Leading market player in all our fields of activities:

- orbital Welding
- mechanized welding
- cladding solutions
- related services

Help all our customers to increase their industrial efficiency in welding/cladding by adding value to their products.
OUR MARKETS

- Food and beverage industry
- Pharmaceutical industry
- Chemical industry
- Semiconductor industry
- Instrumentation industry
- Aeronautics / Aerospace
- Defense industry
- Shipbuilding industry
- Boilers and heat exchangers
- Power energy
- Oil & Gas
OUR PROFESSION

THE MASTERING OF MODERN ARC WELDING PROCESSES

FOR ORBITAL, MECHANISED AND CLADDING SOLUTIONS

TIG Cold Wire

Plasma

TIG Hot Wire

MIG/MAG
Principle TIG Hot Wire
MECHANISED CLADDING & WELDING

TIG HOT WIRE CLADDING & WELDING

SPX endless rotation:
- cladding
- TIG Hot Wire narrow gap

internal cladding  external cladding

A gain in quality of 400%

These new installations allow a considerable reduction in welding cycle times for joining and cladding operations and an increase in productivity accordingly. In addition, the deposition rate of base and filler materials increased by 50 to 80%, while the overall production yield was raised by 20 to 45%. The automatic process control provides the tools to meet specific requirements, e.g., the degree of distortion can be kept well below 5%.
**P6 POWER SOURCE & COLD & HOT WIRE**

**MAX. WELDING CURRENT 520 A.**

- Programming by PC or touchscreen
- Mini printer for preset and real values
- Ethernet compatible
- Closed loop regulation torch rotation and wire speed
- Built-in AVC and OSC function
- Torch gas control with safety valve and flow detection
- External closed loop water cooling system with safety valve for welding head and torch
WELDING HEADS

Intuitive Human Machine Interface
Offline & online programming with PC / touch screen
Intuitive User Interface (GUI)

multi lingual “Help” menu for optimized welding programs
USB memory stick for saving, loading and archiving of welding programs and monitored welding data
MU IV 195 HW
Open Type Welding Head

torch
ceramic nozzle
gaslens

AVC & OSC for:
Multi-pass layers of heavy wall thickness
encoder for position based control
precise, constant or pulsed welding

gearbox

“C” – water cooled clamping (1 shell p/diam):
heavy duty production
preheated tubes

“P” - clamping:
Full diameter range welding head.
APPLICATION: 5G J30 114x8,5 pipe welding

Base material:

PIPE
ASME SA 312: TP 316L
Diameter 114mm x 8.5mm

WIRE
AWS A5.9: ER316L Si
Diameter 0.8mm

GAS
Welding gas: Argon
Backing gas: /

Equipment

Power Source: P6 HW
Rotation: MU IV 195 « HW »
Wire feeder: Polyfil 7929-2
AVC: KR15b
OSC: KR15b

Groove Design and Welding Procedure:

<table>
<thead>
<tr>
<th>E-mm</th>
<th>E*-mm</th>
<th>B-mm</th>
<th>D-mm</th>
<th>R-mm</th>
<th>L-mm</th>
<th>T-mm</th>
<th>A-ø</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>8.5</td>
<td>7.5</td>
<td>15</td>
<td>10</td>
<td>0.4</td>
<td>2</td>
<td>1.8</td>
</tr>
</tbody>
</table>
APPLICATION: 5G J20 168x12.5 pipe welding

Base material:

PIPE
EN 10028-2: P265
Diameter 168mm x 12.5mm
WIRE
AWS A5.18: ER70 S3
Diameter 0.8mm
GAS
Welding gas: Argon
Backing gas: /

Equipment

Power Source: P6 HW
Rotation: MU IV 195 « HW »
Wire feeder: Polyfil 7929-2
AVC: KR15b
OSC: KR15b

Groove Design and Welding Procedure:

<table>
<thead>
<tr>
<th>E</th>
<th>E*</th>
<th>B</th>
<th>D</th>
<th>R</th>
<th>L</th>
<th>T</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>11</td>
<td>15</td>
<td>10</td>
<td>1.5</td>
<td>3.5</td>
<td>2</td>
<td>20</td>
</tr>
</tbody>
</table>
APPLICATION: 5G J20 168x12,5 to flange welding

Base material:

PIPE
EN 10028-2: P265
Diameter 188mm x 12,5mm

FLANGE
EN 10028-2: P265

WIRE
AWS A5.10: ER70 S3
Diameter 0.8mm
GAS
Welding gas: Arcon
Backing gas: /

Equipment

Power Source: P6 HW
Rotation: MU IV 195 « HW »
Wire feeder: Polylift 7929-2
AVC: KR16b
OSC: KR16b

Groove Design and Welding Procedure:

<table>
<thead>
<tr>
<th>E</th>
<th>E*</th>
<th>B</th>
<th>D</th>
<th>R</th>
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<tr>
<td>13</td>
<td>11</td>
<td>13</td>
<td>10</td>
<td>1.5</td>
<td>3.5</td>
<td>2</td>
<td>20</td>
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</table>

<table>
<thead>
<tr>
<th>E</th>
<th>T</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>0.2</td>
<td>3.75</td>
</tr>
</tbody>
</table>
Productivity Level GTAW / TIG Cold wire - Hot wire (Arc time)

<table>
<thead>
<tr>
<th>Diameters</th>
<th>114.3 x 8.5 Stainless Steel</th>
<th>168.3 x 12.5 Carbon Steel</th>
<th>355 x 80 Stainless Steel</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Productivity</strong></td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Deposit rate</strong></td>
<td>GTAW / TIG Cold wire</td>
<td>GTAW / TIG Cold wire</td>
<td>GTAW / TIG Cold wire</td>
</tr>
<tr>
<td></td>
<td>128%</td>
<td>218%</td>
<td>341%</td>
</tr>
<tr>
<td><strong>Time (minutes)</strong></td>
<td>Cold wire</td>
<td>Hot wire</td>
<td>Hot wire</td>
</tr>
<tr>
<td></td>
<td>26</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>60</td>
<td>28</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>1380</td>
<td>405</td>
<td>405</td>
</tr>
</tbody>
</table>
POLYCAR 60-2 PLC Carriage Welding Head
**POLYSOUDÉ**

**POLYCAR 60-2 PLC**

- Open type carriage welding head for welding of tube and pipe joints
- Motorised AVC
- Motorised OSC
- Quick lock positioning
- “Low Profile” version designed for areas with reduced axial clearance
- Encoder for position based control of the welding program
- Quick lock positioning
- On board filler wire module with 1.5 or 5 kg spool

**TIG cold & hot wire**
narrow gap torch NG 100mm thickness max. torch thickness 7 mm

Polycar PLC

narrow groove torch

standard torch
APPLICATION: 2G Narrow Gap pipe welding

Base material:

PIPE
ASME SA 479: 316L
Diameter 355mm x 80mm
WIRE
AWS A5.9: ER316 LSi
Diameter 0.8mm
GAS
Welding gas: Argon
Backing gas: Argon

Groove Design and Welding Procedure:

Equipment

Power Source: P6 HW
Rotation: Polycar 60-2 PLC
Wire feeder: Polyfil 4800
AVC: KR15b
OSC: KR15b

*côte au point de tangence avec angle de chanfrein.
DIFFERENT OPERATING NARROW GAP TECHNIQUES

(1) Straight single-pass layer by layer NG Welding

(2) Welding with oscillating electrode

(3) Multi-pass layer by layer NG Welding
CENTERING LATERAL SENSORS
SELF CENTERING - ORBITAL WELDING
POLYCAR MP CARRIAGE HEAD

HEAVY DUTY PIPING (RISERS)

ORBITAL WELDING

narrow gap WT above 300 mm

“The flexibility of the system allowed us to choose the process most suited to our application.”
LIVE demo P6 HOT WIRE
02-09/05-2011
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