

Orbital welding (Prefabrication)

AXXAIR
INNOVATIVE ORBITAL SOLUTIONS

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

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

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



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

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

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

FLEXIBILITY, PRODUCTIVITY

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

QUALITY AND REPEATABILITY

TIG welding without tube distortion (multi-contact concentric clamping) 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!



NEW PRODUCTS

In the SXx22 orbital welding range

We have decided to strengthen this part of our range of orbital welding machines.



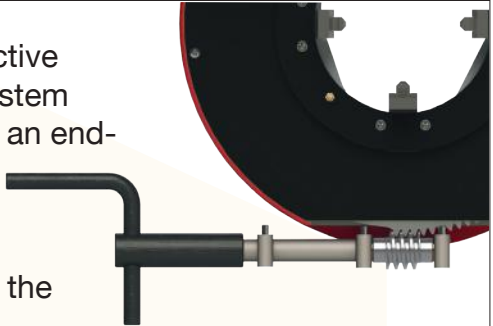
Robustness, improved seating, more "positive" clamping and continuity guided the choices of our developers and pilot customers.

The **stability** of the assembly has been greatly improved by the **redesign of the support plate**.

Robustness




Easy handling
Introduction of a lifting eye for use in a workshop or on site.

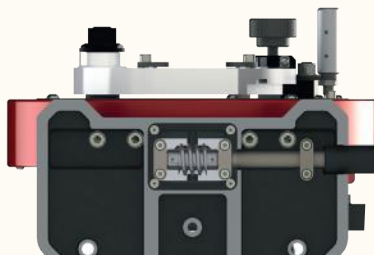


A more effective clamping system (+30%) with an end-less screw engaging directly with the cam lock.

Easy maintenance and inspection

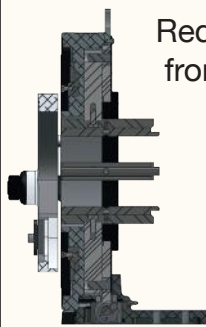


The internal clamping components are lubricated using a greaser

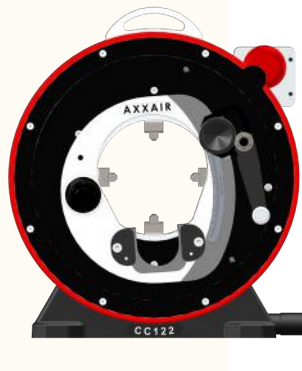
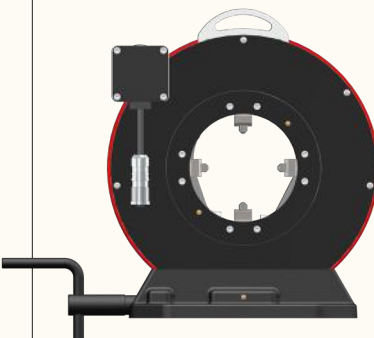


Quick access to the screw beneath the internal cowling

A perfect seal against chips



Redesigned front baffle

Rotating parts incorporated into the body

No moving parts visible at the rear



SX122 - 172 - 222 - 322

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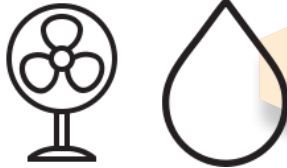
No tube distortion

Concentric clamping



Stainless steel basic and auxiliary jaws as standard

Air Cooled or Water Cooled

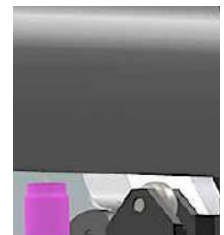


Rotating

Connect to the SAXX range welding generator

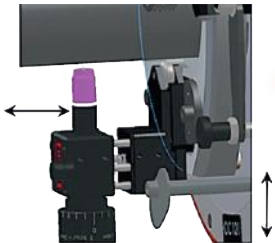
Constant distance: electrode-tube

Mechanical tracking of tube ovalization from the outside.



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



Micrometric adjustment of the height of the arc

Accuracy of adjustment without specific tooling



Easy handling and transportation



Compatible With the SAXX generators



Welding range

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.

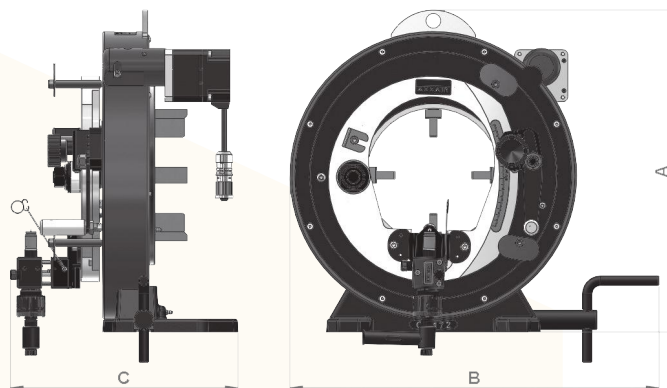
Compatible with AXXAIR type SAXX welding generators, we have an automatic parameter calculation mode.

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

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

For welding with an AVC / OSC system please refer to the "thick" catalogue

SX-xx2-E (WATER)	200 A.
SX-xx2-A (AIR)	100 A



	Product Code	Tube welding machine for the following diameters (in mm):		Net weight	Customs code	Dimensions (AxBxC in mm)
		With basic jaws	With extra jaws (included)			
NEW Cooling AIR	SX122-A	Ø29 - Ø119	Ø12 - Ø99	45 kg	85153 10000	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	85153 10000	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



Orbital welding (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	Customs code	Dimensions (in cm)
CCPS21	Support legs	10 kg	84669 37000	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	Customs code	Dimensions (in cm)
CCSER1	Stand	10 kg	84669 37000	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	Customs code	Dimensions (in cm)
CCSER2	Stand (with chrome steel bearings)	11 kg	84669 37000	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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Orbital welding (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.



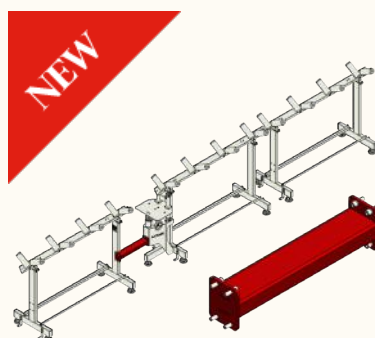
Product Code	Description	Net weight	Customs code	Dimensions (in cm)
CCBSB-X1	Height-adjustable tube support bench	57 kg	84669 37000	184 x 95 x 51
Height-adjustable support bench, 1.5m: - stainless steel rollers - maximum load 350 kg - height adjustment handle - min tube ø: 5 mm - max tube ø: 321 mm				

✓ SX122-A	✓ SX172-A	✓ SX222-A	✓ SX322-A	✓ SX122-E	✓ SX172-E	✓ SX222-E	✓ SX322-E
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Product Code	Description	Net weight	Customs code	Dimensions (in cm)
CCBSB-X2	Additional support bench	38 kg	84669 37000	150 x 95 x 51
Additional tube support bench: - 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
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Product Code	Description	Net weight	Customs code	Dimensions (in mm)
CCBSB-B005	Connecting bar	3 kg	84669 37000	100 x 80 x 402
Connecting bar for CCBSB-X1 and CCBSB-X2: - 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
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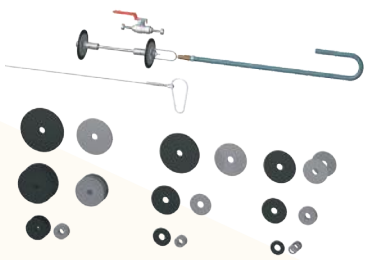
Orbital welding (Prefab) - Accessories

Product Code	Description	Net weight	Customs code	Packaging (in cm)
SKIF-01	Gas protection KIT	2.9 kg	85159 00090	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 gas valve ¼ turn, 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	Customs code	Packaging (in cm)
SKIB-01	Gas protection KIT	2 kg	85159 00090	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 union, 1 hose Ø 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	Customs code	Dimensions (in mm)
SADFP-02	Wire guide	0.05 kg	85159 00090	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	Customs code	Dimensions (in cm)
SADF2X	Wire dispenser	12 kg	85159 00090	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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Orbital welding (Prefab) - Accessories



Product Code	Description	Net weight	Customs code	Plastic box (in cm)
SKTDI-30	Inclined torch	0.3 kg	85159 00090	12 x 17.5 x 4

30° inclined torch kit

✓ 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	Customs code	Plastic box (in cm)
SKTDI-45	Inclined torch	0.3 kg	85159 00090	12 x 17.5 x 4

45° inclined torch kit

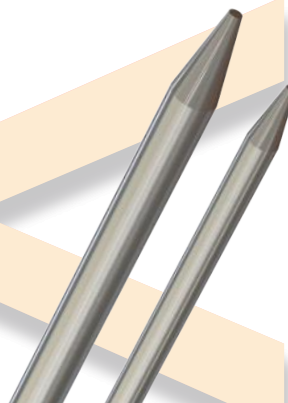
✓ SX122-A	✓ SX172-A	✓ SX222-A	✓ SX322-A	✓ SX122-E	✓ SX172-E	✓ SX222-E	✓ SX322-E
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Orbital welding (Prefab) - Consumables

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

This increases the life of the electrodes.



Product Code	Description	Net weight	Customs code	Plastic box (cm)
SCE16-50	Electrodes	0.02 kg	85159 00010	5.5 x 4.5 x 1

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

- Box of 10 electrodes

✓ 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	Customs code	Plastic box (cm)
SCE24-50	Electrodes	0.05 kg	85159 00010	5.5 x 4.5 x 1

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

- Box of 10 electrodes

✓ 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	Customs code	Plastic box (cm)
SKTD-xx	Replacement torch	0.3 kg	85159 00090	12 x 17.5 x 4

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

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

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

✓ SX122-A	✓ SX172-A	✓ SX222-A	✓ SX322-A	✓ SX122-E	✓ SX172-E	✓ SX222-E	✓ SX322-E
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1 machine - 3 applications



For more than 20 years the AXXAIR group has specialized in triple and exclusive orbital welding preparation solutions:

global process

A single machine frame (122, 172, 222 and 322) makes it possible to carry out three operations: **Cutting, bevelling and orbital welding.**

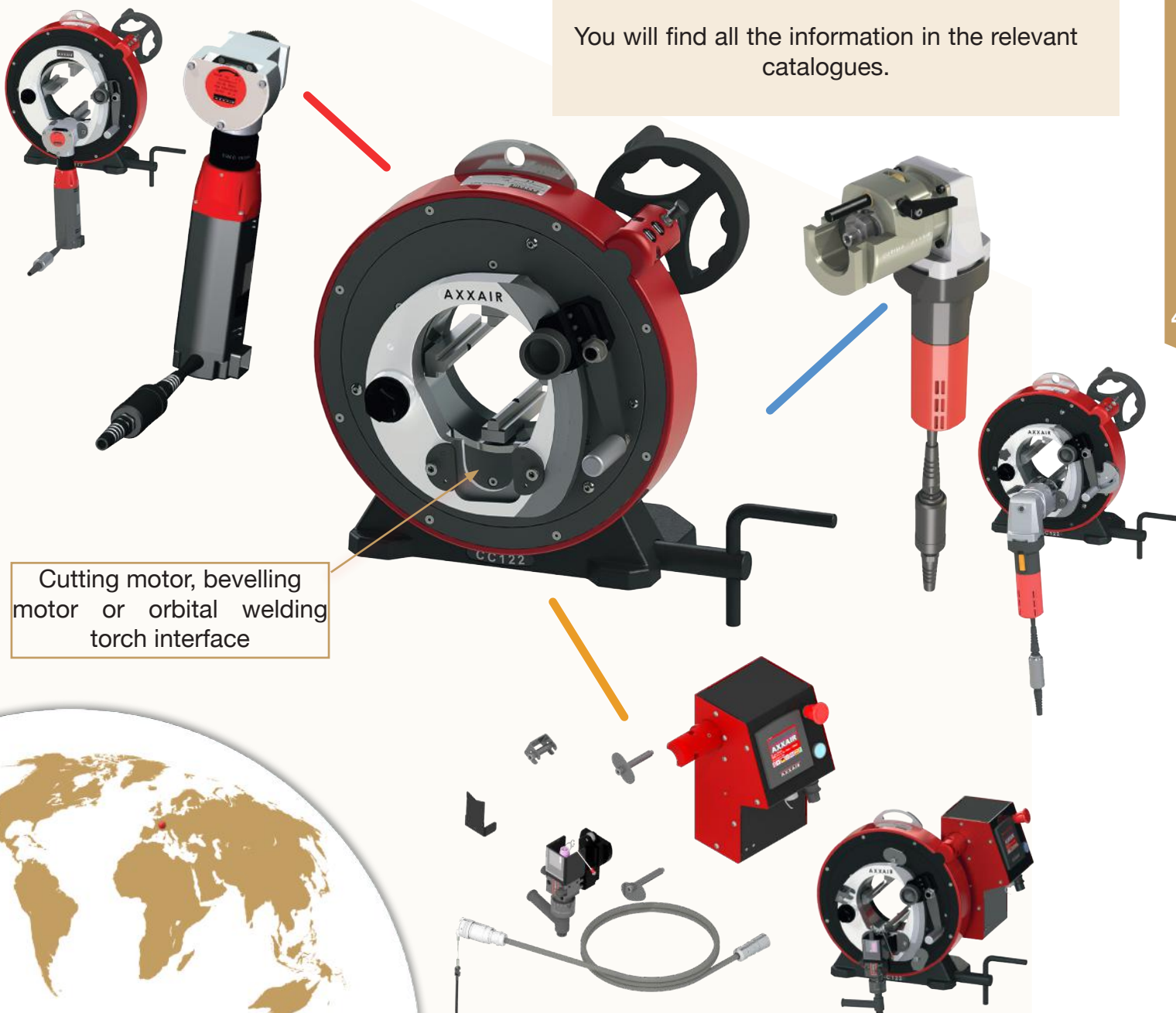
BUT CAUTION,

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