

**TIG/GTAW - Open
Tube-to-Tubesheet
Welding Head
TS 8/75-2**

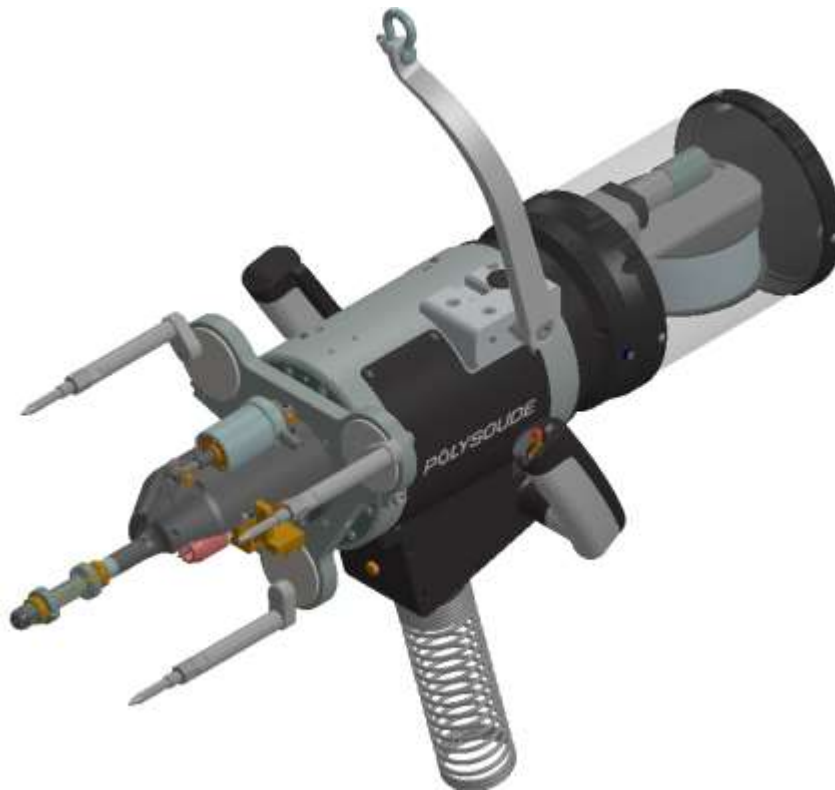


A member of

POLYSOUDE
THE ART OF WELDING

TECHNICAL PRESENTATION

Designed for highest production rates



- **Ergonomic**, Robust and Compact design
- **Quick**, with pneumatic clamping
- **Productive**, simultaneous use of several welding heads by one operator
- **Full-Automated:**
 - with motorised Arc Voltage Control (AVC),
 - return-to-home feature, the electrode automatically returns to its starting position ...

OPEN WELDING HEAD TS 8/75-2

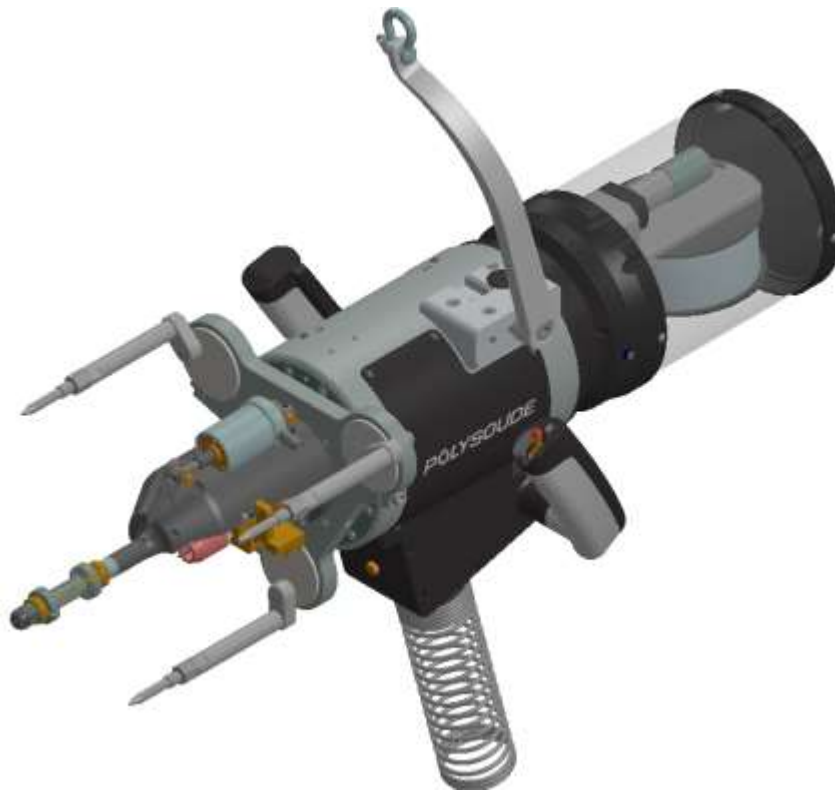
Tube-to-Tubesheet welding applications

Main advantages

- Increased productivity thanks to self clamping and holding system
- Easy adaptation to workload
- Covers virtually all existing tube-to-tubesheet applications
- Zero-defect welds
- Repeatability
- Ergonomic use with integrated control buttons on the handle

TECHNICAL PRESENTATION

Designed for high duty cycle applications



- Range of **high duty cycle air-cooled torches** (water-cooled torches: on request)
- **Endless rotating** torch with a unique high duty collector to supply welding current, shielding gas and cooling liquid
- Torch with ceramic nozzle and diffuser for **laminar gas protection**
- **Closed loop regulation** to ensure precise, constant or pulsed welding and wire speed

TECHNICAL PRESENTATION

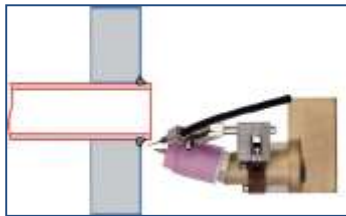
Ergonomic and Easy to use: no specific skills

- **Integrated remote control** in handle
- **Quick and safe** pneumatic clamping with the control button in the handle
- **Adaptable and adjustable** stand-off legs for every pitch

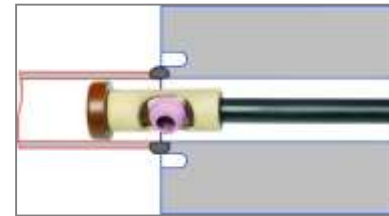


ADAPTED TO ALL YOUR APPLICATIONS

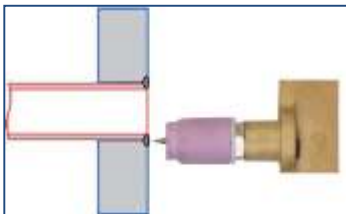
The different weld joint configurations



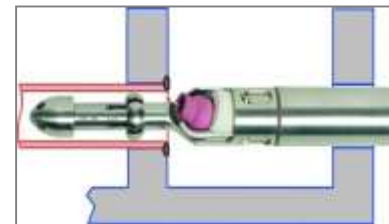
Welding of protruding tubes (from +3 to +13mm)



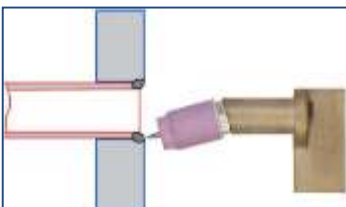
Internal bore welding



Welding of flush tubes (0mm)



Double plate welding (air cooler application)



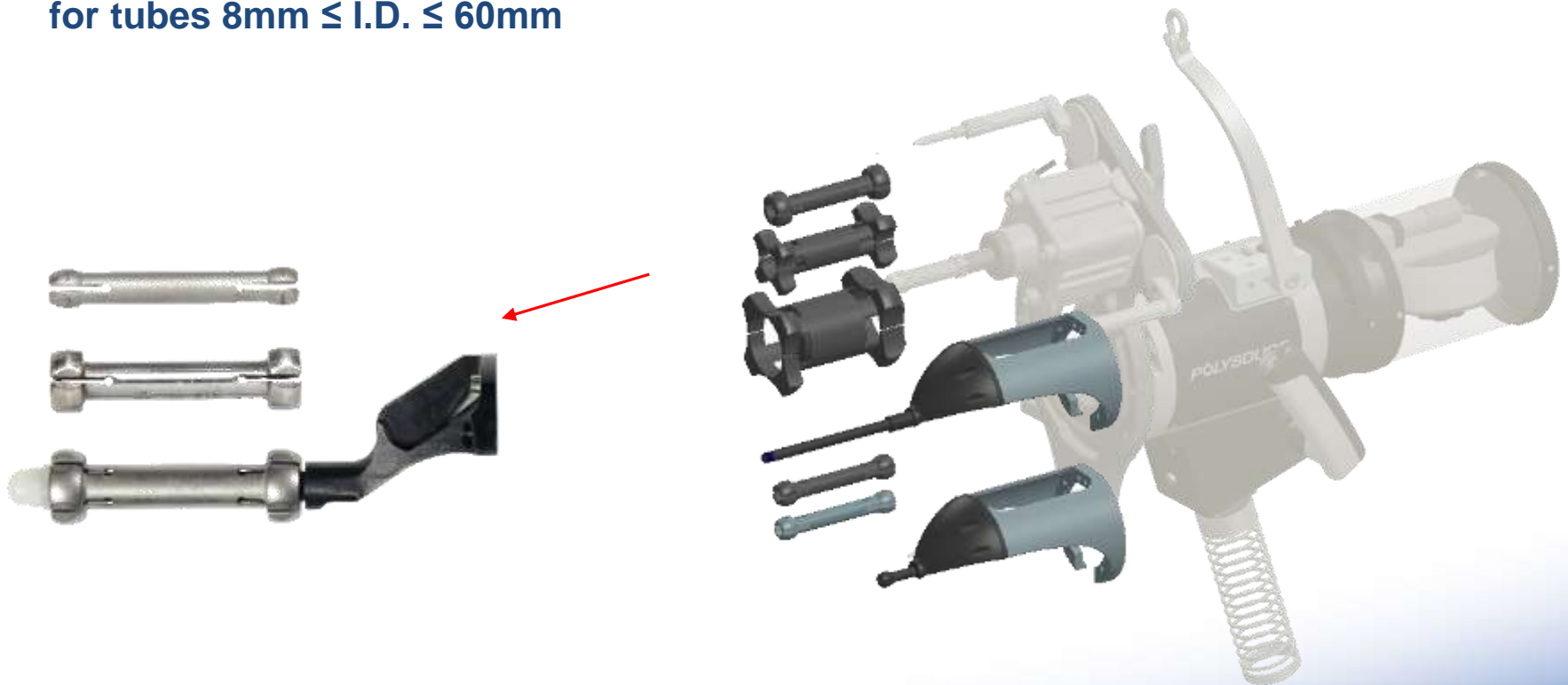
Welding of recessed tubes (up to -2mm)

- **A wide variety of tooling is available to accommodate all existing tube sheet joint designs**

TECHNICAL PRESENTATION

Centring system

Centring shafts and centring mandrels
for tubes $8\text{mm} \leq \text{I.D.} \leq 60\text{mm}$



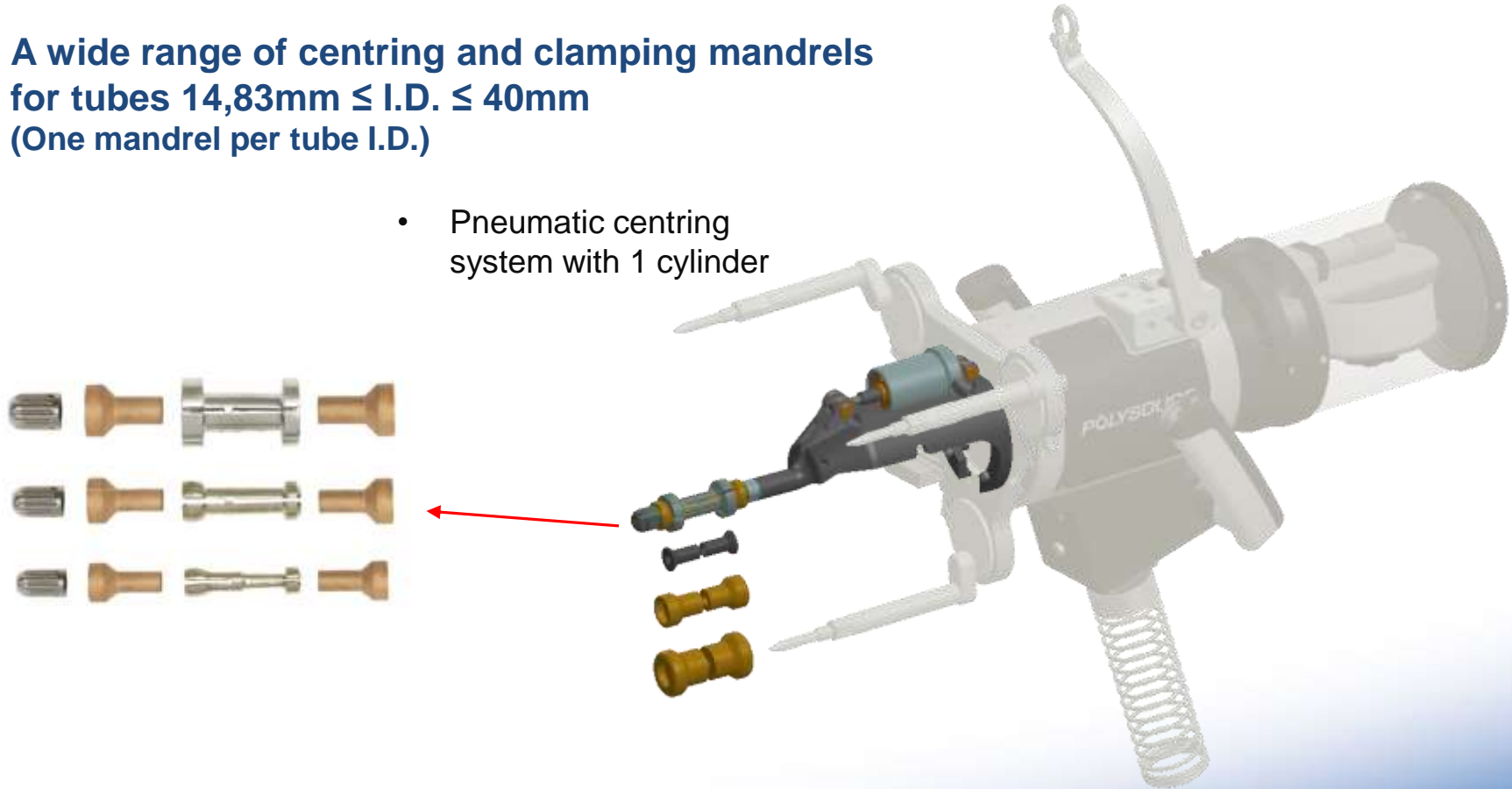
For centring mandrel with $8 \leq \text{I.D.} < 10.5\text{mm}$: on request

TECHNICAL PRESENTATION

Pneumatic centring and clamping system

A wide range of centring and clamping mandrels
for tubes $14,83\text{mm} \leq \text{I.D.} \leq 40\text{mm}$
(One mandrel per tube I.D.)

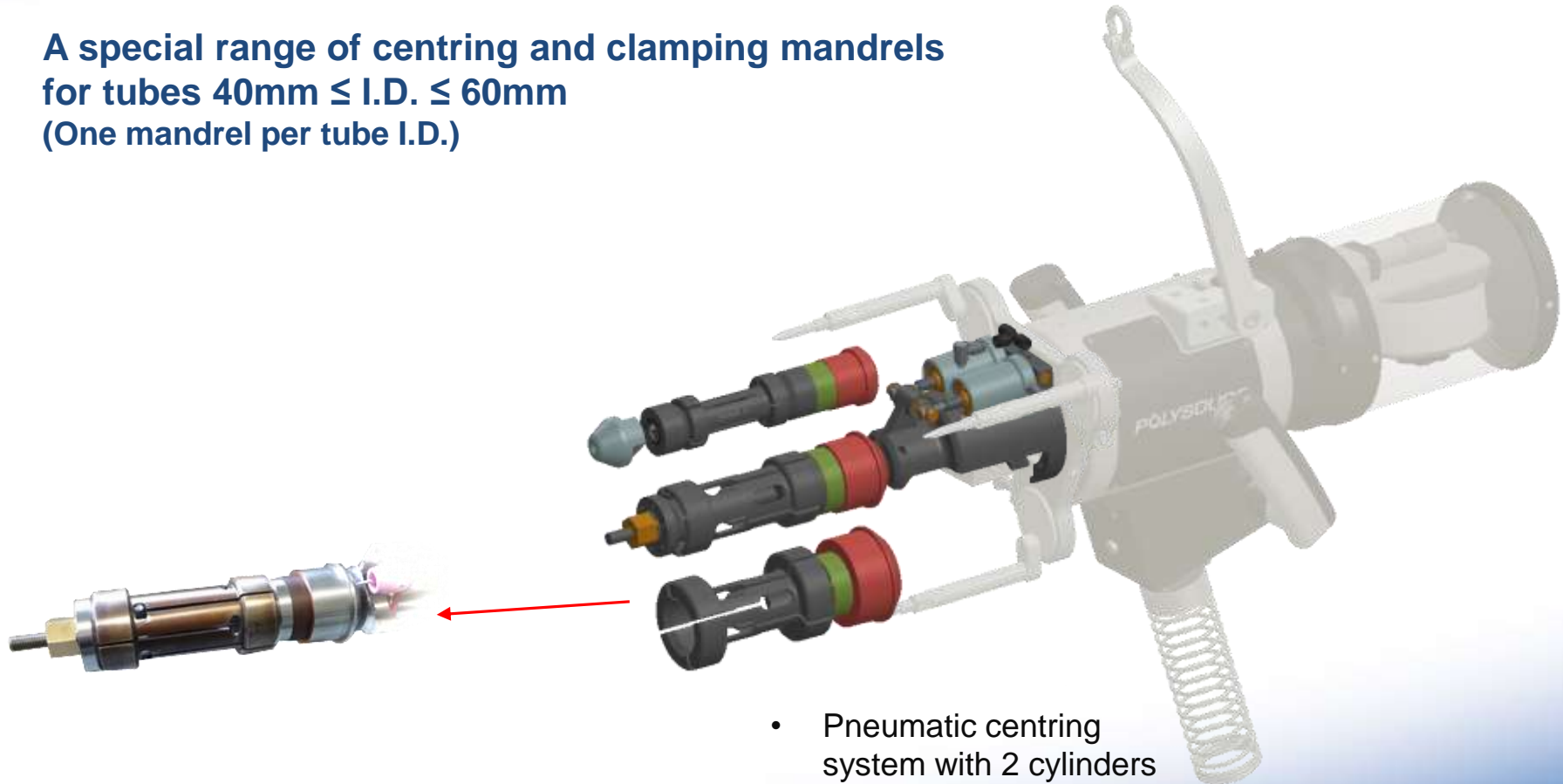
- Pneumatic centring system with 1 cylinder



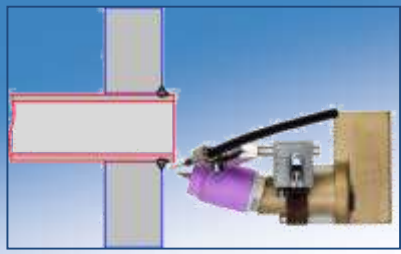
TECHNICAL PRESENTATION

Reinforced pneumatic centring and clamping system

A special range of centring and clamping mandrels
for tubes $40\text{mm} \leq \text{I.D.} \leq 60\text{mm}$
(One mandrel per tube I.D.)



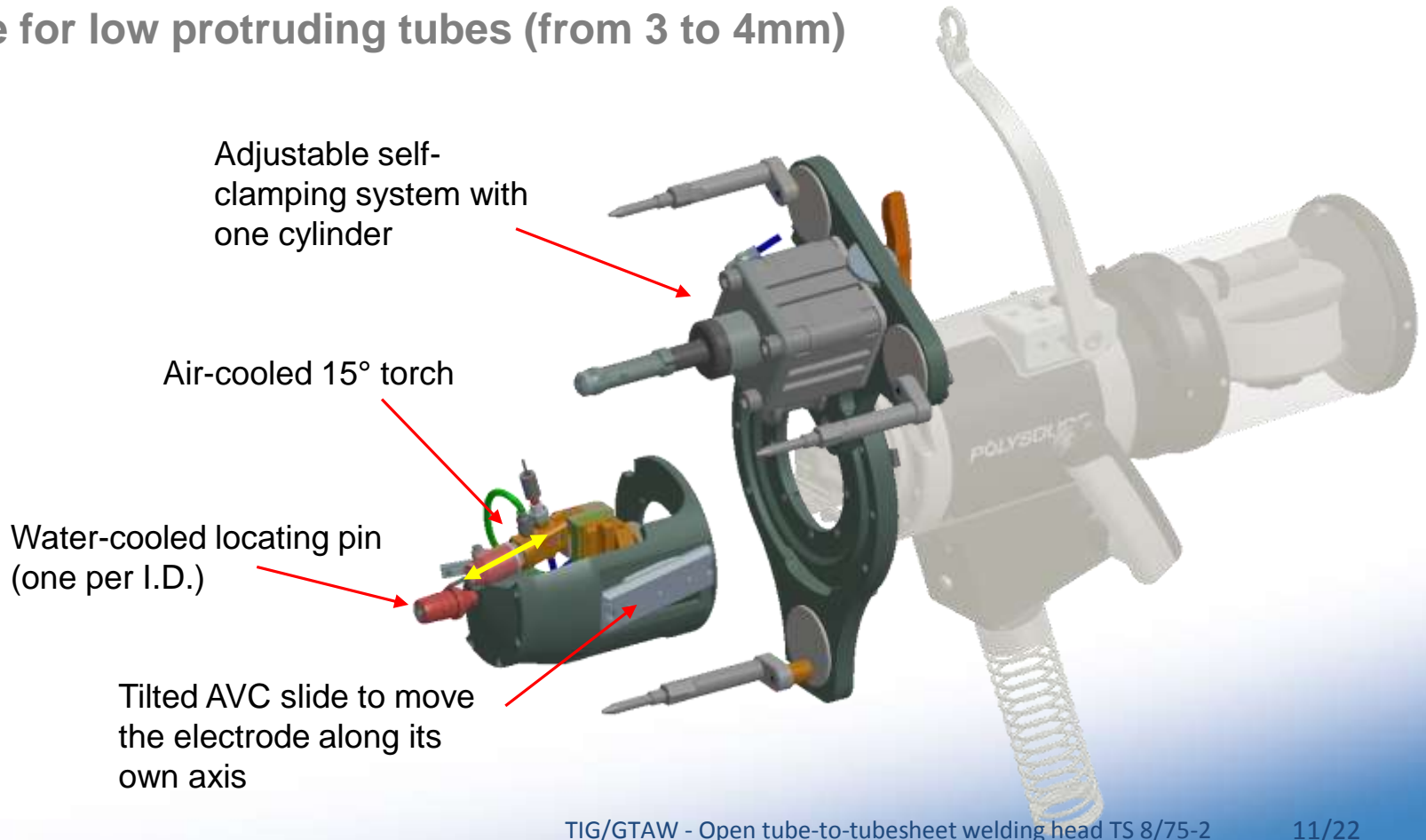
- Pneumatic centring system with 2 cylinders

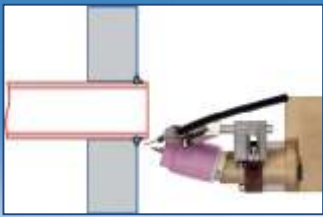


TECHNICAL PRESENTATION

Low-Protruding tube, centring and clamping tooling

Suitable for low protruding tubes (from 3 to 4mm)





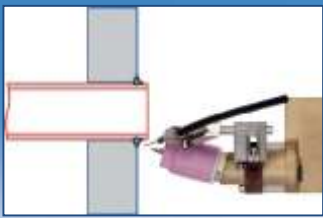
TECHNICAL PRESENTATION

Low-Protruding tube, centring and clamping tooling

Low protruding tube tooling compatible with:

- Wire feeder choice:
 - External wire feeder (15kg spool)
 - On-board stationary wire feeder
 - On-board rotating wire feeder
- Motorised AVC





TECHNICAL PRESENTATION

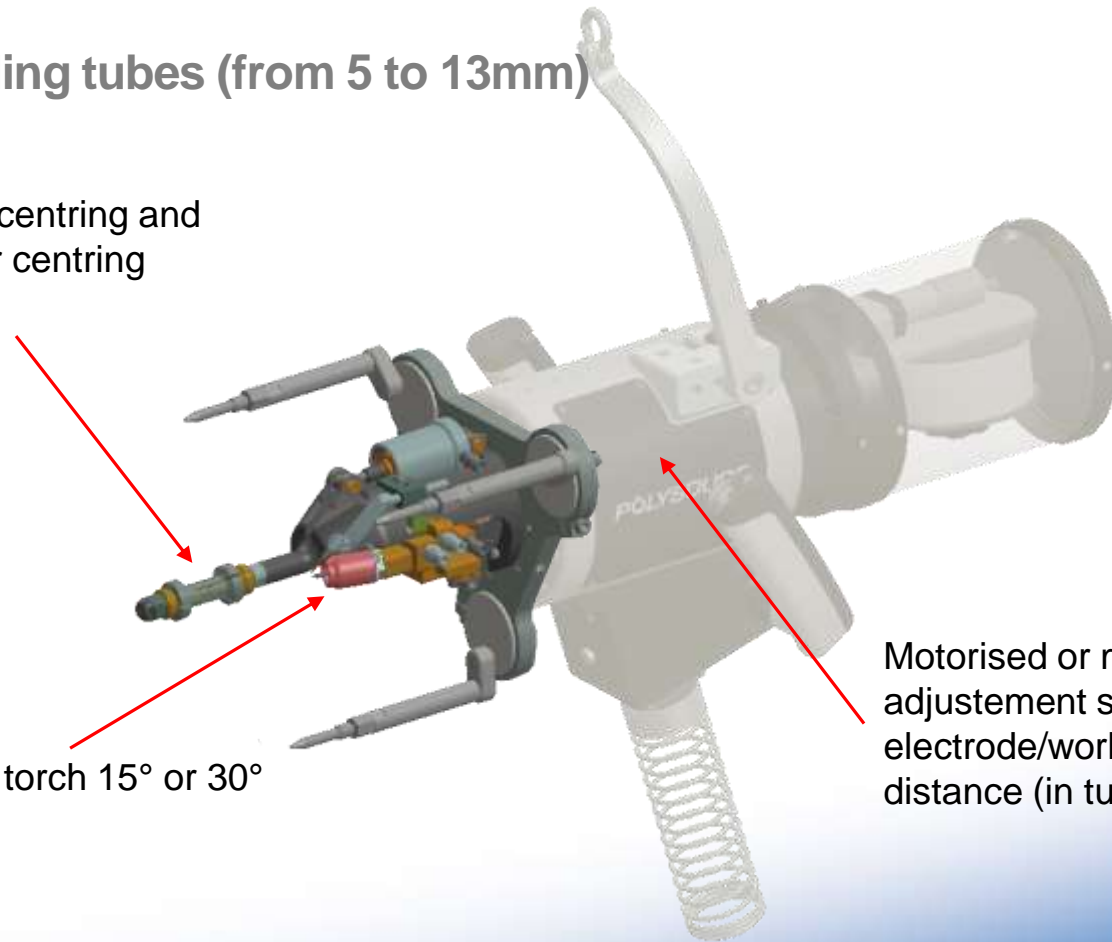
Protruding tube welding configurations

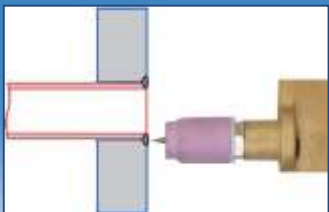
Welding of protruding tubes (from 5 to 13mm)

Pneumatic centring and clamping or centring system

Air-cooled torch 15° or 30°

Motorised or manual adjustment slide for the electrode/workpiece distance (in tube axis)

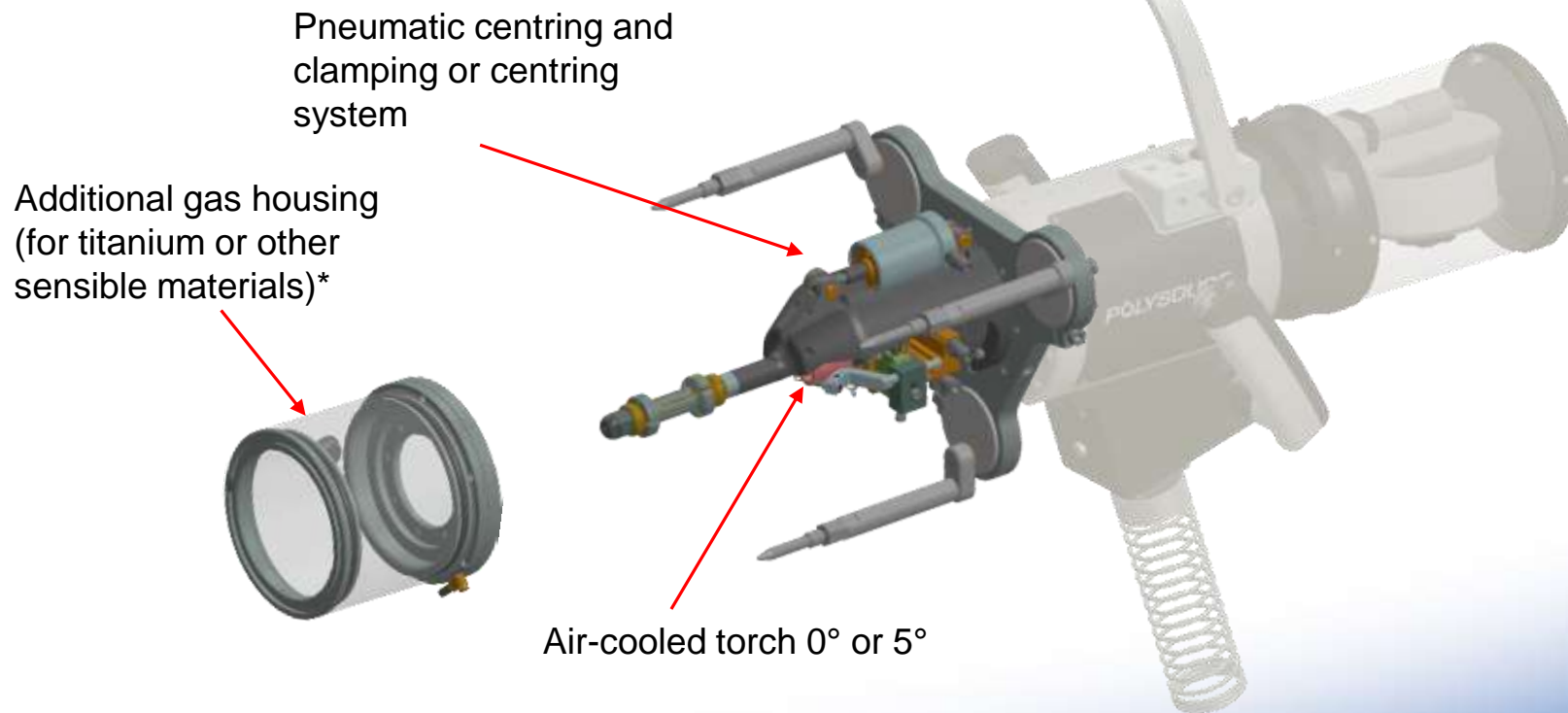




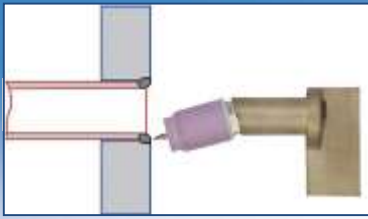
TECHNICAL PRESENTATION

Flush tube welding configurations

Welding of flush tubes



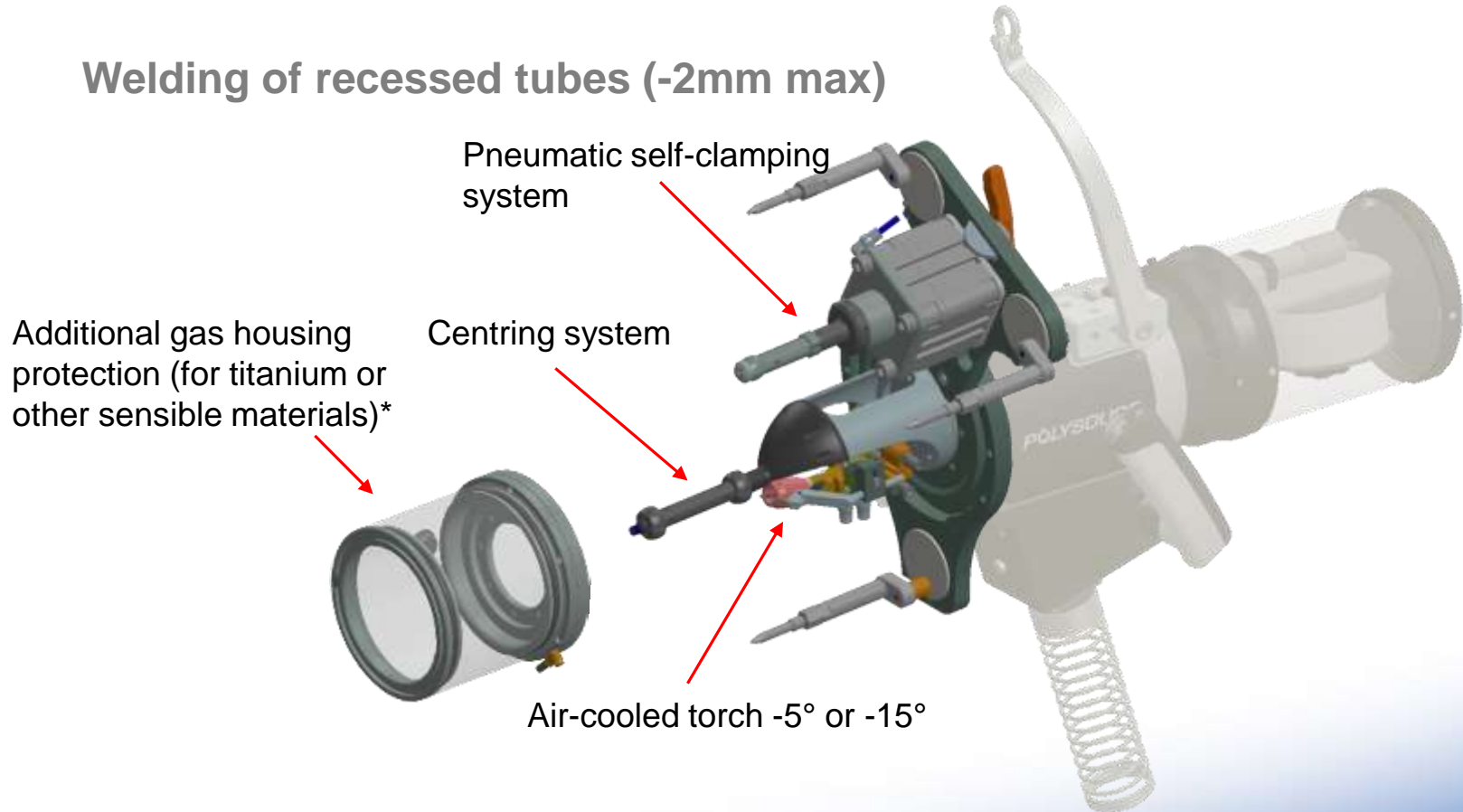
* In place of backing plate



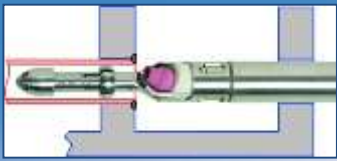
TECHNICAL PRESENTATION

Recessed tube welding configurations

Welding of recessed tubes (-2mm max)



* In place of adjustable pneumatic self-clamping system

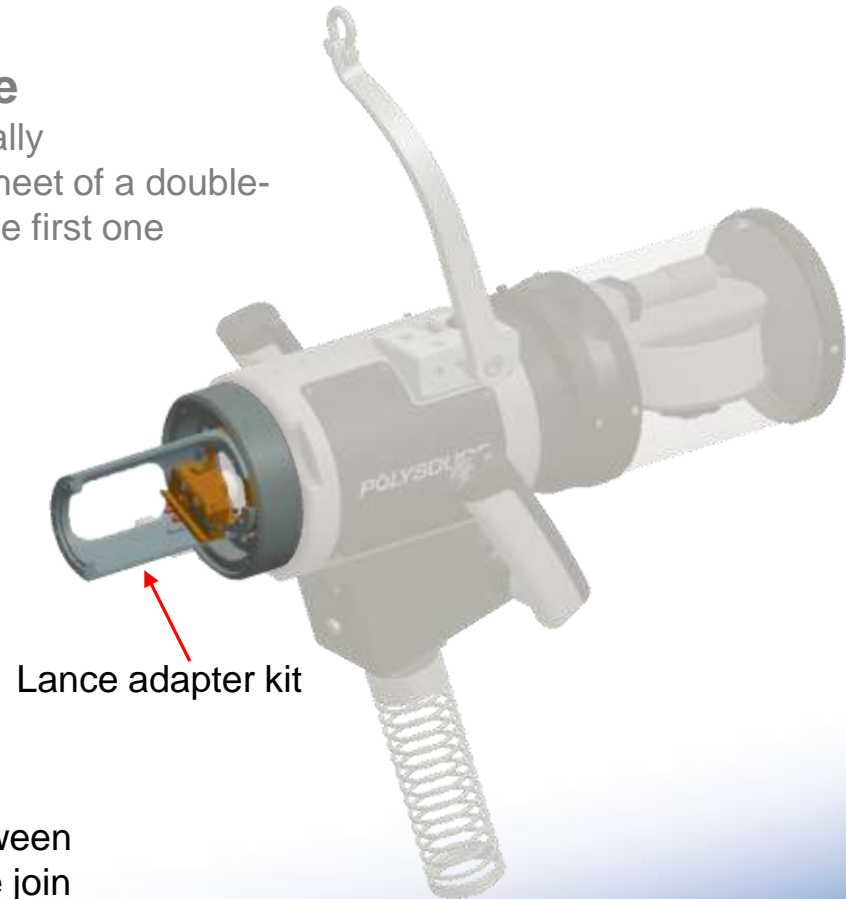
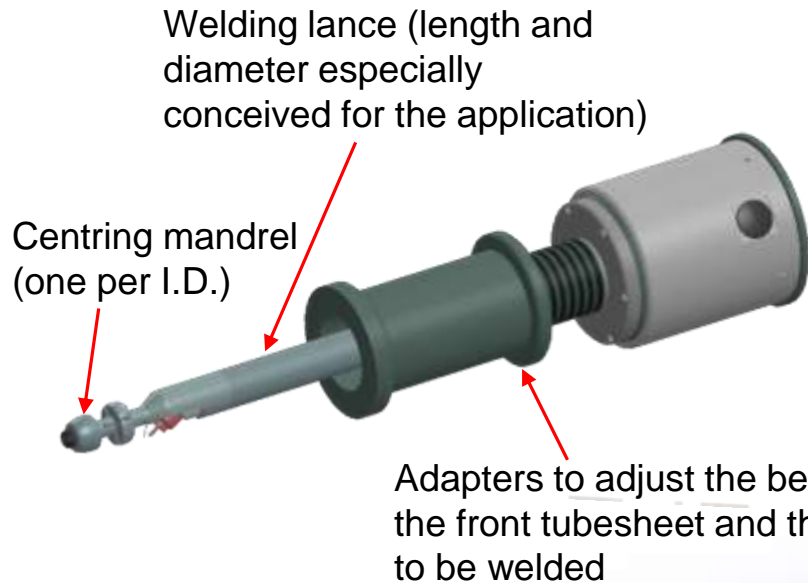


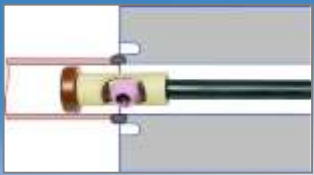
TECHNICAL PRESENTATION

Other types of weld joint configurations

Welding of tubes on double plate

Optional double plate welding lance specifically designed to weld tubes on the second tubesheet of a double-plate heat exchanger through the holes in the first one





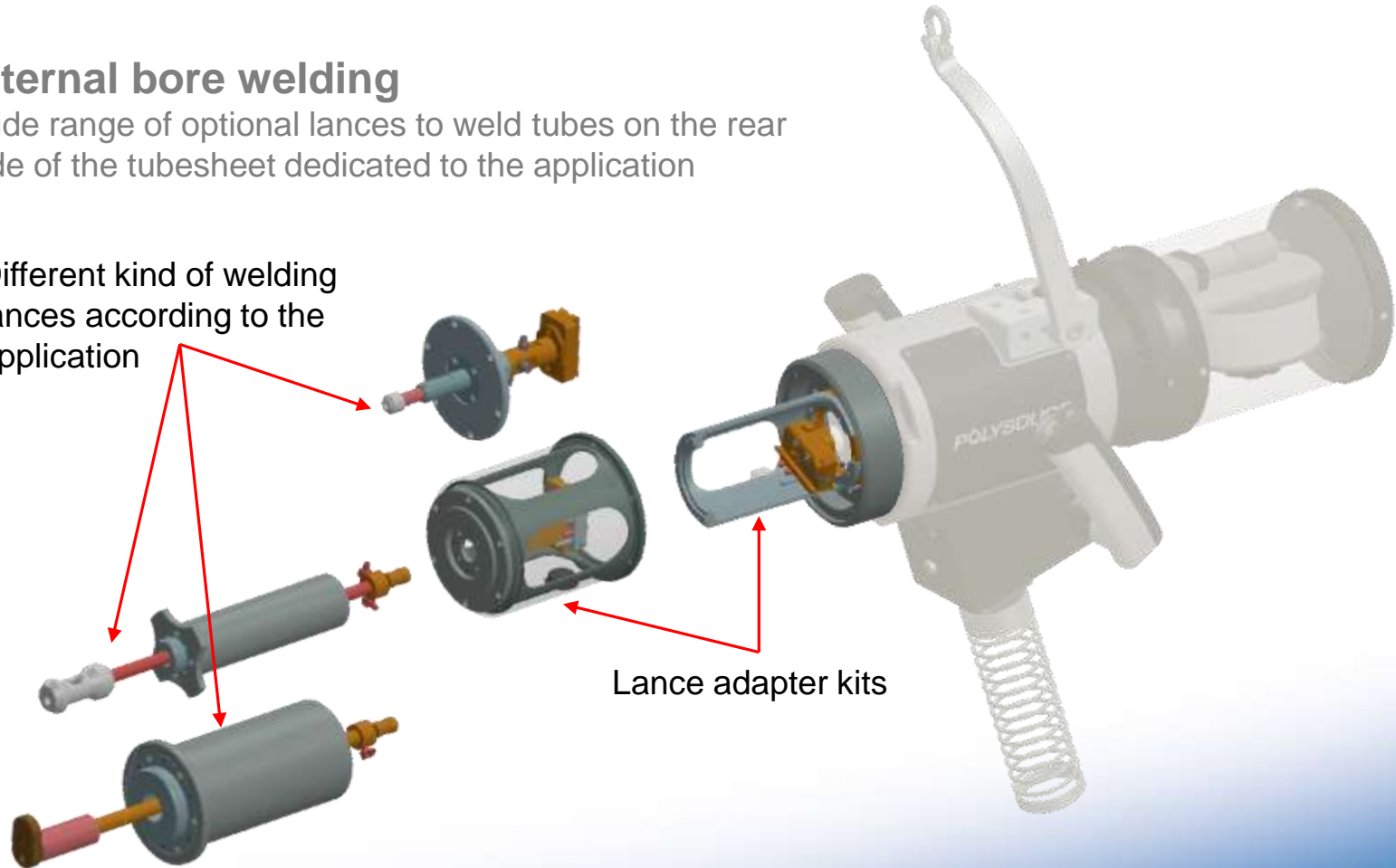
TECHNICAL PRESENTATION

Other types of weld joint configurations

Internal bore welding

Wide range of optional lances to weld tubes on the rear side of the tubesheet dedicated to the application

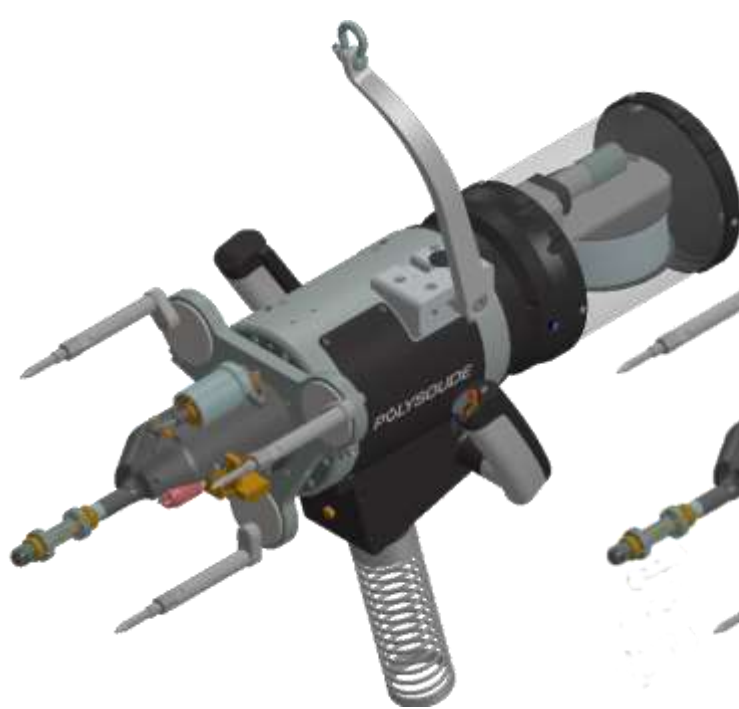
Different kind of welding lances according to the application



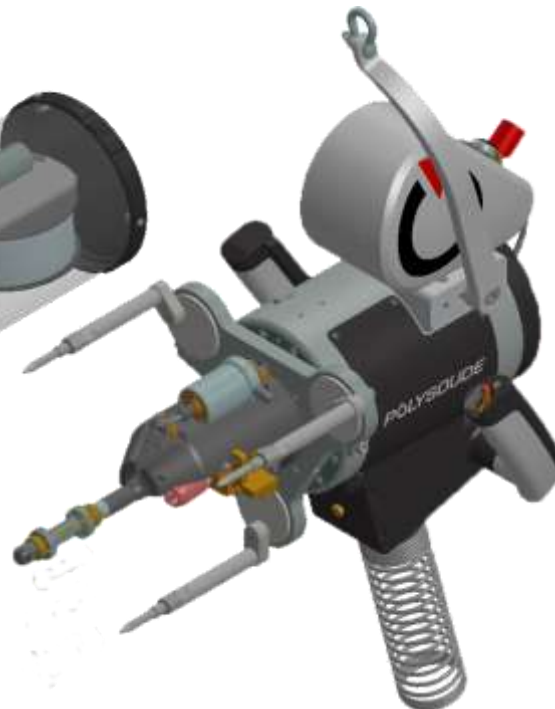
Lance adapter kits

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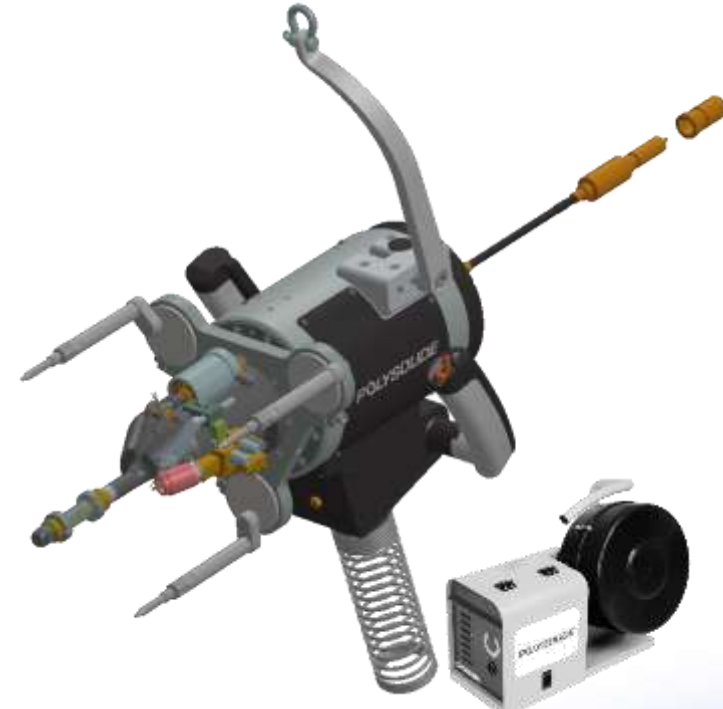
The right wire-feeder for your application and working environment



**With rotating
on-board wire-feeder**



**With stationary
on-board wire-feeder**



**Equipped for external wire-
feeder (Polyfil-3 [15kg spool] or
Polyfil Compact [0,5kg spool])**

TS 8/75-2 technical data

Estimated weight without bundle and wire spool	7 kg
Length of bundle	9 m
Duty cycle	Average current (A) 190 at 100% Max. peak current (A) 250 at 60%
Pneumatic circuit (pressure)	From 6 to 8 bar
Manual reverse stroke	20 mm
TORCH	
Torch cooling (*)	by air
Gas used	Argon and mixes
TUBE	
Inside diameter of the tube - min.	8 mm with single-ball centring mandrel
Inside diameter of the tube - max.	60 mm
Outside diameter of the tube - max.	75 mm
Welding speed (Min.-Max.)	50 - 150 mm/min
ARC VOLTAGE CONTROL (AVC) SLIDE	
Stroke	20 mm
Speed	500 mm/min
ON-BOARD WIRE FEEDER (STATIONERY OR ROTATING)	
Wire feed speed – max.	1154 mm/min (PC 600-3) or 2085 mm/min (P4-P6 series)
Compatible with wire spool	Ø 100 mm - 1.5 kg
Recommended wire diameter	0.8 mm
Motor	DC with encoder
OPERATING RANGE OF CENTRING AND CLAMPING SYSTEMS	
Pneumatic version - Tube I.D.	from 15 to 40 mm
Reinforced pneumatic version - Tube I.D.	from 40 to 60 mm
Dual-ball centring mandrel version - Tube I.D.	from 10.50 to 70 mm
Single-ball centring mandrel version - Tube I.D.	from 8 to 10.50 mm

(*) For "extreme" working conditions (preheated workpieces or for use in confined spaces), water-cooled torches are available on request in order to increase the performance of the system.

ASSOCIATED POWER SOURCES



**P6 Power Source
with Auto-Programming
Software and Intuitive
Operator Interface via
large size Touchscreen...**

100% Duty-Cycle



ADVANTAGES

Compact:	Reduced space and weight
Ergonomic:	double handle with integrated remote control for clamping and welding
Productive:	simultaneous use of multiple welding heads with pneumatic clamping /centring device by one operator
Automatic:	Standard version with AVC (Arc Voltage Control)
Simple:	simplified mechanical adjustments, in particular, filler wire positioning
Precise:	on board filler wire for constant wire feeding and accurate wire impact position

Thank you for your attention!