Plasma-Jet DSL Compact

Small foot-print Plasma Cutting Systems for highest quality demands

- Hypertherm® CNC
- Sensor for automatic torch height control (THC)
- Electro-pneumatically controlled vacuum table
- MTC Nestmaster® Nesting software

www.knuth-usa.com
PowerMax series air plasma, or HPR plasma technology by Hypertherm
Stands for highest standards in cutting quality and cost-effectiveness

- This compact series offers superior cutting performance and extensive equipment variations = high quality and small footprint plus low investment for maximum cost-efficiency
- Extremely rigid design for maximum cutting precision
- Dual-drive bridge
- High-quality linear guides on all axes
- Dynamic AC servo drives on all axes with maintenance-free, zero-backlash planetary gears
- Low-wear and low-maintenance helical gears are designed for continuous operation
- Optimum track speed even for fine contours and tight radii
- Automatic torch height control
- Stand-alone cutter table features rigid steel construction for high load capacity
- Adjustable cutting current
- Stand-alone table eliminates thermal and mechanical influences on the plasma cutter system
- Quick-coupling for cutter head changes in seconds
- Minimized tooling time ensure maximum cost savings
- Use the existing cutting parameters stored in the control to find the optimum cut
- Available with tube cutter, and many more options
**Plasma-Jet DSL Compact**

**TECHNOLOGY INSIDE**

**CNC-Control**
- The optimum control for any requirements
- Easy to operate, absolutely reliable and powerful
- With the CutPro Wizard, even inexperienced users can manufacture cut parts after a few minutes

![Edge® Pro CNC](image1)

![MicroEDGE® Pro CNC](image2)

**HDi™-Technologie**
- For superior angularity, glossy cut surfaces, and sharp edges in thin alloyed steel

![HyFlow™ nozzle with axial water injection](image3)

Plasma gas inlet

Plasma gas exhaust

Secondary gas inlet

Hypertherm® protective shield technology

**True Hole®**
- This cutting technology for plain carbon steel produces a significantly improved hole quality

![with True Hole®](image4)

![without True Hole®](image5)

**Nesting Software**
- CAD/CAM nesting software can fulfill the most demanding requirements. Let us help you select the perfect solution for your needs.

![NestMaster®](image6)

![TurboNest®](image7)

![ProNest®](image8)

Included technology depends on the selected plasma source and options - we will be happy to assist you in making the perfect selection for your needs!
### Standard Equipment
- Hypertherm® MicroEDGE® Pro CNCg
- Hypertherm® plasma source
- Hypertherm® cutter head
- Hypertherm® Nestmaster® nesting software
- Z axis with servo-driven THC
- Magnetic torch coupling
- Work table with vacuum connector and automatic shutter control
- Operator manual and programming instructions

### Servo-control for torch height (THC)
- Height sensing and height control via plasma arc for maximum quality and productivity throughout the cutting process

### Magnetic torch disengagement
- The magnetic torch coupling reduces not only tooling times, but also ensures more safety for drives and torch in case of a collision

### Specifications DSL Compact

<table>
<thead>
<tr>
<th>Specifications DSL Compact</th>
<th>1020</th>
<th>1530</th>
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</thead>
<tbody>
<tr>
<td><strong>Work area</strong></td>
<td></td>
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</tr>
<tr>
<td>Cutting width</td>
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<tr>
<td>Cutting length</td>
<td>inch</td>
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<tr>
<td>Dist. between cutter head and table</td>
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<tr>
<td>Rapid feed</td>
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<td>Table load capacity max</td>
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<td>Table height</td>
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<td><strong>Dimensions/Weight</strong></td>
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<tr>
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<tr>
<td>Weight</td>
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## Options

<table>
<thead>
<tr>
<th>Options</th>
<th>Part No.</th>
<th>Part No.</th>
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<tbody>
<tr>
<td>Automatic gas console</td>
<td>251 916</td>
<td></td>
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<tr>
<td>Manual control unit</td>
<td>251 910</td>
<td></td>
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<tr>
<td>Joystick at the machine bridge</td>
<td>251 932</td>
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<tr>
<td>Pronest® Software</td>
<td>251 918</td>
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<tr>
<td>ProNest® Module software option</td>
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<td></td>
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<tr>
<td>- Gap cutting</td>
<td>251 921</td>
<td></td>
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<tr>
<td>- Collision prevention</td>
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<td></td>
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<tr>
<td>- Combined severing cuts</td>
<td>251 920</td>
<td></td>
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<tr>
<td>Turbonest® Software Option</td>
<td>251 917</td>
<td></td>
</tr>
<tr>
<td>Mechanical angle cutter</td>
<td>251 933</td>
<td></td>
</tr>
<tr>
<td>Filtered exhaust system, 5231 yard³/h</td>
<td>251 929</td>
<td></td>
</tr>
<tr>
<td>Filtered exhaust system, 10464 yard³/h</td>
<td>251 930</td>
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</tr>
<tr>
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<td>251 931</td>
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<td>251 931</td>
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</tbody>
</table>

### Automatic gas console (Hypertherm®)

Part No. 251 916

![Automatic gas console](image)

### Filtered exhaust system

- Filter capacity 5231 / 10464 / 15695 yard³/h
- Pressure 2500 PA
- Centrifugal vent
- Motor rating 10 HP
- Filter size 2034 sq ft
- Inlet air pressure 104.5 psi + 14.5 psi
- Dimensions 73x84x86 inch
- Weight 2420 lb
- Noise level 75 dB

5231 yard³/h Part No. 251 929
10464 yard³/h Part No. 251 930
15695 yard³/h Part No. 251 931
Tube Cutter (optional)

- Cuts round and square tubes
  - 1.18 - 5.51 inch Ø
  - 0.79 x 0.79 - 3.94 x 3.94 inch
- max. part weight 220 lb

Part No. 251 915
**True Hole Technology** (Part No. 251 916 and 251 918)

**Revolutionary plasma power: True Hole® cutting quality**

True Hole cutting technology* (patent pending) for plain carbon steel produces a significantly better cut hole quality than conventional plasma cutting. Plus, everything runs fully automated without any operator intervention.

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### What benefits does True Hole Technology bring?

- It produces high quality bolt holes fully automatic with only minimal operator intervention
- It eliminates the bevel that is typical for holes cut with plasma technology
- It reduces unevenness by shifting it to the outside of the hole, where it cannot interfere with the bolt
- Some minor burrs do exist, but can easily be removed

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### How does the hole quality compare to laser-cut holes?

The hole cylindricity projection that was typical for laser cuts has been reduced. See chart below. Please note that deviations in hole size continue to exist as in all plasma processes.

10 mm holes, 9.5 mm plain carbon steel plate, 130-A process

**Cylindricity is a measure for the hole quality.**

True Hole Technology requires a HyPerformance Plasma HPRXD Auto Gas System with True Hole-capable cutting table, nesting software, CNC, and torch height control. For more information, contact the cutting table manufacturer.
Plasma Sources

**Powermax 105® • Max Pro 200® • HPR 130 XD® • HPR 260 XD® • HPR 400 XD®**

These plasma sources fulfill all the needs of a powerful, heavy-duty plasma cutting system - they are simple, reliable and unbelievably productive.

- Superior cut quality and durability
- Maximized productivity
- Minimized operating cost
- Unsurpassed process flexibility

<table>
<thead>
<tr>
<th>Plasma Source</th>
<th>Powermax 105®</th>
<th>Max Pro 200®</th>
<th>HPR 130 XD®</th>
<th>HPR 260 XD®</th>
<th>HPR 400 XD®</th>
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</thead>
<tbody>
<tr>
<td>Cutting capacity in plain carbon steel</td>
<td>inch</td>
<td>-</td>
<td>1</td>
<td>1</td>
<td>1.2</td>
</tr>
<tr>
<td>Virtually burr-free</td>
<td>inch</td>
<td>-</td>
<td>1</td>
<td>1</td>
<td>1.2</td>
</tr>
<tr>
<td>Hole cutting capacity in production</td>
<td>inch</td>
<td>22</td>
<td>1.2</td>
<td>1.2</td>
<td>1.5</td>
</tr>
<tr>
<td>Cut-off (edge-start)</td>
<td>inch</td>
<td>1.5</td>
<td>3</td>
<td>1.5</td>
<td>2</td>
</tr>
</tbody>
</table>

| Cutting capacity in steel alloy | inch | - | 1 | 1 | 1.2 | 2 |
| Hole cutting capacity in production | inch | 1 | 1 | 1.2 | 2 |
| Cut-off (edge-start)            | inch | 2 | 1 | 2 | 3 |
Plasma Sources

**Powermax 105® • Max Pro 200® • HPR 130 XD® • HPR 260 XD® • HPR 400 XD®**

**Tolerances for Plasma Cutting**

Dimensioning of cut using a ring as an example:

<table>
<thead>
<tr>
<th>Thickness</th>
<th>Outside</th>
<th>Inside</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.5 to &lt;70 mm</td>
<td>- 0 / + 3 mm</td>
<td>+ 0 / - 3 mm</td>
</tr>
<tr>
<td>70 mm to just below 100 mm</td>
<td>- 0 / + 5 mm</td>
<td>+ 0 / - 5 mm</td>
</tr>
<tr>
<td>100 to 150 mm</td>
<td>- 0 / + 10 mm</td>
<td>+ 0 / - 10 mm</td>
</tr>
</tbody>
</table>

**ISO 9013 (DIN 2310)**

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Deviation</td>
<td>Angle</td>
<td>Deviation</td>
<td>Angle</td>
<td>Deviation</td>
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<tr>
<td>1.5</td>
<td>0.0021</td>
<td>2.2</td>
<td>0.0063</td>
<td>6.54</td>
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<tr>
<td>3</td>
<td>0.0024</td>
<td>1.1</td>
<td>0.0068</td>
<td>3.21</td>
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<td>6</td>
<td>0.0027</td>
<td>0.7</td>
<td>0.0077</td>
<td>1.93</td>
<td>0.0183</td>
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<tr>
<td>10</td>
<td>0.0031</td>
<td>0.5</td>
<td>0.0085</td>
<td>1.39</td>
<td>0.0195</td>
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<tr>
<td>12</td>
<td>0.0035</td>
<td>0.4</td>
<td>0.0094</td>
<td>1.17</td>
<td>0.0207</td>
</tr>
</tbody>
</table>

- 10 mm holes
- 9.5 mm plain carbon steel plate
- 130-A process
CNC Control

Hypertherm® MicroEDGE® Pro

Reduce cost by increasing quality and productivity through advanced control technology!

Easy operation

• With the patented CutPro® Wizard, even inexperienced users can produce cut parts in less than 5 minutes
• LAN/WLAN network and USB ports allow loading of parts programs and software updates
• Access documentation with the push of a button, including valuable tips for optimizing cuts, instructions for wear parts replacement and diagnostic tools in several languages
• Communication is integrated in plasma and torch height control systems resulting in an automated and professional control that is based on factory installed or custom cutting data tables.

Reliable

• Structure and tested load capacity ensure reliable and consistent operation in harsh cutting environments
• Optimum industrial touchscreen with SAW (surface acoustic wave) technology glass ensures superior reliability and consistent operation even under harshest cutting conditions
• Air cooling reduces the load on electronic components, while preventing any dust from entering the system
• Manuals for Hypertherm, CNC and Torch Height Control can be accessed in various languages with the push of a button
• 2-Year Factory Warranty

High user comfort

• Offline software automatically sets up cutting process parameters
• Easy configuration of jobs using the CutPro® Wizard
• User is prompted to enter plate/sheet type and consumable part number
• Tips for cut optimization
• Operator manual for CNC, torch height control, and plasma source right on the control panel display
• Diagnostics via internet
• Offline diagnostics via form request or CNC software for the parts program

Standard Equipment

• Operating system: Windows
• Industrial PC with 15" Touchscreen
• Graphic user interface
• USB port

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