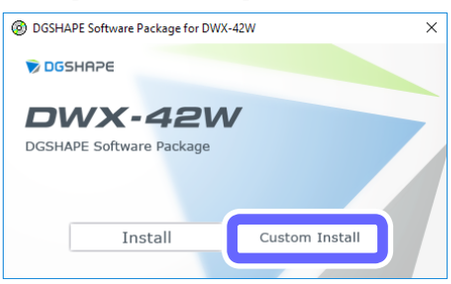
1. **Before installation, confirm that the machine and the computer are not connected with the USB cable.**
2. **Log on to Windows as the computer's administrator (or as an "Administrators" account).**
3. **Insert the DGSHAPE Software Package CD into the CD-ROM drive of the computer.**

   When the automatic playback window appears, click [Run menu.exe]. If a [User Account Control] window appears, click [Allow] or [Yes], and then continue with the installation. The setup menu screen appears automatically.

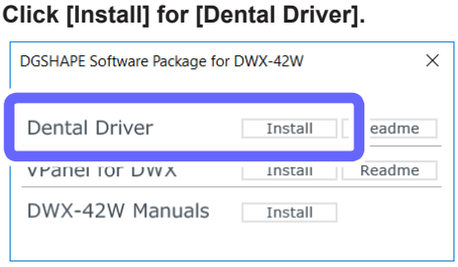
   If the driver is already installed, uninstall it.

   ☞ P. 146 "Uninstalling the Driver"

   If the driver is not installed or if it has been uninstalled, go to step 4.
4. **Click [Custom Install].**

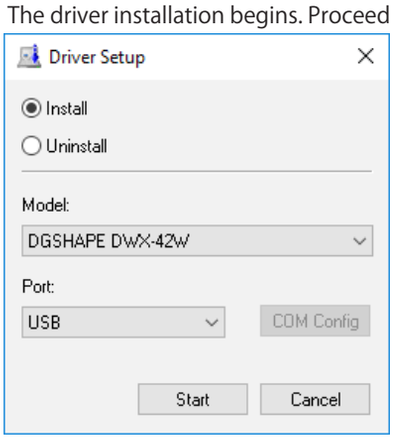


5. **Click [Install] for [Dental Driver].**



6 **Select [Install], [DGSHAPE DWX-42W] for the model name, and [USB] for the port, and then click [Start].**

The driver installation begins. Proceed with the installation by following the displayed information.



7 **Follow the on-screen instructions to proceed with the installation.**

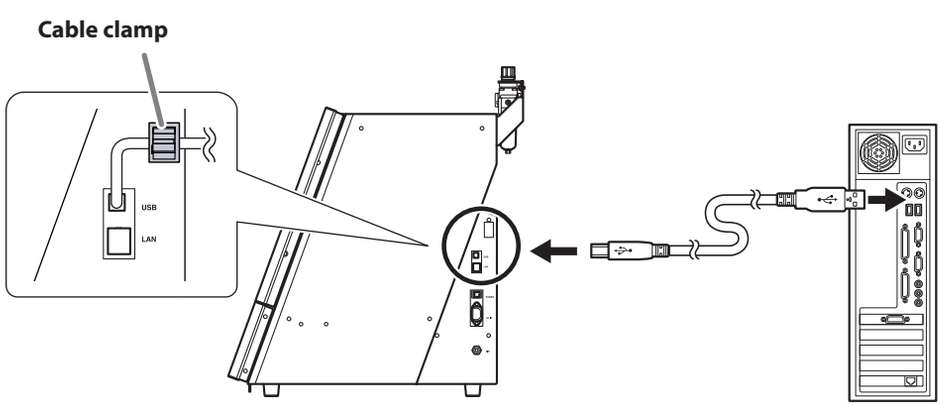
8 **When the following window is displayed, click [Install].**

9 **When the installation finishes, remove the DGSHAPE Software Package CD.**

10 **Turn on the power to the machine.**

11 **Connect the machine to the computer using the USB cable.**

- If connecting more than one unit of this machine to a single computer, see the "Setup Guide" ("Connecting Multiple Units").
- Use the included USB cable.
- Do not use a USB hub. Connection may not be possible.
- Secure the USB cable with a cable clamp.



The driver will be installed automatically.

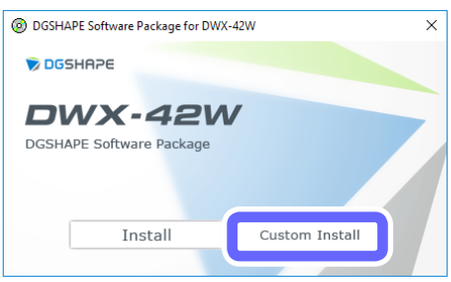
Installing the Driver Separately (LAN Connection)

☞ P. 99 "Connecting over a LAN instead of by USB"

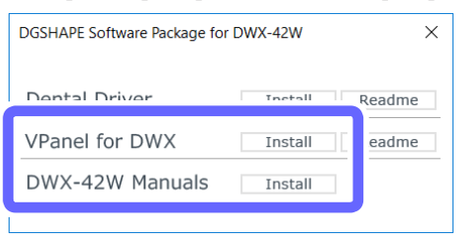
Installing the Software and the Electronic-format Manual Separately

Procedure

1. **Log on to Windows as an "Administrator."**
2. **Insert the DGSHAPE Software Package CD into the CD-ROM drive of the computer.**
   When the automatic playback window appears, click [Run menu.exe]. If a [User Account Control] window appears, click [Allow] or [Yes], and then continue with the installation. The setup menu screen appears automatically.
3. **Click [Custom Install].**



4. **Click [Install] for [VPanel for DWX] or [DWX-42W Manuals].**



5. **Follow the on-screen instructions to proceed with the installation.**
6. **When the installation finishes, remove the DGSHAPE Software Package CD.**

MEMO

With this machine, you can also install the driver, software, and electronic-format manual all at once. To install all at once, see "Setup Guide" ("Installing the Software").

Driver Installation Is Impossible

If installation quits partway through or when VPanel does not recognize the machine, the driver may not have been installed correctly. In such cases, perform the following procedures. (If procedure A does not solve your problem, perform procedure B.)

Windows 10 (Procedure A)

Procedure

1. **Connect the machine and the computer with a USB cable.**
2. **Turn on the machine.**
3. **On the [Start] menu, click [Settings].**
4. **Click [Devices].**
5. **Check that the model you are using is displayed under [Unspecified].**
6. **Right-click the icon of the model you are using, and then click [Remove device].**
7. **When the message "Are you sure you want to remove this device?" is displayed, click [Yes].**
8. **Check that the icon for the model you are using is no longer displayed under [Unspecified].**
9. **Temporarily disconnect the USB cable connecting the machine to the computer, and then reconnect the devices.**

Repeat steps 3 and 4. If the printer icon for the machine you are using is displayed under [Printers & scanners], the driver has been successfully installed.
If you could not solve your problem by following this procedure, perform the procedure under "Windows 10 (Procedure B)."

Windows 10 (Procedure B)

Procedure

1. **Connect the machine and the computer with a USB cable.**
2. **Turn on the machine.**
3. **If [Found New Hardware] appears, click [Cancel] to close it.**
4. **If any printers other than the machine are connected to the computer, disconnect their USB cables.**
5. **Click [Desktop].**
6. **Right-click the [Start] button, and then click [Device Manager].**
7. **If the [User Account Control] window appears, click [Continue].**
   [Device Manager] appears.

8. **From the [View] menu, click [Show hidden devices].**
9. **In the list, find [Printers] or [Other devices], and then double-click it.**
10. **Under the selected item, select the name of the model you are using or [Unknown device].**
11. **From the [Action] menu, click [Uninstall].**
12. **In the [Confirm Device Uninstall] window, click [OK].**
13. **Close Device Manager.**
14. **Disconnect the USB cable that connects the machine and the computer.**
15. **Restart Windows.**
16. **Uninstall the driver.**

☞ P. 146 "Uninstalling the Driver"

17. **Reinstall the driver from the first step according to the procedure in the "Setup Guide" or** P. 139 "Installing the Driver Separately (USB Connection)"**.**

Windows 8.1 (Procedure A)

Procedure

1. **Connect the machine and the computer with a USB cable.**
2. **Turn on the machine.**
3. **Click [Desktop].**
4. **Right-click the [Start] button, and then click [Control Panel].**
5. **Click [View devices and printers].**
6. **Check that the model you are using is displayed under [Unspecified].**
7. **Right-click the icon of the model you are using, and then click [Remove device].**
8. **When the message "Are you sure you want to remove this device?" is displayed, click [Yes].**
9. **Check that the icon for the model you are using is no longer displayed under [Unspecified].**
10. **Temporarily disconnect the USB cable connecting the machine to the computer, and then reconnect the devices.**

Repeat steps 3, 4, and 5. If the printer icon for the machine you are using is displayed under [Printers], the driver has been successfully installed.

If you could not solve your problem by following this procedure, perform the procedure under "Windows 8.1 (Procedure B)."

Windows 8.1 (Procedure B)

Procedure

1. **Connect the machine and the computer with a USB cable.**
2. **Turn on the machine.**
3. **If [Found New Hardware] appears, click [Cancel] to close it.**
4. **If any printers other than the machine are connected to the computer, disconnect their USB cables.**
5. **Click [Desktop].**
6. **Right-click the [Start] button, and then click [Device Manager].**
7. **If the [User Account Control] window appears, click [Continue].**
   [Device Manager] appears.
8. **From the [View] menu, click [Show hidden devices].**
9. **In the list, find [Printers] or [Other devices], and then double-click it.**
10. **Under the selected item, select the name of the model you are using or [Unknown device].**
11. **From the [Action] menu, click [Uninstall].**
12. **In the [Confirm Device Uninstall] window, click [OK].**
13. **Close Device Manager.**
14. **Disconnect the USB cable that connects the machine and the computer.**
15. **Restart Windows.**
16. **Uninstall the driver.**
    ☞ P. 146 "Uninstalling the Driver"
17. **Reinstall the driver from the first step according to the procedure in the "Setup Guide" or** P. 139 "Installing the Driver Separately (USB Connection)"**.**

Windows 7 (Procedure A)

Procedure

1. **Connect the machine and the computer with a USB cable.**
2. **Turn on the machine.**
3. **Click the [Start] menu, and then click [Devices and Printers].**
4. **Check that the model you are using is displayed under [Unspecified].**
5. **Right-click the icon of the model you are using, and then click [Troubleshoot].**
6. **When a window is displayed with the message [Install a driver for this device], click [Apply this fix].**
7. **If a message is displayed asking you to [Set as default printer], click [Skip this fix].**
8. **If the message [Troubleshooting has completed] is displayed, click [Close the troubleshooter].**

Repeat steps 3 and 4. If the printer icon for the machine you are using is displayed under [Printers], the driver has been successfully installed.

If you could not solve your problem by following this procedure, perform the procedure under "Windows 7 (Procedure B)."

Windows 7 (Procedure B)

Procedure

1. **If [Found New Hardware] appears, click [Cancel] to close it.**
2. **Click the [Start] menu, and then right-click [Computer].**
3. **Click [Properties].**
4. **Click [Device Manager].**

   If the [User Account Control] window appears, click [Continue].

   The [Device Manager] appears.
5. **From the [View] menu, click [Show hidden devices].**
6. **In the list, find [Other devices], and then double-click it.**
7. **Under the selected item, select the name of the model you are using or [Unknown device].**
8. **From the [Action] menu, click [Uninstall].**
9. **In the [Confirm Device Uninstall] window, select [Delete the driver software for this device.], then click [OK].**

⑩ **Close [Device Manager].**

⑪ **Disconnect the USB cable that connects the machine and the computer.**

⑫ **Restart Windows.**

⑬ **Uninstall the driver.**

☞ P. 146 "Uninstalling the Driver"

⑭ **Reinstall the driver from the first step according to the procedure in the "Setup Guide" or** P. 139 "Installing the Driver Separately (USB Connection)"**.**

Uninstalling the Driver

Windows 10

* If the driver is uninstalled without following the procedure given below, it may not be possible to reinstall the driver.

Procedure

❶ **Turn off the machine and remove the cable connecting the machine to the computer.**

❷ **Log on to Windows as the computer's administrator.**

❸ **On the [Start] menu, click [Settings].**

❹ **Click [System].**

❺ **Click [Apps & features].**

❻ **Select the driver of the machine to remove by clicking it, and then click [Uninstall].**
If the [User Account Control] window appears, click [Allow].

❼ **If a removal confirmation message appears, click [Yes].**

❽ **Open Explorer, and then open the drive and folder containing the driver.(*)**

❾ **Double-click [SETUP64.EXE] (64-bit version) or [SETUP.EXE] (32-bit version).**
If the [User Account Control] window appears, click [Allow].
The setup program for the driver starts.

❿ **Select [Uninstall].**

⓫ **Select the machine to remove.**

⓬ **Click [Start].**

⓭ **If a window prompting you to restart the computer is displayed, click [Yes].**

⓮ **After the computer has restarted, click [Settings] on the [Start] menu.**

⓯ **Click [Devices].**

⓰ **If you can see the icon of the machine to remove, right-click it and click [Remove device].**

(*)

When using the CD-ROM, specify the folder as shown below. (This is assuming your CD-ROM drive is the D drive.)

D: \Drivers\WINX64 (64-bit versions)

D: \Drivers\WINX86 (32-bit versions)

If you're not using the DGSHAPE Software Package CD, go to the DGSHAPE Corporation website (http://www.dgshape.com/) and download the driver for the machine you want to remove, and then specify the folder where the downloaded file has been extracted.

Windows 8.1

* If the driver is uninstalled without following the procedure given below, it may not be possible to reinstall the driver.

Procedure

❶ **Turn off the machine and remove the cable connecting the machine to the computer.**

❷ **Log on to Windows as the computer's administrator.**

❸ **Click [Desktop].**

❹ **Right-click the [Start] button, and then click [Control Panel].**

❺ **Click [Uninstall a program].**

❻ **Select the driver of the machine to remove by clicking it, and then click [Uninstall].**

If the [User Account Control] window appears, click [Allow].

❼ **If a removal confirmation message appears, click [Yes].**

❽ **On the [Start] menu, click [Desktop].**

❾ **Open Explorer, and then open the drive and folder containing the driver.(*)**

❿ **Double-click [SETUP64.EXE] (64-bit version) or [SETUP.EXE] (32-bit version).**

If the [User Account Control] window appears, click [Allow].

The setup program for the driver starts.

⓫ **Select [Uninstall].**

⓬ **Select the machine to remove.**

⓭ **Click [Start].**

⓮ **If a window prompting you to restart the computer is displayed, click [Yes].**

⓯ **After the computer has restarted, click [Desktop].**

16 **Right-click the [Start] button, and then click [Control Panel].**

17 **Click [View devices and printers].**

18 **If you can see the icon of the machine to remove, right-click it and click [Remove device].**

(*)

When using the CD-ROM, specify the folder as shown below. (This is assuming your CD-ROM drive is the D drive.)

D: \Drivers\WINX64 (64-bit versions)

D: \Drivers\WINX86 (32-bit versions)

If you're not using the DGSHAPE Software Package CD, go to the DGSHAPE Corporation website (http://www.dgshape.com/) and download the driver for the machine you want to remove, and then specify the folder where the downloaded file has been extracted.

Windows 7

* If the driver is uninstalled without following the procedure given below, it may not be possible to reinstall the driver.

Procedure

1 **Disconnect the USB cable that connects the machine and the computer.**

2 **Log on to Windows as the computer's administrator.**

3 **On the [Start] menu, click [Control Panel].**

4 **Click [Uninstall a program].**

5 **Select the driver of the machine to remove by clicking it, and then click [Uninstall].**

6 **If a removal confirmation message appears, click [Yes].**

7 **Open Explorer, and then open the drive and folder containing the driver.(*)**

8 **Select [SETUP64.EXE] (64-bit version) or [SETUP.EXE] (32-bit version), and then click [Open].**

9 **Click [OK].**

If the [User Account Control] window appears, click [Allow].

The setup program for the driver starts.

10 **Select [Uninstall].**

11 **Select the machine to remove.**

12 **Click [Start].**

13 **If a window prompting you to restart the computer is displayed, click [Yes].**

(*)

When using the CD-ROM, specify the folder as shown below. (This is assuming your CD-ROM drive is the D drive.)

D: \Drivers\WINX64 (64-bit versions)

D: \Drivers\WINX86 (32-bit versions)

If you're not using the DGSHAPE Software Package CD, go to the DGSHAPE Corporation website (http://www.dgshape.com/) and download the driver for the machine you want to remove, and then specify the folder where the downloaded file has been extracted.

Uninstalling VPanel

Windows 10

Procedure

1. **Exit VPanel.**
   Right-click (the VPanel icon) in the task tray, and then select [Exit].
2. **On the [Start] menu, click [Settings].**
3. **Click [System].**
4. **Click [Apps & features].**
5. **Click [VPanel for DWX] to select it, and then click [Uninstall].**
   If the [User Account Control] window appears, click [Allow].
6. **If a removal confirmation message appears, click [Yes].**
7. **Follow the on-screen instructions to carry out the uninstallation.**

Windows 8.1

Procedure

1. **Exit VPanel.**
   Right-click (the VPanel icon) in the task tray, and then select [Exit].
2. **Click [Desktop].**
3. **Right-click the [Start] button, and then click [Control Panel].**
4. **Click [Uninstall a program].**
5. **Click [VPanel for DWX] to select it, and then click [Uninstall].**
   If the [User Account Control] window appears, click [Allow].
6. **If a removal confirmation message appears, click [Yes].**
7. **Follow the on-screen instructions to carry out the uninstallation.**

Windows 7

Procedure

1. **Exit VPanel.**
   Right-click (the VPanel icon) in the task tray, and then select [Exit].
2. **On the [Start] menu, click [Control Panel].**
3. **Click [Programs and Features].**
4. **Select [VPanel for DWX] and click [Uninstall] (or [Delete]).**
   If the [User Account Control] window appears, click [Allow].
5. **Follow the on-screen instructions to carry out the uninstallation.**

Cannot Connect via LAN (Resetting the Machine IP Address)

Procedure

1. **Verify that the machine is in the ready status, and then press and hold the operation button for at least 15 seconds.**
   The buzzer will sound (three short beeps).
2. **Release the operation button, and within 5 seconds, press and hold the operation button again for at least 2 seconds.**
   The buzzer will sound (three short beeps).
3. **Repeat 2 once more.**
   The buzzer will sound (three short beeps).
   Upon releasing the button, the network settings will be reset, and the machine will automatically restart.

This completes the procedure for resetting the machine IP address. To configure the setting again, refer to the "Setup Guide."

Responding to Error Messages

Error Message List

This section lists the error messages that are displayed in VPanel. If the action described here does not correct the problem or if an error message not described here appears, contact your authorized Roland DG Corporation dealer.

Error number	Message	Action	Error level
1000-****	The % limit switch was not found.	P. 152	Level 3
1006-02**	The % axis position has been shifted.	P. 152	Level 2
101C-0000	The milling bur sensor was not found.	P. 153	Level 3
101D-000*	The % milling bur cannot be released.	P. 153	Level 2
101D-010*	The % milling bur cannot be released. It might be broken from the root.	P. 154	
101E-000*	The % milling bur might be broken.	P. 155	
101F-000*	The % milling bur chucking has slipped out.	P. 156	
1020/1021-000*	The % milling bur is too long/too short.	P. 157	Level 1
1022-000*	The % milling bur was not found.	P. 158	
1023-0000 **1024-0000** **1025-0000** **1026-0000** **1027-0000** **1028-0000**	Milling data error.	P. 159	Level 2
1029-0000	The spindle experienced an overload.	P. 160	Level 3
102A-000*	The spindle experienced overcurrent.	P. 161	
102B-0000	The spindle motor temperature is too high.	P. 162	
102E-0000	The mechanical part has collided.	P. 162	
1033-000*	The coolant has run out.	P. 163	Level 1
1034-0000	The coolant tank is not installed.	P. 163	
1038-0000	Milling data error. No milling bur is selected.	P. 165	Level 2
103A-000*	DANGER!! The coolant is leaking!!	P. 165	Level 3
103B-0000	The automatic correction is not yet finished.	P. 166	Level 2
103D-0000	Milling data error. The milling bur cannot reach the milling position.	P. 166	
105E-0000	The pressure of the compressed air is too high or low.	P. 167	Level 1
******-******	An unknown error occurred.	P. 167	Level 3

Error level

Level 1 — This is an error that is not very serious. After the cause of the error is eliminated, milling can resume from the point where it stopped.

Level 2 — This is an error that is moderately serous. After the cause of the error is eliminated, milling can be restarted from the beginning. It is not possible to resume milling from the point where it stopped.

Level 3 — This is an error that is very serious. Before eliminating the cause of the error, it is necessary to turn the power off.

"1000-****" The % limit switch was not found.

* The name of the axis (X, Y, Z, A, or a combination of these axes) is displayed for %.

Level 3

Situation/Error Cause

- Operation is inhibited by milling waste or an obstruction.

Procedure

1. **Turn off the power.**
2. **Remove any objects blocking operation of the machine and any accumulated milling waste.**
3. **Turn on the power, and then resume operation.**

"1006-02**" The % axis position has been shifted.

* The name of the axis (X, Y, Z, A, or a combination of these axes) is displayed for %.

Level 2

Situation/Error Cause 1

- Operation is inhibited by milling waste or an obstruction, and the motor position has been lost.

Procedure

1. **Remove any objects blocking operation of the machine and any accumulated milling waste.**
2. **Hold down the operation button on the built-in panel.**
   This will clear the error.

Situation/Error Cause 2

- The milling conditions are too strict.

Procedure

1. **Hold down the operation button on the built-in panel.**
   This will clear the error.
2. **Review the CAM settings and the shape specified in the CAD data.**

"101C-0000" The milling bur sensor was not found.

Level 3

Situation/Error Cause

- Operation is inhibited by milling waste or an obstruction in the vicinity of the milling bur sensor.

Procedure

1. **Turn off the power.**
2. **Remove any objects blocking operation of the machine and any accumulated milling waste in the vicinity of the milling bur sensor.**
3. **Turn on the power, and then resume operation.**

"101D-000*" The % milling bur cannot be released.

* The milling bur stocker number (1 to 7) is displayed for %.

Level 2

Situation/Error Cause 1

- The ATC magazine is dirty.
- The inside of the collet is dirty.

Procedure

1. **Follow the instructions in the VPanel window to open the collet and remove the milling bur.**
2. **Clean the ATC magazine.**

☞ P. 51 "Cleaning after Milling Finishes"

3. **Perform collet maintenance.**

☞ P. 44 "Collet Maintenance, Cleaning of Dummy Pin, and Checking of Coolant Flow Rate"

Situation/Error Cause 2

- The stocker is out of position.

Procedure

1. **Follow the instructions in the VPanel window to open the collet and remove the milling bur.**
2. **Perform automatic correction.**

☞ P. 56 "Correcting the Milling Machine"

If the Error Occurs Again

- The collet is deformed.

Procedure

1. **Replace the collet.**
   ☞ P. 83 "Replacing the Collet"
2. **Perform automatic correction.**
   ☞ P. 56 "Correcting the Milling Machine"

"101D-010*" The % milling bur cannot be released. It might be broken from the root.

* The milling bur stocker number (1 to 7) is displayed for %.

Level 2

Situation/Error Cause

- The milling bur is broken.
- The milling bur has exceeded its service life.

☞ P. 72 "Replacing Milling Burs"

Procedure

1. **Follow the instructions in the VPanel window to open the collet and remove the milling bur.**
2. **Replace the milling bur with a new one.**
3. **Perform collet maintenance.**
   ☞ P. 44 "Collet Maintenance, Cleaning of Dummy Pin, and Checking of Coolant Flow Rate"
4. **Perform automatic correction.**
   ☞ P. 56 "Correcting the Milling Machine"

Situation/Error Cause 2

- The milling conditions are too strict.

Procedure

1. **Hold down the operation button on the built-in panel.**
   This will clear the error.
2. **Review the CAM settings and the shape specified in the CAD data.**

If the Error Occurs Again

- The collet is deformed.

Procedure

1. **Replace the collet.**

   ☞ P. 83 "Replacing the Collet"

2. **Perform automatic correction.**

   ☞ P. 56 "Correcting the Milling Machine"

"101E-000*" The % milling bur might be broken.

* The milling bur stocker number (1 to 7) is displayed for %.

Level 2

Situation/Error Cause 1

- The milling bur is broken.
- The milling bur has exceeded its service life.

☞ P. 72 "Replacing Milling Burs"

Procedure

1. **Hold down the operation button on the built-in panel.**

   This will clear the error.

2. **Replace the milling bur with a new one.**

3. **Perform collet maintenance.**

   ☞ P. 44 "Collet Maintenance, Cleaning of Dummy Pin, and Checking of Coolant Flow Rate"

Situation/Error Cause 2

- The milling conditions are too strict.

Procedure

1. **Hold down the operation button on the built-in panel.**

   This will clear the error.

2. **Review the CAM settings and the shape specified in the CAD data.**

If the Error Occurs Again

- The collet has worn out, leading to a decrease in its retention capabilities.

Procedure

1. **Replace the collet.**

☞ P. 83 "Replacing the Collet"

2. **Perform automatic correction.**

☞ P. 56 "Correcting the Milling Machine"

"101F-000*" The % milling bur chucking has slipped out.

* The milling bur stocker number (1 to 7) is displayed for %.

Level 2

Situation/Error Cause 1

- The milling bur has exceeded its service life.

☞ P. 72 "Replacing Milling Burs"

Procedure

1. **Hold down the operation button on the built-in panel.**

This will clear the error.

2. **Replace the milling bur with a new one.**

3. **Perform collet maintenance.**

☞ P. 44 "Collet Maintenance, Cleaning of Dummy Pin, and Checking of Coolant Flow Rate"

Situation/Error Cause 2

- The milling conditions are too strict.

Procedure

1. **Hold down the operation button on the built-in panel.**

This will clear the error.

2. **Review the CAM settings and the shape specified in the CAD data.**

If the Error Occurs Again

- The collet has worn out, leading to a decrease in its retention capabilities.

Procedure

1. **Replace the collet.**

   ☞ P. 83 "Replacing the Collet"

2. **Perform automatic correction.**

   ☞ P. 56 "Correcting the Milling Machine"

"1020/1021-000*" The % milling bur is too long/too short.

* The milling bur stocker number (1 to 7) is displayed for %.

Level 1

Situation/Error Cause

- A milling bur that cannot be used with this machine has been used.
- The milling bur holder is not in the correct position.

Procedure

1. **Attach a usable milling bur.**

   ☞ P. 28 "Step 2: Setting Milling Burs"

2. **According to the situation, perform the operations shown below.**

   When the error occurred during milling

   Press the operation button on the built-in panel.
   Milling will resume.

   When the error occurred outside of milling

   Hold down the operation button on the built-in panel.
   This will clear the error.

"1022-000*" The % milling bur was not found.

* The milling bur stocker number (1 to 7) is displayed for %.

Level 1

Situation/Error Cause 1

- The milling bur has not been set.
- The milling bur has been set in an incorrect stocker number.

Procedure

1. **Set the milling bur in the correct position.**
2. **According to the situation, perform the operations shown below.**

   When the error occurred during milling

   Press the operation button on the built-in panel.
   Milling will resume.

   When the error occurred outside of milling

   Hold down the operation button on the built-in panel.
   This will clear the error.

Situation/Error Cause 2

- The ATC magazine is out of position.

Procedure

Perform automatic correction.

☞ P. 56 "Correcting the Milling Machine"

If the Error Occurs Again

The collet may have worn out. Replace the collet.

☞ P. 83 "Replacing the Collet"

If the error occurs again even after you replace the collet, replace the spindle unit. To replace the spindle unit, contact your authorized Roland DG Corporation dealer.

"1023-0000 to 1028-0000" Milling data error.

Level 2

- **1023-0000: Milling data error. The number of parameters is incorrect.**
- **1024-0000: Milling data error. The parameter is out of range.**
- **1025-0000: Milling data error. A wrong command is detected.**
- **1026-0000: Milling data error. The address is not defined.**
- **1027-0000: Milling data error. The parameter is not defined.**
- **1028-0000: Milling data error. The operation cannot be executed.**

Situation/Error Cause

- There is a problem with the milling data received from the computer.
- The data transfer has failed due to the computer being under a high load.

Procedure

1. **Hold down the operation button on the built-in panel.**
   This will clear the error.

2. **Check the milling data.**
   If necessary check the CAM settings and the shape in the CAD data.

   If there are no problems with the milling data

   ① **Exit any applications that are not being used.**
   ② **Restart the computer.**
   ③ **Perform milling again.**

"1029-0000" The spindle experienced an overload.

Level 3

Situation/Error Cause 1

- The milling bur is worn.
- A workpiece that cannot be milled by the machine is being used.
- The milling conditions are too strict.

Procedure

1. **Turn off the power.**
2. **Check the milling bur, the workpiece, and the CAM settings as well as the shape specified in the milling data.**
3. **Allow the machine to rest for some time before turning the power on.**
   The motor may have overheated.

Situation/Error Cause 2

- Milling waste has adhered to the spindle.

Procedure

Perform spindle run-in (long).

☞ P. 95 "Spindle Run-In (Long)"

If the Error Occurs Again

There is a possibility that the spindle unit is defective. To replace the spindle unit, contact your authorized Roland DG Corporation dealer.

"102A-000*" The spindle experienced overcurrent.

Level 3

Situation/Error Cause 1

- The milling bur is worn.
- A workpiece that cannot be milled by the machine is being used.
- The milling conditions are too strict.

Procedure

1. **Turn off the power.**
2. **Check the milling bur, the workpiece, and the CAM settings as well as the shape specified in the milling data.**
3. **Allow the machine to rest for some time before turning the power on.**
   The motor may have overheated.

Situation/Error Cause 2

- Coolant is not applied to the middle of the milling bur.

Procedure

Clean the coolant nozzles.

☞ P. 70 "Cleaning the Coolant Nozzle"

Situation/Error Cause 3

- Milling waste has adhered to the spindle.

Procedure

Perform spindle run-in (long).

☞ P. 95 "Spindle Run-In (Long)"

If the Error Occurs Again

There is a possibility that the spindle unit is defective. To replace the spindle unit, contact your authorized Roland DG Corporation dealer.

"102B-0000" The spindle motor temperature is too high.

Level 3

Situation/Error Cause 1

- The milling bur is worn.
- A workpiece that cannot be milled by the machine is being used.
- The milling conditions are too strict.

Procedure

1. **Turn off the power.**
2. **Check the milling bur, the workpiece, and the CAM settings as well as the shape specified in the milling data.**
3. **Allow the machine to rest for some time before turning the power on.**
   The motor may have overheated.

Situation/Error Cause 2

- Milling waste has adhered to the spindle.

Procedure

Perform spindle run-in (long).

☞ P. 95 "Spindle Run-In (Long)"

If the Error Occurs Again

There is a possibility that the spindle unit is defective. To replace the spindle unit, contact your authorized Roland DG Corporation dealer.

"102E-0000" The mechanical part has collided.

Level 3

Situation/Error Cause

- Operation is inhibited by milling waste or an obstruction.

Procedure

1. **Turn off the power.**
2. **Remove any objects blocking operation of the machine and any accumulated milling waste.**
3. **Turn on the power.**

"1033-000*" The coolant has run out.

Level 1

Situation/Error Cause

- The coolant tank is not filled with the appropriate amount of coolant.
- The coolant filters or coolant lines are clogged.

Procedure

1. **Fill the coolant tank with the appropriate amount of coolant.**

   ☞ P. 65 "3. Pour in the new coolant."

2. **According to the situation, perform the operations shown below.**

   When the error occurred during milling

   Press the operation button on the built-in panel.
   Milling will resume.

   When the error occurred outside of milling

   Hold down the operation button on the built-in panel.
   This will clear the error.

If the Error Occurs Again

Perform the operations shown below.

☞ P. 72 "Replacing Coolant Filters"
☞ P. 61 "Replacing the Coolant"

"1034-0000" The coolant tank is not installed.

Level 1

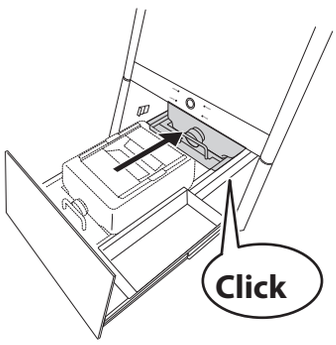
Situation/Error Cause

- The coolant tank has been removed during coolant operation.

Procedure

1 **Install the coolant tank.**

Push the coolant tank to the point where you feel a click.

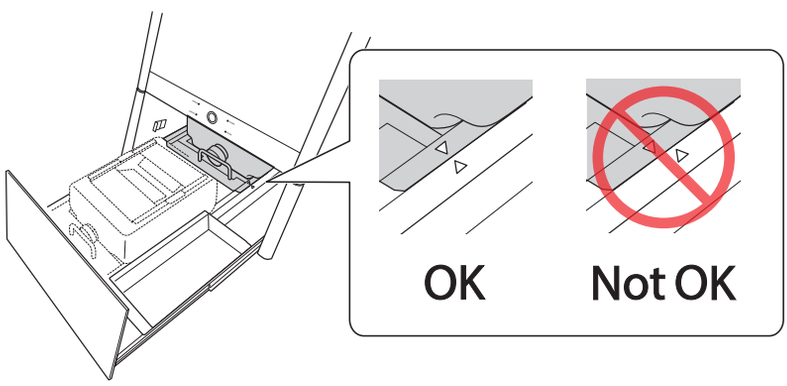


Important

Do not push the tank using the bottom cover.

Point

Align the ▷ label affixed to the right side of the tank with the ◁ label affixed to the machine.



Important

Move the coolant tank slowly. Forcefully moving the coolant tank may cause the coolant to spray out.

2 **According to the situation, perform the operations shown below.**

When the error occurred during milling

Press the operation button on the built-in panel.

Milling will resume.

When the error occurred outside of milling

Hold down the operation button on the built-in panel.

This will clear the error.

"1038-0000" Milling data error. No milling bur is selected.

Level 2

Situation/Error Cause

- There is a problem with the milling data.

Procedure

1. **Hold down the operation button on the built-in panel.**
   This will clear the error.
2. **Check the milling data.**
   If necessary check the CAM settings and the shape in the CAD data.

"103A-000*" DANGER!! The coolant is leaking!!

Level 3

Situation/Error Cause

- Fluid is leaking inside the machine.

Procedure

1. **Turn off the power.**
2. **Unplug the power cable.**
   Contact your authorized Roland DG Corporation dealer.

"103B-0000" The automatic correction is not yet finished.

Level 2

Situation/Error Cause

- Automatic correction has not been performed.
- Automatic correction was cancelled before it could finish.
- Automatic correction was not performed after updating the firmware to a version that required automatic correction to be performed again.
- The versions of VPanel and the machine's firmware do not match.

Procedure

1. **Hold down the operation button on the built-in panel.**
   This will clear the error.
2. **Download the latest versions of VPanel and the machine's firmware, and then install these versions.**
   If you have already upgraded the version, proceed to the next step.
   ☞ DGSHAPE Corporation website (http://www.dgshape.com/)
3. **Perform automatic correction.**
   ☞ P. 56 "Correcting the Milling Machine"

"103D-0000" Milling data error. The milling bur cannot reach the milling position.

Level 2

Situation/Error Cause

- The milling bur is too short to reach the milling position.
- In the milling data that has been sent, the movement in the negative direction along the Z axis is outside the movement range.

Procedure

1. **Hold down the operation button on the built-in panel.**
   This will clear the error.
2. **Check the milling data.**
3. **Review the milling bur length and the position of the milling bur holder.**
   ☞ P. 28 "Step 2: Setting Milling Burs"

"105E-0000" The pressure of the compressed air is too high or low.

Level 1

Situation/Error Cause

- Compressed air is not being supplied.
- The regulator settings are incorrect.

Procedure

1. **Adjust the regulator so that compressed air with the appropriate pressure (0.18 MPa to 0.22 MPa) can be supplied.**

   ☞ Setup Guide

2. **According to the situation, perform the operations shown below.**

   When the error occurred during milling

   Press the operation button on the built-in panel.
   Milling will resume.

   When the error occurred outside of milling

   Hold down the operation button on the built-in panel.
   This will clear the error.

"****-****" An unknown error occurred.

Level 3

Procedure

1. **Turn off the power.**
2. **Turn on the power.**

If the Error Occurs Again

Contact your authorized Roland DG Corporation dealer.

DGSHAPE