



**Catalogue** | **Standard Orbital Welding  
Equipment**

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NE.

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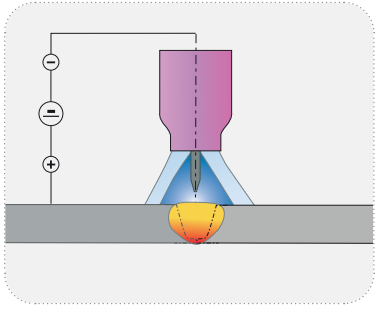
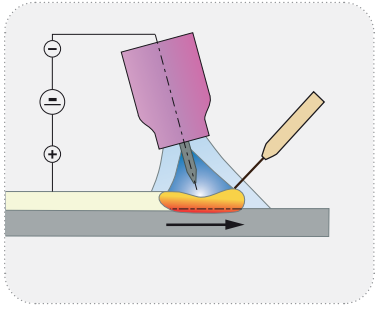
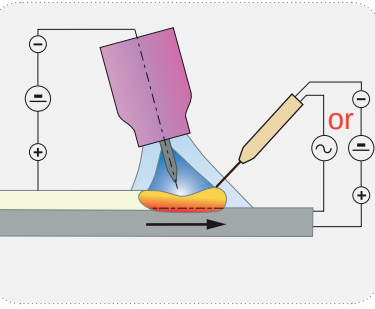
-  TIG Welding process without wire
-  TIG Cold Wire welding process
-  TIG Hot Wire welding process

# Processes

## GTAW/TIG orbital welding process

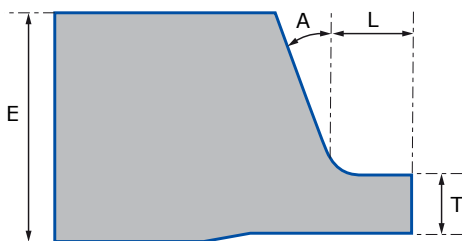
Main advantages of TIG with or without wire CW/HW compared to other processes: all position use, excellent surface quality, clean without spatters... Zero defects. Generally, orbital welding technique covers two main fields of application:

- Tube-to-tube / pipe-to-pipe joining.
- Tube-to-tubesheet welding.

	TIG	TIG CW	TIG HW
Electrode	1	1	1
Wire	/	CW	HW - DC or AC
Arc type	Single arc	Single arc	Single arc
Deposition rate	/	0.15 to 0.5 kg/h	1 kg/h
			

Whenever high quality results are required, orbital welding is the first choice for the joining of tubes. The welding torch - in most cases, the TIG welding (Tungsten Inert Gas) process is used - travels around the tubes to be joined, guided by a mechanical system. The name orbital welding comes from the circular movement of the welding tool around the workpiece.

## Recommended tube end preparation for orbital TIG welding



Wall thickness (mm)	Angle (°)	Collar (mm)	
	A	T	L
$3 \leq E \leq 6$	30°	1	
$6 \leq E \leq 10$	30° or 20°	1,5	2
$10 \leq E \leq 15$	20°		



# Orbital welding equipment

## Range of Smart Welding Stations



	P3 UHP	P4	P6	PC-2
Process	TIG	TIG TIG CW	TIG TIG CW TIG HW	TIG TIG CW TIG HW Plasma
	Compact and ultra-lightweight, 3-axis Smart Welding Station	Advanced - Intelligent, portable 4-axis Smart Welding Station	Advanced - Intelligent, Cold and Hot Wire 6-axis Smart Welding Station	Unique - High power, multi-purpose, multi-axis, multi-process Smart Welding Station
Motion controls:				
Torch rotation	✓	✓	✓	✓
Wire feeding		✓	✓	✓
AVC			✓	✓
OSC			✓	✓
Multi-axes				✓
Input Power	1 phase 115/230 V	1 phase 115/230 V	3 phase 380/480 V in option	3 phase 380/480 V in option
Cooling unit	Optional	Integrated	Integrated External for P6 HW	External

# Smart Welding Stations



## Technical data

		P3 UHP
Input Power - Voltage ( $\pm 10\%$ )		Single phase + Earth - 115 V / 230 V
Input Power - Frequency		50/60Hz
Type of current source		Inverter
Open circuit voltage (rated values) (*)		<113 V
Range of Smart Welding Stations		5.5KVA
Insulation class		H
Protection class		IP 21
Condition of use - ambient air temperature		From $-10^{\circ}$ to $+40^{\circ}\text{C}$
Welding current	Standard (steps of 1A)	5 to 140A - constant or pulsed (input power 230 V) 5 to 100A - constant or pulsed (input power 115 V)
	High precision (steps of 0,1A)	5 to 50A - constant or pulsed
Welding current precision		$\pm 1\%$ when $I > 100\text{A}$ and $\pm 1\text{A}$ when $I \leq 100\text{A}$
Duty cycle $40^{\circ}\text{C}$	100%	95A (input power 230 V) 75A (input power 115 V)
	40%	100A (input power 115 V)
	25%	140A (input power 230 V)
Motion controls		Torch rotation: constant or pulsed
Smart Welding Station cooling		Forced ventilation
Torch cooling		Air cooled system; external closed loop water cooling system with flow safety valve (optional)
Display/recording		Arc voltage, welding current, electrode position in angular degrees and rotation speed
Weld procedure data storage and transfer		USB memory stick / Network
Welding procedure library		200 programmes max.
Real time data acquisition		Memory of wireless touchscreen controller, laptop or PC
Dimensions LxWxH		575 x 224 x 455mm
Weight		17kg - Shoulder strap included
Standards		EN 60974- 1/ EN 60974-10

(\*) The real value  $U_0$  of each Smart Welding Station is indicated on the Smart Welding Station rating plate

## ▶ P3 UHP

	P3 UHP	0025100001
1	P3 UHP - "Cleanroom ready" version <sup>(1)</sup>	0025100006

P3 UHP delivered with	0025100001	0025100006
Torch gas control with safety valve and flow detection	✓	✓
Adjustable electronic gas mass flowmeter with display on GUI <sup>(*)</sup>	✓	✓
USB-stick (saving, loading and archiving)	✓	✓
P3 UHP Software package (for laptop)	✓	✓
Automatic welding head recognition	✓	✓
Printer	✓	✓
Torch rotation control	✓	✓
Wi-Fi ready	✓	✓
Special welding gas line for low particle emissions (no brass or copper)		✓

(\*) manual adjustment

Options		
2	Wireless touchscreen controller with welding programming software & user manual - optimised with rugged industrial case including security code lock, magnetic easy-grip and shoulder strap	0025000001
	10.4" wired remote touchscreen for P3 UHP/P4/P6 with 2.5 m long bundle with Wi-Fi dongle	0026119400
3	Full-function remote control pendant for P3 UHP, P4 & P6 4 axes and 9 m long bundle	0026149101
4	P3 UHP cooling unit for the use of water cooled open and closed chamber welding head	0025100301
	Earth cable 50 mm <sup>2</sup> for P3 UHP, P4 & P6-4 axes - 9 m long <sup>(2)</sup>	64599801
	Second adjustable electronic gas mass flowmeter with display on GUI <sup>(*)</sup> (backing gas)	0025100201
	Permanent gas for UHP, MW, and TS 34-2 (integrated in the Smart Welding Station, this device enables to keep a low gas flow when the welding head is not welding to improve the gas protection during welding) <sup>(3)</sup>	0025109114
	Axis for data acquisition (DAQbox) for P3 UHP <sup>(4)</sup>	0025100105
	Rotation motor control kit for tacho welding heads from other manufacturers	0025049117
	Connection cable bundle including software configuration for AMI welding heads series 8 or 9 <sup>(5)</sup>	Water cooled 11330537
		Air cooled 11330539
	Connection cable bundle including software configuration with integrated rotation motor control for Swagelok/Cajon welding heads series 5, compatible with CWS-5H-B Model <sup>(5)</sup>	11330536
	Connection cable bundle including software configuration with integrated rotation motor control for Swagelok welding heads SWS-5H-D15 Model <sup>(5)</sup>	On request
	Connection cable bundle including software configuration for Orbitalum welding heads series 38S, 76S & 115S <sup>(5)</sup>	0023003100
	Compatible Cleanroom ready gas line with low particule emission option	0025100206
	Power cord for P3 (without plug)	0025109120
	ADDITIONAL 12 MONTHS WARRANTY - P3 SMART WELDING STATIONValid only one time for all Smart Welding Stations, provided they undergo calibration and inspection before the end of standard warranty, performed by an authorized Polysoude Service center	100100429

(1) Compatible for cleanrooms: low particle emission gas line included

(2) Must be ordered for all open-type or tube-to-tubesheet welding heads

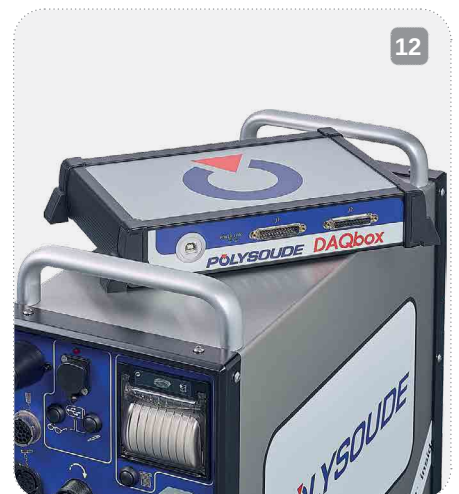
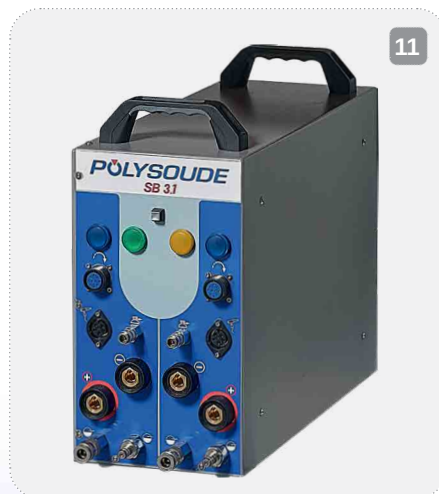
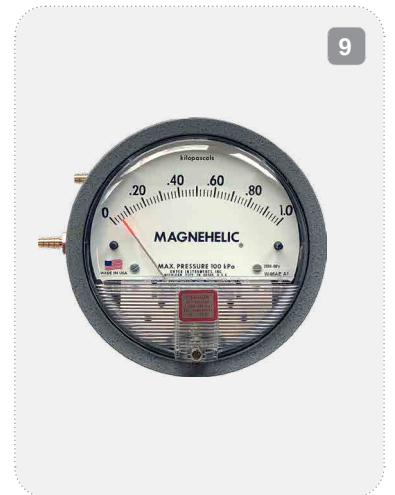
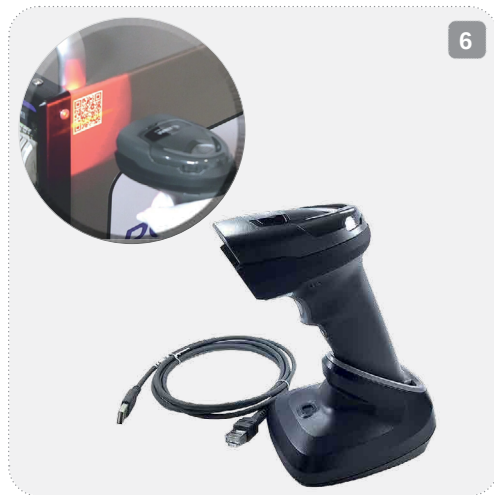
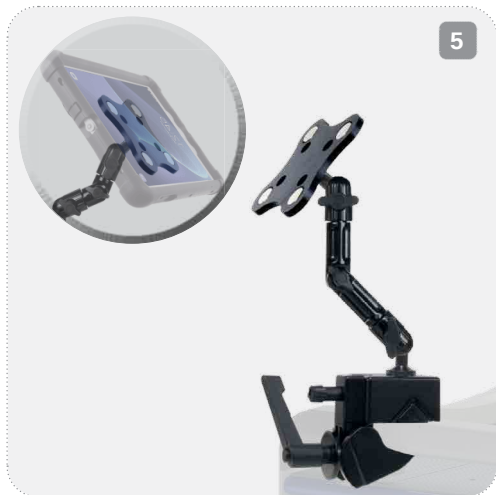
(3) With this option, it is not possible to integrate the second gas option

(4) Equipment assembled in workshop only (Polysoude Nantes)

(5) must be used with 0025049117. See on page 11



# Smart Welding Stations





## Extension cable options

15m extension cable for MW closed chamber welding heads without remote control cable <sup>(4)</sup>	0018343000
10m extension cable for MW closed chamber welding heads ( $I_{max}$ 125A) <sup>(4)</sup>	0018346300
15m extension cable for closed chamber welding heads <sup>(4)</sup>	0018344600

### Extension cable includes

Item no.	Rotation	Remote control	Fluid hoses	Welding current <sup>-</sup>	Welding current <sup>+</sup>	Manual torch
0018343000	✓		✓	✓ (50 <sup>2</sup> )	✓ (50 <sup>2</sup> )	✓
0018346300	✓		✓	✓ (25 <sup>2</sup> )	✓ (25 <sup>2</sup> )	✓
0018344600	✓	✓	✓	✓ (50 <sup>2</sup> )	✓ (50 <sup>2</sup> )	✓

<sup>(4)</sup> Only one extension cable (as well as the remote control extension cable) can be connected. For longer or specific cables, please contact us

## Accessories

	GUI programming software for P3 UHP on USB stick	0025109501
	USB stick for OPC-UA activation - one per Smart Welding Station	0025009001
5	Adjustable magnetic support for wireless touchscreen controller on Smart Welding Stations & work bench	0025000002
6	Wireless digital barcode-scanner with cradle and USB cable	9040004704
	Gas hose (Argon) - Length: 4m	0025009102
	Pressure regulator Argon "France" <sup>(6)</sup> max. 10 bars	75501003
7	Pressure regulator Argon "Export" <sup>(7)</sup> max. 10 bars	71700927
	Pressure regulator Argon/Hydrogen max. 10 bars	71700917
	Manual water-cooled torch (8m) with quick release couplings and accessory box	75500532
8	Residual oxygen analyser	0038080800
	USB Extension cord for oxygen analyser up to 15m	9040006266
9	Differential pressure gauge Magnéhélic	9040004796
10	Magnetic remote-control support <sup>(8)</sup>	0038354900
11	Switch box "Smart Welding Station/two welding heads" (without AVC/OSC)	0024480003
12	DAQbox (Data acquisition system) - Acquisition module, software on USB stick, measurement cable, USB cable <sup>(5)</sup>	0033249101
	Shock resistant suitcase for P3 UHP & accessories	62209810
	Wireless touchscreen controller with welding programming software (US version) <sup>(9)</sup>	0025000010

<sup>(5)</sup> Axis for data acquisition required (not delivered with the data acquisition system). See on page 11.

<sup>(6)</sup> for Spain, France, Portugal, Czech Republic, Tunisia

<sup>(7)</sup> for Germany, Austria, Denmark, Finland, Netherlands, Poland, Sweden, Switzerland



<sup>(8)</sup> can be used on a workbench or other magnetic metal but not on P3 UHP Smart Welding Station frame

<sup>(9)</sup> compatible with american market, power-plugs & plug

# Smart Welding Stations



## Technical data

		P4-4
Input Power - Voltage ( $\pm 10\%$ )		Single phase + Earth - 115 V / 230V
Input Power - Frequency		50/60Hz
Type of current source		Inverter
Open circuit voltage (rated values) (*)		<113V
Recommended generator power		5.5KVA
Insulation class		H
Protection class		IP 23 S
Condition of use - ambient air temperature		From $-10^{\circ}$ to $+40^{\circ}$ C
Welding current	Standard (steps of 1A)	5 to 170A - constant or pulsed (input power 230V) 5 to 130A - constant or pulsed (input power 115V)
	High precision (steps of 1/10A)	5 to 50A - constant or pulsed
Welding current precision		$\pm 1\%$ when $I > 100A$ and $\pm 1A$ when $I \leq 100A$
Duty cycle $40^{\circ}$ C	100%	110A (input power 230V) / 100A (input power 115V)
	40%	130A (input power 115V)
	25%	170A (input power 230V)
Motion controls		Torch rotation: constant or pulsed Wire feeding: constant or pulsed / automatic wire retract
Smart Welding Station cooling		Forced ventilation
Torch cooling unit with flow detection		Integrated
Display/recording		Arc voltage, welding current, electrode position in angular degrees, rotation and wire speed
Weld procedure data storage and transfer		USB memory stick / Network
Welding procedure library		200 programmes max.
Real time data acquisition		Internal PC memory
Dimensions LxWxH		630 x 320 x 500mm
Weight		29kg (with cooling water)
Standards		EN 60974- 1/ EN 60974-10

(\*) The real value  $U_0$  of each Smart Welding Station is indicated on the Smart Welding Station rating plate

1	P4-4 - Version with printer	0025049401
1	P4-4 - Version with wire feeder control and printer	0025049406

P4-4 delivered with	0025049401	0025049406
Cooling circuit with flow detection	✓	✓
Torch gas control with safety valve and flow detection	✓	✓
Adjustable electronic gas mass flowmeter with display on GUI (*)	✓	✓
USB-stick (saving, loading and archiving)	✓	✓
P4 Software package (for laptop)	✓	✓
Automatic welding head recognition	✓	✓
Manual torch adapter (Item no. 0023000901)	✓	✓
Printer	✓	✓
Torch rotation control	✓	✓
Wire feeder control		✓
Wi-Fi ready	✓	✓

### Options

2	Wireless touchscreen controller with welding programming software & user manual - optimised with rugged industrial case including security code lock, magnetic easy-grip and shoulder strap	0025000001	
	10.4" wired remote touchscreen for P3 UHP/P4/P6 with 2.5 m long bundle bundle with wifi dongle	0026119400	
3	Full-function remote control pendant for P3 UHP, P4 & P6 4 axes and 9 m long	0026149101	
	Earth cable 50 mm <sup>2</sup> for P4-P6-4 axes - 9 m long <sup>(1)</sup>	64599801	
	Second adjustable electronic gas mass flowmeter with display on GUI (*) (backing gas)	0025049410	
	Permanente gas for UHP, MW and TS 34-2 (integrated in the Smart Welding Station, this device enables to keep a low gas flow when the welding head is not welding to improve the gas protection during welding) <sup>(2)</sup>	0025049114	
	Axis for data acquisition <sup>(3)</sup>	0025041502	
	Rotation motor control kit for tacho welding heads from AMI, Orbitalum and others.	0025049117	
	Connection cable bundle including software configuration for AMI welding heads series 8 or 9 <sup>(4)</sup>	Water cooled	11330537
		Air cooled	11350539
	Connection cable bundle including software configuration with integrated rotation motor control for Swagelok/Cajon welding heads series 5, compatible with CWS-5H-B Model <sup>(4)</sup>	11330536	
	Connection cable bundle including software configuration with integrated rotation motor control for Swagelok welding heads SWS-5H-D15 Model <sup>(4)</sup>	0011330538	
	Connection cable bundle including software configuration for Orbitalum welding heads series 38S, 76S & 115S <sup>(4)</sup>	0023003100	
	ADDITIONAL 12 MONTHS WARRANTY - P4 SMART WELDING STATION Valid only one time for all Smart Welding Stations, provided they undergo calibration and inspection before the end of standard warranty, performed by an authorized Polysoude Service center	100100430	

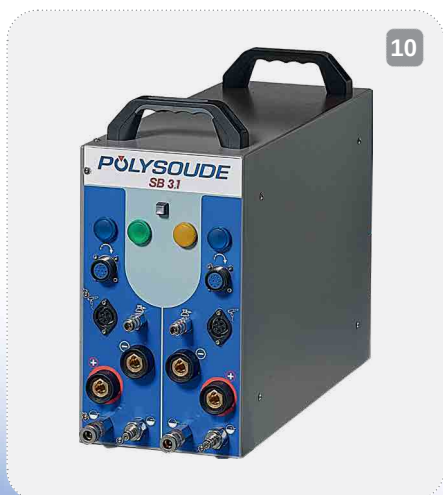
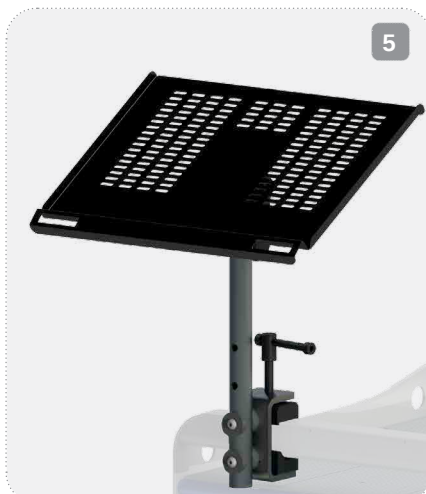
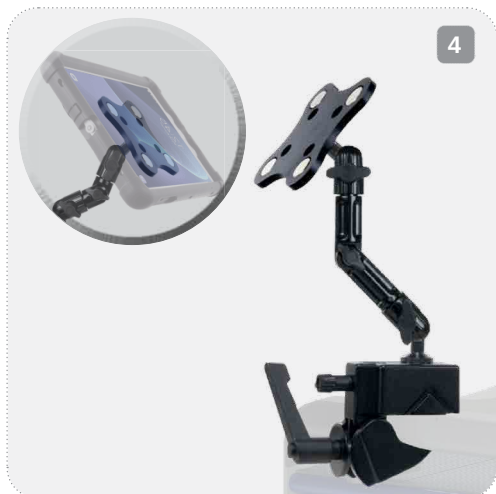
(1) must be ordered for all open-type or tube-to-tubesheet welding heads

(2) With this option, it is not possible to integrate the second gas option

(3) Equipment assembled in workshop only (Polysoude Nantes)

(4) must be used with 0025049117 (for previous P4 , P4-2 and P4-3, please ordered 0025049115 - See on page 139)

# Smart Welding Stations



## Extension cable options

15m extension cable for any kind of welding heads <sup>(5)</sup>	0018344500
15m extension cable for MW closed chamber welding heads without remote control cable <sup>(5)</sup>	0018343000
10m extension cable for MW closed chamber welding heads ( $I_{max}$ 125A) <sup>(5)</sup>	0018346300
15m extension cable for closed chamber welding heads <sup>(5)</sup>	0018344600

## Extension cable includes

Item no.	Rotation	Wire	Remote control	Fluid hoses	Welding current -	Welding current +	Manual torch
0018344500	✓	✓	✓	✓	✓ (50²)	✓ (50²)	✓
0018343000	✓			✓	✓ (50²)	✓ (50²)	✓
0018346300	✓			✓	✓ (25²)	✓ (25²)	✓
0018344600	✓		✓	✓	✓ (50²)	✓ (50²)	✓

<sup>(5)</sup> Only one extension cable (as well as the remote control extension cable) can be connected. For longer or specific cables, please contact us

## Accessories

	GUI programming software for P4 on USB stick	0025049001
	USB stick for OPC-UA activation - one per Smart Welding Station	0025009001
4	Adjustable magnetic support for wireless touchscreen controller on Smart Welding Stations & work bench	0025000002
5	Support for wired remote touchscreen or laptop	0038354401
	Gas hose (Argon) - Length: 4m	0025009102
	Pressure regulator Argon "France" <sup>(6)</sup> max. 10 bars	75501003
6	Pressure regulator Argon "Export" <sup>(7)</sup> max. 10 bars	71700927
	Pressure regulator Argon/Hydrogen max. 10 bars	71700917
7	Double flowmeter gas pressure regulator	100021873
	Manual water-cooled torch (8m) with quick release couplings and accessory box	75500532
8	Residual oxygen analyser	0038080800
	USB Extension cord for oxygen analyser up to 15m	9040006266
9	Magnetic remote-control support <sup>(8)</sup>	0038354900
10	Switch box "Smart Welding Station/two welding heads" (without AVC/OSC)	0024480003
11	Wireless digital barcode-scanner with cradle and USB cable	9040004704
12	DAQbox (Data acquisition system) - Acquisition module, software on USB stick, measurement cable, USB cable <sup>(5)</sup>	0033249101
	Wireless touchscreen controller with welding programming software (US version) <sup>(9)</sup>	0025000010
	Power cord for P3 (without plug)	0025109120
	Single gas-bottle trolley	9000629265

<sup>(6)</sup> for Spain, France, Portugal, Czech Republic, Tunisia

<sup>(7)</sup> for Germany, Austria, Denmark, Finland, Netherlands, Poland, Sweden, Switzerland

<sup>(8)</sup> can be used on a workbench or other magnetic metal but not on P4 Smart Welding Station frame



<sup>(9)</sup> compatible with american market, power-plugs & play



## Smart Welding Stations



### Technical data

	P6-4 CW - 4/6 axes	P6 HW - 6 axes
Input Power - Voltage 	Three-phase + Earth - 400V (± 10%) Option: multi-voltage kit - 200 to 480V	Three-phase + Earth - 400V (± 10%)
Input Power - Frequency	50/60Hz	50/60Hz
Type of current source	Inverter	
Open circuit voltage (rated value) <sup>(*)</sup>	100V	78V
Recommended generator power	14.5kVA	23kVA
Insulation class	F	
Protection class	IP 23S	IP 23S (closed touchscreen)
Condition of use - ambient air temperature	From -10° to +40°C	
Welding current	10 to 300 A - constant or pulsed	10 to 550 A - constant or pulsed
Welding current precision	± 1% when I > 100A and ± 1A when I ≤ 100A	
Duty cycle 40°C	100%	240A
	60%	≥ 300A
Duty cycle of wire heating source	100%	140A
Motion controls	Torch rotation: constant or pulsed Wire feeding: constant or pulsed/automatic wire retract AVC – Arc Voltage Control / OSC – Torch Oscillation (only for 6 axes)	
Additional function	Axis for data acquisition (option)	
Smart Welding Station cooling	Forced ventilation	
Torch cooling unit with flow detection	Cooling unit	External chiller
Display/recording (non-volatile) of real values during welding	Arc voltage, welding current, electrode position in angular degrees, rotation and wire speed	
Weld procedure data storage and transfer	USB memory stick / Network	
Dimensions LxWxH	630 x 470 x 795mm	1060 x 530 x 1145mm
	630 x 470 x 1110mm (with multi-voltage kit)	
Weight 	86 kg (without options)	170kg (with trolley, without options)
Standards	EN 60974- 1/ EN 60974-10	

(\*) The real value  $U_0$  of each Smart Welding Station is indicated on the Smart Welding Station rating plate

## ▶ P6 CW/HW

	P6-4 CW - 4 axes – Version with wire feeder control and printer	0025059401
1	P6-4 CW - 6 axes – Version with wire feeder control, printer and AVC/OSC	0025059406
2	P6 HW - 6 axes – Version with touchscreen, printer, remote control, AVC/OSC	0025069105
	P6 HW - 480 V ± 10%, 50/60 Hz – Version with touchscreen, printer, remote control, AVC/OSC - (Dedicated to North American market)	0025069115

P6 CW/HW delivered with	P6-4 CW - 4 axes	P6-4 CW - 6 axes	P6 HW - 6 axes
Torch rotation control	✓	✓	✓
Wire feeder control	✓	✓	✓
Arc voltage (AVC) & Oscillation controls (OSC)		✓	✓
On-board printer	✓	✓	✓
Touchscreen			✓
USB stick - saving, loading and archiving	✓	✓	✓
Manual torch adapter	✓	✓	✓
Torch cooling unit with flow detection	✓	✓	
9m earth cable			✓
Remote control pendant		(1)	✓
Integrated 140A source (100%) for wire heating			✓
Kit for one extra gas control with flow safety valve			✓
Third gas - opening/closing of the video filter			✓
Trolley			✓
Adjustable electronic gas mass flowmeter with display on GUI	✓	✓	
Wi-Fi ready	✓	✓	

(1) remote control pendant available as an option

# Smart Welding Stations





Options		P6-4 CW	P6 HW	
3	Wireless touchscreen controller with welding programming software & user manual - optimised with rugged industrial case including security code lock, magnetic easy-grip and shoulder strap	0025000001	-	
4	10.4" wired remote touchscreen for P3 UHP/P4/P6 with 2.5 m long bundle with Wi-Fi dongle	0026119400	-	
5	"Full Function" – remote control pendant P6 – 6 axes and 9m long bundle	0026169101	0026169101	
	Earth cable 50 mm <sup>2</sup> for P4, P6 4-axes - 9 m long <sup>(1)</sup>	64599801	-	
	Earth cable 70mm <sup>2</sup> for P6 6-axes with AVC Uarc cable, 9m long	64599807	-	
	Multi voltage kit, three-phase, 50/60Hz – 200 to 480V ± 10%	0025059113	-	
	Second adjustable electronic gas mass flowmeter with display on GUI <sup>(*)</sup> (backing gas)	0025051504	-	
	Kit for permanente gas flow	0025041414	-	
	Second cooling unit circuit	0025059115	-	
	Rotation motor control kit for tachy welding heads: AMI, Orbitalum & others.	0025049117	-	
	Connection cable bundle with software configuration for AMI welding heads series 8 or 9 <sup>(2)</sup>	Water cooled	11330537	-
		Air cooled	11330539	-
	Connection cable bundle with software configuration for Swagelok welding heads series 5 <sup>(2)</sup>	11330536	-	
	Connection cable bundle with software configuration for Orbitalum welding heads series 38S, 76S & 115S <sup>(2)</sup>	0023003100	-	
	Axis for data acquisition <sup>(3)</sup>	0025041502	0025069130	
	ADDITIONAL 12 MONTHS WARRANTY - P6 4 AXIS SMART WELDING STATION Valid only one time for all Smart Welding Stations, provided they undergo calibration and inspection before the end of standard warranty, performed by an authorized Polysoude Service center	100100431		
	ADDITIONAL 12 MONTHS WARRANTY - P6 6 AXIS SMART WELDING STATION Valid only one time for all Smart Welding Stations, provided they undergo calibration and inspection before the end of standard warranty, performed by an authorized Polysoude Service center	100100432		
	ADDITIONAL 12 MONTHS WARRANTY - P6 HW SMART WELDING STATION Valid only one time for all Smart Welding Stations, provided they undergo calibration and inspection before the end of standard warranty, performed by an authorized Polysoude Service center	100100433		

(1) must be ordered for all open-type or tube-to-tubesheet welding heads

(2) must be used with 0025049117. See on page 21

(3) equipment assembled in workshop only (Polysoude Nantes)

# Smart Welding Stations

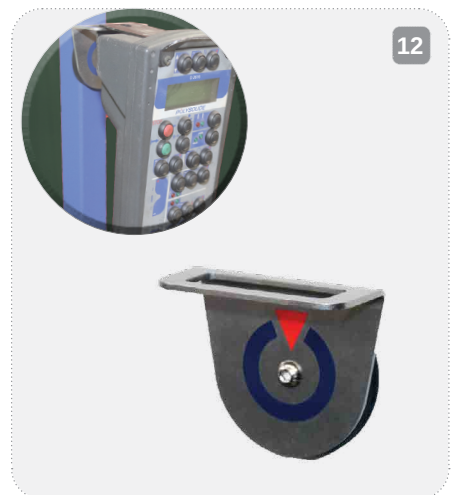
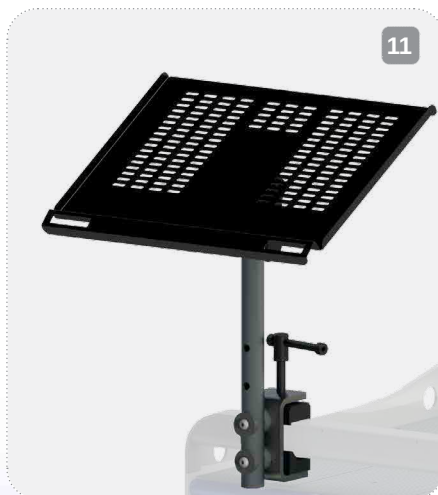
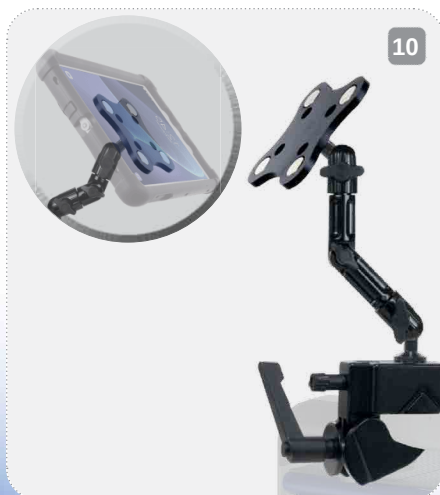
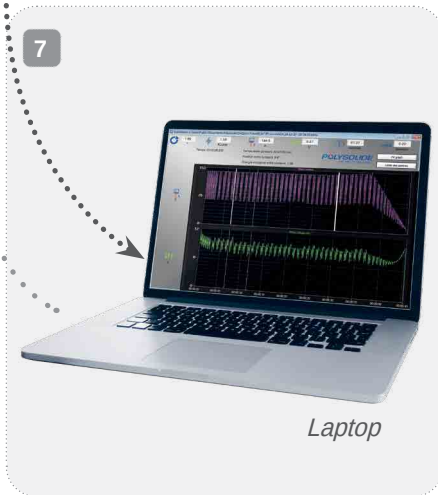
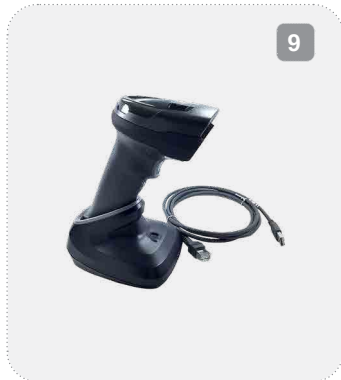
## Data acquisition system



Rear connector panel of the  
Smart Welding Station



Possibility to connect  
a printer if needed



(3) Axis for data acquisition required (not delivered with the data acquisition system). See on page 21.

(4) Can be used on a workbench or trolley or other magnetic metal but not on P6 Smart Welding Station frame

Cable bundle options	P6-4 CW	P6 HW
15m cable bundle for MU IV and TS 34 <sup>(2)</sup>	0018346400	-
15m cable bundle for MU IV CW without AVC/OSC <sup>(2)</sup>	0018346500	-
15m cable bundle for MU IV CW AVC/OSC, TS 8/75, POLYCAR 60-2 CW <sup>(2)</sup>	0018345300	-
15m cable bundle for MU IV HW AVC/OSC and POLYCAR 60-2 HW <sup>(2)</sup>	-	0018345900
15m cable bundle for the POLYCAR MP	-	0018346000
15m extension mass cable with arc voltage cable return 120mm <sup>2</sup> + 50mm <sup>2</sup> (for TIG HW)	-	0018342300

Cable bundle includes										
Item no.	Rotation	Wire	AVC/OSC	Remote control	Uarc	Fluid hoses	Welding current -	Welding current +	Hot wire	Manual torch
0018346400	✓			✓		✓	✓ (70 <sup>2</sup> )	✓ (70 <sup>2</sup> )		✓
0018346500	✓	✓		✓		✓	✓ (70 <sup>2</sup> )	✓ (70 <sup>2</sup> )		✓
0018345300	✓	✓	✓	✓	✓	✓	✓ (70 <sup>2</sup> )	✓ (70 <sup>2</sup> )		
0018345900	✓	✓	✓	✓	✓	✓	✓ (120 <sup>2</sup> )	✓ (120 <sup>2</sup> )	✓ (50 <sup>2</sup> )	
0018346000	✓	✓	✓	✓						
0018342300					✓		✓ (120 <sup>2</sup> )		✓ (50 <sup>2</sup> )	

<sup>(2)</sup> Only one extension cable (as well as the remote control extension cable) can be connected. For longer or specific cables, please contact us.

Accessories		P6-4 CW	P6 HW
	GUI programming software for P6 CW or HW on USB stick	0025009000	0025009000
	USB stick for OPC-UA activation - one per Smart Welding Station	0025009001	0025009001
	Gas hose (Argon) - Length: 4m	0025009102	0025009102
	Trolley with double bottle holder	0020421001	-
	Water cooled manual torch (8m) with quick couplings and accessories box	75500532	-
8	Residual oxygen analyser	0038080800	0038080800
	Modification kit cooling circuit connector to adapt a former welding head (MU III, TP, TS, POLYCAR CW)	15545405	-
	Modification kit gas connector to adapt a former welding head (MU III, TP, TS, POLYCAR CW)	15545406	-
	Y-Adaptor with 37 pins AVC/OSC for P6 (enables to connect cross slides with two connectors or Polycar MP)	11330902	11330902
6	DAQbox (Data acquisition system) - Acquisition module, software on USB stick, measurement cable, USB cable <sup>(3)</sup>	0033249101	0033249101
	Laptop for DAQbox– Windows® & keyboard (AZERTY) in French	00623666	00623666
7	Laptop for DAQbox– Windows® & keyboard (QWERTY) in English	100000741	100000741
	Laptop for DAQbox– Windows® & keyboard (QWERTZ) in German	100002173	100002173
9	Wireless digital barcode-scanner with cradle and USB cable	9040004704	9040004704
10	Adjustable magnetic support for wireless touchscreen controller on Smart Welding Stations & work bench (only for P6-4 version)	0025000002	-
11	Support for wired remote touchscreen or laptop	0038354401	0038354401
12	Magnetic remote-control support <sup>(4)</sup>	0038354900	0038354900

# Smart Welding Stations



Accessories: pressure regulator	P6-4 CW 13	P6 HW 14
Pressure regulator and flow meter Argon "France" <sup>(4)</sup>	75501003 max. 10 bars	75501002 max. 16L/min
Pressure regulator and flow meter Argon "Export" <sup>(5)</sup>	71700927 max. 10 bars	71701418 max. 16L/min
Pressure regulator and flow meter Argon "France" <sup>(4)</sup>	-	100074295 max. 30L/min
Pressure regulator and flow meter Argon/Hydrogen	71700917 max. 10 bars	71701421

Accessories: cooling unit	P6-4 CW	P6 HW
15 External water cooling unit ACW25 230 V AC 50/60HZ <sup>(6) (7)</sup>	-	0014750012
Water flow control kit requested when using MU, TS and MW welding heads <sup>(8)</sup>	-	0030050001

Consumables	P6-4 CW	P6 HW
Paper roll for printer (Minimum order quantity: 10 rolls – unit price)	9000590068	9000590068

(4) For Spain, France, Portugal, Czech Republic, Tunisia

(5) For Germany, Austria, Denmark, Finland, Netherlands, Poland, Sweden, Switzerland

(6) Compulsory cooling unit to be ordered for P6 HW

(7) Working limits ambient temperature: from +10°C to +40°C

(8) The water flow control kit is compulsory when the P6 HW is used with MU, TS ou MW welding heads to protect the welding head bundle.  
Pressure is limited to 3 bars

# Smart Welding Stations



## Technical data

PC-2 AC/DC + external Smart Welding Station TETRIX 351

Input power - Voltage		230 V ( $\pm 10\%$ ) Single phase	PC-2
		400 V ( $\pm 15\%$ ) Three phase	TETRIX
		480V (Available)	
Input power - Frequency		50 or 60 Hz	
Open circuit voltage (rated value)		100V	
Recommended generator power		21 kVA three phase	TETRIX
Type of current source		Inverter	
Insulation class		F	
Protection class		IP 23S	
Condition of use - ambient air temperature		From $-10^{\circ}$ to $+40^{\circ}\text{C}$	
Welding current		5 to 350A	
Welding current precision		$\pm 1\%$ when $I > 100\text{A}$ and $\pm A$ when $I \leq 100\text{A}$	
Duty cycle	100 %	300A(DC) / 150A(AC)	
PC-2 @ $40^{\circ}\text{C}$	60 %	350A(DC) / 240A(AC)	
	25 %	350A(DC) / 240A(AC)	
Duty cycle	100 %	350 A	
TETRIX 351 @ $40^{\circ}\text{C}$	60 %	300 A	
Additional function		Axis for data acquisition (option)	
Smart Welding Station cooling		Forced ventilation	
Torch cooling unit		External: cooler included in the Tetrrix 351	
Display/recording (non-volatile) of real values during welding		Via the remote control display Via the computer screen	
Weld procedure data storage and transfer		USB memory stick / Network	
Dimensions LxWxH - Smart Welding Station		Without support feet: 1054x702x1051mm with support feet: 1054x702x1211mm	
Dimensions LxWxH - Tetrrix Source		1100x455 x950mm	
Weight		< 200 Tetrrix: 144	
Standards		EN 60974-1 EN 60974-10	



## ▶ PC-2

PC-2 AC/DC- Orbital Smart Welding Station - 50/60Hz

0025080002

1

PC-2 AC/DC- Orbital Smart Welding Station - 50/60Hz – 480V  
(Dedicated North American market)

On request






### PC-2 delivered with

	PC-2 AC/DC + external Smart Welding Station TETRIX 351
Remote control pendant extended model - 0028315009	✓
External cooling circuit - 0025080902	✓
Wire axis - 0041520000	✓
TETRIX AC/DC Smart Welding Station	✓
Earth cable	✓ (15 m)
Torch gas control with flow meter and safety valve	✓
Gas kit (with digital flow meter and security)	✓
Mounted stands <sup>(1)</sup>	✓
Rotation axis for PC-2 - 0041510000	optionnal
Wheel set - 0025081002	optionnal

#### When ordering a PC Smart Welding Station, please specify its item number and, if required:

- The language of the laptop
- AVC axis
- Oscillation axis
- External cooling unit for PC-2 HW. See "Accessories: cooling unit" table to order it on page 31
- The frequency of the power supply

## Smart Welding Stations

Axis card options		
	AVC function axis (with electronic brake control) <sup>(4)</sup>	0041530000
	Oscillation function axis (with electronic brake control) <sup>(4)</sup>	0041540000
	Control of 3 external axes / 12 inputs / 16 outputs <sup>(4)</sup>	0041550000
	Measurement card 13 channels <sup>(4)</sup> for recorder and data acquisition system (front side)	0041570000
	Rotation axis for PC-2	0041510000

Extension cable options	
15m extension cable <sup>(5)</sup> - without AVC/OSC	75500969
15m extension cable for MU IV CW AVC/OSC, TS 8/75, POLYCAR 60-2 CW <sup>(5)</sup>	0018341900
15m extension cable for POLYCAR 60-2 HW <sup>(5)</sup> - Control cables	0033849000
15m extension cable for POLYCAR 60-2 HW <sup>(5)</sup> - Power supply cables and fluids hoses	0033849100
15m extension mass cable with arc voltage cable return 120mm <sup>2</sup> + 50mm <sup>2</sup> (for TIG HW)	0018342300
15m extension cable for POLYCAR MP TIG CW (70mm <sup>2</sup> ) <sup>(5)</sup>	0018342000
15m extension cable for POLYCAR MP TIG HW (120mm <sup>2</sup> + 50mm <sup>2</sup> ) <sup>(5)</sup>	0018342100

Extension cable includes										
Item no.	Rotation	Wire	AVC/ OSC	Remote control	Uarc	Fluid hoses	Welding current -	Welding current +	Hot wire	Manual torch
75500969	✓	✓		✓		✓	✓ (70 <sup>2</sup> )	✓ (70 <sup>2</sup> )		✓
0018341900	✓	✓	✓	✓		✓	✓ (70 <sup>2</sup> )			✓
0033849000	✓	✓	✓	✓						
0033849100					✓	✓	✓ (120 <sup>2</sup> )	✓ (120 <sup>2</sup> )	✓ (50 <sup>2</sup> )	
0018342300					✓		✓ (120 <sup>2</sup> )		✓ (50 <sup>2</sup> )	
0018342000	✓	✓	✓	✓		✓	✓ (70 <sup>2</sup> )			
0018342100	✓	✓	✓	✓		✓	✓ (120 <sup>2</sup> )		✓ (50 <sup>2</sup> )	

<sup>(4)</sup> A limited number of options can be installed on standard Smart Welding Stations; 8 axes are available

<sup>(5)</sup> Only one extension cable (as well as the remote control extension cable) can be connected. For longer or specific cables, please contact us.



## Gas options

		0-10 L/min For Plasma	0-50 L/min	0-40 L/min
		Programmable mass flow meter		Manually adjustable flow meter & security
1	Kit for torch gas	0025080658	0025080655	0025080650
2	Kit for Bigas (2 <sup>nd</sup> torch gas)	-	0025080656	0025080652
 or 	Kit for one extra gas <sup>(6)</sup>	0025080659	0025080657	0025080654

(6) The kit for one extra gas can only be ordered in the case of an existing kit for torch gas.

The PC Smart Welding Stations are delivered in standard version with a torch gas control, with manually adjustable flowmeter.

# Smart Welding Stations

## Data acquisition system

5

Acquisition module  
0033240301

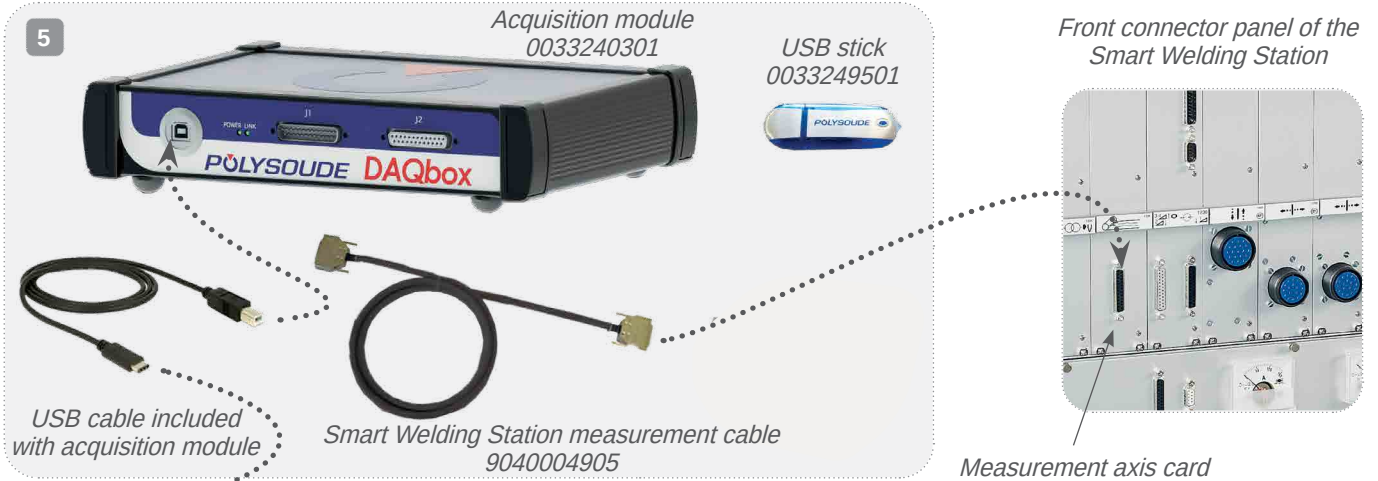
USB stick  
0033249501

Front connector panel of the  
Smart Welding Station

USB cable included  
with acquisition module

Smart Welding Station measurement cable  
9040004905

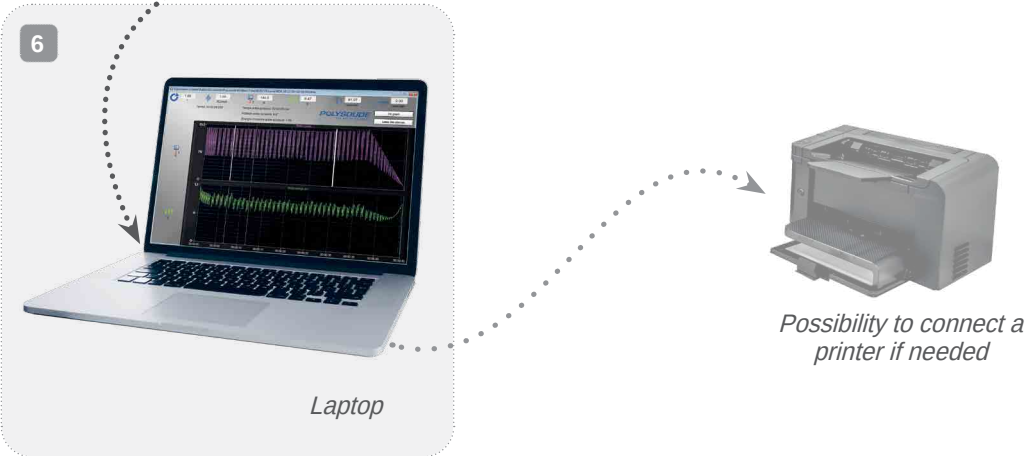
Measurement axis card  
Item no. 0041570000

Detailed description: This diagram shows the hardware for data acquisition. It includes a black and blue 'POLYSOUDE DAQbox' acquisition module with ports labeled J1 and J2. A blue USB stick is shown next to it. Two cables are depicted: a standard USB cable and a 'Smart Welding Station measurement cable' with a circular loop. A dotted line connects the measurement cable to the 'Front connector panel of the Smart Welding Station', which features a 'Measurement axis card' with various connectors and blue circular ports.

6

Laptop

Possibility to connect a  
printer if needed

Detailed description: This diagram illustrates the software and output capabilities. A laptop is shown with a software interface displaying two graphs: a purple waveform and a green waveform. A dotted arrow points from the laptop to a grey printer, with the text 'Possibility to connect a printer if needed' below it.

## Other options

POWin software on USB stick. Languages: French, English, German. Consult us for other languages	0017769001
Split connector for the connection to the PC Smart Welding Station of a head with a single connector (37 pins) including AVC (19 pins) and OSC (17 pins) (included in AVC axis 1758 0001)	11330901
PC Software kit and serial link for PC Tetrax AC/DC configuration	9000629229
Wheel set option	0025081002
<b>ADDITIONAL 12 MONTHS WARRANTY - PC-2 CW SMART WELDING STATION</b> Valid only one time for all Smart Welding Stations, provided they undergo calibration and inspection before the end of standard warranty, performed by an authorized Polysoude Service center	100100434
<b>ADDITIONAL 12 MONTHS WARRANTY - PC-2 HW SMART WELDING STATION</b> Valid only one time for all Smart Welding Stations, provided they undergo calibration and inspection before the end of standard warranty, performed by an authorized Polysoude Service center	100100435
<b>ADDITIONAL 12 MONTHS WARRANTY - PC-2 ACDC SMART WELDING STATION</b> Valid only one time for all Smart Welding Stations, provided they undergo calibration and inspection before the end of standard warranty, performed by an authorized Polysoude Service center	100100438
<b>ADDITIONAL 12 MONTHS WARRANTY - PC-2 PLASMA SMART WELDING STATION</b> Valid only one time for all Smart Welding Stations, provided they undergo calibration and inspection before the end of standard warranty, performed by an authorized Polysoude Service center	100100439

## Accessories: Laptop & data acquisition

Laptop Windows® & Keyboard in English (with POWin software) <sup>(8)</sup>	0000623706
Laptop Windows® & Keyboard in French (with POWin software) <sup>(8)</sup>	0000623705
Laptop Windows® & Keyboard in German (with POWin software) <sup>(8)</sup>	0000623707
<b>5</b> DAQbox (Data acquisition system) - Acquisition module, software on USB stick, measurement cable, USB cable <sup>(9)</sup>	0033249101
Laptop for DAQbox– Windows® & keyboard (AZERTY) in French	00623666
<b>6</b> Laptop for DAQbox– Windows® & keyboard (QWERTY) in English	100000741
Laptop for DAQbox– Windows® & keyboard (QWERTZ) in German	100002173
<b>7</b> Magnetic remote-control support	0038354900

## Smart Welding Stations



### Accessories: cooling unit

8	External refrigerating unit ACW25 230 V AC 50/60HZ <sup>(10)</sup>	0014750012
	External coolant chiller unit ACW25 150 V AC 60HZ only (Dedicated to North American market)	On request
	Water flow control kit requested when using MU, TS and MW welding heads <sup>(11)</sup> (PC 600-3)	0030050001
	Modification kit cooling circuit connector to adapt a former welding head (MU III, TP, TS, POLYCAR CW)	15545405
	Modification kit gas connector to adapt a former welding head (MU III, TP, TS, POLYCAR CW)	15545406

(8) NOTE: In After Sales service, before ordering a laptop with POWIN, contact our Service Department to check the compatibility with the EPROM version of the Smart Welding Station.

(9) Axis for data acquisition required (not delivered with the data acquisition system).

(10) Working limits ambient temperature: from +10°C to +40°C

(11) The water flow control kit (item no. 0030050001) is compulsory when the PC-2 HW is used with MU, TS ou MW welding heads to protect the welding head bundle. Pressure is limited to 3 bars

### Accessories: pressure regulator

9	Pressure regulator Argon "France" <sup>(13)</sup> Max. 10 bars	75501003
	Pressure regulator Argon "Export" <sup>(14)</sup> Max. 10 bars	71700927
	Pressure regulator Argon/Hydrogen	71700917
	Argon gas tube for flow meter 0-40L/min	00600530
	Gas hose (Argon) - Length: 4 m	70101801

### Accessories: double earth cable

	Double earth cable (300A) - Length: 4 m	0018684500
	Double earth cable (550A) - Length: 4 m	0018683100

(13) For Spain, France, Portugal, Czech Republic, Tunisia

(14) For Germany, Austria, Denmark, Finland, Netherlands, Poland, Sweden, Switzerland

## ► Switch box



This equipment can **only** be used with Polysoude P3 UHP or P4 Smart Welding Stations and welding heads below.

The control pendant of the Smart Welding Station is connected to the Smart Welding Station itself (P3 UHP, P4 all versions).

### 1 Switch box - One Smart Welding Station to use two welding heads <sup>(1)</sup>

0024480003

The switch box can be used with manual torches and:

#### Mode of use 1

When the first welding head is welding, the second one can be moved using the control buttons on the welding head

	P3 UHP / P4
UHP 625	✓ <sup>(2)</sup>
MW	✓ <sup>(2)</sup>
TS 34 & TS 34-2	✓ <sup>(2)</sup>
TS 8/75 (all versions)	✓ <sup>(2)</sup>

#### Mode of use 2

When the first welding head is welding, the second one cannot be moved using the control buttons on the welding head

	P3 UHP / P4
UHP 250 & 500 & 1500	✓ <sup>(2)</sup>
MU (without wire feeder)	✓ <sup>(2)</sup>
TS 25	✓ <sup>(2)</sup>
TS 2000 (without wire feeder)	✓ <sup>(2)</sup>

#### Mode of use 3

Only one welding head can use a wire feeder, because the wire feeder is connected directly onto the Smart Welding Station.

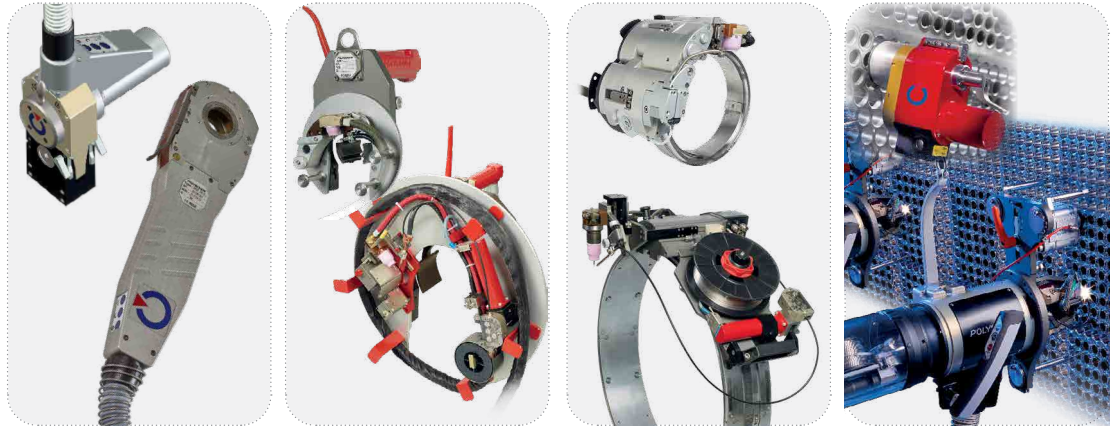
	P4
Polyfil-3	✓
Polyfil compact	✓
On-board wire feeder	✓

(1) Compatible with Polysoude PS 164-2 Smart Welding Stations and welding heads mentioned above. The control pendant of the Smart Welding Station is directly connected to the switch box

(2) Without automatic switch of programs between the two welding heads

# Equipment for orbital welding applications

## Range of welding heads

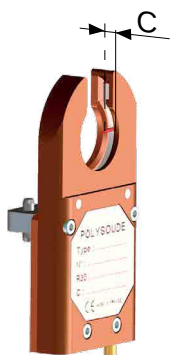


	Closed chamber welding heads	Open welding heads	Carriage-type welding heads	Tube-to-tubesheet welding heads
	UHP - MW	MU IV	POLYCAR	TS
Process	<b>TIG</b>	<b>TIG</b> <b>TIG<sub>CW</sub></b> <b>TIG<sub>HW</sub></b>	<b>TIG<sub>CW</sub></b> <b>TIG<sub>HW</sub></b>	<b>TIG</b> <b>TIG<sub>CW</sub></b>
	Precision welding in high purity industries	With or without filler wire, AVC and OSC	The most versatile torch carrier	The result of 60 years of continuous improvement
Diameter range <sup>(*)</sup> :	1.6 mm to 168.3 mm	8 mm to 275 mm	From 32 mm	8 mm to 75 mm
Equipped with:				
Wire feeder	-	With or without <sup>(*)</sup>	✓	With or without <sup>(*)</sup>
AVC	-	With or without <sup>(*)</sup>	✓	✓
OSC	-	With or without <sup>(*)</sup>	✓	-

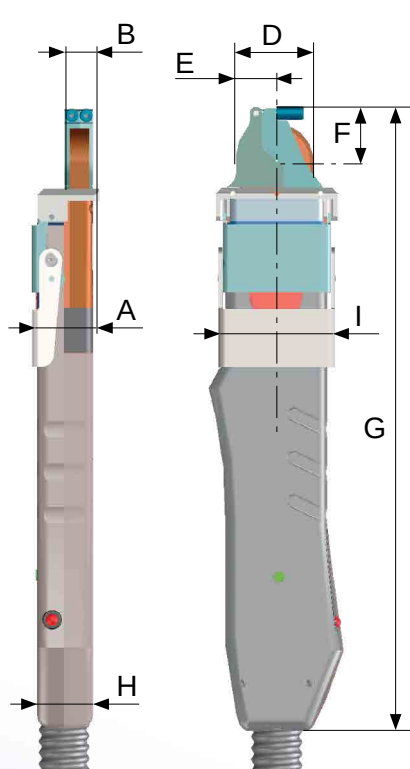
(\*) according to the welding head model



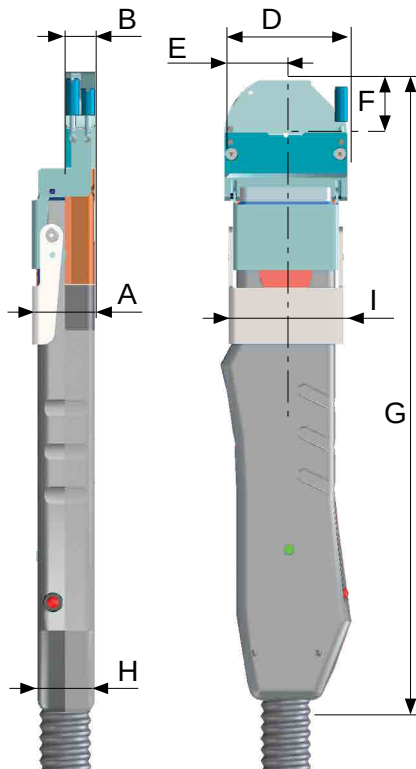
# Closed chamber welding heads



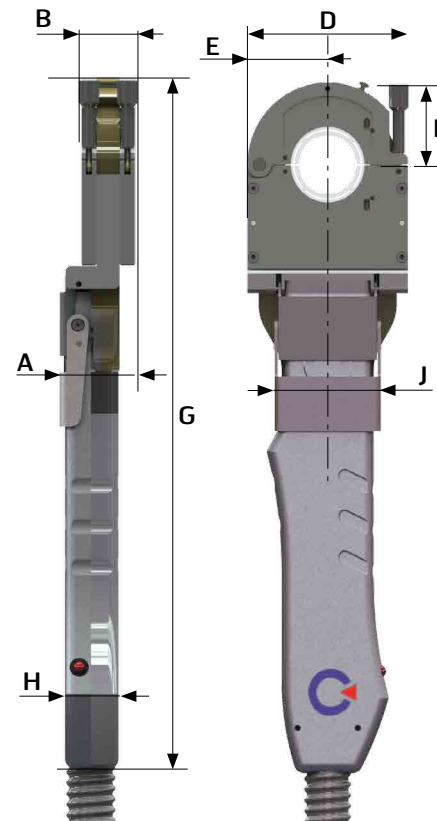
**QUICK CHANGE HANDLE**  
Easily switch between interchangeable UHP 250, 500 & 1000



UHP 250-2



UHP 500-3



UHP 1000



### UHP 250 & UHP 500 welding heads


1	UHP 250-2 (handle + drive module) – for tube O.D. 1.6 to 6.35 mm (1/16" to 1/4")	0018319801
2	UHP 500-3 (handle + drive module) – for tube O.D. 3 to 12.7 mm (1/8" to 1/2")	0018319903
3	UHP 1000 (handle + drive module) - for tube O.D. 6.35 to 25.4 mm (1/4" to 1")	0018319601

delivered with	UHP 250-2	UHP 500-3	UHP 1000
Container for safety packing and transport	✓	✓	✓
5.5m hose cable	✓	✓	✓
Consumable & tool box	✓	✓	✓

Note: we strongly recommend that you order a complete welding head (handle, drive module and clamping cassette) per model

To be ordered separatly		UHP 250-2	UHP 500-3	UHP 1000
Tools	Cassettes <sup>(1)</sup>	✓	✓	
	TClIs <sup>(2)</sup>			✓

### Technical data

Technical data		UHP 250-2	UHP 500-3	UHP 1000
Welding process		<b>TIG</b>		
Compatible with Smart Welding Stations		P3 UHP - P4 - P6 CW		
O.D. tube range		1.60 to 6.35 mm	3.00 to 12.70 mm	6.35 to 25.4 mm
Duty cycle	100%	18A	32A	TBD
	60%	50A	50A	TBD
Torch cooling system		air-cooled		
Welding speed range	for O.D. min.	20 to 285 mm/min	15 to 190 mm/min	13 to 272 mm/min
	for O.D. max.	70 to 1140 mm/min	55 to 800 mm/min	50 to 1091 mm/min
Weight		3.6 kg	3.8 kg	4.5 kg

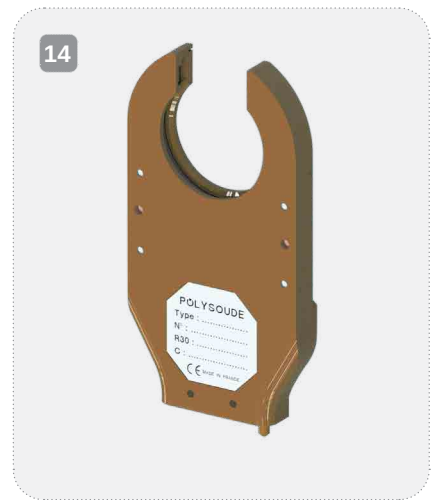
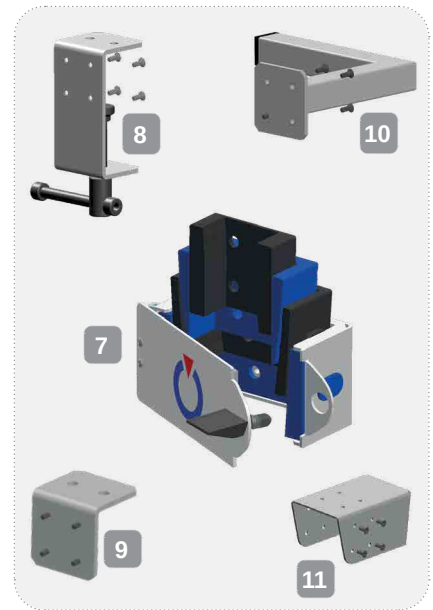
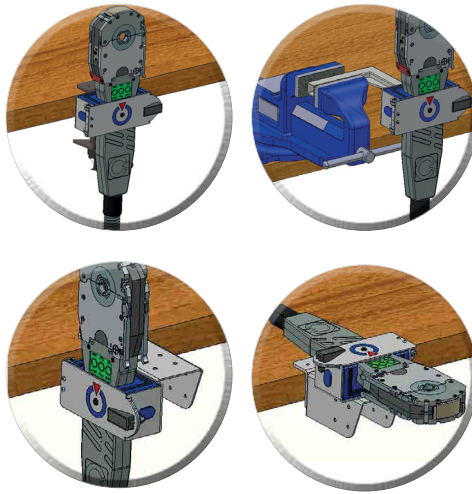
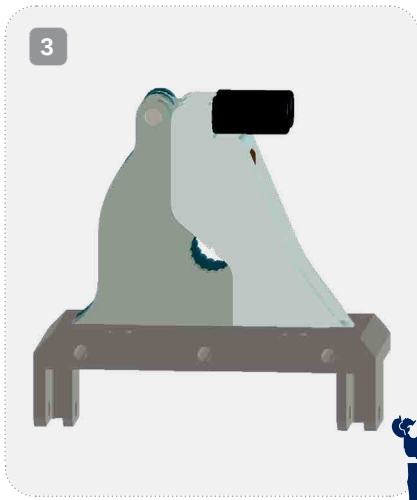
### UHP dimensions in mm

	UHP 250-2	UHP 500-3	UHP 1000
A	27.8	25.4	33
B	11.9	12	26
C	5.6	5.7	4.95
D	31.6	51.3	72.3
E	16.5	25.7	36
F	22.3	23	36.4
G	257	261	302
H	23	23	23
I	44.5	44.5	44.5

(1) To order clamping cassettes according to the diameters of the tubes (UHP 250-2 and 500-3), see table on 40

(2) To order TClIs according to the diameters of the tubes (UHP1000), see table on 41

# Closed chamber welding heads



## Accessories

3	Clamping cassette for one tube O.D. UHP 250-2 - see table herefater	00183108xx
4	Clamping cassette for one tube O.D. UHP 500-3 - see table herefater	00183109xx
5	Clamping device for UHP 1000 - TCI needed, see table herefater	0018311100
	Shunt for water circuit <sup>(1)</sup>	0014905100

(1) For PS 164 (up to serial no. 0389159) and P4/P6 (up to software version 2.4.9.) Smart Welding Stations, a water shunt must be ordered to close the torch cooling circuit.

## Accessories: Supports

6	Full-set of supports for UHP-MW welding heads	0038080004
7	Support with shims for UHP-MW welding heads	0038080111
8	Quick-release clamp <sup>(2)</sup>	0038080600
9	Screw-mounting bracket <sup>(2)</sup>	0038080500
10	Bracket for bench vice <sup>(2)</sup>	0038080400
11	Intermediate positioning hanger <sup>(3)</sup>	0038080700
	Hanging cable bundle sleeve	0038080003

(2) At least one of those clamps (8, 9, 10) must be ordered to use the support with shims 7

(3) The intermediate positioning hanger is compatible with 8, 9, 10

## Options (individual components)

12	Module UHP 250-2	0018310201
13	Module UHP 500-3	0039160301
14	Module UHP 1000	0039161000

**When ordering an UHP 250-2, UHP 500-3 or UHP 1000 welding head, please specify its item number and, if required:**

- the clamping cassettes or TCIs corresponding to the tube diameters
- the shunt of the water circuit <sup>(1)</sup>.

## Consumables: electrode

	Sharpened electrodes, cut to suitable length (delivered in a set of 50 identical pieces) <sup>(4)</sup>	EXXX
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(4) Complete reference list available pages n°132 to 135

## Closed chamber welding heads

### Cassettes for UHP 250-2 or UHP 500-3 welding heads

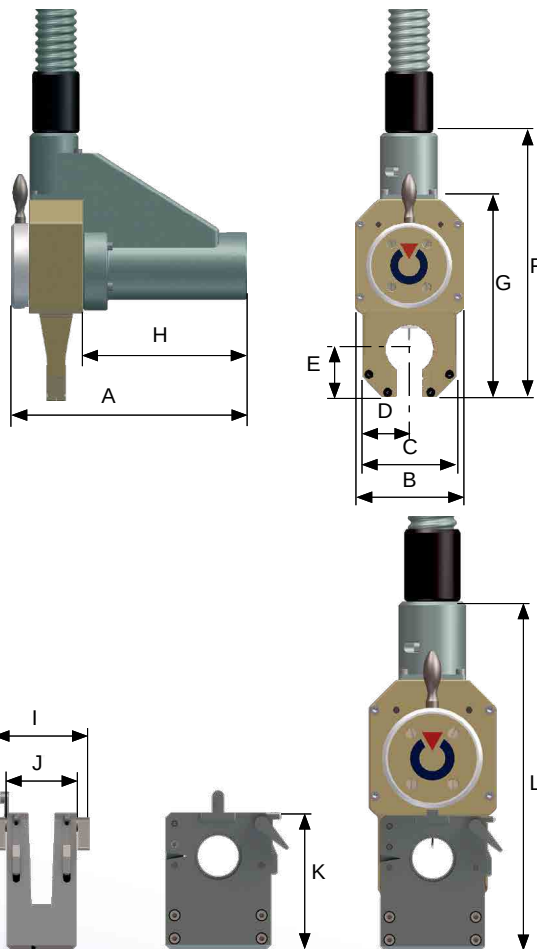
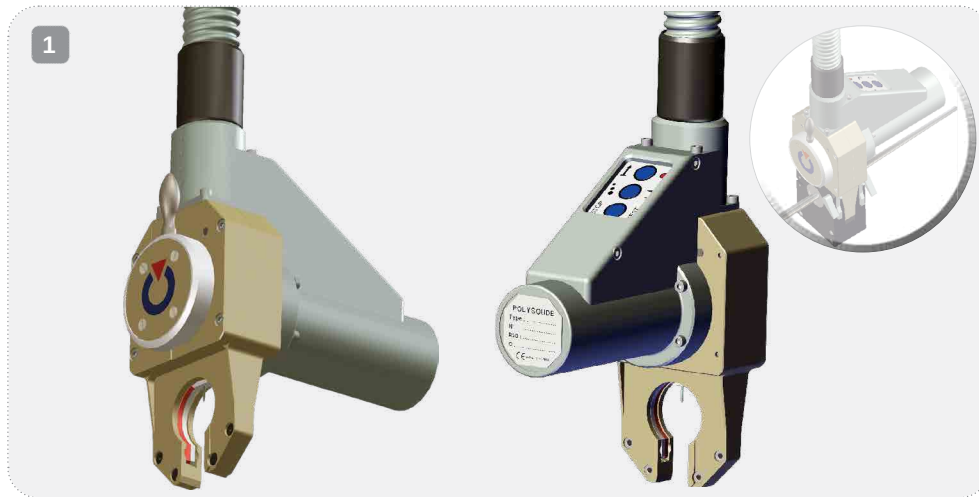
Tube - O.D. (mm)	UHP 250-2 cassette	Tube - O.D (mm)	UHP 500-3 cassette	Tube - O.D (mm)	UHP 500-3 cassette
2.00	0018310890	3.00	0018310990	7.5	0018310959
2.27	0018310886	3.17 (1/8")	0018310995	7.9	0018310980
2.5	0018310885	3.2	0018310984	8.00	0018310991
3.00	0018310891	3.5	0018310969	8.5	0018310966
3.17 (1/8")	0018310897	4.00	0018310989	9.00	0018310983
3.2	0018310889	4.2	0018310962	9.2	0018310957
4.00	0018310892	4.4	0018310985	9.52 (3/8")	0018310998
4.4	0018310888	4.5	0018310981	10.00	0018310994
4.76	0018310896	4.76	0018310996	10.5	0018310965
5.00	0018310893	4.9	0018310963	10.75	0018310968
5.4	0018310883	5.00	0018310987	10.85	0018310979
6.00	0018310895	5.5	0018310958	11.00	0018310960
6.35 (1/4")	0018310894	6.00	0018310993	11.5	0018310982
		6.35 (1/4")	0018310997	12.00	0018310992
		6.5	0018310988	12.5	0018310964
		7	0018310967	12.70 (1/2")	0018310999

## TCIs for UHP 1000 welding heads

Tube - O.D. (mm)	UHP 1000 TCIs
6	0039160891
6.35 (1/4")	0039160898
9.525 (3/8")	0039160894
10	0039160890
12.7 (1/2")	0039160897
13	0039160889
15.875 (5/8")	0039160893
17.2	0039160887
19.05 (3/4")	0039160896
23	0039160888
25.4 (1")	0039160895
22.225 -7/8")	0039160892



# Closed chamber welding heads






## UHP 625 welding heads

1	UHP 625 welding head – for tube O.D. 3 to 17.3 mm (1/8" to 11/16") - 5 m hose-cable bundle	0034410003
1	UHP 625 welding head – for tube O.D. 3 to 17.3 mm (1/8" to 11/16") - 11 m hose-cable bundle	0034410002

UHP 625 delivered with	0034410003	0034410002
Container for safety packing and transport	✓	✓
Hose-cable bundle	✓ 5 m	✓ 11 m
Consumable & tool box	✓	✓

## Technical data

		UHP 625
Welding process		<b>TIG</b>
Compatible with Smart Welding Stations		P3 UHP - P4
O.D. tube range		3.00 to 17.3 mm
Duty cycle	50%	55A
	35%	70A
Torch cooling system		air-cooled
Welding speed range	for O.D. min. for O.D. max.	50 to 200 mm/min
Weight (without bundle)		4,5 kg

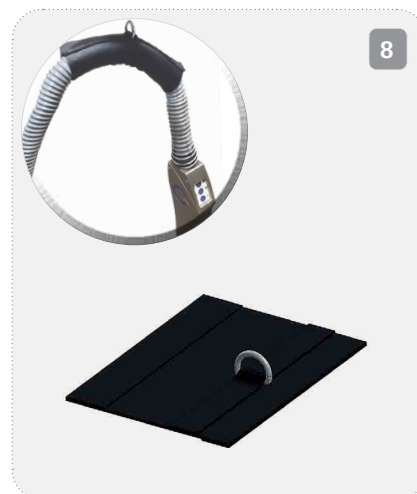
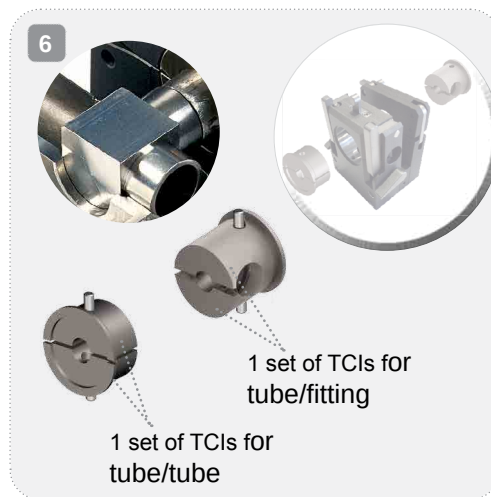
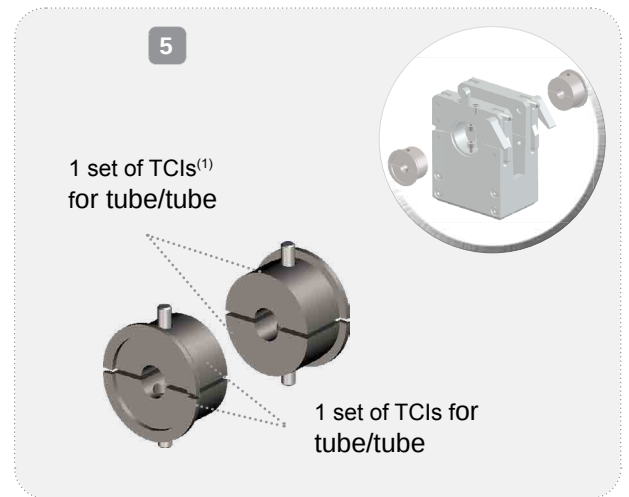
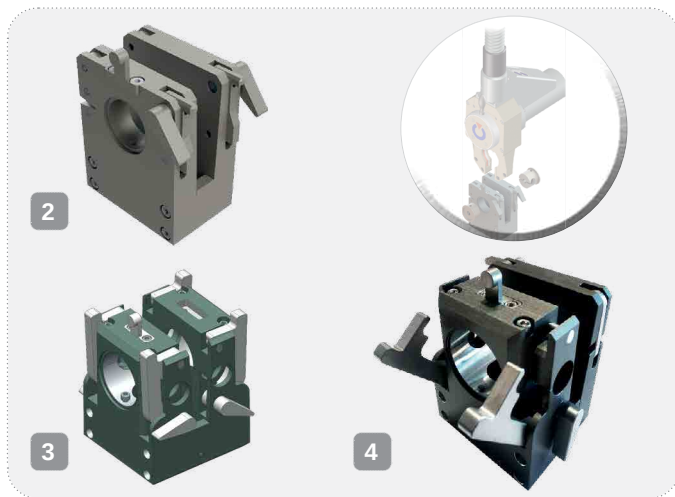
## UHP 625 welding head dimensions in mm

UHP 625			
A	153	E	33.5
B	70	F	214
C	60	G	131
D	30	H	106

## UHP 625 fixture-block dimensions in mm

Fixture blocks			
I	52.5	K	75
J	38	L	232

## Closed chamber welding heads



## Accessories

2	Fixture-block for UHP 625 without TCIs - tube/tube welding	0039580001
3	Fixture-block for UHP 625 without TCIs - tube/fitting welding	0039580002
4	Fixture-block for UHP 625 without TCIs - fitting/fitting welding	0039580003
5	Set of TCIs for tube/tube welding - reference according to O.D. (in)	00344147XX
	Set of TCIs for tube/tube welding - reference according to O.D. (mm)	00344148XX
6	Set of TCIs for tube/fitting welding - reference according to fitting dimensions	00344146XX
7	UHP 625 support for workbench	0034410802
8	Hanging cable bundle sleeve	0038080003

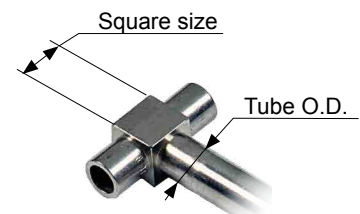
**Note:** to complete the UHP 625 welding head, 2 sets of TCIs per O.D. are required

### Set of TCIs for UHP 625 welding heads - Tube/tube welding

Tube - O.D. in (mm)	UHP 625 TCIs	Tube - O.D. mm	UHP 625 TCIs	Tube - O.D. mm	UHP 625 TCIs
1/8 (3.18)	0034414702	3	0034414803	11	0034414811
3/16 (4.76)	0034414703	4	0034414804	12	0034414812
1/4 (6.35)	0034414704	5	0034414805	13.5	0034414818
5/16 (7.94)	0034414705	6	0034414806	14	0034414814
3/8 (9.52)	0034414706	8	0034414808	15	0034414815
1/2 (12.7)	0034414708	8.8	0034414819	16	0034414816
9/16 (14.29)	0034414709	9	0034414809	17.2	0034414817
5/8 (15.88)	0034414710	10	0034414810		

### Set of TCIs for UHP 625 welding heads - Tube/Fitting welding

Tube - O.D. in	Tube - O.D. mm	Square size in (mm)	UHP 625 TCIs
1/8, 1/4	3.17 - 6 - 6.35	5/16 ( 7.9)	0034414604
3/8	8 - 9.52 - 10	7/16 ( 11.2)	0034414606
1/2	12 - 12.7	9/16 (14.3)	0034414608



For other dimensions, please contact us.

## Consumables: electrode

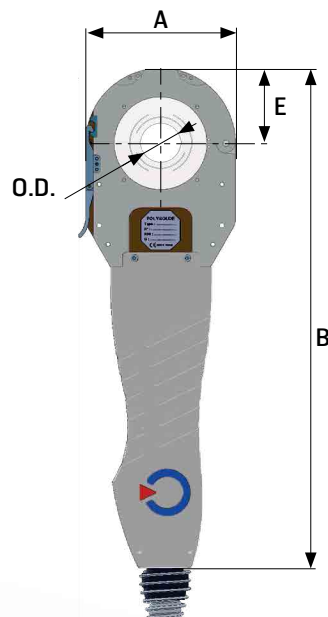
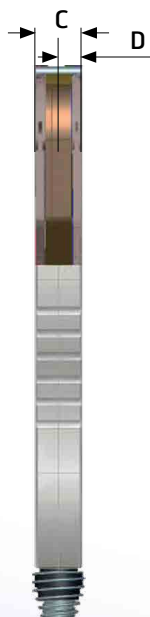
Sharpened electrodes, cut to suitable length (delivered in a set of 50 identical pieces) <sup>(2)</sup>

**EXXX**

(1) TCI means Titanium Clamping Insert

(2) Complete reference list available pages n°132 to 135

## Closed chamber welding heads



1	MW 34-2 - For tube O.D. 6 to 34mm	0039180001
2	MW 40-3 - For tube O.D. 6 to 40mm	0017749804
3	MW 65-3 - For tube O.D. 6 to 65mm	0017279804
4	MW 115-3 - For tube O.D. 12 to 115mm	0017819804
5	MW 170-2 - For tube O.D. 80 to 170mm	0017840001

MW delivered with	
Protective case with foam interior	✓
Cables and 5.5m long hoses	✓
Tools	✓

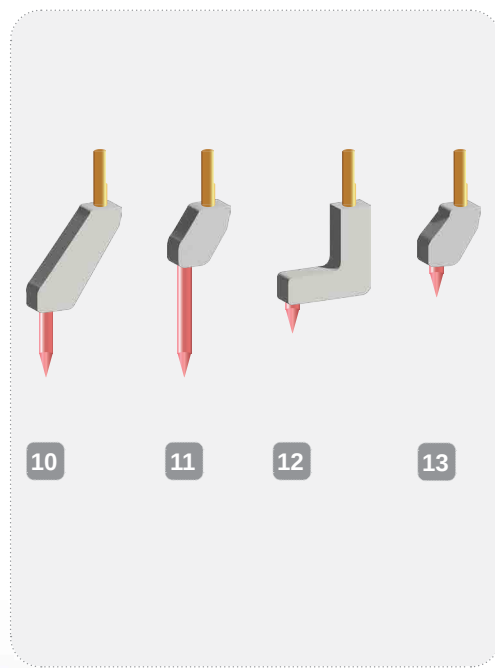
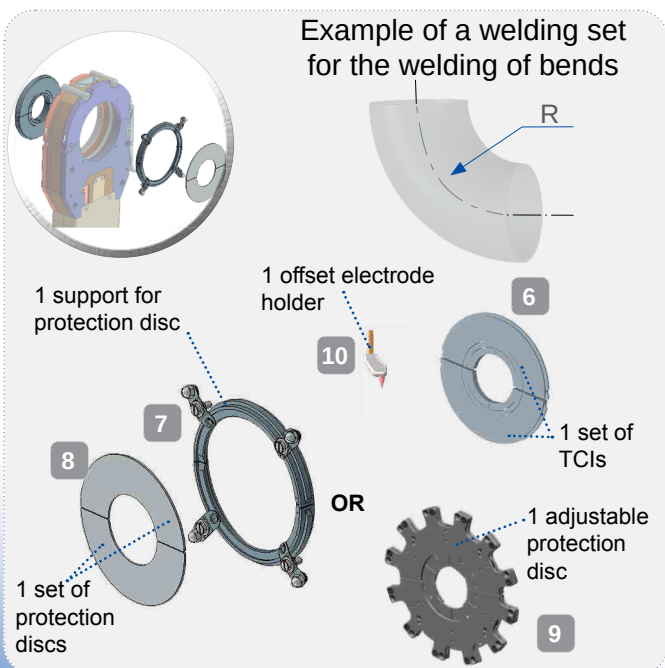
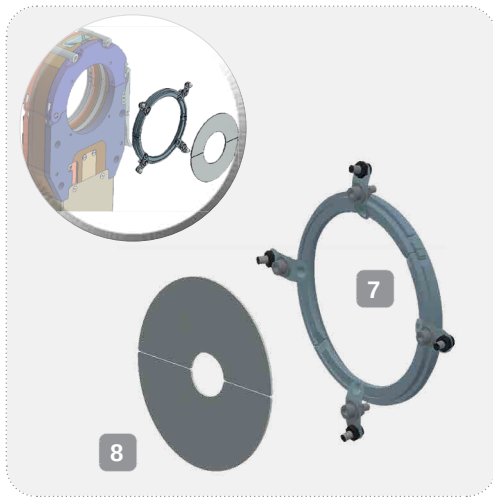
### Technical data

Technical data		MW 34-2	MW 40-3	MW 65-3	MW 115-3	MW 170-2
Welding process		<b>TIG</b>				
Compatible with Smart Welding Stations		P3 UHP - P4 - P6 CW - PC-2 CW				
O.D. tube range		6 to 170 mm				
Duty cycle	100%	60A	60A	60A	60A	110A
	60%	60A	120A	120A	120A	120A
Torch cooling system		Closed loop water cooling				
Outside diameter range		6 to 34 mm	6 to 40 mm	6 to 65 mm	12 to 115 mm	80 to 170 mm
Welding speed range (mm/min)	for O.D. min.	10 to 175	10 to 150	10 to 165	10 to 195	20 to 445
	for O.D. max.	50 to 1015	45 to 1000	50 to 1085	45 to 910	45 to 950
Weight		6 kg	6 kg	7 kg	9 kg	18 kg

### MW dimensions in mm

	MW 34-2	MW 40-3	MW 65-3	MW 115-3	MW 170-2
A	95	100	126	200	305
B	357	420	450	540	612
C	33.7	38	38	46	63
D	16.9	19	19	23	31.5
E	50	53	66	105	151

# Closed chamber welding heads



Note: to complete the welding head, 2 sets of TCIs <sup>(1)</sup> per O.D. are required (one per clamp)

Accessories: TCIs and protection discs		
6	Set of TCIs for MW 34-2 - reference according to O.D. <sup>(2)</sup>	00391808XX
	Set of TCIs for MW 40-3 - reference according to O.D. <sup>(2)</sup>	001774X8XX
	Set of TCIs for MW 65-3 - reference according to O.D. <sup>(2)</sup>	001727X8XX
	Set of TCIs for MW 115-3 - reference according to O.D. <sup>(2)</sup>	001781X8XX
	Set of TCIs for MW 170-2 - reference according to O.D. <sup>(2)</sup>	001784X7XX
7	Support for protection disc (MW 34-2)	0039181701
	Support for protection disc (MW 40-3)	0017741701
	Support for protection disc (MW 170-2)	0017841701
8	Set of protection discs (MW 34-2) <sup>(3)</sup>	00391817XX
	Set of protection discs (MW 40-3) <sup>(3)</sup>	00177417XX
	Set of protection discs (MW 170-2) <sup>(3)</sup>	00178417XX
	Adjustable protection disc full-set for gas protection for MW 65-3 - O.D. 12-65 mm	0017274550
	Adjustable protection disc for gas protection for MW 65-3 - O.D. 12-30 mm	0017274501
9	Adjustable protection disc for gas protection for MW 65-3 - O.D. 30-48 mm	0017274502
	Adjustable protection disc for gas protection for MW 65-3 - O.D. 48-65 mm	0017274503
	Adjustable protection disc full-set for gas protection for MW 115-3 - O.D. 25-115 mm	0017814550
	Adjustable protection disc for gas protection for MW 115-3 - O.D. 25-50 mm	0017814501
	Adjustable protection disc for gas protection for MW 115-3 - O.D. 50-80 mm	0017814502
	Adjustable protection disc for gas protection for MW 115-3 - O.D. 80-115 mm	0017814503

Accessories: electrode holders		
10	Offset electrode holder - 11 mm (electrode Ø 1.6 mm) only with protection discs - for the welding of bends with MW 40-3, MW 65-3 and MW 115-3	0017741401
11	Offset electrode holder - 5 mm (electrode Ø 1.6 mm) MW 34, MW 40-3, MW 65-3 and MW 115-3	0017271401
12	Offset electrode holder - 11 mm (electrode Ø 2.4 mm) MW 40-3, MW 65-3, MW 115-3 & MW 170-2	0016624801
13	Offset electrode holder - 5 mm (electrode Ø 2.4 mm) MW 170-2	0017841401
14	Offset electrode holder - for collaring applications (T-Drill, etc.)	On request

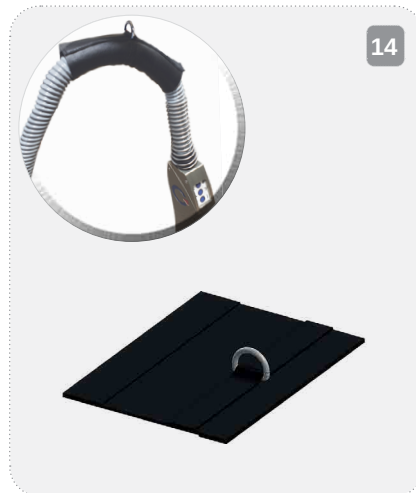
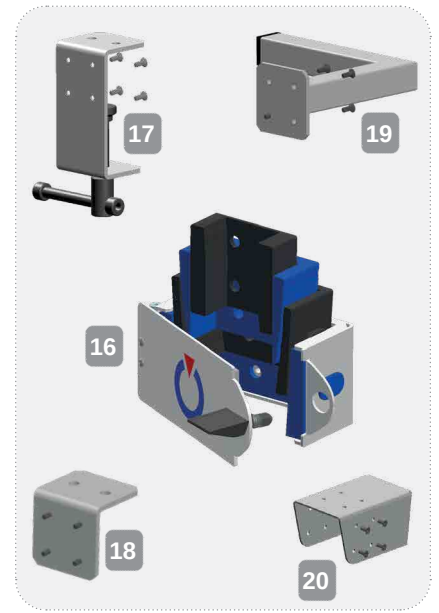
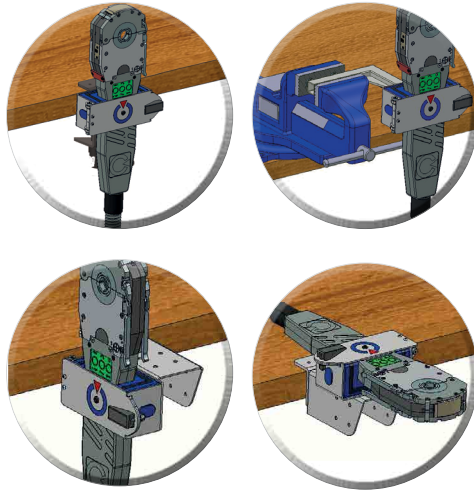
(1) TCI = Tube clamp insert

(2) To find the reference according to the tube O.D., see tables " TCIs for MW xx welding heads" from page 52

(3) 1 set per O.D – please consult us and specify the tube O.D. and its bend radius



## Closed chamber welding heads



## Accessories: Supports

14	Hanging cable bundle sleeve	0038080003
15	Full-set of supports for UHP-MW welding heads	0038080004
16	Support with shims for UHP-MW welding heads	0038080111
17	Quick-release clamp <sup>(4)</sup>	0038080600
18	Screw-mounting bracket <sup>(4)</sup>	0038080500
19	Bracket for bench vice <sup>(4)</sup>	0038080400
20	Intermediate positioning hanger <sup>(5)</sup>	0038080700

(4) At least one of those clamps (17, 18, 19) must be ordered to use the support with shims 16

(5) The intermediate positioning hanger is compatible with 17, 18, 19

## Consumables: electrode

Sharpened electrodes, cut to suitable length (delivered in a set of 50 identical pieces) <sup>(6)</sup>	EXXX
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(6) Complete reference list available pages n°132 to 135

## Closed chamber welding heads

### TCIs for MW 34-2 welding heads

Tube - O.D. (mm)	TCIs for MW 34-2
5.90 to 6.00	0039180815
6.25 to 6.35 (1/4")	0039180804
6.40 to 6.50	0039180842
7.40 to 7.50	0039180858
7.90 to 8.00	0039180821
8.40 to 8.50	0039180843
9.25 to 9.35	0039180837
9.42 to 9.52	0039180805
9.90 to 10.00	0039180806
10.10 to 10.20	0039180841
10.40 to 10.50	0039180839
11.90 to 12.00	0039180816
12.40 to 12.50	0039180844
12.60 to 12.70 (1/2")	0039180807
12.90 to 13.00	0039180818
13.40 to 13.50	0039180822
13.60 to 13.70	0039180808
13.70 to 13.80	0039180832
13.90 to 14.00	0039180824
14.20 to 14.30	0039180859
14.40 to 14.50	0039180845
14.52 to 14.62	0039180855
14.90 to 15.00	0039180830
15.77 to 15.87 (5/8")	0039180809

Tube - O.D. (mm)	TCIs for MW 34-2
15.80 to 15.90	0039180864
15.90 to 16.00	0039180846
16.40 to 16.50	0039180847
17.00 to 17.10	0039180814
17.10 to 17.20	0039180823
17.20 to 17.30	0039180840
17.40 to 17.50	0039180848
17.90 to 18.00	0039180817
18.40 to 18.50	0039180849
18.95 to 19.05 (3/4")	0039180810
19.40 to 19.50	0039180831
19.70 to 19.80	0039180863
19.90 to 20.00	0039180803
20.40 to 20.50	0039180850
21.20 to 21.30	0039180811
21.30 to 21.40	0039180825
21.60 to 21.70	0039180833
21.90 to 22.00	0039180826
22.20 to 22.30	0039180860
22.40 to 22.50	0039180851
22.90 to 23.00	0039180819
23.40 to 23.50	0039180852
23.90 to 24.00	0039180854
24.90 to 25.00	0039180802

Tube - O.D. (mm)	TCIs for MW 34-2
25.30 to 25.40 (1")	0039180812
25.80 to 25.90	0039180856
26.60 to 26.70	0039180813
26.80 to 26.90	0039180838
27.10 to 27.20	0039180834
27.70 to 27.80	0039180862
27.90 to 28.00	0039180827
28.70 to 28.80	0039180857
28.90 to 29.00	0039180820
29.90 to 30.00	0039180828
30.00 to 30.50	0039180853
31.90 to 32.00	0039180829
33.30 to 33.40	0039180801
33.60 to 33.70	0039180836
33.90 to 34.00	0039180835

For other dimensions, please contact us.

For protection discs, please consult us with the O.D. tube and the bend radius

## TCIs for MW 40-3 welding heads

Tube - O.D. (mm)	TCIs for MW 40-3	Tube - O.D. (mm)	TCIs for MW 40-3	Tube - O.D. (mm)	TCIs for MW 40-3
4.77	0017740884	12.60	0017740861	18.20	0017740854
5.00	0017740871	12.70	0017740805	18.50	0017740894
6.00	0017740820	12.80	0017742821	18.80	0017742838
6.35	0017740811	13.00	0017740858	19.00	0017740846
7.00	0017740872	13.10	0017742817	19.05	0017740806
7.50	0017740859	13.30	0017742845	19.30	0017740893
7.70	0017742842	13.50	0017740829	19.50	0017742818
7.80	0017742815	13.70	0017740882	20.00	0017740823
7.94	0017740848	13.80	0017740870	20.30	0017742835
7.95	0017742811	14.00	0017740810	20.60	0017740895
8.00	0017740821	14.20	0017742848	21.00	0017740875
8.60	0017742825	14.28 (9/16")	0017740850	21.20	0017742810
9.00	0017740873	14.80	0017742836	21.30	0017740832
9.10	0017740892	15.00	0017740853	21.34	0017740887
9.25	0017740842	15.20	0017740869	21.60	0017742814
9.35	0017740827	15.50	0017742826	21.70	0017740818
9.52 (3/8")	0017740812	15.70	0017742819	21.80	0017740891
9.70	0017740890	15.87 (5/8")	0017740813	22.00	0017740833
9.80	0017742830	16.00	0017740822	22.20	0017742812
10.00	0017740828	16.30	0017742829	22.22 (7/8")	0017740814
10.20	0017740844	16.40	0017742837	23.00	0017740834
10.29/10.30	0017740885	16.50	0017742820	23.80	0017742850
10.40	0017742847	16.80	0017742816	24.00	0017740835
10.50	0017742822	17.00	0017740855	24.10	0017742851
11.00	0017740874	17.10	0017740830	24.40	0017742834
11.11 (7/16")	0017740849	17.15	0017740886	24.50	0017740889
11.50	0017740860	17.20	0017740843	25.00	0017740824
11.70	0017742813	17.30	0017740888	25.20	0017742807
12.00	0017740819	17.46	0017740851	25.35	0017742802
12.20	0017740852	17.50	0017742804	25.40	0017740807
12.30	0017740896	18.00	0017740831	25.70	0017742806

## Closed chamber welding heads

Tube - O.D. (mm)	TCl's for MW 40-3
26.00	0017742827
26.30	0017742833
26.40	0017742840
26.60	0017742849
26.70	0017740867
26.90	0017740825
26.97	0017742801
27.00	0017740876
27.20	0017740856
28.00	0017740836
28.50	0017742846
28.60	0017740815
28.80	0017742844
29.00	0017740845
29.70	0017742808
30.00	0017740837
30.20	0017742805
30.90	0017742843
31.00	0017740877
31.75 (1 1/4")	0017740816
31.88	0017742803
32.00	0017740838
32.50	0017740881
33.00	0017740878
33.40	0017740868
33.70	0017740839
34.00	0017740857
34.10	0017742828
34.60	0017742823
34.92 (1 3/8")	0017740817
35.00	0017740840
35.60	0017742824
35.80	0017742831

Tube - O.D. (mm)	TCl's for MW 40-3
36.00	0017740883
36.20	0017742832
37.00	0017740879
38.00	0017740841
38.10	0017740808
38.50	0017740847
38.90	0017742809
39.00	0017740880
40.00	0017740809

## Protection discs for MW 40-3 welding heads

Tube - O.D. (mm)	Protection disc R = 1.5 D
6.00	0017741786
7.50	0017741768
8.00	0017741745
9.50	0017741767
9.53	0017741792
10.00	0017741787
11.50	0017741766
12.00	0017741788
12.70	0017741791
13.50	0017741797
14.00	0017741760
17.20	0017741796
18.00	0017741763
19.05	0017741790
21.30	0017741795
22.00	0017741762
25.00	0017741798
25.40	0017741789
26.90	0017741794
28.00	0017741761
33.70	0017741793

For other dimensions, please contact us.

For protection discs, please consult us with the O.D. tube and the bend radius

## TCIs for MW 65-3 welding heads

Tube - O.D. (mm)	TCIs for MW 65-3	Tube - O.D. (mm)	TCIs for MW 65-3	Tube - O.D. (mm)	TCIs for MW 65-3
5.90 to 6.00	0017270816	16.40 to 16.50	0017272840	25.30 to 25.40 (1")	0017270809
6.30 to 6.40 (1/4")	0017270871	16.90 to 17.00	0017272809	25.40 to 25.50	0017270888
6.90 to 7.00	0017272805	17.10 to 17.20	0017270864	25.70 to 25.80	0017272843
7.40 to 7.50	0017272867	17.20 to 17.30	0017270863	25.90 to 26.00	0017272861
7.90 to 8.00	0017270817	17.40 to 17.50	0017272883	26.20 to 26.30	0017270882
8.70 to 8.80	0017272882	17.90 to 18.00	0017270821	26.60 to 26.70	0017270872
9.50 to 9.60	0017270879	18.20 to 18.30	0017272856	26.80 to 26.90	0017270827
9.90 to 10.00	0017270854	18.70 to 18.80	0017270841	27.10 to 27.20	0017270856
10.10 to 10.20	0017272813	18.90 to 19.00	0017270866	27.90 to 28.00	0017270838
10.40 to 10.50	0017272806	19.00 to 19.10 (3/4")	0017270826	28.50 to 28.60 (1" 1/8)	0017270831
10.90 to 11.00	0017272814	19.40 to 19.50	0017270895	28.70 to 28.80	0017270843
11.40 to 11.50	0017272876	19.90 to 20.00	0017270876	28.90 to 29.00	0017270850
11.70 to 11.80	0017270840	20.10 to 20.20	0017272859	29.50 to 29.60	0017272816
11.90 to 12.00	0017270818	20.20 to 20.30	0017272821	29.90 to 30.00	0017270868
12.30 to 12.40	0017272820	20.40 to 20.50	0017272871	30.20 to 30.30	0017272851
12.40 to 12.50	0017272855	20.90 to 21.00	0017272815	30.70 to 30.80	0017270861
12.60 to 12.70 (1/2")	0017270810	21.20 to 21.30	0017270822	30.90 to 31.00	0017272807
12.90 to 13.00	0017270865	21.40 to 21.50	0017272842	31.40 to 31.50	0017272841
13.40 to 13.50	0017270819	21.50 to 21.60	0017272825	31.50 to 31.60	0017272817
13.50 to 13.60	0017272853	21.60 to 21.70	0017270855	31.70 to 31.80 (1" 1/4)	0017270880
13.70 to 13.80	0017270862	21.90 to 22.00	0017270835	31.90 to 32.00	0017270894
13.90 to 14.00	0017270877	22.20 to 22.30 (7/8")	0017270830	32.10 to 32.20	0017272879
14.00 to 14.10	0017272884	22.40 to 22.50	0017272835	32.40 to 32.50	0017270891
14.20 to 14.30	0017272857	22.70 to 22.80	0017270842	32.90 to 33.00	0017272862
14.90 to 15.00	0017270820	22.80 to 22.90	0017272826	33.10 to 33.20	0017272860
15.00 to 15.10	0017272881	22.90 to 23.00	0017270849	33.30 to 33.40	0017270873
15.20 to 15.30	0017272850	23.40 to 23.50	0017270887	33.60 to 33.70	0017270823
15.60 to 15.70	0017272868	23.70 to 23.80	0017272819	33.90 to 34.00	0017270836
15.70 to 15.80	0017272823	23.90 to 24.00	0017272811	34.20 to 34.30	0017270892
15.80 to 15.90 (5/8")	0017270829	24.10 to 24.30	0017272863	34.70 to 34.80	0017270844
15.90 to 16.00	0017270848	24.50 to 24.60	0017272844	34.90 to 35.00 (1" 3/8)	0017270824
		24.90 to 25.00	0017270812		

## Closed chamber welding heads

Tube - O.D. (mm)	TCl's for MW 65-3	Tube - O.D. (mm)	TCl's for MW 65-3	Tube - O.D. (mm)	TCl's for MW 65-3
35.40 to 35.50	0017272872	46.90 to 47.00	0017270889	63.40 to 63.50 (2" 1/2)	0017270806
35.90 to 36.00	0017270881	47.40 to 47.50	0017272847	63.90 to 64.00	0017270885
36.20 to 36.30	0017272832	47.90 to 48.00	0017270869	64.90 to 65.00	0017270839
36.40 to 36.50	0017272873	48.20 to 48.30	0017270815		
36.70 to 36.80	0017272852	48.40 to 48.50	0017272848		
36.90 to 37.00	0017270884	48.50 to 48.60	0017270858		
37.40 to 37.50	0017272845	48.60 to 48.70	0017272877		
37.50 to 37.60	0017272810	49.90 to 50.00	0017270867		
37.90 to 38.00	0017270847	50.40 to 50.50	0017272829		
38.00 to 38.10 (1" 1/2)	0017270811	50.70 to 50.80 (2")	0017270808		
38.40 to 38.50	0017272838	50.90 to 51.00	0017270813		
38.90 to 39.00	0017272866	51.40 to 51.50	0017272864		
39.90 to 40.00	0017270837	51.90 to 52.00	0017270825		
40.40 to 40.50	0017272874	52.60 to 52.70	0017272833		
40.60 to 40.70	0017272869	52.70 to 52.80	0017270846		
40.70 to 40.80	0017270845	52.90 to 53.00	0017270851		
40.90 to 41.00	0017270853	53.40 to 53.50	0017272836		
41.20 to 41.30	0017270893	53.90 to 54.00	0017270852		
41.30 to 41.40	0017272854	54.40 to 54.50	0017272837		
41.40 to 41.50	0017272875	54.90 to 55.00	0017272865		
41.80 to 41.90	0017272834	55.90 to 56.00	0017270883		
41.90 to 42.00	0017270870	56.90 to 57.00	0017270886		
42.10 to 42.20	0017270874	57.10 to 57.20 (2" 1/4)	0017270828		
42.30 to 42.40	0017270814	57.90 to 58.00	0017272880		
42.40 to 42.50	0017272846	58.50 to 58.60	0017272830		
42.60 to 42.70	0017270857	58.90 to 59.00	0017272858		
44.90 to 43.00	0017270890	59.90 to 60.00	0017270896		
43.60 to 43.70	0017272849	60.20 to 60.30	0017270807		
43.90 to 44.00	0017272808	60.40 to 60.50	0017270859		
44.40 to 44.50 (1" 3/4)	0017270834	61.30 to 61.40	0017272878		
44.90 to 45.00	0017270878	62.90 to 63.00	0017270875		
45.30 to 45.40	0017272839	63.00 to 63.10	0017272870		
45.90 to 46.00	0017272831	63.30 to 63.40	0017272828		



## Protection discs for MW 65-3 welding heads

Tube - O.D. (mm)	Protection disc for MW 65-3 R = 1.5 D
10.00	0017271794
12.00	0017271793
12.70	0017271732
13.00	0017271755
14.00	0017271754
15.50	0017271753
15.88	0017271730
16.00	0017271747
17.20	0017271786
18.00	0017271746

Tube - O.D. (mm)	Protection disc for MW 65-3 R = 1.5 D
19.00	0017271792
20.00	0017271739
21.30	0017271734
22.00	0017271745
22.50	0017271736
23.00	0017271791
24.00	0017271744
25.00	0017271798
25.40	0017271781
26.00	0017271743
27.00	0017271742
29.00	0017271790

Tube - O.D. (mm)	Protection disc for MW 65-3 R = 1.5 D
29.50	0017271735
31.00	0017271731
33.70	0017271787
34.00	0017271741
35.00	0017271789
38.10	0017271780
41.00	0017271788
42.40	0017271797
48.30	0017271796
50.00	0017271737
52.00	0017271740
60.30	0017271795

For protection discs, please consult us with the O.D. tube and the bend radius

## TCIs for MW 115-3 welding heads

Tube - O.D. (mm)	TCIs for MW 115-3
12.90 to 13.00	0017812222
13.40 to 13.50	0017812843
17.20 to 17.30	0017812839
17.90 to 18.00	0017812829
18.90 to 19.00	0017812820
19.00 to 19.10 (3/4")	0017812823
19.90 to 20.00	0017812824
21.20 to 21.30	0017810894
21.30 to 21.40	0017812801
21.60 to 21.70	0017810863
21.90 to 22.00	0017810859
22.90 to 23.00	0017812806
23.90 to 24.00	0017810864
24.50 to 24.60	0017812810
24.90 to 25.00	0017810833
25.30 to 25.40 (1")	0017810808
26.60 to 26.70	0017810881
26.80 to 26.90	0017810834

Tube - O.D. (mm)	TCIs for MW 115-3
26.90 to 27.00	0017810887
21.70 to 27.20	0017810858
27.90 to 28.00	0017810832
28.50 to 28.60	0017810817
28.90 to 29.00	0017810835
29.40 to 29.50	0017812831
29.90 to 30.00	0017810884
30.90 to 31.00	0017812814
31.70 to 31.80 (1" 1/4)	0017810818
31.90 to 32.00	0017810856
32.90 to 33.00	0017810865
33.30 to 33.40	0017810882
33.40 to 33.50	0017810889
33.60 to 33.70	0017810836
33.90 to 34.00 (1 3/8")	0017810857
34.10 to 34.20	0017812838
34.90 to 35.00	0017810837
35.90 to 36	0017812826
37.90 to 38.00	0017810829

Tube - O.D. (mm)	TCIs for MW 115-3
38.00 to 38.10 (1" 1/2)	0017810805
39.90 to 40.00	0017810831
40.90 to 41.00	0017810815
41.90 to 42.00	0017810890
42.10 to 42.20	0017810883
42.20 to 42.30	0017810872
42.30 to 42.40	0017810838
42.60 to 42.70	0017810850
42.90 to 43.00	0017812808
43.90 to 44.00	0017812827
44.40 to 44.50 (1" 3/4)	0017810820
44.90 to 45.00	0017810875
45.90 to 46.00	0017812813
46.10 to 46.20	0017810873
47.90 to 48.00	0017812821
48.20 to 48.30	0017810839
48.50 to 48.60	0017810851
49.90 to 50.00	0017810866
50.70 to 50.80 (2")	0017810806

## Closed chamber welding heads

Tube - O.D. (mm)	TCIs for MW 115-3	Tube - O.D. (mm)	TCIs for MW 115-3	Tube - O.D. (mm)	TCIs for MW 115-3
50.90 to 51.00	0017810830	75.90 to 76.00	0017810848	103.70 to 103.80	0017810828
51.70 to 51.80	0017812825	76.00 to 76.10	0017810842	103.90 to 104.00	0017810810
51.90 to 52.00	0017810811	76.10 to 76.20 (3")	0017810807	104.90 to 105.00	0017812819
52.90 to 53.00	0017810816	76.20 to 76.30	0017810853	106.00 to 106.10	0017812841
53.90 to 54.00	0017810841	76.50 to 76.60	0033121443	107.90 to 108.00	0017810845
54.70 to 54.80	0017812815	77.60 to 77.70	0017812817	113.90 to 114.00	0017810862
55.90 to 56.00	0017810876	78.40 to 78.50	0017812832	114.10 to 114.20	0017810855
56.90 to 57.00	0017810877	79.90 to 80.00	0017810874	14.20 to 114.30 (4" 1/2)	0017810824
57.10 to 51.20 (2" 1/4)	0017810821	81.90 to 82.00	0017810870		
57.90 to 58.00	0017810886	82.40 to 82.50	0017810843		
59.20 to 59.30	0017812837	82.90 to 83.00	0017810880		
59.90 to 60.00	0017810871	83.90 to 84.00	0017810885		
60.10 to 60.20	0017810891	84.70 to 84.80	0017810827		
60.20 to 60.30	0017810825	84.90 to 85.00	0017810814		
60.40 to 60.50	0017810852	88.50 to 88.60	0017812840		
61.90 to 62.00	0017812835	88.80 to 88.90 (3" 1/2)	0017810823		
62.90 to 63.00	0017810847	88.90 to 89.00	0017810892		
63.40 to 63.50 (2" 1/2)	0017810812	89.00 to 89.10	0017810854		
64.20 to 64.30	0017810893	89.90 to 90.00	0017810879		
65.10 to 65.20	0017812812	90.00 to 90.10	0017812842		
65.40 to 65.50	0017812834	90.90 to 91.00	0017812818		
67.00 to 67.10	0017810861	92.90 to 93.00	0017812830		
67.90 to 68.00	0017812816	95.90 to 96.00	0017812828		
68.90 to 69.00	0017812805	99.40 to 99.50	0017812811		
69.70 to 69.80	0017810826	99.90 to 100.00	0017810867		
69.85 (2" 3/4)	0017810822	100.90 to 101.00	0017812836		
69.90 to 70.00	0017810813	101.00 to 101.10	0017812807		
70.90 to 71.00	0017810878	101.20 to 101.30	0017812803		
71.90 to 72.00	0017812809	101.30 to 101.40	0017810849		
72.90 to 73.00	0017810888	101.50 to 101.60 (4")	0017810809		
73.30 to 73.40	0017810860	101.90 to 102.00	0017812802		
74.90 to 75.00	0017810833	102.90 to 103.00	0017812804		

## Protection discs for MW 115-3 welding heads

Tube - O.D. (mm)	Protection discs for MW 115-3 R = 1.5 D
24.00	0017811758
26.90	0017811758
33.70	0017811759
38.10	0017811797
42.40	0017811760
45.00	0017811775
48.30	0017811785
50.00	0017811774
50.80	0017811794

Tube - O.D. (mm)	Protection discs for MW 115-3 R = 1.5 D
52.00	0017811784
60.30	0017811783
63.00	0017811773
63.50	0017811793
76.00	0017811781
76.20	0017811796
80.00	0017811772
88.90	0017811762
90.00	0017811771

Tube - O.D. (mm)	Protection discs for MW 115-3 R = 1.5 D
101.60	0017811782
104.00	0017811753
114.30	0017811761

For protection discs, please consult us with the O.D. tube and the bend radius

## TCIs for MW 170-2 welding heads

Tube - O.D. (mm)	TCIs for 170-2
76.10 to 76.20	0017840730
79.90 to 80.00	0017840718
82.90 to 83.00	0017840723
84.90 to 85.00	0017840705
88.80 to 88.90	0017840708
89.00 to 89.10	0017840736
91.90 to 92.00	0017840715
98.90 to 99.00	0017840716
99.90 to 100.00	0017840714
101.50 to 101.60	0017840720
102.90 to 103.00	0017840724
103.90 to 104.00	0017840707
114.20 to 114.30	0017840703
119.90 to 120.00	0017840728
124.90 to 125.00	0017840729
126.90 to 127.00	0017840731
128.90 to 129.00	0017840706

Tube - O.D. (mm)	TCIs for 170-2
129.90 to 130.00	0017840734
130.90 to 131.00	0017840717
132.90 to 133.00	0017840732
133.20 to 133.30	0017840727
139.60 to 139.70	0017840710
139.70 to 139.80	0017840712
141.20 to 141.30	0017840704
149.90 to 150.00	0017840726
152.10 to 152.20	0017840725
152.30 to 152.40	0017840721
152.90 to 153.00	0017840722
153.90 to 154.00	0017840711
158.90 to 159.00	0017840733
159.90 to 160.00	0017840735
165.10 to 165.20	0017840713
168.20 to 168.30	0017840798

## Protection discs for MW 170-2 welding heads

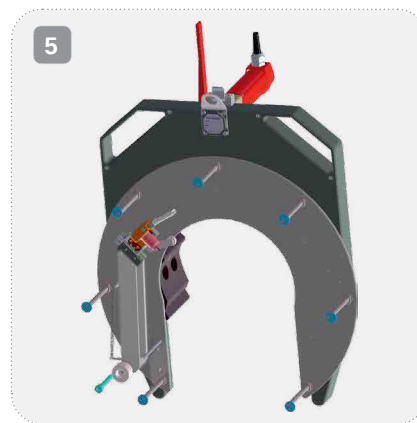
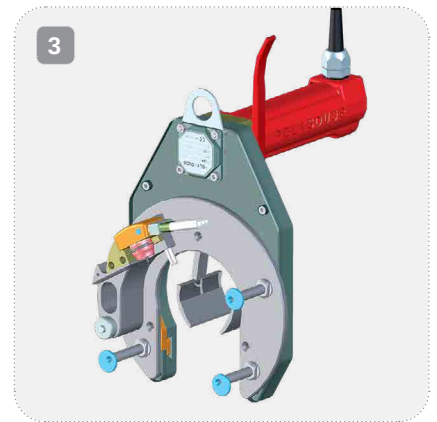
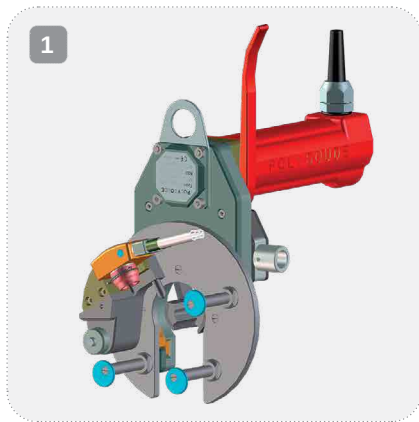
Tube - O.D. (mm)	Protection discs for MW 170-2 R = 1.5 D
104.00	0017841794
139.70	0017841795
168.30	0017841796

For protection discs, please consult us with the O.D. tube and the bend radius

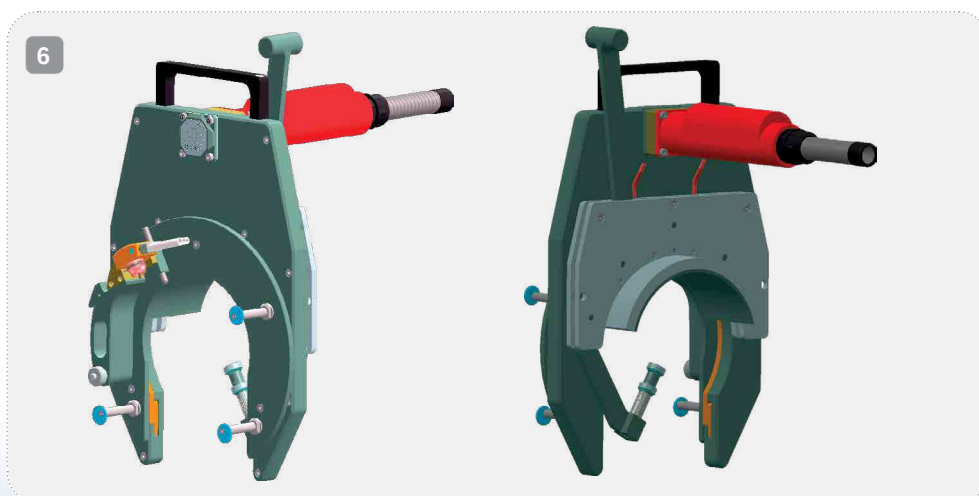
## Open welding heads



### P Version: welding heads with chuck clamping



### C Version: welding heads with water-cooled clamp shells

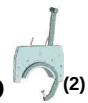


## ▶ MU IV



### P Version: welding heads with chuck clamping adjustable for the entire O.D. range

1	<b>MU IV 8/38 P (8 - 38mm O.D.)</b> <sup>(1)</sup>	15639807
2	MU IV 14/38 CW P with reduced torch plate (14 - 38mm O.D.)	0040051200
3	<b>MU IV 19/80 P (19 - 80mm O.D.)</b> <sup>(1)</sup>	15579807
4	<b>MU IV 25/115 P (25 - 115mm O.D.)</b> <sup>(1)</sup>	17139807
	MU IV 25/128 P (25 - 128mm O.D.)	15679807
5	<b>MU IV 76/219 P (76 - 219mm O.D.)</b> <sup>(1)</sup>	0040053400
	MU IV 114/275 P (114 - 275mm O.D.)	16029803



### C Version: welding heads with water-cooled shell clamping, one shell per O.D.

The shells must be ordered separately

6	<b>MU IV 14/38 C (14 - 38mm O.D.)</b>	15639805
	MU IV 14/38 CW C with reduced torch plate (14 - 38mm O.D.)	0040051201
	MU IV 30/58 CW C with reduced torch plate (30 - 58mm O.D.)	0040047901
	MU IV 30/80 C (30 - 80mm O.D.)	15579805
	MU IV 50/115 C (50 - 115mm O.D.)	17139805
	MU IV 50/128 C (50 - 128mm O.D.)	15679805
	MU IV 114/275 C (114 - 275mm O.D.)	16029805
	Centring shell - compulsory accessory for MU IV 38 & 128 - 1 per O.D.	See on page 71
	Centring pads- compulsory accessory for MU IV 195 & 275 - 2 per O.D.	See on page 71

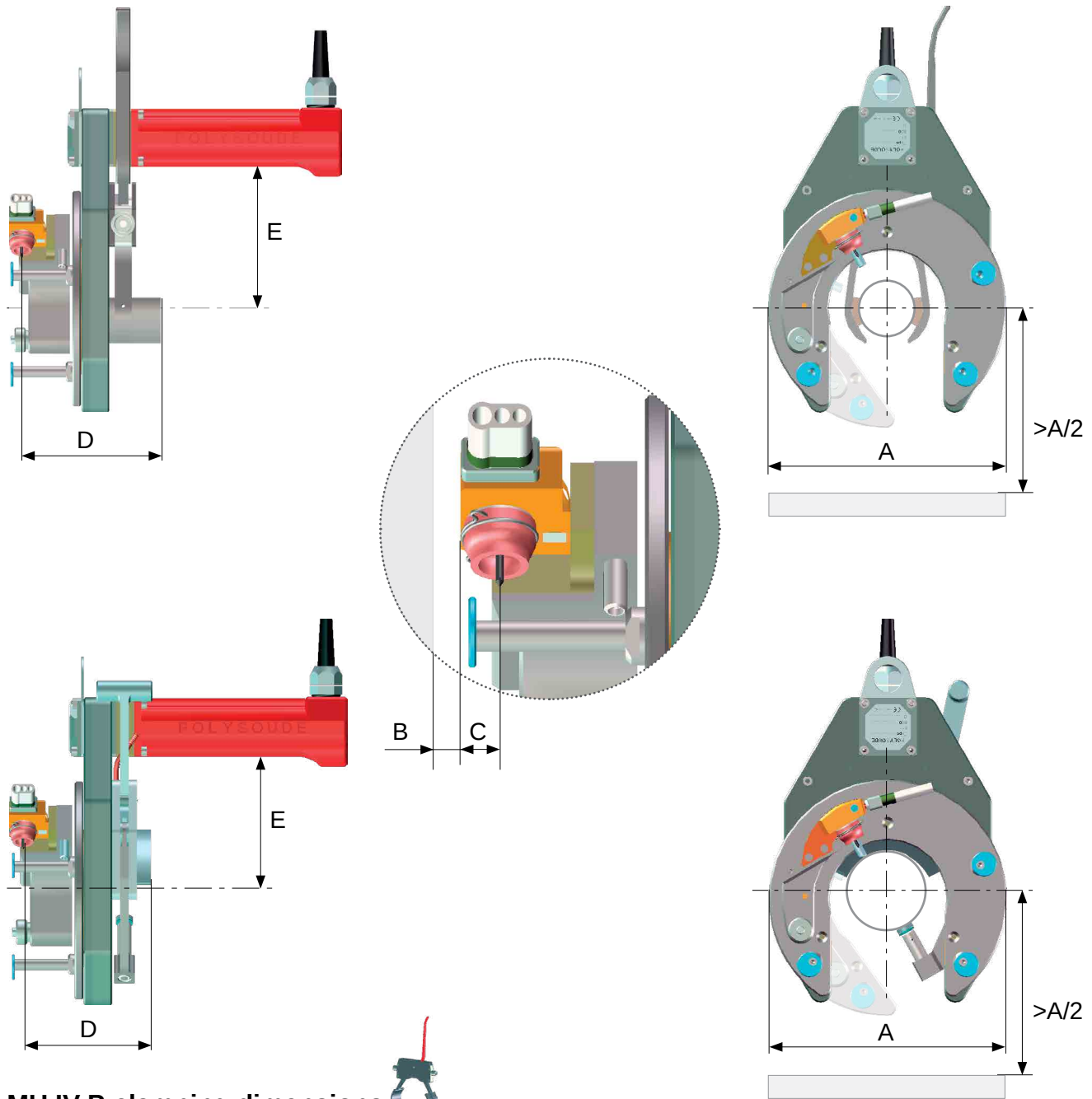
MU IV delivered with	P version		C version	
	With standard torch plate	With reduced torch plate	With standard torch plate	With reduced torch plate
Container for safety packing and transport	✓	✓	✓	✓
9m hose cable	✓	✓	✓	✓
Water-cooled and tiltable torch without wire accessories	✓	✓	✓	✓
Adapter for small O.D.	✓	✓	-	-
Consumable & tool box	✓	✓	✓	✓
Wire accessories <sup>(3)</sup>	option	✓	option	✓

(1) Standard MU IV welding heads with short delivery time

(2) 2<sup>nd</sup> water cooling circuit on the Smart Welding Station is required

(3) To order the wire accessory, specify the model of the wire feeder which is used: POLYFIL B, POLYFIL-2, POLYFIL-3 or POLYFIL Compact. See the "Options" table on page 73

## Open welding heads





### MU IV P-clamping dimensions

OD <sub>min.</sub> / OD <sub>max.</sub>	Ø A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	Weight (KG)
MU IV 8/38 P	126	16	5	96	72	10
MU IV 14/38 CW P - reduced	96	12	5	96	72	9
MU IV 19/80 P	172	16	5	97	103	12
MU IV 25/115 P	215	16	5	101	148	14
MU IV 25/128 P	240	16	5	99	173	15
MU IV 76/219 P	440	22	10	178	255	25
MU IV 114/275 P	500	30.5	14	172.5	276	30



## Technical data

		MU IV	
Welding process		 	
Compatible with Smart Welding Stations		P4 - P6 - PC Series	
O.D. tube range		8 to 275mm	
Duty cycle	100%	190A	
	60%	250A	
Torch cooling system		Closed lopp water cooling	
Slip clutch mechanism <sup>(1)</sup>		Only from MU IV 219 onwards	
Welding speed range		for O.D. min. (mm/min)	for O.D. max. (mm/min)
MU IV 8/38		10 to 165	40 to 785
MU IV 14/38		15 to 285	40 to 785
MU IV 14/38 CW - reduced		15 to 285	40 to 785
MU IV 30/58 CW - reduced		20 to 430	40 to 830
MU IV 19/80		10 to 210	45 to 900
MU IV 30/80		20 to 335	45 to 900
MU IV 25/115		10 to 205	45 to 950
MU IV 50/115		20 to 410	45 to 950
MU IV 25/128		10 to 175	45 to 895
MU IV 50/128		20 to 350	45 to 885
MU IV 76/219		15 to 315	40 to 815
MU IV 114/275		20 to 330	40 to 800

## MU IV C-clamping dimensions

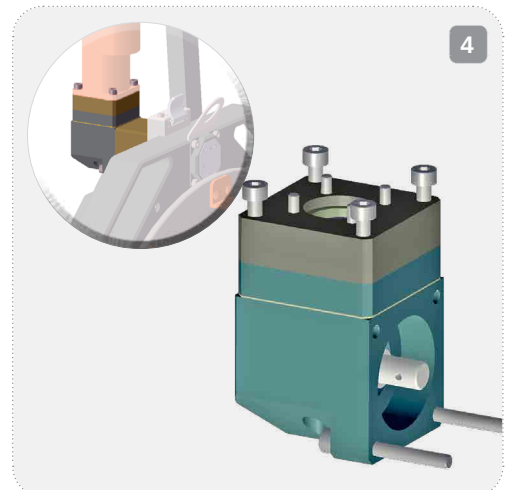
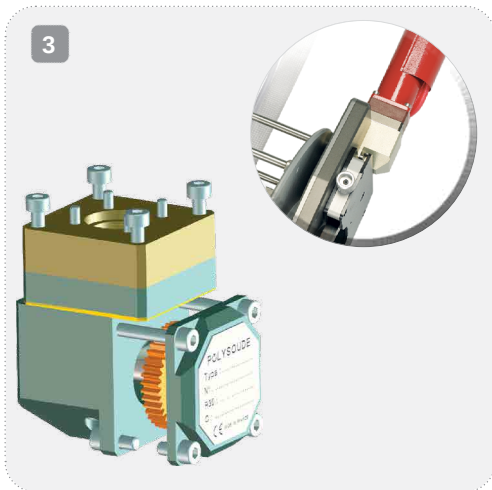
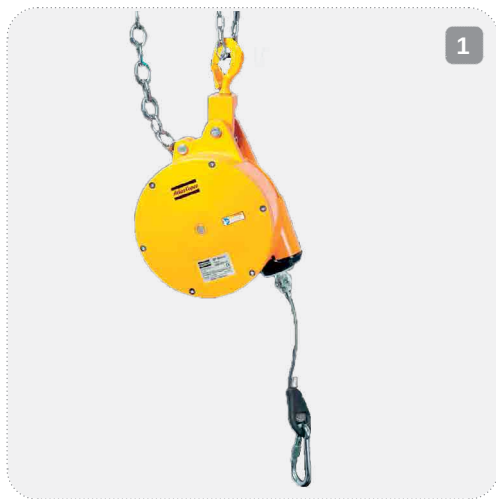


OD <sub>min.</sub> / OD <sub>max.</sub>	Double clamping system option	Ø A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	Weight (KG)
MU IV 14/38 C	✓	126	16	5	79	72	10
MU IV 14/38 CW C - reduced	✓	96	12	5	79	74	9
MU IV 30/58 CW C - reduced	✓	122	12	5	89	93	10.5
MU IV 30/80 C	✓	172	16	5	88	103	12
MU IV 50/115 C	✓	215	16	5	92	148	14
MU IV 50/128 C	✓	240	16	5	108	173	15
MU IV 114/275 C	N/A	500	30.5	14	178.5	276	30

(1) These welding heads are equipped with a slip clutch mechanism on the drive rotation which allows to wind the hose very quickly



# Open welding heads



## Accessories

	Balancer - Load range: 4.5 to 7 kg	75501287
1	Balancer - Load range: 9 to 14 kg	75500353
	Balancer - Load range: 13 to 17 kg	75501288
2	Balancer - Load range: 20 to 30 kg	100091211

Balancer item no.	75501287	75500353	75501288	100091211
MU IV 8/38 P	✓			
MU IV 14/38 CW P - reduced	✓			
MU IV 19/80 P	✓			
MU IV 25/115 P	✓			
MU IV 25/128 P		✓		
MU IV 76/219 P			✓	
MU IV 114/275 P				✓
MU IV 14/38 C	✓			
MU IV 14/38 CW C - reduced	✓			
MU IV 30/58 CW C - reduced	✓			
MU IV 30/80 C	✓			
MU IV 50/115 C	✓			
MU IV 50/128 C		✓		
MU IV 114/275 C				✓

## Consumables: electrode

Sharpened electrodes, cut to suitable length (delivered in a set of 50 identical pieces) <sup>(1)</sup>

EXXX

(1) Complete reference list available pages n°132 to 135

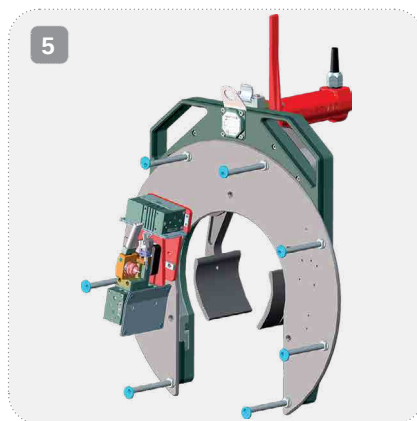
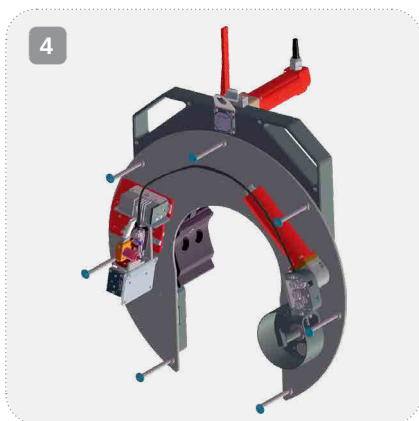
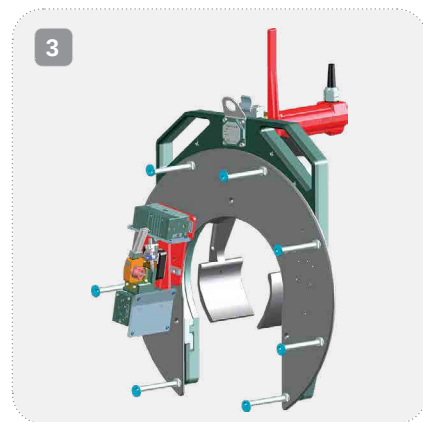
## Options

3	Angle gearbox for welding heads MU IV 38 to MU IV 128	75500229
4	Angle gearbox for welding heads with slip clutch MU IV 195 to MU IV 275	15640600

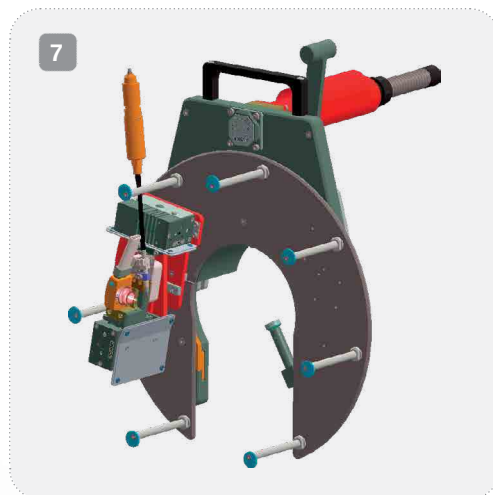
# Open welding heads



## P Version: welding heads with chuck clamping



## C Version: welding heads with water-cooled clamp shells

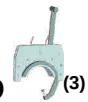


## ▶ MU IV AVC/OSC CW



**P Version: welding heads with chuck clamping adjustable for the entire O.D. range**

<b>1</b>	<b>MU IV 8/38 AVC/OSC CW P (8 - 38mm O.D.)<sup>(1)</sup></b>	<b>15639808</b>
	MU IV 19/80 AVC/OSC CW P (19 - 80mm O.D.) <sup>(1)</sup>	15579808
<b>2</b>	<b>MU IV 25/115 AVC/OSC CW P (25 - 115mm O.D.)<sup>(1)</sup></b>	<b>17139808</b>
	MU IV 25/128 AVC/OSC CW P CW P (25 - 128mm O.D.)	15679808
	MU IV 25/128 AVC/OSC CW P CW P (25 - 128mm O.D.) with integrated wire feeder <sup>(2)</sup>	15679809
<b>3</b>	<b>MU IV 76/219 AVC/OSC CW P (76 - 219mm O.D.)<sup>(1)</sup></b>	<b>0040053401</b>
<b>4</b>	<b>MU IV 76/219 AVC/OSC CW P (76 - 219mm O.D.)<sup>(1)</sup> with integrated wire feeder<sup>(2)</sup></b>	<b>0040053402</b>
<b>5</b>	<b>MU IV 114/275 AVC/OSC CW P (114 - 275mm O.D.)</b>	<b>16029804</b>
	MU IV 114/275 AVC/OSC CW P (114 - 275mm O.D.) with integrated wire feeder <sup>(2)</sup>	16029809



**C Version: welding heads with water-cooled shell clamping, one shell per O.D**

<b>6</b>	<b>MU IV 14/38 AVC/OSC CW C (14 - 38mm O.D.)</b>	<b>15639806</b>
	MU IV 14/38 AVC/OSC CW C with reduced torch plate support (14 - 38mm O.D.)	0040047902
	MU IV 30/51 AVC/OSC CW C with reduced torch plate support (30 - 51mm O.D.)	0040047903
	MU IV 30/64 AVC/OSC CW C with reduced torch plate support (30 - 64mm O.D.)	0040047904
	MU IV 30/80 AVC/OSC CW C (30 - 80mm O.D.)	15579806
	MU IV 50/115 AVC/OSC CW C (50 - 115mm O.D.)	17139806
<b>7</b>	<b>MU IV 50/128 AVC/OSC CW C (50 - 128mm O.D.)</b>	<b>15679806</b>
	MU IV 114/275 AVC/OSC CW C (114 - 275mm O.D.)	16029806
	Centring shell - compulsory accessory for MU IV 38 & 128 - 1 per O.D.	See on page 71
	Centring pads- compulsory accessory for MU IV 195 & 275 - 2 per O.D.	See on page 71

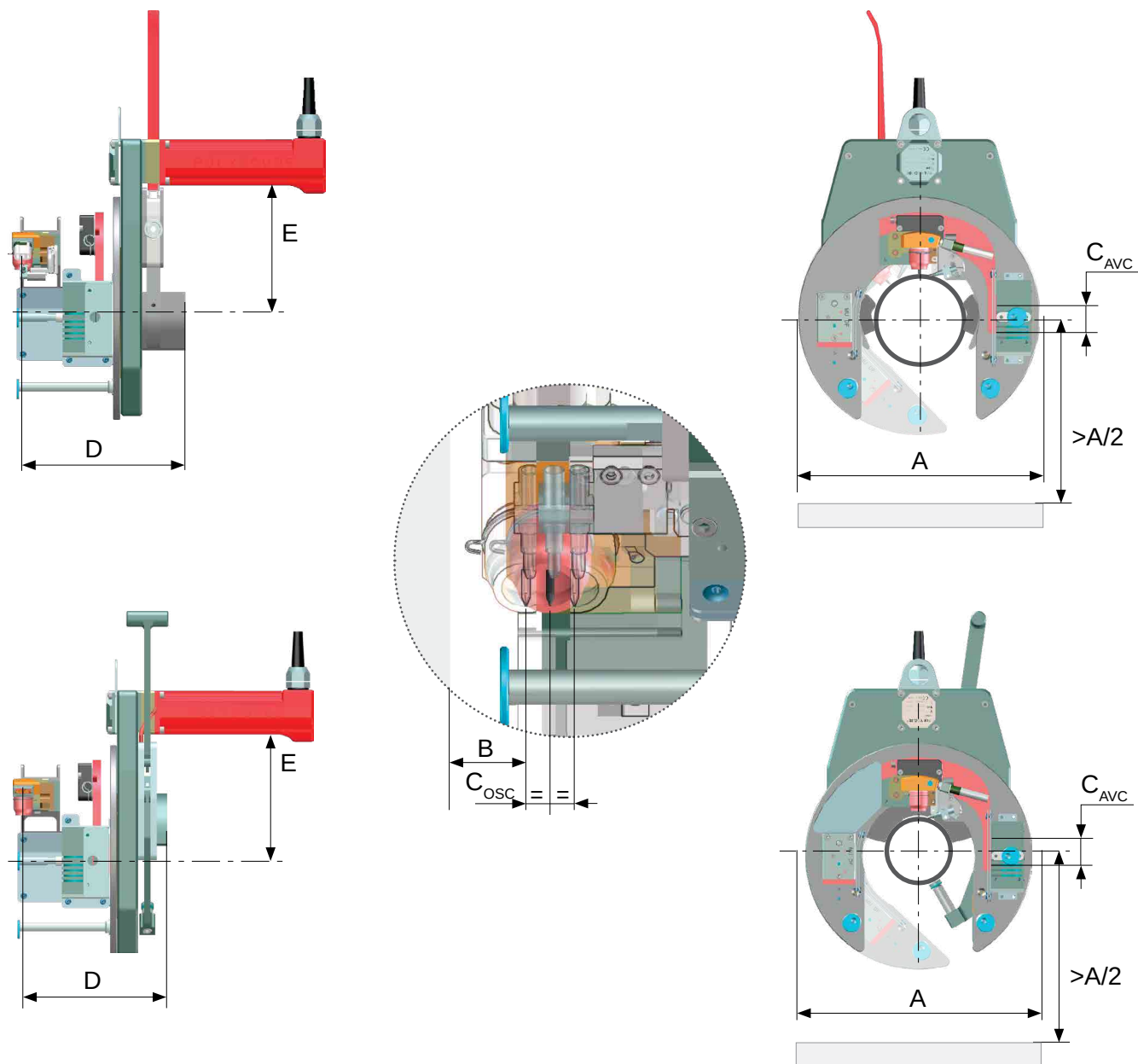
MU IV AVC/OSC CW delivered with	P version	C version
Container for safety packing and transport	✓	✓
9m hose cable	✓	✓
Water-cooled and tiltable torch without wire accessories	✓	✓
Adapter for small O.D.	✓	
Consumable & tool box	✓	✓
Wire accessories for 0.8 mm wire diameter	✓	✓

(1) Standard MU IV welding heads with short delivery time

(2) Integrated wire feeder item no. 11879803

(3) 2<sup>nd</sup> water cooling circuit on the Smart Welding Station is required

## Open welding heads




### MU IV AVC/OSC CW P-clamping dimensions




OD <sub>min.</sub> / OD <sub>max.</sub>	Ø A (mm)	B (mm)	Amplitude		D (mm)	E (mm)	Weight (Kg)
			C <sub>AVC</sub> (mm)	C <sub>OSC</sub> (mm)			
MU IV 8/38 AVC/OSC CW P	142	23	20	20	160	72	12
MU IV 19/80 AVC/OSC CW P	200	16	20	20	148	103	14
MU IV 25/115 AVC/OSC CW P	235	16	20	20	149	148	19
MU IV 25/128 AVC/OSC CW P	340	16	20	30	144	173	22
MU IV 76/219 AVC/OSC CW P	503	16	20	30	197	255	27
MU IV 114/275 AVC/OSC CW P	530	16	20	30	174	276	30

## Technical data

		MU IV AVC/OSC CW	
Welding process			
Compatible with Smart Welding Stations		P6 - PC Series	
O.D. tube range		8 to 275mm	
Duty cycle	100%	190A	
	60%	250A	
Torch cooling system		Closed lopp water cooling	
Slip clutch mechanism <sup>(1)</sup>		Only from MU IV 275 onwards	
Welding speed range <sup>(2)</sup>		for O.D. min. (mm/min)	for O.D. max. (mm/min)
MU IV 8/38 AVC/OSC CW		10 to 165	40 to 785
MU IV 14/38 AVC/OSC CW		15 to 285	40 to 785
MU IV 30/51 AVC/OSC CW		20 to 430	35 to 730
MU IV 30/64 AVC/OSC CW		20 to 430	45 to 920
MU IV 19/80 AVC/OSC CW P		10 to 210	45 to 900
MU IV 30/80 AVC/OSC CW C		20 to 335	45 to 900
MU IV 25/115 AVC/OSC CW P		20 to 345	45 to 950
MU IV 50/115 AVC/OSC CW C		20 to 410	45 to 950
MU IV 25/128 AVC/OSC CW P		15 to 290	45 to 895
MU IV 50/128 AVC/OSC CW C		20 to 350	45 to 885
MU IV 76/219 AVC/OSC CW		15 to 315	40 to 815
MU IV 114/275 AVC/OSC CW		20 to 330	40 to 800

## MU IV AVC/OSC CW C-clamping dimensions

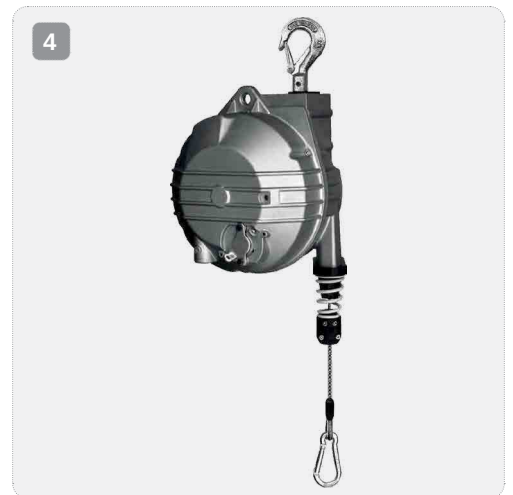
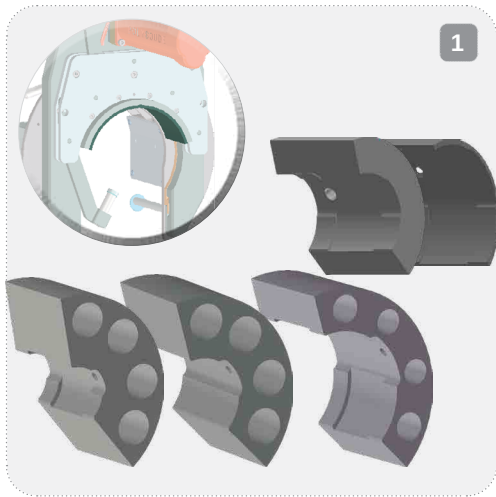
OD <sub>min.</sub> / OD <sub>max.</sub>	Double clamping system option <sup>(3)</sup>	Ø A (mm)	B (mm)	Amplitude		D (mm)	E (mm)	Weight 
				C <sub>AVC</sub> (mm)	C <sub>OSC</sub> (mm)			
MU IV 14/38 AVC/OSC CW C	✓	142	23	20	20	140	72	12
MU IV 14/38 AVC/OSC CW C - reduced	✓	132	35.5	10	20	140	74	11
MU IV 30/51 AVC/OSC CW C - reduced	✓	145	35.5	10	20	152	94	13
MU IV 30/64 AVC/OSC CW C - reduced	✓	158	35.5	10	20	152	94	13
MU IV 30/80 AVC/OSC CW C	✓	200	16	20	20	136	103	14
MU IV 50/115 AVC/OSC CW C	-	235	16	20	20	138	148	19
MU IV 50/128 AVC/OSC CW C	✓	340	16	20	30	158	173	22
MU IV 114/275 AVC/OSC CW C	-	530	16	20	30	199	276	30

(1) These welding heads are equipped with a slip clutch mechanism on the drive rotation which allows to wind the hose very quickly

(2) Speed ranges are identical for welding heads with standard or reduced plate

(3) Recommended option

## Open welding heads





## Accessories

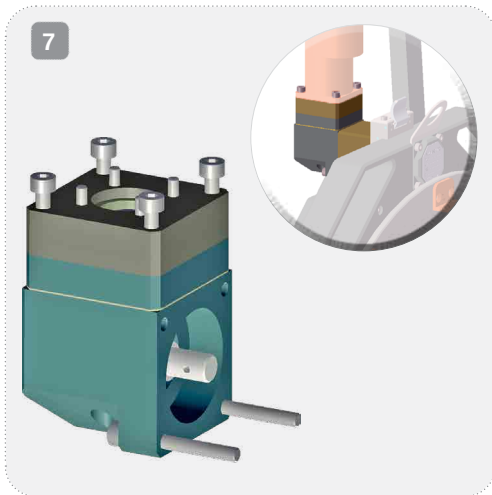
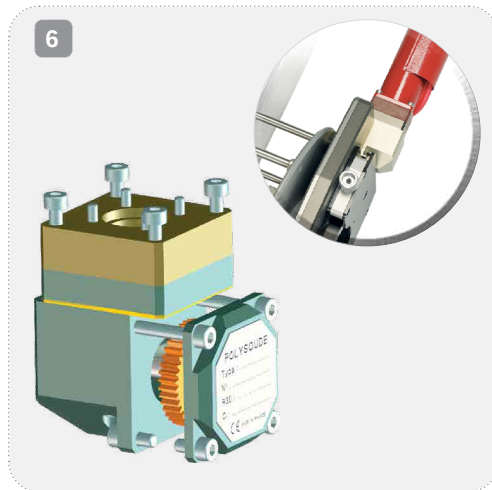
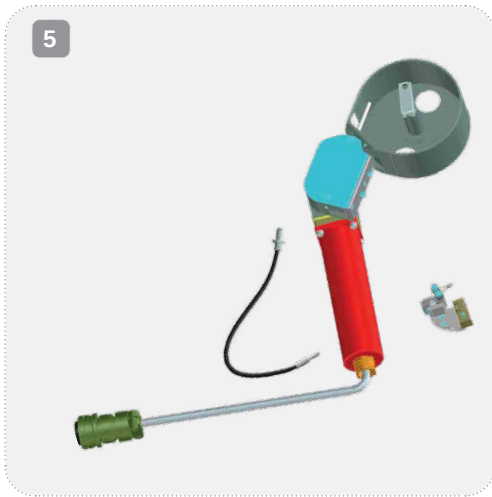
	Centring shell for MU IV 14/38 C <sup>(2)</sup>	00156303XX
	Centring shell for MU IV 30/51 C <sup>(2)</sup>	00156603XX
	Centring shell for MU IV 30/58 C <sup>(2)</sup>	00156603XX
1	Centring shell for MU IV 30/64 C <sup>(2)</sup>	00156603XX
	Centring shell for MU IV 30/80 C <sup>(2)</sup>	00155703XX
	Centring shell for MU IV 44/104 C <sup>(2)</sup>	00154703XX
	Centring shell for MU IV 50/115 C <sup>(2)</sup>	00171303XX
	Centring shell for MU IV 50/128 C <sup>(2)</sup>	00156703XX
	Centring pads for MU IV 76/195 C <sup>(1)</sup>	00154603XX
2	Centring pads for MU IV 101/245 C <sup>(1)</sup>	00155303XX
	Centring pads for MU IV 114/275 C <sup>(1)</sup>	00160203XX
	Balancer - Load range: 4.5 to 7 kg	75501287
3	Balancer - Load range: 9 to 14 kg	75500353
	Balancer - Load range: 13 to 17 kg	75501288
4	Balancer - Load range: 20 to 30 kg	100091211

Balancer item no.	75501287	75500353	75501288	100091211
MU IV 8/38 AVC/OSC CW P	✓			
MU IV 19/80 AVC/OSC CW P	✓			
MU IV 25/115 AVC/OSC CW P		✓		
MU IV 25/128 AVC/OSC CW P			✓	
MU IV 25/128 AVC/OSC CW P + wire feeder				
MU IV 76/219 AVC/OSC CW P				✓
MU IV 76/219 AVC/OSC CW P + wire feeder				✓
MU IV 114/275 AVC/OSC CW P				✓
MU IV 114/275 AVC/OSC CW P + wire feeder				✓
MU IV 14/38 AVC/OSC CW C	✓			
MU IV 14/38 AVC/OSC CW C - reduced	✓			
MU IV 30/51 AVC/OSC CW C - reduced	✓			
MU IV 30/64 AVC/OSC CW C - reduced	✓			
MU IV 30/80 AVC/OSC CW C	✓			
MU IV 50/115 AVC/OSC CW C		✓		
MU IV 50/128 AVC/OSC CW C			✓	
MU IV 114/275 AVC/OSC CW C				✓

(1) 2 adapters or centring pads per tube O.D.

(2) One centring shell per tube O.D.

## Open welding heads



## Consumables: electrode

Sharpened electrodes, cut to suitable length (delivered in a set of 50 identical pieces) <sup>(1)</sup>

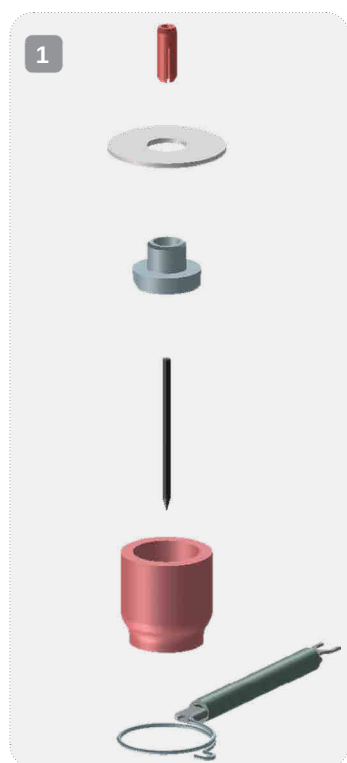
EXXX

(1) Complete reference list available pages n°132 to 135

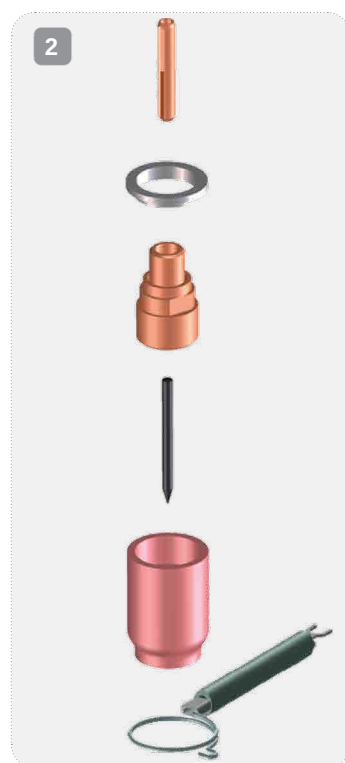
### Options

5	Integrated wire feeder (MU IV 128/195/275) with wire accessories (X/Y adjustment and wire sheath) for wire Ø0.8mm.	11879803
6	Angle gearbox for welding heads MU IV 38 to MU IV 128	75500229
7	Angle gearbox for welding heads with slip clutch MU IV 195 to MU IV 275	15640600
8	Wire accessory length 2.2m Ø 0.8 for MU IV 28 to MU IV 104	15649807
	Wire accessory length 3.2m Ø 0.8 for MU IV 115 to MU IV 275	15649808

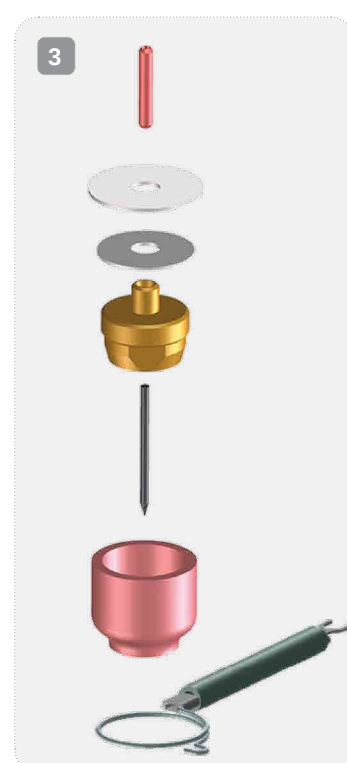
## Open welding heads



*P-type gas lens*



*N-type gas lens*



*GM-type gas lens*

*P-type gas lens spare parts on page 143*

*N-type gas lens spare parts on page 144*

*GM-type gas lens spare parts on page 145*

## Diameter range of tube to be welded with P-clamping (mm)



MU IV 38	8	14	38
MU IV 64 (51)	19	30	64
MU IV 80	19	30	80
MU IV 115	25	50	115
MU IV 128	25	50	128
MU IV 219	-	76	219
MU IV 275	-	114	275

## MU IV open welding heads - gas lens configurations

### MU IV CW welding heads

MU IV	Range (mm)	Ø range (mm)	Without adapter (mm)	Gas lens	Gas nozzle length (mm)	Ø range (mm)
38	8-38	8-14		P	12	8-14
			14-38	P	12	14-38
80	19-80	19-30		N or GM	26	19-30
				P	16	19-30
			30-80	N or GM	26	30-51
				P	16	30-54
				P	12	30-80
115	25-115	25-50		N or GM	26	25-50
				P	16	25-50
			50-115	N or GM	26	50-95
				P	16	50-115
128	25-128	25-70		GM	36	25-70
				N or GM	26	42-70
			70-128	GM	36	70-88
				N or GM	26	70-128
				P	16	70-128
219	76-219	/	/	N or GM	26	76-219
275	114-275	/	/	N or GM	26	114-275

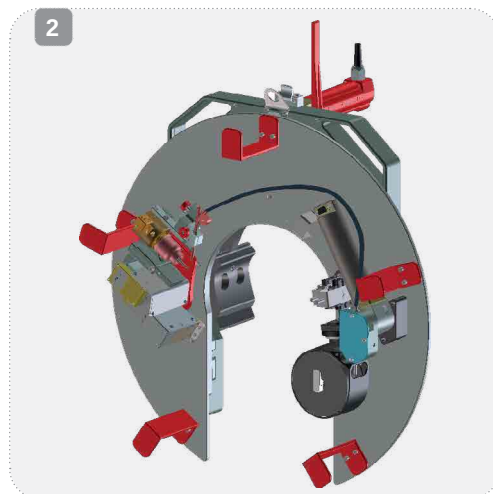
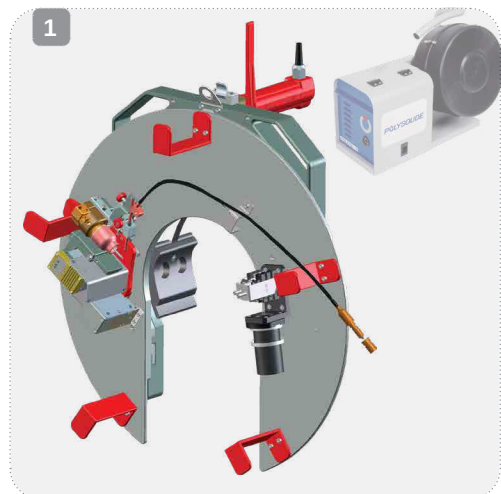
### MU IV CW AVC/OSC welding heads

MU IV	Range (mm)	With adapter (mm)	Without adapter (mm)	Gas lens	Gas nozzle length (mm)	Ø Range (mm)
38	8-38	8-14		P	16	8-14
			14-38	P	16	14-38
80	19-80	19-30		N or GM	26	19-30
			30-80	N or GM	26	30-50
				P	16	30-80
115	28-115	42-50		N or GM	26	42-50
			50-115	N or GM	26	50-102
				P	16	50-115
128	28-128	42-70		GM	26	42-70
				N or GM	26	63-70
			70-128	GM	26	70-108
				N or GM	26	70-128
219	76-219	/	/	N or GM	26	76-219
275	114-275	/	/	N or GM	26	114-275

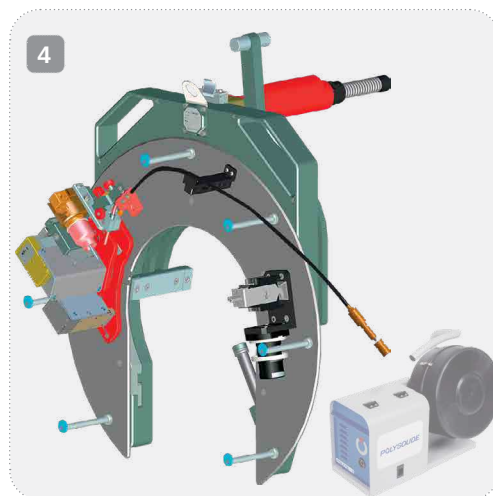
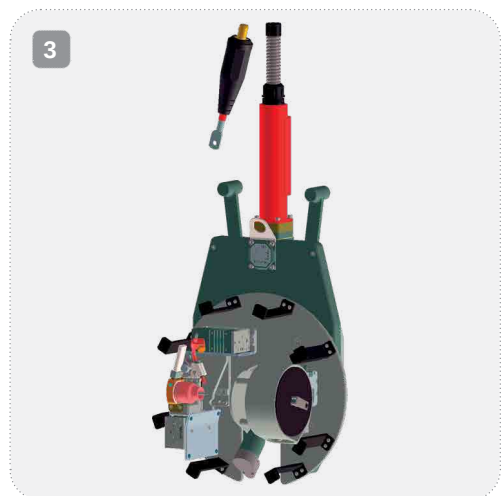
# Open welding heads



## P Version: welding heads with chuck clamping



## C Version: welding heads with water-cooled clamp shells



## ▶ MU IV AVC/OSC HW



### P Version: welding heads with chuck clamping adjustable

1	MU IV 76/219 AVC/OSC HW P <sup>(1)</sup>	0040052701
2	MU IV 76/219 AVC/OSC HW P with integrated wire feeder	0040052801



### C Version: welding heads with water-cooled shell clamping

3	MU IV 30/60 AVC/OSC HW C with integrated wire feeder	0040051701
4	MU IV 76/219 AVC/OSC HW C <sup>(1)</sup>	0040052501
5	Centring shell - compulsory accessory for MU IV 30/60 - 1 per O.D.	See on page 79
6	Centring pads- compulsory accessory for MU IV 76/219 - 2 per O.D.	See on page 79

MU IV HW delivered with	P version	C version
Container for safety packing and transport	✓	✓
9m hose cable	✓	✓
Water-cooled torch with wire accessories	✓	✓
Adapter for small O.D.	✓	
Consumable & tool box	✓	✓
Wire sheath Ø0.8mm for external POLYFIL-3 HW wire feeder	✓	✓

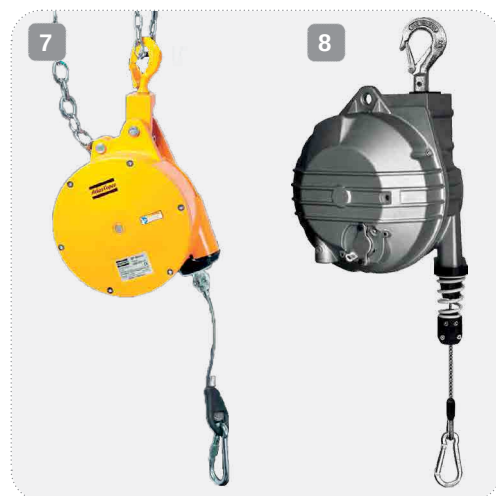
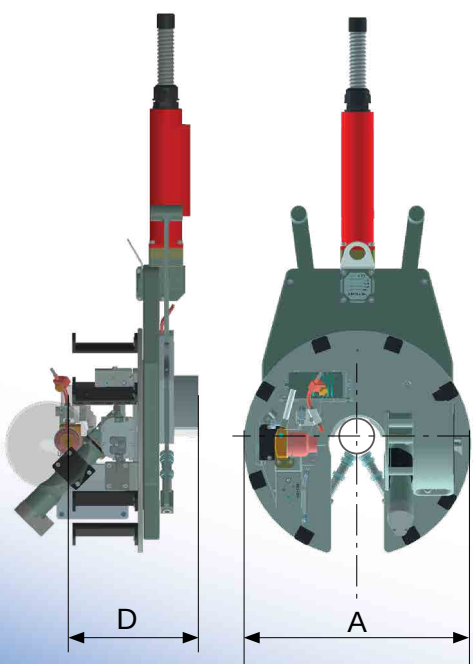
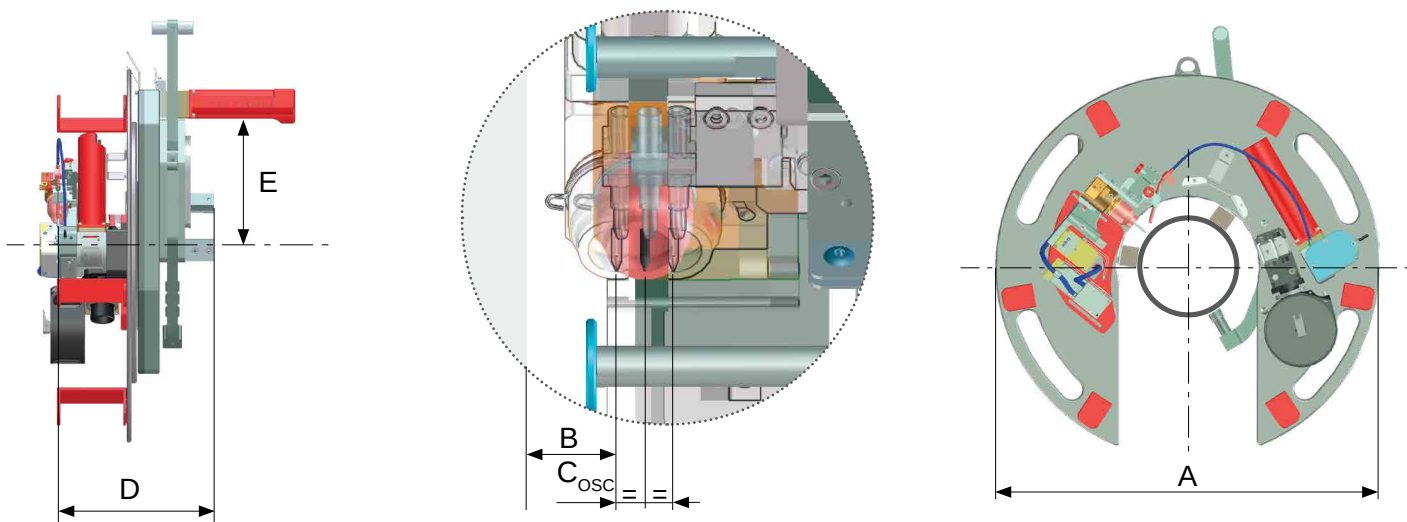
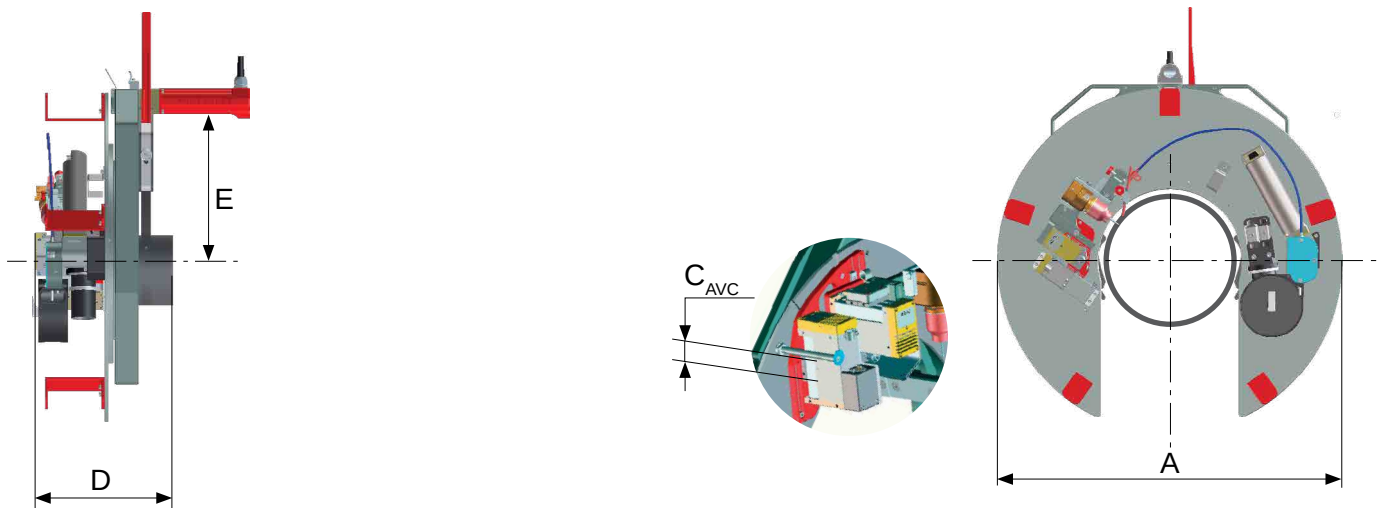
### Technical data

	MU IV 30/60 AVC/OSC HW	MU IV 76/219 AVC/OSC HW
Welding process		
Compatible with Smart Welding Stations	P6 and PC Series	P6 and PC Series
Duty cycle	100% 60%	190A 250A
Torch cooling system	Closed loop water-cooling	Closed loop water-cooling
Outside diameter range	30 to 60 mm	76 to 219 mm
Electrode diameter	2.4 mm	3.2 mm

(1) can only be used with an external wire feeder POLYFIL-3 HW (see on page 123)



# Open welding heads





## MU IV AVC/OSC HW P-clamping dimensions

OD <sub>min.</sub> / OD <sub>max.</sub>	Ø A (mm)	B (mm)	Amplitude		D (mm)	E (mm)	Weight (KG)
			C <sub>AVC</sub> (mm)	C <sub>OSC</sub> (mm)			
MU IV 76/219 AVC/OSC HW P	580	27	40	40	205	250	32
MU IV 76/219 AVC/OSC HW P with integrated wire feeder	580	27	40	40	205	250	36



## MU IV AVC/OSC HW C-clamping dimensions

OD <sub>min.</sub> / OD <sub>max.</sub>	Ø A (mm)	B (mm)	Amplitude		D (mm)	E (mm)	Weight (KG)
			C <sub>AVC</sub> (mm)	C <sub>OSC</sub> (mm)			
MU IV 30/60 AVC/OSC HW C with integrated wire feeder <sup>(2)</sup>	280	26.5	20	30	160	/	25
MU IV 76/219 AVC/OSC HW C <sup>(2)</sup>	580	27	40	40	217	255	32

## Accessories

5	Centring shell for MU IV 50/128 C <sup>(2) (3)</sup>	156703XX
6	Centring pads for MU IV 101/245 C <sup>(2) (4)</sup>	155303XX
7	Balancer - Load range: 13 to 17 kg	75501288
8	Balancer - Load range: 20 to 30 kg	100091211
	Balancer - Load range: 27 to 35 kg	100090455

Balancer item no.	75501288	100091211	100090455
MU IV 76/219 AVC/OSC HW P		✓	
MU IV 76/219 AVC/OSC HW P with wire feeder			✓
MU IV 30/60 AVC/OSC CW C	✓		
MU IV 76/219 AVC/OSC CW C		✓	

## Consumables: electrode

Sharpened electrodes, cut to suitable length (delivered in a set of 50 identical pieces) <sup>(1)</sup>	EXXX
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(1) Complete reference list available pages n°132 to 135

## Options

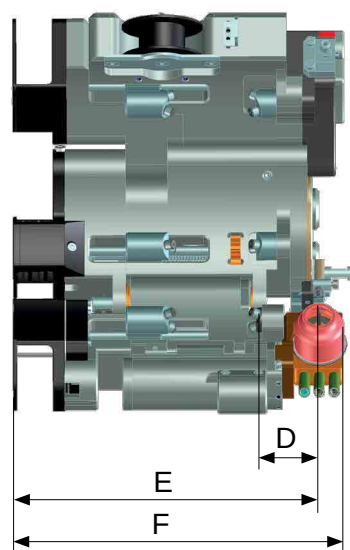
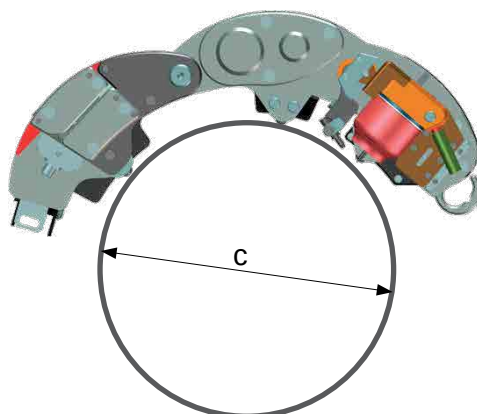
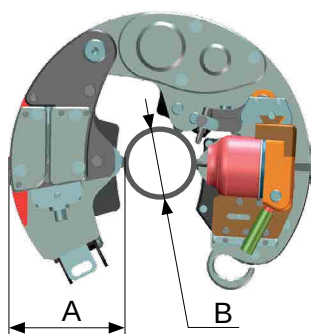
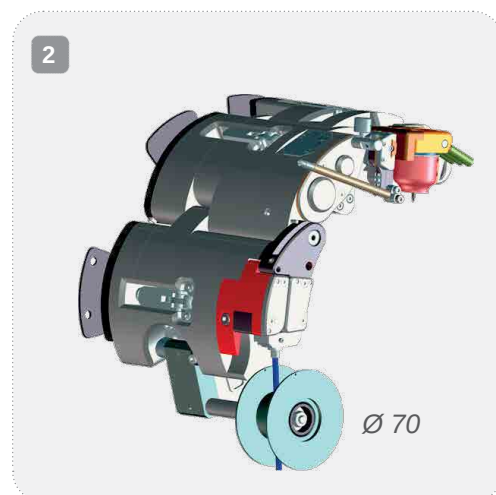
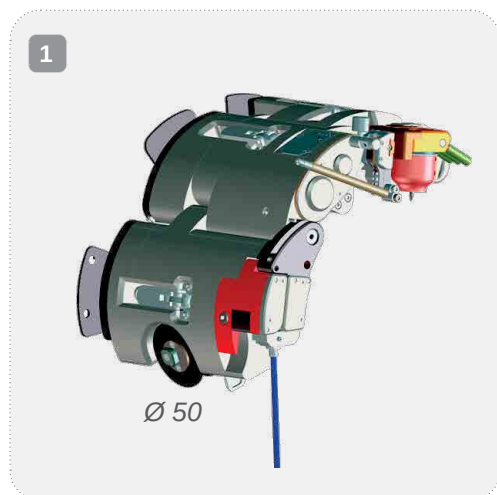
Angle gearbox for welding heads with slip clutch MU IV 195 to MU IV 275	15640600
Electrode kit Ø4.0 version (with gas lens support, gas lens and chuck)	0029851201

(2) The clamping unit for the MU IV 30/60 is based on the MU IV 50/128 C-clamping system and the one for the MU IV 76/219 is based on the MU IV 101/245 C-clamping system

(3) One centring shell per tube O.D.

(4) 2 adapters or centring pads per clamping system

## Carriage-type welding heads



Polycar 30 dimensions in mm

Polycar 30 CW	
A	60
B	32
C	168
D	34
E	185
F	200



## ► POLYCAR 30 CW

- |   |  |            |
|---|--|------------|
| 1 | <b>POLYCAR 30 AVC/OSC LP CW</b> , TIG with Ø 50mm spool (radial clearance 60mm) <sup>(1)</sup> | 0023680001 |
| 2 | <b>POLYCAR 30 AVC/OSC CW</b> , TIG with Ø 70mm spool (radial clearance 75mm)                   | 0023680002 |

The **POLYCAR 30 CW** welding head is especially design for orbital welding of tubes with an O.D. from 32 to 168mm (1.3" to 6.6") for minimum radial clearance conditions.

Polycar 30 CW delivered with	
Compact shipping case for safety packing and transport	✓
AVC/OSC slides	✓
Wire accessories	✓
On board wire feeder	✓
Cable bundles and hoses 15m	✓
Consumable & tool box	✓
Kit for daily operation	✓

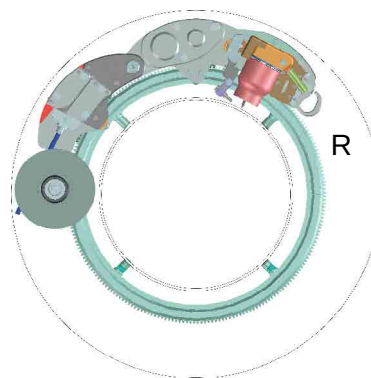
### Technical data

Technical data		Polycar 30 CW
Welding process		
Compatible with Smart Welding Stations		P6 - PC Series
Duty cycle	100%	200A
	60%	200A
O.D. tube range		32 to 168mm <sup>(2)</sup>
Torch type		Special TIG torch with large gas lens
Torch cooling		Closed loop water cooling
Maximum AVC/OSC travel speed		500mm/min
AVC/OSC slide stroke		10mm
AVC/OSC slide motorisation		Stepper motor
Wire feeder		On board
Maximum wire feeding speed		2000mm/min
Compatible spool		Ø50mm - 0.5kg (LP version) or Ø70mm - 1.5kg
Axis wire adjustment		X/Y axis wire adjustment ± 2.5mm - 0.1" and angular adjustment
Recommended wire-Ø		0.8mm
Bundle cable length		15m
Weight (without cable nor bundle)		3kg

(1) Only for aluminium application

(2) For bigger O.D. tube, please consult us.

# Carriage-type welding heads



## Radial Clearance

On calibrated tubes - O.D ± 0.2mm							
O.D (mm)	32	42	50	70	108	114	168
R with spool Ø 50 <sup>(1)</sup>				60			
R with spool Ø 100	113	112	111.5	109.5	108.5	108	106

On tubes according to EN 10216-2										
O.D (mm)	33.7	42.4	48.3	60.3	73	88.9	101.6	114.3	141.3	168.2
R with spool Ø 70					75					
R with spool Ø 100	124	122	120	119	119	118	118	117	116	116

(1) Important: The 0.5kg wire spool can be used with aluminium wire ONLY.

### Accessories: Guide rings for calibrated tubes – O.D. ±0.2mm

	Guide ring (Stainless steel 304L) O.D. 32mm (1.3")	0023682900
	Guide ring (Stainless steel 304L) O.D. 42mm (1.65")	0023683100
	Guide ring (Stainless steel 304L) O.D. 50mm (2")	0023682800
	Guide ring (Stainless steel 304L) O.D. 57mm (2.2")	0023683300
	Guide ring (Stainless steel 304L) O.D. 70mm (2.8")	0023682700
1	Guide ring (Stainless steel 304L) O.D. 108mm (4.3")	0023682600
	Guide ring (Stainless steel 304L) O.D. 114mm (4.48")	0023683000
	Guide ring (Stainless steel 304L) O.D. 168mm (6.6")	0023682500
	Guide ring (Stainless steel 304L) O.D. 219mm (8.62")	On request
	Other diameters between 32 to 168mm	On request

### Accessories: Guide rings for standard O.D. tubes - Seamless steel tubes <sup>(1)</sup>

	Guide ring (Stainless steel 304L) O.D. 33.7 mm (1.33")	0023684020
	Guide ring (Stainless steel 304L) O.D. 42.4 mm (1.66")	0023684030
	Guide ring (Stainless steel 304L) O.D. 48.3 mm (1.9")	0023684035
	Guide ring (Stainless steel 304L) O.D. 60.3 mm (2.37")	0023684040
	Guide ring (Stainless steel 304L) O.D. 73 mm (2.87")	0023684045
	Guide ring (Stainless steel 304L) O.D. 88.9 mm (3.5")	0023684025
1	Guide ring (Stainless steel 304L) O.D. 101.6 mm (4")	0023684050
	Guide ring (Stainless steel 304L) O.D. 108 mm (4.25")	0023684075
	Guide ring (Stainless steel 304L) O.D. 114.3 mm (4.5")	0023684055
	Guide ring (Stainless steel 304L) O.D. 141.3 mm (5.56")	0023684060
	Guide ring (Stainless steel 304L) O.D. 159 mm (6.26")	0023684080
	Guide ring (Stainless steel 304L) O.D. 168.2 mm (6.6")	0023684010
	Guide ring (Stainless steel 304L) O.D. 219.1 mm (8.62")	0023684065

### Consumables

	Pressure roll Ø0.8	0023680453
	Pressure roll Ø1.0 <sup>(3)</sup>	0023680454
	Pressure roll Ø1.2 <sup>(3)</sup>	0023680455
	Sharpened electrodes cut to suitable length (delivered in a set of 50 identical pieces) <sup>(2)</sup>	EXXX

The standard version of the wire feeder includes 2 pressure rolls for 0.8mm wire

### Options

2	Wire spool holder support 1.5kg (Ø100mm) including: casing holder 4", casing 4" and swivel	0023680801
3	Steel tube welding kit including: spool holder 70mm, long nozzle 36mm, wire accessory for Ø0.8 wire and spool Ø70mm (empty)	0023681901

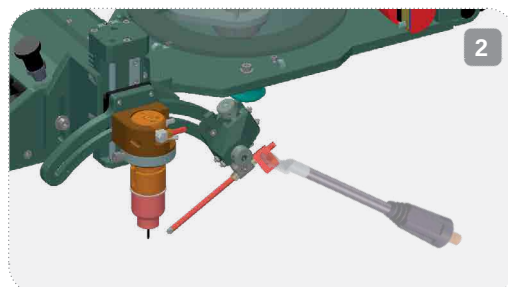
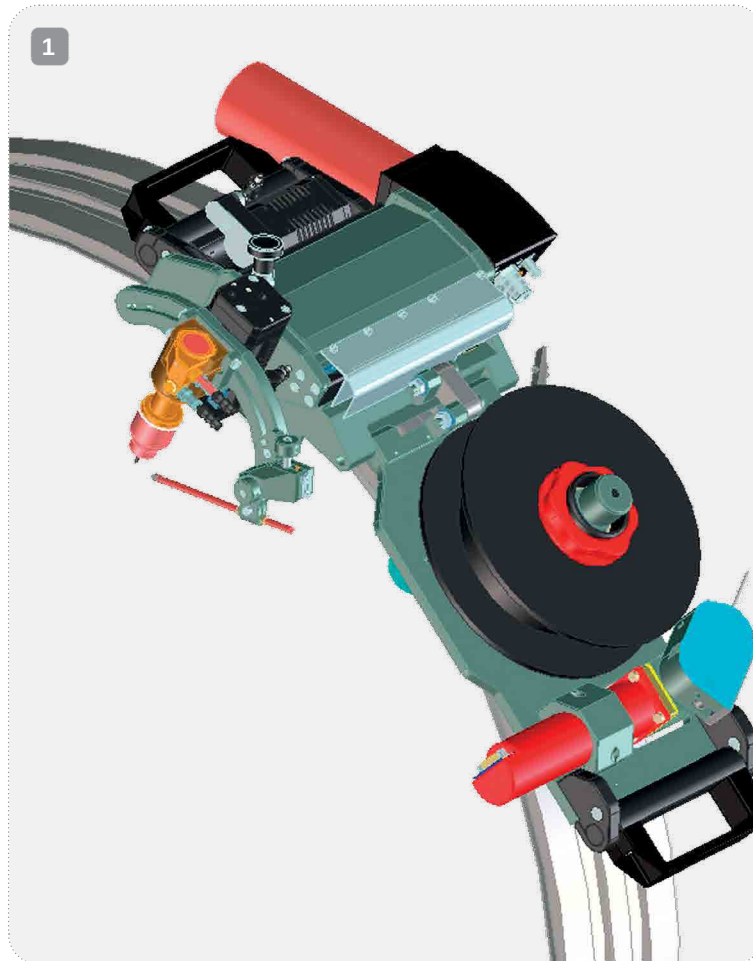
(1) Standard O.D. tubes according to EN 10216-2 - Seamless steel tubes

(2) Complete reference list available pages n°132 to 135

(3) Only for aluminium application



## Carriage-type welding heads








## ► POLYCAR 60 CW/HW

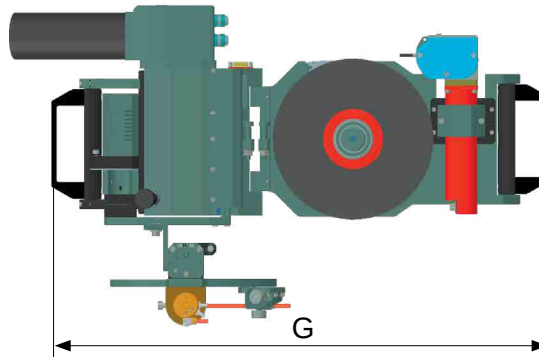
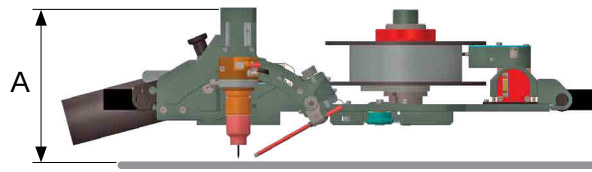
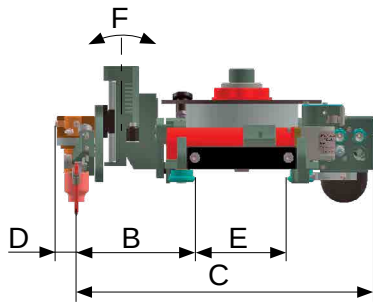
<b>1</b>	POLYCAR 60-2 CW	0019500001
<b>1 + 2</b>	POLYCAR 60-2 HW	0019500002

POLYCAR 60-2 delivered with	CW	HW
Compact shipping case for safety packing and transport	✓	✓
AVC/OSC slides	✓	✓
Wire accessories	✓	✓
On-board wire feeder	✓	✓
Cable bundles and hoses 11m	✓	✓
Consumable & tool box	✓	✓

### Technical data

Technical data		60-2 CW	60-2 HW
Welding process			
Compatible with Smart Welding Stations		P6 - PC-2	P6 HW - PC-2 HW
Diameter range		≥ 168mm	
Duty cycle	100%	250	
	60%	300	
Torch type		TIG torch	
Torch cooling		Closed loop water cooling	
Torch tilting		±15°	
Maximum AVC travel speed		500mm/min	
AVC slide stroke		60mm	
AVC slide motorisation		Stepper motor	
Maximum OSC travel speed		1000mm/min	
OSC slide stroke		60mm	
OSC slide motorisation		Stepper motor	
Wire feeder		On-board	
Maximum wire feeding speed		2068mm/min	7929 mm/min
Compatible spool		200 mm / 5 kg	200 mm / 5 kg
Axis wire adjustment		X/Y axis wire adjustment ± 2.5mm - 0.1" and angular adjustment	
Recommended wire-Ø		0.8mm – 1.0mm – 1.2mm	
Bundle cable length		12m	
Weight (without spool nor bundle)		9kg	

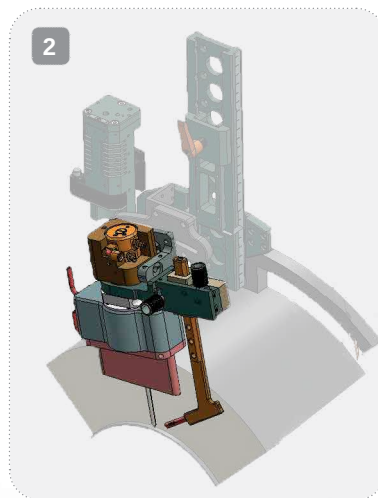
## Carriage-type welding heads



### Polycar 60-2 dimensions in mm

#### Polycar 60-2 CW/HW

A	167 min (190*)	(* Dimension with offset)
B	146.5	
C	405 ±35	
D	27	
E	120	
F	±15°	
G	618	



## Accessories: Guide rings <sup>(1)</sup>

	Nickel-plated steel guide ring with spacers (stainless steel) O.D. 168mm (6")	12672101
	Nickel-plated steel guide ring with spacers (stainless steel) O.D. 219mm (8")	12672701
	Nickel-plated steel guide ring with spacers (stainless steel) O.D. 273mm (10")	12672801
	Nickel-plated steel guide ring with spacers (stainless steel) O.D. 324mm (12")	12672901
	Nickel-plated steel guide ring with spacers (stainless steel) O.D. 356mm (14")	12673001
	Nickel-plated steel guide ring with spacers (stainless steel) O.D. 406mm (16")	12672501
	Nickel-plated steel guide ring with spacers (stainless steel) O.D. 457mm (18")	12673101
	Nickel-plated steel guide ring with spacers (stainless steel) O.D. 508mm (20")	12672601
	Nickel-plated steel guide ring with spacers (stainless steel) O.D. 559mm (22")	12673201
1	Nickel-plated steel guide ring with spacers (stainless steel) O.D. 609mm (24")	12673301
	Nickel-plated steel guide ring with spacers (stainless steel) O.D. 660mm (26")	12673401
	Nickel-plated steel guide ring with spacers (stainless steel) O.D. 711mm (28")	12673501
	Nickel-plated steel guide ring with spacers (stainless steel) O.D. 762mm (30")	12673601
	Nickel-plated steel guide ring with spacers (stainless steel) O.D. 813mm (32")	12673701
	Nickel-plated steel guide ring with spacers (stainless steel) O.D. 864mm (34")	12673801
	Nickel-plated steel guide ring with spacers (stainless steel) O.D. 914mm (36")	12673901
	Nickel-plated steel guide ring with spacers (stainless steel) O.D. 1016mm (40")	12674201
	Nickel-plated straight track, length 2.5 m	12671501
	Other dimensions	On request
	Extension feet in stainless steel	On request

Important: Please consult us to choose the guide ring and indicate tube O.D.

## Accessory

2	V2 torch kit for POLYCAR 60-2 (for welding up to 75mm wall thickness) <sup>(1)</sup>	0021140001
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*For 15m extension cable, please see on page <TS> (P6 Smart Welding Station) or on page 28 (PC Smart Welding Station)*

## Consumables: electrode

	Sharpened electrodes, cut to suitable length (delivered in a set of 50 identical pieces) <sup>(2)</sup>	EXXX
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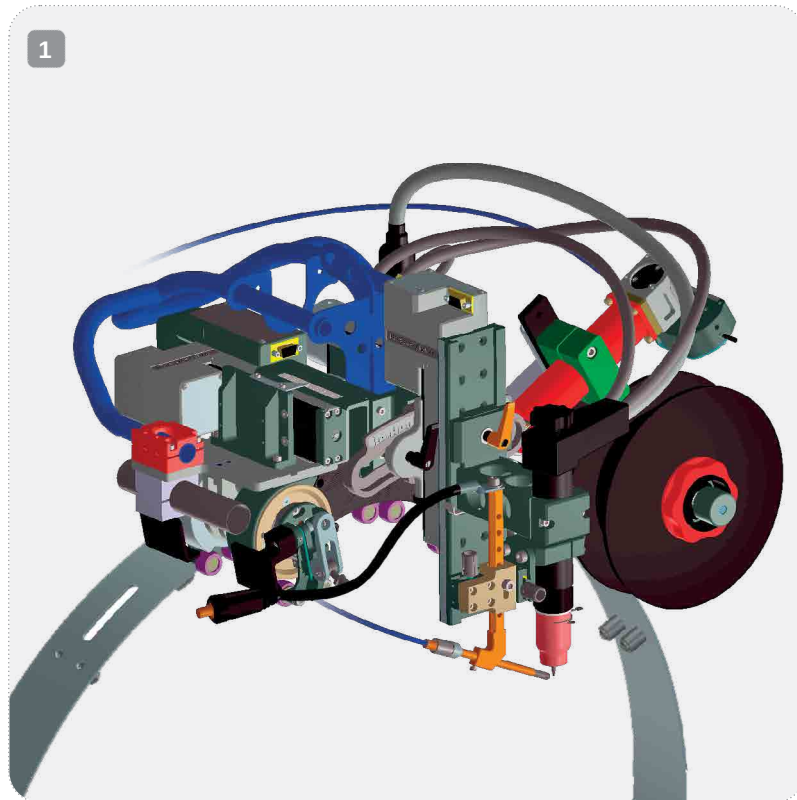
*(2) Complete reference list available pages n°132 to 135*

## Options

3	Cartridge torch	0019500501
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*(1) Compatible with Polycar 60 welding heads*

## Carriage-type welding heads



## ► POLYCAR MP HW



### 1 POLYCAR MP TIG HW with WP27 torch

0024750001

The **POLYCAR MP TIG HW** welding head equipped with the WP27 torch is designed for orbital welding of tubes & pipes with wall thickness up to 35 mm <sup>(1)</sup>

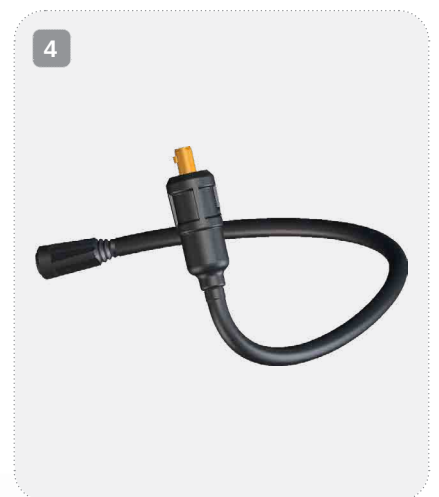
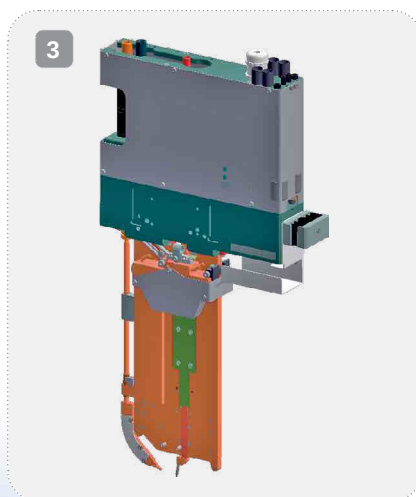
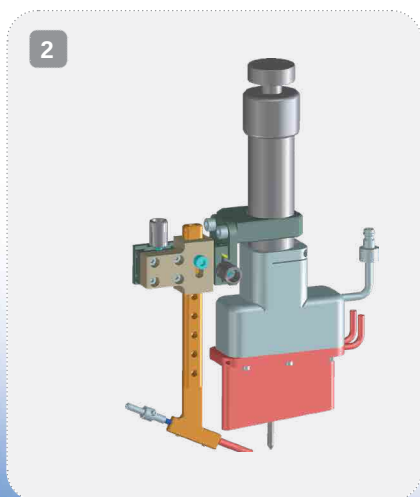
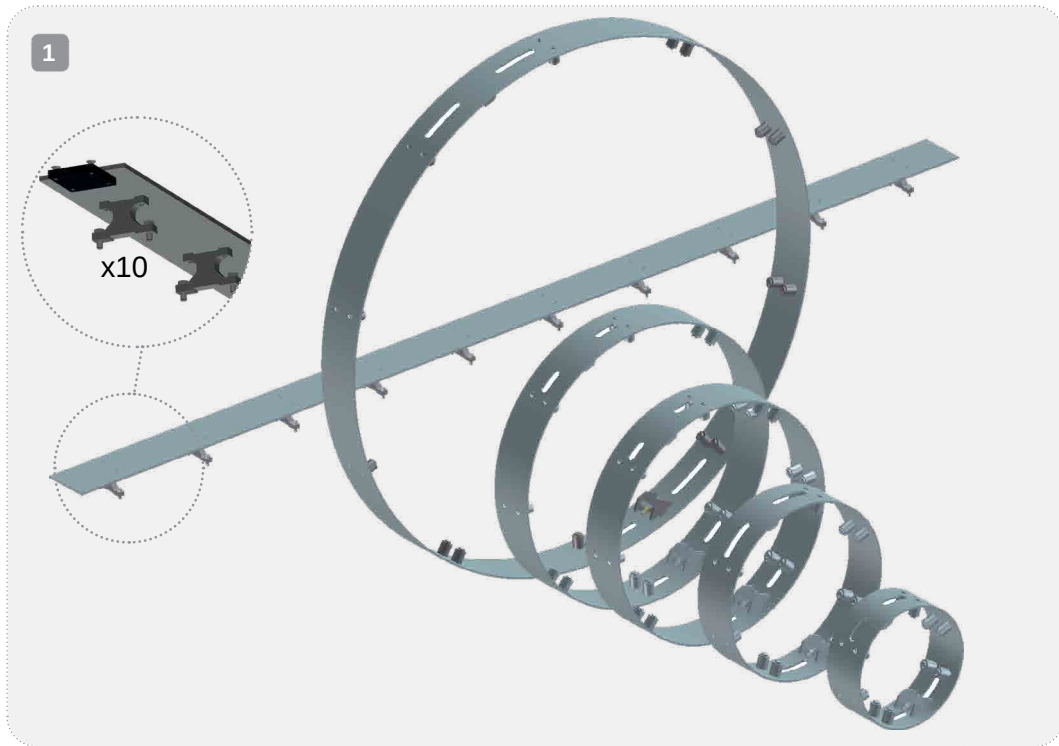
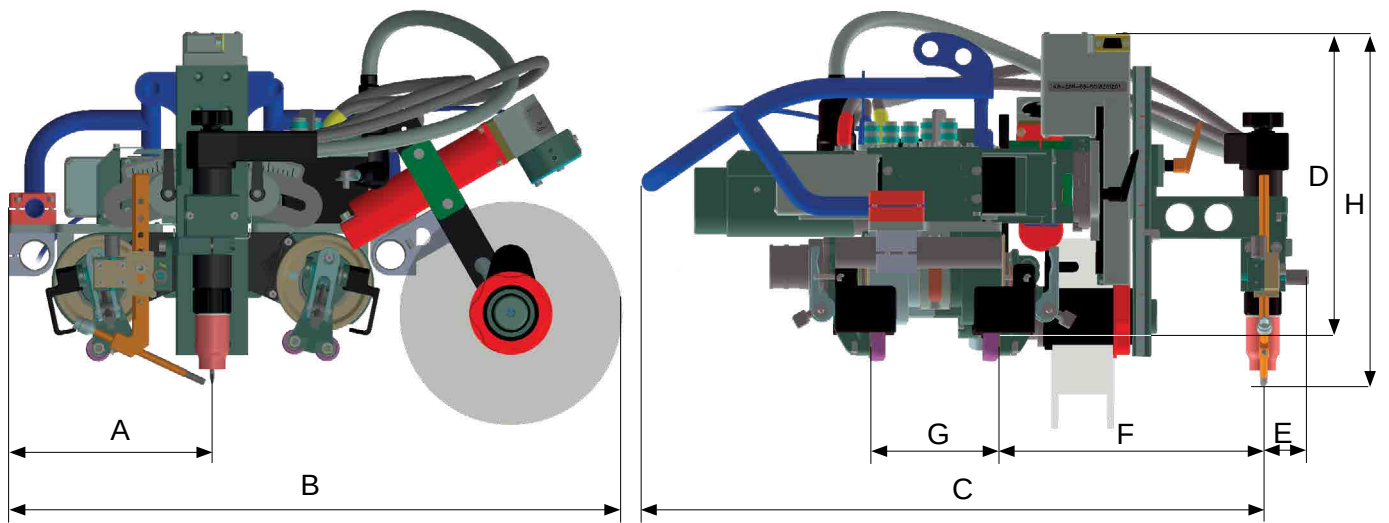
Polycar MP HW delivered with	
Compact shipping case for safety packing and transport	✓
AVC/OSC slides with electronic brake & limit switches	✓
Adjustable slide for torch height	✓
Tiltable torch -20°/0°	✓
2-axes wire adjustment	✓
Cables and hoses bundles length 15m	✓
Integrated wire feeder	✓
Consumable & tool box	✓

### Technical data

		Polycar MP HW
Welding process		
Compatible with Smart Welding Stations		P6 HW - PC-2 HW
Diameter range		≥ 168mm/6"
Duty cycle	100%	400A
	60%	450A
Torch type		WP27 TIG torch
Torch cooling		Closed loop water cooling
Maximum AVC/OSC travel speed		2500mm/min
AVC/OSC slide stroke		69mm
AVC/OSC slide motorisation		Stepper motor
Slide for torch height		Manual adjustment - stroke 180mm
Wire feeder		On-board HW
Maximum wire feeding speed		7929mm/min
Compatible spool		Ø200mm - 5kg
Axis wire adjustment		X/Y axis wire adjustment
Recommended wire-Ø		0.8mm – 1.0mm – 1.2mm
Bundle cable length		15m
Weight (without cable)		16kg

(1) For wall thicknesses >35mm, see accessories on page 91

# Carriage-type welding heads



## Polycar MP HW dimensions in mm

Polycar MP HW			
A	182	E	40
B	550	F	236 ±35
C	550 ±35	G	120
D	270	H	348 ±35

### Accessories: Stainless Steel Guide Ring with feet (mm/in)

	Stainless steel guide ring with feet - O.D. 168mm (6")	0021730601
	Stainless steel guide ring with feet - O.D. 219mm (8")	0021730801
	Stainless steel guide ring with feet - O.D. 273mm (10")	0021731001
	Stainless steel guide ring with feet - O.D. 324mm (12")	0021731201
	Stainless steel guide ring with feet - O.D. 356mm (14")	0021731401
	Stainless steel guide ring with feet - O.D. 406mm (16")	0021731601
	Stainless steel guide ring with feet - O.D. 457mm (18")	0021731801
	Stainless steel guide ring with feet - O.D. 508mm (20")	0021732001
	Stainless steel guide ring with feet - O.D. 559mm (22")	0021732201
1	Stainless steel guide ring with feet - O.D. 609mm (24")	0021732401
	Stainless steel guide ring with feet - O.D. 660mm (26")	0021732601
	Stainless steel guide ring with feet - O.D. 711mm (28")	0021732801
	Stainless steel guide ring with feet - O.D. 762mm (30")	0021733001
	Stainless steel guide ring with feet - O.D. 813mm (32")	0021733201
	Stainless steel guide ring with feet - O.D. 854mm (34")	0021733401
	Stainless steel guide ring with feet - O.D. 914mm (36")	0021733601
	Stainless steel guide ring with feet - O.D. 1016mm (40")	0021734001
	Straight track with feet, L= 2.5 m	0021020101
	Other dimensions	On request

### Accessories: torches & cable

2	V2 torch kit for the POLYCAR MP TIG (for welding up to 75mm wall thickness)	0020511301
3	Narrow groove torch kit for wall thicknesses >75mm for double POLYCAR MP	On request
4	120mm <sup>2</sup> /70mm <sup>2</sup> adaptation kit for current or earth cable for POLYCAR MP use <sup>(1)</sup>	0023001800

### Consumables: electrode

	Sharpened electrodes, cut to suitable length (delivered in a set of 50 identical pieces) <sup>(2)</sup>	EXXX
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(1) Must be ordered to adapt the 70mm<sup>2</sup> current (or earth) cable of the Smart Welding Station with the 120mm<sup>2</sup> current (or earth) cable of the welding head

(2) Complete reference list available pages n°132 to 135



## Tube-to-tubesheet welding heads





TS 34-2 delivered with	
Container for safety packing and transport	✓
9m hose cable	✓
Manual clamping assembly	✓
Spare parts box (tools)	✓
Kit shielding gas chambers with 3 front rings	✓
Set of clamping cones for I.D. from 10 to 14 mm	✓
Set of clamping cones for I.D. from 14 to 19 mm	✓
Set of clamping cones for I.D. from 19 to 25 mm	✓
Set of clamping cones for I.D. from 25 to O.D. 33.7 mm	✓

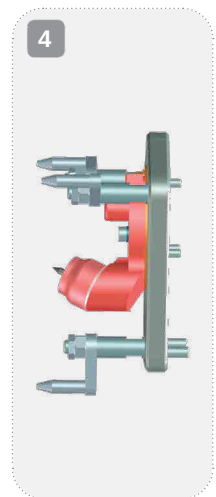
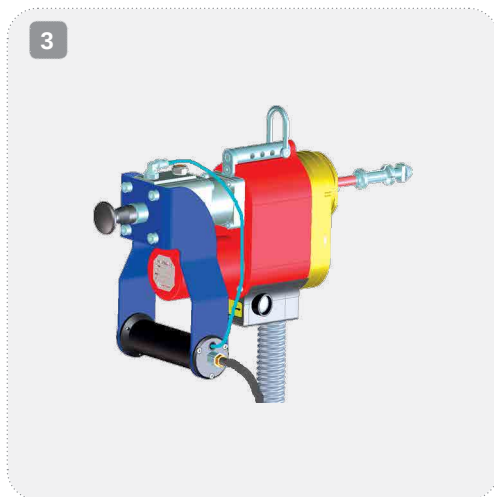
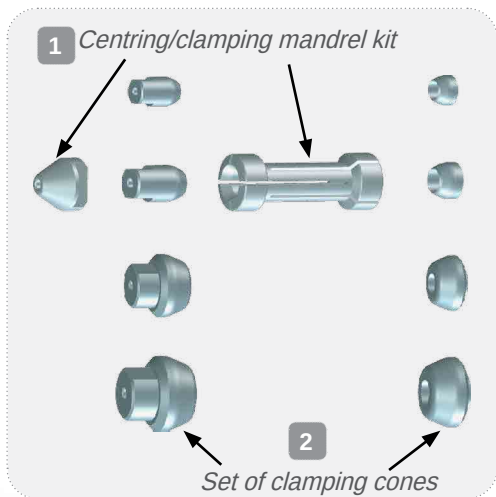
**When ordering a TS 34-2 welding head:**

- Please specify the range of tube I.D. to be welded
- For each I.D., order a centring/clamping chuck set (Item no. 00204740xx) and specify the I.D.

**Technical data**

Technical data		TS 34-2
Welding process		
Compatible with Smart Welding Stations		P4 - P6 - PC
Duty cycle	100%	120A
Collector cooling		Closed water circuit
Min. tube I.D.		10mm
Max. tube O.D.		33.7 mm – other dimensions on request
Tube joint design	Flush	Standard
	Recessed	1mm max.
	Protruding	0.5mm max.
	Internal bore welding	Option
Positioning / Centering		Expansion mandrel
Purge gas chamber		Standard
Weight		3.8 kg (without cable)
Cable length		9 m

# Tube-to-tubesheet welding heads



## TS 34- 2 dimensions in mm

	TS 34-2
A	305
B	233
C	70
D	35
E	220

### Accessories

1	Centring/clamping mandrel kit (expanding mandrel and introduction nose) (I.D. 10 to 33.7 mm). I.D. to be specified on order.	00204740XX
2	Set of clamping cones for tubes I.D. 10 to 14 mm <sup>(2)</sup>	0020472201
	Set of clamping cones for tubes I.D. 14 to 19 mm <sup>(2)</sup>	0020472301
	Set of clamping cones for tubes I.D. 19 to 25 mm <sup>(2)</sup>	0020472401
	Set of clamping cones for tubes I.D. 25 to O.D. 33.7 mm <sup>(2)</sup>	0020472501
	Balancer type K22/625 - Load range: 2.6 to 3.8kg	75501234
	Additional fee for chromium of the centring mandrel	On demand
3	Pneumatic clamping unit	0020472001
4	Torch TS 34-2 with Ø 2.4 gas lens, assembled	0020470002

### Consumables: electrode

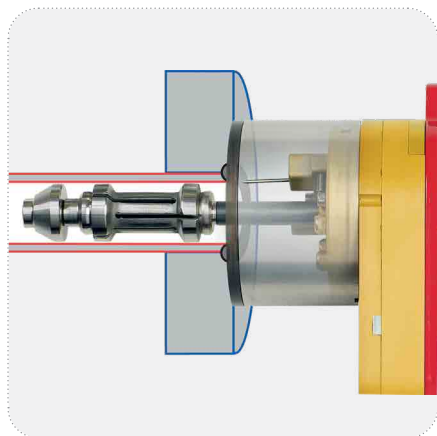
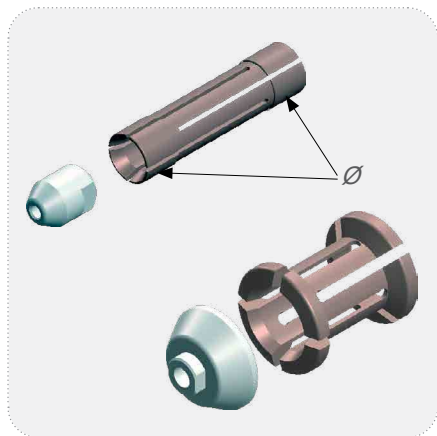
	Sharpened electrodes, cut to suitable length (delivered in a set of 50 identical pieces) <sup>(1)</sup>	EXXX
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(1) Complete reference list available pages n°132 to 135

(2) Included in the ref. of the TS-34

# Tube-to-tubesheet welding heads

## TS 34-2 centring units



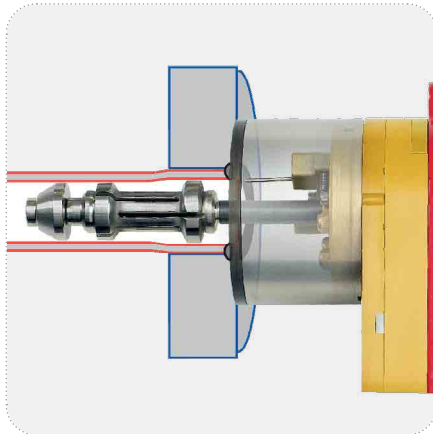
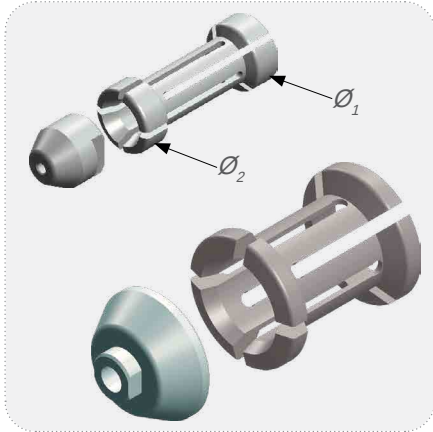
Tube I.D. range (mm)	Centring unit
13.25 to 13.50	0020474068
13.50 to 13.75	0020474020
13.75 to 14.00	0020474058
14.00 to 14.25	0020474088
14.25 to 14.50	0020474050
14.50 to 14.75	0020474076
14.75 to 15.00	0020474029
15.50 to 15.75	0020474026
15.75 to 16.00	0020474017
16.00 to 16.25	0020474013
16.25 to 16.50	0020474070
16.50 to 16.75	0020474040
16.75 to 17.00	0020474030
17.25 to 17.50	0020474073
17.50 to 17.75	0020474051
17.75 to 18.00	0020474074
18.00 to 18.25	0020474021
18.25 to 18.50	0020474023
18.50 to 18.75	0020474056
18.75 to 19.00	0020474057
19.75 to 20.00	0020474018
20.25 to 20.50	0020474003
20.50 to 20.75	0020474069
20.75 to 21.00	0020474006
21.00 to 21.25	0020474080
21.25 to 21.50	0020474077
21.50 to 21.75	0020474062
21.75 to 22.00	0020474022
22.00 to 22.25	0020474044
22.25 to 22.50	0020474084
22.50 to 22.75	0020474082

Tube I.D. range (mm)	Centring unit
22.75 to 23.00	0020474004
23.00 to 23.25	0020474083
23.50 to 23.75	0020474048
23.75 to 24.00	0020474024
24.00 to 24.25	0020474064
24.25 to 24.50	0020474025
24.75 to 25.00	0020474053
25.50 to 25.75	0020474027
25.75 to 26.00	0020474019
26.00 to 26.25	0020474091
26.50 to 26.75	0020474028
26.75 to 27.00	0020474049
27.00 to 27.25	0020474055
27.25 to 27.50	0020474010
27.50 to 27.75	0020474054
27.75 to 28.00	0020474092
29.50 to 29.75	0020474016
30.25 to 30.50	0020474037
30.50 to 30.75	0020474038

Tube I.D. range (mm)	Centring unit
9.75 to 10.00	0020474001
10.00 to 10.25	0020474090
10.25 to 10.50	0020474002
10.50 to 10.75	0020474033
11.00 to 11.25	0020474072
11.50 to 11.75	0020474059
11.75 to 12.00	0020474052
12.00 to 12.25	0020474089
12.50 to 12.75	0020474085
12.75 to 13.00	0020474009
13.00 to 13.25	0020474039

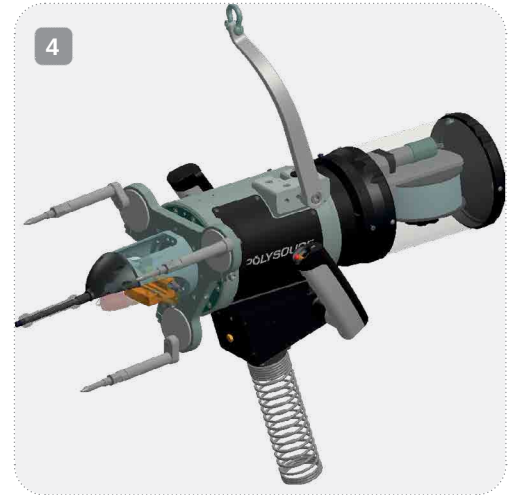
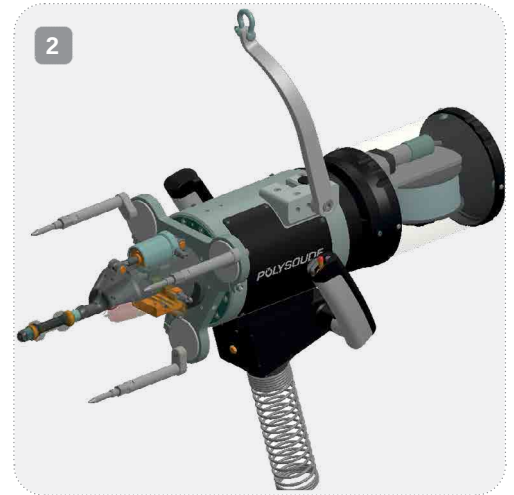
## Expanded tubes

When tubes are expanded by press fit, the O.D. of the centring chuck may be larger than the original tube I.D. When ordering the clamping unit, please specify the depth of expansion and the diameter of the tube I.D. where it has been expanded.



Tube I.D. (mm)	Centring unit
14.40/14.80	0020474007
15.70/15.40	0020474032
16.90/16.60	0020474061
17.00/17.30	0020474031
17.60/17.85	0020474042
18.00/18.30	0020474014
21.00/21.25	0020474080
21.60/21.90	0020474062
22.60/23.00	0020474035
23.00/23.40	0020474034
23.60/24.00	0020474071
24.13/24.30	0020474065
24.80/24.40	0020474036
27.00/26.60	0020474012
27.40/27.00	0020474011
27.70/27.20	0020474078
28.10/27.60	0020474079
29.90/30.20	0020474067
30.30/30.60	0020474066
30.30/31.00	0020474075
31.40/31.00	0020474005
31.70/30.60	0020474046
32.00/31.00	0020474047

## Tube-to-tubesheet welding heads



(1) For pneumatic centring and clamping system: mandrel (1 per I.D.) to be ordered separately

(2) For the welding heads without pneumatic centring and clamping system, please add the centring mandrel corresponding to the application (1 mandrel per I.D.)

(3) For centring or expanding mandrel with  $8 \leq \text{I.D.} < 10.5\text{mm}$  and  $60 < \text{I.D.} \leq 75\text{mm}$ : on request

(4) Water-cooled locating pin sub-assembly & expanding mandrel not delivered with the TS 8/75-3. See table "Accessories: low protruding tools" on 107



## ▶ TS 8/75

TS 8/75-3 with pneumatic centring and clamping system <sup>(1)</sup> - Tube 15mm ≤ I.D. ≤ 40mm

1	TS 8/75-3 – motorised adjustment distance electrode/tubesheet (AVC) to use with an existing external wire feeder POLYFIL Compact or POLYFIL-3 CW	0034670007
2	TS 8/75-3 – motorised adjustment distance electrode/tubesheet (AVC) with on-board "rotating" wire feeder, Spool Ø 100mm	0034670004

TS 8/75-3 with Ø8mm centring system for 2 balls centring mandrel <sup>(2)</sup> - Tubes 10mm ≤ I.D. ≤ 60mm<sup>(3)</sup>



3	TS 8/75-3 – manual adjustment distance electrode/tubesheet for use with an external wire feeder POLYFIL Compact or POLYFIL-3	0034670012
4	TS 8/75-3 – motorised adjustment distance electrode/tubesheet (AVC) with on-board "rotating" wire feeder, Spool Ø 100mm	0034670011
5	TS 8/75-3 – motorised adjustment distance electrode/tubesheet (AVC) for use with an external wire feeder POLYFIL Compact or POLYFIL-3	0034670010

TS 8/75-3 with pneumatic clamping system & low protruding tooling<sup>(3)</sup> - Tubes 13.5mm ≤ I.D. ≤ 40mm<sup>(3)</sup>

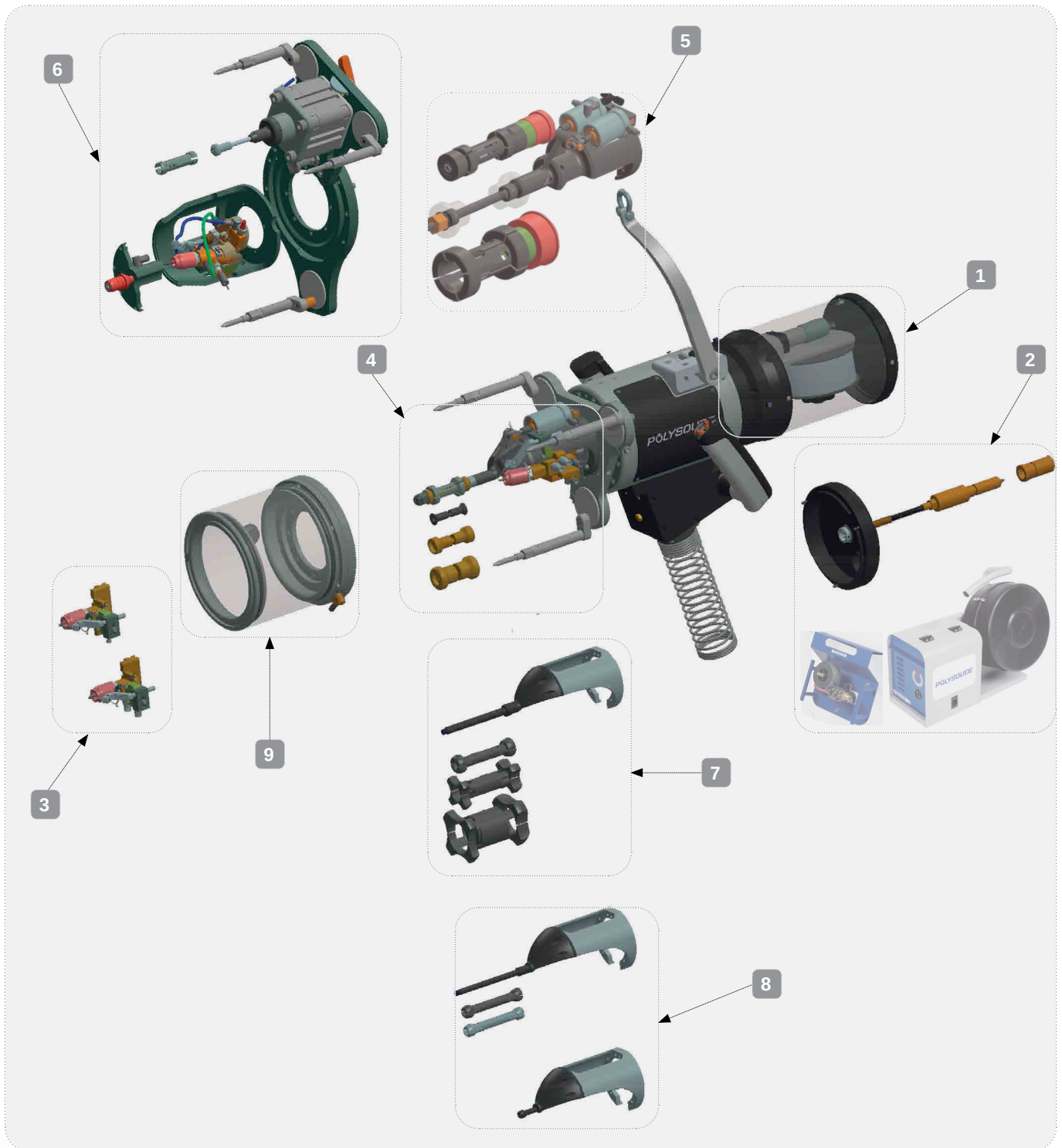
6	TS 8/75-3 – motorised adjustment distance electrode/tubesheet (AVC) with on-board "rotating" wire feeder, Spool Ø 100mm <sup>(4)</sup>	0034670009
---	--	------------

TS 8/75-3 delivered with	1	3	5	2	4	6
Compact shipping case for safety packing and transport		✓			✓	
Wire accessories for external wire feeder		✓			/	
On-board wire feeder		/			✓	
Cable bundles and hoses 9m		✓			✓	
Consumable & tool box		✓			✓	

### Technical data

Technical data		TS 8/75-3
Welding process		
Compatible with Smart Welding Stations		P6 - PC Series
Duty cycle	100%	190A
	60%	250A
Collector cooling		Closed water circuit
Min. tube I.D.		8mm <sup>(3)</sup>
Max. tube O.D.		75mm <sup>(3)</sup>
Tube joint design	Flush	Standard
	Recessed	-2mm max.
	Low protruding	3 to 4mm max.
	Protruding	5 to 13mm
	Internal bore welding	On request
	Back plate tube welding	On request
Positioning / Centering		Expansion mandrel or 2 balls centring mandrel
Weight		7 kg (without cable nor spool)
Cable length		9m

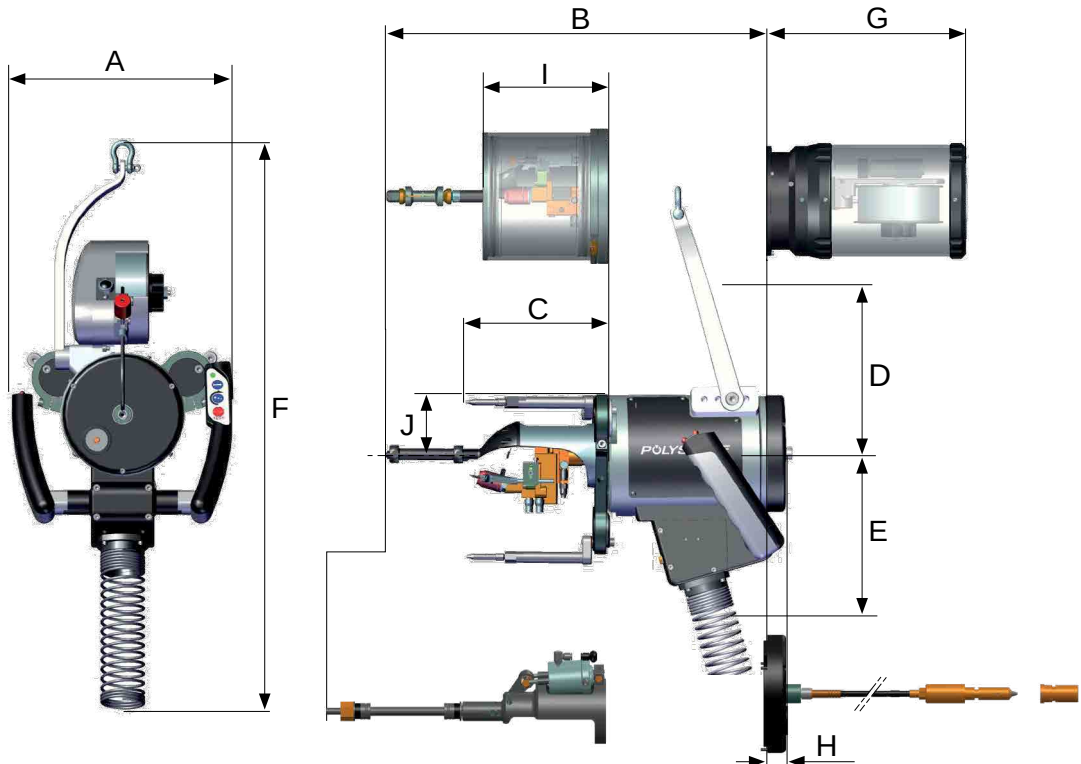
# Tube-to-tubesheet welding heads



TS 8/75 types of centring	Diameter ranges (mm)								Larger Diameters
	8 I.D.	10	15	40	60	70 DIT	75 O.D.		
4			1 cylinder	2 cylinders				On request	
7			On request					On request	
8	Mono	2 ball-centring							

## Description of the TS 8/75-3

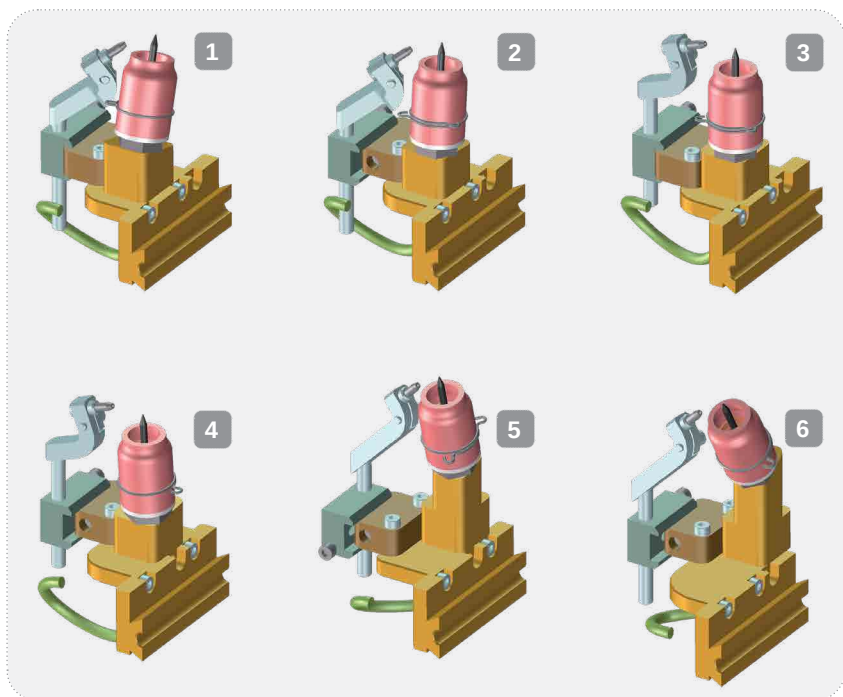
- 1 Rotating wire feeder
- 2 External wire feeder kit
- 3 Torches
- 4 Pneumatic centring & clamping system with expanding mandrel
- 5 Reinforced pneumatic centring & clamping system with expanding mandrel
- 6 Low protruding tooling
- 7 Centring shaft Ø8mm with 2 ball-centring mandrel with housing
- 8 Centring shaft Ø6.5mm with 2 ball-centring mandrel or monobloc centring mandrel with housing
- 9 Additional gas housing



### TS 8/75-3 dimensions in mm

TS 8/75-3	
A	229
	408 Centring shaft with centring mandrel
B	412 Pneumatic centring/clamping mandrel
	502 Reinforced pneumatic centring/clamping mandrel
C	152
D	75
E	170
F	583
G	223
H	20
I	135
J	66

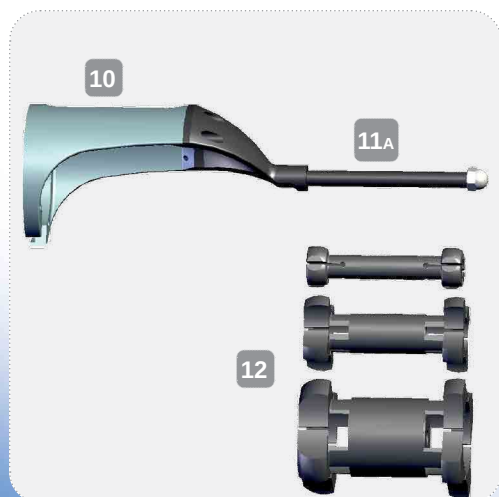
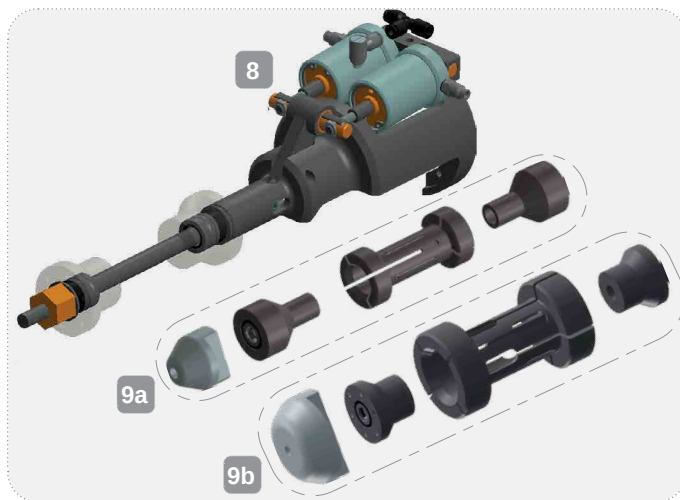
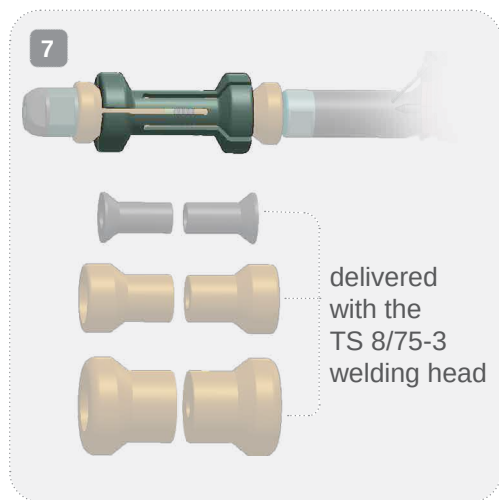
# Tube-to-tubesheet welding heads



	Application	Torch angle
1	Recess welding	-15°
2	Recess welding	-5°
3	Flush welding	0°
4	Flush welding	+5°
5	Protrusion welding	+15°
6	Protrusion welding	+30°

Air-cooled torches are fitted with a slide, a torch, a gas lens assembly and a wire adjuster.

N-type gas lens spare parts on page 146



To modify or replace the pneumatic centring and clamping system by a 2-ball centring mandrel, you must order

- a centring shaft Ø6.5mm or Ø8.0mm
- the centring mandrel corresponding to the application (1 mandrel per I.D.)
- the housing 10

## Accessories: Equipped air-cooled torches for TS 8/75 serie welding heads

	Air cooled	Water cooled <sup>(1)</sup>
1 Torch with slide -15°, equipped with its wire guide & accessories	0023411735	0023411765
2 Torch with slide -5°, equipped with its wire guide & accessories	0023411730	0023411760
3 Torch with slide 0°, equipped with its wire guide & accessories	0023411710	0023411740
4 Torch with slide +5°, equipped with its wire guide & accessories	0023411715	0023411745
5 Torch with slide +15°, equipped with its wire guide & accessories	0023411720	0023411750
6 Torch with slide +30°, equipped with its wire guide & accessories	0023411725	0023411755

(1) Use for "extreme" working conditions (preheated workpieces or for use in confined spaces) in order to increase the performance of the system.

## Consumables: electrode

Sharpened electrodes, cut to suitable length (delivered in a set of 50 identical pieces) <sup>(2)</sup> EXXX

(2) Complete reference list available pages n°132 to 135

## Accessories: for pneumatic centring and clamping system — tubes 15mm ≤ I.D. < 60 mm

Expanding mandrel for tube 10.5mm ≤ I.D. ≤ 15mm	On request
Expanding mandrel for tube 15mm ≤ I.D. ≤ 22mm	00234116X1
7 Expanding mandrel for tube 22mm ≤ I.D. ≤ 30mm	00234116X2
Expanding mandrel for tube 30mm ≤ I.D. ≤ 40mm	00234116X3
Expanding mandrel for tube 40mm ≤ I.D. < 60mm	On request

## Accessories: for "reinforced" pneumatic centring and clamping system — tubes 40mm ≤ I.D. ≤ 60 mm

8 TS 8/75 reinforced pneumatic clamping system with 2 cylinders	0023411503
9b Expanding mandrel set for tube I.D. 46.58 mm	0023412301
9b Expanding mandrel set for tube I.D. 59 mm	0023412302
9a Expanding mandrel set for tube I.D. 34.1mm	0023412303
9b Expanding mandrel set for tube I.D. 57.5mm	0023412304

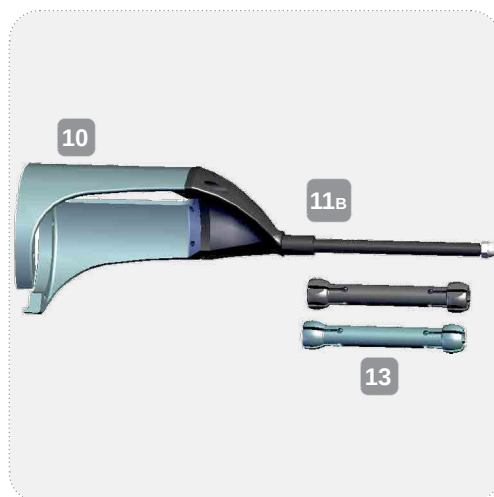
Other dimensions on request, I.D. to be precised

## Accessories: for centring system with 2 balls centring mandrel — tubes 15mm ≤ I.D. ≤ 75 mm

10 Housing for simple centring system with 2 balls centring mandrel	0023411506
11A Centring shaft Ø 8mm	0023411521
Centring mandrel for tube 15mm ≤ I.D. ≤ 30mm <sup>(3)</sup>	3842XXX2
12 Centring mandrel for tube 30mm ≤ I.D. < 60mm <sup>(3)</sup>	3842XXX3
Centring mandrel for tube 60mm ≤ I.D. <sup>(3)</sup>	On request

(3) One centring mandrel per I.D.

## Tube-to-tubesheet welding heads



**Accessories: for centring system with 2 balls centring mandrel  
— tubes  $8\text{mm} \leq \text{I.D.} \leq 15\text{mm}$**

11B	Centring shaft $\varnothing 6.5\text{mm}$	0023411524
10	Housing for simple centring system with 2 balls centring mandrel	0023411506
13	Centring mandrel for tube $10.5\text{mm} \leq \text{I.D.} \leq 15\text{mm}$ <sup>(1)</sup>	3842xxx1

**Note: The centring mandrels of the TS 8/75 serie and TS 2000 are identical and have the same reference numbers**

**Accessories**

	Centring shaft with "monobloc" centring mandrel for tube $7 \text{ à } \leq 10.5\text{mm}$	On request
14	Additional gas housing - can be used for flush tube welding with torches $0^\circ$ & $5^\circ$ <sup>(2)</sup>	0032231201
	Balancer - Load range: 9 to 14 kg	75500353
	Sharpened electrodes, cut to suitable length (delivered in a set of 50 identical pieces) <sup>(3)</sup>	EXXX
	Spare part box TS 8/75 serie (tools and consumables)	0023410098
	Adaptor for use of the TS 8/75 welding heads with PS 406-2 or PC Smart Welding Station	0023000902

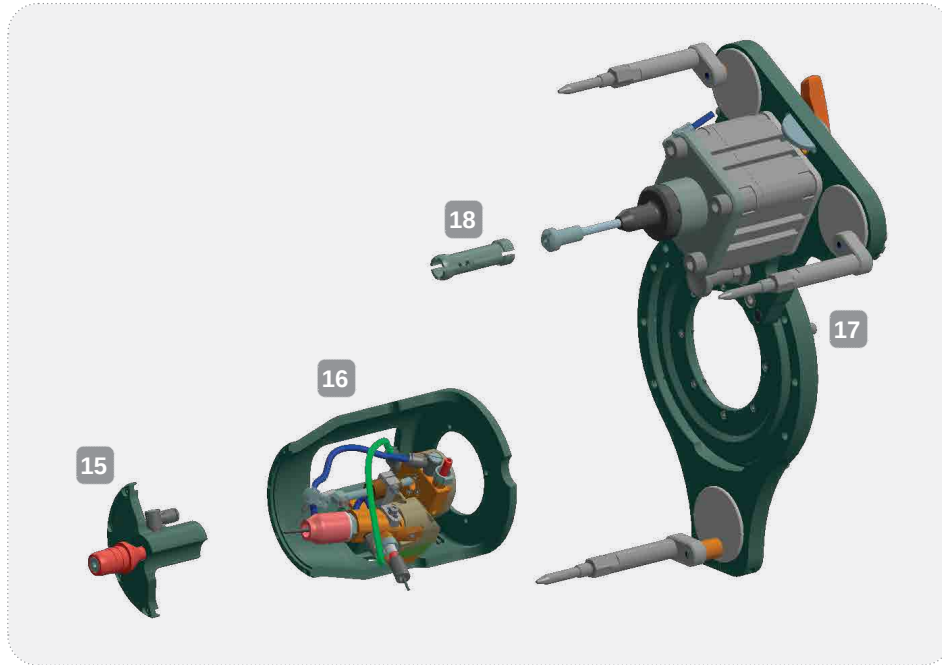
*(1) One centring mandrel per I.D.*

*(2) Can only be used if the adjustable self-clamping system or the backing plate with the adjustable legs are removed*

*(3) Complete reference list available pages n°132 to 135*



## Tube-to-tubesheet welding heads

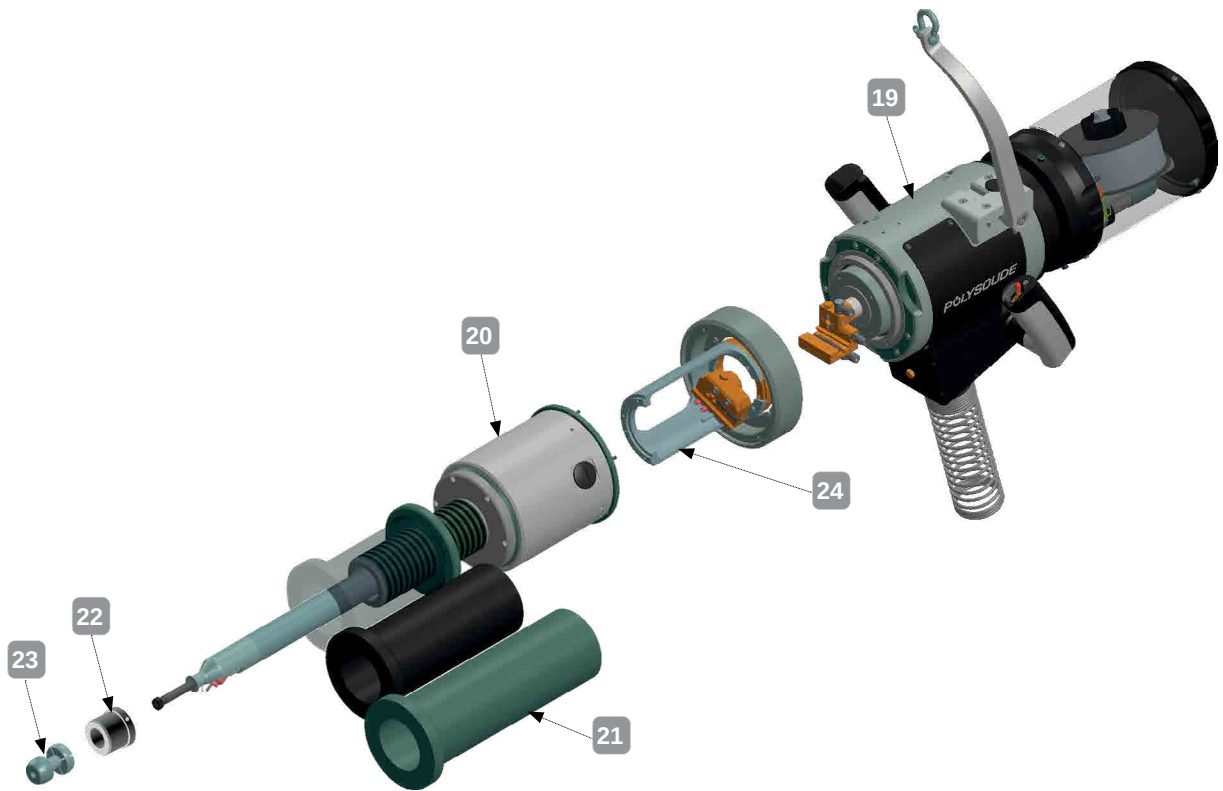


## Accessories for low protruding tooling (dedicated for 3 - 4mm max. tube protruding)

	Water-cooled locating pin assembly for tubes Ø16x1.5MM (tube O.D. 16x1.5)	0032231678
	Water-cooled locating pin assembly (tube O.D.16X2)	0032231684
	Water-cooled locating pin sub-assembly - for I.D. 13.50mm (tube O.D. 19.05x2.77)	0032231604
	Water-cooled locating pin sub-assembly - for I.D. 14.85mm (tube O.D. 19.05x2.10)	0032231603
	Water cooled locating pin for I.D. 15.20 mm (tube O.D.19,05x1,925)	0032231634
	Water-cooled locating assembly - for I.D. 14.6 mm (tube O.D. 19.2x2.2)	0032231689
	Water-cooled locating pin sub-assembly - for I.D. 15.75mm (tube O.D. 19.05x1.65)	0032231601
	Water-cooled locating assembly - for I.D. 16 mm (tube O.D. 20x2)	0032231688
	Water cooled locating pin 17.88 mm (tube O.D. 25.4x3.76)	0032231681
	Water cooled locating pin assembly for tubes (tube O.D. 20x2.5)	0032231680
	Water cooled locating (tube O.D. 21.3X2.6)	0032231682
	Water-cooled locating pin sub-assembly - for I.D. 19.35mm (tube O.D. 25.4x3.04)	0032231698
	Water-cooled locating pin sub-assembly - for I.D. 19.86mm (tube O.D. 25.4x2.77)	0032231699
	Water-cooled locating pin sub-assembly - for I.D. 21.18mm (tube O.D. 25.4x2.11)	0032231695
15	Water-cooled locating pin sub-assembly - for I.D. 22.10mm (tube O.D. 25.4x1.65)	0032231692
	Water cooled locating pin assembly for ID 20.2 (tube O.D. 25.4x2.6)	0032231693
	Water cooled locating pin assembly for ID 17.02 mm (tube O.D. 25.4x4.19)	0032231690
	Water cooled locating assembly-for I.D. 21mm (tube O.D. 25x2)	0032231687
	Water-cooled locating assembly - for I.D. 20 mm (tube O.D. 25x2.5)	0032231686
	Water cooled locating pin assembly for tubes (tube O.D. 25x3)	0032231679
	Water-cooled locating pin sub-assembly - for I.D. 26.21mm (tube O.D. 31.75x2.77)	0032231694
	Water-cooled locating pin sub-assembly - for I.D. 34.35mm (tube O.D. 38.1x1.87)	0032231696
	Water cooled locating pin assembly-for I.D. 34.1mm (tube O.D. 38.1x2)	0032231697
	Water-cooled locating (tube O.D. 38.1x2.77)	0032231683
	Water-cooled locating pin assembly - for I.D. 30.50mm(tube O.D. 38.1 x 3.8)	0032231677
	Water-cooled locating assembly-for I.D. 36.93mm (tube O.D. 44.45x3.759)	0032231691
	Water-cooled locating pin sub-assembly - for other dimensions	On request
16	Tilted AVC kit - including equipped water-cooled 10° torch and wire guide	0032231501
17	Adjustable pneumatic self-clamping system (without centring mandrel)	0034674001
	Expanding mandrel for tube 10.2mm ≤ I.D. ≤ 15mm <sup>(4)</sup>	00168816x1
	Expanding mandrel for tube 15mm ≤ I.D. ≤ 22mm <sup>(4)</sup>	00168816x2
18	Expanding mandrel for tube 22mm ≤ I.D. ≤ 30mm <sup>(4)</sup>	00168816x3
	Expanding mandrel for tube 30mm ≤ I.D. ≤ 40mm <sup>(4)</sup>	00168816x4

(4) Concerning the expanding mandrel dimensions, see the "TS 8/75 type welding heads – Expanding mandrels for...", table on page 119

# Tube-to-tubesheet welding heads



## TS 8/75-3 - double plate welding equipment

### Description of the double plate welding equipment

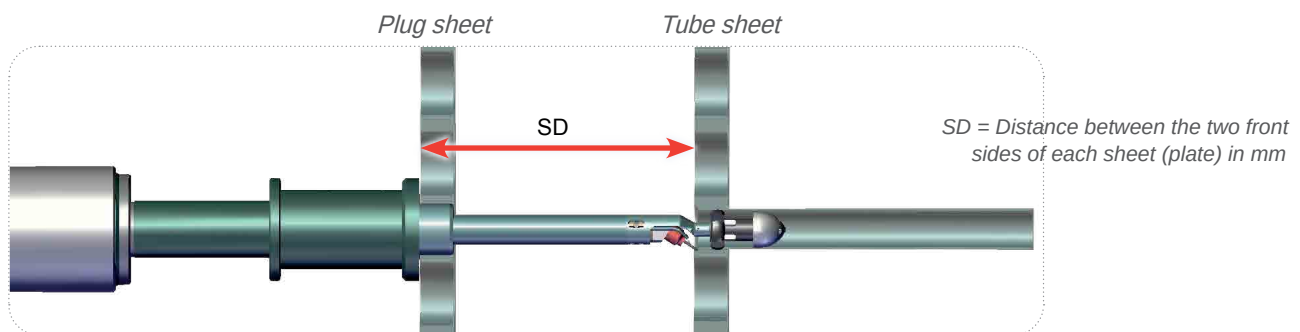
19	TS 8/75-3 – dedicated for welding lance	22	Centring ring
20	Double plate welding lance	23	Centring mandrel kit
21	Support	24	Adaptation lance set

### Accessory options

A complete double plate welding lance must include at least:

- 1 double plate welding lance **20**
- 1 support **21**, fitted for the right SD (see table "Support length" on page 110)
- 1 centring ring **22**, fitted for the first tubesheet I.D.
- 1 centring mandrel kit **23**, fitted for the tube I.D. to be welded
- 1 adaptation lance set **24**

25	TS 8/75-3 – dedicated for welding lance, with motorised AVC (distance electrode-tubesheet) and on-board "rotating" wire feeder for spool Ø 100mm	0034670014
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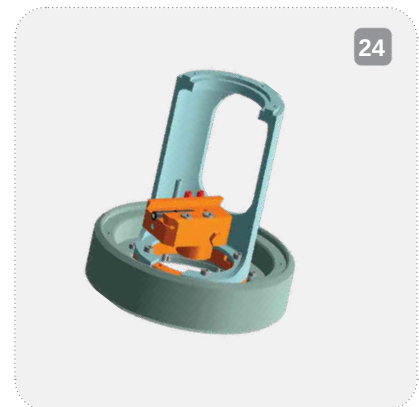
### Accessories: Welding lances

	Double plate welding lance for tube O.D. 25.4mm - SD 45-350 - L=623	0023230704
26	Double plate welding lance for tube O.D. 25.4mm - SD 50-300	0023230701
	Double plate welding lance for tube O.D. 25.4mm - SD 175-480 - L=748	0023230702
	Double plate welding lance for tube O.D. 31.75mm - SD 175-480 - L=748	0023230703
27	Double plate fold lance (for more details, please refer to the dedicated part)	Page n°112



		Support length (mm) 21											
		125		175		225		275		325		375	
Welding lance		SD <sub>min.</sub>	SD <sub>max.</sub>	SD <sub>min.</sub>	SD <sub>max.</sub>	SD <sub>min.</sub>	SD <sub>max.</sub>	SD <sub>min.</sub>	SD <sub>max.</sub>	SD <sub>min.</sub>	SD <sub>max.</sub>	SD <sub>min.</sub>	SD <sub>max.</sub>
O.D. 25.4	L=623	295	350	245	300	195	250	145	200	95	150	45	100
O.D. 25.4 or O.D. 31.75	L=748	425	480	375	430	325	380	275	330	225	280	175	230

SD = Distance between the same sides of the sheets in mm



## Accessories: Tooling for double plate welding lance

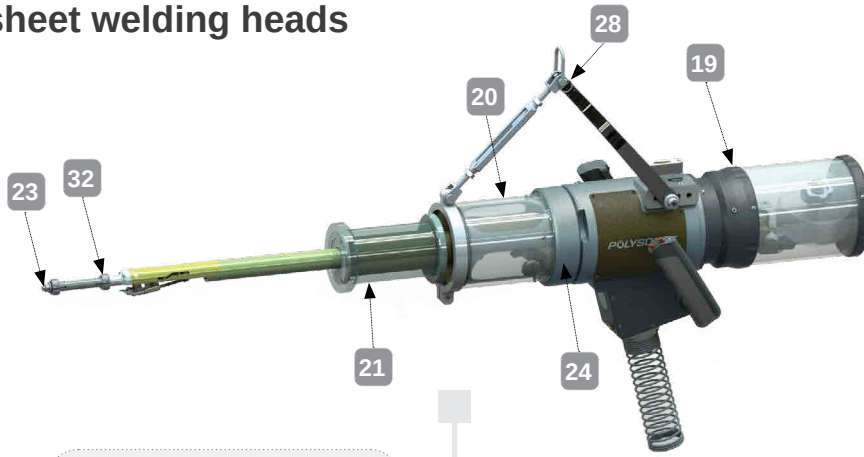
<b>21</b> <small>(1)</small>	Support length 125mm	0013262640
	Support length 175mm	0013265741
	Support length 225mm	0013265742
	Support length 275mm	0013265743
	Support length 325mm	0013265744
	Support length 375mm	0013265745
	<b>22</b>	Centring ring
<b>23</b>	Centring mandrel kit (Chuck & introduction nose)	00232315xx
<b>24</b>	Adaptation lance set - to assembly a double plate welding lance with a TS 8/75-2 & TS 8/75-3	0032231801

(1) Included in all double plate welding lance & folding lance

Plug sheet hole I.D. (mm)	Centring ring <b>22</b>	Plug sheet hole I.D. (mm)	Centring ring <b>22</b>	Plug sheet hole I.D. (mm)	Centring ring <b>22</b>
28	0023232112	34.66	0023232118	40	0023232115
28.3	0023232113	35.76	0023232108	44.19	0023232117
28.58	0023232120	35.8	0023232107	45	0023232116
30	0023232120	37	0023232123	45.51	0023232109
32.8	0023232111	39.4	0023232106	45.51	0023232109
32.9	0023232124	39.16	0023232110	47.4	0023232114
33	0023232105	39.83	0023232122	Other I.D.	On request

Tube I.D. (mm)	Centring mandrel kit <b>23</b>	Tube I.D. (mm)	Centring mandrel kit <b>23</b>	Tube I.D. (mm)	Centring mandrel kit <b>23</b>
14.8	0023231569	21	0023231595	28.1	0023231594
17.86	0023231568	21.2	0023231503	28.4	0023231575
19	0023231578	22.1	0023231599	28.5	0023231577
19.2	0023231580	22.4	0023231584	30.5	0023231571
19.3	0023231567	23.6	0023231596	30.7	0023231583
19.4	0023231570	24.3	0023231579	31.5	0023231576
19.6	0023231589	25	0023231573	33	0023231585
19.9	0023231593	26.1	0023231598	34	0023231582
20	0023231597	26.3	0023231587	34.8	0023231572
20.4	0023231592	26.8	0023231586	41.2	0023231574
20.6	0023231588	27.5	0023231504		

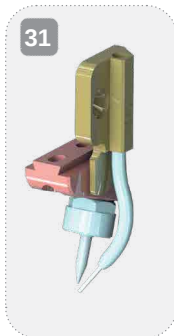
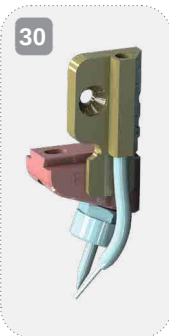
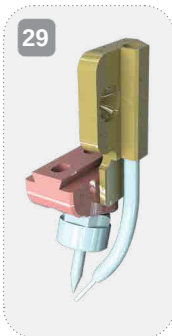
# Tube-to-tubesheet welding heads



Balancer		
28		0030033001



Folding lance		
27	Depth 115 to 300 mm	0039440001



Nose kit		
29	Ø25.4 mm	0039440101
30	Ø31.8 mm	0039440102
31	Ø38.1 mm	0039440103



2-ball centring spare parts on p.115  
 For a Ø xx mm tube, a standard 2-ball Ø xx  
 -0.2mm centring device is launched.  
 Objective: to limit insertion forces on the  
 lance insulation.



## TS 8/75-3 - Tube-to-tubesheet welding heads equipment

### Description of the welding heads equipment

19 TS 8/75-3 Tube-to-tubesheet welding heads

20 Double plate folding welding lance

21 Support

28 Balancer

32 Centring ring

23 Centring mandrel kit

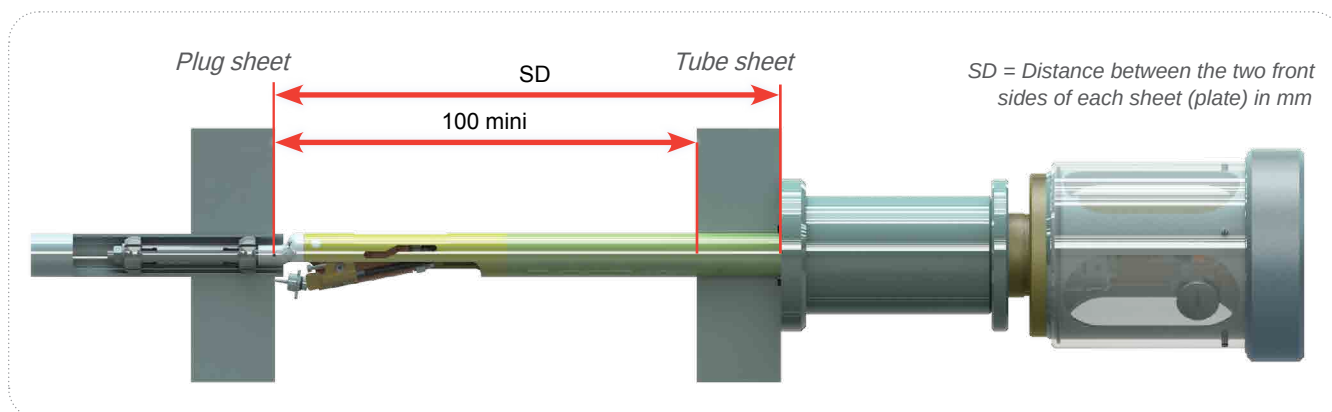
24 Adaptation lance set

25 TS 8/75-3 – dedicated for welding lance, with motorised AVC (distance electrode-tubesheet) and on-board "rotating" wire feeder for spool Ø 100mm

0034670014

### A complete TS8/75-3 welding gun must include at least:

- 1 TS8/75 <sup>25</sup>
- 1 balancer assembly <sup>28</sup>
- 1 folding lance, depth 115 to 300 mm <sup>27</sup>
- 1 torch nose kit, depending on the diameter of the tube to be welded <sup>29 30 31</sup>
- 1/2-balls centring device for internal tube Ø <sup>13</sup>
- 1 centring ring for front plate Ø <sup>32</sup>



### Accessories: Welding lances

Double plate folding lance for tube O.D. 25.4mm - SD 100-300 - L=748

003944xxxx

27 Double plate folding lance for tube O.D. 31.8mm - SD 100-300 - L=748

003944xxxx

Double plate folding lance for tube O.D. 38.1mm

003944xxxx

28 Balancer

0030033001

Plug sheet hole I.D.	Centring ring <sup>32</sup>
1"1/4-12 UNF	0039440311
1"3/8-12 UNF	0039440310
1"3/8-12 UNF	0039440313

Plug sheet hole I.D.	Centring ring <sup>32</sup>
1"5/8-12 UNF	0039440312
Ø36.5	0039440314
Ø29.4	0039440315

## Tube-to-tubesheet welding heads

### TS 8/75 type welding heads – 2 balls centring mandrels for centring shaft 6.5mm



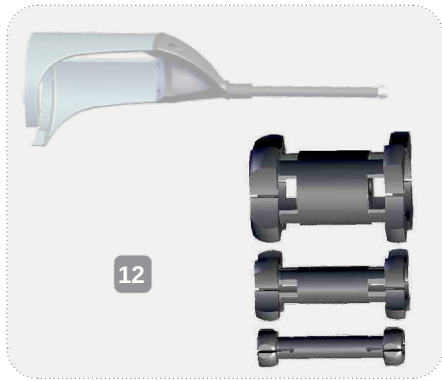
Tube I.D. mm	Centring mandrel for centring shaft Ø 6.5mm
10.00	100002940
10.20	38420201
10.40	38420234
10.70	38420235
11.00	38420213
11.40	100001531
11.60	38420218
11.80	38420219
12.00	38420205
12.10	38420223
12.20	38420220
12.40	38420212
12.50	38420242
12.60	38420216
12.70	38420217
13.00	38420214
13.20	38420225
13.40	38420227
13.50	38420208
13.60	38420207
13.90	38420241
14.00	38420209
14.10	38420215
14.20	38420224
14.22	38420237
14.40	38420210
14.45	38420239
14.50	38420206
14.80	100000585
14.83	100002696

Tube I.D. mm	Centring mandrel for centring shaft Ø 6.5mm
15.00	38420211
15.75	38420226
16.00	38420232

#### For expanded tubes

Expanded tubes (mm)	Centring mandrel for centring shaft Ø 6.5mm
11.00/11.35	38420240
11.60/11.30	38420236
11.70/14.20	38420224
12.40/12.90	38420238
12.50/12.80	38420231
13.65/13.85	38420230
13.80/14.30	38420221
14.00/14.20	100001238
14.00/14.30	100000848
14.25/14.45	38420229
15.75/15.95	38420228
16.62/17.17	38420222

## TS 8/75 type welding heads – 2 balls centring mandrels for centring shaft 8mm



Tube I.D. mm	Centring mandrel for centring shaft Ø 8 mm
14.20	38420120
14.50	38420122
14.70	38421275
14.80	100002688
14.90	38421214
15.00	38420121
15.25	38420126
15.40	38420108
15.70	38421215
15.75	100001628
15.80	38420136
16.00	38420123
16.25	38420134
16.40	38421240
16.50	38420124
16.65	38420110
16.80	100001088
16.83	100001591
17.00	38420125
17.27	100001592
17.50	38420118
17.60	38421213

Tube I.D. mm	Centring mandrel for centring shaft Ø 8 mm
17.80	38420177
18.00	38420127
18.30	38421254
18.40	38420159
18.50	38420128
18.65	38420111
19.00	38420129
19.40	38420138
19.50	38420130
19.60	38421212
19.80	38420195
19.86	38420154
20.00	38420131
20.10	38421216
20.30	38421245
20.40	38420114
20.50	38420132
20.60	38420161
20.80	38421260
20.90	38421267
21.10	38420185
21.18	100001818
21.20	100002689
21.30	100002546
21.40	38421225
21.50	38421252
21.60	38420116
21.70	38420160
22.00	38420135
22.10	38420112

Tube I.D. mm	Centring mandrel for centring shaft Ø 8 mm
22.20	38421273
22.30	38420143
22.50	38420115
22.90	38420196
23.00	100002135
23.20	38421270
23.50	38421280
23.60	38420113
23.80	38421258
24.00	38420139
24.60	38421269
24.80	100000586
24.90	38421276
25.00	38420141
25.40	38421238
25.50	38420142
25.90	38420173
26.00	38420144
26.20	38420158
26.40	38421255
26.70	38421256
27.00	38420149
27.40	38420182
27.50	38421279
27.80	38421233
28.00	38420147
28.50	38420148
29.00	38420117
29.70	38421253
30.00	38420150

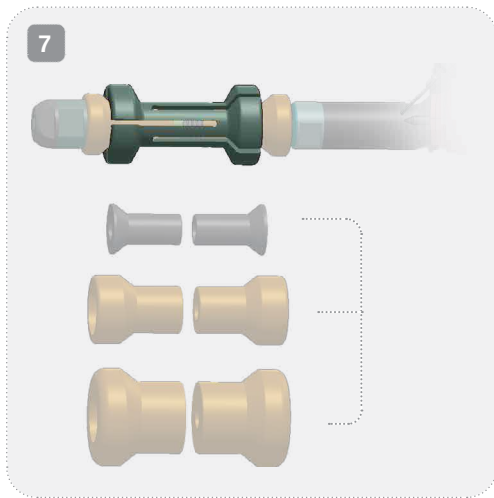
## Tube-to-tubesheet welding heads

Tube I.D. mm	Centring mandrel for centring shaft Ø 8 mm	Tube I.D. mm	Centring mandrel for centring shaft Ø 8 mm	Tube I.D. mm	Centring mandrel for centring shaft Ø 8 mm
30.50	38420179	40.00	38420169	58.00	38420193
30.70	38420188	40.10	38421239	59.50	38420164
30.80	38421268	40.30	38420168	62.40	38421251
31.00	38421230	40.40	38420175	67.50	38421272
31.30	100000584	40.50	38420184	68.00	100001891
31.70	38420190	41.00	38420176	70.00	38420198
32.00	38420162	41.70	38420178		
32.60	38420109	42.50	38420197		
32.80	100000587	43.10	100001320		
33.00	38420119	43.25	3420181		
33.30	38421257	44.50	38420173		
33.70	38420189	45.00	38420107		
33.90	38421217	45.30	38421264		
34.00	38420192	45.60	38421241		
34.85	100001395	45.90	38421234		
35.00	38420199	46.00	38421266		
35.10	38420186	47.50	38421271		
35.20	38421263	48.30	38420157		
35.50	38420167	48.50	38420174		
35.60	100002136	49.00	38420155		
36.00	38421244	49.80	38421262		
36.50	38421232	50.00	38420151		
36.80	38420187	51.00	38421249		
37.00	38420165	51.20	38421265		
37.25	38420166	52.00	38420163		
37.60	38420194	52.30	38421242		
38.90	38420180	53.10	38420153		
39.20	38421277	53.90	38421243		
39.30	38420146	56.50	38421250		
39.65	38420156	57.00	100002691		

For expanded tubes	
Expanded tubes (mm)	Centring mandrel for centring shaft Ø 8 mm
14.00/13.30	100000848
14.40/14.09	38421259
15.79/16.25	100001594
15.90/15.50	38420170
18.80/18.50	38420137
19.86/20.06	38421236
22.10/22.30	38421237
23.40/23.10	38420140
24.10/23.60	38420146
26.20/26.40	38421235
31.00/31.20	38421231
31.00/31.40	38421278
35.60/35.80	100001151
40.00/40.60	38421274
47.50/47.80	38421261
51.00/52.50	38421246
56.50/58.00	38421247
62.40/63.90	38421248

## TS 8/75 type welding heads – Expanding mandrels for pneumatic centring & clamping



Tube I.D. mm	Expanding mandrel	No-nickel expanding mandrel
14.75 to 15.00	0023411688	0023412701
15.00 to 15.25	0023411635	0023412702
15.25 to 15.50	0023411662	0023412703
15.50 to 15.75	0023411698	0023412704
15.75 to 16.00	0023411694	0023412705
16.00 to 16.25	0023411652	0023412706
16.25 to 16.50	0023411634	0023412707
16.50 to 16.75	0023411687	0023412708
16.75 to 17.00	0023411696	0023412709
17.00 to 17.25	0023411633	0023412710
17.25 to 17.50	0023411675	0023412711
17.50 to 17.75	0023411632	0023412712
17.75 to 18.00	0023411668	0023412713
18.00 to 18.25	0023410631	0023412714
18.25 to 18.50	0023411630	0023412715
18.50 to 18.75	0023411695	0023412716
18.75 to 19.00	0023411684	0023412717
19.00 to 19.25	0023411671	0023412718
19.25 to 19.50	0023411676	0023412719
19.50 to 19.75	0023411655	0023412720

Tube I.D. mm	Expanding mandrel	No-nickel expanding mandrel
19.75 to 20.00	0023411699	0023412721
20.00 to 20.25	0023411636	0023412722
20.25 to 20.50	0023411645	0023412723
20.50 to 20.75	0023411638	0023412724
20.75 to 21.00	0023411692	0023412725
21.00 to 21.25	0023411686	0023412726
21.25 to 21.50	0023411656	0023412727
21.50 to 21.75	0023411673	0023412728
21.75 to 22.00	0023411674	
22.00 to 22.25	0023411697	0023412729
22.25 to 22.50	0023411665	0023412730
22.50 to 22.75	0023411629	0023412731
22.75 to 23.00	0023411667	0023412732
23.00 to 23.25	0023411628	0023412733
23.25 to 23.50	0023411653	0023412734
23.50 to 23.75	0023411663	0023412735
23.75 to 24.00	0023411682	0023412736
24.00 to 24.25	0023411627	0023412737
24.25 to 24.50	0023411626	0023412738
24.50 to 24.75	0023411625	0023412739
24.75 to 25.00	0023411669	0023412740
25.00 to 25.25	0023411624	0023412741
25.25 to 25.50	0023411623	0023412742
25.50 to 25.75	0023411643	0023412743
25.75 to 26.00	0023411680	0023412744
26.00 to 26.25	0023411670	0023412745
26.25 to 26.50	0023411622	0023412746
26.50 to 26.75	0023411644	0023412747
26.75 to 27.00	0023411681	0023412748

## Tube-to-tubesheet welding heads

Tube I.D. mm	Expanding mandrel	No-nickel expanding mandrel	Tube I.D. mm	Expanding mandrel	No-nickel expanding mandrel
27.00 to 27.25	0023411621	0023412749	34.50 to 34.75	0023411677	0023412778
27.25 to 27.50	0023411693	0023412750	34.75 to 35.00	0023411661	0023412779
27.50 to 27.75	0023411620	0023412751	35.00 to 35.25	0023411640	0023412780
27.75 to 28.00	0023411666	0023412752	35.25 to 35.50	0023412698	0023412781
28.00 to 28.25	0023411619	0023412753	35.50 to 35.75	0023412697	0023412782
28.25 to 28.50	0023411657	0023412754	35.75 to 36.00	0023411649	0023412783
28.50 to 28.75	0023411618	0023412755	36.00 to 36.25	0023412696	0023412784
28.75 to 29.00	0023411617	0023412756	36.25 to 36.50	0023412695	0023412785
29.00 to 29.25	0023411616	0023412757	36.50 to 36.75	0023411659	0023412786
29.25 to 29.50	0023411646	0023412758	36.75 to 37.00	0023411650	0023412787
29.50 to 29.75	0023411648	0023412759	37.00 to 37.25	0023412694	0023412788
29.75 to 30.00	0023411642		37.25 to 37.50	0023412693	0023412789
30.00 to 30.25	0023411615	0023412760	37.50 to 37.75	0023412692	0023412790
30.25 to 30.50	0023411683	0023412761	37.75 to 38.00	0023411651	0023412791
30.50 to 30.75	0023411664	0023412762	38.00 to 38.25	0023412691	0023412792
30.75 to 31.00	0023411639	0023412763	38.25 to 38.50	0023412690	0023412793
31.00 to 31.25	0023411614	0023412764	38.50 to 38.75	0023412689	0023412794
31.25 to 31.50	0023411613	0023412765	38.75 to 39.00	0023411678	0023412795
31.50 to 31.75	0023411685	0023412766	39.00 to 39.25	0023411641	0023412796
31.75 to 32.00	0023411691	0023412767	39.25 to 39.50	0023411660	0023412797
32.00 to 32.25	0023411612	0023412768	39.50 to 39.75	0023412688	0023412798
32.25 to 32.50	0023411611	0023412769	39.75 to 40.00	0023411607	
32.50 to 32.75	0023411672	0023412770	40.00 to 40.25	0023411604	
32.75 to 33.00	0023411679	0023412771	40.25 to 40.50	0023411658	
33.00 to 33.25	0023411610	0023412772	41.00 to 41.25	0023412685	
33.25 to 33.50	0023411609	0023412773	43.75 to 44.00	0023412686	
33.50 to 33.75	0023411608	0023412774	45.25 to 45.50	0023411637	
33.75 to 34.00	0023411690	0023412775	46.50 to 46.75	0023412687	
34.00 to 34.25	0023411647	0023412776	48.50 to 48.75	0023411654	
34.25 to 34.50	0023412699	0023412777			



## TS 8/75 type welding heads – Expanding mandrels for low protruding tooling clamp



Tube I.D. mm	Expanding mandrel	No-nickel expanding mandrel
10.00 to 10.25	0016881607	
10.25 to 10.50	0016881647	0023412901
10.50 to 10.75	0016881648	0023412902
10.75 to 11.00	0016883623	0023412903
11.00 to 11.25	0016881614	0023412904
11.25 to 11.50	0016881615	0023412905
11.50 to 11.75	0016881636	0023412906
11.75 to 12.00	0016881616	0023412907
12.00 to 12.25	0016881617	0023412908
12.25 to 12.50	0016881679	0023412909
12.50 to 12.75	0016883612	0023412910
12.75 to 13.00	0016881695	0023412911
13.00 to 13.25	0016881620	0023412912
13.25 to 13.50	0016881677	0023412913
13.50 to 13.75	0016881646	0023412914
13.75 to 14.00	0016883624	0023412915
14.00 to 14.25	0016881621	0023412916
14.25 to 14.50	0016881626	0023412917
14.50 to 14.75	0016881627	0023412918

Tube I.D. mm	Expanding mandrel	No-nickel expanding mandrel
14.75 to 15.00	0016881612	0023412919
15.00 to 15.25	0016881691	0023412920
15.25 to 15.50	0016881623	0023412921
15.50 to 15.75	0016881611	0023412922
15.75 to 16.00	0016883625	0023412923
16.00 to 16.25	0016881625	0023412924
16.25 to 16.50	0016883626	0023412925
16.50 to 16.75	0016881637	0023412926
16.75 to 17.00	0016881655	0023412927
17.00 to 17.25	0016881633	0023412928
17.25 to 17.50	0016881631	0023412929
17.50 to 17.75	0016883627	0023412930
17.75 to 18.00	0016883628	0023412931
18.00 to 18.25	0016883629	0023412932
18.25 to 18.50	0016883630	0023412933
18.50 to 18.75	0016881671	0023412934
18.75 to 19.00	0016883631	0023412935
19.00 to 19.25	0016881693	0023412936
19.25 to 19.50	0016883615	0023412937
19.50 to 19.75	0016881649	0023412938
19.75 to 20.00	0016881624	0023412939
20.00 to 20.25	0016881613	0023412940
20.25 to 20.50	0016881605	0023412941
20.50 to 20.75	0016881644	0023412942
20.75 to 21.00	0016883632	0023412943
21.00 to 21.25	0016881606	0023412944
21.25 to 21.50	0016881650	0023412945
21.50 to 21.75	0016883605	0023412946
21.75 to 22.00	0016883633	0023412947



## Tube-to-tubesheet welding heads

### TS 8/75 type welding heads – Expanding mandrels for low protruding tooling clamp (continued)

Tube I.D. mm	Expanding mandrel	No-nickel expanding mandrel	Tube I.D. mm	Expanding mandrel	No-nickel expanding mandrel
22.00 to 22.25	0016881610	0023412948	29.25 to 29.50	0016883610	0023412977
22.25 to 22.50	0016881675	0023412949	29.50 to 29.75	0016883614	0023412978
22.50 to 22.75	0016883634	0023412950	29.75 to 30.00	0016883647	0023412979
22.75 to 23.00	0016881635	0023412951	30.00 to 30.25	0016883648	0023412980
23.00 to 23.25	0016881652	0023412952	30.25 to 30.50	0016883649	0023412981
23.25 to 23.50	0016883635	0023412953	30.50 to 30.75	0016881678	0023412982
23.50 to 23.75	0016881663	0023412954	30.75 to 31.00	0016883650	0023412983
23.75 to 24.00	0016883636	0023412955	31.00 to 31.25	0016881657	0023412984
24.00 to 24.25	0016881682	0023412956	31.25 to 31.50	0016881688	0023412985
24.25 to 24.50	0016881681	0023412957	31.50 to 31.75	0016883651	0023412986
24.50 to 24.75	0016883637	0023412958	31.75 to 32.00	0016883652	0023412987
24.75 to 25.00	0016883638	0023412959	32.00 to 32.25	0016883653	0023412988
25.00 to 25.25	0016883607	0023412960	32.25 to 32.50	0016881665	0023412989
25.25 to 25.50	0016881608	0023412961	32.50 to 32.75	0016883611	0023412990
25.50 to 25.75	0016883639	0023412962	32.75 to 33.00	0016883654	0023412991
25.75 to 26.00	0016883640	0023412963	33.00 to 33.25	0016883655	0023412992
26.00 to 26.25	0016881660	0023412964	33.25 to 33.50	0016883656	0023412993
26.25 to 26.50	0016883641	0023412965	33.50 to 33.75	0016881609	0023412994
26.50 to 26.75	0016881683	0023412966	33.75 to 34.00	0016881673	0023412995
26.75 to 27.00	0016883642	0023412967	34.00 to 34.25	0016883609	0023412996
27.00 to 27.25	0016881630	0023412968	34.25 to 34.50	0016881686	0023412997
27.25 to 27.50	0016883643	0023412969	34.50 to 34.75	0016883657	0023412998
27.50 to 27.75	0016881659	0023412970	34.75 to 35.00	0016881628	0023412999
27.75 to 28.00	0016881668	0023412971	35.00 to 35.25	0016883658	0023413000
28.00 to 28.25	0016883644	0023412972	35.25 to 35.50	0016883659	0023413001
28.25 to 28.50	0016881642	0023412973	35.50 to 35.75	0016881664	0023413002
28.50 to 28.75	0016883645	0023412974	35.75 to 36.00	0016883660	0023413003
28.75 to 29.00	0016883646	0023412975	36.00 to 36.25	0016881643	0023413004
29.00 to 29.25	0016883613	0023412976	36.25 to 36.50	0016883661	0023413005

Tube I.D. mm	Expanding mandrel	No-nickel expanding mandrel
36.50 to 36.75	0016883662	0023413006
36.75 to 37.00	0016883663	0023413007
37.00 to 37.25	0016881689	0023413008
37.25 to 37.50	0016883664	0023413009
37.50 to 37.75	0016883665	0023413010
37.75 to 38.00	0016883666	0023413011
38.00 to 38.25	0016883667	0023413012
38.25 to 38.50	0016883668	0023413013
38.50 to 38.75	0016883669	0023413014
38.75 to 39.00	0016883620	0023413015
39.00 to 39.25	0016883670	0023413016
39.25 to 39.50	0016883621	0023413017
39.50 to 39.75	0016883671	0023413018
39.75 to 40.00	0016883672	0023413019
39.90 to 41.15	0016881618	
41.00 to 41.25	0016883619	
44.00 to 44.25	0016883673	
45.20 to 45.45	0016883622	
47.90 to 48.15	0016883616	

## External wire feeders







## POLYFIL

1	POLYFIL-3 CW	2023500001
	POLYFIL-3 HW	2030500202
2	POLYFIL Compact CW	0024390001

POLYFIL-3 delivered with	CW	HW	Compact CW
Motor for wire feeder	✓	✓	✓
Cable bundle - 9m hose cable	✓	✓	✓
Pressure roll Ø 0.8mm	✓	✓	✓

### Technical data

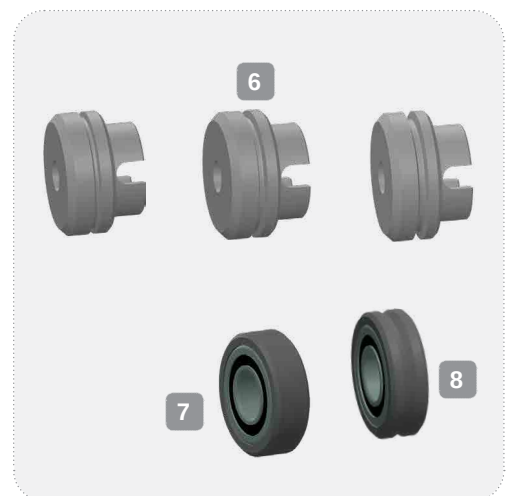
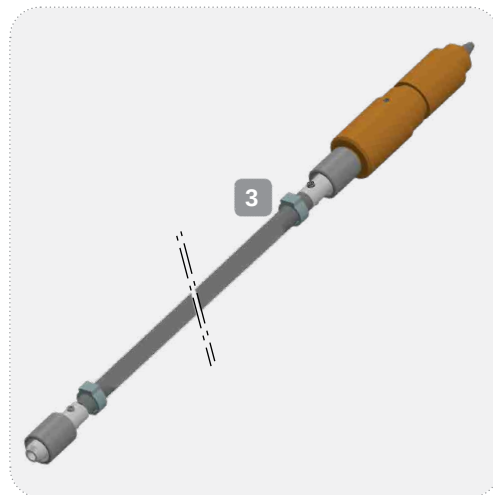
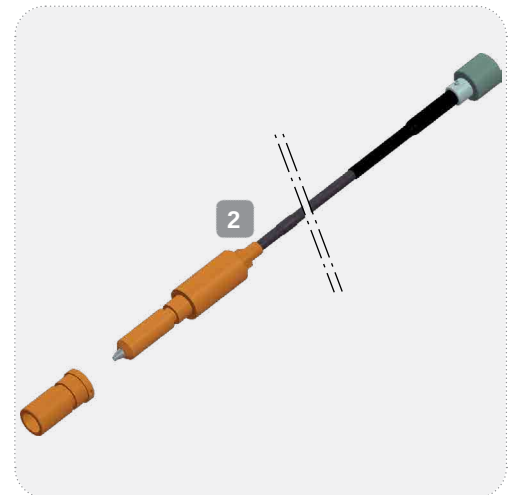
	POLYFIL-3 CW <sup>(1)</sup>	POLYFIL-3 HW	POLYFIL-3 Compact CW <sup>(2)</sup>
Welding process			
Compatible with Smart Welding Stations	All Polysoude powers sources		All Polysoude powers sources (except P6 HW)
Compatible with wire spool - diameter and weight	300mm/15kg and 200mm/5kg		100mm/1.5kg
Wire diameter	0.6 mm - 0.8mm - 0.9mm - 1.0mm - 1.2mm - 1.6mm (other diameters on request)		
Wire feed speed	Min.	150mm/min	300 mm/min
	Max.	2552mm/min	8000 mm/min
Dimensions (LxWxH)	620 x 450 x 300 mm		320 x 305 x 165 mm
Weight 	16 kg (without wire spool)		7 kg (without wire spool)
Cable length	9 m		

(1) To use the POLYFIL-3 CW, the Smart Welding Station must be equipped with the following minimum software version:

- PSxx4: Eprom L633 Version 6.7 minimum
- PSxx6: Eprom L644 Version 1.A minimum
- PC/ K1476 Version V and card 0021700703

(2) This wire feeder can be used in horizontal and vertical position.

## External wire feeders



### Accessories: POLYFIL-3 CW, HW & POLYFIL Compact CW

	Wire sheath for MU Ø 0.6mm – 2.20m length	44419817
	Wire sheath for MU Ø 0.8mm – 2.20m length	44419818
	Wire sheath for MU Ø 1.0mm – 2.20m length	44419819
	Wire sheath for MU Ø 1.2mm – 2.20m length	44419820
1	Wire sheath for MU Ø 0.6mm – 3.20m length	44419821
	Wire sheath for MU Ø 0.8mm – 3.20m length	44419822
	Wire sheath for MU Ø 1.0mm – 3.20m length	44419823
	Wire sheath for MU Ø 1.2mm – 3.20m length	44419824
2	Wire sheath for TS 8/75 Ø 0.8mm – 2.20m length	0023411903
3	Wire sheath for MU HW Ø0.8mm and POLYFIL-3 HW - 4.5m length	0023581620

### Consumables: POLYFIL-3 CW & HW <sup>(1)</sup>

	Short nozzle for wire Ø 0.8mm	25610560
	Short nozzle for wire Ø 0.9mm	25610565
4	Short nozzle for wire Ø 1.0mm	25610570
	Short nozzle for wire Ø 1.2mm	25610580
	Pressure roller for POLYFIL-3 Ø 0.6mm/0.9mm (2 rollers required for each Ø)	2023500206
5	Pressure roller for POLYFIL-3 Ø 0.8mm/1.0mm (2 rollers required for each Ø)	2023500207
	Pressure roller for POLYFIL-3 Ø 1.2mm/1.6mm (2 rollers required for each Ø)	2023500208

### Consumables: POLYFIL Compact CW <sup>(2)</sup>

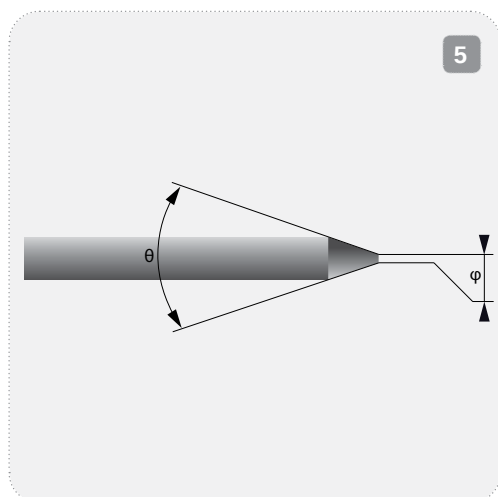
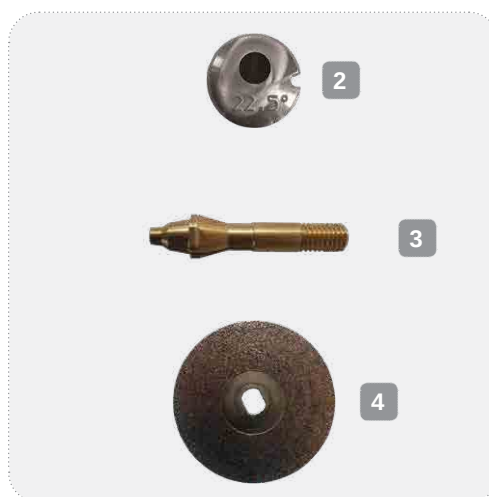
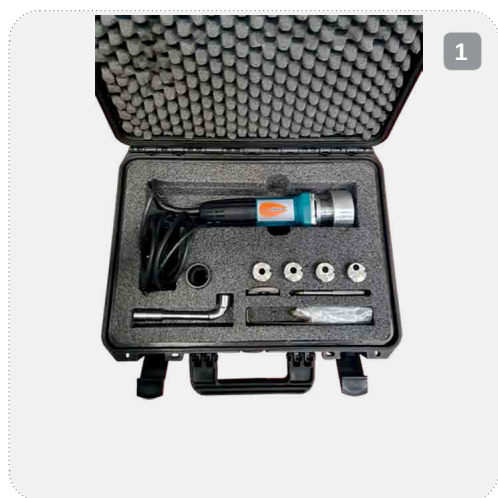
	Drive roller for POLYFIL Compact - Ø 0.8mm	11000107
	Drive roller for POLYFIL Compact - Ø 0.9mm	11000150
6	Drive roller for POLYFIL Compact - Ø 1.0mm	11000108
	Drive roller for POLYFIL Compact - Ø 1.2mm	11000109
7	Pressure roller for POLYFIL Compact	10731212
8	Straightening roller for POLYFIL Compact	10731217

(1) Compatibility of the wire liner with wire feeder and welding heads:

All POLYFIL wire sheathes (MU and TS) can be used with the POLYFIL-2 or POLYFIL-3 wire feeder and with POLYFIL-B or POLYFIL Compact by using an adapter, which is delivered with the wire liner. The wire sheath MU can be used with the whole range MU IV and MU III.

(2) The wire sheathes type POLYFIL for MU are compatible with this wire feeder. An adapter, sent in standard version together with the wire feeder, will be used. Recommended wire: Ø 0.8mm

## Other equipment



### Average values for electrode grinding:

Current intensity (A)	Electrode diameter (mm)	Grinding angle $\theta^\circ$	Flat section $\varphi$ (mm)
10 - 110	1.6	15°	0.1 to 0.2
40 - 190	2.0	15 - 30°	0.1 to 0.3
60 - 210	2.4	30°	0.1 to 0.4
125 - 290	3.2	30°	0.2 to 0.5
250 - 400	4	30°	0.3 to 1



## Other equipment

### Portable electrode grinding machine

1 UG1 portable electrode grinder - 220 V 100091975

Delivered with	UG1
Collets 15° & 30°	✓
Clamping collet Ø1.6 & Ø 2.4 mm	✓
Diamond grinding wheel	✓
Transport box	✓

#### UG1 accessories

2	Collet 15° for UG1	100091891
	Collet 30° for UG1	100091921
	Collet 22°5 for UG1	100091892
	Collet 18° for UG1	100091893
3	Clamping collet Ø1.6 mm for UG1	100091895
	Clamping collet Ø1.0 mm for UG1	100091894
	Clamping collet Ø2.0 mm for UG1	100091896
	Clamping collet Ø2.4 mm for UG1	100091897
	Clamping collet Ø3.2 mm for UG1	100091898
	Clamping collet Ø4.0 mm for UG1	100091899
4	Diamond grinding wheel for UG1	100091919

### Sharpened electrodes

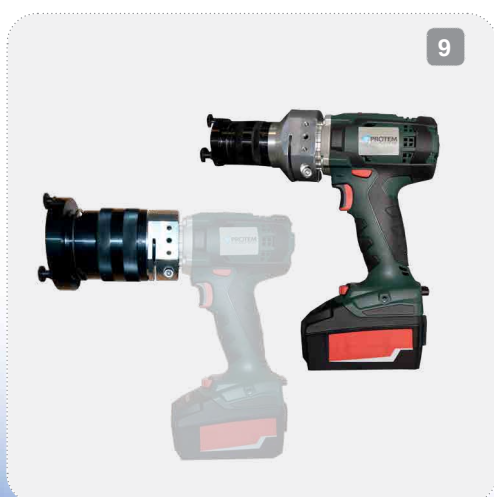
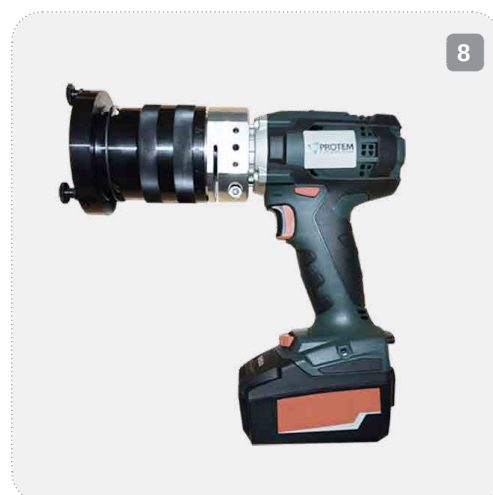
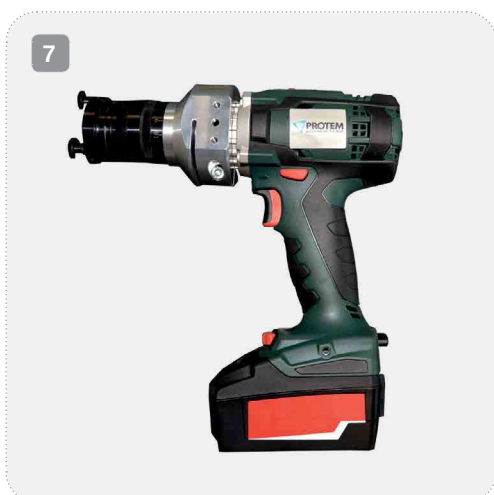
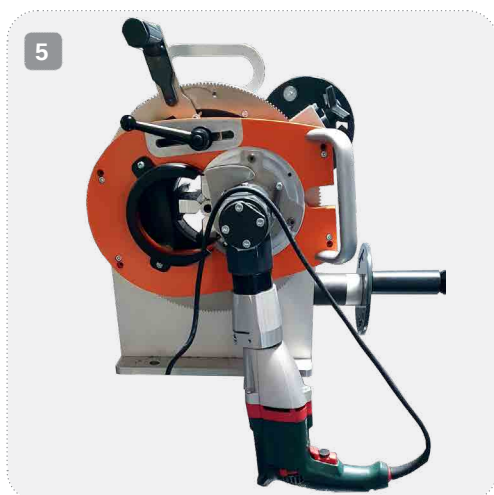
5 Sharpened cut-to-length electrodes (delivered in a set of 50 identical pieces) <sup>(1)</sup> EXXX

*(1) Complete reference list available pages n°132 to 135*

#### Information to be specified for ordering:

- Welding head type
- Tube diameter
- Electrode diameter
- Grinding angle if different from 30°

## Other equipment



## Tube end machining equipment

### ▶ Orbital cutting saw

5	US3 orbital cutting saw - tube O.D. 5 to 88.9mm - with electric drive 220V	100093483
6	US6 orbital cutting saw - tube O.D. 12.7 to 168mm - with electric drive 220V	100093484

Delivered with	US3	US6
Transport box	✓	✓

### US3 & US6 accessories

Saw blade for US3 - 80 teeth (1-3mm) <sup>(1)</sup>	100092183
Saw blade or US3 - 54 teeth (2-7 mm) <sup>(1)</sup>	100092184
Saw blade for US3 - 34 teeth (5-10mm) <sup>(1)</sup>	100092185
Bench mounting device for US3	100092034
Bench Mounting device for US6	100089729
Saw Blade for US6 - 100 teeth 0.02"-0.059" (0.5 mm-1.5 mm) <sup>(1)</sup>	100089770
Saw Blade for US6 - 70 teeth 0.039"-0.118" (1 mm - 3 mm) <sup>(1)</sup>	100089771
Saw Blade for US6 - 64 teeth 0.118"-0.276" (3 mm - 7 mm) <sup>(1)</sup>	100089772
Saw Blade for US6 - 44 teeth 0.276"-0.472" (7 mm - 12 mm) <sup>(1)</sup>	100089773
Saw Blade for US6 -34 teeth 0.472"-0.591" (12 mm - 15 mm) <sup>(1)</sup>	100089774

(1) Minimum order quantity: 5 pieces – unit price

### ▶ Tube squaring machine

7	SE25 tube squaring machine with cordless drive 220V - tube O.D. 3 to 24.5mm	100093485
8	SE65 tube squaring machine with cordless drive 220V- tube O.D. 12.7 to 63.5mm	100093486
9	SE2T tube squaring machine with cordless drive 220V- tube O.D. 3 to 63.5mm.	100093487

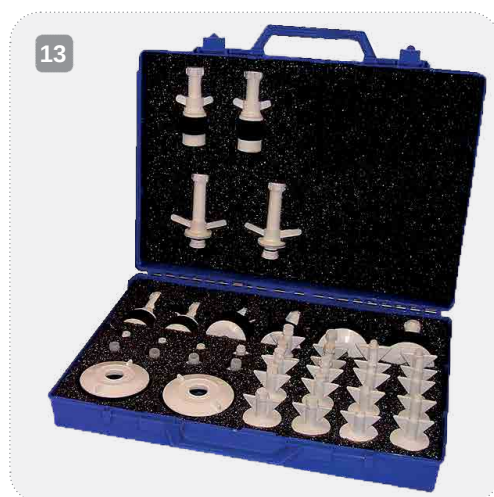
Delivered with	SE25	SE65	SE2T
Battery	✓	✓	✓
Transport crate or box	✓	✓	✓

### SE25, SE65 & SE2T accessories

10	Clamping collet for SE25/SE2T - Please specify the tube O.D (mm)	100093481
	Clamping collet for SE65/SE2T - Please specify the tube O.D (mm)	100093482
11	Tool inserts for SE25/SE65/SE2T <sup>(2)</sup>	100089177
12	Carbide Tool inserts for SE25/SE65/SE2T <sup>(2)</sup>	100089175

(2) Minimum order quantity: 10 pieces – unit price

## Other equipment



## Plug purge kit for orbital welding

13 Purge plug kit for orbital welding

100077871

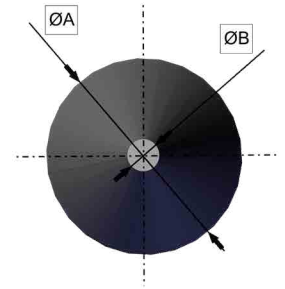
Description	Product size		Size range
	mm	in	mm
Solid stem small bore weld purge plug	12	1/2	12 to 16
	17	3/4	18 to 24
	25	1	23 to 32
	31	1 1/4	31 to 42
	37	1 1/2	37 to 54
Hollow shaft small bore weld purge plug	12	1/2	12 to 16
	17	3/4	18 to 24
	25	1	23 to 32
	31	1 1/4	31 to 42
	37	1 1/2	37 to 54
Hollow shaft large bore weld purge plug	37	1 1/2	37 to 54
	50	2	48 to 65
	65	2 1/2	60 to 77
	75	3	70 to 87
	100	4	95 to 110
BSP nipple caps	/	/	1/2 BSP
BSP swivel nut and hoses tail	/	/	1/2 BSP
Small bore nipple cap	/	/	8 (nominal)

## Other equipment

### Electrodes for the closed chamber welding heads

#### 1. 1. 1. Mean values for grinding the electrode

Diameter (mm) ØA	Diameter (mm) ØB	Sharpening angle θ
1	0.15	15°
1.6	0.2	30°

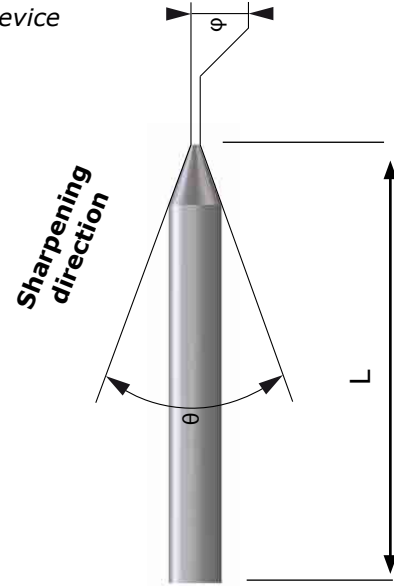


#### 1. 1. 2. Length of electrode without electrode offsetting device

Dpe = electrode distance / tube

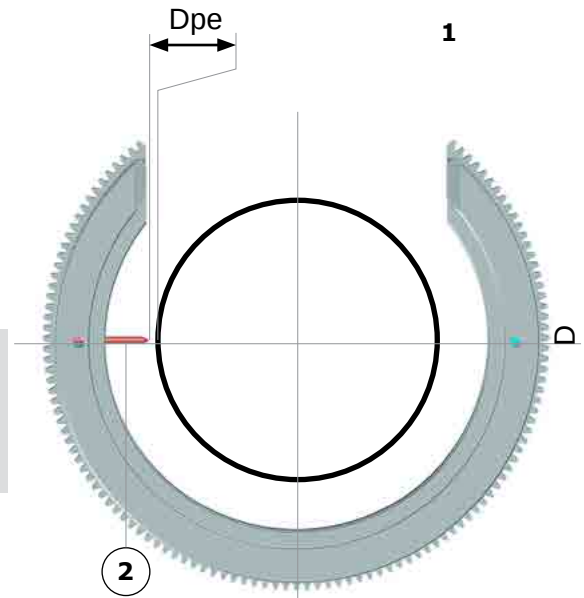
$$L \text{ max} = A - (D/2) - Dpe$$

Values	Description
L	Electrode length (2)
A	Radius of ring gear (1)
D	Outside diameter of the tube
Dpe	Distance between electrode and workpiece



Value A without electrode offsetting device

Weld head	Value A Ring gear radius
MW 40-3	40
MW 65-3	52
MW 115-3	83
MW 170	113



**Electrodes must always be replaced preventatively in order to reduce weld defects. For certain extreme applications, the electrode must be replaced after every weld.**



**The ranges of current intensity (A) are given as an indication for use in DC, DCEN (direct current electrode negative) under argon. In order to avoid damage to the installation, these intensities must be considered with the duty cycles of the torch (and / or lance), please refer to the technical data.**

1. 1. 3. List of grinded WL10 electrodes

UHP 250 (Dpe=0,8mm)				
Ø tube (inch)	Ø tube (mm)	L calcul (mm)	Item code	L electrode (mm)
	2,8	10,3	0033121337	9,7
	3	10,2	0033121337	9,7
1/8	3,17	10,1	0033121337	9,7
	4	9,7	0033121337	9,7
	5	9,2	0033121342	9,2
	6	8,7	0033121341	8,3
1/4	6,35	8,5	0033121341	8,3

UHP 500 (Dpe=0,8mm)				
Ø tube (inch)	Ø tube (mm)	L calcul (mm)	Item code	L electrode (mm)
1/8	3,17	15,0	0033121339	14,7
	4	14,6	0033121336	14,1
	5	14,1	0033121336	14,1
	6	13,6	0033121336	14,1
1/4	6,35	13,4	0033121340	12,6
	8	12,6	0033121340	12,6
3/8	9,52	11,8	100076772	11,2
	10,2	11,5	100076772	11,2
	12	10,6	0033121337	9,7
1/2	12,7	10,2	0033121337	9,7

UHP 625 (Dpe=0,8mm)				
Ø tube (inch)	Ø tube (mm)	L calcul (mm)	Item code	L electrode (mm)
	2,8	19,8	0033121333	19
	3	19,7	0033121333	19
1/8	3,17	19,6	0033121333	19
	4	19,2	0033121333	19
	5	18,7	0033121334	18
	6	18,2	0033121334	18
1/4	6,35	18,0	0033121334	18
	8	17,2	0033121335	17
3/8	9,52	16,4	0033121338	16
	10,2	16,1	0033121338	16
	12	15,2	0033121339	14,7
1/2	12,7	14,9	0033121339	14,7
	13	14,7	0033121339	14,7
	13,7	14,4	0033121336	14,1
5/8	15,88	13,3	0033121340	12,6
	17,1	12,7	0033121340	12,6



### MW 40 (Dpe=1,2mm)

Ø tube (inch)	Ø tube (mm)	L calcul (mm)	Item code	L electrode (mm)
1/4	6,35	35,6	0033121311	35
	8	34,8	0033121312	33
3/8	9,52	34,0	0033121312	33
	10,2	33,7	0033121312	33
	12	32,8	0033121320	31,7
1/2	12,7	32,5	0033121320	31,7
	13	32,3	0033121320	31,7
	13,7	32,0	0033121320	31,7
5/8	15,88	30,9	0033121313	30,5
	17,1	30,3	0033121313	30,5
3/4	19,05	29,3	0033121314	28,5
	21,3	28,2	0033121315	26
7/8	22,2	27,7	0033121315	26
1	25,4	26,1	0033121315	26
	29	24,3	0033121318	24
1 1/4	31,75	22,9	0033121317	22,1
	33,7	22,0	0033121317	22,1
1 1/2	38,1	19,8	0033121319	19

### MW 65 (Dpe=1,2mm)

Ø tube (inch)	Ø tube (mm)	L calcul (mm)	Item code	L electrode (mm)
1/2	12,7	44,5	0033121321	44
	13	44,3	0033121321	44
	13,7	44,0	0033121321	44
5/8	15,88	42,9	0033121322	41
	17,1	42,3	0033121322	41
3/4	19,05	41,3	0033121322	41
	21,3	40,2	0033121310	37
7/8	22,2	39,7	0033121310	37
	25,4	38,1	0033121310	37
1	29	36,3	0033121311	35
	31,75	34,9	0033121312	33
1 1/4	33,7	34,0	0033121312	33
	38,1	31,8	0033121320	31,7
1 3/4	44,45	28,6	0033121314	28,5
	48,3	26,7	0033121315	26
2	50,8	25,4	0033121316	25
	51	25,3	0033121316	25
	53	24,3	0033121318	24
2 1/4	57,15	22,2	0033121317	22,1
	60,3	20,7	0033121319	19
2 1/2	63,5	19,1	0033121319	19

### MW 115 (Dpe=1,2mm)

Ø tube (inch)	Ø tube (mm)	L calcul (mm)	Item code	L electrode (mm)
1	25,4	69,1	0033121331	67
	29	67,3	0033121331	67
1 1/4	31,75	65,9	0033121330	64
	33,7	65,0	0033121330	64
1 1/2	38,1	62,8	0033121329	61,5
1 3/4	44,45	59,6	0033121328	57,5
	48,3	57,7	0033121328	57,5
2	50,8	56,4	0033121325	55
	51	56,3	0033121325	55
	53	55,3	0033121325	55
2 1/4	57,15	53,2	0033121324	50
	60,3	51,7	0033121324	50
2 1/2	63,5	50,1	0033121324	50
	70	46,8	0033121327	46,5
3	76,2	43,7	0033121323	43,5
	85	39,3	0033121326	39
	88,9	37,4	0033121310	37
4	101,6	31,0	0033121313	30,5
	104	29,8	0033121314	28,5
4 1/2	114,3	24,7	0033121318	24

#### 1. 1. 4. List of rough electrodes

Standard rough electrodes to be sharpened <sup>(1)</sup> (depending on use)		
Ø tube (mm)	Item code	L electrode (mm)
1	62410010	150
1,6	62410016	150
2,4	62410024	150
3,2	62410032	150
4	62410040	150

(1) Sold in sets of 10 pieces

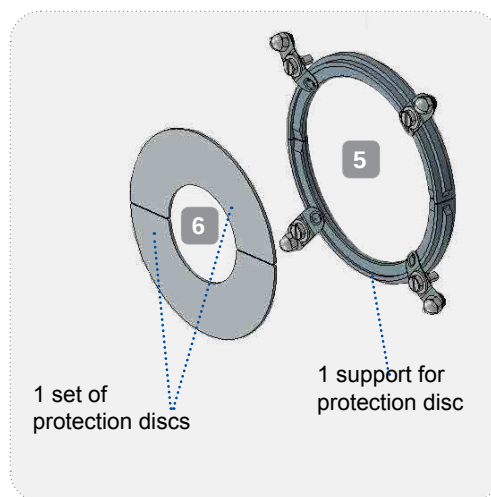
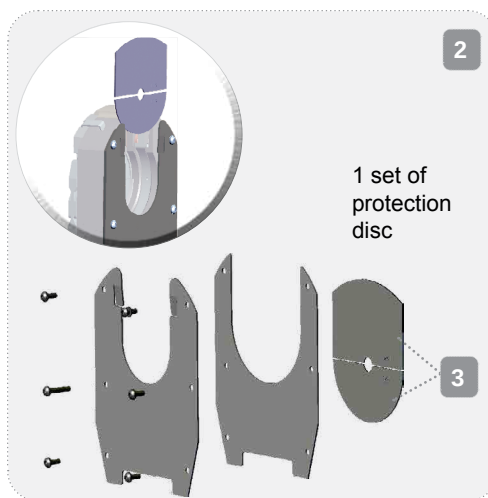
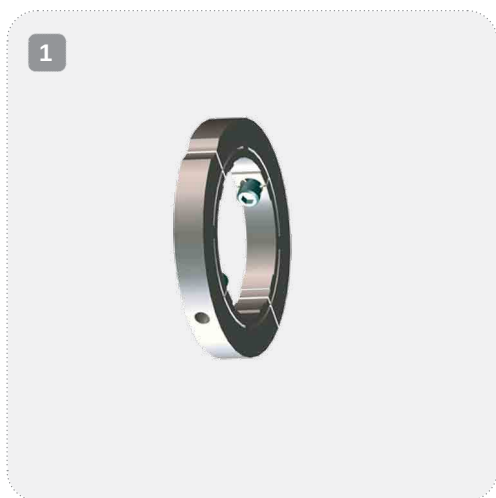
## Other equipment



## Protective cases for safety packing and transport

1	Accessory case 247x159x55	9040005033
2	Accessory case 332x228x78	9040005032
	Waterproof Transport Case Transport case 470x387x175	62209803
3	Waterproof Transport Case Transport case 520x425x216	62209804
	Waterproof Transport Case Transport case 615x527x229	62209805
	Waterproof Transport Case Protective case with wheels 820x530x292	62209806
4	Waterproof Transport Case Protective case with wheels 585x530x350	62209807
5	Shock resistant suitcase for P3 UHP and accessories 820x600x450	62209810

## Related services - Spare parts



## Related services

### ► Options or accessories for former Smart Welding Stations

Modification kit cooling circuit connector to adapt a former welding head (MU III, TP, TS, POLYCAR CW)	15545405
Modification kit gas connector to adapt a former welding head (MU III, TP, TS, POLYCAR CW)	15545406
Rotation motor control kit for tachy welding heads from AMI, Orbitalum and others <sup>(1)</sup>	0025049115

(1) for previous P4 , P4-2 and P4-3

### ► Spare parts for MW 34-2

Accessories		
1	Set of standard TCIs UHP 1500-2 - item according to O.D. - see table below <sup>(1)</sup>	0299xxxx
	Offset electrode holder - 5mm (electrode Ø 1.6mm) MW 34, MW 40-3, MW 65-3 and MW 115-3	0017271401
2	Flange kit for protection disc (MW 34-1 1T) including 1 set of protection discs	0032330301
3	Set of protection discs (MW 34-1 1T)	003233X3XX

### ► Spare parts for MW 40-3

Accessories: TCIs and protection discs for MW 40-3		
4	Set of TCIs for MW 40-3 - reference according to O.D. <sup>(2)</sup>	001774X8XX
5	Support for protection disc (MW 40-3)	0017741701
6	Set of protection discs (MW 40-3) <sup>(3)</sup>	00177417XX

(3) For protection discs, please consult us with the O.D. tube and the bend radius

## Related services - Spare parts

### TCIs for MW 34-2 welding heads

Tube - O.D. (mm)	TCIs for MW 34-1	Tube - O.D. (mm)	TCIs for MW 34-1	Tube - O.D. (mm)	TCIs for MW 34-1
6.0	02990051	17.0	02991167	27.2	02990301
6.35 (1/4")	02990052	17.1	02990554	28.0	02990064
7.0	02990112	17.2	02990059	28.2	02990491
7.9	02990487	17.3	02990294	28.3	02990523
8.0	02990053	17.5	02990524	28.58	02990684
9.25	02990522	17.6	02990406	29.0	02990247
9.52 (3/8")	02990006	17.72	02991197	30.0	02990252
9.9	02990341	17.9	02990405	30.8	02990492
10.0	02990054	18.0	02990060	31.75 (1" 1/4)	02990104
10.2	02991196	18.9	02990489	31.9	02990551
10.3	02990552	19.0	02990370	32.0	02990271
10.5	02990516	19.05 (3/4")	02990007	32.8	02990686
11.0	02990695	19.5	02990536	33.1	02990681
11.5	02990581	20.0	02990099	33.3	02990115
11.8	02990682	20.9	02990490	33.4	02990065
11.9	02990340	21.0	02990502	33.7	02990066
12.0	02990055	21.3	02990061	34.0	02990135
12.2	02990476	21.7	02990335		
12.5	02990113	21.8	02990685		
12.7 (1/2")	02990023	21.875	02990680		
13.0	02990501	22.0	02990114		
13.5	02990056	22.22	02990343		
13.7	02990553	23.0	02990062		
13.8	02999715	23.2	02990542		
14.0	02990057	24.0	02990140		
14.3	02990387	24.689	02990298		
14.8	02990608	25.0	02990008		
14.9	02990550	25.4 (1")	02990024		
15.0	02990116	26.0	02990415		
15.5	02990647	26.5	02991166		
15.9	02990058	26.7	02990171		
16.0	02990103	26.9	02990063		



## TCIs and protection discs for MW 40-3

Tube - O.D. (mm)	TCIs for MW 40-3	Tube - O.D. (mm)	TCIs for MW 40-3	Tube - O.D. (mm)	TCIs for MW 40-3
4.77	0017740884	13.00	0017740858	20.60	0017740895
5.00	0017740871	13.10	0017742817	21.00	0017740875
6.00	0017740820	13.50	0017740829	21.20	0017742810
6.35	0017740811	13.70	0017740882	21.30	0017740832
7.00	0017740872	13.80	0017740870	21.34	0017740887
7.50	0017740859	14.00	0017740810	21.60	0017742814
7.80	0017742815	14.28 (9/16")	0017740850	21.70	0017740818
7.94	0017740848	15.00	0017740853	21.80	0017740891
7.95	0017742811	15.20	0017740869	22.00	0017740833
8.00	0017740821	15.70	0017742819	22.20	0017742812
8.60	0017742825	15.87 (5/8")	0017740813	22.22 (7/8")	0017740814
9.00	0017740873	16.00	0017740822	23.00	0017740834
9.10	0017740892	16.50	0017742820	24.00	0017740835
9.25	0017740842	16.80	0017742816	24.50	0017740889
9.35	0017740827	17.00	0017740855	25.00	0017740824
9.52 (3/8")	0017740812	17.10	0017740830	25.20	0017742807
10.00	0017740828	17.15	0017740886	25.35	0017742802
10.20	0017740844	17.20	0017740843	25.40	0017740807
10.29/10.30	0017740885	17.30	0017740888	25.70	0017742806
11.00	0017740874	17.46	0017740851	26.70	0017740867
11.11 (7/16")	0017740849	17.50	0017742804	26.90	0017740825
11.50	0017740860	18.00	0017740831	26.97	0017742801
11.70	0017742813	18.20	0017740854	27.00	0017740876
12.00	0017740819	18.50	0017740894	27.20	0017740856
12.20	0017740852	19.00	0017740846	28.00	0017740836
12.30	0017740896	19.05	0017740806	28.58 (1 1/8")	0017740815
12.60	0017740861	19.30	0017740893	29.00	0017740845
12.70	0017740805	19.50	0017742818	29.70	0017742808
12.80	0017742821	20.00	0017740823	30.00	0017740837

## Related services - Spare parts

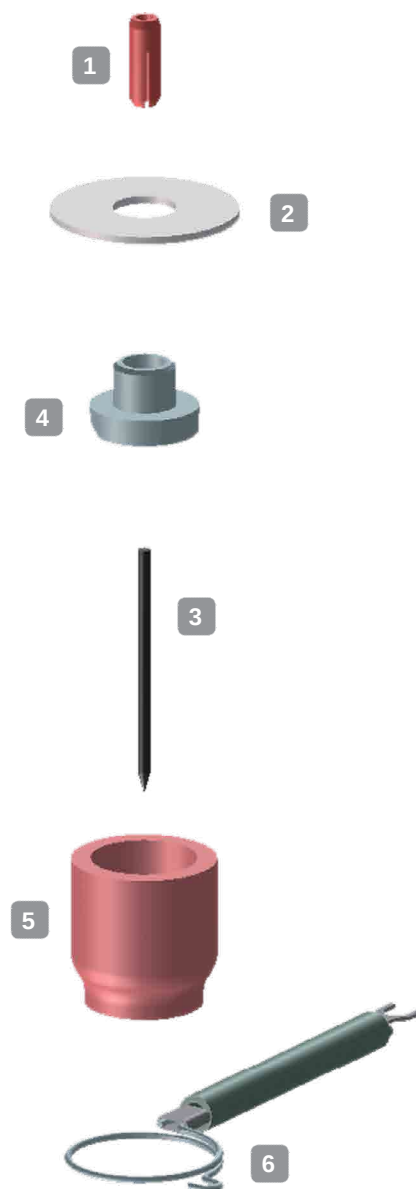
Tube - O.D. (mm)	TCl's for MW 40-3
30.20	0017742805
31.00	0017740877
31.75 (1 1/4")	0017740816
31.88	0017742803
32.00	0017740838
32.50	0017740881
33.00	0017740878
33.40	0017740868
33.70	0017740839
34.00	0017740857
34.60	0017742823
34.92 (1 3/8")	0017740817
35.00	0017740840
35.60	0017742824
36.00	0017740883
37.00	0017740879
38.00	0017740841
38.10	0017740808
38.50	0017740847
38.90	0017742809
39.00	0017740880
40.00	0017740809

### Protection discs for MW 40-3 welding heads

Tube - O.D. (mm)	Protection disc R = 1.5 D
6.00	0017741786
7.50	0017741768
8.00	0017741745
9.50	0017741767
9.53	0017741792
10.00	0017741787
11.50	0017741766
12.00	0017741788
12.70	0017741791
13.50	0017741797
14.00	0017741760
17.20	0017741796
18.00	0017741763
19.05	0017741790
21.30	0017741795
22.00	0017741762
25.00	0017741798
25.40	0017741789
26.90	0017741794
28.00	0017741761
33.70	0017741793

## ► MU IV open welding heads - "P" type gas lens

1	Electrode chuck	Ø 1.6	29810135
		Ø 2.0	29810108
		Ø 2.4	29810143
		Ø 3.0	29810145
2	Seal	Ø 24	29810146
3	Electrode	Ø 1.6	62410016
		Ø 2.0	62410020
		Ø 2.4	62410024
		Ø 3.0	62410030
4	Gas lens	Ø 1.6	29810140
		Ø 2.0	29810101
		Ø 2.4	29810142
		Ø 3.0	29810130
5	Ceramic nozzle	Ø 9 – L 12	29810170
		Ø 9 – L 16	29810175
		Ø 9 – L 19	29810177
		Ø 11 – L 8	29810150
		Ø 11 – L 10	29810155
		Ø 11 – L 12	29810180
		Ø 11 – L 16	29810181
6	Ignition device	L 90	29830200
		L 150	29830100



## Related services - Spare parts

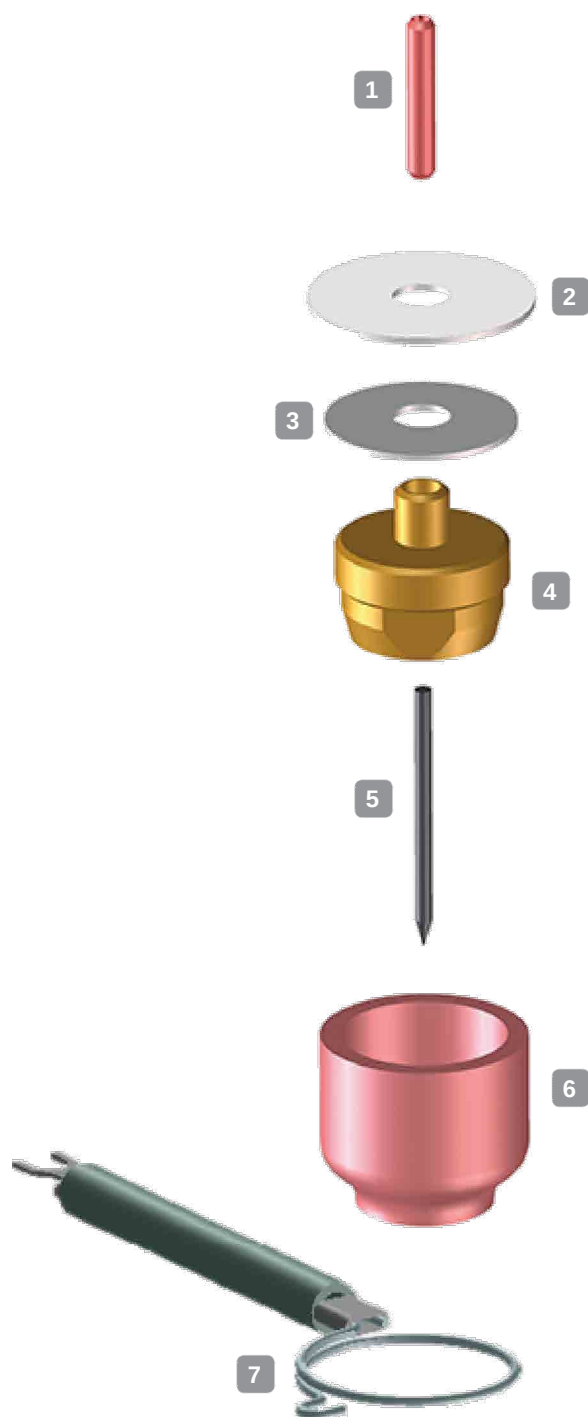
### ► MU IV open welding heads - "N" type gas lens

1	Electrode chuck	Ø 1.6	29820145
		Ø 2.0	29820150
		Ø 2.4	29820170
		Ø 3.0	29820155
2	Seal		62325105
3	Electrode	Ø 1.6	62410016
		Ø 2.0	62410020
		Ø 2.4	62410024
		Ø 3.0	62410030
4	Gas lens	Ø 1.6	29820120
		Ø 2.0	29820101
		Ø 2.4	29820160
		Ø 3.0	62310130
5	Ceramic nozzle	Ø 9	62300115
		Ø 11	62300117
6	Ignition device	L 90	29830200
		L 150	29830100



## ► MU IV open welding heads - "GM" type gas lens

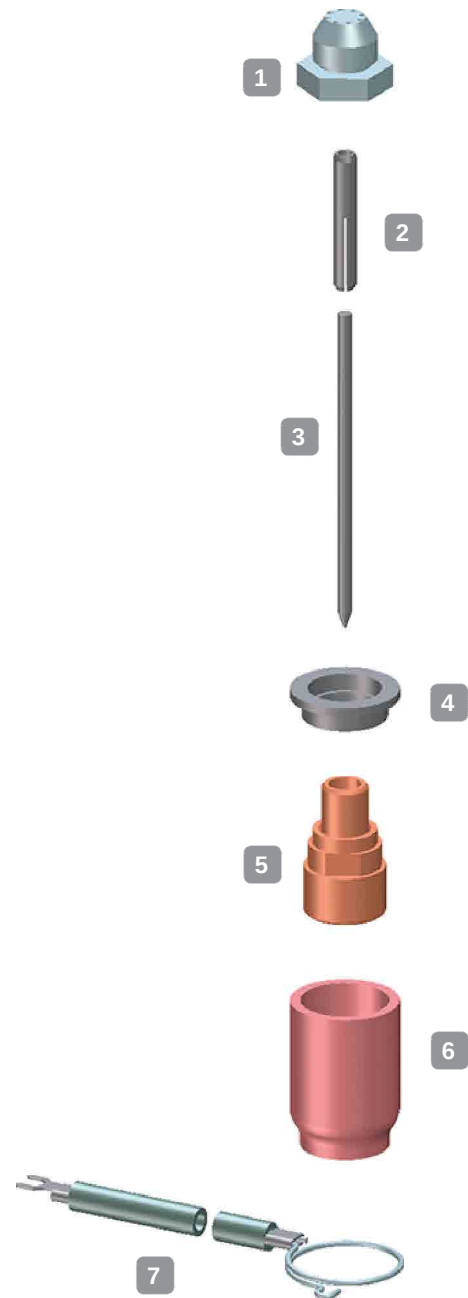
1	Electrode chuck	Ø 2.4	29820170
		Ø 3.0	29820155
		Ø 3.2	29840406
2	Seal	Teflon	29840112
		Silicone	29840113
3	Large washer		01216201
4	Gas lens	Ø 2.4	29840301
		Ø 3.0	29840101
		Ø 3.2	29840401
5	Electrode	Ø 2.4	62410024
		Ø 3.0	62410030
		Ø 3.2	62410032
6	Ceramic nozzle	Ø 13 – L 26	29840116
		Ø 16 – L 26	29840107
		Ø 19 – L 26	29840108
		Ø 19 – L 32	29840115
		Ø 13 – L 36	29840117
		Ø 16 – L 36	29840118
		Ø 19 – L 36	29840119
7	Ignition device	L 90	14070300
		L 250	14070100
		L 120	0014070201
		L 300	0014070401



## Related services - Spare parts

### ► TS 8/75 tube-to-tubesheet - "N" type gas lens

1	Adapter	Ø 2.4	11410127
2	Electrode chuck	Ø 1.6	29820145
		Ø 2.0	29820150
		Ø 2.4	29820170
		Ø 3.0	29820155
3	Electrode	Ø 1.6	62410016
		Ø 2.0	62410020
		Ø 2.4	62410024
		Ø 3.0	62410030
4	Seal		62325105
5	Gas lens	Ø 1.6	29820120
		Ø 2.0	29820101
		Ø 2.4	29820160
		Ø 3.0	62310130
6	Ceramic nozzle	Ø9	62300115
		Ø11	62300117
7	Ignition device	L 150	29830100
		L 250	29830400



### ► Adaptation kit for former Smart Welding Stations

This kits are designed to adapt former Smart Welding Stations with self-opturing new generation welding heads.

Adaptation kit for former Smart Welding Stations	
Adaptation kit – water connector	15545401
Adaptation kit – gas connector	15545402

## Administrative, packing and logistics costs

### ▶ Order processing & administrative fees

Order processing and administrative fees for France, E.U. countries, Switzerland, Norway	100062304
Order processing and administrative fees for Algeria, Azerbaijan , Libya, Russia, Ukraine, Belorussia	100062307
Order processing and administrative fees for Japan, Canada, US, China	100062308
Order processing and administrative fees for Korea, Taiwan, Singapore, Malaysia, Vietnam, Morocco, Tunisia, Turkey	100062309
Order processing and administrative fees for Australia, South Africa, New Zealand, DOM-TOM	100062310
Order processing and administrative fees for South America, Pakistan, Indonesia, the Philippines, Africa ( except South Africa, Morocco, Tunisia )	100062312
Order processing and administrative fees for The Middle East (Saudi Arabia, Egypt, UAE, Qatar, Oman, Kuwait, Jordania, Israel, Iran, etc.)	100062313
Order processing and administrative fees for India	100062314
Order processing and administrative fees for Other countries	Contact us

### ▶ Additional costs

Additional costs for letter of L/C treatment	100062317
Additional costs for certificates on documents	100062318
Additional costs for certificates of conformity - VERITAS type	100083958

### ▶ Specific loading costs for trucks, containers & oversized cargo

Loading cost for partial loading - over 5 standard equipment	100062319
Loading cost for full truck	100062327
Loading cost for full container 20ft Dry or Open Top	100062329
Loading cost for full container 40ft Dry or Open Top	100062332
Additional charges for loading oversized cargo or Open Top container with heavy or bridge crane	100062334
Additional charges for wedging/lashing any package over 3 tons on truck or container	100062337



## Administrative, packing and logistics costs

### ▶ Packing costs

Packing cost for P4 Smart Welding Station	100063022
Packing cost for P6 CW Smart Welding Station	100084837
Packing cost for P6 HW Smart Welding Station	100084838
Packing cost for P6 CW Smart Welding Station with trolley	100084839
Packing cost for PC-2 AC/DC Smart Welding Station (AC/DC)	100100162
Packing cost for Polyfil-3 wire feeder	100063026
Packing cost for Polyfil Compact wire feeder	100084842
Packing cost for switch box	100084840
Packing cost for RFC 30 type cooling unit	100063028

# Sales conditions

## Prices

Our prices are quoted

- In euros (€)
- Per unit
- Ex-works Nantes (EXW Nantes INCOTERMS ICC 2020)
- Administrative, packing and logistics costs not included
- Excluding French VAT

## Warranty

Twelve months from delivery date, against all construction defects (for second hand equipment, six months from delivery date). The warranty is limited to the exchange of parts acknowledged as defective.

### Extract from Polysoude general sales conditions:

- Application of warranty terms

Vendor guarantees that all goods sold will be free from malfunctioning resulting from defects in material, workmanship or design for a period of twelve (12) months from delivery and where the product is used for the intended purpose. Warranty is void where malfunctioning results from unauthorised servicing to the product by the purchaser, normal wear and tear, carelessness or lack of maintenance, caused by a third party or force majeure occurrence.

- Performance of warranty

Under the warranty, the vendor shall replace free of charge any components acknowledged as defective by its technical department. The warranty shall not include labour and costs resulting from the following operations: disassembly, reassembly, shipping to site, etc. Replacement of components shall not be construed as an extension of warranty period.

## Repairs, commissioning and training

These services will be invoiced as per lump-sum prices stipulated in the valid price list.

## Technical documentation

At the date of delivery, one free copy on USB stick is supplied to you. Additional copies will be supplied at additional costs.

## Minimum amount of invoice

For each order (for example spare parts) with a net total amount inferior to €150 (exclusive of packing and transportation costs), we will invoice an additional fee of €30 to cover the administrative costs for such small orders.

## Payment terms

100% down payment is required at first transaction

For existing customers with a credit limit established by our finance dpt. : 30 days net

For outstanding projects, a case by case negotiation will take place between Polysoude sales manager and the customer.

## Reserve of ownership

Polysoude retains the title of the goods until paid for in full. This clause also applies if payment is subject to security or bank warranty.

Any modification of sales terms and conditions must in all cases be confirmed by Polysoude.

## Notes

## Notes

# 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.

## Your partners worldwide

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