

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 narrow design for use in confined spaces, such as in the semi-conductor industry	✓
Removable clamping cartridge 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.

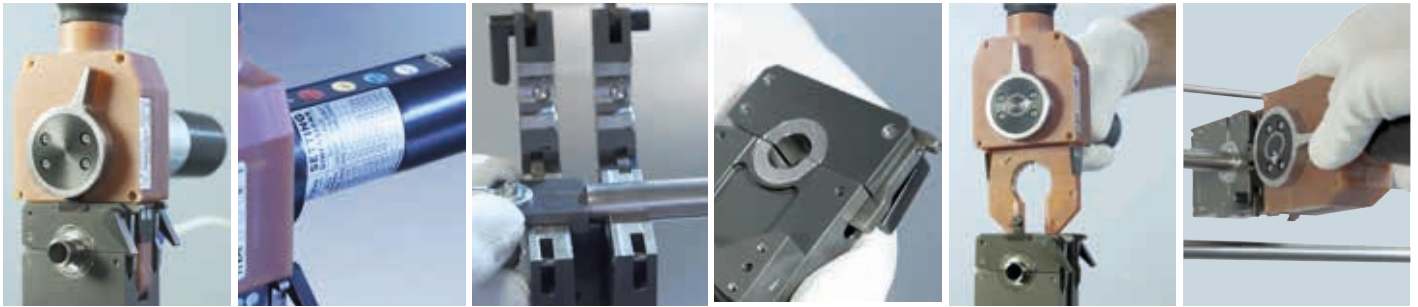
When the cartridge is in place, the weld head is inserted and secured in the cartridge and welding can begin. The operating elements required for starting, stopping, gas flow and electrode changes are integrated in the handle of the head. An LED informs the welder of the operating conditions, like readiness 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 – this way all commands which are important for welding can be transferred, so that no additional remote control is required.

An insertion gage which is permanently attached to the clamping cartridge and thus cannot be lost ensures precise positioning to 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 prefab production of modules in the workshop.

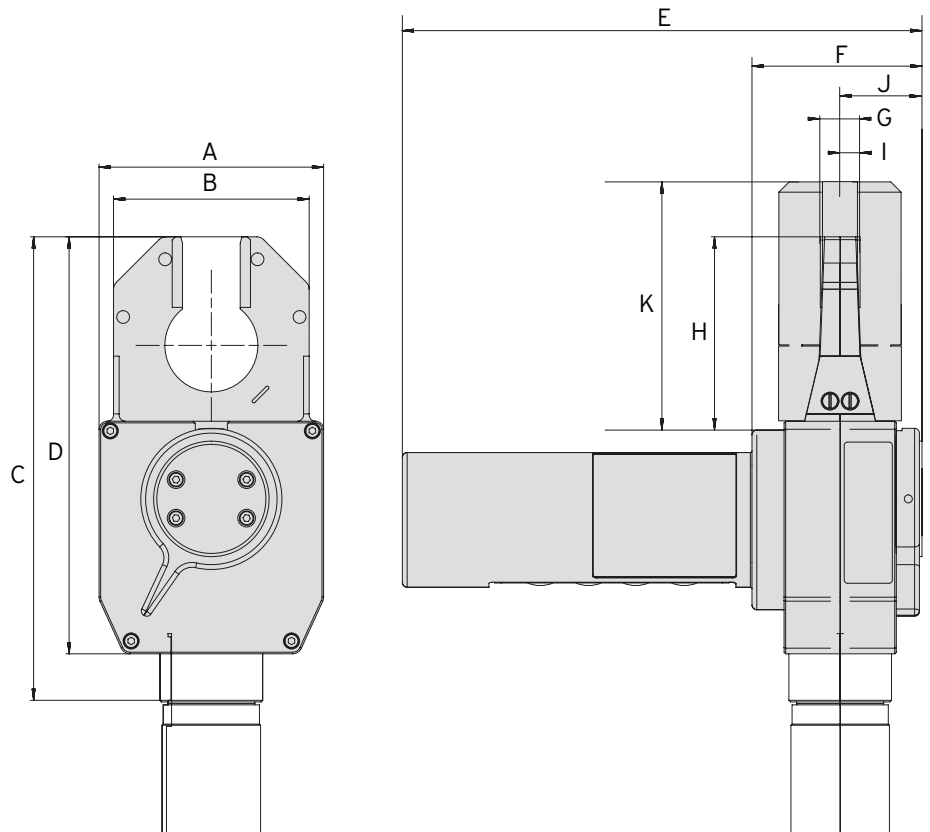
An extremely narrow design for use in confined spaces, such as in the semi-conductor industry.

APPLICATION AREA	ORBIWELD 17
Code	817 000 001
Tube OD, min. - max.	3.0 - 17.2 mm 0.118 - 0.677 in
Electrode diameter	1.0/1.6 mm 0.039 / 0.063 in
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"> • 1 micro weld head ORBIWELD 17 • 1 transport case • 1 tool set • 1 safety clamp hose assembly • 1 electrode distance gage • 1 set of operating instructions and spare parts list
Suitable accessories (optionally available):	<ul style="list-style-type: none"> • Clamping cassette for OW 17 • Clamping inserts for OW 17 • ESG electrode grinders • ORBmax residual oxygen meter • ORBIPURGE forming set • Hose package extensions • WS2 tungsten electrodes



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

Technical specifications are non-binding. They do not constitute any assurance of properties. We reserve the right to make changes.



Micro weld head OW

ORBIWELD 17

Properties, application area, technical specifications and delivery scope, see page 30.

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



ORBIWELD 17



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

ITEM	CODE	MACHINE WEIGHT KG*	SHIPPING WEIGHT KG
Micro weld head OW 17	817 000 001	5.500	13.900

* Machine weight including hose package

Clamping cassette for OW 17

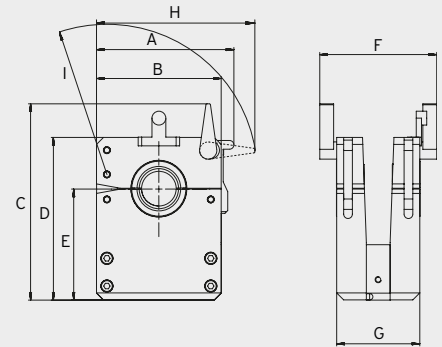
Made of stainless steel. Removable clamping cartridge specifically for inline assembly or prefab production of modules. For the mounting of clamping inserts. An insertion gage which is permanently attached to the cartridge and thus cannot be lost ensures precise positioning to the tube joint to be welded. 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.

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



ITEM	CODE	KG
Clamping cassette for OW 17	817 050 010	0.442

CLOSED ORBITAL WELD HEADS

Clamping inserts for OW 17

Made of stainless steel. Can only be used when clamping cassette OW17 as well as other common or compatible clamping cassettes are used.

1 clamping insert consists of 2 half shells.

Per clamping side of the clamping cassette you require 1 clamping insert (= 2 half shells). Thus you have to use 2 clamping inserts (=4 half shells) per clamping cassette.

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") diameter and a tube with a 15.88 mm (5/8") diameter. For such applications 2 clamping inserts with correspondingly different hose diameters have to be inserted.

Further dimensions on request.

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



Clamping insert for OW 17

Other accessories for orbital welding

- ESG electrode grinders, see page 86
- ORBmax residual oxygen meter, see page 90
- ORBIPURGE forming set, see page 93
- Hose package extensions, see page 94
- WS2 tungsten electrodes, see page 94
- Welding current connection adapter set, see page 95