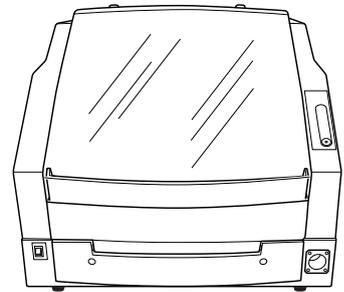


DWX-50

5 AXIS / AUTO TOOL CHANGER

Setup & Maintenance Guide



For the latest information about this machine (including manuals), see the Roland DG Corp. website (<http://www.rolanddg.com>).

This machine is Exclusively for Creating Artificial Teeth and Tooth Models

This machine is exclusively for making artificial teeth and tooth models. It is used to produce artificial teeth and tooth models using modeling wax, zirconia, or PMMA. Installing and setting up the exclusive programs on your computer and connecting the machine to the computer enables you to create high-quality artificial teeth and tooth models.

Documentation Included with the Machine

The following documentation is included with the machine.

DWX-50 Setup and Maintenance Guide (this manual)

This document explains how to set up the machine, how to install the supplied software, and how to perform maintenance. Be sure to read it first.

DWX-50 Operation Guide (electronic-format manual)

This document explains how to perform cutting by using this machine. The manual is in electronic format, and no printed document is included. You can find it on the included Roland Software Package CD-ROM.

☞ P. 39, "Installing the Driver and the Software"

DWX-50 VPanel Guide (electronic-format manual)

This document explains how to operate the software. The manual is in electronic format, and no printed document is included. You can find it on the included Roland Software Package CD-ROM.

☞ P. 39, "Installing the Driver and the Software"

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.
- Unauthorized copying or transferral, 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 us.
- Roland DG Corp. 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.
- Roland DG Corp. assumes no responsibility for any direct or indirect loss or damage which may occur with respect to any article made using this product.

For the USA

FEDERAL COMMUNICATIONS COMMISSION RADIO FREQUENCY INTERFERENCE STATEMENT

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Unauthorized changes or modification to this system can void the users authority to operate this equipment.

Use only I/O cables that have been designed and manufactured specifically for this device.

For Canada

NOTICE

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

AVIS

Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

For EU Countries



Manufacturer:
ROLAND DG CORPORATION
1-6-4 Shinmiyakoda, Kita-ku, Hamamatsu-shi, Shizuoka-ken, 431-2103 JAPAN

The authorized representative in the EU:
Roland DG EMEA, S.L.
Parc Tecnologic del Valles C/ Ceramistes, 6 08290 Cerdanyola del Valles / Barcelona Spain

For EU Countries

WARNING

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Roland DG Corp. has licensed the MMP technology from the TPL Group.

NOTICE

Grounding Instructions

In the event of a malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This tool is equipped with an electric cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into a matching outlet that is properly installed and grounded in accordance with all local codes and ordinances.

Do not modify the plug provided - if it will not fit the outlet, have the proper outlet installed by a qualified electrician.

Improper connection of the equipment-grounding conductor can result in a risk of electric shock. The conductor with insulation having an outer surface that is green with or without yellow stripes is the equipment-grounding conductor. If repair or replacement of the electric cord or plug is necessary, do not connect the equipment-grounding conductor to a live terminal.

Check with a qualified electrician or service personnel if the grounding instructions are not completely understood, or if in doubt as to whether the tool is properly grounded.

Use only 3-wire extension cords that have 3-prong grounding plugs and 3-pole receptacles that accept the tool's plug.

Repair or replace damaged or worn cord immediately.

For California

WARNING

This product contains chemicals known to cause cancer, birth defects and other reproductive harm, including lead.

Operating Instructions

KEEP GUARDS IN PLACE and in working order.

REMOVE ADJUSTING KEYS AND WRENCHES. Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning it on.

KEEP WORK AREA CLEAN. Cluttered areas and benches invite accidents.

DON'T USE IN DANGEROUS ENVIRONMENT. Don't use power tools in damp or wet locations, or expose them to rain. Keep work area well lighted.

KEEP CHILDREN AWAY. All visitors should be kept safe distance from work area.

MAKE WORKSHOP KID PROOF with padlocks, master switches, or by removing starter keys.

DON'T FORCE TOOL. It will do the job better and safer at the rate for which it was designed.

USE RIGHT TOOL. Don't force tool or attachment to do a job for which it was not designed.

USE PROPER EXTENSION CORD. Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating.

WEAR PROPER APPAREL. Do not wear loose clothing, gloves, neckties, rings, bracelets, or other jewelry which may get caught in moving parts. Nonslip footwear is recommended. Wear protective hair covering to contain long hair.

USE SAFETY GLASSES, face or dust mask if cutting or cleaning operation is dusty. Everyday eyeglasses only have impact resistant lenses, they are NOT safety glasses.

SECURE WORK. Use clamps or a vise to hold work when practical.

DON'T OVERREACH. Keep proper footing and balance at all times.

MAINTAIN TOOLS WITH CARE. Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.

DISCONNECT TOOLS before servicing; when changing accessories, such as blades, bits, cutters, and the like.

REDUCE THE RISK OF UNINTENTIONAL STARTING. Make sure switch is in off position before plugging in.

USE RECOMMENDED ACCESSORIES. Consult the owner's manual for recommended accessories. The use of improper accessories may cause risk of injury to persons.

NEVER STAND ON TOOL. Serious injury could occur if the tool is tipped or if the cutting tool is unintentionally contacted.

CHECK DAMAGED PARTS. Before further use of the tool, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function - check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced.

NEVER LEAVE TOOL RUNNING UNATTENDED. **TURN POWER OFF.** Don't leave tool until it comes to a complete stop.

USE POWER SUPPLY CORD WHICH IS ATTACHED WITH PRODUCTS. do not use other power supply cord.

PERFORM CLEANING USING A DUST COLLECTOR OR A COMMERCIALY AVAILABLE BRUSH. Never use a solvent such as gasoline, alcohol, or thinner to perform cleaning.

CONNECT THE USB CABLE TO THE COMPUTER (Certified with IEC/EN60950-1) with the suitable flammability rating which was estimated by IEC/EN61010-1 3rd Edition (Cl. 9).

USE AN EXTERNAL CABLE AND A DUST COLLECTOR with the suitable flammability rating which was estimated by IEC/EN61010-1 3rd Edition (Cl. 9).

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To Ensure Safe Use

Improper handling or operation of this machine may result in injury or damage to property. Points which must be observed to prevent such injury or damage are described as follows.

About WARNING and CAUTION Notices

 WARNING	Used for instructions intended to alert the user to the risk of death or severe injury should the unit be used improperly.
 CAUTION	Used for instructions intended to alert the user to the risk of injury or material damage should the unit be used improperly. Note: Material damage refers to damage or other adverse effects caused with respect to the home and all its furnishings, as well to domestic animals or pets.

About the Symbols

	The  symbol alerts the user to important instructions or warnings. The specific meaning of the symbol is determined by the design contained within the triangle. The symbol at left means "danger of electrocution."
	The  symbol alerts the user to items that must never be carried out (are forbidden). The specific thing that must not be done is indicated by the design contained within the circle. The symbol at left means the unit must never be disassembled.
	The  symbol alerts the user to things that must be carried out. The specific thing that must be done is indicated by the design contained within the circle. The symbol at left means the power-cord plug must be unplugged from the outlet.

 **Incorrect operation may cause injury.**

 **WARNING**

 **Be sure to follow the operation procedures described in this documentation. Never allow anyone unfamiliar with the usage or handling of the machine to touch it.**

Incorrect usage or handling may lead to an accident.

 **Keep children away from the machine.**
The machine includes areas and components that pose a hazard to children and may result in injury, blindness, choking, or other serious accident.

 **Never operate the machine while tired or after ingesting alcohol or any medication.**

Operation requires unimpaired judgment. Impaired judgment may result in an accident.

 **Conduct operations in a clean, brightly lit location.**

Working in a location that is dark or cluttered may lead to an accident, such as becoming caught in the machine as the result of an inadvertent stumble.

 **Never use the machine for any purpose for which it is not intended, or use the machine in an undue manner that exceeds its capacity.**

Doing so may result in injury or fire.

 **Never use a cutting tool that has become dull. Perform frequent maintenance to keep and use the machine in good working order.**

Unreasonable usage may result in fire or injury.

 **WARNING**

 **For accessories (optional and consumable items, power cord, and the like), use only genuine articles compatible with this machine.**

Incompatible items may lead to an accident.

 **Never attempt to disassemble, repair, or modify the machine.**

Doing so may result in fire, electrical shock, or injury. Entrust repairs to a trained service technician.

 **CAUTION**

 **Never climb or lean on the machine.**

The machine is not made to support a person. Climbing or leaning on the machine may dislodge components and cause a slip or fall, resulting in injury.

This machine weighs 50 kg (110 lb.)

 **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**

 **Install in a location that is level and stable.**
Installation in an unsuitable location may cause an accident, including a fall or tip over.

 **The cutting waste or workpiece may catch fire or pose a health hazard.**

 **WARNING**

 **Never attempt to cut magnesium or any other such flammable material.**
Fire may occur during cutting.

 **Keep open flame away from the work area.**
Cutting waste may ignite. Powdered material is extremely flammable, and even metal material may catch fire.

 **Never use a vacuum cleaner to take up cutting waste.**
Taking up fine cuttings using an ordinary vacuum cleaner may cause danger of fire or explosion.

 **CAUTION**

 **Wear dust goggles and a mask. Wash away any cutting waste remaining on the hands.**
Accidentally swallowing or inhaling cutting waste may be hazardous to the health.

 **Danger of pinching, entanglement, and burns**

 **WARNING**



Never attempt operation while wearing a necktie, necklace, loose clothing, or gloves. Bind long hair securely.

Such items may become caught in the machine, resulting in injury.



Securely fasten the cutting tool and workpiece in place. After securing in place, make sure no wrenches or other articles have inadvertently been left behind.

Otherwise such articles may be thrown from the machine with force, posing a risk of injury.



Exercise caution to avoid being pinched or becoming caught.

Inadvertent contact with certain areas may cause the hand or fingers to be pinched or become caught. Use care when performing operations.



Caution: cutting tool.

The cutting tool is sharp. To avoid injury, exercise caution.



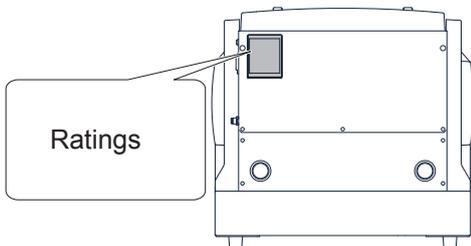
Caution: high temperatures.

The cutting tool and spindle motor become hot. Exercise caution to avoid fire or burns.

 Danger of electrical short, shock, electrocution, or fire

 WARNING

 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.



 Never use out of doors or in any location where exposure to water or high humidity may occur. Never touch with wet hands.
Doing so may result in fire or electrical shock.

 Never allow any foreign object to get inside. Never expose to liquid spills.
Inserting objects such as coins or matches or allowing beverages to be spilled into the ventilation ports may result in fire or electrical shock. If anything gets inside, immediately disconnect the power cord and contact your authorized Roland DG Corp. dealer.

 Never place any flammable object nearby. Never use a combustible aerosol spray nearby. Never use in any location where gases can accumulate.
Combustion or explosion may be a danger.

 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.

 When the machine will be out of use for a prolonged period, disconnect the power cord.
This can prevent accidents in the event of current leakage or unintended startup.

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

 Position 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.

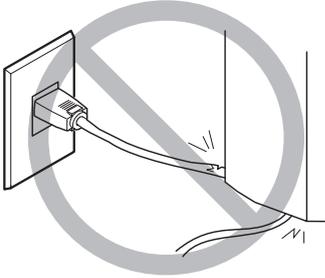
 Never use cutting oil.
This machine is not designed for the flow of cutting oil. Oil may get inside the machine and cause fire or electrical shock.

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

 If sparking, smoke, burning odor, unusual sound, or abnormal operation occurs, immediately unplug the power cord. Never use if any component is damaged.
Continuing to use the machine may result in fire, electrical shock, or injury. Contact your authorized Roland DG Corp. dealer.

 Do not use the supplied power supply cord for other products.

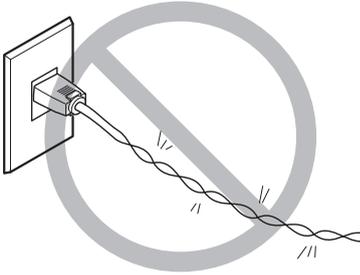
 Important notes about the power cord, plug, and electrical outlet



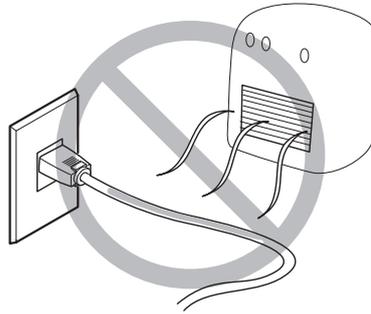
Never place any object on top or subject to damage.



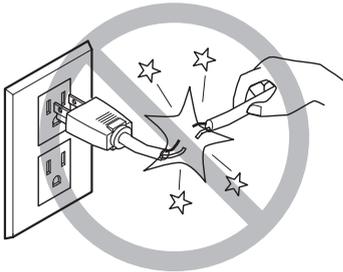
Never allow to get wet.



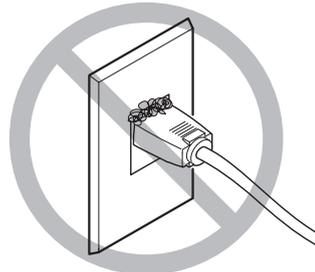
Never bend or twist with undue force.



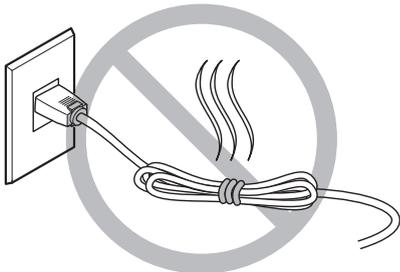
Never make hot.



Never pull with undue force.



Dust may cause fire.



Never bundle, bind, or roll up.

 **Danger exists of components being thrown off or damaged.**

 **WARNING**

 **Connect the air hose securely, so that it will not come loose.**
A pressurized hose that comes loose may whipabout uncontrolled, posing a hazard. Connect securely.

 **Before attempting cleaning, maintenance, or attachment or detachment of the air hose or any optional items, stop the supply of compressed air and allow the pressure to escape.**
Allowing the equipment to remain under pressure poses a hazard of flying components.

 **When the machine will be out of use for a prolonged period, stop supply of compressed air and bleed off the air pressure.**
This can prevent an accident.

 **Use an air hose of the specified diameter and having adequate pressure resistance.**
Otherwise the article may come loose or rupture.

 **Keep the supply of compressed air within the specified pressure range.**
Exceeding the specified pressure may result in rupture or other major accident.

 **Ensure no contamination of the supplied compressed air by any water, oils, chemicals, or foreign objects.**
Components may deteriorate or rupture, or the contaminants may be scattered, posing a hazard.

 **Never use in a location exposed to cutting oil, solvents, chemicals, or other such substances.**
Components may deteriorate or rupture under the pressure of compressed air.

 **WARNING**

 **Never use in a location exposed to direct sunlight.**
Components may deteriorate or rupture under the pressure of compressed air.

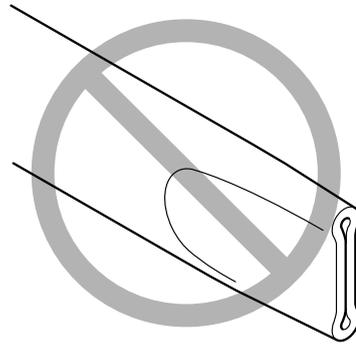
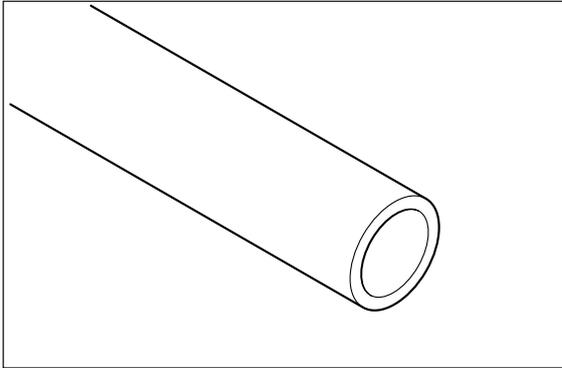
 **Never strike or subject the object to impact.**
Components may suffer damage or rupture under the pressure of compressed air.

 **Keep the temperature of the installation area within the specified range. Never place a stove or heater nearby.**
Components may deteriorate or rupture under the pressure of compressed air.

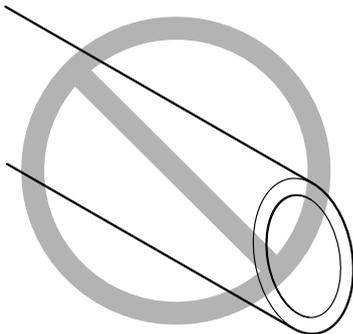
 **Never damage the air hose, or bend or twist it with undue force. Never use an item that has deteriorated.**
A damaged air hose may rupture.

 Important notes about the end (cut edge) of the air hose

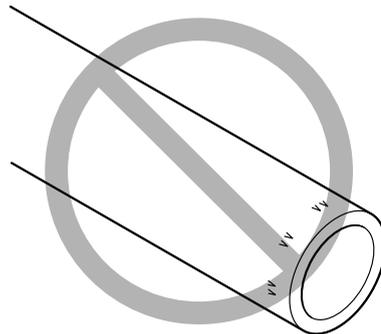
Failure to observe these cautions may result in air leakage or easy dislodgement of the air hose. Also, when a hose has been detached, cut off the end before reattaching the hose.



Ensure that it is not crushed.



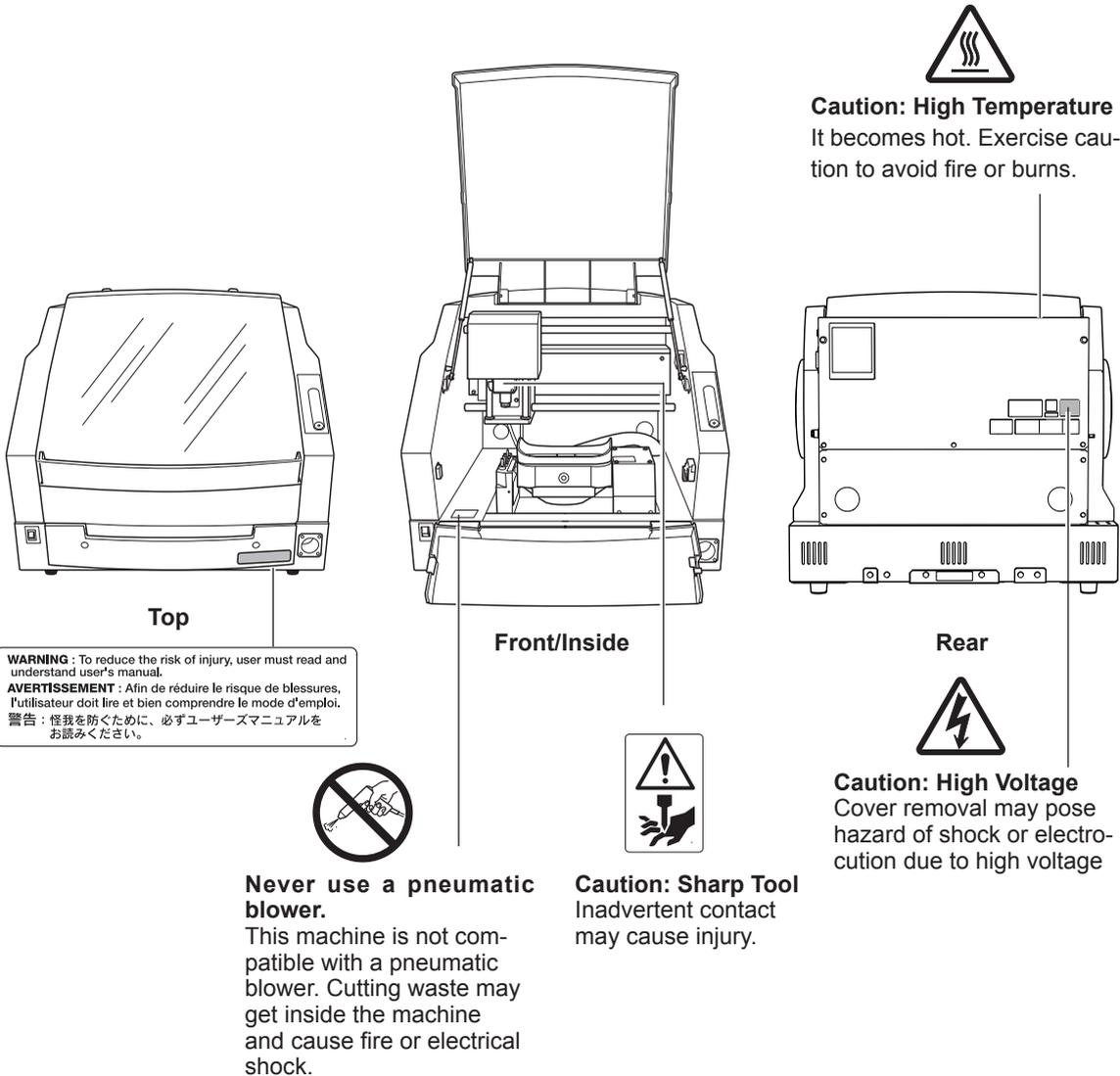
Make the cut edge straight.



Keep free from damage or soiling.

 **Warning Labels**

Warning labels are affixed to make areas of danger immediately clear. The meanings of these labels are as follows. Be sure to heed their warnings. Also, never remove the labels or allow them to become obscured.



Top

WARNING: To reduce the risk of injury, user must read and understand user's manual.
AVERTISSEMENT: Afin de réduire le risque de blessures, l'utilisateur doit lire et bien comprendre le mode d'emploi.
警告：怪我を防ぐために、必ずユーザーズマニュアルをお読みください。

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



Front/Inside

Caution: Sharp Tool
Inadvertent contact may cause injury.



Rear

Caution: High Temperature
It becomes hot. Exercise caution to avoid fire or burns.



Caution: High Voltage
Cover removal may pose hazard of shock or electrocution due to high voltage.





Pour utiliser en toute sécurité

La manipulation ou l'utilisation inadéquates de cet appareil peuvent causer des blessures ou des dommages matériels. Les précautions à prendre pour prévenir les blessures ou les dommages sont décrites ci-dessous.

Avis sur les avertissements

 ATTENTION	Utilisé pour avertir l'utilisateur d'un risque de décès ou de blessure grave en cas de mauvaise utilisation de l'appareil.
 PRUDENCE	Utilisé pour avertir l'utilisateur d'un risque de blessure ou de dommage matériel en cas de mauvaise utilisation de l'appareil. * Par dommage matériel, il est entendu dommage ou tout autre effet indésirable sur la maison, tous les meubles et même les animaux domestiques.

À propos des symboles

	Le symbole  attire l'attention de l'utilisateur sur les instructions importantes ou les avertissements. Le sens précis du symbole est déterminé par le dessin à l'intérieur du triangle. Le symbole à gauche signifie "danger d'électrocution."
	Le symbole  avertit l'utilisateur de ce qu'il ne doit pas faire, ce qui est interdit. La chose spécifique à ne pas faire est indiquée par le dessin à l'intérieur du cercle. Le symbole à gauche signifie que l'appareil ne doit jamais être démonté.
	Le symbole  prévient l'utilisateur sur ce qu'il doit faire. La chose spécifique à faire est indiquée par le dessin à l'intérieur du cercle. Le symbole à gauche signifie que le fil électrique doit être débranché de la prise.

 **L'utilisation incorrecte peut causer des blessures**

 **ATTENTION**

 **S'assurer de suivre les procédures d'utilisation décrites dans la documentation. Ne jamais permettre à quiconque ne connaît pas le fonctionnement ou la manutention de l'appareil de le toucher.**
L'utilisation ou la manutention incorrectes peuvent causer un accident.

 **Garder les enfants loin de l'appareil.**
L'appareil comporte des zones et des composants qui présentent un danger pour les enfants et qui pourraient causer des blessures, la cécité, la suffocation ou d'autres accidents graves.

 **Ne jamais faire fonctionner l'appareil après avoir consommé de l'alcool ou des médicaments, ou dans un état de fatigue.**
L'utilisation de l'appareil exige un jugement sans faille. L'utilisation avec les facultés affaiblies pourrait entraîner un accident.

 **Utiliser l'appareil dans un endroit propre et bien éclairé.**
Travailler dans un endroit sombre ou encombré peut causer un accident; l'utilisateur risque, par exemple, de trébucher malencontreusement et d'être coincé par une partie de l'appareil.

 **Ne jamais utiliser l'appareil à des fins autres que celles pour lesquelles il est conçu. Ne jamais l'utiliser de manière abusive ou d'une manière qui dépasse sa capacité.**
Le non-respect de cette consigne peut causer des blessures ou un incendie.

 **ATTENTION**

 **Ne jamais utiliser un outil de coupe émoussé. Procéder fréquemment aux travaux d'entretien pour garder l'appareil en bon état de fonctionnement.**
L'usage abusif peut causer un incendie ou des blessures.

 **Utiliser uniquement des accessoires d'origine (accessoires en option, articles consommables, câble d'alimentation et autres articles semblables), compatibles avec l'appareil.**
Les articles incompatibles risquent de causer des accidents.

 **Ne jamais tenter de démonter, de réparer ou de modifier l'appareil.**
Le non-respect de cette consigne risque de provoquer un incendie, un choc électrique ou des blessures. Confier les réparations à un technicien ayant la formation requise.

 **PRUDENCE**

 **Ne jamais grimper ni s'appuyer sur la machine.**
La machine n'est pas conçue pour supporter le poids d'une personne. Grimper ou s'appuyer sur la machine peut déplacer des éléments et causer un faux pas ou une chute, ce qui causerait des blessures.

 **Le poids de cet appareil est de 50 kg (110 lb.)**

PRUDENCE

 **Le déchargement et la mise en place doivent être faits par au moins 2 personnes.**

Les tâches qui exigent un effort trop grand si elles sont exécutées par un petit nombre de personnes peuvent être cause de blessures. La chute d'articles très lourds peut aussi causer des blessures.

PRUDENCE

 **Installer l'appareil à un endroit stable et plat.**

Installer l'appareil à un endroit inapproprié peut provoquer un accident grave comme le renversement ou la chute.

 **Les débris de coupe peuvent s'enflammer ou présenter un risque pour la santé.**

ATTENTION

 **Ne jamais tenter de couper du magnésium ni aucun autre matériau inflammable.**

Un incendie pourrait se produire pendant la coupe.

 **Ne pas approcher une flamme nue de l'espace de travail.**

Les rognures de coupe peuvent s'enflammer. Les matériaux pulvérisés sont extrêmement inflammables et même le métal peut s'enflammer.

 **Ne jamais utiliser un aspirateur pour aspirer des déchets coupés.**

L'utilisation d'un aspirateur normal pour aspirer des déchets finement coupés peut entraîner un risque d'incendie ou d'explosion.

PRUDENCE

 **Porter des lunettes de protection et un masque. Rincer toutes les rognures de coupe qui pourraient rester collées aux mains.**

Avaler ou respirer accidentellement des rognures de coupe peut être dangereux pour la santé.

 **Certains éléments peuvent présenter un risque de pincement, d’emmêlement, de brûlure ou d’autres dangers.**

ATTENTION



Ne jamais faire fonctionner l’appareil si on porte une cravate, un collier ou des vêtements amples. Bien attacher les cheveux longs.

Ces vêtements ou ces objets peuvent être coincés dans l’appareil, ce qui causerait des blessures.



Fixer solidement l’outil de coupe et la pièce à travailler. Une fois qu’ils sont fixés solidement, s’assurer qu’aucun outil ni aucun autre objet n’a été laissé en place.

Si tel était le cas, ces objets pourraient être projetés avec force hors de l’appareil et causer des blessures.



Faire preuve de prudence pour éviter l’écrasement ou le coincement.

La main ou les doigts peuvent être écrasés ou coincés s’ils entrent en contact avec certaines surfaces par inadvertance. Faire preuve de prudence pendant l’utilisation de l’appareil.



Attention : outil de coupe.

L’outil de coupe est acéré. Faire preuve de prudence pour éviter les blessures.



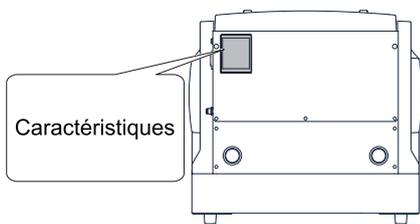
Attention : températures élevées.

L’outil de coupe et le moteur chauffent. Faire preuve de prudence pour éviter un incendie ou des brûlures.

 **Risque de décharge ou de choc électrique, d'électrocution ou d'incendie**

 **ATTENTION**

-  **Brancher à une prise électrique conforme aux caractéristiques de cet appareil (tension, fréquence et courant).**
Une tension incorrecte ou un courant insuffisant peuvent causer un incendie ou un choc électrique.



-  **Ne jamais utiliser à l'extérieur ni à un endroit où l'appareil risque d'être exposé à de l'eau ou à une humidité élevée. Ne jamais toucher l'appareil avec des mains mouillées.**
Le non-respect de cette consigne risque de provoquer un incendie ou un choc électrique.

-  **Ne jamais insérer d'objet étranger dans l'appareil. Ne jamais exposer l'appareil aux déversements de liquides.**
L'insertion d'objets comme des pièces de monnaie ou des allumettes, ou le déversement de liquides dans les orifices de ventilation peuvent causer un incendie ou un choc électrique. Si un objet ou du liquide s'infiltré dans l'appareil, débrancher immédiatement le câble d'alimentation et communiquer avec le représentant Roland DG autorisé.

-  **Ne jamais placer d'objet inflammable à proximité de l'appareil. Ne jamais utiliser de produit inflammable en aérosol à proximité de l'appareil. Ne jamais utiliser l'appareil dans un endroit où des gaz peuvent s'accumuler.**
Une combustion ou une explosion pourraient se produire.

 **ATTENTION**

-  **Mise à la terre.**
La mise à la terre peut prévenir un incendie ou un choc électrique dus à une fuite de courant en cas de défaillance.

-  **Manipuler le câble d'alimentation, la fiche et la prise électrique correctement et avec soin.**
Ne jamais utiliser un article endommagé, car cela pourrait causer un incendie ou un choc électrique.

-  **Si une rallonge ou une bande d'alimentation électrique sont utilisées, s'assurer qu'elles correspondent aux caractéristiques de l'appareil (tension, fréquence et courant).**
L'utilisation de plusieurs charges électriques sur une prise unique ou une longue rallonge peut causer un incendie.

-  **Si l'appareil doit rester inutilisé pendant une longue période, débrancher le câble d'alimentation.**
Cela peut prévenir les accidents en cas de fuite de courant ou de démarrage accidentel.

-  **Ne pas utiliser le cordon électrique fourni avec d'autres produits.**

ATTENTION



Placer l'appareil de façon à ce que la fiche soit facile d'accès en tout temps.

Ainsi, l'appareil pourra être débranché rapidement en cas d'urgence. Installer l'appareil près d'une prise électrique. En outre, prévoir suffisamment d'espace pour que la prise électrique soit facile d'accès.



Ne jamais utiliser d'huile de coupe.

Cet appareil n'est pas conçu pour traiter l'huile de coupe. L'huile peut s'infiltrer à l'intérieur et causer un incendie ou un choc électrique.



Ne jamais utiliser d'air sous pression.

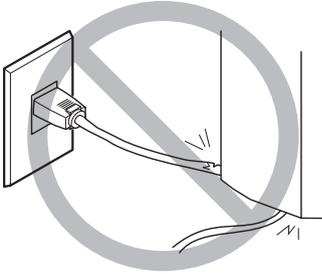
Cet appareil n'est pas conçu pour être nettoyé à l'aide d'un appareil soufflant. Des rognures de coupe peuvent s'infiltrer à l'intérieur et causer un incendie ou un choc électrique.



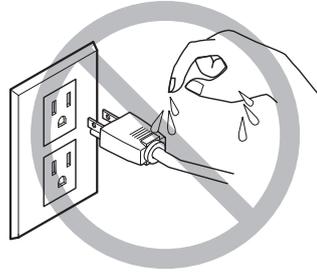
S'il se produit des étincelles, de la fumée, une odeur de brûlé, un bruit inhabituel ou un fonctionnement anormal, débrancher immédiatement le câble d'alimentation. Ne jamais utiliser si un composant est endommagé.

Continuer à utiliser l'appareil peut causer un incendie, un choc électrique ou des blessures. Communiquer avec le représentant Roland DG Autorisé.

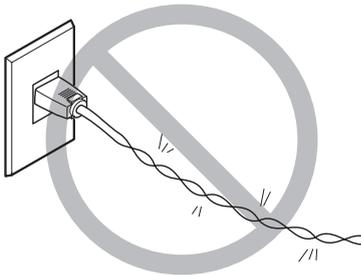
 Remarques importantes à propos du câble d'alimentation, de la fiche et de la prise électrique



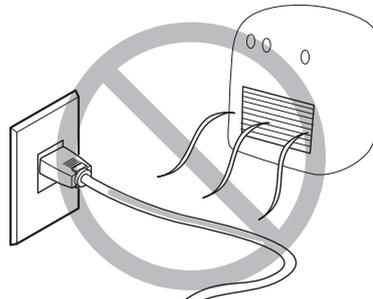
Ne jamais déposer aucun objet sur le câble, sur la fiche ou sur la prise car cela risque de les endommager.



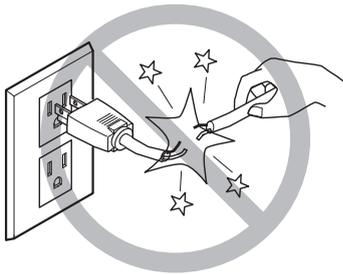
Ne jamais laisser l'eau toucher le câble, la fiche ou la prise.



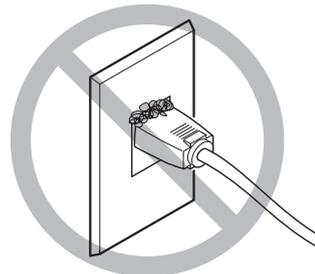
Ne jamais plier ni tordre le câble avec une force excessive.



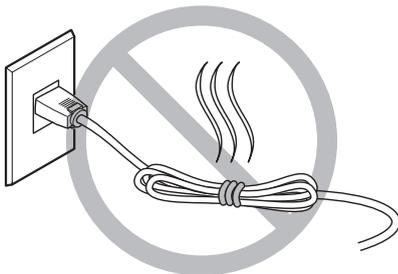
Ne jamais chauffer le câble, la fiche ou la prise.



Ne jamais tirer sur le câble ou la fiche avec une force excessive.



La poussière peut causer un incendie.



Ne jamais plier ni enrouler le câble.

 **Il y a risque que des composants soient projetés ou endommagés.**

 **ATTENTION**



Connecter solidement le tuyau à air pour éviter qu'il se détache.

Un tuyau sous pression qui se détache peut fouetter l'air de manière désordonnée et créer une situation dangereuse. Le fixer solidement.



Avant de procéder au nettoyage ou à la maintenance de l'appareil, d'y fixer ou d'en détacher le tuyau à air ou un accessoire en option, arrêter l'alimentation en air comprimé et laisser la pression s'échapper.

Si l'équipement est laissé sous pression, il y a risque que des éléments soient projetés.



Si l'appareil doit rester inutilisé pendant une longue période, couper l'alimentation en air comprimé et purger la pression.

Cette précaution peut prévenir un accident.



Utiliser un tuyau à air du diamètre spécifié et ayant une résistance appropriée à la pression.

Sinon, le tuyau risque de se détacher ou de se rompre.



Garder l'alimentation en air comprimé à la pression spécifiée.

Appliquer une pression supérieure à la pression spécifiée risque de faire rompre le tuyau ou de causer un accident grave.



S'assurer que l'air comprimé n'est pas contaminé par de l'eau, de l'huile, des produits chimiques ou des objets étrangers.

Les composants pourraient se détériorer ou se rompre et les contaminants seraient projetés, ce qui créerait un danger..

 **ATTENTION**



Ne jamais utiliser dans un endroit exposé à de l'huile de coupe, à des solvants, à des produits chimiques ou à d'autres substances similaires.

Les composants pourraient se détériorer ou se rompre sous la pression de l'air comprimé.



Ne jamais utiliser dans un endroit exposé directement aux rayons du soleil.

Les composants pourraient se détériorer ou se rompre sous la pression de l'air comprimé.



Ne jamais frapper ni soumettre l'objet à un impact.

Les composants pourraient être endommagés ou se rompre sous la pression de l'air comprimé.



Garder la température de l'endroit où l'appareil est installé dans les limites spécifiées. Ne jamais placer un four ou un appareil de chauffage à proximité.

Les composants pourraient se détériorer ou se rompre sous la pression de l'air comprimé.

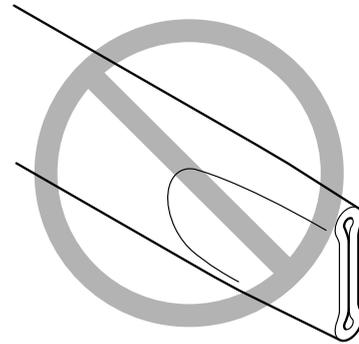
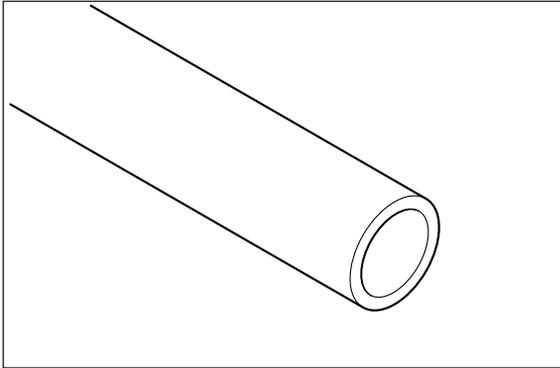


Ne jamais endommager le tuyau à air, le plier ou le tordre avec une force excessive. Ne jamais utiliser un article détérioré.

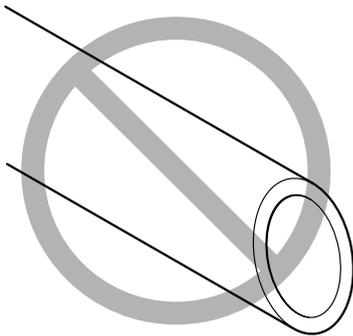
Un tuyau à air endommagé risque de se rompre.

 Remarques importantes relativement à l'extrémité (bord coupé) du tuyau à air.

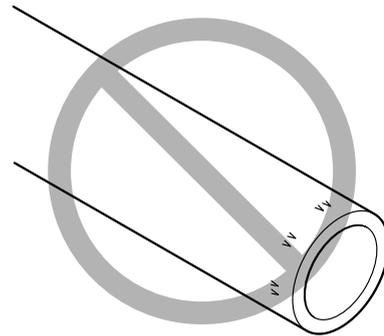
Le non-respect de ces consignes de sécurité peut causer une fuite d'air ou le débranchement du tuyau à air. En outre, si le tuyau à air a été débranché, en couper l'extrémité avant de le rebrancher.



S'assurer qu'il n'est pas écrasé



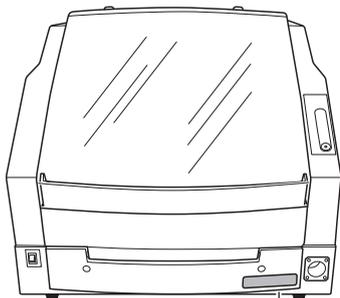
Le bord coupé doit être droit



Le garder en bon état et propre

⚠ Vignettes d'avertissement

Des vignettes d'avertissement sont apposées pour qu'il soit facile de repérer les zones dangereuses. La signification des vignettes est donnée ci-dessous. Respecter les avertissements. Ne jamais retirer les vignettes et ne pas les laisser s'encrasser.



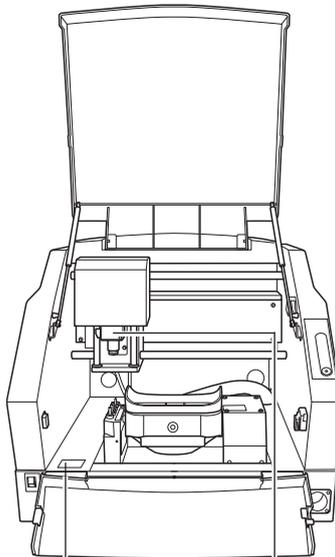
Avant

WARNING : To reduce the risk of injury, user must read and understand user's manual.
AVERTISSEMENT : Afin de réduire le risque de blessures, l'utilisateur doit lire et bien comprendre le mode d'emploi.
警告：怪我を防ぐために、必ずユーザーズマニュアルをお読みください。



Ne jamais utiliser d'air sous pression.

Cet appareil n'est pas conçu pour être nettoyé à l'aide d'un appareil soufflant. Des rognures de coupe peuvent s'infiltrer à l'intérieur et causer un incendie ou un choc électrique.



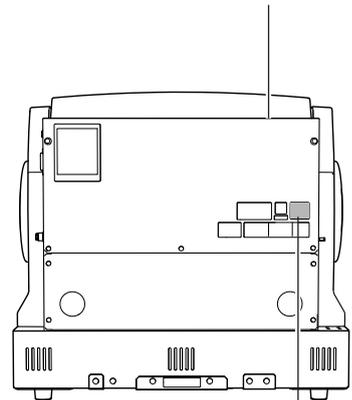
Intérieur



Attention : outil coupant
Un contact imprudent risque d'entraîner une blessure.



Attention : Température élevée
Il chauffe. Être prudent pour éviter un incendie ou des brûlures.



Arrière



Attention : voltage élevé
Il peut être dangereux de retirer le couvercle puisqu'il y aurait des risques de chocs électriques ou d'électrocution à cause du voltage élevé.

Important Notes on Handling and Use

This machine is a precision device. To ensure the full performance of this machine, be sure to observe the following important points. Failure to observe these points may not only result in loss of performance, but may also cause malfunction or breakdown.

This machine is a precision device.

- Handle carefully, and never subject the machine to impact or excessive force.
- Diligently keep clean of cutting waste.
- Use within the range of specifications.
- Never attempt to move the spindle head and rotary axis by hand with undue force.
- Never needlessly touch anywhere inside the machine except for locations specified in this manual.

Install in a suitable location.

- Install in a location that meets the specified conditions for temperature, relative humidity, and the like.
- Install in a quiet, stable location offering good operating conditions.
- Never install in out doors.
- Never install the machine in an environment where silicone substances (oil, grease, spray, etc.) are present. Doing so may cause poor switch contact.

This machine becomes hot.

- Never cover the ventilation holes with cloth, tape, or anything else.
- Install in well-ventilated location.

This machine is exclusively for cutting modeling wax and zirconia, PMMA.

- Never cut any material other than modeling wax, zirconia, and PMMA.

About Tools

- The tip of the tool is breakable. Handle with care, being careful not to drop it.

Chapter 1

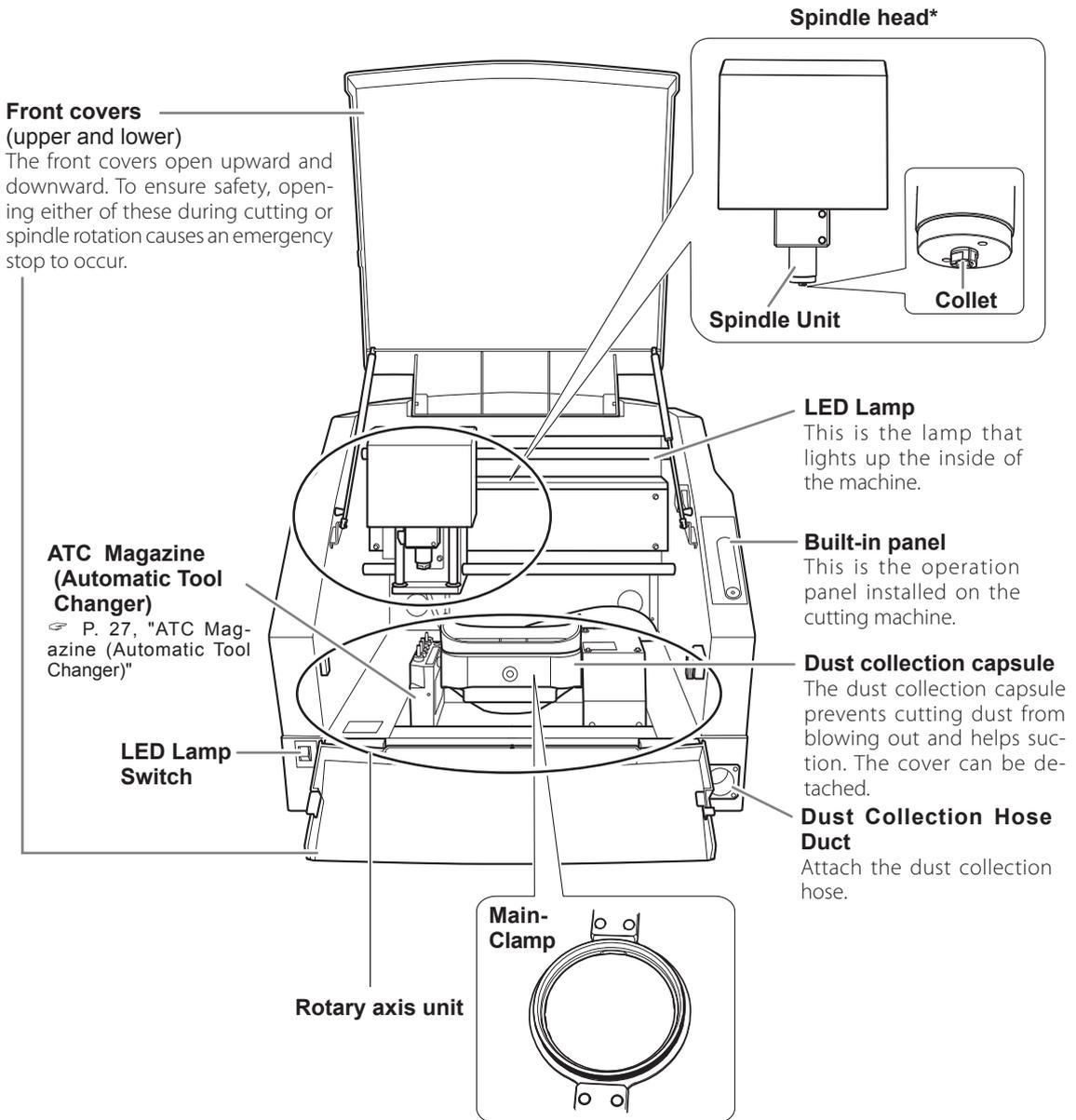
Installation and Setup

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Part Names / Included Items

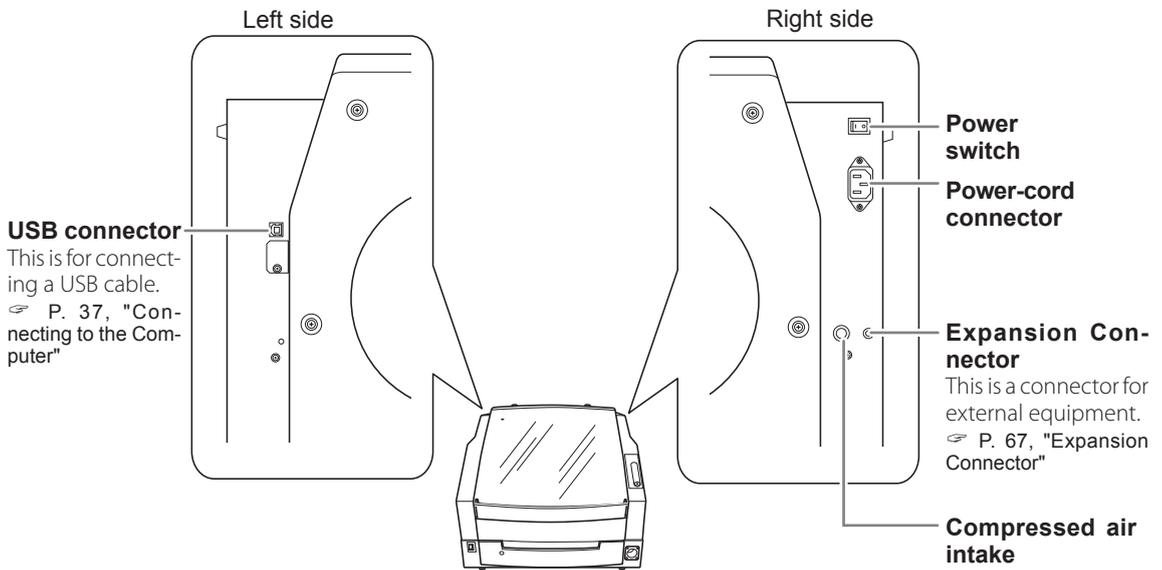
Part Names and Functions

Front and Interior

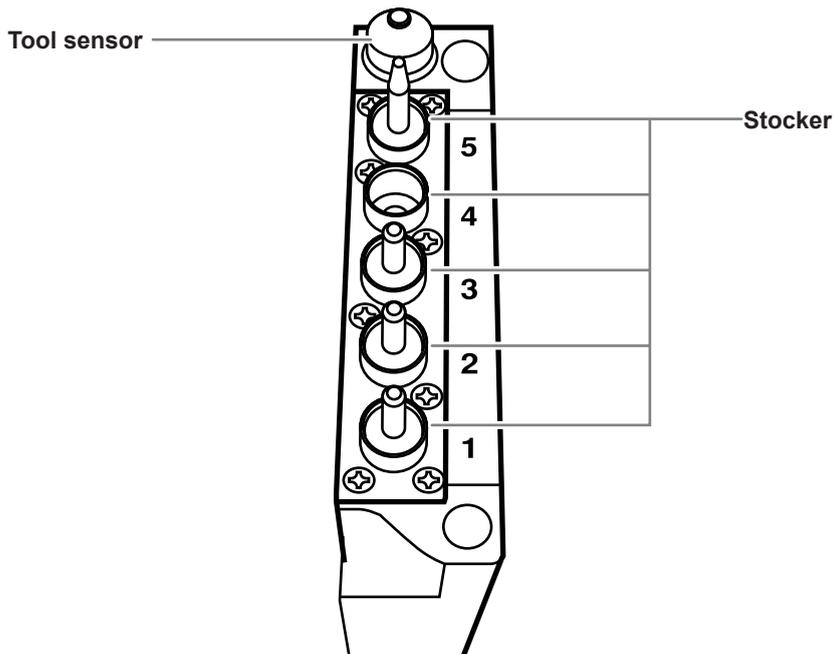


*NOTE: In this manual, the mechanisms around the spindle unit, including the spindle motor, are called the "spindle head." Also, the rotary-axis area inside the spindle unit is called the "spindle."

Side

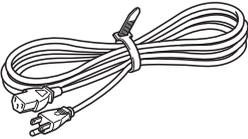
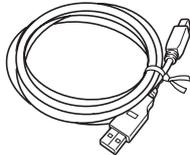
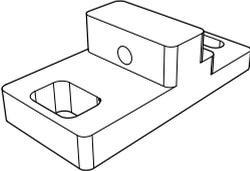
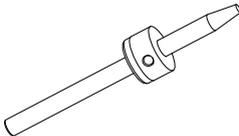
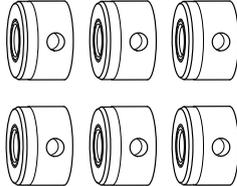
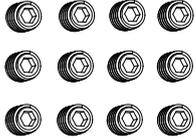
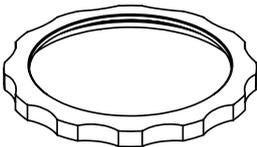
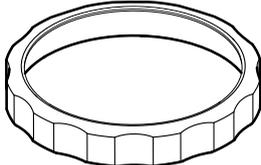
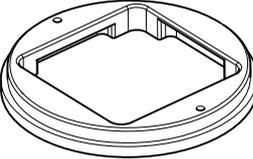
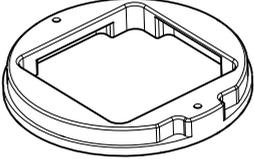
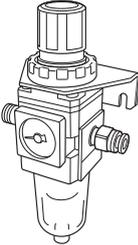
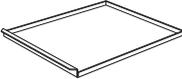
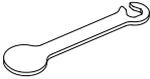
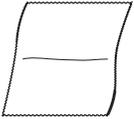


ATC Magazine (Automatic Tool Changer)



Checking the Included Items

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

			
Power cord (1)	USB cable (1)	Hexagonal screwdriver (1)	Hexagonal wrench (1)
			
Tool positioner (1)	Detection pin (1)	Tool holder (6)	Mounting screw (12)
			
Cap S* (1)	Cap L (1)	Clamp A for block work-piece (1)	Clamp B for block work-piece (1)
			
Regulator (1)	Dust collection hose (1)	Roland Software Package CD-ROM (1)	DWX-50 Setup and Maintenance Guide (this document) (1)
			
Dust tray (1)	Spanner (1)	Cloth for care (1)	Grease for shaft (1) Grease application stick (1)

*The cutting machine is shipped from the factory with these parts installed on it.

About Items to prepare separately

Dust Collector

A dust collector to collect cutting dust is necessary for this machine. You need to prepare a dust collector separately. You should clean the dust collector regularly.

⚠️ WARNING

Be sure to operate a dust collector.

The cutting waste or workpiece may catch fire or pose a health hazard.

⚠️ WARNING

Never use a vacuum cleaner to take up cutting waste.

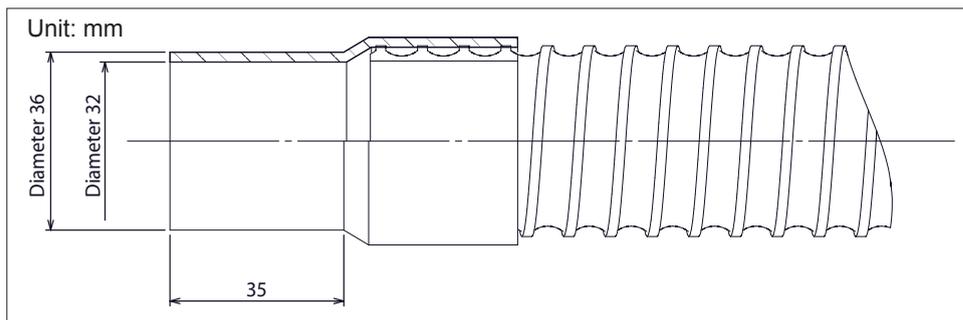
Taking up fine cuttings using an ordinary vacuum cleaner may cause danger of fire or explosion.

Provide a dust collector that meets the following conditions.

- **Static pressure: 4 kPa or more**
- **Air quantity: 2 m³ /min or more**

Use the supplied dust collection hose.

Opening Size to Connect a Dust Collector



Compressed Air Supply Source (Compressor)

Compressed air is necessary for this machine. You need to prepare a compressor separately. You also need to prepare an air hose to connect the compressor with the regulator in addition.

⚠️WARNING

The pressure of the compressed air must be 1.0 MPa or less.
Exceeding this may cause ruptures or other serious accidents.

⚠️WARNING

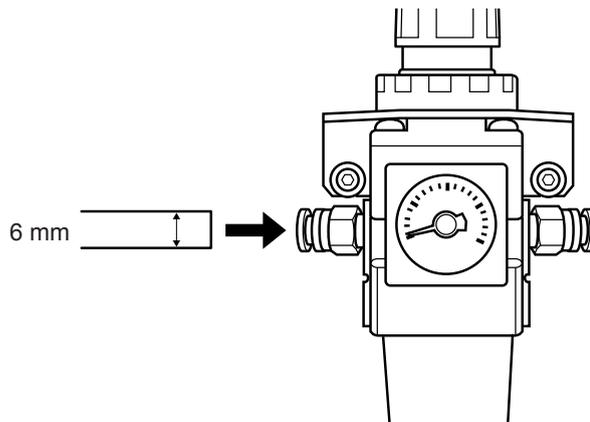
Ensure no contamination of the supplied compressed air by any water, oil, chemicals, or foreign objects.
Components may deteriorate or rupture, or the contaminants may be scattered, posing a hazard.

Provide a compressor that meets the following conditions.

- **Air pressure: 0.2 to 1.0 MPa**
- **Air capacity: 30 L / min or more**
- **Contamination of the compressed air by foreign material is undesirable. Use an oil-free compressor.**
- **Moist air may cause rust. Use a device equipped with a dryer.**
- **Stable pressure is required. Select a source that has an adequate tank capacity.**

Provide a hose that meets the following conditions.

- **Hose outer diameter: 6 mm (polyurethane tube)**



Important

Be sure to use the included regulator for compressed air supply of this machine. For the information on the compressed air pressure of each workpiece, see "Operation Guide" ("Preparation for Compressed Air Supply (Regulator Setting)" in "Preparation for Cutting").

Installation

About Emplacement and Installation

- ⚠️ WARNING** **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.

The weight of the machine alone is 50 kg (110 lb.). Perform unloading and emplacement with care.

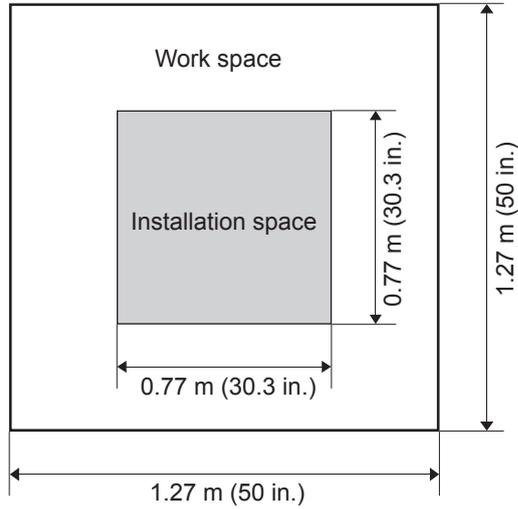
Installation Environment

- ⚠️ WARNING** **Install in a location that is level and stable.**
Installation in an unsuitable location may cause an accident, including a fall or tip over.
- ⚠️ WARNING** **Never install in a location exposed to open flame.**
Cutting waste may ignite. Powdered material is extremely flammable, and even metal material may catch fire.
- ⚠️ WARNING** **Never install close to any flammable object or in a gas-filled location.**
Combustion or explosion may be a danger.
- ⚠️ WARNING** **Never install outdoors or in any location where exposure to water or high humidity may occur.**
Doing so may result in fire or electrical shock.
- ⚠️ WARNING** **Position 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 locate in a location subject to wide fluctuations in temperature or humidity.
- Never install in a location subject to shaking or vibration.
- Never install in a dusty or dirty location, or outdoors.
- Never install in a location exposed to direct sunlight or near air-conditioning or heating equipment.
- Never install in a location exposed to considerable electrical or magnetic noise, or other forms of electromagnetic energy.
- Never install in an environment where silicone substances (oil, grease, spray, etc.) are present. Doing so may cause poor switch contact.

Installation Space

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



About the installation location

The height of installation should be 0.6 m (23.7 in.) or higher above the work floor.

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

Unpacking

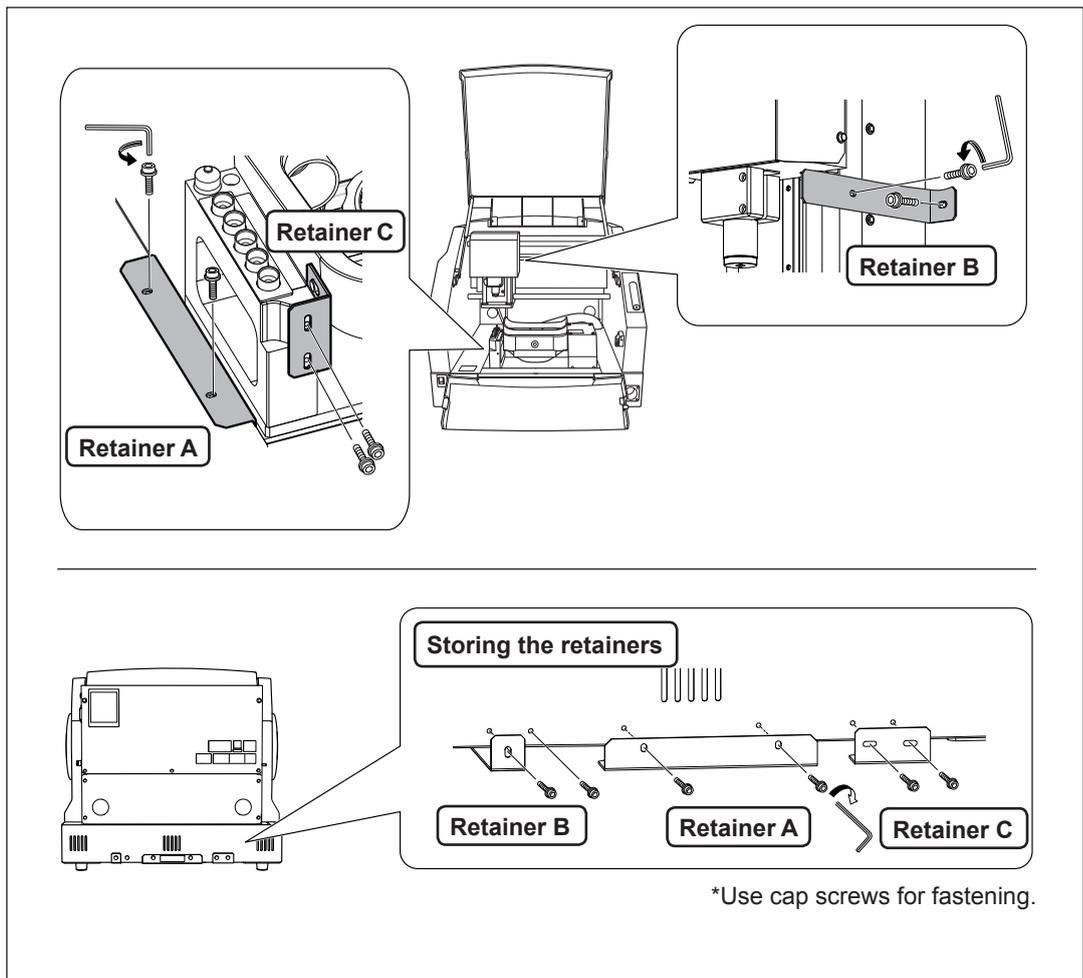
Retaining materials are attached to protect the machine from vibration during shipment. When installation is completed, remove these and store in the specified locations.

- Remove all retaining materials. Any that remain may cause faulty operation or breakdown when the power is switched on.
- The retaining materials are required when moving the machine to a different location. Store them carefully so that they do not get misplaced

⚠WARNING Carry out these operations before you connect the power cord.
Inadvertent powerup may result in pinched hands or other injury.

Removing the retainers

Make sure the power cord is unplugged, and remove the retainer A, B, and C. The removed retainers can be attached to the machine to store them.



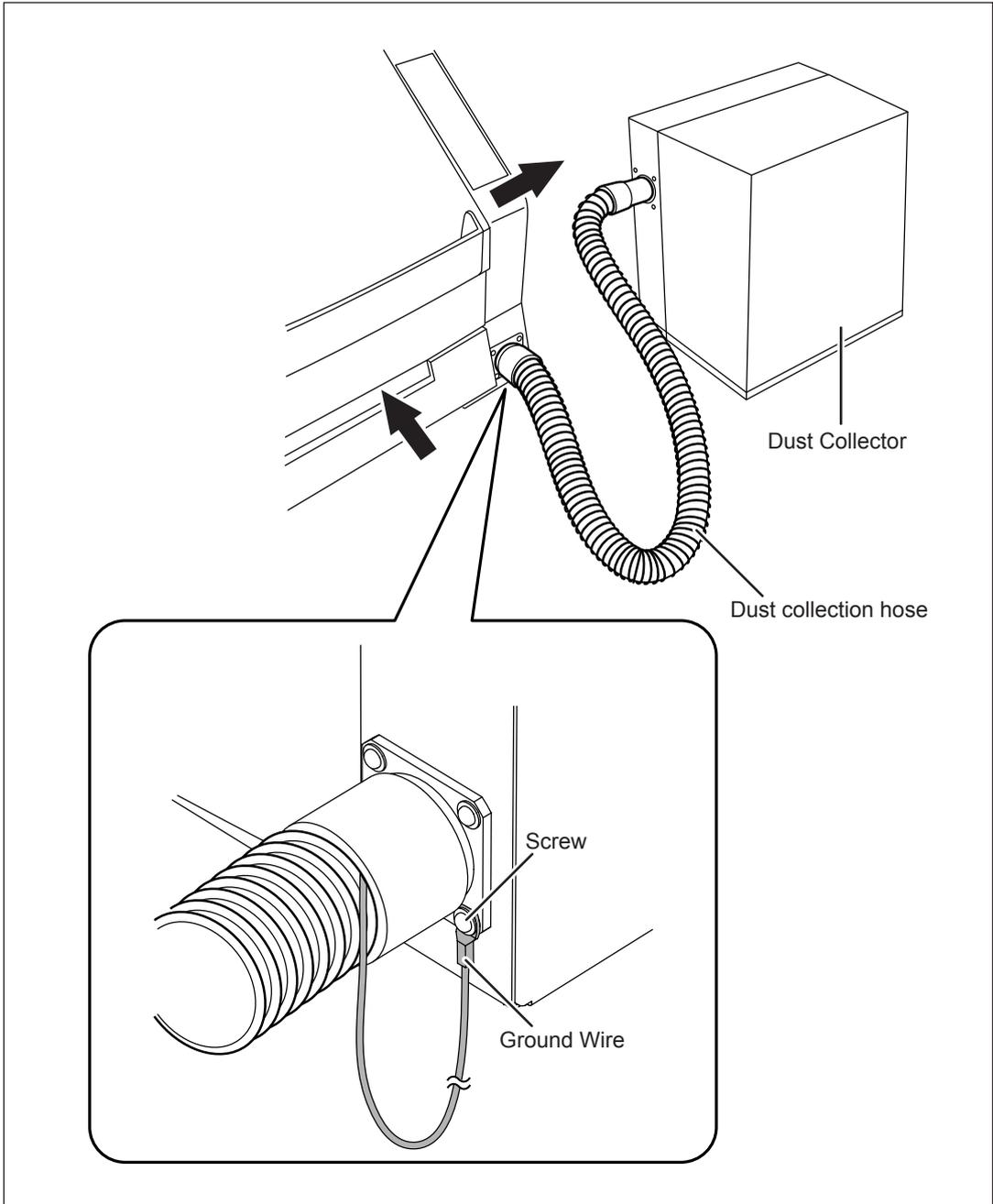
How to Connect the Dust Collection Hoses

Connect the supplied hose and the dust collector as shown in the figure.

* You need to prepare a dust collector separately.

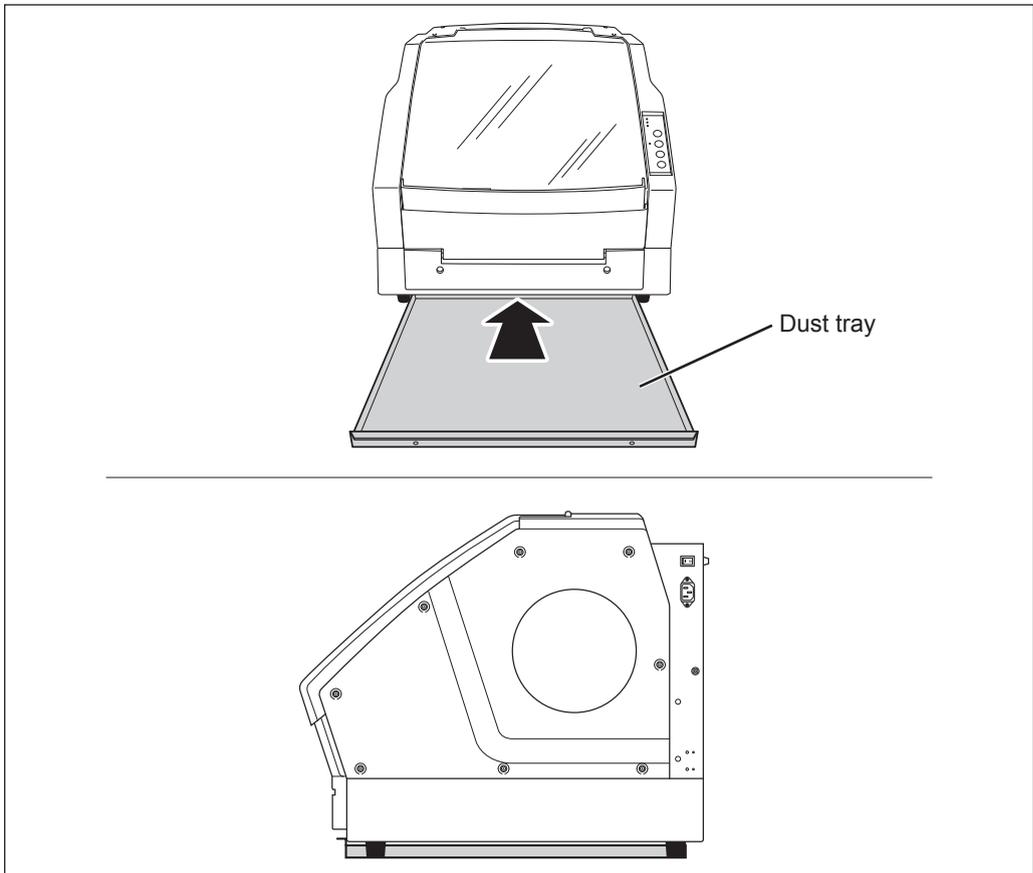
☞ P. 29, "Opening Size to Connect a Dust Collector"

* We recommend grounding the hose with the ground wire because the hose often bears the static electricity. Remove the screw at the location shown in the figure with a commercially available Phillips screwdriver. Connect the ground wire with that screw.

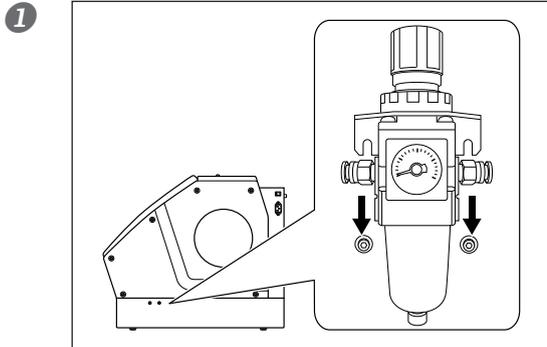


Installing the Dust Tray

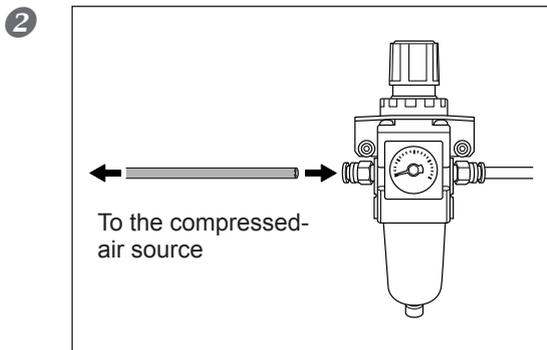
You use the dust tray with it placed between the rubber feet on the bottom of the machine.



Preparing the Regulator



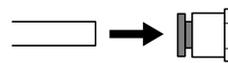
- ① Loosen the securing screws on right side of the machine.
- ② Fit the recesses on the rear of the regulator into the screws.
- ③ Retighten the securing screws.



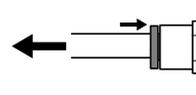
Attach an air hose.

Attaching and detaching the air hose

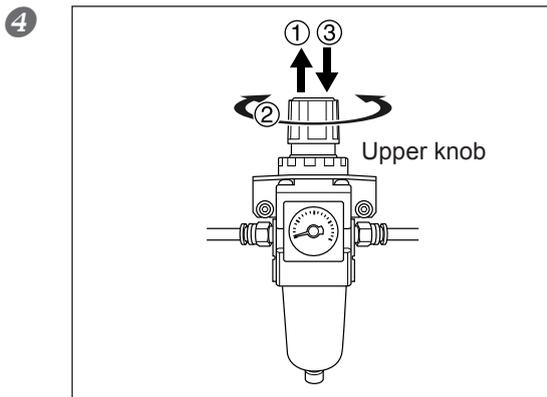
To connect: Insert firmly as far as it will go.



To detach: Press and hold the ring and pull out.



- ③ Once compressed air is being supplied, check to make sure no air leaks from connections or other areas.



- ① Pull up the upper knob.
- ② Slowly turn the upper knob.
Adjust until the meter reads 0.02 to 0.2 MPa.
For the setting value of each workpiece, see "Preparation for Cutting" in "DWX-50 Operation Guide."

Important Notes on compressed air

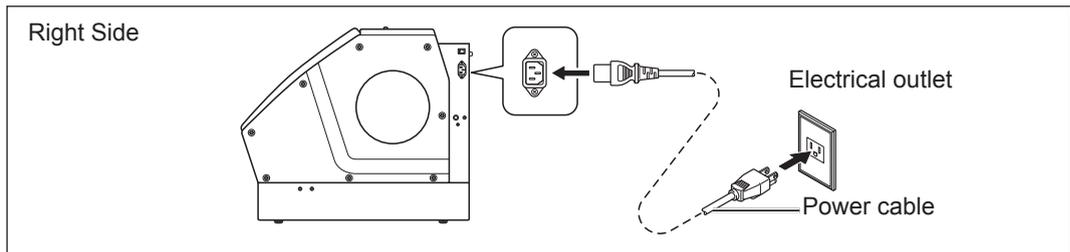
Be sure to adjust to an air pressure of not more than 0.2 MPa. Exceeding this may cause malfunction.

- ③ Push down the upper knob.

Cable Connections

Connecting the Power Cord

- ⚠️ WARNING** 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 to an electrical outlet. Never connect directly to a power distribution panel or other such fixed wiring equipment.
Doing so increases the hazard of fire or electrical shock.



Connecting to the Computer



Point

You make the connection to the computer when you install the Windows-based driver.

You use a USB cable to connect the machine and the computer. At this time, however, the connection to the computer must not be made yet. Be sure to make the connection according to the instructions on P. 39, "Installing the Driver and the Software". Making the connection without doing so may cause driver installation to fail and make use impossible.

Installing and Setting Up the Software

System Requirements

Operating system	Windows XP/ Vista/ 7 / 8 (32,64 bit edition)
CPU	The minimum required CPU for the operating system
Memory	The minimum amount of required RAM for the operating system
Optical drive	CD-ROM drive
Video card and monitor	At least 256 colors with a resolution of 1,024 x 768 or more recommended

For the latest information, see the Roland DG Corp. website (<http://www.rolanddg.com>).

The Software You Can Install and Set Up

VPanel for DWX-50	This is a dedicated program for controlling the modeling machine. You operate the modeling machine and make various settings using this program.
Windows Driver (DWX-50 Driver)	This is a Windows-based driver required for sending data from a computer to the machine.

* In addition, "DWX-50 Operation Guide" (Electronic-format Manual) is to be installed.

☞ P. 39, "Installing the Driver and the Software"

Installing the Driver and the Software

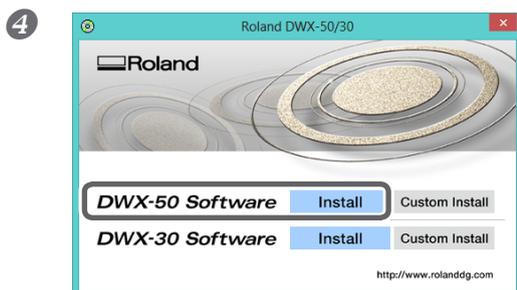
You can install all software at a time.

IMPORTANT!

Make sure to connect the machine and the computer following the procedures. To follow wrong procedure may make installation impossible.

Procedure

- 1 **Before installation, confirm that the machine and the computer are not connected with the USB cable.**
- 2 **Log on to Windows as "Administrator."**
- 3 **Insert the Roland Software Package CD-ROM into the computer.**
When the automatic playback window appears, click [Run menu.exe].) The [User Account Control] appears, click [Allow], and install the softwares.)
The setup menu appears automatically.



Click [Install] of the "DWX-50 Software."

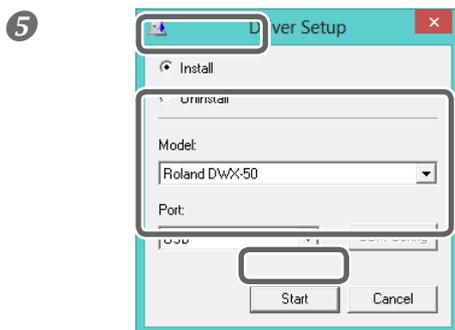
Install the DWX-50 driver and each software at a time.

☞ P. 38, "The Software You Can Install and Set Up"

You can install the driver and each software separately.

☞ P. 60, "To Install Driver Separately"

☞ P. 63, "To Install Software and Electronic Manual Separately"



Select [Install], Model name [Roland DWX-50], Port [USB], and then click [Start].

Installation of the DWX-50 driver starts. Proceed with the installation by following the on-screen instructions.



When the screen shown in the figure appears, click [Install].

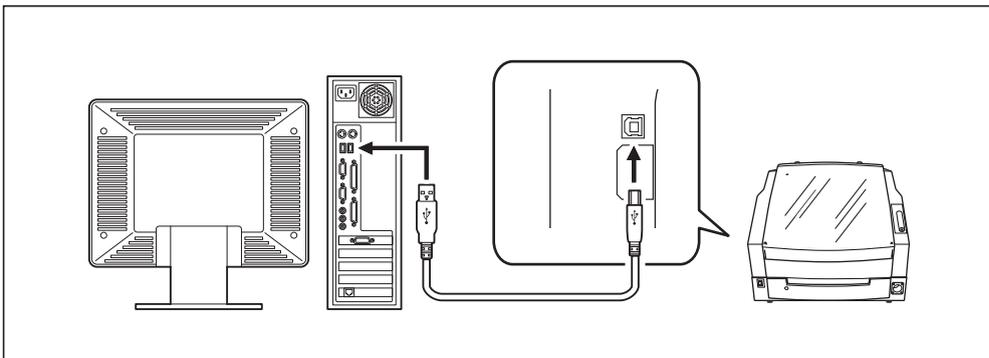


If the screen shown in the figure appears, click [Install this driver software anyway].



If the screen shown in the figure appears, click [Continue Anyway].

- 6 Follow the on-screen instructions and continue with the installation.
Installation information for each software item will be displayed automatically as needed.
- 7 When installation finishes, click  of the setup menu.
- 8 Remove the CD-ROM from the CD-ROM drive.
- 9 Switch on the power to the machine.
- 10 Connect the machine and the computer with a USB cable.
 - Never connect two or more machines to one computer.
 - Use the supplied USB cable.
 - Do not use a USB hub.



Windows Vista / 7 / 8

The driver will be installed automatically.

Windows XP



① Select [No, not this time], and then click [Next].



② Select [Install the software automatically], and then click [Next].

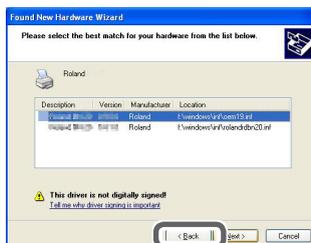


③ Click [Finish].

If the following screen is displayed during installation



Click [Continue Anyway].



Eject and remove the CD-ROM, and then click [Back] and repeat from the last screen.

How to View the Online Help

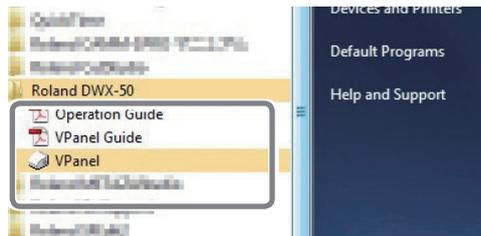
Windows 8

- ① Right-click the background in the start screen to display the app bar, and click [All Apps].
- ② Click [Operation Guide] (or [VPanel Guide]) of [Roland DWX-50]. (VPanel Guide is installed when installing VPanel.)



Windows XP / Vista / 7

From the [Start] menu (🌐), click [All Programs], then [Roland DWX-50]. Then click [Operation Guide] (or [VPanel Guide]). (VPanel Guide is installed when installing VPanel.)



Connecting Multiple Units

How to Connect Multiple Units

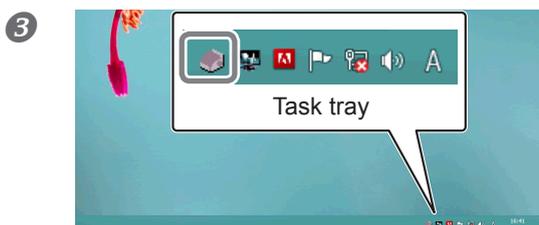
Up to 4 units of this machine can be concurrently connected to a computer. When more than one machine is connected, each machine needs to be identified on VPanel. An ID (A, B, C, and D) must be assigned to each machine to make the setting for each machine.

The explanations in this section assume that one machine is already connected, and describe how to connect one or more additional machines

☞ P. 39, "Installing the Driver and the Software"

Procedure

- 1 Turn off the power of the connected machine, and then disconnect the USB cable from the computer.**
- 2 Turn on a machine newly connecting, and connect the USB cable to the computer.**
 - Make the connection setting of the machines one by one. Be sure to connect only the machine of which the setting is made. If you connect the machines with a same ID at the same time, the computer might shut down.
 - For the USB cable, use the included cable.
 - Be sure to refrain from using a USB hub. If a USB hub is used, there is a possibility that the machine cannot be connected.



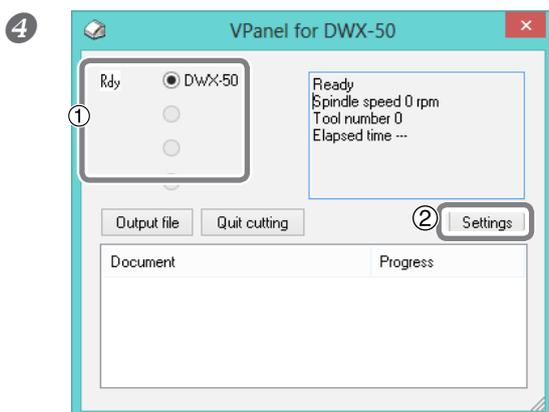
3 Click  (VPanel icon) in the task tray.

The VPanel appears. When you cannot find  in the task tray, start the program from the Windows start menu.

How to start VPanel from Start screen (or [Start Menu]) of Windows

Windows 8: Right-click the background in the start screen to display the app bar, and click [All Apps]. Click the [VPanel] icon of the [Roland DWX-50].

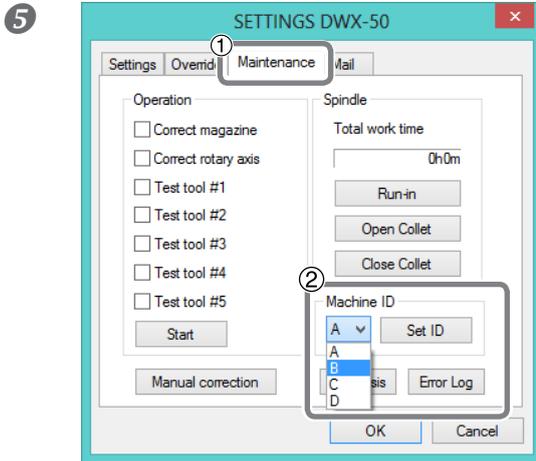
Windows XP / Vista / 7: Go to [Start Menu], and click [All Programs] (or [Program]) - [Roland DWX-50] - [VPanel].



4 Check that only one machine is connected. Check that [Rdy] is displayed next to the machine of which the setting is made and that the other machines are not displayed. ([Off] is displayed on the second and later machines to which an ID has been assigned.)

In the initial setting, "A" is assigned as an ID of the machine. Therefore, the ID of the first connected machine and that of the machine under connection are both "A." In the figure shown on the left, the setting of the second machine is made. However, the machine under connection is considered as the first machine (with the ID "A"). Therefore, only the setting of a single machine is displayed.

2 Select the machine and click [Settings].



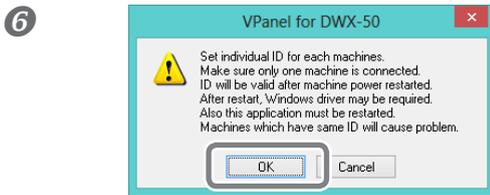
- ① Click the [Maintenance] tab.
- ② Select any unused ID in [Machine ID], and press [Set ID].

Assign an ID to identify the machine on VPanel. Since A is assigned to the first machine, be sure to select B, C, or D.

IMPORTANT!

Do not assign a same ID. If you connect the machines with the same ID at the same time, the computer might shut down.

☞ P. 45, "Checking ID"



Read the message displayed on the screen as shown in the left, and click [OK].

When the message, "Operation was completed," appears, click [OK].

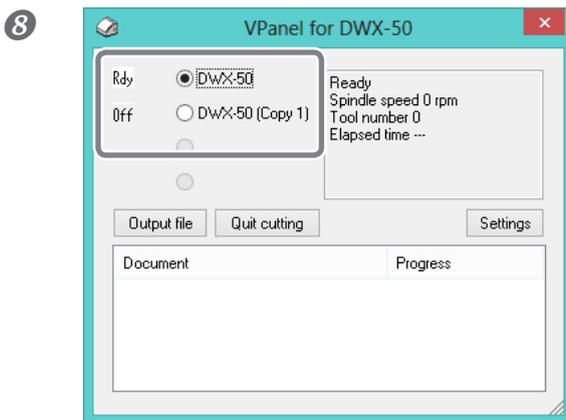
7 Turn off the power of the machine and then turn it on again.

The assigned ID is recognized by the machine. If the ID is assigned for the first time, a corresponding driver is required.

Windows 7 / 8 : The required driver is automatically created.

Windows Vista/XP : A message to prompt the user to install the Windows driver is displayed. Install the driver in accordance with the message.

☞ P. 39, "Installing the Driver and the Software"



① Right-click  (VPanel icon) in the task tray and select "Exit" to exit VPanel.

② Restart VPanel.

After VPanel is restarted, the assigned ID is enabled, and the machine specified in the top window is displayed. If the machine name is not changed, "DWX-50 (Copy 1)" is displayed. (The third machine is displayed as "DWX-50 (Copy 2).")

You can connect all the machines of which the setting has been done to the computer by USB cables. At this point, if you connect the machines with a same ID at the same time, the computer might shut down.

 **Point**

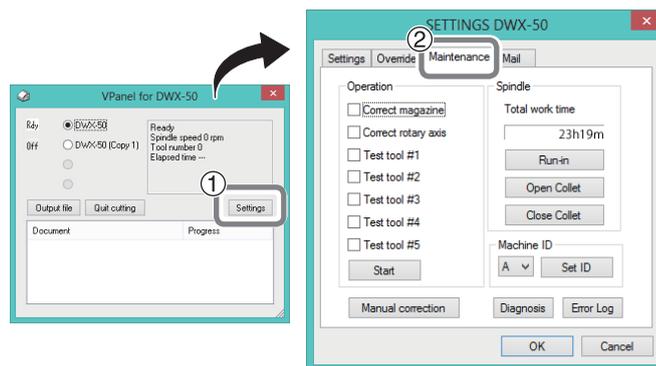
To change the name of the machine which has been set, change the name of the installed printer (the machine you are using).

- ① Windows 8: From Desktop, move the mouse to the bottom right corner to display the Charm, then click [Settings]. Click [Control Panel] ⇒ [View devices and printers].
Windows 7: From [Start] menu, click [Control Panel] ⇒ [Hardware and Sound] ⇒ [Devices and Printers].
Windows Vista: From [Start] menu, click [Control Panel] ⇒ [Hardware and Sound] ⇒ [Printers].
Windows XP: From [Start] menu, click [Control Panel] ⇒ [Printers and Other Hardware] ⇒ [Printers and Faxes].
- ② Select the name of driver of the machine (Printer) you are using, and change the name.
- ③ Restart VPanel.
The name which has been changed appears on the top window.

⑨ **When you connect the third and fourth machines, turn off the power of all the machines, disconnect the USB cables from the computer, and exit "VPanel."**

⑩ **Repeat the above steps ② to ⑧.**

Checking ID



To check the ID which has been set, select a machine to check in top window, click [Settings], and see [Machine ID] under the [Maintenance] tab.

 **Point**

Select an ID and press [Set ID], and the ID is changed. Note that the changed ID is enabled if you restart the machine with this setting.

Before Starting the Operation

Be sure to perform the below steps first after the installation.

When you finish installing this machine, be sure to perform the following tasks. These are required when you change the installation location of the machine, too.

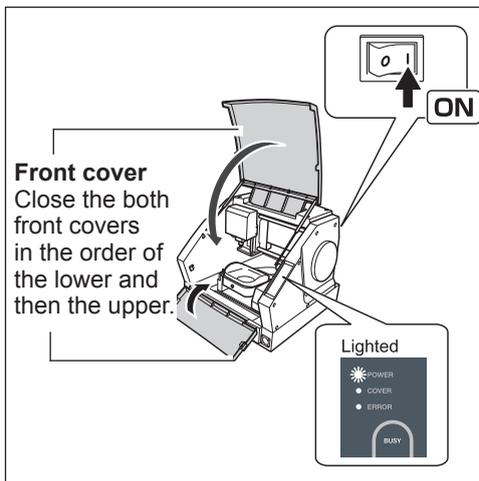
- STEP 1: Spindle Run-in (Warm-up)
- STEP 2: Automatic correction

STEP 1: Spindle Run-in (Warm-up)

The spindle run-in operation is to be performed. It takes 1 hour at a maximum to complete the operation.

Procedure

1



① **Close the front covers.**

② **Switch on the power switch.**

When the spindle head and table move to the VIEW position, and the LEDs except POWER LED go off, the starting up of this machine is completed. This operation is called initialization.

* View position is the left end in the highest position for the spindle head, and the frontmost position for the table.

2



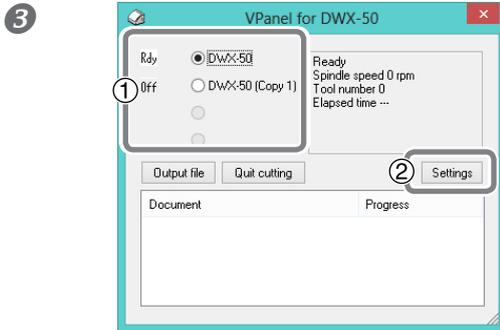
Click  (VPanel icon) in the task tray.

VPanel appears on the screen. When you cannot find  in the task tray, start the program from the Window start menu.

How to start VPanel from Start screen (or [Start Menu]) of Windows

Windows 8: Right-click the background in the start screen to display the app bar, and click [All Apps]. Click the [VPanel] icon of the [Roland DWX-50].

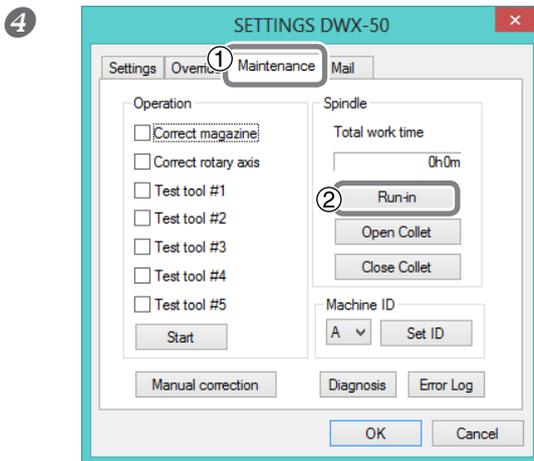
Windows XP / Vista / 7: Go to [Start Menu], and click [All Programs] (or [Program]) - [Roland DWX-50] - [VPanel].



① Select one for which you want to perform the run-in operation when connecting more than one machine.

☞ P. 43, "Connecting Multiple Units"

② Click [Settings].



① Click [Maintenance] tab.

② Click [Run-in].

The run-in operation starts.

Go on to "STEP2: Automatic correction."

STEP 2: Automatic correction

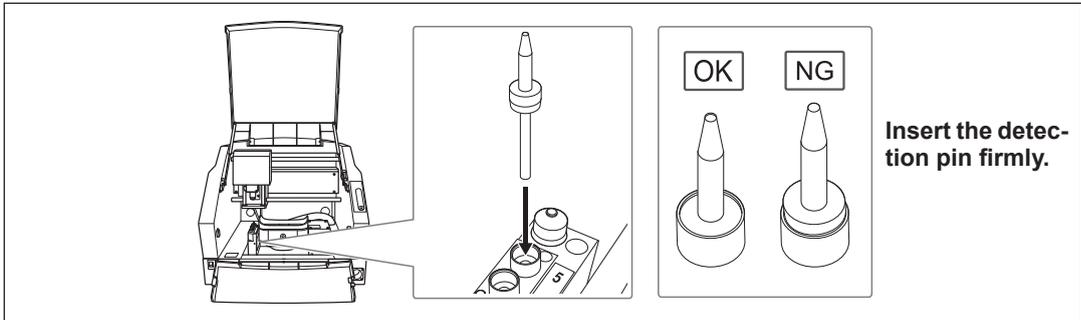
Using VPanel, you can perform automatic correction for the position of ATC Magazine and Rotary axis unit. You use the detection pin (included item) for the correction.

Procedure

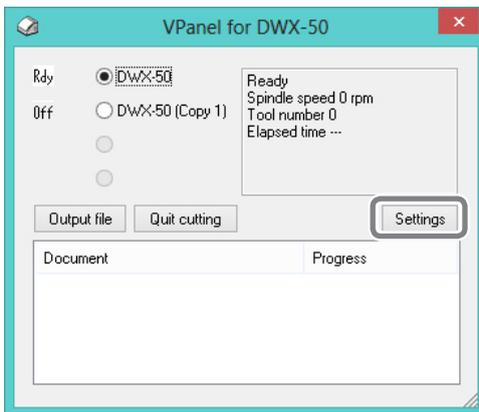
- ①
 - ① Open the front cover.
 - ② Detach the dust collection cover, the cap, workpiece when attached.
- ② Clean the cutting dust attached to the Main Clump and ATC Magazine.
Wipe cutting waste away with the dry clean cloth (included with product). Rotate the main-clamp to clean its entire surface. For information on how to clean, refer to P. 51, "Cleaning After Cutting Operation Ends".

Before Starting the Operation

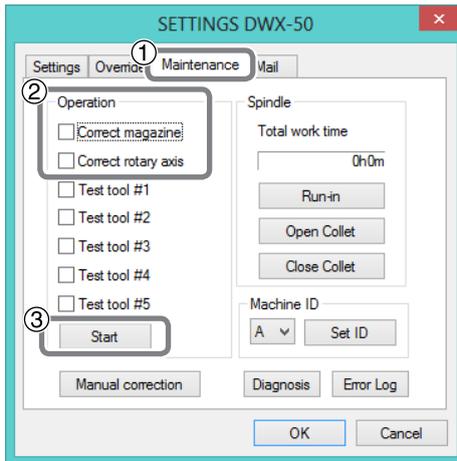
- 3
 - ① Using the dry clean cloth (included with product), wipe the detection pin clean of dust.
 - ② Insert the detection pin to No.5 on ATC Magazine.



- 4
 - ① Close the front cover.
 - ② Click **Settings** on top window of VPanel.



- 5
 - ① Click [Maintenance] tab.
 - ② Put a check in "Correct magazine" and "Correct rotary axis" of Operation.
 - ③ Click **Start**.



The automatic correction starts.

BUSY LED lights up during the operation of the automatic correction. When the operation finishes and the message, "Operation was completed," appears, click [OK].

The automatic correction is complete.

Chapter 2

Maintenance

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Care and Maintenance of the Regulator.....	54

Daily Maintenance

Important Notes on Care and Maintenance

⚠️WARNING

Never use a pneumatic blower.

This machine is not compatible with a pneumatic blower. Cutting 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 fire.

⚠️WARNING

Never use a vacuum cleaner to take up cutting waste.

Taking up fine cuttings using an ordinary vacuum cleaner may cause danger of fire or explosion.

⚠️CAUTION

Caution: high temperatures.

The cutting tool and spindle motor become hot. Exercise caution to avoid fire or burns.

⚠️CAUTION

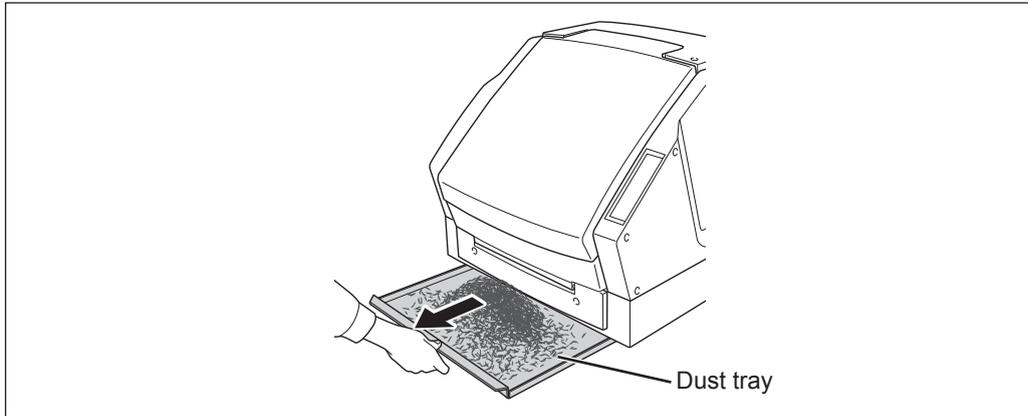
When performing maintenance, be sure to keep the tool detached.

Contact with the blade may cause injury.

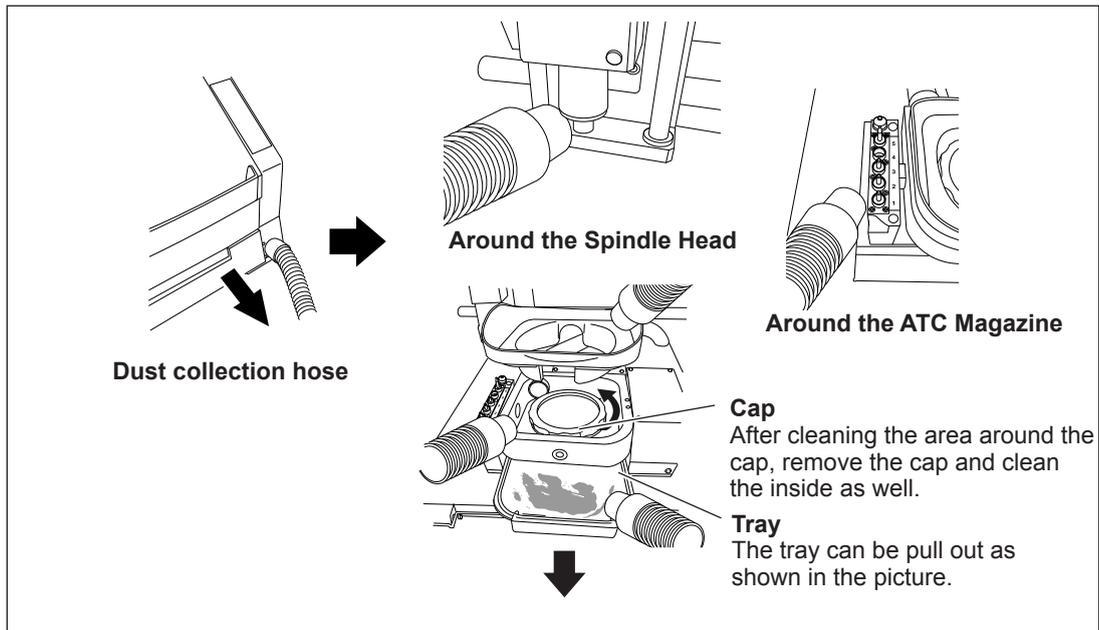
- This machine is a precision device. Carry out daily care and maintenance.
- Carefully clean away cutting waste. Operating the machine with a large amount of cutting waste present may cause malfunction.
- Never apply silicone substances (oil, grease, spray, etc.) to the machine. Doing so may cause poor switch contact.
- Do not lubricate any place except for the lubrication locations shown in this document.

Cleaning After Cutting Operation Ends

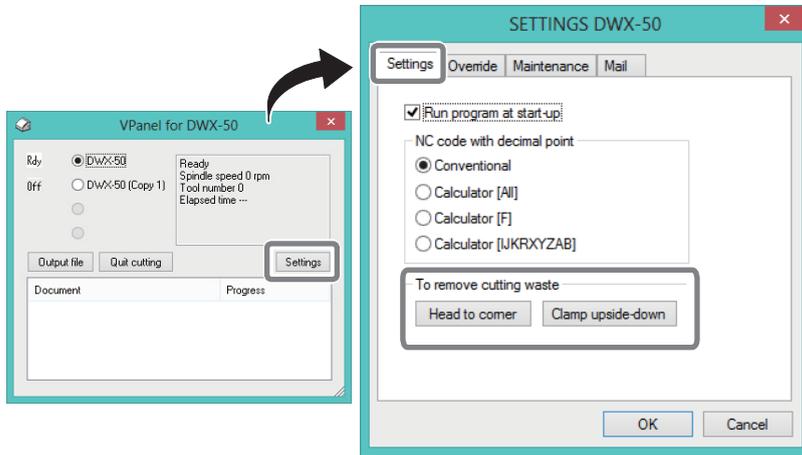
After operation, dispose of any cutting waste that has collected in the dust tray.



After operation, detach the dust collection hose on the lower right in front side of the machine, remove the cover of the dust collection capsule, and vacuum up the cutting waste. Especially around the spindle head, dust collection capsule, and ATC Magazine, the cutting waste must be cleaned up meticulously. Use a brush or the like to clean away any remains of cutting waste.



When cleaning the cutting waste around the table and the main-clamp, you can use VPanel to move the spindle head, the table, and the main-clamp.



<input type="button" value="Head to corner"/>	Every time this button is pressed, movement is done in the order of "Table backward," "Spindle head right," "Table forward," and "Spindle head left."
<input type="button" value="Clamp upside-down"/>	Main-clamp turns around at a 180°angle.

Everytime the movement is completed, the message, "Operation was completed," appears. Click [OK]. When the operation button of the built-in panel of the machine is pressed, the spindle head and table return to the VIEW position (i.e., the left end in the highest position for the spindle head, and the frontmost position for the table).

Periodic Maintenance

Correction of cutting machine

While you continue cutting, misalignment of the cutting position may occur. If misalignment occurs, perform automatic correction.

☞ P. 47, "STEP 2: Automatic correction"

If you want to precisely adjust the accuracy, you can perform this operation manually. For more information, see "Manual Correction Dialog" of "Description of SETTINGS Window" in "DWX-50 VPanel Guide" (electronic format).

☞ P. 42, "How to View the Online Help"

Care for the Detection Pin

For correction, you use detection pin. The detection pin that gathers rust or dust will prevent the accurate detection, which may result in the situation where you cannot perform cutting as intended or where the machine should be damaged. Take care of the detection pin on a routine basis.

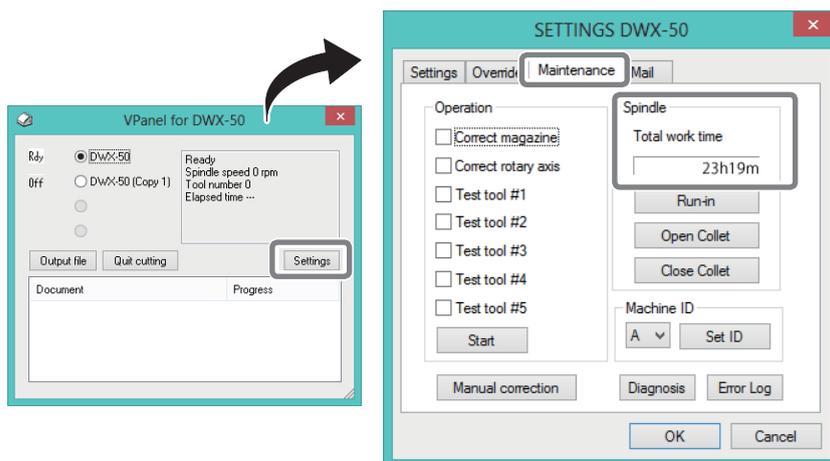
Care, Maintenance, and Storage Methods

- Before use, wipe clean using the dry clean cloth (included with product), and make sure that rust or scratches are not on the detection pin.
- Store in a location with low humidity and little fluctuation in temperature.

Maintenance of the Spindle Unit

The spindle unit and the belt are parts that wear out. The replacement cycle varies according to usage conditions, but as a general guide, you should replace them after every 2,000 hours of use. You can use VPanel to view the total working time of the spindle. Refer to this to determine when replacement is needed. For information on replacement of the spindle unit, contact your authorized dealer or us.

Checking the total working time of the spindle using VPanel



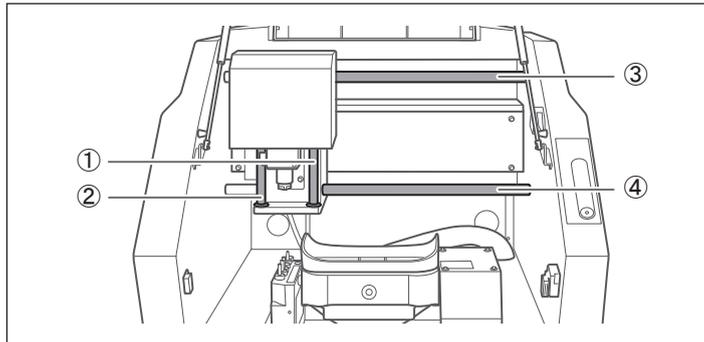
Care and Maintenance of the Shafts

Dirt on the shafts affects the operation of the machinery and causes abnormal noise. When the shafts are dirty or grease is dry, take care of them.

Instructions for the care of the shafts

- Remove cutting waste from the shafts.
- If the grease on the shaft surface becomes dry, apply a thin layer of the supplied grease to the surface.
Remove grease adhered to any part of the machinery other than the shafts.

Shafts that need care: ①~④



Care and Maintenance of the Regulator



WARNING

Before removing the bowl, be sure to bleed off the air pressure.

Failure to do so may cause danger of repute or thrown-off parts.



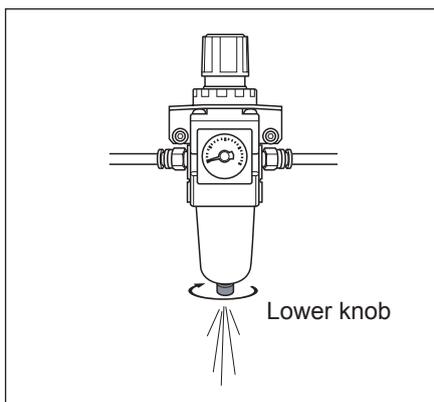
WARNING

Clean the bowl using a neutral detergent. Never use gasoline, alcohol, thinner, or any other solvent.

Using a solvent may degrade the bowl and cause danger of rupture.

Drain

The regulator is equipped with a filter that becomes filled with trapped material (moisture and dust) over time. Periodically empty the drain.



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

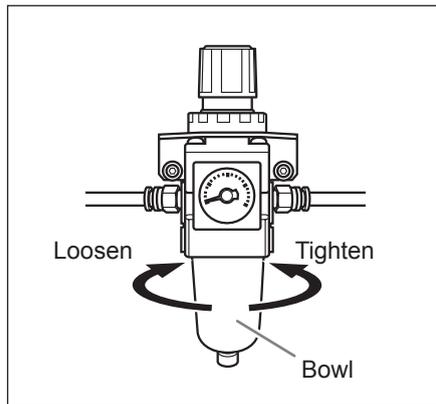
② **Loosen the lower knob a little at a time.**

Material may spray out of the drain at this time. Use a cloth or the like to catch the spray and keep it from scattering.

③ **When the drain is emptied, retighten the lower knob.**

Cleaning the Bowl

If the interior of the bowl becomes soiled, remove and wash the bowl.



① **Detach the regulator from the machine and air hose.**

☞ P. 36, "Preparing the Regulator"

② **Detach the bowl.**

Wash it using a neutral detergent.

③ **Make sure that the bowl dries out completely, then retighten the bowl.**

Chapter 3

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What to Do If...

For more information about the error messages that appears on VPanel, go to "Responding to an Error Message" in "DWX-50 VPanel Guide (electronic-format)."

☞ P. 42, "How to View the Online Help"

Initialization is not performed or initialization fails

Is a front cover open?

When starting the machine, Make sure that the upper and lower front covers are closed and the COVER LED is dark. For safety, initialization is not performed when a cover remains open at startup.

Is anything caught on the spindle head or table?

Check whether something has become caught and is impeding initialization.

Operations are ignored

Is the cable connected?

Connect the cable securely.

☞ P. 37, "Cable Connections"

Is a front cover open?

This machine restricts some operations when a front cover is open.

Close both the upper and lower front covers, and make sure that the COVER LED is dark.

Is operation paused?

When the PAUSE LED is on, it means that operation is paused. When the machine is paused, cutting stops and some operations are restricted. Cancel the paused state.

Is a large amount of cutting waste present?

Clean away any cutting waste. Clean the area around the spindle especially carefully.

☞ P. 51, "Cleaning After Cutting Operation Ends"

Is the driver installed correctly?

If the connection to the computer is not made in the sequence described, the driver may fail to be installed correctly. Check again to ensure that the connection was made using the correct procedure.

☞ P. 39, "Installing the Driver and the Software"

☞ P. 60, "To Install Driver Separately"

Does VPanel recognize the machine?

There is a possibility that the machine is not recognized by VPanel. Check the correct connection method.

☞ P. 37, "Cable Connections"

☞ P. 43, "Connecting Multiple Units"

Is the connection method correct when connecting multiple units?

The connection method may be incorrect when connecting more than one machine. Confirm the correct method.

- ☞ P. 43, "Connecting Multiple Units"

Is the ERROR LED flashes rapidly?

An emergency stop occurred because a serious error was detected. Resuming operation is not possible. A description of the error is displayed in VPanel. Switch off the power to quit the operation, eliminate the cause, then redo the operation from the beginning. If the emergency stops continue even after eliminating the cause, contact your authorized Roland DG Corp. dealer.

- ☞ P. 42, "How to View the Online Help"
- ☞ "Responding to an Error Message" in "DWX-50 VPanel Guide (electronic -format)."

Is the ERROR LED flashes slowly?

Operation was paused because an error was detected. Check the displayed message and press the operation button of the machine long to clear the error.

- ☞ P. 42, "How to View the Online Help"
- ☞ "Responding to an Error Message" in "DWX-50 VPanel Guide (electronic- format)."

Compressed air does not come out

Is any of the operations which need compressed air being performed?

Compressed air is supplied only when the spindle is rotating or when the tool is replaced.

Is the pressure of the regulator set correctly?

If the pressure setting of the regulator is "0," compressed air is not supplied.

- ☞ P. 36, "Preparing the Regulator"

Is the knob at the bottom of the regulator open?

If the knob at the bottom of the regulator is open, compressed air flows out.

- ☞ P. 54, "Care and Maintenance of the Regulator"

The computer shut down

Is a machine with a same ID connected to the computer?

When more than one machine is connected to the computer, if machines with a same ID are connected at the same time, the computer might shut down. If the computer shuts down, turn off the power of all the connected machines and disconnect the USB cables from the computer. Next, restart the computer, and then start VPanel. If VPanel does not start, install it again. Then, make the setting again in a way that a same ID is not assigned to more than one machine.

- ☞ P. 60, "To Install Driver Separately"
- ☞ P. 43, "Connecting Multiple Units"

To Install Driver Separately

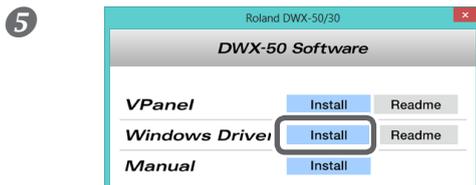
You can install the driver and software at a time. For the method of installing them at a time, see P. 39, "Installing the Driver and the Software".

Procedure

- 1 Before installation, confirm that the machine and the computer are not connected with the USB cable.**
- 2 Log on to Windows as "Administrators."**
- 3 Insert the Roland Software Package CD-ROM into the computer.**
When the automatic playback window appears, click [Run menu.exe]. The [User Account Control] appears, click [Allow], and install the softwares. The setup menu appears automatically. Uninstall the driver if it has been already installed.
☞ P. 58, "Initialization is not performed or initialization fails"
Go to Step **4** if the iModela driver is not installed or it is uninstalled.

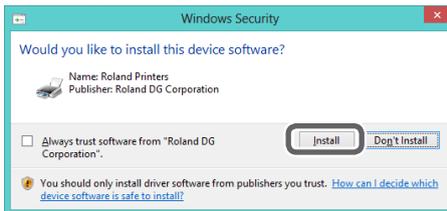


Click [Custom Install] of the "DWX-50 Software."



Click [Install] of the "Driver" of the "Windows Driver."

Windows 8



If the screen shown in the figure appears, click [Install].

Windows Vista / 7



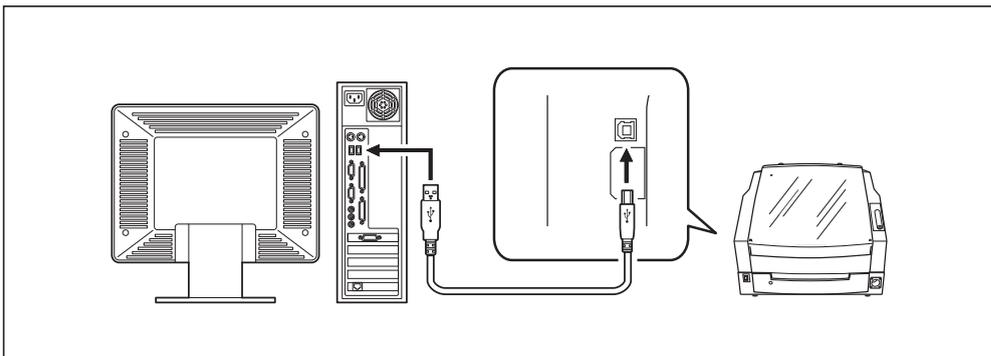
If the screen shown in the figure appears, click [Install this driver software anyway].

Windows XP



If the screen shown in the figure appears, click [Continue Anyway].

- 6 Follow the on-screen instructions and continue with the installation.
- 7 When installation finishes, click  of the setup menu.
- 8 Remove the CD-ROM from the CD-ROM drive.
- 9 Switch on the power to the machine.
- 10 Connect the machine and the computer with a USB cable.
 - Never connect two or more machines to one computer.
 - Use the supplied USB cable.
 - Do not use a USB hub.



Windows Vista / 7 / 8

The driver will be installed automatically.

Windows XP



① Select [No, not this time], and then click [Next].



② Select [Install the software automatically], and then click [Next].



③ Click [Finish].

If the following screen is displayed during installation



Click [Continue Anyway].

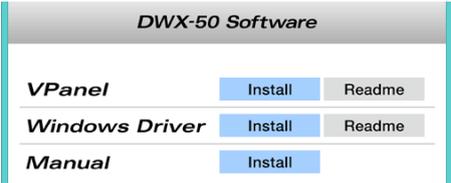


Eject and remove the CD-ROM, and then click [Back] and repeat from the last screen.

To Install Software and Electronic Manual Separately

You can install the driver and software at a time. For the method of installing them at a time, see P. 39, "Installing the Driver and the Software".

Procedure

- 1 Log on to Windows as "Administrators."
- 2 Insert the Roland Software Package CD-ROM into the computer.
When the automatic playback window appears, click [Run menu.exe]. The [User Account Control] appears, click [Allow], and install the softwares. The setup menu appears automatically.
- 3  Click [Custom Install] of the "DWX-50 Software."
- 4  Click [Install] of the program you want to install.
- 5 Follow the on-screen instructions and continue with the installation.
- 6 When installation finishes, click  of the setup menu
- 7 Remove the Roland Software Package from the CD-ROM drive.

Installation is impossible

If installation quits partway through, or if the wizard does not appear when you make the connection with a USB cable, take action as follows.

Windows 8

1. Use a USB cable to connect the machine and the PC, and then turn the machine on.
2. If the [Found New Hardware] wizard appears, click [Cancel] to close it. Disconnect any USB cables for printers other than this machine.
3. Click [Desktop].
4. Move the mouse to the lower right corner to display Charm and click [Settings].
5. Click [PC Information].
6. Click [Device Manager]. When the [User Account Control] screen appears, click [Continue]. The [Device Manager] screen appears.
7. Click [Show hidden devices] on the View menu.

8. Double-click [Printers] or [Other devices] in the list. Click the model name or [Unknown device], whichever appears below the item you selected.
9. Click [Delete] on the [Action] menu.
10. In the [Confirm Device Uninstall] dialog box, click [OK] to close the device manager.
11. Disconnect the USB cable that is connected to the printer, and then restart Windows.
12. Uninstall the driver. Carry out the steps from step 3 in Page 65 "Uninstall the Driver Windows 8" to uninstall the driver.
13. Install the driver again according to the procedure in page 60 "To Install Driver Separately."

Windows 7

1. If the [Found New Hardware] appears, click [Cancel] to close it.
2. Click the [Start] menu, then right-click [Computer]. Click [Properties].
3. Click [Device Manager]. The [User Account Control] appears, click [Continue]. The [Device Manager] appears.
4. At the [View] menu, click [Show hidden devices].
5. In the list, find [Other devices], then double-click it. When the model name you are using or [Unknown device] appears below the item you selected, click it to choose it.
6. Go to the [Action] menu, and click [Uninstall].
7. In "Confirm Device Uninstall" window, select [Delete the driver software for this device.], and then click [OK]. Close the [Device Manager].
8. Disconnect the USB cable from the computer, and then restart Windows.
9. Uninstall the driver. Carry out the steps from step 3 in page 65 "Uninstall the Driver Windows XP / Vista / 7" to uninstall the driver.
10. Install the driver again according to the procedure in page 60 "To Install Driver Separately."

Windows Vista

1. If the [Found New Hardware] appears, click [Cancel] to close it.
2. Click the [Start] menu, then right-click [Computer]. Click [Properties].
3. Click [Device Manager]. The [User Account Control] appears, click [Continue]. The [Device Manager] appears.
4. At the [View] menu, click [Show hidden devices].
5. In the list, find [Printers] or [Other device], then double-click it. When the model name you are using or [Unknown device] appears below the item you selected, click it to choose it.
6. Go to the [Action] menu, and click [Uninstall].
7. In "Confirm Device Uninstall" window, select [Delete the driver software for this device.], and then click [OK]. Close the [Device Manager].
8. Disconnect the USB cable from the computer, and then restart Windows.
9. Uninstall the driver. Carry out the steps from step 3 in page 65 "Uninstall the Driver Windows XP / Vista / 7" to uninstall the driver.
10. Install the driver again according to the procedure in page 60 "To Install Driver Separately."

Windows XP

1. If the [Found New Hardware Wizard] appears, click [Finish] to close it.
2. Click the [Start] menu, then right-click [My Computer]. Click [Properties].
3. Click the [Hardware] tab, then click [Device Manager]. The [Device Manager] appears.
4. At the [View] menu, click [Show hidden devices].
5. In the list, find [Printers] or [Other device], then double-click it. When the model name you are using or

- [Unknown device] appears below the item you selected, click it to choose it.
6. Go to the [Action] menu, and click [Uninstall].
 7. In "Confirm Device Uninstall" window, click [OK].
 8. Close the [Device Manager] and click [OK].
 9. Detach the USB cable from the computer, and then restart Windows.
 10. Uninstall the driver. Carry out the steps from step 3 in page 65 "Uninstall the Driver Windows XP / Vista / 7" to uninstall the driver.
 11. Install the driver again according to the procedure in page 60 "To Install Driver Separately."

Uninstalling the Driver

When uninstalling the driver, perform following operation.

Windows 8

*If the driver is uninstalled without following the procedure given below, there is a possibility that it might not be able to be re-installed.

1. Turn the machine off, and disconnect the cable that is connecting the PC and the machine.
2. Log on to Windows as "Administrator."
3. Click [Desktop].
4. Move the mouse to the lower right corner to display Charm and click [Settings].
5. On the task bar, click [Control Panel], and then [Uninstall a program].
6. Select the machine's driver that you want to uninstall, and then click [Uninstall].
7. When a message prompting you to confirm that you want to uninstall the driver appears, click [Yes].
8. On the task bar, click [Start], and then [Desktop].
9. Start Windows Explorer to open the drive and folder where the driver is located. (* Notes)
10. Double-click the "SETUP64.EXE"(64-bit version) or "SETUP.EXE" (32-bit version).
11. When the [User Account Control] dialog box appears, click [Continue].The driver's installer starts.
12. Click [Uninstall]. Select the machine that you want to uninstall, and then click [Start].
13. When a dialog box prompting you to restart the PC appears, click [Yes].
14. After the computer is restarted, display the Control Panel and click [View devices and printers].
15. If the icon of the device you wish to remove is shown, right-click on the icon to click on [Remove device].

(*)

When you are using the CD-ROM, specify one of the following folders. (The CD drive is drive D in this example).

D:\Drivers\25D\WINVISTAX64 (64-bit version)

D:\Drivers\25D\WINVISTAX86 (32-bit version)

If you're not using the CD-ROM, go to the Roland DG Corp. website (<http://www.rolanddg.com/>), and download the driver for the machine you want to delete. Then, specify the folder where you extracted the downloaded file to.

Windows XP / Vista / 7

*If the driver is uninstalled without following the procedure given below, there is a possibility that it might not be able to be re-installed.

1. Before you start uninstallation of the driver, unplug the USB cables from your computer.
2. Log on to Windows as "Administrator."
3. From the [Start] menu, click [Control Panel]. Click [Uninstall a program].
4. Click the driver for the machine to delete to select it, then Click [Uninstall].

5. A message prompting you to confirm deletion appears. Click [Yes].
6. From the [Start] menu, choose [All Programs], then [Accessories], then [Run], and then click [Browse].
7. Choose the name of the drive or folder where the driver is located. (*)
8. Select "SETUP64.EXE" (64-bit edition) or "SETUP.EXE" (32-bit edition) and click [Open], then click [OK].
9. The [User Account Control] appears, click [Allow].
10. The Setup program for the driver starts.
11. Click [Uninstall] to choose it. Select the machine to delete, then click [Start].
12. If it is necessary to restart your computer, a window prompting you to restart it appears. Click [Yes].
13. The uninstallation finishes after the computer restarts.

(*)

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

<Windows XP>

D:\Drivers\25D\WINXPX64 (64 bit edition)

D:\Drivers\25D\WINXPX86 (32 bit edition)

<Windows Vista>

D:\Drivers\25D\WINVISTAX64 (64 bit edition)

D:\Drivers\25D\WINVISTAX86 (32 bit edition)

<Windows 7>

D:\Drivers\25D\WIN7X64 (64 bit edition)

D:\Drivers\25D\WIN7X86 (32 bit edition)

If you're not using the CD-ROM, go to the Roland DG Corp. website (<http://www.rolanddg.com/>) and download the driver for the machine you want to delete, then specify the folder where you want to expand the downloaded file.

Uninstalling the VPanel

When uninstalling VPanel, perform following operation.

Windows 8

1. Quit VPanel. (Right-click  [VPanel icon] in the task tray and select "Exit".)
2. Move the mouse to the lower right corner to display Charm and click [Settings].
3. On the task bar, click [Control Panel], and then [Uninstall a program].
4. Select [Roland VPanel for DWX-50] and click "Uninstall."
5. Uninstall VPanel by following the instructions given in the window.

Windows XP/ Vista / 7

1. Quit VPanel. (Right-click  [VPanel icon] in the task tray and select "Exit".)
2. From the [Start] menu, click [Control Panel] -> [Programs and Functions] ([Add or Remove Programs] in Windows XP) from the [Start] menu.
3. Select [Roland VPanel for DWX-50] and click "Uninstall" (or "Delete").
4. Uninstall VPanel by following the instructions given in the window.

Specifications

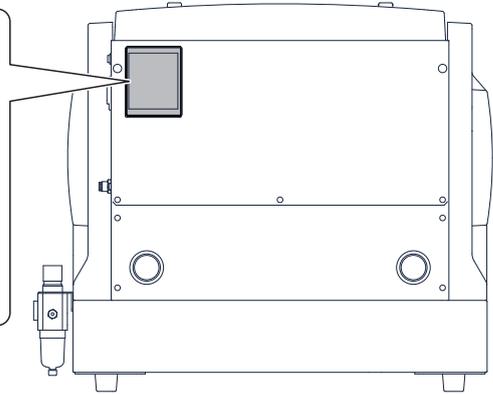
Power Rating and Serial Number Locations

Serial Number

This is required when you seek maintenance, servicing, or support. Never peel off the label or let it get dirty.

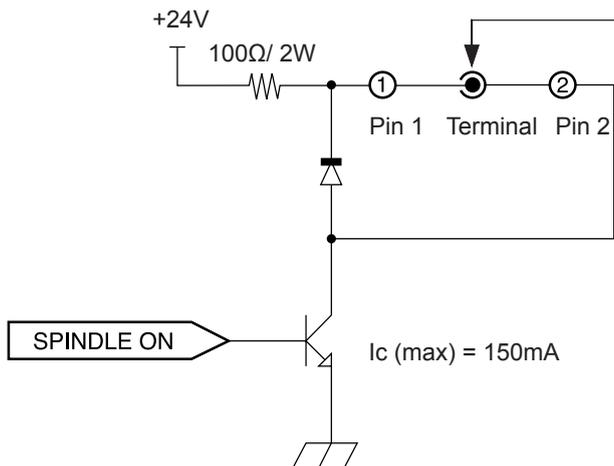
Power Rating

Use an electrical outlet that meets the requirements for machine's ratings (voltage, frequency, and current) given here.



Expansion Connector

* We are not responsible for devices connected to this connector.

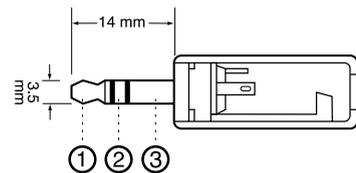


This circuit works during spindle motor rotation.

! Notice

- ◆ Be sure to use the connector within the rated range shown above.
- ◆ Do not apply an additional voltage to the connector.
- ◆ Do not short-circuit the connector and earthing.

Adaptive plug

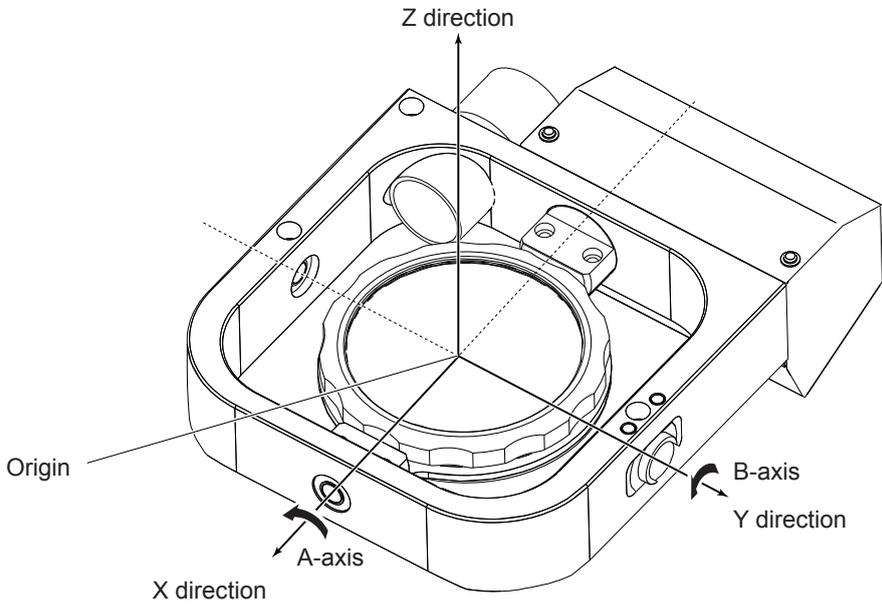


Use a three contact plug that meets the size required as above.

! Notice

Do not use the terminal ③.
Use only the ① and ② terminals.

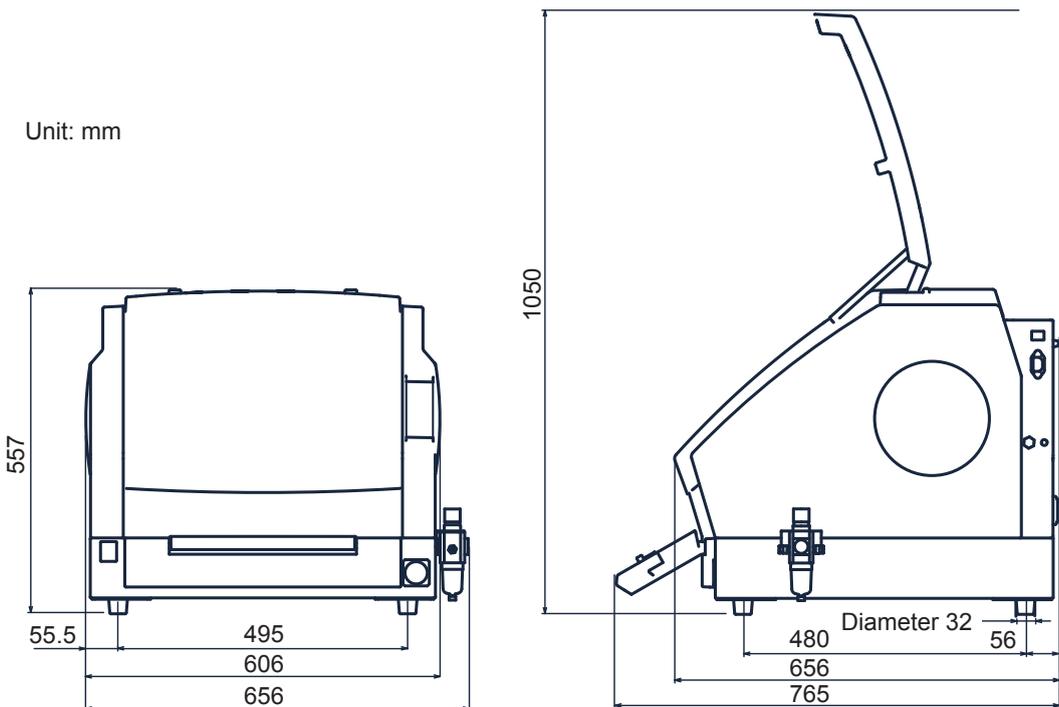
Coordinate



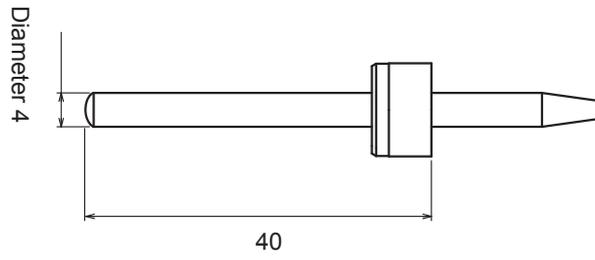
Dimensional Drawings

Dimension of Outline

Unit: mm



Detection Pin Dimension



Main Specifications

DWX-50	
Cuttable material*	Zirconia (pre-sintered), Wax, PMMA, Composite resin
Loadable workpiece shape	Disc (with levels) External diameter (level section): 98 mm to 100 mm External diameter (body section): 95 mm Height (level section): 10 mm Height (body section): 12 to 26 mm
	Disc (without levels) External diameter: 98 to 100 mm Height: 10 to 14 mm, 16 to 20 mm
	Block Width x Depth: 38 x 76 mm, Height: 16 or 22 mm
Operating speed	X and Y axes: 6 to 3600 mm/min. (0.24 to 141.73 in./min.) Z axis: 6 to 1800 mm/min. (0.24 to 70.87 in./min.)
Spindle motor	Brushless DC motor, maximum 100W
Spindle speed	6,000 to 30,000 rpm
Rotary axis travel angle	A: $\pm 360^\circ$, B: $\pm 20^\circ$
Number of tools housed	5
Attachable tool	Shank diameter: 4 mm, Length: 40 to 55 mm
Compatible compressed air	0.02 to 0.2 MPa
Interface	USB (compliant with Universal Serial Bus Specification Revision 1.1)
Control command set	RML-1, NC code
Power requirements	AC100 to 240 V $\pm 10\%$, 50/60 Hz, 1.3 to 0.6 A (overvoltage category II, IEC 60664-1)
Power consumption	Approx. 275W
Operating noise	During operation: 70 dB (A) or less (when not cutting) During standby: 45 dB (A) or less
External dimensions	Width x Depth x Height: 656 x 656 x 557 mm (25.9 x 25.9 x 22 in.)
Weight	50 kg (110 lb)
Installation Environment	Indoor Use, altitude: up to 2000 m Temperature: 5 to 40 °C (41 to 104 °F) Relative humidity: 35 to 80 % (no condensation) Ambient pollution degree: 2 (as specified by IEC 60664-1) Short-Term Temporary Overvoltage: 1440 V Long-Term Temporary Overvoltage: 490 V
Included items	Power cord, USB cable, Setup and Maintenance Guide, Roland Software Package CD-ROM, Detection pin, Hexagonal screwdriver, Hexagonal wrench, Cap (S and L), Clamp for block workpiece (A and B), Tool holder, Tool positioner, Dust collection hose, Regulator, Dust tray etc.

* Even if the material is listed as “cuttable” above, there may be cases where it cannot be processed depending on the specification or physical property. For detailed information, contact your authorized Roland DG Corp. dealer.

System Requirements for USB Connection

Computer	Model preinstalled with the 32- or 64-bit edition of Windows 8, 7, Vista, XP, or upgraded computer originally preinstalled with Windows XP or later
USB cable	Use the included USB cable.



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