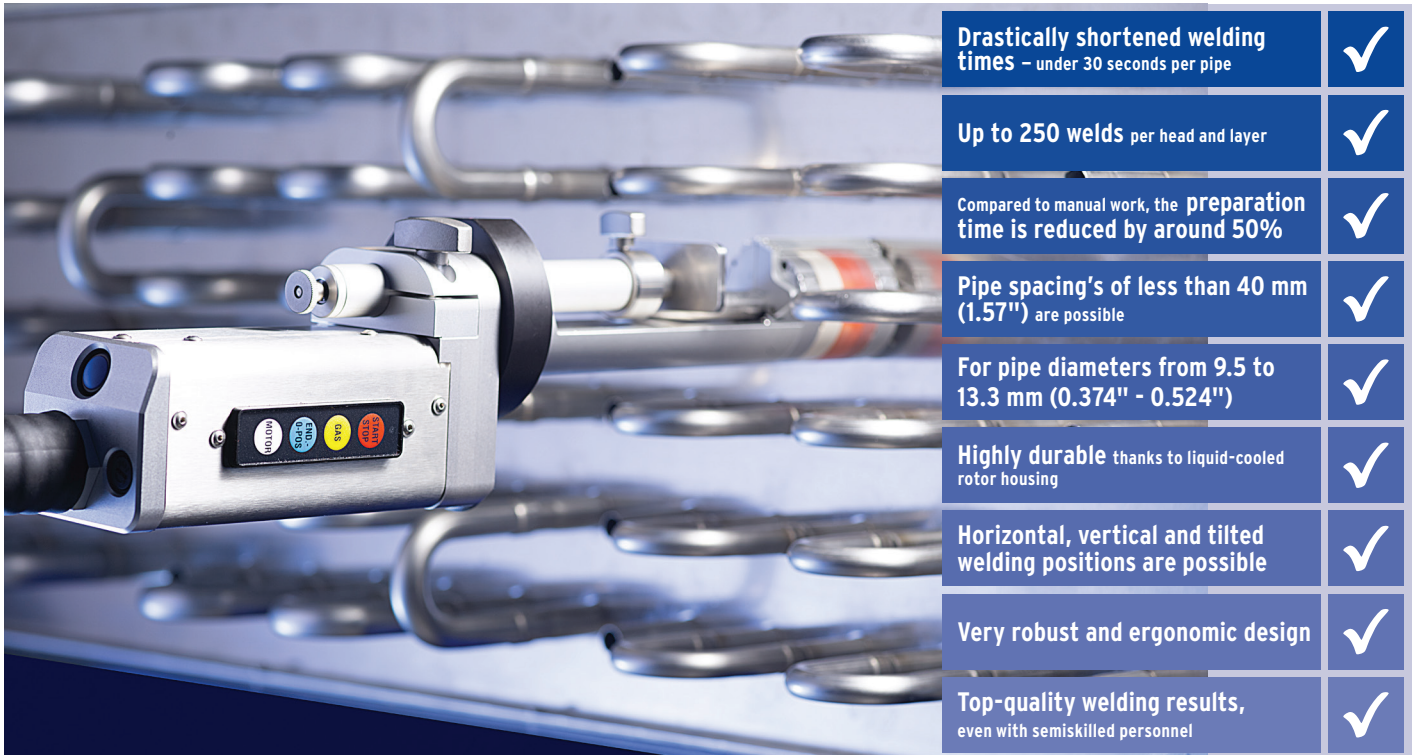


NEW

HX 12P

Enclosed orbital weld head

Welding stainless-steel pipes economically and with high quality using the TIG welding procedure: Unique in the entire world, HX orbital weld heads are the best solution for efficient, high-quality production thanks to their automated welding technology. Pre-mounted pipe elbows (for example in heat exchanger construction), even those in tight pipe bundles, can be joined to small stainless-steel pipes reliably, quickly and safely.



In addition to the HX 12P the series consists of the HX 16P and the HX 22P.

When done by hand, the welding of pipe elbows for heat exchanger construction is an exhausting task. In addition, consistently high quality (and thus the proper sealing of all pipe elbows) on a continual basis by the welder can't be guaranteed. This results in expensive correction work and lots of waste.

While conventional heads and tongs require lots of space between the pipes for positioning, slim HX heads make it possible to build very compact heat exchangers with a high pipe density and thus a high degree of efficiency. Pipe spacing's of less than 40 mm are possible.

Handling is easy, too. HX heads are opened up, placed around a pipe and clamp themselves pneumatically at the push of a button. A stop with coarse and fine adjustment aids secure positioning on the pipe. Following the startup

procedure, the water-cooled head floods with argon gas and welding is carried out automatically with consistently high quality. The Orbitalum system ensures clean weld penetration with no recesses, gaps or burrs in the pipe whatsoever. Clamping and starting are activated by pressing buttons on the weld head.

Top-quality welding results, even with semi-skilled personnel

Orbitalum welding power supplies automatically detect the connected HX head and its specified parameters in such a way that the operator need only call up the corresponding welding procedure and initiate the process prior to the start of welding. Working with the Orbitalum system is so easy and reliable that even semi-skilled operators can achieve optimum welding results.

Practice has shown that waste can be reduced from 4% to under 0.7% with the Orbitalum system. Another advantage of the system is that

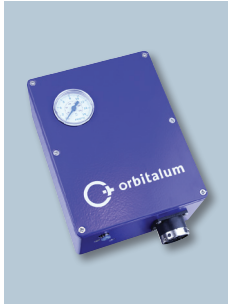
an operator can work with multiple weld heads at the same time, which increases production efficiency considerably. The closed welding chamber and consistent process also prevent annealing coloration from occurring, so expensive reworking such as pickling and passivation can usually be dispensed with.

Compact design makes handling easy

In contrast to open welding tongs, all connections for power, gas and cooling water are integrated into the HX head. To facilitate handling, Orbitalum heads are connected to the welding power source with a flexible 7.5 m hose. The HX 12P also scores with its straight design, which enables easy turning of the head at the heat exchanger. The entire unit can be suspended from a balancer to take the strain off the operator.



Extremely narrow design - ideal for the welding of pre-mounted elbows in tight pipe bundles



Pneumatic box included in the scope of delivery



Available option: Diameter-specific clamping inserts



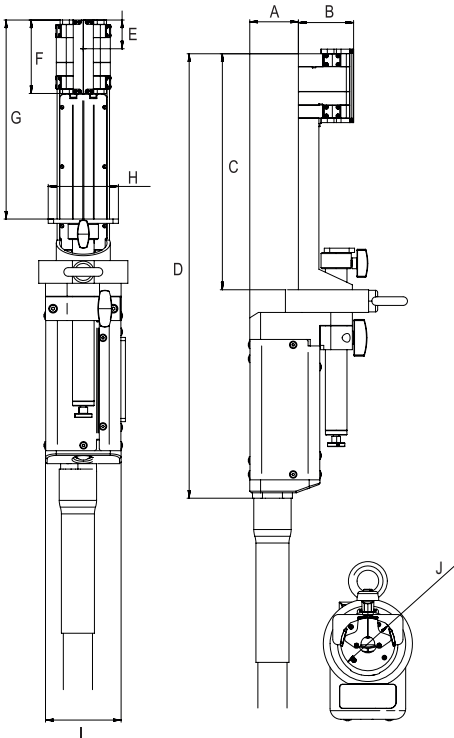
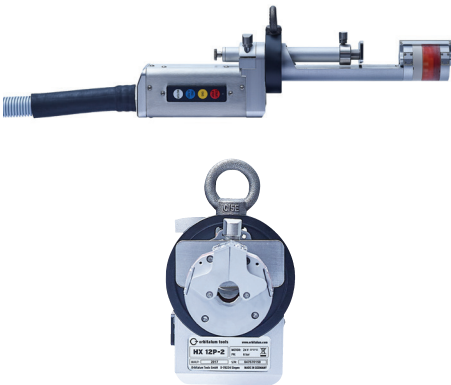
Available option: Earth cable



Available option: Adjustable bar pressure regulator for Argon



The perfect complement: Orbital welding power supplies ORBIMAT



APPLICATION RANGE		HX 12P	
Code		847 000 010	
Tube OD, min. - max.*		9.5 - 13.3 mm / 0.374" - 0.524"	
Wall thickness, min. - max.		0.5 - 0.8 mm / 0.02" - 0.03"	
TECHNICAL DATA		HX 12P	
Electrode Ø		1.6 mm / 0.063"	
Machine weight including hose package		6.4 kg / 14.1 lbs	
Hose package length		7.5 m / 24.6 ft	
TECHNICAL DATA		PNEUMATIC BOX	
Input		Argon	
Recommended input pressure		6 bar / 87 PSI	
DIMENSIONS		HX 12P	
		[mm]	[inch]
Dimension "A"		45.00	1.772
Dimension "B"		52.00	2.047
Dimension "C"		219.00	8.622
Dimension "D"		412.00	16.220
Dimension "E" (Electrode)		30.00	1.181
Dimension "F"		70.00	2.756
Dimension "G"		185.00	7.283
Dimension "H"		65.00	2.559
Dimension "I"		70.00	2.756
Dimension "J" (Ø)		50.00	1.969
SCOPE OF DELIVERY		HX 12P	
Enclosed orbital weld head of the HX series	Pc.	1	
Durable storage and shipping case	Pc.	1	
Pneumatic box	Pc.	1	
Supply hose (2 m/6.56 ft) for pneumatic box	Pc.	1	
Pivoting arm	Pair	1	
Elbow stop	Pc.	1	
Tool set	Set	1	
Power connector adapter	Pc.	1	
Operating instructions and spare parts list	Set	1	
SUITABLE ACCESSORIES			
Available option:		<ul style="list-style-type: none"> • Clamping inserts • Bar pressure regulator Argon • Earth cable • WS2 tungsten electrodes • ESG tungsten grinders 	

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

* Other dimensions on request



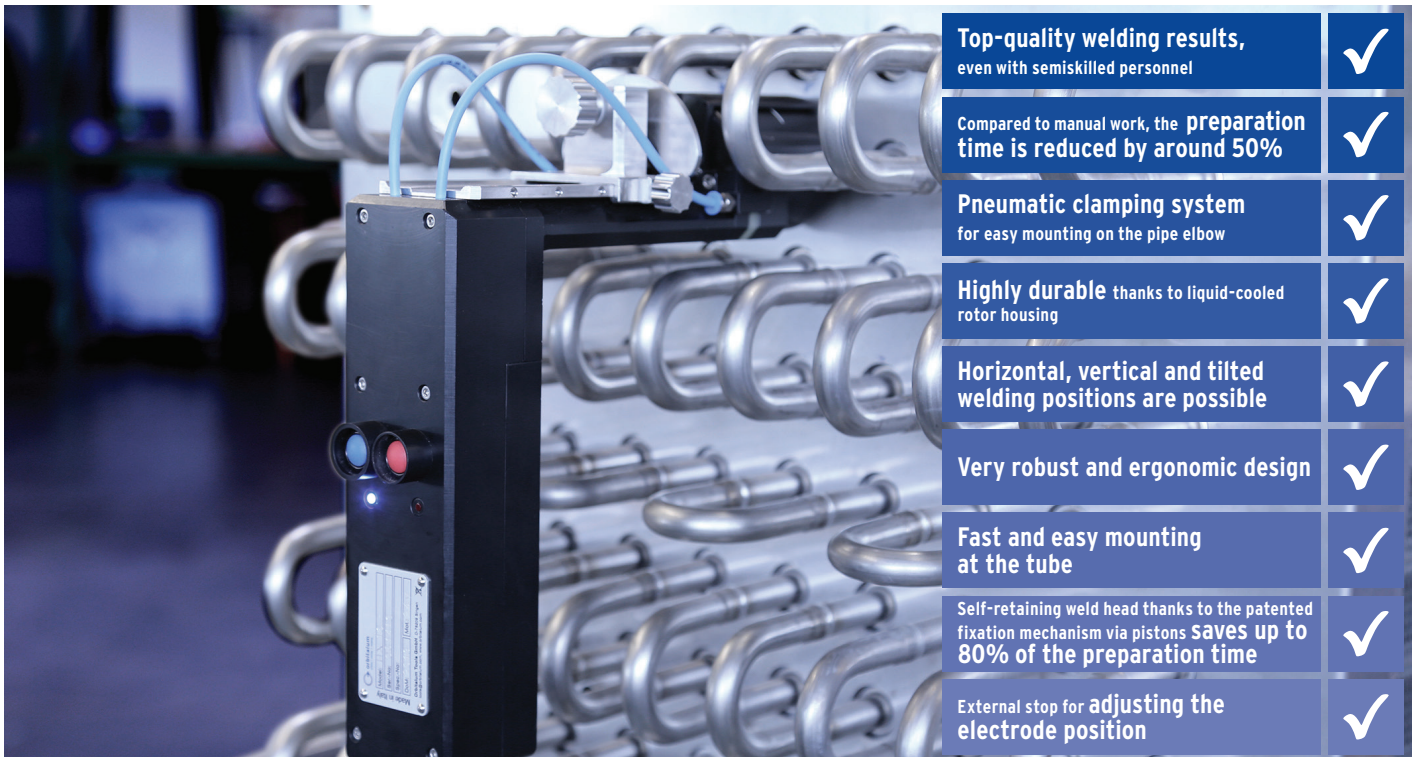
HX 16P, HX 22P

Enclosed orbital weld heads

The orbital weld heads HX for compact cooling systems are setting new standards!

"HX" stands for "heat exchanger" and for the welding of pre-mounted elbows in tight pipe bundles of heat exchangers into a pipe coil.

There is no other solution as effective as this one in the world!



Due to their compact size, all fully closed or open orbital weld heads commonly available on the market are not suitable for being positioned between the individual pipes of finned heat exchangers.

The HX series scores points in the areas of economy and efficiency when compared to conventional weld heads: The pipe ends of a heat exchanger can be fully fitted with elbows before joining and then welded in any order. For conventional orbital weld heads, the principle of fit elbow, weld, fit elbow, weld etc. applies, always starting from the center of the pipe sheet and working outward. If quality testing reveals a faulty weld later on, all elbows must be disconnected and new ones must be welded on in the worst case scenario (fault in the middle of the bundle) due to the accessibility factor. With the HX head, only the affected elbow would have to be replaced.

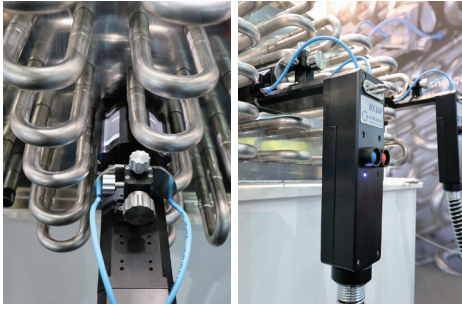
This design-based advantage also makes the Orbitalum system the ideal tool for unbeatably cost-effective repairs.

In contrast to open weld heads with a cumbersome hose assembly, all connections for power, gas and cooling liquid are permanently integrated in the HX.

All orbital welding power sources from Orbitalum automatically detect the head and its properties so that the operator only has to call up his or her specified jointing program and start the joining process before beginning to weld.

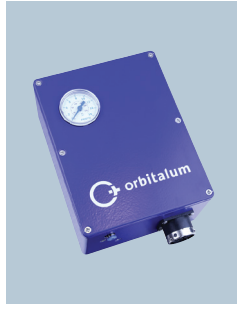
Traditionally, complex heat exchangers for cooling systems were made of copper and soldered with the pipe elbows. The high price of copper prompted manufacturers to switch over to stainless steel for production. Stainless

steel can only be joined economically, reliably and in high quality with tungsten inert gas (TIG) welding in conjunction with mechanized orbital welding.



Extremely narrow design - ideal for the welding of pre-mounted elbows in tight pipe bundles

All connections for electricity, gas and cooling water are firmly integrated



Pneumatic box included in the scope of delivery



Available option: Diameter-specific clamping inserts and earth cable



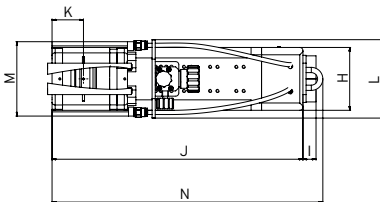
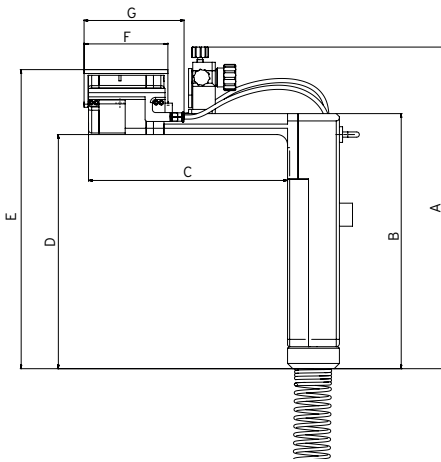
Available option: Adjustable bar pressure regulator for Argon



The perfect complement: Orbital welding power supplies ORBITAT



HX 16P / HX 22P



APPLICATION RANGE		HX 16P		HX 22P	
Code		848 000 010		846 000 010	
Tube OD, min. - max.*	[mm] [inch]	15.0 - 16.8 0.591 - 0.661		18.0 - 22.0 0.709 - 0.866	
TECHNICAL DATA		HX 16P		HX 22P	
Electrode Ø	[mm] [inch]	1.6 0.063		1.6 0.063	
Machine weight including hose package	[kg] [lbs]	5.9 13.0		5.9 13.0	
Hose package length	[m] [ft]	7.5 24.6		7.5 24.6	
TECHNICAL DATA		PNEUMATIC BOX			
Input		Argon			
Recommended input pressure	[bar] [PSI]	8 116			
DIMENSIONS		HX 16P		HX 22P	
		[mm]	[inch]	[mm]	[inch]
Dimension "A"		307.00	12.087	305.50	12.028
Dimension "B"		243.50	9.587	242.00	9.528
Dimension "C"		190.00	7.480	190.00	7.480
Dimension "D"		223.50	8.799	223.50	8.799
Dimension "E"		285.50	11.240	285.50	11.240
Dimension "F"		80.00	3.150	80.00	3.150
Dimension "G"		95.45	3.758	97.30	3.831
Dimension "H"		60.00	2.362	60.00	2.362
Dimension "I"		12.50	0.492	12.50	0.492
Dimension "J"		239.50	9.429	239.50	9.429
Dimension "K" (Electrode)		30.00	1.181	30.00	1.181
Dimension "L"		74.85	2.947	74.85	2.947
Dimension "M"		71.00	2.795	77.00	3.031
Dimension "N"		258.50	10.177	258.80	10.189
SCOPE OF DELIVERY		HX 16P		HX 22P	
Enclosed orbital weld head of the HX series	Pc.	1		1	
Durable storage and shipping case	Pc.	1		1	
Pneumatic box	Pc.	1		1	
Supply hose (2 m/6.56 ft) for pneumatic box	Pc.	1		1	
Pivoting arm	Pair	1		1	
Elbow stop	Pc.	1		1	
Sheet stop alignment kit	Pc.	1		1	
Tool set	Set	1		1	
Power connector adapter	Pc.	1		1	
Operating instructions and spare parts list	Set	1		1	
SUITABLE ACCESSORIES					
Available option:		<ul style="list-style-type: none"> • Clamping inserts • Bar pressure regulator Argon • Earth cable • WS2 tungsten electrodes • ESG tungsten grinders 			

* Other dimensions on request

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