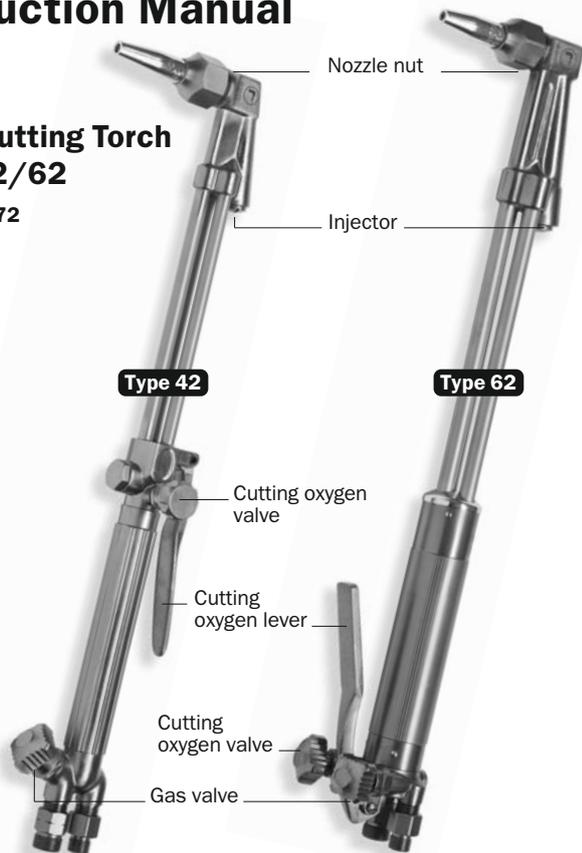


Instruction Manual

Hand Cutting Torch Type 42/62

EN ISO 5172



Instruction Manual

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Before starting work carefully read the content of this instruction manual.

1. TECHNICAL CHARACTERISTICS

Respect the standards on safety and self-protection against fire and gas leaks. Use protective clothing and equipment that adapt to the existing risks.

Tip type	Cutting thickness (mm)	Oxygen pressure (bar)	Acetylene pressure (bar)
00AC	5–10	1.5	0.5
0AC	10–15	2.0	1.0
1AC	15–25	2.5	1.0
2AC	25–50	3.0	1.0
3AC	50–100	3.5	1.0
4AC	100–175	4.0	1.5
5AC	175–250	5.0	1.5
6AC	250–300	6.0	1.5
00NX	5–10	1.5	0.5
0NX	10–15	2.0	1.0
1NX	15–25	2.5	1.0
2NX	25–50	3.0	1.0
3NX	50–100	3.5	1.0
4NX	100–175	4.0	1.5
5NX	175–250	5.0	1.5
6NX	250–300	6.0	1.5

(1 bar = 100 kPa = 14.5 psi)

Fit the torch with a straight cutting tip, selected from the table above, according to the thickness of the material to be cut and the combustible gas used. Set the supply pressure reducers as recommended.



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2. UTILISATION AND TYPE OF GASES

This blowpipe is especially designed for manual cutting. The cutting torch 42 has a cutting capacity up to 250 mm, and the 62 up to 300 mm. This blowpipe uses oil liquefied gases such as propane or natural gas and acetylene together with oxygen gas.

3. INSTRUCTIONS FOR USE

Note: These instructions are intended to describe the facilities and operation of the cutting torch. They are not intended to teach you how to cut using oxyacetylene. If you have no experience of cutting using oxyacetylene, it is essential that you seek training from a qualified person or approved training organisation.

- Before starting check that the gas supply installation as well as its adjustment and safety elements are in correct conditions for use.
- Make sure that the gas bypass valves in the blowpipe and in the supply system are closed.
- Connect the non-return valves (or flashback arrestors) to the torch and the two hoses to the respective non-return valves fitted to the blowtorch. Check there are no leaks.
- Fit the tip to be used and tighten with wrench so they fit correctly in the cutter head.
- Open the valves of the supply system. Adjust the regulators to the desired operating pressure.
- To light up the blowpipe, open the fuel adjustment valve slightly and apply a spark to the tip with a flint lighter. Never use a direct flame. Then open the oxygen adjustment valve and regulate the flame to a neutral condition. For cutting attachment, the oxygen valve on the torch handle should be fully opened, then regulate the flame using the oxygen adjustment valve on the cutting attachment only.
- To start cutting, previously heat the part to be cut and then apply the auxiliary lever that lets the cutting oxygen pass through. Keep the tip 4 or 5 mm from the part to be cut.

- To switch the blowpipe off, first close the oxygen valve on the blowpipe and then the fuel valve.
- Finally close the pressure regulators and the cylinders.
- Note: Turning the gases off in the wrong order can cause damage to the torch.



Never use a naked flame.

Do not try to connect any tip or device that has not been manufactured or expressly recommended by Rohrman Schweißtechnik GmbH. It could cause accidents.

4. SAFETY MEASURES

Safety of people

- Use protection goggles during the work.
- Protection gloves and heat and incandescent particle resistant clothes must be used in order to prevent burns.
- The fumes and gases given off during the cutting work may be harmful.
- Make sure the working position is sufficiently ventilated. If not, use auxiliary ventilation or suction means. Do not use oxygen or compressed air currents.
- Remember that oxygen, in the presence of oil and grease, produces violent explosions.

Safety of equipment

- Check the state of the conduction hoses as well as the connections and connectors before connecting them for use. They must be free of oil and grease and have no dents, cuts or burns.
- Check the correct state of the conduction, regulation and safety elements of the gas installation.
- Always use safety valves against gas and flame flashback.
- Move any equipment or object which might undergo damage or produce fires or explosions due to the sparks produced by the blowpipe away from the working area.

- ▶ Keep fire extinguishing equipment, suitable for the type of the fire that might be generated from the material near to the working position, close by.

Recommendations to avoid flashbacks

1. The flashback effect occurs when for some reason the flame gets into the blowpipe tip, producing a characteristic bang similar to that of a shot. The flame may go out at that time or penetrate the whole blowpipe, heating and destroying it, if you do not act quickly.
2. The causes of flashbacks are:
 - ▶ Gas mixture place or proportion is not correct.
 - ▶ Unsuitable pressures for the gases.
3. Either of these causes can be provoked by:
 - ▶ Incorrect pressure assignment of the gases in the pressure reducers.
 - ▶ Obstruction or dirt in the tips that may cause variations of the gas pressure.
 - ▶ Cutting tip lock nut not tight enough, which gives rise to incorrect seating of the tip and communication between the gases.
 - ▶ Incorrect coupling of the seating of the nozzles in the handle because the O-rings are not tight enough or deteriorated.
 - ▶ Lighting the blowpipe with the valves open.
 - ▶ Flame drowned on the material melted by the cut. The flame loses its effectiveness and therefore the gases lose velocity, producing the flashback.
 - ▶ Excessive heating of the tip due to overload or bad state of the tip. This produces a change in equilibrium between the inflammation velocity and the supply velocity.

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- ▶ After a strong flame flashback, the blowpipe may have undergone serious damage. Carefully check its state and if in doubt have it inspected.
- ▶ If you observe a lack of flow in the tip, and the pressures are correct, check the blowpipe safety valves, as they must be obstructed.

6. SERVICING AND MAINTENANCE

- ▶ Leak-tightness and operation tests must periodically be carried out on the blowpipe by technically qualified personnel.
- ▶ Repairs on the blowpipe must be carried out by specialised personnel. Always demand original parts with Rohrman Schweißtechnik GmbH guarantee.
- ▶ Periodically dismount the tips and clean them with suitable tip cleaners. Inspect the state of the injector and remove any particles that might obstruct it, take care not to damage it.

7. WARRANTY

This manual is intended to make you familiar with the functions of this product. Keep this manual always at hand, so that you can resort to it at any time. Before delivery, our products are carefully checked. We guarantee that each product is free from fabrication faults. The product is functioning according to its intended use. We provide warranty on defects of material and workmanship according to legal requirements. Wearing parts are excepted from this warranty.

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What to do in the case of flashbacks

You will know that a flashback has occurred when the tip flame disappears and you also hear a detonation similar to a shot. If the gas combustion continues inside the blowpipe, you will hear a typical whistling noise and you will observe an overheating of the area where the flame is detained.

In any case the following measures must be quickly taken:

- ▶ Do not leave or throw a blowpipe with flashback onto the ground.
- ▶ Do not shake or knock the blowpipe to try to put the flashback out: this could cause more serious damage.
- ▶ Immediately close the blowpipe oxygen adjustment valve.
- ▶ Immediately close the fuel gas adjustment valve.
- ▶ Wait until the flame inside the blowpipe goes out and the whistling noise in the blowpipe disappears.
- ▶ Cool the tip and the blowpipe.
- ▶ Check that the blowpipe and the tips are in perfect conditions to continue working. If in doubt have them inspected by technically qualified personnel.

5. WHAT TO DO IN THE CASE OF FAULTS

- ▶ If a flame appears in the tip seating area during operation, due to leaks, or you hear the classical flashback bangs, tighten the tip nut. If the problem does not disappear, have the equipment repaired.
- ▶ If the flame keeps going out without any apparent reason or when the cutting oxygen lever is activated, check that the pressures and gases are suitable for the tip that you are using. If you cannot solve the problem, have the equipment repaired.
- ▶ If leaks are observed in any part of the cutter, immediately have the equipment repaired.

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The warranty does not cover any damages or functional defects which are caused by

- ▶ improper installation or assembly
- ▶ overloading, abusing or diverting from intended use of the product
- ▶ collisions or accidents
- ▶ non-compliance with the information provided in this manual
- ▶ insufficient maintenance
- ▶ modifying the product from its original state
- ▶ normal wear and tear



To avoid flashbacks please follow the above-mentioned instructions.

Warning: "Using safety valves is absolutely necessary."



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