PRODUCTS & SERVICES
Our Vision

We create Customer success in pipeline welding around the world

By responding to the lifecycle pipeline integrity requirements, we will be recognized as the global partner for providing innovative, efficient, scalable welding solutions to the pipeline industry, facilitating long-term customer success in the most challenging environments. Our global network shall deliver and support simple and reliable solutions that are based on advanced technologies, unique multi-discipline knowledge, in-depth pipeline construction experience, and will ensure consistent weld integrity.
• PWT – Service
• MILLER PIPEPRO® AUTO XCS Platform
• MILLER PIPEPRO® AUTO XCS Light
• MILLER PIPEPRO® AUTO XCS
• PWT – WELDING ARC CONTROL FEATURES
• PWT – DEDICATED WELDING WIRES
• ACCESSORIES
Together with a full range of products and services for an integral execution of automatic welding activities, PWT approach is to work as a Partner to the Customer for the successful achievement of each project.

- Early stage review and comments of the project welding specification
- Technical Support during discussions with Final Clients
- Site or in-house Welding Procedures Qualification Tests
- Site Welding Supervisions support and site Equipment Maintenance
- Contractor’s welding operators and technicians training
- Site refurbishing and upgrading of Contractor owned fleet
- We rent, lease, sell and support all our pipeline automatic welding related equipment
- We have a project support focused internal organization to match Contractors work structure.
Our equipment associated welding solutions are:

**Easy:**
- Simple remote
- High reliability, easy to maintain
- Welder friendly advanced regulations leveraging unique “one proprietary team approach” from bespoke inverter welding arc control algorithms to bug control features.

**Effective:**
- Being user friendly it enables operators to focus on “making it right over and over” enhancing quality
- The same machine from root to cap with onboard quality control system.
- Each head (bug) can be use either on left or right side.

**Flexible:**
- Deeply integrated and cutting edge technology to maximize operational productivity
- Smart and light to minimize safety risks, environmental impact and costs.
MILLER PIPEPRO® AUTO XCS PLATFORM

Miller PipePro® Auto XCS Platform is the PWT scalable bug and band solution for pipeline welding: from the Light version for tie-ins to the Fully equipped version for the most demanding main lines, contractors can benefit from the best solution fitting their needs.

The new XCS family has been designed to be Easy, Effective and Flexible: three milestones in pipeline construction where an advanced equipment with high efficiency and low O&M costs at site can make the difference.
The scalability of the platform allows contractors to upgrade the system adding additional features and enabling the Miller Advanced Pulse, a newly developed welding process for pipeline automatic welding.

<table>
<thead>
<tr>
<th>TECHNICAL FEATURE</th>
<th>ADVANTAGE FOR CONTRACTOR</th>
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<tbody>
<tr>
<td>No right/left head and self-contained</td>
<td>Less spare parts, more reliability and easier maintenance</td>
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<tr>
<td>Bespoke, modern design of electronics and mechanics using proven technologies</td>
<td>Fast mobilization and turnaround. Extended range of use down to 6”</td>
</tr>
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<td>No water cooling of the torch, no air conditioning of electronics</td>
<td>Reliability and simplicity. Temperature range from -40°C to + 50°C</td>
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<tr>
<td>Datalog of welding parameters and pre-heat temperature</td>
<td>Quality and performance traceability, gathering of evidence to prove fitness for service</td>
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<td>Root to cap with the same equipment Multiprocess Power source</td>
<td>Flexible operation and use both downhill or uphill</td>
</tr>
<tr>
<td>Just 25 cm overall height Just 16 kg each head including all electronics and wire feeder motor</td>
<td>Less wooden skids, less “boxes” to be connected together, less connectors prone to breakdowns.</td>
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<tr>
<td>Wire feeder system onboard the head, pulling wire from external spool</td>
<td>Standard 15 kg spools of wire located in a very simple feeder box with no electronics at all.</td>
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<tr>
<td>Less and faster bolting and connections</td>
<td>Quick and easy installation</td>
</tr>
<tr>
<td>All standard processes: RMD® for root, MIG, FCAW, Pulsed</td>
<td>Well known and field proven solutions to deliver high quality welds from the beginning using standard V bevels or site made J bevels</td>
</tr>
<tr>
<td>WiFi enabled</td>
<td>Easy and flexible system settings and parameter editing. Can be controlled and updated through the internet</td>
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<td>Wireless control operator remote</td>
<td>Operator “ownership” of the machine, no cable, ease of use</td>
</tr>
<tr>
<td>Touch screen monitor on each side of the weld inside the cabin</td>
<td>In cabin – PC free – parameters monitoring, changes on the fly and upload/download</td>
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<tr>
<td>Miller Advanced Pulse</td>
<td>High performance (up to 150 cm/min) with less welding units without copper shoes. High flexibility: 3+ mm high-low and 0,5+ mm gap. Root thickness is 4.5+ mm</td>
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<tr>
<td>Contact Tip Work Distance and Burn Through prevention bespoke algorithms</td>
<td>Better quality of the weld, low sensitivity to welding operator skills</td>
</tr>
<tr>
<td>Seam Tracking algorithm</td>
<td>Lower sensitivity to welding operator skills</td>
</tr>
<tr>
<td>Torch tilting system</td>
<td>More welding arc motion control possibilities</td>
</tr>
<tr>
<td>V bevel welding up to 12 mm</td>
<td>Suitable for short projects and waterlines</td>
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It’s the base solution for Contractors looking for a reliable and flexible welding system with RMD for root, MIG, FCAW, and Pulsed welding processes ready to use. It can be upgraded at any time to the full version.

The system includes:
- No. 2 Self contained Welding head and integrated data logger
- No. 2 Wired remote control with onboard display
- No. 2 External spool holders 15 Kg
- No. 2 PipePro® 400 XC complete of interface
- No. 1 Transformer
- No. Manual gas mixer with high and low pressure hoses and regulators
- No. 1 Assembly box to host gas mixer, transformer and welding inverters
- No. 1 Set of power and control cables
- RMD® for root, MIG, FCAW and Pulse welding process
- Burn through prevention for RMD® and automatic stick-out control.

Options
- Wireless remote control and WiFi connection for PC
- Torch Tilting system
- Welding Tent Monitors enabling In cabin – PC free – parameters monitoring, changes on the fly and upload download.
This system is conceived for Contractors looking for higher performances and advanced welding arc control features.

The system includes in addition to the Light version:

- Miller Advanced Pulse
- Seam Tracking
- Torch Tilting system
- CTWD automatic control for burn through & lack of penetration prevention
- Electronic Gas Mixer
- Wireless upload of welding parameters
- External display for welding inspector to monitor actual parameters
- Torch Tilting system

Options

- Wireless remote control with onboard display
- Welding Tent Monitors enabling In cabin – PC free – parameters monitoring, changes on the fly and upload download.
Thanks to ITW full ownership of the complete supply chain, PWT combined together a unique group of welding wire, welding power sources and motion control specialists to answer to our technical specifications, based on years of experience on automatic pipeline welding across the planet in many various cultures, terrain, weather and other constraint configurations.

The resulting welding arc regime is classified as “Advanced Pulse”, runs lower heat input, is synergic and self-adaptive to overcome simultaneously:

- Root pass without copper backing
- Root average travel speed from 110 to 140 cm/min with peaks at 150 cm/min
- Accepted high-low (or mismatch) of 3+ mm
- Accepted local gap of 0.5+ mm
- Root pass deposited thickness is 4.5 to 5 mm in a single layer

The same welding algorithm is used for all passes – root to cap – insuring simplicity, flexibility and effectiveness.

### PWT WELDING ARC CONTROL FEATURES

<table>
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<tr>
<th>PASS</th>
<th>NO COPPER with Miller Advanced Pulse (cm/min)</th>
<th>NO COPPER with RMD® Process (cm/min)</th>
<th>COPPER with MIG Process (cm/min)</th>
</tr>
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<tbody>
<tr>
<td>ROOT</td>
<td>120</td>
<td>40</td>
<td>100</td>
</tr>
<tr>
<td>HOT</td>
<td>70</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td>FILL</td>
<td>60</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>CAP</td>
<td>50</td>
<td>40</td>
<td>40</td>
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*Root pass layer thickness 4.5-5 mm*

To achieve these amazing results, a current shape specific to pipeline automatic welding has been created: it is self-adaptive to smartly control the penetration root preventing both the burn through and lack of penetration.

In summary, thanks to true integration of hardware and software from the power source to the welding head controls the new welding process becomes a component of the overall system enabling:

- Torch Contact Tip to Work Distance and seam tracking
- Specific synergic pipeline automatic welding current shapes
- Root pass penetration control through self-adaptive management of the welding current shapes
- Onboard sensing to insure reliable data logging of all welding and system parameters.
One of the most critical components participating to the successful completion of the joint is the welding consumable, the wire itself.

Just like the welding arc, the wire has impact on the quality, operability and productivity. Welding arc control algorithms and parameters are optimized to get the most out of those high quality welding wires.

Thanks to the ITW group integration, PWT has been able to select and optimize Hobart consumables for automatic welding.

Testing and issuing the specification our aims were:
- Consistency from batch to batch in terms of quality (mechanical property tests), operability and productivity
- Minimize inter-pass grinding
- Robust fit for purpose packaging
- Using not only standard solid and folded flux core wires but also bespoke seamless metal cored and flux cored wires
- Commercial availability in large batch and short delay with actual 3.1b certificates
WELDING CABINS

In order to provide the proper environment for welding, PWT propose two models of welding cabins both equipped with fume extractor, tool holders drawers and 240 V or 110 V power supply with an electric board complete of all the safety features.

Light welding cabins are only 450 Kg weight, for 48” (as reference) and are equipped with manual opening specifically sized for the pipe diameter.

As an alternative we propose the automatic door opening with an overall weight of 750 Kgs for 48” (as reference).

ACCESSORIES

An optimized cabin holder allows to transport up to 4 cabins in a 20 feet standard sea container.
BANDS

- Treated special iron coil
- Toothing on one side
- Gripping system with compensation spring
- Fine regulation device thanks to a 1 mm pace thread

INDUCTION HEATING

The 35 KW Miller ProHeat® induction heating is a competitive solution for light wall pipes pre-heating or for joint temperature control. One or more flexible blankets can be used to optimize heating time on each pipe end.

For faster preheating in pipeline projects with high productivity the Pegaso Plus induction heating machine is the best solution. Able of 70 kW power, fully automatic and easy to operate thanks to the remote control the Pegaso Plus has been designed specifically for the pipeline market by AEC Technology, a Company of ITW.
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