

IMPORTANT: Read before using



# Operating/Safety Instructions

## Milling Bath for STEPCRAFT CNC-/ 3D- Systems 420, 600 and 840



Original Operating/Safety  
Instructions

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## Call for consumer information

### Customers from outside the U.S.

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E-mail: info@stepcraft-systems.com

## Call for consumer information

### Customers from the U.S. / Canada

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# Operating and safety instructions

## NOTICE

All instructions, warranties and other collateral documents are subject to change at the sole discretion of STEPCRAFT, Inc. For up-to date product literature, visit [www.stepcraft-systems.com](http://www.stepcraft-systems.com) for customers from Europe or [www.stepcraft.us](http://www.stepcraft.us) for customers from US / Canada and click on the service & support tab for this product.

**Age Recommendation: For advanced handcrafters ages 14 and above. This is not a toy.**

**SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE REFERENCE.**

**Should you encounter any doubts or require any further information, please do not hesitate to contact us before its application. Our contact details can be found on the front page of this manual.**

## General safety warnings for the Milling Bath

### Work area safety

<b>NOTICE</b>	<b>Keep work area clean and well lit.</b> Cluttered or dark areas invite accidents.
<b>NOTICE</b>	<b>Store circular table out of reach of children and other untrained persons.</b> Injury can occur in hands of untrained users.

### Electrical safety

<b>WARNING</b>	<b>Use the Milling Bath only with low voltage tools (lower than 48 V), as for example the STEPCRAFT HF Spindle.</b> Die usage of high voltage tools in combination with the Milling Bath increases the risk of an electric shock.
<b>CAUTION</b>	<b>Make sure that no water can escape out of the Milling Bath during its application.</b> There exists a risk of damage to the mainboard, due to its location under the machine table.

### Personal safety

<b>CAUTION</b>	<b>Stay alert, watch what you are doing and use common sense when applying the Milling Bath. Do not use the Milling Bath while you are tired and / or under the influence of drugs, alcohol or medication.</b> A moment of inattention while applying the Milling Bath may result in serious personal injury.
<b>NOTICE</b>	<b>All persons applying the Milling Bath must have read and fully understood all relevant operating instructions.</b> Misunderstandings may result in personal injury.
<b>NOTICE</b>	<b>Dress properly. Do not wear loose clothing or jewelry. Keep your hair, clothing and gloves away from moving parts.</b> Loose clothes, jewelry or long hair can be caught in moving parts.

### Use and care

<b>CAUTION</b>	<b>Do not alter or misuse the Milling Bath.</b> Any alteration or modification is a misuse and may result in serious personal injury.
<b>CAUTION</b>	<b>Do not reach inside the Milling Bath while the milling is in operation.</b> Contact with the moving parts during operation may result in poor build quality, equipment damage or personal injury.
<b>CAUTION</b>	<b>Do not leave the Milling Bath unattended during operation.</b> The use of the Milling Bath by persons unfamiliar with these warnings and instructions may result in equipment or property damage and personal injury.
<b>NOTICE</b>	<b>Do not create illegal or inappropriate objects using the Milling Bath.</b>
<b>NOTICE</b>	<b>When working with long chipping materials, e. g. thermoplastics, make sure that no chips wind around the insertion tool.</b> Long chips winding around the insertion tool can lead to spraying liquids contaminating your work space.

## Additional safety warnings

<b>⚠ CAUTION</b>	Depending on the application field of the machine (private or commercial), you need to observe also the applicable occupational safety and health, safety and accident prevention and environmental regulations.
<b>⚠ CAUTION</b>	<b>Use clamps or another practical and secure way to support and attach the Milling Bath to the machine table.</b> Holding the Milling Bath with your hands leaves it unstable and may lead to loss of control.

## Parts and functions of the Milling Bath

Part	420	600	840	Illustration	Part	420	600	840	Illustration
(1) Milling Bath	1	1	1		(9) Screws M4 x 40 mm	4	6	8	
(2) Tube connection	1	1	1		(10) Screws M4 x 55 mm	4	2	4	
(3) Rubber O-ring	1	1	1		(11) Retaining nut for linear axes	4	6	8	
(4) Screws M4 x 8 mm	2	2	2		(12) Slot nuts M4	4	2	4	
(5) Stop valve	1	1	1		(13) Screw holder	8	8	12	
(6) Tube 1 m	1	1	1		(14) Washer M6, plastics	14	17	22	
(7) Spacer, plastics	12	12	15		(15) Nut M6, stainless steel	14	17	22	
(8) Special bolt	1	1	1		(16) Support magnet	3	5	7	

## Initial assembly of the Milling Bath

1. Insert the provided O-ring into the slot on the backside of the tube connection and attach it to the front left to the exterior of the Milling Bath using the screws M4 x 8 mm.  
  
Due to the powder coating you may need to apply an increased effort when tightening the screws. Tighten the screws firmly.
  
2. Screw the plastic spacers onto the threaded bolts located in the Milling Bath with the hollow facing.
  
3. Please replace the original bolt with the provided special bolt when applying the Milling Bath with the HPL machine table.



## How to use the Milling Bath on the machine

1. Insert the screw holders into the lateral recesses, and additionally into the front and back recesses when using the T-Slot Table. Due to the powder coating this might require an increased effort, which is why we recommend using a rubber mallet for this purpose.
2. Insert the required amount of retaining nuts, approx. under the screw holders, into the middle slot of the Y-axis.
3. Place the Milling Bath onto the machine table and between the retaining nuts. Screw them laterally in place using the screws M4 x 40 mm.
4. Additionally, when using the T-Slot Table, fix the Milling Bath in the front and back slots using the screws M4 x 55 mm and the slot nuts M4.
5. Cut approx. 10 cm off the tube. Connect one end of this piece with the tube connection and the other end with the stop valve. Make sure that the stop valve is closed. Take the rest of the tube and connect it to the stop valve as well.



<b>NOTICE</b>	<b>We recommend to fill the Milling Bath only after the clamping of the workpiece has been finished.</b> Make sure that your workpiece is covered by approx. 10 mm of liquid.
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## Inserting a workpiece

Place the workpiece onto the plastic spacers and clamp it using the washers and the M6 nuts.



Please use the provided support magnets in order to clamp smaller workpieces or for additional support during the machining.



## Technical data of the Milling Bath

<b>Dimensions / Weight:</b>	300 mm x 420 mm x 50 mm (SC 420)
	420 mm x 600 mm x 50 mm (SC 600)
	600 mm x 800 mm x 50 mm (SC 840)
<b>Max. dimensions workpiece:</b>	150 mm x 350 mm (SC 420)
	350 mm x 550 mm (SC 600)
	700 mm x 550 mm (SC 840)
<b>Connection diameter tube:</b>	13 mm