

# ORBIWELD 17


**Extremely short production cycles**

**thanks to integrated control elements  
and active cooling**

## Micro weld head

Active-cooled orbital weld head for tubes in semi-conductor production:

With its removable clamping cartridge, integrated control elements and active cooling, the ORBIWELD 17 - or OW 17, for short - clearly stands out in comparison to conventional systems from the competition. This makes it possible to weld thin tubes like those used in semi-conductor production easily, quickly, reliably and - above all - with high quality.



Compatibility with market standards enables trouble-free transitioning to the latest Orbitalum technology	✓
An extremely slim design for use in confined spaces, such as in the semi-conductor industry	✓
Removable clamping cartridges specifically for inline assembly or prefab production of modules	✓
For small tube diameters 3.0 mm to 17.2 mm (0.118" - 0.677")	✓
COAX tube systems can be welded with wall thicknesses up to 1.62 mm (0.064")	✓
Highly resilient thanks to their integrated active liquid cooling	✓
Integrated control panel for operation of the power source	✓

**Following intensive research, this orbital weld head was improved in comparison to commonly available weld heads in crucial areas so as to optimize handling, welding results and production times.**

As the OW 17 is compatible with the current market standard, users can easily switch over to the new technology.

The orbital weld head is specially designed for small tube diameters from 3.0 mm to 17.2 mm (0.118" - 0.677") and wall thicknesses up to 1.62 mm (0.064") like those used in production systems from the semi-conductor industry.

The OW 17 features a removable clamping cartridge which can be very easily positioned around the tubes to be welded in inline assembly at the construction site or prefab production of modules in the workshop.

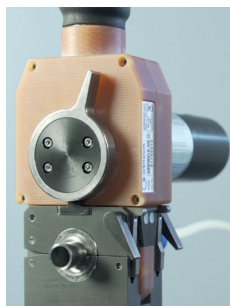
Thanks to its compact, handy design, it can be neatly positioned and perfectly aligned to the weld point, thus enabling use in confined spaces.

When the cartridge is in place, the weld head is inserted and secured in the cartridge and welding can begin. The operating elements required for starting, stopping, gas flow and electrode changes are integrated in the handle of the head. An LED informs the welder of the operating conditions, like readiness to weld and the active process. During installation work, a second operator is not required at the welding power supply, which may not be located nearby.

Integrated active liquid cooling protects the OW 17 head from overheating and enables a long operating duration and therefore shorter work cycles.

The head of the OW 17 is designed for 1.0 mm (0.039") and 1.6 mm (0.063") electrodes and thus ensures a consistently high electrode service life when welding thicker walls. This orbital weld head can also be used with COAX tube systems, for example. This saves the user a second orbital weld head.

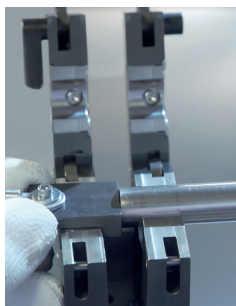
The included adjustable electrode distance gage makes it easier for the operator to set up the electrode; an insertion gage which is permanently attached to the cartridge and thus cannot be lost ensures precise positioning to the tube joint to be welded.



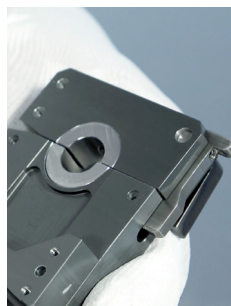
Rugged, compact and handy design.



Integrated control panel enables all commands crucial for welding to be sent to the power source, making any other remote control unnecessary.



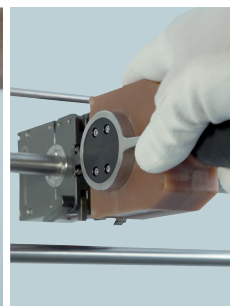
An insertion gage which is permanently attached to the clamping cartridge and thus cannot be lost ensures precise positioning of the tube joint to be welded.



Compatibility with market standards enables trouble-free transitioning to the latest Orbitalum technology.

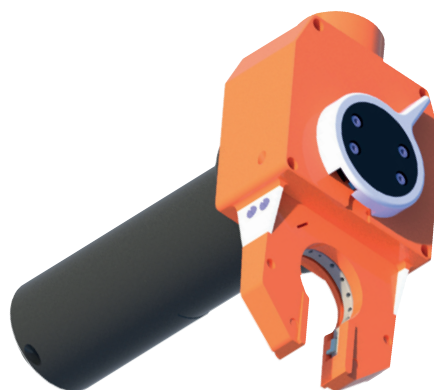


Removable clamping cartridge, which is ideal for inline assembly at the construction site or prefabrication of modules in the workshop.



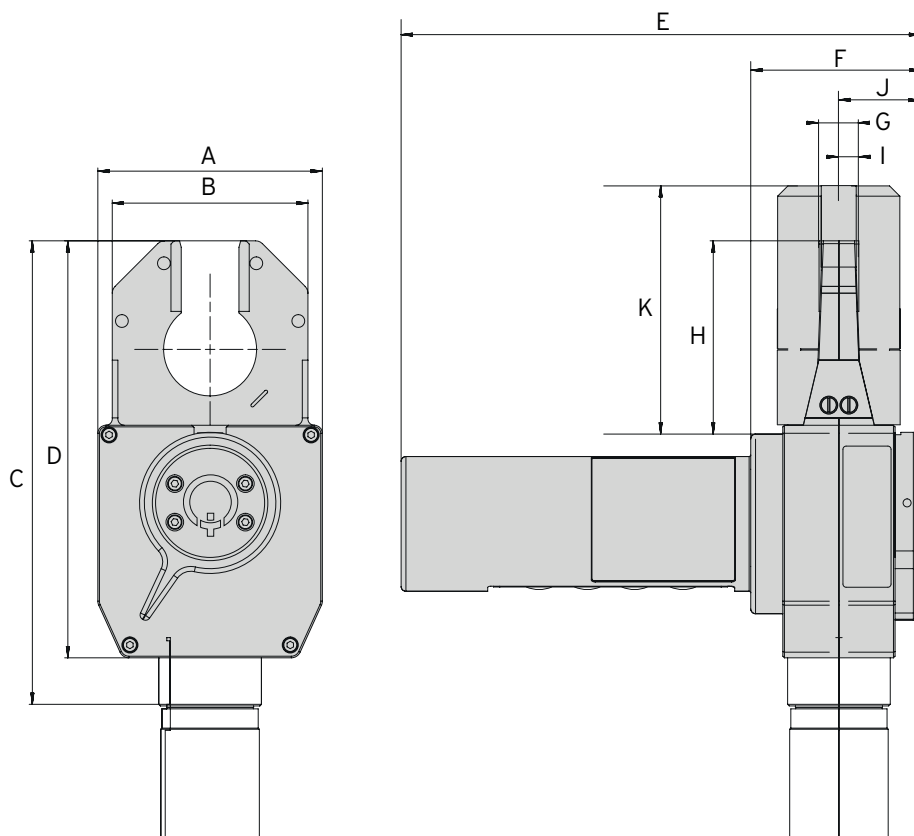
An extremely slim design for use in confined spaces, such as in the semiconductor industry.

APPLICATION RANGE		ORBIWELD 17
Code		817 000 001
Tube OD, min. - max.		3.0 - 17.2 mm 0.118" - 0.677"
Electrode Ø		1.0 / 1.6 mm 0.039" / 0.063"
Machine weight including hose package		5.5 kg 12.1 lbs
Hose package length		7.5 m 24.6 ft
SCOPE OF DELIVERY		
Including:	<ul style="list-style-type: none"> <li>• 1 Micro weld head ORBIWELD 17</li> <li>• 1 Durable storage and shipping case</li> <li>• 1 Tool set</li> <li>• 1 Safety clamp hose assembly</li> <li>• 1 Power connector adapter</li> <li>• 1 Electrode distance gage</li> <li>• 1 Operating instructions and spare parts list</li> </ul>	
Suitable accessories (available option):	<ul style="list-style-type: none"> <li>• Clamping cartridge for OW 17</li> <li>• Clamping inserts for OW 17</li> <li>• ESG tungsten grinders</li> <li>• ORBmax residual oxygen meter</li> <li>• ORBIPURGE forming set</li> <li>• Hose package extensions</li> <li>• WS2 tungsten electrodes</li> </ul>	



DIMENSIONS	ORBIWELD 17	
	DIMENSION	
	[MM]	[INCH]
Dimension "A"	70.00	2.756
Dimension "B"	61.00	2.402
Dimension "C"	144.50	5.689
Dimension "D"	130.00	5.118
Dimension "E"	162.00	6.378
Dimension "F"	53.00	2.087
Dimension "G"	12.40	0.488
Dimension "H"	60.25	2.372
Dimension "I"	5.00	0.120
Dimension "J"	26.80	1.055
Dimension "K"	75.20	2.961

The technical data are not binding. They are not warranted characteristics and are subject to change.



## Micro weld head OW

### ORBIWELD 17

Features, application range, technical data and scope of delivery, siehe page 25.

Clamping cartridg and clamping inserts are not included in the scope of delivery-.

ARTICLE	CODE		WEIGHT OF MACHINE KG*	DISPATCH WEIGHT KG
Micro weld head OW 17	817 000 001		5.500	13.900

\* Machine weight including hose package



ORBIWELD 17

### Clamping cartridge for OW 17

Stainless steel. Removable clamping cartridge specifically for inline assembly or prefab production of modules. For the mounting of clamping inserts. An insertion gage which is permanently attached to the cartridge and thus cannot be lost ensures precise positioning to the tube joint to be welded. The clamping cartridges are supplied in a rugged, lockable plastic box.

Scope of delivery:

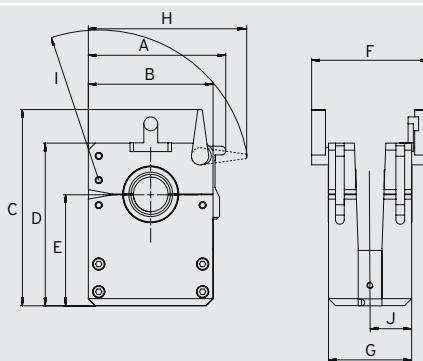
- 1 x insertion gage for standard applications
- 1 x insertion gage for COAX applications
- 1 x 3/32" hexagon wrench
- 1 x 1/16" hexagon wrench
- 1 x plastic box

Suitable clamping inserts for different tube diameters must be ordered separately.



Clamping cartridge for OW 17  
(clamping inserts are not included in the scope of delivery)

DIMENSIONS	[MM]	[INCH]
Dimension "A"	63.00	2.480
Dimension "B"	57.20	2.252
Dimension "C"	90.00	3.543
Dimension "D"	74.60	2.937
Dimension "E"	50.90	2.004
Dimension "F"	53.60	2.110
Dimension "G"	38.10	1.500
Dimension "H"	72.60	2.858
Dimension "I"	70.00	2.756
Dimension "J"	19.05	0.750



ARTICLE	CODE	KG
Clamping cartridge for OW 17	817 050 010	

ENCLOSED ORBITAL WELD HEADS



Clamping inserts for OW 17

## Clamping inserts for OW 17

Stainless steel. Can only be used if the OW 17 clamping cartridge is used.

1 clamping insert is comprised of 2 half shells.

1 clamping insert (= 2 half shells) is required for each clamping side of the clamping cartridge.

This means that 2 clamping inserts (= 4 half shells) must be used for each clamping cartridge.

In the case of COAX connections, 2 tubes with different tube diameters are usually welded together, e.g. a tube with a 12.7 mm (1/2") dia. and a tube with a 15.88 mm (5/8") dia. In applications like this, 2 clamping inserts with correspondingly different tube diameters must be used.

Other dimensions available on request.

VERSION	TUBE OD [MM]	TUBE OD [INCH]	CODE		KG
Inch sizes	3.18	0.125	817 002 201		
Inch sizes	4.76	0.188	817 002 202		
Inch sizes	6.35	0.250	817 002 203		
Inch sizes	7.94	0.313	817 002 204		
Inch sizes	9.53	0.375	817 002 205		
Inch sizes	12.70	0.500	817 002 206		
Inch sizes	14.29	0.563	817 002 207		
Inch sizes	15.88	0.625	817 002 208		
Metric sizes	3.00	0.118	817 002 209		
Metric sizes	4.00	0.157	817 002 210		
Metric sizes	5.00	0.196	817 002 211		
Metric sizes	6.00	0.236	817 002 212		
Metric sizes	8.00	0.314	817 002 213		
Metric sizes	9.00	0.354	817 002 214		
Metric sizes	10.00	0.393	817 002 215		
Metric sizes	11.00	0.433	817 002 216		
Metric sizes	12.00	0.472	817 002 217		
Metric sizes	14.00	0.551	817 002 218		
Metric sizes	15.00	0.590	817 002 219		
Metric sizes	16.00	0.629	817 002 220		
Metric sizes	17.20	0.677	817 002 221		

## Other accessories for orbital welding

- ESG tungsten grinders, see page 79
- ORBmax residual oxygen meter, see page 83
- ORBIPURGE forming set, see page 86
- Hose package extensions, see page 86
- WS2 tungsten electrodes, see page 87
- Power connector adapter set, see page 87

### ENCLOSED ORBITAL WELD HEADS