Orbital welding (Open head)

AXXAIR

INNOVATIVE ORBITAL SOLUTIONS

or

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 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.





Cutting, facing & orbital welding <3 mm wall thickness

V2.4 - 10/2019

INNOVATIVE ORBITAL SOLUTIONS

SATO-40 - 80 -115 - 170 -220

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-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	l mm
SATO-40	169	183 to 191	142	116 to 126	57 to 67 13		Ø140	270	
SATO- 80	181	186 to 196	160	116 to 126			Ø180	279	
SATO-115	265	186 to 196	230	133 to 143		Ø224	363	113 to 121	
SATO-170	312	186 to 196	290	133 to 143				Ø294	410
SATO-220	353	186 to 196	350	133 to 143			Ø350	451	

В



Cutting, facing & orbital welding <3 mm wall thickness

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)
		SATO-40E42	ø 10 - ø 40 mm	3.8 kg	169 x 183 x 142
		SATO-80E42	ø 19 - ø 80 mm	4.2 kg	181 x 186 x 160
	WATER	SATO-115E42	ø 19 - ø 115 mm	6.7 kg	265 x 186 x 230
		SATO-170E42	ø 25 - ø 170 mm	8 kg	312 x 186 x 290
Angled		SATO-220E42	ø 38 - ø 220 mm	9.4 kg	353 x 186 x 350
motor		SATO-40E44	ø 10 - ø 40 mm	3.8 kg	169 x 183 x 142
		SATO-80E44	ø 19 - ø 80 mm	4.2 kg	181 x 186 x 160
	AIR	SATO-115E44	ø 19 - ø 115 mm	6.7 kg	265 x 186 x 230
		SATO-170E44	ø 25 - ø 170 mm	8 kg	312 x 186 x 290
		SATO-220E44	ø 38 - ø 220 mm	9.4 kg	353 x 186 x 350
		SATO-40E41	ø 10 - ø 40 mm	3.8 kg	169 x 191 x 142
		SATO-80E41	ø 19 - ø 80 mm	4.2 kg	181 x 196 x 160
	WATER	SATO-115E41	ø 19 - ø 115 mm	6.7 kg	265 x 196 x 230
		SATO-170E41	ø 25 - ø 170 mm	8 kg	312 x 196 x 290
Straight		SATO-220E41	ø 38 - ø 220 mm	9.4 kg	353 x 196 x 350
Motor		SATO-40E43	ø 10 - ø 40 mm	3.8 kg	169 x 191 x 142
		SATO-80E43	ø 19 - ø 80 mm	4.2 kg	181 x 196 x 160
	AIR	SATO-115E43	ø 19 - ø 115 mm	6.7 kg	265 x 196 x 230
		SATO-170E43	ø 25 - ø 170 mm	8 kg	312 x 196 x 290
		SATO-220E43	ø 38 - ø 220 mm	9.4 kg	353 x 196 x 350



Join experience

Cutting, facing & orbital welding <3 mm wall thickness

V2.4 - 10/2019

Orbital welding (Open heads) - Accessories

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_	Product Code	Description	Net weight	Packaging (in cm)				
	SKIF-01	Gas protection KI	T 4.5 kg	35 x 30 x 9.5				
	 consists of: 9 s 1 metal cable, 1 	Gas membrane protection KIT for tubes Ø 40 to 120 mm - consists of: 9 sets of membranes with washers, 1 gas pipe 6 m, 1 metal cable, 1 ¼ turn gas valve, 1 carabiner Inerting the tubes during welding allows more gas savings as we only inert the area to be welded.						
✓SATO-40E4x	√SATO-80E4x	√SATO-115E4x	✓SATO-170E4x	✓SATO-220E4x				
	Product Code	Description	Net weight	Packaging (in cm)				
	SKIB-01	Gas protection KI	T 1.7 kg	35 x 30 x 9.5				
	1 hose Ø 4/6 ler	D sets of perforated plo ngth 5 metres s and accelerates inert						
√SATO-40E4x	√SATO-80E4x	✓ SATO-115E4x ✓ SATO-170E4x		√SATO-220E4x				
	Product Code	Description	Net weight	Dimensions (in mm				
	SATOB-02B	Two axis wire guide	e 0.05 kg	51 x 90 x 65				
		SATO Two axis wire guide: - For use with the SAXX power sources						
✓SATO-40E4x	✓ SATO-80E4x	√SATO-115E4x	✓SATO-170E4x	✓SATO-220E4x				
1 jui	Product Code	Description	Net weight	Dimensions (in cm				
	SADF2X	Wire dispenser	12 kg	59.7 x 38.4 x 24				
	- Supplied with to guide the wi	 <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. 						
√SATO-40E4x	√SATO-80E4x	√SATO-115E4x	✓SATO-170E4x	✓SATO-220E4x				
				QUA				

Orbital welding (Open heads) - Accessories

5 or 10 metres welding cable extensions



INNOVATIVE ORBITAL SOLUTIONS



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)
	WITHOU ⁻	5 metres	SAFS-05MAX	7 kg	40 x 59 x 25
AIR	WIRE	10 metres	SAFS-10MAX	14 kg	40 x 59 x 25
AIN		5 metres	SAFS-05MAXF	7 kg	40 x 59 x 25
	WIRE	10 metres	SAFS-10MAXF	14 kg	40 x 59 x 25
	WITHOU	5 metres	SAFS-05MX	7 kg	40 x 59 x 25
	WIRE	10 metres	SAFS-10MX	14 kg	40 x 59 x 25
WATER		5 metres	SAFS-05MXF	7 kg	40 x 59 x 25
	WIRE	10 metres	SAFS-10MXF	14 kg	40 x 59 x 25
✓ SATO-4	40E4x	✓SATO-80E4x	√SATO-115E4x	√SATO-170E4x	✓SATO-220E4x



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INNOVATIVE ORBITAL SOLUTIONS

Orbital welding (Open head) - Consumables

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

This increases the life of the electrodes.

	Product Code	e Description	Net weight	Plastic box (cm)
	SCE16-50	Electrodes	0.02 kg	5.5 x 4.5 x 1
AXXALR SCE16-50	Electrode diam	neter 1.6 mm , length 50	<u>mm</u>	
lg50	- Box of 10 ele	ctrodes		
✓SATO-40E4x	✓SATO-80E4x	√SATO-115E4x	✓SATO-170E4x	√SATO-220E4x
the de the de the de the the the	Product Code	e Description	Net weight	Plastic box (cm)
	Product Code SCE24-50	Description Electrodes	Net weight 0.05 kg	Plastic box (cm) 5.5 x 4.5 x 1
AXXAIR SCE24-50	SCE24-50		0.05 kg	
AXXAIR SCE24-50 Lg50	SCE24-50	Electrodes neter 2.4 mm , length 50	0.05 kg	
SCE24-50	SCE24-50 <u>Electrode diam</u>	Electrodes neter 2.4 mm , length 50	0.05 kg	

	Product Code	Description	Net weight	Plastic box (cm)
	SKTO-01	Replacement torch	0.3 kg	12 x 17.5 x 4
	- Consists of: 4	t for open head torch Ø long nozzles and 2 shor 2.4 electrodes, 2 Teflor	t nozzles, 4 electrode o	• •
√SATO-40E4x	√SATO-80E4x	√SATO-115E4x	√SATO-170E4x	√SATO-220E4x



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Orbital welding (Open heads)



INNOVATIVE ORBITAL SOLUTIONS

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

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

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

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

FLEXIBILITY, PRODUCTIVITY

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

QUALITY AND REPEATABILITY

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

PORTABILITY

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



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

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





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Allows STARTING IN ALL ANGULAR electrode positions

Locked

Welding range							
SATO 40	<mark>ø 10 - ø</mark> 40 mm 0.4- 1.5 "						
SATO 80	<mark>ø 19 - ø</mark> 80 mm 0.75 – 3 "						
SATO 115	<mark>ø 19 - ø</mark> 115 mm <mark>0.75</mark> – 4.5 "						
SATO 170	<mark>ø 25 - ø</mark> 170 mm 1 – 6.625 "						
SATO 220	<mark>ø 38 - ø</mark> 220 mm 1.5 - 8.265 "						



SATO-40 - 80 -115 - 170 -220



Technical characteristics:

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

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



Е 0 SATO-XXE41 (water cooled) F Straight output motor \triangleleft F (hCà 10 AXXAIR С В

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



SATO-40 - 80 -115 - 170 -220



INNOVATIVE ORBITAL SOLUTIONS



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



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AXXAIR's orbital welding Sweep Multi-pass TIG welding - AVC/OSC system -



Motorised voltage control: AVC

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

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

The two most frequent applications:

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

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





Fusion+OSC+wire:

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

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

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

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

These systems are available on prefabrication machines and open heads.



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

Control of the wire

Regulation of the wire by the SAXX power sources

Multi-pass welding

Mortorised axial sweep (OSC)

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



Constant distance: electrode-tube

Motorised setting and control of the distance tubeelectrode (AVC)

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









Compatible with the 210 and

300 SAXX power sources











Protection

High protection against arcing outside the electrode

Transport

These heads are delivered in shockproof, waterproof and dustproof cases



Motorization with encoder

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Allows STARTING IN ALL ANGULAR electrode positions

AVC/OSC system

Allows to weld tubes with up to 12.7 mm wall thickness

Wel	ding range
SATO 115	<mark>ø 19 - ø</mark> 115 mm 0.75 – 4.5 "
SATO 170	<mark>ø 25 - ø</mark> 170 mm <u>1 – 6</u> .625 "
SATO 220	<mark>ø 38 - ø</mark> 220 mm <mark>1.5 - 8</mark> .265 "



INNOVATIVE ORBITAL SOLUTIONS

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

Caractéristiques techniques:

- WATER cooled head with AVC/OSC system
- Quick symmetrical tightening by lever
- Motorization with encoder: allows starting from any angular position of the electrode
- Wide diameter range
- For optimum use, the ambient temperature must be between 0 °C and + 40 °C.
- Oscillation range: 20 mm, AVC range: 20 mm, max speed: 15 mm/s

- Machines compatible with AXXAIR welding power sources with SAXX (210 and 300) type liquid coolant system for welding cycle.

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





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



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

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INNOVATIVE ORBITAL SOLUTIONS





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



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Orbital welding (Open heads) - Accessories

INNOVATIVE ORBITAL SOLUTIONS



	Product Code	Description	Net weight	Packaging (in cm)					
	SKIF-01	Gas protection KIT	4.5 kg	35 x 30 x 9.5					
00	- consists of: 9 s	protection KIT for tubes Ø sets of membranes with wa ¼ turn gas valve, 1 carabi	ashers, 1 gas pipe	e 6 m,					
00	Iner	Inerting the tubes during welding allows more gas savings							

as we only inert the area to be welded.

SATO-40E4x 🗸 SATO-80E4x 🗸 SATO-115E4x 🗸 SATO-170E4x 🗸 SATO-220E4x	✓ SATO- 115E5x	✓ SATO- 170E5x	✓ SATO- 220E5x	
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Product Code	Description	Net weight	Packaging (in cm)			
 SKIB-01	Gas protection KIT	1.7 kg	35 x 30 x 9.5			
Gas plug protect - Consists of: 10 1 hose Ø 4/6 len	tion KIT for tubes Ø 6 to 4 sets of perforated plugs, gth 5 metres	<u>1 mm</u> 1 gas inlet connec	ctor,			
Facilitates and accelerates inerting. Avoids the use of adhesive paper.						

✓ SATO-40E4x	•x SATO- 115E5x	✓ SATO- 170E5x	✓ SATO- 220E5x	
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Product Code	Descriptio	on Ne	t weight	Dimension	s (in mm)
SATOB-02B	Two axis wire	guide).05 kg	51 x 90) x 65
SATO Two axis w - For use with th	-	ources			

O-40E4x 🗸 SATO-80E4x 🗸 SATO-115E4x 🗸 SATO-170E4x 🗸 SATO-220E4x	SATO- 115E5x	SATO- 170E5x	SATO- 220E5x	
--	-----------------	-----------------	-----------------	--

		Product Code	Description	Net we	eight	Dimensio	ns (in cm)
		SADF2X	Wire dispenser	12 k	g	59.7 x 38	8.4 x 24
	- C2	- Supplied with t to guide the wir	or SAXX-200, du he SAXX power s re adjusted by adju	supply-connection		nd Teflon du	ct
√SATO-40E4x	√SATO-80E4x	√SATO-115E4x	√SATO-170E4x	√SATO-220E4x	✓ SATO- 115E5x	✓ SATO- 170E5x	✓ SATO- 220E5x



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Orbital welding (Open heads) - Accessories

5 or 10 metres welding cable extensions



INNOVATIVE ORBITAL SOLUTIONS



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		nsions C in mm)
	WITHOUT	5 metres	SAFS-05M	x	-	7 kg	40 x 4	59 x 25
WATER	WIRE	10 metres	SAFS-10M	x	1	4 kg	40 x	59 x 25
✓ SATO-40E4	4x 🗸 SATO-80E	4x 🗸 SATO-115E4x	✓SATO-170E4x	√ SAT	O-220E4x	SATO- 115E5x	SATO- 170E5x	SATO- 220E5x

Cooling		Length	Product Code		Product Code Net weight			ensions C in mm)
		5 metres	SAFS-05MX	F	7	′ kg	40 x	59 x 25
WATER	WIRE	10 metres	SAFS-10MXF		14 kg		40 x	59 x 25
✓ SATO-40E4	łx <mark>√</mark> SATO-80	E4x 🗸 SATO-115E4x	✓SATO-170E4x	√ SAT	O-220E4x	SATO- 115E5x	SATO- 170E5x	SATO- 220E5x

Cooling		Length	Product Code Net weight		weight		ensions C in mm)	
WATER	WIRE WITH AVC/OSC	10 metres	SAFS-10MO	SC	SC 14 kg		40 x	59 x 25
SATO-40E4>	SATO-80E4	x SATO-115E4x	SATO-170E4x	SATO-220E4x		✓ SATO- 115E5x	✓ SATO- 170E5x	✓ SATO- 220E5x



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INNOVATIVE ORBITAL SOLUTIONS

Orbital welding (Open head) - Consumables

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

This increases the life of the electrodes.

	Product Code	Description	Net w	eight	Plastic box (cm)			
	SCE16-50 Electrodes 0.02 kg 5.5 x 4.5 x 1					.5 x 1		
AXXAIR SCE16-50	Electrode diameter 1.6 mm , length 50mm							
	- Box of 10 elect	rodes						
✓ SATO-40E4x ✓ SATO-80E4	x 🗸 SATO-115E4x	✓SATO-170E4x	✓SATO-220E4x	✓ SATO- 115E5x	✓ SATO- 170E5x	✓ SATO- 220E5x		

and the state of the	Product Code	Description Net we		veight	Plastic box (cm)	
	SCE24-50	SCE24-50 Electrodes 0.05 kg		5.5 x 4	5.5 x 4.5 x 1	
AXXALR SCE24-50	Electrode diameter 2.4 mm, length 50mm					
ULU ULU	- Box of 10 electrodes					
✓SATO-40E4x ✓SATO-80E4	x 🗸 SATO-115E4x	✓SATO-170E4x	√SATO-220E4x	✓ SATO- 115E5x	✓ SATO- 170E5x	✓ SATO- 220E5x



Product Code	Description	Net weight	Plastic box (cm)					
SKT O -01	Replacement torch	0.3 kg	12 x 17.5 x 4					
Replacement kit for open head torch Ø 1.6 mm and Ø 2.4								
- 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 screwdriver FACOM

VSATO-	V SATO-	V SATO-	V SATO-	VSATO-	SATO-	SATO-	SATO-	
40E4x	80E4x	115E4x	170E4x	220E4x	115E5x	170E5x	220E5x	

Product Code	Description	Net weight	Plastic box (cm)
SKT D -02	Replacement torch	0.3 kg	12 x 17.5 x 4

Replacement kit for straight torch Ø 2.4 mm

- consists of: 5 nozzles, 2 plugs 9/20, 2 long electrode clamps, 10 electrodes (0, 2, 1) and 2 mesh diffusors

(9 2.4) and 2 mesh diffusers							
SATO-	SATO-	SATO-	SATO-	SATO-	√SATO-	VSATO-	√SATO-
40E4x	80E4x	115E4x	170E4x	220E4x	115E5x	170E5x	220E5x



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