

Operating and safety instructions

Hot Wire Cutter



Call for consumer information

Customers from outside the U.S.

STEPCRAFT GmbH & Co. KG
An der Beile 2
58708 Menden
Germany
Phone: 0049-2373-1791160
E-mail: info@stepcraft-systems.com

Customers from the U.S. / Canada

STEPCRAFT Inc.
59 Field Street, Rear Building
Torrington, CT, 06790
United States
Phone 001-203-5561856
Email info@stepcraft.us

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IMPORTANT: Read before using!

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 for customers from Europe or 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 commissioning of the power tool. Our contact details can be found on the front page of this manual.

General hot wire cutter safety warnings

Work area safety

NOTICE	Keep work area clean and well lit. Cluttered or dark areas invite accidents.
CAUTION	Do not operate hot wire cutter in explosive atmospheres, such as in the presence of flammable liquids, gases or dust. Hot wire cutter creates high temperatures which may ignite the dust or fumes.
NOTICE	Store hot wire cutter out of reach of children and other untrained persons. Injury can occur in hands of untrained users.

Electrical safety

WARNING	Hot wire cutter plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with grounded hot wire cutter. Unmodified plugs and matching outlets will reduce the risk of electric shock. Avoid body contact with grounded surfaces such as pipes, radiators, ranges and refrigerators. There is an increased risk of electric shock if your body is grounded. Do not expose hot wire cutter to rain or wet conditions. The cutter is only suitable for indoor use. Water entering a hot wire cutter will increase the risk of electric shock. Avoid using this product during an electric storm. There may be a remote risk of a power surge from lightning that may result in electric shock hazard. In case of emergency unplug the hot wire cutter from outlet.
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Personal safety

CAUTION	Stay alert, watch what you are doing and use common sense when operating a hot wire cutter. Do not use a hot wire cutter while you are tired and / or under the influence of drugs, alcohol or medication. A moment of inattention while operating the hot wire cutter may result in serious personal injury.
NOTICE	All persons who operate the hot wire cutter must have read and fully understood all relevant operating instructions. Misunderstandings may result in personal injury.
CAUTION	Use personal protective equipment. The use of protective equipment, such as heat resistant gloves, will reduce the risk of personal injuries.
NOTICE	Dress properly. Do not wear loose clothing or jewelry. Keep your hair, clothing and gloves away from moving parts. Loose clothes, jewelry or long hair can be caught in moving parts.

Tool use and care

CAUTION	Store idle hot wire cutter out of the reach of children and do not allow persons unfamiliar with the hot wire cutter or these instructions to operate the cutter. Hot wire cutters are dangerous in the hands of untrained users.
CAUTION	Do not alter or misuse tool. Any alteration or modification is a misuse and may result in serious personal injury.
NOTICE	This is not a handheld tool. The hot wire cutter is designed to be system-guided and must be operated in a CNC router or 3D desktop system. Operation of the hot wire cutter handheld may result in serious personal injury.
CAUTION	When using the hot wire cutter, always have the work piece securely clamped. Never attempt to hold the work piece with your hands while using the cutter.
CAUTION	Disconnect the plug from the power source of the hot wire cutter before making any adjustments, changing accessories, or storing hot wire cutter. Such preventive safety measures reduce the risk of getting burn injuries from hot wire cutter accidentally.
CAUTION	Do not touch the hot wire during hot wire cutter operation or until it has cooled down. Contact with the hot wire during or after operation before the hot wire has cooled down, may result in personal injury.
CAUTION	Do not reach inside the working area of the hot wire cutter while it is in operation. Contact with the moving parts during operation may result in poor build quality, equipment damage or personal injury.
CAUTION	Do not leave the hot wire cutter unattended during operation. Use of hot wire cutter by persons unfamiliar with these warnings and instructions may result in equipment or property damage and personal injury.
NOTICE	Ensure small objects created by hot wire cutting are not accessible to young children. Small objects are potential choking hazards for young children.
	Do not create illegal or inappropriate objects using the hot wire cutter.
CAUTION	Do not use hot wire cutter to create objects intended for use with candles, liquid fuels, and other heat sources. Plastic may melt when exposed to fire or other heat sources. Such use of objects created by hot wire cutter may result in fire, property damage and personal injury.
WARNING	Only use original spare parts. Usage of unqualified cutting wire leads to danger of overheating and thus to fire hazard.
NOTICE	The hot wire cutter is suitable for the following materials: EPS (Styropor®, Sagex®), XPS (Styrodur®, Depron®, Selitron®, Roofmate®) and EPP.

Additional safety warnings

CAUTION	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.
CAUTION	Use clamps or another practical way and secure way to support and attach the workpiece to the machine table. Holding the workpiece with your hands leaves it unstable and may lead to loss of control.

Parts and functions of the hot wire cutter

- (1) Power input 3V-7V
- (2) Frame
- (3) Thermo cutting wire, supply roll
- (4) Tensioned cutting wire
- (5) Wire clamping screw



Cutting wire temperature and feed rate

Clamp the hot wire cutter into the designated place on the machine. The wire should be under light tension. Switch on the power supply and start with the lowest level. Take care to wear personal safety equipment, e.g. heat-resistant gloves. Then, take your workpiece and hold it carefully on the hot wire cutter and try cutting it. The wire should cut through the material without any exertion. Increase the temperature gradually until the ideal temperature for optimal cutting results has been attained.

How to use the hot wire cutter on the machine

1. Mount the hot wire cutter onto the machine as shown in the picture.
2. Upload your drawing into the machine control software (DXF or HPGL).
3. Adjust the parameter for the safety distance and the tool infeed to 0,1mm.
4. Position the wire (4) outside the workpiece plate and define this point as park position (after operation the machine shall drive to the park position).
5. Navigate the wire to the workpiece's intended zero point and save this position.
6. Navigate back to park position.
7. Set an appropriate feed value.
8. Mount the workpiece plate elevated in front of the wire in order to enable the frame (2) of the hot wire cutter to pass beneath.
9. Switch on the power supply (1) for the wire (4) and set an applicable temperature for the material.
10. Start the job. In order not to cut the workpiece unintentionally, the starting point of the workpiece contour should be accessible directly for the wire (see example images).
11. After operation, the wire navigates back to the park position outside the workpiece plate.
12. Switch off the power supply for the wire.

