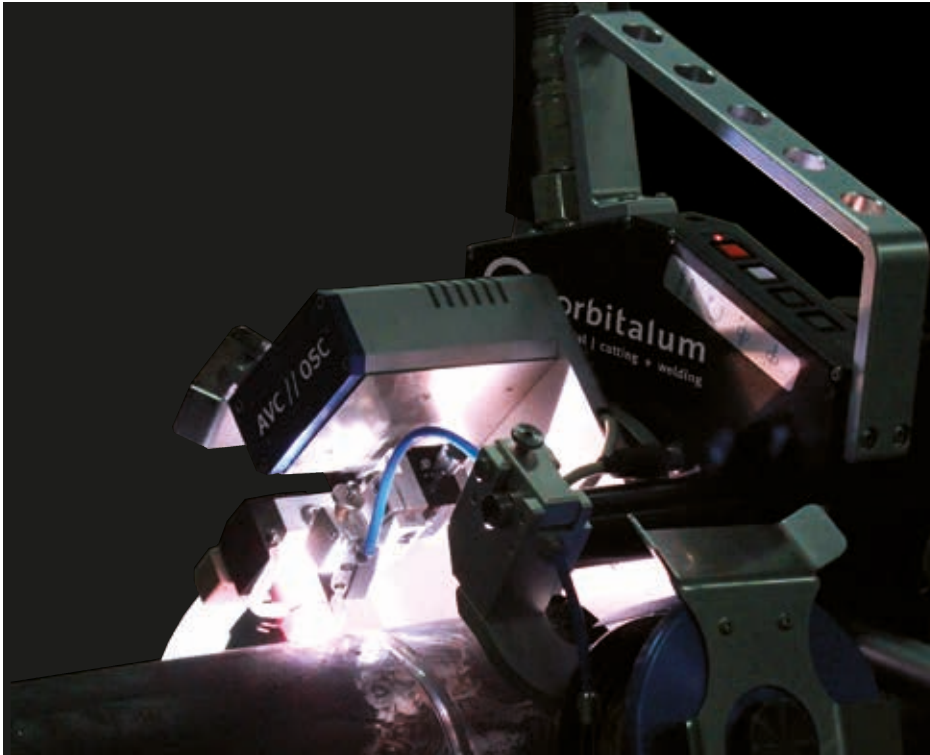


ORBIWELD TP

Open orbital weld heads

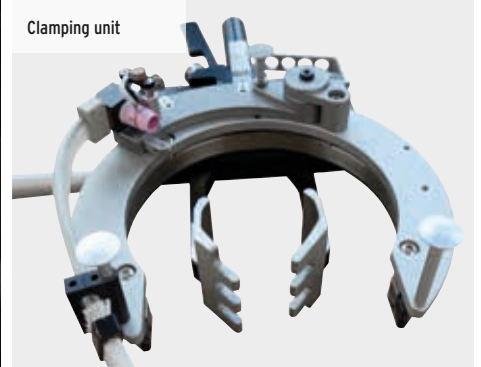
The ORBIWELD TP series is unique in design and functionality: Through the drive motor completely integrated into the housing an extremely compact design is realized. The drive concept furthermore makes the large and laborious gearing of conventional weld heads superfluous. This compact design offers huge advantages at mobile construction site operations.



TP 400 AVC/OSC



Clamping unit



PROPERTIES OF THE TP SERIES:

- Compact design without interfering protrusions
- Can be used with and without cold wire feeding
- Cold wire unit can be retrofitted at all TP heads
- Wire coil for mounting of the filler wire at TIG cold wire welding is mounted on the weld head housing for KD3 variants. This prevents disruptive twisting of the wire during welding
- Wire feed nozzle exactly adjustable vertically and horizontally
- Open arc system
- Infinitely variable adjustable clamping mechanism
- Liquid-cooled steplessly swiveling TIG torch head allows the welding of fillet welds or short tube collards
- TIG torch head is attached on an adjustable slide which allows precise fine-tuning of the electrode position even during the welding process
- Simple, toolless adjustment of the clamping unit onto the tube diameter

- By default TP 1000 weld heads are equipped with clamping plates made of tool steel which secure an optimum support on the tube surface. The tube clamping for ORBIWELD TP 250, TP 400 and TP 600 is effected by means of clamping jaws made of stainless steel (1.4305). In addition to more clamping power this new clamping system offers an even easier and more precise alignment of the weld heads on the tube. Clamping jaws for clamping range extension (TP 400) are available optionally. The new clamping unit can be retrofitted for older TP 250, TP 400- and TP 600 models
- TP heads can be easily centered at the tube and are clamped via clamping levers
- Through the operating buttons integrated directly in the weld head housing no additional remote control is required

ADDITIONAL CHARACTERISTICS TP AVC/OSC:

- With oscillation (OSC) and electronic arc gap con-

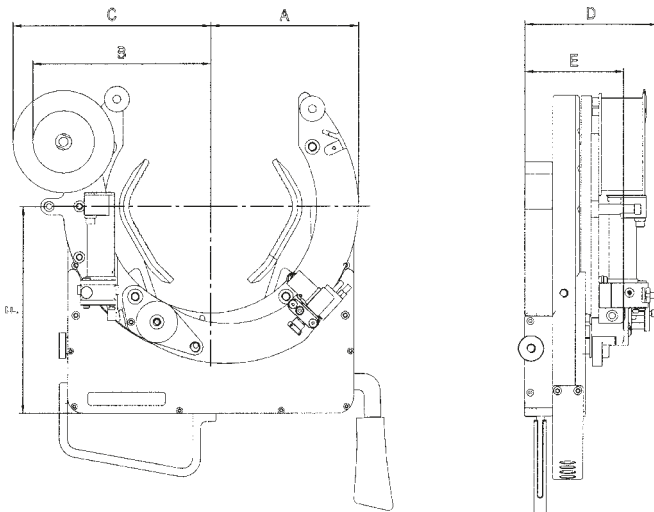
- trol (AVC) – only in combination with the welding power supply ORBIMAT 300 CA AVC/OSC
- The arc length is kept mechanically at a constant distance; for AVC/OSC versions the constant distance spacing is effected automatically
- Can be used for thick-walled tubes (multi-layer weldings)
- Motor drive possibility ranging across the entire nominal diameter range of the TIG torch so that no additional mechanical basic default value is necessary a changed tube diameter
- Max. oscillation path of the torch: 20 mm (0,787")
- Complete with cold wire feed unit mounted directly on the weld head with mount for a D 100 mm/1 kg (3.937"/2.2 lbs) standard coil

MODEL		TP 250	TP 250	TP 400	TP 400	TP 400	TP 600	TP 600	TP 600	TP 1000	TP 1000	TP 1000
With cold wire unit (KD):			KD4			KD3-100						KD3-100
With arc gap control (AVC) and oscillation (OSC):						AVC/OSC						AVC/OSC
Code		811 000 001	811 000 005	812 000 010	812 000 011	812 000 012	813 000 001	813 000 005	813 000 002	814 000 001	814 000 005	814 000 002
Application area	[mm]	8 - 28 28 - 76.2	8 - 28 28 - 76.2	(15)*/30 - 115	(15)*/30 - 115	(15)*/30 - 115	70 - 170	70 - 170	70 - 170	120 - 275	120 - 275	120 - 275
	[inch]	0.315 - 1.102 1.102 - 3.000	0.315 - 1.102 1.102 - 3.000	(0.591)*/ 1.181 - 4.528	(0.591)*/ 1.181 - 4.528	(0.591)*/ 1.181 - 4.528	2.756 - 6.693	2.756 - 6.693	2.756 - 6.693	4.724 - 10.827	4.724 - 10.827	4.724 - 10.827
Electrode lengths	[mm]	18 - 32	18 - 32	30 - 55	30 - 55	30 - 55	30 - 55	30 - 55	30 - 55	30 - 55	30 - 55	30 - 55
	[inch]	0.709 - 1.260	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	1.181 - 2.165	1.181 - 2.165	1.181 - 2.165
Wire diameter*	[mm]	0.8/ 1.0**	0.8/ 1.0**	0.8/ 1.0**	0.8/ 1.0**	0.8/ 1.0**	0.8/ 1.0**	0.8/ 1.0**	0.8/ 1.0**	0.8/ 1.0**	0.8/ 1.0**	0.8/ 1.0**
	[inch]	0.031/ 0.039**	0.031/ 0.039**	0.031/ 0.039**	0.031/ 0.039**	0.031/ 0.039**	0.031/ 0.039**	0.031/ 0.039**	0.031/ 0.039**	0.031/ 0.039**	0.031/ 0.039**	0.031/ 0.039**
Machine weight including hose package	[kg]	7.0	8.9	11.0	12.5	15.2	13.7	15.2	18.9	22.5	24.0	28.7
	[lbs]	15.4	19.6	24.3	27.6	33.5	30.2	33.5	41.7	49.6	52.9	63.3
Hose package length	[m]	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
	[ft]	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6
Dimension "A":	[mm]	86.00	86.00	108.00	108.00	150.00	147.00	147.00	185.00	215.00	215.00	245.00
	[inch]	3.386	3.386	4.252	4.252	5.906	5.787	5.787	7.283	8.465	8.465	9.646
Dimension "B" without cold wire KD:	[mm]	86.00	86.00	108.00	-	-	147.00	-	-	215.00	-	-
	[inch]	3.386	3.386	4.252	-	-	5.787	-	-	8.465	-	-
Dimension "C": with cold wire KD:	[mm]	-	-	-	180.00	175.00	-	196.00	215.00	-	237.00	274.00
	[inch]	-	-	-	7.087	6.890	-	7.717	8.465	-	9.331	10.787
Dimension "D":	[mm]	85.00	85.00	120.00	182.00	182.00	140.00	140.00	186.00	170.00	170.00	206.00
	[inch]	3.346	3.346	4.724	7.165	7.165	5.512	5.512	7.323	6.693	6.693	8.110
Dimension "E":	[mm]	74.00	74.00	90.00	165.00	165.00	97.00	97.00	172.00	146.00	146.00	191.00
	[inch]	2.913	2.913	3.543	6.496	6.496	3.819	3.819	6.772	5.748	5.748	7.520
Dimension "F":	[mm]	125.00	125.00	200.00	200.00	200.00	202.00	202.00	202.00	270.00	270.00	270.00
	[inch]	4.921	4.921	7.874	7.874	7.874	7.953	7.953	7.953	10.630	10.630	10.630
Integrated remote control		●	●	●	●	●	●	●	●	●	●	●
Liquid-cooled torch body		●	●	●	●	●	●	●	●	●	●	●
Swiveling torch body		●	●	●	●	●	●	●	●	●	●	●
Fine-tuning of the electrode position		●	●	●	●	●	●	●	●	●	●	●
Coupling of manual rotation of the rotor		●	●	●	●	●	●	●	●	●	●	●
Infinitely variable adjustable clamping system		●	●	●	●	●	●	●	●	●	●	●
Optional clamping range extension		●	●	●	●	●	○	○	○	○	○	○
Integrated cold-wire feed		○	○	●	●	●	●	●	●	●	●	●
External cold-wire feed		○	●	○	○	○	○	○	○	○	○	○
Fine-tuning of the wire position		○	●	○	●	●	○	●	●	○	●	●
AVC electronic arc gap control***		○	○	○	○	●	○	○	●	○	○	●
OSC oscillation unit***		○	○	○	○	●	○	○	●	○	○	●

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

- = Function included ○ = Function not included ○ with a dot = Function only conditionally included (can be retrofitted) * with accessories ** KD conversion sets optionally available (page 66) *** Can only be used in combination with the orbital welding power supply ORBITAT 300 CA AVC/OSC

DIMENSIONS (VALUES, SEE TABLE):



SCOPE OF DELIVERY

- Including:
- 1 weld head ORBIWELD TP
 - 1 transport case
 - 1 handle (TP 1000: 2 pieces)
 - 1 expansion jaw set of size 8 - 28mm/0.315" - 1.102" (TP 250 only)
 - 1 tool set
 - 1 set of operating instructions and spare parts list
- Suitable accessories (optionally available):
- Clamping unit "V2" (retrofitting kits)
 - Cold-wire feeds KD (retrofitting kits)
 - Expansion jaw sets for TP 400
 - Control cable
 - Remote control
 - ESG electrode grinders
 - ORBmax residual oxygen meter
 - ORBIPURGE forming set
 - Ground cable
 - Hose package extensions
 - WS2 tungsten electrodes

Open orbital weld heads OW TP

ORBIWELD TP 250 ORBIWELD TP 400 (AVC/OSC) ORBIWELD TP 600 (AVC/OSC) ORBIWELD TP 1000 (AVC/OSC)

Properties, application area, technical specifications and delivery scope, see page 63.

The following accessories are mandatory for the use of the TP orbital weld heads and must be ordered separately:

- Control cable, see page 93
- Ground cable, see page 93

ITEM	WITH COLD WIRE UNIT (KD)	CODE	MACHINE WEIGHT KG**	SHIPPING WEIGHT KG
Open orbital weld head TP 250	-	811 000 001	7.000	15.600
Open orbital weld head TP 250	KD 4	811 000 005	8.900	20.000
Open orbital weld head TP 400	-	812 000 010	11.000	20.000
Open orbital weld head TP 400	KD3-100	812 000 011	12.500	20.000
Open orbital weld head TP 400 AVC/OSC*	KD3-100	812 000 012	15.200	24.800
Open orbital weld head TP 600	-	813 000 010	13.700	23.600
Open orbital weld head TP 600	KD3-100	813 000 011	15.200	30.000
Open orbital weld head TP 600 AVC/OSC*	KD3-100	813 000 012	18.900	33.300
Open orbital weld head TP 1000	-	814 000 001	22.500	38.000
Open orbital weld head TP 1000	KD3-100	814 000 005	24.000	40.900
Open orbital weld head TP 1000 AVC/OSC*	KD3-100	814 000 002	28.700	45.300

* Only usable in connection with an ORBIMAT CA AVC/OSC power source (see from page 16).

** Machine weight including hose package

Suitable accessories (optionally available):

- Cold-wire feeds KD (retrofitting kits), see page 66
- Extension clamping jaw kits for TP 400, see page 66
- Ground cable, see page 93
- Control cable, see page 93
- Remote control, see page 21



ORBIWELD TP 250



ORBIWELD TP 400 KD3-100



ORBIWELD TP 400 AVC/OSC



ORBIWELD TP 600



ORBIWELD TP 1000

OPEN ORBITAL WELD HEADS

Accessories for ORBIWELD TP

Cold-wire feeds KD (retrofitting kits)

The scope of delivery includes:

- 1 feed motor for wire Ø 0.8 mm (0.031")
- 1 wire adjusting unit
- 1 wire nozzle with core (for wire Ø 0.8 mm (0.031"))
- 1 wire coil mounting for Ø 100 mm/1kg (3.937"/2.2 lbs) standard coils.
1 external cold-wire box (only for KD 4)



KD 4 with opened cover



KD3-100 with Ø 100 standard coil



KD retrofitting kit



Expansion clamping jaw kit for TP 400

ITEM	CAN BE USED WITH	CODE	KG
Cold-wire feed KD 4	TP 250	811 050 001	2.110
Cold-wire feed KD3-100*	TP 400*	812 050 061	0.680
Cold-wire feed KD3-100	TP 600	813 050 001	0.680
Cold-wire feed KD3-100	TP 1000	814 050 008	0.720

* Weld heads must be sent in for the retrofitting.

KD retrofitting kits

For retrofitting the cold-wire feed to wire Ø 1.0 mm (0.039").

ITEM	CAN BE USED WITH	CODE	KG
KD retrofitting kit to wire Ø 1.0 mm (0.039")	TP 250	811 050 046	0.115
KD retrofitting kit to wire Ø 1.0 mm (0.039") V2*	TP 400/600/1000 incl. AVC/OSC	812 050 076	0.115

* Please note series no., see above.

Expansion clamping jaw kits

The **expansion jaw kits made of stainless steel** are only available for TP 400 for the extension of the clamping range to a min. of 15.00 mm (0.591").

ITEM	VERSION	TUBE OD [MM]	TUBE OD [INCH]	CODE	KG
Expansion clamping jaw kit for TP 400	Stainless steel	15.00 - 30.00	0.591 - 1.181	812 002 005	0.520

Other accessories for orbital welding

- ESG electrode grinders, see page 86
- ORBmax residual oxygen meter, see page 90
- ORBIPURGE forming set, see page 93
- Hose package extensions, see page 94
- WS2 tungsten electrodes, see page 94
- Torch and cold wire accessories, see page 97
- Ground cable, see page 93

OPEN ORBITAL WELD HEADS