

## DECLARATION OF CONFORMITY

Laurent TIBERGHEN, general manager of LTDI-Soudure, hereby states that the following equipment complies to all communitarian regulations laid down by the EC Directives.

**Trade mark:** NT Torches

**Models:** MIG MAG welding torches NT 180, NT 250, NT 350 & NT 400, Redux 180, Redux 250, Redux 350 & Redux 400

**Applicable Directives:** DIR 73/23/CEE Low voltage directive  
DIR 93/68/CEE EC labelling directive

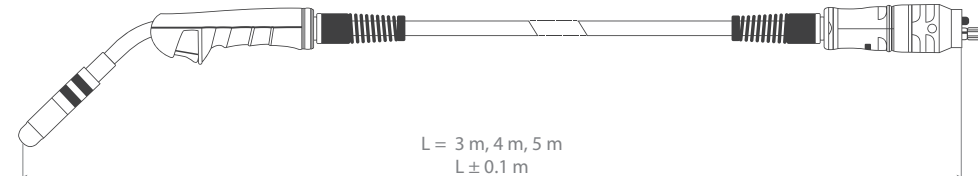
**Reference standards:** EN 60974-7 Electric arc welding equipment (section 7: Torches)



  
Laurent TIBERGHEN  
General Manager

## SEMI-AUTOMATIC MIG /MAG TORCHES

## OPERATING MANUAL



Model	Type of cooling	60% Duty Cycle		100% Duty Cycle		Wire Ø (mm)	Gas Flow (l/min)
		CO <sub>2</sub>	Ar + 20% CO <sub>2</sub>	CO <sub>2</sub>	Ar + 20% CO <sub>2</sub>		
NT 180	AIR	180	164			0,6 - 1,0	4
NT 250	AIR	250	228			0,6 - 1,2	5
NT 350	AIR	350	319			0,8 - 1,6	6
NT 400	AIR	400	364			1,0 - 1,6	7
NT 500	WATER			500	455	1,0 - 2,0	8

Warning: in plasma arc welding, capacity is reduced by 35%.  
A 800 W cooling capacity is required.

### ONLY WATER COOLED MODELS:

- Mini cooling flow 2,2 l/min.
- Mini & maxi cooling input pressures: 2 - 3,5 bar.

### ELECTRICAL CONTROLS:

- 6A - 250V (AC) microswitch/push button

### VOLTAGE TYPE:

- L = 113V
- Charge voltages comply to EN 60974/1 regulation (U = 14 + 0,05 x I)

As far as possible, we always recommend that NT torches are connected and handled by operators having knowledge and experience of MIG/MAG welding. Observing the following operating instructions will help to avoid potential accidents or poisoning.

### ELECTRIC SHOCK PREVENTION:

- Check your welding equipment on a regular basis, to ensure perfect functioning.
- During installation and maintenance operations, make sure the equipment or power supply unit are switched off.
- Avoid simultaneous human contact with the work piece and contact tip or feeding wire.
- Avoid contact with parts directly exposed to electric power.
- Do not weld in places with high humidity rates.
- Prevent the torch from contacting water and damp or wet surfaces.
- Secure all electrical connections.

### GAS & WELDING FUMES SAFETY:

- Materials used during welding process may release hazardous gas and vapour. It is therefore recommended to perform welding operations in ventilated areas or to use extractor fans.
- Do not weld in the presence of explosive gas, fuel or chlorine vapour.
- Do not ventilate or dry with pure oxygen.

### BURN AND RADIATION PREVENTION:

- To avoid spatter burns and UV radiation, use suitable protection gear: gloves, footwear, clothing, and head shield with adequate filter lenses.
- Isolate welding area with welding frames or curtains.
- Do not work near explosive gases of flammable materials which may cause fire or explosions with incandescent spattering while welding.
- Do not weld containers still containing or having contained flammable materials, unless they have been thoroughly cleaned.
- Never use pure oxygen for drying or sweeping purposes.

### GAS STORAGE & HANDLING:

- Insulate and protect gas cylinders from electrical circuit and cables.
- Shut valves after welding.
- Make sure to use tubes and fittings complying with the type of gas used.
- Protect gas cylinders from being knocked and from falling.
- Use adequate regulator and valve and make sure they work perfectly.

### OTHER PRECAUTIONS:

- Avoid pressure on cables and wires.
- Do not strike the NT torch during maintenance, repair or installation operations.
- Do not bend the cable excessively to prevent components from being chocked.
- Avoid air drafts in welding area.
- Do not replace parts nor handle the gun while still hot.

### INSTRUCTIONS FOR USE:

- Before connecting the NT torch, ensure the wire feeder, contact tube, type of gas and drive rolls are suitable for the material and wire diameter to be welded.
- Check the torch rear connector matches the welding machine.
- Cautiously connect the connector to the machine, and tighten it manually, but without forcing it.
- Display the NT torch, avoid rolls and spirals.
- Round off the tip of wire and insert it from the feed train into the wire feeder, between 50 to 100 mm. Exert some pressure on the rolls but without crushing the wire.
- Plug the welding machine in and start it.
- Open gas cylinder valve.
- Adjust wire speed.
- Adjust gas flow (*between 4 and 8 litres per minute, depending on models, as per table on page 1*).
- Adjust power.
- Secure earth cable to work piece.
- Press the NT torch switch until wire comes out from the contact tip and gas sweeps out of the nozzle. While doing this, the NT torch must point to the floor, to avoid injury.
- Test the welding in order to further adjust intensity and wire speed.

### MAINTENANCE RULES:

- To ensure proper functioning and lasting of the NT torch, it is recommended to use original spare parts only.
- Prior to any repair or maintenance operation, disconnect the welding machine and let the NT torch cool down.
- Replace contact tip as soon as the centre hole has widened or deformed.
- Regularly use the self-cleaning feature of the NT torch, head downwards, in order to evacuate welding residue that might have stuck on the nozzle.
- Check and clean regularly the insulators inside the nozzle. Whenever necessary, change moving parts.
- Apply suitable amount of non-stick spray or paste, avoid any excess that might prevent gas to freely flow.

- For water-cooled NT torches, make sure the liquid used is suitable, in adequate quantity, and circulates correctly in the system.

### PROBLEMS / POSSIBLE CAUSES:

PROBLEM	POSSIBLE CAUSE
<b>Wire is fed incorrectly</b>	<ul style="list-style-type: none"> <li>• Wire feeder is in bad condition, obstructed or damaged.</li> <li>• Wire feeder or contact tip sizes are not on line with wire diameter.</li> <li>• Wrong wire feeder length or wire feeder does not pull the wire properly to the gas diffuser or contact tip.</li> <li>• Drive motor rolls have too much pressure on the wire, or do not fit to the wire type, resulting in deformation and chafing of the wire.</li> <li>• Welding wire is rusty, dirty or irregular.</li> </ul>
<b>Premature use of contact tip</b>	<ul style="list-style-type: none"> <li>• Drive motor rolls have too much pressure on the wire, or do not fit to the wire type, resulting in deformation and chafing of the wire.</li> <li>• Welding wire is rusty, dirty or irregular.</li> <li>• The welding wire is not coated, thus increasing liner friction and use.</li> <li>• Contact tip diameter does not fit.</li> <li>• Duty run is in excess compared to the type of torch used.</li> </ul>
<b>Torch overheating</b>	<ul style="list-style-type: none"> <li>• Rear connector back nut is not tightened enough.</li> <li>• Command cables are defective or connection is loose.</li> <li>• In excess electrical intensity is used for the type of torch.</li> <li>• Power supply to welding equipment is faulty.</li> </ul>
<b>Torch does not start</b>	<ul style="list-style-type: none"> <li>• Command cables are not connected.</li> <li>• Dirt built up in switch command.</li> <li>• Command cables are cut.</li> </ul>
<b>Pores on welding cord</b>	<ul style="list-style-type: none"> <li>• Spatter built up in nozzle.</li> <li>• Gas leak in the cable or bad fitting to the welding machine.</li> <li>• Rear connector O-rings in bad conditions.</li> <li>• Liner is loose or separated from terminal.</li> <li>• Wire cable is not fed properly (see above section).</li> <li>• Inadequate type of gas.</li> <li>• Inadequate or bad quality cable wire</li> <li>• Parts to be welded are rusty or contain high sulphur levels.</li> </ul>

### CONDITIONS FOR WARRANTY:

- MIG/MAG NT Torches are guaranteed for a 60 days period as from date of purchase.
- The warranty covers all NT Torches manufacturing defects.
- The warranty does not apply to torch spares or consumables have a live span shorter than the duration of warranty, such as nozzle, contact tip, ...
- During the period of warranty, under normal and recommended conditions, any faulty part will be repaired or replaced or the torch will be refunded, at the manufacturer's discretion.
- Only use original parts to ensure durability.

- Manipulation of the torch by non-authorized repairer or the use of unsuitable spares will make the warranty void.
- All warranty claims must be made through an authorized dealer.
- In case of warranty claim, both defective product and original purchase invoice must be produced.
- Return shipping cost to the factory will be paid by the user, whereas manufacturer will endorse freight cost back to the user.
- The manufacturer shall not be liable nor held responsible for any damage or costs resulting from improper use.