

# Automatic welding and cutting

Equipment, processes and solutions to maximize your productivity





# AIR LIQUIDE

TM  
WELDING

With this new edition of the Automatic Welding and Cutting catalogue, Air Liquide Welding offers a range of equipment for a wide variety of applications of cutting, welding and robotic installations.

Our most recent innovations concerning processes and their implementation, and also new equipment for welding and cutting, are presented through these pages.

You will discover the benefits of our new cutting machines, the automated process of PRESTOJET 4 on an automatic cutting machine, the TOPTIG welding process without spatter, the MEGATRAC 5 carriage, the new 3A WELDING SYSTEM to manage and control automatic welding installations, the robotic TOPWAVE process, coupling the performance of the DIGI@WAVE and CITOWAVE power sources to OTC robotics and using the TEACH remote control to combine welding and robot adjustment programs.



Improve your productivity and the quality of your welding and cutting applications with the automatic solutions that Air Liquide Welding group can offer you. Whatever the welding process (Submerged Arc, MIG/MAG, TIG, Plasma...) or the cutting process (Oxyflame, Plasma), our experience is at your service. You will find in the present catalogue not only equipments for your applications but solutions that provide a better quality and productivity enhancement.

## Summary



### Automatic cutting

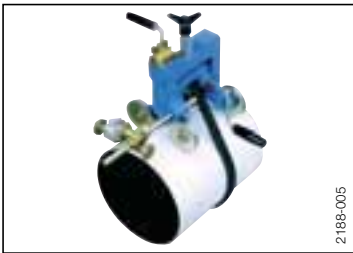
Portable carriages (TAGLIATUBI, PRATIC, PYROTOME SE) . . . . .	3
Cantilever machines: NOVITOME - MULTITOME - OXYTOME C. . . . .	4
Gantry machines: OXYTOME - OXYTOME HPC . . . . .	6
Plasma machines: OPTITOME - PLASMATOME - ALPHATOME . . . . .	8
Heavy duty custom machines:	
OXYTOME, PLASMATOME RS & TWIN RS - CYBERTOME . . . . .	10
Additional equipment . . . . .	12
AZURMATIC fume extraction and water tables . . . . .	13
Numerical controllers: D - HPC DIGITAL PROCESS . . . . .	14
Cutting softwares . . . . .	15
Power sources and torches for the NERTAJET plasma cutting . . . . .	16
Machine oxycutting . . . . .	22

### Automatic welding

ALW submerged arc solutions . . . . .	24
Submerged arc welding heads . . . . .	28
MIG/MAG and submerged arc tractors . . . . .	30
STARMATIC power sources . . . . .	31
Submerged arc flux installations and guide systems . . . . .	32
3A WELDING SYSTEM . . . . .	34
ALW MIG/MAG solutions . . . . .	36
DIGI@WAVE and DIGI@PULS solutions . . . . .	38
Double wire process: TOPMAG . . . . .	44
Positioning equipment . . . . .	46
Column and Booms : CB-MATIC . . . . .	48
Seamer : SEAM-MATIC . . . . .	50
Beam welding machine: BEAM-MATIC . . . . .	52
GYRMATIC . . . . .	53
ROTAMATIC rotators and options . . . . .	54
Positioners: POSIMATIC . . . . .	59
Turn-table: TURNMATIC . . . . .	60
Headstock: HEADMATIC . . . . .	61
Mecanization . . . . .	62
Typical TIG-plasma solutions . . . . .	64
TIG and plasma installations . . . . .	66
In line pipe welding . . . . .	70
TIG and plasma welding processes . . . . .	72
Robotic solutions . . . . .	73
Robotic cells . . . . .	74
TOPTIG: TIG welding for automation . . . . .	76
TOPWAVE, digital high precision . . . . .	79
Robotic plasma cutting . . . . .	80
Electron beam welding . . . . .	81
WINDMILLS: the welding global solution of ALW . . . . .	82
Submerged arc specific applications . . . . .	83

# Portable carriages

**Portable carriages: three practical and functional carriages for ancillary cutting jobs in the workshop and on site.**



2188-005

## TAGLIATUBI 397

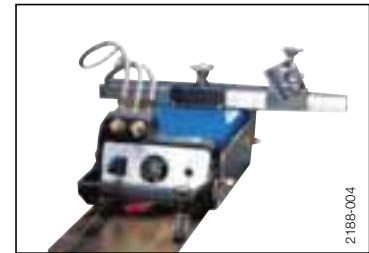
- Oxycutting of tubes with outside diameter varying from 150 mm (6") to 1 200 mm (48").
- Straight and bevel cutting  $\pm 45^\circ$  with a torch.
- X or Y bevel cutting  $\pm 30^\circ$  with two torches (option).



2188-006

## PRATIC

For ancillary cutting work on site and in the workshop, oxycutting. Reversible, regulated speed, includes a clutch with the controls grouped together below the handle. Straight, curved, circular and parallel, square and bevelled cuts. A light and highly manoeuvrable tool.



2188-004

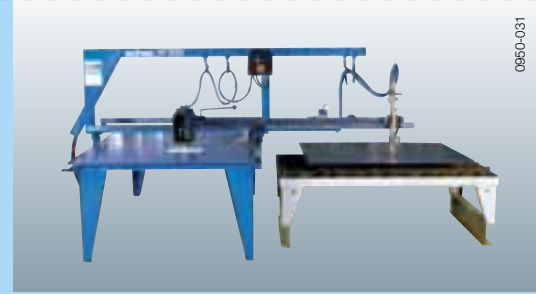
## PYROTOME SE

Oxycutting, plasma cutting, welding, tempering and mechanisation for the craft and manufacturing industries. Reversible, electronic speed regulation, includes a clutch and an optional remote control of speed, direction and torch height, cutting and welding oxygen (subject to availability of connections). A versatile and powerful tool.

<b>Cat. no.</b>	W 000 209 422 + W 000 259 004	W 000 209 421 + W 000 259 004	W 000 138 864 + 1 torch to add
<b>Speed</b>	manual	up to 100 cm/min	up to 125 cm/min
<b>Cutting thickness</b>	5 to 50 mm	8 to 150 mm	3 to 250 mm
<b>Basic composition</b>	<ul style="list-style-type: none"> <li>• 1 basic carriage with gas distributor</li> <li>• 1 rack bar</li> <li>• 1 mobile torch holder</li> <li>• 1 torch and hoses</li> <li>• Chain of 8 elements</li> </ul>	<ul style="list-style-type: none"> <li>• 1 basic carriage</li> <li>• 1 G1N short torch with hoses and connectors</li> <li>• 1 mobile torch support</li> <li>• 1 rack</li> <li>• 1 counterweight with compass point</li> <li>• 1 heat screen</li> <li>• 1 supply cable 220 V with plug</li> <li>• 1 transformer 220 V/42 V with cable</li> <li>• 1 kit of tools</li> </ul>	<ul style="list-style-type: none"> <li>• 1 automotorised carriage</li> <li>• 1 torch support equipment</li> <li>• 1 gas unit</li> <li>• 1 heat screen</li> <li>• 1 transformer 230/400/24 V - 160 VA-50 Hz</li> </ul>
<b>Add-ons</b>	<ul style="list-style-type: none"> <li>• Cutting tip with G1 cone</li> <li>• Set of 3 Y connectors needed for torch's feed</li> <li>• Complementary torch</li> <li>• Set of three hoses to feed the second torch</li> <li>• Pack of reamers</li> <li>• Gas ignitor</li> <li>• Hoses for gas</li> </ul>	<ul style="list-style-type: none"> <li>• Support with torch and hoses</li> <li>• Y connectors with 2 torches</li> <li>• Rack</li> <li>• Rack joint</li> <li>• Cutting device for 45/85 mm <math>\varnothing</math></li> <li>• Heat screen</li> <li>• Pack of 4 reamers</li> <li>• Gas ignitor</li> <li>• Hoses for gas</li> <li>• Pack of 4 reamers</li> <li>• Gas ignitor</li> <li>• Hoses for gas</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Add one torch to OXYCUT:</b></li> <li>• G1 torch: W 000 164 839</li> <li>• MACH AC torch: W 000 209 446</li> <li>• MACH GPL torch: W 000 209 449</li> <li>• 2 m track</li> <li>• Compass</li> <li>• Turret</li> <li>• 2nd torch system</li> <li>• Heat screen</li> <li>• Roller system</li> <li>• Lateral guide</li> <li>• Cutting gas solenoid valve</li> </ul>

# Cantilever type machines

**NOVITOME C, MULTITOME C and OXYTOME 5 C:** a wide range of machines which responds to the needs of both industry and craftsmen. Choice of control mode: opto-electronic reader only, or combined with numerical control. Choice of process: oxyflame or plasma arc cutting.



00650-031

**NOVITOME C**

## NOVITOME C

For easy and economic cutting by using a simple opto-electronic reader.

### OXYFLAME AND PLASMA

OUTLINE SPECIFICATION Dimensions in mm	Cat. no.	W 000 325 284	W 000 325 587
	Cutting process	oxy/plasma	oxy/plasma
	Rate of advance (cm/min.)	300	300
	A = Reading width	1 250	1 250
	B =		
	• cutting width with one torch	1 250	1 250
	• cutting width with two torches	2 x 750	2 x 750
	C = max. parallel cutting width	1 500	1 500
	D = min. parallel cutting width	95	95
	Usable length of cut (basic version)	1 900	1 900
	Maximum number of torches	4	4
	Gas feed ( hose Ø x N)	9 x 3	9 x 3
	Electrical power supply	220 V 50 - 60 Hz	220 V 50 - 60 Hz
	Floor area (L x W)	3 280 x 3 100	3 280 x 3 100
Package dimensions (wooden crate)	3 000 x 1 550 x 550	3 000 x 1 550 x 550	
Net weight (kg)	300	310	
COMPOSITION - EQUIPMENT included in basic version ■ optional	Traceur XY opto-electronic reader	■ (T. 1030)	■ (T. 1030)
	Numerical control	■	■ (D 2.5 <sup>+</sup> )
	Gas manifolds with oxygen solenoid valves	■	■
	Heating system with solenoid valves	-	-
	Uprated heating system with solenoid valves	-	-
	Soft start	■	■
	Plasma power source interface	■	■
	Manual tool-holder	■ ■ ■ ■	■ ■ ■ ■
	Motorised tool holder collar	■ ■ ■ ■	■ ■ ■ ■
	Motorised tool holder	-	-
	Electric start	-	-
	Arc voltage sensor (plasma cutting)	■	■
	Capacitive sensor (oxygas torch)	-	-
	Track - Long. 4 000	-	-
	Track - Long. 3 000	■	■
	Track - Long. 2 000	-	-
	Mobile template table	■ (fixed)	■ (fixed)
	Rail with hose carriages	■	■
	NERTAJET 50 plasma power source	■	■

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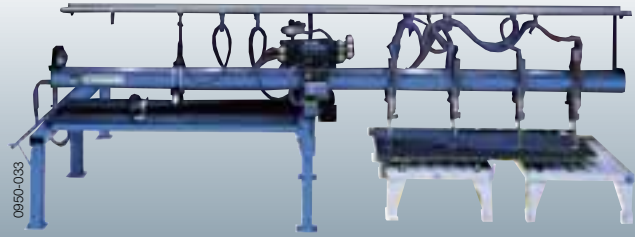
**MULTITOME C****MULTITOME C**

Performing and economical machines with a cutting width up to 2 metres.

**OXYFLAME AND PLASMA**

W 000 325 335	W 000 325 336	W 000 325 264
oxy/plasma	oxy/plasma	oxy/plasma
300	300	300
1 550	1 550	2 500
1 550	1 550	2 500
2 x 1 025	2 x 1 025	2 x 1 250
2 350	2 350	3 000
95	95	95
2 200	2 200	3 000
4	4	6
9 x 3	9 x 3	12 x 3
220 V 50 - 60 Hz	220 V 50 - 60 Hz	220 V 50 - 60 Hz
4 450 x 3 000	4 450 x 3 000	6 200 x 4 300
3 800 x 1 200 x 700	3 800 x 1 200 x 700	6 500 x 1 200 x 1 550
310	385	795
■ (T. 1503)	■ (T. 1503)	■ (T. 1520)
■	■ (D 2.5+)	■ (D 2.5+)
■	■	■
■	■	■
■	■	■
■	■	■
■	■	■
■ ■ ■ ■	■ ■ ■ ■	-
■ ■ ■ ■	■ ■ ■ ■	-
-	-	■ ■ ■ ■ ■ ■
-	-	■ x N
■ x 1	■ x 1	■ x 1
-	-	-
-	-	■ ■ x N
■ ■ x N	■ ■ x N	-
-	-	■ x 1
■ ■	■ ■	■ ■
■	■	■
■	■	■

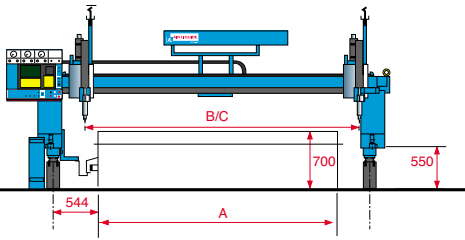
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**OXYTOME 5 C****OXYTOME 5 C**

Economical and high capacity machines: cutting width up to 3 metres and up to 6 torches, modular, open-ended design for increased productivity.

**OXYFLAME AND PLASMA**

# Gantry machines



**OXYTOME, OXYTOME HPC:** a range of machines destined for oxycutting and plasma cutting piloted by numerically controlled machines with the possibility of computer assistance to improve flexibility.

		OXYTOME				
		OXYTOME 20	OXYTOME 25	OXYTOME 30	OXYTOME 40 (double drive)	
OUTLINE SPECIFICATION Dimensions in mm.	<b>Cat. no. without NC/ single motor/ 1 oxy torch</b>	W 000 325 377	W 000 325 378	W 000 325 379	W 000 325 381	
	<b>Process maxi 6 oxy torches and/ or 1 plasma</b>	oxy/plasma	oxy/plasma	oxy/plasma	oxy/plasma	
	<b>Speed (m/min.) fast/ single motor work/ double motor work</b>	15/04/10	15/04/10	15/04/10	15/-/10	
	<b>A =</b> • cutting width with 1 torch without additional torch • cutting width with 1 torch with 5 parked torches	2 400 1 625	2 900 2 125	3 400 2 625	4 400 3 625	
	<b>B = Max. parallel cutting width</b>	2 400	2 900	3 400	4 400	
	<b>C = Min. parallel cutting width<sup>(1)</sup></b>	155	155	155	155	
	<b>Usable cutting length (basic version)</b>	3 000	3 000	3 000	3 000	
	<b>Maximum number of oxy torches</b>	■ ■ ■ ■ ■ ■	■ ■ ■ ■ ■ ■	■ ■ ■ ■ ■ ■	■ ■ ■ ■ ■ ■	
	<b>Gas feed (hose Ø x N)</b>	12 x 3	12 x 3	12 x 3	12 x 3	
	<b>Electrical power supply (single-phase)</b>	230 V 50 - 60 Hz	230 V 50 - 60 Hz	230 V 50 - 60 Hz	230 V 50 - 60 Hz	
	<b>Double driven</b>	■	■	■	■	
	<b>Cutting solenoid valves on oxy torch</b>	■ ■ ■ ■ ■ ■	■ ■ ■ ■ ■ ■	■ ■ ■ ■ ■ ■	■ ■ ■ ■ ■ ■	
	<b>Piloted gas panel</b>	■	■	■	■	
	COMPOSITION - EQUIPMENT included in basic version ■ optional	<b>Automatic gas control</b>	■	■	■	■
		<b>D 2.5+, D 510, D 610 numerical control optional or HPC</b>	■	■	■	■
<b>Gas manifold, cut oxygen valves</b>		■	■	■	■	
<b>Heating kit with solenoid valves, without pilot gas</b>		■	■	■	■	
<b>Uprated heating system with solenoid valves, without pilot gas</b>		■	■	■	■	
<b>Soft start without pilot gas</b>		■	■	■	■	
<b>Plasma interface</b>		■	■	■	■	
<b>Marking torch gas circuit*</b>		■ if piloted gas	■ if piloted gas	■ if piloted gas	■ if piloted gas	
<b>Motorised oxygas toolholder</b>		■ ■ ■ ■ ■ ■	■ ■ ■ ■ ■ ■	■ ■ ■ ■ ■ ■	■ ■ ■ ■ ■ ■	
<b>Electric ignition</b>		■ x N	■ x N	■ x N	■ x N	
<b>Mechanical capacitive sensor (oxygas torch)<sup>(2)</sup></b>		-	-	-	-	
<b>Automatic indexation<sup>(3)</sup></b>		-	-	-	-	
<b>4<sup>th</sup> axis for 2<sup>nd</sup> motorized carriage<sup>(4)</sup></b>		-	-	-	-	
<b>Marker HF*</b>		■	■	■	■	
<b>Pneumatic marker*</b>		■	■	■	■	
<b>Additional track of 3 m</b>		■ x N	■ x N	■ x N	■ x N	
<b>Additional track of 1.5 m</b>		■ x 1	■ x 1	■ x 1	■ x 1	
<b>Hose support system feed</b>		■ ■ x N	■ ■ x N	■ ■ x N	■ ■ x N	
<b>NERTAJET 50/HP 125/300/420/600/720 plasma power source</b>	■ ■	■ ■	■ ■	■ ■		
<b>Extraction table</b>	■	■	■	■		

\*others markers on demand

<sup>(1)</sup> Minimum 80 with option torch support parallel cut.

<sup>(2)</sup> Either sensor or capacitive sensor.

<sup>(3)</sup> Need sensor and electric ignition.

<sup>(4)</sup> Either indexing or 4<sup>th</sup> axis not together.

0255-043



OXYTOME



2005-783

OXYTOME HPC

## OXYTOME HPC

OXYTOME 15 HPC	OXYTOME 20 HPC	OXYTOME 25 HPC	OXYTOME 30 HPC	OXYTOME 35 HPC (double drive)	OXYTOME 40 HPC (double drive)
W 000 263 035	W 000 260 752	W 000 260 753	W 000 260 754	W 000 260 755	W 000 260 756
oxy/plasma	oxy/plasma	oxy/plasma	oxy/plasma	oxy/plasma	oxy/plasma
15/04/10	15/04/10	15/04/10	15/04/10	15/-/10	15/-/10
1 900	2 400	2 900	3 400	3 900	4 400
1 125	1 625	2 125	2 625	3 125	3 625
1 900	2 400	2 900	3 400	3 900	4 400
155	155	155	155	155	155
3 000	3 000	3 000	3 000	3 000	3 000
	■ ■ ■ ■ ■ ■ ■ ■	■ ■ ■ ■ ■ ■ ■ ■	■ ■ ■ ■ ■ ■ ■ ■	■ ■ ■ ■ ■ ■ ■ ■	■ ■ ■ ■ ■ ■ ■ ■
12 x 3	12 x 3	12 x 3	12 x 3	12 x 3	12 x 3
230 V 50 - 60 Hz	230 V 50 - 60 Hz	230 V 50 - 60 Hz	230 V 50 - 60 Hz	230 V 50 - 60 Hz	230 V 50 - 60 Hz
■	■	■	■	■	■
■ ■ ■ ■ ■ ■ ■ ■	■ ■ ■ ■ ■ ■ ■ ■	■ ■ ■ ■ ■ ■ ■ ■	■ ■ ■ ■ ■ ■ ■ ■	■ ■ ■ ■ ■ ■ ■ ■	■ ■ ■ ■ ■ ■ ■ ■
-	-	-	-	-	-
■	■	■	■	■	■
■	■	■	■	■	■
■	■	■	■	■	■
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
■	■	■	■	■	■
■	■	■	■	■	■
■ ■ ■ ■ ■ ■ ■ ■	■ ■ ■ ■ ■ ■ ■ ■	■ ■ ■ ■ ■ ■ ■ ■	■ ■ ■ ■ ■ ■ ■ ■	■ ■ ■ ■ ■ ■ ■ ■	■ ■ ■ ■ ■ ■ ■ ■
■ x N	■ x N	■ x N	■ x N	■ x N	■ x N
■ x N	■ x N	■ x N	■ x N	■ x N	■ x N
■	■	■	■	■	■
■ x 1	■ x 1	■ x 1	■ x 1	■ x 1	■ x 1
■	■	■	■	■	■
■	■	■	■	■	■ ■
■ x N	■ x N	■ x N	■ x N	■ x N	■ x N
■ x 1	■ x 1	■ x 1	■ x 1	■ x 1	■ x 1
■ ■ x N	■ ■ x N	■ ■ x N	■ ■ x N	■ ■ x N	■ ■ x N
■ ■	■ ■	■ ■	■ ■	■ ■	■ ■
■	■	■	■	■	■



# Gantry machines dedicated to

Powerful CNC (computer numerical control) machines specially designed for high productivity plasma cutting. With these dedicated machines you obtain all the benefits of plasma cutting: quality, speed, accuracy, repetition and flexibility of production.

Their common features: high speed, Air Liquide Welding NERTAJET plasma torch and power source with integral automatic cycle control, motorised torch-holder with electronic height sensor (no contact with the workpiece). Complete ready use installations.

## OPTITOME 15

The OPTITOME 15 is a portal plasma cutting machine (in option single torch oxy-gas cutting) designed for the cutting applications in the thin sheets industries, in the ventilation, stove setting and air-conditioning industries.

The design of the installation, the possibilities of equipment, the multi-use and the cutting capacities on non-alloyed steels, stainless steels and light alloys make the OPTITOME 15 the ideal tool for small and medium fabrication series.

		<b>NEW</b> PRESTOJET 4	OPTITOME 15 NERTAJET 50	NERTAJET HP 125	
<b>OUTLINE SPECIFICATION</b> Dimensions in mm	<b>Cat. no. without NC</b>	W 000 325 312	W 000 325 312	W 000 132 865	
	<b>Cutting width with 1 torch</b>	1 500 mm	1 500 mm	1 500 mm	
	<b>Cutting thickness</b>	• plasma	1 to 8 mm	1 to 40 mm	0.4 to 30 mm
		• oxy-cutting (option)	3 to 50 mm	3 to 50 mm	3 to 50 mm
	<b>Advance rate</b>	• cutting	1 000 cm/min	1 000 cm/min	1 000 cm/min
		• fast	1 500 cm/min	1 500 cm/min	1 500 cm/min
	<b>Usable cutting length (basic version)</b>	1 500/3 000 mm	1 500/3 000 mm	3 000 mm	
	<b>Max. number of plasma torches</b>	1	1	1	
	<b>Maximum number of open ended plasma bevelling torches</b>	-	-	-	
	<b>Cutting gas</b>	Compressed air	Compressed air/N <sub>2</sub> /Ar+H <sub>2</sub>	O <sub>2</sub> /Ar+H <sub>2</sub> /N <sub>2</sub> +(1)	
	<b>Pilot gas</b>	Compressed air	Compressed air/N <sub>2</sub> /Ar+H <sub>2</sub>	Ar	
	<b>Electrical power supply (single phase)</b>	230 V - 50/60 Hz	230 V - 50/60 Hz	230 V - 50/60 Hz	
	<b>COMPOSITION - EQUIPMENT</b> included in basic version optional	<b>Numerical control</b>	■ D 2.5+, D 510 or D 610	■ D 2.5+, D 510 or D 610	■ HPC DIGITAL PROCESS
<b>Motorised torch holder</b>		■ POC 75	■ POC 75	■ POC 100	
<b>Electronic sensor</b>		■	■	■	
<b>Detector with auto. cycling</b>		■	■	■	
<b>Automatic indexing device</b>		-	-	-	
<b>4<sup>th</sup> axis for 2<sup>nd</sup> motorized carriage<sup>(4)</sup></b>		-	-	-	
<b>Twin motor drive</b>		-	-	-	
<b>Additional track</b>		-	-	-	
<b>Hose support system</b>		-	-	-	
<b>Smoke extractor</b>		■ on cutting table	■ on cutting table	■ on cutting table	
<b>Cutting table</b>		■ fume extracting	■ fume extracting	■ fume extracting	
<b>Extraction unit</b>		■	■	■	
<b>Marker H.F.*</b>		■	■	■	
<b>Integrated marker with cutting torch</b>		-	-	■	
<b>Plasma power source</b>		■ PRESTOJET 4	■ NERTAJET 50	■ NERTAJET HP 125	
<b>Isolating box</b>		■	■	■	
<b>Cutting torch</b>		OCP 100	CPM 15	OCP 150	
<b>Plasma bevelling torch</b>	-	-	-		
<b>Oxy-gas cutting</b>	■ 1 torch maximum	■ 1 torch maximum	■ 1 torch maximum		

\*others markers on demand

<sup>(1)</sup> With NERTAJET HP 125 you can choose every process except Water vortex.

<sup>(2)</sup> Either sensor or capacitive sensor.

<sup>(3)</sup> Need sensor and electric ignition.

<sup>(4)</sup> Either indexing or 4<sup>th</sup> axis not together.

# plasma cutting process



**OPTITOME 15**

**PLASMATOME**

**ALPHATOME**

## PLASMATOME 20, 25, 30, 40

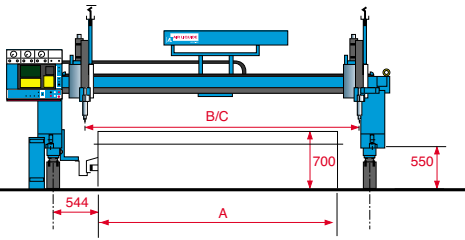
Single or twin torch for high quality plasma cutting for all metals with a thickness range from 0.4 to 130 mm according to the processes chosen and with a choice of different markers according to your application.

## ALPHATOME 20/25/30/35/40

High accuracy installation for plasma cutting. High quality cuts for metallic plates with thicknesses from 0.4 to 70 mm. Single or bi-torch this machine is an alternative solution to laser cutting with lower investment cost. Positioning accuracy  $\pm 0.1$  mm.

PLASMATOME				ALPHATOME				
20	25	30	40	20	25	30	35	40
W 000 325 390	W 000 325 391	W 000 325 393	W 000 325 394	W 000 236 057	W 000 236 058	W 000 236 059	On request	On request
2 400 mm	2 900 mm	3 400 mm	4 400 mm	2 000 mm	2 500 mm	3 000 mm	3 500 mm	4 400 mm
0.4 to 130 mm				0.4 to 70 mm				
-				-				
1 000 cm/min				1 000 cm/min				
1 500 cm/min				2 200 cm/min				
3 000 mm (base)				500 mm (base)				
2				2				
-				1				
Multi-gas (O <sub>2</sub> / N <sub>2</sub> / N <sub>2</sub> + H <sub>2</sub> O / Ar + H <sub>2</sub> )				Multi-gas				
Argon				Argon				
230 V - 50/60 Hz				230 V - 50/60 Hz				
<input checked="" type="checkbox"/> D 2.5+, D 510, D 610 or HPC DIGITAL PROCESS <input checked="" type="checkbox"/> PO 251/ POC 250 (course 250 mm)				<input checked="" type="checkbox"/> HPC DIGITAL PROCESS <input checked="" type="checkbox"/> POC 150 (course 150 mm)				
<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>				
<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>				
<input checked="" type="checkbox"/> x 1 (HPC only)				<input checked="" type="checkbox"/> x 1 (HPC only)				
<input checked="" type="checkbox"/> per 1.5 or 3 m				<input checked="" type="checkbox"/> per 2 or 3 m				
<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>				
<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>				
<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>				
<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>				
<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>				
<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> NERTAJET 50 / HP 125/300/420/600/720 <input checked="" type="checkbox"/>				<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> NERTAJET HP 125 / 300 / 420 <input checked="" type="checkbox"/>				
<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> CPM 15/OCP 150/CPM 300/CPM 360/CPM 720 <input checked="" type="checkbox"/>				<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> OCP 150 / CPM 360 <input checked="" type="checkbox"/>				
-				-				
-				-				

# Heavy duty custom machines



**OXYTOME/PLASMATOME RS & TWIN RS - CYBERTOME** open the way to all oxycutting and plasma arc cutting operations that require the use of machines capable of cutting very wide plates and implementing more complex options.

## Reinforced structure for Oxytome / Plasmatome (RS)

For plates wider than 4 m or for certain equipment, a reinforced structure is used to ensure movement stability and precision.

	OXYTOME RS HPC 30-65**			PLASMATOME RS	
	35	50	60	50	W
<b>Cat. No. without NC / double motor / 1 oxy torch</b>	W 000 265 064	W 000 263 036	W 000 263 037	W 000 263 038	W
<b>Process maxi 8 oxy torches</b>	Oxycutting			-	
<b>Process maxi 6 oxy torches and/or 2 plasma</b>	Oxy/Plasma			Plasma	
<b>Process maxi 12 oxy torches and/or 2 plasma</b>	-			-	
<b>Speed (m/min.) fast/double motor work</b>	15/10			15/10	
<b>A =</b>					
• cutting width with 1 torch without additional torch	3 900	5 400	6 400	5 400	
• cutting width with 1 torch with 7 parked torches	2 815	4 315	5 315	-	
• cutting width with 1 torch with 1 parked torch	3 745	5 245	6 245	5 245	
<b>B = Max. parallel cutting width</b>	3 900	5 400	6 400	5 400	
<b>C = Min. parallel cutting width<sup>(1)</sup></b>		155		155	
<b>Usable cutting length (basic version)</b>		3 000		3 000	
<b>Maximum number of oxy torches</b>		■ ■ ■ ■ ■ ■ ■ ■		-	
<b>Maximum number of plasma torches</b>		■ ■		■ ■	
<b>Maximum number of plasma bevelling open ended</b>		■ (size 45 maxi)		■ (size 45 maxi)	■
<b>Gas feed (hose Ø x N)</b>		12 x 3		-	
<b>Electrical power supply (single-phase)</b>		230 V - 50/60 Hz		230 V - 50/60 Hz	230
<b>3-gases electronic valves module on oxy torch</b>		■ ■ ■ ■ ■ ■ ■ ■		-	
<b>Automatic gas control</b>		■		■	
<b>D 2.5', D 510, D 610 numerical control optional or HPC</b>		■ HPC		■ HPC	
<b>Gas manifold, cut oxygen valves</b>		■ x N		-	
<b>Heating kit with solenoid valves</b>		■ x N		-	
<b>Uprated heating system with solenoid valves</b>		■ x N		-	
<b>Soft start</b>		■ x N		-	
<b>Plasma interface</b>		■		■	
<b>Marking torch gas circuit</b>		■		-	
<b>Motorised oxygas toolholder</b>		■ ■ ■ ■ ■ ■ ■ ■		-	
<b>Electric ignition</b>		■ x N		-	
<b>Mechanical capacitive sensor (oxygas torch)<sup>(2)</sup></b>		■ x N		-	
<b>Automatic indexing<sup>(3)</sup></b>		■		■	
<b>4th axis for 2nd motorized carriage<sup>(4)</sup></b>		■ x 1		■ x 1	
<b>Marker HF*</b>		■		■	
<b>Pneumatic marker*</b>		■		■	
<b>Drilling unit<sup>(5)</sup></b>		■		■	
<b>Bevel system VXX oxy HPC endless rotation</b>		-		-	
<b>Additional track of 6 m</b>		-		-	
<b>Additional track of 3 m</b>		■ x N		■ x N	
<b>Additional track of 1.5 m</b>		■ x 1		■ x 1	
<b>Track height</b>		550		550	
<b>Hose support system feed</b>		■ ■ x N		■ ■ x N	
<b>Nertajet 50/HP125/HP300/HP420/HP600/HP720 plasma power source</b>		■ ■		■ ■	
<b>Extraction table</b>		■		■	

**OUTLINE SPECIFICATION**  
Dimensions in mm

**COMPOSITION - EQUIPMENT**  
■ included in basic version  
■ optional

\*others markers on demand  
\*\*other sizes or capacitive sensor.

<sup>(1)</sup> Minimum 80 with option torch support parallel cut.  
<sup>(2)</sup> Either sensor or capacitive sensor.

<sup>(3)</sup> Need sensor and electric ignition.  
<sup>(4)</sup> Either indexing or 4<sup>th</sup> axis not together.

<sup>(5)</sup> On request.



OXYTOME RS

PLASMATOME TWIN RS

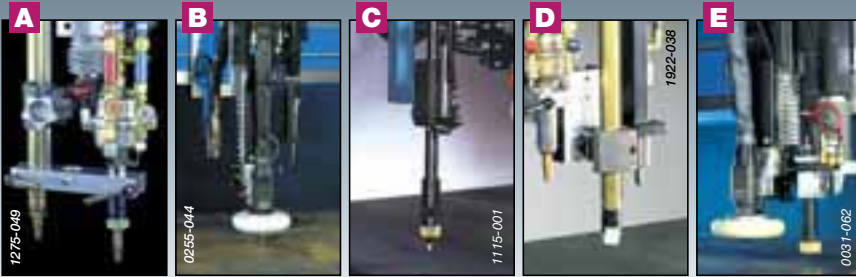
CYBERTOME

**TWIN RS structure for Oxytome / Plasmatome**  
 The TWIN RS structure is designed as a double transversal beam equipped with liner guides and bearing, located in a safety position far from heat radiations. This machine is specially suitable for bevelling head applications requiring transversal cutting stroke over 4 m or tool holder of 800 mm. Last point, the accuracy of that machine is particularly interesting for HP plasma applications.

**CYBERTOME**  
 Designed as a "machine tool" concept, stated in terms of accuracy and repeatability according to current standards. This design is able to change in relation to special requirements of the customers, and allows sheet metal cutting of 8 m width and more.

IS HPC**	OXYTOME HPC TWIN RS	PLASMATOME HPC TWIN RS	CYBERTOME	CYBERTOME HPC
60	35 - 65 **	35 - 65 **	up to 90 **	up to 90 **
000 263 039	ON REQUEST	ON REQUEST	ON REQUEST	ON REQUEST
	Oxycutting	-	-	-
	Oxy/Plasma	Plasma	-	-
	-	-	Oxy/Plasma	Oxy/Plasma
	15/10	15/10	15/10 or 30/10	15/10 or 30/10
6 400	-	-	-	-
-	-	-	-	-
6 245	-	-	-	-
6 400	-	-	-	-
155	-	-	-	-
3 000	3000	3000	-	-
-	■ ■ ■ ■ ■ ■ ■ ■	-	■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■	■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■
■ ■	■ ■	■ ■	■ ■	■ ■
(size 45 maxi)	■	■	■	■
-	12 x 3	-	16 x 3	16 x 3
0 V - 50/60 Hz	230 V - 50/60 Hz	230 V - 50/60 Hz	230 V - 50/60 Hz	230 V - 50/60 Hz
-	■ ■ ■ ■ ■ ■ ■ ■	-	-	■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■
■	■	■	■	■
■ HPC	■ HPC	■ HPC	■	■ HPC
-	■ x N	■ x N	■ x N	■ x N
-	■ x N	■ x N	■ x N	■ x N
-	■ x N	■ x N	■ x N	■ x N
-	■ x N	■ x N	■ x N	■ x N
■	■	■	■	■
-	■	-	■	■
-	■ ■ ■ ■ ■ ■ ■ ■	■ ■ ■ ■ ■ ■ ■ ■	■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■	■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■
-	■ x N	-	■ x N	■ x N
-	■ x N	-	■ x N	■ x N
■	■	■	■	■
■ x 1	■ x 1	■ x 1	■ x 1	■ x 1
■	■	■	■	■
■	■	■	■	■
■	■	■	■	■
-	-	-	-	■
-	-	-	■ x N	■ x N
■ x N	■ x N	■ x N	■ x N	■ x N
■ x 1	■ x 1	■ x 1	■ x N	■ x N
550	550	550	150	150
■ ■ x N	■ ■ x N	■ ■ x N	■ ■ x N	■ ■ x N
■ ■	■ ■	■ ■	■ ■	■ ■
■	■	■	■	■

# Additional equipment



These other devices are used according to the versions of the machine types, OXYTOME, PLASMATOME, RS, TWIN RS and CYBERTOME.

## Marking, tracing and tacking

### A Powder marking

Deposits grey zinc powder using an oxy/gas flame (for use only with the gas control panel)

### B HF marker pen

This pneumatic vibrator engraves sheet metal by slightly scoring the surface finish. Recommended for use on thin plates.

### C Felt-tip marking

Gravity-operated felt tip for marking stainless steels and light alloys. It operates by gravity and does not alter the surface finish of the material.

### D Pneumatic marking

For punching or engraving plates. The depth of marking is controlled by varying the compressed air pressure and the speed. Recommended for use on plates thicker than 5 mm.

### E Plasma arc marking

Low-power plasma arc for engraving or tracing on all materials. The depth of marking is controlled by the plasma arc power. The height is servo-controlled by the arc voltage.

Other marking possibilities on request (micro marker, inkjet, etc...)

## Beveling system



### Plasma longitudinal

This system allows the operator to manually tilt the torch in order to work plasma bevels along the longitudinal axis.



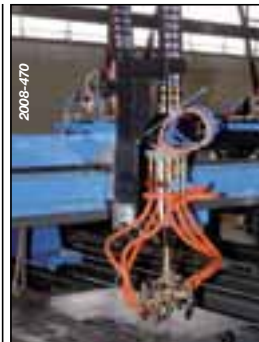
### Plasma straight

This system is used to work bevels along the axes using a plasma torch. For further details on this option, please contact us.



### Plasma beveling head

System rotation and tilting are entirely servo-controlled by the HPC digital process controller which makes it possible to program a bevel angle change during a run. This light but rugged system guarantees excellent cutting results.



### V X K Straight line beveling unit

For beveling along the machine axes with mechanical sensing.



### V X K endless rotation beveling unit

Can be fitted on Cybertome Numerical control programs the blowtorches positions. It can work V, X, or K type bevels from 0 to 45° for plates up to 60mm thick (other possibilities on request).

### Automatic indexing

The arrival of automatic indexing has encouraged an upward trend in multi-torch applications. This option uses the HPC digital process control to adjust the spacing between torches. This means that the machine can be programmed to cut identical parts or one-off parts without the need for operator intervention. This option also allows entirely automatic use of a machine equipped with 2 identical or 2 different accessories.

### Home positioning

(not shown) Used as a reference point from which all programs are started.

### Emergency stop cable

Can be used to trigger an emergency stop from any point within the operating area of the machine. There is a cable at the front and at the rear of the machine.



### Wide beveling system



### Narrow strip cutting system

Capable of cutting strips from 80 to 155 mm wide, using independent blowtorches to give a better quality cut on request).



### Tool holder PO 150 HPC with capacitive sensor



# AZURMATIC tables



## 3 models of table adapted to the process of cutting

### Extraction table for dry cutting

The AZURMATIC table with air extraction offers unrivalled efficiency in terms of fume extraction thanks to its unique system of transverse extraction ducts. Robustly designed in one-piece or modular form, the table is divided over its length into 1 metre sections, extraction taking place across the full width of the table on the module in operation only. Mechanical grills actuated by the displacement of the machine provide suction under the sheet at the place of cutting only.

This principle of operation guarantees optimum extraction, irrespective of the size of the sheet being cut, while maintaining a modest extraction air-flow rate.

#### Technical characteristics:

- transverse duct extraction system,
- division into 1 metre sections over the

- length of the table (500 and 750 mm sections on demand for intensive use),
- removable slag boxes,
- removable workpiece supporting frame with flat irons (section 100 x 6 mm) and wire mesh grid (50 x 50 x 5 mm),
- maximum capacity: sheet up to 300 mm thick.

### Constant water level extraction table

Various processes, especially plasma cutting with non-immersed water vortex, require a cutting table with water recovery and fume extraction.

This table provides both possibilities.

This process (which is patented) avoids the need for filtering equipment upstream of fume extraction.

#### Technical characteristics:

- one-piece design divided into 630 mm sections,

- standard lengths of 3 to 12 m,
- standard widths: 1.5 - 2 - 2.5 and 3 m,
- height: 700, 800 or 920 mm
- maximum capacity: sheet thickness 50 mm.

### Variable water level tables

Variable water level tables are specifically intended for immersed plasma cutting.

This procedure limits pollution by solid or gaseous matter and gives protection against audible and visual stress.

It improves accuracy of cutting while limiting distortions caused by heating of the workpiece.

#### Technical characteristics:

- modular construction in lengths of 1.5, 1.75 and 2 m,
- widths to demand,
- pivoting workpiece support frame for easier, faster cleaning.

Tables height 700 mm for OXYTOME, OXYTOME HPC and PLASMATOME (1 000 mm sections)\*

Cat. no.	Width	Length*
W 000 325 233	1 500	3 000
W 000 325 234	1 500	6 000
W 000 325 235	2 000	3 000
W 000 325 236	2 000	4 000
W 000 325 237	2 000	6 000
W 000 325 238	2 000	9 000
W 000 325 239	2 500	3 000
W 000 325 240	2 500	6 000
W 000 325 241	2 500	9 000
W 000 325 242	3 000	3 000
W 000 325 243	3 000	6 000
W 000 325 244	3 000	9 000

Tables height 920 mm for ALPHATOME (500 mm sections)\*

Cat. no.	Width	Length*
W 000 242 111	2 000	3 000
W 000 242 112	2 000	6 000
W 000 242 114	2 000	9 000
-	2 000	4 000
W 000 242 115	2 000	12 000
W 000 242 116	2 500	3 000
W 000 242 117	2 500	6 000
W 000 242 118	2 500	8 000
W 000 242 120	2 500	12 000
W 000 242 121	3 000	6 000
W 000 242 123	3 000	12 000
-	-	-

\* Other lengths and sections on request, consult Air Liquide Welding.

# Numerical controllers

Perfectly integrated into Air Liquide Welding machines, the D 2.5<sup>+</sup>, 510, 610 or HPC DIGITAL PROCESS offers you even better accuracy, productivity and return on investment. The diversity of the offer covers all user expectations. Interactive operation via menus and messages provides continuously operator guidance.



## D 2.5<sup>+</sup>

Contains 50 standard shapes and can be connected to a programming software via a serial link.



## D 510

Numerical controller based on an open architecture PC with Windows NT-based movement control software for improved performance and in particular very high performance in multitasking operations. A touch-sensitive 15" colour screen provides access to a user-friendly man-machine interface and the entire controller is built around a 266 MHz Pentium processor. Using 50 standard shapes and the most modern modes of communication, the D 510 is a numerical controller perfectly suited to automatic cutting applications.



## D 610

This numerical controller developed under Windows 2000 integrates a sophisticated path algorithm that ensures dynamic, real-time trajectory and I/O control. The high-performance, user-friendly, man-machine interface integrates a high-quality, touch-sensitive screen giving access to the main control functions of the numerically controlled cutting machines. Management of the 50 standard shapes library, and in particular the innovative and diversified I/O management system enhances its performances. The D 610 is also one of the key functions in thermal cutting processes. The D 610 comes with a high-performance graphics screen.

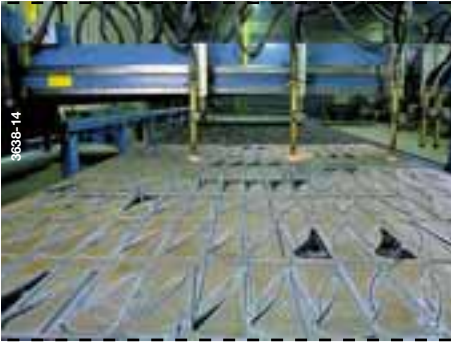


## HPC DIGITAL PROCESS

This new control concept for cutting machines has been specially created for easier workshop integration of modern, state-of-the-art machines implementing the latest features in flame cutting and/or plasma cutting and/or plasma marking processes. HPC DIGITAL PROCESS operates under WINDOWS 2000 installed on an industrial computer. The system features: numeric control, process control, a Human Machine Interface, a touch screen, a control console for all start-up and emergency stop operations.

Easier workshop integration means: benefiting from a tool adapted to your various cutting jobs, specially designed as a utilization support for the operator, simple implementation of the flame and/or plasma cutting machine, benefiting from a modern, innovative and user-friendly design.

# Cutting softwares



A well adapted computerized help increases the automation and the return on investment of machines fitted with the CNC. Air Liquide Welding can supply software specially designed for thermal cutting CAD, pressure vessel shapes developed flat, interleaving, plate stock control, communication, translation of external files and files produced by other CAD systems (DXF, DWG...).



**MAGICNEST Software range:** Four products that run with the latest Windows operating systems to enable to prepare and control thermal cutting production. The software is designed to be intuitive, simple and user-friendly, while offering powerful and effective functions.

## 1 MAGICNEST JUNIOR

Principally designed for small or medium sized cutting machines, MAGICNEST JUNIOR is an intuitive and easy-to-use CAD software that integrates 2D designing tools. Its cutting technology, simulation, quote and simplified manual nesting modules complement the product for the fuss-free control of the machine. It can also read and modify all types of drawing - DXF, DWG, DSTV etc. The serial transmission module WINRS supplements the functionalities of the product.

**Cat. no.: W 000 325 351**



## 2 MAGICNEST 01

MAGICNEST 01 includes MAGICNEST JUNIOR and a nesting module that allows to manage quotes, orders, sheet stock and piece nesting.

Its database makes it possible to obtain accurate quotes in a very short time, offer the best cutting strategy, save know-how and generate machine programs.

Its many tools – common cutting, multiple-torch cutting, junctions, bridges, scrap recovery – will enable you to fully control production and retain simplicity and intuitiveness of use.

**Cat. no.: W 000 325 349**



## 2 MAGICNEST 10

This is the top end version of MAGICNEST 01 for automating the following operations:

- nesting pieces using the best strategy for maximising material savings.
- IT application of the cutting technology – cutting entry/exit, bridges, micro-junctions etc.
- tool path and machine program

**Cat. no.: W 000 325 348**



## 3 Optional MAGICNEST BEVEL

Optional MAGICNEST BEVEL

This product is used to supplement the functions of MAGICNEST 10 and control



open-ended bevelling units that use plasma technology.

It may be used for all types of bevel - V, Y, X and K - in multiple pass processes. It can handle micro-junctions on bevels and makes it possible to obtain quotes for bevelled pieces.

**Cat. no.: on request**

## Optional MAGICNEST table converter ESSI / ISO (for HPC-D610)

**Cat. no.: on request**

## 4 LOGITRACE

**Boiler-making module**

Fully compatible with and complementary to MAGICNEST.

Software for making calculations for boiler works. Trunk cones, intersections, cylindrical, cylinders, etc. Complements MAGICNEST for all your development needs.

**Cat. no.: W 000 325 350**

## 5 CAMDUCT

**For HVAC applications**

Powerful software meeting the needs of ventilation, air conditioning and space heating industries. Calculating developments, nesting and remote loading of machines.

**Cat. no.: on request**

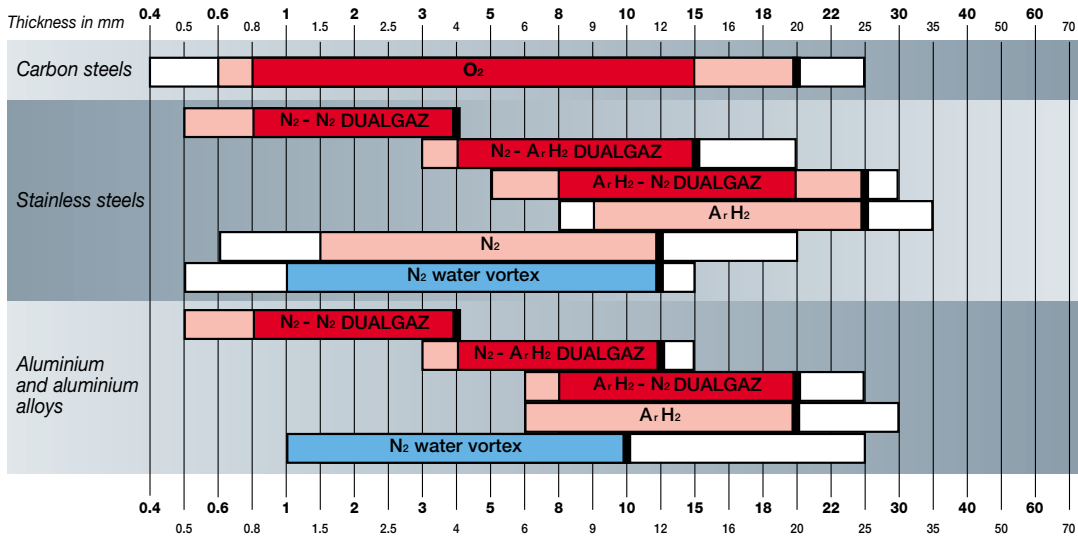


# NERTAJET HP plasma cutting

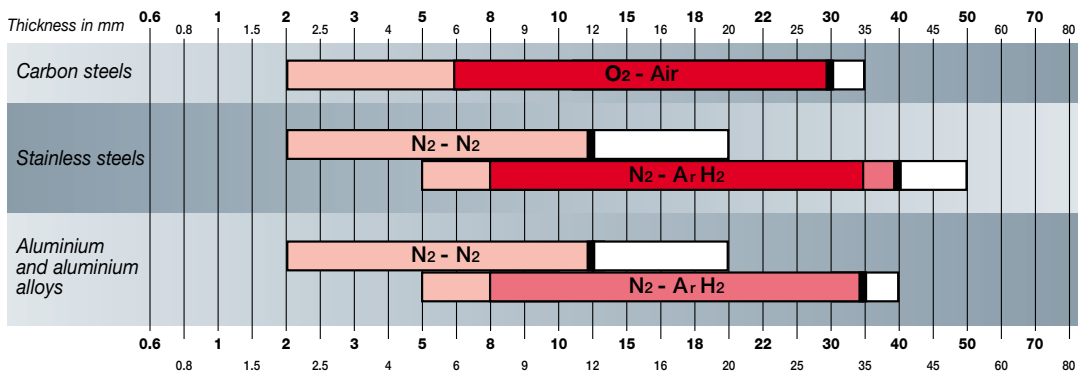
The performances of this process are mainly determined by the power that is used in the torch and the choice of the gas or gas mixture. With the NERTAJET HP installations these performances are optimized:

- the control by microprocessor of all parameters,
- the diversity of applications of each installation,
- Air Liquide Welding's complete mastery of all aspects of the equipment (machine, plasma installation, torch).

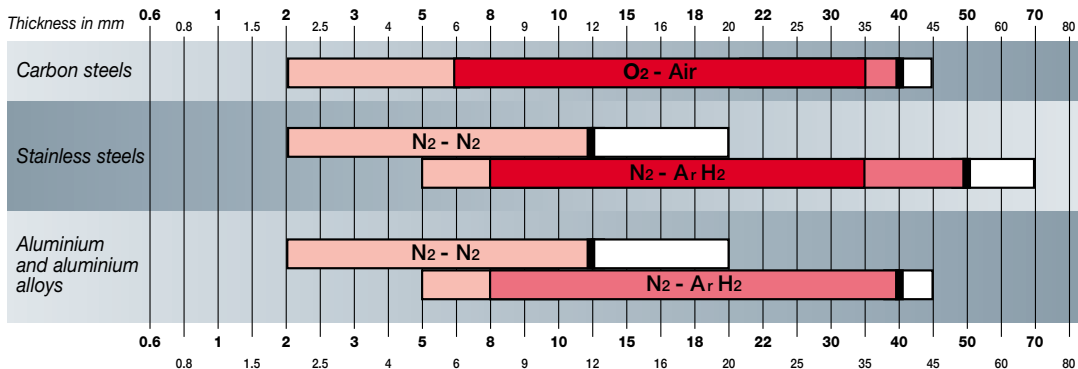
## NERTAJET HP 125 - OCP 150

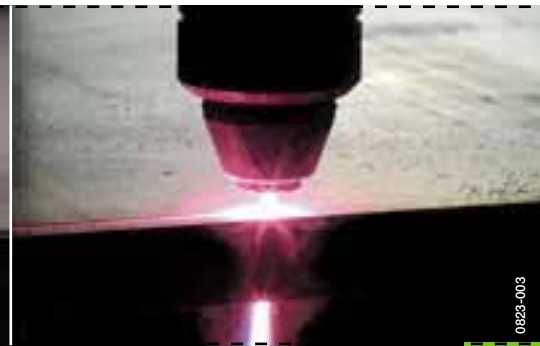


## NERTAJET HP 300-CPM 360

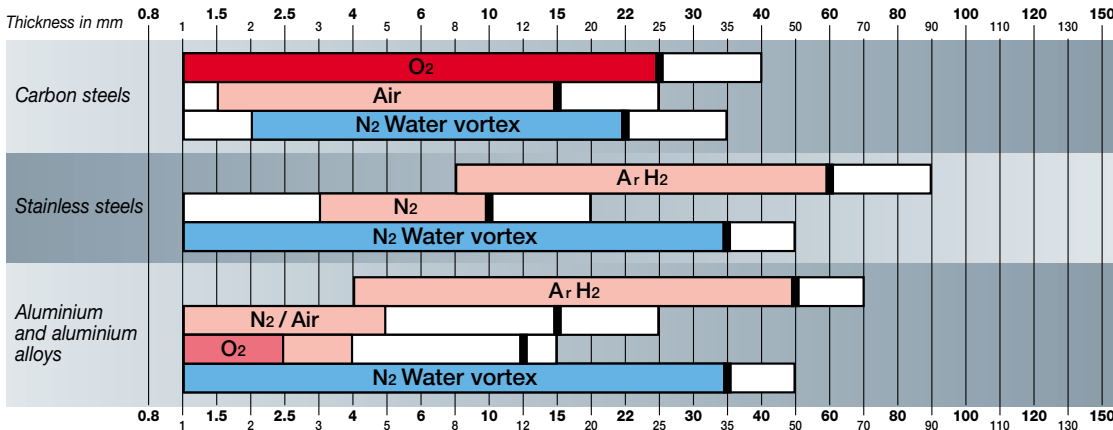


## NERTAJET HP 420-CPM 360

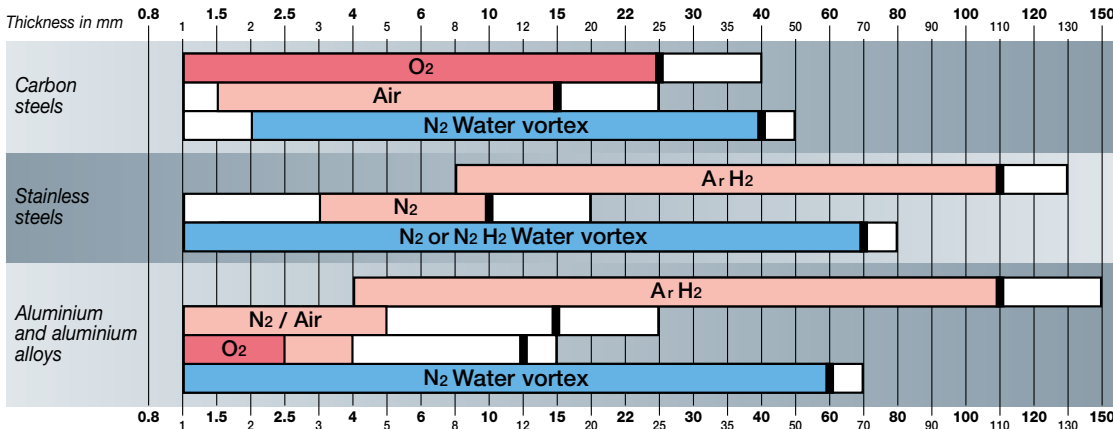




### NERTAJET HP 300 - CPM 300 and NERTAJET HP 300E - CPM 720

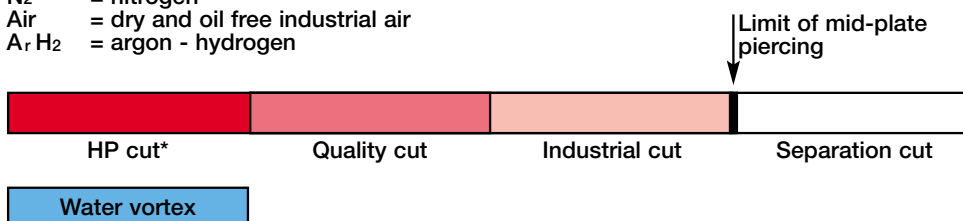


### NERTAJET HP 600 - CPM 720



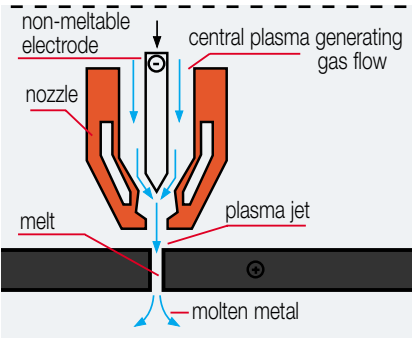
#### Key:

- O<sub>2</sub> = oxygen
- N<sub>2</sub> = nitrogen
- Air = dry and oil free industrial air
- Ar H<sub>2</sub> = argon - hydrogen



\* HP cut: range 3 or 4 ISO 9013 (depend on the material).

# PRESTOJET 4 and NERTAJET



This cutting process uses a refractory electrode in which a gas plasma generated by the electrical arc is constricted through a cooled nozzle. This process is used for thermal cutting of all electrically conductive metals including mild and low-alloyed steel, stainless steel, aluminium and light alloys, copper alloys etc...

**Air compressed mechanised manual installation**

**Mechanised manual installation for multigas plasma cutting.**

**Automatic, autonomous and evolved installations for plasma cutting with torches High plasma.**

Since the birth of our NERTAJET plasma cutting range in 1960, our materials always have been in constant evolution,

**NEW**



2007-114R



2007-281



2006-772

**PRESTOJET 4**  
Designed for thin materials.


**NERTAJET 50**  
Designed for small and medium scale fabrication.

**NERTAJET HP 125**  
Adapted for thin and medium thicknesses.

Principal specifications:	PRESTOJET 4	NERTAJET 50	HP 125	HP 125 with HPC	HP 125 with HPC
<b>With tool-holder</b>	POC 75	According machine type	POC 50	POC 101	POC 250
<b>With automatic torch</b>	OCP 100	GPM 15	OCP 150		
<b>Thickness* according to plasma generating gas</b>	O <sub>2</sub>	-	0.4 to 25 mm		
	O <sub>2</sub> (Air)	-	-		
	Air	1 to 8 mm	0.5 to 40 mm	-	
	N <sub>2</sub>	-	0.8 to 15 mm	0.6 to 20 mm	
	N <sub>2</sub> (N <sub>2</sub> )	-	0.5 to 15 mm	0.5 to 4 mm	
	N <sub>2</sub> (ArH <sub>2</sub> )	-	-	3 to 20 mm	
	ArH <sub>2</sub> (N <sub>2</sub> )	-	6 to 50 mm	5 to 30 mm	
	ArH <sub>2</sub>	-	6 to 30 mm	8 to 35 mm	
<b>water vortex</b>	-	-	0.5 to 15 mm		
<b>Electrical power supply</b>	400 V 50/60 Hz	230/400/415/440 V - 50 or 60 Hz	230/400/440 V - 50 and 60 Hz		
<b>Absorbed power</b>	23 kVA	43 kVA	36.6 kVA		
<b>Cutting intensity</b>	30/50/70/100 A	20/40/60/100/150 A	15/30/40/60/90/120 A		
<b>Duty cycle</b>	100%	100%	100%		
<b>Recommended machines</b>	OPTITOME	NOVITOME / MULTITOME / OXYTOME 5 C OPTITOME/ OXYTOME / PLASMATOME CYBERTOME	Special ROBOT	OPTITOME	OXYTOME / PLASMATOME/ ALPHATOME / CYBERTOME

Key  
O<sub>2</sub> = oxygen | N<sub>2</sub> = nitrogen  
Air = dry and oil free industrial air | Ar H<sub>2</sub> = argon - hydrogen

\* Industrial thicknesses and separation thicknesses. These information are given for all kinds of metals.

 Soft start of pilot arc without H.F.

# plasma installations



and, We take great care to propose you the product best adapted to your production needs. These plasma cutting installations can equip other types of machines: do not hesitate to consult Air Liquide Welding.



## NERTAJET HP 300

Adapted to work on medium and heavy thickness

## NERTAJET HP 420

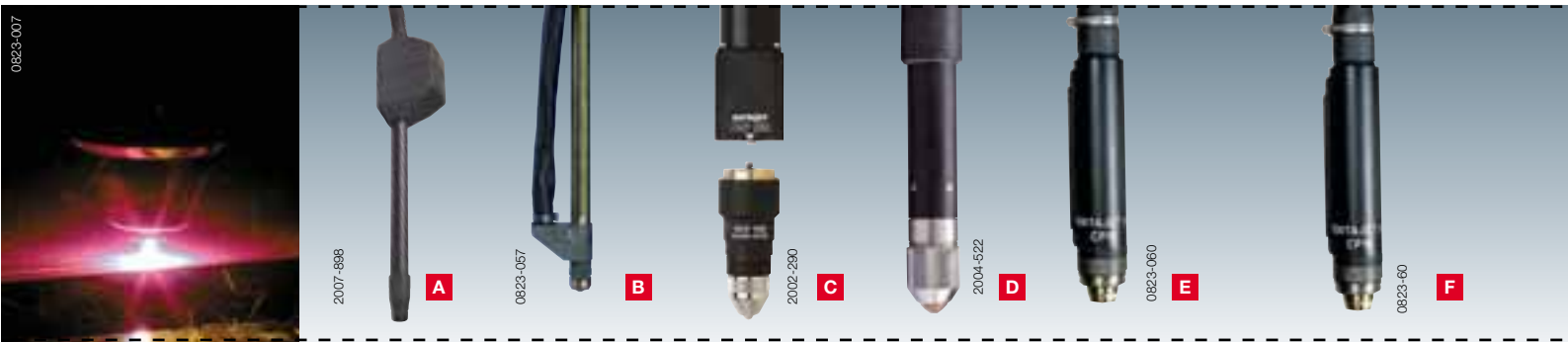
NERTAJET HP 300 parallel connected to NERTAJET HP 125

## NERTAJET HP 600

Two parallel connected NERTAJET HP 300 power sources

HP 300 with HPC	HP 300	HP 300 E	HP 420	HP 600
POC 250	PO 251		POC 250	PO 251
CPM 360	CPM 300	CPM 720	CPM 360	CPM 720
-	1 to 40 mm	1 to 40 mm	-	1 to 40 mm
2 to 35 mm	-	-	2 to 45 mm	-
-	1 to 25 mm	-	-	1 to 25 mm
-	1 to 20 mm	-	-	1 to 20 mm
2 to 20 mm	-	-	2 to 20 mm	-
5 to 50 mm	-	-	5 to 70 mm	-
-	-	-	-	-
-	8 to 90 mm	-	-	8 to 150 mm
-	1 to 50 mm	-	-	1 to 80 mm
230/400/440 V - 50 and 60 Hz				
85 kVA		122 kVA		170 kVA
80/100/120/140/200/260/280 A	30/60/90/120/180/240/300 A		80/100/120/140/200/260/280/360/400 A	30/60/90/120/180/240/300/420/510/600 A
100%				
OXYTOME/PLASMATOME ALPHATOME/CYBERTOME			OXYTOME/PLASMATOME CYBERTOME	

# NERTAJET plasma torches



Torches		<b>A</b> OCP 100	<b>B</b> CPM 15	<b>C</b> OCP 150	<b>D</b> CPM 360	<b>E</b> CPM 300	<b>F</b> CPM 720	
<b>Length of torch harnesses</b>	<b>2.5 m</b>	-	-	-	W 000 234 543	-	-	
	<b>4 m</b>	-	-	W 000 325 145	-	W 000 325 088	W 000 325 095	
	<b>7 m</b>	-	W 000 325 066	W 000 325 144	W 000 234 542	W 000 325 089	W 000 325 096	
	<b>15 m</b>	W 000 257 452	W 000 325 071	-	-	-	-	
<b>Tool-kit</b>		-	-	W 000 325 127	-	W 000 325 114	W 000 325 114	
<b>Use with NERTAJET inst.</b>		<b>PRESTOJET 4</b>	<b>NERTAJET 50</b>	<b>HP 125</b>	<b>HP 300 / HP 420</b>	<b>HP 300</b>	<b>HP 300 E</b>	<b>HP 600</b>
<b>Installation with dry gas</b>	<b>O<sub>2</sub></b>	-	-	W 000 138 371	-	W 000 325 075	W 000 325 075	W 000 325 075
	<b>Air</b>	-	W 000 325 062	-	-	W 000 325 075	W 000 325 075	W 000 325 075
	<b>ArH<sub>2</sub></b>	-	W 000 325 062	W 000 325 132	-	W 000 325 081	W 000 325 081	W 000 325 085
	<b>N<sub>2</sub></b>	-	W 000 325 062	W 000 325 132	-	W 000 325 074	W 000 325 074	W 000 325 074
<b>Installation with water vortex</b>	<b>N<sub>2</sub></b>	-	-	W 000 325 123	-	W 000 325 082	W 000 325 082	W 000 325 086
<b>Installation with DUALGAZ</b>	<b>N<sub>2</sub> + ArH<sub>2</sub></b>	-	-	W 000 138 435	W 000 238 022	-	-	-
	<b>O<sub>2</sub> + Air</b>	-	-	-	W 000 236 951	-	-	-
<b>Torch cooling</b>		-	Integrated	FRIOJET 10/30	FRIOJET 30/70	FRIOJET 30	FRIOJET 70	FRIOJET 70

<b>Key</b> O <sub>2</sub> = Oxygen	Air = dry and oil free industrial air	N <sub>2</sub> = Nitrogen	ArH <sub>2</sub> = Argon - Hydrogen
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## OCP 150

**Thanks to a soft start of the pilot arc without high frequency**

(patent), the installation can go on the environments possessing electronic and informatic material without interference.

**Thanks to a removable body structure** (patent)

replacing consumable parts or changing the process is a simple and quick action.

## FRIOJET 10-30-70

Power supply: 230 V single phase  
FRIOJET 10

(freezing power 1 000 W):

- 50 Hz: Cat. no. Z0409-1175.

FRIOJET 30

(freezing power 2 500 W):

- 50 Hz: Cat. no. W 000 264 716.

FRIOJET 70

(freezing power 6 000 W):

- 50 Hz: Cat. no. W 000 264 387.

### Cooling liquid for FRIOJET:

can of 20 l  
Cat. no. W 000 010 168



Necessary quantity

FRIOJET 10	1 can
FRIOJET 30	1 can
FRIOJET 70	4 cans

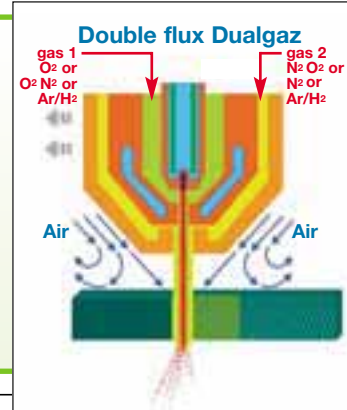
# Cutting stainless steels

## DUALGAZ process

With the NERTAJET HP DUALGAZ plasma process, Air Liquide Welding brings you a high quality solution for cutting mild steel and stainless steels in thicknesses from 0.8 to 50\* mm. DUALGAZ is a new technology successfully developed by Air Liquide Welding engineers, bringing to bear their profound knowledge of every aspect (the electronics, mechanics, gaseous physics and chemistry, metallurgy, etc.) of the plasma procedure. This innovation combines the characteristics of arc control provided by NERTAJET HP technology with the advantages offered by special gas mixtures. By introducing special constituents into the gas mixtures, it is possible to act upon the physical and chemical aspects of the procedure. As a function of the grade and thickness of the stainless steel to be cut, the type and proportion of the different constituents is adjusted in order to attain the highest possible quality of cut. In this way, every individual case is defined to furnish a personalized solution for the work of each customer.

### Advantages to customers

- **Flexibility:** DUALGAZ is suitable for all grades of stainless steel, including titanium stabilized grades.
- **Quality:** no flashes, even in zones where the machine slows down (angles, etc.) Cut parts can be used directly without any retouching.
- **Quality:** low surface roughness (less than that obtained by Laser cutting).
- **Quality:** light colour of cut surfaces.
- **Quality:** very good control of relief.
- **Reproducibility:** excellent consistency of cut throughout the life of wearing components (nozzles and electrodes).
- **Ease of use:** can be employed on all common digitally controlled gantry machines. Its use on high precision equipment such as ALPHATOME, displays the potential of the procedure to the full (high quality geometry of parts).



Oxygen gives good quality cuts with excellent weldability of cut edges.

The air must be dry and oil-free.

Argon/hydrogen mixtures give cuts of good bright appearance, especially in stainless steel.

Nitrogen is mainly used for small thicknesses and stainless steels.

The use of a water vortex enables cutting under water which strongly attenuates noise, radiation and fumes.

The use of an annular gas (nitrogen) enables quality improvement of stainless steel plates cutting.

### NERTAJET tool-kit



### Examples of NERTAJET toolcases corresponding to different mountings.



NERTAJET case for OCP



NERTAJET case for CPM

\* 40 mm for carbon steel.

# Machine oxycutting

Oxycutting of non or low-alloyed steels from 3 mm up to 300 mm, used with OXYCUT G1, IC or MACH cutting torches, with semi automatic (Cantilever machines) or full automatic machines (portal machine type OXYTOME HPC). According to your needs, you will choose, mixing nozzles with the OXYCUT G1 or IC cutting torch, premix nozzles with high speed and high quality with OXYCUT MACH torch. With the OXYCUT G2 you will be able to cut thicknesses from 200 mm up to 900 mm.

## Torches and cutting tips with gas mixing in the tip

Oxycutting is a thermal process which enables the cutting of non-alloyed and low-alloyed steels.



0876-023

### OXYCUT G2

Use G2 cutting tips.



1160-002

### OXYCUT G1

Use G1 cutting tips.



0264-054

### OXYCUT MACH

To be used with:  
MACH OXY cutting tips,

<b>Heating gas</b>		Acetylene, Crylene	Propane, Natural gas, Tetrene	Acetylene, Crylene	Propane, Natural gas, Tetrene	Acetylene, Crylene	Propane, Natural gas, Tetrene
<b>Cat. no.</b>		W 000 139 651		W 000 164 839		W 000 209 446	W 000 209 449
<b>Cutting capacity (mm)</b>		200 to 900		3 to 300		6 to 300	
<b>Rack rail track (mm)</b>		-		350		350	
<b>Torch length (mm)</b>		720		580		580	
<b>Barrel diameter (mm)</b>		45		32		32	
<b>Inlet couplings/ Internal hose diameter (mm)</b>	<b>OX cutting</b>	M20 x 150 RH / 14		3/8 G RH / 10		3/8 G right / 10	
	<b>OX heating</b>	3/8 RH / 10		3/8 G RH / 10		3/8 G right / 10	
	<b>AD heating</b>	3/8 LH / 10		3/8 G LH / 10		3/8 G left / 10	
	<b>water cooling</b>	M16 x 150 LH / 10		-		-	
<b>Options:</b>							
<b>Flash back arrestors</b>	<b>OX cutting</b>	-		0712-1637		-	
	<b>OX heating</b>	W 000 290 700		W 000 290 912		W 000 290 912	
	<b>AD heating</b>	W 000 290 701		W 000 290 913		W 000 290 913	
<b>Cleaning kit for cutting tips</b>		W 000 290 901		W 000 290 901		W 000 325 285	
<b>Spare parts:</b>							
<b>Nut for cutting tips</b>		7609-0042		W 000 139 652		-	
<b>Screw for cutting tips</b>		-		-		W 000 139 623	
<b>Cleaning product for MACH OXY</b>		-		-		W 000 325 555	



## OXYCUT cutting tips

Thickness (mm)	Gauge	OXYCUT G2		OXYCUT G1		
		Acetylene	Propane	Acetylene	Tetrene	Propane natural gas
3-10	7/10	-	-	W 000 325 007	W 000 325 580	W 000 325 548
10-25	10/10	-	-	W 000 325 536	W 000 325 542	W 000 325 549
25-50	12/10	-	-	W 000 325 537	W 000 325 543	W 000 325 550
50-80	16/10	-	-	W 000 325 538	W 000 325 544	W 000 325 551
80-120	20/10	-	-	W 000 325 539	W 000 325 545	W 000 325 552
120-200	25/10	-	-	W 000 325 540	W 000 325 546	W 000 325 553
200-300	30/10	7020-0101	7020-0221	W 000 325 541	W 000 325 547	W 000 325 554
300-400	35/10	7020-0102	7020-0222	-	-	-
400-550	40/10	7020-0103	7020-0223	-	-	-
550-700	45/10	7020-0104	7020-0224	-	-	-
700-900	55/10	7020-0105	7020-0225	-	-	-

## MACH OXY cutting tips

Thickness	Gas	MACH OXY
6-10	Acetylene	W 000 208 508 + W 000 208 517
10-25		W 000 208 509 + W 000 208 517
25-50		W 000 208 510 + W 000 208 517
50-80		W 000 208 511 + W 000 208 517
80-120		W 000 208 512 + W 000 208 517
120-200		W 000 208 513 + W 000 208 518
200-250		W 000 208 514 + W 000 208 518
250-300		W 000 208 515 + W 000 208 518
6-10	Propane and Natural gas	W 000 208 485 + W 000 208 494
10-25		W 000 208 486 + W 000 208 494
25-50		W 000 208 487 + W 000 208 494
50-80		W 000 208 488 + W 000 208 494
80-120		W 000 208 489 + W 000 208 494
120-200		W 000 208 490 + W 000 208 495
200-250		W 000 208 491 + W 000 208 495
250-300		W 000 208 492 + W 000 208 495
6-10	Tetrene	W 000 208 497 + W 000 208 506
10-25		W 000 208 498 + W 000 208 506
25-50		W 000 208 499 + W 000 208 506
50-80		W 000 208 500 + W 000 208 506
80-120		W 000 208 501 + W 000 208 506
120-200		W 000 208 502 + W 000 208 507
200-250		W 000 208 503 + W 000 208 507
250-300		W 000 208 504 + W 000 208 507

### Accumulates the savings:

- best cutting quality,
- very little gas consumption,
- high cutting speed,
- possibility of working far from the plate, possibility of mounting on different torches (adapter).



### Chemical cleaning kit for MACH.



### Adapters for using MACH OXY cutting tips with following machine torches:

Torch		Acetylene	Tetrene Propane Natural gas
OXYCUT G1	adapter + screw	W 000 139 627	W 000 139 640
	screw	W 000 139 623	W 000 139 623
OXYCUT IC	adapter + screw	W 000 139 023	W 000 139 623
	screw	W 000 139 630	W 000 139 623