

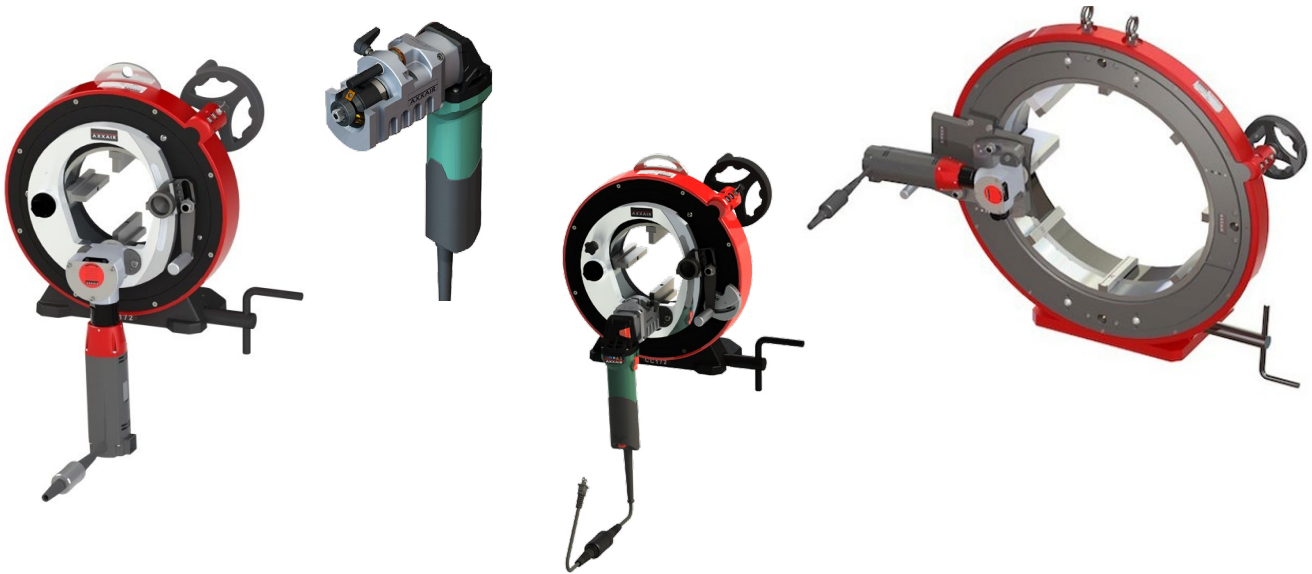
# AXXAIR

MARCH 2022

## COMPLETE BROCHURE

**THICK WALLED TUBES > 3mm WALL THICKNESS**

### ORBITAL CUTTING & BEVELLING



### ORBITAL WELDING





## SPECIALIZED FABRICATION EQUIPMENT GROUP

### Introduction to S.F.E. Group

S.F.E. Group was founded in 2019 after the merger of three world leading OEM's in the field of pipe fabrication tooling and machinery: B&B Pipe and Industrial Tools LLC (USA), Mathey Dearman Inc. (USA) and TAG Pipe Equipment Specialists (UK). Most recently the S.F.E Group has completed the acquisition of the Axxair Group (France).

S.F.E. Group offers a wide range of products and is continuously exploring new product design and development, as well as add-on acquisitions to enhance its portfolio and to fulfil increasing industries' demands.

With offices and warehousing on 4 continents, 120 employees and more than 250 partnerships and distributors worldwide, S.F.E. Group prides itself in consistently offering the highest standard of both product quality and service to all its customers.

S.F.E. Group looks forward to welcoming you into its global network as a partner, distributor or end user customer and remains at your disposal at any time.



UNITED STATES HEAD OFFICE - HOUSTON



INTERNATIONAL HEAD OFFICE - FRANCE

### OUR BRANDS

**MATHEY DEARMAN**  
Where There's Pipe, There's Mathey!

- PIPE FLAME CUTTING AND BEVELLING
- PIPE ALIGNMENT AND REFORMING CLAMPS
- PIPE RIGGING EQUIPMENT

[www.MATHEY.COM](http://www.MATHEY.COM)

**B&B Pipe & Industrial Tools**  
The Pipe Fabricators Source

- PIPE JACK AND STANDS
- MEGA ROLLERS AND STANDS
- MATERIAL HANDLING EQUIPMENT

[www.BBPIPETOOLS.COM](http://www.BBPIPETOOLS.COM)

**TAG**  
PIPE EQUIPMENT SPECIALISTS  
World Leading Manufacturer of Pipe Beveling and Cutting Machines

- PIPE BEVELLING MACHINES
- PIPE COLD CUTTING MACHINES

[www.TAG-PIPE.COM](http://www.TAG-PIPE.COM)

**AXXAIR**  
Innovative Orbital Solutions

- ORBITAL CUTTING AND FACING
- ORBITAL WELDING

[www.AXXAIR.COM](http://www.AXXAIR.COM)

**PPM**  
PIPE PURGE MASTERS  
Purging Solutions for the perfect pipe weld!

- PIPE PURGING SYSTEMS
- PURGE OXYGEN MONITOR
- PIPE STOPPERS

[www.PURGEMASTERS.COM](http://www.PURGEMASTERS.COM)

**FIT-UP PRO**  
By Mathey Dearman  
The Pipe Fitters Companion

- FIT-UP AND ALIGNMENT TOOLS
- LAYOUT AND MARKING TOOLS

[www.MATHEY.COM](http://www.MATHEY.COM)

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**SPECIALIZED FABRICATION EQUIPMENT**  
GROUP

**Aidan Tagliaferro**  
- CEO and founder of AXXAIR -

**AXXAIR**  
- designer, manufacturer and distributor -

AXXAIR supports its customers in more than 60 countries worldwide by offering global orbital cutting, squaring, bevelling and welding solutions.

We focus heavily on the needs of users and have adopted a service-oriented approach. We begin by determining the user's needs in terms of preparing items for welding and, of course, orbital welding itself.

We then provide the user's personnel with training on this equipment, in order to ensure that users are able to independently manage the applications they may need to use.

“

Understanding our customers and their needs, anticipating and meeting their expectations - these are AXXAIR's goals. We are able to respond to developments in our customers' ever-changing markets thanks to our various departments, R&D and Design Office.

AXXAIR offers unique and original tube working solutions. We believe that a lasting, high quality relationship with our customers is essential and have therefore developed local services to provide our customers with advice, by means of our subsidiaries and our distribution network.

AXXAIR is able to assist you at every stage of your project: creating samples, demonstrations, training, after-sales service, advice, etc.

”

**Services and a team :**  
- Join experience -

AXXAIR is your first point of contact for all tube working issues, from preparation to welding. With an experienced, responsive and committed team, AXXAIR will always suggest the most suitable solution.

“**Join experience**” sums up our philosophy, which is based on a community that always goes the extra mile.



**Join experience**



[www.axxair.com](http://www.axxair.com)



## Global Process

AXXAIR has been designing, manufacturing and distributing its orbital tube working machines since 1997.



Our business is based upon the global tube working process: preparation (cutting, bevelling or squaring) and orbital welding.

Our overall product strategy allows us to offer innovative solutions and adopt a global approach to your tube and pipework projects.

## Production

AXXAIR SAS is committed to maintaining industrial employment in France. To this end, 98% of manufacturing is carried out in the Rhone-Alpes region of France.

We sub-contract 100% of our production to partners, including machine shops, sheet metalworking sub-contractors, electronics specialists, etc.

We design all our machines in our in-house design office, which has an expert team of 3 staff.



## A Worldwide presence

AXXAIR is established in areas where customer demand is high, in order to be able to provide a local, high-quality service, with ever faster turnaround times.

Our products are distributed in more than 60 countries by our network of subsidiaries (in Korea, the USA and Germany) and our “distributor” partners, all of whom have been trained on our premises.

With a commercial strategy based on **innovation, quality and performance**, the AXXAIR Group, a family-owned company, has become a successful group, whose business is continually expanding both in France and on export markets.



## Sustainable development

AXXAIR is committed to the sustainable development of industrial activities. As a part of our sustainable approach, we have decided to stop producing printed catalogues.

In today's connected world, we believe that digital catalogues, with added features, are a practical and suitable alternative for everyone. We hope that you understand and will adopt this approach, for our good and the good of future generations.

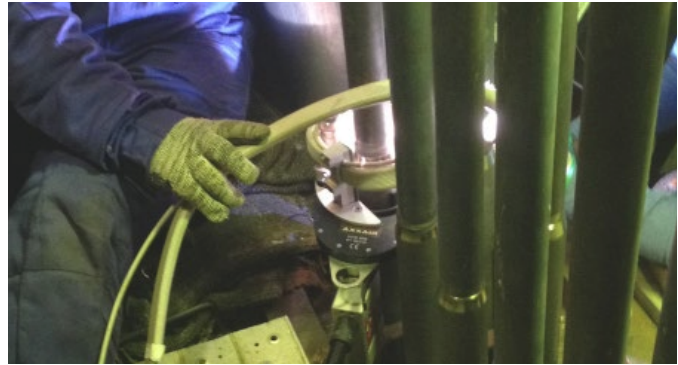
This on-line catalogue can be printed, should you wish to do so, such that our vision is not imposed unilaterally. However, we would like to encourage you not to print it, or to only print out the information that is of greatest interest to you.



## High quality for transporting fluids

A wide range of industries use tubes to transport fluids. The more sensitive the fluid, the more attention needs to be paid to all the connections, the majority of which are welded: tube to tube or tube to T or tube to elbow, for example.

The majority of tubes are made from stainless steel, in order to avoid corrosion and reactions between the tube and the fluid.



## The chemical and petrochemical industry

The fluids transported within these industries' facilities are among the most corrosive and therefore require thick walled tubes known as "pipes".

These pipes are often made from stainless steel or other highly corrosion-resistant refractory materials, as well as black steel.

These pipes are cut, bevelled and then assembled by orbital welding.

Depending on their wall thickness, pipes are welded using straightforward filler wire or using AVC and oscillation systems.

## The energy industry

Conventional coal, nuclear or solar energy generation industries use pipes to withstand operating pressures.

This industry occasionally uses TIG orbital welding to allow welds to be inspected - 100% of welds are frequently inspected (thermal solar).

Pressurized steam is often transported and requires perfect control of welded joints for continuous use.

## Shipbuilding

Shipbuilding often requires a large quantity of pipes with large wall thicknesses.

Their installation in confined spaces is often facilitated by the use of an orbital welding machine, because access is limited for welders.

## Other markets

Seawater desalination systems also use pipes, as salt water corrodes tubes.

Compressed air pipework systems use large diameter pipes with large wall thickness (5 to 6 mm) in order to have sufficient strength.

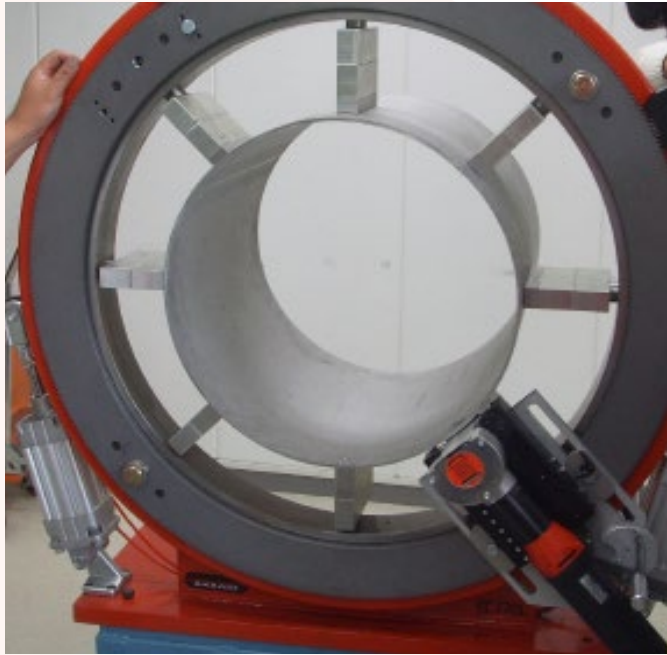


# AXXAIR orbital cutting

A proper tube preparation is essential to produce a proper weld.

High quality cutting is guaranteed by AXXAIR's orbital cutting machines. The machines feature stainless steel concentric jaws to prevent the deformation of the tubes.

The perfect position of the tube within the machine also guaranty the perpendicularity of the cut as the saw travels around the tube and the consistency that perpendicularity cut after cut.

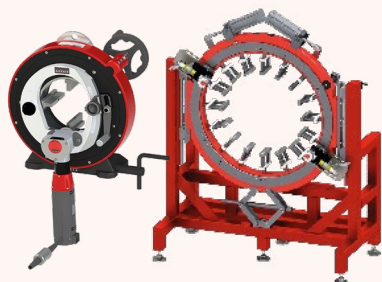


The precision of our cutting machine allow a perfect tube to tube alignment, with the smallest gap possible, removing the need to facing the tube therefore saving a significant amount of time and money.

AXXAIR's orbital cutting machines are an indispensable tool for any automatic and orbital welding.

AXXAIR has the **largest orbital cutting range in the world !**

11 different models to cut tubes from diameter **5 to 1100 mm!**



## FLEXIBILITY, PRODUCTIVITY

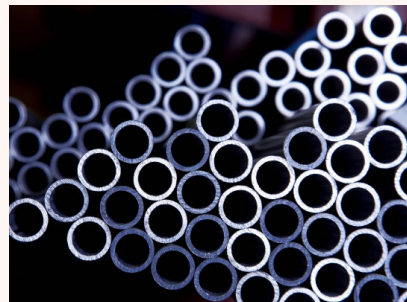
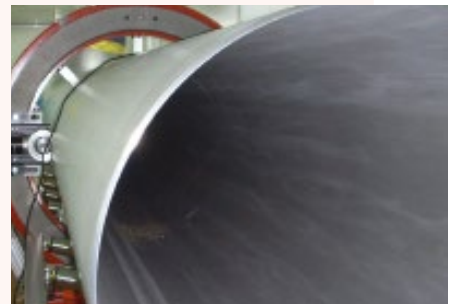
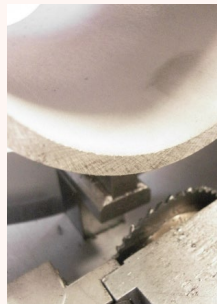
AXXAIR frames are quickly and easily scalable for bevelling and orbital welding.

## QUALITY

Cutting with no tube distortion, (multi-contact concentric clamping) ideal for thin walled stainless steel tubes. High quality geometric cutting (perpendicularity of <math><0.25\text{ mm}</math>) and excellent surface quality (few burrs).

## PORTABILITY

With the easy to remove sawing attachment, AXXAIR's cutting machines are easy to transport on site or move within a workshop. Perfect preparation for thick tubes before bevelling and welding with wire.

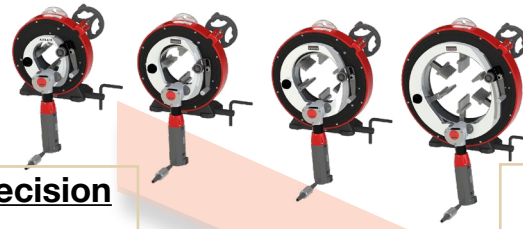


Please do not hesitate to contact us for all enquiries relating to orbital cutting technology.

We are glad to share our decades long experience in orbital cutting and helping you to select the solution that fits your needs.



**122 - 172 - 222 - 322**



**No tube deformation**

Concentric clamping



Basic and extra stainless steel jaws: no pollution of stainless steel tubes

**Cutting precision**

Perpendicularity of < 0.25 mm

**Cutting quality**

Rotation handle for controlled and continuous cutting speed

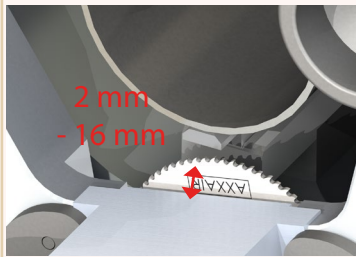
**A perfect sealing against chips**

All rotating parts are incorporated in the body



**Reduced vibration and increased blade life**

Optimised blade to jaw distance



**Global Process**

Can be transformed into an orbital bevelling and welding machine

**Uptake**

feature a dual blade position allowing to cut elbows or flanges with no wasting of tube.

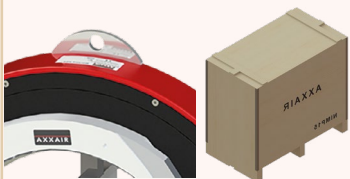
**1200W motor or pneumatic motor** (as required)

**Cutting capacity:** Up to 15 mm wall thickness\*

**Continuous use**

Anti-twist cable with bearings. Protects the electric cable from damage resulting from rotation around the tube.

**Easy handling and transportation**



**Opening capacity**

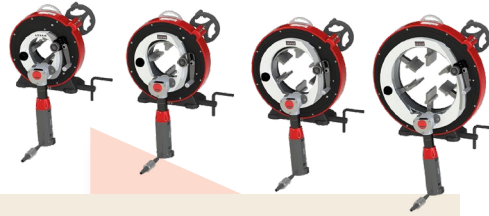
122	ø5 - ø119 mm 0.25" - 4.5 "
172	ø16 - ø173 mm 0.625" - 6.625 "
222	ø55 - ø228 mm 2.375" - 8.625 "
322	ø141 - ø328 mm 5.563" - 12.750 "

\*depending on the type of steel





# 122- 172 - 222- 322



## Technical specifications:

### Low speed motor:

120V or 230V, 1200W, electronic speed variator with a cutting compensator  
 Vibration level in accordance with standard EN 28662: <math>< 2.5\text{m/s}^2</math>, Protection class: IP 20

Rotation speed (6 speed variations): from 30 RPM to 75 RPM

### Pneumatic motor:

60 to 110 rpm, air flow 1500 l/min at 6 bar

All motors are supplied in their own individual cases, including the necessary tools

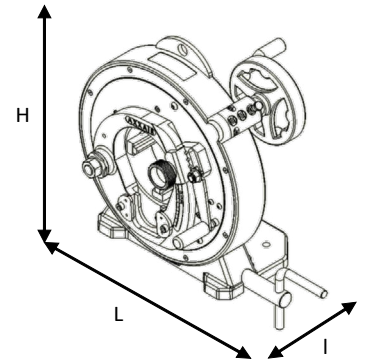
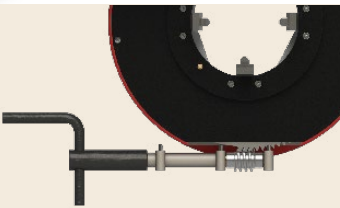


### Robustness:

Very efficient clamping system thanks to a screw without end directly engaged on the clamping cam.

### Easy maintenance and control:

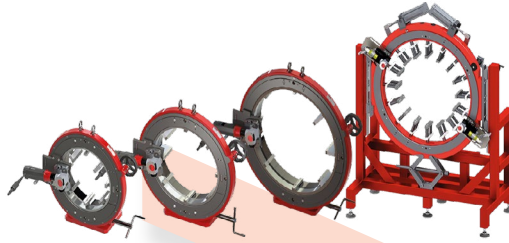
- Lubrication of the inner parts with the grease nipples
- Quick access to the inner screw



	Product Code	Machine's jaw opening capacity in mm		Net weight	Dimensions (HxLxW in mm)
		With basic jaws	With extra jaws (included)		
120V 1200W low-speed motor	122FS15	Ø29 - Ø119	Ø5 - Ø99	44 kg	443 x 541 x 304
	172FS15	Ø74 - Ø173	Ø16 - Ø116	51 kg	493 x 566 x 304
	222FS15	Ø128 - Ø228	Ø55 - Ø155	59 kg	548 x 594 x 304
	322FS15	Ø230 - Ø328	Ø141 - Ø239	71 kg	649 x 644 x 304
230V 1200W low-speed motor	122FS25	Ø29 - Ø119	Ø5 - Ø99	44 kg	443 x 541 x 304
	172FS25	Ø74 - Ø173	Ø16 - Ø116	51 kg	493 x 566 x 304
	222FS25	Ø128 - Ø228	Ø55 - Ø155	59 kg	548 x 594 x 304
	322FS25	Ø230 - Ø328	Ø141 - Ø239	71 kg	649 x 644 x 304
Pneu- matic motor	122PD	Ø29 - Ø119	Ø5 - Ø99	44 kg	443 x 541 x 304
	172PD	Ø74 - Ø173	Ø16 - Ø116	51 kg	493 x 566 x 304
	222PD	Ø128 - Ø228	Ø55 - Ø155	59 kg	548 x 594 x 304
	322PD	Ø230 - Ø328	Ø141 - Ø239	71 kg	649 x 644 x 304



# 421- 521-721-1100



**No tube deformation**

Concentric clamping



Basic and extra **stainless steel** jaws: no pollution of stainless steel tubes

**Cutting precision**

Perpendicular cuts < 0.4 mm

**Uptake**

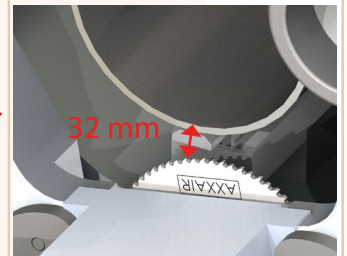
feature a dual blade position allowing to cut elbows or flanges with no wasting of tube.

**Cutting quality**

Rotation handle for controlled and continuous cutting speed

**Reduced vibration and increased blade life**

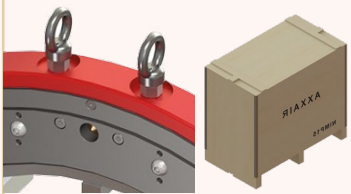
Optimised blade to jaw distance



**Continuous use**

Anti-twist cable with bearings. Protects the electric cable from damage resulting from rotation around the tube.

**Easy handling and transportation**



**1200W motor or pneumatic motor (as required)**

**Cutting capacity:**  
Up to a wall thickness of 15 mm\*

**Opening capacity**

421	ø212 - ø422 mm 8.625 - 16 "
521	ø312 - ø522 mm 12.75 - 20 "
721	ø447 - ø725 mm 18 - 28"
1100	ø711 - ø1016 mm 28 - 40 "

\*depending on the type of steel



# 421-521-721-1100



## Technical specification:

### - Low-speed motor:

120V or 230V, 1200W, electronic speed variator with a cutting compensator

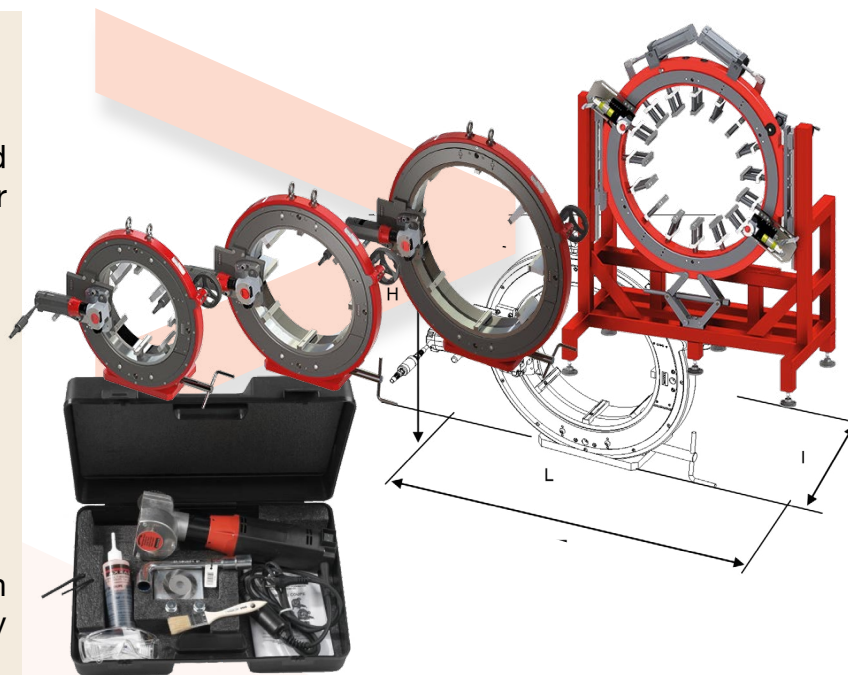
Vibration level in accordance with standard EN 28662: <math>< 2.5\text{m/s}^2</math>, Protection class: IP 20

**Rotation speed** (6 speed variations)  
from 30 RPM to 75 RPM

### - Pneumatic motor:

60 to 110 rpm, air flow 1500 l/min at 6 bar

All motors are supplied in their own individual cases, including the necessary tools.



	Product Code	Machine's jaw opening capacity in mm		Net weight	Dimensions (HxLxW in mm)
		With basic jaws	With extra jaws (included)		
120V 1200W low-speed motor	421FS15	Ø350 - Ø422	Ø212 - Ø352	186 kg	802x838x315
	521FS15	Ø450 - Ø522	Ø312 - Ø452	223 kg	905x889x315
	721FS15	Ø653 - Ø725	Ø447 - Ø654	256 kg	1104x1077x315
230V 1200W low-speed motor	421FS25	Ø350 - Ø422	Ø212 - Ø352	186 kg	802x838x315
	521FS25	Ø450 - Ø522	Ø312 - Ø452	223 kg	905x889x315
	721FS25	Ø653 - Ø725	Ø447 - Ø654	256 kg	1104x1077x315
Pneu- matic motor	421PD	Ø350 - Ø422	Ø212 - Ø352	186 kg	802x838x315
	521PD	Ø450 - Ø522	Ø312 - Ø452	223 kg	905x889x315
	721PD	Ø653 - Ø725	Ø447 - Ø654	256 kg	1104x1077x315
	1100	On request			



# Orbital Cutting - Accessories

**AXXAIR**

INNOVATIVE ORBITAL SOLUTIONS

Our support legs and stands have been designed to further facilitate cutting by ensuring that the machine is stable in different conditions: in a workshop or on site.

The great advantages of these products:

- lightness
- flexible handling
- easy to use



Product Code	Description	Net Weight	Dimensions (in cm)
CCPS21	Support legs	10 kg	103 x 32 x 11

Support legs for orbital cutting machines:

- quick assembly and dismantling
- height adjustment with screws
- storage box at the back
- optimum stability

✓ 122	✓ 172	✓ 222	✓ 322	421	521	721	1100
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Product Code	Description	Net Weight	Dimensions (in cm)
CCSER1	Stand	10 kg	60 x 26 x 10

Simple stand for supporting tubes with height adjustment:

- quick assembly and dismantling
- height adjustment

✓ 122	✓ 172	✓ 222	✓ 322	421	521	721	1100
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Product Code	Description	Net Weight	Dimensions (in cm)
CCSER2	Stand (with chrome steel bearings)	11 kg	60 x 26 x 10

Stand with chrome steel bearings for supporting tubes with height adjustment:

- quick assembly and dismantling
- height adjustment
- facilitates tube feeding after each cut

✓ 122	✓ 172	✓ 222	✓ 322	421	521	721	1100
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# Orbital Cutting - Accessories



Our support benches help you to position and feed your tubes without the aid of stands. The height-adjustable table helps you easily and precisely set the height of your machine, for cutting tubes placed on the support bench.

The additional tube support bench allows you to position your longest tubes in a stable manner on all benches.

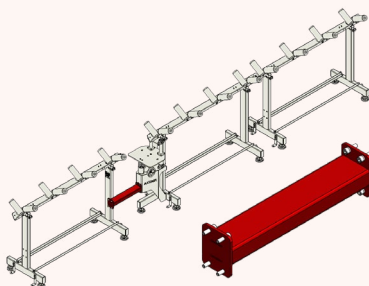
We also recommend that you support the cut section in front of your cutting machine using one or more additional benches, depending on the length of the tube.



Product Code	Description	Net Weight	Dimensions (in cm)
CCBSB-X1	Bench with height adjustment	57 kg	184 x 95 x 51
<b>Height-adjustable support bench, 1.5m</b> - stainless steel rollers - handle for height adjustment - 1.5 m long - maximum load: 350 kg - ø min pipe: 5 mm - ø max pipe: 321 mm - compatible with machines 121 to 321			
✓ 122	✓ 172	✓ 222	✓ 322
421	521	721	1100



Product Code	Description	Net weight	Dimensions (in cm)
CCBSB-X2	Additional support bench	38 kg	150 x 95 x 51
<b>Additional tube support bench:</b> - stainless steel rollers - 1.5 m long - maximum load 350 kg uniformly distributed - min tube ø: 5 mm - max tube ø: 321 mm - compatible with machines 121 to 321			
✓ 122	✓ 172	✓ 222	✓ 322
421	521	721	1100



Product Code	Description	Net Weight	Dimensions (in mm)
CCBSB-B005	Connecting bar	3 kg	100 x 80 x 402
<b>Connecting bar for CCBSB-X1 and CCBSB- X2:</b> - Allows the height-adjustable table to be connected to a bench placed in front of the machine			
✓ 122	✓ 172	✓ 222	✓ 322
421	521	721	1100



# Orbital cutting - Accessories (End stop)

**AXXAIR**

INNOVATIVE ORBITAL SOLUTIONS

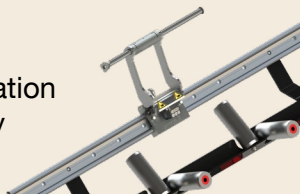
In addition to our CCBB-X1 and CCBB-X2 benches, we offer benches with an end stop system. These stops are very simple to use and avoid all measurement errors.

No pollution of the tube:

All parts that are in contact with the tube are made of stainless steel (the rollers but also the stop finger)

Retractable stop:

In order to facilitate the evacuation of the cut, the stop is manually retractable.



- Lengths available:  
1500 - 3000 - 4500 - 6000 - 7500 and 9000 mm
- Working stroke: Length - 200 mm
- Delivered by module of 1500mm to be put together
- Max load per module: 350 kg (evenly distributed)
- Max push on the stop: 10 kg
- Operating temperature: 0 - 50 ° C
- Relative humidity: 35 - 85%

They can be assembled on the **feed-in or feed-out** section of the cutting machine

They are available **with a ruler or with an LCD display.**

**Feed-in assembly**



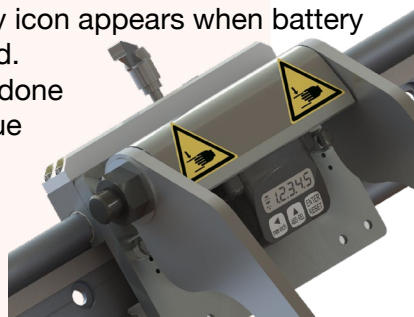
**Feed-out assembly**



**LCD display**

Possibility of selecting the direction of counting, the position of the decimal point, the unit of measurement (mm or inches), reset / preset of the measurement, absolute / relative dimension.

- Battery powered. Lifetime of about 4 years. The discharged battery icon appears when battery replacement is required. Replacement is easily done without loss of the value and configuration parameters.



- Resolution 0.1 mm

**Ruler**

- Ruler in mm
- Equipped with a magnifying lens
- Resolution 1.0 mm



✓ 122	✓ 172	✓ 222	✓ 322	421	521	721	1100
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# Orbital cutting - Accessories (End stop)

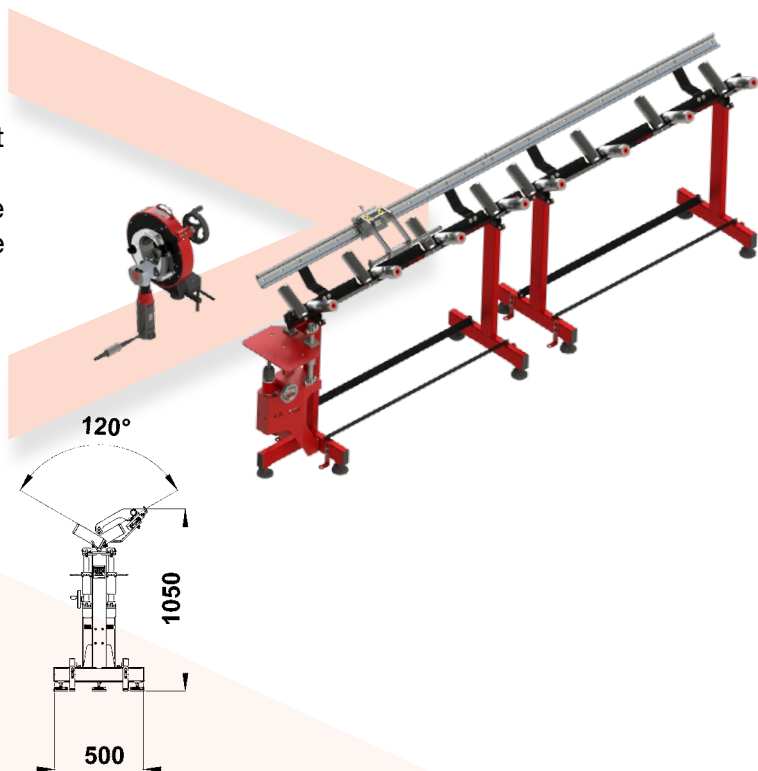
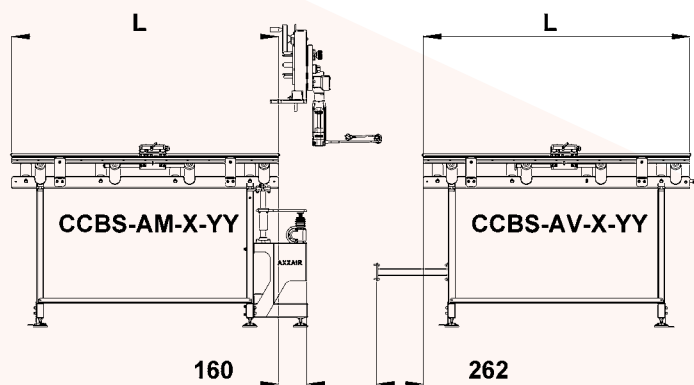
**AXXAIR**

INNOVATIVE ORBITAL SOLUTIONS

## Feed-in assembly

The parts are delivered unassembled in transport boxes, per module of 1,5 m.

They must be assembled, aligned and fixed to the ground. The magnetic ruler (with LDC display) or the ruler must be glued at the end of the assembly.



The system is delivered with the height-adjustable support bench (CCBSB-X1), additional support benches, the starting end stop module and its extensions.

Assembly	Reader	Length (in mm)	Working stroke (in mm)	Product code	Net weight		
on the feed-in section of the cutting line	Ruler	1500	1300	CCBSB-AM-R-15	65 kg		
		3000	2800	CCBSB-AM-R-30	104 kg		
		4500	4300	CCBSB-AM-R-45	143 kg		
		6000	5800	CCBSB-AM-R-60	163 kg		
		7500	7300	CCBSB-AM-R-75	200 kg		
		9000	8800	CCBSB-AM-R-90	238 kg		
	LCD display	1500	1300	CCBSB-AM-D-15	65 kg		
		3000	2800	CCBSB-AM-D-30	104 kg		
		4500	4300	CCBSB-AM-D-45	143 kg		
		6000	5800	CCBSB-AM-D-60	163 kg		
		7500	7300	CCBSB-AM-D-75	200 kg		
		9000	8800	CCBSB-AM-D-90	238 kg		
✓122	✓172	✓222	✓322	421	521	721	1100

You can add CCBSB-X2 modules to support the tube after the cutting process (in front of the cutting machine) with the CCBSB-B005 connecting bar (see previous pages).

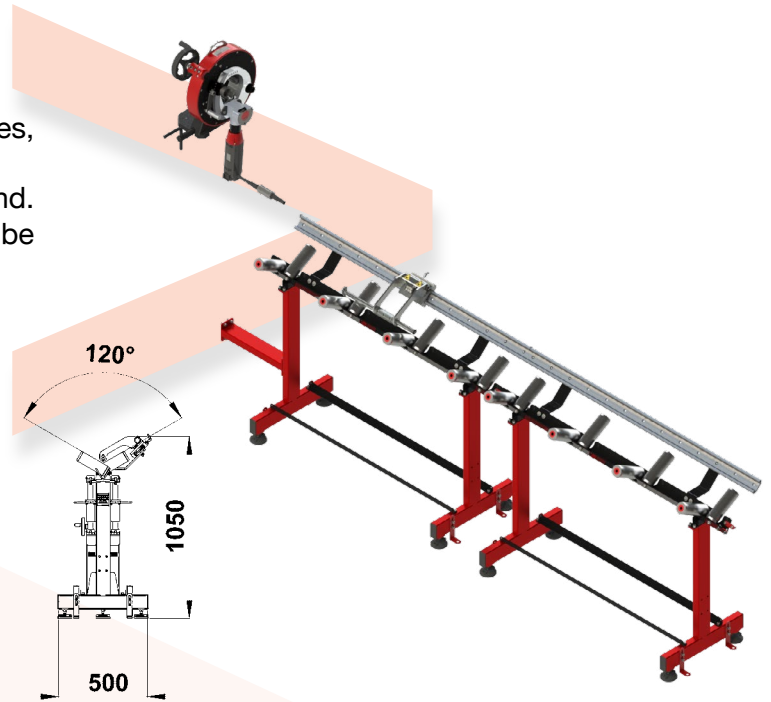
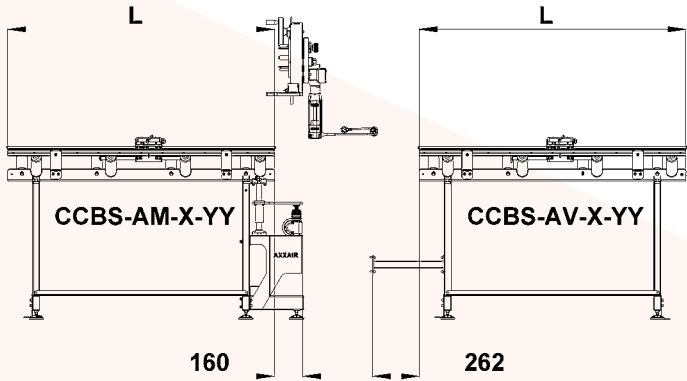


# Orbital cutting - Accessories (End stop)



## Feed-out assembly

The parts are delivered unassembled in transport boxes, per module of 1,5 m.  
They must be assembled, aligned and fixed to the ground.  
The magnetic ruler (with LDC display) or the ruler must be glued at the end of the assembly.



The system comes with: CCBSB-X2 support bench modules, the starting end stop module and its extensions, the CCBSB-B005 connecting bar.

**Attention:** For all references with AV (bench with end stop on the feed-out section) we must also deliver at least one CCBSB-X1 bench (height-adjustable support bench) to support the cutting machine.

Assembly	Reader	Length (in mm)	Working stroke (in mm)	Product code	Net weight		
on the feed-out section of the cutting line	Ruler	1500	1300	CCBSB-AV-R-15	46 kg		
		3000	2800	CCBSB-AV-R-30	85 kg		
		4500	4300	CCBSB-AV-R-45	124 kg		
		6000	5800	CCBSB-AV-R-60	163 kg		
		7500	7300	CCBSB-AV-R-75	201 kg		
		9000	8800	CCBSB-AV-R-90	240 kg		
	LCD display	1500	1300	CCBSB-AV-D-15	46 kg		
		3000	2800	CCBSB-AV-D-30	85 kg		
		4500	4300	CCBSB-AV-D-45	124 kg		
		6000	5800	CCBSB-AV-D-60	163 kg		
		7500	7300	CCBSB-AV-D-75	201 kg		
		9000	8800	CCBSB-AV-D-90	240 kg		
✓122	✓172	✓222	✓322	421	521	721	1100





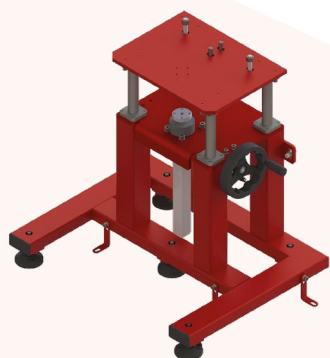
# Orbital Cutting - Accessories



Our support benches help you to position and feed your tubes without the aid of stands. The height-adjustable table helps you easily and precisely set the height of your machine, for cutting tubes placed on the support bench.

The additional tube support bench allows you to position your longest tubes in a stable manner on all benches. We also recommend that you support the cut section in front of your cutting machine using one or more additional benches, depending on the length of the tube.

These products are available on request



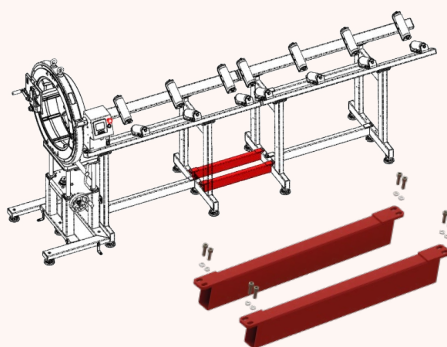
Product Code	Description	Net weight	Dimensions
CCBSB2-003	Height-adjustable table	53.5 kg	75 x 73 x 54 mm
<u>Height-adjustable table for 422 / 521 / 721:</u>			
- adjustable table height - optimum stability			

122	172	222	322	✓ 421	✓ 521	✓ 721	1100
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Product Code	Description	Net Weight	Dimensions
CCBSB2-004	Tube support bench	72.8 kg	97 x 71 x 150 mm
<u>Tube support bench for 422 / 521 / 721:</u>			
- quick assembly and dismantling - height adjustment - 1.5 m long - optimum stability			

122	172	222	322	✓ 421	✓ 521	✓ 721	1100
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Product Code	Description	Net weight	Dimensions
CCBSB2-005	Connecting bar	6.5 kg	8.5 x 4 x 65 mm
<u>Connecting bar between two CCBSB2 support benches:</u>			
- quick assembly and dismantling - ensures optimum stability			

122	172	222	322	✓ 421	✓ 521	✓ 721	1100
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# Orbital Cutting - Accessories



## New autoline electric rotation:

- Measures and displays the cutting/bevelling motor's power consumption
- enables the motor and cycle to be stopped in the event of overconsumption
- protects the motor and frees the operator from watching the machine
- detects whether the motor is straining and whether the blade is worn

## 3.5 colour touch-screen allowing you to:

- enter the diameter and precisely adjust the feed speed in mm/min
- aid adjustment with a suggested motor speed and feed speed based on the type of material and the blade used
- perform quick and easy configuration
- display the cutting/bevelling motor's consumption
- display in English, French or German
- choose the unit of measure: mm or inch

**Welding mode with prefab machine and SAXX generator:** 4-button display (Start, Stop, Left, Right) with the addition of a power source connection cable

(Ref. SAEX-A02 for addition, more details in the "ORBITAL WELDING" section of the catalogue)

This rotation is compatible with our previous **121, 171, 221, 321, 421, 521 and 721** models.

The previous SAEP-00/000 rotation cannot be fitted to our new **122, 172, 222 and 322** models.



Product Code	Description	Net Weight	Dimensions(in mm)
SAEX-00	Autoline electric rotation	6.3 kg	320 x 261x 193

### Autoline electric inverter for CC122 to 322:

- 110 V to 230 V
- even rotation
- easy to use
- precise adjustment

✓ 122	✓ 172	✓ 222	✓ 322	421	521	721	1100
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Product Code	Description	Net Weight	Dimensions (in mm)
SAEX-000	Autoline electric rotation	6.3 kg	320 x 261x 193

### Autoline electric inverter for CC421 to 721:

- 110 V to 230 V
- even rotation
- easy to use
- precise adjustment

122	172	222	322	✓ 421	✓ 521	✓ 721	1100
-----	-----	-----	-----	-------	-------	-------	------



**AXXAIR**

INNOVATIVE ORBITAL SOLUTIONS

## Accessories (electric clamping)

NEW



You realize **important series** in your company and want to be more effective during your projects? Our electric clamping is the ideal answer for the preparation and / or welding of your tubes.

The electric clamping makes it possible to carry out a **repetitive and constant force tightening** on tubes with identical diameters and thicknesses. The **clamping force is adjustable**, it prevents the tubes from being deformed or marked.

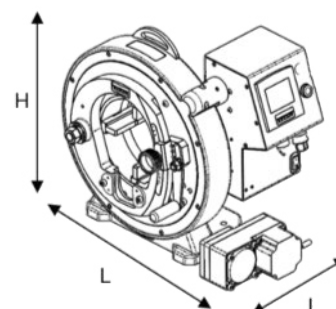
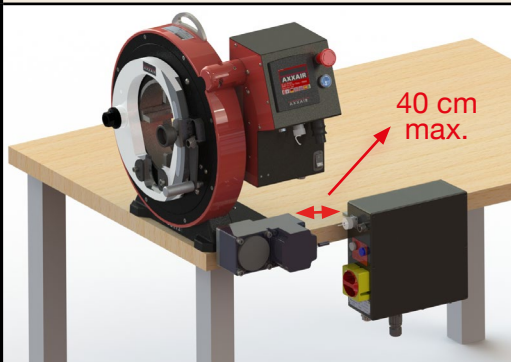
### Technical specifications:

- 24Vdc brushless motor, motor torque: 34N.m
- Tightening force on the tube: 850 kg maximum, adjustable from 15 to 100%
- Clamping speed: 86 mm / min (diameter)
- The electric clamping is sold with the body frame and the automatic rotation

Fixation on an AXXAIR support bench



Fixation on an other support (example: workbench)



Product code	Body frame, automatic rotation and electric clamping Machine's jaw opening capacity in mm		Net weight	Dimensions (HxLxI in mm)
	With basic jaws	With extra jaws (included)		
122-AU	Ø29 - Ø119	Ø5 - Ø99	51 kg	470 x 498 x 359
172-AU	Ø74 - Ø173	Ø16 - Ø116	58 kg	520 x 530 x 359
222-AU	Ø128 - Ø228	Ø55 - Ø155	66 kg	575 x 575 x 359
322-AU	Ø230 - Ø328	Ø141 - Ø239	80 kg	675 x 662 x 359

**Caution:** Remember to order one or more motors (cutting, bevelling or welding torch) and the consumables needed with the sets listed above.



# Orbital Cutting - Consumables

**AXXAIR**

INNOVATIVE ORBITAL SOLUTIONS



## Orbital cutting blades

High quality blades (HSS + Cobalt) sold in boxes of 5

-The tooth pitch & design are essential for chip evacuation, in order to achieve a high quality cut. AXXAIR has produced the most efficient blade design possible for various cutting applications.

-Often preferred to our competitors' blades, AXXAIR blades are compatible with the majority of other orbital cutting machines.

Product Code	Cutting tubes with wall thicknesses of		Blade ø	Number of teeth
LS6844	2 to 7mm	0.08 – 0.28"	68 mm	44
LS8034	5 to 12 mm	0.20 – 0.47"	80 mm	34
LS8054	2 to 7 mm	0.08 – 0.28"	80 mm	54
LS9038	5 to 15 mm	0.20 – 0.59"	90 mm	38
LCA9028A (sold individually)	4 to 15 mm	0.15 – 0.59"	90 mm	28
For cutting carbon steel ONLY and ONLY with a FS29/ FS19 high-speed motor. Cutting is performed WITHOUT lubricant.				
LC300 (sold individually)	30 ° bevelling blade		78 mm	20
LC375 (sold individually)	37.5 ° bevelling blade		78 mm	20

✓ 122

✓ 172

✓ 222

✓ 322

✓ 422

✓ 521

✓ 721

✓ 1100



Product Code	Description	Volume
CCLUH	liquid lubricant	250 ml

High performance oil lubricant, sold in packs of 5:

- Recommended for all FS cutting motors
- Safety data sheet available on request

✓ 122

✓ 172

✓ 222

✓ 322

✓ 422

✓ 521

✓ 721

✓ 1100



## 1 machine - 3 applications

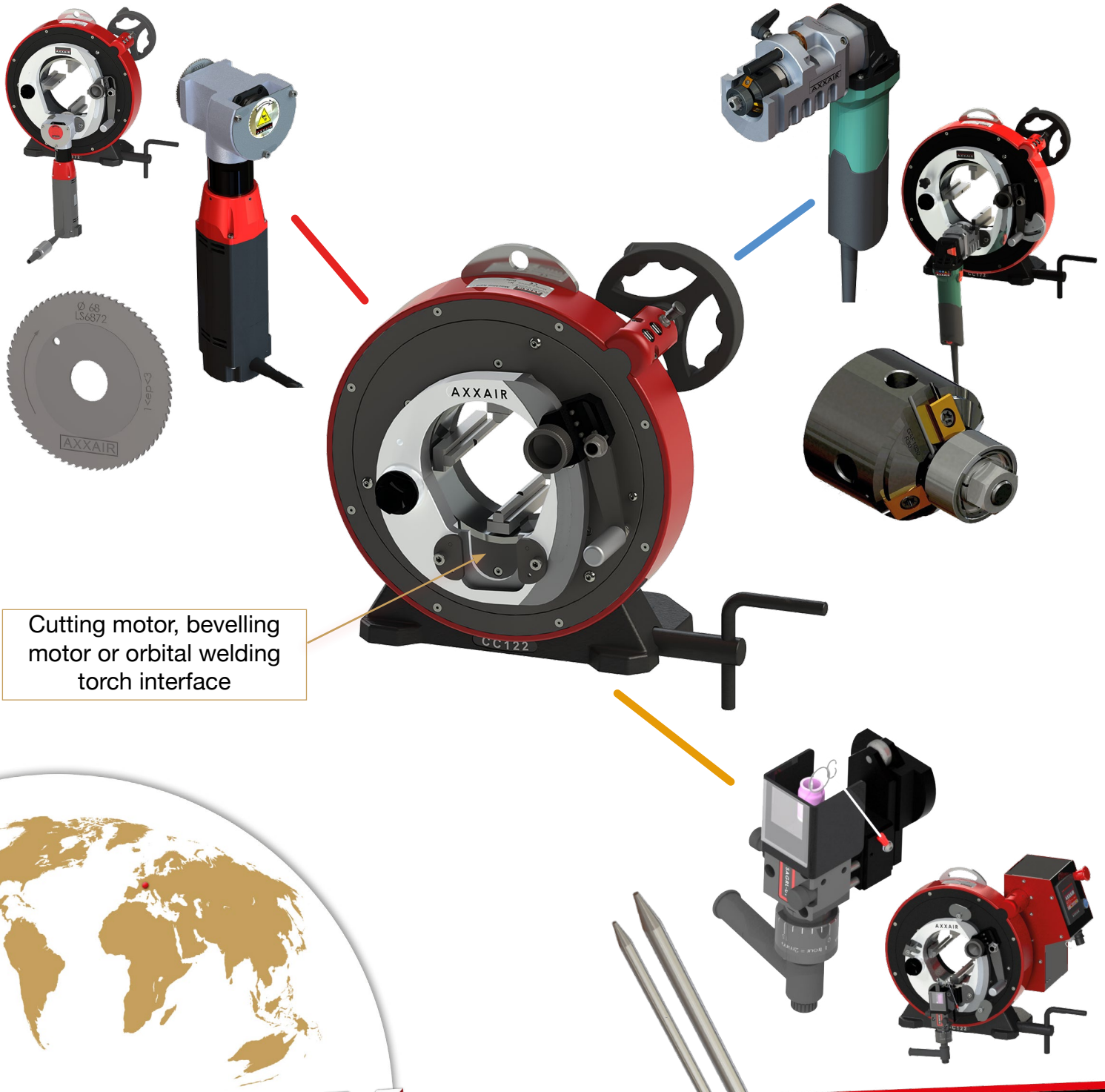
**AXXAIR**  
INNOVATIVE ORBITAL SOLUTIONS

The AXXAIR Group was the first to offer a triple and exclusive solution, from preparation to orbital welding:

**the global process**

For more than 20 years, a single machine frame (122, 172, 222 and 322) has enabled three operations to be carried out:

Cutting, bevelling and orbital welding



Cutting motor, bevelling motor or orbital welding torch interface



# 1 machine - 3 applications



Product Code	Description	Net weight
FS xx / MOPD	Cutting motor	5 kg
Low-speed / high-speed / pneumatic motor with dual output (uptake):		
120V	Low-speed motor: FS15	122
	High-speed motor: FS19	
230V	Low-speed motor: FS25	222
	High-speed motor: FS29	
Pneumatic	MOPD	322

To use this motor you will need to order: suitable cutting blades for the tube thickness you want to cut and, if necessary, lubricant.

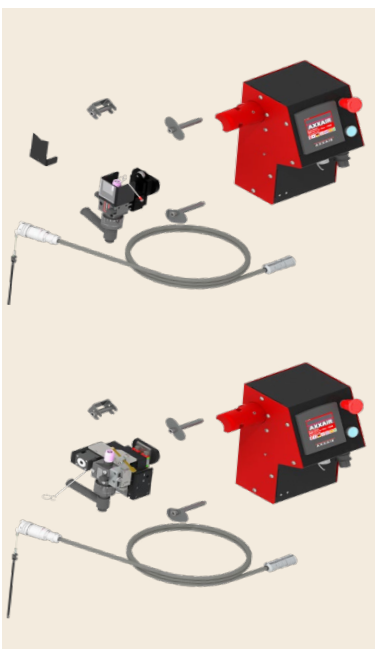
All information and relevant product codes appear in the orbital cutting accessories and consumables section of this catalogue.



Product Code	Description	Net Weight			
GA10 - x - xx	Beveling motor kit	5 kg			
120V / 230V beveling motor supplied with a chip shield and a workpiece guide tailored to the frame of your cutting / prefab welding machine:					
120V	Product Code	Frame	230V	Product Code	Frame
	GA10-M1-122	122		GA10-M2-122	122
	GA10-M1-172	172		GA10-M2-172	172
	GA10-M1-222	222		GA10-M2-222	222
	GA10-M1-322	322		GA10-M2-322	322

To use this motor and bevel your tubes you will need to order: one or more milling heads and carbide inserts.

All information and relevant product codes appear in the orbital beveling accessories and consumables section of this catalogue.



Product Code	Description	Net Weight
SX - KIT x	Torch kit	depending on the chosen product
KIT for upgrading a CC/GA to an SX Air / Water / AVC+OSC torch		
Cooling	Product Code	Frame
AIR	SX-2KITA	122
	SX-2KITE	172
EAU	SX-2KITNAOF (AVC/OSC)	222
		322
If you have acquired the electrical clamping (xx2-AU), please order the references below, they are delivered without automatic rotation:		
AIR	SX-3KITA	122
EAU	SX-3KITE	172
	SX-3KITNAOF (AVC/OSC)	222
		322

To use this KIT and to prefab weld, you will need to order: a suitable AXXAIR welding power supply for the tubes you want to weld.

All information and relevant product codes appear in the orbital welding section of this catalogue.





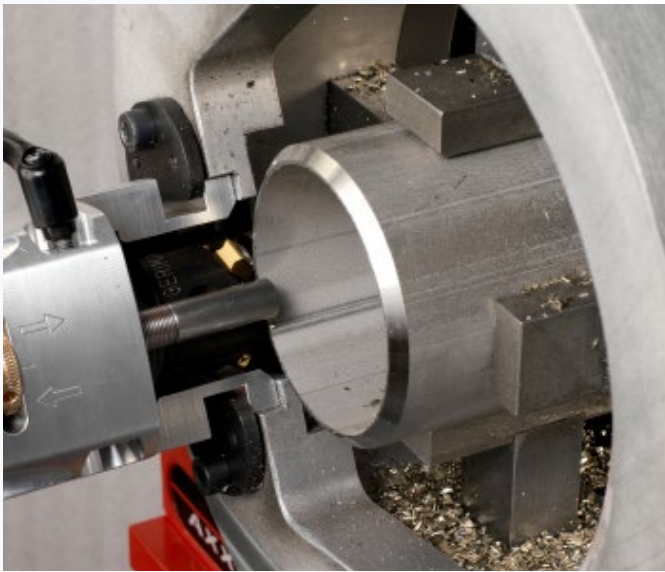
# AXXAIR's orbital beveling

**AXXAIR**

INNOVATIVE ORBITAL SOLUTIONS

The success of an orbital weld relies primarily on preparation of the parts to be welded. Of the various preparation steps, a good quality bevel, which is suitable for the welding process, is essential.

Following orbital cutting, the face of the tube is perfectly perpendicular and free of burrs. At this point, beveling is essential to ensure that the weld bead's geometry is appropriate, particularly on the inside (penetration).



Above a thickness of 3 mm, simple fusion involves a melt volume that is too significant to guarantee proper geometric control of the weld bead. To remedy this, beveling reduces the quantity of material to be fused in order to achieve proper penetration.

As a result, several passes are usually needed to finish the weld bead (filling and finishing). The bevel shape is created by the welding equipment used.

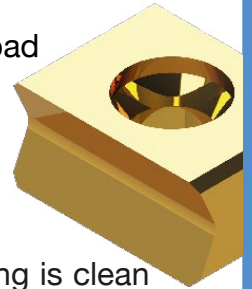
## AXXAIR'S UNIQUE AND PATENTED CONCEPT

AXXAIR's orbital beveling machines use a carbide milling head rotating at high speed to remove a large quantity of chips in **a single rotation of the tool around the tube** (orbital).

This patented process avoids the need for lubricant: no more cleaning/washing of parts before welding! The carbide inserts' ability to remove chips is 10x greater than those used traditionally with HSS tools (High-speed Steel).

## FLEXIBILITY, PRODUCTIVITY

Implementation, setting/adjustment and beveling are quick and easy. Each machine's diameter range is very broad and does not require specific jaws. AXXAIR's frames are **scalable** for orbital cutting and welding.



## QUALITY

The surface created by carbide milling is clean and free of burrs and is, therefore, ready for welding.

Our process also includes a workpiece guide outside the tube, which takes account of "pipe" ovalisation defects. This ensures that the bevel is more uniform over the entire circumference.

## PORTABILITY

Portable machines, which are easy to move and can be used both on site or in a workshop. Perfect preparation for thick tubes before welding with filler wire.



Please do not hesitate to contact us for all enquiries relating to orbital beveling technology.

We will be glad to share our know-how with you and to devise a solution that best meets your needs!





# AXXAIR's orbital beveling

## - V- or J-Bevel? -

**AXXAIR**

INNOVATIVE ORBITAL SOLUTIONS

There are two types of bevel, which depend on the manual or automatic welding process used: the V-bevel and the J-bevel (or "Tulip").

These names relate to the fact that, when assembled, the two prepared edges assume the shape of these letters.

In orbital welding, the two root faces of the bevelled parts are placed in contact with each other.

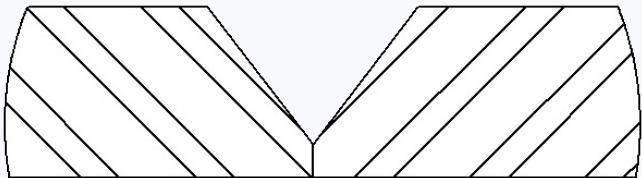
All that is required is a simple fusion of the two root faces and for the bevel to be subsequently filled with wire.

### V-bevel

For manual TIG welding, a V-bevel is preferable, with or without a root face, depending on the manner in which the parts are married. It is called a V-bevel as, once the parts have been married, the resulting shape looks like the letter V.

The root face generally prevents the edges being distorted when the parts are handled, along with a collapse on the first pass (penetration).

For manual welding, the parts are married leaving a small gap, which specifically allows the wire to be inserted manually, including from inside the tube (penetration geometry). The bevel angles routinely used are 30, 37.5 and 45°.

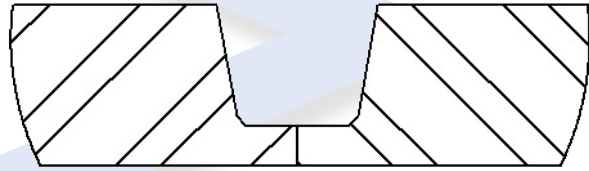


These angles are determined by the application, the thickness of the parts to be welded and the material used. We offer 3 milling heads for orbital V-bevels, each corresponding to one of these angles.



### J-bevel (tulip)

This shape is essential for automated welding, especially for orbital welding.



The root face of this type of bevel enables a delicate "tube-tube" type assembly to be created; this generally allows for a single fusion penetration, which represents a better way of precisely controlling the penetration's geometry. This type of preparation also reduces the volume of metal required to fill the bevel.

The root face must be sufficiently long to allow a single fusion bead to be created, without overlapping onto the edges of the bevel: a root face thickness of 1.6 to 2 mm with a root face length of 2 to 2.5 mm. These adjustments are easily made and relate to the carbide milling head (unlike adjustment using HSS tools).



As the accessories (elbows, T unions, flanges, etc.) are generally prepared with V-bevels, many welds will need to be of the V-J type, which is difficult to achieve. Consequently, the quality of orbital welding accessories is generally a key criteria to be taken into consideration.



Contact us to find the perfect solutions for your needs!





**GA 122 - 172 - 222 - 322**



**No tube deformation and no tube pollution**

Concentric clamping



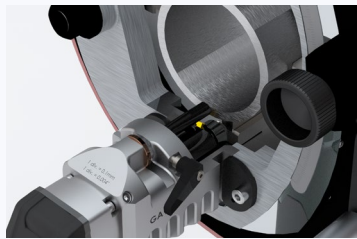
**Stainless steel jaws**

**V-bevel or J-bevel without lubricant**

Carbide technology, 10x faster than HSS inserts

Angles :

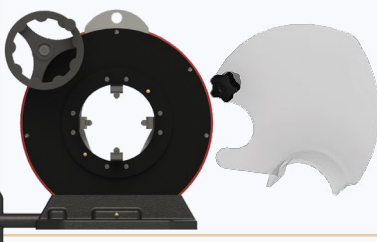
- J-Bevel: 10°
- V-Bevel: 30°, 37,5° and 45°



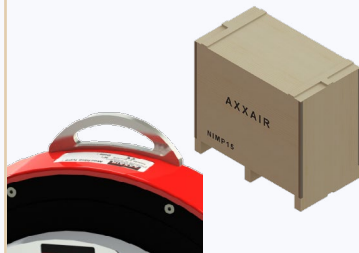
**Perfect sealing against chips**

All rotating parts are incorporated in the body

Plastic shield in the front



**Easy handling and transportation**



**Continuous use**

Anti-twist cable with bearings. Protects the electric cable from damage resulting from rotation around the tube.

**Tool life**  
Rotation handle for controlled and continuous cutting speed

**Tracking system**  
External profile tracking that takes into account the ovality of the tubes



**Easy setting of the root face**  
Reading on a vernier



**1550 W motor**  
Wide speed range: flexibility depending on the material

**Global Process**  
Can be transformed into an orbital cutting and welding machine

Opening capacity	
122	ø15 - ø119mm ø5/8" - ø4,5 "
172	ø33 - ø173 mm ø1,3 - ø6,625 "
222	ø55 - ø228 mm ø2.35 to ø8,625 "
322	ø141 - ø328 mm ø5,5 to ø12,75 "

**GA 122 - 172 - 222 - 322****AXXAIR**  
INNOVATIVE ORBITAL SOLUTIONS**Technical specifications:****NEW****New motor: 1550 W, 120 V or 230 V**

- Class 2 electric device. Double electrical isolation. None accessible metal part. Longer service life, more power, patented dust protection.

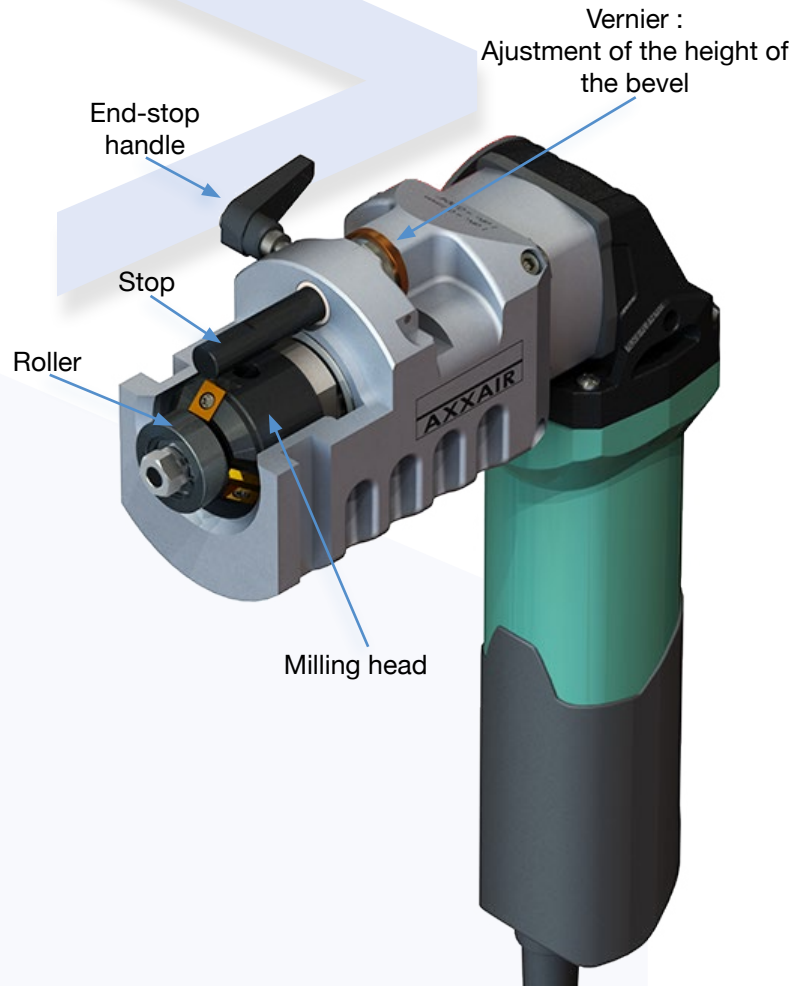
- Vibration level in accordance with standard EN 28662: <math><2.5\text{m/s}^2</math>, Protection class: IP 20

- Vario Tacho Constamatic (VTC) Full-wave Electronics with Thumbwheel: for working at customised speeds to suit the application material and speeds that remain constant, even under load.  
6 speed variations: from 2050 to 7300 RPM

- 0V security: the motor does not restart alone after a power failure

- Mechanical protection of the gearbox, torque limiter integrated into the angular gearbox

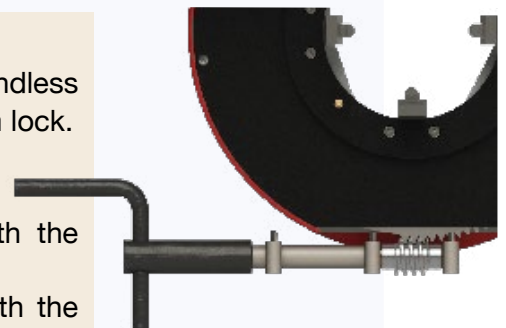
All motors are supplied in their own individual cases, including the necessary tools

**Robustness of the body:**

- Effective clamping system with an endless screw engaging directly with the cam lock.

**Easy maintenance and control:**

- Lubrication of the inner parts with the grease nipples  
- Quick access to the screw beneath the internal cowling





# GA 122 - 172 - 222 - 322

NEW

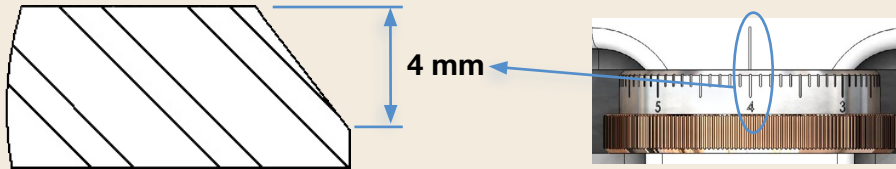
## Technical specifications:



### Easy setting of the root face:

#### Adjustment of the height of the bevel (V-Bevels) :

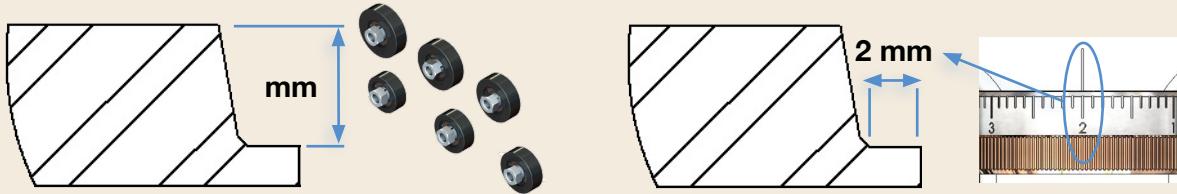
To adjust the height of the bevel, the stop needs to be moved. The wheel with the vernier must be turned in either direction to increase or decrease the height of the bevel.



The vernier value is equal to the **bevel height**.

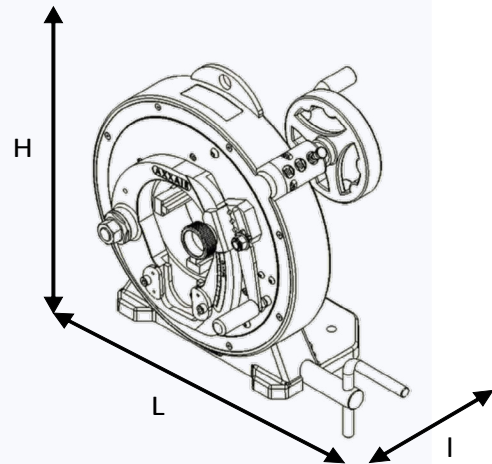
#### Adjustment of the length of the root face (J-Bevels) :

The height of the bevel is determined by the selection of the roller mounted on the milling head. Adjusting the stop allows the length of the root face at the end of the bevel to be changed.



The value of the vernier is equal to the **length of the root face**.

Materials that can be machined by the machine	Hardness between :
All types of steel	500 and 800 Mpa
All types of alloys (copper / brass / bronze / aluminum)	200 and 800 Mpa



Product Code Machine with a <b>120V</b> motor	Product Code Machine with a <b>230V</b> motor	Machine's jaw opening capacity in mm		Net weight	Dimensions (HxLxW in mm)
		With basic jaws	With extra jaws (included)		
GA122-M1	GA122-M2	Ø29 - Ø <b>119</b>	Ø <b>15</b> - Ø99	42 kg	443 x 541 x 304
GA172-M1	GA172-M2	Ø74 - Ø <b>173</b>	Ø <b>33</b> - Ø116	49 kg	493 x 566 x 304
GA222-M1	GA222-M2	Ø128 - Ø <b>228</b>	Ø <b>55</b> - Ø155	57 kg	548 x 594 x 304
GA322-M1	GA322-M2	Ø230 - Ø <b>328</b>	Ø <b>141</b> - Ø239	71 kg	649 x 644 x 304

Please contact us for large diameters and special adaptations





# Orbital Beveling - Accessories

**AXXAIR**

INNOVATIVE ORBITAL SOLUTIONS

Our support legs and stands have been designed to further facilitate beveling by ensuring that the machine is stable in different conditions: in a workshop or on site.

The great advantages of these products:

- lightness
- flexible handling
- easy to use



Product Code	Description	Net Weight	Dimensions (in cm)
CCPS21	Support legs	10 kg	103 x 32 x 11

Support legs for orbital beveling machines:

- storage box at the back
- optimum stability
- quick assembly and dismantling
- height adjustment with screws

✓ GA122

✓ GA172

✓ GA222

✓ GA322



Product Code	Description	Net Weight	Dimensions (in cm)
CCSER1	Stand	10 kg	60 x 26 x 10

Simple stand for supporting tubes with height adjustment:

- quick assembly and dismantling
- height adjustment

✓ GA122

✓ GA172

✓ GA222

✓ GA322



Product Code	Description	Net Weight	Dimensions (in cm)
CCSER2	Stand with chrome steel bearings	11 kg	60 x 26 x 10

Stand with chrome steel bearings for supporting tubes with height adjustment:

- facilitates tube feeding after each cut
- quick assembly and dismantling
- height adjustment

✓ GA122

✓ GA172

✓ GA222

✓ GA322





# Orbital Beveling - Accessories

**AXXAIR**

INNOVATIVE ORBITAL SOLUTIONS

Our support benches help you to position and feed your tubes without the aid of stands. The height-adjustable table helps you easily and precisely set the height of your machine, for cutting and beveling tubes placed on the support bench.

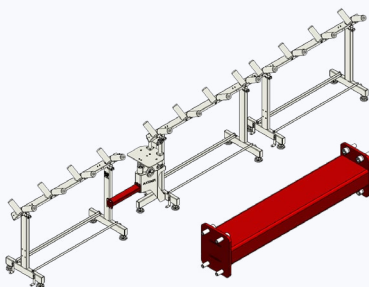
The additional tube support bench allows you to position your longest tubes in a stable manner on all benches.



Product Code	Description	Net Weight	Dimensions (in cm)
CCBSB-X1	Height-adjustable tube support bench	57 kg	184 x 95 x 51
<u>Height-adjustable support bench, 1.5m</u>			
<ul style="list-style-type: none"> <li>- stainless steel rollers</li> <li>- height adjustment handle</li> <li>- 1.5 m long</li> </ul>		<ul style="list-style-type: none"> <li>- maximum load 350 kg uniformly distributed</li> <li>- min tube ø: 5 mm</li> <li>- max tube ø: 321 mm</li> <li>- compatible with machines 121 to 321</li> </ul>	
✓ GA122	✓ GA172	✓ GA222	✓ GA322



Product Code	Description	Net weight	Dimensions (in cm)
CCBSB-X2	Additional support bench	38 kg	150 x 95 x 51
<u>Additional tube support bench:</u>			
<ul style="list-style-type: none"> <li>- stainless steel rollers</li> <li>- 1.5 m long</li> <li>- maximum load 350 kg uniformly distributed</li> </ul>		<ul style="list-style-type: none"> <li>- min tube ø: 5 mm</li> <li>- max tube ø: 321 mm</li> <li>- compatible with machines 121 to 321</li> </ul>	
✓ GA122	✓ GA172	✓ GA222	✓ GA322



Product Code	Description	Net Weight	Dimensions (in mm)
CCBSB-B005	Connecting bar	3 kg	100 x 80 x 402
<u>Connecting bar for CCBSB-X1 and CCBSB- X2:</u>			
<ul style="list-style-type: none"> <li>- Allows the height-adjustable table to be connected to a bench placed in front of the machine</li> </ul>			
✓ GA122	✓ GA172	✓ GA222	✓ GA322





# Orbital Beveling - Accessories

**AXXAIR**

INNOVATIVE ORBITAL SOLUTIONS

## Autoline electric rotation:

Measures and displays the cutting/beveling motor's power consumption

- enables the motor and cycle to be stopped in the event of overconsumption
- protects the motor and frees the operator from watching the machine
- detects whether the motor is straining and whether the blade is worn

**Welding mode with prefab machine and SAXX power source** : 4-button display (Start, Stop, Left, Right) with the addition of a power source connection cable

(Ref. SAEX-A02 for addition, more details in the "ORBITAL WELDING" section of this catalogue)

## 3.5 colour touch-screen allowing you to:

- enter the diameter and precisely adjust the feed speed in mm/min
- aid adjustment with a suggested motor speed and feed speed based on the type of material and the blade used
- perform quick and easy configuration
- display the cutting/beveling motor's consumption
- display in English, French or German
- choose the unit of measure: mm or inch

This rotation is compatible with our previous **121, 171, 221, 321, 421, 521 and 721** models.

The previous SAEP-00/000 rotation cannot be fitted to our new 122, 172, 222 and 322 models.



Product Code	Description	Net Weight	Dimensions (in mm)
SAEX-00	Autoline electric rotation	6.3 kg	320 x 261x 193

### Autoline electric inverter for GA122 to 322:

- 110 V to 230 V
- even rotation
- easy to use
- precise adjustment

✓ GA122

✓ GA172

✓ GA222

✓ GA322



# Orbital Beveling - Accessories

**AXXAIR**

INNOVATIVE ORBITAL SOLUTIONS

This milling head is a tool holder. It creates the shape of the final bevel based on the initial choice, with the necessary angulation.

The milling head can be easily changed for different bevel angles.

NEW



Product Code	Description	Net Weight
GV-300	Kit of milling head, roller, stop and vernier	1 kg

### Kit for 30° V bevel:

- Supplied with 3 fitted inserts

This milling head allows you to remove a maximum of 8 mm of the wall thickness, excluding the root face

✓ GA122

✓ GA172

✓ GA222

✓ GA322

NEW



Product Code	Description	Net Weight
GV-375	Kit of milling head, roller, stop and vernier	1 kg

### Kit for 37,5° V bevel:

- Supplied with 3 fitted inserts

This milling head allows you to remove a maximum of 7 mm of the wall thickness, excluding the root face

✓ GA122

✓ GA172

✓ GA222

✓ GA322

NEW



Product Code	Description	Net Weight
GV-450	Kit of milling head, roller, stop and vernier	1 kg

### Kit for 45° V bevel:

- Supplied with 3 fitted inserts

This milling head allows you to remove a maximum of 6.5 mm of the wall thickness, excluding the root face

✓ GA122

✓ GA172

✓ GA222

✓ GA322

NEW



Product Code	Description	Net Weight
GJ-100	Kit of milling head, 6 rollers, stop and vernier	1 kg

### Kit for 10° J bevel:

- Supplied with 6 fitted inserts

This milling head allows you to remove a maximum of 8 mm of the wall thickness, excluding the root face

This form is indispensable for automated welding processes and especially for orbital welding.

✓ GA122

✓ GA172

✓ GA222

✓ GA322



**AXXAIR**

INNOVATIVE ORBITAL SOLUTIONS

## Accessories (electric clamping)

NEW



You realize **important series** in your company and want to be more effective during your projects? Our electric clamping is the ideal answer for the preparation and / or welding of your tubes.

The electric clamping makes it possible to carry out a **repetitive and constant force tightening** on tubes with identical diameters and thicknesses.

The **clamping force is adjustable**, it prevents the tubes from being deformed or marked.

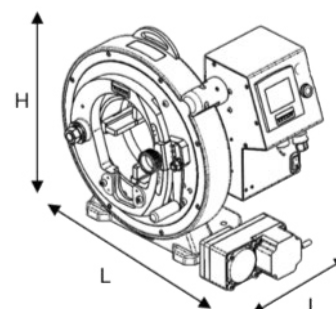
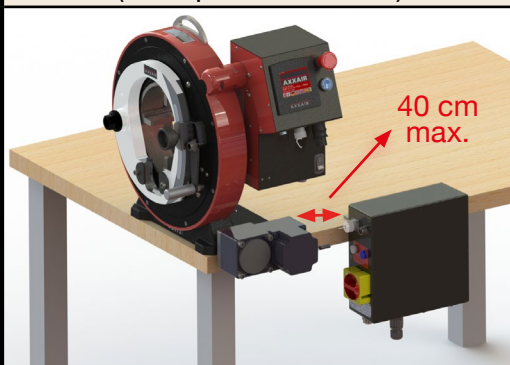
### Technical specifications:

- 24Vdc brushless motor, motor torque: 34N.m
- Tightening force on the tube: 850 kg maximum, adjustable from 15 to 100%
- Clamping speed: 86 mm / min (diameter)
- The electric clamping is sold with the body frame and the automatic rotation

Fixation on an AXXAIR support bench



Fixation on an other support (example: workbench)



Product code	Body frame, automatic rotation and electric clamping Machine's jaw opening capacity in mm		Net weight	Dimensions (HxLxI in mm)
	With basic jaws	With extra jaws (included)		
122-AU	Ø29 - Ø119	Ø5 - Ø99	51 kg	470 x 498 x 359
172-AU	Ø74 - Ø173	Ø16 - Ø116	58 kg	520 x 530 x 359
222-AU	Ø128 - Ø228	Ø55 - Ø155	66 kg	575 x 575 x 359
322-AU	Ø230 - Ø328	Ø141 - Ø239	80 kg	675 x 662 x 359

**Caution:** Remember to order one or more motors (cutting, bevelling or welding torch) and the consumables needed with the sets listed above.





# Orbital Beveling - Consumables

**AXXAIR**

INNOVATIVE ORBITAL SOLUTIONS

Our carbide inserts provide an operating speed that is 10x that achieved with an HSS tool.

Our carbide inserts create an even bevel with a clean surface and no burrs.

It does not alter the nature of the material. There is less wear on the insert, thanks to the cleanness of the cut.



Product Code	Description	Net Weight
PC30-08-B02	Titanium coated carbide inserts	70 g

Carbide inserts for orbital beveling (box of 10), usable with:

- low rotation speeds on the following materials: plastic, aluminum and copper types: PVC, aluminum T6, copper / nickel-plated, bronze
- high rotation speeds on carbon and stainless steels: 304 / 304L / 316L and A106 steel

- Usable with all AXXAIR milling heads
- Inserts usable on **4 sides**
- Always change all inserts at the same time

✓ GA122

✓ GA172

✓ GA222

✓ GA322

NEW



Product Code	Description	Net Weight
PC30-08-B03	Micrograin carbide inserts, coated with a high wear resistance treatment	70 g

Carbide inserts for orbital beveling (box of 10), usable with:

Depending on the material, the tool rotation speeds must be adapted and the use of automatic rotation is recommended.

- Recommended for high alloyed stainless steels: Duplex, inconel, super-duplex (316TIN / C-22 / C-4/625)

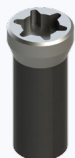
- Usable with all AXXAIR milling heads
- Inserts usable on **4 sides**
- Always change all inserts at the same time

✓ GA122

✓ GA172

✓ GA222

✓ GA322



Product Code	Description	Net Weight
KS30	Insert locking screw	1g

Locking screw for carbide inserts

✓ GA122

✓ GA172

✓ GA222

✓ GA322

## 1 machine - 3 applications

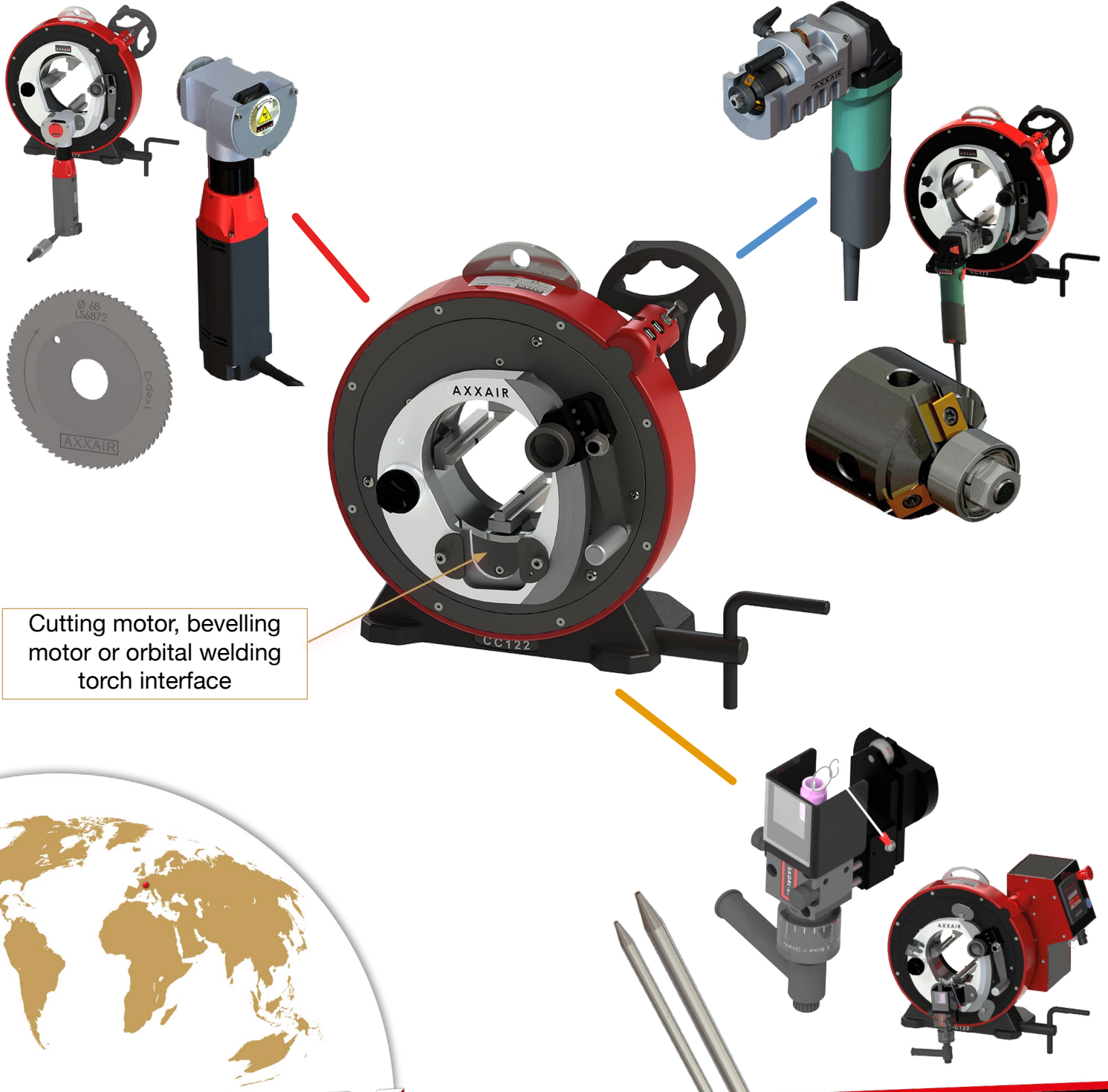


The AXXAIR Group was the first to offer a triple and exclusive solution, from preparation to orbital welding:

**the global process**

For more than 20 years, a single machine frame (122, 172, 222 and 322) has enabled three operations to be carried out:

Cutting, bevelling and orbital welding



Cutting motor, bevelling motor or orbital welding torch interface

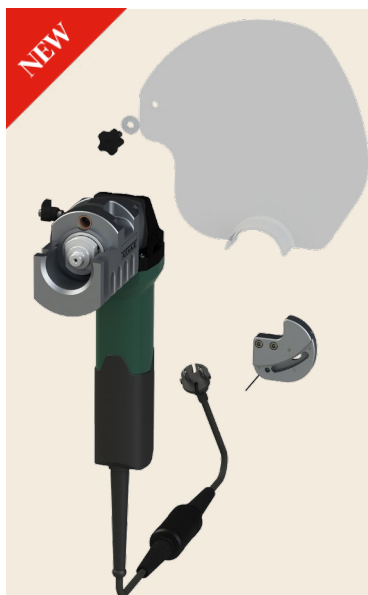
# 1 machine - 3 applications



Product Code	Description	Net weight
FS xx / MOPD	Cutting motor	5 kg
Low-speed / high-speed / pneumatic motor with dual output (uptake):		
120V	Low-speed motor: FS15	122
	High-speed motor: FS19	
230V	Low-speed motor: FS25	222
	High-speed motor: FS29	
Pneumatic	MOPD	322

To use this motor you will need to order: suitable cutting blades for the tube thickness you want to cut and, if necessary, lubricant.

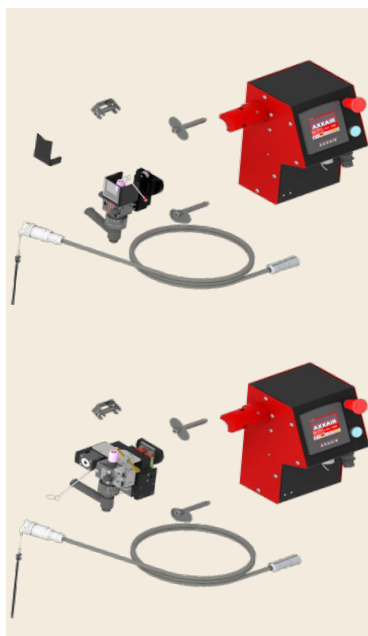
All information and relevant product codes appear in the orbital cutting accessories and consumables section of this catalogue.



Product Code	Description	Net Weight			
GA10 - x - xx	Beveling motor kit	5 kg			
120V / 230V beveling motor supplied with a chip shield and a workpiece guide tailored to the frame of your cutting / prefab welding machine:					
120V	Product Code	Frame	230V	Product Code	Frame
	GA10-M1-122	122		GA10-M2-122	122
	GA10-M1-172	172		GA10-M2-172	172
	GA10-M1-222	222		GA10-M2-222	222
	GA10-M1-322	322		GA10-M2-322	322

To use this motor and bevel your tubes you will need to order: one or more milling heads and carbide inserts.

All information and relevant product codes appear in the orbital beveling accessories and consumables section of this catalogue.



Product Code	Description	Net Weight
SX - KIT x	Torch kit	depending on the chosen product
KIT for upgrading a CC/GA to an SX Air / Water / AVC+OSC torch		
Cooling	Product Code	Frame
AIR	SX-2KITA	122
	SX-2KITE	172
EAU	SX-2KITNAOF (AVC/OSC)	222
		322
If you have acquired the electrical clamping (xx2-AU), please order the references below, they are delivered without automatic rotation:		
AIR	SX-3KITA	122
EAU	SX-3KITE	172
		222
	SX-3KITNAOF (AVC/OSC)	322

To use this KIT and to prefab weld, you will need to order: a suitable AXXAIR welding power supply for the tubes you want to weld.

All information and relevant product codes appear in the orbital welding section of this catalogue.



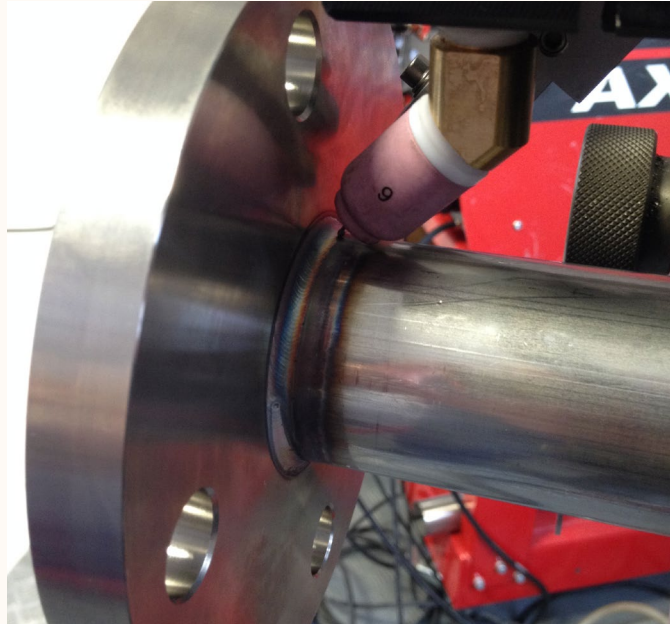
## Orbital welding (Prefabrication)

**AXXAIR**  
INNOVATIVE ORBITAL SOLUTIONS

Orbital welding involves rotating a Tungsten electrode around a tube to weld it to other tubes or accessories.

Our programme incorporates a unique and atypical orbital welding machine for so-called "prefab" because it cannot be brought to the tube, it is the tube that is brought to the machine.

It is an axial loading machine which involves being able to pull out the tube as well as the welded accessory.



These machines that use standard cutting and bevelling frames have the advantage of being very robust and easy to use.

In fact, the SX range is mainly intended for workshop or building site prefabrication use. These machines are also used to carry out repeatable production welding on suitable elements.

Our machines can all be equipped with either an air-cooled torch or a water-cooled torch, with or without filler metal.

### FLEXIBILITY, PRODUCTIVITY

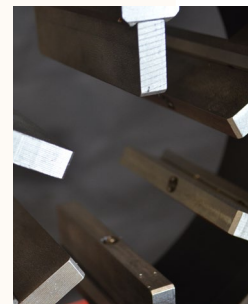
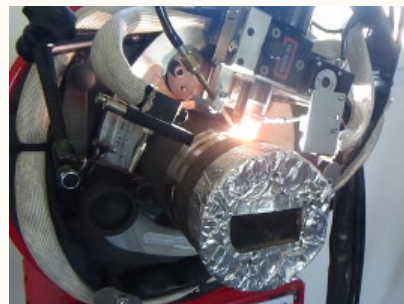
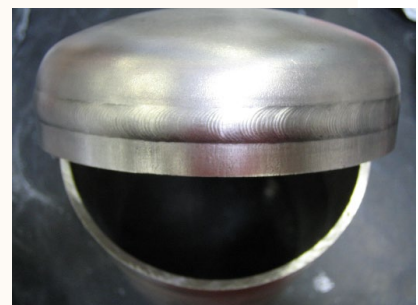
Welding with a water or air cooled torch with or without filler metal. It allows production of medium to large series of welding sub-assemblies. The diameter range of each machine is very wide and does not require specific jaws.

### QUALITY AND REPEATABILITY

TIG welding without tube distortion (multi-contact concentric clamping). Mechanical or motorised tracking and axial adjustment optimize the quality of your welds.

### EASY TO USE

Robust and intuitive, it is adapted to any operator profile.



Please do not hesitate to contact us for all enquiries relating to orbital welding technology.

We will be glad to share our know-how with you and to devise a solution that best meets your needs!

# SX122 - 172 - 222 - 322 (simple wire)




**No tube deformation**

Concentric clamping



Basic and extra **stainless steel** jaws: no pollution of stainless steel tubes

**Water Cooled**

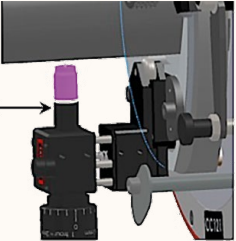



**Automatic rotation**

Connected to the SAXX welding power sources


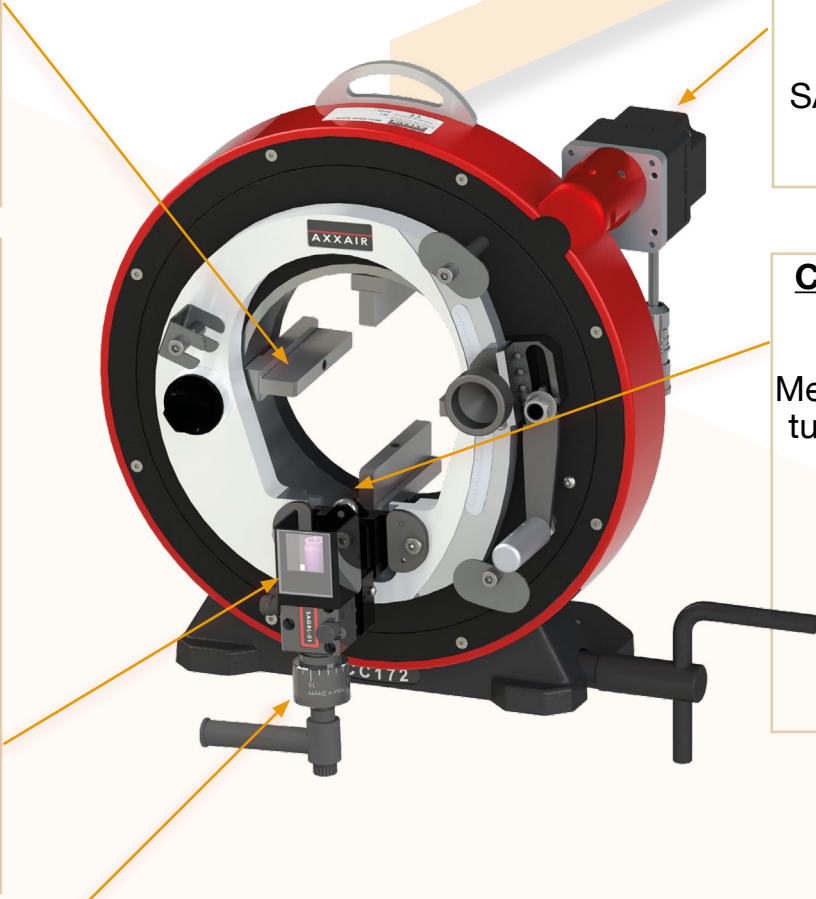
**Accurate positioning**

**Axial adjustment** of the electrode position: facilitates location of the parts to be welded  
Adjustment of the electrode's axial position : +/- 5 mm



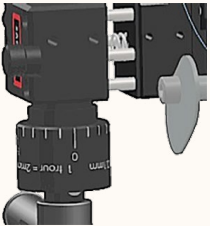
**Constant distance: electrode-tube**

Mechanical tracking of tube ovalization from the outside.






**Micrometric adjustment** of the height of the arc

Accuracy of adjustment without specific tooling



**Easy handling and transportation**

**Compatible with the SAXX power sources**



Opening capacity	
122	ø12 - ø119 mm 0.25" - 4.5 "
172	ø16 - ø173 mm 0.625" - 6.625 "
222	ø55 - ø228 mm 2.375" - 8.625 "
322	ø141 - ø328 mm 5.563" - 12.750 "



# SX122 - 172 - 222 - 322 (simple wire)



## Technical characteristics:

Machines for TIG orbital prefab welding, water cooled.

For optimum use, the ambient temperature must be between 0 °C and + 40 °C.

Compatible with AXXAIR type SAXX welding generators, we have an automatic parameter calculation mode.

The generator will offer you parameters adapted to the characteristics of the tubes / accessories to be welded.

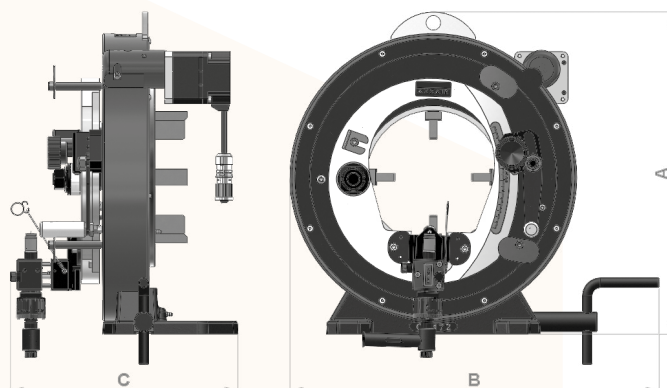
The machine can be supplemented by a wire feed system. For details, please refer to accessories.

A welding generator with liquid cooling system must be used when welding using these weld module. Cf welding generator characteristics

*For welding with an AVC / OSC system please refer to following pages of this catalogue in order to choose a machine already provided with this system.*



Model	Operating factor of 100%
SX-xx2-E (WATER)	200 A.



	Product Code	Machine's jaw opening capacity in mm		Net weight	Dimensions (AxBxC in mm)
		With basic jaws	With extra jaws (included)		
Water cooled EAU	SX122-E	Ø29 - Ø119	Ø12 - Ø99	45 kg	446 x 541 x 350
	SX172-E	Ø74 - Ø173	Ø16 - Ø116	52 kg	493 x 566 x 350
	SX222-E	Ø128 - Ø228	Ø55 - Ø155	60 kg	548 x 594 x 350
	SX322-E	Ø230 - Ø328	Ø141 - Ø239	73 kg	649 x 644 x 350

# AXXAIR's orbital welding

## Sweep Multi-pass TIG welding

### - AVC/OSC system -

**AXXAIR**

INNOVATIVE ORBITAL SOLUTIONS

#### Motorised voltage control: AVC

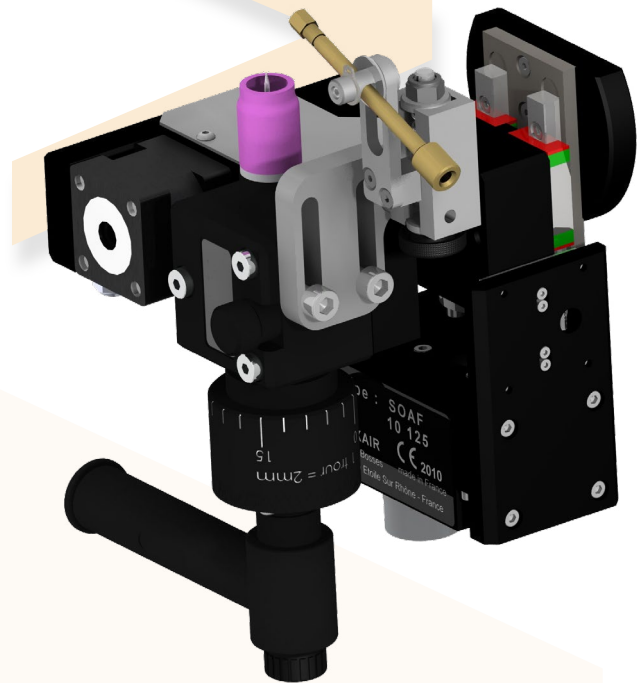
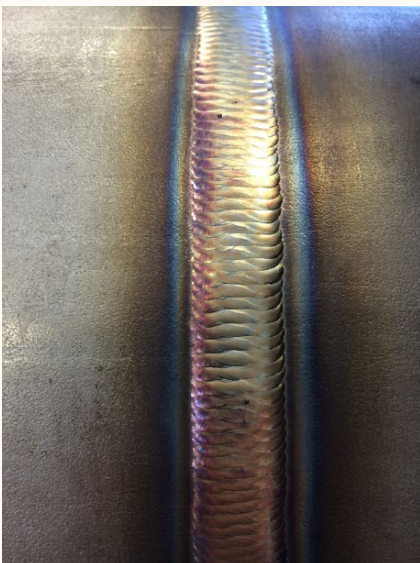
Motorised Arc Voltage Control is often abbreviated to AVC. Arc voltage is directly linked to the distance between the tube to be welded and the electrode. In other words, this option ensures the correct tube-electrode distance is maintained electronically during welding.

AVC can indeed be of huge benefit, especially in mechanised welding, and the more sensors there are to guide the machine, the less user intervention is required.

#### The two most frequent applications:

- When you do not wish to measure the external diameter physically using a feeler probe; AVC requires no contact with the tube and the sensor is more accurate and responsive than with physical tracking.

- When wire welding and the deposition rate beneath the electrode is not fully controlled, this can obviously affect the arc length. In this case, AVC means you never go near the soldering bath.



#### Fusion+OSC+wire:

This welding method combines AVC movement with oscillation of the torch and wire. This method is used for multi-pass welding of high thickness materials.

Torch oscillation is where the electrode is swung left and right in a linear motion so that each side of the joint can be kept liquid as welding progresses.

Oscillation brings an improvement in the number of passes, and therefore significantly improves productivity.

This system, when combined with AVC, is the only effective way of filling a tulip joint in multi-pass TIG welding.

**These systems are available on prefabrication machines and open heads.**



# SX122 - 172 - 222 - 322 (AVC/OSC)


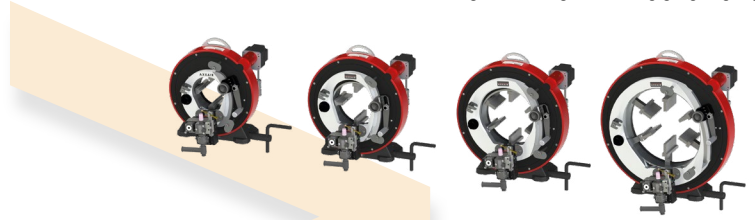


**No tube deformation**  
Concentric clamping



Basic and extra **stainless steel** jaws: no pollution of stainless steel tubes

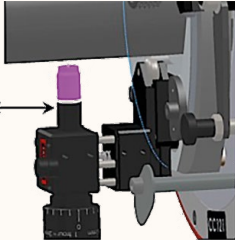
**Water Cooled**

**Automatic rotation**  
Connected to the SAXX welding power sources

**Control of the wire**  
regulation of the wire by the SAXX power source

**Multi-pass welding**  
**Mortorised axial sweep (OSC)**  
Movement of the electrode's axial position: +/- 10 mm



**Constant distance: electrode-tube**  
**Motorised setting and control of the distance tube-electrode (AVC)**  
regulates the arc voltage, the distance between the electrode and the tube

**Easy handling and transportation**




**AVC/OSC system**  
Allows to weld tubes with up to 12.7 mm wall thickness

**Compatible with the 210 and 300 SAXX power sources**



Opening capacity	
122	ø12 - ø119 mm 0.25" - 4.5 "
172	ø16 - ø173 mm 0.625" - 6.625 "
222	ø55 - ø228 mm 2.375" - 8.625 "
322	ø141 - ø328 mm 5.563" - 12.750 "





# SX122 - 172 - 222 - 322 (AVC/OSC)



## Technical characteristics:

Orbital TIG welding machine for prefabrication with AVC/OSC system, water cooled.

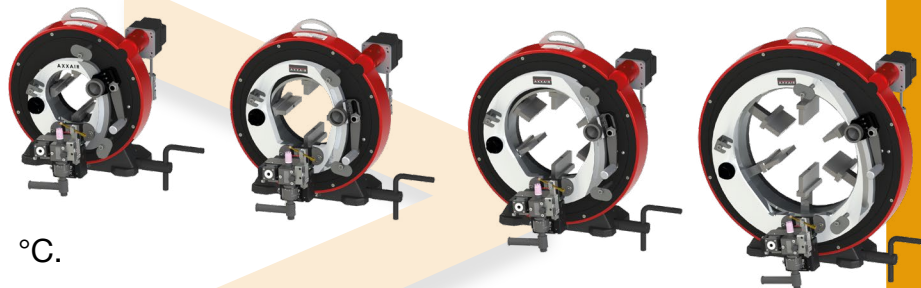
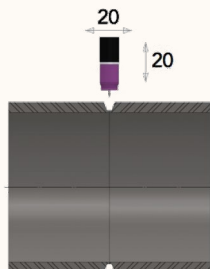
For optimum use, the ambient temperature must be between 0 °C and + 40 °C.

These machines are intended for orbital TIG welding. This range of products may be used for tube-to-tube, tube-to-elbow, tube-to-ferrule and T-joint welding, as well as SMS connectors and other work pieces.

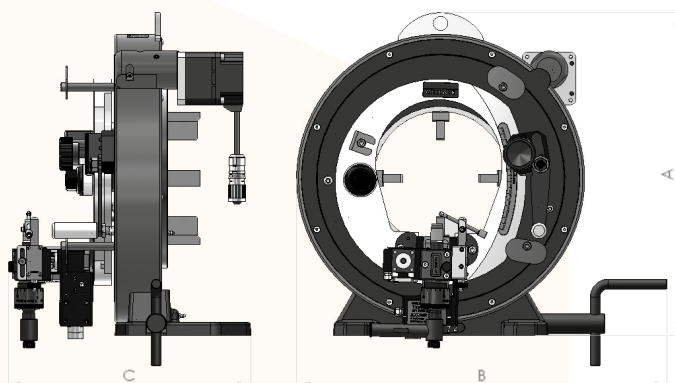
Compatible with AXXAIR type SAXX-210 and SAXX-300 welding generators, we have an automatic parameter calculation mode.

The generator will offer you parameters adapted to the characteristics of the tubes / accessories to be welded.

- Oscillation range: 20 mm,
- AVC range: 20 mm
- Max speed: 15 mm/s



Model	Operating factor of 100%
SX-xx2-NAOF (WATER)	200 A



	Product Code	Machine's jaw opening capacity in mm		Net weight	Dimensions (AxBxC in mm)
		With basic jaws	With extra jaws (included)		
Water Cooled	SX122-NAOF	Ø29 - Ø119	Ø12 - Ø99	46 kg	446 x 541 x 346-371
	SX172-NAOF	Ø74 - Ø173	Ø16 - Ø116	53 kg	493 x 566 x 346-371
	SX222-NAOF	Ø128 - Ø228	Ø55 - Ø155	61 kg	548 x 594 x 346-371
	SX322-NAOF	Ø230 - Ø328	Ø141 - Ø239	74 kg	649 x 644 x 346-371

# Orbital welding (Prefabrication) - Accessories

**AXXAIR**

INNOVATIVE ORBITAL SOLUTIONS

Our support legs and stands have been designed to further facilitate welding by ensuring that the machine is stable in varied conditions: in the workshop or on site.

The great advantages of these products are:

- lightness
- flexible handling
- ease of use



Product Code	Description	Net weight	Dimensions (in cm)
CCPS21	Support legs	10 kg	103 x 32 x 11

Support legs for orbital welding machine:

- quick assembly and dismantling
- height adjustment with screws

✓ SX122-E	✓ SX172-E	✓ SX222-E	✓ SX322-E	✓ SX122-NAOF	✓ SX172-NAOF	✓ SX222-NAOF	✓ SX322-NAOF
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Product Code	Description	Net weight	Dimensions (in cm)
CCSER1	Stand	10 kg	60 x 26 x 10

Simple stand for supporting tubes with height adjustment:

- quick assembly and dismantling
- height adjustment

✓ SX122-E	✓ SX172-E	✓ SX222-E	✓ SX322-E	✓ SX122-NAOF	✓ SX172-NAOF	✓ SX222-NAOF	✓ SX322-NAOF
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Product Code	Description	Net weight	Dimensions (in cm)
CCSER2	Stand (with chrome steel bearings)	11 kg	60 x 26 x 10

Stand with chrome steel bearings for supporting tubes with height adjustment:

- quick assembly and dismantling
- height adjustment

✓ SX122-E	✓ SX172-E	✓ SX222-E	✓ SX322-E	✓ SX122-NAOF	✓ SX172-NAOF	✓ SX222-NAOF	✓ SX322-NAOF
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# Orbital welding (Prefabrication) - Accessories

**AXXAIR**

INNOVATIVE ORBITAL SOLUTIONS

Our support benches help you to position and feed your tubes without the aid of stands. The height-adjustable table helps you easily and precisely set the height of your machine, for welding tubes placed on the support bench.

The additional tube support bench allows you to position your longest tubes in a stable manner on all benches. We also recommend that you support the cut section in front of your machine using one or more additional benches, depending on the length of the tube.



Product Code	Description	Net weight	Dimensions (in cm)
CCBSB-X1	Heightadjustable tube support bench	57 kg	184 x 95 x 51
<u>Height-adjustable support bench, 1.5m:</u> <ul style="list-style-type: none"> <li>- stainless steel rollers</li> <li>- height adjustment handle</li> <li>- maximum load 350 kg</li> <li>- min tube ø: 5 mm</li> <li>- max tube ø: 321 mm</li> </ul>			

✓ SX122-E

✓ SX172-E

✓ SX222-E

✓ SX322-E

✓ SX122-NAOF

✓ SX172-NAOF

✓ SX222-NAOF

✓ SX322-NAOF



Product Code	Description	Net weight	Dimensions (in cm)
CCBSB-X2	Additional support bench	38 kg	150 x 95 x 51
<u>Additional tube support bench:</u> <ul style="list-style-type: none"> <li>- stainless steel rollers</li> <li>- 1.5 m long</li> <li>- maximum load 350 kg</li> <li>- min tube ø: 5 mm</li> <li>- max tube ø: 321 mm</li> </ul>			

✓ SX122-E

✓ SX172-E

✓ SX222-E

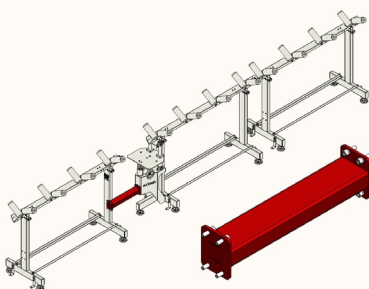
✓ SX322-E

✓ SX122-NAOF

✓ SX172-NAOF

✓ SX222-NAOF

✓ SX322-NAOF



Product Code	Description	Net weight	Dimensions (in mm)
CCBSB-B005	Connecting bar	3 kg	100 x 80 x 402
<u>Connecting bar for CCBSB-X1 and CCBSB-X2:</u> <ul style="list-style-type: none"> <li>- Allows the height-adjustable table to be connected to a bench placed in front of the machine</li> </ul>			

✓ SX122-E

✓ SX172-E

✓ SX222-E

✓ SX322-E

✓ SX122-NAOF

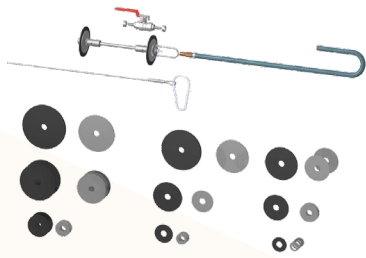
✓ SX172-NAOF

✓ SX222-NAOF

✓ SX322-NAOF



# Orbital welding (Prefabrication) - Accessories

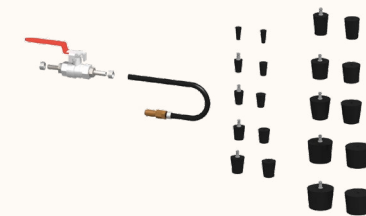


Product Code	Description	Net weight	Packaging (in cm)
SKIF-01	Gas protection KIT	4.5 kg	35 x 30 x 9.5

**Gas membrane protection KIT for tubes Ø 40 to 120 mm**  
 - consists of: 9 sets of membranes with washers, 1 gas pipe 6 m,  
 1 metal cable, 1 ¼ turn gas valve, 1 carabiner

*Inerting the tubes during welding allows more gas savings  
 as we only inert the area to be welded.*

✓ SX122-E	✓ SX172-E	✓ SX222-E	✓ SX322-E	✓ SX122-NAOF	✓ SX172-NAOF	✓ SX222-NAOF	✓ SX322-NAOF
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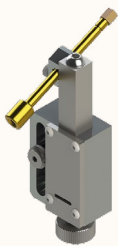


Product Code	Description	Net weight	Packaging (in cm)
SKIB-01	Gas protection KIT	1.7 kg	35 x 30 x 9.5

**Gas plug protection KIT for tubes Ø 6 to 41 mm**  
 - Consists of: 10 sets of perforated plugs, 1 gas inlet connector,  
 1 hose Ø 4/6 length 5 metres

*Facilitates and accelerates inerting. Avoids the use of adhesive paper.*

✓ SX122-E	✓ SX172-E	✓ SX222-E	✓ SX322-E	✓ SX122-NAOF	✓ SX172-NAOF	✓ SX222-NAOF	✓ SX322-NAOF
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Product Code	Description	Net weight	Dimensions (in mm)
SADFP-02	Wire guide	0.05 kg	51 x 90 x 65

Wire guide for SX

✓ SX122-E	✓ SX172-E	✓ SX222-E	✓ SX322-E	SX122-NAOF	SX172-NAOF	SX222-NAOF	SX322-NAOF
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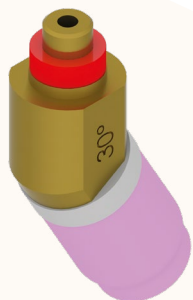
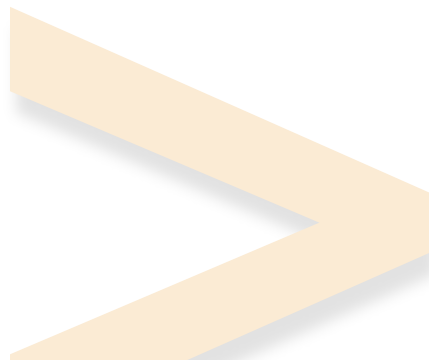
Product Code	Description	Net weight	Dimensions (in cm)
SADF2X	Wire dispenser	12 kg	59.7 x 38.4 x 24

Wire Dispenser for SAXX-200, duct 5 m max:  
 - Supplied with the SAXX power supply-connection cable and Teflon duct  
 to guide the wire  
 - Drive pressure adjusted by adjustable spring, with handle.

✓ SX122-E	✓ SX172-E	✓ SX222-E	✓ SX322-E	✓ SX122-NAOF	✓ SX172-NAOF	✓ SX222-NAOF	✓ SX322-NAOF
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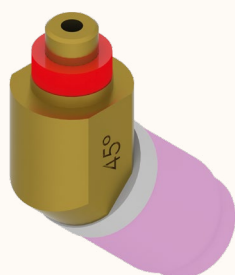


# Orbital welding (Prefabrication) - Accessories



Product Code	Description	Net weight	Plastic box (in cm)
SKTDI-30	Inclined torch	0.3 kg	12 x 17.5 x 4
<u>30° inclined torch kit</u>			

✓ SX122-E	✓ SX172-E	✓ SX222-E	✓ SX322-E	SX122-NAOF	SX172-NAOF	SX222-NAOF	SX322-NAOF
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Product Code	Description	Net weight	Plastic box (in cm)
SKTDI-45	Inclined torch	0.3 kg	12 x 17.5 x 4
<u>45° inclined torch kit</u>			

✓ SX122-E	✓ SX172-E	✓ SX222-E	✓ SX322-E	SX122-NAOF	SX172-NAOF	SX222-NAOF	SX322-NAOF
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**AXXAIR**

INNOVATIVE ORBITAL SOLUTIONS

## Accessories (electric clamping)

NEW



You realize **important series** in your company and want to be more effective during your projects? Our electric clamping is the ideal answer for the preparation and / or welding of your tubes.

The electric clamping makes it possible to carry out a **repetitive and constant force tightening** on tubes with identical diameters and thicknesses.

The **clamping force is adjustable**, it prevents the tubes from being deformed or marked.

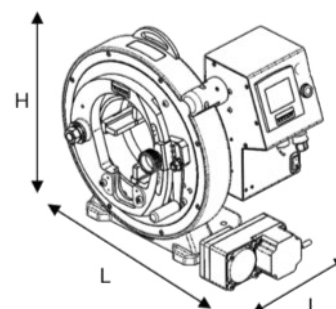
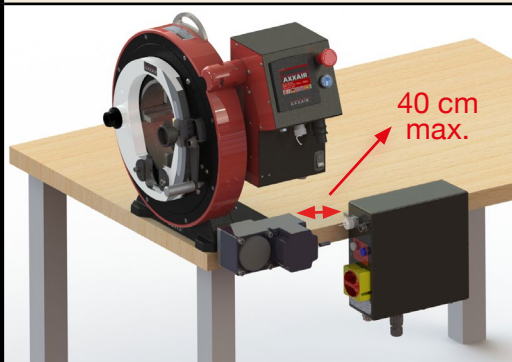
### Technical specifications:

- 24Vdc brushless motor, motor torque: 34N.m
- Tightening force on the tube: 850 kg maximum, adjustable from 15 to 100%
- Clamping speed: 86 mm / min (diameter)
- The electric clamping is sold with the body frame and the automatic rotation

Fixation on an AXXAIR support bench



Fixation on an other support (example: workbench)



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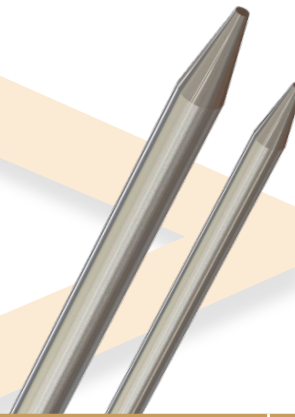
Product code	Body frame, automatic rotation and electric clamping Machine's jaw opening capacity in mm		Net weight	Dimensions (HxLxI in mm)
	With basic jaws	With extra jaws (included)		
122-AU	Ø29 - Ø119	Ø5 - Ø99	51 kg	470 x 498 x 359
172-AU	Ø74 - Ø173	Ø16 - Ø116	58 kg	520 x 530 x 359
222-AU	Ø128 - Ø228	Ø55 - Ø155	66 kg	575 x 575 x 359
322-AU	Ø230 - Ø328	Ø141 - Ø239	80 kg	675 x 662 x 359

**Caution:** Remember to order one or more motors (cutting, bevelling or welding torch) and the consumables needed with the sets listed above.

# Orbital welding (Prefabrication) - Consumables

Our electrodes are specifically sharpened at 20° with a flat.

This increases the life of the electrodes.



Product Code	Description	Net weight	Plastic box (cm)
SCE16-50	Electrodes	0.02 kg	5.5 x 4.5 x 1

Electrode diameter **1.6 mm**, length 50mm

- Box of 10 electrodes

✓ SX122-E	✓ SX172-E	✓ SX222-E	✓ SX322-E	✓ SX122-NAOF	✓ SX172-NAOF	✓ SX222-NAOF	✓ SX322-NAOF
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Product Code	Description	Net weight	Plastic box (cm)
SCE24-50	Electrodes	0.05 kg	5.5 x 4.5 x 1

Electrode diameter **2.4 mm**, length 50mm

- Box of 10 electrodes

✓ SX122-E	✓ SX172-E	✓ SX222-E	✓ SX322-E	✓ SX122-NAOF	✓ SX172-NAOF	✓ SX222-NAOF	✓ SX322-NAOF
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Product Code	Description	Net weight	Plastic box (cm)
SKTD-xx	Replacement torch	0.3 kg	12 x 17.5 x 4

Replacement kit for straight torch **Ø 1.6 mm or Ø 2.4**

- consists of: 5 nozzles, 2 plugs 9/20, 2 long electrode clamps, 10 electrodes (Ø 1.6 mm **or** Ø 2.4) and 2 mesh diffusers

Ø electrode	Kit Product Code
1.6 mm	SKTD-01
2.4 mm	SKTD-02

✓ SX122-E	✓ SX172-E	✓ SX222-E	✓ SX322-E	✓ SX122-NAOF	✓ SX172-NAOF	✓ SX222-NAOF	✓ SX322-NAOF
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# 1 machine - 3 applications

The AXXAIR Group was the first to offer a triple and exclusive solution, from preparation to orbital welding:

## global process

For more than 20 years, a single machine frame (122, 172, 222 and 322) has enabled three operations to be carried out:

cutting, bevelling and orbital welding

## BUT CAUTION,

The SX-xx2 machine is dedicated to prefab welding. Its automatic rotation allows only orbital welding work.



To use the machine frame for several operations (prefab welding, cutting and / or bevelling), **a cutting or bevelling machine must be ordered with the welding KIT adapted to your needs.**

You will find all the information in the relevant catalogues.



Cutting motor, bevelling motor or orbital welding torch interface





## Orbital welding (Open heads)

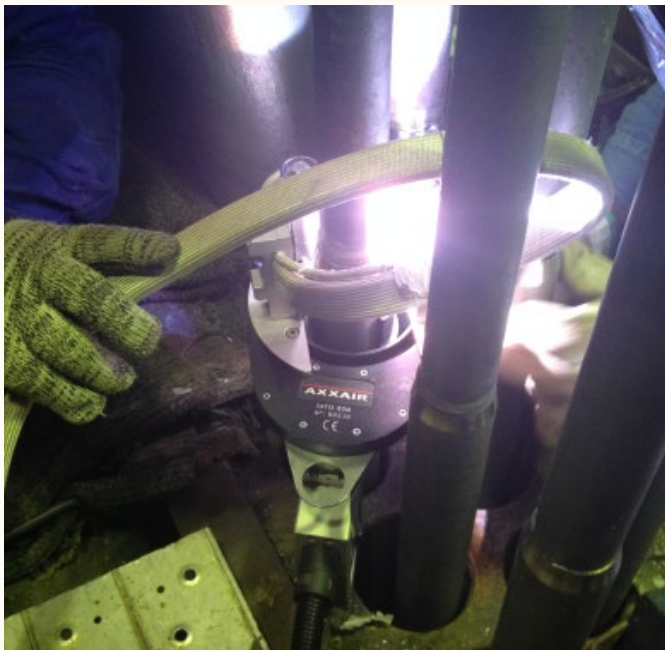
**AXXAIR**

INNOVATIVE ORBITAL SOLUTIONS

Our range of open welding heads (SATO series) allows you to make very high quality welds in a minimal space.

On these heads you will find a mechanical tracking system to keep a constant arc height. The torch can tilt to weld at an angle.

Open heads are mainly recommended for the agro-food, pharmaceutical, chemical sectors, for wall thicknesses less than but also greater than 3 mm.



This type of machine can be used to weld carbon steel tubes.

Open heads offer very wide welding possibilities thanks to the inclination of the torch and the addition of filler metal. The clamping range is achieved without the addition of jaws.

The tracking system is by roller so as not to scratch the tube. All the parts in contact with the tube are made of stainless steel so as not to contaminate it.

With its unique symmetrical clamping system, its stepping motor control, this range offers a very wide range of use.

You can choose between heads provided with or without an AVC/OSC system.

### FLEXIBILITY, PRODUCTIVITY

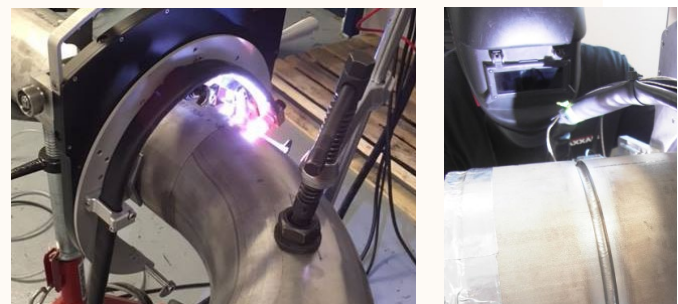
AXXAIR open heads are available with or without filler metal. They have an optimized rotation sweep and 2 positions of feed motor to choose from. High duty cycle (water cooled torch).

### QUALITY AND REPEATABILITY

The SATO range is connected to our orbital generators, which permanently control all the welding parameters, guaranteeing repeatable and quality welds.

### PORTABILITY

In order to allow you to weld in restrictive conditions and locations, the size of rotating elements and the weight of the machines have been optimized. Our machines are supplied with integrated remote control and 5 m welding cable allowing the operator to work remotely from the generator.



Please do not hesitate to contact us for all enquiries relating to orbital welding technology.

We will be glad to share our know-how with you and to devise a solution that best meets your needs!

Join **experience**

[www.axxair.com](http://www.axxair.com)



# SATO-40 - 80 - 115 - 170 - 220

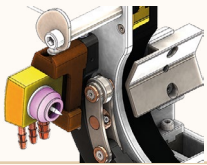
**AXXAIR**  
INNOVATIVE ORBITAL SOLUTIONS

## Water Cooled



## Roller mechanical profile tracking

Constant arc voltage without marking the tube



## Compatible with the SAXX power sources

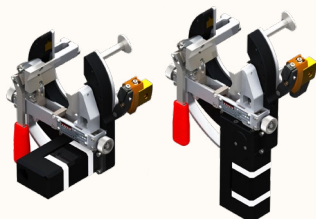


## Transport

These heads are delivered in shock-proof, waterproof and dustproof cases



## Straight or Angled motor Symmetrical clamping



## Axial Adjustment

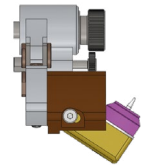
Wheel for axial adjustment of the position of the electrode

## Protection

High protection against arcing outside the electrode

## Torch angle adjustment

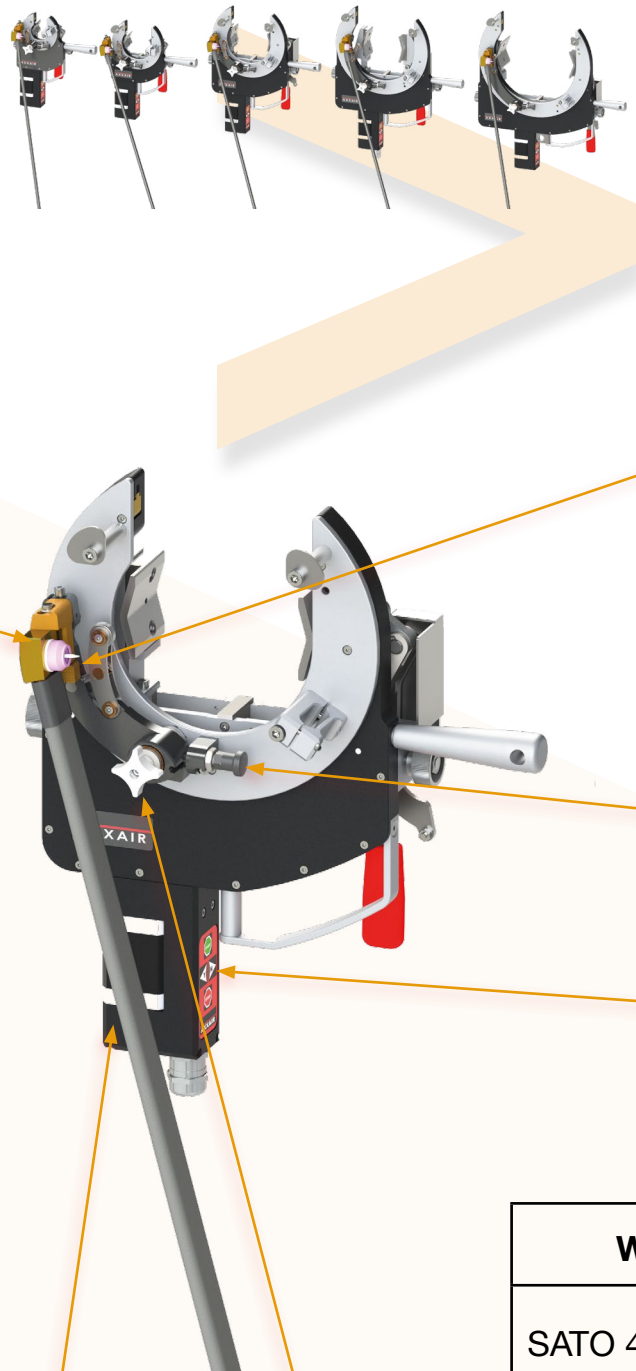
Welding flanges and short T angle



## Locked open position

## Motorization with encoder

Allows STARTING IN ALL ANGULAR electrode positions



## Welding range

SATO 40	∅ 10 - ∅ 40 mm 0.4 - 1.5 "
SATO 80	∅ 19 - ∅ 80 mm 0.75 - 3 "
SATO 115	∅ 19 - ∅ 115 mm 0.75 - 4.5 "
SATO 170	∅ 25 - ∅ 170 mm 1 - 6.625 "
SATO 220	∅ 38 - ∅ 220 mm 1.5 - 8.265 "



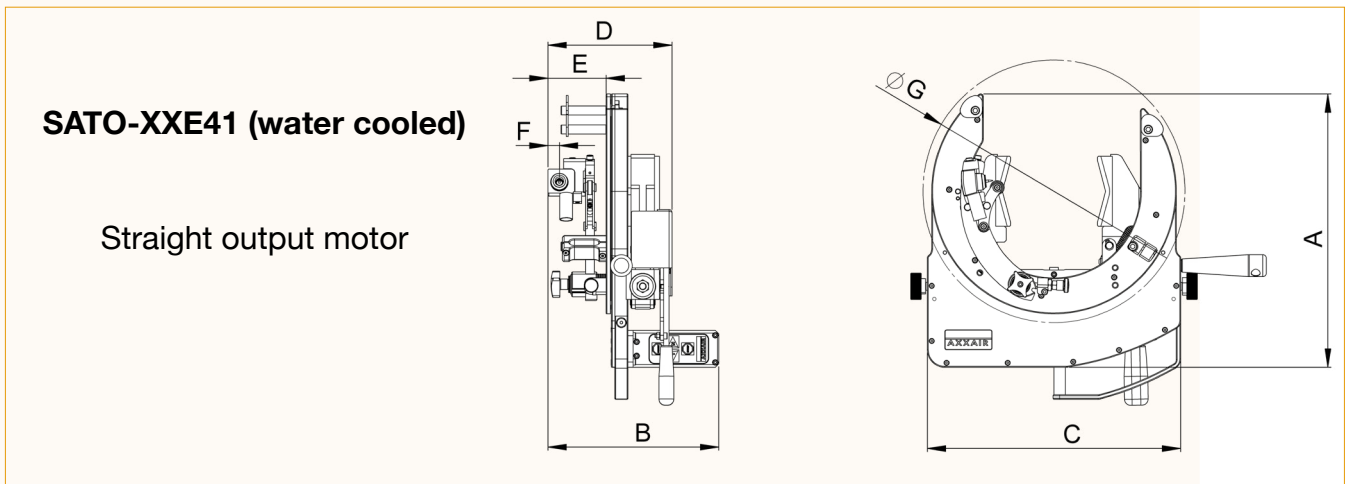
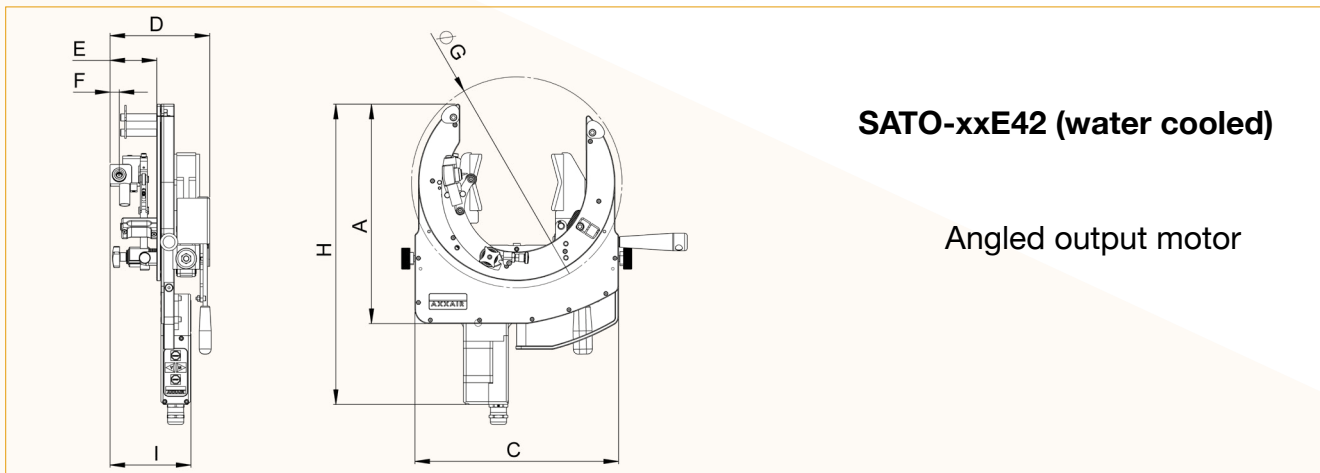
# SATO-40 - 80 -115 - 170 -220



## Technical characteristics:

- WATER cooled head
- Mechanical profile tracking: constant arc height without marking the tube
- Quick symmetrical tightening by lever
- Motorization with encoder: allows starting from any angular position of the electrode
- Wide diameter range
- Inclination and axial adjustment of the electrode
- Small rotation sweep from the centre of the tube
- Compact design

**Choice of two different models** (to choose according to your applications)



	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm
<b>SATO-40</b>	169	183 to 191	142	116 to 126	57 to 67	13	Ø140	270	113 to 121
<b>SATO- 80</b>	181	186 to 196	160	116 to 126			279		
<b>SATO-115</b>	265	186 to 196	230	133 to 143			Ø224	363	
<b>SATO-170</b>	312	186 to 196	290	133 to 143			Ø294	410	
<b>SATO-220</b>	353	186 to 196	350	133 to 143			Ø350	451	



**SATO-40 - 80 -115 - 170 -220****AXXAIR**

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Moteur	Cooling	Product Code	Welding machine for tubes of the following diameters (in mm)	Net weight	Dimensions (AxBxC in mm)
<b>Angled motor</b>	<b>WATER</b>	SATO-40E42	ø 10 - ø 40 mm	3.8 kg	169 x 183 x 142
		SATO-80E42	ø 19 - ø 80 mm	4.2 kg	181 x 186 x 160
		SATO-115E42	ø 19 - ø 115 mm	6.7 kg	265 x 186 x 230
		SATO-170E42	ø 25 - ø 170 mm	8 kg	312 x 186 x 290
		SATO-220E42	ø 38 - ø 220 mm	9.4 kg	353 x 186 x 350
<b>Straight motor</b>	<b>WATER</b>	SATO-40E41	ø 10 - ø 40 mm	3.8 kg	169 x 191 x 142
		SATO-80E41	ø 19 - ø 80 mm	4.2 kg	181 x 196 x 160
		SATO-115E41	ø 19 - ø 115 mm	6.7 kg	265 x 196 x 230
		SATO-170E41	ø 25 - ø 170 mm	8 kg	312 x 196 x 290
		SATO-220E41	ø 38 - ø 220 mm	9.4 kg	353 x 196 x 350

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# AXXAIR's orbital welding

## Sweep Multi-pass TIG welding

### - AVC/OSC system -

**AXXAIR**  
INNOVATIVE ORBITAL SOLUTIONS

#### Motorised voltage control: AVC

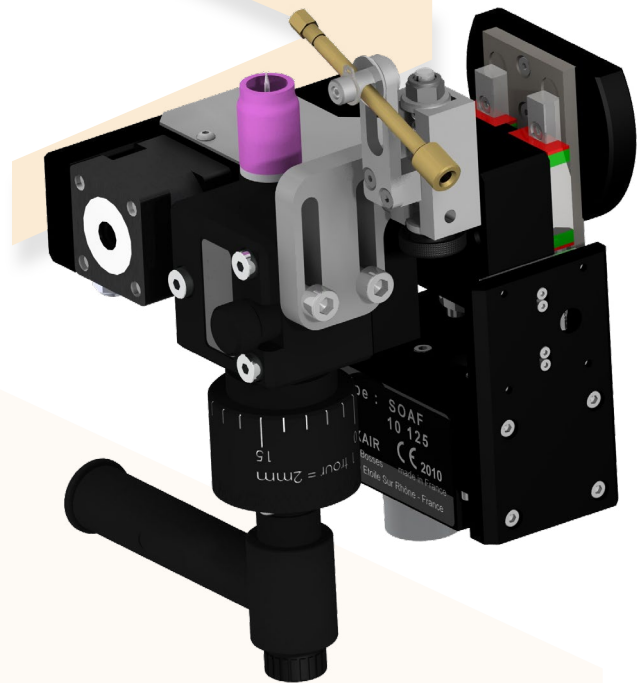
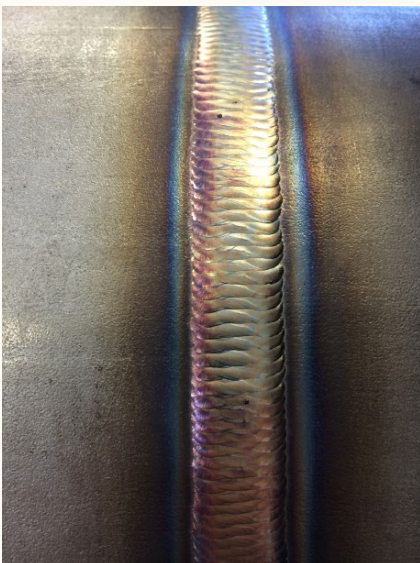
Motorised Arc Voltage Control is often abbreviated to AVC. Arc voltage is directly linked to the distance between the tube to be welded and the electrode. In other words, this option ensures the correct tube-electrode distance is maintained electronically during welding.

AVC can indeed be of huge benefit, especially in mechanised welding, and the more sensors there are to guide the machine, the less user intervention is required.

#### The two most frequent applications:

- When you do not wish to measure the external diameter physically using a feeler probe; AVC requires no contact with the tube and the sensor is more accurate and responsive than with physical tracking.

- When wire welding and the deposition rate beneath the electrode is not fully controlled, this can obviously affect the arc length. In this case, AVC means you never go near the soldering bath.



#### Fusion+OSC+wire:

This welding method combines AVC movement with oscillation of the torch and wire. This method is used for multi-pass welding of high thickness materials.

Torch oscillation is where the electrode is swung left and right in a linear motion so that each side of the joint can be kept liquid as welding progresses.

Oscillation brings an improvement in the number of passes, and therefore significantly improves productivity.

This system, when combined with AVC, is the only effective way of filling a tulip joint in multi-pass TIG welding.

**These systems are available on prefabrication machines and open heads.**



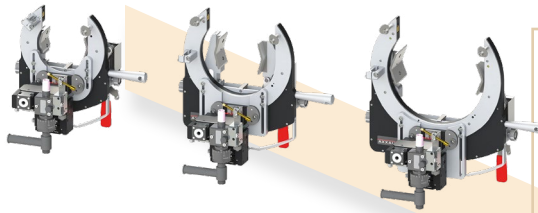
# SATO-115 - 170 -220 (AVC/OSC)



## Control of the wire

Regulation of the wire by the SAXX power sources

## Water Cooled



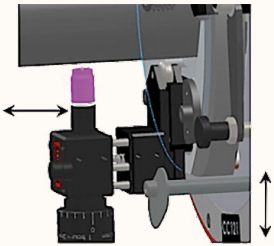
## Protection

High protection against arcing outside the electrode

## Multi-pass welding

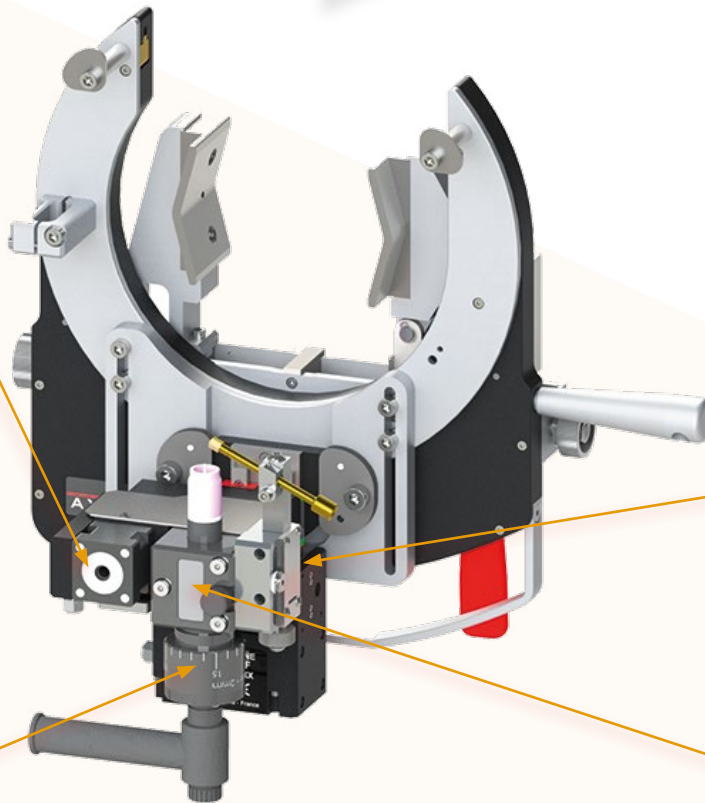
### **Mortorised axial sweep (OSC)**

Movement of the electrode's axial position: +/- 10 mm



## Transport

These heads are delivered in shockproof, waterproof and dust-proof cases



## Constant distance: electrode-tube

### **Motorised setting and control of the distance tube-electrode (AVC)**

regulates the arc voltage, the distance between the electrode and the tube

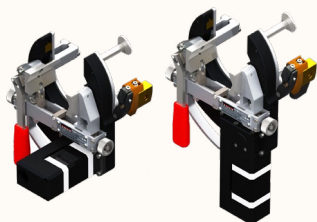
## Motorization with encoder

Allows STARTING IN ALL ANGULAR electrode positions

## AVC/OSC system

Allows to weld tubes with up to 12.7 mm wall thickness

## Straight or Angled motor Symmetrical clamping



## Compatible with the 210 and 300 SAXX power sources



## Welding range

SATO 115	∅ 19 - ∅ 115 mm 0.75 - 4.5 "
SATO 170	∅ 25 - ∅ 170 mm 1 - 6.625 "
SATO 220	∅ 38 - ∅ 220 mm 1.5 - 8.265 "

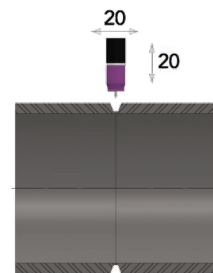




# SATO-115 - 170 -220 (AVC/OSC)

## Caractéristiques techniques:

- WATER cooled head with AVC/OSC system
- Quick symmetrical tightening by lever
- Motorization with encoder: allows starting from any angular position of the electrode
- Wide diameter range
- For optimum use, the ambient temperature must be between 0 °C and + 40 °C.
- Oscillation range: 20 mm, AVC range: 20 mm, max speed: 15 mm/s
- Machines compatible with AXXAIR welding power sources with SAXX (210 and 300) type liquid coolant system for welding cycle.



## Choice of two different models (to choose according to your applications)

**SATO-xxE52 (water cooled with AVC / OSC system)**

Angled output motor

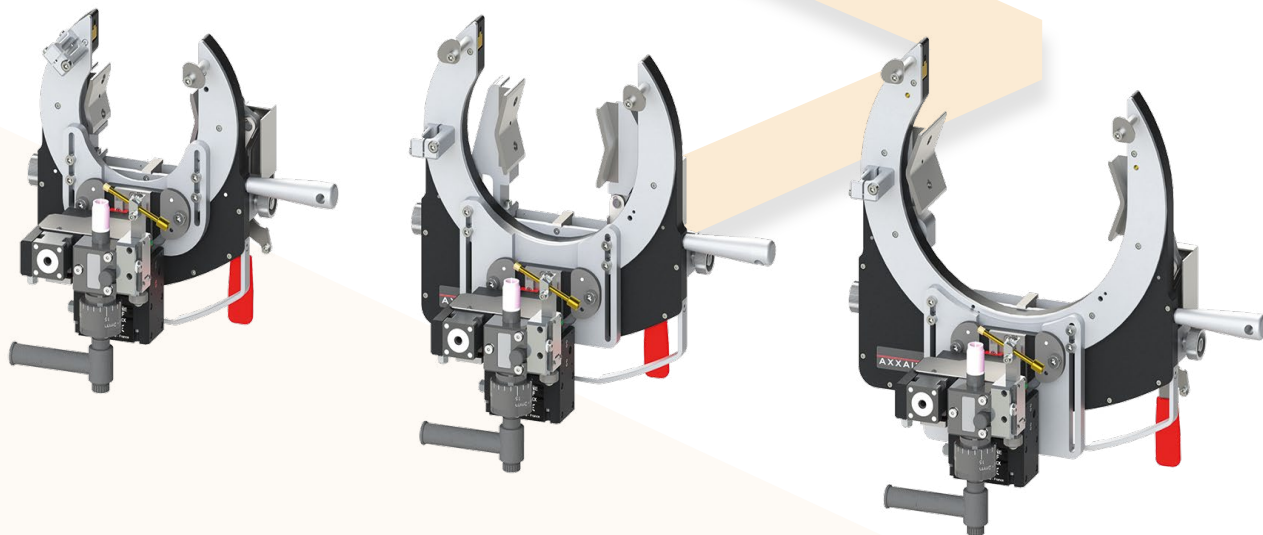
**SATO-xxE51 (water cooled with AVC / OSC system)**

Straight output motor

	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm
SATO-115	171	246-271	230	146-171	85-110	31.5	680	269	194-219
SATO-170	201		290				750	299	
SATO-220	220		350				800	318	



# SATO-115 - 170 -220 (AVC/OSC)



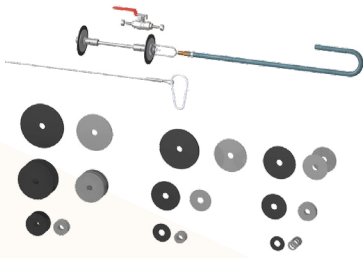
Moteur	Cooling	Product code	Welding machine for tubes of the following diameters (in mm)	Net weight
<b>Angled motor</b>	<b>WATER</b>	SATO-115E52	ø 19 - ø 115 mm	10.6 kg
		SATO-170E52	ø 25 - ø 170 mm	12.7 kg
		SATO-220E52	ø 38 - ø 220 mm	15.1 kg
<b>Straight Motor</b>	<b>WATER</b>	SATO-115E51	ø 19 - ø 115 mm	10.6 kg
		SATO-170E51	ø 25 - ø 170 mm	12.7 kg
		SATO-220E51	ø 38 - ø 220 mm	15.1 kg





**Orbital welding (open heads) - Accessories****AXXAIR**

INNOVATIVE ORBITAL SOLUTIONS



Product Code	Description	Net weight	Packaging (in cm)
SKIF-01	Gas protection KIT	4.5 kg	35 x 30 x 9.5

Gas membrane protection KIT for tubes Ø 40 to 120 mm

- consists of: 9 sets of membranes with washers, 1 gas pipe 6 m, 1 metal cable, 1 ¼ turn gas valve, 1 carabiner

*Inerting the tubes during welding allows more gas savings as we only inert the area to be welded.*

✓ SATO-40E4x	✓ SATO-80E4x	✓ SATO-115E4x	✓ SATO-170E4x	✓ SATO-220E4x	✓ SATO-115E5x	✓ SATO-170E5x	✓ SATO-220E5x
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Product Code	Description	Net weight	Packaging (in cm)
SKIB-01	Gas protection KIT	1.7 kg	35 x 30 x 9.5

Gas plug protection KIT for tubes Ø 6 to 41 mm

- Consists of: 10 sets of perforated plugs, 1 gas inlet connector, 1 hose Ø 4/6 length 5 metres

*Facilitates and accelerates inerting. Avoids the use of adhesive paper.*

✓ SATO-40E4x	✓ SATO-80E4x	✓ SATO-115E4x	✓ SATO-170E4x	✓ SATO-220E4x	✓ SATO-115E5x	✓ SATO-170E5x	✓ SATO-220E5x
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Product Code	Description	Net weight	Dimensions (in mm)
SATOB-02B	Two axis wire guide	0.05 kg	51 x 90 x 65

SATO Two axis wire guide:

- For use with the SAXX power sources

✓ SATO-40E4x	✓ SATO-80E4x	✓ SATO-115E4x	✓ SATO-170E4x	✓ SATO-220E4x	SATO-115E5x	SATO-170E5x	SATO-220E5x
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Product Code	Description	Net weight	Dimensions (in cm)
SADF2X	Wire dispenser	12 kg	59.7 x 38.4 x 24

Wire Dispenser for SAXX-200, duct 5 m max:

- Supplied with the SAXX power supply-connection cable and Teflon duct to guide the wire  
- Drive pressure adjusted by adjustable spring, with handle.

✓ SATO-40E4x	✓ SATO-80E4x	✓ SATO-115E4x	✓ SATO-170E4x	✓ SATO-220E4x	✓ SATO-115E5x	✓ SATO-170E5x	✓ SATO-220E5x
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# Orbital welding (Open heads) - Accessories



## 5 or 10 metres welding cable extensions



To increase the operating distance between the welding head and the SAXX generator, we offer cable extensions.

The choice of the cable is made according to the cooling of the torch (water or air) and with or without filler metal.

Cooling		Length	Product Code	Net weight	Dimensions (AxBxC in mm)		
WATER	WITHOUT WIRE	5 metres	SAFS-05MX	7 kg	40 x 59 x 25		
		10 metres	SAFS-10MX	14 kg	40 x 59 x 25		
✓ SATO-40E4x   ✓ SATO-80E4x   ✓ SATO-115E4x   ✓ SATO-170E4x   ✓ SATO-220E4x					SATO-115E5x	SATO-170E5x	SATO-220E5x

Cooling		Length	Product Code	Net weight	Dimensions (AxBxC in mm)		
WATER	WIRE	5 metres	SAFS-05MXF	7 kg	40 x 59 x 25		
		10 metres	SAFS-10MXF	14 kg	40 x 59 x 25		
✓ SATO-40E4x   ✓ SATO-80E4x   ✓ SATO-115E4x   ✓ SATO-170E4x   ✓ SATO-220E4x					SATO-115E5x	SATO-170E5x	SATO-220E5x

Cooling		Length	Product Code	Net weight	Dimensions (AxBxC in mm)		
WATER	WIRE WITH AVC/OSC	10 metres	SAFS-10MOSC	14 kg	40 x 59 x 25		
SATO-40E4x	SATO-80E4x	SATO-115E4x	SATO-170E4x	SATO-220E4x	✓ SATO-115E5x	✓ SATO-170E5x	✓ SATO-220E5x

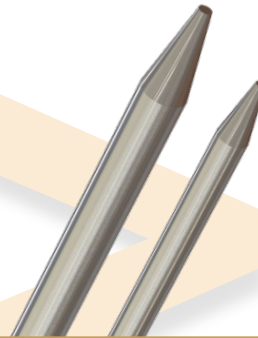


# Orbital welding (Open head) - Consumables



Our electrodes are specifically sharpened to 20° with a flat.

This increases the life of the electrodes.



Product Code	Description	Net weight	Plastic box (cm)
SCE16-50	Electrodes	0.02 kg	5.5 x 4.5 x 1
Electrode diameter <b>1.6 mm</b> , length 50mm			
- Box of 10 electrodes			

✓ SATO-40E4x	✓ SATO-80E4x	✓ SATO-115E4x	✓ SATO-170E4x	✓ SATO-220E4x	✓ SATO-115E5x	✓ SATO-170E5x	✓ SATO-220E5x
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Product Code	Description	Net weight	Plastic box (cm)
SCE24-50	Electrodes	0.05 kg	5.5 x 4.5 x 1
Electrode diameter <b>2.4 mm</b> , length 50mm			
- Box of 10 electrodes			

✓ SATO-40E4x	✓ SATO-80E4x	✓ SATO-115E4x	✓ SATO-170E4x	✓ SATO-220E4x	✓ SATO-115E5x	✓ SATO-170E5x	✓ SATO-220E5x
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Product Code	Description	Net weight	Plastic box (cm)				
SKTO-01	Replacement torch	0.3 kg	12 x 17.5 x 4				
Replacement kit for open head torch <b>Ø 1.6 mm and Ø 2.4</b>							
- Consists of: 4 long nozzles and 2 short nozzles, 4 electrode clamps, 20 electrodes Ø 1.6 and 20 Ø 2.4 electrodes, 2 Teflon rings, 1 short cap type 9/20 and 1 screw-driver FACOM							
✓ SATO-40E4x	✓ SATO-80E4x	✓ SATO-115E4x	✓ SATO-170E4x	✓ SATO-220E4x	SATO-115E5x	SATO-170E5x	SATO-220E5x

Product Code	Description	Net weight	Plastic box (cm)				
SKTD-02	Replacement torch	0.3 kg	12 x 17.5 x 4				
Replacement kit for straight torch <b>Ø 2.4 mm</b>							
- consists of: 5 nozzles, 2 plugs 9/20, 2 long electrode clamps, 10 electrodes (Ø 2.4) and 2 mesh diffusers							
SATO-40E4x	SATO-80E4x	SATO-115E4x	SATO-170E4x	SATO-220E4x	✓ SATO-115E5x	✓ SATO-170E5x	✓ SATO-220E5x



## Orbital welding (Tube-to-tube sheet)

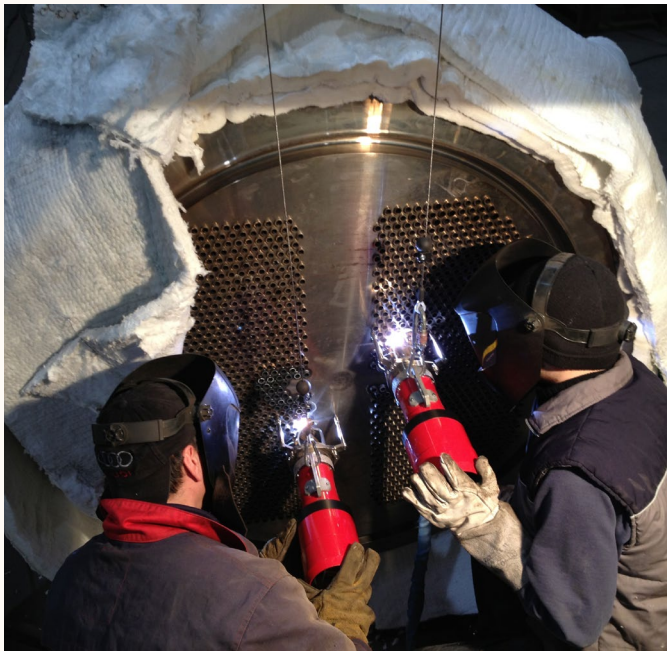
**AXXAIR**

INNOVATIVE ORBITAL SOLUTIONS

Our tube-to-tube sheet welding heads, fully water-cooled, are designed for heat exchanger production applications in various industries such as aeronautics, agri-food or energy production.

Indeed, heat exchangers play an increasingly important role in industry and this welding head allows the economical, reliable and very high quality assembly of the tubes on the plates.

The SATP-80X covers virtually all common tube to tube sheet configurations in both stainless steel, titanium and black steel.



In tube to tube sheet applications, preparation is a very important aspect to guarantee repeatable and quality welding results. The following steps are discussed at each project and are essential to ensure the success of your process:

- Length of the tube in relation to the tube sheet (dressing operation)
- Centring of the tubes on the tube sheet:

This operation consists in bringing the tube into contact with the end of the hole in the tube sheet in order to avoid collapsing associated with the clearance between the tube and tube sheet if this operation is neglected.

Centring machines allow this essential operation. This centring also allows the weld gases to be evacuated through the back of the plate. Centring is often neglected but avoids much inconvenience during production.

### FLEXIBILITY, PRODUCTIVITY

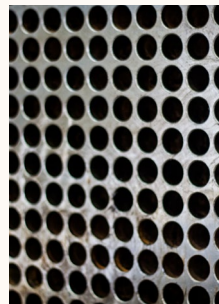
This head can weld in simple fusion or with the supply of wire. The wire feed is mounted on the head (1 kg reel) and rotates with the torch to ensure controlled wire output.

### QUALITY AND REPEATABILITY

The specific mandrel of our SATP with centring by balls pushed by springs allows positioning while allowing fast installation and especially ensuring that the head can easily be brought out of the tube in the case of excess internal weld thickness.

### PORTABILITY

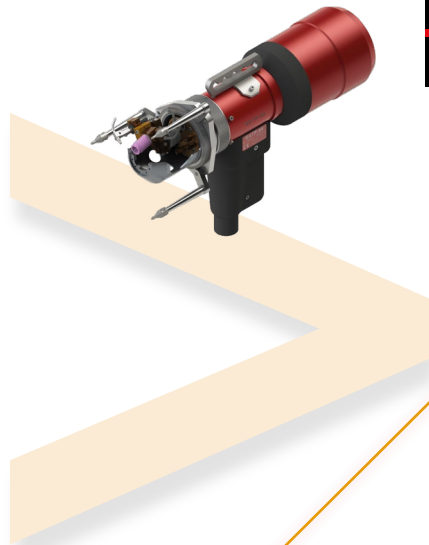
Portable machines, which are easy to move and usable directly on site.



Please do not hesitate to contact us for all enquiries relating to tube sheet welding technology.

We will be glad to share our know-how with you and to devise a solution that best meets your needs!

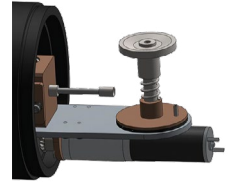
# SATP-80X



**Water Cooled**

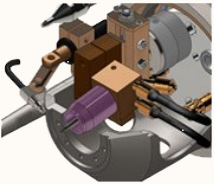


**Wire holder 1 kg**



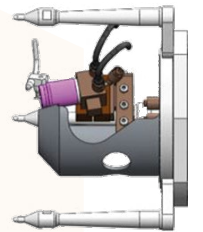
**Tilting head**

Water cooled with tilting wire



**Positioning stops**

Adjustable stops for better tube sheet stability



**Mandrel system**

Concentric tightening from the inside of the tube



**Compatible with the SAXX power sources**

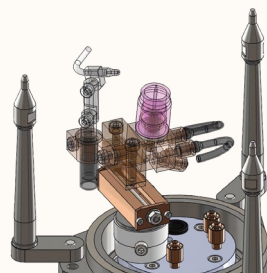


**Electric motor with wire feed**



**Flexibility**

Head and wire adjustment trolley



**Welding range**

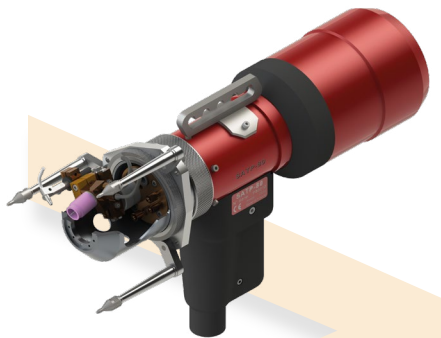
SATP-80X	ø 10 - ø 80 mm 0.4 - 3 "
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# SATP-80X

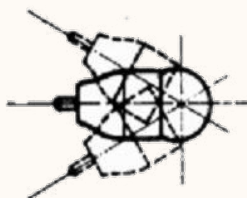
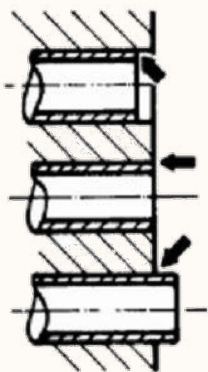
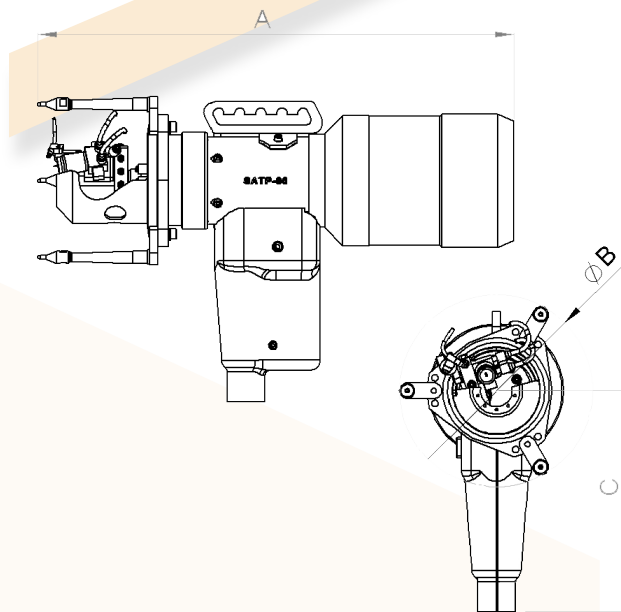


The SATP-80X covers virtually all common tube to tube sheet configurations in stainless steel as well as in titanium or black steel.



## Technical characteristics:

- Rotating gas, current and cooling seal
- Tilting water cooled head
- Head and wire adjustment trolley
- Built-in rotating wire dispenser (Ø 0.8 mm)
- Cycle startup integrated in the handle for better ergonomics
- The head is fully cooled allowing a maximum welding current of 200A
- Specific mandrel with ball centring pushed by springs: precise positioning and quick installation.



- 3 tube-to-tube sheet welding configurations
- Outside diameter of the straight torch tube: 12 - 82 mm
- External diameter of the tube if torch tilted at 30 °: 12 - 40 mm

Product Code	Description	Net weight (Without spool)	Ø wire	Max Wire Speed	Dimensions (AxBxC mm)
SATP-80X	Welding head SATP-80X Ø10 to Ø78 mm Supplied with wire dispenser	7.5 kg	0.8 mm	200 cm/min	451 x 182 x 210

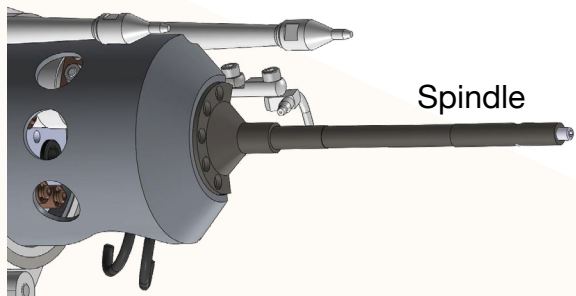


# Orbital welding (Tube to tube sheet) - Accessories

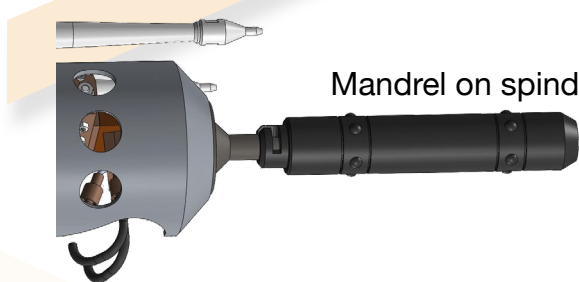


The mandrel used must be chosen according to the inner diameter of the tube to be welded to the tube sheet.

Depending on the mandrel used, it will be necessary to choose the compatible spindle.



Spindle



Mandrel on spindle



### SATP mandrels

SATP Centring mandrels:

Tube inner $\varnothing$ (mm)	Mandrel Product Code	On spindle
9.8 to 10.3 mm	SATP-M11	SATP-B01
10.3 to 10.8 mm	SATP-M12	
10.8 to 11.3 mm	SATP-M13	
11.3 to 11.8 mm	SATP-M14	
11.8 to 12.3 mm	SATP-M15	
12.3 to 13.0 mm	SATP-M16	
12.8 to 14.0 mm	SATP-M21	SATP-B02
13.8 to 15.0 mm	SATP-M22	
14.8 to 16.0 mm	SATP-M23	
15.8 to 17.0 mm	SATP-M24	
16.8 to 18.0 mm	SATP-M25	
17.8 to 19.0 mm	SATP-M26	
18.8 to 20.5 mm	SATP-M27	
19.8 to 22.5 mm	SATP-M28	

✓ SATP-80X



# Orbital welding (Tube to tube sheet) - Accessories

**AXXAIR**

INNOVATIVE ORBITAL SOLUTIONS

## SATP mandrels (continued)

SATP Centring mandrels:



Tube inner $\phi$ in mm	Mandrel Product Code	On spindle
22.3 to 24.8 mm	SATP-M29	SATP-B03
24.5 to 27.0 mm	SATP-M30	
26.5 to 29.0 mm	SATP-M31	
28.5 to 31.0 mm	SATP-M32	
30.5 to 33.0 mm	SATP-M33	
32.5 to 36.0 mm	SATP-M34	
35.5 to 39.0 mm	SATP-M35	
38.5 to 42.0 mm	SATP-M36	
41.5 to 45.0 mm	SATP-M37	
44.5 to 48.0 mm	SATP-M38	
47.5 to 51.0 mm	SATP-M39	SATP-B04
50.5 to 54.0 mm	SATP-M40	
53.5 to 58.0 mm	SATP-M41	
57.5 to 62.0 mm	SATP-M42	
61.5 to 66.0 mm	SATP-M43	
65.5 to 70.0 mm	SATP-M44	
69.5 to 74.0 mm	SATP-M45	
73.5 to 78.0 mm	SATP-M46	

✓ SATP-80X

## SATP Spindles

Spindles for SATP mandrel:



Product Code	For Mandrel
SATP-B01	M11 to M16
SATP-B02	M21 to M28
SATP-B03	M29 to M39
SATP-B04	M40 to M46

✓ SATP-80X





# Orbital welding (Tube to tube sheet) - Consumables



Our electrodes are specifically sharpened to 20° with a flat.

This increases the life of the electrodes.



Reference change



Product Code	Description	Net weight	Plastic box (cm)
SCE24-39.5	Electrodes	0.05 kg	5.5 x 4.5 x 1

Electrodes **ø 2.4 mm**, length 39.5mm for SATP:

- Box of 10 electrodes

✓ SATP-80X



# Orbital welding (Welding power sources)



Our range of AXXAIR power supplies has been designed to be user friendly and intuitive. Our step by step design allows, even beginner, to easily generate programs after only a short learning period, while very advanced functions are available to advance users looking to customize their programs.

A particular attention has been paid to using as much as possible standard industrial components for their reliability and availability. The facilitated access to parts makes our power sources robust and easy for maintenance.

The combination of an easy to use and sturdy package allows you to be competitive and makes this range the best choice for all your current or futur projects.



The electronics in charge of piloting the rotors of the welding heads is specifically designed to support various motor type, CD, brushless, stepping motors but also encoders or tachometers, making these power supply one of the most versatile on the market today.

Because our power supply can control most type of motors, we are able to control not only our products but also many of the other products available. Using a 32-pin « quick fit » connector we are able to design several cable adaptor to connect most products available today on our power supply. This great feature allows our customers to use our power supply as a one fits all, reducing the cost of ownership.

## FLEXIBILITY, PRODUCTIVITY

Our latest touch screen interface allows us to make available even the most advanced features in a user friendly and intuitive way.

## QUALITY AND REPEATABILITY

Part of the conviviality of our power supply comes from the innovative way we register a program. First you will create a configuration that includes the model and type of welding head, the tube diameter, the tube wall thickness and the tube material. Then within this configuration you will add you programs, up to 10 per configuration. This makes it really easy to retrieve and select a program even if it was created months ago.

## PORTABILITY

Our power supply are among the easiest to carry on site or move around the workshop, however if you want to be able to move effortlessly the gas cylinder together with the power supply we designed a very convenient trolley.



Please do not hesitate to contact us for all enquiries relating to orbital welding power sources.

We will be glad to share our know-how with you and to devise a solution that best meets your needs!



**AXXAIR**

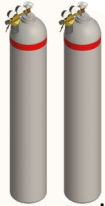
INNOVATIVE ORBITAL SOLUTIONS

# SAXX-210



## Fully-assured gas management

2 separate gas lines, free choice of inerting gas flow management



Gas flow control and flow alarms

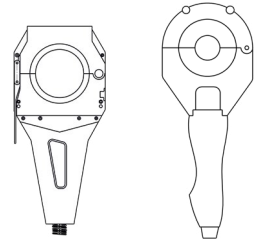
Display of the actual flow rate right on the screen

## Water cooled



## Compatible with most closed heads on the market:

AMI, Polysoude, ESAB, Orbitec and Orbitalum



## Interface 5.7 colour touch screen + WiFi

13 languages, possibility of remote control by smartphone or tablet



## Integral printer:

Printing program and actual parameters

## Compatible with AVC/OSC system

### PPM sensor

Capable of managing thresholds and sending an electrical pulse to the power source in order to start the welding. This ensures a consistently and properly purged welding area

Records PPM variation during the weld



## Axis for added metal

Possibility of using Step mode

## Data acquisition

Records the last 999 welds on the USB stick

Integrated WeldReport (formatting of the data and presenting of the instructions in the form of DMOS)

## Remove control display

4 m long cable

## USB port on front panel

200 programs per USB stick (possible to use several sticks)

Remote update possible



# SAXX-210



## Technical characteristics:

### Duty cycle:

230 V		110 V	
50 %	210 A		
60 %	180 A	60 %	127 A
100 %	160 A	100 %	110 A

### Power supply:

- Single phase network **with earth**
- Supply voltage: 110 to 230 V +/-15%
- Input current consumed 25A at 230V and 32A at 110V
- Frequency: 50 / 60Hz
- Cable supplied: HO7RN-F 3x2.5 mm<sup>2</sup> black length 3m

### Gas supply:

- Maximum inlet pressure: 5 bars
- Maximum flow rate: 50 l / min per gas line
- Inlet connectors: M12x100 male
- Outlet connectors: female blanking union Series 20

### Technology:

- Colour touch screen 5"
- 13 languages
- Up to 16 users with passwords and custom permissions
- Simple and intuitive programming with automatic parameter calculation and programming assistance
- 200 programs in 20 sectors maximum / key



### Intelligence:

- Alarms: More than 30 alarms to protect the system and check that welding is normal.
- Welding voltage measured in increments of 0.1 A
- Minimum pulse time of 50 ms (modifiable via "operator dynamics")

### Integrated printer:

- 32 characters / line
- Print program and actual parameters

### Auxiliary connector:

- Possibility of triggering the welding start via an oxygen meter (dry contact).

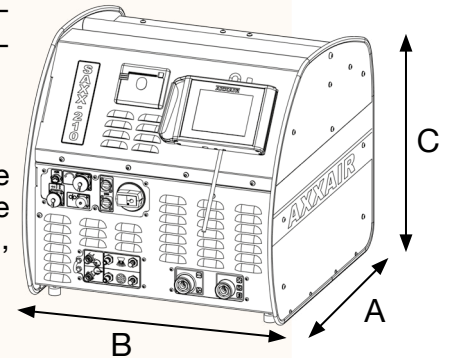
### Cooling connector:

- Max pressure: 5 bars
- Cooling power according to standard CEI60974-2: 1.4 kW
- Liquid connectors: female blanking union Series 21

**CAUTION:** The power source is delivered without coolant. See "Consumables" to order the 3 liter can (SACW-C006).

### Wi-fi: (Option)

Remote control of the screen on smartphone or tablet via application, range: 20 to 30 m



Product code	Description	Two gas lines	Wire feed	Wifi Antenna	AVC/OSC axis	Net weight	Dimensions AxBxC (in mm)
SAXX-210	Orbital TIG power source	x	x			44 kg	562 x
SAXX-210I	210A, autoline, water cooled	x	x	x		44 kg	620 x
SAXX-210OSC		x	x		x	44 kg	
SAXX-210IOSC		x	x	x	x	44 kg	545

All options must be mounted at AXXAIR.

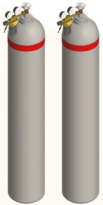


# SAXX-300



## Fully-assured gas management

2 separate gas lines, free choice of inerting gas flow management



Gas flow control and flow alarms

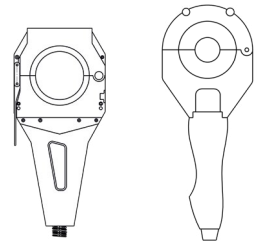
Display of the actual flow rate right on the screen

## Water cooled



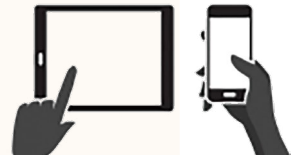
## Compatible with most closed head on the market:

AMI, Polysoude, ESAB, Orbitec and Orbitalum



## Interface 5.7 colour touch screen + WiFi (optional)

13 languages, possibility of remote control by smartphone or tablet



## Integral printer:

Printing program and actual parameters

## Compatible with AVC/OSC system

## PPM sensor

Capable of managing thresholds and sending an electrical pulse to the power source in order to start the welding.

This ensures a consistently and properly purged welding area

Records PPM variation during the weld



## Axis for added metal

Possibility of using Step mode

## Data acquisition

Records the last 999 welds on the USB stick

Integrated WeldReport (formatting of the data and presenting of the instructions in the form of DMOS)

## Remove control display

4 m long cable

## USB port on front panel

200 programs per USB stick (possible to use several sticks)

Remote update possible



# SAXX-300



## Technical characteristics:

### Duty cycle:

400 V	
30 %	300 A
60 %	240 A
100 %	210 A

### Power supply:

- Three phase main with earth
- Supply voltage : 400 V +/-15%
- Maximum current on main : 24A
- Frequency : 50/60Hz
- Cable : HO7RN-F 4x2.5 mm<sup>2</sup> black length 3m

### Gas supply:

- Maximum inlet pressure: 5 bars
- Maximum flow rate: 50 l / min per gas line
- Inlet connectors: M12x100 male
- Outlet connectors: female blanking union Series 20

### Technology:

- Colour touch screen 5"
- 13 languages
- Up to 16 users with passwords and custom permissions
- Simple and intuitive programming with automatic parameter calculation and programming assistance
- 200 programs in 20 sectors maximum / key

### Wi-fi: (Option)

Remote control of the screen on smartphone or tablet via application, range: 20 to 30 m



### Intelligence:

- Alarms: More than 30 alarms to protect the system and check that welding is normal.
- Welding voltage measured in increments of 0.1 A
- Minimum pulse time of 50 ms (modifiable via "operator dynamics")

### Integrated printer:

- 32 characters / line
- Print program and actual parameters

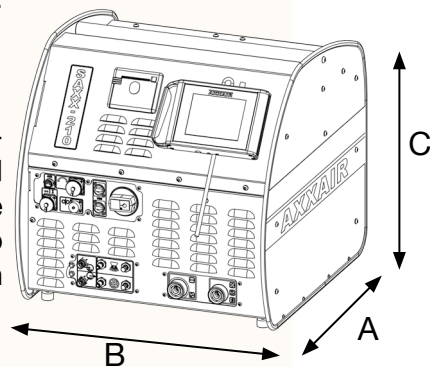
### Auxiliary connector:

- Possibility of triggering the welding start via an oxygen meter (dry contact).

### Cooling connector:

- Max pressure: 5 bars
- Cooling power according to standard CEI60974-2: 1.4 kW
- Liquid connectors: female blanking union Series 21

**CAUTION:** The power source is delivered without coolant. See "Consumables" to order the 3 liter can (SACW-C006).



Product code	Description	Two gas lines	Wire feed	Wifi Antenna	AVC/OSC axis	Net weight	Dimensions AxBxC (in mm)
SAXX-300	Orbital TIG power source 300A, 380V, water cooled	x	x			44 kg	562 x 620 x 545
SAXX-300I		x	x	x		44 kg	
SAXX-300OSC		x	x		x	44 kg	
SAXX-300IOSC		x	x	x	x	44 kg	

All options must be mounted at AXXAIR.



## Orbital welding (SAXX) - Accessories

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Product Code	Description	Net weight	Dimensions (in cm)
SAGC-300	Trolley	55 kg	83 x 56 x 118

Trolley for SAXX-210 and SAXX-300 power sources:

- Module for transporting the SAXX-210 and gas cylinders up to 10.5 m<sup>3</sup>

✓ SAXX-210

✓ SAXX-300

Product Code	Description	Net weight	Dimensions (in cm)
SPPM-10	PPM reader	2 kg	12 x 6 x 15

PPM reader compatible with SAXX power sources:

- Integrated pump
- Trigger threshold adjustment
- Upper and lower tolerance adjustment
- Connected to the SAXX, it only allows welding to be triggered when the threshold is reached. The SPPM-10 guarantees the interior inerting of the tubing and the desired good colouration



Product Code	Description	Net weight	Dimensions (in cm)
SPPM-C10	Extension cable for SPPM-10	0.5 kg	40 x 59 x 25 cm

10 meter-extension cable for SPPM-10 (PPM reader)

✓ SAXX-210

✓ SAXX-300

Product Code	Description	Net weight	Dimensions (in cm)
SAFS-G01	Gas splitter pipe	0.2 kg	22 x 22 x 22

Gas splitter pipe:

- For connecting the back and front purge gas to the same cylinder. To be used in combination with a pressure regulator for an industrial gas cylinder.



✓ SAXX-210

✓ SAXX-300

NEW

# Accessories SAXX Switchbox



**AXXAIR**  
INNOVATIVE ORBITAL SOLUTIONS

You have repeatable welds to perform and you want to **optimize the cycle time** of your welding operations to be **more efficient** and **increase productivity**?  
The new AXXAIR Switch Box is the ideal response!

The Switchbox allows it to use two welding machines with one only orbital welding power source of the SAXX series and to use the two machines alternatively.  
The parts that need to be welded can be positioned in one of the two machines while the other one is making a weld. The preparation and setting up time of the parts is thus optimized.  
Once the weld is finished, the weld on the other machine can directly be started. The welded parts can be removed from the first machine and new parts can be placed in this machine.

### Switch button

The green LED indicates if switching is possible. Switching is done either by this button, or by the start button of the inactive machine



### Led lights

Indicate which machine is selected

**Significant time saving**, avoiding the simultaneous purchase of two welding power sources

**Cost reduction**

**Intuitive and efficient use thanks to the SAXX interface**

### Compatibility

Use of **all welding machines** compatible with the SAXX power sources \*

**Possibility of using 2 different machines with 2 different programs**

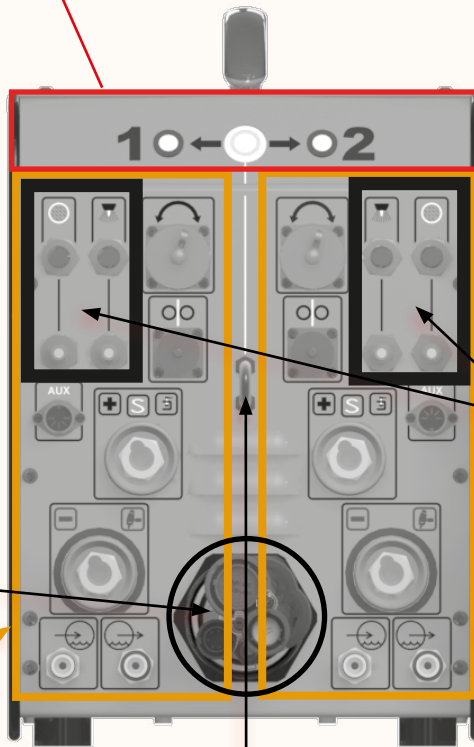
### Flexibility

- Use of manual torches and ppm reader (SPPM-10)
- Use of two gas lines (depending on options chosen in the SAXX)
- Use of two wire dispensers with 2 machines (depending on options chosen in the SAXX)

### Two gas lines for each machine

(depending on options chosen in the SAXX)

Gas flow adjustment wheels for each connected machine



SAXX connection

Connection for a welding machine

Connection for a second welding machine

**U bolt common for both machines**

\* excluding AVC/OSC systems





NEW

# Accessories SAXX Switchbox



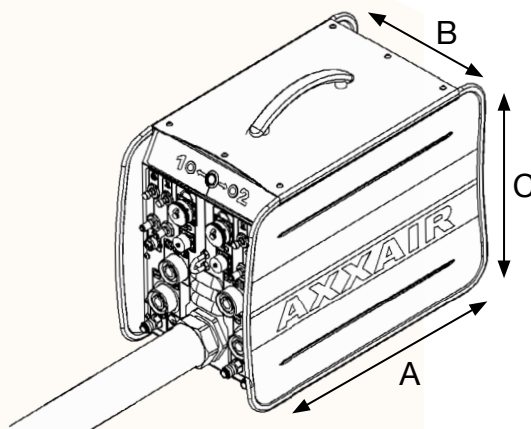
**AXXAIR**  
INNOVATIVE ORBITAL SOLUTIONS



**Technical characteristics:**

- Power supply 110-230V
- 50-60 Hz (3m cable), 1,9 A max
- Max. welding current: 300A
- Length of the cables between the SASW-DGW and the SAXX: 1,5m
- Cooling circuit common to both machines
- Integrated carry handle
- Possible use of cable extensions (see accessories of welding machines) between the machines and the switchbox
- Version of the SAXX software: V2.40 or higher

- The use of two gas lines is integrated in the SASW-DGW, to be able to use it:  
The option «**Second gas line**» must be chosen in the SAXX power source
- The use of wire for one or two machines (two wire feeders can be used):  
The option «**Wire feed**» must be chosen in the SAXX power source



Product Code	Description	Net weight	Dimensions (AxBxC)
SASW-DGW	Switchbox	13 kg (with cables)	467 x 247 x 385 mm

**Compatible with:**

- SATF (SATF-M, SATF-ND and SATF-MI), SATO (SATO-M, SATO-ND and SATO-E), SX, SATP, SXMF
- AML models 8, 9 and 95, Polysoude : UHP, MW and MU IV, Orbitalum : Orbiweld and Orbiweld S, ESAB : PRB, Orbitec : OSW

Product Code	Description
SASW-CCO	Coupling pipe cooling circuit for Switchbox

Allows to control 2 machines with different cooling circuits

✓ SAXX-200

✓ SAXX-210



# Orbital welding (SAXX) - Accessories



If you have an AMI orbital welding head, model 8 or 9, you can use them with our SAXX power sources.

To connect the heads to our SAXX power sources, you need an adapter kit. Please choose the kit according to the AMI power source that you have acquired with this head.



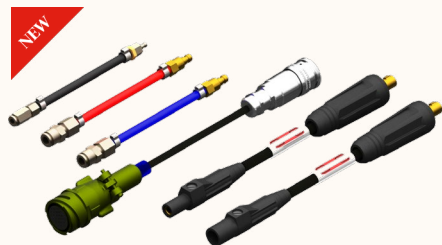
Product Code	Description	Net weight	Dimensions
SAFS-ADAMI1	Adapter kit	1.2 kg	l : < 40 cm

Adapter kit for connecting the following heads to SAXX power sources:

- AMI Models 8 and 9, initially connected to the AMI power sources 205, 207, 217 and 217P
- AXXAIR's closed heads SATF-xxMI and SATF-xxMIH

✓ SAXX-210

✓ SAXX-300



Product Code	Description	Net weight	Dimensions
SAFS-ADAMI2	Adapter kit	1.3 kg	l : < 40 cm

Adapter kit for connecting the following heads to SAXX power sources:

- AMI Models 8 and 9, initially connected to the AMI power source 307

✓ SAXX-210

✓ SAXX-300



Product Code	Description	Net weight	Dimensions
SAFS-ADAMI3	Adapter kit	1.3 kg	l : < 40 cm

Adapter kit for connecting the following heads to SAXX power sources:

- AMI Models 8 and 9, initially connected to the AMI power sources 227, 327 and 415

✓ SAXX-210

✓ SAXX-300



# Orbital welding (SAXX) - Accessories



If you have an orbital welding head from another brand and you want to use it with our SAXX power sources, please refer to the adaptation kits below.



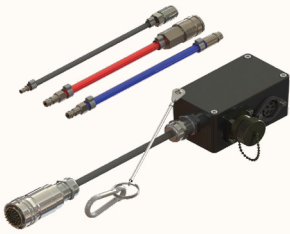
Product Code	Description	Net weight	Dimensions
SAFS-ADORB11	Adapter kit	1.2 kg	L < 50 cm

Adapter kit for connecting the following heads to SAXX power sources:

- Orbitalum ORBITALWELD models : ORBIWELD38S, ORBIWELD76S and ORBIWELD115S

✓ SAXX-210

✓ SAXX-300



Product Code	Description	Net weight	Dimensions
SAFS-ADPOLY1	Adapter kit	0.9 kg	L < 50 cm

Adapter kit for connecting the following heads to SAXX power sources:

- MW Polysoude models (MW40, MW 65, MW115, MW170, MU IV 38, MU IV 115, UHP250, UHP500 and UHP1500)

✓ SAXX-210

✓ SAXX-300



Product Code	Description	Net weight	Dimensions
SAFS-ADORBITEC	Adapter kit	0.3 kg	L < 50 cm

Adapter kit for connecting the following heads to SAXX power sources:

- Orbitec models: OSW40, OSW80 and OSW170

✓ SAXX-210

✓ SAXX-300



Product Code	Description	Net weight	Dimensions
SAFS-ADESAB	Adapter kit	0.5 kg	L < 50 cm

Adapter kit for connecting the following heads to SAXX power sources:

- ESAB models: PRB17-49, PRB33-90 and PRB60-170

✓ SAXX-210

✓ SAXX-300



# Orbital welding (SAXX) - Accessories



Product Code	Description	Net weight	Dimensions (in cm)
SAFS-AD01	Adaptor	0.411 kg	l : < 35 cm

Adaptors for connecting the following AXXAIR welding heads to our former **SASL** power sources:

- SATF-xxNDX
- SATF-xxNDHX
- SATO-xxE41 - SATO-xxE42 - SATO-xxE43 - SATO-xxE44

✓ SASL-xxx



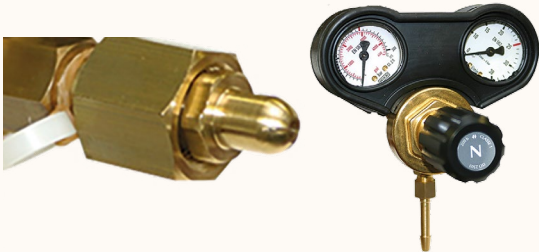
Product Code	Description	Net weight	Dimensions (in cm)
SAFS-AD02	Adaptateur	0.48 kg	l : 35 cm

Adaptors for connecting the former generation of AXXAIR welding heads to **SAXX** power sources:

- SATF-xxND
- SATO-xxE01 et SATO-xxE02

✓ SAXX-210

✓ SAXX-300



Product Code	Description	Net weight	Packaging (in cm)
SAMD-NL	Pressure regulator	1.1kg	16 x 14.5 x 17

Pressure regulator 30 l / min compatible with:

- Finland, Netherlands, Sweden, Denmark

✓ SAXX-210

✓ SAXX-300



Product Code	Description	Net weight	Packaging (in cm)
SAMD-FR	Pressure regulator	1.1kg	16 x 14.5 x 17

Pressure regulator 30 l / min compatible with:

- Algeria, Angola, France, Greece, Syria, Tunisia, Sudan, Lebanon, Morocco, Portugal, Gabon, Ivory Coast, Senegal, Chad, Mauritania, Congo, Guinea, Mali, Belgium

✓ SAXX-210

✓ SAXX-300



# Orbital welding (SAXX) - Accessories



Product Code	Description	Net weight	Packaging (in cm)
SAMD-AL	Pressure regulator	1.1kg	16 x 14.5 x 17

Pressure regulator 30 l / min compatible with:

- Germany, Austria, Bosnia Herzegovina, Croatia, Hungary, Israel, Switzerland, Macedonia, Montenegro, Poland, Serbia, Slovenia, Korea, Czech Republic

✓ SAXX-210

✓ SAXX-300



Product Code	Description	Net weight	Packaging(in cm)
SAMD-UK	Pressure regulator	1.1kg	16 x 14.5 x 17

Pressure regulator 30 l/min compatible with:

- South Africa, Saudi Arabia, Brunei, Egypt, United Arab Emirates, Hong Kong, India, Singapore, Yemen, Indonesia, Iraq, Ireland, Jordan, Kuwait, Liberia, Libya. Sri Lanka, Malaysia, Malta, New Zealand, Nigeria, Pakistan, Peru, United Kingdom, Vietnam

✓ SAXX-210

✓ SAXX-300



Product Code	Description	Net weight	Dimensions (in cm)
SATMX-E	TIG Manual torch	2.1kg	22 x 22 x 22

TIG Manual torch **water cooled:**

- Allows manual tacking and welding with the SAXX power sources

✓ SAXX-210

✓ SAXX-300



Product Code	Description	Net weight	Dimensions (in cm)
SADF2X	Wire dispenser	12 kg	59.7 x 38.4 x 24

Wire Dispenser for SAXX, cable sheath 5 m max:

- Supplied with SAXX power supply-connection cable and teflon sheath to guide the wire
- Drive pressure adjusted by adjustable spring, with handle.

✓ SAXX-210

✓ SAXX-300



# Orbital welding (SAXX) - Consumables



Product Code	Description	Net weight	Packaging (in cm)
SACW-CO06	Cooling liquid	3.3kg	15 x 15 x 27

Cooling liquid (3l container).

The cooling is not directly delivered with the power source.

✓ SAXX-210

✓ SAXX-300



Product Code	Description	Net weight	Packaging (in cm)
SIMP-02	Printer rolls	0.7kg	29 x 9.5 x 5

Rolls for integrated printer (set of 10)

✓ SAXX-210

✓ SAXX-300



Product Code	Description	Net weight	Packaging (in cm)
SUSBX210	USB stick	0.02kg	6 x 2 x 1

USB stick for **SAXX-210**:

USB stick with software for recording welding programmes and the WeldReport

✓ SAXX-210

SAXX-300



Product Code	Description	Net weight	Packaging (in cm)
SUSBX300	USB stick	0.02kg	6 x 2 x 1

USB stick for **SAXX-300**:

USB stick with software for recording welding programmes and the WeldReport

SAXX-210

✓ SAXX-300



Knowing our customers and their needs, anticipating and meeting their expectations by always proposing the best solution: this is AXXAIR's objective. Please do not hesitate to contact us for all enquiries relating to our products and services.

## ✓ Advice and estimates

Advise and support you and offer the best overall system for your requirements and applications.



## ✓ Samples

Create your samples as required from your tubes and requirements.



## ✓ Rental

Rental of our orbital machines from our rental equipment.



## ✓ Demonstrations

Organize demonstrations on your sites or via video conference from our showroom.



## ✓ Training

Orbital technology training on your sites or on our own. Leave with your training certificate.



## ✓ Repairs and maintenance

Find a solution to your problems and repair your machines as soon as possible.

Count on our after-sales service, always listening to you!





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