

# ORBITAL WELDING TOOLS

Smart, flexible and totally precise



# ENCLOSED WELD HEADS



OSK 13 S



Due to their design, enclosed weld heads offer complete top layer protection of the weld joint due to continuous weld joint fluting during the welding process with protective gas. This reduces the joints' tempering colours.

A corresponding set of collets is also required for each tube outer diameter due to the design.

The wire cannot be fed cold.

The welds are made in the l-joint with precise joint preparation (90° – saw cut, face if necessary).

Advantage: Enclosed weld heads are comparably narrow and particularly suited to environments where space is tight.



**OSK 13 S MICROFIT WELD HEAD incl. handle and cable assembly, 6 m**  
Gas-cooled weld head for applications with extremely narrow space requirements, e.g. in the semiconductor industry. Specially designed to weld micro-fittings too. The design (specific gas flow management) and the material selection enable high thermal capacity, even without water cooling.

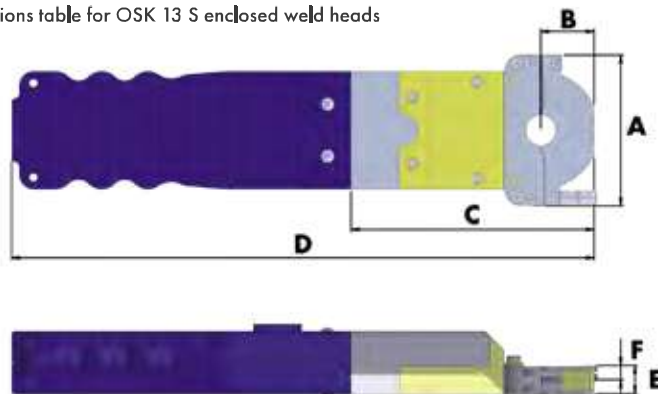
- Extremely narrow / compact design.
- The head assembly is arranged in a way that makes it very easy to maintain.
- 6 m handle and cable assembly with practical handle (start/stop button and status display).
- Weld head compatible with 9-500 clamping cassettes from Arc Machines



Weld head:	Tube size range mm	Inch	Weight
OSK 13 S	OD 3.17 – 12.7 mm	0.125" – 0.500"	2.4 kg

1.3.4000

Dimensions table for OSK 13 S enclosed weld heads



Weld head	A		B		C		D		E		F	
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
OSK 13 S	64	2.520	24.4	0.960	105	4.133	279.2	10.992	12	0.472	6	0.236

## OSK 13 S MICROFIT CLAMPING CASSETTE

For welding where space is extremely tight



- Orbitec TCA clamping cassette, structural width 12 mm (0.472 inch)
- Clamping cassettes compatible with model 9-500 from Arc Machines
- Cassette can be mounted in both directions

1.3.4001+Ø

Orbital welding systems

Welding tools

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Joint preparation

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Item number

### OSK 13 S CLAMPING BLOCK FOR MICRO FITTING

OSK 13 S clamping blocks for tube-tube connections with the matching collets and for tube-fitting connections.



### OSK 13 S CONVERSION KIT

Required for the use using clamping blocks

1.3.4004



### OSK 13 S CLAMPING BLOCKS FOR TUBE-TUBE CONNECTIONS

incl. setting gauge for tube

1.3.4005



### COLLETS FOR OSK 13 S CLAMPING BLOCK

(1 set = 4 collets) incl. setting gauge for tungsten

1.3.4006+Ø



### FITTING MOUNTING KIT FOR CLAMPING BLOCK OSK 13 S

Tube to tube clamping block needed

1.3.4008+Ø

# ENCLOSED WELD HEADS

OSK CS/CW, HANDLE AND CABLE ASSEMBLIES



Item number



## OSK CS GAS-COOLED WELD HEADS

Our new generation of two gas-cooled, compact weld heads that have been technically optimised and redesigned, for smaller nominal widths and featuring clamping levers. The heads were also designed for particularly tight space conditions with a narrow handle.

Weld head:	Tube size range mm	inch	Weight	
<b>OSK 21 CS</b>	OD 3.17 – 21.3 mm	0.125" – 0.839"	0.8 kg	<b>1.0.2820</b>
<b>OSK 38 CS</b>	OD 3.17 – 38.1 mm	0.125" – 1.500"	1.3 kg	<b>1.0.2920</b>



## OSK C HANDLE AND CABLE ASSEMBLY, 8 m

Handle and cable assembly for OSK C and CS, consisting of a handle with control element (start/stop button and status display), weld head interface, motor / gearbox unit and 8 m hose package.

Optional:



## OSK G OR S ADAPTER FLANGE ON C OR CS

Advantage: While using this flange, you can also use the OSK C and CS weld heads with the OSK G or S handle and cable assembly.



## OSK CW WATER-COOLED WELD HEADS

Our new generation of compact weld heads for high thermal capacities with a water-cooled collet housing and clamping levers.

Weld head:	Tube size range mm	inch	Weight	
<b>OSK 21 CW</b>	OD 3.17 – 21.3 mm	0.125" – 0.839"	1.0 kg	<b>1.0.2820W</b>
<b>OSK 38 CW</b>	OD 3.17 – 38.1 mm	0.125" – 1.500"	1.4 kg	<b>1.0.2920W</b>

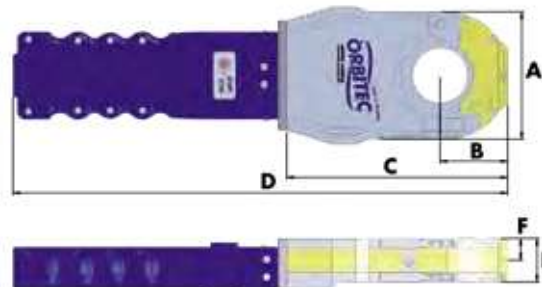
Both CW heads are operated using one handle and cable assembly.



## OSK CW HANDLE AND CABLE ASSEMBLY, 8 m

Consisting of a handle with control element (start/stop button and status display), weld head interface, motor / gearbox unit and 8 m hose package.

### Dimensions table for OSK CS and CW enclosed orbital weld heads



Weld head	A		B		C		D		E		F	
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
OSK 21 CS	70	2.756	40	1.575	150	5.906	370	14.567	35	1.377	17.5	0.689
OSK 38 CS	102	4.016	54	2.156	177	6.969	396	15.591	35	1.377	17.5	0.689
OSK 21 CW	70	2.756	39.5	1.555	146	5.748	365.5	14.390	35	1.378	17.5	0.689
OSK 38 CW	102	4.016	54	2.156	177	6.969	396	15.591	35	1.378	17.5	0.689

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# ENCLOSED WELD HEADS



OSK CS/CW OPTIONS, OSK 21 CLAMPING BLOCK

Item number



## OPTIONAL

### OSK CS / CW WELD HEAD WITH EYEBOLTS AND CLAMPING SCREWS

The following OSK 21 or 38 welding heads are optionally available with eyebolts and spring-loaded clamping screws instead of clamping levers.



### OSK CS GAS-COOLED WELD HEAD

Weld head:	Tube size range mm	inch	Weight
OSK 21 CS with eye & clamping screw	OD 3.17 - 21.3 mm	0.125" - 0.839"	0.8 kg
OSK 38 CS with eye & clamping screw	OD 3.17 - 38.1 mm	0.125" - 1.500"	1.3 kg

1.0.282002  
1.0.292002



### OSK CS WATER-COOLED WELD HEAD

Weld head:	Tube size range mm	inch	Weight
OSK 21 CW with eye & clamping screw	OD 3.17 - 21.3 mm	0.125" - 0.839"	1.0 kg

1.0.2820W01

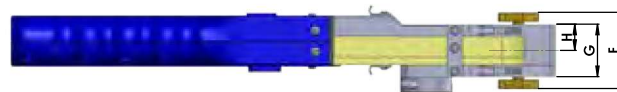
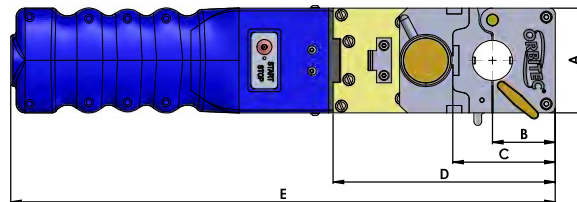
For welding without prior manual tacking:



### OSK 21 CB GAS-COOLED WELD HEAD WITH CLAMPING BLOCK FOR TUBE-TO-TUBE CONNECTIONS incl. setting gauge for pipe

Weld head:	Tube size range mm	inch	Weight
OSK 21 CB with eye & clamping screw	OD 3.17 - 21.3 mm	0.125" - 0.839"	1.0 kg

1.0.28202



Weld head	A		B		C		D		E		F		G		H	
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
OSK 21 S with clamping block	70	2.756	42	1.654	68.5	2.697	148.5	5.846	364	14.331	50.98	2.007	35	1.378	17.5	0.689



### OSK 21/38 TUBE ALIGNMENT FIXTURE OD 6.35 - 25.40 mm | 0.250" - 1.000"



Tube alignment fixture with OSK 38 CS

1.2.0154

# ENCLOSED WELD HEADS

OSK S/SW/GW, HANDLE AND CABLE ASSEMBLIES



Item number



## OSK S GAS-COOLED WELD HEADS

Our new generation of THREE gas-cooled weld heads that have been technically optimised and redesigned and have a tube size range of OD 6 – 114.3 mm / 0.250" – 4.500".

Special design features and the material selection enable high thermal capacity, even without water cooling.

The heads are even narrower and have a quick clamp system for the collets.

Weld head:	Tube size range mm	inch	Weight
<b>OSK 53 S</b>	OD 6 – 53 mm	0.250" – 2.087"	2.1 kg
<b>OSK 76 S</b>	OD 6 – 76.2 mm	0.250" – 3.000"	2.6 kg
<b>OSK 115 S</b>	OD 9.53 – 114.3 mm	0.375" – 4.500"	3.4 kg

## OSK S HANDLE AND CABLE ASSEMBLY, 8 m

Handle and cable assemblies consisting of a handle with control element (start/stop button and status display), weld head interface, motor / gearbox unit and 8 m hose package.

The OSK G and S handle and cable assemblies and weld heads are compatible with one another!

## OSK SW WATER-COOLED WELD HEADS

Our new generation of three OSK SW weld heads – even narrower, technically optimised and redesigned. For very high thermal capacities, we also offer the gas-cooled S series weld heads in a water-cooled SW version (the structural width stays the same). The closed water cooling system covers the bottom collet housing area.

Weld head:	Tube size range mm	inch	Weight
<b>OSK 53 SW</b>	OD 6 – 53 mm	0.250" – 2.087"	2.1 kg
<b>OSK 76 SW</b>	OD 6 – 76.2 mm	0.250" – 3.000"	2.6 kg
<b>OSK 115 SW</b>	OD 9.53 – 114.3 mm	0.375" – 4.500"	3.4 kg

## OSK 170 GW WATER-COOLED WELD HEAD

<b>OSK 170 GW</b>	OD 50 – 168.3 mm	1.969" – 6.626"	7.5 kg
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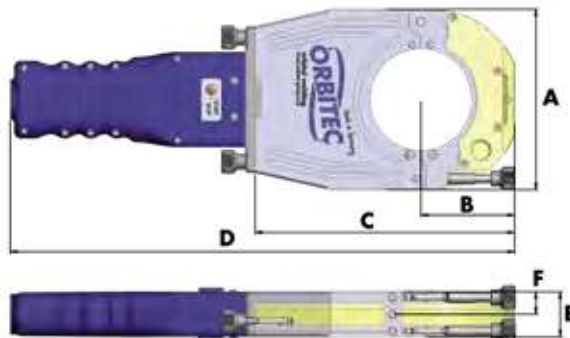
## OSK SW HANDLE AND CABLE ASSEMBLY, 8 m

Handle and cable assemblies consisting of a handle with control element (start/stop button and status display), weld head interface, motor / gearbox unit and 8 m hose package.

The OSK GW and SW handle and cable assemblies and weld heads are compatible with one another!



Dimensions table for OSK SW and GW enclosed orbital weld heads



Weld head	A		B		C		D		E		F	
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
OSK 53 S / SW	130	5.118	70	2.756	205	8.071	425	16.732	40	1.575	20	0.787
OSK 76 S / SW	160	6.299	83	3.268	230	9.055	450	17.717	40	1.575	20	0.787
OSK 115 S / SW	200	7.874	103	4.055	270	10.630	487.5	19.192	40	1.575	20	0.787
OSK 170 GW	270	10.630	132	5.197	343	13.504	563	22.165	44	1.732	22	0.866

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## OSK COLLETS

Maximum availability

We have a comprehensive range of collets in stock for all OSK heads.

1 set per tube outer diameter = 4 half-shells.

**COLLETS FOR OSK 21**

**COLLETS FOR OSK 38**

**COLLETS FOR OSK 53**

**COLLETS FOR OSK 76**

**COLLETS FOR OSK 115**

**COLLETS FOR OSK 170 HP**

**ADAPTER COLLETS OSK 170 ON OSK 115**

1.3.2321+Ø  
1.3.2021+Ø  
1.3.2521+Ø  
1.3.2621+Ø  
1.3.2721+Ø  
1.3.2898+Ø  
1.1.28980



All collet Ø in stock can be found in the table on page 71.

Other Ø and collets with a common contact surface are available as custom designs on request.

**HP collets (OSK 53/76/115) for optimising the tempering colours in clean rooms available on request.**

## OFFSET ELECTRODE HOLDERS

The weld head size's maximum tube size range is then reduced.

**OFFSET ELECTRODE HOLDER** OSK 38 for electrode Ø 1.6 mm | 0.063"

1.3.3110

**OFFSET ELECTRODE HOLDER** from OSK 53 for electrode Ø 1.6 mm | 0.063"

1.3.3106

**OFFSET ELECTRODE HOLDER** from OSK 53 for electrode Ø 2.4 mm | 0.094"

1.3.3101

## MULTI-POSITION ELECTRODE HOLDER

The weld head size's maximum tube size range is then reduced.

**MULTI-POSITION ELECTRODE HOLDER** from OSK 53 for electrode Ø 1.6 mm | 0.063"

1.3.3102

**MULTI-POSITION ELECTRODE HOLDER** from OSK 53 for electrode Ø 2.4 mm | 0.094"

1.3.3107



## GAS-SHIELD COLLETS

GAS-shield collets are particularly narrow and have an aluminium base collet and a screw-on gas-shield collet made of heat-resistant GRP material. They are used to weld fittings, flanges and components with short welded hexagon nipples. In conjunction with offset or multi-position electrode holders, the weld can be completed very close to one side of the weld head. A collet set with a common contact surface is recommended for secure fixing. GAS-SHIELD collets are available for OSK 53 / 76 / 115 weld heads (the max. tube size range is limited).

GAS-SHIELD base collets and gas shields (1 set = 2 half-shells)

**GAS-SHIELD BASE COLLET FOR OSK 53**

1.2.3305

**GAS-SHIELD BASE COLLET FOR OSK 76**

1.2.3304

**GAS-SHIELD BASE COLLET FOR OSK 115**

1.2.3303

**Gas-shield COLLET (GRP)** for OSK 53

1.2.3308

(adaptation by the customer) for OSK 76

1.2.3307

for OSK 115

1.2.3306

**Gas-shield COLLET (GRP)** for OSK 53

1.2.3309

(prefabricated with through-hole) for OSK 76

1.2.3310

for OSK 115

1.2.3311

