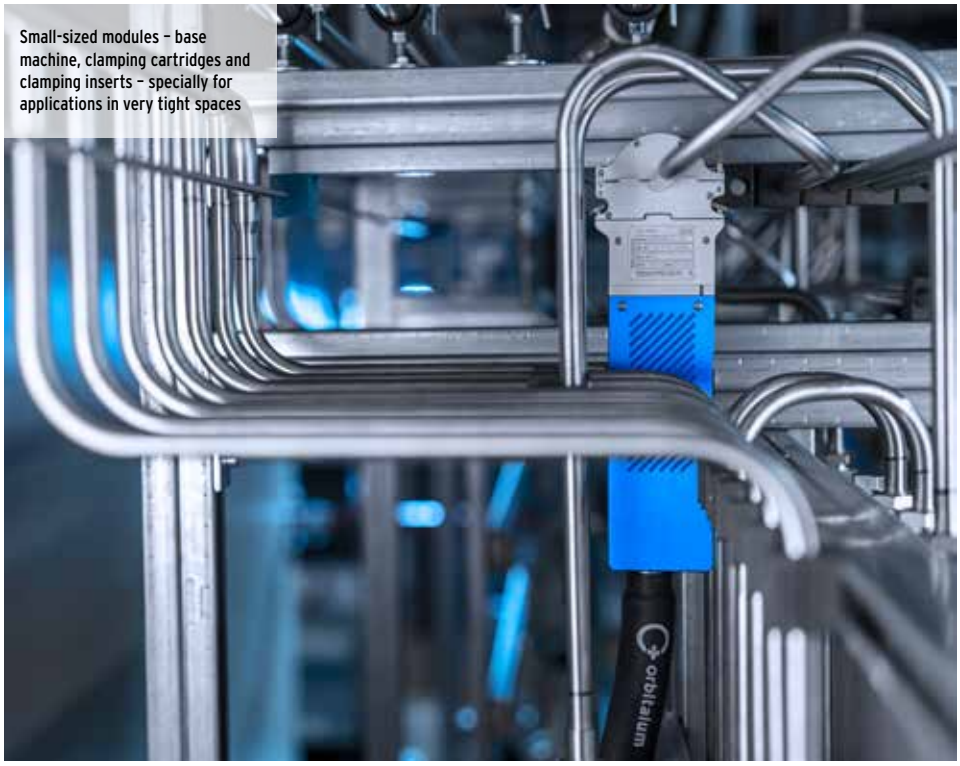
ORBIWELD 12

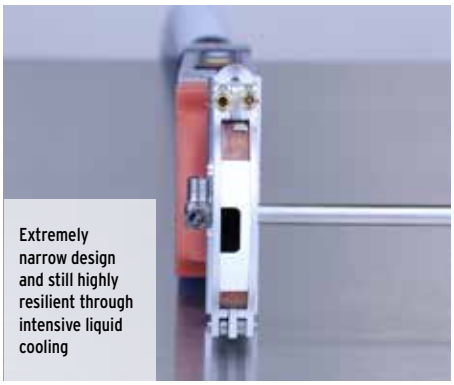
Compact TIG weld head – ideal for tight spaces

Micro weld head

It doesn't get any smaller or more effective than this: Thanks to its extremely narrow construction the OW 12 offers a unique diversity of functions as well as a high duty cycle previously unknown in weld heads of this size through its liquid cooling. This micro weld head is a compact space-saving marvel and guarantees continually reproducible, high-quality weld seams, even with high currents. Ideal for welding all common micro fittings!



Small-sized modules – base machine, clamping cartridges and clamping inserts – specially for applications in very tight spaces



Extremely narrow design and still highly resilient through intensive liquid cooling



Removable clamping cartridges for exact aligning of the parts to be welded

The OW 12 with its small-sized modules – basic machine, clamping cartridges and clamping inserts – is the ideal tool for work under tight spaces such as in the semi-conductor industry, aerospace technology, pharmaceuticals and supply of high-purity water.

With a control panel integrated in the robust and stable aluminum handle of the weld head, all commands which are important for the welding process can be transferred to the power source so that no additional remote control is required.

Removable clamping cartridges allow exact aligning of the parts to be welded, even under tight spaces.

FURTHER PROPERTIES:

- Toolless quick change system for clamping cartridges and clamping inserts
- Wide clamping cartridges (Type "B") with changeable clamping inserts for standard applications
- Extremely narrow clamping cartridge (Type "A") for welding of micro fittings and for other applications with very limited clamping lengths
- The head is 5.7 kg (12.6 lbs) light. All connections for electricity, gas and cooling water are firmly integrated in the OW 12
- To increase productivity, the optional ORBITWIN switching unit allows working with up to two heads in an alternating fashion, thus reducing conversion times and downtimes considerably
- Including highly flexible hose package (length: 7.5 m/24.6 ft) with strain relief to the power source – optionally extendable to up to 20.0 m (64 ft)

The OW 12 success model has been optimized!

The result: A well-engineered weld head with unequaled robustness, high ease of use and even higher performance, for example through:

- ✓ Higher temperature stability
- ✓ Improved ignition characteristics
- ✓ Optimized rotor guidance
- ✓ Optimized weld gas control
- ✓ Liquid-cooled
- ✓ Integrated control panel
- ✓ 7.5 m (24.6 ft) hose package

AN ITW COMPANY **ORBITALUM TOOLS GMBH** Josef-Schüttler-Str. 17 78224 Singen Germany Phone +49 (0) 77 31 792 - 0 Fax +49 (0) 77 31 792 - 524 tools@orbitalum.com



Robust and stable aluminum handle with integrated control panel



Ideal for welding all common micro fittings



Diameter-specific clamping cartridges – available separately



Aluminum clamping inserts for OW 12, type "B" (wide) – available separately



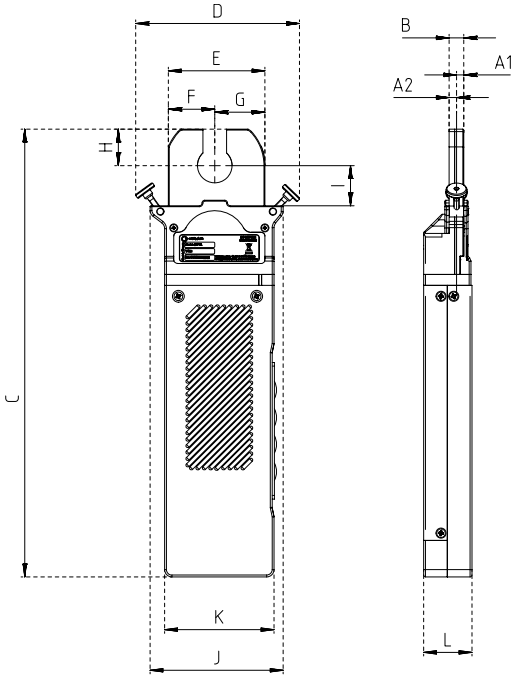
Wide accessories program, e.g. ORBmax residual oxygen meter

SCOPE OF APPLICATION OW 12:	MICRO FITTING AT MICRO FITTING	MICRO FITTING AT HOSE	HOSE AT HOSE	ADVANTAGES:
Clamping cassettes, Type "A" (narrow)	x	x	x	High flexibility through narrow design
Clamping cassettes, Type "B" (wide)			x	Low costs through exchangeable cartridges

APPLICATION AREA	ORBIWELD 12
Code	**821 000 010**
Tube OD, min. - max.	3.0 - 12.7 mm 0.118 "- 0.500"
Electrode diameter	1.0 mm 0,039"
Machine weight including hose package	4.8 kg 10.6 lbs
Hose package length	7.5 m 24.6 ft
SCOPE OF DELIVERY	
Including:	• 1 micro weld head ORBIWELD 12 • 1 transport case • 1 tool set • 1 feeler gauge • 1 General safety instructions • Operating instructions and spare parts list (PDF)
Suitable accessories (optionally available):	• Clamping cassettes for OW 12, Type "A" (small) • Clamping cassette for OW 12, Type "B" (wide) • Clamping inserts for OW 12, Type "B" (wide) • Table mount • ESG electrode grinders • ORBmax residual oxygen meter • ORBIPURGE forming set • Hose package extensions • WS2 tungsten electrodes

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

DIMENSIONS			ELECTRODE GAP			
ORBIWELD 12	DIMENSION		CASSETTE TYPE "A"		CASSETTE TYPE "B"	
	[MM]	[INCH]	[MM]	[INCH]	[MM]	[INCH]
Dimension "**A1**"	4.25	0.167	6.35	0.250	15.60	0.614
Dimension "**A2**"	3.75	0.148	5.85	0.230	15.10	0.594
Dimension "**B**"	8.00	0.315	12.20	0.480	30.70	1.209
Dimension "**C**"	245.70	9.673				
Dimension "**D**"	90.00	3.543				
Dimension "**E**"	53.00	2.087				
Dimension "**F**"	25.50	1.004				
Dimension "**G**"	27.50	1.083				
Dimension "**H**"	20.00	0.787				
Dimension "**I**"	22.00	0.866				
Dimension "**J**"	73.00	2.874				
Dimension "**K**"	60.00	2.362				
Dimension "**L**"	26,50	1.043				





ORBIWELD 12
with narrow clamping cassette
(Type "A")



ORBIWELD 12
with wide clamping cassette
(Type "B")

Micro weld head OW

ORBIWELD 12



OW 12 with narrow clamping cassette (Type "A")



OW 12 with wide clamping cassette (Type "B")
And changeable clamping inserts

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

ITEM	CODE	MACHINE WEIGHT KG*	SHIPPING WEIGHT KG
Micro weld head OW 12	**821 000 010**	4.800	11.000

* Machine weight including hose package

Suitable accessories (optionally available):

- Clamping cassettes for OW 12, Type "A" (narrow)
- Clamping cassette for OW 12, Type "B" (wide)
- Welding current connection adapter set
- Table base for clamping cartridge OW 17

Clamping cassettes for OW 12, Type "A" (narrow)



Clamping cassettes for OW 12, Type "A" (small)

Made of stainless steel with folding cover "FlipCover" - allows control and, if necessary, readjustment of the electrode position before welding. For welding of micro fittings and other applications with very limited clamping lengths, clamping cartridges with an overall width of only 12.2 mm (0.48") can be supplied (Type "A"). A separate clamping cassette is required for each hose diameter for Type "A".

ITEM	TUBE OD [MM]	TUBE OD [INCH]	CODE	KG
Clamping cassette SS for OW 12, Type "A" (narrow), V3	3.00	0.118	**821 050 201**	0.100
Clamping cassette SS for OW 12, Type "A" (narrow), V3	3.18	0.125	**821 050 202**	0.100
Clamping cassette SS for OW 12, Type "A" (narrow), V3	6.00	0.236	**821 050 203**	0.100
Clamping cassette SS for OW 12, Type "A" (narrow), V3	6.35	0.250	**821 050 204**	0.100
Clamping cassette SS for OW 12, Type "A" (narrow), V3	8.00	0.315	**821 050 205**	0.100
Clamping cassette SS for OW 12, Type "A" (narrow), V3	9.53	0.375	**821 050 206**	0.100
Clamping cassette SS for OW 12, Type "A" (narrow), V3	10.00	0.394	**821 050 207**	0.100
Clamping cassette SS for OW 12, Type "A" (narrow), V3	12.00	0.472	**821 050 208**	0.100
Clamping cassette SS for OW 12, Type "A" (narrow), V3	12.70	0.500	**821 050 209**	0.100

Clamping cassette for OW 12, Type "B" (wide)



Clamping cassette for OW 12, Type "B" (wide)

When using clamping cassette Type "B", an additional clamping insert, Type "B" (wide) is required for each hose diameter.

ITEM	CODE	KG
Clamping cassette for OW 12, Type "B" (wide)	**821 050 002**	0.095

Clamping inserts for OW 12, Type "B" (wide)

Made of aluminum. Can only be used if the Type "B" clamping cartridge is used.
A clamping insert consists of 4 individual parts (2 inserts per side).

ITEM	TUBE OD [MM]	TUBE OD [INCH]	CODE	KG
Clamping insert for OW 12, Type "B" (wide), 4-part	3.00	0.118	**821 002 220**	0.050
Clamping insert for OW 12, Type "B" (wide), 4-part	3.18	0.125	**821 002 222**	0.050
Clamping insert for OW 12, Type "B" (wide), 4-part	4.00	0.157	**821 002 224**	0.050
Clamping insert for OW 12, Type "B" (wide), 4-part	6.00	0.236	**821 002 228**	0.050
Clamping insert for OW 12, Type "B" (wide), 4-part	6.35	0.250	**821 002 229**	0.050
Clamping insert for OW 12, Type "B" (wide), 4-part	7.00	0.276	**821 002 230**	0.050
Clamping insert for OW 12, Type "B" (wide), 4-part	7.94	0.313	**821 002 232**	0.050
Clamping insert for OW 12, Type "B" (wide), 4-part	8.00	0.315	**821 002 233**	0.050
Clamping insert for OW 12, Type "B" (wide), 4-part	9.00	0.354	**821 002 234**	0.050
Clamping insert for OW 12, Type "B" (wide), 4-part	9.53	0.375	**821 002 235**	0.050
Clamping insert for OW 12, Type "B" (wide), 4-part	10.00	0.394	**821 002 237**	0.050
Clamping insert for OW 12, Type "B" (wide), 4-part	12.00	0.472	**821 002 243**	0.050
Clamping insert for OW 12, Type "B" (wide), 4-part	12.70	0.500	**821 002 245**	0.050



Clamping inserts for OW 12, Type "B" (wide), 4-part

Other accessories for orbital welding

- ESG electrode grinders
- ORBmax residual oxygen meter
- Hose package extensions
- WS2 tungsten electrodes
- Welding current connection adapter set

ORBITALUM TOOLS GMBH Josef-Schüttler-Str. 17 78224 Singen Germany Phone +49 (0) 77 31 792 - 0 Fax +49 (0) 77 31 792 - 524 tools@orbitalum.com AN ITW COMPANY