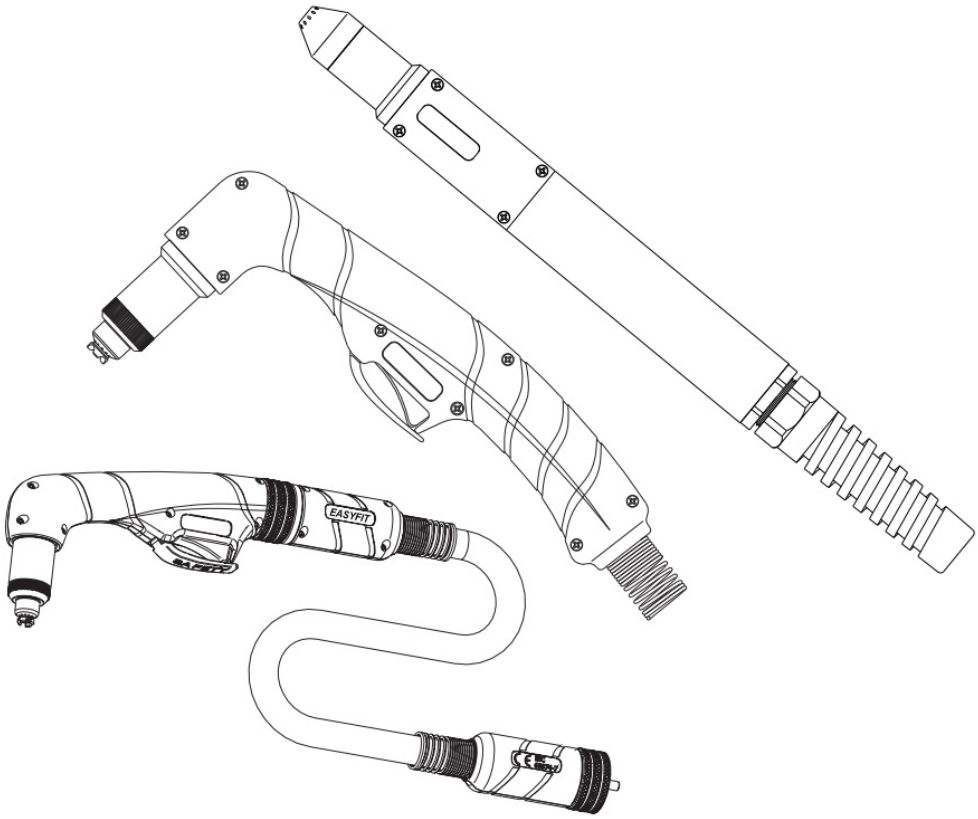
tiPARC MT-70 Plasma Hand Torch Complete Instruction Manual

MT / EASYFIT / AT



MT-70/MT-125
EASYFIT/AT-70
AT-125/AT-160

WARNINGS – SAFETY REGULATIONS

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Contents

GENERAL INSTRUCTIONS

 The instructions in this user manual must be read and understood before operating the machine.
Do not undertake any modifications or maintenance work that is not included in the user manual.
The manufacturer shall not be liable for any damage to persons or property resulting from using the product in a manner not in accordance with the instructions in this user manual.
If there are any problems or queries, please consult a qualified technician to properly set up the equipment.

PROTECTING YOURSELF AND OTHERS

Cutting metal can be dangerous and cause serious injury or death.
Cutting metal exposes individuals to a dangerous heat source, light radiation from the arc, electromagnetic fields (attention those with pacemakers), risk of electrocution, noise and gas fumes.
Follow the following safety guidelines to protect yourself and others:

	Wear the appropriate clothing to protect yourself from burns and radiation: cuffless, insulated, dry, flame-retardant clothing in good condition that covers the whole body.
	Wear gloves that ensure electrical and thermal insulation. Use a protective welding and cutting curtain and/or a cutting hood with a sufficient protection level (varies according to the application). Protect your eyes during cleaning operations. Contact lenses are strictly prohibited.
	It is sometimes necessary to delimit areas using fireproof curtains to protect the cutting area from arc rays, spatter and incandescent waste. Inform people in the cutting area not to look at the arc rays or the melted parts, also advise them to wear the appropriate clothing to protect themselves.
	Use noise-cancelling headphones if the cutting process reaches a noise level above the permitted level (these headphones should be offered to anyone in the cutting area). Keep hands, hair and clothes away from moving parts (fans). Never remove the protective casing from the cooling unit when the power source is switched on as the manufacturer cannot be held responsible in the event of an accident.
	Freshly cut parts are hot and can cause burns if handled. When servicing the torch, ensure that it is cool enough by waiting for at least ten minutes before undertaking any maintenance work. The cooling unit must be switched on when using a water-cooled torch to ensure that the liquid does not cause burns. It is important to secure the work area before leaving it; this is to protect people and property.

CUTTING FUMES AND GASES

 The fumes, gases and dusts emitted by cutting processes are hazardous to one's health. Sufficient ventilation must be provided and an additional air supply may be necessary. An air-fed mask could be an appropriate solution if the ventilation is inadequate.
Check that the suction is effective by checking it against safety standards.
Warning: cutting in confined spaces requires remote monitoring for safety. Furthermore, the cutting of certain materials that contain lead, cadmium, zinc, mercury or even beryllium, can be particularly harmful; it is important to degrease parts before cutting them.
Gas cylinders should be stored in an open or well-ventilated area. They must be in an upright position and secured to a stand or trolley. Cutting applications should not be carried out near grease or paint.

FIRE AND EXPLOSION HAZARD

 The cutting area must be fully protected; flammable materials should be kept at least 11 metres away.
Fire-fighting equipment must be available in the vicinity of cutting operations.
Beware of hot substances or sparks being projected, even through cracks; these can cause a fire or explosion.
Keep people, flammable objects and pressurised containers at a safe distance.
Cutting in closed containers or tubes should be avoided; if they are open, they should be emptied of any flammable or explosive material (oil, fuel and gas residues, etc.).
Grinding operations must not be directed towards the cutting current's source or any flammable materials.

ELECTRICAL SAFETY

 Electric shocks can cause serious direct or indirect accidents and even death.
Never touch the torch's live parts because it is connected to the cutting circuit.

Do not touch the torch and the earth clamp at the same time.
Always use dry and undamaged clothing to insulate yourself from the cutting circuit. Wear insulated footwear, regardless of your working environment.

CAUTION FOR USE

Never wrap the torch cables around your body.
Do not use the torch to move the source of the cutting current.
The torch must be completely unwound in order to avoid overheating.
Switch off the power source after the torch has cooled down before any maintenance work and before replacing or checking worn parts.
Regularly check the torch's condition. It must be replaced if it becomes damaged.

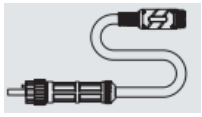
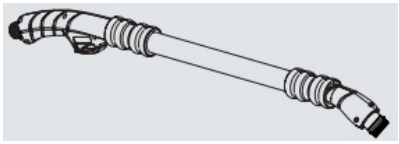
GENERAL DESCRIPTION

SPECIFICATIONS

The MT and EASYFIT torches are designed for manual plasma cutting.
AT torches are designed for automated plasma cutting.

TECHNICAL DATA

MT			
Description		MT-70	MT-125
Torch angle		75°	75°
Cable-bundle length		6 m 12 m	6 m 12 m
Part Number		037502 037519	039506 039513
Ignition voltage		500 V max.	500 V max.
Max. rated current		125 A	125 A
Duty cycle at 40°C	100%	50 A	100 A
	60%	65 A	125 A
	50%	70 A	–
Gas type		air	air
Torch cooling		air	Air
Ambient cutting temperature range		-10 -> +40°C	-10 -> +40°C
Ambient storage / transport temperature range		-10 -> +55°C	-10 -> +55°C
Switch characteristics (trigger)		0.5 A / 48 V DC	0.5 A / 48 V DC
Applied standard		EN IEC 60974-7	EN IEC 60974-7
Product compatibility	CUTTER 45 CT	✓	
	CUTTER 70 CT	✓	
	NEOCUT 105		✓
	NEOCUT 125		✓

EASYFIT											
Description 41		Handle bundle		EASYFIT MT-70 —		EASYFIT MT-125		EASYFIT MT-125 extension cable			
Torch angle				75°	15°	75°	15°	90°	15°	goo	15°
Cable-bundle length		6 m	12 m	–				80 an		130 cm	
Part Number		74668	74675	74583	1074590	74606	1074613	74620	1074637	74644	1074651
Ignition voltage		500 V max.		500 V max.		500 V max.					
Max. rated current		125 A		125 A		125 A					
Duty cyde at 40°C	100%	105A		50A		105A					
	60%	125 A		65 A		125 A					
	50%	–		70A		–					
Gas type		air		air		air					
Torch cooling		air		air		air					
Ambient cutting temperature range		-10 -> +40°C		-10 -> +40°C		-10 -> +40°C					
Ambient storage / transport temperature range		-10 -> +55°C		-10 -> +55°C		-10 -> +55°C					
Switch characteristics (trigger)		–		0.5A/48VDC		0.5A/48VDC					
Applied standard		EN IEC 60974-7		EN IEC 60974-7		EN IEC 60974-7					
Product com- patibility	CUTTER 45 CT	✓		✓							
	CUTTER 70 CT	✓		✓							
	NEOCUT 105	✓				✓					
	NEOCUT 125	✓				✓					

AT												
Desaiption		AT-70			AT-125				AT-160			
Torch-body length		127 mm	240 mm		240 mm				240 mm			
Torch-body diameter		0 35 mm			0 35 mm				0 44.5 mm			
Cable-bundle length		6m	6m	12m	6m	12m	15m	20m	6m	12m	15m	20m
Part Number		71865	37526	37533	38479	39520	69787	69794	67479	67486	69800	69817
Ignition voltage		500 V max.			500 V max.				500 V max.			
Max. rated current		125 A			125 A				125 A			
Duty at 40 °C	100%	50 A			100 A				125 A			
	60%	cycle 65 A			125 A							
	50%	70 A			–				–			
Gas type		air			air				air			
Torch cooling		air			air				air			
Ambient cutting temperature range		-10 -> +40°C			-10 -> +40°C				-10 -> +40°C			
Ambient storage / transport temperature range		-10 -> +55°C			-10 -> +55°C				-10 -> +55°C			
Applied standard		EN IEC 60974-7			EN IEC 60974-7				EN IEC 60974-7			
Product com- patibility	,CUTTER 45 CT	✓										
	CUTTER 70 CT	✓										
	NEOCUT 105				✓							
	NEOCUT 125				✓				✓			

RECOMMENDED PRESSURE / FLOW

MT

CUTTING		
Current	MT-70 6 m	MT-70 12 m
20 > 70 A	5.0 bar – 185 l/min	5.6 bar – 185 l/min

CUTTING		
Current	MT-125 6 m	MT-125 12 m
Precision cut 45 A	5.0 bar – 220 l/min	5.6 bar – 220 l/min
45 A	5.0 bar – 215 l/min	5.6 bar – 215 l/min
65 A	5.0 bar – 220 l/min	5.6 bar – 220 l/min
85 A	5.0 bar – 250 l/min	5.6 bar – 250 l/min
105 A	5.0 bar – 285 l/min	5.6 bar – 285 l/min
125 A	5.5 bar – 305 l/min	6.2 bar – 305 l/min

GOUGING		
Current	MT-70 6 m	MT-70 12 m
70 A	5.0 bar – 185 l/min	5.6 bar – 185 l/min

GOUGING		
Current	MT-125 6 m	MT-125 12 m
85 > 125 A	4.0 bar	4.5 bar

AT

CUTTING		
Current	AT-70 6 m	AT-70 12 m
20 > 70 A	5.0 bar – 185 l/min	5.6 bar – 185 l/min

CUTTING		
Current	AT-125 6 m	AT-125 12 m
Precision cut 45 A	5.0 bar – 220 l/min	5.6 bar – 220 l/min
45 A	5.0 bar – 215 l/min	5.6 bar – 215 l/min
65 A	5.0 bar – 220 l/min	5.6 bar – 220 l/min
85 A	5.0 bar – 250 l/min	5.6 bar – 250 l/min
105 A	5.0 bar – 285 l/min	5.6 bar – 285 l/min
125 A	5.5 bar – 305 l/min	6.2 bar – 305 l/min

CUTTING		
Current	AT-160 6 m	AT-160 12 m
45 A	5.0 bar – 275 l/min	5.3 bar – 275 l/min
65 A	5.0 bar – 285 l/min	5.4 bar – 285 l/min
85 A	5.0 bar – 300 l/min	5.6 bar – 300 l/min
105 A	5.0 bar – 355 l/min	6.0 bar – 355 l/min
125 A	5.0 bar – 355 l/min	6.0 bar – 355 l/min

EASYFIT

CUTTING		
Current	Bundle (6 m) + EASYFIT MT-70	Bundle (12 m) + EASYFIT MT-70
20 > 70 A	5.0 bar – 185 l/min	5.6 bar – 185 l/min

CUTTING		
Current	Bundle (6 m) + EASYFIT MT-125	Bundle (12 m) + EASYFIT MT-125
Precision cut 45 A	5.0 bar – 220 l/min	5.6 bar – 220 l/min
45 A	5.0 bar – 215 l/min	5.6 bar – 215 l/min
65 A	5.0 bar – 220 l/min	5.6 bar – 220 l/min
85 A	5.0 bar – 250 l/min	5.6 bar – 250 l/min
105 A	5.0 bar – 285 l/min	5.6 bar – 285 l/min
125 A	5.5 bar – 305 l/min	6.2 bar – 305 l/min

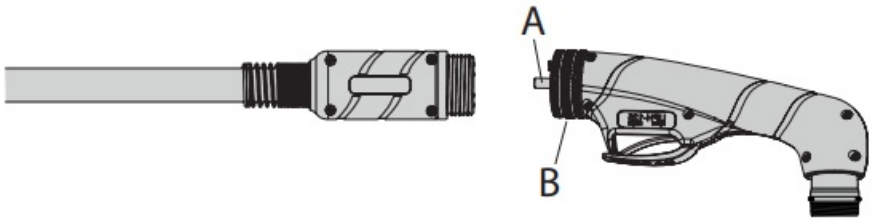
GOUGING		
Current	Bundle (6 m) + EASYFIT MT-70	Bundle (12 m) + EASYFIT MT-70
70 A	5.0 bar – 185 l/min	5.6 bar – 185 l/min

GOUGING		
Current	Bundle (6 m) + EASYFIT MT-125	Bundle (12 m) + EASYFIT MT-125
85 > 125 A	4.0 bar	4.5 bar

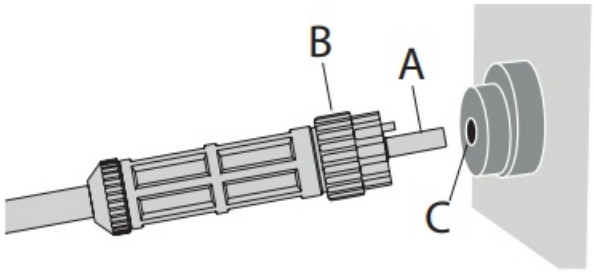
SETTING UP

TORCH CONNECTION REQUIREMENTS

⚠ The power source must be turned off.



1. To assemble the handle bundle with an EASYFIT torch, insert the torch connector (A) into the bundle socket and screw on part B. Tighten the torch.



2. Connecting the torch to the power source:
   Insert the handle bundle connector (A) into the power source's female bundle socket (C) and screw on part B. Tighten the torch.

*Step 1 is only for EASYFIT torches.

TORCH EQUIPMENT

The torch must be fitted with the correct consumables, chosen according to the application and the set current. Choosing the incorrect consumable will result in cutting defects, premature wearing of the consumables and could even cause the entire unit to malfunction. The torch is supplied with a pot of silicone grease to minimise the seal's wear and the seizing of metal parts. It is recommended to apply this grease regularly.

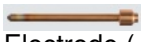
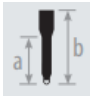
Consumables

Regularly check the condition of the protective nozzle, the contact tip and the electrode for wear and tear, also check these parts if the cutting speed is significantly reduced. It is advisable to replace the nozzle's contact tip and the electrode at the same time.

MT & EASYFIT

Torch model		Calibrate	 Diffuser (x1)	 Electrode (x5)	 Contact tip (x5)	 Nozzle (x1)	 Pad (x1)
MT-70	Cutting	20 - 50 A	037557	037564 short 067189 long	037571 short 067196 long	037601	037625 short 067219 long
		70 A		037564 short 067189 long	037588 short 067202 long		037625 short 067219 long
MT-125		Precision cut 45 A	039131	039155	039315	039216	039322
		45 A	039131	039155	039162	039216	039230
		65 A			039179		
		85 A			039186		
		105 A	039148		039193	039223	039247
		125 A			039209		
		Calibrate	 Diffuser (x1)	 Electrode (x5)	 Contact tip (x5)	 Nozzle (x1)	 Pad (x1)
MT-70	Gouging	70 A	037557	037564	037595	037601	037632
MT-125		65 - 85 A	039131	039155	039261	039216	039254
		105 A	039148		039278	039223	
		125 A			039285		

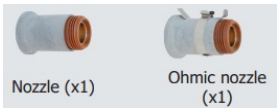
Difficult-access consumables

Torch model		Calibrate	 Diffuser (x1)	 Electrode (x3)	 Nozzle (x1)	 Ring (x3)	 Contact tip (x5)	 Pad (x1)	
MT-70	Cutting	20 – 45 A	037557	074682	074859	074897	074767	074910	76 mm 122 mm
		70 A					074774		
MT-125		20 – 45 A	039131	074699	074866	074897	074767	074910	82 mm 131 mm
		70 A					074774		
		100 A	039148				074781		
MT-70	Gouging	70 A	037557	074682	074859	074897	074798	074927	76 mm 122 mm
MT-125		70 A	039131	074699	074866	074897	074798	074927	82 mm 131 mm
		100 A	039148				074804		

Flat-cutting consumables

Torch model		Calibrate	 Diffuser (x1)	 Electrode (x5)	 Nozzle (x1)	 Contact tip (x5)	 Retaining ring (x2)
MT-70	Cutting	40 – 70 A	074736	074705	074873	074811	074903
MT-125		40 – 70 A	074743	074712	074880	074828	
		80 – 125 A	074750	039155		074835	

AT

Torch model		Calibrate	 Diffuser (x1)	 Electrode (x5)	 Contact tip (x5)				 Auto deflector (x1)
AT-70	Cutting	20 – 50 A	037557	037564	037571	037601	or	037618	037649
		70 A			037588				
AT-125	Cutting	Precision cut 45 A	039131	039155	039315	039216	or	039339	037496
		45 A			039162				039292
		65 A			039179				
		85 A			039186				
		105 A	039148		039193	039223	or	039445	039308
		125 A			039209				
AT-160	Cutting	Precision cut 45 A	067509	037493	067516	–		067578	076945
		45 A			067523				067592
		65 A			067530				
		85 A			067547				
		105 – 125 A			067554			067585	067608
		160 A			067561				

DEFECT SOURCE

CONSUMABLES	Consumables are wearing parts, so it is important to know when to change them. Visually: melted or damaged consumables, holes in nozzles >1.5 mm, worn electrodes or melted pads, etc. Pragmatically: loss of cutting performance, ignition on difficult workpiece, etc.
NOZZLE	Tighten the nozzle so that all parts are securely fastened. The nozzle must not rotate easily.
GAS	Use compressed air with an oil and water filtration system.

ANOMALIES, CAUSES, SOLUTIONS

SYMPTOMS	POSSIBLE CAUSES	SOLUTIONS
No arc ignition.	Torch incorrectly connected to the power source.	Check the torch's conenction to the power s ource.
	Incorrect compressed-air pressure.	Adjust the air pressure to the recommended value.
	Missing consumable part (nozzle, contact tip electrode or diffuser, etc.).	Replace missing parts.
	Consumables are not installed correctly.	The electrode is not in contact with the cont act tip.
Interrupting the cuttin g arc.	Earth clamp not properly connected (if dis connected after a few seconds of cutting).	Check that the earth clamp is connected to one of the sheet metal's clean surfaces to b e cut effectively.
	Inappropriate cutting-feed speed.	Adjust the cutting speed.
	The distance between workpiece and torc h's nozzle is too great.	Bring the torch closer to the workpiece.
	The compressed-air supply has been cut off.	Check the compressed-air supply.
	Damaged consumable in the torch.	Inspect the torch's consumable parts and re place them.
The consumables ar e wea- ring prematur ely.	Insufficient air pressure.	Adjust the air pressure.
	The cutting-feed speed is too fast.	Adjust the cutting speed.
	Impurities or moisture in the compressed air.	Check the power source's air filter.
	Soiled cutting surface.	Clean and strip the surface of the sheet met al to be cut.
Excess burrs under t he workpiece after c utting.	The cutting-feed speed is too fast.	Adjust the cutting speed.
	Incorrect compressed-air pressure.	Adjust the air pressure to the recommended value.
	The cutting current is too low for the thickness of the workpiece.	Adjust the cutting current value on the powe r source.
Not perpendicular to the metal sheet's sur face.	Torch not held perpendicular to the surfac e of the workpiece.	Improving torch support.
	Consumables incorrectly fitted in the torch (loose nozzle, etc.).	Readjust the fitting and tightening of consu mables.
	The cutting current is too low for the thickness of the workpiece.	Adjust the cutting current value on the powe r source.

CERTIFICATION AND SORTING GUIDELINES

CE	This equipment in accordance with European directives. The EU Declaration of Conformity is available on our website (see the cover page).
UK CA	This equipment complies with British standards. The UK declaration of conformity is available on our website (see the cover page).
	This equipment complies with Moroccan standards. The C_{ρ} (CMIM) Declaration of Conformity is available on our website (see the cover page).
	Recyclable product subject to specific waste-sorting requirements.
	This equipment is subject to selective collection in accordance with European Directive 2012/19/EU. Do not dispose of this device in household waste.
	Equipment complying with Chinese requirements on the restricted use of hazardous substances in electrical and electronic products.

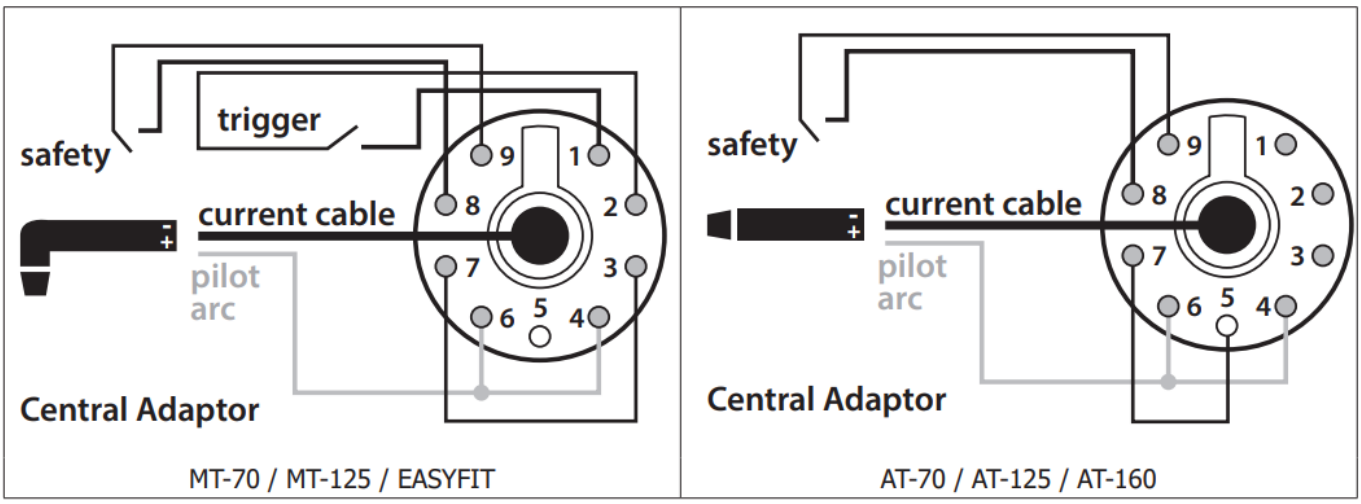
FRENCH WARRANTY CONDITIONS

The warranty covers all defects or manufacturing faults for two years from the date of purchase (parts and labour). The warranty does not cover:

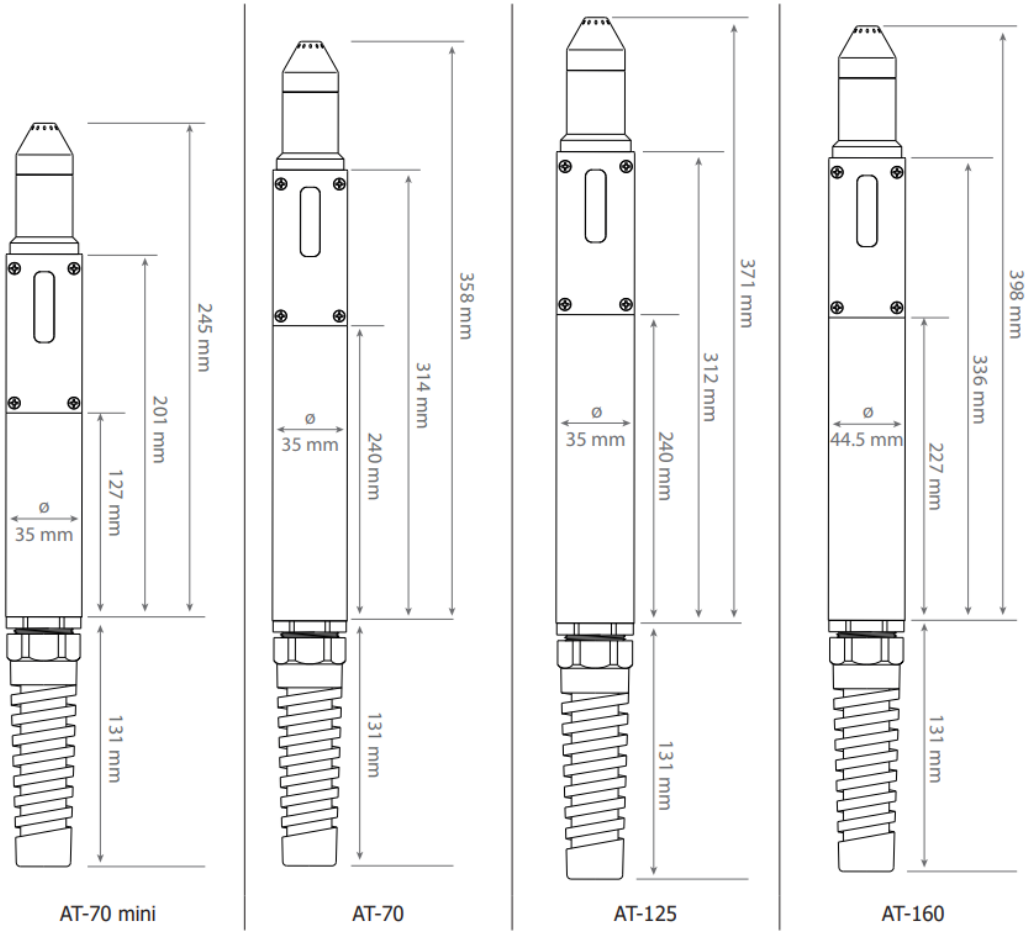
- Any damage caused by transport.
- The normal wear and tear of parts (e.g . cables and clamps, etc.).
- Incidents caused by improper use (power supply errors, dropping or disassembling the device).
- Environmental failures (pollution, rust and dust, etc.).

In the event of a breakdown, return the device to your distributor including:
– a dated proof of purchase (receipt or invoice)
– a note explaining the breakdown.

CONNECTION



DIMENSIONS



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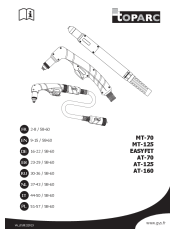
Documents / Resources

	tiPARC MT-70 Plasma Hand Torch Complete [pdf] Instruction Manual MT-70 Plasma Hand Torch Complete, Plasma Hand Torch Complete, Hand Torch Complete, Torch Complete, Complete

References

- User Manual