

# AXXAIR

NOVEMBER 2022

INNOVATIVE ORBITAL SOLUTIONS

## COMPLETE BROCHURE

**ORBITAL MACHINES**

**For thin walled tubes < 3mm wall thicknesses**

### ORBITAL CUTTING AND FACING



### 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

 Where There's Pipe, There's Mathey! PIPE FLAME CUTTING AND BEVELLING PIPE ALIGNMENT AND REFORMING CLAMPS PIPE RIGGING EQUIPMENT <a href="http://www.MATHEY.COM">www.MATHEY.COM</a>	 The Pipe Fabricators Source PIPE JACK AND STANDS MEGA ROLLERS AND STANDS MATERIAL HANDLING EQUIPMENT <a href="http://www.BBPIPETOOLS.COM">www.BBPIPETOOLS.COM</a>	 World Leading Manufacturer of Pipe Beveling and Cutting Machines PIPE BEVELLING MACHINES PIPE COLD CUTTING MACHINES <a href="http://www.TAG-PIPE.COM">www.TAG-PIPE.COM</a>	 Innovative Orbital Solutions ORBITAL CUTTING / BEVELLING AND FACING ORBITAL WELDING <a href="http://www.AXXAIR.COM">www.AXXAIR.COM</a>	 Purging Solutions for the perfect pipe weld! PIPE MARKING SYSTEMS LARGE DIAMETER WELDING PIPE STOPBARS <a href="http://www.PURGEMASTERS.COM">www.PURGEMASTERS.COM</a>	 The Pipe Fitters Companion FIT-UP AND ALIGNMENT TOOLS LAYOUT AND MARKING TOOLS <a href="http://www.FIT-UP-PRO.COM">www.FIT-UP-PRO.COM</a>
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# AXXAIR

INNOVATIVE ORBITAL SOLUTIONS

## Introduction to AXXAIR

With the merger in 2019 of B&B Pipe and Industrial Tools LLC (USA), Mathey Dearman Inc. (USA) and TAG Pipe Equipment Specialists (UK) and the recent addition in 2022 of AXXAIR (France) into Specialized Fabrication Equipment (S.F.E.) Group, the various product groups offered by the original manufacturers have been re-aligned and integrated into the overall S.F.E. Group product range whilst keeping their own brand identity.

Originally founded in 1997, the brand AXXAIR encompasses within S.F.E. Group the overall tube working processes: orbital cutting, tube bevelling, squaring and orbital welding. The AXXAIR brand has been in the global market for over 25 years and has established itself as a leading and international reference on the field of tube processing applications.

AXXAIR offers innovative solutions to improve processes, productivity, efficiency and quality in the field of orbital cutting, bevelling and welding on a wide variety of different materials such as stainless steel, titanium, carbon steel, duplex and super duplex stainless steel, nickel alloys and even plastic. Within the AXXAIR range S.F.E. Group not only offers a standard range of products, but also customized solutions for specific target markets: the food and beverage industry, pharmaceuticals, the manufacturing of semi-conductors, aeronautics, chemical and petrochemical industry as well as the nuclear industry and many other possible areas of application.

The S.F.E. Group AXXAIR brand portfolio consists of a complete range of **cutting machines** (covering 0.25" - 40"), **squaring machines** (0.1" - 8.5"), as well as welding machines: **SATO open heads** (0.4" - 8.265"), **SATFX closed heads** (0.25" - 4.5"), **Microfit SXMF** ( $\frac{1}{8}$ " -  $\frac{5}{8}$ ") and finally the **SATP tube to tube sheet** (0.4" - 3").

Get in touch for any orbital cutting, squaring and welding application.



### ORBITAL CUTTING AND FACING



AXXAIR's orbital cutting machines feature stainless steel concentric jaws to prevent the deformation of the tubes, especially the one with thin walls, during clamping. AXXAIR's frames are easily scalable for bevelling and welding application. The AXXAIR facing machines operate on battery or corded for more flexibility. The TIALN blades, reversible with two cutting edges, guarantee optimal lifetime of consumables. The facing machines are lightweight and designed to be used on site as well as in the workshop.

### ORBITAL WELDING



AXXAIR's new range of closed SATFX welding heads allows to achieve high quality welds in a minimal space. The range of open welding heads (SATO series) are mainly recommended for the agro-food, pharmaceutical, chemical sectors, for wall thicknesses less than but also greater than 3 mm. The Micro-Fitting Series have been designed to weld small diameters tubing and fittings mainly in the semiconductor industry. AXXAIR offers a range of different welding power supplies fulfilling the varying needs depending on the customer's intended use, tube sizes, welding application and frequency of utilisation.

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## Transporting sensitive fluids

Many industries are using tubes to transport fluids. The more sensitive the more attention has to be paid to all connections that are most of the time welded: tube to tube or tube to T or tube to elbows for example. Most of those tubes are made of stainless steel in order to avoid corrosion and exchanges between the tube and the fluid.



## Food-processing industry

Food and beverage manufacturing are using a lot of Stainless steel tubes. It is necessary of course to correctly seal the connections but also to be sure the internal surface of the tube is correctly welded (penetration).

The purpose is always to avoid any retention zones that could pollute the liquids you transport in the tube.

- Food processing
- Beverage processing:  
beer or wine manufacturing for example

## Semi-conductor industry

The manufacturing of electronic components needs to have a very highly controlled atmosphere (clean rooms) as well as very high level quality tubes for the process.

Those tubes are transporting pure gases or pure water and to be welded with a very high quality.

An example is the manufacturing of memory.

## Pharmaceutical industry

In this case the liquid that is transported is for producing medicine. In this case, even the inner surface of the tubes need to be electro polished to lower the possibility of interaction between liquid and tube surface.

As a consequence, the welds have to be with a very high quality of geometric aspects, in width, in surface finish. They are usually 100% X-rayed to guaranty the production will not be polluted.

## Aeronautics industry

This industry is paying a lot of attention to weight and is therefore using a lot of aluminium components and almost all tubing is made with titanium tubes which is very light and resistant.

Welding titanium needs a very high gas protection inside and outside the tube.

Orbital closed head welding is the best solution for those applications.

- Aerospace
- Aircraft manufacturing

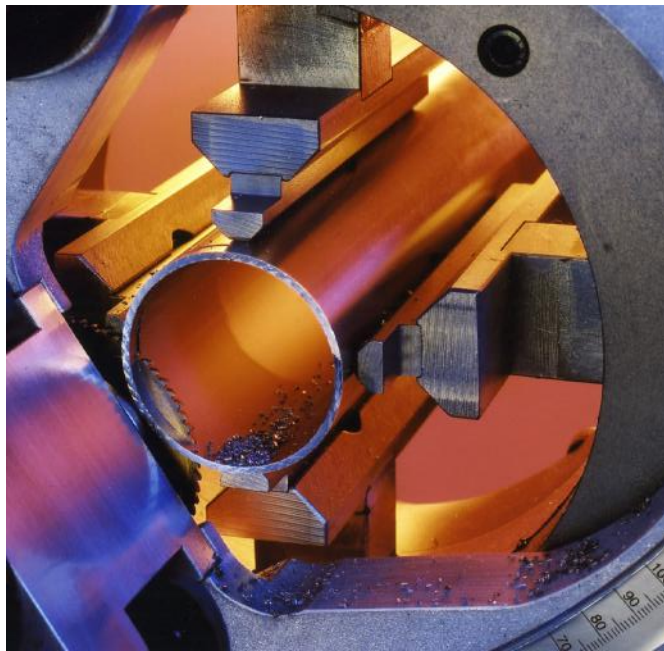


# Orbital cutting

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

AXXAIR's orbital cutting machines feature stainless steel concentric jaws to prevent the deformation of the tubes, especially the one with thin walls, during clamping.

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



## FLEXIBILITY, PRODUCTIVITY

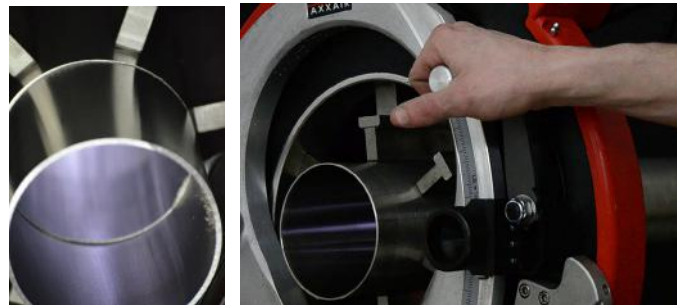
AXXAIR frames (except CC81, CC121ECO and 171ECO) are easily scalable for beveling and welding use.

## QUALITY, GEOMETRIC PRECISION

Cutting with no tube distortion (multi-contacts concentric clamping) ideal for thin wall stainless steel tubes. Great perpendicularity (<math><0.25\text{ mm}</math>) of the cut and superb surface finish (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.

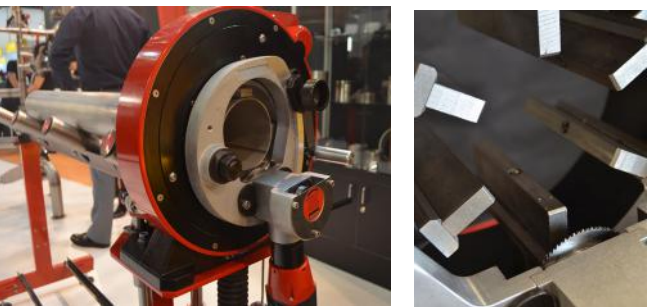


perfect tube to tube alignment with the smallest gap possible, removing the need to facing the tube therefore saving a significant amount of time and money.

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

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

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



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.



# The ECO Cutting range

## 81M - 121ECO - 171ECO



For more than 20 years AXXAIR has been developing scalable, flexible and reliable machines featuring our patented concentric clamping design and many other functions.

The frames of our cutting machines 122 - 322 can be fitted with a cutting motor, a bevelling motor or with a TIG welding torch.

Our ECO range differs from this concept and is specialized in cutting thin wall tubes. It offers the same quality of cut than the CC 122 - 322 range in a more affordable package for customers who do not need to bevel or weld with the same machine.

We developed the ECO cutting range in order to respond to these users looking simply for a cutting solution for thin tubes.

**Machines dedicated to thin tubes < 5 mm wall thickness\***

**Easy to move around and lightweight**

**Attractive prices**

AXXAIR choose Metabo to power our ECO range because of the large speed range and higher torque matching the requirements for cutting stainless steel thin wall tubes.

The handle of the Metabo power unit also makes easy and convenient to rotate the blade around the tube.

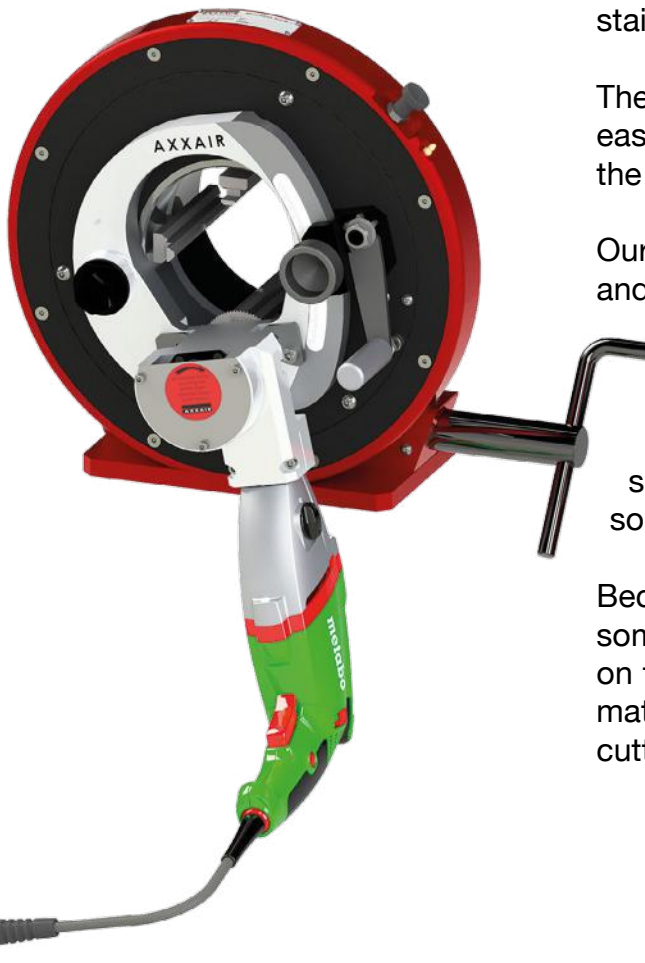
Our 121 and 171ECO range share the same safe and efficient diameter setting and blade penetration unit than our CC range.

The ECO range comes in a more affordable package but still features most of the designs that made our more advanced CC range so popular among the industry.

Because our ECO range is dedicated to cutting, some of the upgrades and accessories available on the CC range like automatic rotation or automatic clamping are not available for this type of cutting machines.

For more details, accessories and the references please see the following pages of this catalogue.

\*depending on the type of steel





# 81M - 121ECO - 171ECO

ORBITAL CUTTING

### No tube deformation

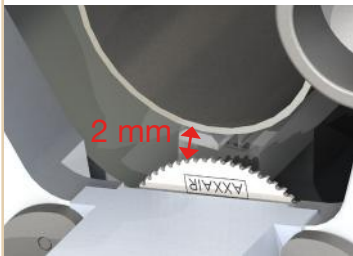
Concentric clamping system



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

### Limited vibration and tube distortion

Optimised blade to jaws distance



### Easy handling and transportation



\*depending on the type of steel

### Cutting precision

Perpendicular cuts  
< 0.25 mm



### Operator safety feature

Penetration check feature

### Uptake

121ECO +171ECO: feature a dual blade position allowing to cut elbows or flanges with no wasting of tube.

### Motor 1300W

Speed adjustment through gearbox and electronic variator

### Cutting capacity:

Up to 5 mm wall thickness\*



### Continuous use

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

### Opening capacity

81M	ø5 - ø78 mm 0.25 - 3 "
121ECO	ø5 - ø121 mm 0.25 - 4.5 "
171ECO	ø16 - ø170 mm 0.625 - 6.625 "



# 81M - 121ECO - 171ECO

## Technical features :

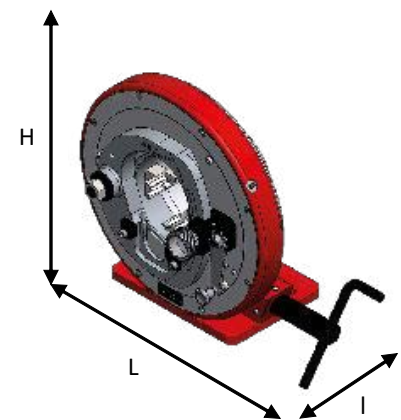
With the Metabo power unit, our ECO range features a large range of blade rotation speed and the right torque for cutting stainless steel thin wall tubes.

### Electric motor 1300W:

- Mechanical gearbox and electric speed variator
- 50/60 HZ
- single-phase motor

Except the 81M, all the machines' cutting motors are shipped in a convenient carrying case together with all necessary tools for operating the machine.

Because of its small form and low weight, the 81M cutting motor and the tools are included in the machine's transport case.



	Product Code	Machine's jaw opening capacity in mm		Net weight	Dimensions (HxLxw in mm)
		With basic jaws	With extra jaws (included)		
120V 1300W	81M11	Ø5 - Ø78	-	15 kg	263 x 346 x 236
	121ECO1	Ø24 - Ø121	Ø5 - Ø108	38 kg	432 x 520 x 297
	171ECO1	Ø70 - Ø170	Ø16 - Ø118	44 kg	453 x 550 x 307
230V 1300W	81M21	Ø5 - Ø78	-	15 kg	263 x 346 x 236
	121ECO2	Ø24 - Ø121	Ø5 - Ø108	38 kg	432 x 520 x 297
	171ECO2	Ø70 - Ø170	Ø16 - Ø118	44 kg	453 x 550 x 307



# 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**

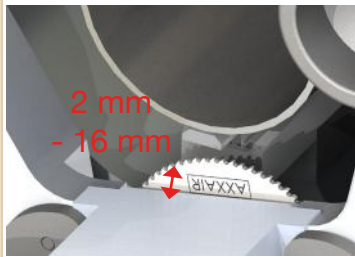
All rotating parts are incorporated in the body



ORBITAL CUTTING

**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 5 mm wall thickness\*

**Easy handling and transportation**



**Continuous use**

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

**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 features:

### - Fast speed motor:

120V or 230V, 1200W, electronic speed variator with cutting compensator  
*Vibration level according to EN 28662 norm : <math>< 2.5\text{m/s}^2</math>, protection class : IP 20*  
**Rotation speed (6 speed variations):** from 95 RPM to 280 RPM

### - Pneumatic motor:

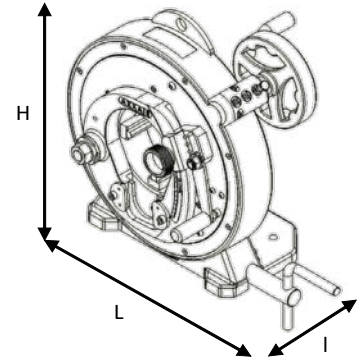
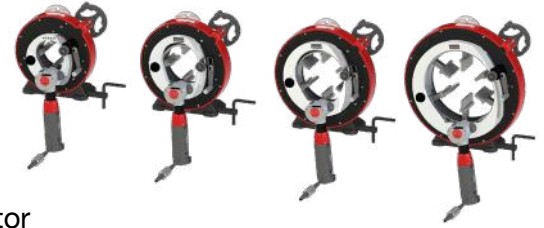
60 to 110 rpm, air flow rate 1500 l/min at 6 bar.

### - 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



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 fast motor	122FS19	Ø29 - Ø119	Ø5 - Ø99	44 kg	443 x 541 x 304
	172FS19	Ø74 - Ø173	Ø16 - Ø116	51 kg	493 x 566 x 304
	222FS19	Ø128 - Ø228	Ø55 - Ø155	59 kg	548 x 594 x 304
	322FS19	Ø230 - Ø328	Ø141 - Ø239	71 kg	649 x 644 x 304
230V 1200W fast motor	122FS29	Ø29 - Ø119	Ø5 - Ø99	44 kg	443 x 541 x 304
	172FS29	Ø74 - Ø173	Ø16 - Ø116	51 kg	493 x 566 x 304
	222FS29	Ø128 - Ø228	Ø55 - Ø155	59 kg	548 x 594 x 304
	322FS29	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**

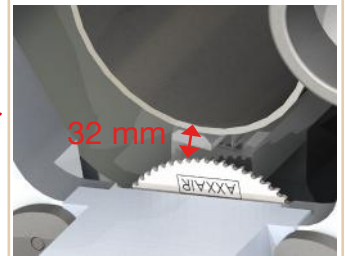
feature a dual blade position allowing to cut elbows or flanges with no wasting of tube.

**Cutting quality**

Rotation handle for controlled and continuous cutting speed

**Reduced vibration and increased blade life**

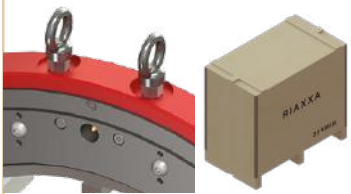
Optimised blade to jaw distance



**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 5 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 features:

### - Fast motor:

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

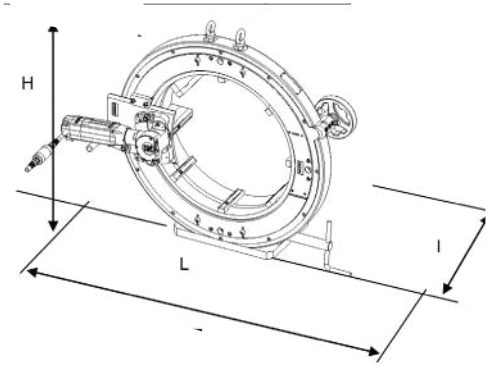
Vibration level according to EN 28662 norm :  $<2.5m/s^2$ , protection class : IP 20

**Rotation speed** (6 speed variations): from 95 RPM to 280 RPM

### - Pneumatic motor:

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

All motors are delivered in their individual case, 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 fast motor	421FS19	Ø350 - Ø422	Ø212 - Ø352	186 kg	802x838x315
	521FS19	Ø450 - Ø522	Ø312 - Ø452	223 kg	905x889x315
	721FS19	Ø653 - Ø725	Ø447 - Ø654	256 kg	1104x1077x315
230V 1200W fast motor	421FS29	Ø350 - Ø422	Ø212 - Ø352	186 kg	802x838x315
	521FS29	Ø450 - Ø522	Ø312 - Ø452	223 kg	905x889x315
	721FS29	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 demand			

# Accessories

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 feet	10 kg	103 x 32 x 11

Support legs for orbital cutting machine:

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

81	✓121ECO	✓171ECO	✓122	✓172	✓222	✓322	421	521	721	1100
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Product Code	Description	Net Weight	Dimensions (in cm)
CCSER1	Simple stand	10 kg	60 x 26 x 10

Simple stand for supporting tubes with height adjustment:

- quick assembling and dismantling
- height adjustment

✓81	✓121ECO	✓171ECO	✓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:

- easy assembling and dismantling
- facilitates tube feeding after each cut
- height adjustment

✓81	✓121ECO	✓171ECO	✓122	✓172	✓222	✓322	421	521	721	1100
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# 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.



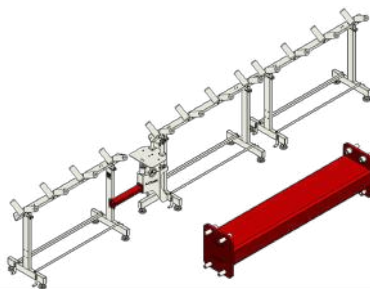
Product Code	Description	Net Weight	Dimensions (in cm)
CCBSB-X1	Bench with height adjustment	57 kg	184 x 95 x 51
<u>Height-adjustable support bench, 1.5m</u>			
- stainless steel rollers		- maximum load: 350 kg	
- handle for height adjustment		- ø min pipe: 5 mm	
- 1.5 m long		- ø max pipe: 321 mm	
-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

81	✓ 121ECO	✓ 171ECO	✓ 122	✓ 172	✓ 222	✓ 322	421	521	721	1100
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Product Code	Description	Net weight	Dimensions (in cm)
CCBSB-X2	Additional 1.5 m bench	38 kg	150 x 95 x 51
<u>Additional support bench:</u>			
- stainless steel rollers		- ø min pipe : 5 mm	
- 1.5 m long		- ø max pipe: 321 mm	
- maximum load 350 kg uniformly distributed		- compatible with machines 121 to 321	

81	✓ 121ECO	✓ 171ECO	✓ 122	✓ 172	✓ 222	✓ 322	421	521	721	1100
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Product Code	Description	Net Weight	Dimensions (in mm)
CCBSB-B005	Connection	3 kg	100 x 80 x 402
<u>Connecting bar for CCBSB-X1 and CCBSB- X2:</u>			
- Allows the height-adjustable table to be connected to a bench placed in front of the machine			

81	✓ 121ECO	✓ 171ECO	✓ 122	✓ 172	✓ 222	✓ 322	421	521	721	1100
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# Accessories (End stop)

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



### LCD display

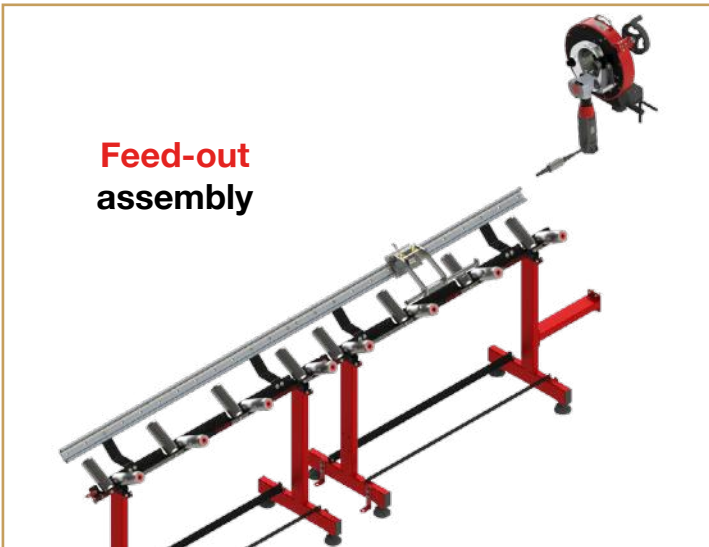
Possibility of selecting the direction of counting, the position of the decimal point, the unit of measurement (mm or inches), reset / preset of the measurement, absolute / relative dimension.

- 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.



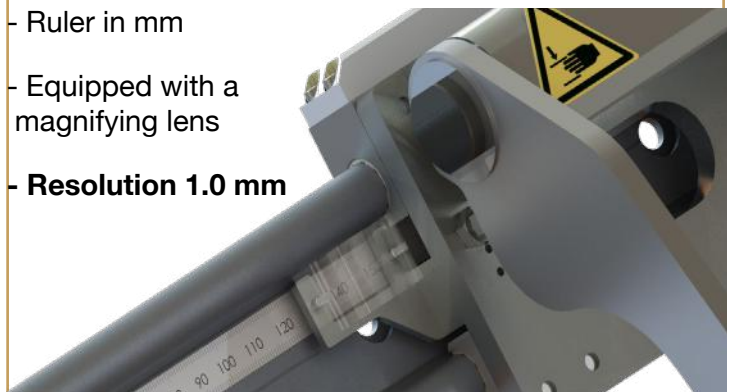
- Resolution 0.1 mm

### Feed-out assembly



### Ruler

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



81	✓121ECO	✓171ECO	✓122	✓172	✓222	✓322	421	521	721	1100
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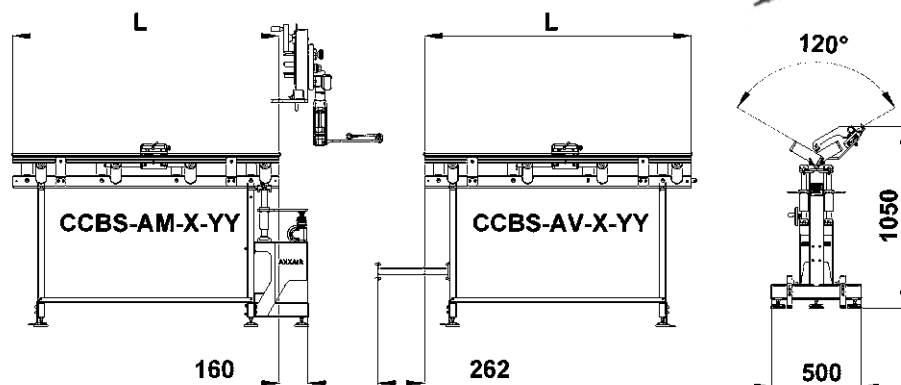


# Accessories (End stop)

## 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.

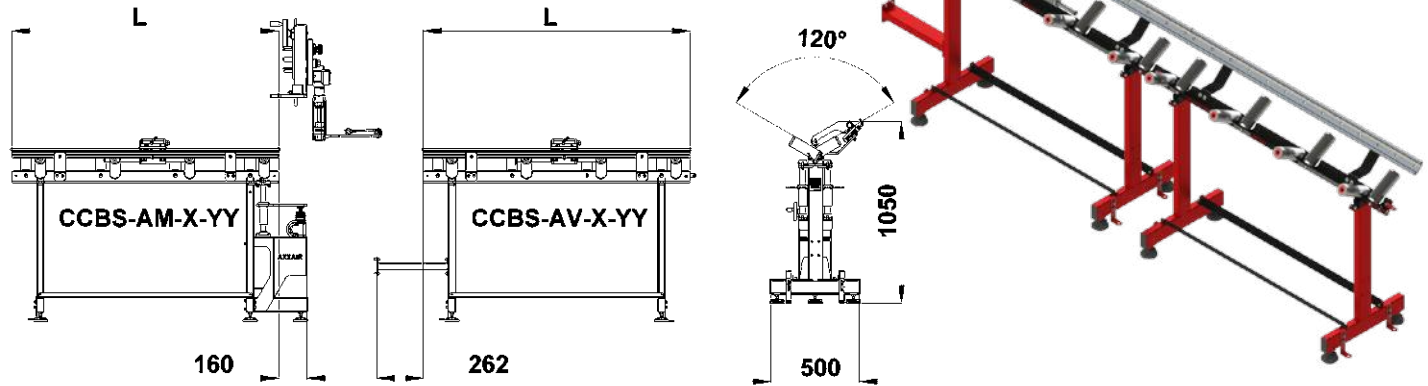
Assembly	Reader	Length (in mm)	Working stroke (in mm)	Product code	Net weight					
on the feed-in section of the cutting line	Ruler	1500	1300	CCBSB-AM-R-15	65 kg					
		3000	2800	CCBSB-AM-R-30	104 kg					
		4500	4300	CCBSB-AM-R-45	143 kg					
		6000	5800	CCBSB-AM-R-60	163 kg					
		7500	7300	CCBSB-AM-R-75	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					
81	✓121ECO	✓171ECO	✓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).

# 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

81	✓121ECO	✓171ECO	✓122	✓172	✓222	✓322	421	521	721	1100
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# 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 (in mm)
CCBSB2-003	Height-adjustable table	53.5 kg	75 x 73 x 54
<u>Height-adjustable table for 422 / 521 / 721:</u>			
- adjustable table height		- optimum stability	

81	121ECO	171ECO	122	172	222	322	✓ 421	✓ 521	✓ 721	1100
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Product Code	Description	Net Weight	Dimensions (in mm)
CCBSB2-004	Support bench	72.8 kg	97 x 71 x 150
<u>Tube support bench for 422 / 521 / 721:</u>			
- quick assembly and dismantling		- 1.5 m long	
- height adjustment		- optimum stability	

81	121ECO	171ECO	122	172	222	322	✓ 421	✓ 521	✓ 721	1100
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Product Code	Description	Poids net	Dimensions (en mm)
CCBSB2-005	Connecting bar	6.5 kg	8.5 x 4 x 65
<u>Connecting bar between two CCBSB2 support benches:</u>			
- quick assembly and dismantling		- ensures optimum stability	

81	121ECO	171ECO	122	172	222	322	✓ 421	✓ 521	✓ 721	1100
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## 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

**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/bevelling 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
<u>Autoline electric inverter for CC122 to 322:</u>			
- 110 V to 230 V - even rotation		- easy to use - precise adjustment	

81	121ECO	171ECO	✓ 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
<u>Autoline electric inverter for CC421 to 721:</u>			
- 110 V to 230 V - even rotation		- easy to use - precise adjustment	

81	121ECO	171ECO	122	172	222	322	✓ 421	✓ 521	✓ 721	1100
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# Accessories (electric clamping)



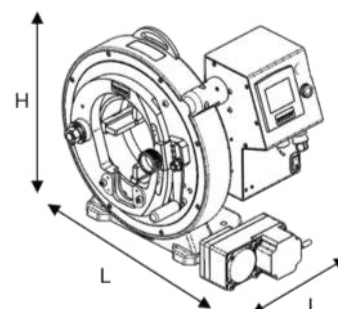
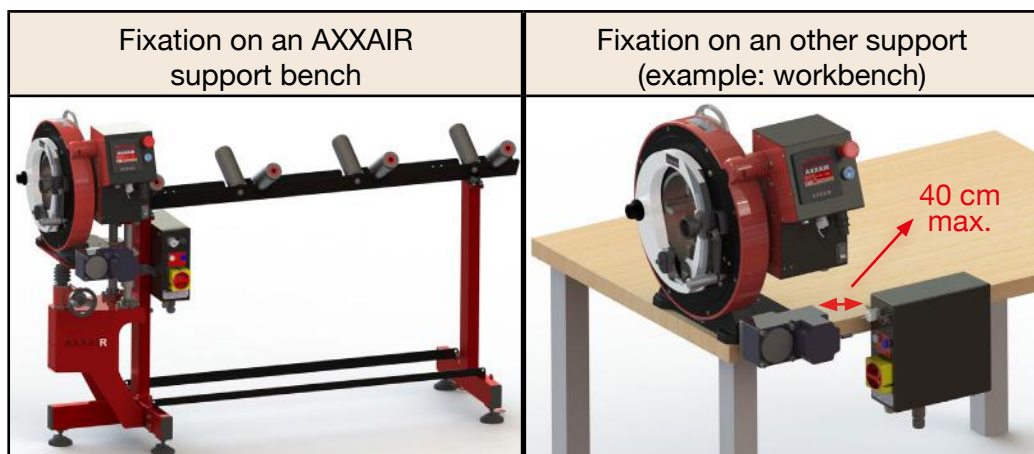
You realize **important series** in your company and want to be more effective during your projects? Our electric clamping is the ideal answer for the preparation and / or welding of your tubes.

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



Product code	Body frame, automatic rotation and electric clamping		Net weight	Dimensions (HxLxI in mm)
	Machine's jaw opening capacity 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, beveling or welding torch) and the consumables needed with the sets listed above.

# Consumables



## 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 thickness of		ø of the blade	Number of teeth
LS63128	0,5 to 0,9 mm	,02 - ,04"	63 mm	128
LS63100	0,7 to 1,5 mm	,03 - ,06"	63 mm	100
LS6364	1 to 3 mm	,04 - ,12"	63 mm	64
LS6872	1 to 3 mm	,04 - ,12"	68 mm	72
LS6844	2 to 7mm	,08- ,28"	68 mm	44
LS8080	1 to 3 mm	,04 - ,12"	80 mm	80
LS8054	2 to 7 mm	,08- ,28"	80 mm	54

✓ 81   ✓ 121ECO   ✓ 171ECO   ✓ 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

81   121ECO   171ECO   ✓ 122   ✓ 172   ✓ 222   ✓ 322   ✓ 422   ✓ 521   ✓ 721   ✓ 1100



Product Code	Description	Volume
CCLUP	Paste lubricant	250 ml

Paste lubricant, sold in packs of 5 lubricants-tubes:

- Recommended for metabo motors
- Safety data sheet available on request

✓ 81   ✓ 121ECO   ✓ 171ECO   122   172   222   322   422   521   721   1100

# GLOBAL PROCESS 1 machine - 3 applications

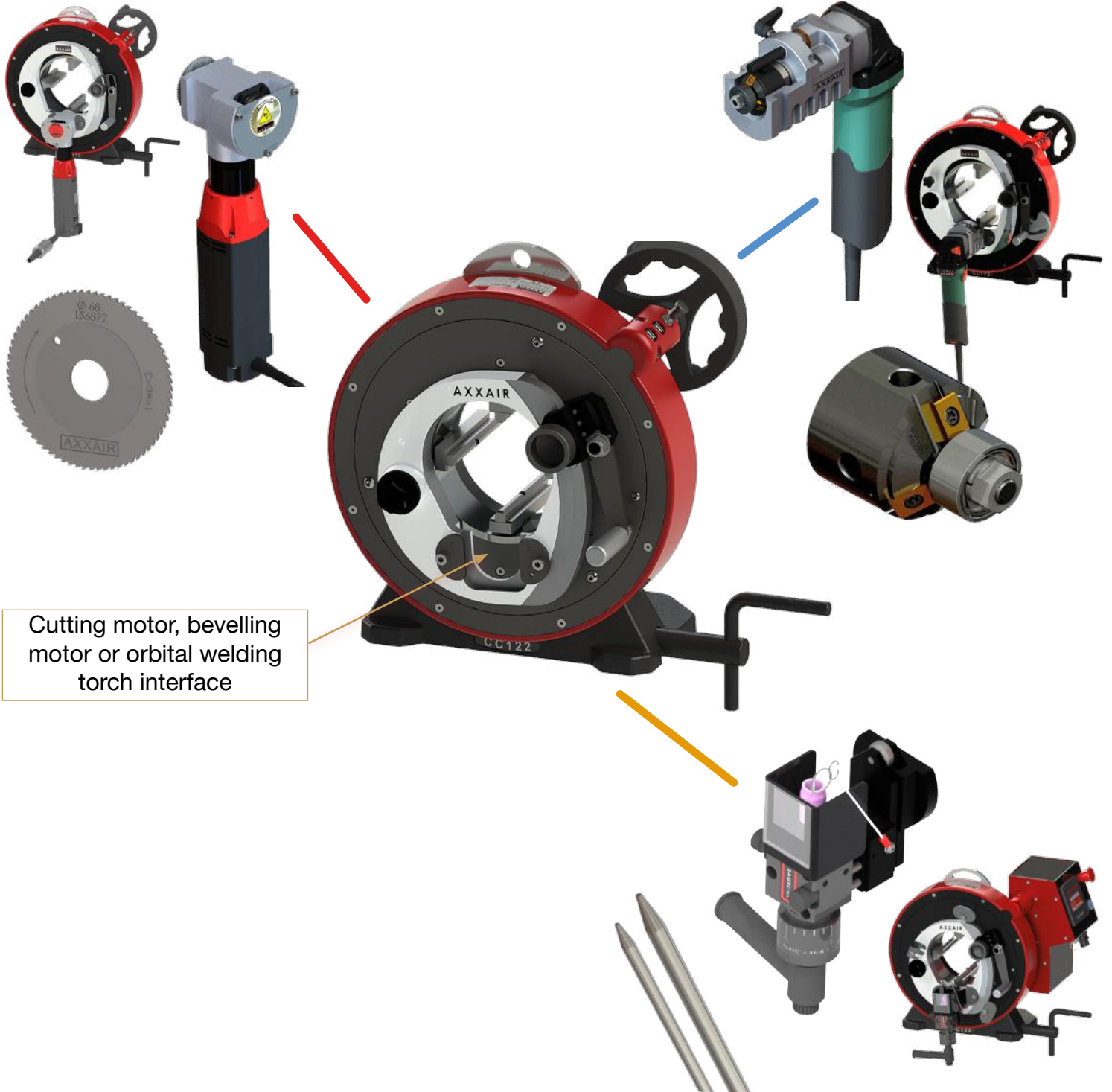


The AXXAIR Group was the first to offer a triple and exclusive solution, from preparation to orbital welding:

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



GLOBAL PROCESS

# GLOBAL PROCESS

## A 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	Product Code	Frame
	Low-speed motor: FS15	122
230V	High-speed motor: FS19	172
	Low-speed motor: FS25	222
Pneumatic	High-speed motor: FS29	322
	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.

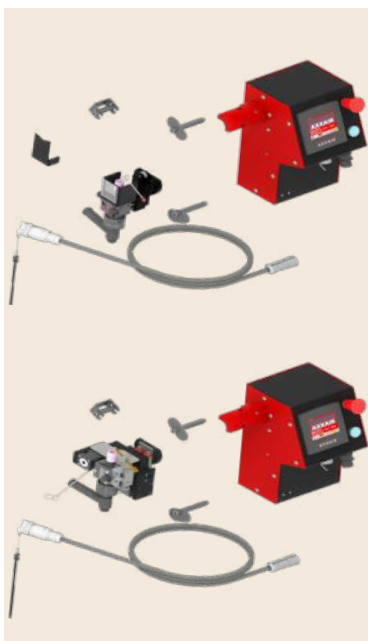
All information and relevant product codes appear in the orbital cutting accessories and consumables section of this catalogue.



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
EAU	SX-2KITE	172
	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 Orbital facing



Tube facing is used on thin tubes with a thickness of less than 3 mm. It consists in bringing into conformity the end of a tube or an accessory.

This conformity acts on three aspects:  
the perpendicularity of the face of the tube -  
the surface state of the face - potentially a length adjustment.

After the facing process, the face will be perpendicular to the axis of the tube, without burrs, with a low RA and the desired length.

Facing machines are used when the cutting process is not sufficiently precise for the application or when the cutting process generates burrs.

To give an exemple: abrasive cutting disc, band saw or tube cutter.

## FLEXIBILITY, PRODUCTIVITY

Our facing machines operate on battery or corded for more flexibility TIALN blades, reversible with two cutting edges guarantee optimal lifetime of consumables.



## QUALITY

Facing creates a clean and burr-free surface without tube deformation: sharpness and accuracy guaranteed.

Thin tube are therefore ready for welding.

## PORTABILITY

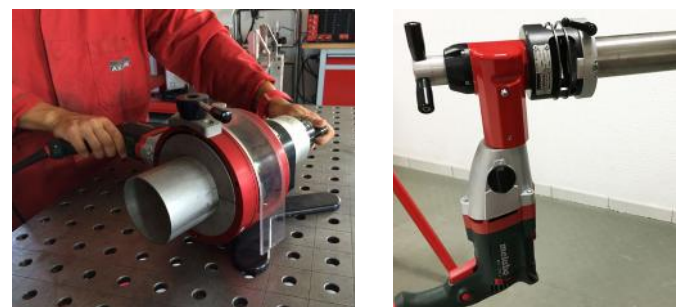
Our facing machines are lightweight and designed to be used on site as well as in the workshop.



Tube with small diameters <25.4 mm are particularly concerned by the facing process. They are often cut with tube cutters or abrasive cutting machines. Generally speaking, tube must be faced before welding in order to obtain quality welds.

One category of tube is particularly concerned: electro-polished tube used in semiconductor or pharmaceutical industries.

It is forbidden to scratch the polished surface inside the tubes: the cuts are therefore only done with a cutting wheel. This process does not generate chips but only dust. The result of this cut is not exploitable without a facing operation which unrolls the chip towards the outside of the tube.



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

We will be glad to share our know-how with you and find an adapted solution to your needs!

# DC25 MA - DC65 MA

ORBITAL FACING

**High quality blades**

HSS TIALN blade  
Reversible,  
two cutting edges



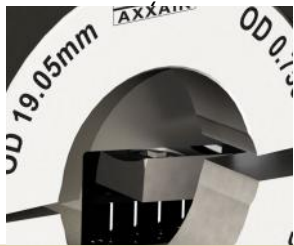
**Accurate manual advance**

Graduated vernier scale



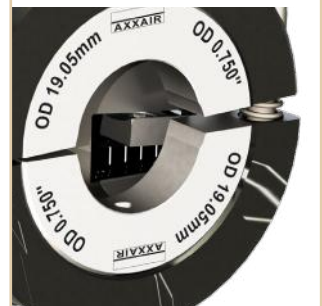
**Clamping shells**

Stainless steel  
molded jaws



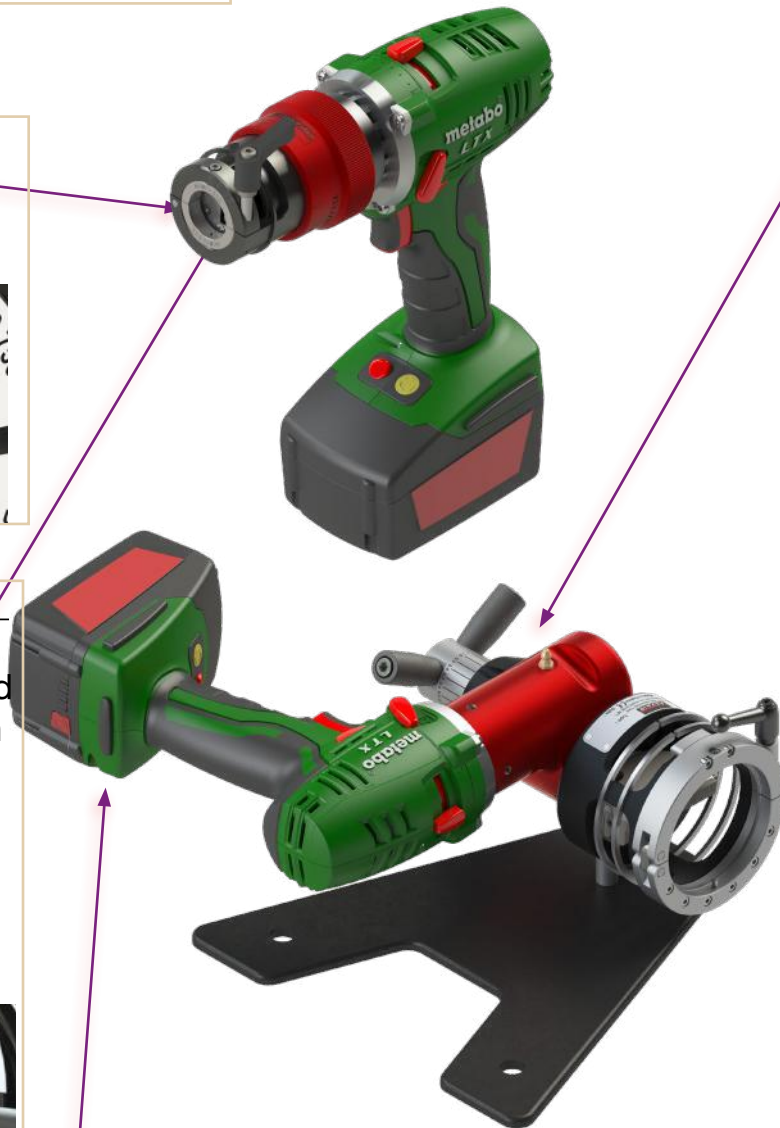
**Easy set up of the tube**

Large opening and  
pivot clamping



**Easy adjustment**

Indexable wrist and  
wide opening with  
spring



**Delivered in an anti-shock case**

Water- and dustproof



**Brushless motor 18V**

- 2 mechanical speeds + electric speed variator
- Special handy design
- Work without return shock
- Integrated work lamp
- Comes with two 5.2 AH battery, LiHD technology, maximum autonomy

**Facing range**

DC25-MA	ø3 - ø25.4 mm 0.1 - 1"
DC65-MA	ø3 - ø63.5 mm 0.1 - 2.5"

# DC25 MA - DC65 MA

## Technical characteristics:

**Thickness < 3 mm (0,12") according to material**

Burr-free tube squaring and edge breaking machine used after a band saw cut or on electro-polished tubes. Ideal tool to face a band saw cut before automatic welding

### 18 V Drill / Driver motor:

- 220-240 V ~ 50 / 60Hz or 100-120V ~ 60Hz
- High rotation torque
- Rugged reduction housing which allows heat dissipation and optimal durability
- Come with two 18V Li-Power, 5.2 Ah batteries and a fast battery charger
- 2 mechanical speeds + electric speed variator :

Speed 1 : 0-500 tr/min (rpm)

Speed 2 : 0-1700 tr/min (rpm)

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

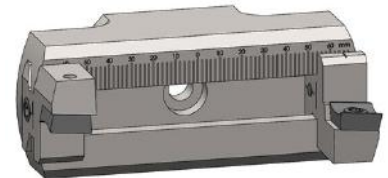
### DC25

There are two mounting positions for the blade to cover the range of diameter.



### DC65

Adjustment of the tool support by sliding: allows easy adjustment according to diameter and optimization of tool wear.



- 30° and 45° outside bevel possible with optional tool holder
- Facing and bevelling in one operation
- Possibility to use two tools simultaneously

### DC65 : Flexible use



	Product Code	Facing machine for the following diameters (mm)	Net weight	Minimal straight length of tube	Dimensions (HxLxI in mm)
120 V Drill / Driver	DC25-MA1	Ø3 - Ø25.4 0.1 - 1"	2.5 kg	With standard jaws : 9mm (0.354") With micro-fit jaws : 5mm (0,196")	285 x 220 x 75
	DC65-MA1	Ø3 - Ø63.5 0.1 - 2.5"	5.5 kg	With standard jaws : 10mm (0,393")	140 x 325 x 250
230 V Drill / Driver	DC25-MA2	Ø3 - Ø25.4 0.1 - 1"	2.5 kg	With standard jaws : 9mm (0.354") With micro-fit jaws : 5mm (0,196")	285 x 220 x 75
	DC65-MA2	Ø3 - Ø63.5 0.1 - 2.5"	5.5 kg	With standard jaws : 10mm (0,393")	140 x 325 x 250

# DC25 MS - DC65 MS

ORBITAL FACING



**High quality blades**

HSS TiAlN blade  
Reversible,  
two cutting edges



**Accurate manual advance**

Graduated vernier scale



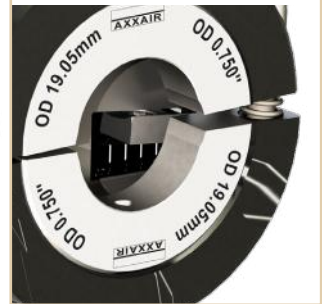
**Clamping shells**

Stainless steel  
molded jaws



**Easy set up of the tube**

Large opening and  
pivot clamping



**Easy adjustment**

Indexable wrist and  
wide opening with  
spring



**Delivered in an anti-shock case**

Water- and dustproof



**Mains motor, 1100 W**

- 2 mechanical speeds + electric speed variator
- Special handy design
- Work without return shock
- Rugged reduction housing which allows heat dissipation and optimal durability

**Facing range**

DC25-MS	ø3 - ø25.4 mm 0.1 - 1"
DC65-MS	ø3 - ø63.5 mm 0.1 - 2.5"

# DC25 MS - DC65 MS

## Technical characteristics:

**Thickness < 3 mm (0,12") according to material**

Burr-free tube squaring and edge breaking machine used after a band saw cut or on electro-polished tubes. Ideal tool to face a band saw cut before automatic welding

### Mains motor 1100 W:

- 220-240 V ~ 50 / 60Hz or
- 100-120V ~ 60Hz
- High rotation torque
- Two speed gearbox with variable speed drive
- High quality speed controller
- Immobilizer protection
- Housing reducer in cast aluminium

- 2 mechanical speeds + electric speed variator :  
Speed 1 : 0-1000 tr/min (rpm)  
Speed 2 : 0-3100 tr/min (rpm)

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

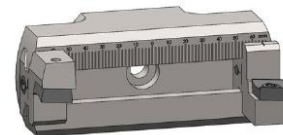
### DC25

There are two mounting positions for the blade to cover the range of diameter.



### DC65

Adjustment of the tool support by sliding: allows easy adjustment according to diameter and optimization of tool wear.



- 30° and 45° outside bevel possible with optional tool holder
- Facing and bevelling in one operation
- Possibility to use two tools simultaneously

### DC65 : Flexible use



	Product Code	Facing machine for the following diameters (in mm)	Net weight	Minimal straight length of tube	Dimensions (HxLxI in mm)
1100W 120 V	DC25-MS1	Ø3 - Ø25.4 0.1 - 1"	2.5 kg	With standard jaws : 9mm (0.354") With micro-fit jaws : 5mm (0,196")	300x 370 x 76
Mains motor	DC65-MS1	Ø3 - Ø63.5 0.1 - 2.5"	5.5 kg	With standard jaws : 10mm (0,393")	132 x 345 x 340
1100W 230 V	DC25-MS2	Ø3 - Ø25.4 0.1 - 1"	2.5 kg	With standard jaws : 9mm (0.354") With micro-fit jaws : 5mm (0,196")	300x 370 x 76
Mains motor	DC65-MS2	Ø3 - Ø63.5 0.1 - 2.5"	5.5 kg	With standard jaws : 10mm (0,393")	132 x 345 x 340

# DC115-AM - 221-AM



**Clamping shells**

DC115 : Stainless steel clamping jaws

DC221 : Aluminium clamping jaws



**Accurate manual advance**

0.1 mm steps (0,0393")

**30° and 45° outside bevel**

possible with optional tool holder

**Easy set up of of tube**

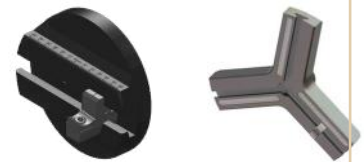
1 set of jaws for each diameter



**Multi-tools**

Possibility to use two (DC115) or three (DC221) tools simultaneously

Sliding adjustment of tool holder offers easy diameter change and optimal tip wearing



**Delivered in an anti-shock case**

Water- and dustproof



**1100 W motor**

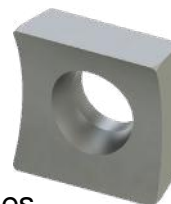
Motor mains 1100W with large speed range (2 gears)

Screw and wheel drive to optimize the speed range and eliminate vibrations

**High quality blades**

HSS TIALN blade.

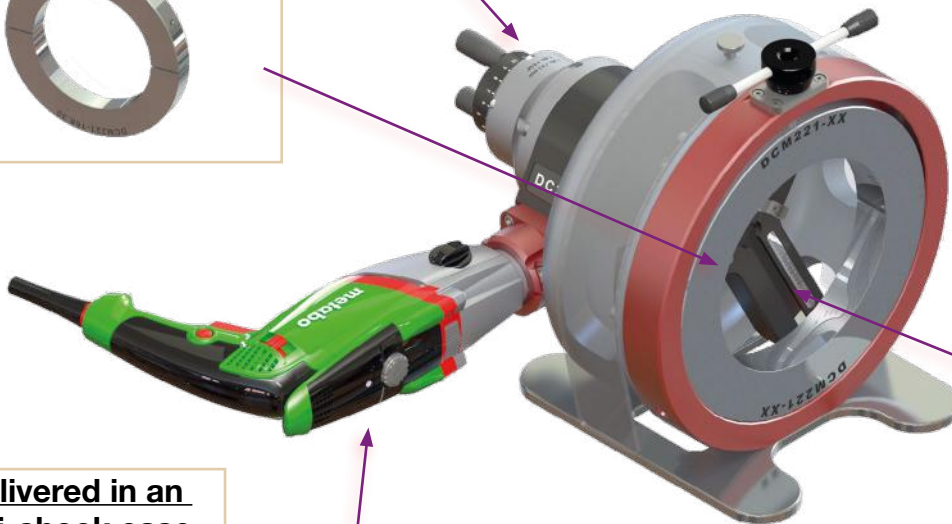
Reversible, two cutting edges



**Facing range**

DC115 AM	ø12 - ø115 mm 0.5" - 4.5"
DC221 AM	ø50 - ø220 mm 2" - 8.5"

ORBITAL FACING



# DC115-AM - 221-AM

## Technical characteristics:

**Thickness < 3 mm (0,12") according to material**

Burr-free tube squaring and edge breaking machine used after a band saw cut or on electro-polished tubes. Ideal tool to face a band saw cut before automatic welding

- Accurate manual advance: 4/1000" (0,1 mm) step graduation
- Sliding adjustment of tool holder offers easy diameter change and optimal tip wearing
- 30° and 45° outside edge breaking possible with optional tool holder
- Squaring and edge breaking in one operation

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



- **Motor 1100W**, large speed range (2 gears): Screw and wheel drive to optimize the speed range and eliminate vibrations



	Product Code	Facing machine for the following diameters (in mm)	Net weight	Minimal straight length of tube	Dimensions (HxLxI in mm)
120V Moteur 1100W	DC115-AM1	Ø12 - Ø115 0.5" - 4.5"	11 kg	28 mm 1.102"	219x314x462
	DC221-AM1	Ø50 - Ø220 2" - 8.5 "	21 kg	39 mm 1.535"	327x425x540
230 V Moteur 1100W	DC 115-AM2	Ø12 - Ø115 0.5" - 4.5"	11 kg	28 mm 1.102"	219x314x462
	DC221- AM2	Ø50 - Ø220 2" - 8.5 "	21 kg	39 mm 1.535"	327x425x540

# DC115-BM - 221-BM

ORBITAL FACING



**Stainless steel concentric jaws**

DC115 : 4 Stainless steel concentric jaws

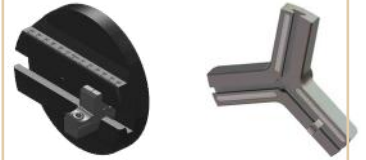
DC221 : 6 Stainless steel concentric jaws



**Multi-tools**

Possibility to use two (DC115) or three (DC221) tools simultaneously

Sliding adjustment of tool holder offers easy diameter change and optimal tip wearing



**High quality blades**

HSS TiAlN blade  
Reversible,  
two cutting edges



**30° and 45° outside bevel**

possible with optional tool holder

**Delivered in a wooden box**



**Accurate manual advance**

0.1 mm steps

**Bench mounting option**



**1100 W motor**

Mains motor 1100W with large speed range (2 gears)  
Screw and wheel drive to optimize the speed range and eliminate vibrations

**Facing range**

DC115 BM	ø12 - ø115 mm 0.5" - 4.5"
DC221 BM	ø50 - ø220 mm 2 - 8.5"



# DC115-BM - 221-BM

## Technical characteristics:

**Thickness < 3 mm (0,12") according to material**

Burr-free tube squaring and edge breaking machine used after a band saw cut or on electro-polished tubes. Ideal tool to face a band saw cut before automatic welding

- Accurate manual advance: 4/1000" (0,1 mm) step graduation
- Sliding adjustment of tool holder offers easy diameter change and optimal tip wearing
- 30° and 45° outside bevel possible with optional tool holder
- Squaring and beveling in one operation
- Possibility to use two (DC115) or three (DC221) tools simultaneously
- Delivered in high quality protection case

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



Wide range of use with stainless steel concentric clamping for all diameters



	Product Code	Facing machine for the following diameters (in mm)	Net weight	Minimal straight length of tube	Dimensions (HxLxI in mm)
120V Moteur 1100 W	DC115-BM1	Ø12 - Ø115 0.5" - 4.5"	37 kg	58 mm 2.283"	219x314x462
	DC221-BM1	Ø50 - Ø220 2" - 8.5"	55 kg	62 mm 2.440"	327x425x540
230 V Moteur 1100 W	DC 115-BM2	Ø12 - Ø115 0.5" - 4.5"	37 kg	58 mm 2.283"	219x314x462
	DC221- BM2	Ø50 - Ø220 2" - 8.5"	55 kg	62 mm 2.440"	327x425x540

# 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 facing the tubes placed on the support bench.

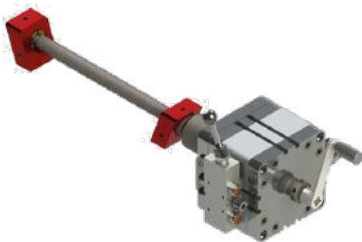
The additional tube support bench allows you to position your longest tubes in a stable manner on all benches.



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, 1.5 m :</u>							
<ul style="list-style-type: none"> <li>- stainless steel rollers</li> <li>- height adjustment handle</li> <li>- maximum load 350 kg uniformly distributed</li> <li>- min tube ø: 5 mm</li> <li>- max tube ø: 321 mm</li> </ul>							
DC25-MA	DC65-MA	DC25-MS	DC65-MS	DC115-AM	DC221-AM	✓DC115-BM	✓DC221-BM



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, 1.5 m :</u>							
<ul style="list-style-type: none"> <li>- stainless steel rollers</li> <li>- maximum load 350 kg uniformly distributed</li> <li>- min tube ø: 5 mm</li> <li>- max tube ø: 321 mm</li> </ul>							
DC25-MA	DC65-MA	DC25-MS	DC65-MS	DC115-AM	DC221-AM	✓DC115-BM	✓DC221-BM



Product Code	Description	Net weight	Dimensions (in cm)				
CCSA21	Pneumatic clamping	8.2 kg	560 x 200 x 190				
<u>Pneumatic clamping for DC115-BM / DC221-BM</u>							
DC25-MA	DC65-MA	DC25-MS	DC65-MS	DC115AM	DC221AM	✓DC115BM	✓DC221BM



## Clamping jaws

Clamping jaws for orbital facing machines:

A set of jaws is necessary for each outside diameter of tube to be machined

For machine	Product Code	Diameter of the tube	
		mm	inch
DC25	DCM25-XX	3 mm à 25.4 mm	1/8" - 1"
DC65	DCM65-XX	3 mm à 63.5 mm	1/8" - 2.5"
DC115	DCM115-XXX	12 mm à 115 mm	1/2" - 4.5"
DC221	DCM221-XXX	50 mm à 220 mm	2" - 8.5"

✓ DC25-MA

✓ DC65-MA

✓ DC25-MS

✓ DC65-MS

✓ DC115-AM

✓ DC221-AM

DC115-BM

DC221-BM



## Jaws for micro-fitting

Stainless steel micro-fitting jaws for DC25 ONLY

- Straight length : 4,3 mm mini

Product Code	Diameter of the tube	
	mm	inch
DCM25-MF03.18	3,18 mm	1/8 "
DCM25-MF06.00	6 mm	0.236"
DCM25-MF06.35	6.35mm	1/4 "
DCM25-MF08.00	8.00 mm	0.315 "
DCM25-MF10.00	10.00 mm	0.394 "
DCM25-MF12.00	12.00 mm	0.472 "
DCM25-MF12.70	12.7 mm	1/2 "

✓ DC25-MA

DC65-MS

✓ DC25-MA

DC65-MS

DC115-AM

DC221-AM

DC115-BM

DC221-BM

# Accessories



Product Code	Description	Net weight	Dimensions (in mm)
DCM6525	Spacer	0.022 kg	Ø 76
Spacer for fitting DC25 jaws on a DC65			

DC25-MA	✓ DC65-MA	DC25-MS	✓ DC65-MS	DC115-AM	DC221-AM	DC115-BM	DC221-BM
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Product Code	Description	Net weight	Dimensions (in mm)
DC65-P300	Tool holder for bevelling	0.028 kg	22 x 13 x 28.5
<u>Tool holder for breaking the corner at 30° :</u> - Tool holders are supplied without blades - Corner breaking is possible on the whole machine's range - Possibility to face the tube and break the corner at the same time on the whole machines' ranges*  <b>*exemption for the DC65:</b> - If facing and breaking corners at the same time: reduced range : 20 - 53 mm			

DC25-MA	✓ DC65-MA	DC25-MS	✓ DC65-MS	✓ DC115-AM	✓ DC221-AM	✓ DC115-BM	✓ DC221-BM
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Product Code	Description	Net weight	Dimensions (in mm)
DC65-P450	Tool holder for bevelling	0.026 kg	22 x 12.5 x 28.5
<u>Tool holder for breaking the corner at 45° :</u> - Tool holders are supplied without blades - Corner breaking is possible on the whole machine's range - Possibility to face the tube and break the corner at the same time on the whole machines' ranges*  <b>*exemption for the DC65:</b> - If facing and breaking corners at the same time: reduced range : 20 - 53 mm			

DC25-MA	✓ DC65-MA	DC25-MS	✓ DC65-MS	✓ DC115-AM	✓ DC221-AM	✓ DC115-BM	✓ DC221-BM
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# Consumables

In order to fit the different types of tubes, applications and your organization's requirements, AXXAIR offers two inserts for orbital facing. Each insert has been developed for a specific application.

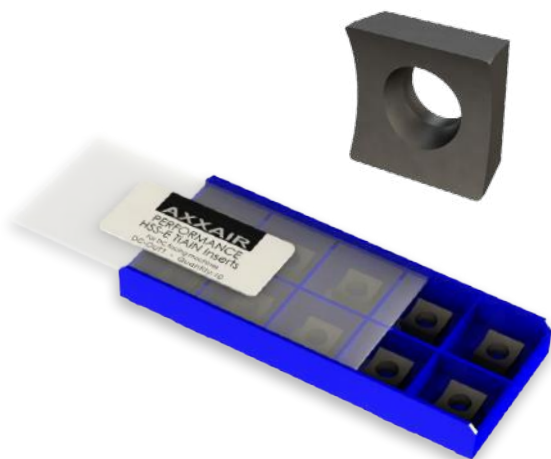
All of our inserts are double sided with two cutting edges and get a TiALN treatment, which improve the insert steadiness. This treatment ensures excellent heat resistance.



PERFORMANCE



HIGH  
PERFORMANCE



## PERFORMANCE inserts for orbital facing

- Double sided inserts with two cutting edges, made of HSS-E, TiALN treatment
- Cutting angle adapted to high speed use or for hard materials

Product Code	Description	Net weight	Dimensions
DC-OUT1	Box of 10 inserts	0.028 kg	12.5 x 40 x 100 mm
DC-UOUT1	Single unit insert	0.002 kg	4 x 9.5 x 9.5 mm

✓ DC25-MA

✓ DC65-MA

✓ DC25-MS

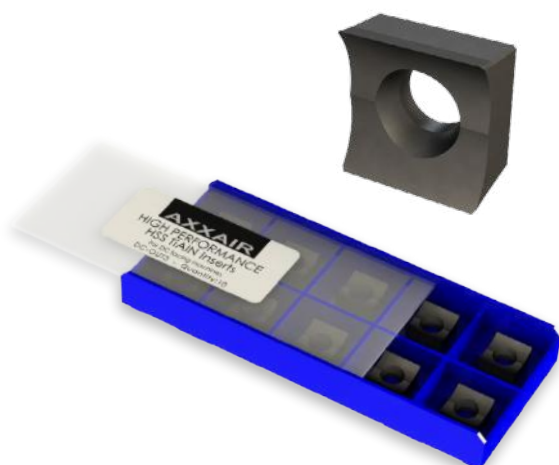
✓ DC65-MS

✓ DC115-AM

✓ DC221-AM

✓ DC115-BM

✓ DC221-BM



## HIGH PERFORMANCE inserts for orbital facing

- Double sided inserts with two cutting edges, made of HSS, TiALN treatment
- Special design with acute cutting angle for high-purity applications without burr

Product Code	Description	Net weight	Dimensions
DC-OUT3	Box of 10 inserts	0.03 kg	12.5 x 40 x 100 mm
DC-UOUT3	Single unit insert	0.003 kg	4.5 x 9.5 x 9.5 mm

✓ DC25-MA

✓ DC65-MA

✓ DC25-MS

✓ DC65-MS

✓ DC115-AM

✓ DC221-AM

✓ DC115-BM

✓ DC221-BM

# Orbital welding : Prefabrication

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

Our welding range 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) ideal for thin walled stainless steel tubes. Mechanical 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

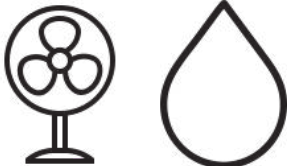


**No tube deformation**  
 Concentric clamping



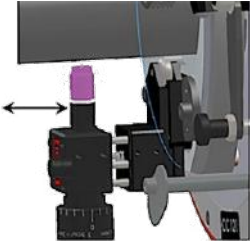
Basic and extra **stainless steel** jaws: no pollution of stainless steel tubes

**Air Cooled or Water Cooled**


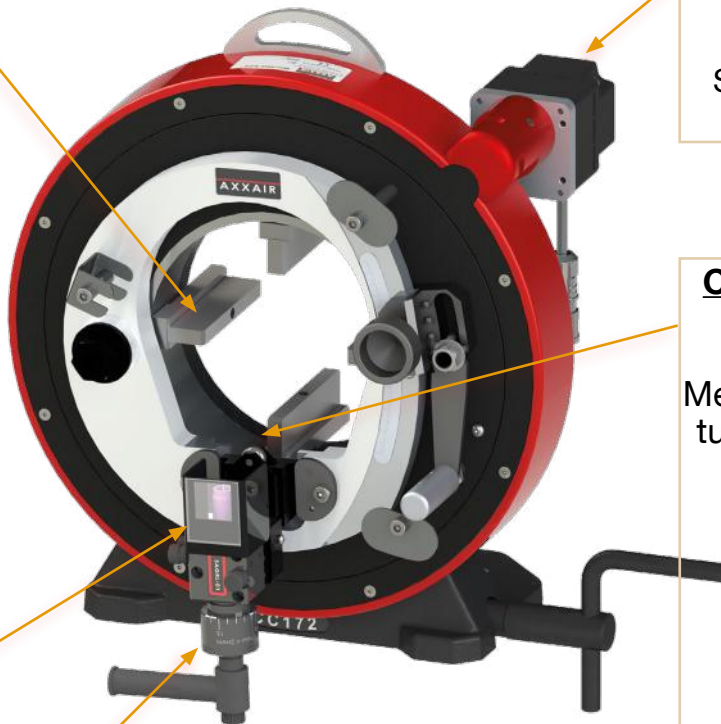



**Rotating**  
 Connect to the SAXX range welding power sources

**Accurate positioning**  
 Axial adjustment of the electrode position: facilitates location of the parts to be welded  
 Adjustment of the tube'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	55 - ø228 mm 2.375" - 8.625"
322	ø141 mm - ø328 mm 5.563" - 12.750"

# SX122 - 172 - 222 - 322

## Technical characteristics:

Machines for TIG orbital prefab welding.

Choice of: AIR cooling or WATER cooling

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

Compatible with AXXAIR's SAXX orbital power sources that have an automatic parameter calculation mode.

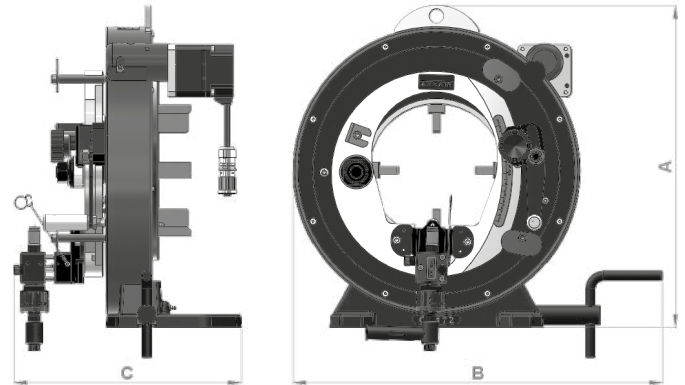
The power source will offer you parameters adapted to the characteristics of the tubes / accessories to be welded.

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

*For welding with an AVC / OSC system please refer to the catalogue for thick walled tubes.*



Model	100% Duty cycle
SX-xx2-E (WATER)	200 A
SX-xx2-A (AIR)	100 A



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



# Prefab - Accessories

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-A	✓ SX172-A	✓ SX222-A	✓ SX322-A	✓ SX122-E	✓ SX172-E	✓ SX222-E	✓ SX322-E
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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-A	✓ SX172-A	✓ SX222-A	✓ SX322-A	✓ SX122-E	✓ SX172-E	✓ SX222-E	✓ SX322-E
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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-A	✓ SX172-A	✓ SX222-A	✓ SX322-A	✓ SX122-E	✓ SX172-E	✓ SX222-E	✓ SX322-E
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## Prefab - 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 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	Height adjustable tube support bench	57 kg	184 x 95 x 51
<u>Height-adjustable support bench, 1.5m:</u>			
- stainless steel rollers		- maximum load 350 kg	
- height adjustment handle		- min tube ø: 5 mm	
		- max tube ø: 321 mm	

✓ SX122-A

✓ SX172-A

✓ SX222-A

✓ SX322-A

✓ SX122-E

✓ SX172-E

✓ SX222-E

✓ SX322-E



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>			
- stainless steel rollers		- min tube ø: 5 mm	
- 1.5 m long		- max tube ø: 321 mm	
- maximum load 350 kg			

✓ SX122-A

✓ SX172-A

✓ SX222-A

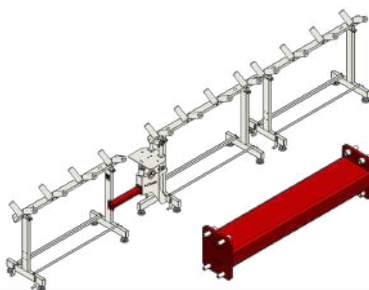
✓ SX322-A

✓ SX122-E

✓ SX172-E

✓ SX222-E

✓ SX322-E



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>			
- Allows the height-adjustable table to be connected to a bench placed in front of the machine			

✓ SX122-A

✓ SX172-A

✓ SX222-A

✓ SX322-A

✓ SX122-E

✓ SX172-E

✓ SX222-E

✓ SX322-E

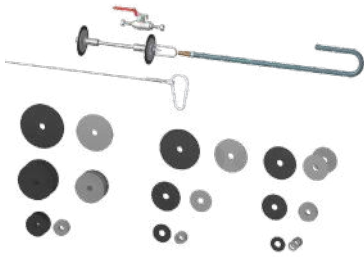
# Prefab - Accessories

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 $\varnothing$ 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-A	✓ SX172-A	✓ SX222-A	✓ SX322-A	✓ SX122-E	✓ SX172-E	✓ SX222-E	✓ SX322-E
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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 $\varnothing$ 6 to 41 mm

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

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



✓ SX122-A	✓ SX172-A	✓ SX222-A	✓ SX322-A	✓ SX122-E	✓ SX172-E	✓ SX222-E	✓ SX322-E
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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-A	✓ SX172-A	✓ SX222-A	✓ SX322-A	✓ SX122-E	✓ SX172-E	✓ SX222-E	✓ SX322-E
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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, 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.



✓ SX122-A	✓ SX172-A	✓ SX222-A	✓ SX322-A	✓ SX122-E	✓ SX172-E	✓ SX222-E	✓ SX322-E
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# Prefab - 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-A

✓ SX172-A

✓ SX222-A

✓ SX322-A

✓ SX122-E

✓ SX172-E

✓ SX222-E

✓ SX322-E



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-A

✓ SX172-A

✓ SX222-A

✓ SX322-A

✓ SX122-E

✓ SX172-E

✓ SX222-E

✓ SX322-E

# Accessories (electric clamping)



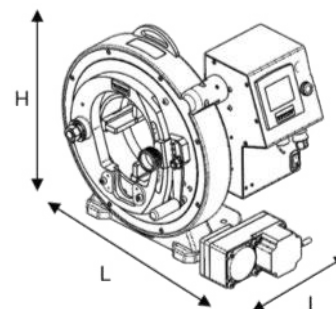
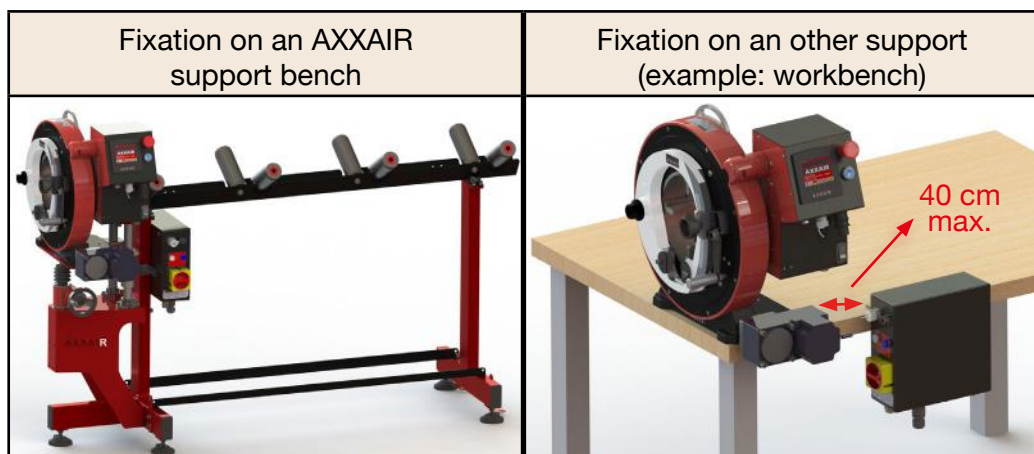
You realize **important series** in your company and want to be more effective during your projects? Our electric clamping is the ideal answer for the preparation and / or welding of your tubes.

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



Product code	Body frame, automatic rotation and electric clamping		Net weight	Dimensions (HxLxl in mm)
	Machine's jaw opening capacity 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, beveling or welding torch) and the consumables needed with the sets listed above.

# Prefab - 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 <b>1.6 mm</b> , length 50mm			
- Box of 10 electrodes			

✓ SX122-A

✓ SX172-A

✓ SX222-A

✓ SX322-A

✓ SX122-E

✓ SX172-E

✓ SX222-E

✓ SX322-E



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			

✓ SX122-A

✓ SX172-A

✓ SX222-A

✓ SX322-A

✓ SX122-E

✓ SX172-E

✓ SX222-E

✓ SX322-E



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 <b>Ø 1.6 mm or Ø 2.4</b>			
- consists of: 5 nozzles, 2 plugs 9/20, 2 long electrode clamps, 10 electrodes (Ø 1.6 mm <b>or</b> Ø 2.4) and 2 mesh diffusers			
<b>Ø electrode</b>		<b>Kit Product Code</b>	
1.6 mm		SKTD-01	
2.4 mm		SKTD-02	

✓ SX122-A

✓ SX172-A

✓ SX222-A

✓ SX322-A

✓ SX122-E

✓ SX172-E

✓ SX222-E

✓ SX322-E

# GLOBAL PROCESS

## 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: Microfit closed heads

The new SAMX-17 microfit head is ideal for welding tubes and fittings 3 mm and up in diameter, mainly used in the semiconductor industry.

Controlled by the SAXX power source, the SAMX-17 can be used with different types of cassettes, depending on the configuration of the parts to be welded: tube/tube, tube/fitting, fitting/fitting, etc.

The steps for welding with the SAMX-17 closed head are as follows:

1 - **The cassette**, composed of 2 sideplates equipped with jaws, is brought onto the assembly to be welded. There are **several types of sideplates** depending on the parts to be welded.

2- The machine is then slid into this cassette, which allows the **electrode** to be easily placed on the section to be welded.

## FLEXIBILITY, PRODUCTIVITY

The duty cycle of 70A at 50% and 80A at 40% provides a high level of performance.

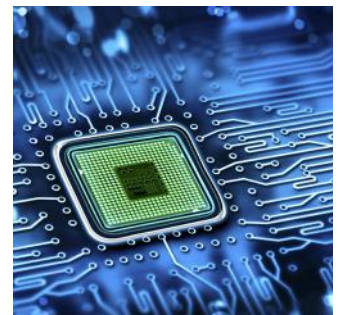
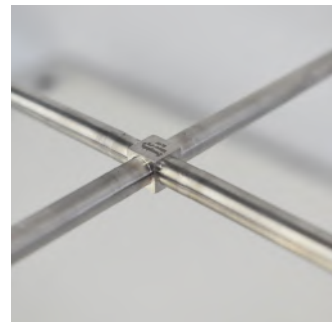
The cassettes have been designed to fit various configurations of parts to be welded.

## QUALITY AND REPEATABILITY

High quality materials, greaseless operation, easy maintenance and cleaning thanks to an Allen key integrated in the body of the machine: the SAMX-17 machine meets the requirements of high-tech industries and allows intensive use while producing a quality weld seam.

## PORTABILITY

In order to allow you to weld in restrictive conditions and locations, the size and weight of the machines have been optimized.



3- **The automatic welding cycle** is started directly through the integrated remote control. This head is used in combination with our SAXX power source and is compatible with all the features: dual digital gas control, welding monitoring by alarm, auto-calculation of welding parameters, remote control.

Contact us for all your inquiries as the applications can be various and the welding configurations multiple.

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



**NEW !****SAMX-17****AXXAIR**  
INNOVATIVE ORBITAL SOLUTIONS

## General characteristics

- **Microfit closed head with cassettes for orbital TIG welding**, powered by SAXX power source
- High level of performance with a **duty cycle of 70A at 50% and 80A at 40%**.
- **Grease-free operation:** compatible with clean room standards
- Optimal positioning of tubes and fittings in the cassettes with an optimized clamping system, without risk of deforming the part to be welded
- **Optimized inert gas diffusion:** welds with very limited coloration
- **Easy maintenance and cleaning** : thanks to a tool integrated in the machine body

### AIR cooling

Aluminum side plates contribute to heat dissipation

### Heat shield

Allows to protect the area near the the electrode

### Belt hook

**Compact and light**  
Weight : 5.5 kg with  
8 meters cable

**Compatible with SAXX power sources**



### Integrated remote control

Start/stop, gas and electrode rotation



**Illuminated logo**  
while welding

**Constant effort cassette locking lever**

Stable holding of the cassette, without the risk of over tightening.

*Compatible with Swagelok cassettes, please contact us*

**Delivered in a shockproof case**

Waterproof and dustproof

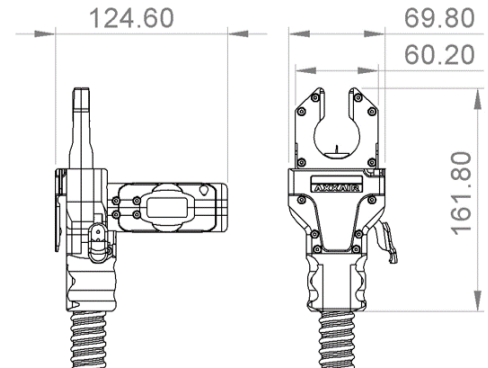


**Tool for disassembling the machine, adjust/change the electrode and position the jaws**

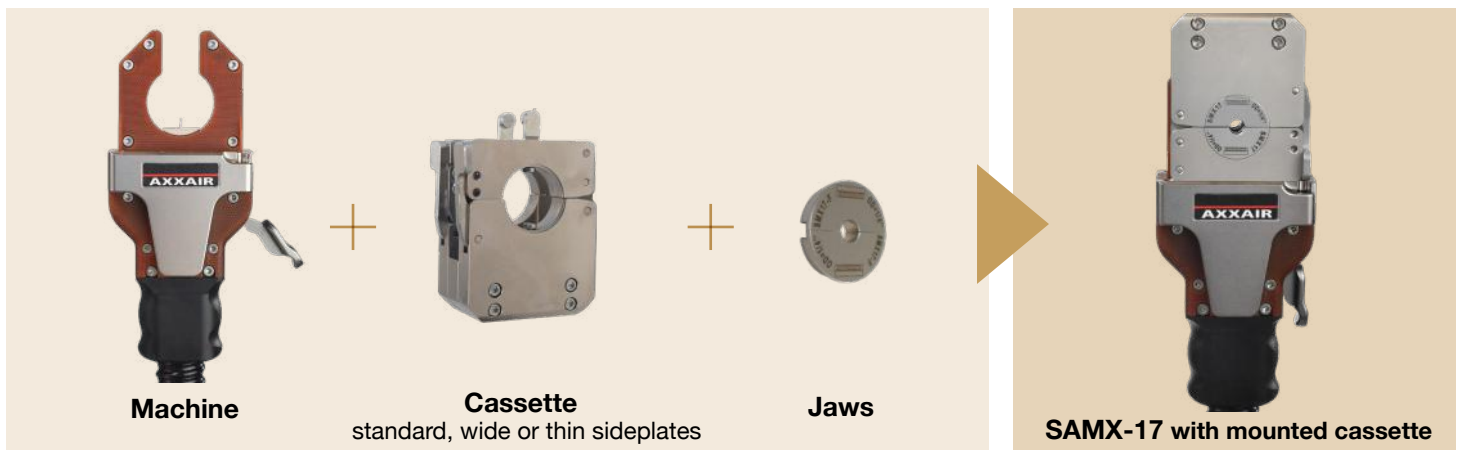


## Technical characteristics

<b>Product code</b>	SAMX-17
<b>Description</b>	Microfit closed welding head with 8m cable
<b>Tube diameter (min - max)</b>	ø 3 - ø 17,2 mm (1/8" to 5/8")
<b>Electrode diameter</b>	Ø1.0 mm (0,04")
<b>Weight with cable</b>	5,5 kg
<b>Duty cycle at 50%</b>	70A
<b>Duty cycle at 40%</b>	80A
<b>Maximum welding current</b>	100 A
<b>Dimensions</b>	see on the right
<b>Operating temperature</b>	0C° to +40C° (32°F to 104°F)



## Complete composition of a microfit closed head SAMX17

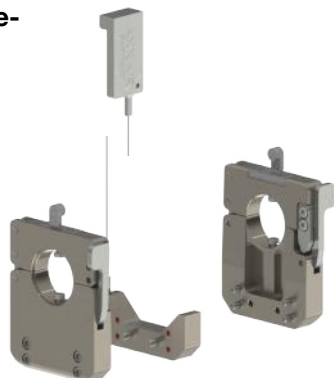


### MODULAR CASSETTES

Designed to adapt to various configurations of parts to be welded, they are made of nickel-treated aluminum, which ensures lightness and high electrical conductivity.

A cassette consists of **2 sideplates and a central body** (common to all sideplates).

**3 types of sideplates** are available (**standard, wide and thin**) and can be combined according to the configuration of the parts to be welded.



### SPECIFIC JAWS

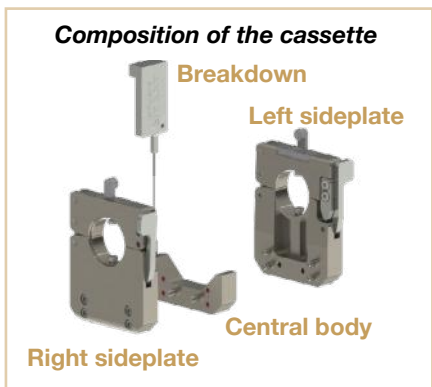
Each model of sideplates has its own references of jaws corresponding to the specificities of the parts to be welded.

All AXXAIR clamping jaws are made of stainless steel.

The tubes are thus neither polluted nor deformed.



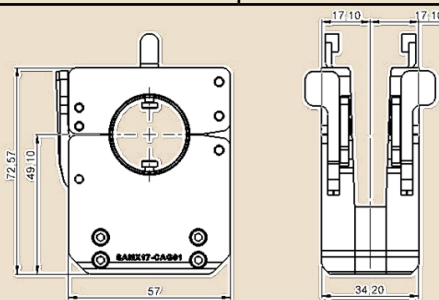
# Standard Cassette & Sideplates



## Standard cassette SAMX

Description	Product code
Standard Cassette SAMX Tube-Tube (complet kit)	SAMX17-CA01
Standard right sideplate	SAMX17-CAD01
Standard left sideplate	SAMX17-CAG01
Standard central body SXMF (common to all siteplates)	SXMF17-CAM01

Recommended standard cassette set for your microfit welds. Subsequently, the thin or wide sideplates can be ordered for specific welds.



## Jaws for standard siteplates

Product code Ø in inches		Product code Ø in mm	
SMX17-03.175	1/8	SMX17-03	3.00
SMX17-04.763	3/16	SMX17-04	4.00
SMX17-06.35	1/4	SMX17-05	5.00
SMX17-07.938	5/16	SMX17-06	6.00
SMX17-09.525	3/8	SMX17-08	8.00
SMX17-12.70	1/2	SMX17-09	9.00
SMX17-14.287	9/16	SMX17-10	10.00
SMX17-15.875	5/8	SMX17-11	11.00
<b>These jaws (sold by 2) are compatible only with the standard siteplates</b>		SMX17-12	12.00
		SMX17-14	14.00
		SMX17-15	15.00
		SMX17-16	16.00
		SMX17-17.2	17.20



Minimal straight length of the tube: 0.689" (17.5 mm)

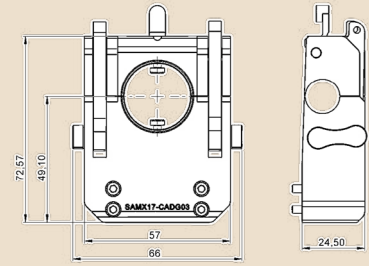
# Cassettes - Wide Sideplate



Wide sideplate (right and left)

## Wide sideplate for SAMX

Description	Product code
Wide sideplate (right and left)	SAMX17-CADG03
Standard central body SXMF (common to all sideplates)	SXMF17-CAM01

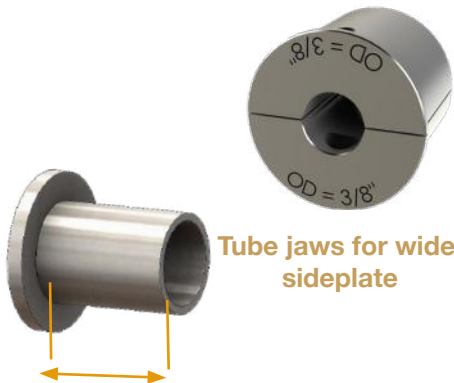


\* An adaptation kit for old cassettes is available (contact us).

## Tube jaws for wide sideplate

Product code	Ø in inches	Product code	Ø in mm
SMX17-LT03.175	1/8	SMX17-LT03	3.00
SMX17-LT06.35	1/4	SMX17-LT06	6.00
SMX17-LT09.525	3/8	SMX17-LT08	8.00
SMX17-LT12.70	1/2	SMX17-LT10	10.00
SMX17-LT15.875	5/8	SMX17-LT12	12.00

**These jaws (sold by 2) are compatible only with the wide sideplates**



Tube jaws for wide sideplate

Minimal straight length of the welding piece: 1.189" (30.20 mm)

## Fitting jaws for wide sideplate

Product code	Fitting body size	Fitting type
SMX17-LRA	1/8 in, 1/4 in 6 mm	Body Union Elbow  or
SMX17-LRB	3/8 in 8 mm 10 mm	Body Union Tee  or
SMX17-LRC	1/2 in 12 mm	Body Union Cross

Fitting jaws for wide sideplate

# Cassettes - Thin sideplates



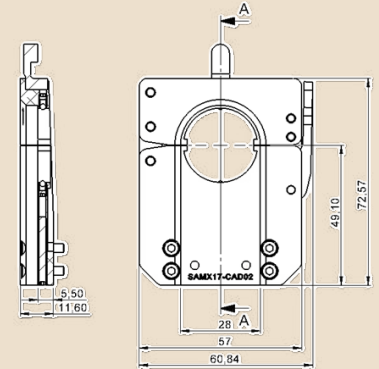
Left thin sideplate



Right thin sideplate

## Thin sideplates

Description	Product code
Right thin sideplate	SAMX17-CAD02
Left thin sideplate	SAMX17-CAG02
Standard central body SXMF (common to all sideplates)	SXMF17-CAM01



\* An adaptation kit for old cassettes is available (contact us).

It is possible to order the entire cassette assembly or only the right or left sideplates with the center body for a customized configuration.



Jaws for thin sideplate



## Jaws for thin sideplates

Product code	Ø in inches	Product code	Ø in mm
SMX17-F03.175	1/8	SMX17-F03	3.00
SMX17-F06.35	1/4	SMX17-F06	6.00
SMX17-F09.525	3/8	SMX17-F08	8.00
SMX17-F12.70	1/2	SMX17-F12	12.00

**These jaws (sold by 2) are only compatible with the thin sideplates**



Minimal straight length of the tube: 0.5" (12.70 mm)

## Accessories - SAMX 17



### Cable extension

Product code	Length	Net weight
SAFS-05MAX	5m	7 kg
SAFS-10MAX	10m	14 kg

The SAMX-17 machines is delivered with a cable of 8 meters

To increase the operating distance between the welding head and the SXXX power source, we offer cable extensions.

We strongly advise to be limited to one extension per head.

## Consumables - SAMX 17



### Electrodes for SAMX-17

Product code	Outside diameter of the tube to be welded		Electrode length
	min (mm)	max (mm)	
SCE10-14.0	13,4	17,3	14.0 mm
SCE10-16.0	9,4	13,8	16.0 mm
SCE10-18.0	5,4	9,8	18.0 mm
SCE10-20.0	2,0	5,8	20.0 mm

- Electrode diameter of 0.040" (1,02mm) with the length adapted to the tube diameter.

- Sold per pack of 10

# Orbital welding : Closed heads



Our new range of closed SATFX welding heads enables you to achieve high quality welds in a minimal space.

Orbital welding with a closed head is done by a **simple fusion without additional wire feeding**. Consequently, these heads are recommended for welding **thin tubes of many types of stainless steel** with thicknesses of less than 3 mm.

SATFX heads are also indispensable for welding other nickel or titanium based alloys which are very sensitive to oxidation and are used when an installation with an impeccable resistance to chemicals or heat is required.



The new SATFX heads have been designed to meet the needs of our customers who are often confronted with the most demanding welding specifications.

The protective atmosphere provided by the closed heads permits welding in an inerting chamber. This results in **welds with very minimal discoloration and perfectly clean weld beads**.

This type of equipment is used in **industrial sectors sensitive to hygienic conditions** such as aeronautics, semi-conductors, pharmaceuticals as well as food and beverage processing.

The narrow width of the head makes it ideal for construction sites where only a small amount of straight sections are in demand. However, these welding heads are also used in workshops and clean rooms.

The SATFX range, coupled with our SAXX welding power supplies and their continuous monitoring of welding parameters, guarantee **repeatable welds of high quality**. This type of weld passes the most strenuous tests, such as X-ray inspection.

\*contact us for more information

## FLEXIBILITY, PRODUCTIVITY



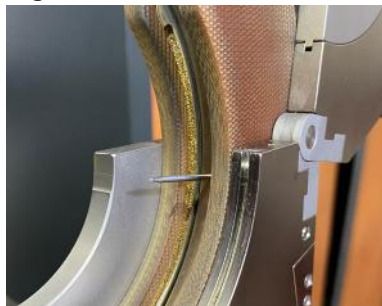
Productivity remains our top priority. The liquid cooling circuit has been optimized to allow for **greater heat evacuation** and thus:

- increases the service life of the SATFX
- guarantees a substantial welding output. The operating current at 100% is **100 A**.



## QUALITY AND REPEATABILITY

A homogeneous diffusion of the inert gas, high quality materials and special component processing, a grease-free operation, easy maintenance and cleaning plus numerous configurations make the SATFX range the ideal response to the requirements of high-tech industries.



They allow for intense, versatile and long-lasting usage on your construction sites and in your workshops.

## INNOVATION : GLOBAL PROCESS 2 in 1

The SATFX closed welding heads can easily be transformed into a cassette machine. The cassette allows for easy placement on the parts to be welded in confined areas. Welding without tacking is possible under certain conditions.\*



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!



# SATFX-52 - 76 - 115



**High protection** against arcing outside the electrode

**Power drive system with encoder:** allows starting in all angular positions of the electrode

**Water cooling** of the electrode holder and aluminium flanges.

**Standard stainless steel jaws** for quick assembly without tools.



**Wide aluminium jaws** for optimal machine stability when welding accessories.

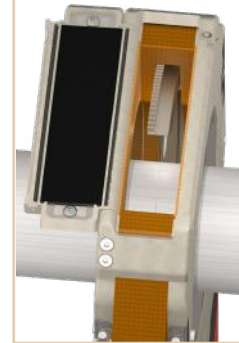
**Illuminated logo** on each side

Operating **without grease:** compatible with clean room standards.

Length of the cable: **8 meters**



**Large pivoting window with welding glass** to check the electrode alignment after tightening the two frames.



The welding glass (shade10) allows to observe the weld and protect the operator's eyes.

**Closing system with adjustable force without tools.** Allows precise adjustment of the force of the jaws on the tube to be welded and helps opening after welding.

Perfect gas protection in the welding head.

Optimized handling: **Ergonomic design with soft touch compound areas** and overall **weight greatly reduced.**

**4 stainless steel remote control buttons.**

## Global Process : 2 in 1

**Cassettes** for welding in confined areas.

Easy positioning of the cassette on the parts to be welded before fixing the central body of the head.



These heads are delivered in a water- and dustproof **suitcase** and with a **suspension assembly.**



## Welding range

SATFX-52	∅ 6 - ∅ 52 mm 0.25 - 2 "
SATFX-76	∅ 6 - ∅ 77 mm 0.25 - 3 "
SATFX-115	∅ 12 - ∅ 115 mm 0.5 - 4.5 "



# SATFX-52 - 76 - 115



## Technical characteristics:

Maximum welding current	150 A
100% duty cycle	100 A

These closed heads are designed for orbital butt TIG welding of tubes, tubes-elbows, tube-ferrules, tubes-T, tubes-fittings and others in a fully inerted closed chamber.

The SATFX heads are driven by the AXXAIR orbital welding power sources of the SAXX range.

**Integral water cooling** of the heads and new treatment of the aluminium parts offering a better electrical and thermal conductivity.

The double cooling of the rotor and the head body is essential to guarantee a **good lifespan of the parts** by minimizing the effects of expansion deformation.

**Illuminated logo** on each side of the head : it allows to visualize if the power source is turned on or off and if the machine is in a welding cycle or not.



When the power source is powered on and the head connected, the light is on steady. When the machine is welding, the indicator light flashes.



**4 stainless steel remote control buttons:** Start/stop, gas purging, rotation of the rotor in one direction and rotation in the other direction.

Regardless of the starting position during welding, the rotor automatically returns to the open position of the rotor so that the welded parts can be removed easily.

## Ergonomic design:

Ergonomic handle with soft touch overmolding that brings the hand closer to the center of gravity of the head, providing unparalleled handling comfort.

## Maintenance :

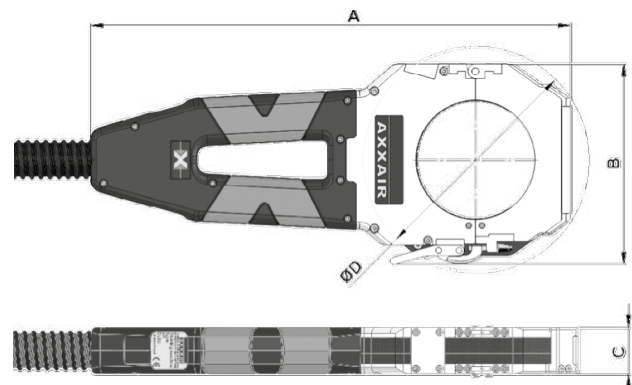
All rotation axes and toggle clamps can easily be changed.



**Cleaning:** A single hexagonal wrench allows the machine to be disassembled in a few minutes to clean the interior, without having to empty the head's coolant circuit.

**Gas diffusion:** more direct gas supply through two sintered bronze semi-circular bunds. This allows a trouble-free distribution and flow, even with a high gas flow rate and without blowing out the arc.

Max flow rate: 60l/min



**Thickness of 37.6 mm:** possibility to weld with the stainless steel jaws standard microfitting fittings or other accessories with a straight part of 19.1 mm.

Product Code	Description	Tube welding machine for the following diameters	Net weight with cable	Dimensions A x B x C in mm	Dimensions D
SATFX-52	Water-cooled closed head with <b>8m cable</b> for SAXX welding power sources	ø 6 - ø 52 mm	8.6 kg	375 x 142 x 37,6	ø 160 mm
SATFX-76		ø 6 - ø 77 mm	8.9 kg	399 x 166 x 37,6	ø 187 mm
SATFX-115		ø 12 - ø 115 mm	9.4 kg	439 x 206 x 37,6	ø 242 mm

## Accessories - Cassettes

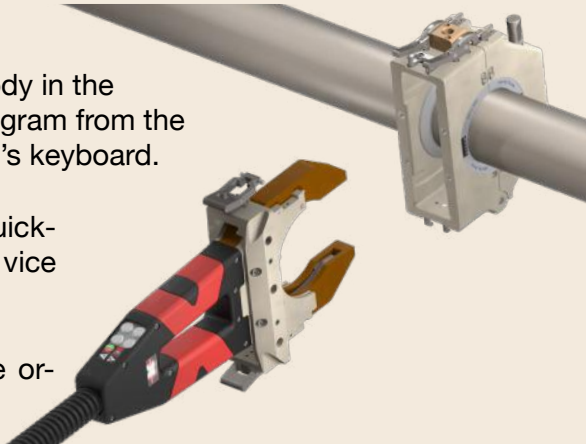
### Global Process 2 in 1

These cassettes are intended to be mounted on the closed welding heads of the SATFX range. They allow the operator to perform welds in a cramped and restrictive environment, where it is difficult to operate these welding machines.

When the cassette is in place on the tubes or accessories to be welded, the operator only has to fix the machine body in the cassette and then start the welding program from the power supply or from the welding head's keyboard.

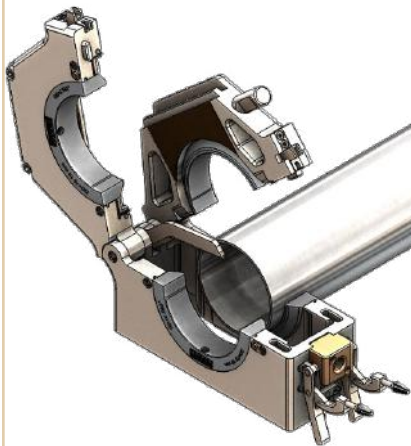
**Flexibility:** The SATFX heads can be quickly converted to cassette machines and vice versa.

Please note that the cassettes can be ordered later on.



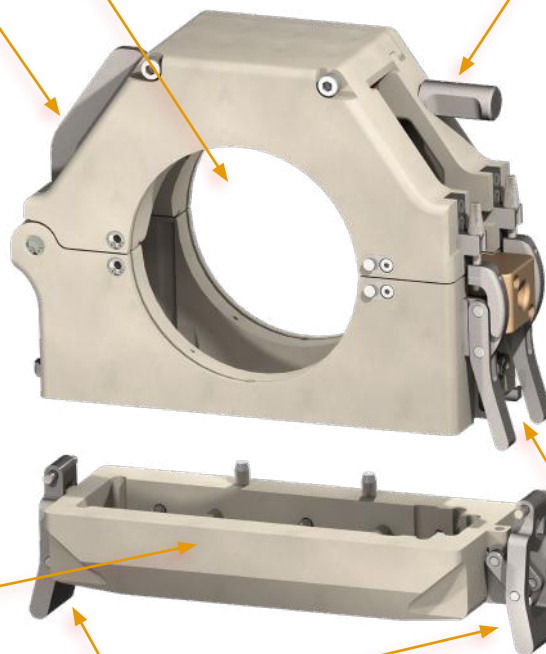
Thin and wide clamping jaws can be used.

**Stop blade** for placing the cassette on a single tube or accessory and tacking with the SATFX head.



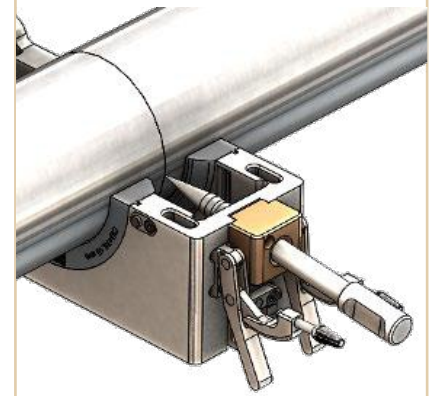
Interface to be fixed on the welding head.

Cassette clamping lever on machine.



**Positioning pen** for placing the cassette on two tubes or accessories in line, already tacked.

The tip of the pen represents the tip of the electrode.



The cassettes benefit from the same **closing system with adjustable force without tools** that allows precise adjustment of the jaw force on the tube to be welded and assists opening after welding.

# Accessories - Cassettes



Product Code	Description	Net weight	Packaging (in cm)
SATFX52-CA01	Cassette for SATFX-52	2,3 kg	30 x 30 x 15
Cassette to be mounted on the SATFX-52 closed welding head for welding in <b>confined spaces</b> . Easy positioning of the cassette on the parts to be welded before fixing the central body of the head.			
✓ SATFX-52	SATFX-76		SATFX-115

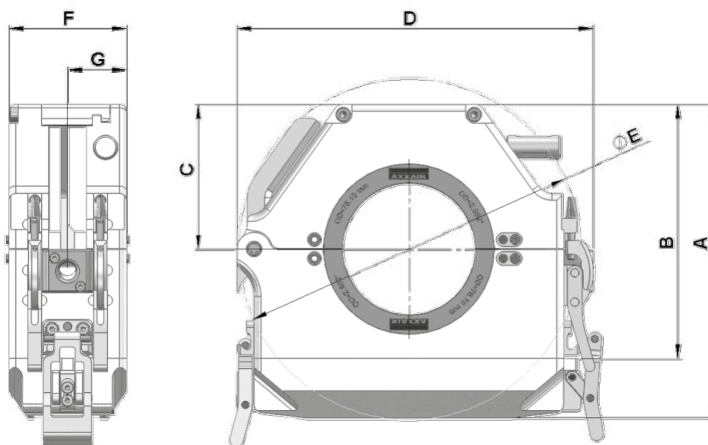


Product Code	Description	Net weight	Packaging (in cm)
SATFX76-CA01	Cassette for SATFX-76	2,7 kg	30 x 30 x 15
Cassette to be mounted on the SATFX-76 closed welding head for welding in <b>confined spaces</b> . Easy positioning of the cassette on the parts to be welded before fixing the central body of the head.			
SATFX-52	✓ SATFX-76		SATFX-115



Product Code	Description	Net weight	Packaging (in cm)
SATFX115-CA01	Cassette for SATFX-115	3,5kg	30 x 30 x 15
Cassette to be mounted on the SATFX-115 closed welding head for welding in <b>confined spaces</b> . Easy positioning of the cassette on the parts to be welded before fixing the central body of the head.			
SATFX-52	SATFX-76		✓ SATFX-115

	SATFX52-CA01	SATFX76-CA01	SATFX115-CA01
<b>A</b>	158	182	222,5
<b>B</b>	123,5	147,5	188
<b>C</b>	72	84	104
<b>D</b>	182,5	206,5	246,5
<b>ØE</b>	175	199	238
<b>F</b>	68,1	68,1	68,1
<b>G</b>	34,05	34,05	34,05



## Accessories



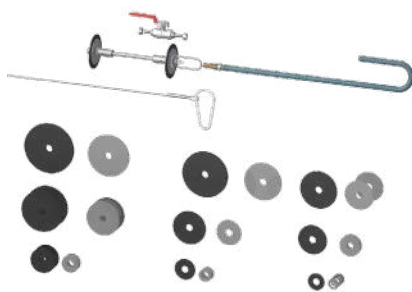
Product Code	Description	Net weight	Packaging (in cm)
SATFX-SUP	Machine support	1.39 kg	20 x 20 x 20

This modular support allows the installation of the machine on all possible types of support (workbench, barrier, etc...).

✓ SATFX-52

✓ SATFX-76

✓ SATFX-115



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.*

✓ SATFX-52

✓ SATFX-76

✓ SATFX-115



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.*

✓ SATFX-52

✓ SATFX-76

✓ SATFX-115



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

In order to guarantee the proper functioning of the machine, a **maximum length of 20m of extension or a maximum quantity of 2 extension cables** is recommended. For a higher need, please consult us.

Cooling and use	Length	Product Code	Net weight	Dimensions (AxBxC in mm)
WATER - WITHOUT WIRE	5 metres	<b>SAFS-05MX</b>	7 kg	40 x 59 x 25
	10 metres	<b>SAFS-10MX</b>	14 kg	40 x 59 x 25

✓ SATFX-52

✓ SATFX-76

✓ SATFX-115



## Thin clamping jaws, thickness 8 mm, stainless steel

A set of thin clamping jaws consists of **four half-shells** machined to the outside diameter of the tube.

For Machine	Product Code	Net weight	Packaging (plastic)
SATFX-52	SMN052-xx	Depending on the tube $\varnothing$	7.5 x 8 x 3 cm
SATFX-76	SMN076-xx	Depending on the tube $\varnothing$	11 x 11.5 x 3 cm
SATFX-115	SMN115-xx	Depending on the tube $\varnothing$	17 x 18 x 3 cm

To order the jaws, replace xx with the outside diameter of the tube you want to weld.

Example: A set of jaws for clamping a tube with an outside diameter of  $\varnothing$  38.10 mm = SMN052-38.1

✓ SATFX-52

✓ SATFX-76

✓ SATFX-115



## Wide clamping jaws, thickness 22 mm, aluminium

One set of wide jaws consists of **two half shells** machined to the external diameter of the tube.

For Machine	Product Code	Net weight	Packaging (plastic)
SATFX-52	SML052-xx	Depending on the tube $\varnothing$	7.5 x 8 x 3 cm
SATFX-76	SML076-xx	Depending on the tube $\varnothing$	11 x 11.5 x 3 cm
SATFX-115	SML115-xx	Depending on the tube $\varnothing$	17 x 18 x 3 cm

To order the jaws, replace xx with the outside diameter of the tube you want to weld.

Example: A set of jaws for clamping a tube with an outside diameter of  $\varnothing$  38.10 mm = SML052-38.1

✓ SATFX-52

✓ SATFX-76

✓ SATFX-115



## Clamping jaws adaptation spacers, thickness 8 mm, stainless steel

A set of spacers consists of **four half-shells** machined to the outside shape of the jaws concerned. It allows you to use the jaws of a machine of lower capacity.

For Machine	Jaws that you can use	Product code	Net weight	Packaging (plastic)
SATFX-76	SATF-40NDHX	SMN076-ET40	0.5 kg	7.5 x 8 x 3 cm
	SATFX-52	SMN076-ET52	0.4 kg	7.5 x 8 x 3 cm
SATFX-115	SATF-40NDHX	SMN115-ET40	1.7 kg	7.5 x 8 x 3 cm
	SATFX-52	SMN115-ET52	1.2 kg	7.5 x 8 x 3 cm
	SATF-65NDHX	SMN115-ET65	1.0 kg	11 x 11.5 x 3 cm
	SATFX-76	SMN115-ET76	0.9 kg	11 x 11.5 x 3 cm

Example: With the spacer SMN115-ET76, you can use the jaws of the head SATFX-76 with the SATFX-115.

✓ SATFX-52

✓ SATFX-76

✓ SATFX-115

AXXAIR also offers adaptation spacers for jaws from other manufacturers. For further information, please contact us.

## Accessories

### Elbow Flanges

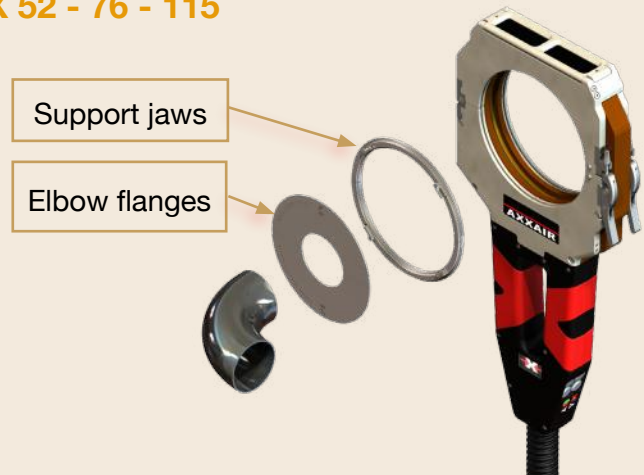
In order to fit various configurations of parts to be welded, AXXAIR offers flanges with a perfect shape for your elbows.

The use of these elbow flanges allows an optimized gas protection while avoiding the use of tape and the cleaning of the elbow after welding.

#### Use with SATFX 52 - 76 - 115

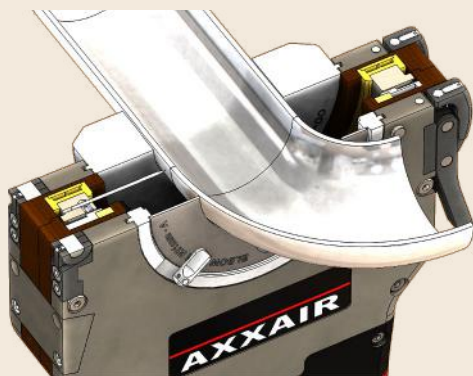
For welding your elbow-tube with a closed head, you will need:

- the specific elbow flange support jaws (2 half-shells) for your machine
- Elbow flanges (2 half-shells) for each outer diameter and radius of your elbow to be welded



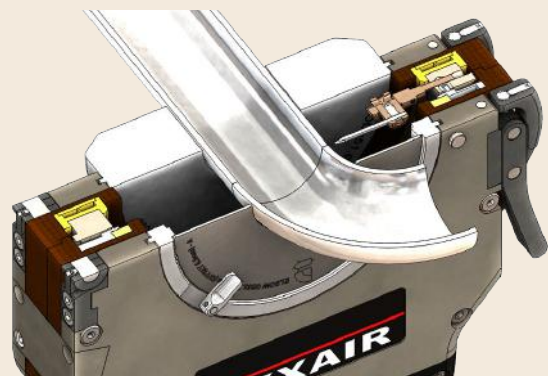
The use of the SSEDX offset electrode support may be required depending on the configuration of the elbow to be welded (in the following product code table, the SSEDX column shows whether the accessories is needed or not).

#### Standard configuration



Welding axis aligned with the machine

#### Configuration with offset electrode holder required



Offset welding axis with regards to the machine/head

See the following «accessories» part for more details on the SSEDX offset electrode holder.

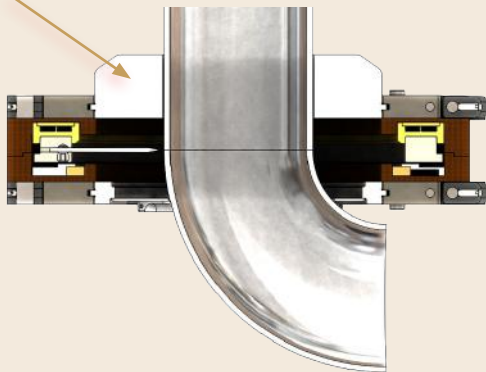
# Accessories

## Elbow Flanges

### Tube end

It is recommended to use wide clamping jaws (2 half-shells) to ensure a better hold of the closed head on the tube-elbow to be welded and already tacked.

Wide clamping jaws



### Elbow end

The elbow flanges rotate in order to give flexibility and to fit perfectly your different configurations and welding postures.

Elbow flange rotation on their support



### Elbow flange support, thickness 10.6 mm, stainless steel

A set of elbow flange support jaws is made of 2 thin half-shells.



For Machine	Product Code	Net Weight	Packaging (plastic)
SATFX-52	SMN052-SFLAX	0.088 kg	10 x 10 x 2.5 cm
SATFX-76	SMN076-SFLAX	0.118 kg	12.5 x 12.5 x 2.5 cm
SATFX-115	SMN115-SFLAX	0.168 kg	16 x 16 x 2.5 cm

These jaws have to be used with elbow flanges depending on elbow to be welded dimensions (OD and radius)

✓ SATFX-52

✓ SATFX-76

✓ SATFX-115

# Accessories

## Elbow Flanges



OD mm	R mm	SATFX-52	SATFX-76	SATFX-115	SSEDX
6	19	21AAA00-19A	31AAA00-19A		✓
12	26	21ACI00-26A	31ACI00-26A	41ACI00-26A	✓
12,7	19,05	21ACP00-19,05A	31ACP00-19,05A	41ACP00-19,05A	✓
12,7	28,58	21ACP00-28,58A	31ACP00-28,58A	41ACP00-28,58A	✓
12,7	38,1	21ACP00-38,1	31ACP00-38,1	41ACP00-38,1	
12,7	304,8	21ACP00-304,8	31ACP00-304,8	41ACP00-304,8	
13	26	21ACS00-26A	31ACS00-26A	41ACS00-26A	✓
13,5	20	21ACX00-20A	31ACX00-20A	41ACX00-20A	✓
13,5	21	21ACX00-21A	31ACX00-21A	41ACX00-21A	✓
13,7	20	21ACZ00-20A	31ACZ00-20A	41ACZ00-20A	✓
17,2	25	21AEI00-25A	31AEI00-25A	41AEI00-25A	✓
17,2	30	21AEI00-30A	31AEI00-30A	41AEI00-30A	✓
17,3	37,5	21AEJ00-37,5	31AEJ00-37,5	41AEJ00-37,5	
18	23	21AEQ00-23A	31AEQ00-23A	41AEQ00-23A	✓
18	27	21AEQ00-27A	31AEQ00-27A	41AEQ00-27A	✓
18	35	21AEQ00-35	31AEQ00-35	41AEQ00-35	
19	35	21AFA00-35	31AFA00-35	41AFA00-35	
19,05	28,6	21AFA01-28,6A	31AFA01-28,6A	41AFA01-28,6A	✓
19,05	38,1	21AFA01-35,1	31AFA01-38,1	41AFA01-38,1	
19,05	304,8	21AFA01-304,8	31AFA01-304,8	41AFA01-304,8	
20	26	21AFK00-26A	31AFK00-26A	41AFK00-26A	✓
20	30	21AFK00-30A	31AFK00-30A	41AFK00-30A	✓
21	25	21AFU00-25A	31AFU00-25A	41AFU00-25A	✓
21,3	28	21AFX00-28A	31AFX00-28A	41AFX00-28A	✓
21,3	27	21AFX00-27A	31AFX00-27A	41AFX00-27A	✓
21,3	31,95	21AFX00-31,95A	31AFX00-31,95A	41AFX00-31,95A	✓
21,3	38	21AFX00-38	31AFX00-38	41AFX00-38	
21,3	38,1	21AFX00-38,1	31AFX00-38,1	41AFX00-38,1	
21,3	45	21AFX00-45	31AFX00-45	41AFX00-45	
21,7	38,1	21AGB00-38,1	31AGB00-38,1	41AGB00-38,1	
22	40	21AGE00-40	31AGE00-40	41AGE00-40	
23	26	21AGO00-26A	31AGO00-26A	41AGO00-26A	✓
23	30	21AGO00-30A	31AGO00-30A	41AGO00-30A	✓
23	34,5	21AGO00-34,5	31AGO00-34,5	41AGO00-34,5	
23	40	21AGO00-40	31AGO00-40	41AGO00-40	
23	60	21AGO00-60	31AGO00-60	41AGO00-60	
25	30	21AHI00-30A	31AHI00-30A	41AHI00-30A	✓
25	33	21AHI00-33A	31AHI00-33A	41AHI00-33A	✓
25	37	21AHI00-37	31AHI00-37	41AHI00-37	
25	37,5	21AHI00-37,5	31AHI00-37,5	41AHI00-37,5	
25	38	21AHI00-38	31AHI00-38	41AHI00-38	
25	38,1	21AHI00-38,1	31AHI00-38,1	41AHI00-38,1	
25	65	21AHI00-65	31AHI00-65	41AHI00-65	
25,4	27,5	21AHM00-27,5A	31AHM00-27,5A	41AHM00-27,5A	✓
25,4	35	21AHM00-35A	31AHM00-35A	41AHM00-35A	✓
25,4	38,1	21AHM00-38,1	31AHM00-38,1	41AHM00-38,1	
25,4	52,37	21AHM00-52,37	31AHM00-52,37	41AHM00-52,37	
25,4	304,8	21AHM00-304,8	31AHM00-304,8	41AHM00-304,8	
25,4	609,6	21AHM00-609,6	31AHM00-609,6	41AHM00-609,6	
26	30	21AHS00-30A	31AHS00-30A	41AHS00-30A	✓
26,7	28	21AHZ00-28A	31AHZ00-28A	41AHZ00-28A	✓
26,7	28,6	21AHZ00-28,6A	31AHZ00-28,6A	41AHZ00-28,6A	✓



# Accessories

## Elbow Flanges



OD mm	R mm	SATFX-52	SATFX-76	SATFX-115	SSEDX
26,7	38	21AHZ00-38	31AHZ00-38	41AHZ00-38	
26,7	38,1	21AHZ00-38,1	31AHZ00-38,1	41AHZ00-38,1	
26,9	28	21AIB00-28A	31AIB00-28A	41AIB00-28A	✓
26,9	28,5	21AIB00-28,5A	31AIB00-28,5A	41AIB00-28,5A	✓
26,9	29	21AIB00-29A	31AIB00-29A	41AIB00-29A	✓
26,9	38	21AIB00-38	31AIB00-38	41AIB00-38	
26,9	40,35	21AIB00-40,35	31AIB00-40,35	41AIB00-40,35	
26,9	57	21AIB00-57	31AIB00-57	41AIB00-57	
27,2	28,6	21AIE00-28,6A	31AIE00-28,6A	41AIE00-28,6A	✓
27,2	38,1	21AIE00-38,1	31AIE00-38,1	41AIE00-38,1	
28	31,8	21AIM00-31,8A	31AIM00-31,8A	41AIM00-31,8A	✓
28	37	21AIM00-37	31AIM00-37	41AIM00-37	
28	42	21AIM00-42	31AIM00-42	41AIM00-42	
28	50	21AIM00-50	31AIM00-50	41AIM00-50	
28	80	21AIM00-80	31AIM00-80	41AIM00-80	
29	50	21AIW00-50	31AIW00-50	41AIW00-50	
29	60	21AIW00-60	31AIW00-60	41AIW00-60	
30	33,5	21AJG00-33,5A	31AJG00-33,5A	41AJG00-33,5A	✓
30	38	21AJG00-38	31AJG00-38	41AJG00-38	
30	45	21AJG00-45	31AJG00-45	41AJG00-45	
31,75	47,63	21AJX01-47,63	31AJX01-47,63	41AJX01-47,63	
32	35	21AKA00-35A	31AKA00-35A	41AKA00-35A	✓
32	43	21AKA00-43	31AKA00-43	41AKA00-43	
32	48	21AKA00-48	31AKA00-48	41AKA00-48	
33	45	21AKK00-45	31AKK00-45	41AKK00-45	
33	49,5	21AKK00-49,5	31AKK00-49,5	41AKK00-49,5	
33	90	21AKK00-90	31AKK00-90	41AKK00-90	
<b>33,4</b>	<b>25,4</b>				
33,4	38,1	21AKO00-38,1A	31AKO00-38,1A	41AKO00-38,1A	✓
33,4	38	21AKO00-38A	31AKO00-38A	41AKO00-38A	✓
33,7	38	21AKR00-38A	31AKR00-38A	41AKR00-38A	✓
33,7	50,55	21AKR00-50,55	31AKR00-50,55	41AKR00-50,55	
33,7	72	21AKR00-72	31AKR00-72	41AKR00-72	
34	38,1	21AKU00-38,1A	31AKU00-38,1A	41AKU00-38,1A	✓
34	51	21AKU00-51	31AKU00-51	41AKU00-51	
34	55	21AKU00-55	31AKU00-55	41AKU00-55	
35	50	21ALE00-50	31ALE00-50	41ALE00-50	
35	52,5	21ALE00-52,5	31ALE00-52,5	41ALE00-52,5	
35	55	21ALE00-55	31ALE00-55	41ALE00-55	
35	70	21ALE00-70	31ALE00-70	41ALE00-70	
38	45	21AMI00-45	31AMI00-45	41AMI00-45	
38	52	21AMI00-52	31AMI00-52	41AMI00-52	
38	56	21AMI00-56	31AMI00-56	41AMI00-56	
38	57	21AMI00-57	31AMI00-57	41AMI00-57	
38	57,2	21AMI00-57,2	31AMI00-57,2	41AMI00-57,2	
38	105	21AMI00-105	31AMI00-105	41AMI00-105	
38,1	45	21AMJ00-45	31AMJ00-45	41AMJ00-45	
38,1	50	21AMJ00-50	31AMJ00-50	41AMJ00-50	
38,1	57,15	21AMJ00-57,15	31AMJ00-57,15	41AMJ00-57,15	
38,1	57,2	21AMJ00-57,2	31AMJ00-57,2	41AMJ00-57,2	
38,1	57,3	21AMJ00-57,3	31AMJ00-57,3	41AMJ00-57,3	
38,1	74,6	21AMJ00-74,6	31AMJ00-74,6	41AMJ00-74,6	

# Accessories

## Elbow Flanges



OD mm	R mm	SATFX-52	SATFX-76	SATFX-115	SSEDX
38,1	304,8	21AMJ00-304,8	31AMJ00-304,8	41AMJ00-304,8	
38,1	457,2	21AMJ00-457,2	31AMJ00-457,2	41AMJ00-457,2	
38,1	609,6	21AMJ00-609,6	31AMJ00-609,6	41AMJ00-609,6	
38,1	914,4	21AMJ00-914,4	31AMJ00-914,4	41AMJ00-914,4	
40	60	21ANC00-60	31ANC00-60	41ANC00-60	
41	60	21ANM00-60	31ANM00-60	41ANM00-60	
41	82	21ANM00-82	31ANM00-82	41ANM00-82	
42,1	31,8				
42,2	31,8				
42,2	47	21ANY00-47	31ANY00-47	41ANY00-47	
42,2	47,6	21ANY00-47,6	31ANY00-47,6	41ANY00-47,6	
42,4	47	21AOA00-47	31AOA00-47	41AOA00-47	
42,4	47,6	21AOA00-47,6	31AOA00-47,6	41AOA00-47,6	
42,4	48	21AOA00-48	31AOA00-48	41AOA00-48	
42,4	63,6	21AOA00-63,6	31AOA00-63,6	41AOA00-63,6	
42,4	93	21AOA00-93	31AOA00-93	41AOA00-93	
43	64,5	21AOG00-64,5	31AOG00-64,5	41AOG00-64,5	
43	70	21AOG00-70	31AOG00-70	41AOG00-70	
43	120	21AOG00-120	31AOG00-120	41AOG00-120	
44,5	51	21AOV00-51	31AOV00-51	41AOV00-51	
44,5	64,5	21AOV00-64,5	31AOV00-64,5	41AOV00-64,5	
44,5	66	21AOV00-66	31AOV00-66	41AOV00-66	
44,5	120	21AOV00-120	31AOV00-120	41AOV00-120	
48,1	38,1	21AQF00-38,1A	31AQF00-38,1A	41AQF00-38,1A	✓
48,3	38,1	21AQH00-38,1A	31AQH00-38,1A	41AQH00-38,1A	✓
48,3	57	21AQH00-57	31AQH00-57	41AQH00-57	
48,3	57,1	21AQH00-57,1	31AQH00-57,1	41AQH00-57,1	
48,3	57,2	21AQH00-57,2	31AQH00-57,2	41AQH00-57,2	
48,3	64,15	21AQH00-64,15	31AQH00-64,15	41AQH00-64,15	
48,3	72,45	21AQH00-72,45	31AQH00-72,45	41AQH00-72,45	
48,3	108	21AQH00-108	31AQH00-108	41AQH00-108	
48,6	57,2	21AQK00-57,2	31AQK00-57,2	41AQK00-57,2	
50	75	21AQY00-75	31AQY00-75	41AQY00-75	
50,8	60	21ARG00-60	31ARG00-60	41ARG00-60	
50,8	67,5	21ARG00-67,5	31ARG00-67,5	41ARG00-67,5	
50,8	76,2	21ARG00-76,2	31ARG00-76,2	41ARG00-76,2	
50,8	103,17	21ARG00-103,17	31ARG00-103,17	41ARG00-103,17	
50,8	304,8	21ARG00-304,8	31ARG00-304,8	41ARG00-304,8	
50,8	457,2	21ARG00-457,2	31ARG00-457,2	41ARG00-457,2	
50,8	609,6	21ARG00-609,6	31ARG00-609,6	41ARG00-609,6	
50,8	914,4	21ARG00-914,4	31ARG00-914,4	41ARG00-914,4	
50,8	1219,2	21ARG00-1219,2	31ARG00-1219,2	41ARG00-1219,2	
51	51		31ARI00-51	41ARI00-51	
51	63	21ARI00-63	31ARI00-63	41ARI00-63	
51	67,5	21ARI00-67,5	31ARI00-67,5	41ARI00-67,5	
51	75	21ARI00-75	31ARI00-75	41ARI00-75	
51	76	21ARI00-76	31ARI00-76	41ARI00-76	
51	76,2	21ARI00-76,2	31ARI00-76,2	41ARI00-76,2	
51	76,5	21ARI00-76,5	31ARI00-76,5	41ARI00-76,5	
52	69	21ARS00-69	31ARS00-69	41ARS00-69	
52	70	21ARS00-70	31ARS00-70	41ARS00-70	
52	75	21ARS00-75	31ARS00-75	41ARS00-75	

# Accessories

## Elbow Flanges



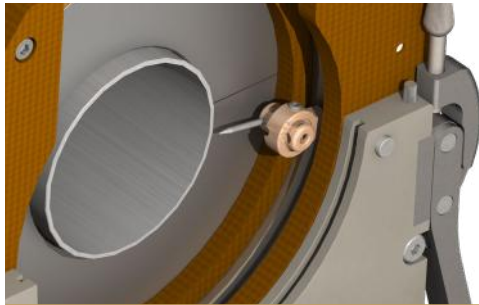
OD mm	R mm	SATFX-52	SATFX-76	SATFX-115	SSEDX
52	78	21ARS00-78	31ARS00-78	41ARS00-778	
53	70		31ASC00-70	41ASC00-70	
53	75		31ASC00-75	41ASC00-75	
53	79,5		31ASC00-79,5	41ASC00-79,5	
53	106		31ASC00-106	41ASC00-106	
53	150		31ASC00-150	41ASC00-150	
54	54		31ASM00-54	41ASM00-54	
54	68,5		31ASM00-68,5	41ASM00-68,5	
54	70		31ASM00-70	41ASM00-70	
54	75		31ASM00-75	41ASM00-75	
54	150		31ASM00-150	41ASM00-150	
56	77		31ATG00-77	41ATG00-77	
57	72		31ATQ00-72	41ATQ00-72	
60,3	50,8		31AUX00-50,8A	41AUX00-50,8A	✓
60,3	76		31AUX00-76	41AUX00-76	
60,3	76,1		31AUX00-76,1	41AUX00-76,1	
60,3	76,2		31AUX00-76,2	41AUX00-76,2	
60,3	80		31AUX00-80	41AUX00-80	
60,3	90,45		31AUX00-90,45	41AUX00-90,45	
60,3	135		31AUX00-135	41AUX00-135	
63	95		31AVY00-95	41AVY00-95	
63,5	79		31AWD00-79	41AWD00-79	
63,5	82,5		31AWD00-82,5	41AWD00-82,5	
63,5	90		31AWD00-90	41AWD00-90	
63,5	94,5		31AWD00-94,5	41AWD00-94,5	
63,5	95,25		31AWD00-95,25	41AWD00-95,25	
63,5	131,75		31AWD00-131,75	41AWD00-131,75	
63,5	304,8		31AWD00-304,8	41AWD00-304,8	
63,5	457,2		31AWD00-457,2	41AWD00-457,2	
63,5	609,6		31AWD00-609,6	41AWD00-609,6	
63,5	914,4		31AWD00-914,4	41AWD00-914,4	
64	180		31AWI00-180	41AWI00-180	
70	80		31AYQ00-80	41AYQ00-80	
70	92		31AYQ00-92	41AYQ00-92	
70	95		31AYQ00-95	41AYQ00-95	
70	97,5		31AYQ00-97,5	41AYQ00-97,5	
70	105		31AYQ00-105	41AYQ00-105	
70	130		31AYQ00-130	41AYQ00-130	
70	140		31AYQ00-140	41AYQ00-140	
71	97,5		31AZA00-97,5	41AZA00-97,5	
73	63,5		31AZU00-63,5	41AZU00-63,5	
73	95		31AZU00-95	41AZU00-95	
73	95,3		31AZU00-95,3	41AZU00-95,3	
73	109,5		31AZU00-109,5	41AZU00-109,5	
74	140		31BAE00-140	41BAE00-140	
76	114		31BAY00-114	41BAY00-114	
76,1	95		31BAZ00-95	41BAZ00-95	
76,1	96		31BAZ00-96	41BAZ00-96	
76,1	114		31BAZ00-114	41BAZ00-114	
76,1	114,15		31BAZ00-114,15	41BAZ00-114,15	
76,1	175		31BAZ00-175	41BAZ00-175	
76,2	114,3		31BBA00-114,3	41BBA00-114,3	

# Accessories

## Elbow Flanges



OD mm	R mm	SATFX-52	SATFX-76	SATFX-115	SSEDX
76,2	160,32		31BBA00-160,32	41BBA00-160,32	
76,2	304,8		31BBA00-304,8	41BBA00-304,8	
76,2	457,2		31BBA00-457,2	41BBA00-457,2	
76,2	609,6		31BBA00-609,6	41BBA00-609,6	
76,2	914,4		31BBA00-914,4	41BBA00-914,4	
76,2	1219,2		31BBA00-1219,2	41BBA00-1219,2	
76,3	82		31BBB00-82	41BBB00-82	
84	120			41BEA00-120	
84	126			41BEA00-126	
84	160			41BEA00-160	
85	90			41BEK00-90	
86	126			41BEU00-126	
88,9	76,2			41BFX00-76,2	
88,9	114			41BFX00-114	
88,9	114,3			41BFX00-114,3	
88,9	114,5			41BFX00-114,5	
88,9	205			41BFX00-205	
101,6	88,9			41BKU00-88,9	
101,6	110			41BKU00-110	
101,6	114,3			41BKU00-114,3	
101,6	133			41BKU00-133	
101,6	133,4			41BKU00-133,4	
101,6	133,5			41BKU00-133,5	
101,6	134,5			41BKU00-134,5	
101,6	150			41BKU00-150	
101,6	152			41BKU00-152	
101,6	152,4			41BKU00-152,4	
101,6	211,12			41BKU00-211,12	
101,6	304,8			41BKU00-304,8	
101,6	457,2			41BKU00-457,2	
101,6	609,6			41BKU00-609,6	
101,6	914,4			41BKU00-914,4	
101,6	1219,2			41BKU00-1219,2	
104	100			41BLS00-100	
104	110			41BLS00-110	
104	140			41BLS00-140	
104	150			41BLS00-150	
104	152			41BLS00-152	
104	200			41BLS00-200	
106	150			41BMM00-150	
108	142,5			41BNG00-142,5	
114,3	101,6			41BPR00-101,6	
114,3	152			41BPR00-152	
114,3	152,4			41BPR00-152,4	
114,3	152,5			41BPR00-152,5	
114,3	270			41BPR00-270	



✓ SATFX-52

Product Code	Description	Net weight	Dimensions
<b>SSEDX</b>	Offset electrode support	0.008 kg	150 x 210 mm

**Remote** electrode holder for  $\varnothing 1.6$  mm and  $\varnothing 2.4$ mm electrodes:

The SSEDX accessory allows a lateral displacement of 2 to 6.5mm from the original position which allows for the welding of short elbows for example.

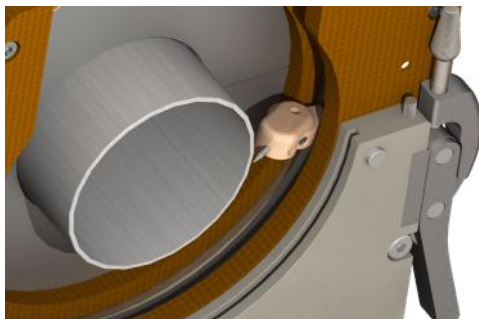
If you use this system, the usable diameter range of the tube is reduced:

Machine	$\varnothing$ min	$\varnothing$ max
SATFX-52	6 mm	43 mm
SATFX-76	6 mm	67 mm
SATFX-115	12 mm	107 mm

See consumables to find the electrodes required for its use.

✓ SATFX-76

✓ SATFX-115



✓ SATFX-52

Product Code	Description	Net weight	Dimensions
<b>SSEIX</b>	Inclined electrode holder	0.015 kg	150 x 210 mm

**Inclined** electrode holder for  $\varnothing 1.6$  mm and  $\varnothing 2.4$ mm electrodes:

The SSEIX accessory allows the electrode to be tilted from  $0^\circ$  to  $45^\circ$ , which makes it possible to produce angle welds (flange welds or other accessories).

If you use this system, the usable diameter range of the tube is reduced:

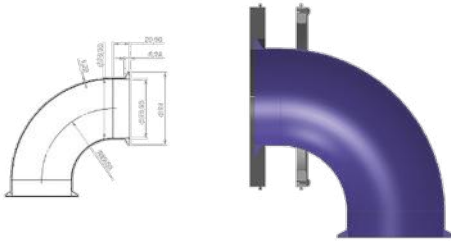
Machine	$\varnothing$ min	$\varnothing$ max
SATFX-52	6 mm	28 mm
SATFX-76	6 mm	52 mm
SATFX-115	12 mm	92 mm

See consumables to find the electrodes required for its use.

✓ SATFX-76

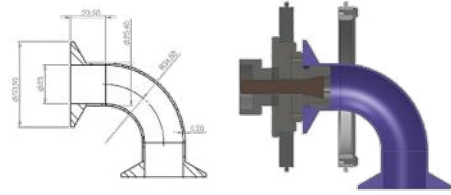
✓ SATFX-115

## Accessories on request



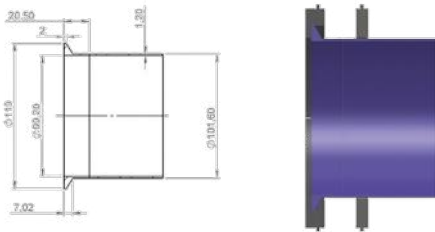
### Ferrule – elbow – ferrule configuration (large diameter)

- Elbow end: adaptor jaws + gas protection side plates in stainless steel
- Ferrule end: special jaws



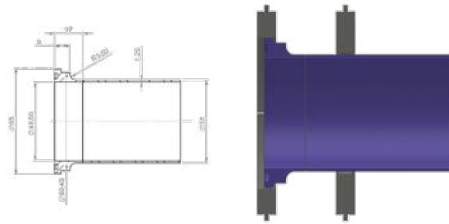
### Ferrule – elbow – ferrule configuration (small diameter)

- Elbow end: adaptor jaws + gas protection side plates in stainless steel
- Ferrule end: special jaws



### Tube – ferrule configuration

- Tube end: standard jaws
- Ferrule end: special jaws



### Tube – connector configuration

- Tube end: standard jaws
- Connector end: special jaws

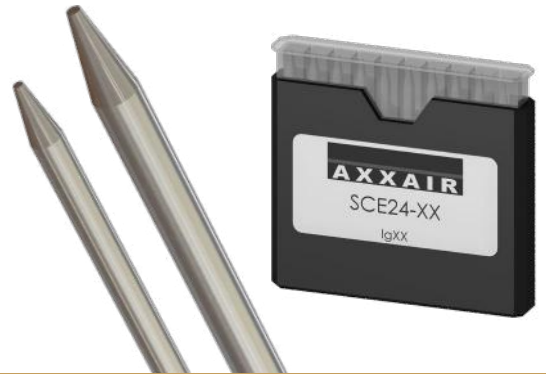
For any other specific requirements, please do not hesitate to contact us to examine the solutions that we can provide!



# Consumables

Our electrodes are specifically sharpened to 20° with a flat. This increases the service life of the electrodes.

We offer pre-cut electrodes to cover the entire clamping range of the head without damaging the rotary system. The electrode must be selected according to the outer diameter of the tube to be welded.



## Electrodes for SATFX-52

Tube OD / ø of the Tube	Electrode Product Code ø1.6	Electrode Product Code ø2.4	Electrode length in mm
06 – 11,5 mm	SCE16-48	SCE24-48	48.0
11,5 – 18,5 mm	SCE16-44.5	SCE24-44.5	44.5
18,5 – 25,5 mm	SCE16-41	SCE24-41	41.0
25,5 – 32,5 mm	SCE16-37.5	SCE24-37.5	37.5
32,5 – 39,5 mm	SCE16-34	SCE24-34	34.0
39,5 – 46,5 mm	SCE16-30.5	SCE24-30.5	30.5
46,5 – 52 mm	SCE16-27	SCE24-27	27.0

✓ SATFX-52

SATFX-76

SATFX-115

## Electrodes for SATFX-76

Tube OD / ø of the Tube	Electrode Product Code ø1.6	Electrode Product Code ø2.4	Electrode length in mm
06 – 7,5 mm	SCE16-62	SCE24-62	62.0
7,5 – 14,5 mm	SCE16-58.5	SCE24-58.5	58.5
14,5 – 21,5 mm	SCE16-55	SCE24-55	55.0
21,5 – 28,5 mm	SCE16-51.5	SCE24-51.5	51.5
28,5 – 35,5 mm	SCE16-48	SCE24-48	48.0
35,5 – 42,5 mm	SCE16-44.5	SCE24-44.5	44.5
42,5 – 49,5 mm	SCE16-41	SCE24-41	41.0
49,5 – 56,5 mm	SCE16-37.5	SCE24-37.5	37.5
56,5 – 63,5 mm	SCE16-34	SCE24-34	34.0
63,5 – 70,5 mm	SCE16-30.5	SCE24-30.5	30.5
70,5 – 77 mm	SCE16-27	SCE24-27	27.0

SATFX-52

✓ SATFX-76

SATFX-115



### Electrodes for SATFX-115

Tube OD / ø of the Tube	Electrode Product Code ø1.6	Electrode Product Code ø2.4	Electrode length in mm
12 – 19,5 mm	SCE16-76	SCE24-76	76.0
19,5 – 26,5 mm	SCE16-72.5	SCE24-72.5	72.5
26,5 – 33,5 mm	SCE16-69	SCE24-69	69.0
33,5 – 40,5 mm	SCE16-65.5	SCE24-65.5	65.5
40,5 – 47,5 mm	SCE16-62	SCE24-62	62.0
47,5 – 54,5 mm	SCE16-58.5	SCE24-58.5	58.5
54,5 – 61,5 mm	SCE16-55	SCE24-55	55.0
61,5 – 68,5 mm	SCE16-51.5	SCE24-51.5	51.5
68,5 – 75,5 mm	SCE16-48	SCE24-48	48.0
75,5 – 82,5 mm	SCE16-44.5	SCE24-44.5	44.5
82,5 – 89,5 mm	SCE16-41	SCE24-41	41.0
89,5 – 96,5 mm	SCE16-37.5	SCE24-37.5	37.5
96,5 – 103,5 mm	SCE16-34	SCE24-34	34.0
103,5 – 110,5 mm	SCE16-30.5	SCE24-30.5	30.5
110,5 – 115 mm	SCE16-27	SCE24-27	27.0

SATFX-52

SATFX-76

✓ SATFX-115



# Consumables

## Electrodes when using the accessory SSEDX



**SSEDX : Remote** electrode holder for  $\varnothing 1.6$  mm and  $\varnothing 2.4$  mm electrodes.

If you use this system, the usable diameter range of the tube is reduced.



### Electrodes for SATFX-52 when using the accessory SSEDX

Tube OD / $\varnothing$ of the Tube	Electrode Product Code $\varnothing 1.6$	Electrode Product Code $\varnothing 2.4$	Electrode length
06 - 13 mm	SCE16-27	SCE24-27	27.0 mm
09 - 16 mm	SCE16-25.5	SCE24-25.5	25.5 mm
11 - 18 mm	SCE16-24.5	SCE24-24.5	24.5 mm
16 - 23 mm	SCE16-22	SCE24-22	22.0 mm
18 - 25 mm	SCE16-21	SCE24-21	21.0 mm
20 - 27 mm	SCE16-20	SCE24-20	20.0 mm
22 - 29 mm	SCE16-19	SCE24-19	19.0 mm
23 - 30 mm	SCE16-18.5	SCE24-18.5	18.5 mm
24 - 31 mm	SCE16-18	SCE24-18	18.0 mm
25 - 32 mm	SCE16-17.5	SCE24-17.5	17.5 mm
30 - 37 mm	SCE16-15	SCE24-15	15.0 mm
36 - 43 mm	SCE16-12	SCE24-12	12.0 mm

### Electrodes for SATFX-76 when using the accessory SSEDX

Tube OD / $\varnothing$ of the Tube	Electrode Product Code $\varnothing 1.6$	Electrode Product Code $\varnothing 2.4$	Electrode length
06 - 09 mm	SCE16-41	SCE24-41	41.0 mm
09 - 16 mm	SCE16-37.5	SCE24-37.5	37.5 mm
16 - 23 mm	SCE16-34	SCE24-34	34.0 mm
23 - 30 mm	SCE16-30.5	SCE24-30.5	30.5 mm
30 - 37 mm	SCE16-27	SCE24-27	27.0 mm
33 - 40 mm	SCE16-25.5	SCE24-25.5	25.5 mm
35 - 42 mm	SCE16-24.5	SCE24-24.5	24.5 mm
40 - 47 mm	SCE16-22	SCE24-22	22.0 mm
42 - 49 mm	SCE16-21	SCE24-21	21.0 mm
44 - 51 mm	SCE16-20	SCE24-20	20.0 mm

# Consumables

## Electrodes when using the accessory SSEDX

### Electrodes for SATFX-76 when using the accessory SSEDX

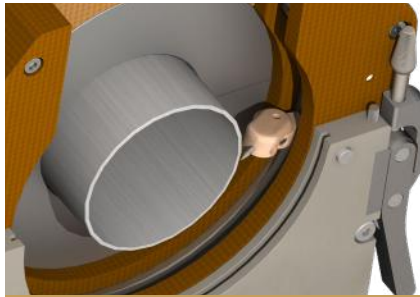
Tube OD / $\varnothing$ of the Tube	Electrode Product Code $\varnothing$ 1.6	Electrode Product Code $\varnothing$ 2.4	Electrode length
46 - 53 mm	SCE16-19	SCE24-19	19.0 mm
47 - 54 mm	SCE16-18.5	SCE24-18.5	18.5 mm
48 - 55 mm	SCE16-18	SCE24-18	18.0 mm
49 - 56 mm	SCE16-17.5	SCE24-17.5	17.5 mm
54 - 61 mm	SCE16-15	SCE24-15	15.0 mm
60 - 67 mm	SCE16-12	SCE24-12	12.0 mm
SATFX-52		✓ SATFX-76	SATFX-115

### Electrodes for SATFX-115 when using the accessory SSEDX

Tube OD / $\varnothing$ of the Tube	Electrode Product Code $\varnothing$ 1.6	Electrode Product Code $\varnothing$ 2.4	Electrode length
12 - 14 mm	SCE16-58.5	SCE24-58.5	58.5 mm
14 - 21 mm	SCE16-55	SCE24-55	55.0 mm
21 - 28 mm	SCE16-51.5	SCE24-51.5	51.5 mm
28 - 35 mm	SCE16-48	SCE24-48	48.0 mm
35 - 42 mm	SCE16-44.5	SCE24-44.5	44.5 mm
42 - 49 mm	SCE16-41	SCE24-41	41.0 mm
49 - 56 mm	SCE16-37.5	SCE24-37.5	37.5 mm
56 - 63 mm	SCE16-34	SCE24-34	34.0 mm
63 - 70 mm	SCE16-30.5	SCE24-30.5	30.5 mm
70 - 77 mm	SCE16-27	SCE24-27	27.0 mm
73 - 80 mm	SCE16-25.5	SCE24-25.5	25.5 mm
75 - 82 mm	SCE16-24.5	SCE24-24.5	24.5 mm
80 - 87 mm	SCE16-22	SCE24-22	22.0 mm
82 - 89 mm	SCE16-21	SCE24-21	21.0 mm
84 - 91 mm	SCE16-20	SCE24-20	20.0 mm
86 - 93 mm	SCE16-19	SCE24-19	19.0 mm
87 - 94 mm	SCE16-18.5	SCE24-18.5	18.5 mm
88 - 95 mm	SCE16-18	SCE24-18	18.0 mm
89 - 96 mm	SCE16-17.5	SCE24-17.5	17.5 mm
94 - 101 mm	SCE16-15	SCE24-15	15.0 mm
100 - 107 mm	SCE16-12	SCE24-12	12.0 mm
SATFX-52		SATFX-76	✓ SATFX-115

# Consumables

## Electrodes when using the accessory SSEIX



**SSEIX : Inclined** electrode holder for  $\phi 1.6$  mm and  $\phi 2.4$  mm electrodes.

If you use this system, the usable diameter range of the tube is reduced.



### Electrodes for SATFX-52 when using the accessory SSEIX

Tube OD / $\phi$ of the Tube 0° inclined	Tube OD / $\phi$ of the Tube 15° inclined	Tube OD / $\phi$ of the Tube 30° inclined	Tube OD / $\phi$ of the Tube 45° inclined	Electrode Product Code $\phi 1.6$	Electrode Product Code $\phi 2.4$	Electrode length
-	-	-	6,00 - 12,61 mm	SCE16-27	SCE24-27	27 mm
-	-	-	7,73 - 14,73 mm	SCE16-25.5	SCE24-25.5	25,5 mm
-	-	-	9,14 - 16,14 mm	SCE16-24.5	SCE24-24.5	24,5 mm
-	-	-	12,68 - 19,68 mm	SCE16-22	SCE24-22	22 mm
-	-	6,00 - 12,38 mm	14,09 - 21,09 mm	SCE16-21	SCE24-21	21 mm
-	-	7,11 - 14,11 mm	15,50 - 22,50 mm	SCE16-20	SCE24-20	20 mm
-	-	8,85 - 15,85 mm	16,92 - 23,92 mm	SCE16-19	SCE24-19	19 mm
-	-	9,71 - 16,71 mm	17,63 - 24,63 mm	SCE16-18.5	SCE24-18.5	18,5 mm
-	6,00 - 12,70 mm	10,58 - 17,58 mm	18,33 - 25,33 mm	SCE16-18	SCE24-18	18 mm
6,00 - 12,50 mm	6,67 - 13,67 mm	11,44 - 18,44 mm	19,04 - 26,04 mm	SCE16-17.5	SCE24-17.5	17,5 mm
10,50 - 17,50 mm	11,50 - 18,50 mm	15,77 - 22,77 mm	22,58 - 29,58 mm	SCE16-15	SCE24-15	15 mm
16,5 - 23,5 mm	17,29 - 24,29 mm	20,97 - 27,97 mm	26,82 - 33,82 mm	SCE16-12	SCE24-12	12 mm

✓ SATFX-52

SATFX-76

SATFX-115

For special application only - Outside standard machine template

For application with jaws for flanges only

# Consumables

## Electrodes when using the accessory SSEIX

### Electrodes for SATFX-76 when using the accessory SSEIX

Tube OD / ø of the Tube 0° inclined	Tube OD / ø of the Tube 15° inclined	Tube OD / ø of the Tube 30° inclined	Tube OD / ø of the Tube 45° inclined	Electrode Product Code ø1.6	Electrode Product Code ø2.4	Electrode length
-	-	-	9,83 - 16,83 mm	SCE16-41	SCE24-41	41 mm
-	-	-	14,78 - 21,78 mm	SCE16-37.5	SCE24-37.5	37,5 mm
-	-	6,89 - 13,89 mm	19,73 - 26,73 mm	SCE16-34	SCE24-34	34 mm
6 - 10,5 mm	6,00 - 12,57 mm	12,95 - 19,95 mm	24,68 - 31,68 mm	SCE16-30.5	SCE24-30.5	30,5 mm
10,5 - 17,5 mm	12,34 - 19,34 mm	19,01 - 26,01 mm	29,63 - 36,63 mm	SCE16-27	SCE24-27	27 mm
13,5 - 20,5 mm	15,23 - 22,23 mm	21,61 - 28,61 mm	31,75 - 38,75 mm	SCE16-25.5	SCE24-25.5	25,5 mm
15,5 - 22,5 mm	17,17 - 24,17 mm	23,34 - 30,34 mm	33,16 - 40,16 mm	SCE16-24.5	SCE24-24.5	24,5 mm
20,5 - 27,5 mm	22,00 - 29,00 mm	27,67 - 34,67 mm	36,70 - 43,70 mm	SCE16-22	SCE24-22	22 mm
22,5 - 29,5 mm	23,93 - 30,93 mm	29,40 - 36,40 mm	38,11 - 45,11 mm	SCE16-21	SCE24-21	21 mm
24,5 - 31,5 mm	25,86 - 32,86 mm	31,13 - 38,13 mm	39,52 - 46,52 mm	SCE16-20	SCE24-20	20 mm
26,5 - 33,5 mm	27,79 - 34,79 mm	32,87 - 39,87 mm	40,94 - 47,94 mm	SCE16-19	SCE24-19	19 mm
27,5 - 34,5 mm	28,76 - 35,76 mm	33,73 - 40,73 mm	41,65 - 48,65 mm	SCE16-18.5	SCE24-18.5	18,5 mm
28,5 - 35,5 mm	29,72 - 36,72 mm	34,60 - 41,60 mm	42,35 - 49,35 mm	SCE16-18	SCE24-18	18 mm
29,5 - 36,5 mm	30,69 - 37,69 mm	35,46 - 42,46 mm	43,06 - 50,06 mm	SCE16-17.5	SCE24-17.5	17,5 mm
34,5 - 41,5	35,52 - 42,52 mm	39,79 - 46,79 mm	46,60 - 53,60 mm	SCE16-15	SCE24-15	15 mm
40,5 - 47,5 mm	41,31 - 48,31 mm	44,99 - 51,99 mm	50,84 - 57,84 mm	SCE16-12	SCE24-12	12 mm
SATFX-52			✓ SATFX-76	SATFX-115		

For special application only - Outside standard machine template

For application with jaws for flanges only

# Consumables

## Electrodes when using the accessory SSEIX

### Electrodes for SATFX-115 when using the accessory SSEIX

Tube OD / ø of the Tube 0° inclined	Tube OD / ø of the Tube 15° inclined	Tube OD / ø of the Tube 30° inclined	Tube OD / ø of the Tube 45° inclined	Electrode Product Code ø1.6	Electrode Product Code ø2.4	Electrode length
-	-	-	20,13 - 27,13 mm	SCE16-62	SCE24-62	62 mm
-	-	-	25,08 - 32,08 mm	SCE16-58.5	SCE24-58.5	58,5 mm
-	-	10,51 - 17,51 mm	30,03 - 37,03 mm	SCE16-55	SCE24-55	55 mm
-	-	16,57 - 23,57 mm	34,98 - 41,98 mm	SCE16-51.5	SCE24-51.5	51,5 mm
12 - 15,5 mm	12,00 - 18,77 mm	22,64 - 29,64 mm	39,93 - 46,93 mm	SCE16-48	SCE24-48	48 mm
15,5 - 22,5 mm	18,53 - 25,53 mm	28,70 - 35,70 mm	44,88 - 51,88 mm	SCE16-44.5	SCE24-44.5	44,5 mm
22,5 - 29,5 mm	25,29 - 32,29 mm	34,76 - 41,76 mm	49,83 - 56,83 mm	SCE16-41	SCE24-41	41 mm
29,5 - 36,5 mm	32,05 - 39,05 mm	40,82 - 47,82 mm	54,78 - 61,78 mm	SCE16-37.5	SCE24-37.5	37,5 mm
36,5 - 43,5 mm	38,81 - 45,81 mm	46,89 - 53,89 mm	59,73 - 66,73 mm	SCE16-34	SCE24-34	34 mm
43,5 - 50,5 mm	45,57 - 52,57 mm	52,95 - 59,95 mm	64,68 - 71,68 mm	SCE16-30.5	SCE24-30.5	30,5 mm
50,5 - 57,5 mm	52,34 - 59,34 mm	59,01 - 66,01 mm	69,63 - 76,63 mm	SCE16-27	SCE24-27	27 mm
53,5 - 60,5 mm	55,23 - 62,23 mm	61,61 - 68,61 mm	71,75 - 78,75 mm	SCE16-25.5	SCE24-25.5	25,5 mm
55,5 - 62,5 mm	57,17 - 64,17 mm	63,34 - 70,34 mm	73,16 - 80,16 mm	SCE16-24.5	SCE24-24.5	24,5 mm
60,5 - 67,5 mm	62,00 - 69,00 mm	67,67 - 74,67 mm	76,70 - 83,70 mm	SCE16-22	SCE24-22	22 mm
62,5 - 69,5 mm	63,93 - 70,93 mm	69,40 - 76,40 mm	78,11 - 85,11 mm	SCE16-21	SCE24-21	21 mm

SATFX-52

SATFX-76

✓ SATFX-115

For special application only - Outside standard machine template

For application with jaws for flanges only

# Consumables

## Electrodes when using the accessory SSEIX

### Electrodes for SATFX-115 when using the accessory SSEIX

Tube OD / ø of the Tube 0° inclined	Tube OD / ø of the Tube 15° inclined	Tube OD / ø of the Tube 30° inclined	Tube OD / ø of the Tube 45° inclined	Electrode Product Code ø1.6	Electrode Product Code ø2.4	Electrode length
64,5 - 71,5 mm	65,86 - 72,86 mm	71,13 - 78,13 mm	79,52 - 86,52 mm	SCE16-20	SCE24-20	20 mm
66,5 - 73,5 mm	67,79 - 74,79 mm	72,87 - 79,87 mm	80,94 - 87,94 mm	SCE16-19	SCE24-19	19 mm
67,5 - 74,5 mm	68,76 - 75,76 mm	73,73 - 80,73 mm	81,65 - 88,65 mm	SCE16-18.5	SCE24-18.5	18,5 mm
68,5 - 75,5 mm	69,72 - 76,72 mm	74,60 - 81,60 mm	82,35 - 89,35 mm	SCE16-18	SCE24-18	18 mm
69,5 - 76,5 mm	70,69 - 77,69 mm	75,46 - 82,46 mm	83,06 - 90,06 mm	SCE16-17.5	SCE24-17.5	17,5 mm
74,5 - 81,5 mm	75,52 - 82,52 mm	79,79 - 86,79 mm	86,60 - 93,60 mm	SCE16-15	SCE24-15	15 mm
80,5 - 87,5 mm	81,31 - 88,31 mm	84,99 - 91,99 mm	90,84 - 97,84 mm	SCE16-12	SCE24-12	12 mm
SATFX-52		SATFX-76		✓ SATFX-115		

For special application only - Outside standard machine template

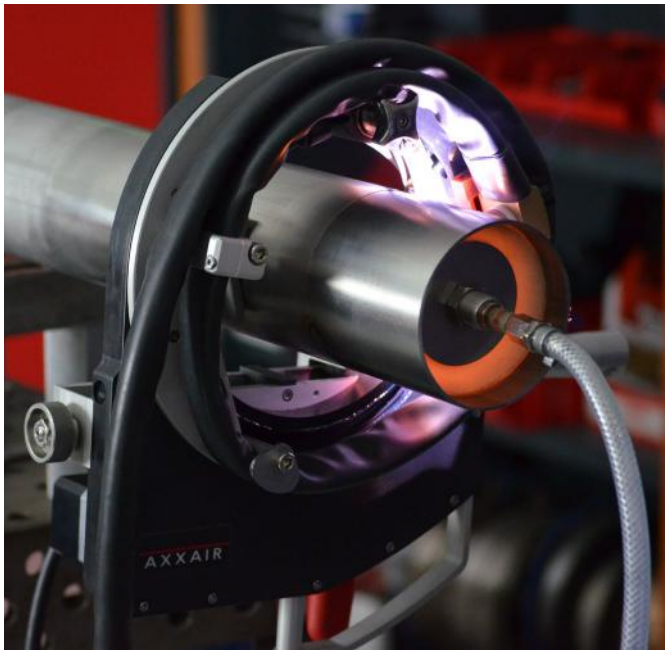
For application with jaws for flanges only

# Orbital welding : Open head

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 a water or air cooled torch .

## FLEXIBILITY, PRODUCTIVITY

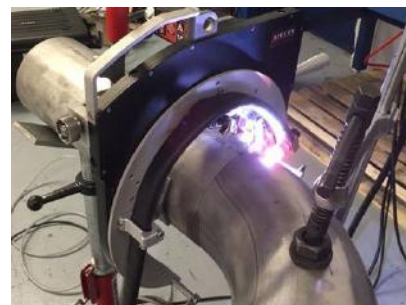
AXXAIR open heads are available with or without filler metal. They have an optimized rotation sweep and 2 positions of feed motor to choose from. High duty cycle (water cooled torch), transport of welding equipment by air (air cooled torch).

## 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 power source.



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!

# Orbital welding

## AIR cooling or WATER cooling?

### Why choose an AIR cooled machine?

Strong demand from construction sites requiring the shipment of the machines as air freight has led us to propose a solution without liquid coolant. The latter may also be suitable for frequent and rough/harsh transport, in order to eliminate any risk of liquid flowing onto the electronic boards.

Since the AIR duty cycle is smaller than that for WATER, it is essential not to exceed the recommendations listed below.

### Why choose a WATER cooled machine?

WATER cooling is the most used for all types of applications.

It is distinguished especially by the fact of being able to realize several consecutive welds.

It significantly improves the duty cycle especially for demanding applications.



Model	100% Duty cycle
SATO-XXE41/42 (WATER)	200 A
SATO-XXE43/44 (AIR)	100 A

Welding machine duty cycle defines the time of use in arc welding and the cooling time required between two welding operations at 40 °C.

*Example: A 70% duty cycle at 150 amps = 7 min max use at 150 amperes + 3 minutes waiting time to restart a welding cycle.*

The duty cycle therefore has a significant impact on the machine use cycle. For applications requiring a high duty cycle, the welding machine must be able to meet these requirements.

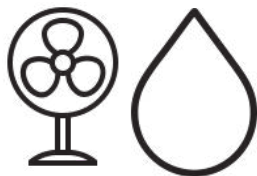
Since AXXAIR hardware is designed to be scalable, it is simple to switch from a water version to an air version.



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

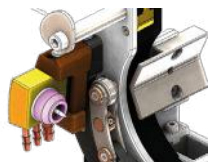


**Air Cooled or Water Cooled**



**Roller mechanical profile tracking**

Constant arc voltage without marking the tube



**Compatible with the SAXX power sources**

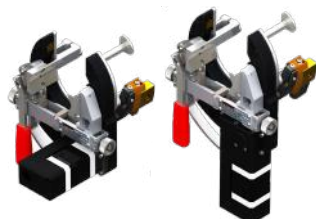


**Transport**

These heads are delivered in their individual transport case



**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

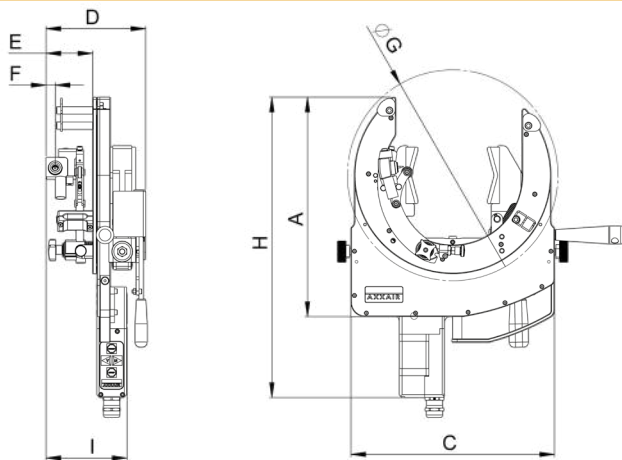


Welding range	
SATO 40	∅ 10 - ∅ 40 mm 0.4- 1.5 "
SATO 80	∅ 19 - ∅ 80 mm 0.75 - 3 "
SATO 115	∅ 19 - ∅ 115 mm 0.75 - 4.5 "
SATO 170	∅ 25 - ∅ 170 mm 1 - 6.625 "
SATO 220	∅ 38 - ∅ 220 mm 1.5 - 8.265 "

## Technical characteristics:

- WATER or AIR 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)

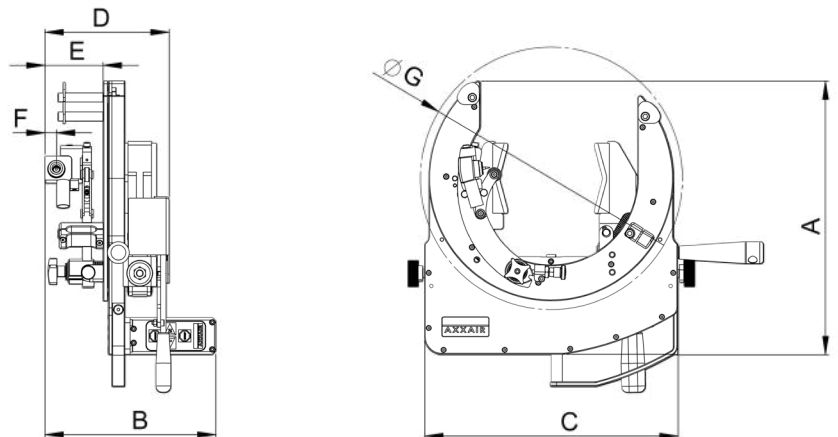


**SATO-xxE42 (water cooled)  
and SATO-xxE44 (air cooled)**

Angled output motor

**SATO-XXE41 (water cooled) and  
SATO-xxE43 (air cooled)**

Straight output motor



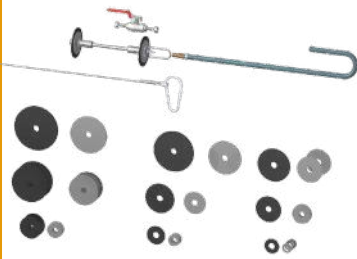
	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm
<b>SATO-40</b>	169	183 to 191	142	116 to 126	57 to 67	13	Ø140	270	113 to 121
<b>SATO- 80</b>	181	186 to 196	160	116 to 126			Ø180	279	
<b>SATO-115</b>	265	186 to 196	230	133 to 143			Ø224	363	
<b>SATO-170</b>	312	186 to 196	290	133 to 143			Ø294	410	
<b>SATO-220</b>	353	186 to 196	350	133 to 143			Ø350	451	

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



Motor	Cooling	Product Code	Welding machine for tubes of the following diameters (in mm)	Net weight	Dimensions (AxBxC in mm)
Angled motor	WATER	SATO-40E42	∅ 10 - ∅ 40 mm	3.8 kg	169 x 183 x 142
		SATO-80E42	∅ 19 - ∅ 80 mm	4.2 kg	181 x 186 x 160
		SATO-115E42	∅ 19 - ∅ 115 mm	6.7 kg	265 x 186 x 230
		SATO-170E42	∅ 25 - ∅ 170 mm	8 kg	312 x 186 x 290
		SATO-220E42	∅ 38 - ∅ 220 mm	9.4 kg	353 x 186 x 350
	AIR	SATO-40E44	∅ 10 - ∅ 40 mm	3.8 kg	169 x 183 x 142
		SATO-80E44	∅ 19 - ∅ 80 mm	4.2 kg	181 x 186 x 160
		SATO-115E44	∅ 19 - ∅ 115 mm	6.7 kg	265 x 186 x 230
		SATO-170E44	∅ 25 - ∅ 170 mm	8 kg	312 x 186 x 290
		SATO-220E44	∅ 38 - ∅ 220 mm	9.4 kg	353 x 186 x 350
Straight Motor	WATER	SATO-40E41	∅ 10 - ∅ 40 mm	3.8 kg	169 x 191 x 142
		SATO-80E41	∅ 19 - ∅ 80 mm	4.2 kg	181 x 196 x 160
		SATO-115E41	∅ 19 - ∅ 115 mm	6.7 kg	265 x 196 x 230
		SATO-170E41	∅ 25 - ∅ 170 mm	8 kg	312 x 196 x 290
		SATO-220E41	∅ 38 - ∅ 220 mm	9.4 kg	353 x 196 x 350
	AIR	SATO-40E43	∅ 10 - ∅ 40 mm	3.8 kg	169 x 191 x 142
		SATO-80E43	∅ 19 - ∅ 80 mm	4.2 kg	181 x 196 x 160
		SATO-115E43	∅ 19 - ∅ 115 mm	6.7 kg	265 x 196 x 230
		SATO-170E43	∅ 25 - ∅ 170 mm	8 kg	312 x 196 x 290
		SATO-220E43	∅ 38 - ∅ 220 mm	9.4 kg	353 x 196 x 350

# Accessories



Product Code	Description	Net weight	Packaging (in cm)
SKIF-01	Gas protection KIT	4.5 kg	35 x 30 x 9.5
<p><u>Gas membrane protection KIT for tubes Ø 40 to 120 mm</u>            - consists of: 9 sets of membranes with washers, 1 gas pipe 6 m,            1 metal cable, 1 ¼ turn gas valve, 1 carabiner</p> <p><i>Inerting the tubes during welding allows more gas savings            as we only inert the area to be welded.</i></p>			
✓ SATO-40E4x	✓ SATO-80E4x	✓ SATO-115E4x	✓ SATO-170E4x
✓ SATO-220E4x			



Product Code	Description	Net weight	Packaging (in cm)
SKIB-01	Gas protection KIT	1.7 kg	35 x 30 x 9.5
<p><u>Gas plug protection KIT for tubes Ø 6 to 41 mm</u>            - Consists of: 10 sets of perforated plugs, 1 gas inlet connector,            1 hose Ø 4/6 length 5 metres</p> <p><i>Facilitates and accelerates inerting. Avoids the use of adhesive paper.</i></p>			
✓ SATO-40E4x	✓ SATO-80E4x	✓ SATO-115E4x	✓ SATO-170E4x
✓ SATO-220E4x			



Product Code	Description	Net weight	Dimensions (in mm)
SATOB-02B	Two axis wire guide	0.05 kg	51 x 90 x 65
<p><u>SATO Two axis wire guide:</u>            - For use with the SAXX power sources</p>			

✓ SATO-40E4x	✓ SATO-80E4x	✓ SATO-115E4x	✓ SATO-170E4x	✓ SATO-220E4x
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Product Code	Description	Net weight	Dimensions (in cm)
SADF2X	Wire dispenser	12 kg	59.7 x 38.4 x 24
<p><u>Wire Dispenser for SAXX-200, duct 5 m max:</u>            - Supplied with the SAXX power supply-connection cable and Teflon duct            to guide the wire            - Drive pressure adjusted by adjustable spring, with handle.</p>			

✓ SATO-40E4x	✓ SATO-80E4x	✓ SATO-115E4x	✓ SATO-170E4x	✓ SATO-220E4x
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## 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)
AIR	WITHOUT WIRE	5 metres	<b>SAFS-05MAX</b>	7 kg	40 x 59 x 25
		10 metres	<b>SAFS-10MAX</b>	14 kg	40 x 59 x 25
	WIRE	5 metres	<b>SAFS-05MAXF</b>	7 kg	40 x 59 x 25
		10 metres	<b>SAFS-10MAXF</b>	14 kg	40 x 59 x 25
WATER	WITHOUT WIRE	5 metres	<b>SAFS-05MX</b>	7 kg	40 x 59 x 25
		10 metres	<b>SAFS-10MX</b>	14 kg	40 x 59 x 25
	WIRE	5 metres	<b>SAFS-05MXF</b>	7 kg	40 x 59 x 25
		10 metres	<b>SAFS-10MXF</b>	14 kg	40 x 59 x 25
✓ SATO-40E4x		✓ SATO-80E4x	✓ SATO-115E4x	✓ SATO-170E4x	✓ SATO-220E4x

# 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



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



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 or 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

# Orbital welding : Tube-to-tube sheet

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

ORBITAL WELDING

**Water Cooled**

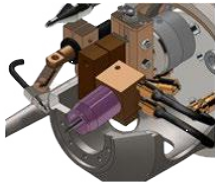


**Wire holder 1 kg**



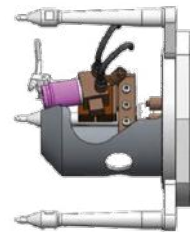
**Tilting head**

Water cooled with tilting wire



**Positioning stops**

Adjustable stops for better tube sheet stability



**Mandrel system**

Concentric tightening from the inside of the tube



**Electric motor with wire feed**

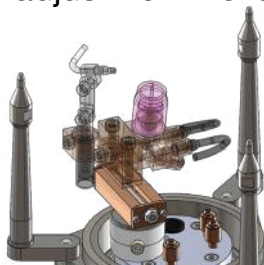


**Compatible with the SAXX power sources**



**Flexibility**

Head and wire adjustment trolley



**Welding range**

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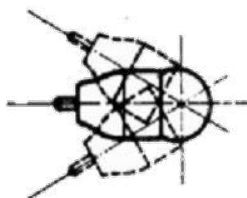
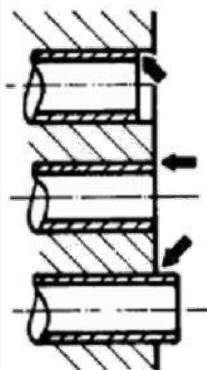
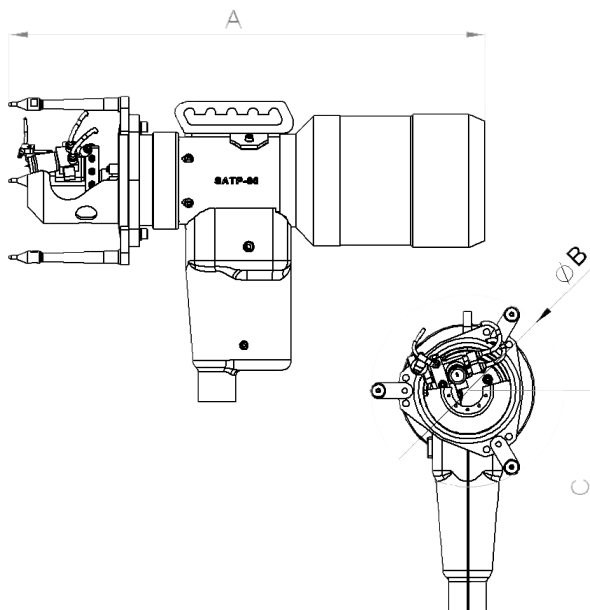
# SATP-80X

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.



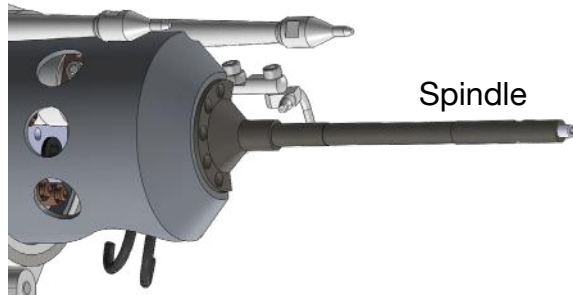
- 3 tube-to-tube sheet welding configurations
- Outside diameter of the straight torch tube: 12 - 82 mm
- External diameter of the tube **if torch tilted at 30 °** : 12 - 40 mm

Product Code	Description	Net weight (Without reel)	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

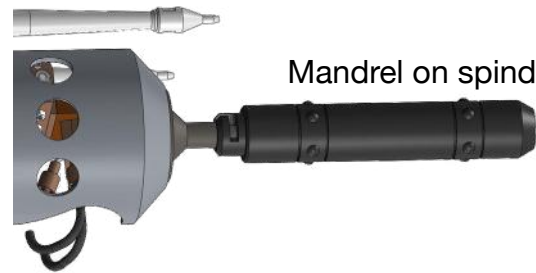
# Accessories

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

## 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

# 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)
SCE24-39.5	Electrodes	0.05 kg	5.5 x 4.5 x 1

Electrodes  $\varnothing$  **2.4 mm**, length 39.5mm for SATP:

- Box of 10 electrodes

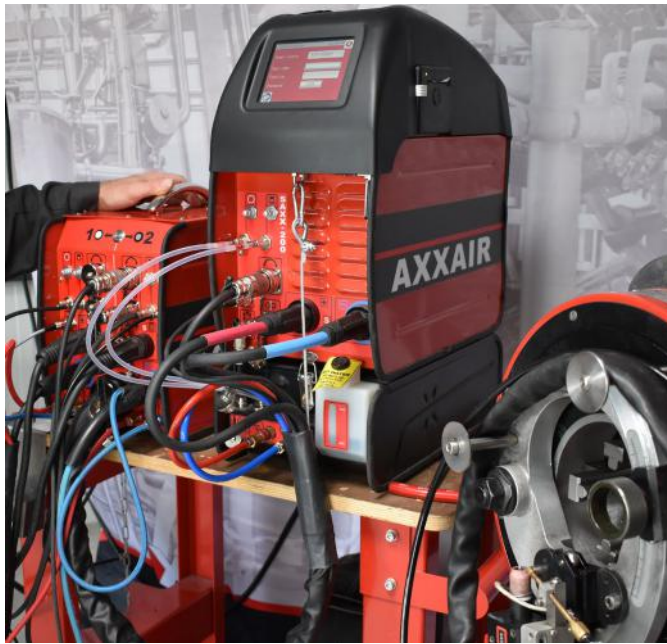
✓ SATP-80X

# Orbital welding : Welding power sources



Our AXXAIR orbital 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 future 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

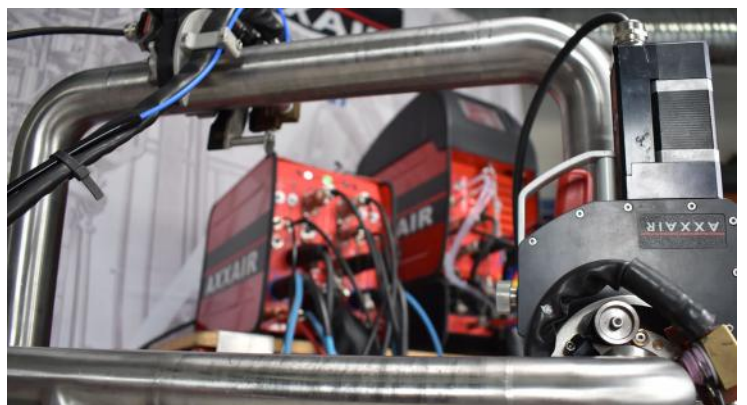
Our latest touch screen interface allows us to make available even the most advanced features in a user friendly and intuitive way.

## 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.



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!

# Orbital welding

## Welding power sources

Since the launch of our orbital welding power sources SAXX in 2017, **WiFi has been offered as an option** to our customers in order to use the «Remote HMI» application (third party application).

Thanks to this application, combined with the WiFi, remote control of the SAXX with a smartphone, computer or tablet becomes possible.

The wifi option also allows **sending and retrieving data from the SAXX** thanks to a remote access to the power source's USB key.

Access to the USB key's content allows:

- **to monitor alarms.**
- **to retrieve data from the acquisition files.**
- **to exchange configuration and programs** from one power source to another power source from the SAXX range.

AXXAIR is **constantly striving to improve the operator's experience** of our customers. This is why we improved our SAXX power sources.

The new generation of SAXX-200, SAXX-210 and SAXX-300 completely moves into the **Industry 4.0** era with a new WiFi module and an Ethernet interface to make the operator's work even more efficient.

### New WiFi module

An improved WiFi module with an external antenna will be offered on the new SAXX versions : SAXX-200, 210 and 300.



On the SAXX-200, the antenna is hidden under the power source's cover. It will be visible on the SAXX-210 and 300.

These improvements allow:

- an increased WiFi operating distance: **up to 100 m** depending on the working environment.\*
- a better WiFi communication: quality and stability of the data transfer.

\*It is important to ensure that there is no obstacle between the SAXX power source and the remote control tool.



### Network interface

From now on, access to the USB key and remote control of the SAXX power sources will also be possible with an **Ethernet network cable**.



All SAXX welding power sources are now equipped as standard with an **Ethernet socket** at the rear of the power sources. It allows **fast connection to an existing computer network** by using a RJ45 of category at least 5 S/STP cable.

In order to operate the SAXX remotely, the «Remote HMI» application is still required. The application is available on App Store, Google Play and Windows.



# SAXX-200



## Fully-assured gas management

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

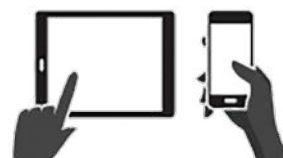
- Gas flow control and flow alarms
- Display of the actual flow rate right on the screen



The ergonomic shape of the power source, the water cooler and the carrying handle make transport easy

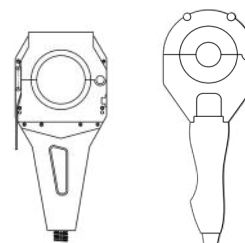
## Interface 5.7 colour touch screen + WiFi

13 languages, possibility of remote control by smartphone or tablet



## Compatible with most closed head on the market

AMI, Polysoude, ESAB, Orbitec and Orbitalum



## Axis for added metal

Possibility of using Step mode

## Removable water colling

Can be separated **without tools** and makes the power source extremely portable

Cooling capacity 700W, flow mini alarm



## Data acquisition

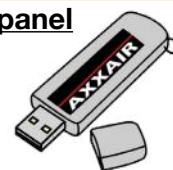
Records the last 999 welds on the USB key

Integrated WeldReport, data's formatting and presenting of the instructions in the form of DMOS.

## USB port on front panel

200 programs per USB key, several keys can be used

- Software: Remote update possible
- Sending and retrieving data through remote access to the SAXX's USB key



## Technical characteristics

### Duty cycle:

230 V		110 V	
25 %	200 A	35 %	140 A
60 %	140 A	60 %	115 A
100 %	115 A	100 %	100 A

### Power supply:

- Single phase network **with earth**
- Supply voltage: 110 to 230 V +/-15%
- Input current consumed 23A at 230V and 32A at 110V
- Frequency: 50/60Hz
- Cable supplied: HO7RN-F 3x2.5 mm<sup>2</sup> black, length 3m

This equipment comes with a 16A plug of type CEE7 / 7 to be connected to a socket protected by a 16A fuse or circuit breaker.

To allow use at maximum conditions or according to the country, it will be necessary to change the setting.

The nameplate of the equipment will allow you to choose the socket and the protection (fuse and / or circuit breaker) adapted to the conditions of use (voltage and current).

### 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 5.7"
- 13 languages
- Up to 16 users with passwords and custom permissions
- Simple and intuitive programming with automatic parameter calculation and programming
- 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

### Auxiliary connector:

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

### Wi-fi: (Option)

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

### Cooling connector:

For SCOOOL-700 cooler only: It must be connected to the SAXX-200 to operate (No standalone operation)

- Max pressure: 5 bars
- Cooling power according to CEI60974-2 standard: 0.7 kW

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

### Integral printer:

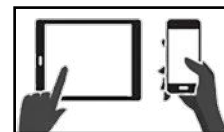
- 32 characters / line
- Print program and actual parameters



# SAXX-200



You can order your SAXX-200 power source with **the options you need.**



**Second gas line:** This second gas line allows control from the power source of **your internal inerting** and / or dual gas management of the welding torch.

- Gas saving
- Welding process safety

**Wire feed:** This option includes the axis board and the connectors. It must be completed by the dispenser (see accessories).

There is the possibility to use the **step mode** and to **synchronize the wire feed** with the current pulse.

**Water cooler:** Removable cooler without tools with a cooling capacity of **700W** with a flow safety sensor.

It is essential to use in all water cooled machines.

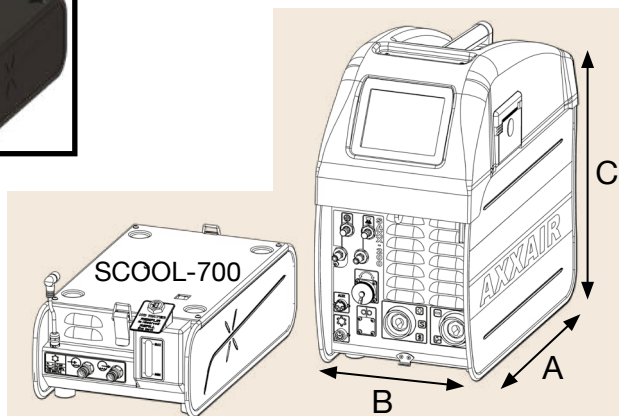
- Increasing the duty cycle



**WIFI:** This option includes a built-in **Wifi antenna** in the power source.

Remote control by a smartphone, computer or tablet to use it as a remote control is possible.

In fact, through an application, you have access to all functions including programming. The option also allows **sending and retrieving data** from the SAXX through access to the power source's USB key. Range: **up to 100m**



Description	Product code	Cooled	Gas line	Second gas line	Wire feed	Wifi Antenna	Net weight	Dimensions AxBxC
Orbital TIG welding power source, 200A, autoline	SAXX-200	AIR	x				21 kg	468 mm x 249 mm x 482 mm
	SAXX-200I	AIR	x			x	21 kg	
	SAXX-200W	AIR	x		x		21 kg	
	SAXX-200DG	AIR	x	x			21 kg	
	SAXX-200IW	AIR	x		x	x	21 kg	
	SAXX-200DGI	AIR	x	x		x	21 kg	
	SAXX-200DGW	AIR	x	x	x		21 kg	
	SAXX-200DGIW	AIR	x	x	x	x	21 kg	
	SCOOOL-700	Water cooler (700W)	Essential to the use of all water cooled machines. Compatible with all SAXX models listed above				8 kg	468 mm x 249 mm x 146 mm

All options must be mounted at AXXAIR.

# SAXX-210



### Fully-assured gas management

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



Gas flow control and flow alarms

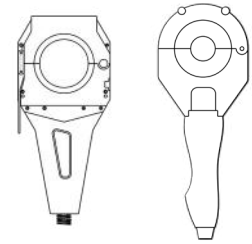
Display of the actual flow rate right on the screen

### Water cooled



### Compatible with most closed head 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



### Remove control display

4 m long cable

### USB port on front panel

200 programs per USB key, several keys can be used

- Software: Remote update possible
- Sending and retrieving data through remote access to the SAXX's USB key



### Integrated printer

Printing program and actual parameters



### Axis for added metal

Possibility of using Step mode

### Data acquisition

Records the last 999 welds on the USB key

Integrated WeldReport, data's formatting and presenting of the instructions in the form of DMOS.

# 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).

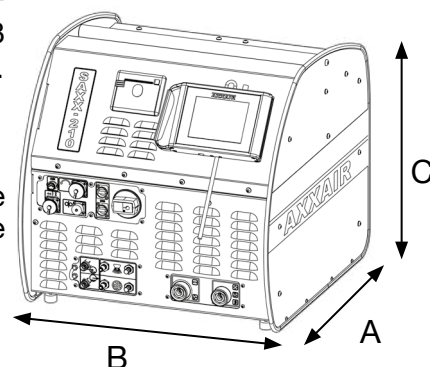
### Cooling connector:

- 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 an application  
Range: 20 to 30 m



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

All options must be mounted at AXXAIR.

# Accessories



Product Code	Description	Net weight	Dimensions (in cm)
SACG-X200	Trolley	22 kg	117 x 51 x 57

Trolley for SAXX-200 power source:

- Module for transporting the SAXX-200 and gas cylinders up to 10.5 m<sup>3</sup>

✓ SAXX-200

SAXX-210



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

Trolley for SAXX-210 power source:

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

SAXX-200

✓ SAXX-210



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-200

✓ SAXX-210

# Accessories SAXX Switchbox



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**

### Flexibility

- Use of manual torches
- 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)

### Compatibility

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

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

### 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

# Accessories SAXX

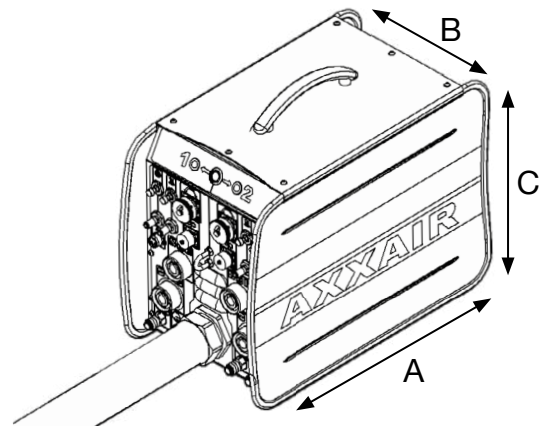
## Switchbox



### 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:

- SATFX, SATO (SATO-M, SATO-ND and SATO-E), SX, SATP, SAMX
- 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

# 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
<u>Adapter kit for connecting the following heads to SAXX power sources:</u>			
- 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-200

✓ SAXX-210



Product Code	Description	Net weight	Dimensions
SAFS-ADAMI2	Adapter kit	1.3 kg	l : < 40 cm
<u>Adapter kit for connecting the following heads to SAXX power sources:</u>			
- AMI Models 8 and 9, initially connected to the AMI power source 307			

✓ SAXX-200

✓ SAXX-210



Product Code	Description	Net weight	Dimensions
SAFS-ADAMI3	Adapter kit	1.3 kg	l : < 40 cm
<u>Adapter kit for connecting the following heads to SAXX power sources:</u>			
- AMI Models 8 and 9, initially connected to the AMI power sources 227, 327 and 415			

✓ SAXX-200

✓ SAXX-210

# 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-ADORBI1	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-200

✓ SAXX-210



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-200

✓ SAXX-210



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-200

✓ SAXX-210



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-200

✓ SAXX-210



# 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-160, SASL-200, SASL-300



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-200

✓ SAXX-210



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

TIG Manual torch **AIR cooled**:

- Allows manual tacking and welding with the SAXX power sources

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-200

✓ SAXX-210



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

Wire feeder 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-200

✓ SAXX-210

# Consumables



Product Code	Description	Net weight	Packaging (in cm)
SACW-CO06	Cooling liquid	3.3kg	15 x 15 x 27
<u>Cooling liquid (3l container).</u> The cooling is not directly delivered with the power source.			

✓ SAXX-200

✓ SAXX-210



Product Code	Description	Net weight	Packaging (in cm)
SIMP-02	Printer rolls	0.7kg	29 x 9.5 x 5
<u>Rolls for integrated printer (set of 10)</u>			

✓ SAXX-200

✓ SAXX-210



Product Code	Description	Net weight	Dimensions (in cm)
SUSBX200	USB stick	0.02kg	6 x 2 x 1
<u>USB stick for <b>SAXX-200</b>:</u> USB stick with software for recording welding programmes and the WeldReport			

✓ SAXX-200

SAXX-210



Product Code	Description	Net weight	Dimensions(in cm)
SUSBX210	USB stick	0.02kg	6 x 2 x 1
<u>USB stick for <b>SAXX-210</b>:</u> USB stick with software for recording welding programmes and the WeldReport			

SAXX-200

✓ SAXX-210



### Customer service

We work extremely hard supporting and training our team of employees and network of partners and distributors to ensure that from The S.F.E. Group you always receive the:

- Fastest response times
- Quickest delivery times
- Most knowledgeable and accurate advice
- Committed after sales support



### Level of stock

S.F.E. Group carry an unrivalled stock level, meaning no matter how large your order we expect to offer you the fastest delivery time available worldwide.

### Price

You will find our pricing to be very competitive. Give us an opportunity to quote your next project and we are confident you will be pleased! For your convenience we offer our products in the three major currencies: US Dollar, Euro and GB Pound.



### Research and development

Technology is always improving. At S.F.E. Group we firmly intend to move with the times and to be the innovators in our industry with a dedicated team of designers and technicians devoted to improving our existing products as well as innovating the next generation of pipework machinery and tools. All user feedback is passed onto the R&D department to ensure our machines are developed to meet all end user needs. We often hold meetings with customers to ensure the package provided meets all their requirements including custom made machines.



### Production, assembly and quality control

S.F.E. Group is proud to offer the highest quality of components manufactured wholly in Europe/USA. All our machines are assembled in our facilities and undergo vigorous testing and quality control, which is backed by our products being CE Certified, having Certificates of Conformity, Certificates of Origin and our company being ISO9001 accredited.



### Demonstrations, training and exhibitions

We love to show off our products unrivalled performance and are always happy to carry out demonstrations either in our showroom facilities or at your site. In addition we understand the importance of the correct operation of our machinery and tools, so also offer training packages in our training facilities or at your site ensuring safe, efficient and accurate operation. We also participate in all the relevant world wide exhibitions. We also have extremely detailed user manuals and instructional videos.



### Rental division

The S.F.E. Group operates a full, worldwide hire and rental service in cooperation with and supported by its selected and specialized rental partners. S.F.E. Group continuously keeps expanding its rental activities, rental fleet and network and prides itself keeping its renting equipment up to date in order to provide the best possible quality, performance and reliability. S.F.E. Group invites you to share your rental enquiry and will tailor the matching solution to your needs.

**Please contact your local S.F.E. Group branch for all enquiries.  
Details of which can be found on the back cover of this publication.**



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