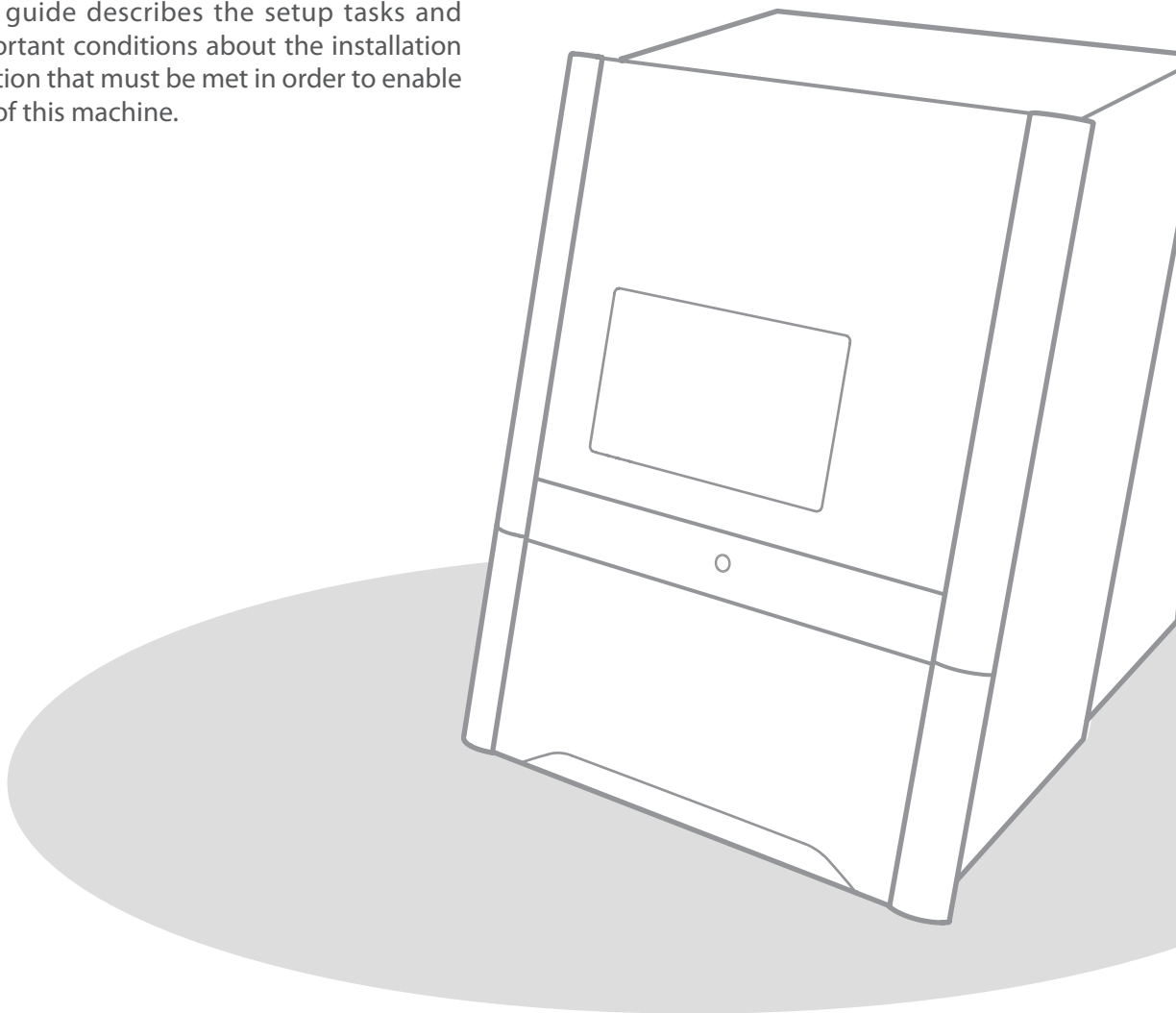


DWX-4W

Setup Guide

Read this first

This guide describes the setup tasks and important conditions about the installation location that must be met in order to enable use of this machine.



Roland DG Corporation has developed a special website introducing dental solutions. For the latest information regarding this machine (including manuals), see our special Easy Shape website (<http://www.rolandeasyshape.com>).

Roland DG Corporation

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 transferal, in whole or in part, of this manual is prohibited.
- The contents of this operation manual and the specifications of this product are subject to change without notice.
- The operation manual and the product have been prepared and tested as much as possible. If you find any misprint or error, please inform us.
- Roland DG Corporation assumes no responsibility for any direct or indirect loss or damage which may occur through use of this product, regardless of any failure to perform on the part of this product.
- Roland DG Corporation assumes no responsibility for any direct or indirect loss or damage which may occur with respect to any article made using this product.

Applicable EMC Standards: EN 61326-1 (Class A), EN 55011 (Class A, Group 1), EN 61000-3-2, EN 61000-3-3

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.

This product is a Group 1 device.

Radio frequency energies in the form of electromagnetic radiation, induction, and/or electrostatic bonding are not used nor deliberately emitted when processing material or during examination/analysis.

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

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

CAN ICES-3 (A)/NMB-3(A)

For California



WARNING : This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

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 EU Countries



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

The importer in the EU:
Roland DG Europe Holdings B.V.
Prof. J.H. Bavincklaan 2, 1183 AT, Amstelveen, The Netherlands

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.

Operating Instructions

KEEP GUARDS IN PLACE and in working order.

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

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

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.

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.

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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. * Material damage refers to damage or other adverse effects caused with respect to the home and all its furnishings, as well as 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  symbol. The symbol at left means "danger of electrical shock."
	The  symbol alerts the user to items that must never be carried out (are forbidden). The specific meaning of the symbol is determined by the design contained within the  symbol. 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 meaning of the symbol is determined by the design contained within the  symbol. The symbol at left means the power-cord plug must be unplugged from the outlet.



This is a heavy machine



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 the machine in a location that is level, stable, and able to bear the weight of the machine.


The total weight of the machine may reach 58 kg (128 lb.) or more. Installation in an un-suitable location may cause a major accident, including a tip over, fall, or collapse.


 **Incorrect operation may cause injury**


 **WARNING**


 **Always unplug the power cord when attaching or removing parts and optional parts and when performing cleaning or maintenance that does not require the machine to be connected to a power source.**


Attempting such operations while the machine is connected to a power source may result in injury or electrical shock.


 **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 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.


 **Be sure to follow the operation procedures described in the user's manual. Never allow anyone unfamiliar with the usage or handling of the machine to touch it.**
Incorrect usage or handling may lead to an 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 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.

 **WARNING**


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


 **Never use a milling tool that has become dull. Perform frequent maintenance to keep the machine in good working order.**
Unreasonable usage may result in fire or injury.

 **Never operate the machine if the cover is cracked or broken.**
Doing so may result in injury. If the cover is cracked or broken, contact your authorized Roland DG Corporation dealer.

 **Be careful of the pointed portion inside the front cover.**
There is a pointed portion inside the front cover. Exercise caution when cleaning.


 **CAUTION**


 **Use a dry cloth to clean the inside of the equipment.**
Failure to do so may cause the components inside the equipment to degrade, which can lead to injury.


 **Wipe up any water around the main unit.**
Failure to do so may cause a slip or fall, resulting in injury.

 **Milling waste and workpieces are flammable and toxic.**


 **WARNING**

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

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


 **Never use a vacuum cleaner to clean up milling waste.**
Picking up fine cuttings using an ordinary vacuum cleaner may result in fire or explosion.


 **CAUTION**

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


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

 **WARNING**


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


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

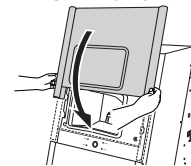
 **CAUTION**


 **Never attempt operation while wearing a necktie, necklace, or loose clothing. Bind long hair securely. When performing operations while wearing gloves, exercise sufficient caution to prevent entanglement in the machine.**
Such items may become caught in the machine, resulting in injury.

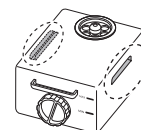
 **CAUTION**

 **Do not use hot water for the coolant.**
Using hot water may cause burns.

 **When opening or closing the front cover, hold the part indicated in the following figure with both hands.**
Failing to do so may result in your fingers being pinched, leading to injury.





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





 **Danger of electrical short, electrical shock, 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.

 **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.


 **Never use outside or in any location where exposure to water or high humidity may occur. Do not touch the power cord, plug, or electrical outlet with wet hands.**
Doing so may result in fire or electrical shock.


 **Never allow any foreign object to get inside. Never expose the machine 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 Corporation dealer.


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


 **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 use of a lengthy extension cord may cause fire.


 **Position the machine so that the power plug is within immediate reach at all times.**
This is to enable quick disconnection of the power plug in the event of an emergency. Install the machine next to an electrical outlet. Also, provide enough empty space to allow immediate access to the electrical outlet.


 **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 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.


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


 **If the machine is not used for long hours, disconnect the power cord.**
This prevents an accident caused by unexpected electric leakage or unintentional start of the machine.


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


 **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.

 **WARNING**


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


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

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

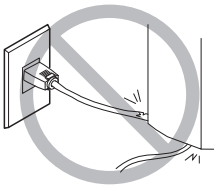
 **Use a dry cloth when cleaning silicone resin parts, and be careful to prevent the silicone resin from being damaged.**
The silicone resin being damaged may lead to electric leakage.

 **WARNING**

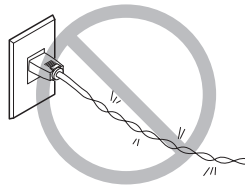
 **Do not place any electronic devices in the vicinity of this machine.**
Because coolant flows within this machine, water may be sprayed on objects in the vicinity of the machine when its front cover is opened. To prevent malfunctions, do not place any electronic devices in the vicinity of this machine.

 **Do not block the air exhaust port.**
Clogging the air exhaust port removes the escape route for the compressed air, which may lead to the internal lines rupturing. The internal lines rupturing may lead to coolant leaks and fire and electrical shock due to current leakage.

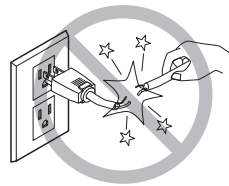
 **Important notes about the power cord, plug, and electrical outlet**



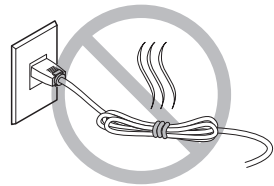
Never place any object on top or subject to damage.



Never bend or twist with undue force.



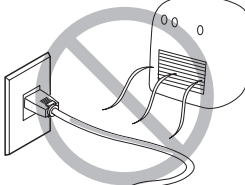
Never pull with undue force.



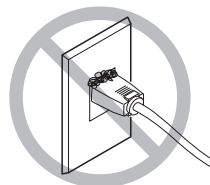
Never bundle, bind, or roll up.



Never allow to get wet.




Never make hot.




Dust may cause fire.

 **Danger of components flying off or becoming damaged**

 **WARNING**

 **Ensure that the supplied compressed air is not contaminated by water, oil, chemicals, or foreign objects.**


The components may deteriorate or rupture, or the contaminants may be scattered, posing a hazard.

 **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.

 **Never use in a location exposed to direct sunlight.**


Components may deteriorate 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.

 **Connect the air hose securely, so that it will not come loose.**

A pressurized hose that comes loose may whip about uncontrolled, posing a hazard. Connect securely.


 **Before attempting to attach or detach the air hose or optional items or before attempting to perform cleaning or maintenance that does not require the machine to be connected to a power source, 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.


 **Use an air hose of the specified diameter and having adequate pressure resistance.**

Otherwise the article may come loose or rupture.


 **WARNING**

 **Keep the supply of compressed air within the specified pressure range.**


Exceeding the specified pressure may result in a rupture or other major accident.

 **Never strike or subject the object to impact.**

Components may suffer damage or rupture under the pressure of compressed air.

 **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.

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

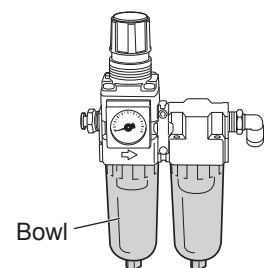
A damaged air hose may rupture.

 **Be sure to bleed off the air pressure before removing the regulator bowl.**

Failure to do so may result in a rupture or components flying off.

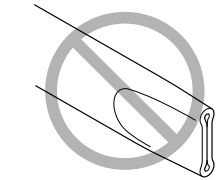
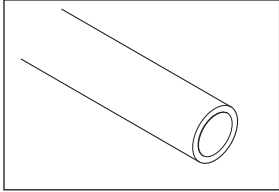
 **Clean the regulator bowl using a neutral detergent. Never use solvents such as gasoline, alcohol, or thinner.**

Using solvents may degrade the bowl and may result in a rupture.

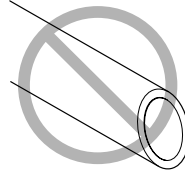


 **Important notes about the end (cut edge) of the air hose**

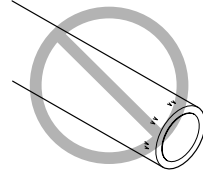
Failure to observe these cautions may result in air leakage or easy dislodgement of the air hose. Also, when a hose has been detached, cut off the end before reattaching the hose.



Ensure that it is not crushed.



Make the cut edge straight.



Keep free of damage and soiling.

 **Additives and coolant are toxic**

 **WARNING**



Never drink or sniff the additives or coolant or allow them to come in contact with the eyes or skin.

Doing so may be hazardous to your health.

 **WARNING**



After milling, wash away any products with purified water or the like.

After milling, there will be coolant on the product. Using the product as is may cause an inflammation or the like.


In the event of ingestion or physical distress

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


- Refer to the appropriate safety data sheet (SDS) for the chemical substances used in the grease and the safety related to those substances.
- Refer to the appropriate safety data sheet (SDS) for the chemical substances used in the additives and the safety related to those substances.

 **Handle the machine with care**

 **CAUTION**

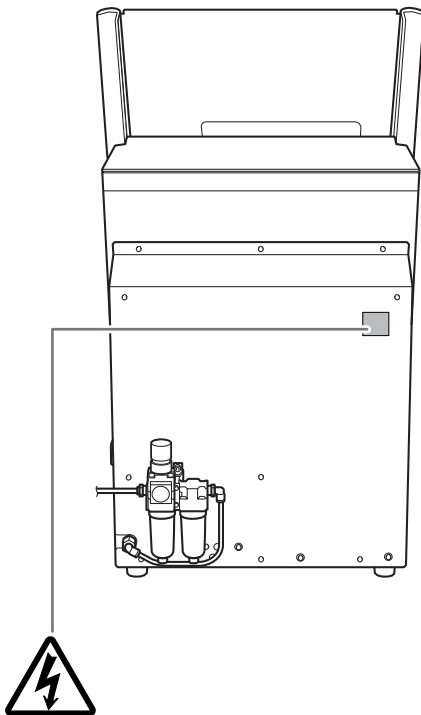
 **Do not overfill or tilt the coolant tank.**
The fluid inlet on the coolant tank is open. Overfilling or tilting will cause fluid to spill out.

 **CAUTION**

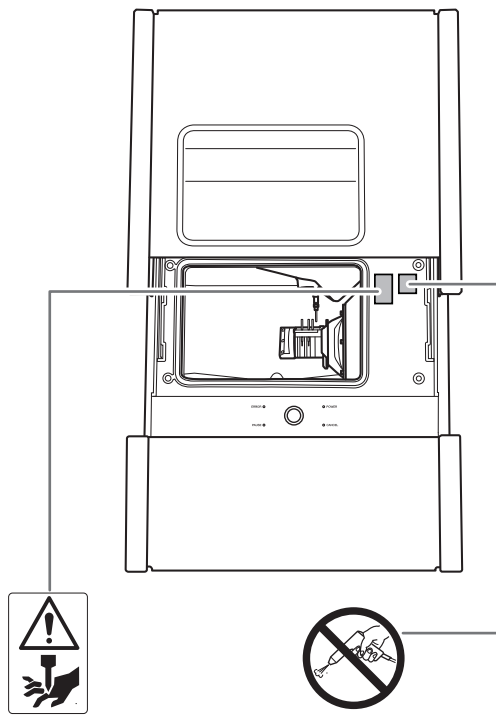
 **Be sure to put the specified additive in the coolant tank.**
Additives are effective in reducing coolant deterioration and raising the milling efficiency in order to maintain product performance. If additives are not used, the coolant may generate an unpleasant odor.

 **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.



Caution: High Voltage
Removing the cover may result in high-voltage electric shock.



Caution: Sharp Tool
The milling tool is sharp. Inadvertent contact may cause injury.



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









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. Le sens précis du  symbole est déterminé par le dessin à l'intérieur du triangle. Le symbole à gauche signifie que l'appareil ne doit jamais être démonté.
	Le symbole  prévient l'utilisateur sur ce qu'il doit faire. Le sens précis du  symbole est déterminé par le dessin à l'intérieur du triangle. Le symbole à gauche signifie que le fil électrique doit être débranché de la prise.



Cet appareil est lourd



PRUDENCE



Le déchargement et la mise en place doivent être faits par au moins deux 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 de niveau, stable et pouvant prendre en charge le poids l'appareil.


Le poids total de cet appareil peut atteindre 58 kg (128 lb) ou plus. Installer l'appareil à un endroit inapproprié peut provoquer un accident grave comme le renversement, la chute ou l'effondrement.


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


 **ATTENTION**


 **Toujours débrancher le câble d'alimentation lors de la fixation ou du retrait de pièces et de pièces en option et du nettoyage ou des travaux d'entretien qui n'exigent pas un branchement de l'appareil à une source d'alimentation.**


Tenter ces opérations pendant que l'appareil est branché à une source d'alimentation peut causer des blessures ou un choc électrique.

 **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 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.

 **S'assurer de suivre les procédures d'utilisation décrites dans le manuel utilisateur. 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.

 **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.


 **ATTENTION**

 **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.

 **Être attentif dans le périmètre de l'outil de coupe.**


L'outil de coupe est acéré. Les outils de coupes brisés sont aussi dangereux. Faire preuve de prudence pour éviter les blessures.

 **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.

 **Ne pas utiliser si un couvercle avant est fissuré ou brisé.**

Vous risqueriez de vous blesser. Si le couvercle est fissuré ou brisé, communiquer avec le représentant Roland DG autorisé.

 **Faire attention à la section pointue à l'intérieur du couvercle avant.**

Vous trouverez une section pointue à l'intérieur du couvercle avant. Soyez prudent au moment du nettoyage.

 **PRUDENCE**

 **Utiliser un chiffon sec pour nettoyer l'intérieur de l'équipement.**


Le non-respect de cette consigne peut provoquer la dégradation de composants à l'intérieur de l'équipement, qui peut entraîner une blessure.


 **Sécher toute présence d'eau dans le périmètre du groupe principal.**


Si vous ne le faites pas, vous risquez de glisser ou tomber et de vous blesser.

 **Les rebuts et morceaux de la coupe sont inflammables et toxiques.**


 **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.**
Ingérer 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**


 **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.


 **Attention : températures élevées.**
L'outil de coupe et le moteur chauffent. Faire preuve de prudence pour éviter un incendie ou des brûlures.

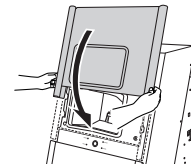
 **PRUDENCE**


 **Ne jamais utiliser l'appareil avec des cravates, des colliers ou des vêtements amples. Les cheveux longs doivent être solidement attachés. Lors du fonctionnement de l'appareil en portant des gants, exercer assez de prudence pour prévenir l'emmêlement dans l'appareil.**
Tous ces objets peuvent être attrapés dans l'appareil, risquant de provoquer des blessures.

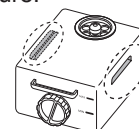
 **PRUDENCE**

 **Ne pas utiliser d'eau chaude pour le liquide de refroidissement.**
L'eau chaude peut entraîner des brûlures.

 **Lors l'ouverture ou de la fermeture du couvercle avant, tenir la pièce indiquée à la figure suivante avec les deux mains.**
Le non-respect de cette consigne peut mener au pincement de vos doigts et entraîner une blessure.



 **Tenir les pièces indiquées à la figure suivante en soulevant ou abaissant le réservoir de liquide de refroidissement.**
Le non-respect de cette consigne peut mener au pincement de vos doigts et entraîner une blessure.



 **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.



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.



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 pas toucher le câble d'alimentation, la fiche ou la prise électrique 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.



Manipuler le câble d'alimentation, la fiche et la prise électrique correctement et avec soin. Ne jamais utiliser un article endommagé.

Ne jamais utiliser un article endommagé, car cela pourrait causer un incendie ou un choc électrique.

 **ATTENTION**



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.



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.



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 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.



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



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.



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.



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.

⚠ ATTENTION



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.



Ne jamais utiliser un solvant comme de l'essence, de l'alcool ou de diluant pour nettoyer.

Le non-respect de cette consigne peut entraîner un incendie.



Manipuler le filtre avec soins.

Échapper le filtre ou le saisir trop vigoureusement peut l'endommager. Si la filtration ne fonctionne pas en raison d'un dommage, la conduite de liquide de refroidissement peut s'obstruer avec des rognures de coupe, qui peut à son tour mener à des fuites de liquide de refroidissement et à un incendie et des chocs électriques entraînés par une perte de courant.

⚠ ATTENTION



Utiliser un chiffon sec pour nettoyer les pièces avec de la résine de silicone. Exercer de la prudence pour empêcher tout dommage à la résine de silicone.

Une résine de silicone endommagée peut mener à une fuite de courant.



Ne pas placer de dispositifs électroniques à proximité de cet appareil.

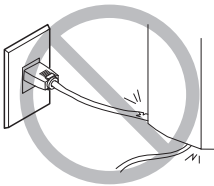
Puisque du liquide de refroidissement circule dans l'appareil, de l'eau peut éclabousser les objets à proximité de l'appareil lorsque le couvercle avant est ouvert. Ne pas placer de dispositifs électroniques à proximité de cet appareil pour prévenir toute défaillance.



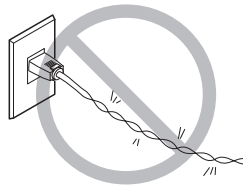
Dégager bien les orifices d'évacuation d'air.

Un orifice d'évacuation obstrué empêche l'air comprimé de s'échapper pouvant provoquer l'éclatement des conduites internes. L'éclatement des conduites internes peut déclencher des fuites de liquide de refroidissement, un incendie et un choc électrique en raison de la fuite de courant.

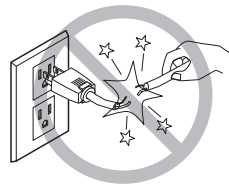
⚠ Remarques importantes à propos du câble d'alimentation, de la fiche et de la prise électrique



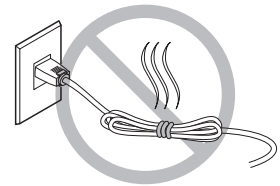
Ne jamais déposer aucun objet dessus au risque de les endommager.



Ne jamais plier ni enrouler.



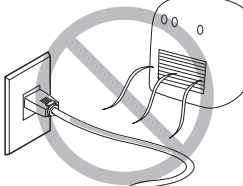
Ne jamais tirer avec une force excessive.



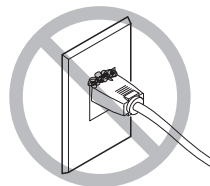
Ne jamais plier ni tordre avec une force excessive.



Ne jamais laisser mouiller.



Ne jamais chauffer.



La poussière peut causer un incendie.

⚠ Composants risquant d'être éjectés ou endommagés

⚠ ATTENTION

⊘ **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.

⊘ **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.

⚠ **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.

⚠ **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 fixer ou de retirer le tuyau à air ou des accessoires en option ou avant de procéder au nettoyage ou à un entretien qui n'exige pas un branchement de l'appareil à une source d'alimentation, couper l'arrivée d'air comprimé et laisser la pression s'échapper.**
Si l'équipement est laissé sous pression, il y a risque que des éléments soient projetés.

⚠ **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.

⚠ ATTENTION

⚠ **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.

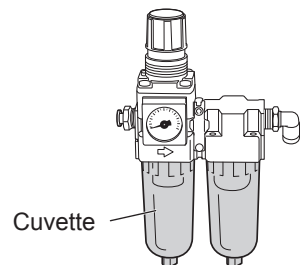
⊘ **Ne jamais frapper ni soumettre l'objet à un impact.**
Les composants pourraient être endommagés ou se rompre sous la pression de l'air comprimé.

⚠ **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.

⊘ **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.

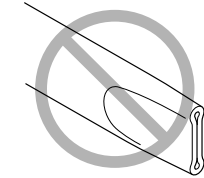
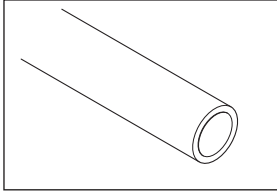
⚠ **Purger la pression d'air avant de retirer la cuvette du régulateur.**
Le non-respect de cette consigne peut entraîner un éclatement ou la projection de composants.

⚠ **Nettoyer la cuvette du régulateur avec un détergent neutre. Ne jamais utiliser de solvants comme de l'essence, de l'alcool ou de diluant.**
Ils risquent de dégrader la cuvette et peuvent entraîner un éclatement.

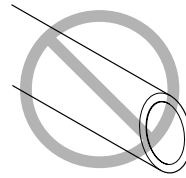


 **Remarques importantes relativement à l'extrémité (bord coupé) du tuyau à air.**

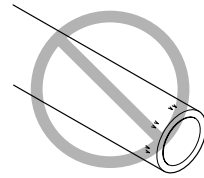
Le non-respect de ces consignes de sécurité peut causer une fuite d'air ou le débranchement du tuyau à air. En outre, si le tuyau à air a été débranché, en couper l'extrémité avant de le rebrancher.



S'assurer qu'il n'est pas écrasé



Le bord coupé doit être droit



Le garder en bon état et propre

 **Risque de Les additifs et le liquide de refroidissement sont toxiques.**

 **ATTENTION**



Ne jamais boire ni renifler les additifs ou le liquide de refroidissement ou d'être en contact oculaire ou cutané avec ceux-ci. Ces actions peuvent nuire à la santé.

 **ATTENTION**



Après la coupe, laver tout résidu de produit avec de l'eau purifiée ou un produit de même nature.

Après la coupe, le produit sera enduit de liquide de refroidissement. L'utilisation du produit dans cet état peut provoquer une inflammation ou une réaction de même nature.

En cas d'ingestion ou de détresse physique

- En cas de contact avec les yeux : rincer immédiatement et abondamment à l'eau courante pendant au moins 15 minutes. Si les yeux sont toujours irrités, consulter un médecin.
 - En cas de contact avec la peau : laver immédiatement à l'eau et au savon. En cas d'irritation ou d'inflammation de la peau : consulter un médecin.
 - En cas d'ingestion : ne pas provoquer le vomissement et demander immédiatement l'aide d'un médecin. Provoquer le vomissement peut créer un risque de suffocation.
 - Si l'odeur cause un trouble physique, amener la personne dans un endroit bien aéré et la faire se reposer. Si l'étourdissement ou la nausée persistent, consulter un médecin.
-
- Se reporter à la fiches signalétique (FS) appropriée pour connaître les produits chimiques utilisés dans la graisse et les mesures de sécurité pour ces substances.
 - Se reporter à la fiches signalétique (FS) appropriée pour connaître les produits chimiques utilisés dans les additifs et les mesures de sécurité pour ces substances.

⚠ Manipuler l'appareil avec soins

⚠ PRUDENCE



Ne pas trop remplir ni incliner le réservoir de liquide de refroidissement.

L'orifice de remplissage du réservoir de liquide de refroidissement est ouvert. Trop remplir ou incliner le réservoir pourra entraîner un déversement de liquide.

⚠ PRUDENCE

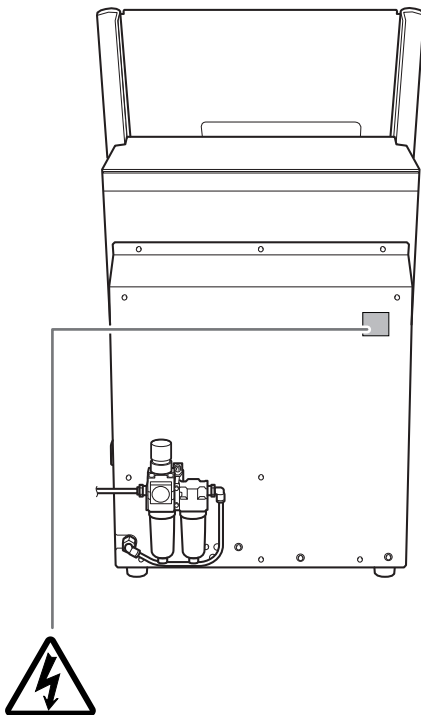


S'assurer d'ajouter l'additif précisé dans le réservoir de liquide de refroidissement.

Les additifs sont efficaces pour réduire la détérioration du liquide de refroidissement et d'améliorer l'efficacité de coupe pour maintenir le rendement du produit. Sans additifs, le liquide de refroidissement peut dégager une odeur désagréable.

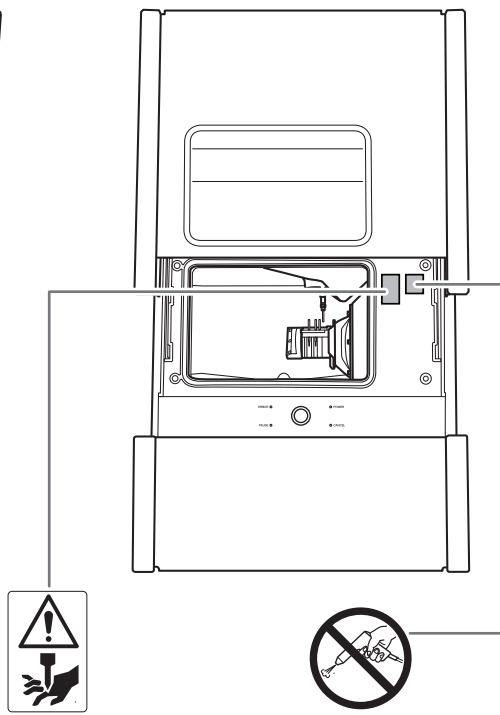
⚠ Vignettes d'avertissement

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.



Attention : voltage élevé

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



Attention : outil coupant

L'outil de coupe est acéré. L'utilisation incorrecte peut causer des blessures



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 de l'appareil et causer un incendie ou un choc électrique.

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 impacts or excessive force.
- Carefully clean away milling waste.
- Use within the range of specifications.
- Never attempt to move the spindle unit or 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 outside.
- Never install 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 a well-ventilated location.

This machine is a dedicated cutting machine for glass ceramics, composite resin.

- Never cut any material other than glass ceramics, composite resin.

1. Getting Started

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About This Machine

What You Can Do with This Machine

This machine is a dental cutting and milling machine that uses glass ceramics, composite resin to make dental prostheses, including crowns, bridges, inlays, onlays, and veneers.

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

For the latest information regarding this machine (including manuals), see our special Easy Shape website (<http://www.rolandeasyshape.com>).

Documentation Included with the Machine

The following documentation is included with the machine.

DWX-4W Setup Guide (this manual)

This manual describes how to install the machine and provides information on such matters as how to install and set up the included software. Be sure to read this first.

DWX-4W User's Manual (electronic-format manual)

This manual explains how to operate the software and how to perform milling using this machine. The manual is in electronic format, and no printed document is included. You can find the manual on the included Roland Software Package CD.

☞ P. 40 "Installing the Software"

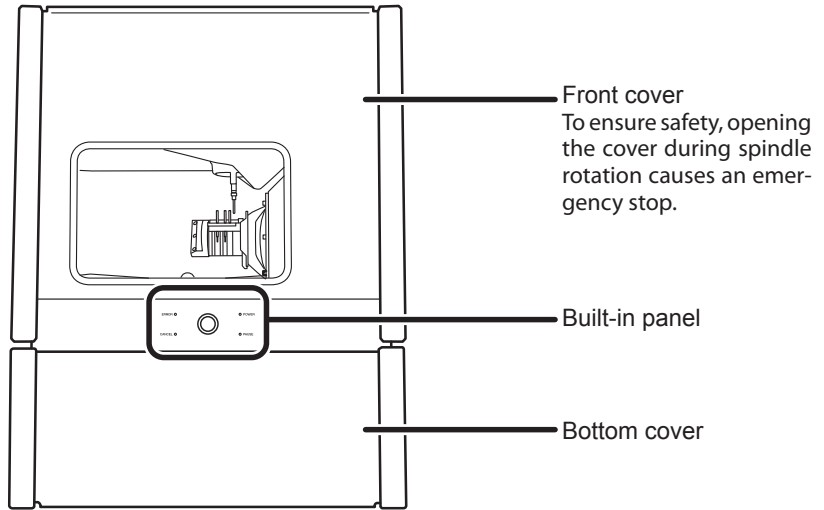
Daily Maintenance Card ("Before Daily Operations")

This document provides an overview of the procedures that must be performed before daily operations. Be sure to perform the operations on this card before starting machine operations each day.

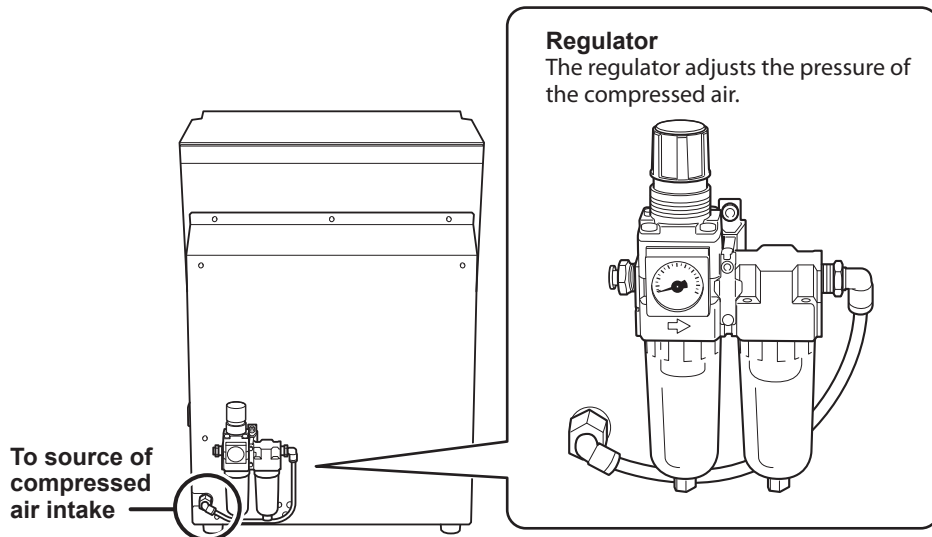
Checking the Part Names and Included Items

Part Names and Functions

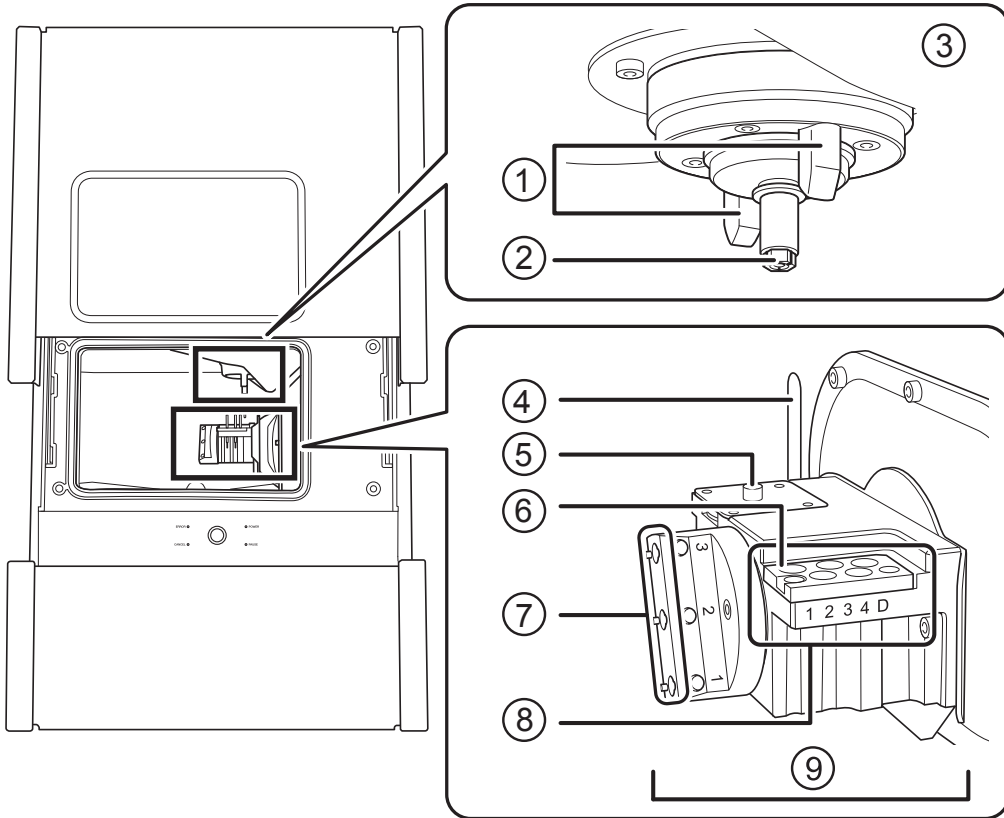
Front



Back



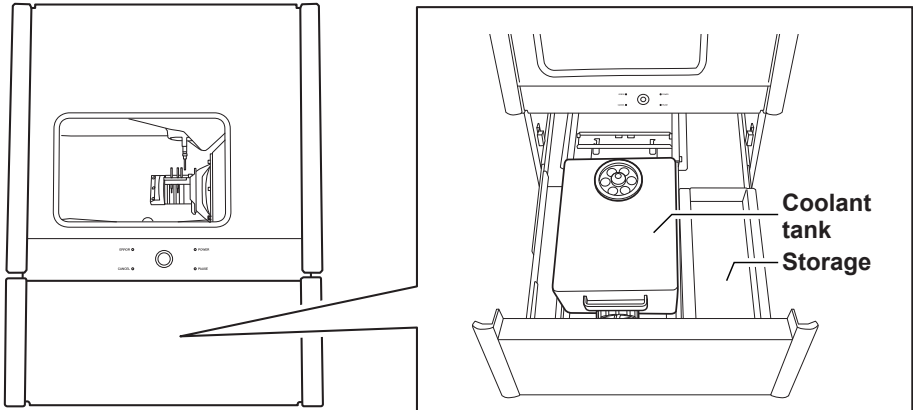
Inside the Front Cover



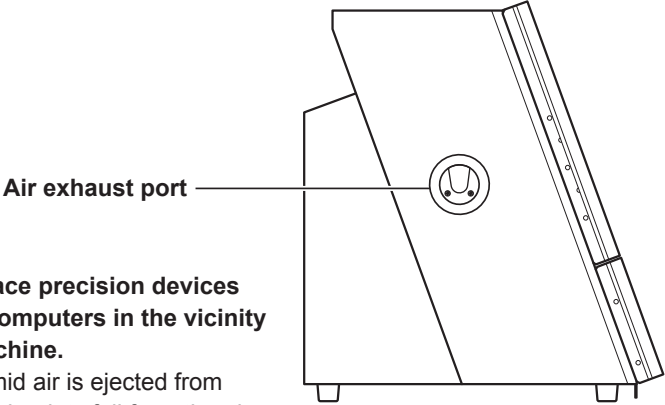
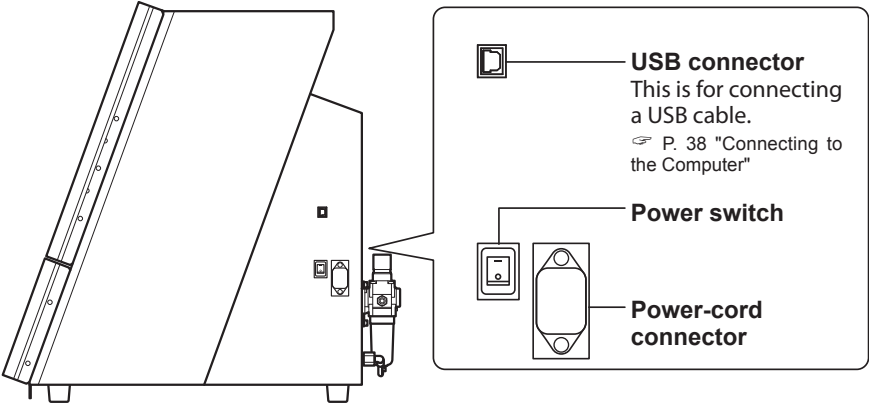
No.	Name	No.	Name	No.	Name
①	Coolant nozzle	④	Status light	⑦	Mounting part
②	Collet	⑤	Milling bur sensor	⑧	ATC magazine
③	Spindle head	⑥	Stocker	⑨	Rotary axis unit

* In the manuals for this machine (including this guide), the mechanisms around the spindle unit are called the "spindle head." Also, the rotary-axis area inside the spindle unit is called the "spindle."

Inside the Bottom Cover



Side

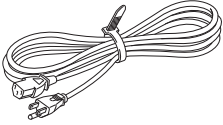


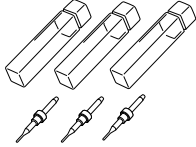
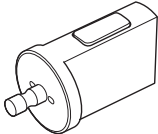
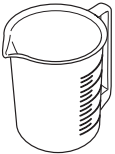
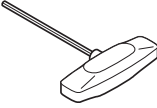
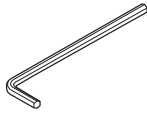

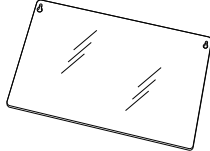
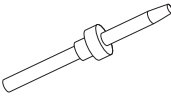

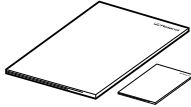

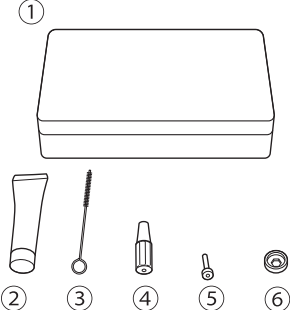


! CAUTION

Do not place precision devices such as computers in the vicinity of the machine.
Highly humid air is ejected from and water droplets fall from the air exhaust port.

Checking the Included Items

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

 <p>Power cord (1)</p>	 <p>USB cable (1)</p>	 <p>Drain hoses (2)</p>	 <p>Dedicated milling burs (3)</p>
 <p>Automatic correction jig (1)</p>	 <p>Measuring cup (1)</p>	 <p>Hexagonal screwdriver (1)</p>	 <p>Hexagonal wrench (1)</p>
 <p>Mounting screws (4)</p>	 <p>Waterproof plate (1)</p>	 <p>Detection pin for correction (1)</p>	 <p>Coolant tank fluid inlet cap (1)</p>
 <p>Setup Guide (this manual) (1) Maintenance card (1)</p>	 <p>Roland Software Package CD (1)</p>	<div style="text-align: center;">  </div> <p>Maintenance kit</p> <ul style="list-style-type: none"> ① Case (1) ② Grease (1) ③ Collet brush (1) ④ Taper cleaner (1) ⑤ Collet tap (1) ⑥ Collet replacement jig (1) 	

Detection Pin and Dummy Pin

Two detection pins are included with this machine, one for milling and one for correction. Although the shape and features of the pins are identical, if a detection pin is used for milling even once, it cannot be used for correction. Make sure to always use the pin for its intended use.

- **Pin for milling (Called the "dummy pin for milling" in this manual and in the user's manual.)**
Because a malfunction will occur if the collet does not grip anything when processing, this pin is used as a dummy pin. Use the pin that is attached upon shipment.
- **Pin for correction (Called the "detection pin for correction" in this manual and in the user's manual.)**
This pin is used when performing maintenance in order to correct the position of the rotary axis. Use the pin that is shipped together with the machine as an included item.

IMPORTANT!

Make sure to keep the pins separate and to never mistake which is for milling and which is for correction.

If a detection pin is used for milling even once, it cannot be used to provide proper correction. If for some reason a detection pin for correction is used for milling, a new detection pin for correction will be necessary. In such cases, contact your authorized Roland DG Corporation dealer.

Items to Prepare

Source of Compressed Air (Compressor)

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

⚠️WARNING

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

⚠️WARNING

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

⚠️WARNING

Do not supply the compressed air until the air hose is connected securely.
Failure to do so may cause an accident.

The compressor must meet the following conditions.

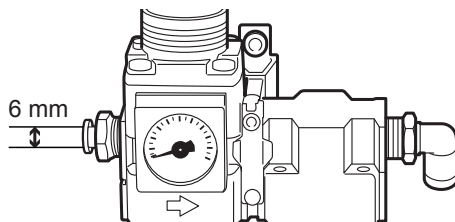
- Control pressure: 0.7 to 1.0 MPa
- Air capacity: 114 L/min or more (per machine)
- Tank capacity: 33 L or more (per machine)
- Oil-free type
- Dryer-equipped

Air Hose

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

The air hose must meet the following conditions.

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



Note

Be sure to use the mounted regulator when supplying compressed air.

Additive

To make the coolant, you will need to prepare the designated additive separately. Contact your authorized Roland DG Corporation dealer to purchase additives.



Note

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

Fluid Receptacle

Because fluid accumulated in the regulator will drain out little by little, prepare a fluid receptacle such as a tray.

☞ P. 36 "Preparing the Regulator"

2. Installation and Setup

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Installation

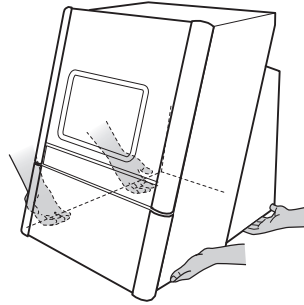
Placement and Installation

The weight of the machine alone is 53 kg (117 lb.). Unload and place with care.

⚠ WARNING Unloading and placement are operations that must be performed by 2 persons or more.

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

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



Installation Environment

⚠ WARNING Install the machine in a location that is level, stable, and able to bear the weight of the machine.

The total weight of the machine may reach 58 kg (128 lb.) or more. Installation in an un-suitable location may cause a major accident, including a tip over, fall, or collapse.

⚠ WARNING Never install in a location exposed to open flame.

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

⚠ WARNING Never install close to any flammable object or in a gas-filled location.

Combustion or explosion may occur.

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

Doing so may result in fire or electrical shock.

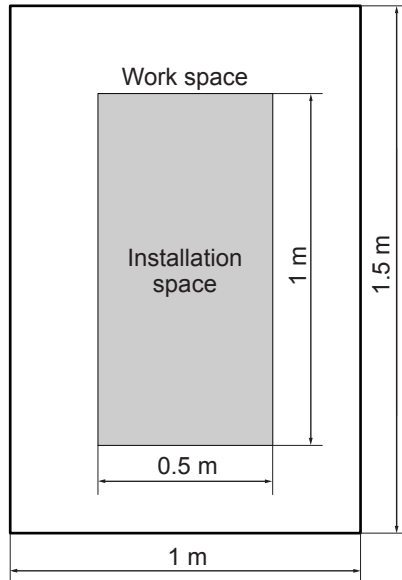
⚠ WARNING Position the machine so that the power plug is within immediate reach at all times.

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

- Never install 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.
- 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 or damage.

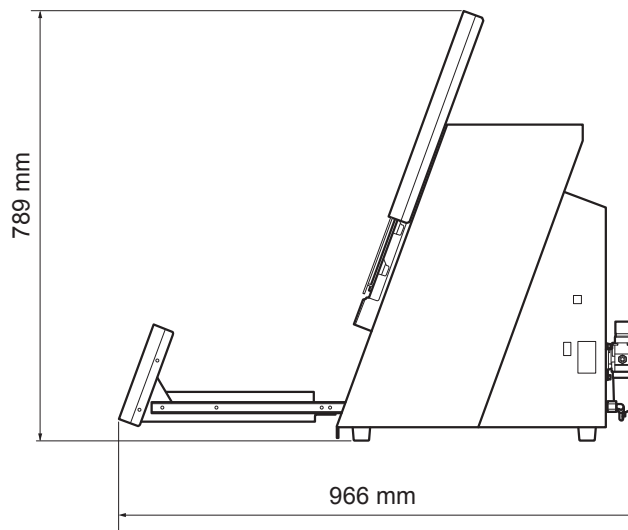
Installation Space

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



Ensure that a height is available to enable the opening of the front cover.

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



Installation Location Height

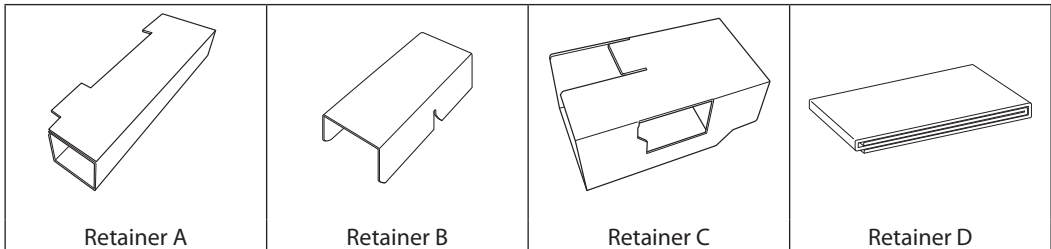
- **The installation location should be above the work floor by 0.6 m (23.7 in.) or more.**

This machine is a desktop-type unit. Install in a location where the power button and other controls are easily accessible.

Removing the Retainers

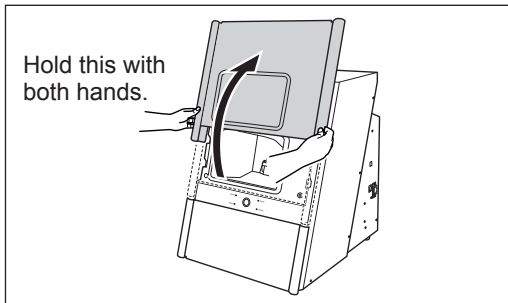
Retainers are attached to protect the machine from vibration during shipment. When installation is complete, remove and save these retainers.

- There are four retainers attached (retainers A, B, C, and D). Remove all retainers. Any that remain may cause faulty operation or a breakdown when the power is switched on.
- The retainers will be required when moving the machine to a different location. Store them carefully so that they do not get misplaced.
- When removing the retainers, make sure the power cord is not connected.



Procedure

1



Open the front cover.

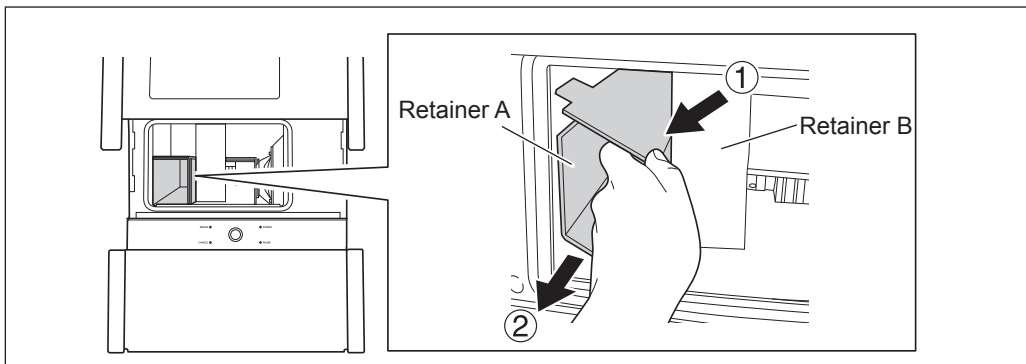
2

Remove retainer A.

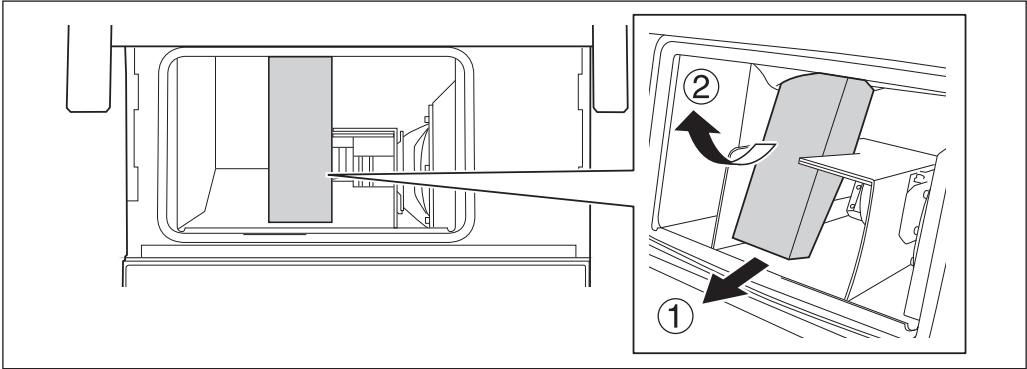
① As shown in the figure, push the side of retainer A that is touching retainer B toward the inside to change the shape of retainer A.

② Pull the retainer forward in this deformed shape.

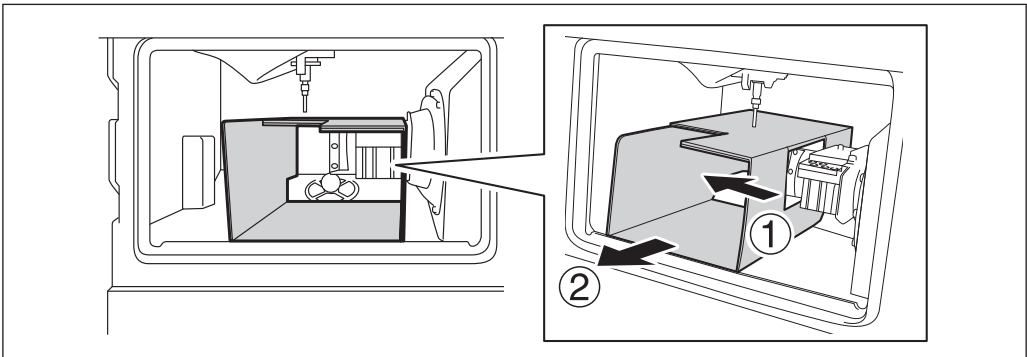
Pulling the retainer forward without changing the shape will cause it to catch on the uneven area inside the machine and prevent it from being removed.



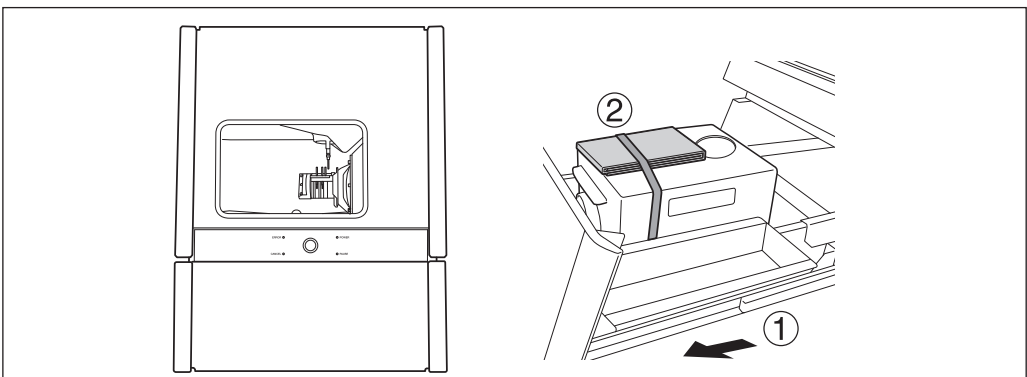
- 3 Remove retainer B.**
 ① Pull the bottom of retainer B forward.
 ② Slide the retainer while holding it upright to remove it.



- 4 Remove retainer C.**
 ① Slide the retainer C to the left.
 ② Pull the retainer straight out to remove it.



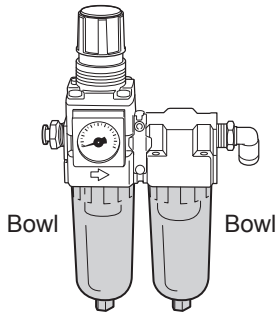
- 5 Remove retainer D.**
 ① Open the bottom cover.
 ② Remove retainer D, which is securely taped to the coolant tank.
 When repacking the machine, commercially available tape can be used to secure the retainer to the tank.



Preparing the Regulator

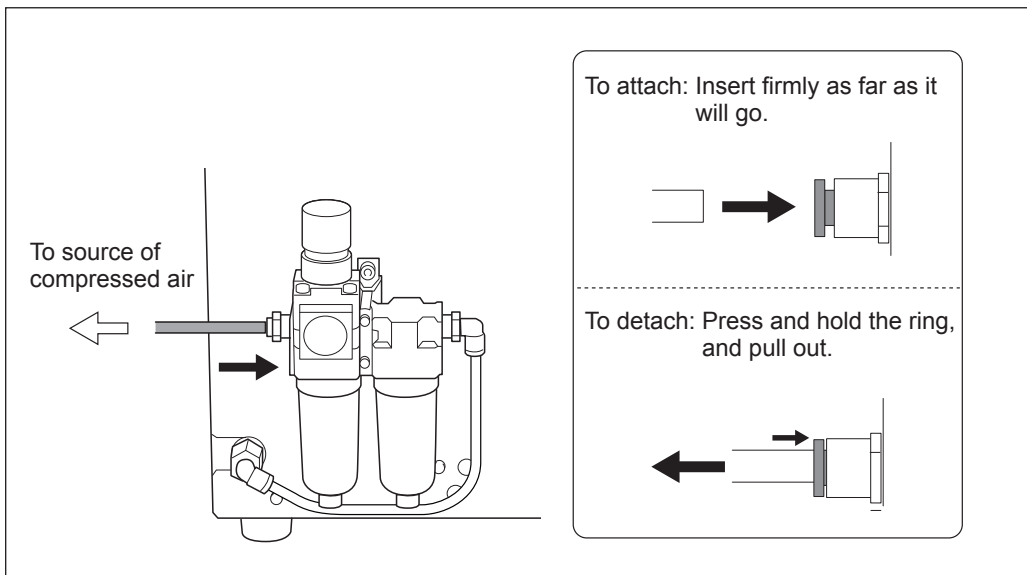
The regulator for this machine is the auto-drain type. Failing to prepare the regulator properly can cause leakage. Be sure to follow the procedure to prepare the regulator.

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



Procedure

1 Attach the air hose to the regulator.



⚠WARNING Securely insert the air hose as far as it will go. Lightly tug the hose to make sure it does not come loose. If it is not inserted securely, it may come loose.

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

3 Adjust the air pressure.

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

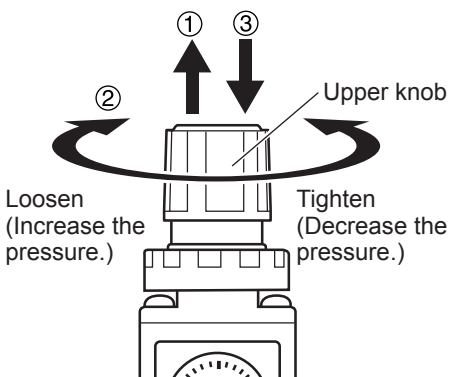
② Slowly turn the upper knob.

Adjust until the meter reads between 0.6 and 0.8 MPa.

③ Push down on the upper knob.

!WARNING

Turn the air pressure adjustment knob slowly and carefully. Otherwise, the machine may move suddenly, posing a risk of injury.

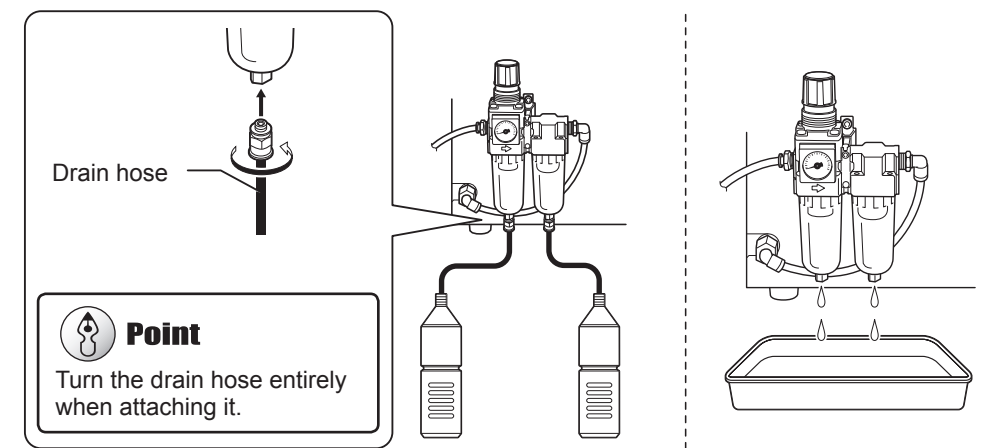


! Important

Be sure to configure the regulator to 0.8 MPa or lower. Anything higher may result in a malfunction.

4 Prepare a fluid receptacle.

Use the drain hoses (included) or a tray.



Drain hose

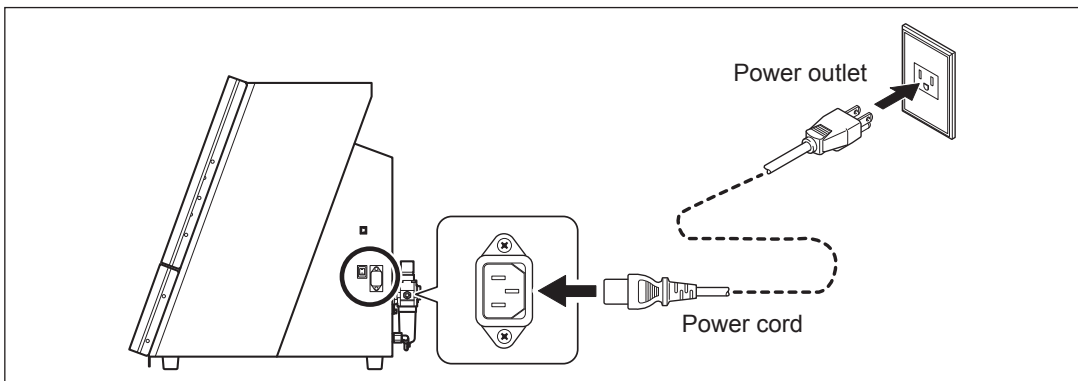
! Point

Turn the drain hose entirely when attaching it.

Connecting the Cables

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 damaged article.**
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 use 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 a 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 risk of fire or electrical shock.



Connecting to the Computer

! Important

The machine must be connected to the computer after the Windows driver has been installed.

Use a USB cable to connect the machine to a computer. Do not connect the machine to the computer yet. Be sure to connect according to the instructions on P. 40 "Installing the Software". If the machine is connected before the driver has been installed, driver installation may fail, and it may not be possible to use the machine.

! Important

The machine ID needs to be changed when connecting more than one machine.

If you connect more than one unit of this machine to a single computer, be sure to follow the procedure given on P. 50 "Connecting Multiple Units". Connecting before changing the ID may render the machine unusable.

Installing the Software

System Requirements

Operating system (OS)	Windows 7 /8.1 /10 (32-bit and 64-bit versions)
CPU	Minimum required CPU for the operating system
Memory	Minimum amount of required RAM for the operating system
Optical drive	CD-ROM drive
Video card and monitor	A display with at least 256 colors and a resolution of 1024 × 768 or more is recommended.

- This software is a 32-bit application and therefore runs in WOW64 (Windows-On-Windows 64) when running on 64-bit versions of Windows operating systems.
- This software has not been tested when running in the Windows XP mode in Windows 7.

For the latest information, see our special Easy Shape website (<http://www.rolandeasyshape.com>).

Installable Software

VPanel for DWX-4W	This is the dedicated software for controlling this machine. This software is used to operate this machine and configure various settings.
Windows Driver (DWX-4W driver)	This is a Windows-based driver required for sending data from a computer to the machine.
User's Manual (electronic-format manual)	This manual explains how to operate the software, how to perform milling using this machine, and how to perform maintenance.

Installing the Software

You can install the driver, software, and electronic-format manual all at once. You can also install them separately.

☞ "User's Manual" (electronic-format manual) "Installing the Driver Separately"

! Important

Be sure to connect the machine to the computer as instructed in the procedure. Failure to follow the correct 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 an "Administrator."**
- 3 Insert the Roland Software Package CD into the CD-ROM drive of the computer.**
When the automatic playback window appears, click [Run menu.exe]. If a [User Account Control] window appears, click [Allow] or [Yes], and continue with the installation. The setup menu screen appears automatically.



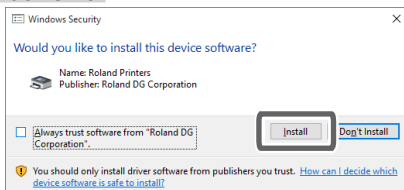
Click [Install] for the "DWX-4W Software."

Install the DWX-4W driver and the various software all at once. Follow the on-screen instructions to proceed with the installation.

☞ P. 39 "Installable Software"

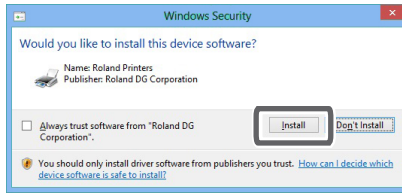
If the Following Window Is Displayed during Installation

Windows 10



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

Windows 8.1



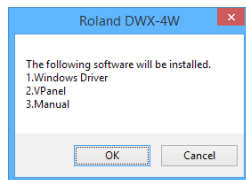
If the screen shown in the figure appears, click [Install].

Windows 7



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

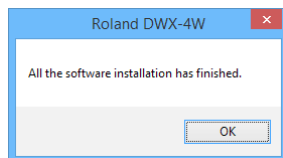
5



Click [OK].

Installation information for each software will be displayed automatically. Follow the instructions displayed for each installer to continue with the installation.

6

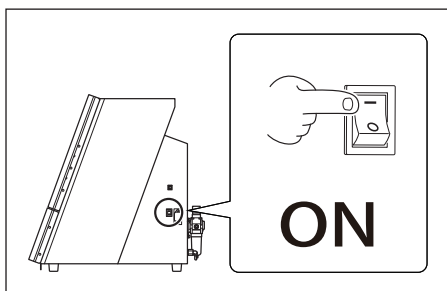


Click [OK].

7 Click  on the setup menu.

8 Remove the Roland Software Package CD from the computer.

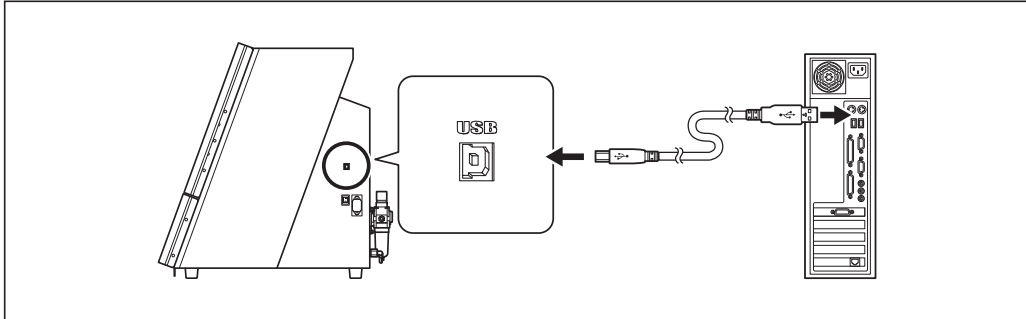
9



Switch on the machine's power switch. Initialization starts.

10 Connect the machine to the computer using the USB cable.

- If connecting more than one unit of this machine to a single computer, refer to P. 50 "Connecting Multiple Units".
- For the USB cable, use the included cable.
- Do not use a USB hub. Connection may not be possible.




The driver will be installed automatically.

How to View the Electronic-Format Manual

Windows 7 / 10

From the [Start] menu, click [All Apps] (or [Program]), then [Roland DWX-4W]. Then click [User's Manual].

Windows 8.1

On the [Start] screen, click . On the [Apps] screen, click the [User's Manual] icon under [Roland DWX-4W].

Steps to Perform Following Installation

Before Starting Operations

Be sure to perform the following tasks after installing this machine. These tasks are also required when changing the installation location of the machine.

- STEP 1: Installing the Waterproof Plate
- STEP 2: Filling the Coolant Tank
- STEP 3: Spindle Run-In (Long)
- STEP 4: Automatic Correction

STEP 1: Installing the Waterproof Plate

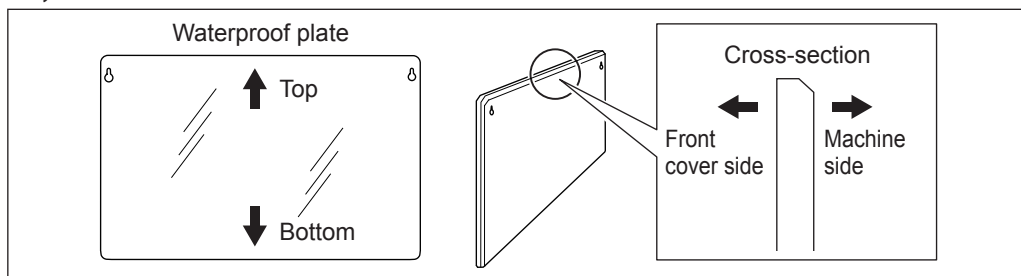


WARNING

Be sure to install the waterproof plate.

If you forget to install the waterproof plate, water will leak around the machine.

The waterproof plate has a top, bottom, front, and back side. Be careful of the orientation when installing. If the waterproof plate is attached in the wrong orientation, the waterproof plate may become damaged or water may leak.

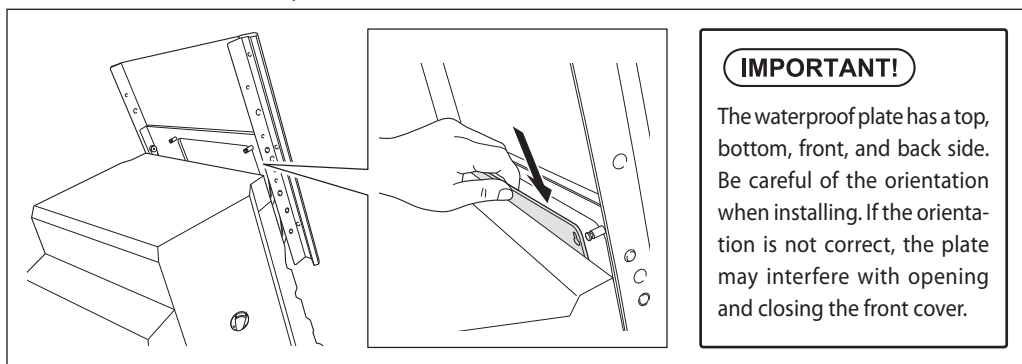


Installation

Procedure

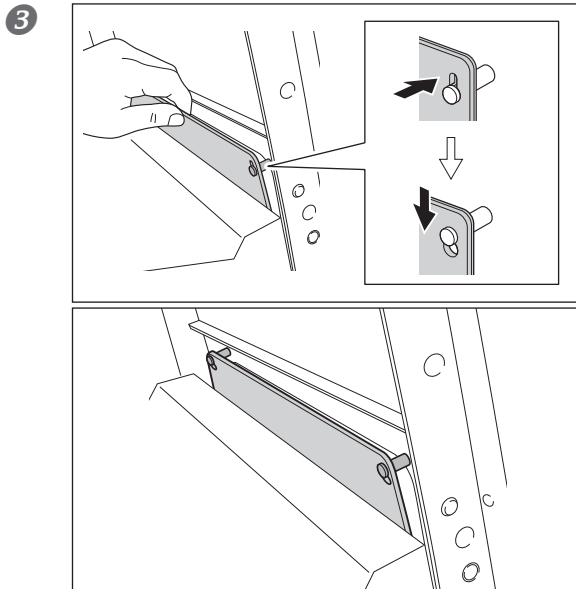
- 1 Open the front cover.
- 2 Insert the waterproof plate from above between the machine and the inside of the front cover.

The work will be easier when performed from the side or the back of the machine.



IMPORTANT!

The waterproof plate has a top, bottom, front, and back side. Be careful of the orientation when installing. If the orientation is not correct, the plate may interfere with opening and closing the front cover.



Attach the waterproof plate on the inside of the front cover.

Make sure that the protrusions on the front cover are seated firmly in the 2 locations on the plate.

Continue on to "STEP 2: Filling the Coolant Tank."

STEP 2: Filling the Coolant Tank

⚠ CAUTION

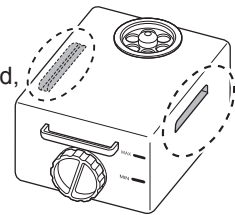
Do not overfill or tilt the coolant tank.

The fluid inlet on the coolant tank is open. Overfilling or tilting will cause fluid to spill out.

⚠ CAUTION

When raising or lowering the coolant tank, hold the positions indicated in the following figure.

Failing to do so may result in your fingers being pinched, leading to injury.



Water to Use

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

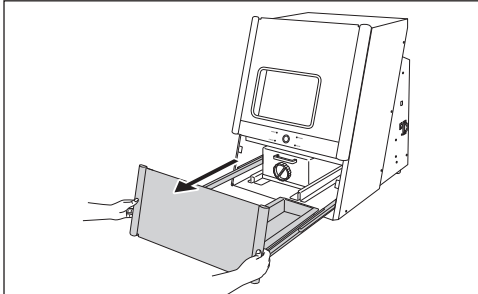
Handling Additives

- You will need to prepare the designated additive separately. Contact your authorized Roland DG Corporation dealer to purchase additives.
- Store additives in a cool, dark place.
- Due to the characteristics of the internal components, the color may change and deposits of separated components may form, but these do not indicate any problems with the use of the additives.
- If component deposits form, lightly shake the container to mix the components before use.

Filling

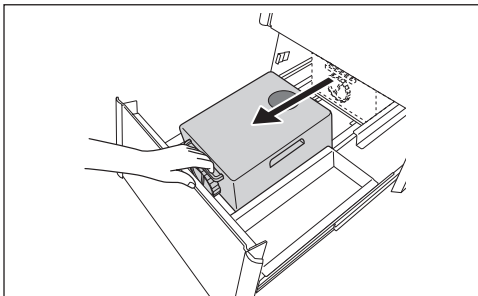
Procedure

1



Open the bottom cover.

2



Pull out the coolant tank.

3

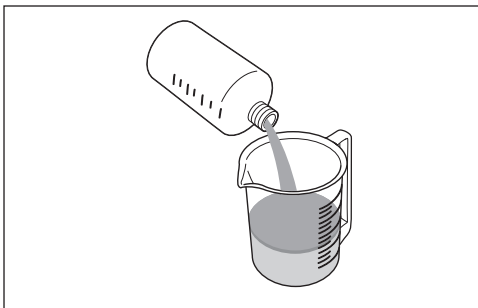
Remove the coolant tank.

4

Clean the inside of the coolant tank before you replace the coolant.

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

5



Make the coolant.

The coolant should have a water-to-additive ratio of 95:5. Use the included measuring cup for measuring. The capacity of the coolant tank is approximately 3 L. To fill the tank, use 2850 mL of water and 150 mL of additive.

After you combine the water and additive, there is no need to mix the substances together.

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

Contact your authorized Roland DG Corporation dealer to purchase additives.

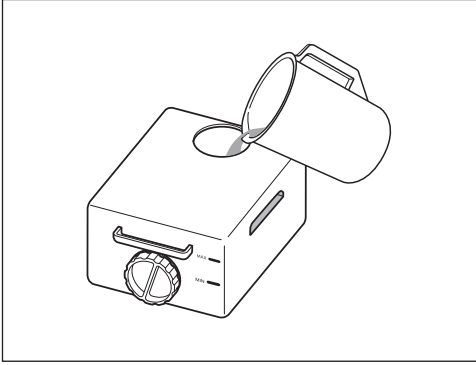
⚠ CAUTION

Be sure to put the specified additive in the coolant tank.

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

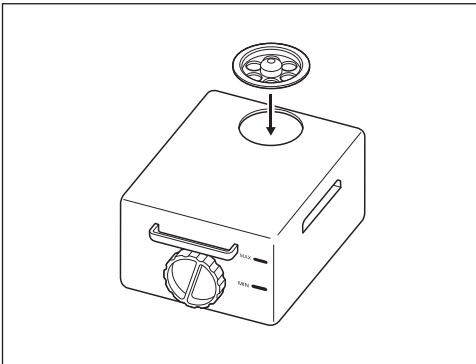
Steps to Perform Following Installation

6



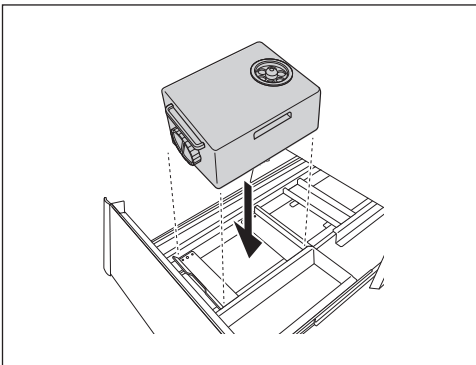
Pour in the coolant from the fluid inlet on the top of the tank.

7



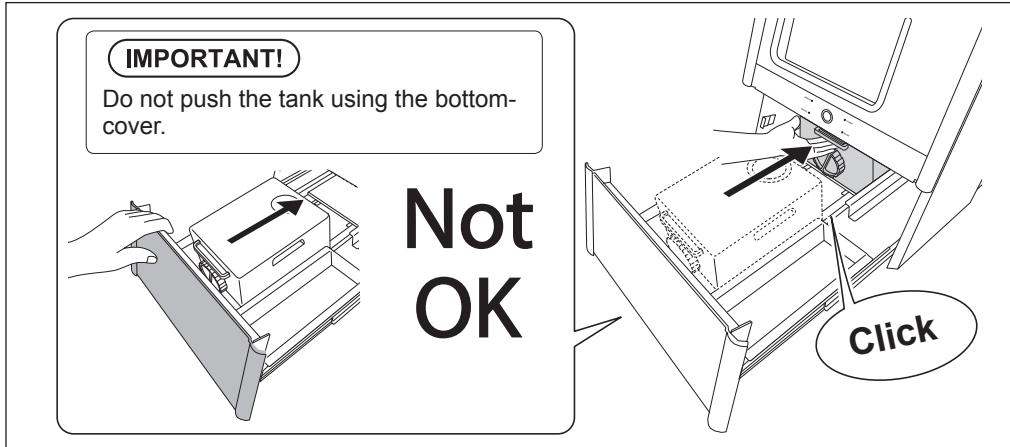
After filling with coolant, close the fluid inlet cap.

8



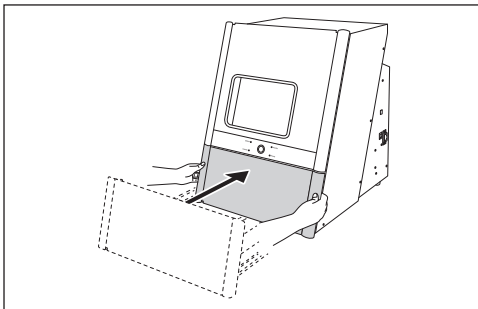
Return the coolant tank to its original position.

- 9 Push the coolant tank toward the back of the machine.
- 1 Push the coolant tank to the point where you feel a click.
 - 2 Make sure that the coolant tank is touching the back of the machine tightly.



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

10

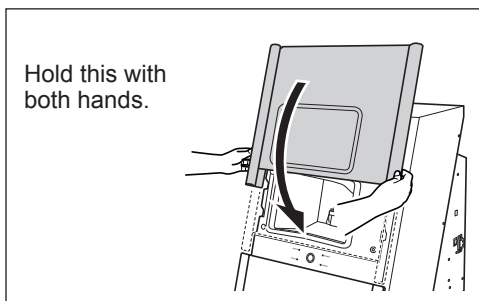


Close the bottom cover.
This completes the filling of the coolant tank.

Continue on to "STEP 3: Spindle Run-In (Long)."

STEP 3: Spindle Run-In (Long)

1



Close the front cover and turn on the power.

2 Start VPanel.

Windows 7 / 10

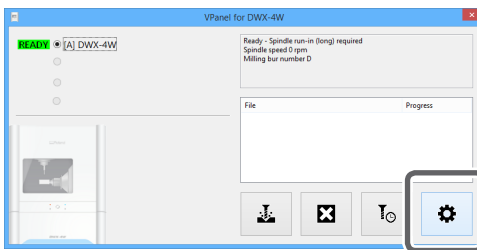
From the [Start] menu, click [All Apps] (or [Program]), then [Roland DWX-4W]. Then click [VPanel for DWX-4W].


Windows 8.1

On the [Start] screen, click . On the [Apps] screen, click the [VPanel for DWX-4W] icon under [Roland DWX-4W].

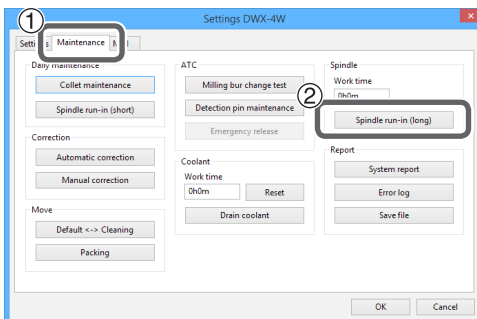
If a screen is displayed that prompts you to perform "collet maintenance"
Perform the "collet maintenance" according to the instructions in the user's manual.

3



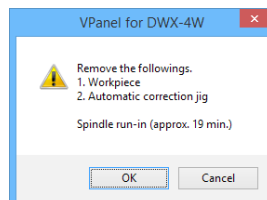
Click .
The [Settings] screen will appear.

4



① Click the [Maintenance] tab.
② Click [Spindle run-in (long)].

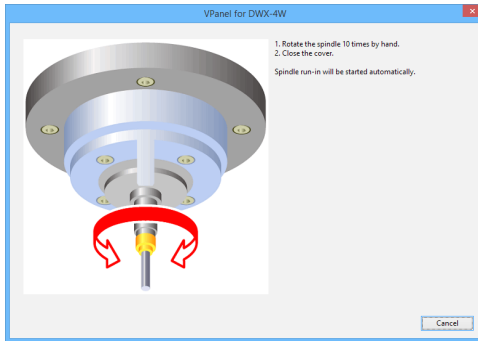
5



If a workpiece or the automatic correction jig is attached:
Remove the workpiece or the automatic correction jig, close the front cover, and then click [OK].

If no workpiece or automatic correction jig is attached:
Click [OK].

6



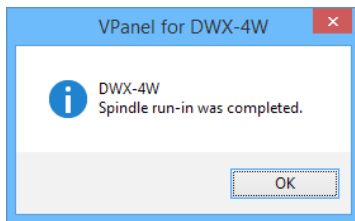
- ① Open the front cover.
- ② Spin the spindle around 10 times in either direction by hand.
- ③ Close the front cover.

Spindle run-in will begin.

The machine status light will flash blue.

The remaining work time will be displayed on VPanel.

7



When the message shown in the figure appears, the spindle run-in (long) is complete.

Click [OK].

⚠ CAUTION

Do not insert your hands or other objects into the machine or look into the inside of the machine with the front cover open until the spindle has come to a complete stop.

If you open the front cover before the spindle comes to a complete stop, an emergency stop will occur. Due to inertia, the spindle will continue to rotate even after an emergency stop has occurred. It is dangerous to touch a rotating tool. Also, the coolant continues to flow until the spindle comes to a complete stop. Coming into contact with sprayed coolant may be hazardous to your health.

Continue on to "STEP 4: Milling Machine Correction."

STEP 4: Milling Machine Correction

This procedure must be performed by a trained service technician. This work is required not only when installing the machine but also when moving the machine to a different location. Contact your authorized Roland DG Corporation dealer to perform such work.

To service technician

Refer to the service note, perform automatic correction (rotation axis correction + ATC magazine correction).

Connecting Multiple Units

Connection Method


Up to four machines 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 configure the settings 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. 40 "Installing the Software"

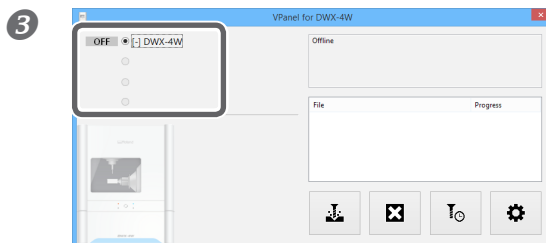
Procedure

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

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

☞ See P. 47 "STEP 3: Spindle Run-In (Long)". 

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



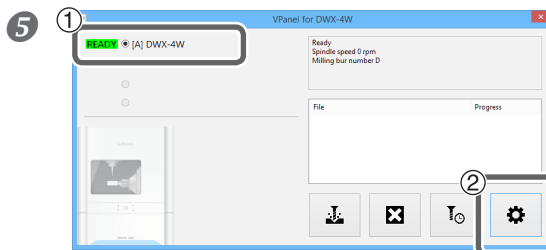
Verify that OFF is displayed as the operation status for all machines and that READY is not displayed.

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

➤ Configure the connections one machine at a time. Be sure to connect only the machine to be configured. If you connect more than one machine with the same ID at the same time, the computer might shut down or make driver installation impossible.

➤ For the USB cable, use the included cable.

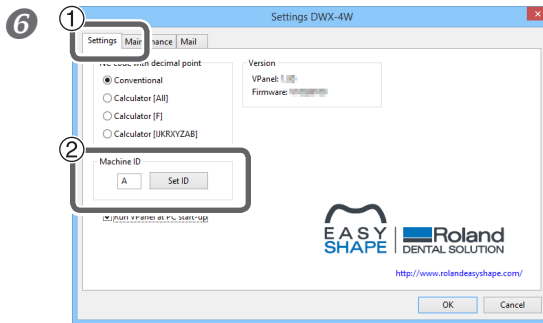
➤ Do not use a USB hub. Connection may not be possible.



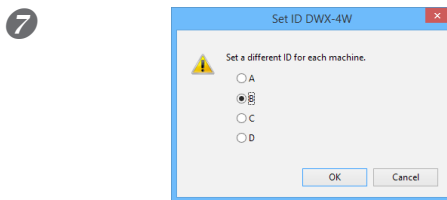
- 1 Select the machine that displays READY.

- 2 Click .

The [Settings] screen will appear.



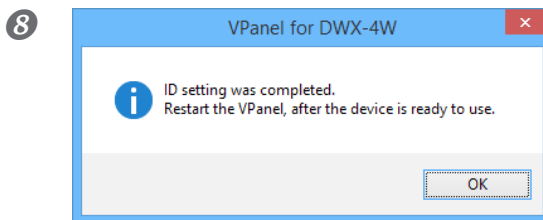
- ① Click the [Settings] tab.
 - ② Click [Set ID].
- The [Set ID] selection screen opens.



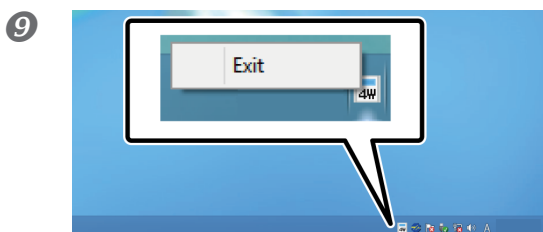
- Select any unused ID, and click [OK].
- "A" is assigned as the ID of the machine by default. Since A is assigned to the first machine, be sure to select B, C, or D for subsequent machines.

! Important

Do not set duplicate IDs. If you connect more than one machine with the same ID at the same time, the computer might shut down or make driver installation impossible.



- When the window shown to the left appears, click [OK].

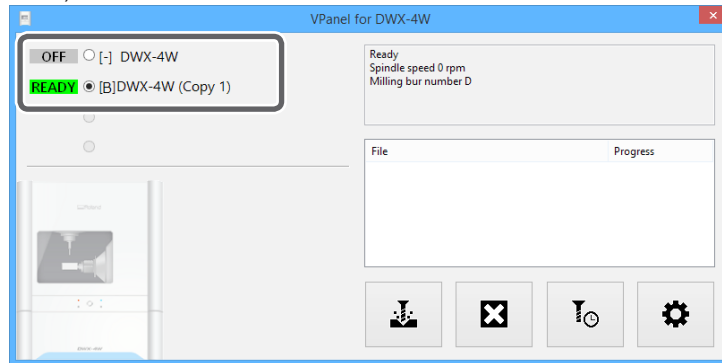


- Right-click  (the VPanel icon) in the task tray, and select "Exit."
- Temporarily exit VPanel.

10 Restart VPanel.

☞ See P. 47 "STEP 3: Spindle Run-In (Long)". 2

The selected ID is now enabled. Verify that the selected ID is displayed on the top window. If the name of the machine has not been changed, "DWX-4W (Copy 1)" is displayed. ("DWX-4W (Copy 2)" is displayed for the third machine.)



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

Repeat steps 2 to 10 to connect a third or fourth machine.



Point

To change the name of a machine that has been set, change the name of the installed printer (the machine you are using) as follows.

① Windows 8.1 / 10

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

Windows 7

From the [Start] menu, click [Control Panel], [Hardware and Sound], and then [Devices and Printers].

② Select the name of the machine (Printer) you are using, and change the name.

③ Restart VPanel.

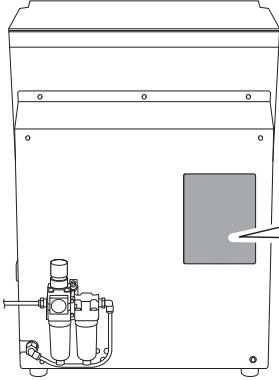
The changed name appears on the top window.

3. Appendix

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Specifications

Power Rating and Serial Number Locations



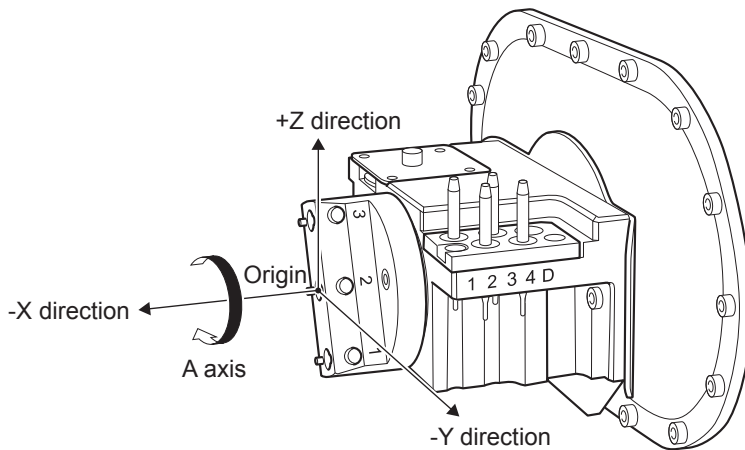
Serial number

The serial number is required for maintenance, servicing, and support. Never peel off the label or let it get dirty.

Power rating

Use an electrical outlet that meets the ratings for voltage, frequency, and current given here.

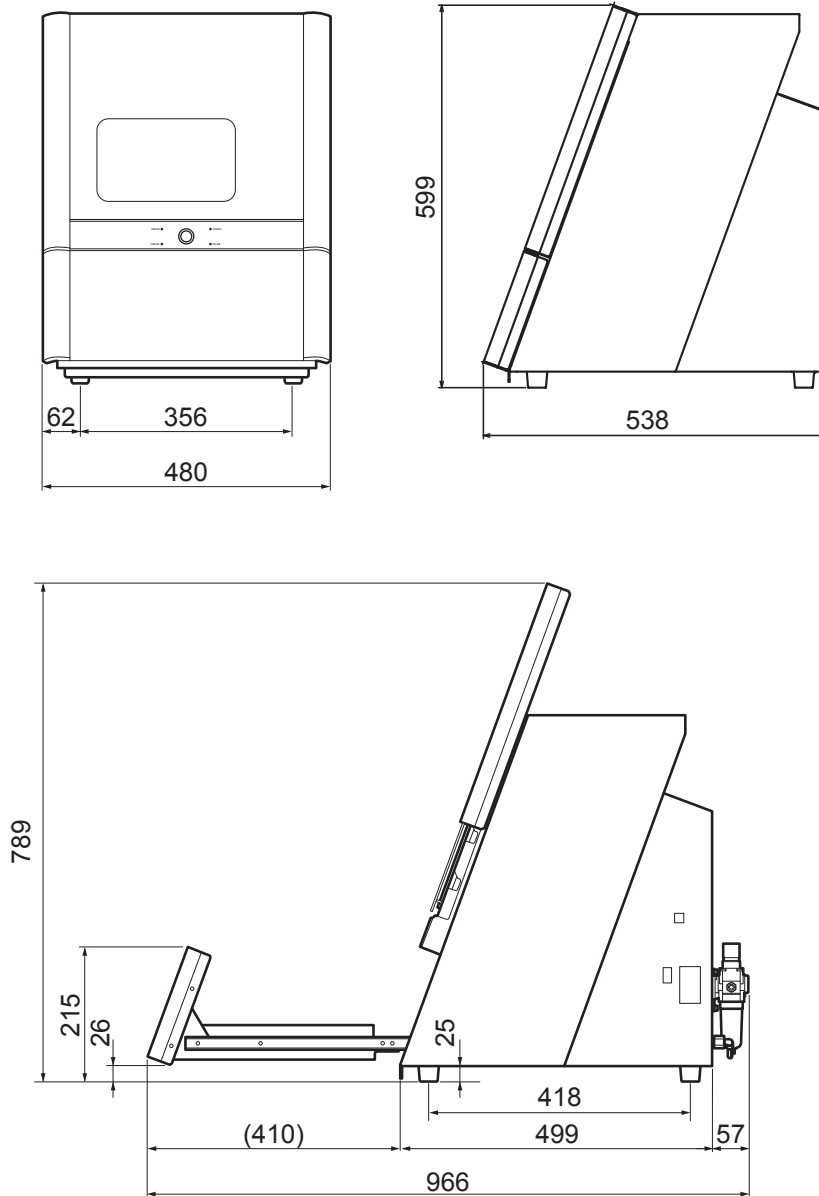
Coordinates



Dimensional Drawings

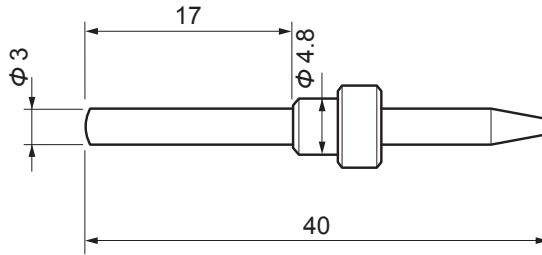
Machine Dimensions

Unit: mm



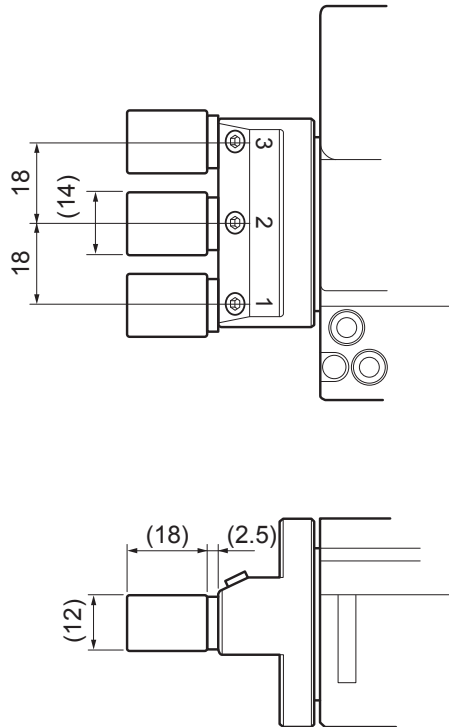
Detection Pin Dimensions

Unit: mm



Workpiece Mounting Part Dimensions

Unit: mm



Specifications

DWX-4W	
Millable material*	Glass ceramics, Composite resin
	Pin type Width × depth × height: max. 40 × 20 × 20 mm (1.5 × 0.8 × 0.8 in.)
Operating speed	XYZ axis: 6 to 1800 mm/min. (0.24 to 70.9 in./min.)
Spindle speed	15,000 to 60,000 rpm
Rotary axis travel angle	A: ±360°
Number of milling burs housed	4
Attachable milling bur	Shank diameter: 3 mm, dedicated milling bur
Compatible compressed air	0.6 to 0.8 MPa
Interface	USB
Control command set	RML-1, NC code
Power requirements	AC 100 to 240 V ± 10%, 50/60 Hz (overvoltage category II, IEC 60664-1), 1.9 A
Power consumption	Approx. 200 W
Operating noise	During operation: 70 dB (A) or less (when not cutting), during standby: 48 dB (A) or less
External dimensions	Width x depth x height: 480 × 538 × 599 mm (18.9 × 21.2 × 23.6 in.)
Weight	53 kg (117 lb.)
Installation environment	Indoor use at altitudes up to 2000 m Temperature: 5 to 28°C (41 to 82°F), Humidity: 35 to 80% (non-condensing) 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, manuals, software CD, automatic correction jig, hexagonal screwdriver, hexagonal wrench, etc.

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

System Requirements for USB Connection

Computer	Model preinstalled with the 32- or 64-bit edition of Windows 10,8.1 or 7 an up-graded computer originally preinstalled with Windows Vista or later
USB cable	Use the included USB cable.

For China

产品中有毒有害物质或元素的名称及含量

部件名称	有毒有害物质或元素					
	铅(Pb)	汞(Hg)	镉(Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
印刷电路板	×	○	×	○	○	○
头部	×	○	○	○	○	○
壳体、底架	×	○	○	○	○	○
电源	×	○	×	○	○	○
其他(电缆、附件等)	×	○	○	○	○	○

○：表示该有毒有害物质在该部件所有均质材料中的含量均在 GB/T26572-2011 标准规定的限量要求以下。

×：表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 GB/T26572-2011 标准规定的限量要求。

环保使用期限



此标志适用于在中国国内销售的电子信息产品，表示环保使用期限的年数。所谓环保使用期限是指在自制造日起的规定期限内，产品中所含的有害物质不致引起环境污染，不会对人身、财产造成严重的不良影响。环保使用期限仅在遵照产品使用说明书，正确使用产品的条件下才有效。不当的使用，将会导致有害物质泄漏的危险。

For EU Countries



This product must be disposed of separately at your local waste recycling center. Do not dispose of in household waste bin.



Lever dit product in bij een lokaal afvalverzamelpunt. NIET met normaal huishoudelijk afval afvoeren.



Bitte führen Sie dieses Produkt separat Ihrer örtlichen Entsorgungsstelle zu. Bitte nicht mit dem normalen Hausmüll entsorgen.



Dette Produkt skal smides særskilt væk på den lokale affalds- og genbrugsstation. Må ikke smides ud sammen med almindeligt husholdningsaffald.



Ne jetez pas le produit avec vos ordures ménagères. Portez-le dans un centre recyclage des déchets.



Tätä tuotetta ei saa hävittää normaalien talousjätteiden mukana, vaan se on toimitettava ongelmajätteiden keräilypisteeseen hävitettäväksi.



Questo prodotto deve essere smaltito negli appositi contenitori per la raccolta differenziata, non buttare nel cestino dei rifiuti casalinghi.



Produkten måste kasseras separat på din lokala återvinningscentral. Släng inte produkten tillsammans med hushållssoporna.



Este producto debe devolverse al centro de reciclaje más cercano a su domicilio para su correcta eliminación. No lo tire a la basura.



Μην πετάξετε το αντικείμενο αυτό στο καλάθι των απορριμμάτων. Αφαιρέστε τις μπαταρίες και προσκομίστε το στο τοπικό κέντρο ανακύκλωσης.



Deite fora separadamente este produto no seu centro de reciclagem local. Não o deite fora no seu caixote do lixo.

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MEMO

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