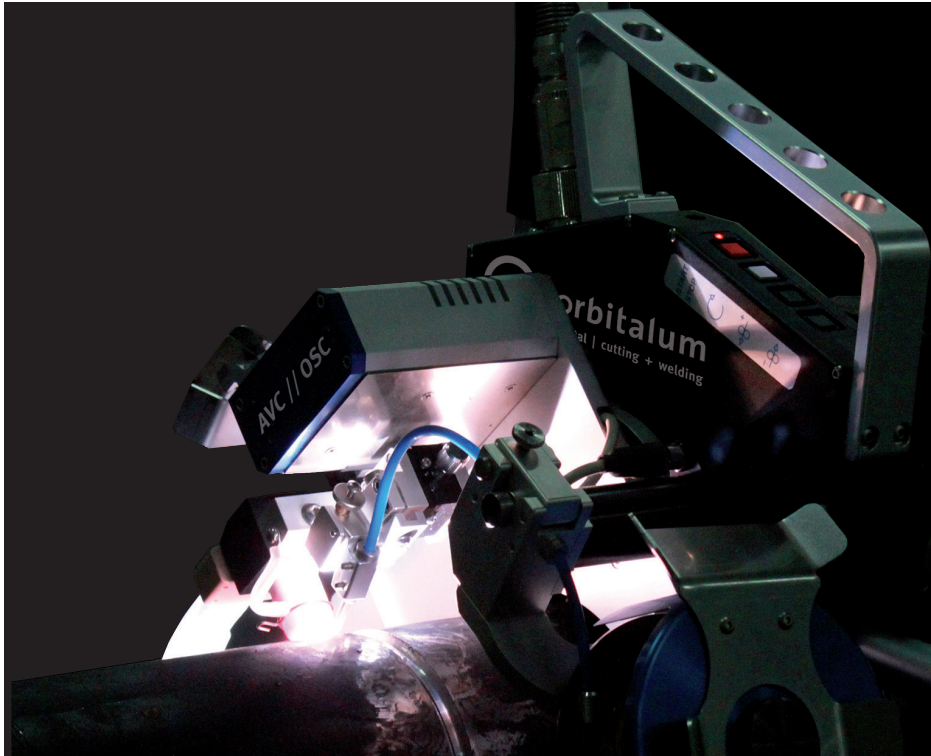


# ORBIWELD TP

## Open orbital weld heads

The ORBIWELD TP series offers outstanding features in terms of design and functionality:

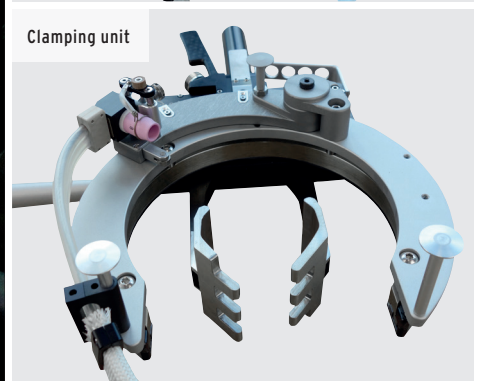
An extremely compact design has been achieved thanks to the drive motor that is fully integrated into the housing. The drive concept has made the well-known large and costly drives associated with conventional weld heads unnecessary. For field applications the compact wire feeder on the weld head is more comfortable than a separate, heavy wire feeder.



TP 400 AVC/OSC



Clamping unit



### FEATURES OF THE TP SERIES:

- Compact design without any protrusions that would be disturbing in practice
- Applicable with and without cold wire unit
- Cold wire unit retrofittable for all TP weld heads
- With the KD3 versions, the reel for holding the additional wire during TIG cold wire welding is also mounted on the weld head housing. This prevents an irritating twisting of the wire during the joining process
- The cold wire feed nozzle can be adjusted exactly in both a vertical and horizontal direction
- Open arc system
- Infinitely variable clamping mechanism
- Liquid-cooled, continuously adjustable TIG torch head allows fillet welds or short hollowed out tubes to be welded
- 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

- Simple adjustment of the clamping unit to the pipe diameter without the need for any tools
- The standard equipment of the TP 1000 heads include clamping plates made from tool steel which ensures optimum retention to the pipe surface. The ORBIWELD TP 250, TP 400 and TP 600 are equipped with clamping jaws made of stainless steel (1.4305). Besides increased clamping force, this new clamping system offers improved handling and easier and more precise alignment of the weld head on the pipe. Clamping jaws to extend the clamping range (TP 400) are optionally available. The new clamping unit can be upgraded for older TP 250, TP 400 and TP 600 models.
- TP weld heads are easily centered to the tube and clamped in place with the help of a clamping lever
- No additional remote control is required thanks to the keys integrated directly into the weld head housing

### ADDITIONAL FEATURES OF THE TP AVC/OSC:

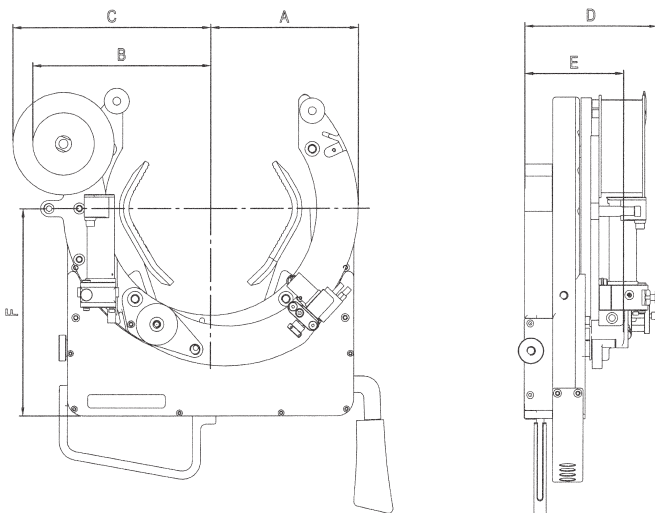
- With oscillation (OSC) and arc voltage control (AVC) - only applicable in combination with the orbital welding power supply ORBIMAT 300 CA AVC/OSC
- The arc length is kept at a constant gap mechanically; with AVC/OSC versions the constant gap is kept automatically
- Can be used for thick wall pipes (multiple layer welds)
- Including 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
- Max. oscillation of the torch: 20 mm (0.787")
- Directly on the weld head mounted cold wire feed unit with retainer for  $\varnothing$  100 mm/1 kg (3.937"/2.2 lbs) wire 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):		<b>KD4</b>		<b>KD3-100</b>	<b>KD3-100</b>		<b>KD3-100</b>	<b>KD3-100</b>		<b>KD3-100</b>	<b>KD3-100</b>	
With arc voltage control (AVC) and oscillation (OSC):					<b>AVC/OSC</b>			<b>AVC/OSC</b>			<b>AVC/OSC</b>	
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 range	[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**
Weight of machine with 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 unit 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 unit 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	●	●	●	●	●	●	●	●	●	●	●	●
Pivoting torch body	●	●	●	●	●	●	●	●	●	●	●	●
Precise adjustment of the electrode position	●	●	●	●	●	●	●	●	●	●	●	●
Coupling for manual rotation of the rotor	●	●	●	●	●	●	●	●	●	●	●	●
Infinitely variable clamping mechanism	●	●	●	●	●	●	●	●	●	●	●	●
Optional extension of the clamping range	●	●	●	●	●	○	○	○	○	○	○	○
Integrated cold wire feed	○	○	●	●	●	●	●	●	●	●	●	●
External cold wire feed	●	●	○	○	○	○	○	○	○	○	○	○
Fine adjustment of the wire position	●	●	●	●	●	●	●	●	●	●	●	●
AVC arc voltage control***	○	○	○	○	○	○	○	○	○	○	○	○
OSC oscillation***	○	○	○	○	○	○	○	○	○	○	○	○

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

● = feature included   ○ = feature not included   ● = feature limited included (retrofittable)   \* with accessories   \*\* KD retrofit kits optionally available (page 54)   \*\*\* only applicable in combination with the orbital welding power supply ORBITAT 300 CA AVC/OSC

**DIMENSIONS (VALUES, SEE TABLE):**



SCOPE OF DELIVERY	
Including:	<ul style="list-style-type: none"> <li>1 Open orbital weld head ORBIWELD TP</li> <li>1 Durable storage and shipping case</li> <li>1 Handle (TP 1000: 2 handles)</li> <li>1 Expansion jaw set of size 8 - 28 mm/0.315" - 1.102" (TP 250 only)</li> <li>1 Tool set</li> <li>1 Power connector adapter</li> <li>1 Operating instructions and spare parts list</li> </ul>
Suitable accessories (available option):	<ul style="list-style-type: none"> <li>Clamping units "V2" (retrofit kits)</li> <li>Cold wire feed units "KD" (retrofit kits)</li> <li>Extension kits for for TP 400</li> <li>Control cable</li> <li>Remote control</li> <li>ESG tungsten grinders</li> <li>ORBmax residual oxygen meter</li> <li>ORBIPURGE forming set</li> <li>Earth cable</li> <li>Hose package extensions</li> <li>WS2 tungsten electrodes</li> </ul>