

## Orbital welding (Closed head)

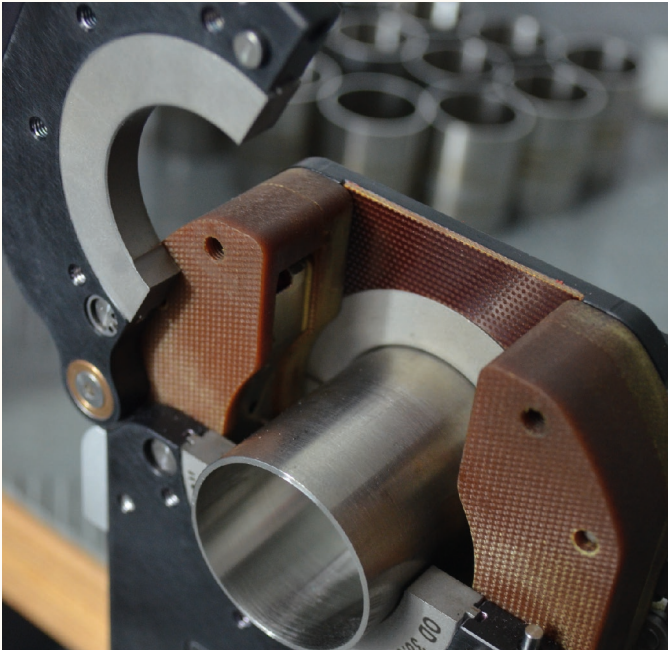
**AXXAIR**  
INNOVATIVE ORBITAL SOLUTIONS

Our range of closed welding heads (SATF series) allows you to make very high quality welds in a minimum space.

These heads have been studied to meet the most stringent welding requirements and in the tightest areas.

This type of equipment is mainly used in the aerospace, semiconductor, pharmaceutical or food industries. It is essential for welding titanium which is very sensitive to oxidation.

Closed heads provide optimum gas protection



(closed chamber) which results in welds with very limited colouration. They are recommended for welding stainless steel tubes of wall thickness <3 mm in simple fusion without added wire.

The alloy parts of the machine are designed to accept any type of assembly and to offer more welding possibilities.

A control keypad is integrated into the handle of the machine. It allows you to control all primary functions of the head. The welding cycle is visualized by an LED.

The SATF range, combined with our AXXAIR welding generators and its permanent control of the welding parameters, guarantees repeatable and quality welding. This type of weld can be inspected using the most stringent means, such as X-ray inspection.

### FLEXIBILITY, PRODUCTIVITY

Productivity remains our primary concern. A liquid cooling circuit has been developed to increase the machine life cycle and also to allow a high welding rate.

### QUALITY AND REPEATABILITY

Thanks to its new adjustable closing system and the carefully designed shape of its jaws, the SATF range allows optimum tube positioning (concentricity between the axis of rotation of the electrode and your tube) while controlling the tightening forces so as not to distort or mark your tubes.

### PORTABILITY

In order to allow you to weld in restrictive conditions and locations, the size and weight of the machines have been optimized. Our welding cable, housed in an ultra flexible and very resistant protective sheath, also facilitates manipulation of the welding head.



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

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



Join **experience**



# SATF-40NDHX - 65NDHX - 115NDHX

### Protection

High protection against arcing outside the electrode

### Thin walled tube welding

Up to 2.5 mm (3 mm in some cases)

### Power drive system with encoder

Allows STARTING IN ALL ANGULAR POSITIONS of the electrode

### Water cooled



Length of the cable: 5 metres

### Compatible with SAXX power source



These heads can also be used on the former AXXAIR power sources with adapter cables

### Transport + suspension

These heads are delivered in their work site case and with a suspension assembly



### Viewing window

Fixed and transparent as an option



### Strengthening of closing systems

Adjustable force closing systems. Allows precise adjustment of the force of the jaws on the tube to be welded according to its geometry



### Remote control keypad

It incorporates an LED on the handle to indicate whether the machine is in welding cycle or not.

### Welding range

SATF-40	∅ 6 - ∅ 40 mm 0.25 - 1.5 "
SATF-65	∅ 6 - ∅ 65 mm 0.25 - 2.5 "
SATF-115	∅ 12 - ∅ 115 mm 0.5 - 4.5 "



# SATF 40NDHX - 65NDHX - 115NDHX

**AXXAIR**  
INNOVATIVE ORBITAL SOLUTIONS

## Technical characteristics:

Maximum welding current	120 A
100% Duty cycle	60 A

The new NDHX heads are used with SAXX range welding stations.

Changes have been incorporated in the upper part, for the closing and flap guide systems. The new adjustable force closing system allows you to precisely set the force of the jaws on the tube to be welded according to its geometry. Closing is more precise and the parts to be welded are better positioned.

The heads are cooled in two ways: on the electrode holder by contact and on the outer aluminium plates in the lower part.

This cooling is essential to guarantee a long service life of the parts because it minimizes distortion effects due to expansion.

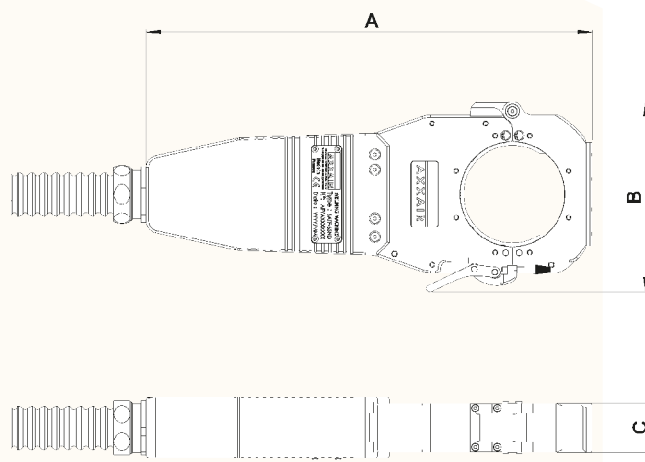
- Cable extensions
- Remote electrodes
- Flange for welding elbows



## Specific features

Option: Possibility of mounting a window in the upper part thus verifying the correct positioning of the electrode, for the parts to be welded, before starting the cycle.

**CAUTION:** If you use the head with a window, it is necessary to wear suitable eye protection (welding mask).



Product Code	Description	Tube welding machine for the following diameters (in mm):	Net weight	Dimensions (AxBxC in mm)
SATF-40NDHX	Water-cooled closed head for SAXX power sources	ø 6 to ø 40 mm	8.8 kg	336 x 122 x 40
SATF-65NDHX		ø 6 to ø 65 mm	9.2 kg	366 x 152 x 40
SATF-115NDHX		<b>NEW</b> ø 12 à ø 115 mm	9.9 kg	421 x 222 x 40



Join **experience**





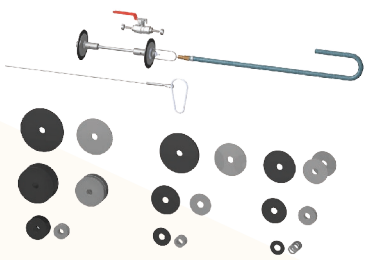
# Orbital welding (closed head) - Accessories

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

**Gas membrane protection KIT for tubes Ø 40 to 120 mm**

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

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



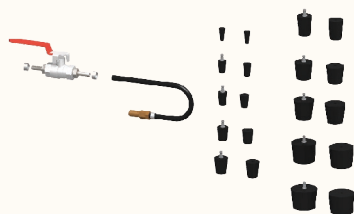
✓ SX122-A	✓ SX172-A	✓ SX222-A	✓ SX322-A	✓ SX122-E	✓ SX172-E	✓ SX222-E	✓ SX322-E
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Product Code	Description	Net weight	Packaging (in cm)
SKIB-01	Gas protection KIT	1.7 kg	35 x 30 x 9.5

**Gas plug protection KIT for tubes Ø 6 to 41 mm**

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

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



✓ SX122-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)
<b>SSED-16 for ø1.6</b> <b>SSED-24 for ø 2.4</b>	Electrode holder	0.05 kg	3.5 x 3.5 x 1

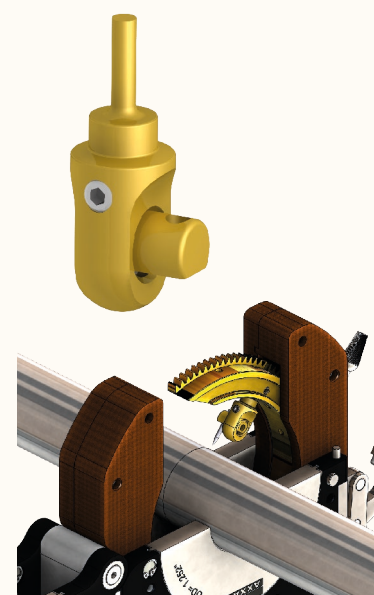
**Remote electrode holder for ø1.6 mm or ø2.4mm electrodes:**

- The lateral adjustment range is between 4 and 7.5 mm
- Allows the welding electrode to be moved with respect to the welding plane (Positioning of off-centre welding plane)
- Example of use: short elbow welding

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

Machine	ømin	ømax
SATF-65xxx	6 mm	36 mm
SATF-115xxx	<b>12 mm</b>	89 mm

See cosumables to find the electrodes required for its use

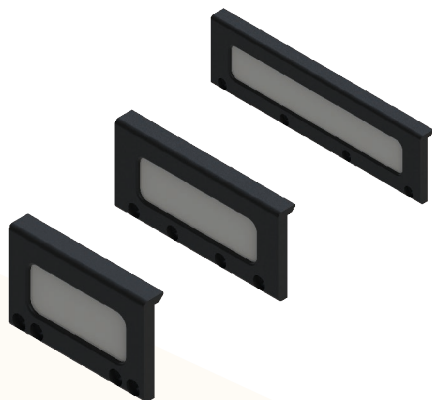


SATF-40NDHX	✓ SATF-65NDHX	✓ SATF-115NDHX	SATF-40MIH	✓ SATF-65MIH	✓ SATF-115MIH
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# Orbital welding (closed head) - Accessories



## SATF Viewing windows

Fixed and transparent viewing windows

For Machine	Product Code	Net weight	Packaging (plastic)
SATF40-XXX	SATF40-HW10	0.04 kg	6.5 x 4.5 x 1 cm
SATF65-XXX	SATF65-HW10	0.05 kg	9 x 4.5 x 1 cm
SATF115-XXX	SATF115-HW10	0.08 kg	14 x 4.5 x 1 cm

✓ SATF-40NDHX

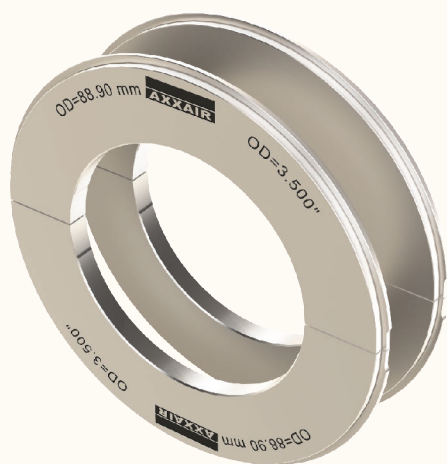
✓ SATF-65NDHX

✓ SATF-115NDHX

✓ SATF-40MIH

✓ SATF-65MIH

✓ SATF-115MIH



## Set of jaws for SATF

**Stainless steel** clamping jaws set for SATF:

For Machine	Product Code	Net weight	Packaging (plastic)
SATF40-xxx	SMN40-xx	Depending on the tube $\varnothing$	7.5 x 8 x 3 cm
SATF65-xxx	SMN65-xx	Depending on the tube $\varnothing$	11 x 11.5 x 3 cm
SATF115-xxx	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: SMN40-38.1 = Set of jaws for SATF 40, external tube diameter: 38.1 mm

✓ SATF-40NDHX

✓ SATF-65NDHX

✓ SATF-115NDHX

✓ SATF-40MIH

✓ SATF-65MIH

✓ SATF-115MIH

**NEW**



## Spacer jaws for SATF

**Stainless steel** spacer jaws

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)
SATF65	SATF-40's jaws	SMN65-ET40	0.410 kg	11 x 11.5 x 3 cm
SATF115	SATF-40's jaws	SMN115-ET40	1.670 kg	17 x 18 x 3 cm
	SATF-65's jaws	SMN115-ET65	1.290 kg	17 x 18 x 3 cm

Example: With the spacer SMN65-ET40, you can use the jaws of the head SATF-40 (SMN40-xx) with a closed head type SATF-65

SATF-40NDHX

✓ SATF-65NDHX

✓ SATF-115NDHX

SATF-40MIH

✓ SATF-65MIH

✓ SATF-115MIH



# Orbital welding (Closed head) - Accessories



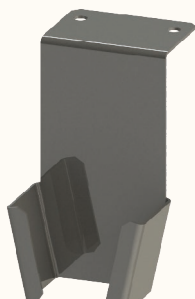
To increase the operating distance between the welding head and the SAXX power source, we offer cable extensions.

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

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

✓ SATF-40NDHX	✓ SATF-65NDHX	✓ SATF-115NDHX	SATF-40MIH	SATF-65MIH	SATF-115MIH
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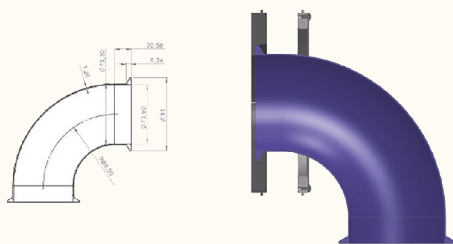


Product Code	Description	Net weight	Dimensions (in cm)
SAGC-121	Closed head support	0.42 kg	17 x 12 x 9

Screw-on support for closed heads

✓ SATF-40NDHX	✓ SATF-65NDHX	✓ SATF-115NDHX	✓ SATF-40MIH	✓ SATF-65MIH	✓ SATF-115MIH
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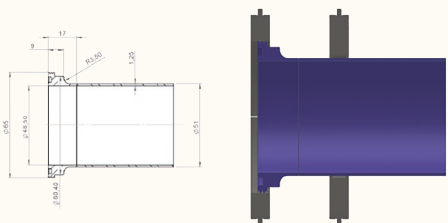
## Orbital welding (Closed head) - Accessories on request



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

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

✓ SATF-40NDHX	✓ SATF-65NDHX	✓ SATF-115NDHX	✓ SATF-40MIH	✓ SATF-65MIH	✓ SATF-115MIH
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### Tube – connector configuration

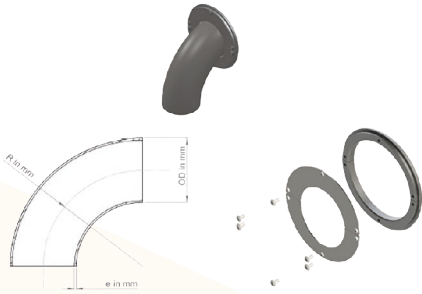
- Tube end: standard jaws
- Connector end: special jaws

✓ SATF-40NDHX	✓ SATF-65NDHX	✓ SATF-115NDHX	✓ SATF-40MIH	✓ SATF-65MIH	✓ SATF-115MIH
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# Orbital welding (Closed head)

## Optional accessories



### Tube – elbow configuration

- Tube end: standard jaws
- Elbow end: adaptor jaws + gas protection side plates in stainless steel

✓ SATF-40NDHX

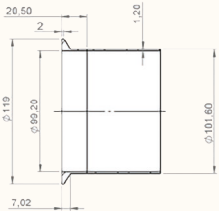
✓ SATF-65NDHX

✓ SATF-115NDHX

✓ SATF-40MIH

✓ SATF-65MIH

✓ SATF-115MIH



### Tube – ferrule configuration

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

✓ SATF-40NDHX

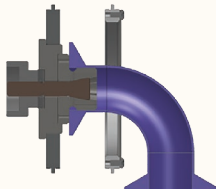
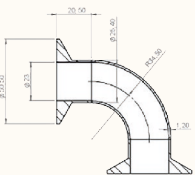
✓ SATF-65NDHX

✓ SATF-115NDHX

✓ SATF-40MIH

✓ SATF-65MIH

✓ SATF-115MIH



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

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

✓ SATF-40NDHX

✓ SATF-65NDHX

✓ SATF-115NDHX

✓ SATF-40MIH

✓ SATF-65MIH

✓ SATF-115MIH



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





# Orbital welding (Closed head) - Consumables



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

This increases the life of the electrodes.

Depending on the tube used, we offer cut electrodes.

Reference change

## Electrodes for SATF-40xxx

ø of the Tube	Electrode Product Code ø1.6	Electrode Product Code ø2.4	Electrode length in mm
6 - 11 mm	SCE16-30	SCE24-30	30.0
11 - 16 mm	SCE16-28	SCE24-28	28.0
16 - 21 mm	SCE16-25.5	SCE24-25.5	25.5
21 - 26 mm	SCE16-22	SCE24-22	22.0
26 - 31 mm	SCE16-20	SCE24-20	20.0
31 - 36 mm	SCE16-17.5	SCE24-17.5	17.5
36 - 40 mm	SCE16-15	SCE24-15	15.0

✓ SATF-40NDHX

SATF-65NDHX

SATF-115NDHX

✓ SATF-40MIH

SATF-65MIH

SATF-115MIH

## Electrodes for SATF-65xx

ø of the Tube	Electrode Product Code ø1.6	Electrode Product Code ø2.4	Electrode length in mm
6 - 12 mm	SCE16-43	SCE24-43	43.0
12 - 19 mm	SCE16-39.5	SCE24-39.5	39.5
19 - 26 mm	SCE16-36	SCE24-36	36.0
26 - 33 mm	SCE16-32.5	SCE24-32.5	32.5
33 - 40 mm	SCE16-29	SCE24-29	29.0
40 - 47 mm	SCE16-25.5	SCE24-25.5	25.5
47 - 54 mm	SCE16-22	SCE24-22	22.0
54 - 61 mm	SCE16-18.5	SCE24-18.5	18.5
61 - 65 mm	SCE16-15	SCE24-15	15.0

SATF-40NDHX

✓ SATF-65NDHX

SATF-115NDHX

SATF-40MIH

✓ SATF-65MIH

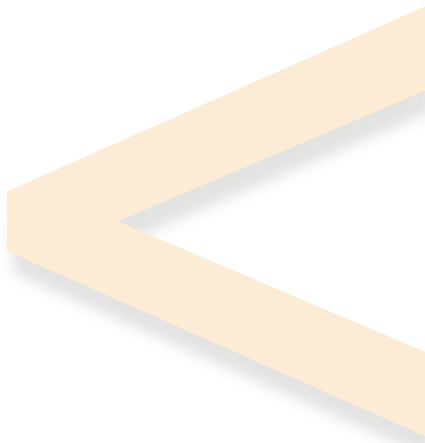
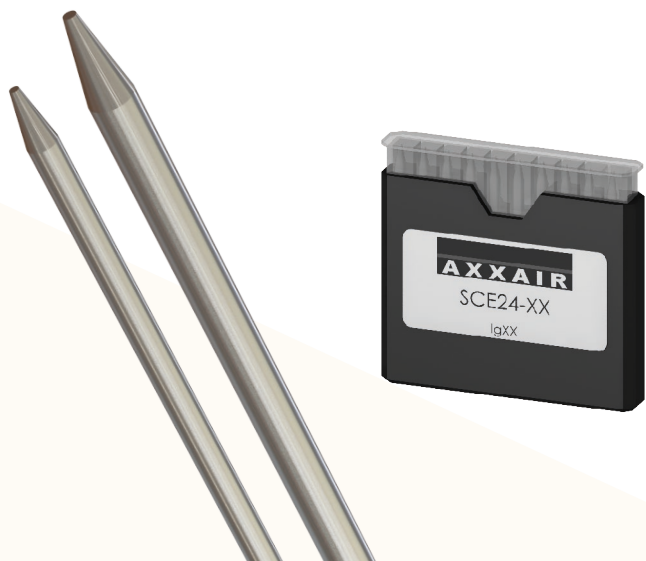
SATF-115MIH



Join experience



# Orbital welding (Closed head) - Consumables



Reference change

## Electrodes for SATF-115xxx

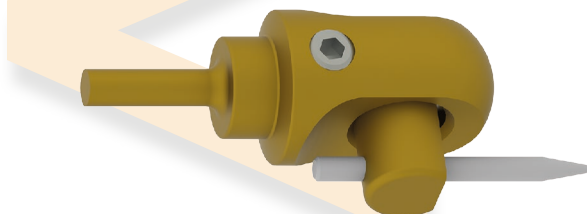
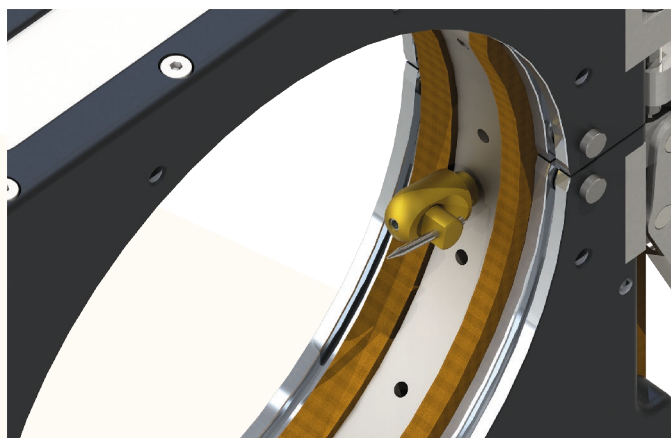
ø of the Tube	Electrode Product Code ø1.6	Electrode Product Code ø2.4	Electrode length in mm
12 - 16 mm	<b>NEW</b> SCE16-66.5	<b>NEW</b> SCE24-66.5	66.5
16 - 23 mm	<b>NEW</b> SCE16-63	<b>NEW</b> SCE24-63	63.0
23 - 30 mm	SCE16-59.5	SCE24-59.5	59.5
30 - 37 mm	SCE16-56	SCE24-56	56.0
37 - 44 mm	SCE16-52.5	SCE24-52.5	52.5
44 - 51 mm	SCE16-49.5	SCE24-49.5	49.5
51 - 58 mm	SCE16-45.5	SCE24-45.5	45.5
58 - 65 mm	SCE16-42	SCE24-42	42.0
65 - 72 mm	SCE16-38.5	SCE24-38.5	38.5
72 - 79 mm	SCE16-35	SCE24-35	35.0
79 - 86 mm	SCE16-31.5	SCE24-31.5	31.5
86 - 93 mm	SCE16-28	SCE24-28	28.0
93 - 100 mm	SCE16-24.5	SCE24-24.5	24.5
100 - 107 mm	SCE16-21	SCE24-21	21.0
107 - 115 mm	SCE16-17.5	SCE24-17.5	17.5

SATF-40NDHX	SATF-65NDHX	<b>✓ SATF-115NDHX</b>	SATF-40MIH	SATF-65MIH	<b>✓ SATF-115MIH</b>
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# Orbital welding (Closed head) - Consumables

(Electrodes when using the SSED accessory)



Reference change

ø of the Tube	Electrode Product Code ø1.6 for SSED-16	Electrode Product Code ø2.4 for SSED-24	Electrode length in mm		
6 - 12 mm	SCE16-25.5	SCE24-25.5	25.5		
12 - 18 mm	SCE16-22	SCE24-22	22		
18 - 24 mm	SCE16-18.5	SCE24-18.5	18.5		
24 - 30 mm	SCE16-15	SCE24-15	15		
30 - 36 mm	SCE16-12	SCE24-12	12		
SATF-40NDHX	✓ SATF-65NDHX	SATF-115NDHX	SATF-40MIH	✓ SATF-65MIH	SATF-115MIH

ø of the Tube	Electrode Product Code ø1.6 for SSED-16	Electrode Product Code ø2.4 for SSED-24	Electrode length in mm		
12 - 19 mm	<b>NEW</b> SCE16-45.5	<b>NEW</b> SCE24-45.5	45.5		
19 - 26 mm	<b>NEW</b> SCE16-43	<b>NEW</b> SCE24-43	43		
26 - 33 mm	SCE16-39.5	SCE24-39.5	39.5		
33 - 40 mm	SCE16-36	SCE24-36	36		
40 - 47 mm	SCE16-32.5	SCE24-32.5	32.5		
47 - 54 mm	SCE16-29	SCE24-29	29		
54 - 61 mm	SCE16-25.5	SCE24-25.5	25.5		
61 - 68 mm	SCE16-22	SCE24-22	22		
68 - 75 mm	SCE16-18.5	SCE24-18.5	18.5		
75 - 82 mm	SCE16-15	SCE24-15	15		
82 - 89 mm	SCE16-12	SCE24-12	12		
SATF-40NDHX	SATF-65NDHX	✓ SATF-115NDHX	SATF-40MIH	SATF-65MIH	✓ SATF-115MIH

