

CATALOGUE

>> EN [890 700 012 | Rev. 0913]



ORBITAL WELDING

>> Orbital welding systems and accessories for high-purity process piping



New products.



OP 46-102 (AVC/OSC) | Open orbital weld heads

Open weld heads for applications with limited space availability.

Benefits:

- Can be used with or without additional wire.
- Smallest space requirement thanks to compact design.
- Also available with electronic arc voltage control (AVC) and oscillation (OSC).

...more on page 48



HX 16 series | Open orbital weld heads

Open weld heads especially made for heat exchanger applications.

Benefits:

- Optimum solutions for weld pre-mounted elbows.
- Smallest space requirements thanks to compact design.
- Highly durable thanks to water-cooled earth plate and rotor housing.
- Horizontal, vertical and tilted welding positions are possible.

...more on page 52



P16 AVC | Tube-to-tube-sheet orbital weld head

Tube-to-tube-sheet orbital weld head with electronic arc voltage control (AVC).

Benefits:

- Simple handling with maximum functionality.
- Water coolant that extends into the WIG burner head.
- Fitted with a cold wire feed mounted directly on the welding head including a retaining mechanism for 100 mm/1kg (3.937 inch) standard wire reel.

...more on page 57

Sales hotline: +49 (0) 77 31 792-0



Orbital Welding Power Supplies	7
• Orbital welding power supplies ORBIMAT CAdvanced	8
• Orbital welding power supplies ORBIMAT CBasic	11
• Water cooling systems for ORBIMAT power supplies	14
• Other accessories for ORBIMAT power supplies	15
Enclosed Orbital Weld Heads	18
• Enclosed microweld head ORBIWELD 12	21
• Enclosed orbital weld head ORBIWELD 19	23
• Enclosed orbital weld heads ORBIWELD S	26
• Enclosed orbital weld heads ORBIWELD	27
• Clamping shells for enclosed orbital weld heads	28
Open Orbital Weld Heads	41
• Open orbital weld heads ORBIWELD TP	43
• Open orbital weld heads ORBIWELD TP AVC/OSC	45
• Open orbital weld heads OP 46 51 102 (AVC/OSC)	48
• Open orbital weld heads HX 16 HX 16S HX 16L	52
Tube-to-tube-sheet Orbital Weld Heads	55
• Tube-to-tube-sheet orbital weld heads P16 / P16 AVC	56
• Tube-to-tube-sheet orbital weld head P20	58
• Accessories for tube-to-tube-sheet orbital weld heads	59
Accessories for Orbital Welding	63
• Tungsten Grinder ESG Plus	64
• Other accessories for orbital welding	67



Orbitalum Tools GmbH – The company

Complete solutions for highest requirements in tube and pipe welding preparation up to orbital welding – all from one source. Orbitalum Tools GmbH is your competent partner for orbital tube and pipe preparation and orbital welding technology for industrial piping systems, prefabrication and maintenance.

Orbitalum Tools develops and produces portable tube saws, tube facing machines, pipe end preparation machines, computer controlled orbital welding power sources as well as closed and open weld heads.

There are numerous areas of application. The spectrum ranges from the construction of process plants (ultra pure media e.g. semiconductor, electronic, pharmaceutical and biotechnology; chemical, food and beverage industry, aviation and aerospace technology, shipbuilding), includes the construction of energy plants (power plants, refineries, oil, gas and petrochemical industry) and even utilities (water and gas supply, heating, air conditioning and cooling, as well as sprinkler).

The wide range of products is based on customer requirements. The company is certified according to ISO 9001:2008 and is setting high value on sustainability.

Our customers appreciate our sound application know-how and our first class customer service. Our continuous success is based on our customer oriented innovations and the quality of our people, products and processes which we constantly strive to improve.

Orbitalum Tools GmbH, formerly known as Georg Fischer Rohrverbindungstechnik GmbH, was an independent subsidiary within the Georg Fischer Piping Systems group of companies since its foundation in the year 1960 until 2005, with its head office in Schaffhausen (CH). Since January 1st 2006, Orbitalum Tools GmbH belongs to the US American industrial company Illinois Tool Works Inc. (ITW).

Orbimatic GmbH was found in 1990 and very quickly established themselves as an innovative and leading manufacturer for orbital welding systems. Orbimatic has been acquired by ITW in 2008.

In 2009 both companies – Orbitalum Tools GmbH and Orbimatic Welding Systems – have been merged to the new “OrbitalumTools GmbH”.



Our Mission: Complete solutions – from one source.

The performance attributes of Orbitalum Tools „Precision. Power. Simplicity.“reflect the high precision, powerful and robust drive and tool designs as well as the ease and safe use of the products produced in Singen and Buseck (Germany). Orbitalum products excel with high efficiency, ease of operation and a safe and mobile setup conforming to the latest safety standards.

precision.

A square, deformation- and burr-free cut or a reproducible pipe end preparation is a must for an automated orbital welding process.

The Orbitalum Tools GmbH develops, produces and markets these highly precise machines and tools as well as the corresponding consumables for the piping industries as well as for utilities. Orbitalum orbital welding systems enable a precise, documentable and safe welding of piping systems.

power.

Durable, robust and powerful systems and machines enable a continuous and effective usage for your individual application.

Either for a professional weld preparation or for an automated orbital welding solution, even in challenging conditions – Orbitalum Tools GmbH is your global partner with a worldwide presence and logistics network.

simplicity.

As complexity and demand are continuously increasing in our surroundings, Orbitalum Tools GmbH is focusing on systems and machines that are ergonomic and user friendly and specially made for pipeline constructors.

Intuitive operator guidance and a simplified service diagnostic enable a fast practice and an efficient completion.

Tube OD to Standards

Tube OD		DIN (DIN 11850)	ISO (EN ISO 1127)	Inch (ASME BPE 1997)
[mm]	[inch]			
3,17	0.125			
6,00	0.236			
6,35	0.250			1/4"
8,00	0.315	6		
9,35	0.368			3/8"
10,00	0.394	8		
10,20	0.402		10,2	
12,00	0.472			
12,70	0.500			1/2"
13,00	0.512	10		
13,50	0.531		13,5	
15,88	0.625			
16,00	0.630			
17,20	0.677		17,2	
18,00	0.709			
19,00	0.748	15		
19,05	0.750			3/4"
20,00	0.787			
21,30	0.839		21,3	
22,00	0.866			
23,00	0.906	20		
25,40	1.000			1"
26,90	1.059		26,9	
28,00	1.102			
29,00	1.142	25		
30,00	1.181			
33,70	1.327		33,7	
35,00	1.378	32		
38,10	1.500			1 1/2"
40,00	1.575			
41,00	1.614	40		
42,40	1.669		42,4	
44,50	1.752			
48,30	1.902		48,3	
50,80	2.000			2"
51,00	2.008			
52,00	2.047			
53,00	2.087	50		
54,00	2.126			
60,30	2.374		60,3	
63,50	2.500			2 1/2"
70,00	2.756	65		
76,10	2.996		76,1	
76,20	3.000			3"
85,00	3.346	80		
88,90	3.500		88,9	
101,60	4.000			4"
104,00	4.094	100		
108,00	4.252			
114,30	4.500		114,3	
127,00	5.000			
129,00	5.079	125		
139,70	5.500		139,7	
152,40	6.000			6"
154,00	6.063	150		
165,10	6.500			
168,30	6.626		168,3	
177,80	7.000			
190,50	7.500			
204,00	8.031	200		
219,10	8.626		219,1	

⑥ Tube OD to Standards



ORBIMAT CAdvanced - compact orbital welding power supply!

Orbital Welding Power Supplies

7



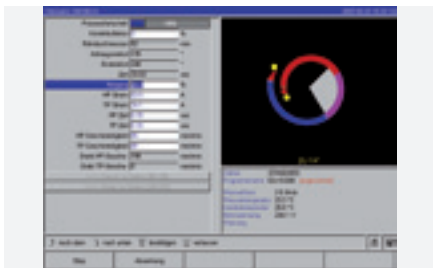
Simple and convenient operation thanks to multifunctional rotary actuator



Clearly laid-out 10.5" swivel monitor



Integrated job printer allows actual values to be printed out



Automatic programming and multilingual menu navigation via color display



*PSS Pro-Service System:
Simple functional test with no need to open the unit*

Orbital welding power supplies ORBIMAT CA

The ORBIMAT CAdvanced series of orbital welding power supplies are equipped with a new and unique operating concept.

In addition to the reliable automatic programming which generates welding parameters by entering the tube diameter, wall thickness, material, and welding gas all ORBIMAT CA models also have the exclusive new development FLOW FORCE to reduce the pre-flow gas time when the weld heads are closed in the standard model and BUP control function with controllable, position-dependent tube internal pressure control as an optional extra.

The basic model of the ORBIMAT CA series includes the following functions and equipment:

- Simple and convenient operation thanks to multifunctional rotary actuator.
- Control option for cold wire feed.
- DC welding.
- Optimal visibility and operating conditions thanks to clearly laid-out 10.5" swivel monitor.
- Graphically-supported operating interface and multilingual menu navigation via color display.
- Capacity to store over 5,000 welding programs, providing systematic and clear program management thanks to the creation of folder structures.
- Welding data logging and printout of actual values.
- A multcard reader enables data to be transferred easily to an external PC.
- It is possible to extend memory and data exchange using CompactFlash card (CF), SD, MMC, Sony memory stick.
- (Optional) PC-offline software with the capability to convert data protocols to PDF.
- Extremely easy to service thanks to PSS (Pro Service System):
 - Simple functional test with no need to open the unit.
 - Easy to service and components can be replaced quickly thanks to systematic component structure.
- Power and motor slope adjustment between the individual sectors.
- Coolant water and welding gas are monitored.
- Option to program up to 99 sectors.
- Possibility of connecting a monitor or printer (through VGA).
- Integrated printer.
- Metric and imperial units.

Scope of delivery ORBIMAT CA power supplies:

- 1 orbital welding power supply of the ORBIMAT CA series
- 1 connection hose set ORBIMAT
- 1 blind plug
- 1 welding connector adapter 165A/300A
- 1 external keyboard
- 1 liter antifreeze
- 1 filling funnel
- 2 keys for key switch
- 1 operation manual

ORBIMAT 165 CA

Computer-controlled 165 A compact power supply for orbital welding
– ideal for mobile use on building sites.

See page 8 for the basic model; additional functions and equipment:

- Integrated water cooling system for cooling the connected weld heads.
- WIDE RANGE input voltages for safe operation of power sets or voltage networks with extreme fluctuations in voltage.

Technical Data	ORBIMAT 165 CA
Connection voltage (WIDE-RANGE)	90 - 260 V, 50/60 Hz, single-phase
Control range	2 - 165 A for a connection voltage > 160 V 2 - 110 A for a connection voltage < 160 V
Power-on time	30% at 165 A 100% at 120 A
Weight	26 kg
Dimensions	510 x 360 x 220 mm

Article	Code		kg
ORBIMAT 165 CA	871 000 001		26,000

ORBIMAT 300 CA

Computer-controlled 300 A power supply for orbital welding.

See page 8 for basic model.

Please note that the ORBIMAT 300 CA may only be operated in conjunction with a water cooling system that must be ordered separately (see page 14).

Technical Data	ORBIMAT 300 CA
Connection voltage	400 V +/- 15%, 50/60 Hz, 3 phase
Control range	5 - 300 A
Power-on time	40% at 300 A 60% at 260 A 100% at 220 A
Weight	33 kg
Dimensions	530 x 400 x 400 mm

Article	Code		kg
ORBIMAT 300 CA	872 000 001		33,000



ORBIMAT 165 CA



ORBIMAT 300 CA



ORBIMAT 300 CA AC/DC

ORBIMAT 300 CA AC/DC

Computer-controlled 300 A power supply for orbital welding, also for aluminum materials.

See page 8 for the basic model; additional functions and equipment:

- Alongside the benefits of the ORBITAT 300 CA power supply, this device also offers the option of AC welding.
- Option to set a positive and negative half-cycle in the ratio 20 - 80%.
- Frequency setting 50 - 200 Hz.
- Detection of actual values for the welding reports in the DC regime.

Please note that the ORBITAT 300 CA AC/DC may only be operated in conjunction with a water cooling system that must be ordered separately (see page 14).

Technical Data		ORBIMAT 300 CA AC/DC	
Connection voltage		400 V +/- 15%, 50/60 Hz, 3 phase	
Control range		5 - 300 A	
DC and AC currently (switch selectable)		40% at 300 A	
Power-on time		60% at 260 A	
		100% at 220 A	
Weight		41,4 kg	
Dimensions		530 x 400 x 400 mm	

Article	Code		kg
ORBIMAT 300 CA AC/DC	877 000 001		41,400

ORBIMAT 300 CA AVC/OSC

Computer-controlled 300 A power supply for orbital welding with arc voltage control (AVC) and oscillation (OSC).

See page 8 for the basic model; additional functions and equipment:

- The new arc voltage control calculates and programs the length of the arc automatically in „mm“ from the current voltage characteristics. This avoids the usual time spent calculating the necessary arc voltage each time the weld power changes to maintain the arc at a consistent length in the individual sectors.
- During oscillation each of the edge holding times can be synchronized with the high-pulse settings.
- The center of the seam can be accessed manually and be determined using an automatic scanner. The electrode accesses each of side of the seam and then calculates the center of the path automatically. For asymmetric weld seam configurations this is compensated by an OFFSET function.
- Including remote control (cable length: 7,5 m) *Code 875 050 001*.
- There is the option of an HF-free touch start ignition.

Please note that the ORBITAT 300 CA AVC/OSC may only be operated in conjunction with a water cooling system that must be ordered separately (see page 14).

Technical Data		ORBIMAT 300 CA AVC/OSC	
Connection voltage		400 V +/- 15%, 50/60 Hz, 3 phase	
Control range		5 - 300 A	
Power-on time		40% at 300 A	
		60% at 260 A	
		100% at 220 A	
Weight		37,3 kg	
Dimensions		530 x 400 x 400 mm	

Article	Code		kg
ORBIMAT 300 CA AVC/OSC	872 000 002		37,300



ORBIMAT 300 CA AVC/OSC
incl. remote control



ORBIMAT CBasic - compact orbital welding power supplies!

Orbital Welding Power Supplies

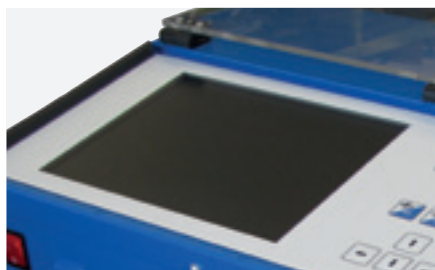
11



*Multilingual menu navigation
via color display*



High quality function and numeric keypad



*Optimal visibility and operating conditions
thanks to clearly laid-out 10.5" monitor*



Integrated printer



*PSS Pro-Service System:
Simple functional test with no need
to open the unit*

Orbital welding power supplies ORBIMAT CB

Orbital welding power supplies of the ORBIMAT CBasic series include the tried and tested and classic operating concept from Orbitalum with entry of all parameters via a high quality function and numeric keypad. All values can be programmed directly and without a conversion factor.

The ORBIMAT CB series includes the tried and tested automatic programming with programming help when entering the tube diameter, wall thickness, material and welding gas.

The basic model of the ORBIMAT CB series includes the following functions and equipment:

- DC welding.
- Control option for cold wire feed.
- Optimal visibility and operating conditions thanks to clearly laid-out 10.5" monitor.
- Multilingual menu navigation via color display.
- Capacity to store over 5,000 welding programs.
- Welding data logging and printout of actual values.
- A multiscard reader enables data to be transferred easily to an external PC.
- Memory can be extended and data exchanged using CompactFlash card (CF), SD, MMC, SM, Sony memory stick.
- (Optional) PC-offline software with the capability to convert data protocols to PDF.
- Extremely easy to service thanks to PSS (Pro Service System):
 - Simple functional test with no need to open the unit.
 - Easy to service and components can be replaced quickly thanks systematic component structure.
- Power slope adjustment between the individual sectors.
- Coolant water and welding gas are monitored.
- Option to program up to 99 sectors.
- Possibility of connecting a monitor or printer (through VGA).
- Integrated printer.
- Metric and imperial units.

Scope of delivery ORBIMAT CB power supplies:

- 1 orbital welding power supply of the ORBIMAT CB series
- 1 connection hose set ORBIMAT
- 1 blind plug
- 1 welding connector adapter 165A/300A
- 1 external keyboard
- 1 liter antifreeze
- 1 filling funnel
- 2 keys for key switch
- 1 operation manual

ORBIMAT 165 CB

Computer-controlled 165 A compact power supply for orbital welding
– Ideal for mobile use on building sites.

See page 12 for the basic model; additional functions and equipment:

- Integrated water cooling system for cooling the connected weld heads.
- WIDE RANGE input voltages for safe operation of power sets or voltage networks with extreme fluctuations in voltage.

Technical Data	ORBIMAT 165 CB
Connection voltage (WIDE-RANGE)	90 - 265 V, 50/60 Hz, 1 phase
Control range	2 - 165 A for a connection voltage > 160 V 2 - 110 A for a connection voltage < 160 V
Power-on time	20% at 165 A 100% at 120 A
Weight including water coolant system	24 kg
Dimensions including water coolant system	510 x 360 x 220 mm

Article	Code		kg
ORBIMAT 165 CB	875 000 001		24,000



ORBIMAT 165 CB

ORBIMAT 300 CB

Computer-controlled 300 A power supply for orbital welding.

See page 12 for basic model.

Please note that the ORBIMAT 300 CB may only be operated in conjunction with a water cooling system that must be ordered separately (see page 14).

Technical Data	ORBIMAT 300 CB
Connection voltage	400 V +/- 15%, 50/60 Hz, 3 phase
Control range	5 - 300 A
Power-on time	40% bei 300 A 60% bei 260 A 100% bei 220 A
Weight	34 kg
Dimensions	530 x 400 x 400 mm

Article	Code		kg
ORBIMAT 300 CB	874 000 001		34,000



ORBIMAT 300 CB

Orbital Welding Power Supplies

Water cooling systems for ORBIMAT power supplies

ORBICAR W trolley with integrated water coolant

The ORBICAR W trolley is the perfect accessory for the Orbitalum 300 A power supplies due to the integrated water cooling. In addition to the water cooling the trolley has a gas bottle holder.

Article	Suitable for ORBIMAT	Code		kg
ORBICAR W trolley with integrated water coolant	300 CB, 300 CA, 300 CA AC/DC	884 000 002		58,200
ORBICAR W trolley with integrated water coolant*	165 CA, 165 CB	884 000 004		58,200



ORBICAR W trolley
with integrated water coolant



ORBICOOL Active

ORBICOOL Active

Very efficient compressor cooling device with constant and adjustable water temperature. Including water flow sensor. Significantly increases cooling performance for the weld heads. Particularly suitable for welding units in series production.

Suitable for all* ORBIMAT orbital welding power supplies.

Technical Data	ORBICOOL Active
Coolant capacity	814 W
Connected load	0,58 kW
Maximum power consumption	6,2 A
Mains voltage	230 V, 50 Hz
Water tank capacity	6 l
Coolant type	air-cooled
Dimensions (lxwxh)	565 x 440 x 335 mm

Article	Code		kg
ORBICOOL Active for OM 165 CA/CB*	889 000 001		40,000
ORBICOOL Active for OM 300 CA/CB	889 000 002		40,000

*The power supply ORBIMAT 165A series has to be modified in our plant.

Other accessories for ORBITAT power supplies

ORBITWIN switching device

To increase productivity, the switching unit ORBITWIN is available, with which 2 welding heads can be operated alternately on the ORBITAT. The previously assigned program is recalled automatically when the start key of the weld head is actuated. The welding head that is not being used is locked and can be prepared for the next welding operation.



ORBITWIN 300 switching device

Article	Suitable for ORBITAT	Code		kg
ORBITAT 165 CB switching device	165 CB	860 000 001		8,800
ORBITAT 165 CA switching device	165 CA	861 000 001		8,800
ORBITWIN 300 switching device*	all ORBITAT 300	876 000 001		8,800

* not suitable for AVC/OSC machines.

ORBICAR S trolley

The ORBICAR S is a practical trolley with storage shelf and an option of securing a gas cylinder. The ORBICAR S trolley can be combined with all power supplies of the ORBITAT series. This trolley is most commonly used an orbital welding power supply of the ORBITAT 165 A series.



ORBICAR S trolley

Article	Code		kg
ORBICAR S trolley	884 000 001		19,100

Durable carrying case

With castors. Protects the power supply during transport and during on-site storage. Can be supplied for ORBITAT 165 CB/CA and ORBITAT 300 CB/CA (incl. ORBICOOL Compact).

Article	Suitable for ORBITAT	Code		kg
Carrying case	165 CB, 165 CA	875 050 002		17,500
Carrying case	300 CB, 300 CA, 300 CA AC/DC	874 050 001		20,800



Durable carrying case

((the ORBITAT 300 CA series shown here is not supplied))

Oxygen meter ORB 1001

To determine the residual oxygen in forming gases. Maintenance-free. Complete in a dust-and water-proof transport container.

See page 67 for detailed information and the order number.



Oxygen Meter ORB 1001

Orbital Welding Power Supplies

15



ORBIPURGE forming set



BUP Control Box
incl. ORBIPURGE forming set



CompactFlash Card



Soft-/Hardware package

ORBIPURGE forming set

Complete with Teflon gas hose and quick release couplings.

The ORBIPURGE forming set for tube internal diameter 12 - 110 mm (0.472 - 4.331 inch) includes all accessories for fast and efficient internal forming during orbital welding.

See page 68 for detailed information and the order number.

BUP Control Box

The power supplies of the ORBIMAT CA-series offer the option in conjunction with the BUP control attachment to adjust the forming gas pressure in the inner tube via a pressure sensor, which compensates almost entirely for the often otherwise annoying entry of the seam weld into the sump position. At the same time, the gas pressure is modified automatically during welding by the system between a programmable minimum and maximum value depending on the position of the electrodes.

Including ORBIPURGE forming set for tube internal diameter 12 - 110 mm (0.472 - 4.331 inch). Complete with (3) Teflon gas hoses and rapid-action couplings.

Article	Suitable for ORBIMAT	Code		kg
BUP Control Box	165 CA, 300 CA	886 000 001		2,700

CompactFlash Card

For storing weld data protocols or for extending the program memory (one is already included in the soft/hardware package). Capacity to store over 5,000 welding programs.

Article	Code		kg
CompactFlash Card	875 012 056		0,010

Soft-/Hardware package

Suitable for all ORBIMAT orbital welding power supplies.

For external programming and data documentation, consisting of:

- 1 CompactFlash card 32 MB for transferring data between the machine and PC.
- 1 USB card reader for exporting the CompactFlash card on the PC (no further device required).
- ORBIPROG_CA software allows programs and protocols to be stored on the PC. All data can further be converted into PDF format, enabling this data to be read with practically any standard PC. Additionally, programs from C-series machines (e.g. OM 160 C) and CB-series can be converted to CA format with the help of software. The parameters of the CA programs can be edited using the software and can be transferred back to CA models and used there after processing.

Article	Code		kg
Soft-/Hardware package	875 050 003		0,200

Remote control with cable

Suitable for all ORBIMAT orbital welding power supplies
(the and ORBIMAT 300 CA AVC/OSC already include the remote control).
Is required when connecting closed orbital weld heads.

Article	Cable length [m]	Cable length [ft]	Code		kg
Remote control with cable	7,5	24.6	875 050 001		1,350



Remote control with cable

Paper roll for integrated printer

Paper roll for integrated printer.
Suitable for all ORBIMAT orbital welding power supplies.

Article	Code		kg
Paper roll for integrated printer (contains 3 paper rolls)	875.050.017		0,150



Paper roll for integrated printer

Ribbon cartridge for integrated printer

Ribbon cartridge for integrated printer.

Article	Code		kg
Ribbon cartridge for integrated printer CA*	875 030 004		0,010
Ribbon cartridge for integrated printer CB*	875 030 002		0,020

* Article is part of scope of delivery of all ORBIMAT power supplies.



Ribbon cartridge for integrated printer

Anti freeze

Anti freeze for avoiding freezing of the cooling water.
Protects undiluted up to -60° degree.
Suitable for ORBICOOL Active, ORBIMAT 165 CB and ORBIMAT 165 CA.

Article	Code		kg
Anti freeze 1 Liter*	875 030 011		1,350

* Article is part of scope of delivery of all ORBIMAT power supplies.



Anti freeze 1 liter

Hose connection set ORBIMAT

Consists of:

- Teflon gas hose
- Ear clamps with insert
- Hose clips 3/8"
- Water hose for tank
- Gas input connector
- Swivel nuts 3/8"
- Hose clips 1/4"
- Swivel nuts 1/4"

Article	Code		kg
Hose connection set ORBIMAT*	875 030 018		0,404

* Article is part of scope of delivery of all ORBIMAT power supplies.



Hose connection set ORBIMAT

Orbital Welding Power Supplies



ORBIWELD - totally enclosed, extra thin orbital tube weld heads!

18

Enclosed Orbital Weld Heads

Overview enclosed weld heads

Enclosed weld heads ORBIWELD / ORBIWELD S

Model		OW 12	OW 19	OW 38S	OW 65	OW 76S	OW 115	OW 115S	OW 170
Code		821 000 001	822 000 001	826 000 001	823 000 001	827 000 001	824 000 001	828 000 001	825 000 001
Tube Ø	[mm]	3 - 12,7	3 - 19,05	3 - 39	6 - 70	6 - 77	20 - 115	20 - 115	50 - 170
	[inch]	1/8 - 5	1/8 - 7.5	1/8 - 1.5	1/4 - 2.5	1/4 - 3	3/4 - 4.5	3/4 - 4.5	2 - 6
Rotor Ø	[mm]	40	58	82	129	122	183	191	252
	[inch]	1.575	2.283	3.228	5.079	4.803	7.205	7.520	9.921

Electrode lengths/diameter for enclosed weld heads

Model	OW 12		OW 19		OW 38S		OW 65		OW 76S		OW 115		OW 115S		OW 170		
	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	
Rotor Ø	40,00	1.575	58,00	2.283	82,00	3.228	129,00	5.079	122,00	4.803	183,00	7.204	191,00	7.520	252,00	9.921	
Tungsten Electrode Ø	1,0	0.039	1,6	0.063	1,6 2,4	0.063 0.094	1,6 2,4	0.063 0.094	1,6 2,4	0.063 0.094	1,6 2,4	0.063 0.094	1,6 2,4	0.063 0.094	1,6 2,4	0.063 0.094	
Tube Ø	Electrode length min. - max. with weld head:																
[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]
3,17	0.125	13,5	0.50	22,5	0.90	34,5	1.35										
6,00	0.236	12,5	0.45	21,5	0.80	33,5	1.30	57,0	2.20	53,5	2.10						
6,35	0.250	12,0	0.45	21,0	0.80	33,0	1.30	56,5	2.20	53,0	2.05						
8,00	0.315	11,5	0.45	20,5	0.80	32,5	1.25	56,0	2.20	52,5	2.05						
9,53	0.375	10,5	0.40	19,5	0.75	31,5	1.20	55,0	2.15	51,5	2.00						
10,00	0.394	10,5	0.40	19,5	0.75	31,5	1.20	55,0	2.15	51,5	2.00						
10,20	0.402	10,0	0.40	19,0	0.75	31,0	1.20	54,5	2.15	51,0	2.00						
12,00	0.472	9,5	0.35	18,5	0.70	30,5	1.20	54,0	2.10	50,5	1.95						
12,70	0.500	9,0	0.35	18,0	0.70	30,0	1.15	53,5	2.10	50,0	1.95						
13,00	0.512			18,0	0.70	30,0	1.15	53,5	2.10	50,0	1.95						
13,50	0.531			17,5	0.65	29,5	1.15	53,0	2.05	49,5	1.95						
15,88	0.625			16,5	0.65	28,5	1.10	52,0	2.00	48,5	1.90						
16,00	0.630			16,5	0.60	28,5	1.10	52,0	2.00	48,5	1.90						
17,20	0.677			15,5	0.60	27,5	1.05	51,0	2.00	47,5	1.85						
18,00	0.709			15,5	0.60	27,5	1.05	51,0	2.00	47,5	1.85						
19,00	0.748			15,0	0.55	27,0	1.05	50,5	1.95	47,0	1.85						
19,05	0.750			14,5	0.55	26,5	1.05	50,0	1.95	46,5	1.80						
20,00	0.787					26,5	1.00	50,0	1.95	46,5	1.80	77,0	3.00	81,0	3.15		
21,30	0.839					25,5	1.00	49,0	1.90	45,5	1.80	76,0	3.00	80,0	3.15		
22,00	0.866					25,5	1.00	49,0	1.90	45,5	1.75	76,0	2.95	80,0	3.10		
23,00	0.906					25,0	0.95	48,5	1.90	45,0	1.75	75,5	2.95	79,5	3.10		
25,40	1.000					23,5	0.90	47,0	1.85	43,5	1.70	74,0	2.90	78,0	3.05		
26,90	1.059					23,0	0.90	46,5	1.80	43,0	1.65	73,5	2.85	77,5	3.05		
28,00	1.102					22,5	0.85	46,0	1.80	42,5	1.65	73,0	2.85	77,0	3.00		
29,00	1.142					22,0	0.85	45,5	1.75	42,0	1.65	72,5	2.85	76,5	3.00		
30,00	1.181					21,5	0.80	45,0	1.75	41,5	1.60	72,0	2.80	76,0	2.95		
33,70	1.327					19,5	0.75	43,0	1.65	39,5	1.55	70,0	2.75	74,0	2.90		
35,00	1.378					19,0	0.70	42,5	1.65	39,0	1.50	69,5	2.70	73,5	2.85		
38,10	1.500					17,0	0.65	40,5	1.60	37,0	1.45	67,5	2.65	71,5	2.80		
40,00	1.575							40,0	1.55	36,5	1.40	67,0	2.60	71,0	2.75		
41,00	1.614							39,5	1.55	36,0	1.40	66,5	2.60	70,5	2.75		
42,40	1.669							38,5	1.50	35,0	1.35	65,5	2.55	69,5	2.70		
44,50	1.752							37,5	1.45	34,0	1.30	64,5	2.50	68,5	2.70		
48,30	1.902							35,5	1.40	32,0	1.25	62,5	2.45	66,5	2.60		
50,80	2.000							34,5	1.35	31,0	1.20	61,5	2.40	65,5	2.55	96,0	3.75
51,00	2.008							34,5	1.35	31,0	1.20	61,5	2.40	65,5	2.55	96,0	3.75
52,00	2.047							34,0	1.30	30,5	1.20	61,0	2.40	65,0	2.55	95,5	3.75
53,00	2.087							33,5	1.30	30,0	1.15	60,5	2.35	64,5	2.50	95,0	3.70
54,00	2.126							33,0	1.25	29,5	1.15	60,0	2.35	64,0	2.50	94,5	3.70
60,30	2.374							29,5	1.15	26,0	1.00	56,5	2.20	60,5	2.35	91,0	3.55
63,50	2.500							28,0	1.10	24,5	0.95	55,0	2.15	59,0	2.30	89,5	3.50
70,00	2.756							25,0	0.95	21,5	0.80	52,0	2.00	56,0	2.20	86,5	3.40
76,10	2.996									18,0	0.70	48,5	1.90	52,5	2.05	83,0	3.25
76,20	3.000									18,0	0.70	48,5	1.90	52,5	2.05	83,0	3.25
85,00	3.346											44,5	1.75	48,5	1.90	79,0	3.10
88,90	3.500											42,5	1.65	46,5	1.80	77,0	3.00
101,60	4.000											36,0	1.40	40,0	1.55	70,5	2.75
104,00	4.094											35,0	1.35	39,0	1.50	69,5	2.70
108,00	4.252											33,0	1.25	37,0	1.45	67,5	2.65
114,30	4.500											2,5	1.15	33,5	1.30	64,0	2.50
127,00	5.000															58,0	2.25
129,00	5.079															57,0	2.20
139,70	5.500															51,5	2.00
152,40	6.000															45,0	1.75
154,00	6.063															44,5	1.75
165,10	6.500															38,5	1.50
168,30	6.626															37,0	1.45

Formula: Electrode length = $\frac{\text{Rotor } \varnothing - \text{Tube } \varnothing}{2}$ – Electrode interval (generally 1,5 mm) – 3

Dimensions (mm) Enclosed Orbital Weld Heads

OW 12 Version A (narrow)	OW 12 Version B (wide)	ORBIWELD 19
ORBIWELD 38S	ORBIWELD 76S	ORBIWELD 115S
Elektrode 17.0	Elektrode 19.0	
ORBIWELD 65	ORBIWELD 115	ORBIWELD 170

Enclosed orbital weld heads ORBIWELD

Microweld head ORBIWELD 12

The ideal solution for welds in the semiconductor industry and in all applications where space is very limited. Also particularly suitable for welding all common microfittings.

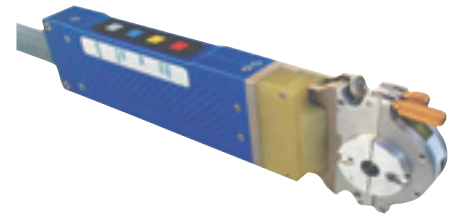
With its extremely compact design and different clamping cartridges, the ORBIWELD 12 microweld head offers a uniquely versatile functionality and a high power-on time previously unknown for weld heads of this size thanks to the water coolant system. With an ORBIMAT series power supply you now have a highly accurate welding system that is yet simple to handle.

- Quick change system for clamping shells.
- Remote control built into the handle.
- Extremely narrow clamping cartridges (Version A).
- Wide clamping cartridge (Version B) with exchangeable clamping shells for standard applications.
- The removable clamping cartridge enables accurate alignment with the parts to be welded, even where there is very little space.

Including 7.5 m (24.6 ft) hose package and tool set.

For cable assembly extensions see page 40.

The clamping cartridges and clamping shell shells should be ordered separately (see below).



OW 12 with wide clamping cartridge (version B) and exchangeable clamping shells



OW 12 with narrow clamping cartridge (version A) especially for welding microfittings.

Article	Tube OD [mm]	Tube OD [inch]	Code		Weight weld head [kg]	Dispatch weight [kg]
Microweld head OW 12	3,00 - 12,70	0.118 - 0.500	821 000 001		5,700	11,000

Exchangeable clamping cartridges for OW 12 version A (narrow)

Clamping cartridges with a total width of only 12.7 mm (0.5 inch) can be supplied (version A, see below) for welding microfittings and other applications with very limited chuck lengths. For version A a separate clamping cartridge is required for every tube diameter.

Article	Tube OD [mm]	Tube OD [inch]	Code		kg
Clamping cartridge OW 12 version A narrow	3,00	0.118	821 050 101		-
Clamping cartridge OW 12 version A narrow	3,17	0.125	821 050 102		-
Clamping cartridge OW 12 version A narrow	4,00	0.157	821 050 103		-
Clamping cartridge OW 12 version A narrow	4,76	0.187	821 050 104		-
Clamping cartridge OW 12 version A narrow	4,78	0.188	821 050 105		-
Clamping cartridge OW 12 version A narrow	5,00	0.197	821 050 106		-
Clamping cartridge OW 12 version A narrow	6,00	0.236	821 050 107		-
Clamping cartridge OW 12 version A narrow	6,35	0.250	821 050 108		-
Clamping cartridge OW 12 version A narrow	7,00	0.276	821 050 109		-
Clamping cartridge OW 12 version A narrow	7,94	0.313	821 050 110		-
Clamping cartridge OW 12 version A narrow	8,00	0.315	821 050 111		-
Clamping cartridge OW 12 version A narrow	9,00	0.354	821 050 112		-
Clamping cartridge OW 12 version A narrow	9,53	0.375	821 050 113		-
Clamping cartridge OW 12 version A narrow	10,00	0.394	821 050 114		-
Clamping cartridge OW 12 version A narrow	10,10	0.398	821 050 115		-
Clamping cartridge OW 12 version A narrow	10,20	0.402	821 050 116		-
Clamping cartridge OW 12 version A narrow	10,30	0.406	821 050 117		-
Clamping cartridge OW 12 version A narrow	10,50	0.413	821 050 118		-
Clamping cartridge OW 12 version A narrow	11,00	0.433	821 050 119		-
Clamping cartridge OW 12 version A narrow	11,90	0.469	821 050 120		-



Clamping cartridge for OW 12 Version A (schmal)

Enclosed Orbital Weld Heads



Exchangeable clamping cartridges
for OW 12 version B wide



Clamping shells set OW 12
version B wide (4pcs.)



Clamping cartridge microfitting
for ORBIWELD 12

Article	Tube OD [mm]	Tube OD [inch]	Code		kg
Clamping cartridge OW 12 version A narrow	12,00	0.472	821 050 121		-
Clamping cartridge OW 12 version A narrow	12,10	0.476	821 050 122		-
Clamping cartridge OW 12 version A narrow	12,20	0.480	821 050 123		-
Clamping cartridge OW 12 version A narrow	12,50	0.492	821 050 124		-
Clamping cartridge OW 12 version A narrow	12,70	0.500	821 050 125		-

Exchangeable clamping cartridge for OW 12 Version B (wide)

When using the exchangeable clamping cartridge version B
a set of clamping shells is required in addition for each tube OD (see below).

Article	Code		kg
Exchangeable clamping cartridge for OW 12 version B wide	821 050 002		0,095

Clamping shells sets for OW 12 Version B (wide)

When using the exchangeable clamping cartridge version B
a set of clamping shells is required in addition for each tube OD.

Article	Tube OD [mm]	Tube OD [inch]	Code		kg
Clamping shells set OW 12 version B wide (4pcs.)	3,00	0.118	821 002 220		-
Clamping shells set OW 12 version B wide (4pcs.)	3,17	0.125	821 002 221		-
Clamping shells set OW 12 version B wide (4pcs.)	3,18	0.125	821 002 222		-
Clamping shells set OW 12 version B wide (4pcs.)	3,95	0.156	821 002 223		-
Clamping shells set OW 12 version B wide (4pcs.)	4,00	0.157	821 002 224		-
Clamping shells set OW 12 version B wide (4pcs.)	4,76	0.187	821 002 225		-
Clamping shells set OW 12 version B wide (4pcs.)	4,78	0.188	821 002 226		-
Clamping shells set OW 12 version B wide (4pcs.)	5,95	0.234	821 002 227		-
Clamping shells set OW 12 version B wide (4pcs.)	6,00	0.236	821 002 228		-
Clamping shells set OW 12 version B wide (4pcs.)	6,35	0.250	821 002 229		-
Clamping shells set OW 12 version B wide (4pcs.)	7,00	0.276	821 002 230		-
Clamping shells set OW 12 version B wide (4pcs.)	7,50	0.295	821 002 231		-
Clamping shells set OW 12 version B wide (4pcs.)	7,94	0.313	821 002 232		-
Clamping shells set OW 12 version B wide (4pcs.)	8,00	0.315	821 002 233		-
Clamping shells set OW 12 version B wide (4pcs.)	9,00	0.354	821 002 234		-
Clamping shells set OW 12 version B wide (4pcs.)	9,53	0.375	821 002 235		-
Clamping shells set OW 12 version B wide (4pcs.)	9,95	0.392	821 002 236		-
Clamping shells set OW 12 version B wide (4pcs.)	10,00	0.394	821 002 237		-
Clamping shells set OW 12 version B wide (4pcs.)	10,10	0.398	821 002 238		-
Clamping shells set OW 12 version B wide (4pcs.)	10,20	0.402	821 002 239		-
Clamping shells set OW 12 version B wide (4pcs.)	11,00	0.433	821 002 240		-
Clamping shells set OW 12 version B wide (4pcs.)	11,11	0.437	821 002 241		-
Clamping shells set OW 12 version B wide (4pcs.)	11,95	0.470	821 002 242		-
Clamping shells set OW 12 version B wide (4pcs.)	12,00	0.472	821 002 243		-
Clamping shells set OW 12 version B wide (4pcs.)	12,10	0.476	821 002 244		-
Clamping shells set OW 12 version B wide (4pcs.)	12,70	0.500	821 002 245		-

Clamping cartridge for OW 12 for microfittings

Clamping cartridge especially designed for microfittings applications.
a separate clamping cartridge is required for each tube OD.

Possible welding applications:

- Microfitting to microfitting.
- Microfitting to tube.
- Tube to tube.

Article	Tube OD [mm]	Tube OD [inch]	Code		kg
Clamping cartridge OW 12 microfitting	3,17	0.125	821 050 029		-
Clamping cartridge OW 12 microfitting	6,00	0.236	821 050 040		
Clamping cartridge OW 12 microfitting	6,35	0.250	821 050 030		-
Clamping cartridge OW 12 microfitting	8,00	0.315	821 050 041		-
Clamping cartridge OW 12 microfitting	9,53	0.375	821 050 050		-
Clamping cartridge OW 12 microfitting	10,00	0.394	821 050 042		-
Clamping cartridge OW 12 microfitting	12,00	0.472	821 050 055		-
Clamping cartridge OW 12 microfitting	12,70	0.500	821 050 060		-

Orbital weld head OW 19

Enclosed orbital weld heads for tubes and microfitting.

Extremely narrow design and yet highly durable thanks to intensive water cooling system.

The small dimensions of the OW 19 weld head make it ideal for applications where space is very limited, as is often the case in the semiconductor, air and aerospace, pharmaceutical and ultra pure water supply sectors.

- The 3-part clamping mechanism ensures that the head can be clamped in the most confined spaces, as even when open no parts protrude beyond the contour of the head. Equally, an exact alignment, with no misalignment is guaranteed with the parts to be welded.
- Using the keypad built into the handle, it is possible to specify all the necessary commands to the power supply without an additional remote control.

Including 7.5 m (24.6 ft) hose package and tool set.

The clamping shell should be ordered separately.



Orbital weld head OW 19

Article	Tube OD [mm]	Tube OD [inch]	Code		Weight weld head [kg]	Dispatch weight [kg]
Orbital weld head OW 19	3,00 - 19,05	0.118 - 0.750	822 000 001		7,500	14,800

Clamping shells set for OW 19

One set of clamping shells consists of 6 shells.

There are 2 version of clamping shells:

- Version „W“ (wide) for standard applications.
- Version „S“ (narrow) for applications in extremely conditions with low clearances.

Article	Tube OD [mm]	Tube OD [inch]	Code		kg
Clamping shells set W OW 19 wide (6pcs.)	3,00	0.118	822 002 120		-
Clamping shells set W OW 19 wide (6pcs.)	3,17	0.125	822 002 121		-
Clamping shells set W OW 19 wide (6pcs.)	3,18	0.125	822 002 122		-
Clamping shells set W OW 19 wide (6pcs.)	3,95	0.156	822 002 123		-
Clamping shells set W OW 19 wide (6pcs.)	4,00	0.157	822 002 124		-
Clamping shells set W OW 19 wide (6pcs.)	4,76	0.187	822 002 125		-
Clamping shells set W OW 19 wide (6pcs.)	4,78	0.188	822 002 126		-
Clamping shells set W OW 19 wide (6pcs.)	5,95	0.234	822 002 127		-
Clamping shells set W OW 19 wide (6pcs.)	6,00	0.236	822 002 128		-
Clamping shells set W OW 19 wide (6pcs.)	6,35	0.250	822 002 129		-
Clamping shells set W OW 19 wide (6pcs.)	7,00	0.276	822 002 130		-
Clamping shells set W OW 19 wide (6pcs.)	7,50	0.295	822 002 131		-
Clamping shells set W OW 19 wide (6pcs.)	7,94	0.313	822 002 132		-
Clamping shells set W OW 19 wide (6pcs.)	8,00	0.315	822 002 133		-
Clamping shells set W OW 19 wide (6pcs.)	9,00	0.354	822 002 134		-
Clamping shells set W OW 19 wide (6pcs.)	9,53	0.375	822 002 135		-
Clamping shells set W OW 19 wide (6pcs.)	9,95	0.392	822 002 136		-



Clamping shells set W OW 19 wide (6 pcs.)

Enclosed Orbital Weld Heads



*Clamping shells set S OW 19 S narrow
(6 pcs.)*

Article	Tube OD [mm]	Tube OD [inch]	Code		kg
Clamping shells set W OW 19 wide (6pcs.)	10,00	0.394	822 002 137		-
Clamping shells set W OW 19 wide (6pcs.)	10,10	0.398	822 002 138		-
Clamping shells set W OW 19 wide (6pcs.)	10,20	0.402	822 002 139		-
Clamping shells set W OW 19 wide (6pcs.)	11,00	0.433	822 002 140		-
Clamping shells set W OW 19 wide (6pcs.)	11,11	0.437	822 002 141		-
Clamping shells set W OW 19 wide (6pcs.)	11,95	0.470	822 002 142		-
Clamping shells set W OW 19 wide (6pcs.)	12,00	0.472	822 002 143		-
Clamping shells set W OW 19 wide (6pcs.)	12,10	0.476	822 002 144		-
Clamping shells set W OW 19 wide (6pcs.)	12,70	0.500	822 002 145		-
Clamping shells set W OW 19 wide (6pcs.)	13,00	0.512	822 002 146		-
Clamping shells set W OW 19 wide (6pcs.)	13,20	0.520	822 002 147		-
Clamping shells set W OW 19 wide (6pcs.)	13,50	0.531	822 002 148		-
Clamping shells set W OW 19 wide (6pcs.)	13,70	0.539	822 002 149		-
Clamping shells set W OW 19 wide (6pcs.)	14,00	0.551	822 002 150		-
Clamping shells set W OW 19 wide (6pcs.)	14,30	0.563	822 002 151		-
Clamping shells set W OW 19 wide (6pcs.)	14,70	0.579	822 002 152		-
Clamping shells set W OW 19 wide (6pcs.)	15,00	0.591	822 002 153		-
Clamping shells set W OW 19 wide (6pcs.)	15,30	0.602	822 002 154		-
Clamping shells set W OW 19 wide (6pcs.)	15,60	0.614	822 002 155		-
Clamping shells set W OW 19 wide (6pcs.)	15,70	0.618	822 002 156		-
Clamping shells set W OW 19 wide (6pcs.)	15,88	0.625	822 002 157		-
Clamping shells set W OW 19 wide (6pcs.)	16,00	0.630	822 002 158		-
Clamping shells set W OW 19 wide (6pcs.)	16,70	0.657	822 002 159		-
Clamping shells set W OW 19 wide (6pcs.)	17,00	0.669	822 002 160		-
Clamping shells set W OW 19 wide (6pcs.)	17,08	0.672	822 002 161		-
Clamping shells set W OW 19 wide (6pcs.)	17,20	0.677	822 002 162		-
Clamping shells set W OW 19 wide (6pcs.)	17,30	0.681	822 002 163		-
Clamping shells set W OW 19 wide (6pcs.)	18,00	0.709	822 002 164		-
Clamping shells set W OW 19 wide (6pcs.)	19,00	0.748	822 002 165		-
Clamping shells set W OW 19 wide (6pcs.)	19,05	0.750	822 002 166		-
Clamping shells set S OW 19 narrow (6pcs.)	3,00	0.118	822 002 320		-
Clamping shells set S OW 19 narrow (6pcs.)	3,17	0.125	822 002 321		-
Clamping shells set S OW 19 narrow (6pcs.)	3,18	0.156	822 002 322		-
Clamping shells set S OW 19 narrow (6pcs.)	3,95	0.157	822 002 323		-
Clamping shells set S OW 19 narrow (6pcs.)	4,00	0.187	822 002 324		-
Clamping shells set S OW 19 narrow (6pcs.)	4,76	0.188	822 002 325		-
Clamping shells set S OW 19 narrow (6pcs.)	4,78	0.234	822 002 326		-
Clamping shells set S OW 19 narrow (6pcs.)	5,95	0.236	822 002 327		-
Clamping shells set S OW 19 narrow (6pcs.)	6,00	0.250	822 002 328		-
Clamping shells set S OW 19 narrow (6pcs.)	6,35	0.276	822 002 329		-
Clamping shells set S OW 19 narrow (6pcs.)	7,00	0.295	822 002 330		-
Clamping shells set S OW 19 narrow (6pcs.)	7,50	0.313	822 002 331		-
Clamping shells set S OW 19 narrow (6pcs.)	7,94	0.315	822 002 332		-
Clamping shells set S OW 19 narrow (6pcs.)	8,00	0.354	822 002 333		-
Clamping shells set S OW 19 narrow (6pcs.)	9,00	0.375	822 002 334		-
Clamping shells set S OW 19 narrow (6pcs.)	9,53	0.392	822 002 335		-
Clamping shells set S OW 19 narrow (6pcs.)	9,95	0.394	822 002 336		-
Clamping shells set S OW 19 narrow (6pcs.)	10,00	0.398	822 002 337		-
Clamping shells set S OW 19 narrow (6pcs.)	10,10	0.402	822 002 338		-
Clamping shells set S OW 19 narrow (6pcs.)	10,20	0.433	822 002 339		-
Clamping shells set S OW 19 narrow (6pcs.)	11,00	0.437	822 002 340		-
Clamping shells set S OW 19 narrow (6pcs.)	11,11	0.470	822 002 341		-
Clamping shells set S OW 19 narrow (6pcs.)	11,95	0.472	822 002 342		-
Clamping shells set S OW 19 narrow (6pcs.)	12,00	0.476	822 002 343		-
Clamping shells set S OW 19 narrow (6pcs.)	12,10	0.500	822 002 344		-
Clamping shells set S OW 19 narrow (6pcs.)	12,70	0.512	822 002 345		-
Clamping shells set S OW 19 narrow (6pcs.)	13,00	0.520	822 002 346		-
Clamping shells set S OW 19 narrow (6pcs.)	13,20	0.531	822 002 347		-
Clamping shells set S OW 19 narrow (6pcs.)	13,50	0.539	822 002 348		-
Clamping shells set S OW 19 narrow (6pcs.)	13,70	0.539	822 002 349		-
Clamping shells set S OW 19 narrow (6pcs.)	14,00	0.551	822 002 350		-
Clamping shells set S OW 19 narrow (6pcs.)	14,30	0.563	822 002 351		-
Clamping shells set S OW 19 narrow (6pcs.)	14,70	0.579	822 002 352		-
Clamping shells set S OW 19 narrow (6pcs.)	15,00	0.591	822 002 353		-
Clamping shells set S OW 19 narrow (6pcs.)	15,30	0.602	822 002 354		-

Article	Tube OD [mm]	Tube OD [inch]	Code		kg
Clamping shells set S OW 19 narrow (6pcs.)	15,60	0.614	822 002 355		-
Clamping shells set S OW 19 narrow (6pcs.)	15,70	0.618	822 002 356		-
Clamping shells set S OW 19 narrow (6pcs.)	15,88	0.625	822 002 357		-
Clamping shells set S OW 19 narrow (6pcs.)	16,00	0.630	822 002 358		-
Clamping shells set S OW 19 narrow (6pcs.)	16,70	0.657	822 002 359		-
Clamping shells set S OW 19 narrow (6pcs.)	17,00	0.669	822 002 360		-
Clamping shells set S OW 19 narrow (6pcs.)	17,08	0.672	822 002 361		-
Clamping shells set S OW 19 narrow (6pcs.)	17,20	0.677	822 002 362		-
Clamping shells set S OW 19 narrow (6pcs.)	17,30	0.681	822 002 363		-
Clamping shells set S OW 19 narrow (6pcs.)	18,00	0.709	822 002 364		-
Clamping shells set S OW 19 narrow (6pcs.)	19,00	0.748	822 002 365		-
Clamping shells set S OW 19 narrow (6pcs.)	19,05	0.750	822 002 366		-

Enclosed Orbital Weld Heads

25

Enclosed orbital weld heads ORBIWELD S

Orbital weld heads ORBIWELD 38S, 76S, 115S

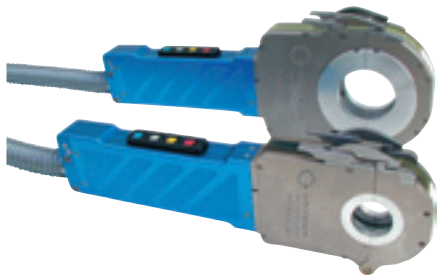
Enclosed orbital weld heads with extremely narrow design and therefore highly durable thanks to the intensive water cooling system. The small dimensions of the ORBIWELD S-weld head series make it ideal for applications where space is very limited, as is often the case in pharmaceutical and similar application sectors.

- Quick change system for clamping shells. The clamping shells are simply clipped in and out without any additional tools.
- Completely water cooled.
- Thanks to the extremely narrow design of the ORBIWELD S series, parts with short straight welding lengths can also be processed.
- Durable clamping connections in conjunction with clamping shells available for all tube dimensions guarantee that the parts to be welded are clamped securely without misalignment.
- All the important commands for welding can be transmitted to the power supply via a control panel built into the robust and durable aluminum handle, so that no additional remote control is required.

Including 7.5 m (24.6 ft) hose package and tool set.

For cable assembly extensions see page 40.

The clamping shells should be ordered separately.



ORBIWELD 38S and ORBIWELD 76S



ORBIWELD 115S

Article	Tube OD [mm]	Tube OD [inch]	Code		Weight weld head [kg]	Dispatch weight [kg]
Orbital weld head OW 38S	3,00 - 38,10	1/8" - 1.5"	826 000 001		9,000	16,500
Orbital weld head OW 76S	6,00 - 77,00	1/4" - 3.0"	827 000 001		9,400	16,900
Orbital weld head OW 115S	20,00 - 115,00	3/4" - 4.5"	828 000 001		13,000	18,600

Enclosed orbital weld heads ORBIWELD

Orbital weld heads ORBIWELD 65, 115, 170

The ORBIWELD series is characterized by very high thermal load bearing capacity: It is therefore particularly suitable for applications in the chemical, pharmaceutical, and food industry, where ever greater demands are made on the closed weld heads by ever greater tube diameters and wall thicknesses.

Coolant channels running through the entire weld head body have provided for excellent heat dissipation that enable the ORBIWELD weld heads to work continuously even at high welding currents and intensive load. The closed design of the ORBIWELD series and the gas management system of the head ensure a permanent infiltration of the weld seam with during welding with insert gas, guaranteeing seams that are very low in welding colors.

- Quick change system for clamping shells. The clamping shells are simply clipped in and out without any additional tooling.
- Completely water cooled.
- Stable clamp connections in conjunction with clamping shells available for all tube dimensions guarantee secure clamping and centering of the parts to be welded without misalignment.
- All the important commands for welding can be transmitted to the power supply via a control panel built into the robust and durable aluminum handle, so that no additional remote control is required.

Including 7.5 m (24.6 ft) hose package and tool set.

For cable assembly extensions see page 40.

The clamping shells should be ordered separately.



ORBIWELD 115

Article	Tube OD [mm]	Tube OD [inch]	Code		Weight weld head [kg]	Dispatch weight [kg]
Orbital weld head OW 65	6,00 - 70,00	1/4" – 2.5"	823 000 001		13,100	20,600
Orbital weld head OW 115	20,00 - 115,00	3/4" – 4.5"	824 000 001		15,100	22,600
Orbital weld head OW 170	50,00 - 170,00	2.0" – 6.0"	825 000 001		20,700	36,200

Enclosed Orbital Weld Heads

27

Accessories for ORBIWELD S and ORBIWELD

NOTE! NEW CLAMPING SYSTEM!

1 pair clamping shell consists of 2 clamping shells for 1 clamping side.
Thus for each tube OD 2 pairs of clamping shells are required.

We offer you the opportunity to choose between wide „W“ and narrow „S“ clamping shells for orbital weld heads ORBIWELD 115, 115S and 170, which can be combined as needed.

Pairs of clamping shells for ORBIWELD 38S

Article	Tube OD [mm]	Tube OD [inch]	Code		kg
Pair of clamping shells OW 38S (2pcs.)	3,00	0.118	826 002 120		-
Pair of clamping shells OW 38S (2pcs.)	3,17	0.125	826 002 121		-
Pair of clamping shells OW 38S (2pcs.)	3,18	0.125	826 002 122		-
Pair of clamping shells OW 38S (2pcs.)	3,95	0.156	826 002 123		-
Pair of clamping shells OW 38S (2pcs.)	4,00	0.157	826 002 124		-
Pair of clamping shells OW 38S (2pcs.)	4,76	0.187	826 002 125		-
Pair of clamping shells OW 38S (2pcs.)	4,78	0.188	826 002 126		-
Pair of clamping shells OW 38S (2pcs.)	5,95	0.234	826 002 127		-
Pair of clamping shells OW 38S (2pcs.)	6,00	0.236	826 002 128		-
Pair of clamping shells OW 38S (2pcs.)	6,35	0.250	826 002 129		-
Pair of clamping shells OW 38S (2pcs.)	7,00	0.276	826 002 130		-
Pair of clamping shells OW 38S (2pcs.)	7,50	0.295	826 002 131		-
Pair of clamping shells OW 38S (2pcs.)	7,94	0.313	826 002 132		-
Pair of clamping shells OW 38S (2pcs.)	8,00	0.315	826 002 133		-
Pair of clamping shells OW 38S (2pcs.)	9,00	0.354	826 002 134		-
Pair of clamping shells OW 38S (2pcs.)	9,53	0.375	826 002 135		-
Pair of clamping shells OW 38S (2pcs.)	9,95	0.392	826 002 136		-
Pair of clamping shells OW 38S (2pcs.)	10,00	0.394	826 002 137		-
Pair of clamping shells OW 38S (2pcs.)	10,10	0.398	826 002 138		-
Pair of clamping shells OW 38S (2pcs.)	10,20	0.402	826 002 139		-
Pair of clamping shells OW 38S (2pcs.)	11,00	0.433	826 002 140		-
Pair of clamping shells OW 38S (2pcs.)	11,11	0.437	826 002 141		-
Pair of clamping shells OW 38S (2pcs.)	11,95	0.470	826 002 142		-
Pair of clamping shells OW 38S (2pcs.)	12,00	0.472	826 002 143		-
Pair of clamping shells OW 38S (2pcs.)	12,10	0.476	826 002 144		-
Pair of clamping shells OW 38S (2pcs.)	12,70	0.500	826 002 145		-
Pair of clamping shells OW 38S (2pcs.)	13,00	0.512	826 002 146		-
Pair of clamping shells OW 38S (2pcs.)	13,20	0.520	826 002 147		-
Pair of clamping shells OW 38S (2pcs.)	13,50	0.531	826 002 148		-
Pair of clamping shells OW 38S (2pcs.)	13,70	0.539	826 002 149		-
Pair of clamping shells OW 38S (2pcs.)	14,00	0.551	826 002 150		-
Pair of clamping shells OW 38S (2pcs.)	14,30	0.563	826 002 151		-
Pair of clamping shells OW 38S (2pcs.)	14,70	0.579	826 002 152		-
Pair of clamping shells OW 38S (2pcs.)	15,00	0.591	826 002 153		-
Pair of clamping shells OW 38S (2pcs.)	15,30	0.602	826 002 154		-
Pair of clamping shells OW 38S (2pcs.)	15,60	0.614	826 002 155		-
Pair of clamping shells OW 38S (2pcs.)	15,70	0.618	826 002 156		-
Pair of clamping shells OW 38S (2pcs.)	15,88	0.625	826 002 157		-
Pair of clamping shells OW 38S (2pcs.)	16,00	0.630	826 002 158		-
Pair of clamping shells OW 38S (2pcs.)	16,70	0.657	826 002 159		-
Pair of clamping shells OW 38S (2pcs.)	17,00	0.669	826 002 160		-
Pair of clamping shells OW 38S (2pcs.)	17,08	0.672	826 002 161		-
Pair of clamping shells OW 38S (2pcs.)	17,20	0.677	826 002 162		-
Pair of clamping shells OW 38S (2pcs.)	17,30	0.681	826 002 163		-
Pair of clamping shells OW 38S (2pcs.)	18,00	0.709	826 002 164		-
Pair of clamping shells OW 38S (2pcs.)	19,00	0.748	826 002 165		-
Pair of clamping shells OW 38S (2pcs.)	19,05	0.750	826 002 166		-
Pair of clamping shells OW 38S (2pcs.)	19,50	0.768	826 002 167		-
Pair of clamping shells OW 38S (2pcs.)	20,00	0.787	826 002 168		-



Pair of clamping shells OW 38S (2pcs.)
for one clamping side

Article	Tube OD [mm]	Tube OD [inch]	Code		kg
Pair of clamping shells OW 38S (2pcs.)	21,00	0.827	826 002 169		-
Pair of clamping shells OW 38S (2pcs.)	21,30	0.839	826 002 170		-
Pair of clamping shells OW 38S (2pcs.)	21,70	0.854	826 002 171		-
Pair of clamping shells OW 38S (2pcs.)	22,00	0.866	826 002 172		-
Pair of clamping shells OW 38S (2pcs.)	22,22	0.875	826 002 173		-
Pair of clamping shells OW 38S (2pcs.)	22,23	0.875	826 002 174		-
Pair of clamping shells OW 38S (2pcs.)	22,55	0.888	826 002 175		-
Pair of clamping shells OW 38S (2pcs.)	23,00	0.906	826 002 176		-
Pair of clamping shells OW 38S (2pcs.)	24,00	0.945	826 002 177		-
Pair of clamping shells OW 38S (2pcs.)	24,13	0.950	826 002 178		-
Pair of clamping shells OW 38S (2pcs.)	25,00	0.984	826 002 179		-
Pair of clamping shells OW 38S (2pcs.)	25,25	0.994	826 002 180		-
Pair of clamping shells OW 38S (2pcs.)	25,40	1.000	826 002 181		-
Pair of clamping shells OW 38S (2pcs.)	26,00	1.024	826 002 182		-
Pair of clamping shells OW 38S (2pcs.)	26,70	1.051	826 002 183		-
Pair of clamping shells OW 38S (2pcs.)	26,90	1.059	826 002 184		-
Pair of clamping shells OW 38S (2pcs.)	27,00	1.063	826 002 185		-
Pair of clamping shells OW 38S (2pcs.)	27,20	1.071	826 002 186		-
Pair of clamping shells OW 38S (2pcs.)	28,00	1.102	826 002 187		-
Pair of clamping shells OW 38S (2pcs.)	29,00	1.142	826 002 188		-
Pair of clamping shells OW 38S (2pcs.)	30,00	1.181	826 002 189		-
Pair of clamping shells OW 38S (2pcs.)	30,53	1.202	826 002 190		-
Pair of clamping shells OW 38S (2pcs.)	31,75	1.250	826 002 191		-
Pair of clamping shells OW 38S (2pcs.)	31,80	1.252	826 002 192		-
Pair of clamping shells OW 38S (2pcs.)	32,00	1.260	826 002 193		-
Pair of clamping shells OW 38S (2pcs.)	33,00	1.299	826 002 194		-
Pair of clamping shells OW 38S (2pcs.)	33,40	1.315	826 002 195		-
Pair of clamping shells OW 38S (2pcs.)	33,70	1.327	826 002 196		-
Pair of clamping shells OW 38S (2pcs.)	34,00	1.339	826 002 197		-
Pair of clamping shells OW 38S (2pcs.)	35,00	1.378	826 002 198		-
Pair of clamping shells OW 38S (2pcs.)	36,00	1.417	826 002 199		-
Pair of clamping shells OW 38S (2pcs.)	38,00	1.496	826 002 200		-
Pair of clamping shells OW 38S (2pcs.)	38,10	1.500	826 002 201		-

Pairs of clamping shells for ORBIWELD 76S

Article	Tube OD [mm]	Tube OD [inch]	Code		kg
Pair of clamping shells OW 76S (2pcs.)	6,00	0.236	827 002 120		-
Pair of clamping shells OW 76S (2pcs.)	6,35	0.250	827 002 121		-
Pair of clamping shells OW 76S (2pcs.)	7,00	0.276	827 002 122		-
Pair of clamping shells OW 76S (2pcs.)	7,50	0.295	827 002 123		-
Pair of clamping shells OW 76S (2pcs.)	7,94	0.313	827 002 124		-
Pair of clamping shells OW 76S (2pcs.)	8,00	0.315	827 002 125		-
Pair of clamping shells OW 76S (2pcs.)	9,00	0.354	827 002 126		-
Pair of clamping shells OW 76S (2pcs.)	9,53	0.375	827 002 127		-
Pair of clamping shells OW 76S (2pcs.)	9,95	0.392	827 002 128		-
Pair of clamping shells OW 76S (2pcs.)	10,00	0.394	827 002 129		-
Pair of clamping shells OW 76S (2pcs.)	10,10	0.398	827 002 130		-
Pair of clamping shells OW 76S (2pcs.)	10,20	0.402	827 002 131		-
Pair of clamping shells OW 76S (2pcs.)	11,00	0.433	827 002 132		-
Pair of clamping shells OW 76S (2pcs.)	11,11	0.437	827 002 133		-
Pair of clamping shells OW 76S (2pcs.)	11,95	0.470	827 002 134		-
Pair of clamping shells OW 76S (2pcs.)	12,00	0.472	827 002 135		-
Pair of clamping shells OW 76S (2pcs.)	12,10	0.476	827 002 136		-
Pair of clamping shells OW 76S (2pcs.)	12,70	0.500	827 002 137		-
Pair of clamping shells OW 76S (2pcs.)	13,00	0.512	827 002 138		-
Pair of clamping shells OW 76S (2pcs.)	13,20	0.520	827 002 139		-
Pair of clamping shells OW 76S (2pcs.)	13,50	0.531	827 002 140		-
Pair of clamping shells OW 76S (2pcs.)	13,70	0.539	827 002 141		-
Pair of clamping shells OW 76S (2pcs.)	14,00	0.551	827 002 142		-
Pair of clamping shells OW 76S (2pcs.)	14,30	0.563	827 002 143		-
Pair of clamping shells OW 76S (2pcs.)	14,70	0.579	827 002 144		-
Pair of clamping shells OW 76S (2pcs.)	15,00	0.591	827 002 145		-
Pair of clamping shells OW 76S (2pcs.)	15,30	0.602	827 002 146		-



*Pair of clamping shells OW 76S (2pcs.)
for one clamping side*

Enclosed Orbital Weld Heads

29

Article	Tube OD [mm]	Tube OD [inch]	Code		kg
Pair of clamping shells OW 76S (2pcs.)	15,60	0.614	827 002 147		-
Pair of clamping shells OW 76S (2pcs.)	15,70	0.618	827 002 148		-
Pair of clamping shells OW 76S (2pcs.)	15,88	0.625	827 002 149		-
Pair of clamping shells OW 76S (2pcs.)	16,00	0.630	827 002 150		-
Pair of clamping shells OW 76S (2pcs.)	16,70	0.657	827 002 151		-
Pair of clamping shells OW 76S (2pcs.)	17,00	0.669	827 002 152		-
Pair of clamping shells OW 76S (2pcs.)	17,08	0.672	827 002 153		-
Pair of clamping shells OW 76S (2pcs.)	17,20	0.677	827 002 154		-
Pair of clamping shells OW 76S (2pcs.)	17,30	0.681	827 002 155		-
Pair of clamping shells OW 76S (2pcs.)	18,00	0.709	827 002 156		-
Pair of clamping shells OW 76S (2pcs.)	19,00	0.748	827 002 157		-
Pair of clamping shells OW 76S (2pcs.)	19,05	0.750	827 002 158		-
Pair of clamping shells OW 76S (2pcs.)	19,50	0.768	827 002 159		-
Pair of clamping shells OW 76S (2pcs.)	20,00	0.787	827 002 160		-
Pair of clamping shells OW 76S (2pcs.)	21,00	0.827	827 002 161		-
Pair of clamping shells OW 76S (2pcs.)	21,30	0.839	827 002 162		-
Pair of clamping shells OW 76S (2pcs.)	21,70	0.854	827 002 163		-
Pair of clamping shells OW 76S (2pcs.)	22,00	0.866	827 002 164		-
Pair of clamping shells OW 76S (2pcs.)	22,22	0.875	827 002 165		-
Pair of clamping shells OW 76S (2pcs.)	22,23	0.875	827 002 166		-
Pair of clamping shells OW 76S (2pcs.)	22,55	0.888	827 002 167		-
Pair of clamping shells OW 76S (2pcs.)	23,00	0.906	827 002 168		-
Pair of clamping shells OW 76S (2pcs.)	24,00	0.945	827 002 169		-
Pair of clamping shells OW 76S (2pcs.)	24,13	0.950	827 002 170		-
Pair of clamping shells OW 76S (2pcs.)	25,00	0.984	827 002 171		-
Pair of clamping shells OW 76S (2pcs.)	25,25	0.994	827 002 172		-
Pair of clamping shells OW 76S (2pcs.)	25,40	1.000	827 002 173		-
Pair of clamping shells OW 76S (2pcs.)	26,00	1.024	827 002 174		-
Pair of clamping shells OW 76S (2pcs.)	26,70	1.051	827 002 175		-
Pair of clamping shells OW 76S (2pcs.)	26,90	1.059	827 002 176		-
Pair of clamping shells OW 76S (2pcs.)	27,00	1.063	827 002 177		-
Pair of clamping shells OW 76S (2pcs.)	27,20	1.071	827 002 178		-
Pair of clamping shells OW 76S (2pcs.)	28,00	1.102	827 002 179		-
Pair of clamping shells OW 76S (2pcs.)	29,00	1.142	827 002 180		-
Pair of clamping shells OW 76S (2pcs.)	30,00	1.181	827 002 181		-
Pair of clamping shells OW 76S (2pcs.)	30,53	1.202	827 002 182		-
Pair of clamping shells OW 76S (2pcs.)	31,75	1.250	827 002 183		-
Pair of clamping shells OW 76S (2pcs.)	31,80	1.252	827 002 184		-
Pair of clamping shells OW 76S (2pcs.)	32,00	1.260	827 002 185		-
Pair of clamping shells OW 76S (2pcs.)	33,00	1.299	827 002 186		-
Pair of clamping shells OW 76S (2pcs.)	33,40	1.315	827 002 187		-
Pair of clamping shells OW 76S (2pcs.)	33,70	1.327	827 002 188		-
Pair of clamping shells OW 76S (2pcs.)	34,00	1.339	827 002 189		-
Pair of clamping shells OW 76S (2pcs.)	35,00	1.378	827 002 190		-
Pair of clamping shells OW 76S (2pcs.)	36,00	1.417	827 002 191		-
Pair of clamping shells OW 76S (2pcs.)	38,00	1.496	827 002 192		-
Pair of clamping shells OW 76S (2pcs.)	38,10	1.500	827 002 193		-
Pair of clamping shells OW 76S (2pcs.)	40,00	1.575	827 002 194		-
Pair of clamping shells OW 76S (2pcs.)	41,00	1.614	827 002 195		-
Pair of clamping shells OW 76S (2pcs.)	42,00	1.654	827 002 196		-
Pair of clamping shells OW 76S (2pcs.)	42,16	1.660	827 002 197		-
Pair of clamping shells OW 76S (2pcs.)	42,30	1.665	827 002 198		-
Pair of clamping shells OW 76S (2pcs.)	42,40	1.669	827 002 199		-
Pair of clamping shells OW 76S (2pcs.)	42,70	1.681	827 002 200		-
Pair of clamping shells OW 76S (2pcs.)	43,00	1.693	827 002 201		-
Pair of clamping shells OW 76S (2pcs.)	43,20	1.701	827 002 202		-
Pair of clamping shells OW 76S (2pcs.)	44,00	1.732	827 002 203		-
Pair of clamping shells OW 76S (2pcs.)	44,45	1.750	827 002 204		-
Pair of clamping shells OW 76S (2pcs.)	44,50	1.752	827 002 205		-
Pair of clamping shells OW 76S (2pcs.)	45,00	1.772	827 002 206		-
Pair of clamping shells OW 76S (2pcs.)	45,80	1.803	827 002 207		-
Pair of clamping shells OW 76S (2pcs.)	48,00	1.890	827 002 208		-
Pair of clamping shells OW 76S (2pcs.)	48,26	1.900	827 002 209		-
Pair of clamping shells OW 76S (2pcs.)	48,30	1.902	827 002 210		-
Pair of clamping shells OW 76S (2pcs.)	48,60	1.913	827 002 211		-
Pair of clamping shells OW 76S (2pcs.)	50,00	1.969	827 002 212		-
Pair of clamping shells OW 76S (2pcs.)	50,80	2.000	827 002 213		-

Article	Tube OD [mm]	Tube OD [inch]	Code		kg
Pair of clamping shells OW 76S (2pcs.)	51,00	2.008	827 002 214		-
Pair of clamping shells OW 76S (2pcs.)	52,00	2.047	827 002 215		-
Pair of clamping shells OW 76S (2pcs.)	53,00	2.087	827 002 216		-
Pair of clamping shells OW 76S (2pcs.)	54,00	2.126	827 002 217		-
Pair of clamping shells OW 76S (2pcs.)	57,00	2.244	827 002 218		-
Pair of clamping shells OW 76S (2pcs.)	60,00	2.363	827 002 219		-
Pair of clamping shells OW 76S (2pcs.)	60,10	2.366	827 002 220		-
Pair of clamping shells OW 76S (2pcs.)	60,30	2.374	827 002 221		-
Pair of clamping shells OW 76S (2pcs.)	60,45	2.380	827 002 222		-
Pair of clamping shells OW 76S (2pcs.)	60,50	2.382	827 002 223		-
Pair of clamping shells OW 76S (2pcs.)	63,00	2.480	827 002 224		-
Pair of clamping shells OW 76S (2pcs.)	63,20	2.488	827 002 225		-
Pair of clamping shells OW 76S (2pcs.)	63,50	2.500	827 002 226		-
Pair of clamping shells OW 76S (2pcs.)	65,00	2.559	827 002 227		-
Pair of clamping shells OW 76S (2pcs.)	70,00	2.756	827 002 228		-
Pair of clamping shells OW 76S (2pcs.)	70,20	2.764	827 002 229		-
Pair of clamping shells OW 76S (2pcs.)	73,00	2.874	827 002 230		-
Pair of clamping shells OW 76S (2pcs.)	73,03	2.875	827 002 231		-
Pair of clamping shells OW 76S (2pcs.)	73,15	2.880	827 002 232		-
Pair of clamping shells OW 76S (2pcs.)	75,00	2.953	827 002 233		-
Pair of clamping shells OW 76S (2pcs.)	76,00	2.992	827 002 234		-
Pair of clamping shells OW 76S (2pcs.)	76,10	2.996	827 002 235		-
Pair of clamping shells OW 76S (2pcs.)	76,20	3.000	827 002 236		-
Pair of clamping shells OW 76S (2pcs.)	76,30	3.004	827 002 237		-

Pairs of clamping shells for ORBIWELD 65

Article	Tube OD [mm]	Tube OD [inch]	Code		kg
Pair of clamping shells OW 65 (2pcs.)	6,00	0.236	823 002 120		-
Pair of clamping shells OW 65 (2pcs.)	6,35	0.250	823 002 121		-
Pair of clamping shells OW 65 (2pcs.)	7,00	0.276	823 002 122		-
Pair of clamping shells OW 65 (2pcs.)	7,50	0.295	823 002 123		-
Pair of clamping shells OW 65 (2pcs.)	7,94	0.313	823 002 124		-
Pair of clamping shells OW 65 (2pcs.)	8,00	0.315	823 002 125		-
Pair of clamping shells OW 65 (2pcs.)	9,00	0.354	823 002 126		-
Pair of clamping shells OW 65 (2pcs.)	9,53	0.375	823 002 127		-
Pair of clamping shells OW 65 (2pcs.)	9,95	0.392	823 002 128		-
Pair of clamping shells OW 65 (2pcs.)	10,00	0.394	823 002 129		-
Pair of clamping shells OW 65 (2pcs.)	10,10	0.398	823 002 130		-
Pair of clamping shells OW 65 (2pcs.)	10,20	0.402	823 002 131		-
Pair of clamping shells OW 65 (2pcs.)	11,00	0.433	823 002 132		-
Pair of clamping shells OW 65 (2pcs.)	11,11	0.437	823 002 133		-
Pair of clamping shells OW 65 (2pcs.)	11,95	0.470	823 002 134		-
Pair of clamping shells OW 65 (2pcs.)	12,00	0.472	823 002 135		-
Pair of clamping shells OW 65 (2pcs.)	12,10	0.476	823 002 136		-
Pair of clamping shells OW 65 (2pcs.)	12,70	0.500	823 002 137		-
Pair of clamping shells OW 65 (2pcs.)	13,00	0.512	823 002 138		-
Pair of clamping shells OW 65 (2pcs.)	13,20	0.520	823 002 139		-
Pair of clamping shells OW 65 (2pcs.)	13,50	0.531	823 002 140		-
Pair of clamping shells OW 65 (2pcs.)	13,70	0.539	823 002 141		-
Pair of clamping shells OW 65 (2pcs.)	14,00	0.551	823 002 142		-
Pair of clamping shells OW 65 (2pcs.)	14,30	0.563	823 002 143		-
Pair of clamping shells OW 65 (2pcs.)	14,70	0.579	823 002 144		-
Pair of clamping shells OW 65 (2pcs.)	15,00	0.591	823 002 145		-
Pair of clamping shells OW 65 (2pcs.)	15,30	0.602	823 002 146		-
Pair of clamping shells OW 65 (2pcs.)	15,60	0.614	823 002 147		-
Pair of clamping shells OW 65 (2pcs.)	15,70	0.618	823 002 148		-
Pair of clamping shells OW 65 (2pcs.)	15,88	0.625	823 002 149		-
Pair of clamping shells OW 65 (2pcs.)	16,00	0.630	823 002 150		-
Pair of clamping shells OW 65 (2pcs.)	16,70	0.657	823 002 151		-
Pair of clamping shells OW 65 (2pcs.)	17,00	0.669	823 002 152		-
Pair of clamping shells OW 65 (2pcs.)	17,08	0.672	823 002 153		-
Pair of clamping shells OW 65 (2pcs.)	17,20	0.677	823 002 154		-
Pair of clamping shells OW 65 (2pcs.)	17,30	0.681	823 002 155		-

Enclosed Orbital Weld Heads

31

Article	Tube OD [mm]	Tube OD [inch]	Code		kg
Pair of clamping shells OW 65 (2pcs.)	18,00	0.709	823 002 156		-
Pair of clamping shells OW 65 (2pcs.)	19,00	0.748	823 002 157		-
Pair of clamping shells OW 65 (2pcs.)	19,05	0.750	823 002 158		-
Pair of clamping shells OW 65 (2pcs.)	19,50	0.768	823 002 159		-
Pair of clamping shells OW 65 (2pcs.)	20,00	0.787	823 002 160		-
Pair of clamping shells OW 65 (2pcs.)	21,00	0.827	823 002 161		-
Pair of clamping shells OW 65 (2pcs.)	21,30	0.839	823 002 162		-
Pair of clamping shells OW 65 (2pcs.)	21,70	0.854	823 002 163		-
Pair of clamping shells OW 65 (2pcs.)	22,00	0.866	823 002 164		-
Pair of clamping shells OW 65 (2pcs.)	22,22	0.875	823 002 165		-
Pair of clamping shells OW 65 (2pcs.)	22,23	0.875	823 002 166		-
Pair of clamping shells OW 65 (2pcs.)	22,55	0.888	823 002 167		-
Pair of clamping shells OW 65 (2pcs.)	23,00	0.906	823 002 168		-
Pair of clamping shells OW 65 (2pcs.)	24,00	0.945	823 002 169		-
Pair of clamping shells OW 65 (2pcs.)	24,13	0.950	823 002 170		-
Pair of clamping shells OW 65 (2pcs.)	25,00	0.984	823 002 171		-
Pair of clamping shells OW 65 (2pcs.)	25,25	0.994	823 002 172		-
Pair of clamping shells OW 65 (2pcs.)	25,40	1.000	823 002 173		-
Pair of clamping shells OW 65 (2pcs.)	26,00	1.024	823 002 174		-
Pair of clamping shells OW 65 (2pcs.)	26,70	1.051	823 002 175		-
Pair of clamping shells OW 65 (2pcs.)	26,90	1.059	823 002 176		-
Pair of clamping shells OW 65 (2pcs.)	27,00	1.063	823 002 177		-
Pair of clamping shells OW 65 (2pcs.)	27,20	1.071	823 002 178		-
Pair of clamping shells OW 65 (2pcs.)	28,00	1.102	823 002 179		-
Pair of clamping shells OW 65 (2pcs.)	29,00	1.142	823 002 180		-
Pair of clamping shells OW 65 (2pcs.)	30,00	1.181	823 002 181		-
Pair of clamping shells OW 65 (2pcs.)	30,53	1.202	823 002 182		-
Pair of clamping shells OW 65 (2pcs.)	31,75	1.250	823 002 183		-
Pair of clamping shells OW 65 (2pcs.)	31,80	1.252	823 002 184		-
Pair of clamping shells OW 65 (2pcs.)	32,00	1.260	823 002 185		-
Pair of clamping shells OW 65 (2pcs.)	33,00	1.299	823 002 186		-
Pair of clamping shells OW 65 (2pcs.)	33,40	1.315	823 002 187		-
Pair of clamping shells OW 65 (2pcs.)	33,70	1.327	823 002 188		-
Pair of clamping shells OW 65 (2pcs.)	34,00	1.339	823 002 189		-
Pair of clamping shells OW 65 (2pcs.)	35,00	1.378	823 002 190		-
Pair of clamping shells OW 65 (2pcs.)	36,00	1.417	823 002 191		-
Pair of clamping shells OW 65 (2pcs.)	38,00	1.496	823 002 192		-
Pair of clamping shells OW 65 (2pcs.)	38,10	1.500	823 002 193		-
Pair of clamping shells OW 65 (2pcs.)	40,00	1.575	823 002 194		-
Pair of clamping shells OW 65 (2pcs.)	41,00	1.614	823 002 195		-
Pair of clamping shells OW 65 (2pcs.)	42,00	1.654	823 002 196		-
Pair of clamping shells OW 65 (2pcs.)	42,16	1.660	823 002 197		-
Pair of clamping shells OW 65 (2pcs.)	42,30	1.665	823 002 198		-
Pair of clamping shells OW 65 (2pcs.)	42,40	1.669	823 002 199		-
Pair of clamping shells OW 65 (2pcs.)	42,70	1.681	823 002 200		-
Pair of clamping shells OW 65 (2pcs.)	43,00	1.693	823 002 201		-
Pair of clamping shells OW 65 (2pcs.)	43,20	1.701	823 002 202		-
Pair of clamping shells OW 65 (2pcs.)	44,00	1.732	823 002 203		-
Pair of clamping shells OW 65 (2pcs.)	44,45	1.750	823 002 204		-
Pair of clamping shells OW 65 (2pcs.)	44,50	1.752	823 002 205		-
Pair of clamping shells OW 65 (2pcs.)	45,00	1.772	823 002 206		-
Pair of clamping shells OW 65 (2pcs.)	45,80	1.803	823 002 207		-
Pair of clamping shells OW 65 (2pcs.)	48,00	1.890	823 002 208		-
Pair of clamping shells OW 65 (2pcs.)	48,26	1.900	823 002 209		-
Pair of clamping shells OW 65 (2pcs.)	48,30	1.902	823 002 210		-
Pair of clamping shells OW 65 (2pcs.)	48,60	1.913	823 002 211		-
Pair of clamping shells OW 65 (2pcs.)	50,00	1.969	823 002 212		-
Pair of clamping shells OW 65 (2pcs.)	50,80	2.000	823 002 213		-
Pair of clamping shells OW 65 (2pcs.)	51,00	2.008	823 002 214		-
Pair of clamping shells OW 65 (2pcs.)	52,00	2.047	823 002 215		-
Pair of clamping shells OW 65 (2pcs.)	53,00	2.087	823 002 216		-
Pair of clamping shells OW 65 (2pcs.)	54,00	2.126	823 002 217		-
Pair of clamping shells OW 65 (2pcs.)	57,00	2.244	823 002 218		-
Pair of clamping shells OW 65 (2pcs.)	60,00	2.363	823 002 219		-
Pair of clamping shells OW 65 (2pcs.)	60,10	2.366	823 002 220		-
Pair of clamping shells OW 65 (2pcs.)	60,30	2.374	823 002 221		-
Pair of clamping shells OW 65 (2pcs.)	60,45	2.380	823 002 222		-

Article	Tube OD [mm]	Tube OD [inch]	Code		kg
Pair of clamping shells OW 65 (2pcs.)	60,50	2.382	823 002 223		-
Pair of clamping shells OW 65 (2pcs.)	63,00	2.480	823 002 224		-
Pair of clamping shells OW 65 (2pcs.)	63,20	2.488	823 002 225		-
Pair of clamping shells OW 65 (2pcs.)	63,50	2.500	823 002 226		-
Pair of clamping shells OW 65 (2pcs.)	65,00	2.559	823 002 227		-
Pair of clamping shells OW 65 (2pcs.)	70,00	2.756	823 002 228		-
Pair of clamping shells OW 65 (2pcs.)	70,20	2.764	823 002 229		-

Pairs of clamping shells for ORBIWELD 115/115S

Article	Tube OD [mm]	Tube OD [inch]	Code		kg
Pair of clamping shells S OW 115/115S narrow (2pcs.)	20,00	0.787	824 002 120		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	21,00	0.827	824 002 121		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	21,30	0.839	824 002 122		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	21,70	0.854	824 002 123		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	22,00	0.866	824 002 124		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	22,22	0.875	824 002 125		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	22,23	0.875	824 002 126		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	22,55	0.888	824 002 127		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	23,00	0.906	824 002 128		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	24,00	0.945	824 002 129		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	24,13	0.950	824 002 130		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	25,00	0.984	824 002 131		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	25,25	0.994	824 002 132		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	25,40	1.000	824 002 133		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	26,00	1.024	824 002 134		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	26,70	1.051	824 002 135		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	26,90	1.059	824 002 136		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	27,00	1.063	824 002 137		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	27,20	1.071	824 002 138		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	28,00	1.102	824 002 139		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	29,00	1.142	824 002 140		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	30,00	1.181	824 002 141		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	30,53	1.202	824 002 142		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	31,75	1.250	824 002 143		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	31,80	1.252	824 002 144		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	32,00	1.260	824 002 145		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	33,00	1.299	824 002 146		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	33,40	1.315	824 002 147		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	33,70	1.327	824 002 148		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	34,00	1.339	824 002 149		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	35,00	1.378	824 002 150		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	36,00	1.417	824 002 151		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	38,00	1.496	824 002 152		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	38,10	1.500	824 002 153		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	40,00	1.575	824 002 154		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	41,00	1.614	824 002 155		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	42,00	1.654	824 002 156		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	42,16	1.660	824 002 157		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	42,30	1.665	824 002 158		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	42,40	1.669	824 002 159		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	42,70	1.681	824 002 160		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	43,00	1.693	824 002 161		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	43,20	1.701	824 002 162		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	44,00	1.732	824 002 163		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	44,45	1.750	824 002 164		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	44,50	1.752	824 002 165		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	45,00	1.772	824 002 166		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	45,80	1.803	824 002 167		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	48,00	1.890	824 002 168		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	48,26	1.900	824 002 169		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	48,30	1.902	824 002 170		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	48,60	1.913	824 002 171		-



Pair of clamping shells S OW 115 / 115S narrow (2pcs.) for one clamping side



Pair of clamping shells W OW 115/115S wide (2pcs.) for one clamping side

Enclosed Orbital Weld Heads

33

Article	Tube OD [mm]	Tube OD [inch]	Code		kg
Pair of clamping shells S OW 115/115S narrow (2pcs.)	50,00	1.969	824 002 172		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	50,80	2.000	824 002 173		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	51,00	2.008	824 002 174		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	52,00	2.047	824 002 175		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	53,00	2.087	824 002 176		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	54,00	2.126	824 002 177		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	57,00	2.244	824 002 178		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	60,00	2.363	824 002 179		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	60,10	2.366	824 002 180		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	60,30	2.374	824 002 181		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	60,45	2.380	824 002 182		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	60,50	2.382	824 002 183		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	63,00	2.480	824 002 184		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	63,20	2.488	824 002 185		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	63,50	2.500	824 002 186		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	65,00	2.559	824 002 187		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	70,00	2.756	824 002 188		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	70,20	2.764	824 002 189		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	73,00	2.874	824 002 190		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	73,03	2.875	824 002 191		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	73,15	2.880	824 002 192		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	75,00	2.953	824 002 193		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	76,00	2.992	824 002 194		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	76,10	2.996	824 002 195		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	76,20	3.000	824 002 196		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	76,30	3.004	824 002 197		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	80,00	3.150	824 002 198		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	82,00	3.228	824 002 199		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	82,30	3.240	824 002 200		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	85,00	3.346	824 002 201		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	85,90	3.382	824 002 202		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	88,90	3.500	824 002 203		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	89,00	3.504	824 002 204		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	89,10	3.508	824 002 205		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	90,00	3.543	824 002 206		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	93,00	3.661	824 002 207		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	95,00	3.740	824 002 208		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	100,00	3.937	824 002 209		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	101,60	4.000	824 002 210		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	104,00	4.094	824 002 211		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	108,00	4.252	824 002 212		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	110,00	4.331	824 002 213		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	113,50	4.468	824 002 214		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	114,00	4.488	824 002 215		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	114,30	4.500	824 002 216		-
Pair of clamping shells S OW 115/115S narrow (2pcs.)	115,00	4.528	824 002 217		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	20,00	0.787	824 002 320		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	21,00	0.827	824 002 321		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	21,30	0.839	824 002 322		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	21,70	0.854	824 002 323		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	22,00	0.866	824 002 324		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	22,22	0.875	824 002 325		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	22,23	0.875	824 002 326		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	22,55	0.888	824 002 327		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	23,00	0.906	824 002 328		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	24,00	0.945	824 002 329		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	24,13	0.950	824 002 330		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	25,00	0.984	824 002 331		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	25,25	0.994	824 002 332		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	25,40	1.000	824 002 333		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	26,00	1.024	824 002 334		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	26,70	1.051	824 002 335		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	26,90	1.059	824 002 336		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	27,00	1.063	824 002 337		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	27,20	1.071	824 002 338		-

Article	Tube OD [mm]	Tube OD [inch]	Code		kg
Pair of clamping shells W OW 115/115S wide (2pcs.)	28,00	1.102	824 002 339		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	29,00	1.142	824 002 340		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	30,00	1.181	824 002 341		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	30,53	1.202	824 002 342		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	31,75	1.250	824 002 343		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	31,80	1.252	824 002 344		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	32,00	1.260	824 002 345		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	33,00	1.299	824 002 346		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	33,40	1.315	824 002 347		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	33,70	1.327	824 002 348		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	34,00	1.339	824 002 349		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	35,00	1.378	824 002 350		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	36,00	1.417	824 002 351		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	38,00	1.496	824 002 352		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	38,10	1.500	824 002 353		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	40,00	1.575	824 002 354		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	41,00	1.614	824 002 355		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	42,00	1.654	824 002 356		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	42,16	1.660	824 002 357		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	42,30	1.665	824 002 358		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	42,40	1.669	824 002 359		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	42,70	1.681	824 002 360		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	43,00	1.693	824 002 361		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	43,20	1.701	824 002 362		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	44,00	1.732	824 002 363		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	44,45	1.750	824 002 364		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	44,50	1.752	824 002 365		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	45,00	1.772	824 002 366		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	45,80	1.803	824 002 367		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	48,00	1.890	824 002 368		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	48,26	1.900	824 002 369		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	48,30	1.902	824 002 370		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	48,60	1.913	824 002 371		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	50,00	1.969	824 002 372		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	50,80	2.000	824 002 373		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	51,00	2.008	824 002 374		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	52,00	2.047	824 002 375		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	53,00	2.087	824 002 376		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	54,00	2.126	824 002 377		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	57,00	2.244	824 002 378		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	60,00	2.363	824 002 379		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	60,10	2.366	824 002 380		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	60,30	2.374	824 002 381		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	60,45	2.380	824 002 382		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	60,50	2.382	824 002 383		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	63,00	2.480	824 002 384		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	63,20	2.488	824 002 385		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	63,50	2.500	824 002 386		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	65,00	2.559	824 002 387		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	70,00	2.756	824 002 388		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	70,20	2.764	824 002 389		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	73,00	2.874	824 002 390		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	73,03	2.875	824 002 391		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	73,15	2.880	824 002 392		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	75,00	2.953	824 002 393		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	76,00	2.992	824 002 394		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	76,10	2.996	824 002 395		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	76,20	3.000	824 002 396		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	76,30	3.004	824 002 397		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	80,00	3.150	824 002 398		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	82,00	3.228	824 002 399		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	82,30	3.240	824 002 400		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	85,00	3.346	824 002 401		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	85,90	3.382	824 002 402		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	88,90	3.500	824 002 403		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	89,00	3.504	824 002 404		-

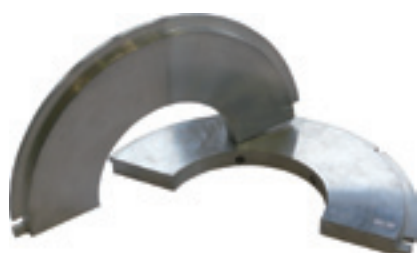
Enclosed Orbital Weld Heads

35

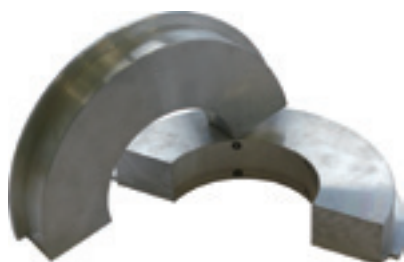
Article	Tube OD [mm]	Tube OD [inch]	Code		kg
Pair of clamping shells W OW 115/115S wide (2pcs.)	89,10	3.508	824 002 405		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	90,00	3.543	824 002 406		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	93,00	3.661	824 002 407		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	95,00	3.740	824 002 408		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	100,00	3.937	824 002 409		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	101,60	4.000	824 002 410		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	104,00	4.094	824 002 411		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	108,00	4.252	824 002 412		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	110,00	4.331	824 002 413		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	113,50	4.468	824 002 414		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	114,00	4.488	824 002 415		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	114,30	4.500	824 002 416		-
Pair of clamping shells W OW 115/115S wide (2pcs.)	115,00	4.528	824 002 417		-

Pairs of clamping shells for ORBIWELD 170

Article	Tube OD [mm]	Tube OD [inch]	Code		kg
Pair of clamping shells S OW 170 narrow (2pcs.)	50,00	1.969	825 002 120		-
Pair of clamping shells S OW 170 narrow (2pcs.)	50,80	2.000	825 002 121		-
Pair of clamping shells S OW 170 narrow (2pcs.)	51,00	2.008	825 002 122		-
Pair of clamping shells S OW 170 narrow (2pcs.)	52,00	2.047	825 002 123		-
Pair of clamping shells S OW 170 narrow (2pcs.)	53,00	2.087	825 002 124		-
Pair of clamping shells S OW 170 narrow (2pcs.)	54,00	2.126	825 002 125		-
Pair of clamping shells S OW 170 narrow (2pcs.)	57,00	2.244	825 002 126		-
Pair of clamping shells S OW 170 narrow (2pcs.)	60,00	2.363	825 002 127		-
Pair of clamping shells S OW 170 narrow (2pcs.)	60,10	2.366	825 002 128		-
Pair of clamping shells S OW 170 narrow (2pcs.)	60,30	2.374	825 002 129		-
Pair of clamping shells S OW 170 narrow (2pcs.)	60,45	2.380	825 002 130		-
Pair of clamping shells S OW 170 narrow (2pcs.)	60,50	2.382	825 002 131		-
Pair of clamping shells S OW 170 narrow (2pcs.)	63,00	2.480	825 002 132		-
Pair of clamping shells S OW 170 narrow (2pcs.)	63,20	2.488	825 002 133		-
Pair of clamping shells S OW 170 narrow (2pcs.)	63,50	2.500	825 002 134		-
Pair of clamping shells S OW 170 narrow (2pcs.)	65,00	2.559	825 002 135		-
Pair of clamping shells S OW 170 narrow (2pcs.)	70,00	2.756	825 002 136		-
Pair of clamping shells S OW 170 narrow (2pcs.)	70,20	2.764	825 002 137		-
Pair of clamping shells S OW 170 narrow (2pcs.)	73,00	2.874	825 002 138		-
Pair of clamping shells S OW 170 narrow (2pcs.)	73,03	2.875	825 002 139		-
Pair of clamping shells S OW 170 narrow (2pcs.)	73,15	2.880	825 002 140		-
Pair of clamping shells S OW 170 narrow (2pcs.)	75,00	2.953	825 002 141		-
Pair of clamping shells S OW 170 narrow (2pcs.)	76,00	2.992	825 002 142		-
Pair of clamping shells S OW 170 narrow (2pcs.)	76,10	2.996	825 002 143		-
Pair of clamping shells S OW 170 narrow (2pcs.)	76,20	3.000	825 002 144		-
Pair of clamping shells S OW 170 narrow (2pcs.)	76,30	3.004	825 002 145		-
Pair of clamping shells S OW 170 narrow (2pcs.)	80,00	3.150	825 002 146		-
Pair of clamping shells S OW 170 narrow (2pcs.)	82,00	3.228	825 002 147		-
Pair of clamping shells S OW 170 narrow (2pcs.)	82,30	3.240	825 002 148		-
Pair of clamping shells S OW 170 narrow (2pcs.)	85,00	3.346	825 002 149		-
Pair of clamping shells S OW 170 narrow (2pcs.)	85,90	3.382	825 002 150		-
Pair of clamping shells S OW 170 narrow (2pcs.)	88,90	3.500	825 002 151		-
Pair of clamping shells S OW 170 narrow (2pcs.)	89,00	3.504	825 002 152		-
Pair of clamping shells S OW 170 narrow (2pcs.)	89,10	3.508	825 002 153		-
Pair of clamping shells S OW 170 narrow (2pcs.)	90,00	3.543	825 002 154		-
Pair of clamping shells S OW 170 narrow (2pcs.)	93,00	3.661	825 002 155		-
Pair of clamping shells S OW 170 narrow (2pcs.)	95,00	3.740	825 002 156		-
Pair of clamping shells S OW 170 narrow (2pcs.)	100,00	3.937	825 002 157		-
Pair of clamping shells S OW 170 narrow (2pcs.)	101,60	4.000	825 002 158		-
Pair of clamping shells S OW 170 narrow (2pcs.)	104,00	4.094	825 002 159		-
Pair of clamping shells S OW 170 narrow (2pcs.)	108,00	4.252	825 002 160		-
Pair of clamping shells S OW 170 narrow (2pcs.)	110,00	4.331	825 002 161		-
Pair of clamping shells S OW 170 narrow (2pcs.)	113,50	4.468	825 002 162		-
Pair of clamping shells S OW 170 narrow (2pcs.)	114,00	4.488	825 002 163		-
Pair of clamping shells S OW 170 narrow (2pcs.)	114,30	4.500	825 002 164		-
Pair of clamping shells S OW 170 narrow (2pcs.)	115,00	4.528	825 002 165		-
Pair of clamping shells S OW 170 narrow (2pcs.)	125,00	4.921	825 002 166		-



Pair of clamping shells S OW 170 narrow (2pcs.) for one clamping side



Pair of clamping shells W OW 170 wide (2pcs.) for one clamping side

Article	Tube OD [mm]	Tube OD [inch]	Code		kg
Pair of clamping shells S OW 170 narrow (2pcs.)	127,00	5.000	825 002 167		
Pair of clamping shells S OW 170 narrow (2pcs.)	127,05	5.002	825 002 168		
Pair of clamping shells S OW 170 narrow (2pcs.)	129,00	5.079	825 002 169		
Pair of clamping shells S OW 170 narrow (2pcs.)	133,00	5.236	825 002 170		
Pair of clamping shells S OW 170 narrow (2pcs.)	139,70	5.500	825 002 171		
Pair of clamping shells S OW 170 narrow (2pcs.)	141,30	5.563	825 002 172		
Pair of clamping shells S OW 170 narrow (2pcs.)	152,40	6.000	825 002 173		
Pair of clamping shells S OW 170 narrow (2pcs.)	154,00	6.063	825 002 174		
Pair of clamping shells S OW 170 narrow (2pcs.)	159,00	6.260	825 002 175		
Pair of clamping shells S OW 170 narrow (2pcs.)	165,10	6.500	825 002 176		
Pair of clamping shells S OW 170 narrow (2pcs.)	165,20	6.504	825 002 177		
Pair of clamping shells S OW 170 narrow (2pcs.)	168,30	6.626	825 002 178		
Pair of clamping shells S OW 170 narrow (2pcs.)	170,00	6.693	825 002 179		
Pair of clamping shells W OW 170 wide (2pcs.)	50,00	1.969	825 002 320		-
Pair of clamping shells W OW 170 wide (2pcs.)	50,80	2.000	825 002 321		-
Pair of clamping shells W OW 170 wide (2pcs.)	51,00	2.008	825 002 322		-
Pair of clamping shells W OW 170 wide (2pcs.)	52,00	2.047	825 002 323		-
Pair of clamping shells W OW 170 wide (2pcs.)	53,00	2.087	825 002 324		-
Pair of clamping shells W OW 170 wide (2pcs.)	54,00	2.126	825 002 325		-
Pair of clamping shells W OW 170 wide (2pcs.)	57,00	2.244	825 002 326		-
Pair of clamping shells W OW 170 wide (2pcs.)	60,00	2.363	825 002 327		-
Pair of clamping shells W OW 170 wide (2pcs.)	60,10	2.366	825 002 328		-
Pair of clamping shells W OW 170 wide (2pcs.)	60,30	2.374	825 002 329		-
Pair of clamping shells W OW 170 wide (2pcs.)	60,45	2.380	825 002 330		-
Pair of clamping shells W OW 170 wide (2pcs.)	60,50	2.382	825 002 331		-
Pair of clamping shells W OW 170 wide (2pcs.)	63,00	2.480	825 002 332		-
Pair of clamping shells W OW 170 wide (2pcs.)	63,20	2.488	825 002 333		-
Pair of clamping shells W OW 170 wide (2pcs.)	63,50	2.500	825 002 334		-
Pair of clamping shells W OW 170 wide (2pcs.)	65,00	2.559	825 002 335		-
Pair of clamping shells W OW 170 wide (2pcs.)	70,00	2.756	825 002 336		-
Pair of clamping shells W OW 170 wide (2pcs.)	70,20	2.764	825 002 337		-
Pair of clamping shells W OW 170 wide (2pcs.)	73,00	2.874	825 002 338		-
Pair of clamping shells W OW 170 wide (2pcs.)	73,03	2.875	825 002 339		-
Pair of clamping shells W OW 170 wide (2pcs.)	73,15	2.880	825 002 340		-
Pair of clamping shells W OW 170 wide (2pcs.)	75,00	2.953	825 002 341		-
Pair of clamping shells W OW 170 wide (2pcs.)	76,00	2.992	825 002 342		-
Pair of clamping shells W OW 170 wide (2pcs.)	76,10	2.996	825 002 343		-
Pair of clamping shells W OW 170 wide (2pcs.)	76,20	3.000	825 002 344		-
Pair of clamping shells W OW 170 wide (2pcs.)	76,30	3.004	825 002 345		-
Pair of clamping shells W OW 170 wide (2pcs.)	80,00	3.150	825 002 346		-
Pair of clamping shells W OW 170 wide (2pcs.)	82,00	3.228	825 002 347		-
Pair of clamping shells W OW 170 wide (2pcs.)	82,30	3.240	825 002 348		-
Pair of clamping shells W OW 170 wide (2pcs.)	85,00	3.346	825 002 349		-
Pair of clamping shells W OW 170 wide (2pcs.)	85,90	3.382	825 002 350		-
Pair of clamping shells W OW 170 wide (2pcs.)	88,90	3.500	825 002 351		-
Pair of clamping shells W OW 170 wide (2pcs.)	89,00	3.504	825 002 352		-
Pair of clamping shells W OW 170 wide (2pcs.)	89,10	3.508	825 002 353		-
Pair of clamping shells W OW 170 wide (2pcs.)	90,00	3.543	825 002 354		-
Pair of clamping shells W OW 170 wide (2pcs.)	93,00	3.661	825 002 355		-
Pair of clamping shells W OW 170 wide (2pcs.)	95,00	3.740	825 002 356		-
Pair of clamping shells W OW 170 wide (2pcs.)	100,00	3.937	825 002 357		-
Pair of clamping shells W OW 170 wide (2pcs.)	101,60	4.000	825 002 358		-
Pair of clamping shells W OW 170 wide (2pcs.)	104,00	4.094	825 002 359		-
Pair of clamping shells W OW 170 wide (2pcs.)	108,00	4.252	825 002 360		-
Pair of clamping shells W OW 170 wide (2pcs.)	110,00	4.331	825 002 361		-
Pair of clamping shells W OW 170 wide (2pcs.)	113,50	4.468	825 002 362		-
Pair of clamping shells W OW 170 wide (2pcs.)	114,00	4.488	825 002 363		-
Pair of clamping shells W OW 170 wide (2pcs.)	114,30	4.500	825 002 364		-
Pair of clamping shells W OW 170 wide (2pcs.)	115,00	4.528	825 002 365		-
Pair of clamping shells W OW 170 wide (2pcs.)	125,00	4.921	825 002 366		-
Pair of clamping shells W OW 170 wide (2pcs.)	127,00	5.000	825 002 367		-
Pair of clamping shells W OW 170 wide (2pcs.)	127,05	5.002	825 002 368		-
Pair of clamping shells W OW 170 wide (2pcs.)	129,00	5.079	825 002 369		-
Pair of clamping shells W OW 170 wide (2pcs.)	133,00	5.236	825 002 370		-
Pair of clamping shells W OW 170 wide (2pcs.)	139,70	5.500	825 002 371		-

Enclosed Orbital Weld Heads

37

Article	Tube OD [mm]	Tube OD [inch]	Code		kg
Pair of clamping shells W OW 170 wide (2pcs.)	141,30	5.563	825 002 372		-
Pair of clamping shells W OW 170 wide (2pcs.)	152,40	6.000	825 002 373		-
Pair of clamping shells W OW 170 wide (2pcs.)	154,00	5.063	825 002 374		-
Pair of clamping shells W OW 170 wide (2pcs.)	159,00	6.260	825 002 375		-
Pair of clamping shells W OW 170 wide (2pcs.)	165,10	6.500	825 002 376		-
Pair of clamping shells W OW 170 wide (2pcs.)	165,20	6.504	825 002 377		-
Pair of clamping shells W OW 170 wide (2pcs.)	168,30	6.626	825 002 378		-
Pair of clamping shells W OW 170 wide (2pcs.)	170,00	6.693	825 002 379		-

Plastic case for clamping shells

With separate compartments to take up to 10 sets of standard shells.
Without clamping shells.

Article	Code		kg
Plastic case for clamping shells for OW 38S	826 020 001		0,350
Plastic case for clamping shells for OW 65 and OW 76S	827 020 006		1,388
Plastic case for OW 115 and 115S	824 020 002		1,443

Cavity shell for moldings (2 shells)

Clamping shell for welding shaped pieces (e.g. flange, flanged wheels and screw fittings in the food industry).

Article	Code		kg
Cavity shell for moldings OW 38S	826 050 010		0,146
Cavity shell for moldings for OW 76S	827 050 007		0,266
Cavity shell for moldings for OW 65	823 050 010		0,612
Cavity shell for moldings for OW 115/OW 115S	824 050 003		0,660
Cavity shell for moldings for OW 170	825 050 002		0,852

Shells for arc welding

For welding standard elbows without straight side attachment (elbow-to-elbow welding without straight side is not possible). When using this shell on a weld head side (left or right) only the gas protection around the elbow is guaranteed. There is no clamping so that the elbow has to be tacked in place before welding.

Shell consisting of:

- Two basic retainers independent of the tube diameter.
- Two covers independent of the tube diameter.

Please submit a drawing of the elbow or a sample part when placing the order

Retainer/Cover

The covers are placed into the retainer and can be turned so that the side of the elbow can exit at any angle from the welding held. The tube to be welded on the other side of the welding held must be straight and be clamped with shells from the particular standard clamping shell (standard shells not included).

Clamping shell for OW 38S

With the weld head OW 38S the covers are made to customer specification (2 halves) without retainers are placed directly into the head. A retainer is therefore not required. Please specify the required tube diameter when placing the order.



Plastic case for clamping shells
(not included as standard, ordered as an
accessory)



Cavity shell for moldings



Shell for arc welding
(retainer/cover)

Please indicate the required pipe OD and inside radius of the elbow,
in case an additional electrode adapter is needed.

Article	Code		kg
Elbow shell for OW 38S complete*	826 050 031		0,018
Retainer for elbow shell for OW 76S	827 002 018		0,089
Cover for elbow shell for OW 76S	827 050 021		0,029
Retainer for elbow shell for OW 65	823 050 029		0,089
Cover for elbow shell for OW 65*	823 050 030		0,028
Retainer for elbow shell for OW 115 and OW 115S	824 050 006		0,149
Cover for elbow shell for OW 115S*	828 050 016		0,035
Cover for elbow shell for OW 115*	824 050 020		0,035
Retainer for elbow shell for OW 170	825 050 005		0,260
Cover for elbow shell for OW 170*	825 050 020		0,043

* Please submit a drawing of the elbow or a sample part when placing the order.

Special clamping shells for orbital weld heads

T-Piece clamping shells

Clamping shell with the ability to take the hollowed tube and the tube to be welded.
A complete set is required for each task and dimension.

Inner centering with simultaneous forming system consisting of:

- Mandrel
- Milled nut
- Welded part retainer
- Hollowed tube piece retainer

Article	Tube OD max. [mm]	Tube OD max. [inch]	Code		kg
T-piece clamping shells for OW 38S	-	-	826 050 038		-
T-piece clamping shells for OW 76S	48,30	1.902	827 050 005		0.800
Inner centering for OW 76S	48,30	1.902	827 050 006		1.200
Inner centering for OW 115/115S	85,00	3.346	824 050 005		2,000
T-piece clamping shells for OW 115/115S	85,00	3.346	824 050 004		1,300
T-piece clamping shells for OW 170	154,00	6.063	825 050 003		3,700
Inner centering for OW 170	154,00	6.063	825 050 004		4,200

Electrode adapters

Robust brass adapter for transverse alignment of the tungsten electrode.

In the set or can be ordered individually. Please note that the maximum tube diameter that can be welded is reduced by using an electrode adapter.

Complete sets consisting of:

- Basic part for extension arms.
- For each extension arm 15°, 30° and 45°

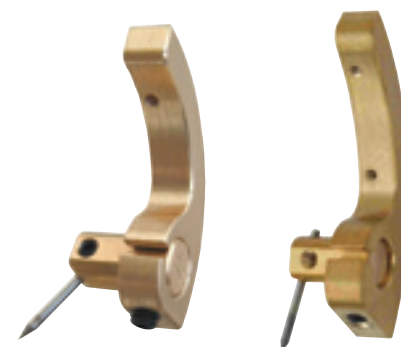
Complete sets:	Code		kg
Electrode adapter for OW 38S, complete set	826 050 034		0,015
Electrode adapter for OW 76S, complete set	827 050 027		0,015
Electrode adapter for OW 65, complete set	823 050 028		0,045
Electrode adapter for OW 115 and OW 115S, complete set	824 050 021		0,064
Electrode adapter for OW 170, complete set	825 050 022		0,094
Individual parts for OW 38S:			
Base part to electrode adapter OW 38S	826 004 003		0,024
10 mm 15° extension arm for electrode adapter OW 38S	823 004 008		0,003



T-piece clamping
shells



Inner centering



Electrode adapter for OW 38S, OW 76S



Electrode adapter for OW 170

Enclosed Orbital Weld Heads

39



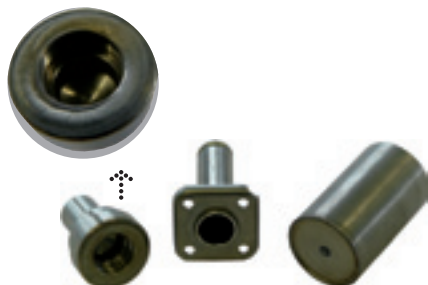
Electrode adapter for internal weld seam
(without rotor)



Example of internal seam weld.



Electrode adapter for i-seam weld
(without rotor)



Example for i-seam weld.



Extension cable assembly

10 mm 30° extension arm for electrode adapter OW 38S	823 004 009		0,003
10 mm 45° extension arm for electrode adapter OW 38S	823 004 010		0,003
Individual parts for OW 76S:			
Base part to electrode adapter OW 76S	827 004 003		0,024
15 mm 15°/90° extension arm for electrode adapter OW 76S	823 004 002		0,003
15 mm 30°/90° extension arm for electrode adapter OW 76S	823 004 003		0,003
15 mm 45°/90° extension arm for electrode adapter OW 76S	823 004 004		0,003
Individual parts for OW 65			
Base part to electrode adapter OW 65	823 004 011		0,018
15 mm 15°/90° extension arm for electrode adapter OW 65	823 004 002		0,003
15 mm 30°/90° extension arm for electrode adapter OW 65	823 004 003		0,003
15 mm 45°/90° extension arm for electrode adapter OW 65	823 004 004		0,003
Individual parts for OW 115 und OW 115S			
Base part to electrode adapter OW 115 and OW 115S	824 004 004		0,037
25 mm 15°/90° extension arm for electrode adapter OW 115/115S	823 004 006		0,009
25 mm 30°/90° extension arm for electrode adapter OW 115/115S	823 004 005		0,009
25 mm 45°/90° extension arm for electrode adapter OW 115/115S	823 004 007		0,009
Individual parts for OW 170			
Base part to electrode adapter OW 170	825 004 001		0,067
25 mm 15°/90° extension arm for electrode adapter OW 170	823 004 006		0,009
25 mm 30°/90° extension arm for electrode adapter OW 170	823 004 005		0,009
25 mm 45°/90° extension arm for electrode adapter OW 170	823 004 007		0,009
Electrode adapter for i-seam weld*			
Electrode adapter for OW 38S i-seam weld, set	826 050 036		
Electrode adapter for OW 76S i-seam weld, set	827 050 038		-
Electrode adapter for OW 65 i-seam weld, set	823 050 034		-
Electrode adapter for OW 115 i-seam weld, set	824 050 022		-
Electrode adapter for internal weld seam*			
Electrode adapter for OW 38S internal weld seam, set	826 050 037		
Electrode adapter for OW 76S internal weld seam, set	827 050 039		-
Electrode adapter for OW 115 internal weld seam, set	824 050 023		-

* Further electrode adapter for other weld heads on request.

Extension cable assembly

Extension cable assembly suitable for all Orbitalum orbital weld heads, beside the AVC/OSC versions of the ORBIWELD TP heads. Further lengths on request.

Article	Length (meter)	Code		kg
Extension cable assembly 5M	5	871 050 011		7,600
Extension cable assembly 10M	10	871 050 012		-
Extension cable assembly 15M	15	871 050 013		-



ORBIWELD TP - unique design and functionality!

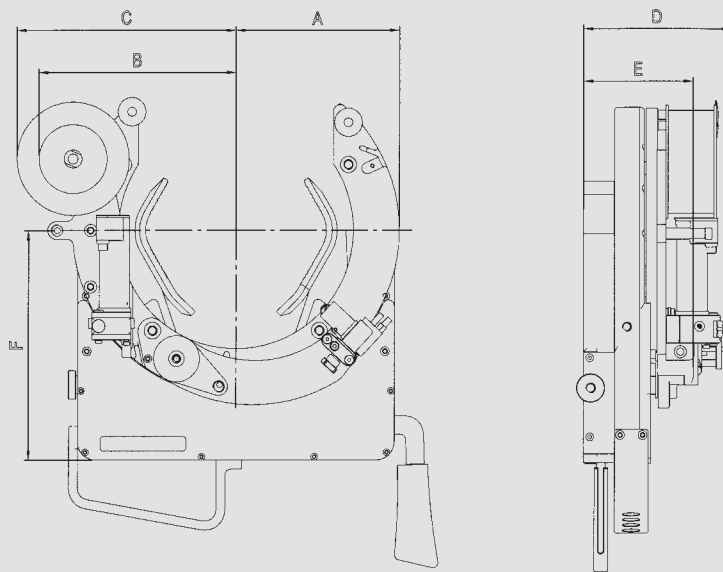
Open Orbital Weld Heads

41

Overview of open orbital weld heads ORBIWELD TP

Open orbital weld heads ORBIWELD TP / ORBIWELD TP AVC/OSC

Model		TP 250	TP 400	TP 400 KD3-100	TP 600	TP 600 AVC/OSC	TP 1000	TP 1000 AVC/OSC
Code		811 000 001	812 000 001	812 000 003	813 000 001	813 000 002	814 000 001	814 000 002
Application range	[mm]	20 - 77	30 - 115	30 - 115	70 - 170	70 - 170	120 - 275	120 - 275
	[inch]	1/2 - 3	1 1/2 - 4 1/2	1 1/2 - 4 1/2	3 - 6	3 - 6	5 - 10	5 - 10
Dimension „A“: excluding cold wire	[mm]	86,0	108,0	108,0	146,0	–	216,0	–
	[inch]	3.386	4.252	4.252	5.748	–	8.504	–
Dimension „B“: with cold wire KD 3-62	[mm]	x	155,0	180,0	176,0	–	216,0	–
	[inch]	x	6.102	7.087	6.929	–	8.504	–
Dimension „C“: with cold wire KD 3-100	[mm]	x	x	177,0	196,0	215,0	237,0	274,0
	[inch]	x	x	6.969	7.717	8.465	9.331	10.787
Dimension "D"	[mm]	85,0	120,0	182,0	140,0	186,0	170,0	206,0
	[inch]	3.346	4.724	7.165	4.724	7.323	6.299	8.110
Dimension "E": electrode	[mm]	74,0	90,0	162,0	97,0	172,0	146,0	191,0
	[inch]	2.913	3.543	6.378	3.819	6.772	5.748	7.520
Dimension "F"	[mm]	125,0	200,0	200,0	202,0	202,0	270,0	270,0
	[inch]	4.921	7.874	7.874	7.953	7.953	10.630	10.630
Weight excluding cold wire feed and hose package	[kg]	2,1	5,4	-	8,0	–	16,9	–
	[lbs]	4.630	11.905	-	17.637	–	37.258	–
Weight including cold wire feed and excluding hose package	[kg]	–	–	-	–	10,4	–	22,0
	[lbs]	–	–	-	–	22.928	–	48,500



Electrode lengths for TP weld heads

Model		TP 250	TP 400	TP 400 AVC/OSC	TP 600	TP 600 AVC/OSC	TP 1000	TP 1000 AVC/OSC
Code		811 000 001	812 000 001	812 000 002	813 000 001	813 000 001	814 000 001	814 000 002
Length	[mm]	18 - 32	30 - 55	30 - 55	30 - 55	30 - 55	30 - 55	30 - 55
	[inch]	0.709 - 1.260	1.181 - 2.165	1.181 - 2.165	1.181 - 2.165	1.181 - 2.165	1.181 - 2.165	1.181 - 2.165

Open orbital weld heads ORBIWELD TP

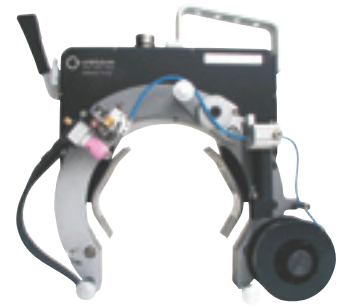
Open orbital weld heads ORBIWELD TP 250-1000

The ORBIWELD TP series has a unique design and functionality. An extremely compact design has been achieved thanks to the drive motor that is fully integrated into the housing. The completely new drive concept has made the well-known large and costly drives associated with conventional weld heads unnecessary.

Features:

- Can be used with and without cold wire attachment, as the cold wire feed nozzle can be adjusted exactly in both a vertical and horizontal direction via an adjustment unit.
- Open arc system.
- The arc length is kept at a constant gap mechanically.
- Infinitely variable clamping mechanism.
- The water-cooled TIG Torch head can be swiveled in any direction and allows fillet welds or short hollowed out tubes to be welded. In the models TP 400, 600, and 1000 the TIG Torch head is secured to a slide unit that allows the position of the electrodes to be finely adjusted with great accuracy even during welding.
- With a simple to operate control knob, it is possible to adjust the clamping area across the weld head's entire nominal range.
- The ORBIWELD TP weld heads with clamping shells made from tool steel ensures optimum retention to the tube's surface (very good grip properties).
- The weld heads are easily centered to the tube and are clamped in place with the help of a tension lever. No additional remote control is required thanks to the keys integrated directly into the weld head housing.
- The standard hose package length is 7.5 m (24.6 ft). Extensions are possible. See on page 40.

Please note that the weld head needs for operation an earth cable as well as a control cable that must be ordered separately.



ORBIWELD TP 600
with KD 3-100 cold wire feed



ORBIWELD TP 250
with external cold wire feed KD 4



ORBIWELD TP 400
with KD 3-62 cold wire feed



ORBIWELD TP 400
with KD 3-100 cold wire feed

ORBIWELD TP 250 - 100 without cold wire unit

Article	Tube OD [mm]	Tube OD [inch]	Code		Weight weld head [kg]	Dispatch weight [kg]
Open weld head TP 250*	22,00 - 77,00	1/2 - 3	811 000 001		10,500	18,000
Open weld head TP 400*	30,00 - 115,00	1 1/2 - 4 1/2	812 000 001		12,500	20,000
Open weld head TP 600*	70,00 - 170,00	3 - 6	813 000 001		13,800	21,350
Open weld head TP 1000*	120,00 - 275,00	5 - 10	814 000 001		19,000	36,500

* Without cold wire unit (for retrofit see following page).

ORBIWELD TP 250 - 1000 with cold wire unit

Article	Tube OD [mm]	Tube OD [inch]	Code		Gewicht Schweißzange [kg]	Versandgewicht [kg]
Open weld head TP 250 with KD 4	22,00 - 77,00	1/2 - 3	811 000 005		12,500	20,000
Open weld head TP 400 with KD 3-62	30,00 - 115,00	1 1/2 - 4 1/2	812 000 005		-	-
Open weld head TP 400 with KD 3-100	30,00 - 115,00	1 1/2 - 4 1/2	812 000 006		-	-
Open weld head TP 600 with KD 3-100	70,00 - 170,00	3 - 6	813 000 005		-	-
Open weld head TP 1000 with KD 3-100	120,00 - 275,00	5 - 10	814 000 005		-	-

Open Orbital Weld Heads



KD 4 with open lift-off lid

Cold wire feeds for TP heads for retrofit

Cold wire feed KD 4 for ORBIWELD TP 250

Cannot be used for ORBIWELD TP 400/600/1000.

Consisting of:

- Axis drive motor.
- Adjustable wire feed tips.
- Wire reel retainer for D 100 mm/1kg (3.937 inch) standard reels.
- External cold wire box.

Article	Code		kg
Cold wire feed KD 4 for ORBIWELD TP 250	811 050 001		2,000

Cold wire feed KD 3-62 and KD 3-100 for ORBIWELD TP 400

Can be assembled directly on the weld head, also making pulse synchronous wire feed possible.

Consisting of:

- Axis drive motor.
- Adjustable wire feed tip.
- Wire reel retainer with D 62 mm/1 kg (2.440 inch) special wire reel (empty reel)
with D 100 mm/1 kg (3.937 inch) standard reel

Article	Code		kg
Cold wire feed KD 3-62 for ORBIWELD TP 400 including empty reel	812 050 001		5,500
Additional empty reel for KD 3-62	812 018 019		0,038
Cold wire feed KD 3-100 for ORBIWELD TP 400*	812 050 061		-

**For the retrofit the weld head has to be sent to the Orbitalum service department.*

Cold wire feed KD 3-100 for ORBIWELD TP 600

Can be assembled directly on the weld head, also making pulse synchronous wire feed possible.

Consisting of:

- Axis drive motor.
- Adjustable wire feed tip.
- Wire reel retainer for D 100/1kg (3.937 inch) standard wire reels.

Article	Code		kg
Cold wire feed KD 3-100 for ORBIWELD TP 600	813 050 001		0,680

Cold wire feed KD 3-100 for ORBIWELD TP 1000

Can be assembled directly on the weld head, also making pulse synchronous wire feed possible.

Consisting of:

- Axis drive motor.
- Adjustable wire feed tip.
- Wire reel retainer for D 100 mm/1kg (3.937 inch) standard wire reels.

Article	Code		kg
Cold wire feed KD 3-100 for ORBIWELD TP 1000	814 050 008		0,720

Open orbital weld heads ORBIWELD TP AVC/OSC

Open orbital weld heads ORBIWELD TP AVC/OSC with oscillation OSC and arc voltage control AVC

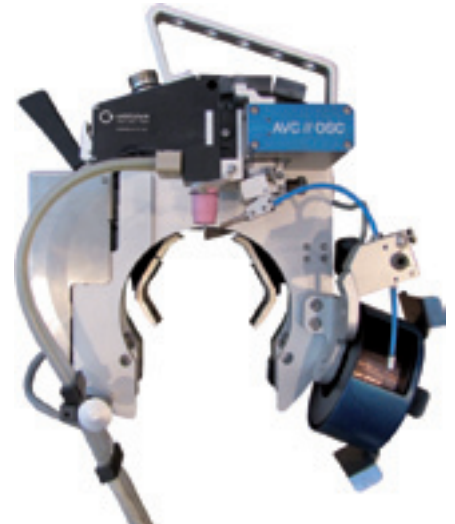
Can be used for thick wall tubes (multiple layer welds).

As ORBIWELD TP (see p. 43). The weld heads of the ORBIWELD TP AVC/OSC series are also provided with a motorized travel option for the TIG Torch across the nominal diameter, so that no additional mechanical basic presetting is required for any change in the tube diameter.

Additional properties of the tube-to-tube weld heads ORBIWELD TP AVC/OSC with oscillation OSC and arc voltage control AVC:

- The oscillation width is 20 mm (0.787 inch).
- Cold feed wire feed unit with mount for D 100/1kg (3.937 Inch) wire reels fitted directly on the weld head.
- With a simple to operate control knob, it is possible to adjust the clamping area across the weld head's entire nominal range.

Please note that the weld head needs for operation an earth cable as well as a control cable that must be ordered separately.



ORBIWELD TP 400 AVC/OSC

Article	Tube OD [mm]	Tube OD [inch]	Code		Weight weld head [kg]	Dispatch weight [kg]
Open weld head TP 400 AVC/OSC*	30,00 - 115,00	1 ½ - 4 ½	812 000 002		12,700	24,800
Open weld head TP 600 AVC/OSC*	70,00 - 170,00	3 - 6	813 000 002		15,500	33,300
Open weld head TP 1000 AVC/OSC*	120,00 - 275,00	5 - 10	814 000 002		27,500	45,300

* Only usable with an ORBIMAT CA AVC/OSC orbital welding power supply. See page 10.

Open Orbital Weld Heads

45



Expansion clamping shell set for
ORBIWELD TP 250



Clamping shell set for ORBIWELD TP 250



Additional clamping stainless steel shell
shells for ORBIWELD TP



Control cable



Earth cable

Other accessories for open orbital weld heads

Expansion clamping shell set for ORBIWELD TP 250

To extend the clamping area up to a minimum diameter of Ø 12 mm (0.472 inch).

Article	Version	Tube OD [mm]	Tube OD [inch]	Code		kg
Expansion clamping shell set for TP 250 (4pcs.)	Stainless steel	12,00 - 45,00	0.472 - 1.772	811 050 002		0,096
Expansion clamping shell set for TP 250 (4pcs.)	Hardened steel	12,00 - 45,00	0.472 - 1.772	811 050 009		0,023
Clamping shell set for TP 250* (2pcs.)	-	12,00 - 22,00	0.472 - 0.866	811 002 001		0,030

* Please indicate requested tube OD when ordering.

Additional stainless steel clamping sheet set for ORBIWELD TP

The TP series are made from hardened tool steel as standard. For applications in stainless steel we recommend the following additional clamping shell sets made from stainless steel:

Article	Code		kg
Additional clamping shell set for TP 250 (4pcs.)	811 050 006		0,069
Additional clamping shell set for TP 400 (4pcs.)	812 050 002		0,100
Additional clamping shell set for TP 600 (4pcs.)	813 050 002		0,150
Additional clamping shell set for TP 1000 (4pcs.)	814 050 001		0,071

Control cable

Suitable for all ORBIWELD TP heads.

Article	Length [m]	Length [ft]	Code		kg
Control cable for all ORBIWELD TP heads	7,5	24.6	811 050 003		1,202

Earth cable

Article	Length [m]	Length [ft]	Code		kg
Earth cable for power supplies with 165 ampere	5,0	16.4	811 050 004		2,351
Earth cable for power supplies with 300 ampere	5,0	16.4	811 050 005		2,400
Earth cable for 300 AVC/OSC power supplies	5,0	16.4	812 050 046		2,850

Consumables for ORBIWELD TP heads

Clamp sleeves for ORBIWELD TP

Article	Code		kg
Clamp sleeve TP 250	811 020 018		-
Clamp sleeve TP 400/600/1000	812 020 024		-



Clamp sleeves

Plunger for clamp sleeves for ORBIWELD TP

Article	Code		kg
Plunger for clamp sleeve TP	812 005 002		-



Plunger for clamp sleeve

Torch isolators for ORBIWELD TP

Article	Code		kg
Torch isolator TP 250	811 013 001		-
Torch isolator TP 400/600/1000	812 005 001		-



isolator seals and torch seals

Wire cores for ORBIWELD TP

Article	Code		kg
Wire core TP 250 L3,5m d0,8mm	811 020 030		-
Wire core TP 400/600/1000 L1m d0,8mm	812 020 041		-



Wire cores

HF spiral zu ORBIWELD TP

Article	Code		kg
HF spiral TP	831 001 027		-



HF spiral

Torch seals for ORBIWELD TP 250

Article	Code		kg
Torch seal TP 250	811 005 020		-

Open Orbital Weld Heads



Open orbital weld heads OP series

Open orbital weld heads OP 46,OP 51,OP 102 (AVC/OSC)

The OP series is ideal for applications with limited space availability thanks to slim design.

Benefits:

- Can be used with or without additional wire.
- Smallest space requirement thanks to compact design.
- The OP 51 and OP 102 weld heads are also available with arc voltage control (AVC) and oscillation (OSC).
- The water-cooled torch head, machine body and clamping jaws assure highest resistance, even on preheated tubes.
- Horizontal, vertical and tilted welding positions are possible.
- Very robust and ergonomic design.
- Gas, water and electricity supply through a multiple hose made of viton enables safe and user-friendly working.
- Simple and fast assembly of the weld heads on the tube.

Delivery includes:

- 1 basic machine
- 1 weld head module
- 1 cold wire feed

To be able to operate the weld heads, clamping jaws and a suitable earth cable are also necessary, which are not included in the standard delivery and must be ordered separately.



Open weld head OP 51-1

Minimum spacing between the tubes Formula: $\frac{\text{Weld head diameter} - \text{Tube OD}}{2} + 2$

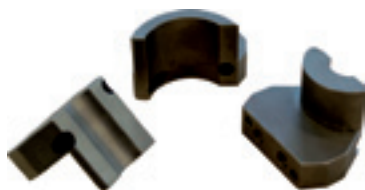
Article	Tube OD [mm]	Weld head module Ø [mm]	Space requirement on tube (total) [mm]	Space requirement on tube (up to electrode) [mm]	Code		kg**
OP 46-1S	12,7 - 27,0	120	80	65	840 000 001		5,500
OP 46-2S	25,0 - 46,0	130	80	65	840 000 002		5,500
OP 46-1	12,7 - 27,0	85	135	120	841 000 001		5,500
OP 46-2	25,0 - 38,0	98	135	120	841 000 002		5,500
OP 46-3	25,0 - 46,0	115	135	120	841 000 003		5,500
OP 51-1	12,7 - 38,0	104	135	120	842 000 001		6,000
OP 51-2	25,0 - 51,0	120	135	120	842 000 002		6,000
OP 102	50,0 - 102,0	190	135	120	843 000 001		7,000
OP 51 AVC/OSC*	31,8 - 51,0	138	170	140	842 000 101		7,000
OP 102 AVC/OSC*	50,0 - 102,0	198	170	140	843 000 101		8,000

* Only usable with an ORBITAL CA AVC/OSC orbital welding power supply. See page 10

** Weight without connecting cable

Open Orbital Weld Heads

49



Clamping jaws for OP weld heads

Clamping jaws

The water-cooled clamping jaws are produced for specific customers and can only be used for one specific exterior tube diameter (e.g. Ø 25 mm).

Therefore when you place your order, please specify the code no. of the desired clamping jaw and the exact exterior tube diameter that you would like to weld.

Article	Tube OD [mm]	Tube OD [inch]	Suitable for	Code		kg
clamping jaw	12,7 - 27	-	OP 46-1S, 46-1, 51-1	840 030 003		-
clamping jaw	25 - 38	-	OP 42-2S, 46-2, 46-3, 51-1, OP 51-2, 51 AVC/OSC	840 030 004		-
clamping jaw	38 - 46	-	OP 42-2S, 51-2, 51 AVC/OSC	840 030 005		-
clamping jaw	46 - 51	-	OP 51-2, 51 AVC/OSC	842 030 003		-
clamping jaw	50 - 65	-	OP 102 (AVC/OSC)	843 030 001		-
clamping jaw	65 - 80	-	OP 102 (AVC/OSC)	843 030 002		-
clamping jaw	80 - 90	-	OP 102 (AVC/OSC)	843 030 003		-
clamping jaw	90 - 120	-	OP 102 (AVC/OSC)	843 030 004		-

Consumables for OP series open weld heads

Clamp sleeves for OP weld heads

Article	Code		kg
Clamp sleeve OP 46 / OP 51 / OP 51 AVC/OSC / OP 102 AVC/OSC	841 001 033		-
Clamp sleeve OP 102	843 001 004		-



Clamp sleeves

Plungers for clamp sleeves for OP weld heads

Article	Code		kg
Plunger for clamp sleeve OP	841 001 059		-



Plungers for clamp sleeves

Torch isolators for OP weld heads

Article	Code		kg
Torch isolator OP 46 / OP 51 / OP 51 AVC/OSC / OP 102	840 001 012		-
Torch isolator OP 102 AVC/OSC	843 001 005		-



Torch isolator and torch seals

Wire cores for OP weld heads

Article	Code		kg
Wire core OP 46-1	841 001 045		-
Wire core OP 46-2	841 001 071		-
Wire core OP 46-3 / OP 51	841 001 066		-
Wire core OP 51 AVC/OSC	842 001 009		-
Wire core OP 102	843 001 007		-
Wire core OP 102 AVC/OSC	843 001 008		-

HF spiral for OP weld heads

Article	Code		kg
HF spiral OP	840 001 013		-



HF spiral



Wire cores

Open Orbital Weld Heads

51



HX 16 - Open weld heads especially made for heat exchanger applications!

Open orbital weld heads HX 16 series

Open orbital weld heads HX 16P, HX 16S

Ideal for applications with the smallest space availability thanks to their compact design.

Benefits:

- Optimum solution for welding pre-mounted elbows.
- Time efficient and easy pneumatic clamping on the tube (only HX 16P).
- Smallest space requirement thanks to compact design.
- Exact stepless adjustment of the tungsten position (only HX 16P).
- Very robust and ergonomic design.
- Simple and fast assembly of the weld heads on the tube.
- Self supporting weld head.

To be able to operate the weld heads, clamping jaws and a suitable earth cable are also necessary, which are not included in the standard delivery and must be ordered separately.



Open weld head HX 16S

Electrode Ø 1,6 [mm]

Minimum spacing between the tubes Formula: $\frac{\text{Holder diameter} - \text{Tube OD}}{2} + 2$

Article	Tube OD [mm]	Holder module Ø [mm]	Code		kg
Open weld head HX 16P	15,0 - 16,0*	-	848 000 001		-
Open weld head HX 16S	12,7 - 16,0*	60	846 000 001		1,500

* Smaller diameters on request.

Clamping jaws for HX 16

Ideal for applications with the smallest space availability

Article	Tube OD [mm]	Holder module Ø [mm]	Code		kg
Clamping jaws for HX 16	12,7 - 16	60	845 002 001		-



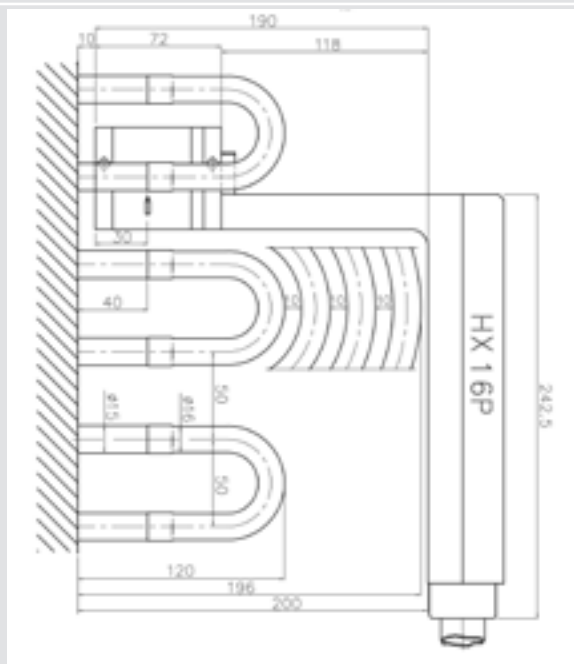
Clamping jaws for HX16

Open Orbital Weld Heads

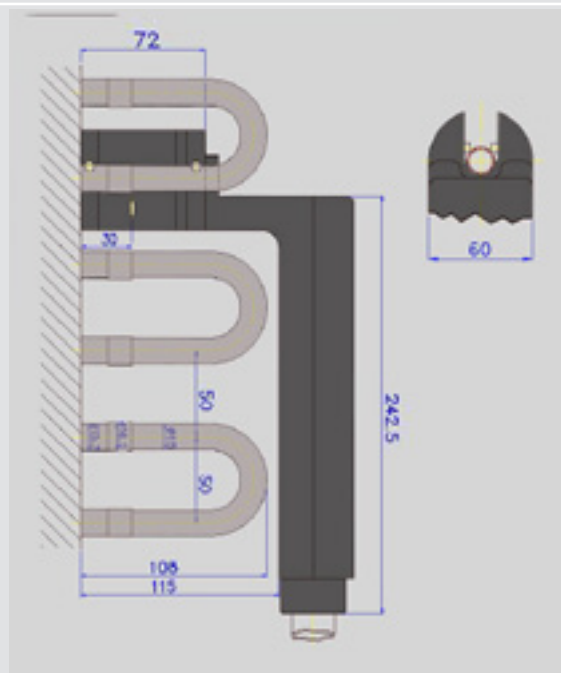
53

Dimensions HX 16

HX 16P



HX 16S





P16, P20 - Weld heads for tube-to-tube-sheet orbital welding!

Tube-to-Tube-Sheet Orbital Weld Heads

55

Tube-to-tube-sheet orbital weld heads

Tube-to-tube-sheet orbital weld heads P16

With this TIG weld head, it easy problem to weld tubes to tubesheets with the highest of accuracy and consistent quality.

Features:

- Completely water-cooled weld head housing.
- Water coolant that extends into the TIG Torch head.
- Simple handling with maximum functionality.
- Burner head up to 30° stepless inclination (reduced diameter range).
- Positioning to the tube to be welded is by means of a centering tool that is placed on a retaining arbor.
- Fitted with a cold wire feed mounted directly on the weld head including a retaining mechanism for 100 mm (3.937 inch) standard wire reel.
(Only with P16 with cold wire, 831 000 001)
- Includes and three-point support.
- Revolving wire feed on the rotational axis of the TIG burner prevents the additional wire from twisting as it exits the wire nozzle.
- Wire reel retainer for D100/1kg (3.937 inch) standard reels.

The hose package length is 7.5 m (24.6 ft). For extension cables see on page 40.

Technical data						P16
Cold wire unit						1 kg Midget spool, D 100 mm
Article	from tube ID of tube OD [mm]	from tube ID of tube OD [inch]	Code		Weight machine [kg]	Dispatch weight [kg]
P16 tube-to-tube-sheet orbital weld head with cold wire	10 - 78*	0.394 - 3.071	831 000 001		17,500	26,500
P16 tube-to-tube-sheet orbital weld head excluding cold wire	10 - 78*	0.394 - 3.071	831 000 003		16,200	25,100

***Please note that the centering tools, the retaining arbors and the earth cable must be ordered separately (see pages 59 and 61).**



Tube-to-tube-sheet weld head P16

Tube-to-tube-sheet orbital weld heads

Tube-to-tube-sheet orbital weld head P16 AVC

Like the weld head P16, this is also fitted with an electric arc voltage control (AVC).
Can only be used in conjunction with the ORBIMAT welding power supply
OM 300 CA AVC/OSC (see page 10). Including cold wire unit.

Technical data					P16 AVC	
Cold wire unit					1 kg Midget spool, D 100 mm	
Article	from tube ID ot tube OD [mm]	from tube ID ot tube OD [inch]	Code		Weight machine [kg]	Dispatch weight [kg]
P16 AVC tube-to-tube-sheet orbital weld head with cold wire	12 - 100*	0.470 - 3.937	831 000 002		18,300	27,300

***Please note that the centering tools, the retaining arbors and the earth cable must be ordered separately (see pages 59 and 61).**



Tube-to-tube-sheet weld head P16 AVC

Tube-to-Tube-Sheet Orbital Weld Heads

57

Tube-to-tube-sheet orbital weld heads

Tube-to-tube-sheet orbital weld heads P20

With this TIG weld head, welding tubes to tube sheets with the greatest of accuracy and consistent quality is not a problem.

Features:

- Simple handling with maximum functionality.
- Water coolant that extends into the TIG burner head.
- Burner head up to 30° stepless inclination (reduced diameter range).
- Positioning to the tube to be welded is by means of a centering tool that is placed on a retaining arbor.
- Fitted with a cold wire feed mounted directly on the weld head including a retaining mechanism for D100 mm/1kg (3.937 inch) standard wire reel.
(Only with P20 with cold wire, 832 000 002))
- Includes three-point support.
- Wire reel retainer for D100/1kg (3.937 inch) standard reels.

The hose package length is 7.5 m (24.6 ft). For extension cables see on page 40

Technical data					P20	
Cold wire unit					1 kg Midget spool, D 100 mm	
Article	from tube ID to tube OD [mm]	from tube ID to tube OD [inch]	Code		Weight machine [kg]	Dispatch weight [kg]
P20 tube-to-tube-sheet orbital weld head with cold wire	10 - 70*	0.394 - 2.756	832 000 002		12,750	20,400
P20 tube-to-tube-sheet orbital weld head excluding cold wire	10 - 70*	0.394 - 2.756	832 000 001		11,500	20,350

***Please note that the centering tools, the retaining arbors and the earth cable must be ordered separately (see pages 59 and 61).**



Tube-to-tube-sheet weld head P20
with cold wire

Accessories for tube-to-tube-sheet orbital weld heads

Special Torches

individual torches for following welding position available on request:

- box header,
- Internal bore welding (I.B.W.).

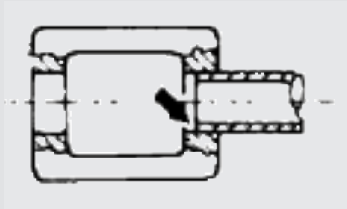


Internal bore welding (I.B.W.)

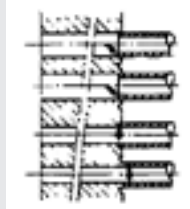


Box Header torch

Box Header



Hinterboden



Cold wire unit

For the retrofitting of tube-to-tube-sheet weld heads without cold wire unit.
Suitable for all weld heads of Orbitalum P series.

- Wire reel retainer for D100/1kg (3.937 inch) standard reels.

Article	Code		kg
Cold wire unit P16	831 001 116		-
Cold wire unit P20	832 001 013		-

Earth cable

For use in combination with an orbital welding power supply from the ORBIMAT CB or CA series.

Article	Length [m]	Length [ft]	Code		kg
Earth cable for power supplies with 165 ampere	5,0	16.4	811 050 004		2,351
Earth cable for power supplies with 300 ampere	5,0	16.4	811 050 005		2,400
Earth cable for 300 AVC/OSC power supplies	5,0	16.4	812 050 046		2,850



Earth cable

Spring balance

For load-free suspension.

Article	Code		kg
Spring balance for P20	832 020 001		2,370
Spring balance for P16	832 030 002		3,800



Spring balance

Tube-to-Tube-Sheet Orbital Weld Heads



Closed gas cover



Front cage



Pneumatic Centering device

Closed gas cover

For welding titanium tubes under a full gas cover.

Article	Code		kg
Closed gas cover for P20	832 020 002		1,200
Closed gas cover for P16	831 001 101		1,300

Front cage

With bearing ring.

Article	Code		kg
Front cage for P16	831 050 001		0,310
Front cage for P20	832 050 001		0,360

Pneumatic Centering Device

Pneumatic Centering Device for internal clamping of tube-to-tube-sheet welding. Centering tools have to be ordered separately.

Article	Code		kg
Pneumatische Fixiervorrichtung für P16	831 020 030		-

Pneumatic centering tools

Article	Tube ID [mm]	Tube ID [inch]	Code		kg
Pneumatic centering tool	14,5 - 16,0	0.570 - 0.630	831 020 031		-
Pneumatic centering tool	16,0 - 18,0	0.630 - 0.708	831 020 032		-
Pneumatic centering tool	18,0 - 22,0	0.708 - 0.866	831 020 033		-
Pneumatic centering tool	22,0 - 26,0	0.866 - 1.023	831 020 034		-
Pneumatic centering tool	24,0 - 28,0	0.945 - 1.102	831 020 035		-
Pneumatic centering tool	28,0 - 32,0	1.102 - 1.259	831 020 036		-
Pneumatic centering tool	30,0 - 34,0	1.181 - 1.338	831 020 037		-
Pneumatic centering tool	38,0 - 42,0	1.496 - 1.653	831 020 038		-
Pneumatic centering tool	44,0 - 48,0	1.732 - 1.889	831 020 039		-

Centering tools and retaining arbors for

tube-to-tube-sheet weld heads

The tube diameter is required to select the correct centering tool.

Article	Group	Cartridge size/no.	Tube ID* [mm]	Tube ID* [inch]	Code		kg
Retaining arbor for centering tools for group A					832 020 003		0,060
Centering tool	A	1	10,0 - 10,5	0.394 - 0.413	832 020 004		0,040
Centering tool	A	2	10,5 - 11,0	0.413 - 0.433	832 020 005		0,050
Centering tool	A	3	11,0 - 11,5	0.433 - 0.452	832 020 006		0,070
Centering tool	A	4	11,5 - 12,0	0.452 - 0.472	832 020 007		0,070
Centering tool	A	5	12,0 - 12,5	0.472 - 0.492	832 020 008		0,080
Centering tool	A	6	12,5 - 13,0	0.492 - 0.512	832 020 009		0,100
Centering tool	A	7	12,8 - 14,0	0.504 - 0.551	832 020 011		0,110
Retaining arbor for centering tools for group B					832 020 010		0,070
Centering tool	B	8	13,8 - 15,0	0.543 - 0.591	832 020 012		0,120
Centering tool	B	9	14,8 - 16,0	0.583 - 0.630	832 020 013		0,140
Centering tool	B	10	15,8 - 17,0	0.622 - 0.669	832 020 014		0,150
Centering tool	B	11	16,8 - 18,0	0.661 - 0.709	832 020 015		0,180
Centering tool	B	12	17,8 - 19,0	0.701 - 0.748	832 020 016		0,190
Centering tool	B	13	18,8 - 20,5	0.740 - 0.807	832 020 017		0,200
Centering tool	B	14	19,8 - 22,5	0.780 - 0.886	832 020 018		0,250
Retaining arbor for centering tools for group C					832 020 019		0,115
Centering tool	C	15	22,3 - 25,0	0.878 - 0.984	832 020 020		0,340
Centering tool	C	16	24,5 - 27,0	0.965 - 1.063	832 020 021		0,350
Centering tool	C	17	26,5 - 29,0	1.043 - 1.142	832 020 022		0,360
Centering tool	C	18	28,5 - 31,0	1.122 - 1.220	832 020 023		0,400
Centering tool	C	19	30,5 - 33,0	1.201 - 1.299	832 020 024		0,500
Centering tool	C	20	32,5 - 36,0	1.280 - 1.417	832 020 025		0,510
Centering tool	C	21	35,5 - 39,0	1.397 - 1.535	832 020 026		0,530
Centering tool	C	22	38,5 - 42,0	1.516 - 1.654	832 020 027		0,550
Centering tool	C	23	41,5 - 45,0	1.634 - 1.772	832 020 028		0,560
Centering tool	C	24	44,5 - 48,0	1.752 - 1.890	832 020 029		1,000
Centering tool	C	25	47,5 - 51,0	1.870 - 2.008	832 020 030		1,200
Retaining arbor for centering tools for group D					832 020 031		0,215
Centering tool	D	26	50,5 - 54,0	1.988 - 2.126	832 020 032		1,500
Centering tool	D	27	53,5 - 58,0	2.106 - 2.283	832 020 033		1,800
Centering tool	D	28	57,5 - 62,0	2.264 - 2.441	832 020 034		1,900
Centering tool	D	29	61,5 - 66,0	2.421 - 2.598	832 020 035		2,100
Centering tool	D	30	65,5 - 70,0	2.579 - 2.756	832 020 036		2,400
Centering tool	D	31	69,5 - 74,0	2.736 - 2.913	832 020 037		2,600
Centering tool	D	32	73,5 - 78,0	2.894 - 3.071	832 020 038		2,800
Centering tool	D	33	77,5 - 82,0	3.051 - 3.228	832 020 039		3,100
Centering tool	D	34	82,0 - 87,0	3.228 - 3.425	832 020 045		3,100
Centering tool	D	35	87,0 - 91,0	3.425 - 3.582	832 020 046		-
Centering tool	D	36	91,0 - 95,0	3.582 - 3.740	832 020 047		-
Centering tool	D	37	95,0 - 99,0	3.740 - 3.897	832 020 048		-
Centering tool	D	38	99,0 - 103,0	3.897 - 4.055	832 020 049		-
Centering tool	D	39	103,0 - 107,0	4.055 - 4.212	832 020 050		-
Centering tool	D	40	107,0 - 111,0	4.212 - 4.370	832 020 051		-
Centering tool	D	41	111,0 - 115,0	4.370 - 4.527	832 020 052		-
Centering tool	D	42	115,0 - 120,0	4.527 - 4.724	832 020 053		-

*smaller diameters on request.



Centering tools



Mandrels

Tube-to-Tube-Sheet Orbital Weld Heads

61



Clamp sleeves



Torch isolators and torch seals



HF spiral



Wire cores

Consumables for tube-to-tube-sheet orbital weld heads

Clamp sleeve for P16 / P20

Article	Code		kg
Clamp sleeve P16/P20	831 001 058		-

Torch isolator for P16 / P20

Article	Code		kg
Torch isolator P16/P20	831 001 007		-

Wire cores for P16 / P20

Article	Code		kg
Wire core P16	831 001 022		-
Wire core P20	832 001 010		-

HF spiral for P16 / P20

Article	Code		kg
HF spiral P16/P20	831 001 027		-



Accessories - for orbital welding!

Accessories Orbital Welding

63

Accessories for orbital welding

Tungsten Grinder ESG Plus



ESG Plus

- No adjustment needs to be done before operation.
- Repeatable points every time due to preset grinding angles.
- Easy and fast to use.
- Optimum preparation for orbital and manual welding.
- Longitudinal grinding for optimum arc ignition and excellent arc stability.
- Guarantees longer tool life and ease of ignition of the tungsten electrode.
- Specially designed for one-off jobs on site.
- Compact design, optimum resilience and perfect reproducibility.
- Solid, functional design.
- Precise orbital grinding, very well centered.
- Grinding angles 15°; 18°; 22.5°; 30° or 15°, 30°, 45°; 60°.
- Facility for easy trimming of the electrodes (optional).
- External dust extractor can be easily adapted.
- Short preparation times with high grinding performance.

This ESG Plus is the perfect hand-held grinder for cutting, grinding and planing electrodes which are used in WIG/TIG welding machines. Consider country-specific regulations, standards and guidelines when using tungsten electrodes with thorium.

Versions:

ESG Plus²: A sensation! The first portable tungsten grinder with two different grinding wheels. This allows the electrode to be pre-ground with the coarse diamond wheel then finished with the fine diamond wh.

Comes with:

- Tungsten Grinder ESG Plus or ESG Plus²
- 1 Powder-coated steel carrying case
- 1 Diamond grinding wheel (medium, Code 790 052 488)
- 1 Tool to replace the grinding wheel
- 1 Set of operating instructions and spare parts list

Optional for the ESG Plus²

- 1 Diamond grinding wheel (coarse, Code 790 052 550)

Electric drive with single-phase AC motor:

Power: 500 W

Speed drive: 30,000 rpm

100% power-on time



ESG Plus²

Application range				ESG Plus, ESG Plus ²	
Electrode Ø [mm/inch]	1,0 / 1,6 / 2,0 / 2,4 / 3,2 / 4,0	0.040 / 1/16 / 0.080 / 3/32 / 1/8 / 5/32			
Grinding angles [°]		15 / 18 / 22,5 / 30 or 15 / 30 / 45 / 60			
Article	Version	Grinding angles [°]	Code		kg
ESG Plus	230 Volt, 50/60 Hz EU	15 / 18 / 22,5 / 30	790 052 485		3,560
ESG Plus	230 Volt, 50/60 Hz EU	15 / 30 / 45 / 60	790 052 545		3,560
ESG Plus ²	230 Volt, 50/60 Hz EU	15 / 18 / 22,5 / 30	790 052 585		3,720
ESG Plus ²	230 Volt, 50/60 Hz EU	15 / 30 / 45 / 60	790 052 546		3,720
ESG Plus	110 V, 50/60 Hz EU/US	15 / 18 / 22,5 / 30	790 052 486		3,560
ESG Plus	110 V, 50/60 Hz EU/US	15 / 30 / 45 / 60	790 052 645		3,560
ESG Plus ²	110 V, 50/60 Hz EU/US	15 / 18 / 22,5 / 30	790 052 586		3,720
ESG Plus ²	110 V, 50/60 Hz EU/US	15 / 30 / 45 / 60	790 052 646		3,720

Diamond grinding wheel

Replaceable grinding wheel diamond-coated on both sides for optimal performance. For 1.0 and 1.6 mm (0.039 and 0.063 inch) electrodes we recommend the standard grinding wheel. For 2.0 mm (0.078 inch) and larger electrodes, a medium to coarse grained grinding wheel is advisable.

Article	Ausführung	Grinding wheel Ø [mm]	s [mm]	Code		kg
Diamond grinding wheel*	Standard	32,0	1,2	790 052 460		0,005
Diamond grinding wheel**	Fine	33,5	2,2	790 052 487		0,010
Diamond grinding wheel**	Medium	33,5	2,2	790 052 488		0,011
Diamond grinding wheel**	Coarse	33,5	2,2	790 052 550		0,011

* for ESG 4

** for ESG Plus



Diamond grinding wheel

Cutting device

To cut tungsten electrodes to length.

Application range	[mm]	[inch]
Electrode Ø	1,0 / 1,6 / 2,0 / 2,4	0.040 / 1/16 / 0.080 / 3/32
Fixed cutting lengths*	12 / 13 / 15 / 17	0.472 / 0.512 / 0.591 / 0.669

* Other cutting lengths possible.



Cutting device

Article	Code		kg
Cutting device for ESG Plus	790 052 513		0,030

Electrode holder

With clamping collet for clamping range 1.0 - 3.2 mm (0.039 - 0.126 inch), Code 790 052 481.

Article	Code		kg
Electrode holder	790 052 457		0,023



Electrode holder

Clamping collet

To center the electrode in the holder. For easy grinding of smaller electrodes. Flexible clamping collet for clamping range 1.0 - 3.2 mm (0.039 - 0.126 inch).

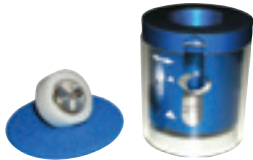
Article	Clamping range [mm]	Clamping range [inch]	Code		kg
Clamping collet	1,0 - 3,2	0.039 - 0.126	790 052 481		0,002



Clamping collet



Wall-/table-/vice-mounting plate



Protective cover



Double-Decker Kit

Wall-/table-/vice-mounting plate

For stationary ESG Plus set-up.

Article	Code		kg
Wall-/table-/vice-mounting plate	790 052 483		0,102

Protective cover

Easy to adapt on the ESG Plus head.

With integrated retainer for suction units. For use on electrodes with thorium.

Article	Code		kg
Protective cover for ESG Plus	790 052 496		0,220
Protective cover for ESG Plus²	790 052 596		0,220

Double-Decker Kit

Easy to mount to the ESG Plus. This attachment makes it possible to use 2 different grinding wheels at the same time. The kit contains a head and a diamond grinding wheel (Code 790 052 550) with an extension shaft.

Article	Grinding angles [°]	Code		kg
Double-Decker Kit	15 / 18 / 22,5 / 30	790 052 490		0,160
Double-Decker Kit	15 / 30 / 45 / 60	790 052 390		0,160

Other accessories for orbital welding technology

Oxygen meter ORB 1001

To determine the residual oxygen in the forming gases. Maintenance-free.
Complete in a dust-and water-proof transport container.

To ensure a consistently low residual oxygen content in the forming gas atmosphere for orbital welding seams, this must be measured exactly, as this is the only way to guarantee that the inside of the tube is free from oxidation. Calculation formulae frequently used by installers of tubelines on time, gas volume, and volumes only deliver a very rough guide values that are no longer adequate in many applications. Even simple measuring devices are no longer able to meet the increasingly stringent requirements, particularly in the pharmaceutical, biotech, and semiconductor industry. With ORB 1001 Orbitalum has now developed a device that is simple to use and economical to buy. ORB 1001 also offers a direct connection with all ORBIMAT orbital welding power supplies, with which various supervisory and control functions of the welding process can be carried out.

Benefits:

- User-definable settings of the switching value for alarm and process control.
- Display in PPM.
- Acoustic signal if the set value has been exceeded.
- RS-232 interface to the PC link.
- Integrated suction pump.
- Simple control of the forming gas in the residual gas content.
- Can be used for ARGON and all common forming gas mixtures (with the exception of flammable mixtures).

Optional:

- Software for PC connection.
- Data cable ORB 1001 to PC
- Data cable ORB 1001 to ORBIMAT



Oxygen meter ORB 1001

Technical Data	ORB 1001
Connection voltage	230/115 V, 50/60 Hz
Measurement range	1.000 - 1 PPM
Accuracy	2% in the range 10 - 1,000 PPM
Service life of the measurement cell	up to 5 years
Warm-up time	approx. 2 minutes
Measurement rate	approx. 30 seconds

Article	Version	Code		kg
Oxygen meter ORB 1001	230/115 V, 50/60 Hz single-phase	882 000 001		3,100

Particle filter for ORB 1001 oxygen meter

Replacement particle filter for ORB 1001 oxygen meter.

Article	Code		kg
Particle filter 0,45µm ORB 1001	882 012 004		0,003
Particle filter 0,10µm ORB 1001	882 012 005		0,003



ORBIPURGE forming set

ORBIPURGE forming set

Complete with Teflon gas hose and rapid-action couplings.

The ORBIPURGE forming set for tube internal diameters 12 - 110 mm (0.472 - 4.331 inch) includes all accessories for fast and efficient internal forming during orbital welding.

- The various stoppers match the internal diameter of the tube exactly and therefore form an optimally sealed forming gas chamber.
- The complete set is supplied in a durable plastic carrying case.
- The scope of delivery includes 2 forming plugs in each size, a Teflon gas hose, and a set of rapid-action couplings.
- The forming plugs cater for the complete range of between 12 – 110 mm fully. Forming plugs for greater diameters are available on request.
- The ORBIPURGE forming set is also particularly suitable where there are very high demands for purity in the forming atmosphere and is an ideal addition to our residual oxygen meter ORB 1001.
- The rapid-action couplings allow for simple separation and connection without having to screw the pressure regulator on and off for every operation.

Article	Tube ID [mm]	Tube ID [inch]	Code		kg
ORBIPURGE forming set	12,0 - 110,0	0.472 - 4.331	881 000 001		3,150

Inert gas outlet for ORBIPURGE forming plugs

Suitable for all ORBIPURGE forming plugs.

Article	Code		kg
Inert gas outlet ORBIPURGE 3/8"	881 020 014		-
Inert gas outlet ORBIPURGE M5	881 020 015		-



Inert gas outlets

Pressure regulator

With 2 adjustable flow displays and option to connect welding and forming gas.

Technical data	Argon/hydrogen	Argon
max. inlet pressure	200 bar	230 bar
flow indicator	up to 50 L/min.	up to 30 L/min.
cylinder connection	W21,8x1/14" LH (left)	W21,8x1/14"
hose connection	9 3/8 LH (left)	9 1/4

Article	Version	Code		kg
Dual pressure regulator	argon	888 000 001		1,850
Dual pressure regulator	argon/hydrogen	888 000 002		1,850



Dual pressure regulator

Seals for pressure regulator

Seals for the cylinder connection of the pressure regulator.

Article	Code		kg
Seal for pressure regulator	888 000 005		-

Inspection set

Optimal tool for visually checking the welding seam, including lighting.

Minimum sensor (length: 110 mm) complete with handle and attachable mirrors Ø 16 mm and 20 mm.

Article	Code		kg
Inspections set	875 030 020		0,190



Inspections set

Bulb for inspection set

Replacement bulb for inspection set. Easy to change.

Article	Code		kg
Bulb inspection set	875 030 028		0,002

Tungsten electrodes WS2

WS electrodes are used for DC and AC welding and are a completely satisfactory replacement for the WT electrodes.

Benefits:

- High ignition safety.
- Low combustion.
- Long service life.
- High arc quality.

Content: 10 pieces. Length: 175 mm (6.890 inch).

Composition: WS2 = Rare earths (mixed oxides).

Color code: turquoise.

Article	Electrode Ø [mm]	Electrode Ø [inch]	Code		kg
Tungsten electrodes WS2	1,0	0.039	826 004 018		0,180
Tungsten electrodes WS2	1,6	0.063	826 004 019		0,180
Tungsten electrodes WS2	2,4	0.094	826 004 020		0,180



Tungsten electrodes WS2

TIG Manual Welding Torch

The TIG Manual Welding Torch from Orbitalum is a high productive welding torch for tacking and manual welding. The water cooled hand torch allows an ideal heat conduction and a long operating life. The compact design, the flexible cable assembly and the integrated operation control results in a high user-friendliness.

Max. 260 A power-on time at 60 %.

Article	Cable assembly (m)	Code		kg
TIG Manual Welding Torch	4,0	890 013 001		2,600
TIG Manual Welding Torch	8,0	890 013 002		-
TIG Manual Welding Torch	12,0	890 013 003		-



TIG Manual Welding Torch



Our customer service | enthusiastic.

You can count on our comprehensive range of services. Our aim is to offer you customer service designed to inspire you – you can measure us against this promise.

- Acclaimed state-of-the-art technology
- Competent contact partners
- Fast, comprehensive delivery service
- Reliable product support
- Practical training programs
- Certified company

Our service benefits | overview:

Technical support

- Repairs, maintenance
- On-site service
- Service training for our customers
- Cost-effective replacement devices on request

Spare parts service

- Approx. 2,000 spare parts always on stock
- Modern logistic systems

Rental/used machine service

- Extensive rental pool
- Long-term rental
- Hire purchase

Further support services

- Pick-up service from the customer
- Used machines with warranty
- State-of-the-art logistics systems

Waste disposal / environmental protection



Disposal of electrical (electronic) devices



(RL 2002/96/EG)

Electrical (electronic) devices which are marked with the symbol above, may not be disposed of with household waste in accordance to the EU directive 2002/96/EC. By actively using the offered return and collection systems, you actively contribute to the reuse, recycling and utilisation of electrical (electronic) devices. Electrical (electronic) used devices contain parts which must be handled selectively according to the EU directive. Separate collection and selective treatment is the basis for environment-friendly disposal and the protection of human health. Our products that were sold to you after August 13th, 2005 are taken back and treated according to legal standards. These products have to be sent free of charge. The return of used devices which pose a health or safety risk for human beings due to contamination during use may be refused. The legally compliant disposal of electrical (electronic) devices that were placed on the market before August 13th, 2005 are in the responsibility of the end-user.



Returning of batteries

Some of our products work with batteries. Batteries which are marked with the symbol above may not be disposed of together with household waste according to the applicable EU directive 91/157/EEC. With batteries containing hazardous substances, the chemical symbol for the heavy metal content is indicated below the waste bin.

Cd = Cadmium
Hg = Mercury
Pb = Lead

Service hotline: +49 (0) 77 31 792-789

The ITW ORBITAL CUTTING & WELDING group provides global customers one source for the finest in pipe & tube cutting, beveling and orbital welding products.

For more information about us >> www.itw-ocw.com



Orbital cutting, beveling
and welding machines for
high-purity process piping.

>> tools@orbitalum.com
>> www.orbitalum.com

Portable weld prep
machine tools for
industrial applications.

>> sales@ehwachs.com
>> www.ehwachs.com

worldwide | sales + service

NORTH AMERICA

UNITED STATES

E.H. Wachs
600 Knightsbridge Parkway
Lincolnshire, IL 60069, USA
Tel. +1 847 537 8800
Fax +1 847 520 1147
Toll Free 800 323 8185

Gulf States Service & Rental Center
2220 South Philippe Avenue
Gonzales, LA 70737, USA
Tel. +1 225 644 7780
Fax +1 225 644 7785

West Coast Sales & Rental Center
5130 Fulton Drive, Unit J
Fairfield, California 94534, USA
Tel. +1 707 439 3763
Fax +1 707 439 3766

Wachs Subsea LLC
E.H. Wachs
11050 West Little York
Building N
Houston, TX 77041, USA
Tel. +1 713 983 0784
Fax +1 713 983 0703

CANADA

Wachs Canada Ltd
Eastern Canada Sales & Service Center
1166 Gorham Street, Unit 8
Newmarket, Ontario L3Y 8W4, Canada
Tel. +1 905 830 8888
Fax +1 905 830 6050
Toll Free 888 785 2000

Wachs Canada Ltd
Western Canada Sales & Service Center
5411 82nd Avenue
Edmonton, Alberta T6B 2J6, Canada
Tel. +1 780 469 6402
Fax +1 780 463 0654
Toll Free 800 661 4235

EUROPE

GERMANY

Orbitalum Tools GmbH
Josef-Schuetz-Str. 17
78224 Singen
Germany
Tel. +49 (0) 77 31 - 792 0
Fax +49 (0) 77 31 - 792 500

UNITED KINGDOM

Wachs UK
UK Sales, Rental & Service Centre
Units 4 & 5 Navigation Park
Road One, Winsford Industrial Estate
Winsford, Cheshire CW7 3 RL
United Kingdom
Tel. +44 (0) 1606 861 423
Fax +44 (0) 1606 556 364

ASIA

CHINA

Orbitalum Tools
New Caohejing International
Business Centre
Room 1501, Building B
No 391 Gui Ping Road
Shanghai 200052
China
Tel. +86 (0) 21 52 30 37-51
Fax +86 (0) 21 52 30 37-58

INDIA

ITW India Limited
4A/19, IDA, Phase - 1
Patancheru Medak District
Andhra Pradesh 502 319
India
Tel. +91 (0) 99 00 01 28 80
Fax +91 (0) 40 3048 0815

SINGAPORE

E.H. WACHS Asia Pacific
23 Tagore Lane #04-06/07
Tagore 23 Warehouse
Singapore, 787601
Singapore
Tel. +65 9634 5432
Fax +1 847 484 2692

AFRICA & MIDDLE EAST

UNITED ARAB EMIRATES

Wachs Middle East & Africa Operations
PO Box 262543
Free Zone South FZS 5, AC06
Jebel Ali Free Zone (South-5), Dubai
United Arab Emirates
Tel. +971 4 88 65 211
Fax +971 4 88 65 212



Certified according to
ISO 9001:2008