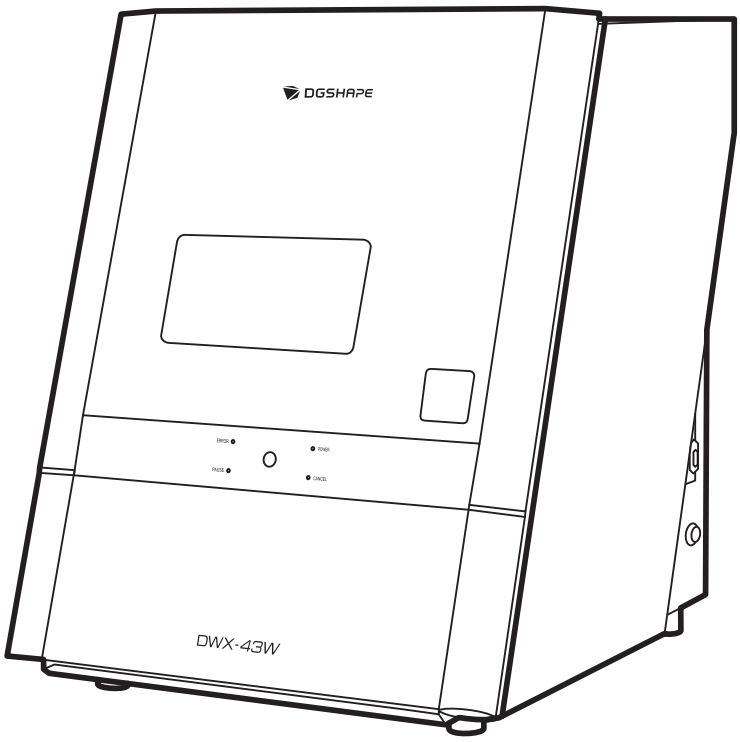
DGSHAPE

DWX-43W

Setup Guide



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Contents

Getting Started 2
About This Machine 3
Features of This Machine 3
Checks before Installation 4
Placement and Installation Work 4
Installation Site 5
Temperature and Humidity 6
Installation Space 7
Checking the Included Items 9
Detection Pin for Correction 10

Installation 11
Preparing the Machine for Use 12
Items to prepare yourself 12
Installing the Machine 16
Step 1: Removing the Retainers 16
Step 2: Attaching the Regulator 18
Step 3: Setting the Compressed Air Pressure 22
Step 4: Attaching the Garbage Receptacle 25
Step 5: Connecting the Power Cord 26
Step 6: Switching the Power On 27
Connecting to the Computer 28
The Software You Can Install and Set Up 28
System Requirements 28
Step 1: Installing the Software 29
Step 2: Connecting to the Computer 30
Step 3: Displaying VPanel 32
Step 4: Exiting VPanel 34
Before Starting Operations 35
Step 1: Selecting the Machine to Use in VPanel 35
Step 2: Automatically Correcting the Cutting Position 36
Step 3: Filling the Coolant Tank 46
Step 4: Performing Spindle Run-in 54
Connecting Multiple Units 57
Registering a Different Machine 57
Switching the Machine to Operate in VPanel 60
Changing the Name and Image of the Machine Displayed on VPanel 61
Changing How to Connect to the Computer 63
Step 1: Configuring the LAN Connection 63
Step 2: Changing to the LAN Connection 68
Step 3: Selecting the Machine to Connect To 70

Appendix 71
Specifications 72
Coordinates 72
Dimensional Drawings 73
Specifications 76

Getting Started

About This Machine 3
Features of This Machine 3
Checks before Installation 4
Placement and Installation Work 4
Installation Site 5
Temperature and Humidity 6
Installation Space 7
Checking the Included Items 9
Detection Pin for Correction 10

About This Machine

Features of This Machine

This machine is a dental cutting and milling machine that uses glass ceramics, composite resins, and dental non-cast titanium alloys to make dental prostheses including crowns, bridges, inlays, onlays, veneers, and custom abutments.

Installing and setting up the exclusive software on your computer and connecting your computer to this machine enables you to create high-quality dental prostheses.

For the latest information on this machine, see the DGSHAPE Corporation website.

RELATED LINKS

- https://www.dgshape.com/

Checks before Installation

Placement and Installation Work

The weight of the machine alone is 61 kg (135 lb.). Unload and place the machine with care.

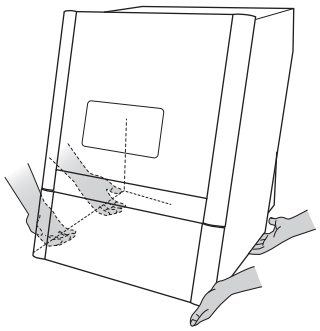
⚠ CAUTION

Unloading and emplacement are operations that must be performed by 2 persons or more.

Tasks that require undue effort when performed by a small number of persons may result in physical injury. Also, if dropped, such items may cause injury.

⚠ CAUTION

When lifting the machine, hold the locations shown in the figure.



Installation Site

⚠ WARNING

Install in a level and stable location.

Failure to do so may result in falling of the machine, leading to injury.

⚠ WARNING

Never install in a location exposed to open flame.

Milling waste may ignite. Powdered material is extremely flammable, and even metal material may catch fire.

⚠ WARNING

Never install the machine close to any flammable object or in a gas-filled location.

Combustion or explosion could occur.

⚠ WARNING

Never install this machine outside or in any location where exposure to water or high humidity may occur.

Current leakage may cause electrical shock or fire.

⚠ WARNING

Position the machine so that the power plug is within immediate reach at all times.

This is to enable quick disconnection of the power plug in the event of an emergency. Install the machine next to an electrical outlet. Also, provide enough empty space to allow immediate access to the electrical outlet.

- Never install the machine in a location subject to wide fluctuations in temperature or humidity.
- Never install the machine in a location subject to shaking or vibration.
- Never install the machine in a dusty or dirty location.
- Never install the machine in a location exposed to direct sunlight or near air-conditioning or heating equipment.
- Never install the machine in a location exposed to considerable electrical or magnetic noise or other forms of electromagnetic energy.
- Never install this machine in an environment where silicone substances (oil, grease, spray, etc.) are present. Doing so may cause poor switch contact or damage.

Temperature and Humidity

Install this machine in a location that meets the specified conditions for temperature, humidity, and the like. Failure to do so may result in malfunction.

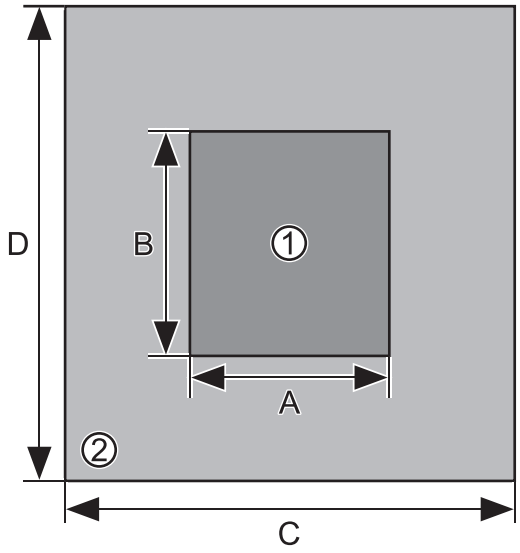
- Temperature: 5 to 28°C (41 to 82.4°F)
- Humidity: 35 to 80%RH (no condensation)

IMPORTANT

Whenever possible, use the machine in an environment with a constant temperature. Large fluctuations in temperature in the installation environment may affect the milling quality.

Installation Space

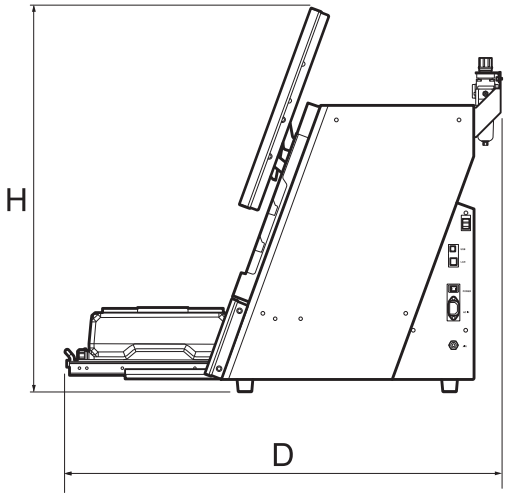
Ensure that at least the following amount of space is available for the installation.



①	Installation Space
②	Work space
A	500 mm (15.75 in.)
B	1,000 mm (39.4 in.)
C	1,000 mm (39.4 in.)
D	1,500 mm (59.06 in.)

Ensure that enough space is available to allow the front cover to be opened.

Ensure that space is available in front of and behind the machine to enable the opening of the bottom cover and the pulling out of the coolant tank.



H	785 mm (30.9 in.)
D	906 mm (35.7 in.)

RELATED LINKS

- P. 73 External Dimensions

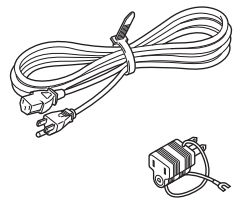
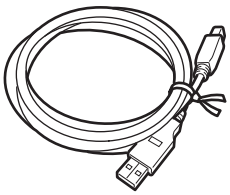
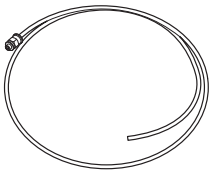
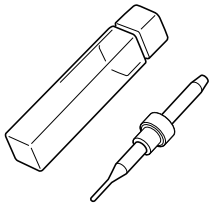
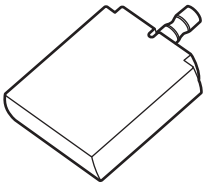
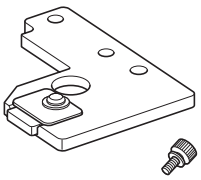
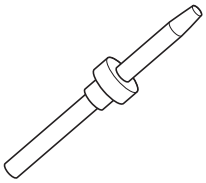
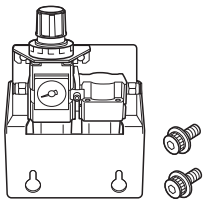
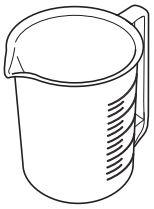
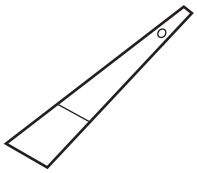
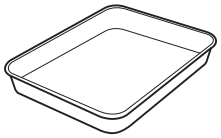
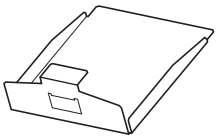
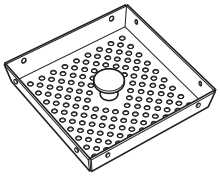
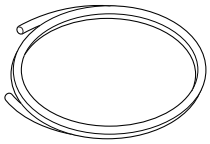
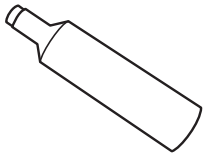
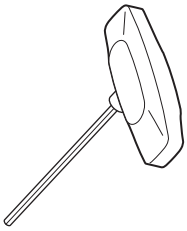
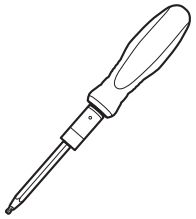
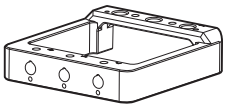
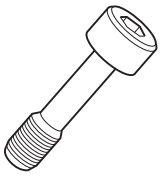
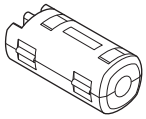
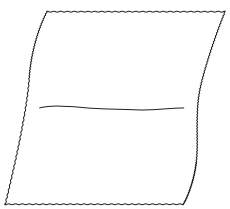
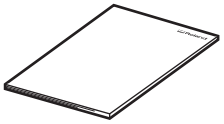
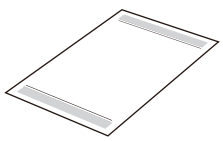
Installation Location Height

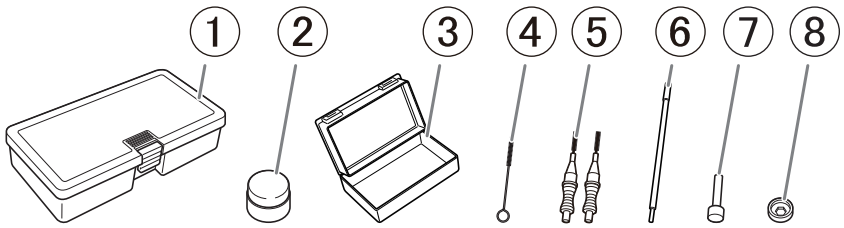
The installation location should be above the work floor by 0.6 m (23.6 in.) or more.

This machine is a desktop-type unit. Install the machine in a location that allows easy access to areas such as the power switch during operation.

Checking the Included Items

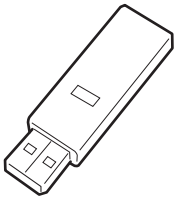
The following items are included with the machine. Make sure they are all present and accounted for.

 Power cord, power plug adapter (1 each)	 USB cable (1)	 Drain hose (2)	 Dedicated milling bur (15)
 Spare mounting screw (6)	 Rotary axis correction jig (1)	 ATC magazine correction jig / A screw (1)	 Detection pin for correction (1)
 Regulator (with stay) / B screw (2)	 Measuring cup (1)	 Cleaning spatula (1)	 Cleaning tray (1)
 Collection tray (1)	 Garbage receptacle (1)	 Air hose (1)	 Milling bur removal jig (1)
 T-shaped hexagonal screwdriver (1)	 Torque screwdriver (1)	 Holder (1)	 Bolt (4)
 Ferrite core (1)	 Cloth for care (1)	 Safety Precautions (1)	 Quick Access Guide (1)



Maintenance kit

①: Case (1) / ②: Grease (1) / ③: Small case (1) / ④: Collet brush (1) / ⑤: Nozzle cleaner (2) / ⑥: Taper cleaner (10) / ⑦: Collet tap (1) / ⑧: Collet replacement jig (1)



Dongle (1)

Detection Pin for Correction

The detection pin for correction is a maintenance tool used to correct the position of the ATC magazine and rotary axis.

IMPORTANT

Handle the "detection pin for correction" and the "dummy pin" separately. Do not confuse them.

The "dummy pin" is a tool used as a "dummy" milling bur. A malfunction may occur if the collet does not grasp anything, so have it grasp the dummy pin when it is not grasping a milling bur. The dummy pin is grasped by the collet upon shipment.

The dummy pin and the detection pin for correction have the same shape, but do not confuse them. If the detection pin for correction is used as the dummy pin even once, the detection pin for correction can no longer 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 (https://www.dgshape.com/).

Installation

Preparing the Machine for Use 12
Items to prepare yourself 12
Installing the Machine 16
Step 1: Removing the Retainers 16
Step 2: Attaching the Regulator 18
Step 3: Setting the Compressed Air Pressure 22
Step 4: Attaching the Garbage Receptacle 25
Step 5: Connecting the Power Cord 26
Step 6: Switching the Power On 27
Connecting to the Computer 28
The Software You Can Install and Set Up 28
System Requirements 28
Step 1: Installing the Software 29
Step 2: Connecting to the Computer 30
Step 3: Displaying VPanel 32
Step 4: Exiting VPanel 34
Before Starting Operations 35
Step 1: Selecting the Machine to Use in VPanel 35
Step 2: Automatically Correcting the Cutting Position 36
Step 3: Filling the Coolant Tank 46
Step 4: Performing Spindle Run-in 54
Connecting Multiple Units 57
Registering a Different Machine 57
Switching the Machine to Operate in VPanel 60
Changing the Name and Image of the Machine Displayed on VPanel 61
Changing How to Connect to the Computer 63
Step 1: Configuring the LAN Connection 63
Step 2: Changing to the LAN Connection 68
Step 3: Selecting the Machine to Connect To 70

Preparing the Machine for Use

Items to prepare yourself

- Water (soft or purified water)
- Compressor (Source of Compressed Air)
- Air Hose
- Fluid Receptacle
- Additive (ZAW-1000D)
- Chelating reagent (ZCH-250D)

Explanations of each item are given below.

Water (soft or purified water)

This is required in order to make the coolant. Use soft or purified water.

MEMO

Using hard water may have a negative effect on the service life of the milling bur and on the quality of the product.

Compressor (Source of Compressed Air)

This machine requires compressed air. You will need to prepare a compressor separately.

IMPORTANT

Even when it is on standby, this machine periodically uses compressed air.
To allow for compressed air to be supplied, leave the compressor on whenever this machine is on.

⚠ WARNING

The pressure of the compressed air must be 1.0 MPa or less.
Anything higher may result in a serious accident such as a rupture.

⚠ WARNING

Ensure that the supplied compressed air is not contaminated by water, oil, chemicals, or foreign objects.
The components may deteriorate or rupture, or the contaminants may be scattered, posing a hazard.

⚠ WARNING

Supply the compressed air after the air hose is connected securely.
Doing so may cause an accident.

The compressor must meet the following conditions.

- Control pressure: 0.25 MPa or more
- Air capacity: 39 l/min or more (per machine)

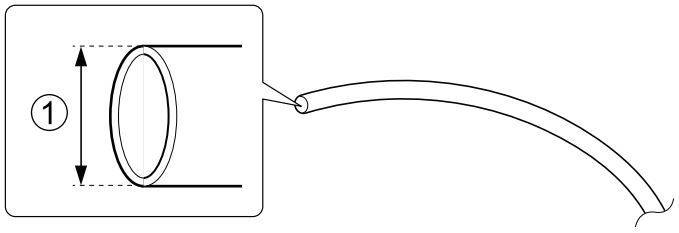
- Oil-free type (To prevent contamination of the compressed air by foreign material.)
- Dryer-equipped (To prevent moist air that can cause rust.)

Air Hose

You will need to separately prepare an air hose to connect the compressor to the regulator.

The air hose must meet the following conditions.

- Hose outer diameter (①): 6 mm (polyurethane resin tube)

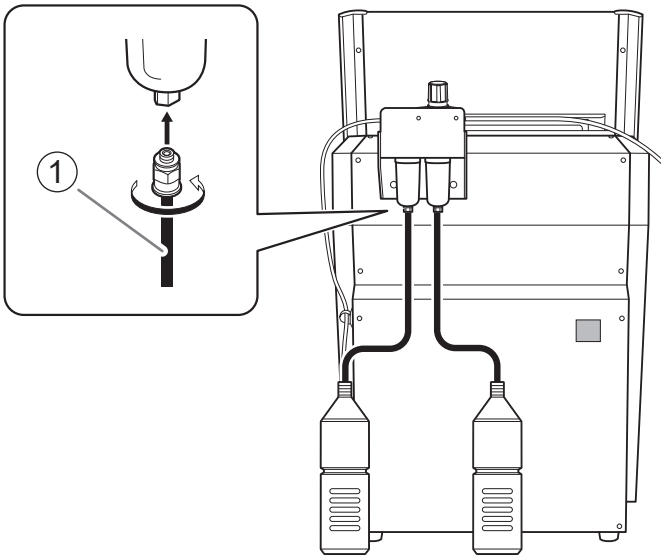


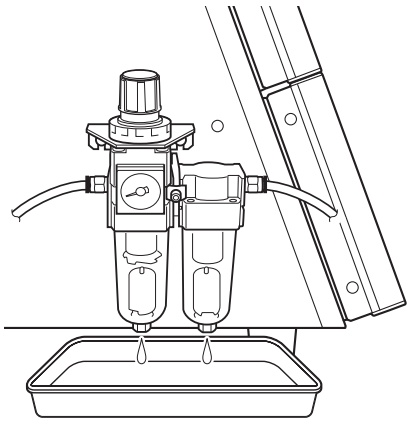
IMPORTANT

Ensure that the included regulator is used when supplying compressed air, and connect the regulator to the unit with the included air hose.

Fluid Receptacle

Because fluid accumulated in the regulator bowl will drain out little by little, prepare a drain hose (①) and a fluid receptacle.





Additive (ZAW-1000D)

To make the coolant, you will need to prepare the designated additive separately. To purchase additives, contact your authorized DGSHAPE Corporation dealer or access our website (https://www.dgshape.com/).

Important Notes on Handling and Use

- 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.

MEMO

The expiration date of the additives is one year from the date of manufacture (written on the unit packaging box).

Chelating reagent (ZCH-250D)

The ZCH-250D (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 (https://www.dgshape.com/).

In the event of additive or chelating reagent ingestion or physical distress

- In the event of contact with the eyes, immediately flush with water for at least 15 minutes. If eye irritation continues, seek treatment by a physician.
- In the event of contact with skin, immediately wash with soap. If irritation or inflammation occurs, seek treatment by a physician.
- In the event of ingestion, do not induce vomiting, and immediately seek treatment by a physician. Forcibly inducing vomiting may lead to danger of choking.
- If odor leads to physical distress, move to a well-ventilated location and rest quietly. If dizziness or nausea persists, seek treatment by a physician.

IMPORTANT

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.
https://www.rolanddg.com/en/about-us/sustainability/safety-data-sheet

MEMO

The expiration date of the chelating reagent is one year from the date of manufacture (written on the unit packaging box).

Installing the Machine

Step 1: Removing the Retainers

Two retainers are attached to this machine to protect it from vibration during shipment. After installing this machine, remove all the retainers.

- Be sure to remove the retainer. Switching the power on with retainers attached to this machine may cause faulty operation or a breakdown.
- The retainers will be required when moving the machine to a different location. Store them carefully so that they do not get misplaced.

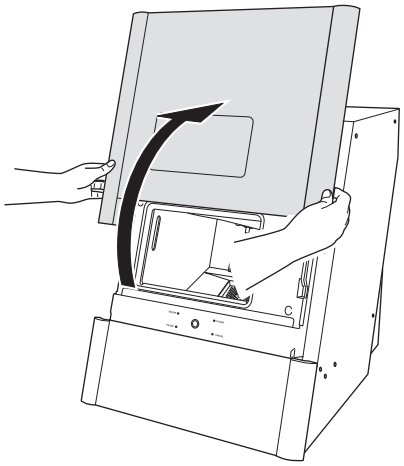
IMPORTANT

Before removing the retainers, be sure to check that the power cord is not connected.

Procedure

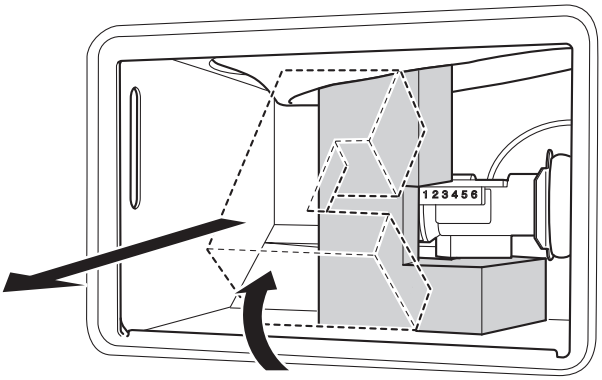
1. **Open the front cover.**

Hold the parts shown in the figure below with both hands and open the cover.

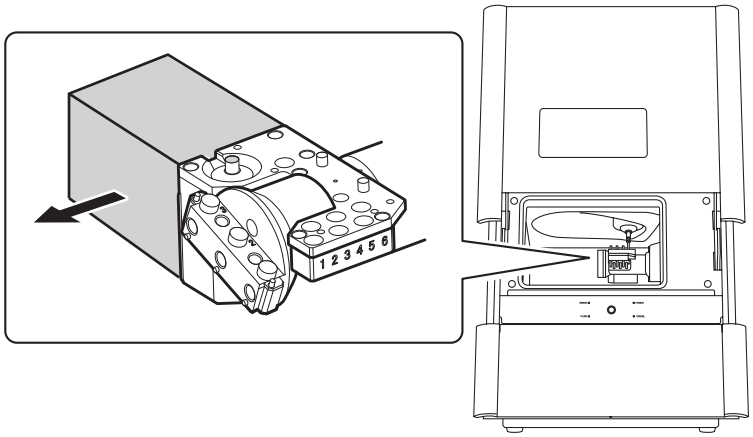


2. **Remove the retainer.**

(1) **Pull the bottom of the retainer (large) toward you, and slide the retainer with it facing up to remove it.**



(2) **Remove the retainer (small).**



3. Close the front cover.

Step 2: Attaching the Regulator

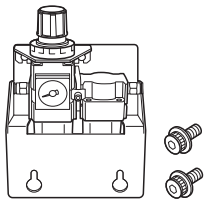
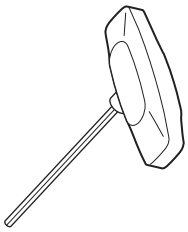
The regulator for this machine is the auto-drain type. Attaching the regulator incorrectly can cause leakage. Be sure to attach the regulator according to the procedure.

⚠ WARNING

Before supplying compressed air, make sure that the bowl is securely attached.
If the bowl is not properly attached, it may come flying off.

⚠ WARNING

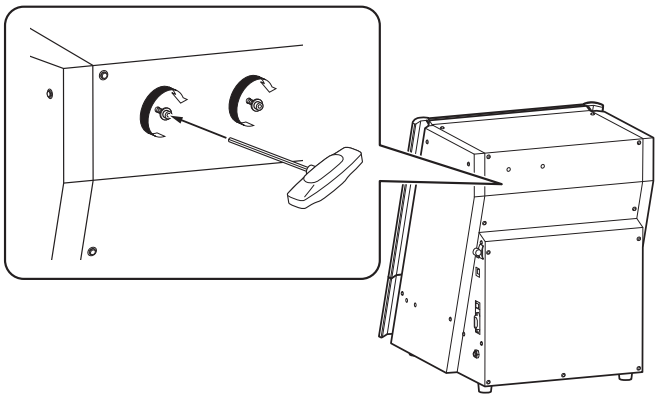
Supply the compressed air after the air hose is connected securely.
Doing so may cause an accident.

Included items	
 Regulator (with stay) / B screws (2)	 T-shaped hexagonal screwdriver (1)

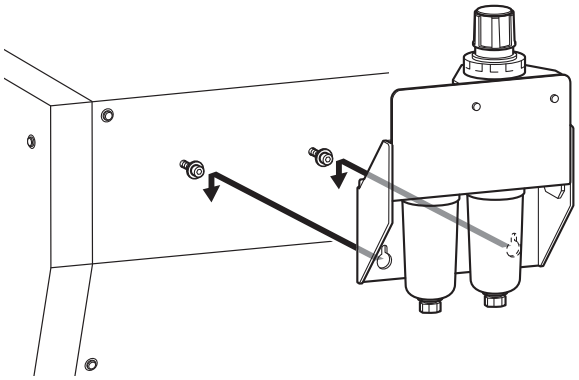
Attaching the Regulator to the Back of the Machine

Procedure

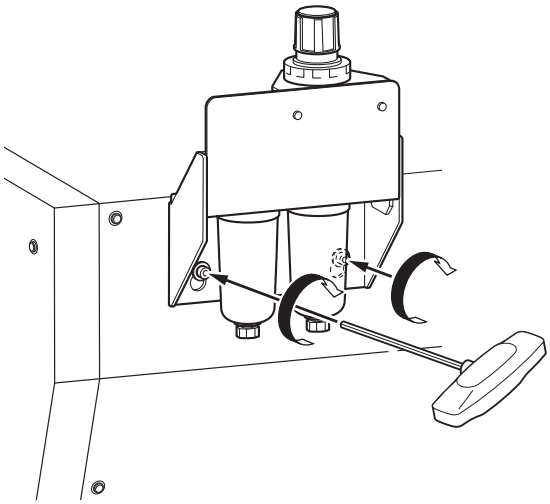
1. **Temporarily tighten the B screws in two locations on the back of the machine.**
   Use the screw holes at the top of the back of the machine.



2. **Attach the regulator's stay to the temporarily tightened B screws.**



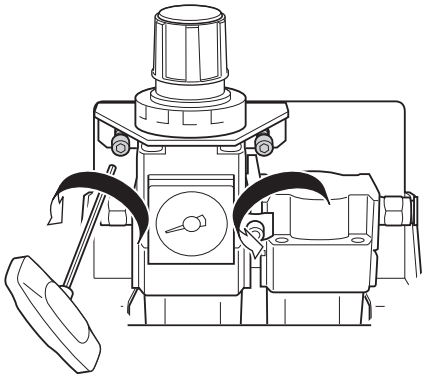
3. Fully tighten the B screws to secure the regulator's stay.



Attaching the Regulator to the Side of the Machine

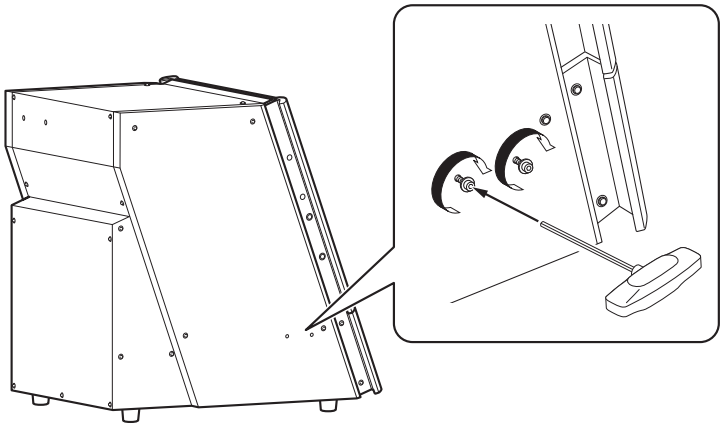
Procedure

1. **Loosen the stay screws, and then remove the regulator.**

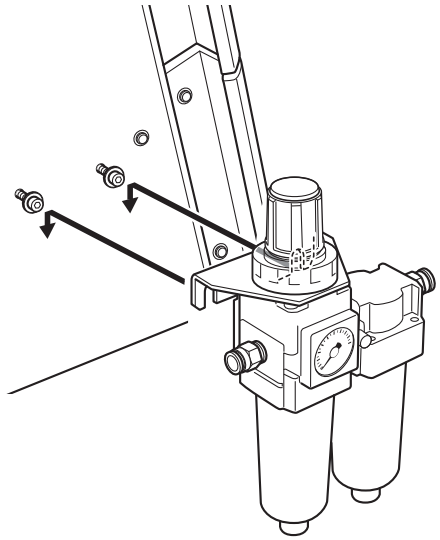


2. **Temporarily tighten the B screws on the side of the machine.**

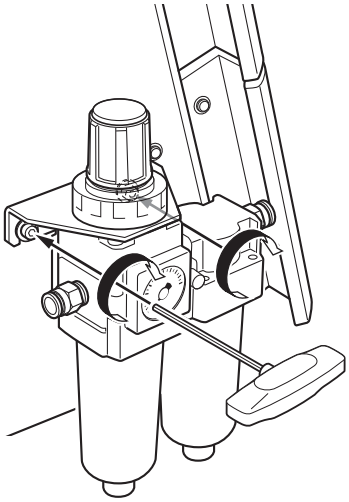
   Use the screw holes at the bottom of the side of the machine. There are screw holes for attaching the regulator at the same height on both sides of the machine. You can attach the regulator on either the left side or right side of the machine.



3. **Attach the regulator to the temporarily tightened B screws.**



4. Fully tighten the B screws to secure the regulator.



Step 3: Setting the Compressed Air Pressure

Procedure

1. **Use air hoses to connect the regulator to the machine and the regulator to the source of compressed air.**

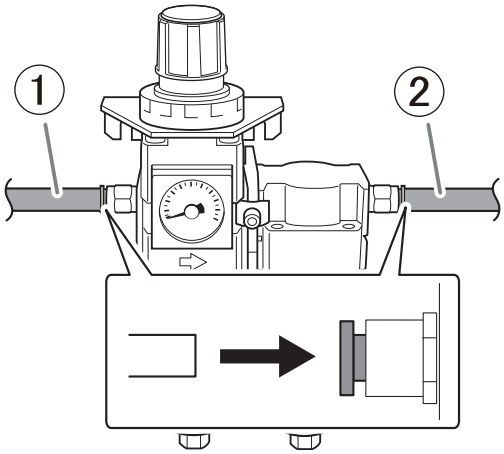
While pressing the regulator ring in, insert the air hoses into the regulator.

⚠ WARNING

Securely insert the air hose as far as it will go. Lightly tug the hose to make sure it does not come loose.

If it is not inserted securely, it may come loose.

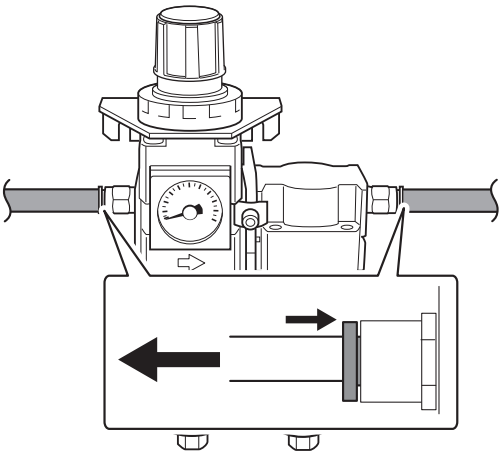
Attach to the left side of the regulator the air hose (①) included with the compressor you are using. Attach to the right side of the regulator the opposite side of the air hose (②) attached to the machine.



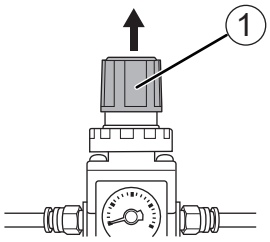
2. **Supply compressed air and verify that air does not leak from the connections or any other location.**

MEMO

To remove an air hose from the regulator, pull the hose out slowly while pressing the regulator ring in.



3. **Pull up on the upper knob (the air pressure adjustment knob) (①).**



4. **Adjust the air pressure.**

Slowly turn the upper knob to adjust the air pressure to a value in the range of 0.18 to 0.22 MPa.

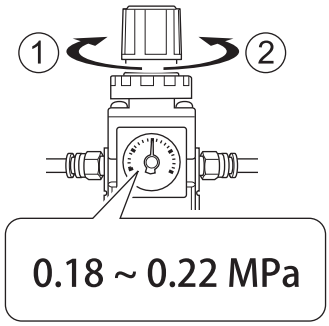
⚠ WARNING

Turn the air pressure adjustment knob slowly and carefully.

Otherwise, the machine may move suddenly, posing a risk of injury.

IMPORTANT

Be sure to adjust the air pressure setting to a value in the range of 0.18 to 0.22 MPa. An air pressure higher than 0.22 MPa may result in a malfunction. If the pressure is too low, the desired results will not be obtained.

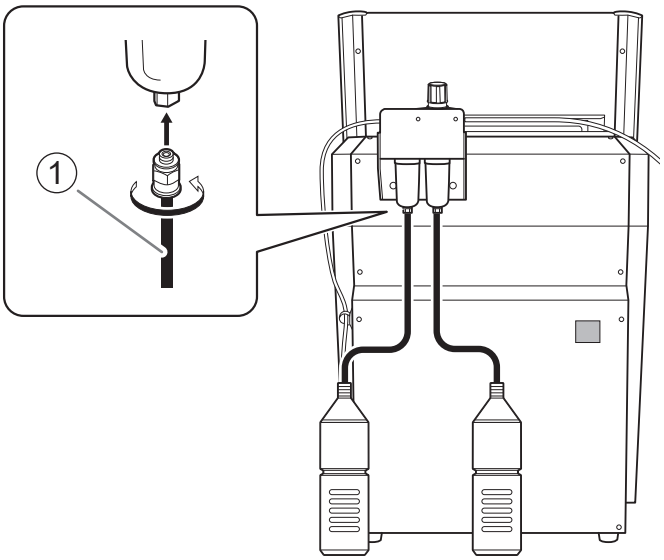


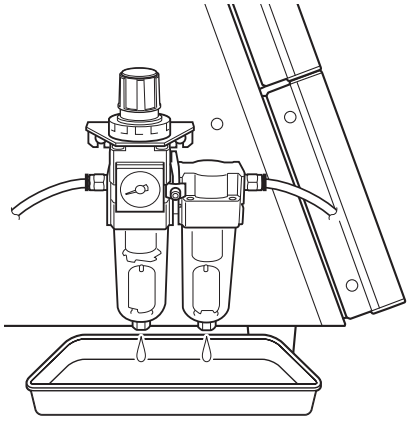
- ①: Increase the pressure.
- ②: Decrease the pressure.

5. **Push down on the upper knob.**

6. **Prepare a fluid receptacle.**

Use the included drain hoses (①) or a separately prepared tray for receiving the fluid.

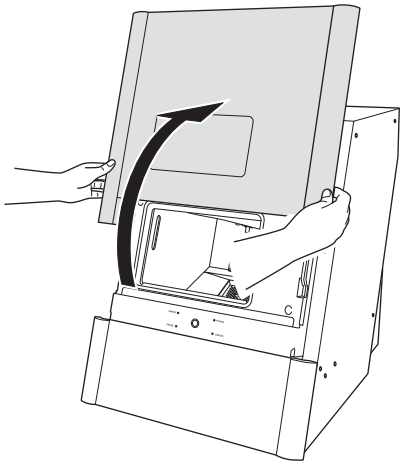

1



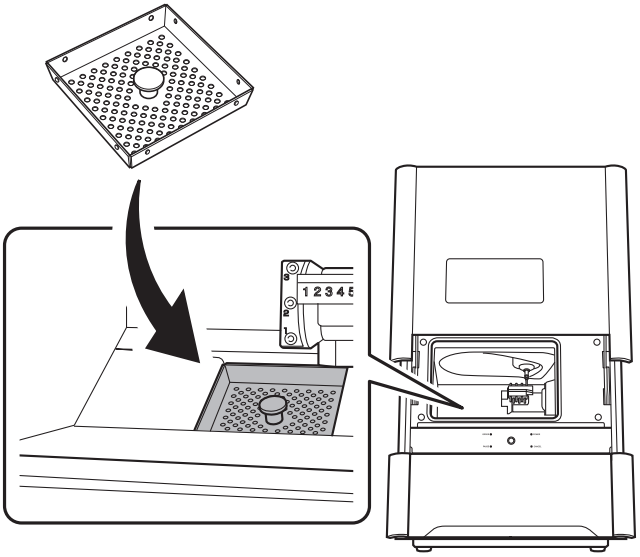
Step 4: Attaching the Garbage Receptacle

Procedure

1. **Open the front cover.**
   Hold the parts shown in the figure below with both hands and open the cover.



2. **Attach the garbage receptacle.**



3. **Close the front cover.**

Step 5: Connecting the Power Cord

Connect to an electrical outlet that complies with this machine's ratings (for voltage, frequency, and current).

Incorrect voltage or insufficient current may cause fire or electrical shock.

⚠ WARNING

Handle the power cord, plug, and electrical outlet correctly and with care. Never use any article that is damaged.

Using a damaged article may result in fire or electrical shock.

⚠ WARNING

When using an extension cord or power strip, use one that adequately satisfies the machine's ratings (for voltage, frequency, and current).

Use of multiple electrical loads on a single electrical outlet or of a lengthy extension cord may cause fire.

⚠ WARNING

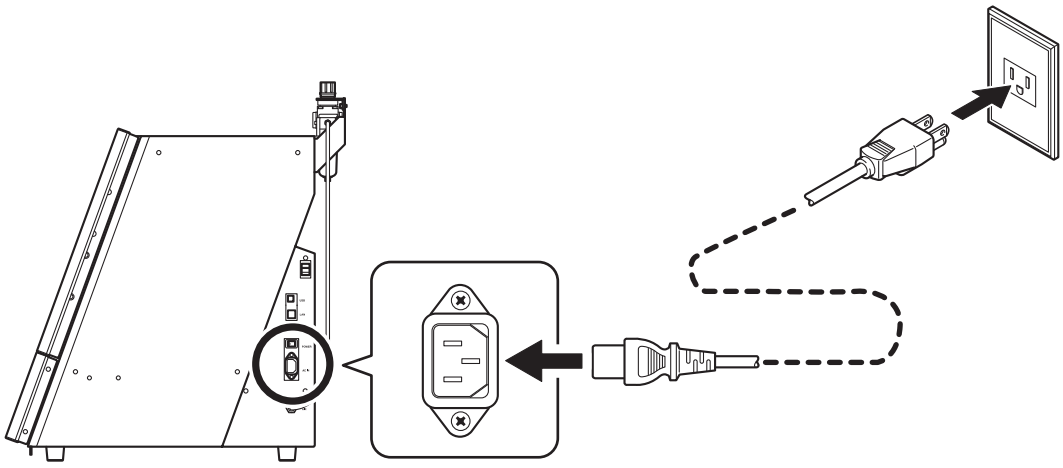
Connect to ground.

This can prevent fire or electrical shock due to current leakage in the event of malfunction.

⚠ WARNING

Connect this machine to an electrical outlet. Never connect this machine directly to a power distribution panel or other such fixed wiring equipment.

Doing so increases the risk of fire or electrical shock.

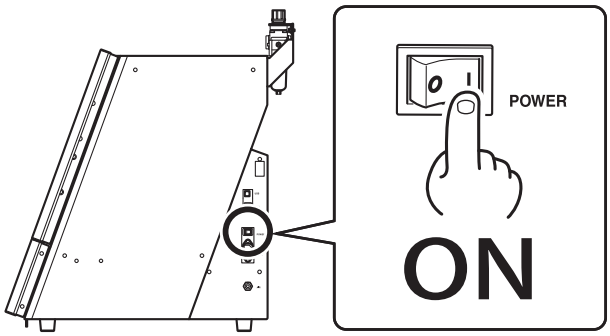


Step 6: Switching the Power On

Procedure

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

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



IMPORTANT

Do not open the front cover during the initial operations.

Connecting to the Computer

The Software You Can Install and Set Up

VPanel for DWX	This is the dedicated software for controlling this machine. This software is used to operate the machine and configure various settings. The term "VPanel" is used in this manual. For details on the windows displayed in VPanel and for an explanation of its functions, refer to the VPanel User's Manual.
Dental Driver (DWX-43W driver)	This is a Windows-based driver required for sending data from a computer to the machine.
DGSHAPE CAM for DWX-43W	This software creates milling data from model data. For information on how to use this software, see the quick-start guide.

- This software is a 32-bit application and therefore runs in WOW64 (Windows-On-Windows 64) when running on 64-bit versions of Windows operating systems.

RELATED LINKS

- VPanel for DWX User's Manual
- DGSHAPE CAM for DWX-43W Help

System Requirements

For the latest information, see the DGSHAPE Corporation website.

VPanel for DWX

Operating system (OS)	Windows 11, Windows 10 (64-bit)
CPU	Core i5 4th generation or later
Memory	8 GB or more
Video card and monitor	A video card that supports at least 256 colors and a resolution of 1024 × 768 or more is recommended.
Hard disk	The following free hard-disk space is required. • Installation destination: 200 MB or more

DGSHAPE CAM for DWX-43W

Operating system (OS)	Windows 11, Windows 10 (64-bit)
CPU	Core i5 13th generation or later
Memory	16 GB or more
Video card and monitor	An Nvidia RTX/GTX video card with at least 4 GB of RAM and a resolution of 1920 × 1080 or more is recommended.
Hard disk	500 GB or more
Interface	USB Type-A port

RELATED LINKS

- https://www.dgshape.com/

Step 1: Installing the Software

Download the driver and the software from the DGSHAPE Corporation website, and then install the driver and the software all at once. You can also install the driver and each piece of software separately.

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 [Administrator] or an "Administrators" account.**
3. **Access the following URL.**
   https://downloadcenter.rolanddg.com/DWX-43W#software
   https://downloadcenter.rolanddg.com/DGSHAPE_CAM_for_DWX-43W#software
4. **Download the following pieces of software.**
   - **[DGSHAPE Dental Driver for Windows]>[Windows Driver [Ver. xx.xx]]**
   - **[VPanel for DWX]>[Installer/Updater [xxxx-xx-xx, Ver.xx.xx.x]]**
   - **[DGSHAPE CAM for DWX-43W]>[Installer/Updater [xxxx-xx-xx, Ver.xx.xx.x]]**

   Click on the right of the software name to download the software.
5. **Install the driver.**
   Double-click [**Windows Driver [Ver. xx.xx]**] to start the installation.
   Follow the on-screen instructions to carry out the installation.
6. **Install VPanel.**
   Double-click [**Installer/Updater [xxxx-xx-xx, Ver.xx.xx.x]**] to start the installation.
   Follow the on-screen instructions to carry out the installation.
7. **Install the CAM software.**
   CAM software for creating milling data is included with this machine.
   Double-click [**Installer/Updater [xxxx-xx-xx, Ver.xx.xx.x]**] to start the installation.
   Follow the on-screen instructions to carry out the installation.

RELATED LINKS

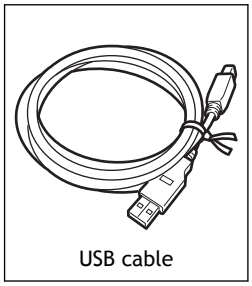
- https://downloadcenter.rolanddg.com/DWX-43W#software

Step 2: Connecting to the Computer

IMPORTANT

- Before connecting the machine to the computer using a USB cable, be sure to install the driver.
- If connecting more than one unit of this machine to a single computer, see "Connecting Multiple Units."
- Use the included USB cable.
- If you will connect a conversion cable, separately prepare a USB cable whose total length, including the length of the conversion cable, is 3 m (118.11 in.) or less. A longer total cable length may lead to malfunctions.

Required item

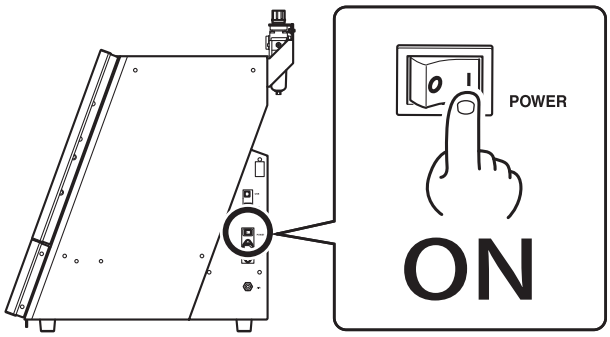


USB cable

Procedure

1. If the machine's power switch is off, switch it on.

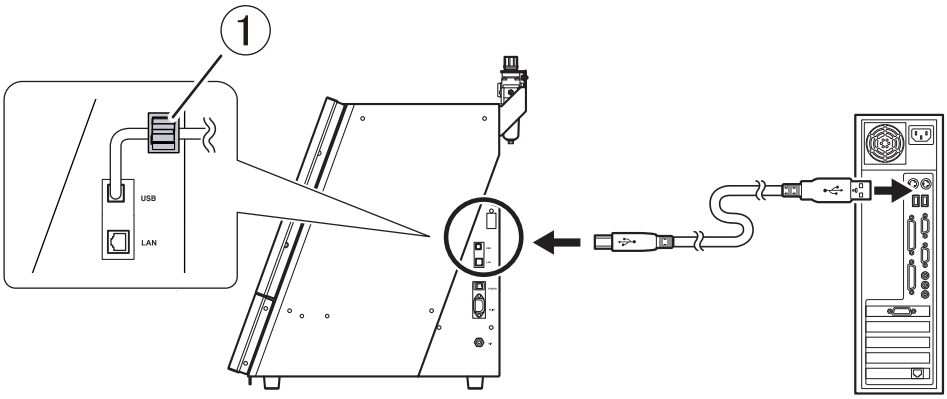
When the power switch is switched to on, the machine starts the initial operations. When the status light stops flashing and remains steadily lit, the initial operations are complete.



2. Connect the machine to the computer using a USB cable.

IMPORTANT

- Do not use a USB hub. Connection may not be possible.
- Do not bind the USB cable and power cord. Binding the USB cable and the power cord may produce noise or the like, resulting in a malfunction.
- Fix the USB cable in place with the cable clamp (①).



Using a USB cable to connect the machine and a computer on which the driver has been installed adds the DWX-43W to [**Devices and Printers**], enabling the use of the machine.

3. **Connect the included dongle to the computer.**

Initialize this software and activate the license to enable all features.
DGSHAPE CAM for DWX-43W Installation Guide

IMPORTANT

The machine ID needs to be changed when connecting more than one machine.
If you will connect more than one unit of this machine to a single computer, be sure to follow the procedure under "Connecting Multiple Units." Connecting before changing the ID may render the machine unusable.

RELATED LINKS

- P. 57 Connecting Multiple Units

Step 3: Displaying VPanel

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.

MEMO

VPanel sends emails to notify the user of milling completion and errors that occur.

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

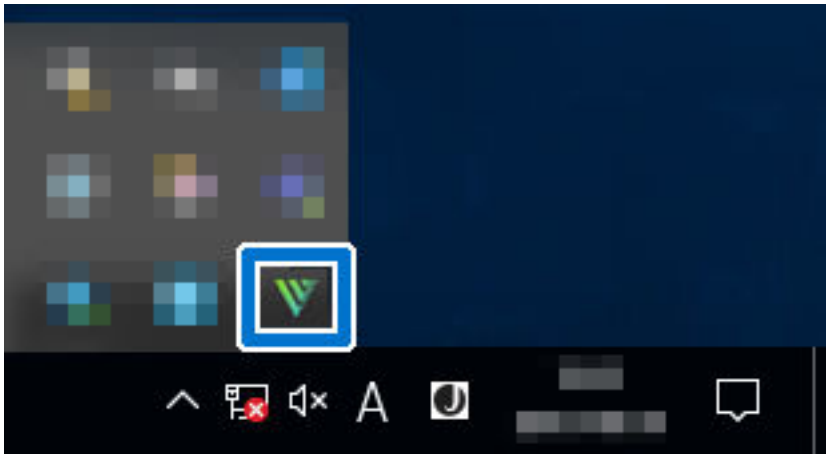
RELATED LINKS

- [Mail] Tab
- [General] Tab

Displaying VPanel from the Task Tray

Procedure

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



The top window of VPanel will appear. If you cannot find in the task tray, start the program from the Windows [**Start**] screen (or the [**Start**] menu).

RELATED LINKS

- P. 32 Displaying VPanel from the Start Screen

Displaying VPanel from the Start Screen

Procedure

1. **Display VPanel from the Start screen.**
   - **Windows 11 (version: 24H2)**

a. Click [**Start**].
b. Click [**All Apps**]>[**VPanel for DWX**].

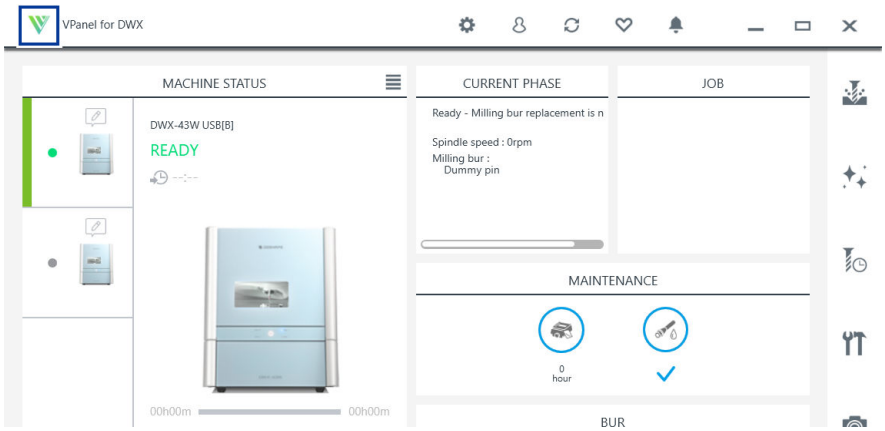
- **Windows 10 (version: 22H2)**
  a. Click [**Start**].
  b. Click [**VPanel for DWX**]>[**VPanel for DWX**].

Step 4: Exiting VPanel

Exiting VPanel from the System Menu

Procedure

1. Click in the VPanel title bar to display the system menu.

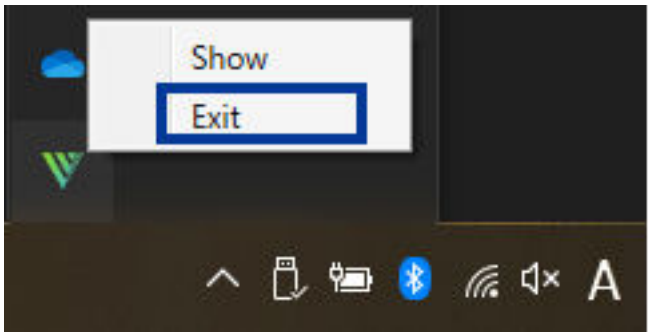


2. Click [Exit].

Exiting VPanel from the Task Tray

Procedure

1. Right-click (the VPanel icon) in the task tray on the desktop.



2. Click [Exit].

Before Starting Operations

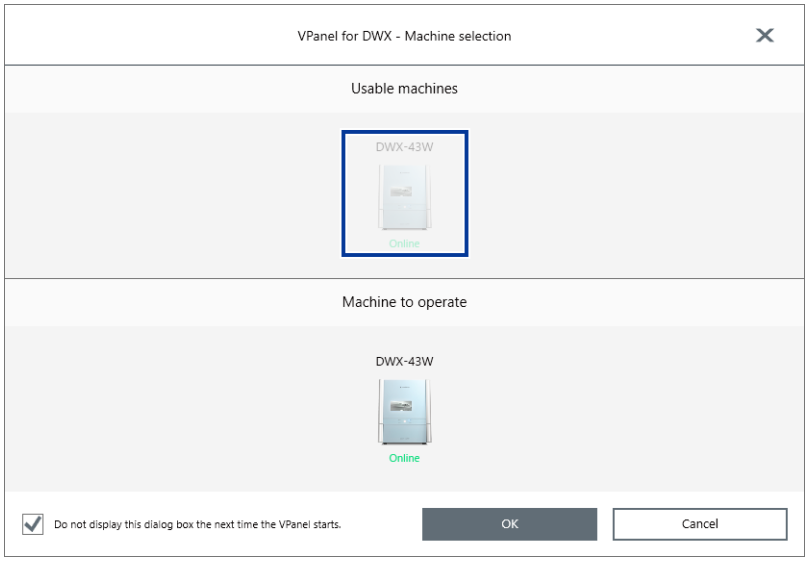
Step 1: Selecting the Machine to Use in VPanel

Procedure

1. **Start VPanel.**
   - **Windows 11 (version: 24H2)**
     a. Click **[Start]**>**[All Apps]**.
     b. Click **[VPanel for DWX]**.
   - **Windows 10 (version: 22H2)**
     a. From the **[Start]** menu, click **[All Apps]** (or **[All Programs]**).
     b. Click **[VPanel for DWX]**>**[VPanel for DWX]**.

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

   Click the image of the DWX-43W displayed in the **[Usable machines]**.
   The machine to operate from VPanel is displayed in the lower row.

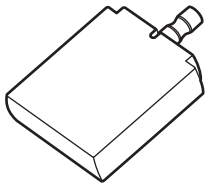
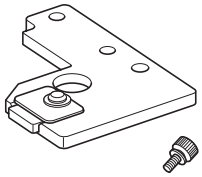
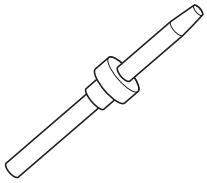
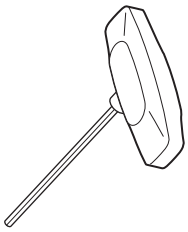
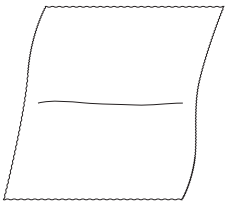


   If you do not want to display the **[Machine selection]** screen when VPanel starts, select the **[Do not display this dialog box the next time the VPanel starts.]** checkbox.

3. **Click [OK].**

Step 2: Automatically Correcting the Cutting Position

Required item

Included item		
 Rotary axis correction jig	 Mounting screw	 ATC magazine correction jig / screw A
 Detection pin for correction	 T-shaped hexagonal screw-driver	 Cloth for care

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 (https://www.dgshape.com/).

1. Perform automatic correction.

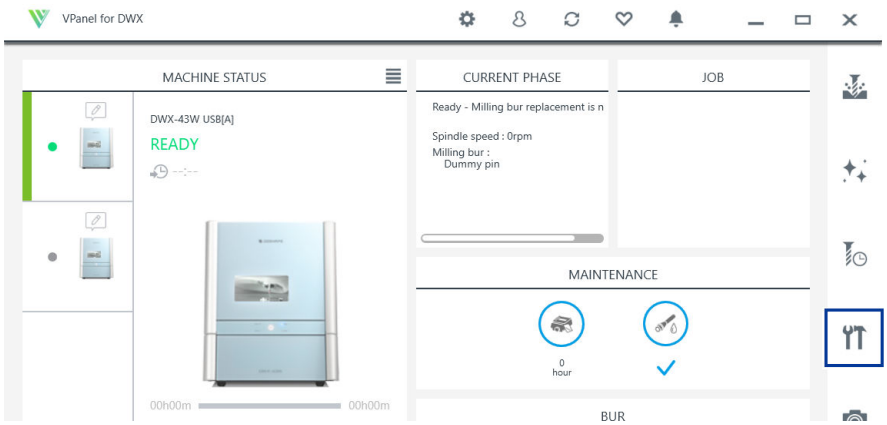
Procedure

1. **Close the front cover if it is open.**

2. **Show VPanel.**

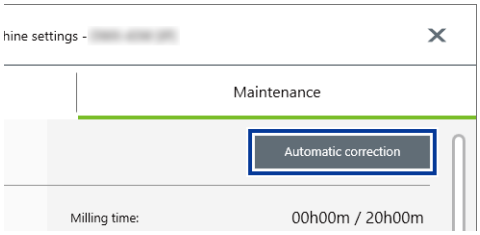
   P. 32 Displaying VPanel

3. **Click** .



   The [**Machine settings**] window is displayed.

4. **On the [Maintenance] tab, click [Automatic correction].**



5. **Click [Next].**

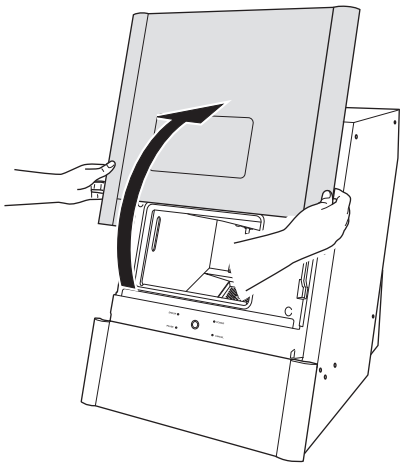
   Follow the on-screen instructions to perform automatic correction.

2. Clean the detection location for use during correction.

Procedure

1. **Open the front cover.**

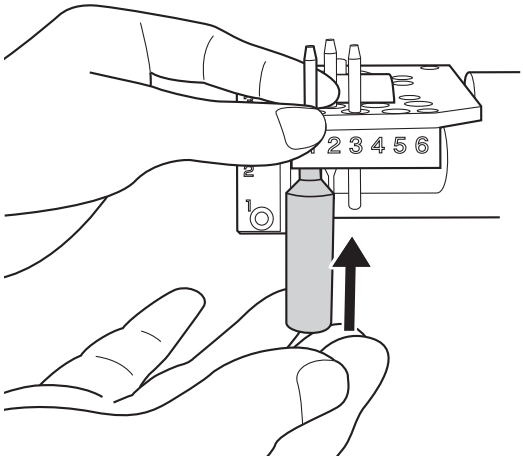
Hold the parts shown in the figure below with both hands and open the cover.



2. **Remove all milling burs set in the ATC magazine.**

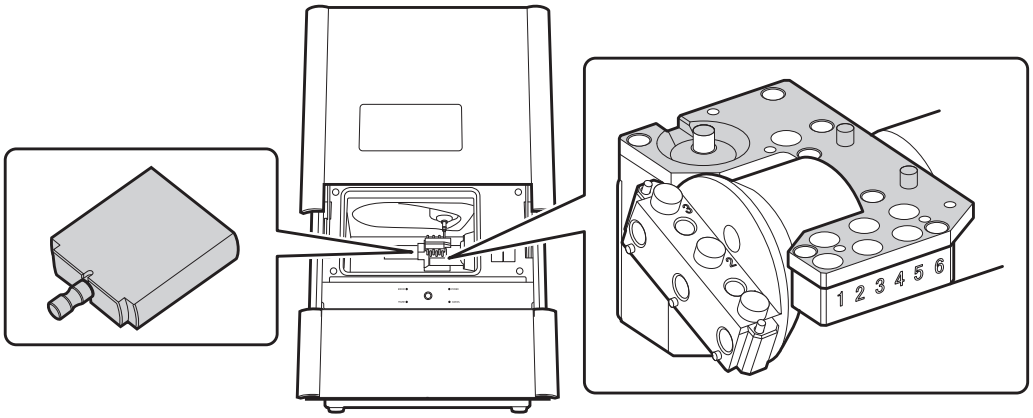
> ⚠ CAUTION
>
> **Be careful around the tip and other sharp edges.**
>
> Be careful not to touch the tool tip or any other sharp edges. Doing so may cause injury.

> MEMO
>
> If a milling bur is difficult to remove, use 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 to remove it.



3. **Use the cloth for care to wipe off dirt from the gray locations shown in the following figure.**

If any dirt is present in these locations, it may not be possible to perform the correction properly.

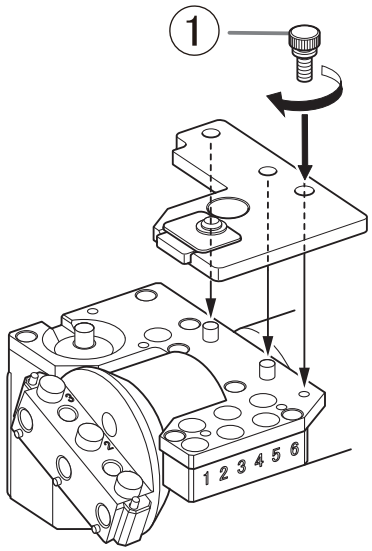

1 2 3 4 5 6

3. Attach the automatic correction jig.

Procedure

1. **Attach the ATC magazine correction jig to the rotary axis unit.**

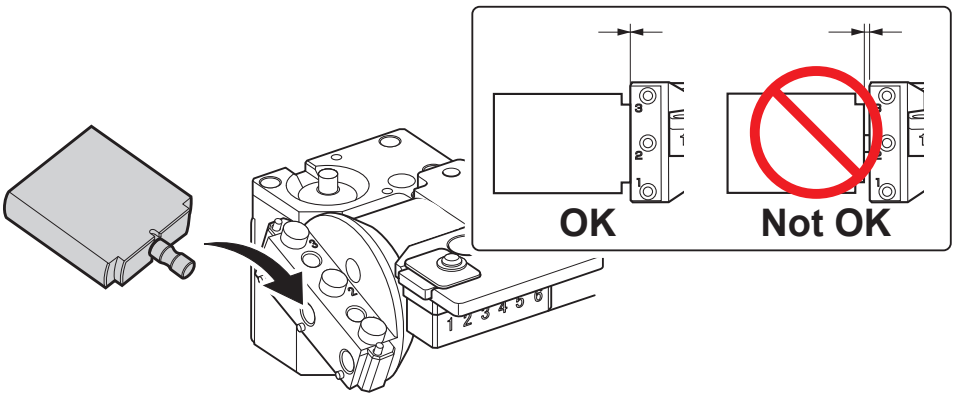
Align the holes on the ATC magazine correction jig with the protrusions on the rotary axis unit, and then use the A screw (①) to secure these parts.



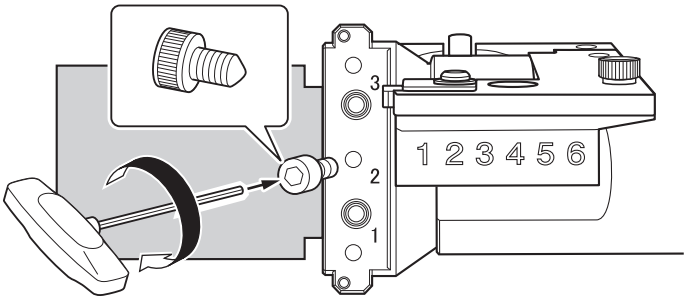
2. **Attach the rotary axis correction jig to hole "2" on the rotary axis.**

(1) **Align the recessed portion of the jig with the protrusion on the rotary axis, and then push the jig in.**

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 T-shaped hexagonal screwdriver to secure the rotary axis correction jig in place with a mounting screw.**



3. Close the front cover.

4. Click [Next].

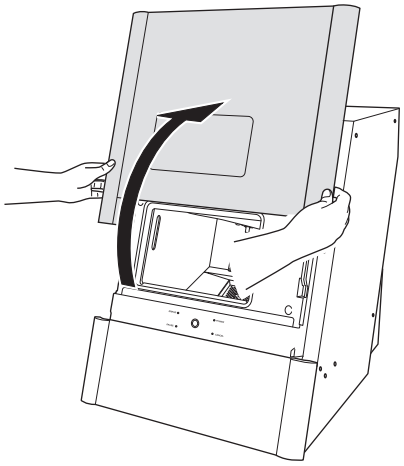
4. Install the detection pin.

Remove the dummy pin from the collet, and then attach the detection pin for correction.

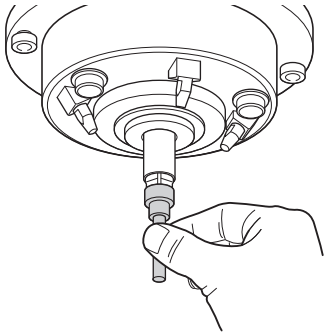
Procedure

1. **Open the front cover.**

   Hold the parts shown in the figure below with both hands and open the cover.

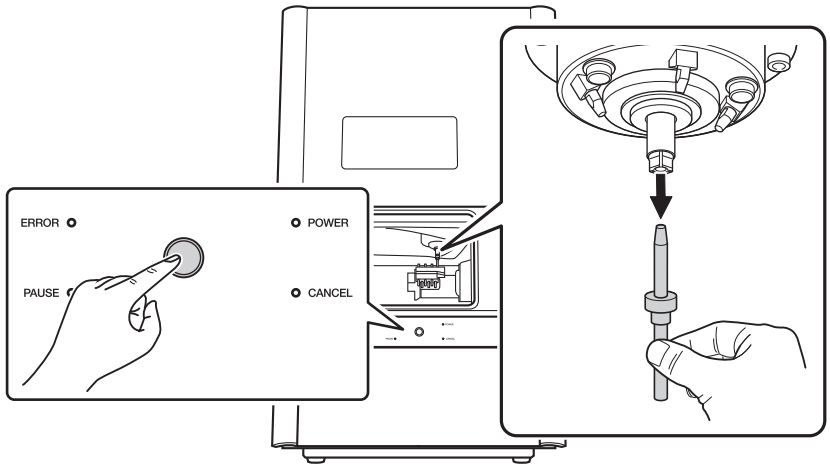


2. **Using your hand, hold the dummy pin attached to the collet.**

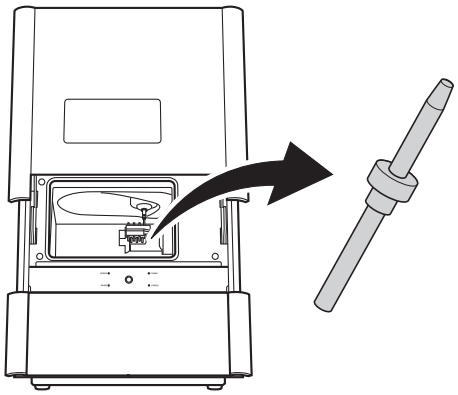


3. **Hold down the operation button and remove the dummy pin from the collet.**

   Holding down the operation button opens the collet. Pull the dummy pin out slowly to prevent it from falling into the machine.



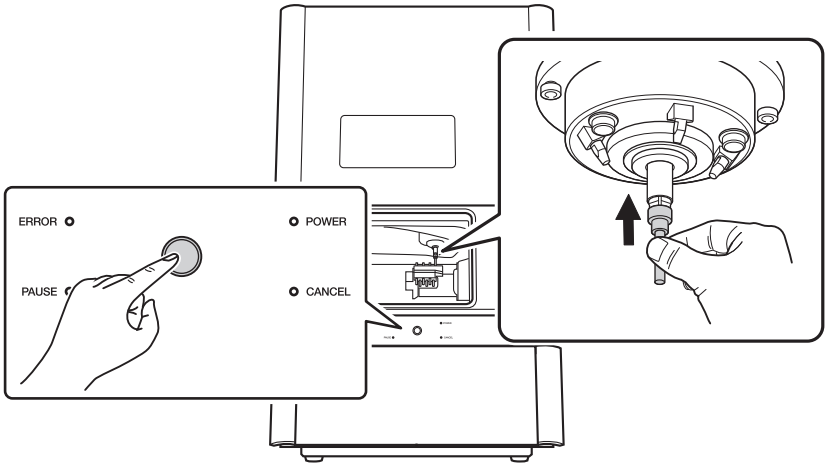
4. **After removing the dummy pin, temporarily place it in a safe location.**



5. **Click [Next].**

6. **Insert the detection pin for correction into the collet, hold the pin in place, and then hold down the operation button.**

Insert the pin all the way to the back, ensuring that there is no gap between the surfaces. The collet closes, grasping the detection pin for correction.



7. **Close the front cover.**

The rotary axis unit will move to a position that makes the next step easier to carry out.

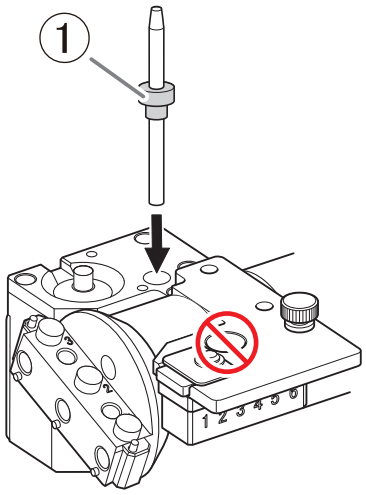
8. **Open the front cover.**

9. **Insert the removed dummy pin (①) all the way to the back of the dummy pin stocker.**

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

IMPORTANT

Pay attention to the position where the dummy pin is inserted.
Inserting the dummy pin into a stocker in the wrong position may lead to collisions during operation, causing a malfunction.



10. **Check the items displayed in the window.**

Check all the items, and select their checkboxes.

11. **Click [Next].**

12. **Close the front cover.**

The automatic correction starts. The automatic correction is finished when the operation complete message is displayed.

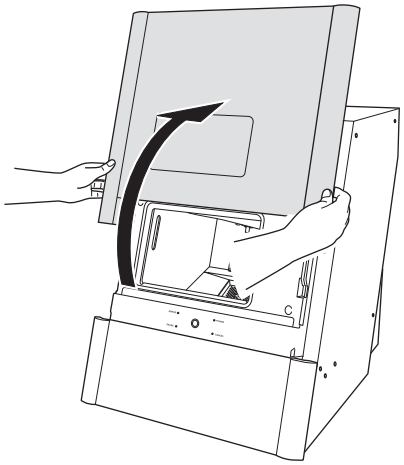
5. Remove the detection pin and the automatic correction jig.

Once correction is complete, remove the detection pin for correction and the automatic correction jig, clean them, and then store them.

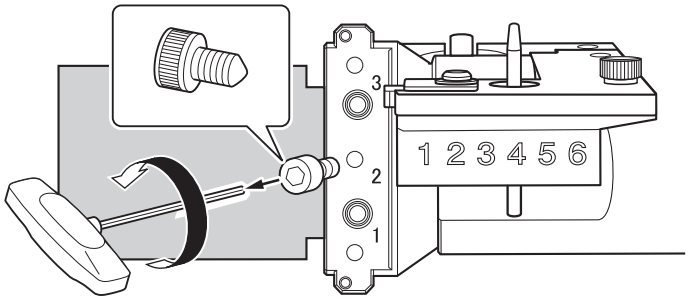
Procedure

1. **Open the front cover.**

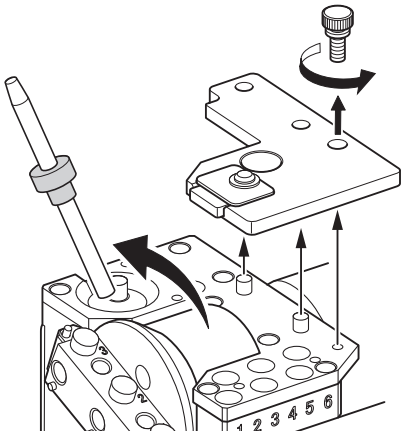
Hold the parts shown in the figure below with both hands and open the cover.



2. **Remove the rotary axis correction jig.**



3. **Remove the ATC magazine correction jig and the detection pin for correction.**



4. **Close the front cover.**

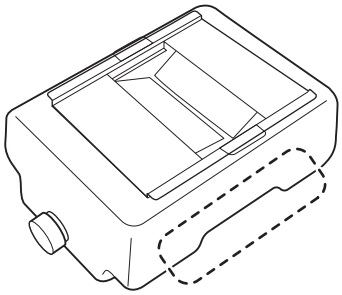
Step 3: Filling the Coolant Tank

⚠ 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 parts indicated in the following figure.
Failing to do so may result in your fingers being pinched, leading to injury.



Items to prepare yourself

- Water (soft or purified water)
- Additive (ZAW-1000D)
- Chelating reagent (ZCH-250D)

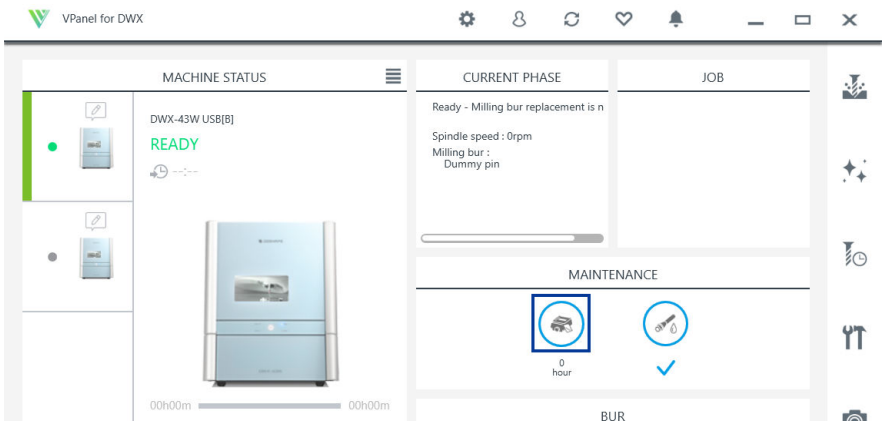
RELATED LINKS

- P. 12 Water (soft or purified water)
- P. 15 Additive (ZAW-1000D)
- P. 15 Chelating reagent (ZCH-250D)

1. Remove the coolant tank.

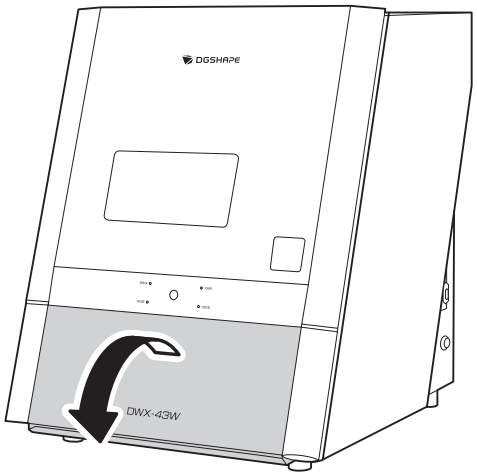
Procedure

1. Click  .

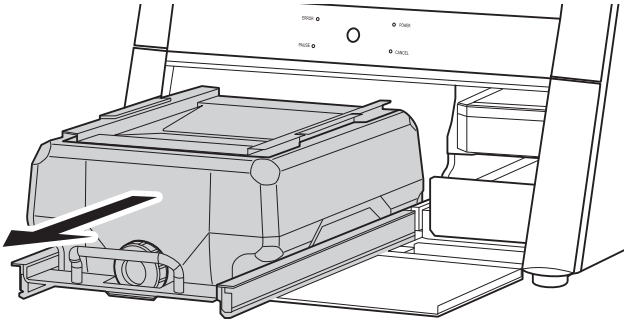


2. Click [Next].

3. Gently push the bottom cover, and then lower it toward you to open it.



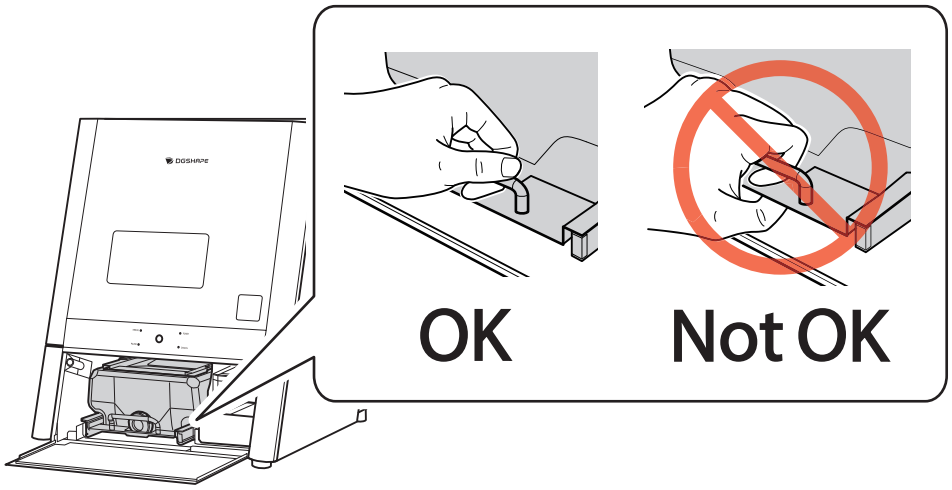
4. Remove the coolant tank.



⚠ CAUTION

When removing the coolant tank, hold the handle as shown in the figure.

Placing a finger under the drawer may lead to injury due to your finger hitting the cover.

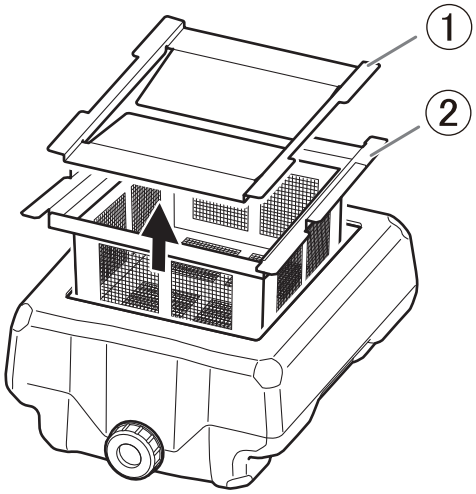


2. Fill the machine with coolant

Procedure

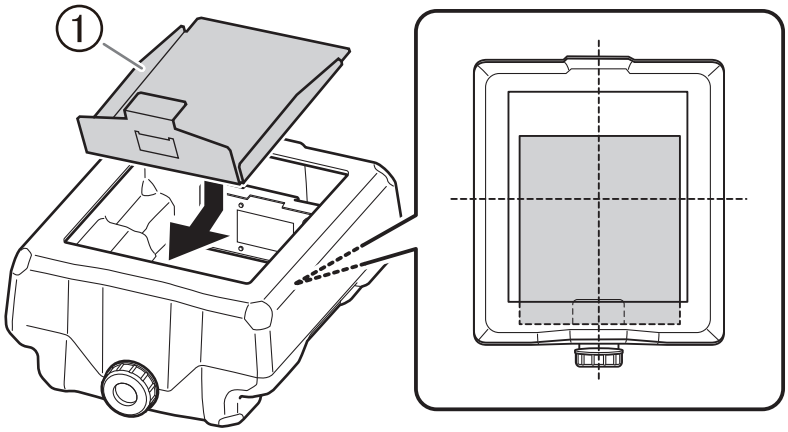
1. **Remove the lid of the coolant tank (①) and the basket-shaped filter (②).**

   Lift the lid and the basket-shaped filter together to remove them at the same time.

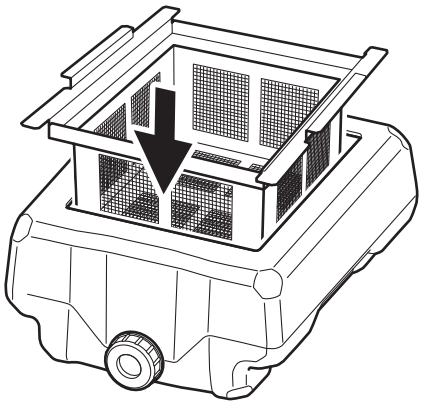


2. **Place the collection tray (①) inside the coolant tank.**

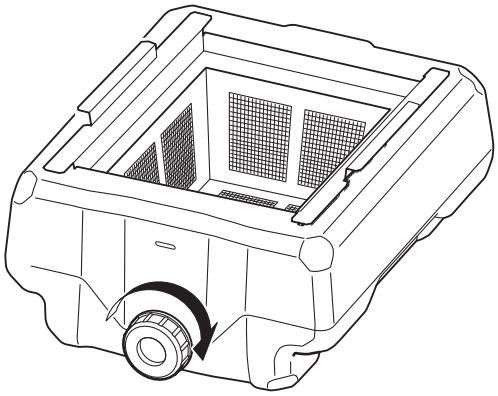
   Orient the collection tray with the hole in front (the side with the coolant tank cap) and bring it to the front, positioning it in the center on the left and right.



3. **Install the basket-shaped filter in the coolant tank.**



4. **Check that the coolant tank cap is tightened.**



5. **Make the coolant.**

To make the coolant, mix three types of fluid—the water, additive (ZAW-1000D), and chelating reagent (ZCH-250D)—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.

⚠ 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.

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 (https://www.dgshape.com/).

IMPORTANT

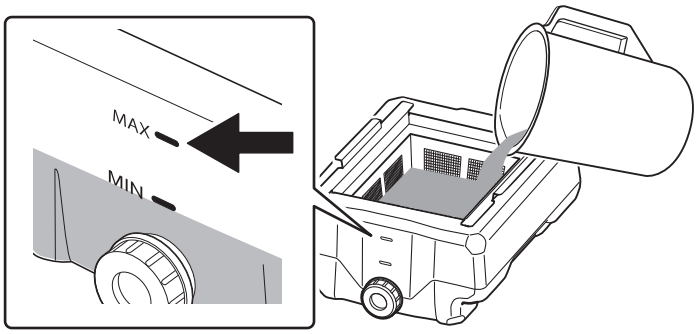
Add an additional 12.5 ml of chelating reagent to the coolant when:

- 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.

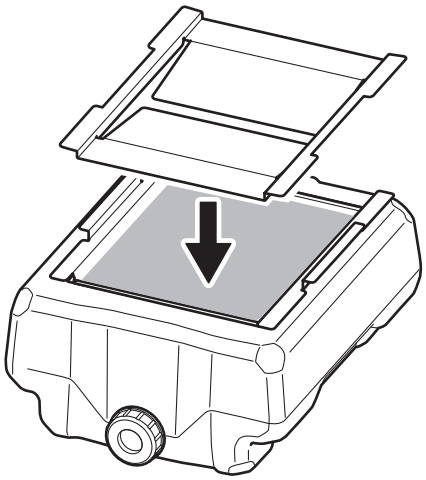
6. **Fill the coolant tank with the coolant.**

Do not add coolant past the "MAX" level written on the coolant tank.



7. **Put the lid on the coolant tank.**

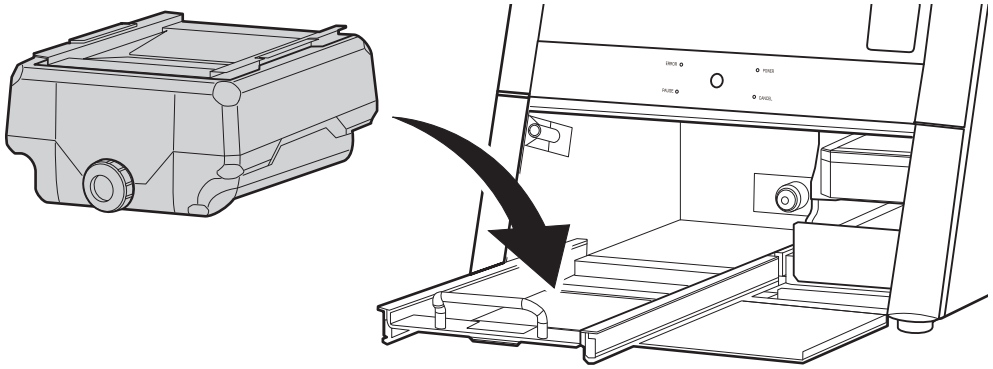
Orient the lid to match the shape of the filter handles, and then place the lid so it fits securely.



3. Install the coolant tank

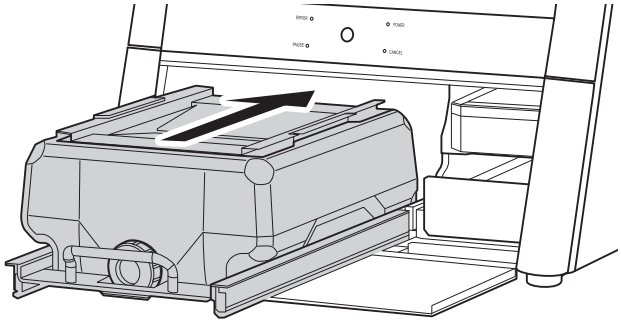
Procedure

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



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

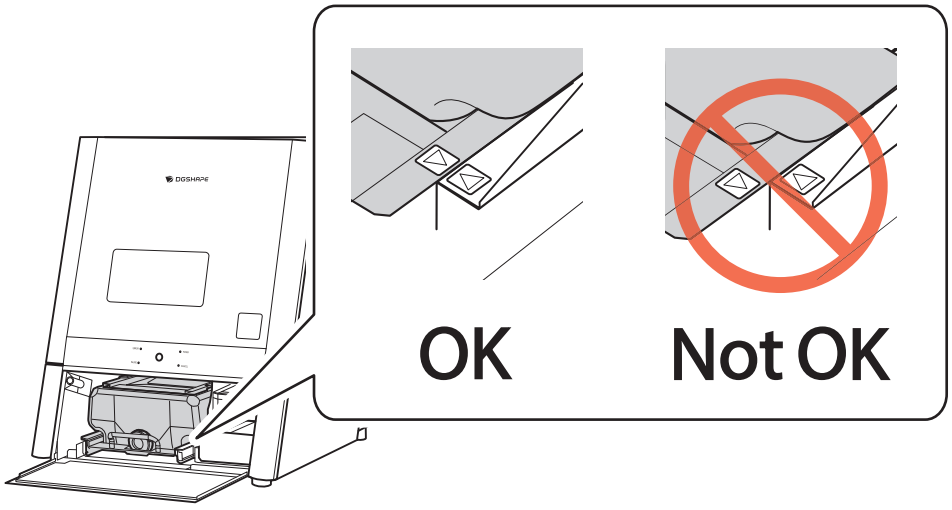
   Push the coolant tank to the point where you feel a click.



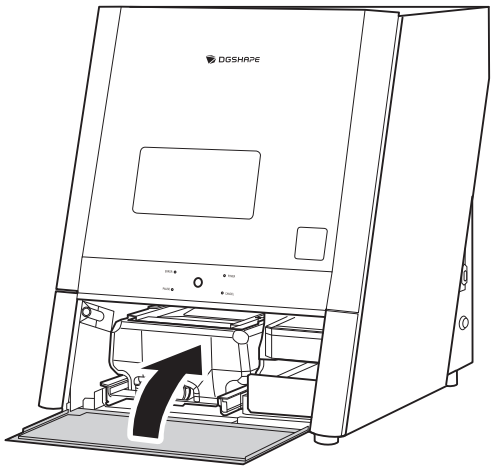
MEMO

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

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



3. **Close the bottom cover.**



4. Click [Complete].

Step 4: Performing Spindle Run-in

Perform spindle run-in to apply grease to the sliding parts in the spindle, stabilizing its rotation.

Before performing spindle run-in, remove the workpiece, rotary axis correction jig, and ATC magazine correction jig if they are attached.

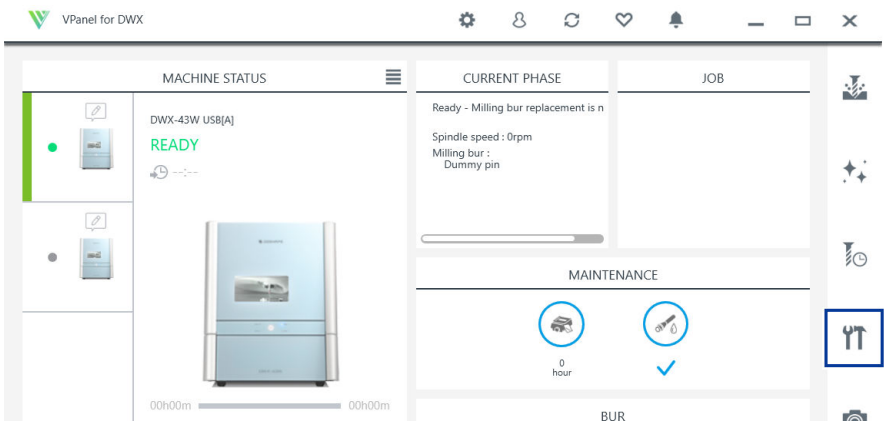
Procedure

1. **Close the front cover if it is open.**

2. **Show VPanel.**

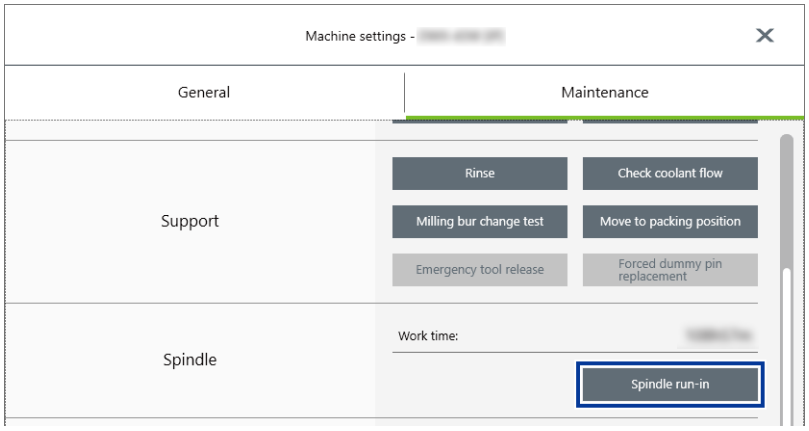
   P. 32 Displaying VPanel

3. **Click**  .

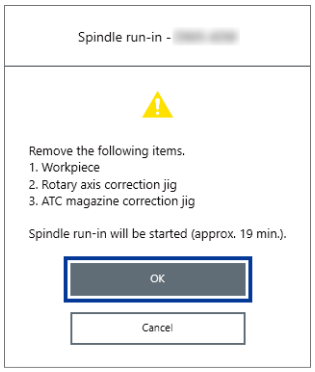


   The [**Machine settings**] window is displayed.

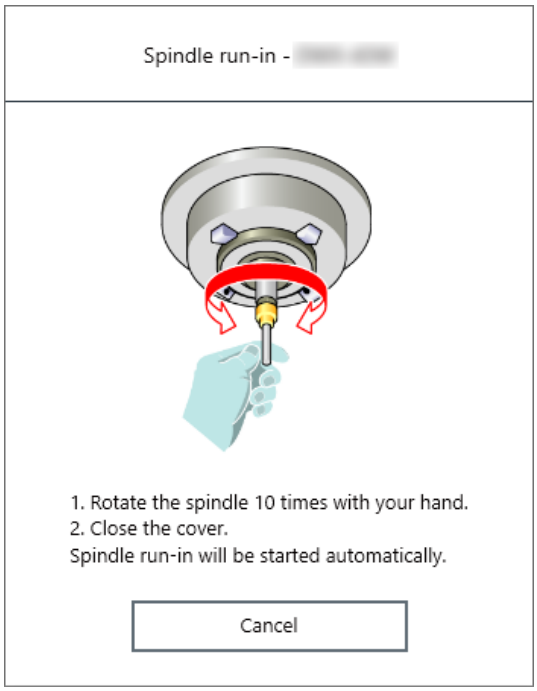
4. **On the [Maintenance] tab, click [Spindle run-in].**



5. **When the window shown in the following figure appears, click [OK].**



6. **When the window shown in the following figure appears, open the front cover.**

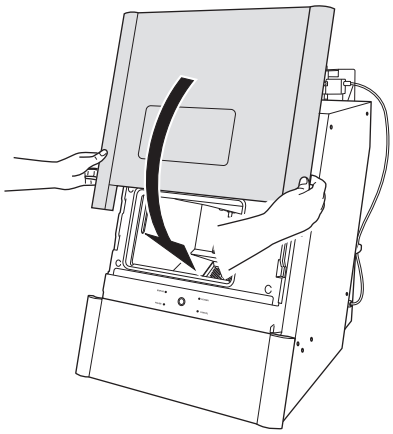


7. **Spin the spindle around 10 times in either direction by hand.**

8. **Close the front cover.**

Spindle run-in starts, and the machine status light will flash blue.

The remaining work time will be displayed on VPanel.



9. When a message indicating that work is complete appears, click [OK] to finish the spindle run-in.

Connecting Multiple Units

This section explains how to configure the settings to allow more than one machine of the same model to connect to one computer. Up to four machines can be connected.

Before connecting multiple machines, assign each of them a unique ID (A to D). These IDs allow the machines to be differentiated from each other.

MEMO

When connecting the machine to a Windows 11 PC, this feature is available on Ver. 22H2 or later devices.

Registering a Different Machine

IMPORTANT

- Configure the connection settings one machine at a time. Be sure to connect only the machine to be configured. Simultaneously connecting multiple machines with the same ID may lead to the computer shutting down or it being impossible to install the driver.
- Use the included USB cable.
- If you will connect a conversion cable, separately prepare a USB cable whose total length, including the length of the conversion cable, is 3 m (118.11 in.) or less. A longer total cable length may lead to malfunctions.
- Do not use a USB hub. Connection may not be possible.

Procedure

1. **Show VPanel.**

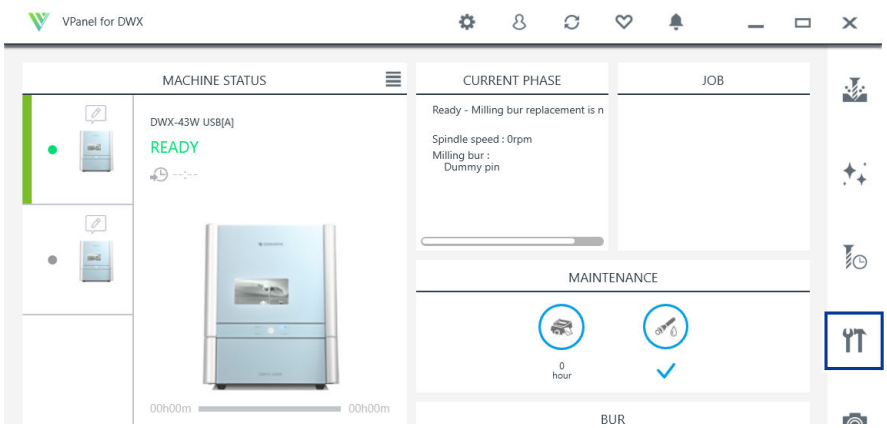
   P. 32 Displaying VPanel

2. **Turn off the power of the connected machine, and then disconnect the USB cable from the computer.**

3. **Check that the icon under [MACHINE STATUS] is displayed in gray and that "OFFLINE" is displayed.**

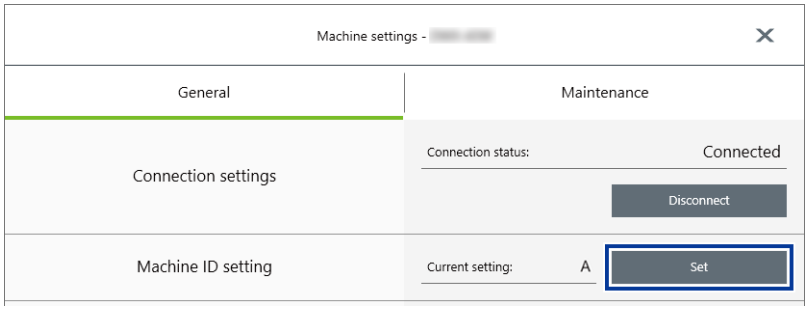
4. **Switch on the power of the machine to be newly connected, and then connect the USB cable to the computer.**

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



The [**Machine settings - DWX-43W**] window will appear.

6. **Click [Set] next to [Machine ID setting] on the [General] tab.**



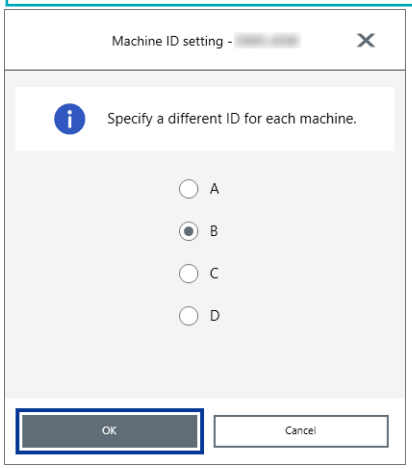
The [**Machine ID setting - DWX-43W**] window will appear.

7. **Select an unused ID, and then click [OK].**

[A] is assigned as the ID of the machine by default. Since [A] is assigned to the first machine, be sure to select an ID from [B] to [D] for subsequent machines.

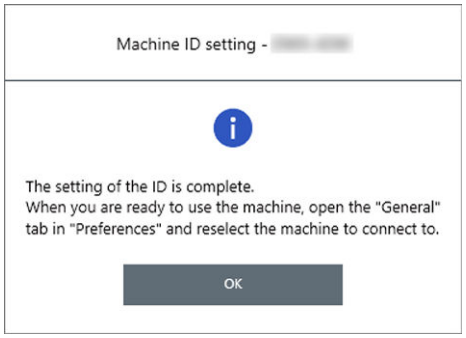
IMPORTANT

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.



8. **When the window shown in the following figure appears, click [OK].**

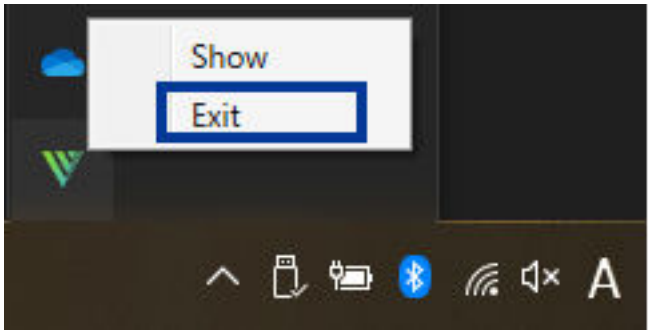
The machine will restart, and then the driver for the machine with the new ID will be installed automatically.



9. **Restart VPanel.**

a. Exit VPanel.

Right-click in the task tray and click [**Exit**].

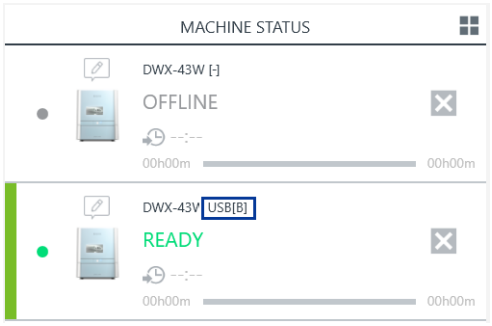


b. Start VPanel.

P. 32 Displaying VPanel from the Start Screen

c. Select the machine added from [**Usable machines**], and then click [**OK**].

The selected ID is now enabled. Check that the machine has been added below [**MACHINE STATUS**]. Verify that the selected ID is displayed on the top window.



IMPORTANT

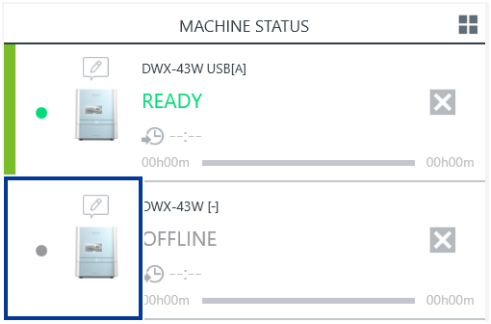
You can connect all the machines with configured settings to the computer using the USB cables. At this point, connecting more than one machine with the same ID at the same time may cause the computer to shut down.

10. **To connect a third or fourth machine, repeat Steps 2 to 9.**

Switching the Machine to Operate in VPanel

In VPanel, switch the machine to operate. A green bar is displayed to the left of the currently selected machine, as shown below.

When switching the machine to operate, click the image of the machine to operate in the list of machines.

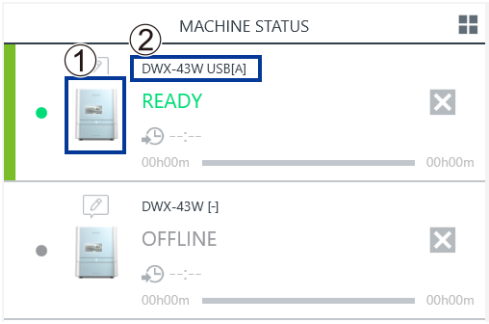


RELATED LINKS

- P. 61 Changing the Name and Image of the Machine Displayed on VPanel

Changing the Name and Image of the Machine Displayed on VPanel

Changing the names and images of the machines displayed in VPanel makes it easier to select the machine to operate.



- ①: Machine image
- ②: Machine name

Changing the Name of the Selected Machine

Procedure

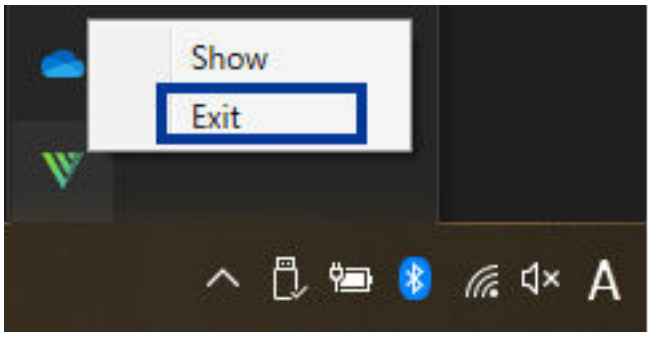
1. **Open the [Devices and Printers] folder.**

- **Windows 11 (version: 24H2)**
  a. Click **[Start]**>**[All Apps]**>**[Windows Tool]**.
  b. Double-click **[Contorol Panel]**.
  c. Click **[View Devices and Printers]**.
- **Windows 10 (version: 22H2)**
  a. Click **[Start]**>**[Windows System]**>**[Contorol Panel]**.
  b. Click **[View Devices and Printers]**.

2. **Select the name of the machine (printer) you are using, and then change the name.**

3. **Exit VPanel.**

Right-click in the task tray and click **[Exit]**.



4. **Start VPanel.**

P. 32 Displaying VPanel from the Start Screen

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

The changed name appears on the top window.

RELATED LINKS

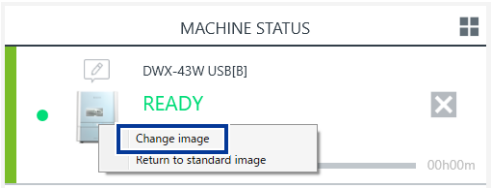
- P. 60 Switching the Machine to Operate in VPanel

Changing the Image of the Machine Displayed on VPanel

Procedure

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

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



3. **In the [Open] window, select the image file that you want to display.**

   The changed image appears in the top window.

Changing How to Connect to the Computer

This machine can be connected to a computer via LAN.

Even when using this machine via LAN, we recommend that you first establish a USB connection and then configure the LAN connection.

By establishing a USB connection and a LAN connection, you can reduce the risk of operations being stopped due to unexpected network problems.

RELATED LINKS

- P. 30 Connecting to the Computer

Step 1: Configuring the LAN Connection

Procedure

1. **Show VPanel.**

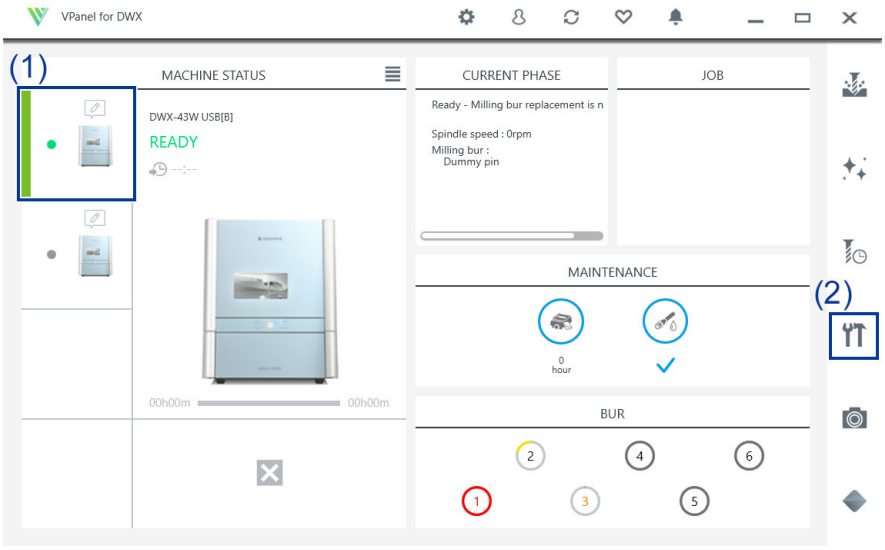
2. **Open the [Machine settings] window.**

(1) **In the top window of VPanel, select the machine to operate.**

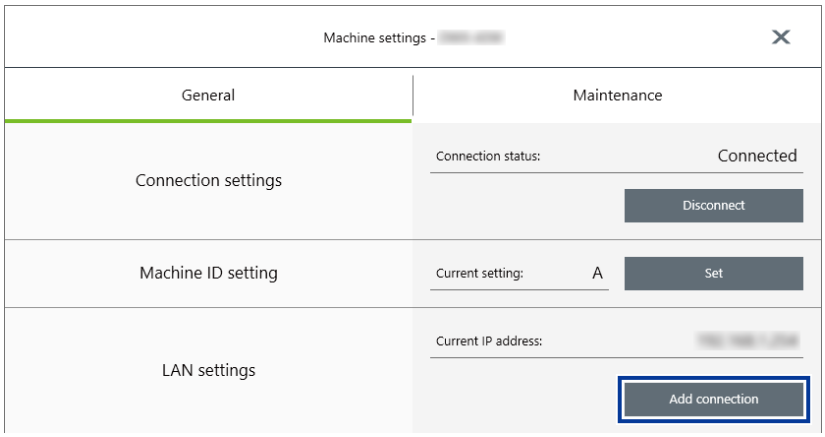
When you have connected multiple machines, you can switch to a different machine to operate by clicking its image under [**MACHINE STATUS**].

(2) **Click**  .

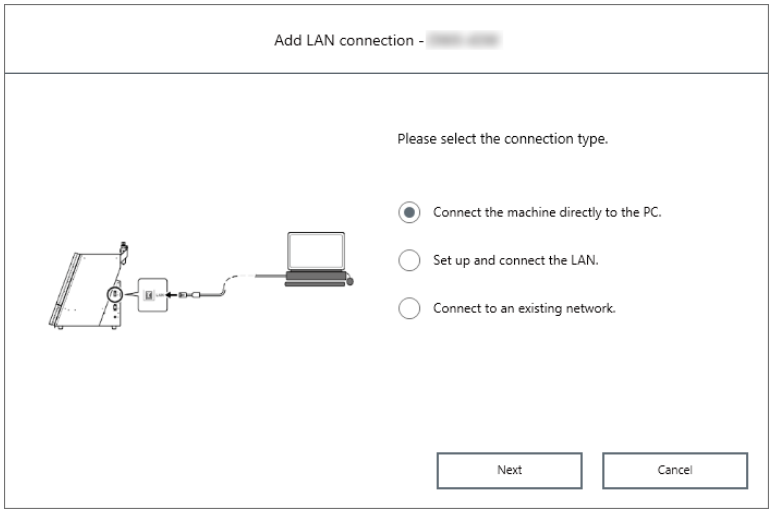
The [**Machine settings**] window is displayed.



3. **Click [LAN settings]>[Add connection].**



4. **Select how to connect to the machine.**



[Connect the machine directly to the PC.]

This is used to connect the machine and the computer directly with a LAN cable.

Select this option when you connect one machine.

[Set up and connect the LAN.]

This is used to create a new LAN-connection network.

Select this option when you create a LAN environment with no Internet connection and connect multiple machines.

[Connect to an existing network.]

This is used to connect a machine to an existing network.

Select this option when you connect a machine to an existing network that is connected to the Internet.

5. **Click [Next].**

6. **If you selected [Connect to an existing network.] in Step 4, set the IP address.**

Check with your network administrator to obtain the IP address of the network to connect to, and then enter this value in [**IP address**].

MEMO

If you selected [**Connect the machine directly to the PC.**] or [**Set up and connect the LAN.**], the IP address will be entered automatically.

If you want to change the IP address or other addresses or if the automatic configuration of the LAN connection settings is not successful, you can also configure the LAN connection manually.

P. 66 Determining the LAN Address

7. **Click [Next].**

8. **Click [Complete].**

Determining the LAN Address

Depending on your environment, the IP address may not be entered automatically.

In this situation, determine the address as shown below, and then manually configure the network.

IMPORTANT

If using the Windows firewall function, set it so that the following TCP port numbers are not blocked.

The following TCP port numbers are used during communication between the machine and a computer over a LAN connection.

- 9100
- 9500
- 9501

IMPORTANT

The network settings listed here are only an example. The 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.

	Computer	Machine side	Remarks
IP address	192.168.1.XXX	192.168.1.YYY	Ensure that these are unique numbers compared to other network devices and that "XXX" and "YYY" represent unique numbers from 1 to 254.
Subnet mask	255.255.255.0	255.255.255.0	Set the machine and the computer to the same number.
Default gateway	192.168.1.AAA	192.168.1.BBB	"AAA" and "BBB" represent unique numbers from 1 to 254. This setting may not be necessary. For details, check with your network administrator.

Setting the Computer's Network

Depending on your environment, the network may not be configured automatically.
In this situation, follow the procedure below to configure the network.

Procedure

1. **Log on to Windows as [the computer's administrator].**

2. **Open the [Ethernet Properties] window.**
   - **Windows 11 (version: 24H2)**
     a. Click **[Start]**>**[Setting PC]**>**[Contorol Panel]**.
     b. Click **[Network and Internet]**>**[Network and Sharing Center]**.
     c. Click **[Change adapter settings]** from the list on the left side of the window.
     d. Right-click **[Ethernet]**.
     e. Click **[Properties]**.
   - **Windows 10 (version: 22H2)**
     a. Click **[Start]**>**[Settings]**.
     b. Click **[Network and Internet]**>**[Network and Sharing Center]**.
     c. Click **[Change adapter settings]** from the list on the left side of the window.
     d. Right-click **[Ethernet]**.
     e. Click **[Properties]**.

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

4. **Select [Use the following IP address], and then enter the number you determined in the section** **Determining the LAN Address****.**

5. **Click [OK] or [Close] to close the windows that have been displayed in the procedure.**

Step 2: Changing to the LAN Connection

Disconnect the USB cable, and then connect the machine to the computer using a LAN cable.

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

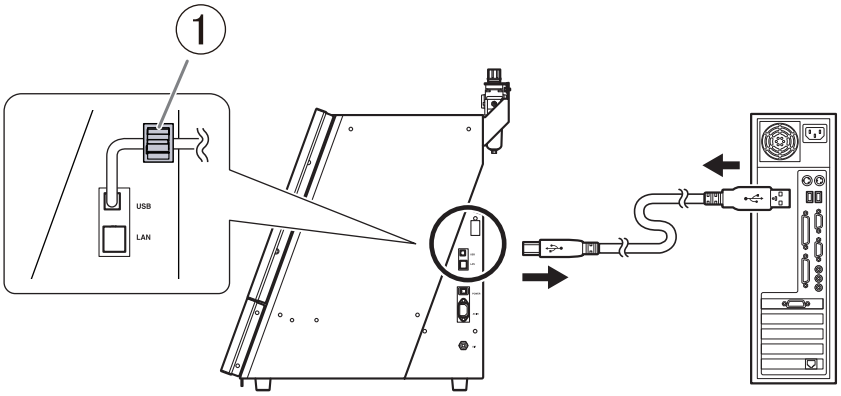
IMPORTANT

- Do not bind the LAN cable with the cable clamp.
- Wire the LAN cable so that it does not come into contact with the USB cable or power cord. These cables coming into contact with the LAN cable may result in communication errors due to electrical noise.

Procedure

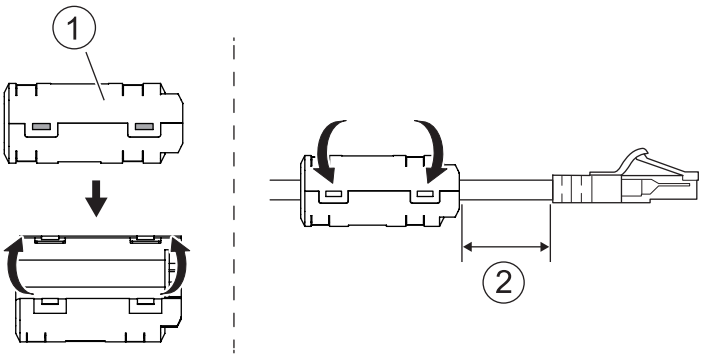
1. Disconnect the USB cable.

Remove the USB cable from the cable clamp (①).



2. Attach the ferrite core (①) to the LAN cable.

The distance between the LAN cable connector and the ferrite core should be 30 mm (1.18 in.) or less (②).



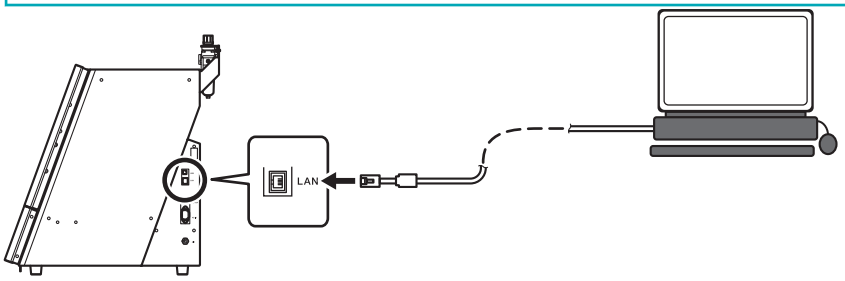
3. Connect the LAN cable to the machine.

- Connecting the machine and the computer directly

MEMO

If you use a crossover cable, you can connect the machine and the computer directly.

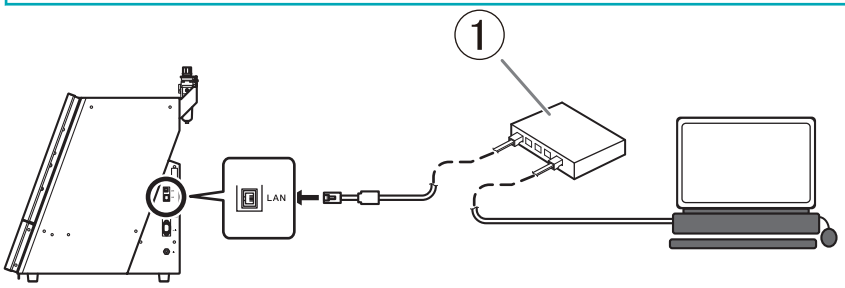
In addition, if the computer supports AUTO MDI/MDI-X, a direct connection to the machine is possible when using a straight cable.



- **Connecting in a 1-to-1 manner through a LAN hub (①)**

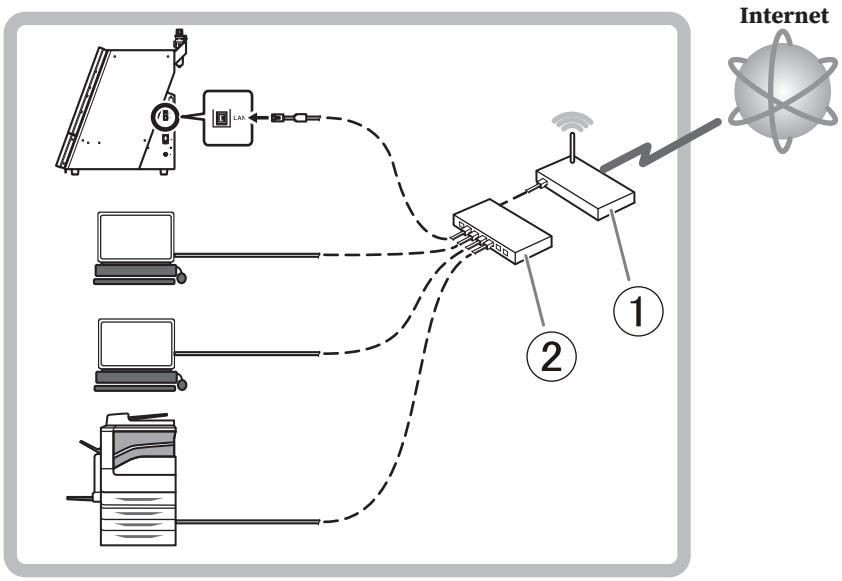
IMPORTANT

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 to an Existing LAN Environment**

The following figure shows an example of a LAN (Local Area Network) configuration. With the Internet line received by a router (①), multiple machines and computers can share the network through a LAN hub (②).

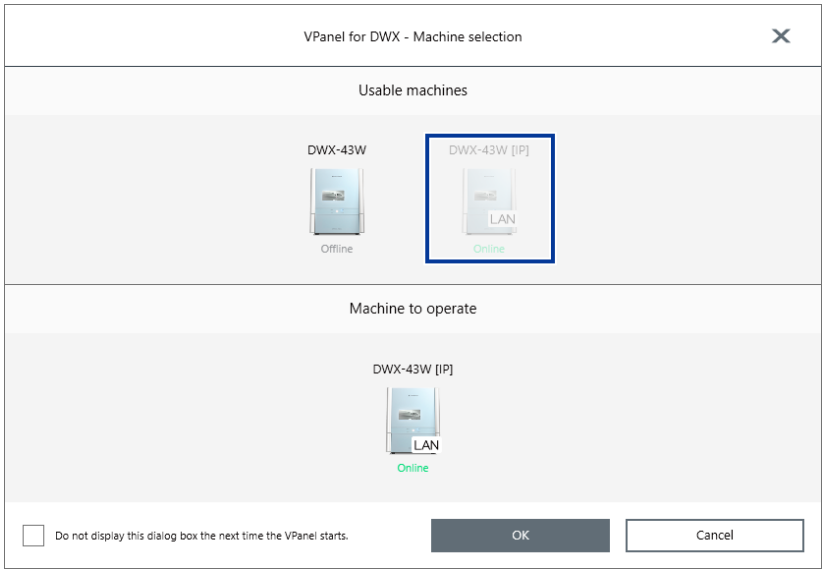


Step 3: Selecting the Machine to Connect To

Procedure

1. **If there are other machines that are already connected, turn them off.**
2. **Show VPanel.**
3. **Select the machine to operate.**
   (1) **Click [Connected machine selection] on the [General] tab.**
   (2) **In the list of machines shown under [Usable machines], select the machine connected with a LAN cable.**

   The machine to operate from VPanel is displayed in the lower row.



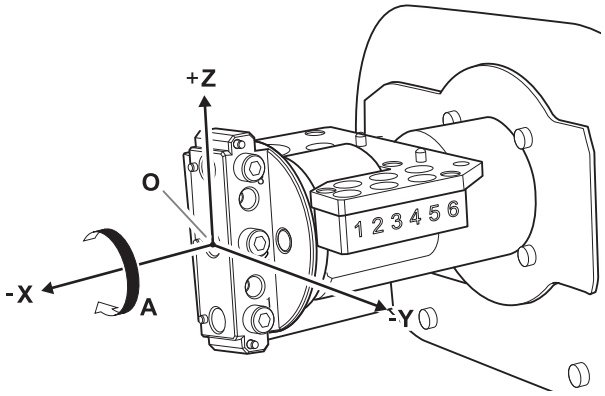
   If you do not want to display the [**Machine selection**] screen when VPanel starts, select the [**Do not display this dialog box the next time the VPanel starts.**] checkbox.
4. **Click [OK].**

Appendix

Specifications 72
Coordinates 72
Dimensional Drawings 73
Specifications 76

Specifications

Coordinates

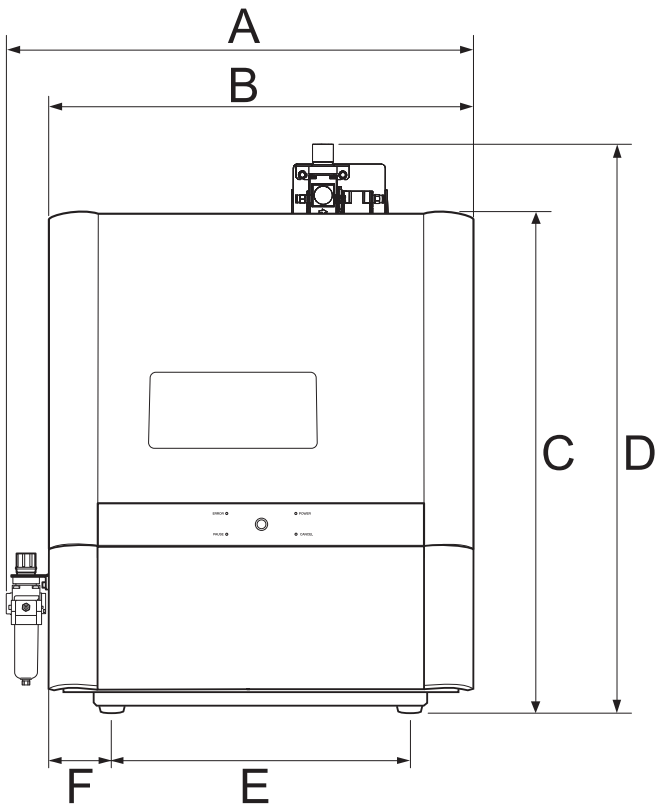


A	A axis
O	Origin
-X	-X direction
-Y	-Y direction
[+Z]	+Z direction

Dimensional Drawings

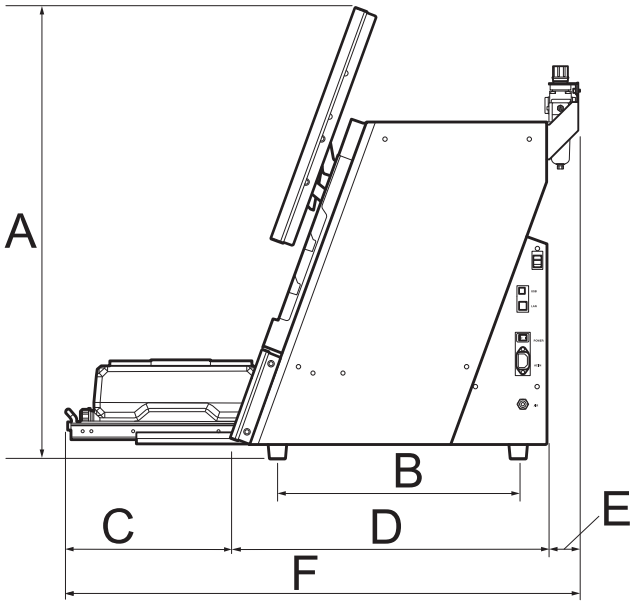
External Dimensions

Front



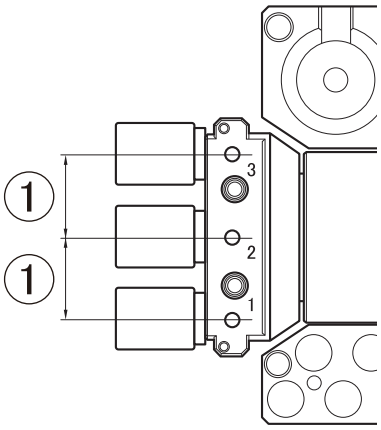
A	524 mm (20.6 in.)
B	482 mm (19.0 in.)
C	600 mm (23.6 in.)
D	689 mm (27.1 in.)
E	355.6 mm (14.0 in.)
F	63.2 mm (2.5 in.)

Side



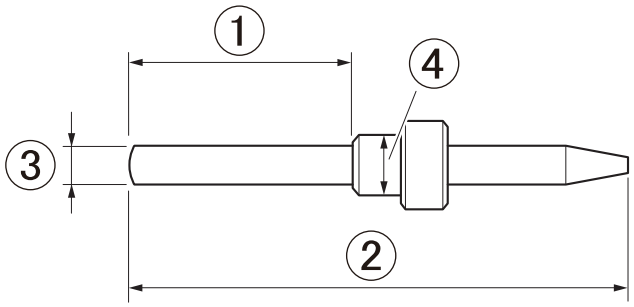
A	785 mm (30.9 in.)
B	418 mm (16.5 in.)
C	290 mm (11.4 in.)
D	560 mm (22.0 in.)
E	56 mm (2.2 in.)
F	906 mm (35.7 in.)

Workpiece Mounting Part Dimensions



①	19 mm (0.74 in.)

Detection Pin for Correction/Dummy Pin Dimensions



①	17 mm (0.67 in.)
②	40 mm (1.6 in.)
③	Φ3 mm (0.12 in.)
④	Φ4.8 mm (0.19 in.)

Specifications

	DWX-43W	
Millable material*1	Glass ceramics Titanium alloy Composite resin PMMA, PEEK Glass fiber reinforced resins Sintered zirconia	
Loadable workpiece shape	Pin-type workpiece	Width × depth × height: max. 40 × 20 × 20 mm (1.5 × 0.8 × 0.8 in.)
Number of loadable workpieces	6	
Operating speed	XYZ: 6 to 1800 mm/min (0.24 to 70.9 in./min.)	
Spindle rotating speed	15,000 to 60,000 rpm	
Rotary axis travel angle	A: ± 360°	
Number of milling burs housed	6	
Attachable milling bur	Shank diameter: Φ3 mm (0.12 in.), Dedicated milling bur	
Compatible compressed air	0.18 to 0.22 MPa	
Interface	USB Ethernet (10 BASE-T/100 BASE-TX automatic switching)	
Control command sets	RML-1, NC code	
Power requirements	100 VAC ± 10%, 50/60 Hz (overvoltage category: II, IEC 60664-1), 2.1 A	
Power consumption	Approx. 190 W	
Operating noise	During operation: 70 dB (A) or less (when not cutting) During standby: 48 dB (A) or less	
External Dimensions	Width × depth × height: 482 × 560 × 600 mm (18.98 × 22.05 × 23.63 in.)	
Weight	61 kg (135 lb.)	
Installation environment	Indoor use at altitudes up to 2,000 m Temperature: 5 to 28°C (41 to 82°F), humidity: 35 to 80 % (no condensation) Ambient pollution degree: 2 (as specified by IEC 60664-1) Short-term temporary overvoltage: 1,440 V, long-term temporary overvoltage: 490 V	
Included items	Power cord, power plug adapter, USB cable, detection pin, correction jig, T-shaped hexagonal screwdriver, regulator, Safety Precautions, Quick Access Guide, etc.	

*1 Even when made from the described materials, some workpieces cannot be milled due to specifications or physical properties. For more information, contact your authorized Roland DG Corporation dealer.


DGSHAPE