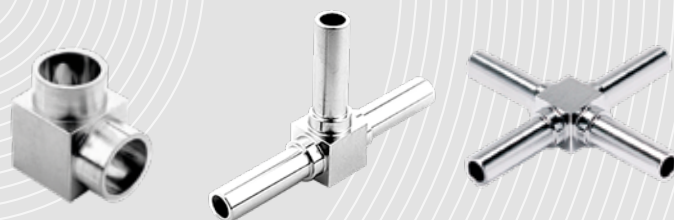
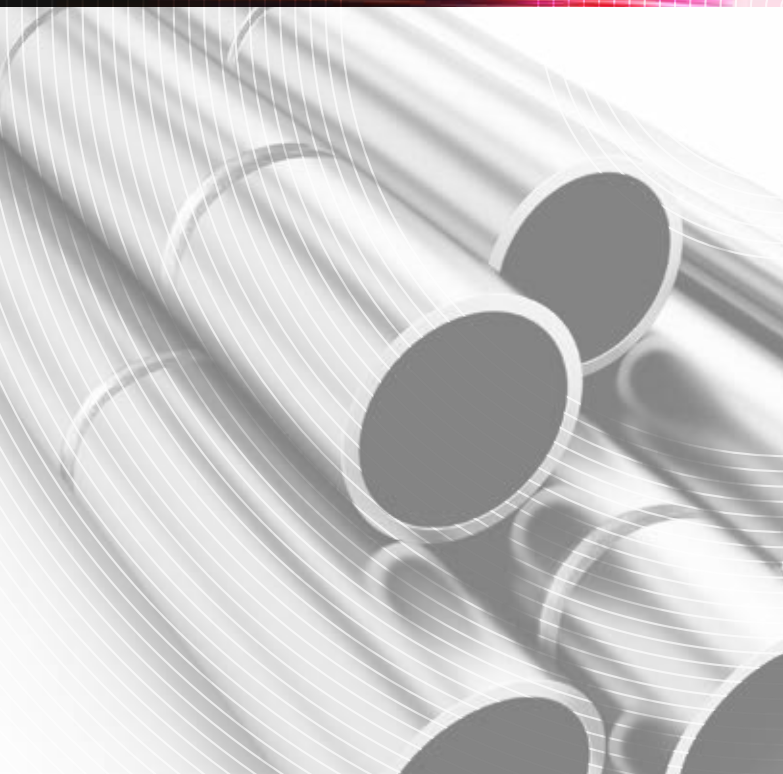




ORBITAL WELDING

UHP SERIES

Closed chamber
welding heads for
Ultra High Purity
Welding



POLYSOUDE






01 Closed Chamber Welding Heads Engineered for Ultra High Purity Welding

Discover our versatile range of modular welding heads, designed to adapt seamlessly to your specific requirements. Enjoy a compact design with minimised radial and axial dimensions, delivering maximum efficiency and unmatched flexibility for your most demanding applications.



PRODUCT
RANGE
VIDEO
PRESENTATION

UHP welding heads quick guide

Tube OD ranges mm/inches	Flexible UHP welding heads			Performance UHP welding heads	
					
	UHP 250-2	UHP 500-3	UHP 1000	UHP 625	UHP 1025
0					
1.6 mm 1/16"	▼				
3 mm 1/8"	▼	▼		▼	
6.35 mm 1/4"		▼	▼	▼	▼
12.70 mm 1/2"				▼	▼
17.3 mm 11/15"			▼		▼
25.4 mm 1"					▼

Choose the ideal UHP head using the overall dimensions and the duty cycle

Advantages & benefits



Easily switch between interchangeable UHP 250, 500 & 1000 modules

- ▶ Ultra compact: reduced radial and axial dimensions
- ▶ Precision guaranteed: with an optimum closed-loop regulation system to ensure constant quality output
- ▶ Modular Design: covering a very wide range of diameters
- ▶ Adaptable Clamping System: unique system adaptable to workpiece design for all applications
- ▶ Simple & efficient product design
- ▶ Reduced cost of ownership
- ▶ Cassette and fixture blocks guaranteeing high-quality, repeatable orbital welds

Smart Welding Stations

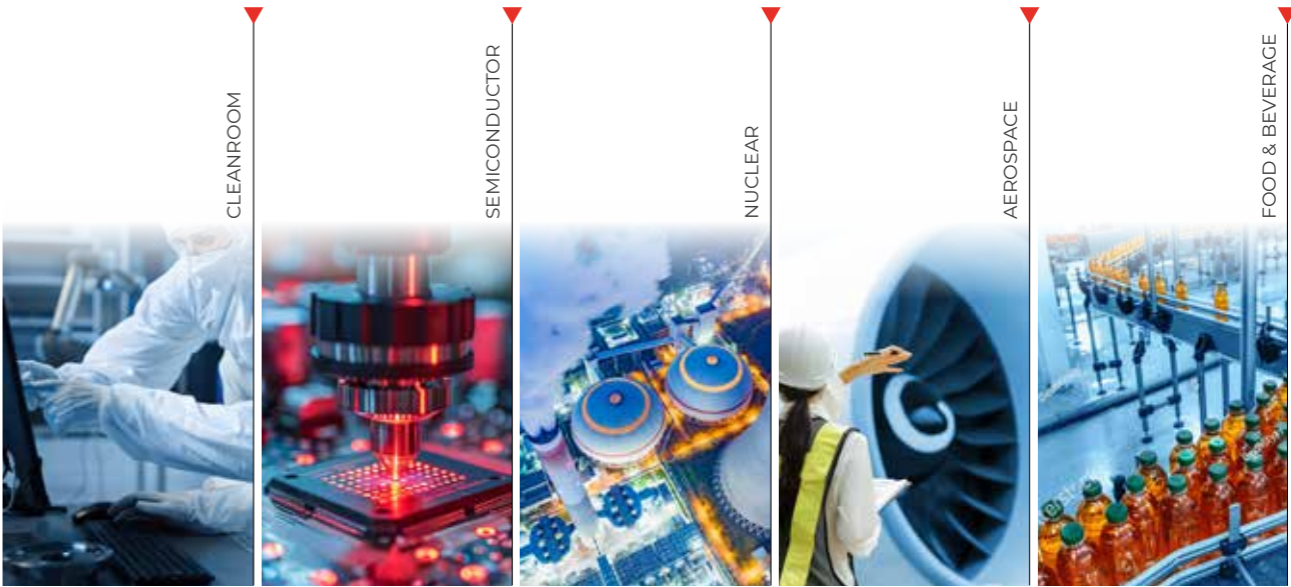


Compatibility with all Polysoude Smart Welding Stations

Commonly used with a P3 UHP Cleanroom

- ▶ Available in Full Cleanroom environnement.
- ▶ Compact, lightweight (17 kg), dedicated to Ultra High Purity industries, programming by PC/notebook or touch screen, single-phase power supply.

Adapted to all your applications!



02

Technical specifications

Technical data

FLEXIBLE UHP WELDING HEADS		UHP 250-2	UHP 500-3	UHP 1000
Welding process		TIG		
Compatible with Smart Welding Stations		P3 UHP - P4 - P6 CW		
OD tube range		1.60 to 6.35 mm 1/16" - 1/4"	3.00 to 12.70 mm 1/8" - 1/2"	6.35 to 25.4 mm 1/4" - 1"
Duty cycle	100%	18A	32A	450A
	60%	50A	50A	70A
Torch cooling system		air-cooled		
Welding speed range	for OD min	20 to 285 mm/min 0.79 to 11.22 inch/min	15 to 190 mm/min 0.59 to 7.48 inch/min	13 to 272 mm/min 0.51 to 10.71 inch/min
	for OD max	70 to 1140 mm/min 2.75 to 44.88 inch/min	55 to 800 mm/min 2.16 to 31.49 inch/min	50 to 1 091 mm/min 1.97 to 42.95 inch/min
Weight (with bundle) 5,5m		3.6 kg	3.8 kg	4.5 kg

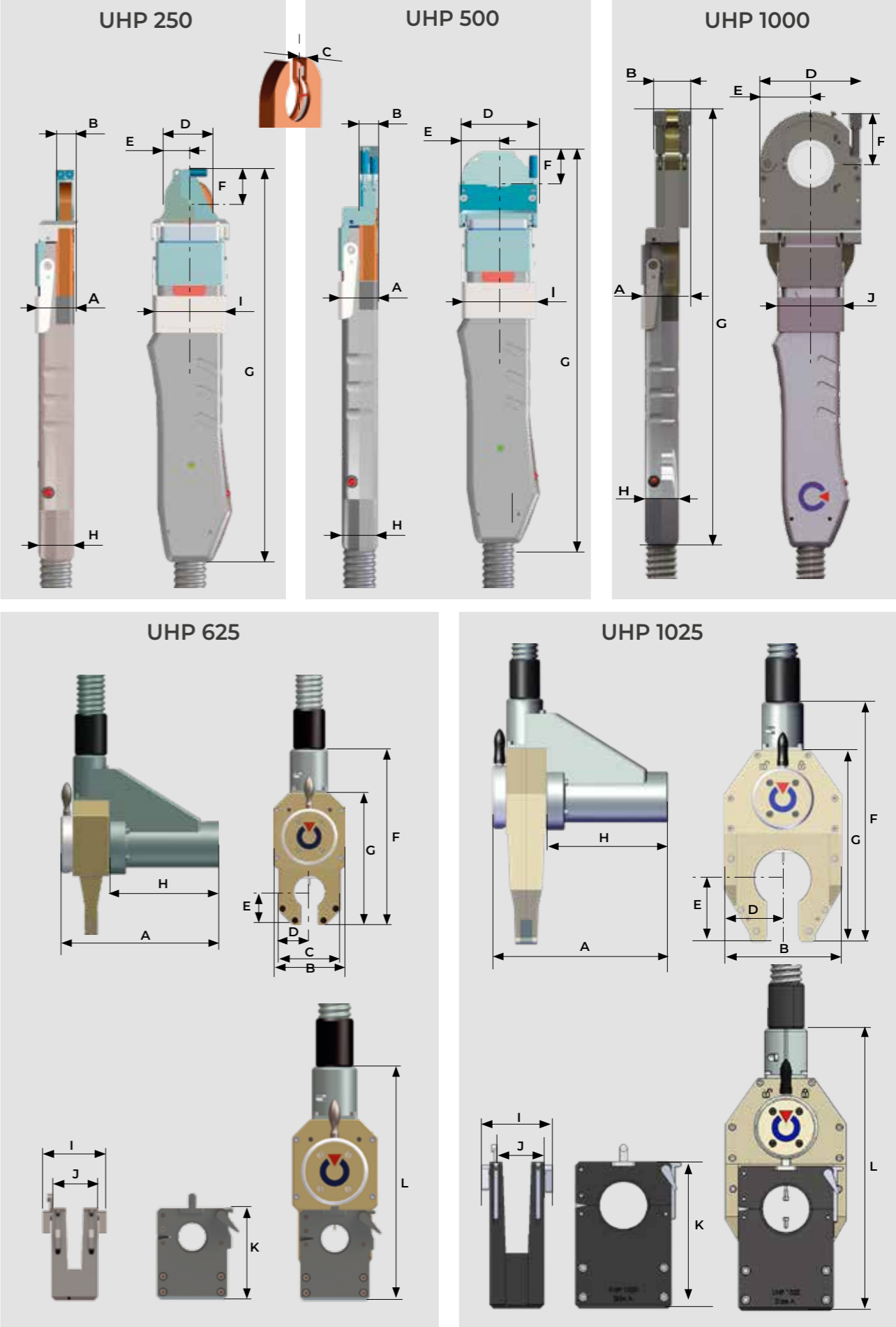
PERFORMANCE UHP WELDING HEADS		UHP 625	UHP 1025
Welding process		TIG	
Compatible with Smart Welding Stations		P3 UHP - P4	
OD tube range		3.00 to 17.3 mm 1/8" - 11/16"	6.35 to 25.4 mm 1/16" - 1/4"
Duty cycle	50%	55A	75A
	35%	70A	95A
Torch cooling system		air-cooled	
Welding speed range	for OD min	50 to 200 mm/min 1.97 to 7.87 inch/min	50 to 150 mm/min 1.97 to 5.90 inch/min
	for OD max		
Weight (with bundle)		4.5 kg (5 m bundle)	8.5 kg (11 m bundle)

Dimensions (mm / inches)

	UHP 250-2		UHP 500-3		UHP 1000	
A	27.8	1.09"	25.4	1"	33	1.30"
B	11.9	0.47"	12	0.47"	26	1.02"
C	5.6	0.22"	5.7	0.22"	4.95	0.19"
D	31.6	1.24"	51.3	2.02"	72.3	2.85"
E	16.5	0.65"	25.7	1.01"	36	1.42"
F	22.3	0.88"	23	0.90"	36.4	1.43"
G	257	10.12"	261	10.27"	302	11.89"
H	23	0.9"	23	0.90"	23	0.90"
I	44.5	1.75"	44.5	1.75"	44.5	1.75"

	UHP 625		UHP 1025	
A	153	6.02"	152.5	6"
B	70	2.76"	105	4.13"
C	60	2.36"	N/A	N/A
D	30	1.18"	72.5	2.86"
E	33.5	1.3"	58	2.28"
F	214	8.43"	215	8.46"
G	131	5.16"	172	6.77"
H	106	4.17"	106	4.17"
Fixture blocks				
I	52.5	2.05"	61.5	2.42"
J	38	1.50"	47	1.85"
K	75	2.95"	127	5"
L	232	9.13"	248	9.76"

Cable lenght: 5.5m and 11m



 TAILOR-MADE POSSIBILITIES : CUSTOMISED TOOLING ARE AVAILABLE UPON REQUEST


03 Flexible Welding Heads

Our Flexible Welding Heads feature interchangeable precision modules, offering adaptability for diverse projects and diameters. This versatility reduces downtime and enhances efficiency, making them a cost-effective solution for any welding task in high purity environments.

Adaptable to your needs and axial sizes

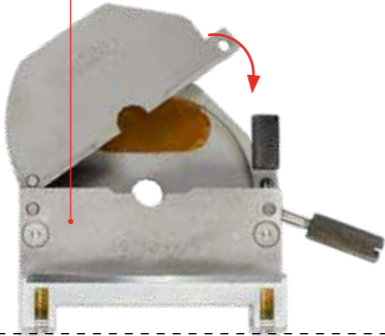
UHP 250

Clamping by means of **Titanium cassette** respects the response to the external diametres and allows the necessary sterile conditions of the tubes' surface




UHP 500

Reversible hook for an enlarged range of clamping tolerances




UHP 1000

Lifetime warranty: TCI's compliant with standard tube O.D. sizes and tolerances, for hygiene and high purity requirements



QUICK CHANGE HANDLE



One handle, endless possibilities. Thanks to our quick-swap system, you can easily clip on and off different welding heads in seconds. Switch effortlessly and weld with precision using the right closed head for every job.

► **Clean Welding:** benefit from a high-purity gas circuit that prevents particle emission and oxidation during the welding process

► **Precision TIG welding:** perfect for non-symmetrical designs and short stick-out fittings

► **Precision in tight spaces:** slim welding head for constrained areas

► **Consistent Precision:** closed-loop regulation for precise, constant or pulsed welding speed

► **Built for Tough Jobs:** high-duty cycle design with heat-resistant materials

► **Consistent Precision:** closed-loop regulation for precise, constant or pulsed welding speed

DELIVERED WITH	UHP 250	UHP 500	UHP 1000
Container for safety packing & transport	●	●	●
5.5 m hose cable	●	●	●
Consumable & tool box	●	●	●
TO BE ORDERED SEPARATLY	UHP 250	UHP 500	UHP 1000
Cassettes	●	●	
TCIs			●

KEY FEATURES, OPTIONS AND ACCESSORIES

- **Interchangeable clamping cassettes and Tube Clamp Inserts (TCI)** made from titanium for all tube and pipe O.D.s available both in metric and imperial sizes
- **Quick-change gear modules** from 1/16" up to 1" for compact and optimised clearance around the welding joint (UHP 250-2, UHP 500-3 and UHP 1000)
- **Dual welding head switch box**
- **Compact shipping case** for transport and storage
- **Tungsten electrodes**, pre-sharpened and pre-cut
- **Tool-kit** for daily operations
- **Full-set of workbench supports**



04 Performance UHP welding heads

Designed for high productivity, our Performance UHP Welding Heads combine ergonomic design, robustness with advanced technology. They ensure precision and operator comfort, delivering consistent, high-quality results for demanding applications.

Adaptable to your needs and axial sizes

UHP 625



Ergonomic: seamless welding experiences with integrated remote control

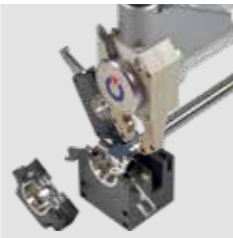
Clean Welding: benefit from a high-purity gas circuit that prevents particle emission and oxidation during the welding process

Consistent Precision: closed-loop regulation for precise, constant or pulsed welding speed

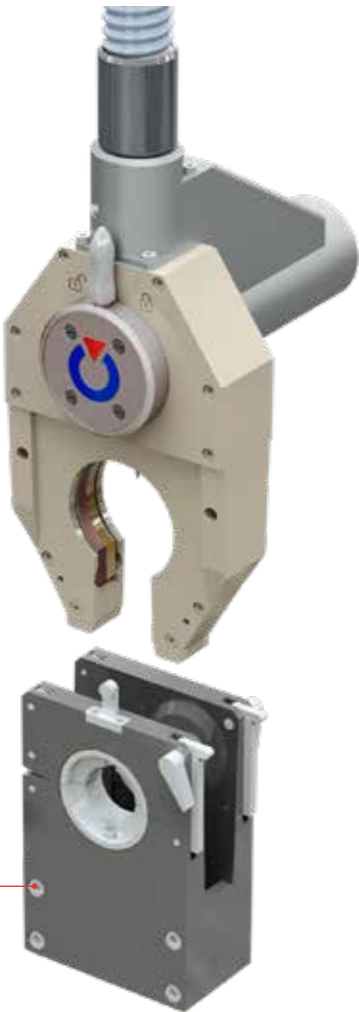
Controlled Accuracy: encoder for position-based control of the welding program, ensuring precise and reliable results

Precision clamping with cassette and fixture block technologies ensure optimal response to external diameters, maintaining sterile conditions for tube outer and inner surfaces

► **Enhanced productivity:** modular range of fixture blocks to maximize productivity and efficiency for tube-to-fittings or fittings-to-fittings welding



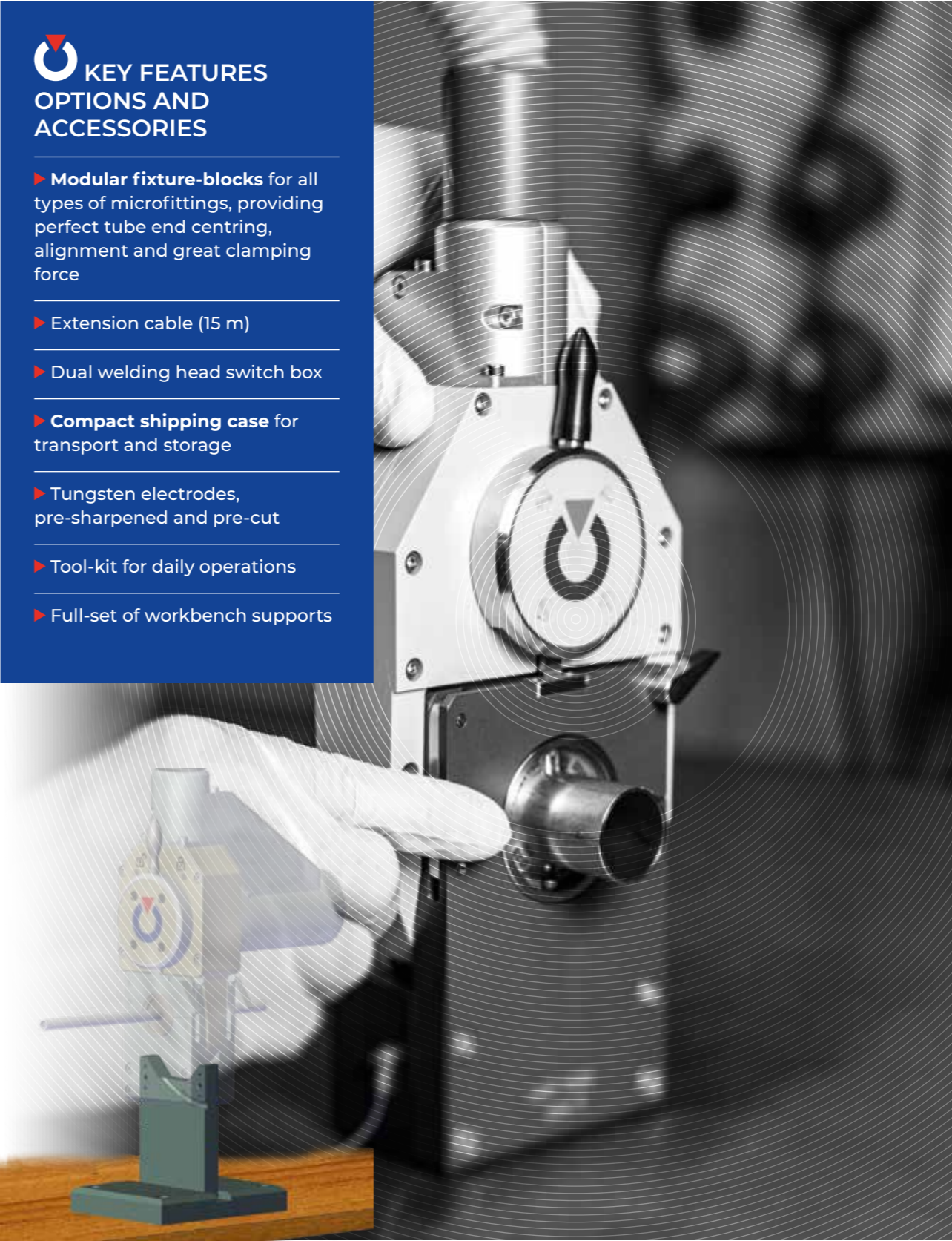
UHP 1025



DELIVERED WITH	UHP 625		UHP 1000
	0034410003	0034410002	0040890002
Container for safety packing & transport	●	●	●
Hose-cable bundle	● (5m)	● (11m)	●
Consumable & tool box	●	●	●

KEY FEATURES OPTIONS AND ACCESSORIES

- **Modular fixture-blocks** for all types of microfittings, providing perfect tube end centring, alignment and great clamping force
- Extension cable (15 m)
- Dual welding head switch box
- **Compact shipping case** for transport and storage
- Tungsten electrodes, pre-sharpened and pre-cut
- Tool-kit for daily operations
- Full-set of workbench supports



05 Product Range Orbital & Mechanised welding



1.6mm
1/16in

8mm
5/16in

32mm
1in

75mm
2 1/2in

275mm
10in

TUBING

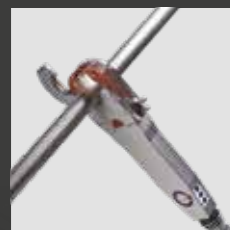
UHP Welding heads



Ultra High Purity,
closed chamber
welding head

TIG

MW Welding heads



High duty cycle,
closed chamber
welding head

TIG

PIPING

MU IV series



Modular
open
welding
head

TIG
CW TIG
HW

Polycar series



Carriage-type
welding head
for a wide range
of diameters

TIG
CW TIG
HW

AUTOMATED TIG WELDING

Welding Lathe

Dedicated for tube to
tube welding



Positioner, turntable & pipe supports

For circular weld joints with
rotating work pieces



Seam welder

Dedicated for butt welding
of plates and cylinders



Welding torches

TIG, Plasma and Narrow
Groove torches



TUBE-TO-TUBESHEET

TS 8-75



Welding head
unique for its
versatility

TIG
CW TIG
HW

TS 34



Welding
head with
gas closed
chamber

TIG

There is
always
a Polysoude
solution

SMART WELDING STATIONS



P3 UHP

TIG



P4

TIG
CW



P6

TIG
CW TIG
HW



PC-2

TIG
CW TIG
HW

ACCESSORIES

Oxygenmeter

O₂ oxygen concentration
measurement system



Switch box

The Switch Box allows
to alternate welding
heads on one Smart
Welding Station to
boost productivity



DAQBox

Advanced
productivity
optimisation
and follow-up
for P6 and PC
power sources



Video



Polysoude: Related services



Guidance and technical support

A welding application specialist in your area will advise you on the welding process and appropriate equipment for your application.



Commissioning / Training

A complete training program will enable you to start using the equipment immediately and in the best way possible.



Maintenance / Repair

Maintenance and repair operations can be carried out at the Polysoude plant as well as on site by our service network.



Rental service

Increase the flexibility of your production! A large range of equipment is available for rental from our hire fleet.

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AND RESELLERS



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THE ART OF WELDING

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