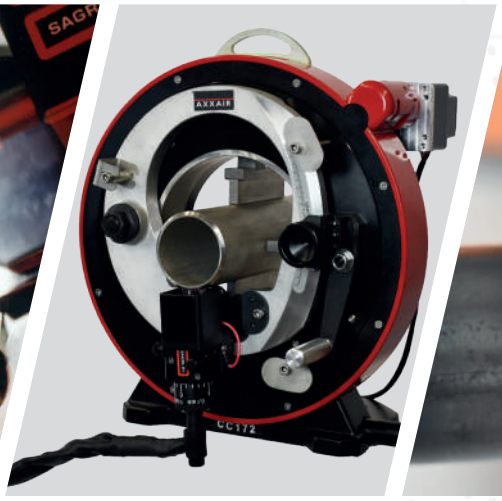
ORBITAL WELDING SOLUTIONS

PREFABRICATION: SX-RANGE FUSION / FUSION + WIRE

0.5 - 12.750" o/d / 12 - 328 mm o/d







AXXAIR
AN ESAB GROUP BRAND

Daonte
Tecnología Metalmecánica

PREFABRICATION ORBITAL WELDING
SX-RANGE FUSION / FUSION + WIRE

0.5 - 12.750" o/d / 12 - 328 mm o/d

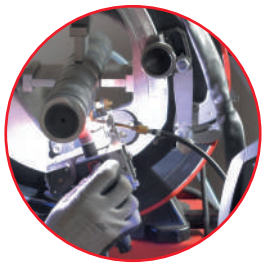
- **Functions:** Orbital TIG welding by fusion or fusion + wire. The welding application can be converted in to a cutting or bevelling mode (ref. CC-Range Orbital Cutting machines and GA-Range Orbital Bevelling machines).
- **Materials:** Any kind of steel and exotic alloys
- **Powered by the SAXX power source range**

The **prefabrication orbital welding machine** is an automated system created for assembling tube components in a controlled environment before on-site installation. This machine improves the welding process by accurately and consistently joining tube components. **It is powered by the SAXX power source and ensures uniform and reliable welds.**

The prefabrication approach enables precise construction in a workshop, reducing on-site work and minimizing errors during installation. This innovative technology enhances efficiency, maintains high-quality welds, and is crucial in industries where precision and standardized fabrication are essential.

MAIN FEATURES

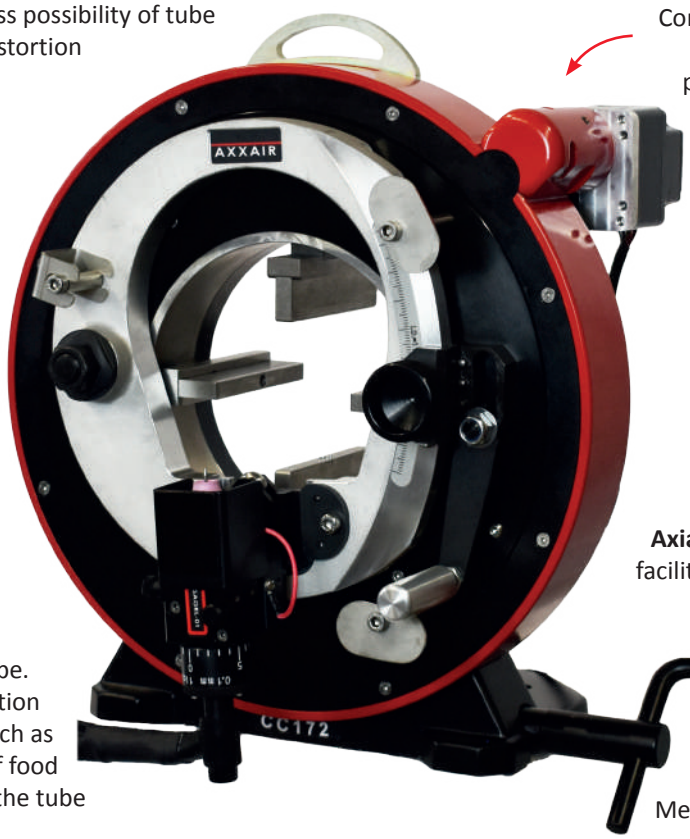
Water cooled
Air cooled



CONCENTRIC CLAMPING
less possibility of tube distortion

AUTOMATIC ROTATION
Connected to the SAXX welding power supplies







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 (0.2")

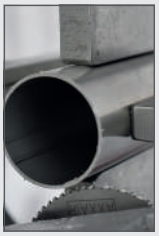
Micrometric adjustment of the arc gap without specific tooling

Constant distance electrode-tube: Mechanical OD tracking of tube ovalization

STAINLESS STEEL JAWS
no contamination of the tube. Guarantee a perfect protection towards external attacks such as corrosion, the protection of food or any liquid routed inside the tube

1 MACHINE - 3 APPLICATIONS

CUTTING - BEVELLING - WELDING
Move from one to another with only 2 setting screws







MODELS

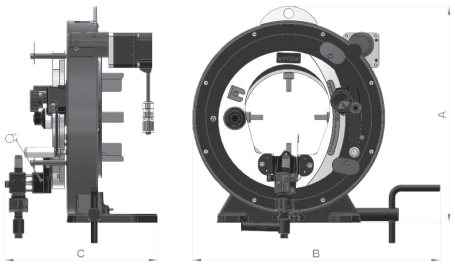
SX122	SX172	SX222	SX322
			
TUBE O/D RANGE: **0.5 - 4.5" / 12 - 119 mm**	**TUBE O/D RANGE:** **0.625 - 6.625" / 16 - 173 mm**	**TUBE O/D RANGE:** **2.375 - 8.625" / 55 - 228 mm**	**TUBE O/D RANGE:** **5.563 - 12.750" / 141 - 328 mm**
PART NO. SX122-A (AIR) **PART NO. SX122-E (WATER)**	**PART NO. SX172-A (AIR)** **PART NO. SX172-E (WATER)**	**PART NO. SX222-A (AIR)** **PART NO. SX222-E (WATER)**	**PART NO. SX322-A (AIR)** **PART NO. SX322-E (WATER)**

POWER SOURCE

SAXX-201	SAXX-200	SAXX-210	SAXX-300
			
Orbital TIG welding power source **200A, 110 - 220v** *with or without cooling system*	**Orbital TIG welding power source** **200A, 110 - 220v** *with or without cooling system*	**Orbital TIG welding power source** **210A, 110 - 220v**	**Orbital TIG welding power source** **300A, 400v**

DIMENSIONS

DIM	SX122-A/E		SX172A/E		SX172A/E		SX322A/E	
A	17.56"	446 mm	19.41"	493 mm	21.57"	548 mm	25.55"	649 mm
B	21.30"	541 mm	22.28"	566 mm	23.38"	594mm	25.35"	644 mm
C	13.78"	350 mm	13.78"	350 mm	13.78"	350 mm	13.78"	350 mm



TECHNICAL FEATURES

DESCRIPTION	MEAS.	SX122		SX172		SX222		SX322	
POWER	-	AIR COOLED	WATER COOLED	AIR COOLED	WATER COOLED	AIR COOLED	WATER COOLED	AIR COOLED	WATER COOLED
Part No	-	SX122-A	SX122-E	SX172-A	SX172-E	SX222-A	SX222-E	SX322-A	SX322-E
Locking tube range	mm (o/d)	12 - 119		16 - 173		55 - 228		141 - 328	
	inch (o/d)	0.25 - 4.5		0.625 - 6.625		2.375 - 8.625		5.563 - 12.750	
100% duty cycle	A	100	200	100	200	100	200	100	200
Diam electrode	mm	1.6 or 2.4		1.6 or 2.4		1.6 or 2.4		1.6 or 2.4	
	inch	1/16 or 3/32		1/16 or 3/32		1/16 or 3/32		1/16 or 3/32	
Cooling system	-	No	Yes	No	Yes	No	Yes	No	Yes
Max operating temperature	°C	40		40		40		40	
	F	104		104		104		104	
Max acoustic radiation	dB	<70		<70		<70		<70	
Unit weight	kg	45	45	52	52	59	59	73	73
	lbs	99	99	115	115	130	130	161	161

ELECTRODES



Diameter 1.6 or 2.4 mm
(1/16 or 3/32)



PART NO. SCE16-50 / SCE24-50

SPARE PARTS KITS



PART NO. SKTD-01/02

DELIVERY AND STORAGE



Each machine is supplied in a wooden box

TRIPOD STAND



PART NO. CCPS21

SUPPORT BENCHES



CCBSB-X1 CCBSB-X2

PART NO. CCBSB-X1
PART NO. CCBSB-X2

SUPPORT BENCHES
WITH END STOP SYSTEM



PART NO. CCBSB-XX-X-XX **

WIRE FEEDER



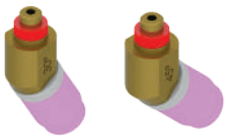
PART NO. SADF2X

WIRE GUIDE



PART NO. SADFP-02

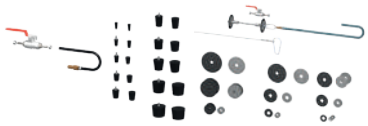
INCLINED TORCH KITS



30° or 45°

PART NO. SKTDI-30 / SKTDI- 45

PURGE KITS



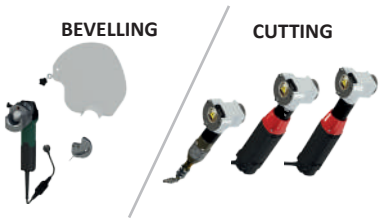
PART NO. SKIB-01/SKIF-01

AUTOMATIC ROTATION & CLAMPING SYSTEM



PART NO. XXX-AU *

CONVERSION KITS



PART NO. GA10-M1-XXX / FSXXX **
PART NO. GA10-M2-XXX / FSXXX **

* XXX = MODEL NO. 122 / 172 / 222 / 322
** REFER TO: ORBITAL CUTTING & BEVELLING MACHINES ACCESSORIES & CONSUMABLES

ORBITAL WELDING SOLUTIONS

PREFABRICATION: SX-RANGE WITH AVC / OSC SYSTEM

0.5 - 12.750" o/d / 12 - 328 mm o/d



SCAN QR CODE
TO WATCH VIDEO

AXXAIR
AN ESAB GROUP BRAND

Daonte
Tecnología Metalmecánica

PREFABRICATION ORBITAL WELDING
SX-RANGE WITH AVC / OSC SYSTEM

0.5 - 12.750" o/d / 12 - 328 mm o/d

- **Functions:** Orbital TIG welding with AVC / OSC (Arc Voltage Control / Oscillation). The welding application can be converted into a cutting or bevelling mode (ref. CC-Range Orbital Cutting machines and GA-Range Orbital Bevelling machines).
- **Materials:** Any kind of steel and exotic alloys
- **Powered by the SAXX power source range**

The **prefabrication orbital welding machine** is an automated system created for assembling tube components in a controlled environment before on-site installation. This machine improves the welding process by accurately and consistently joining tube components. **It is powered by the SAXX power source and ensures uniform and reliable welds.**

The prefabrication approach enables precise construction in a workshop, reducing on-site work and minimizing errors during installation. This innovative technology enhances efficiency, maintains high-quality welds, and is crucial in industries where precision and standardized fabrication are essential.

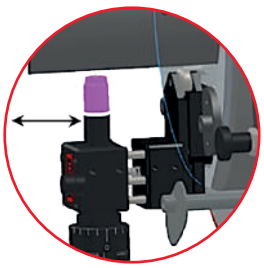
MAIN FEATURES

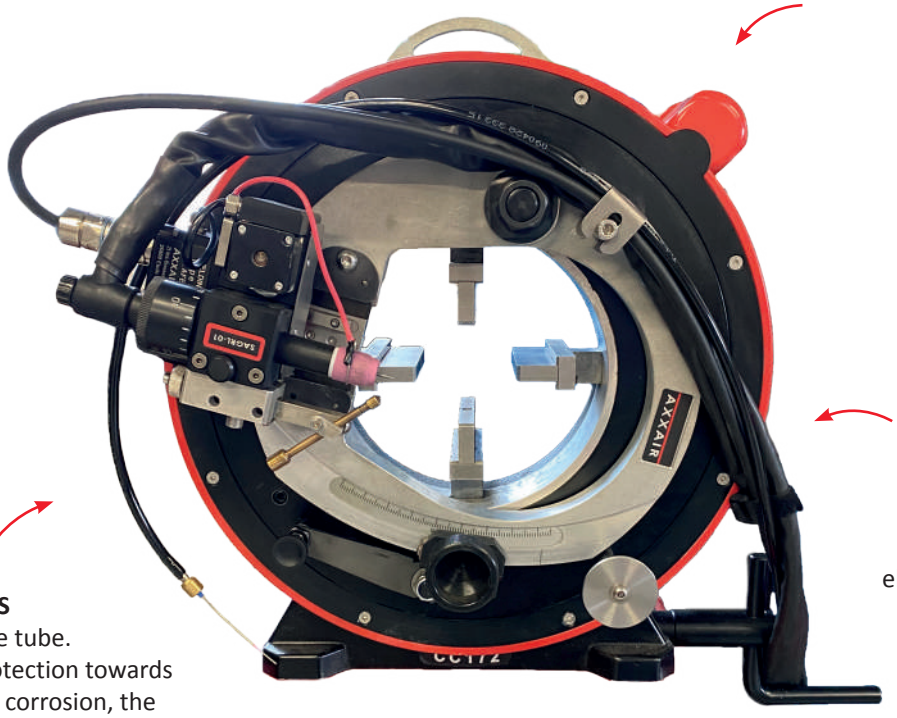
Water cooled

- **Prefab orbital welding machine with AVC/OSC system :** allows to weld tubes with up to 12.7 mm wall thickness (0.5")
- Oscillation range: 20 mm (0.79"), AVC range: 20 mm (0.79"), max speed: 15 mm/s (0.59"/s)



AUTOMATIC ROTATION
Connected to the SAXX welding power supplies





CONCENTRIC CLAMPING
Less possibility of tube distortion



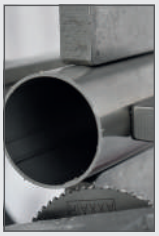
MULTI-PASS WELDING
Motorized axial sweep (OSC) Movement of the electrode's axial position: +/- 10 mm (0.39")

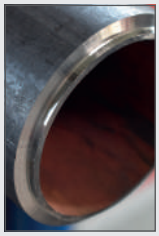
STAINLESS STEEL JAWS
No contamination of the tube. Guarantee a perfect protection towards external attacks such as corrosion, the protection of food or any liquid routed inside the tube

CONSTANT DISTANCE ELECTRODE - TUBE
motorized setting and control of the distance tube-electrode (AVC) regulates the arc voltage, the distance between the electrode and the tube

1 MACHINE - 3 APPLICATIONS

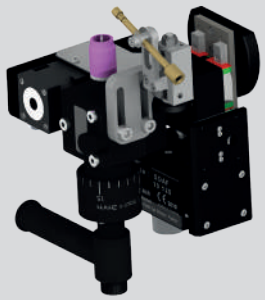
CUTTING - BEVELLING - WELDING
Move from one to another with only 2 setting screws







WHAT IS AVC/OSC?



MOTORISED ARC VOLTAGE CONTROL: AVC

The motorized arc voltage control, commonly known as AVC (Arc Voltage Control), relates to the distance between the tube and the electrode. This option ensures a consistant tube-electrode distance by adjusting automatically the tension of the arc during welding. AVC is an important feature, particularly for multipass orbital TIG welding processes as it provides more precision and consistency allowing better quality welds.

The two most common applications:

- When you do not want to mechanically gauge the outer diameter, AVC requires no contact with the tube, and the sensor is more precise and responsive than mechanical tracking.
- When welding with filler wire and the deposition rate under the electrode is not perfectly controlled, which of course affects the arc height. In this case, AVC ensures that the weld pool is never touched.

ORBITAL TIG WELDING WITH AVC + OSC + WIRE:

Mechanized multipass pipe welding combines automatic Arc Voltage Control, oscillation of the torch and adding filler material. It is used when welding thicker wall pipe which requires several passes to fill a bevelled joint with wire. It usually consists in a root pass, one or several filling passes depending on the thickness and the preparation, and a cap pass. While filling out the joint with wire, the torch oscillates sweeping the electrode within the joint from left to right while also moving around the pipe at a constant travel speed. A constant oscillation allows a more efficient wire deposition and more consistent fusion of the material on each side of the joint.

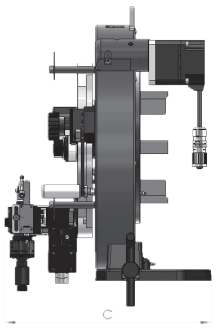
An orbital TIG welding system with AVC + OSC + wire is the most effective and efficient solution to fill a J-prep configuration in multipass TIG welding.

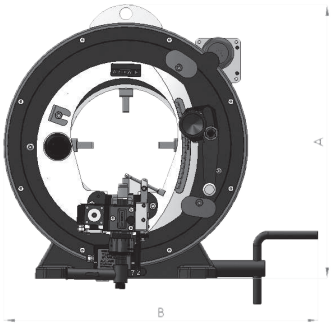
MODELS

SX122 AVC/OSC	SX172 AVC/OSC	SX222 AVC/OSC	SX322 AVC/OSC
			
TUBE O/D RANGE: **0.5 - 4.5" / 12 - 119 mm**	**TUBE O/D RANGE:** **0.625 - 6.625" / 16 - 173 mm**	**TUBE O/D RANGE:** **2.375 - 8.625" / 55 - 228 mm**	**TUBE O/D RANGE:** **5.563 - 12.750" / 141 - 328 mm**
PART NO. SX122-NAOF	**PART NO. SX172-NAOF**	**PART NO. SX222-NAOF**	**PART NO. SX322-NAOF**

POWER SOURCE

SAXX-210 AVC/OSC	SAXX-300 AVC/OSC
	
Orbital TIG welding power source **210A, 110 - 220v**	**Orbital TIG welding power source** **300A, 400v**





DIMENSIONS

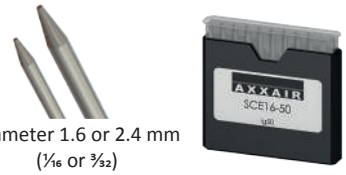
DIM	SX122-NAOF		SX172-NAOF		SX122-NAOF		SX172-NAOF	
H	17.56"	446 mm	19.41"	493 mm	21.57"	548 mm	25.55"	649 mm
L	21.30"	541 mm	22.28"	566 mm	23.38"	594mm	25.35"	644 mm
I	346 => 371 mm 13.62" => 14.60"		346 => 371 mm 13.62" => 14.60"		346 => 371 mm 13.62" => 14.60"		346 => 371 mm 13.62" => 14.60"	

TECHNICAL FEATURES

	MEAS.	SX122	SX172	SX222	SX322
		AVC/OSC SYSTEM	AVC/OSC SYSTEM	AVC/OSC SYSTEM	AVC/OSC SYSTEM
PART NO.	-	SX122-NAOF	SX172-NAOF	SX222-NAOF	SX322-NAOF
DIAMETER RANGE	mm (o/d)	12 - 119	16 - 173	55- 228	141 - 328
	inch (o/d)	0.5 - 4.5	0.625 - 6.625	2.375 - 8.625	5.563 - 12.750
100% DUTY CYCLE	A	200	200	200	200
DIAMETER ELECTRODE	mm	1.6 or 2.4	1.6 or 2.4	1.6 or 2.4	1.6 or 2.4
	inch	1/16 or 3/32"	1/16 or 3/32"	1/16 or 3/32"	1/16 or 3/32"
COOLING SYSTEM	-	Yes	Yes	Yes	Yes
MAX. OPERATING TEMPERATURE	°C	40	40	40	40
	F	104	104	104	104
MAX. ACOUSTIC RADIATION	dB	<70	<70	<70	<70
UNIT WEIGHT	kg	46	53	61	74
	lbs	101	117	134	163

CONSUMABLES & ACCESSORIES

ELECTRODES



Diameter 1.6 or 2.4 mm
(1/16 or 3/32)

PART NO. SCE16-50 / SCE24-50

SPARE PARTS KITS



PART NO. SKTD-01/02

DELIVERY AND STORAGE



Each machine is supplied in a wooden box

TRIPOD STAND



PART NO. CCPS21

SUPPORT BENCHES



CCBSB-X1 CCBSB-X2

PART NO. CCBSB-X1
PART NO. CCBSB-X2

SUPPORT BENCHES WITH END STOP SYSTEM



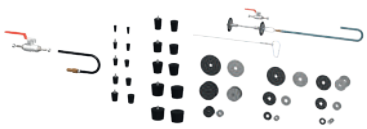
PART NO. CCBSB-XX-X-XX **

WIRE FEEDER



PART NO. SADF2X

PURGE KITS



PART NO. SKIB-01/SKIF-01

CONVERSION KITS

BEVELLING CUTTING



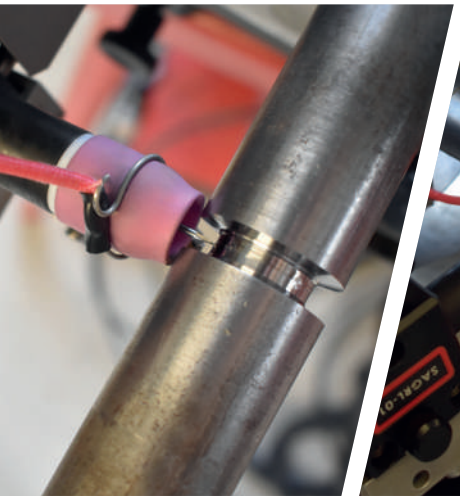
PART NO. GA10-M1-XXX / FSXXX **
PART NO. GA10-M2-XXX / FSXXX **

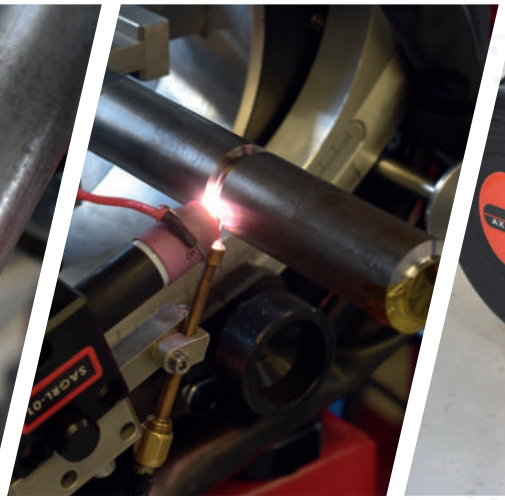
* XXX = MODEL NO. 122 / 172 / 222 / 322

** REFER TO: ORBITAL CUTTING & BEVELLING MACHINES ACCESSORIES & CONSUMABLES

ORBITAL WELDING SOLUTIONS

Accessories & consumables for SX







AXXAIR
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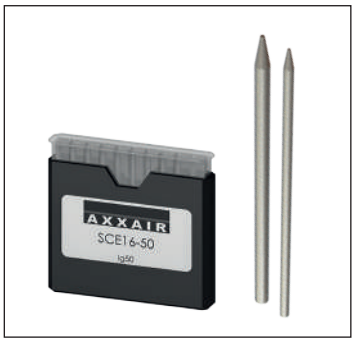
Daonte
Tecnología Metalmecánica

PREFAB ORBITAL WELDING MACHINES – CONSUMABLES

ELECTRODES

- Tungsten electrodes
- AXXAIR's electrodes are specifically sharpened at 20° with a flat tip.

PART NO.	DIAMETER ELECTRODES	DESCRIPTION	WEIGHT		DIMENSIONS	
SCE16-50	1.6 mm 1/16"	Box of 10 tungsten electrodes, diameter 1.6 mm (1/16"), length 50 mm	0.02 kg	0.044 lbs	6 x 5 x 1 cm	2 x 1.6 x 0.4"
SCE24-50	2.4 mm 3/32"	Box of 10 tungsten electrodes diameter 2.4 mm (3/32"), length 50 mm	0.05 kg	0.11 lbs	6 x 5 x 1 cm	2 x 1.6 x 0.4"



STRAIGHT TORCH SPARE PARTS KIT

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

PART NO.	DIAMETER ELECTRODES	DESCRIPTION	WEIGHT		DIMENSIONS (PLASTIC BOX)	
SKTD-01	1.6 mm / 1/16"	Spare parts kit for straight torch diameter 1.6 mm (1/16")	0.3 kg	0.66 lbs	12 x 17.5 x 4 cm	4.7 x 7 x 1.6"
SKTD-02	2.4 mm / 3/32"	Spare part kit for straight torch diameter 2.4 mm (3/32")	0.3 kg	0.66 lbs	12 x 17.5 x 4 cm	4.7 x 7 x 1.6"



AXXAIR INNOVATIVE ORBITAL SOLUTIONS

PREFAB ORBITAL WELDING MACHINES – ACCESSORIES

TRIPOD STAND

- Level adjustment
- Possibility to secure it to the ground
- Storage bin for tools and consumables
- Quick assembly and disassembly

PART NO.	DESCRIPTION	WEIGHT		DIMENSIONS	
CCPS21	Tripod stand	10 kg	22 lbs	103 x 32 x 11 cm	40.6 x 12.6 x 4.3"



SUPPORT BENCH – WITH HEIGHT ADJUSTMENT

- Stainless steel rollers
- Height adjustment crank
- 150 cm / 59.05" length
- Maximum load capacity: 350 kg / 771.61 lbs
- Diameter minimum pipe: 5 mm (0.196") / diameter maximum pipe: 321 mm (12.637")

PART NO.	DESCRIPTION	WEIGHT		DIMENSIONS	
CCBSB-X1	Bench with height adjustment	57 kg	126 lbs	184 x 95 x 51 cm	72 x 37 x 20"



B&B Pipe & Industrial Tools AN ESAB GROUP BRAND

Please refer to the B&B Pipe and Industrial Tools brochure for more pipe stand solutions.
www.BBPIPETOOLS.com

SUPPORT BENCH - ADDITIONAL SUPPORT BENCH

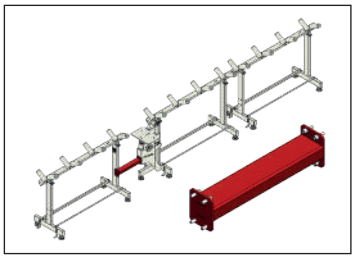
- Stainless steel rollers
- 150 cm / 59.05" length
- Maximum load capacity: 350 kg / 772 lbs
- Diameter minimum pipe: 5 mm (0.196") / diameter maximum pipe: 321 mm (12.637")



PART NO.	DESCRIPTION	WEIGHT		DIMENSIONS	
CCBSB-X2	Additionnal support bench	38 kg	84 lbs	150 x 95 x 51 cm	59 x 37 x 20"

BENCH CONNECTION KIT

Allows to connect an additional bench in front of the height-adjustable table (load out)



PART NO.	DESCRIPTION	WEIGHT		DIMENSIONS	
CCBSB-B005	Connection kit for bench CCBSB-X1+X2	3 kg	7 lbs	10 x 8 x 40.2 cm	4 x 3 x 16"

SAXX WIRE FEEDER

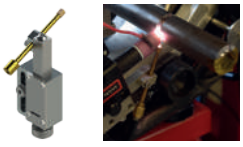
- Cable length 5 m max (16ft)
- Supplied with SAXX power source-connection cable and teflon sheath to guide the wire
- Drive pressure adjusted by adjustable spring, with handle



PART NO.	DESCRIPTION	WEIGHT		DIMENSIONS	
SADF2X	External wire feeder for SAXX	12 kg	26 lbs	60 x 38 x 24 cm	24 x 15 x 9"

ACCESSORIES ONLY FOR SX MACHINES WITH WIRE - WATER OR AIR COOLING

WIRE GUIDE (FOR SX-XX2-A AND SX-XX2-E)

PART NO.	DESCRIPTION	NET WEIGHT		PACKAGING DIMENSIONS		PICTURE
SADFP-02	Wire guide for SP and SX	0.05 kg	0.11 lbs	51 x 90 x 65 mm	2 x 3.5 x 2.6"	

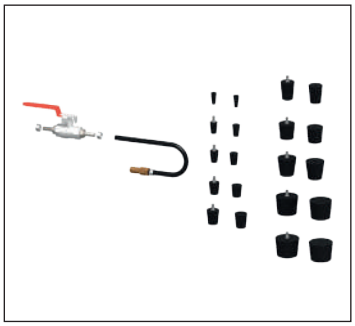
INCLINED TORCH KITS (FOR SX-XX2-A AND SX-XX2-E)

PART NO.	DESCRIPTION	WEIGHT		DIMENSIONS		PICTURE
SKTDI-30	Inclined torch kit 30°	0.3 kg	0.66 lbs	12 x 17.5 x 4 cm	5 x 7 x 1.6"	
SKTDI-45	Inclined torch kit 45°	0.3 kg	0.66 lbs	12 x 17.5 x 4 cm	5 x 7 x 1.6"	

GAS PLUG PURGING KIT

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

Consisting of: 10 sets of perforated plugs, 1 gas inlet connector,
1 hose Ø ⅝ length 5 metres, 1¼ turn gas valve

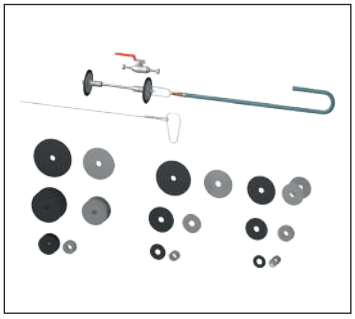


PART NO.	DESCRIPTION	WEIGHT		PACKAGING DIMENSIONS	
SKIB-01	Gas plug purging kit for tubes or Ø 6 to 41 mm	1.7 kg	3.75 lbs	35 x 30 x 9.5 cm	13.8 x 11.8 x 3.7"

GAS MEMBRANE PURGING KIT

Inerting tubes in the area to be welded before and during welding minimises gas consumption.

Consisting of: 9 sets of membranes with washers, 1 gas hose 6 m,
1 metal cable, 1¼ turn gas valve, 1 carabiner



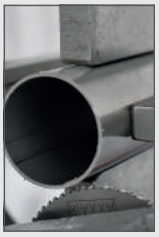
PART NO.	DESCRIPTION	WEIGHT		PACKAGING DIMENSIONS	
SKIF-01	Gas membrane purging kit for tubes Ø 40 to 120 mm	4.5 kg	9.92 lbs	35 x 30 x 9.5 cm	13.8 x 11.8 x 3.4"

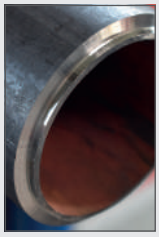
PPM PIPE PURGE MASTERS — AN ESAB GROUP BRAND

Please refer to the Pipe Purge Masters (PPM) brochure for more purging solutions.
www.PURGEMASTERS.com

GLOBAL PROCESS: 1 MACHINE - 3 APPLICATIONS

The orbital welding prefab machines SX 122 - 172 - 222 - 322 can be converted into a bevelling or a cutting machine thanks to the conversion kits below.







BEVELLING CONVERSION KIT

Consisting of: Kit includes: motor, chip shield, workpiece guide tailored to the frame



PART NO.	DESCRIPTION	WEIGHT	
GA10-M1-122 / GA10-M2-122	Beveling motor kit 120V / 230V for body 122	5 kg	11 lbs
GA10-M1-172 / GA10-M2-172	Beveling motor kit 120V / 230V for body 172	5 kg	11 lbs
GA10-M1-222 / GA10-M2-222	Beveling motor kit 120V / 230V for body 222	5 kg	11 lbs
GA10-M1-322 / GA10-M2-322	Beveling motor kit 120V / 230V for body 322	5 kg	11 lbs

CUTTING CONVERSION KIT (MOTORS)



PART NO.	DESCRIPTION	WEIGHT	
FS15 / FS25	Double shafted standard motor (elbow cutting) 120V / 230V	5 kg	11 lbs
FS19 / FS29	Double shafted high speed motor (elbow cutting) 120V / 230V	5 kg	11 lbs
MOPD	Double shafted pneumatic motor (elbow cutting)	5 kg	11 lbs

Note: when converting to different applications it is required to select the suitable cutting blades for the selected tube thickness and, if necessary, lubricant. All information and relevant product codes appear in the orbital cutting accessories and consumables section of this brochure.