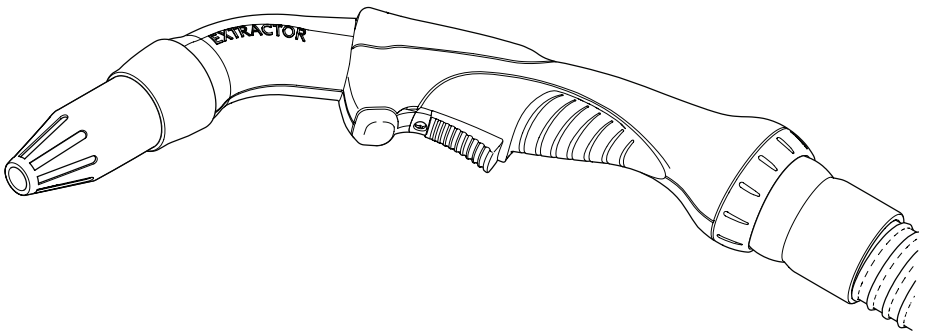


MIG Fume Extraction Torch

EXTMT3004

EXTMT5004

Operation instructions



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extractors, compatible with these
torches,

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systems.

1. The SifGun Fume Extraction Torch

The SifGun Fume Extraction Torch is a patented MIG welding torch with integrated extraction at the nozzle of the welding torch. Therefore the extraction is close to the weld pool, so the fumes coming from the welding process are extracted immediately. As a result the welder is exposed to up to 95% less welding fumes.

Because of the conic shape of the nozzle, the protective gas exits at a high speed and is not sucked away by the extraction. The quality of the welding process remains the same as with a welding torch without integrated extraction.

The welding torch is delivered 'ready to use'. It only has to be connected to a welding machine and extraction unit. The SifGun Fume Extraction Torch is available in a air- and water-cooled version

The welding torches in this manual have been build in compliance with:

- EN 60974-7 Arc Welding Equipment Part 7: Torches
- 2006/95/EC Low Voltage Directive
- 2004/108/EC Electromagnetic Compatibility

The welding torch is only to be used by experienced personnel. It is not allowed for untrained persons to install, handle or maintain our welding torches. Welding torches must be checked regularly in order to guaranty optimum life time expectancy.

The user is fully responsible for possible defects arising out of misuse, inadequate maintenance, damage, poor repair, or modifications by other parties than the original manufacturer, or his authorised dealers.

The welding torch is a component of a complete welding system. The torch will generate an electric arc when connected with the appropriate welding machine. Ensure that you read the welding machine's instructions thoroughly before using our welding torches.

The manufacturer reserves the right, whenever necessary and without prior notice, to amend these instructions as a result of clerical or printing errors, incorrect information, or the addition of improvements.

2. Safety



WARNING

READ THESE SAFETY INSTRUCTIONS CAREFULLY.

Failure to observe these safety instructions can lead to serious injury and/or damage to the product. Only operators with relevant knowledge of arc welding should use this product.

- The vibration of the welding torch is less than 2.5m/s^2 . No special precautions are required related to vibrations.
- Arc welding can injure eyes, burn skin and cause hearing damage. Therefore:
 - Use welding shield with filter complying with respectively the EN 175 and EN 379 standards.
 - Wear proper protective clothing and ear protection.
 - Make sure others are protected (e.g. curtains) from arc rays and flashing.
- Remove all combustible materials – including liquid and gaseous fuels, cloth, sawdust, wood, paints and solvents - from the work area or completely cover the materials with a protective non-flammable covering. Fire extinguishing equipment should be ready at hand for instant use. Pay attention to spatter/dross created during welding; sparks can cause fire several hours after welding has finished!
- Work pieces must be completely cleaned so that no substances on the material, such as chlorinated solvents, can produce flammable or toxic vapours.
- Do not weld containers that have held combustibles.
- Always check cables before operating the machine. Defective cables may cause injury and/or fire.
- Do not make temporary repairs. Repairs should be made by qualified personnel.
- Do not pull cable assembly across sharp edges or expose to welding spatter or hot surface.
- To prevent electric shock, isolate yourself by using proper protective clothing and insulating mats. DO NOT wear wet clothing!
- Do not exceed power rating. Overload can lead to torch damage, destruction and/or injuries.
- Turn off primary power before working on torch parts and/or replacing consumables.
- Do not breathe fumes or gases from welding. Welding fumes are harmful; lead, cadmium, copper, zinc, mercury, stainless steel, galvanised steel and beryllium in particular. Therefore, use ventilation or an extraction system to ensure that Maximum Admissible Concentration of harmful substances (MAC) level is not exceeded.
- Use proper gas for the welding process (argon or helium) and pressure reducing regulator.
- Keep cylinders in an upright position. When not in use, keep cylinder valves closed. Keep cylinders away from heat, sparks or flame.
- Follow the pressurised gas manufacturer's operating instructions for mounting the regulator to the gas cylinder.

3. Technical specification

	SifGun Extraction Torch air cooled	SifGun Extraction Torch water cooled
Power rating - Mixed gas - CO2	300A 320A	500A 550A
Duty cycle	100%	100%
Contact tip	Ø1.0-1.6mm	Ø1.0-1.6mm
Extraction flow rate	between 55 and 65m³/h	between 55 and 65m³/h
Gas flow rate	14l/min	14l/min

4. Unpack and Assemble before use

The delivered welding torch is ready to use with a contact tip of 1.2mm.

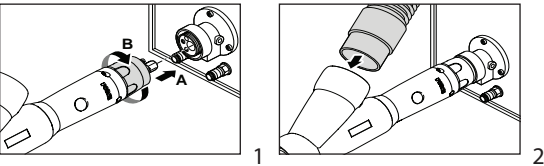
The welding torch package should contain:

- Welding torch assembly.
- Gas flow meter
- Nozzle cleaning brush

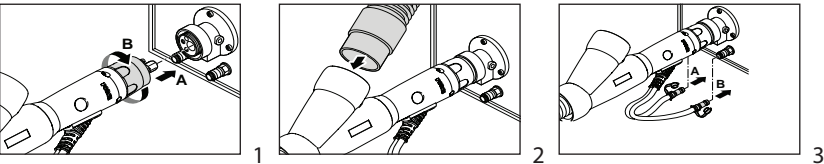
To use a contact tip with other diameter, see Overview of the user replaceable parts

5. Installation and connection

Air cooled torch

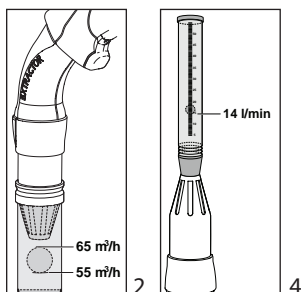


Water cooled torch



1. Plug in (A) the welding connection and fasten (B).
2. Plug in the extraction.
3. In case of a water cooled torch, plug in the cooling connections A (red) and B (blue).

6. Use of the equipment



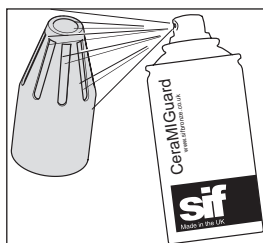
Start-up

1. Switch on the extraction unit.
2. Extraction flow rate must be between **55 and 65m³/h** at nozzle
3. Switch on the welding machine
4. Check the protective gas flow with the special gas flow meter delivered with the torch.
Gas flow rate must be **14l/min** at nozzle.

Use

The torch can be used like any other MIG welding torch.
The functionality depends on the settings of the welding machine.

Important! Don't use Anti Spatspray or Paste, only Sif CeraMIGuard.



Shutdown

1. Switch off the welding machine
2. Switch off the extraction unit, only if not used for other equipment.

7. Troubleshooting

Symptom	Possible causes
No arc	<ul style="list-style-type: none"> • Power to work piece or swan neck interrupted. • Defect power source or control unit. • Control signal is interrupted (cable). • Switch protection in the power source is not activated.
Arcing to the work piece	<ul style="list-style-type: none"> • Nozzle is contaminated.
Poor or no smoke extraction	<ul style="list-style-type: none"> • Extraction unit is not switched on. • Extraction flow is less than 55m³/h. • Filter of the extraction unit is contaminated. • Torch is externally damaged.
Swan neck overheats	<ul style="list-style-type: none"> • Insufficient cooling water flow. • Cooling water lines are blocked. • Duty cycle exceeds the value allowed for the torch. • Contact tip or tip adapter not properly fastened. • Torch is externally damaged.
Welding wire fuses with the contact tip	<ul style="list-style-type: none"> • Welding wire transport starts to late. • Welding wire is jammed inside the cable package due to contamination or bending. • Welding wire speed is too low. • Distance between the contact tip and the work piece is too big. • Contact tip overheats.
Contact tip overheats	<ul style="list-style-type: none"> • Insufficient cooling water flow. • Cooling water lines are blocked. • Duty cycle exceeds the value allowed for the torch. • Contact tip or tip adapter not properly fastened. • Torch is externally damaged.
Irregular welding wire feed	<ul style="list-style-type: none"> • Pressure of the welding wire supply rolls is too low. • Defect in the welding wire feed hose. • Wrong liner is installed. • Defect control unit. • Excessive wear of the welding wire supply rolls. • Wrong welding wire supply rolls installed.
Porosity	<ul style="list-style-type: none"> • Nozzle opening or contact tip is contaminated. • Insufficient gas shielding (gas flow). • Air flow disturbs the gas shielding. • Liner nut not tightened correctly. • Wrong liner is installed.

8. Maintenance

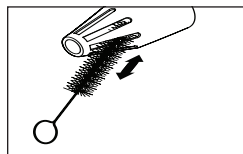
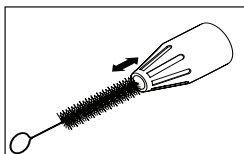
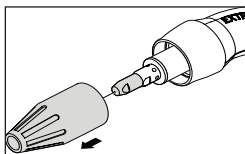


WARNING

ALWAYS SWITCH OFF THE WELDING MACHINE AND EXTRACTION UNIT BEFORE YOU REMOVE PARTS OF THE TORCH.

Daily

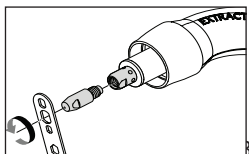
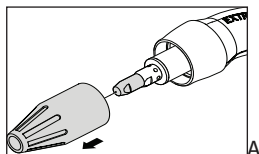
Regularly check if the protective gas and extraction openings are clean.
If necessary remove the nozzle and clean the opening with the brush.



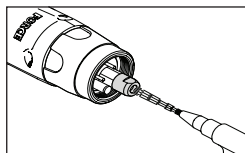
Weekly

Clean liner

1. Disconnect the torch assembly from the welding machine.
2. Remove the nozzle (A) and contact tip (B) from the torch.



3. When necessary, remove welding wire from the assembly.
4. Use a compressed air cleaning gun to clean inside liner.



9. Replace and Repair



CAUTION

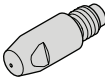
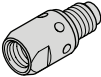
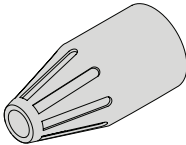

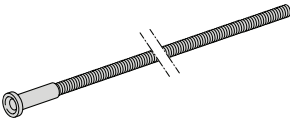
All parts replacements and repairs that are not mentioned in this document must be done by a contracted distributor or Weldability Sif

Overview of the user replaceable parts



CAUTION

Never replace parts of theSifGun Fume Extraction Torch with standard MIG parts. The parts of the torch are different.

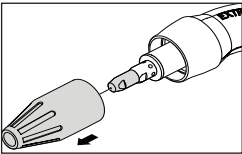
Item	Description	Partnumber
	Contact tip M8-1,0	EXTMT140110
	Contact tip M8-1,0 Alu	EXTMT1401102
	Contact tip M8-1,0 CuCrZr	EXTMT1401101
	Contact tip M8-1,2	EXTMT140112
	Contact tip M8-1,2 Alu	EXTMT1401122
	Contact tip M8-1,2 CuCrZr	EXTMT1401121
	Contact tip M8-1,6	EXTMT140116
	Contact tip M8-1,6 Alu	EXTMT1401162
	Contact tip M8-1,6 CuCrZr	EXTMT1401161
	Tip adapter M8	EXTMT153458
	Nozzle conical	EXTMT2407145
	Center ring	EXTMT3407145305
	Red coated liner 4mtr (for 1,0-1,2mm wire)	EXTMT302545
	Red coated liner 5mtr (for 1,0-1,2mm wire)	EXTMT302555
	Yellow coated liner 4mtr (for 1,6mm wire)	EXTMT303645
	Yellow coated liner 5mtr (for 1,6mm wire)	EXTMT303655

Replace Nozzle

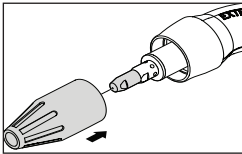


WARNING

ALWAYS SWITCH OFF THE WELDING MACHINE AND EXTRACTION UNIT BEFORE YOU REMOVE PARTS OF THE TORCH.



1



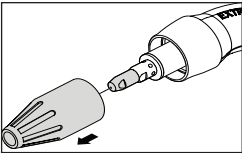
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Replace Contact Tip

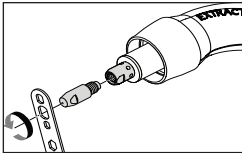


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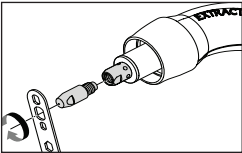
ALWAYS SWITCH OFF THE WELDING MACHINE AND EXTRACTION UNIT BEFORE YOU REMOVE PARTS OF THE TORCH.



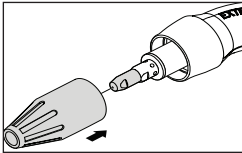
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2



3



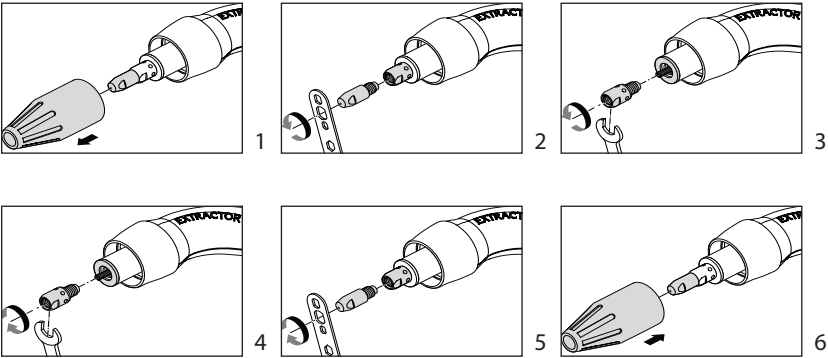
4

Replace Tip Adapter



WARNING

ALWAYS SWITCH OFF THE WELDING MACHINE AND EXTRACTION UNIT BEFORE YOU REMOVE PARTS OF THE TORCH.

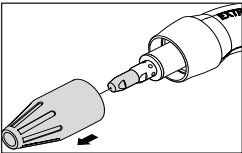


Replace Center Ring

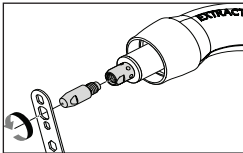


WARNING

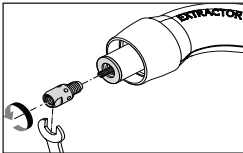
ALWAYS SWITCH OFF THE WELDING MACHINE AND EXTRACTION UNIT BEFORE YOU REMOVE PARTS OF THE TORCH.



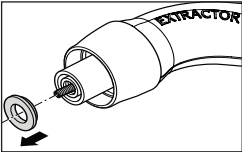
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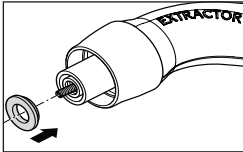
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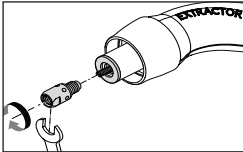
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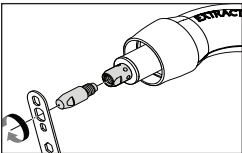
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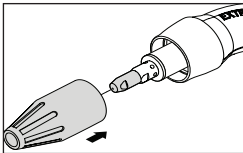
5



6



7



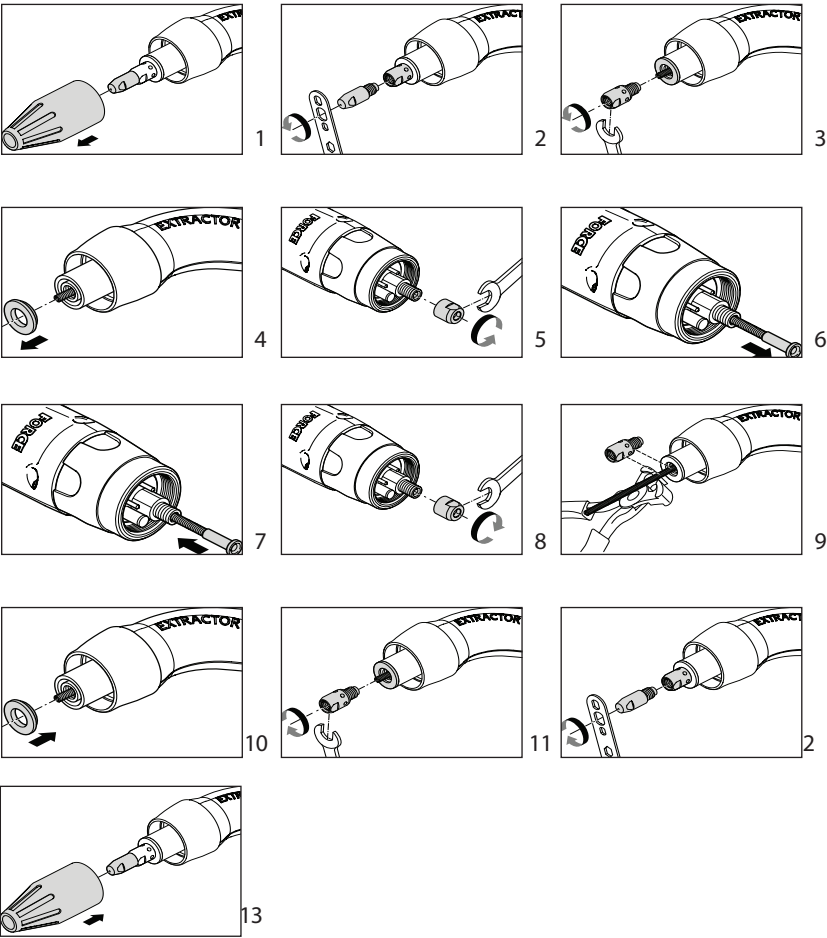
8

Replace Liner



WARNING

ALWAYS SWITCH OFF THE WELDING MACHINE AND EXTRACTION UNIT BEFORE YOU REMOVE PARTS OF THE TORCH.



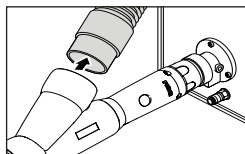
10. De-installation



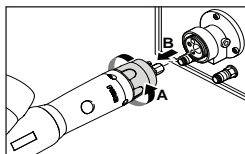
WARNING

ALWAYS SWITCH OFF THE WELDING MACHINE AND EXTRACTION UNIT BEFORE YOU REMOVE PARTS OF THE TORCH.

Air cooled torch

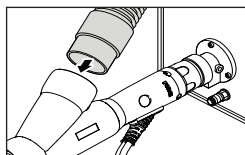


1

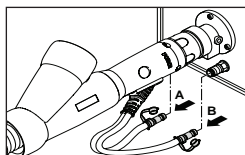


3

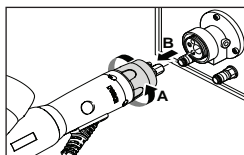
Water cooled torch



1



2



3

1. Disconnect the extraction.
2. Disconnect the cooling connections A (red) and B (blue).
3. Loosen the welding connection (B) and disconnect (A).

11. Shipment, storage and disposal

This welding equipment has been carefully checked and packaged before shipment.

However, as damage may have occurred during shipping, please check package and components for damage through visual inspection.

If package and/or equipment has been damaged contact last shipping agent immediately and keep (damaged) package for possible inspection.

Use original package for returning equipment.

The ambient temperature for shipment and storage is: -25 °C to + 55 °C
Relative humidity of the air: up to 90% at a temperature of 20 °C

Torch must be disposed according to European and/or local environmental regulations.

Our torches are mainly made of steel, plastics and non-ferrous metal.

