

# Orbital Welding

## UNDERSTANDING THE INVESTMENT



**OrbiMAX**  
superior piping equipment

**sfi**

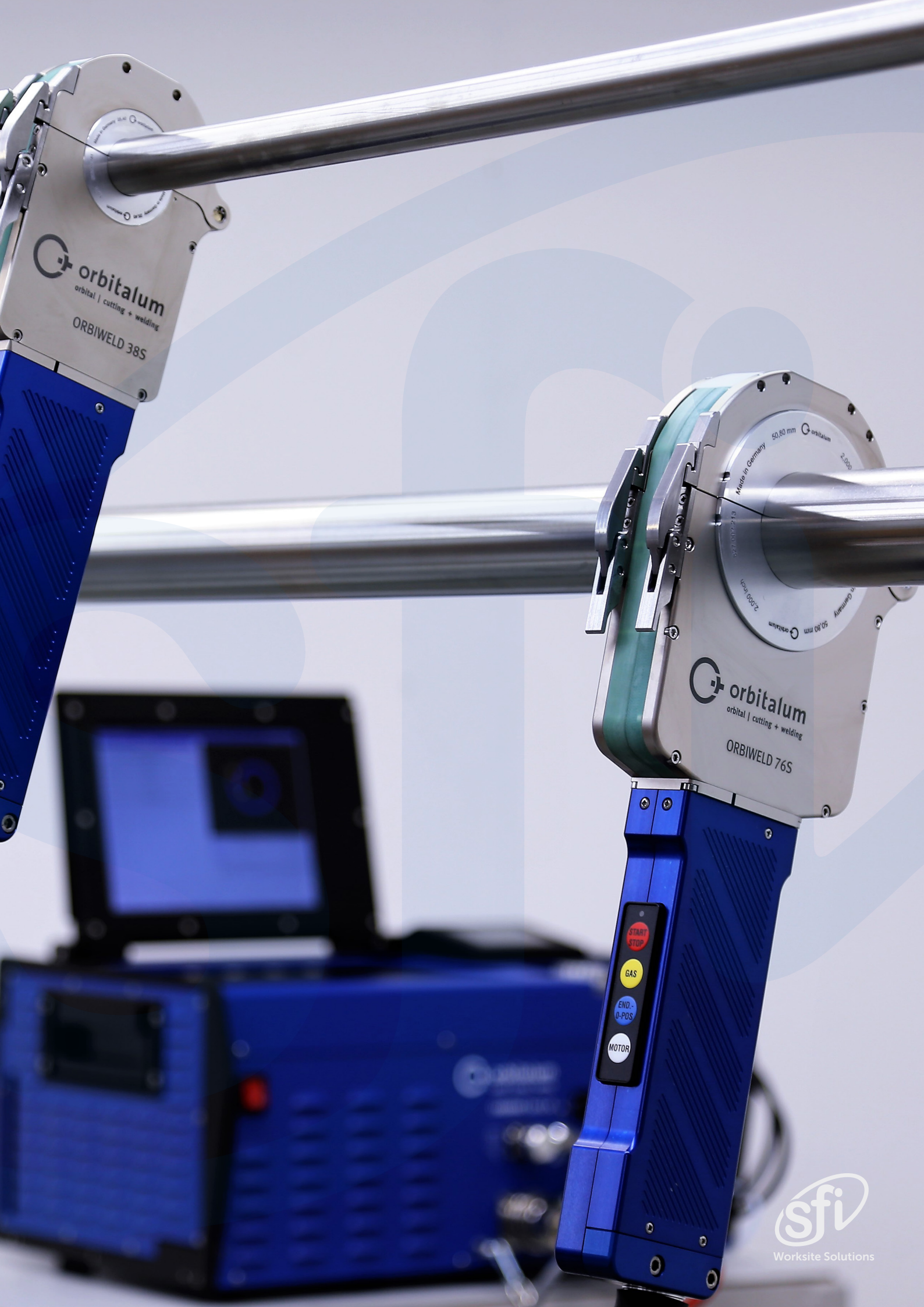
# Why Orbital Welding?

The world we live in is constantly changing. Old technology is quickly moving on and new methods and more effective procedures are being introduced for every department of our lives.

Continual upgrading of research facilities is occurring every minute of every day. More processing facilities are being built than ever before, to cater to the ever increasing demand of processed food for the growing population. The requirement for reliable, secure pipe connections is greater than ever.

Orbital welding is not a new concept, but has evolved into the most trusted type of tube welding available. Most orbital welding is done within an enclosed and closely controlled chamber and is the accumulation of many years welding experience through a simple tungsten orbit!





**orbitalum**  
orbital | cutting + welding  
ORBIWELD 38S

**orbitalum**  
orbital | cutting + welding  
ORBIWELD 76S

Made in Germany 50.80 mm  
2,000 inch  
50.80 mm  
2,000 inch

START  
STOP  
GAS  
END-  
G-POS  
MOTOR



# Why Orbital Welding?



## Productivity

An orbital welder drastically outperforms manual welding, running approximately 2-3 times the speed of a hand weld. These will often pay for their own cost in the duration of a single job.

**"We did 100 four inch welds in one day using the orbital!"  
(Fonterra Wynyard Tas).**

When tube is tacked in place and running an orbital system over each join, the machine can be constantly welding. This has proved to be the most efficient welding system worldwide.

**"Quoted an 80-hour job, got the orbital onto it and finished it in 40 hours!"**



## Consistency

Once a weld procedure has been selected, an orbital welding system can repeatedly perform the same weld hundreds of times, eradicating the normal inconsistencies and variability, errors and other defects associated with manual welding.



## **Weld Quality**

The quality achieved by orbital welding is second to none. Orbital welding is often a requirement where weld quality is paramount, for example in pharmaceutical applications.

These machines also make it possible for inexperienced welders and apprentices to produce reliable and fine quality welds.



## **Skill Level**

In the current generation, skilled certified welders are increasingly hard to find. With orbital welders, you don't require a certified welding operator – a basic human being can operate these machines with ease.



## **Versatility**

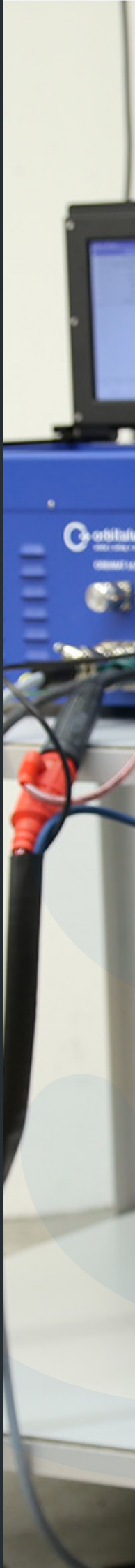
Orbital welding can be used in many areas where it is not possible or practical to complete a full rotational manual weld. Weld heads are a very compact system and are able to be used in pipe racks, up to 17.5 meters away from the actual powersource!

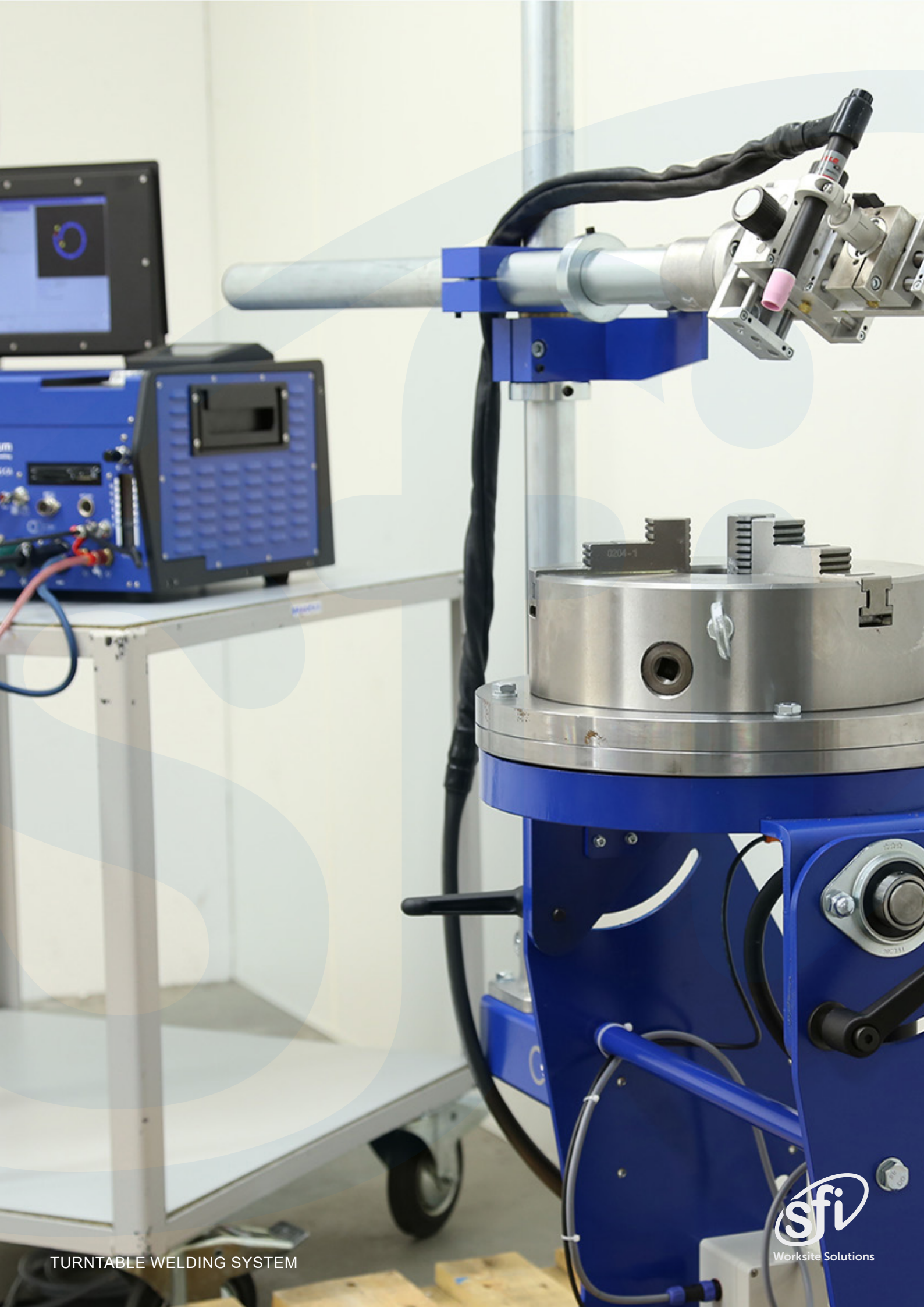
# Cost Comparison

Below is a basic cost comparison based on a complete autogenous 1-4" Welding Setup.

A simple cost comparison to Orbital and manual welding makes it easy to see and justify the investment of Orbital Welding equipment.

Item	Manual Cost	Orbital Cost
Personal	\$68,000	-
Equipment	\$3,000	\$56,850
Consumables	\$1,500	\$60
Training	\$1,000	0
Leave	\$1,000	0
HR Costs	\$1,000	0
Total Cost	\$75,500 (Per Year)	\$56,910 (Complete Purchase)
Weld/Day Capacity	48 welds/day	100 welds / day





TURNTABLE WELDING SYSTEM



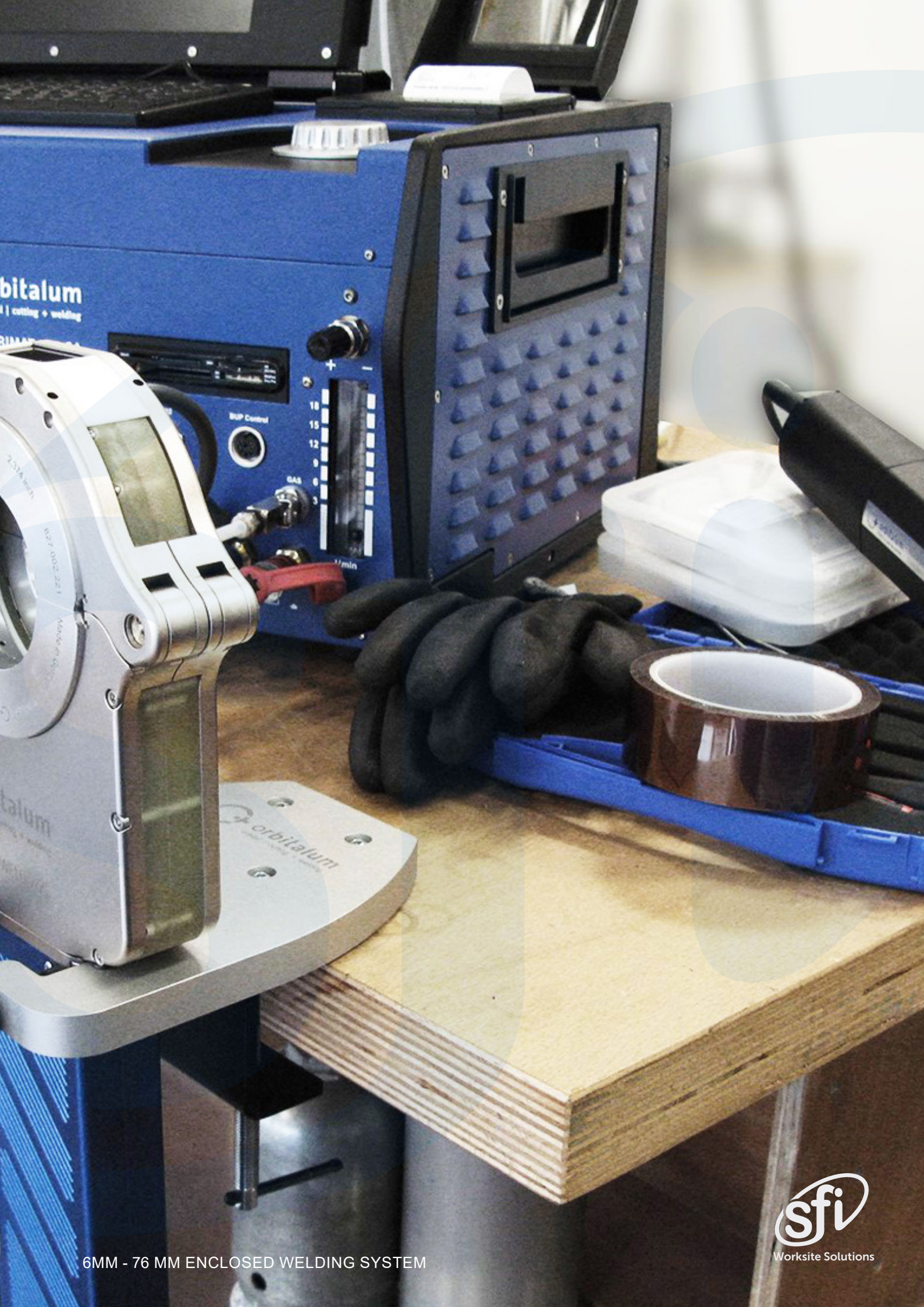
# Manual vs Orbital Welding

As can be seen on the following page, within a manual welder is calculated defects, time to have breaks and social activity etc. This reveals the effectiveness of completely controlled autogenous welding, especially with standard s/s Tube.

Manual Tig Welding	Orbital Tig Welding
Weld quality relies on welder's experience	Weld quality always at 100%
Lack of consistency in welds	Exactly the same weld at 6pm as at 6am
Operator requires break - i.e. smoko	Can weld all day every day
Requires a payslip	Requires a power point
Lack of accuracy in reports	Automatically generates procedure reports
Takes a long time to complete tube weld	Ability to weld quickly and doesn't require rework
Several stop-starts causing pin-holes	One continuous weld
Increase in number of fittings used in a job	Eliminates the need of expensive threaded and mechanical joints
High maintenance and consumable spending	Requires very little maintenance and consumables
Weld/Day Capacity	48 welds/day







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cutting + welding

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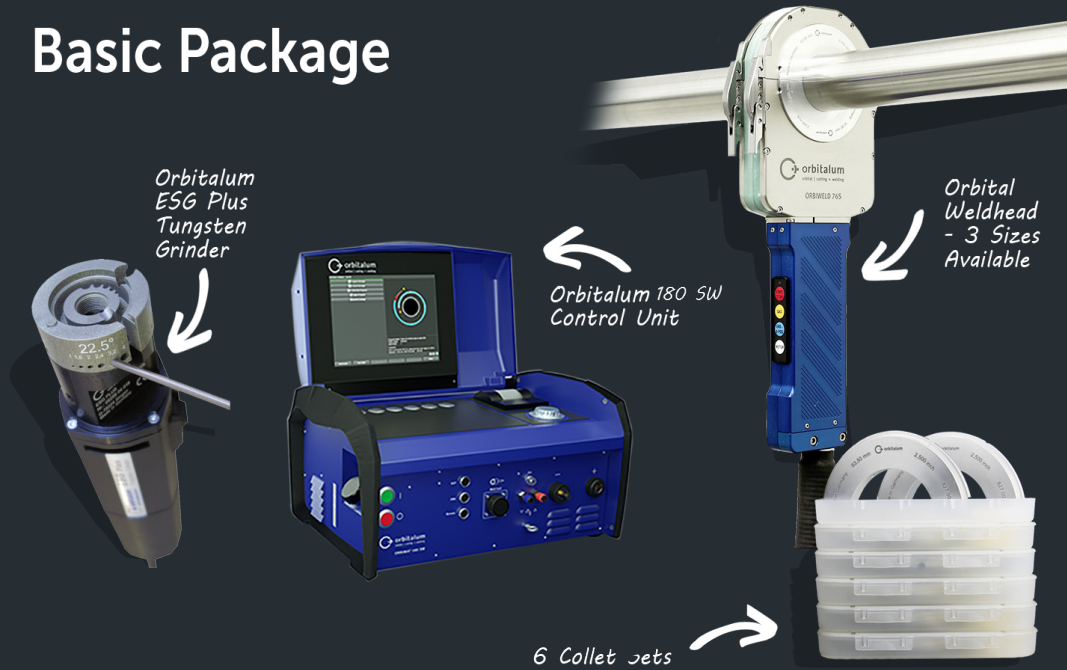
6MM - 76 MM ENCLOSED WELDING SYSTEM





# Orbital Welding Packages

## Basic Package



Suited to the up and coming stainless tube fabricators in the food and pharmaceutical industry.

## Efficiency Plus Pack



Tailored to those who want to get the most out of their Orbital Welder. Allows for 2 heads to be used off a single machine.

## Tube-Sheet Kit



This system is ready to weld tube to sheet applications for heat exchangers etc.

## Professional Services



This is the complete list ready to attack anything. It includes purging, facing and bevelling equipment ready for the pro.

# Orbital Welding Accessories



## Orbitwin

To increase productivity, the switching unit ORBITWIN is available which allows the operation of 2 weld heads on the ORBITMAT



## Durable Storage and Shipping Case

With castors. Protects the power supply during transport. Perfect for the use on construction sites.



## BUP Control Box

The BUP (Back Up Purge) integrates with your power source to control and monitor Back Up or internal purge.



## OCL-30 Coolant

Your coolant should be replaced at least once every 12 months. Old coolant may result in corrosion.



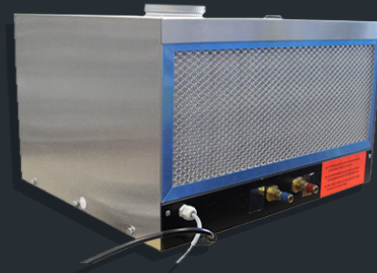
## Orbicar Trolley

The ORBICAR S is a practical trolley with storage shelf and an option of securing a gas cylinder and is the perfect addition to the Orbitalum 165 A orbital welding power sources.



## Orbicool Active

Very efficient compressor cooling device. Particularly suitable for welding units in series production.



## Soft / Hard Package

A computer software system enabling programs and protocols to be stored and adjusted using your PC.

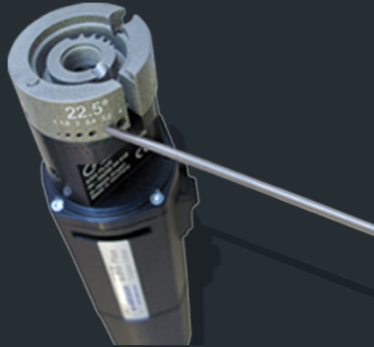


## DVR Weldign Turntable

A reliable and efficient solution for welding of rotating workpieces, short molded parts and fittings.

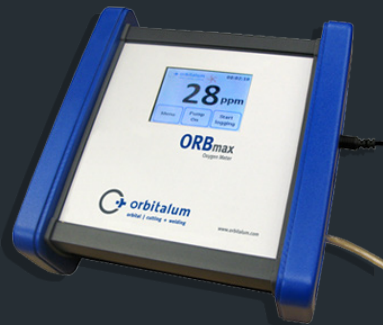


# Orbital Welding Accessories



## Tungsten Grinder

The perfect hand-held grinder for cutting, grinding and planing electrodes.



## Orbmax Residual Oxygen Meter

Fast, exact detection of residual oxygen and complete documentation of the parameters.



## Hose Package Extensions

Did you know you can extend your current head hose leg up to 20m?



## WS2 Tungsten Electrodes

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

## Diamond Grinding Wheel

Replaceable grinding wheel diamond-coated on both sides for optimal performance.



## Orbipurge Forming Set

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



## TIG Manual Welding Torch

Did you know you can use a manual tig torch on your orbital?



**View full product range here:**

- Power Supplies
- Weld Heads
- Accessories



# Why Orbitalum?

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 Germany. Orbitalum products excel with high efficiency, ease of operation and a safe and mobile setup conforming to the latest safety standards.

“ We ensure that a world is worth living in by producing secure pipe connections. ”





827.

2,500 Inch

orbitalum

63,50 mm



# orbitalum

orbital | cutting + welding

## ORBIWELD 76S

## **Orbital Welding**

**UNDERSTANDING THE INVESTMENT**

Contact us now:

**T 1800 734 000**  
**E [sales@sfiaust.com.au](mailto:sales@sfiaust.com.au)**  
**W [www.sfiaust.com.au](http://www.sfiaust.com.au)**

