SHAPE CUTTING SYSTEMS
FROM ESAB

Mechanized and CNC shape cutting solutions for every application, industry and environment.
Mechanized Cutting Systems
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At ESAB, we’re more than just order-takers, we’re cutting experts, consultants, and partners.

And our history speaks for itself. With roots dating back to the early 1900s, we’ve been constant industry innovators for over a hundred years. We even hold the original patent for plasma cutting.

Since we manufacture the entire system, write our own software, and stand behind everything we make - there’s no need for you to juggle different vendors to support individual components.

We offer everything from the simplest systems to the most complex - all from one reliable source. And as the only supplier that makes the entire system, only ESAB can integrate everything to work seamlessly together, creating new technologies that improve your productivity:

- **Precision Hole Technology**, which vastly improves plasma hole quality
- **Smart Voltage Height Control**, which automatically compensates for electrode wear, ensuring best cut quality and maximum consumable life
- **Smart Cycle Technology**, which boosts productivity by streamlining process control and tool motion

Whether upgrading an old machine or investing in a whole new system, we help you achieve your goals. And because we make the entire system, one call is all it takes to get professional support for everything. We also offer many value-added services that other suppliers can’t, like free annual checkups, free torch replacement, and extended warranties!

For the complete ESAB Mechanized Cutting product offering, please visit esab.com/cutting, order our Mechanized Cutting Systems catalog (MCUT-3078), or call us at 1.800.ESAB.123.
Ultra-Line™

- Solid state control
- Convenient, easily accessible controls
- Sturdy, one-piece, cast aluminum housing
- Knurled drive wheels for positive traction
- 6 ft. (2 m) track lengths
- Wide variety of accessories for expanded capability
- Speed range 3 - 110 ipm (76.2 - 2794 mm/min)
- Extensive variety of accessory equipment for expanded capability
- Standard 115/220V, 50/60Hz input power

The Ultra-Line is a lightweight, portable carriage designed for straight-line cutting applications. Widely used in a small metal fabricating operation, shipyards, and steel mills, the Ultra-Line can be adapted to many special applications with a wide variety of accessory equipment.

The Ultra-Line’s one-piece aluminum housing measures 16 in. (406 mm) long, 7-1/4 in. (184 mm) wide, and 5-3/4 in. (146 mm) high without torch rigging. Weight is approximately 22 lbs. (10 kg) without accessories.

Using an OXWELD® oxy-fuel-gas machine cutting torch, the Ultra-Line can cut plate up to 4 in. thick (101.6 mm). With an accessory heat shield, the Ultra-Line can cut material up to 6 in. thick (152 mm).

With Solid State Control, no “warm-up time” is required to start the carriage travel. The carriage is driven by a reversible DC motor with built-in solid state speed regulation.

Options & Accessories continued

Counterweight ....................................................... 995587
Use when equipment mounted on one side of carriage causes an imbalance.

Manifolding kit .................................................... 639659
Provides convenient means of connecting oxy/fuel-gas from regulators to torch.

Circle cutting attachment ....................................... 16V84
Consists of an 18 in. (0.5 m) radius bar and pivot system, permitting 2-54 in. (0.05-1.4 m) diameter circle cutting.

Two torch operation ............................................. 16V89 or 16V92
Adaptors that allow cutting with two torches.

Vertical post ....................................................... 491620
Allows cutting in the vertical plane.

Valve block assembly ............................................ 07X26
Allows adjustment of oxy-fuel-gas flows on valveless torches.

Cutting Torch

Various devices that attach to an OXWELD cutting torch for versatility and added capabilities.

Quick acting valve assembly .................................. 32Y08
Substitutes for the standard cutting oxygen throttle valve.

Adjustable bevel cutting adaptor .............................. 18845
Connects to the torch like a nozzle and can be adjusted 0-90° from the torch center line.

Auxiliary Preheat Kits are available for preheating the plate ahead of the cut. Mounted to the bevel cutting adaptor:

Acetylene .................................................. 61Y99
Other fuel gas ........................................ 63Y13

Scissor-type slitting adaptor .................................. 22X42
Divides cutting operation into two nozzles to make parallel cuts ranging from 1-1/2 to 12 in. (38.1-304.8 mm) wide. The adaptor is mounted to the torch in place of the standard single nozzle.

Two-way inlet adaptor ...................................... 18X20
Allows one oxygen inlet hose to supply preheat and cutting oxygen to a three inlet torch.

Ordering Information

<table>
<thead>
<tr>
<th>Model</th>
<th>Power</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Machine¹</td>
<td>110V</td>
<td>2237258</td>
</tr>
<tr>
<td>Basic Machine with Torch-Acetylene¹</td>
<td>110V</td>
<td>2237262</td>
</tr>
<tr>
<td>Basic Machine with Torch-Propane¹</td>
<td>110V</td>
<td>2237266</td>
</tr>
</tbody>
</table>

Speed Range is 3-110 ipm (0.8-2.8 m/min).

¹Includes 6 ft. (10 m) track and torch holder.

²Complete with 6 ft. (10 m) track, torch holder, torch, and 3 tips.

Options & Accessories

Ultra-Line

Torch rigging assembly ....................................... 16V90
Includes mounting unit, a 24 in. (609.6mm) rack, and torch holder.

Track - 6 ft. (10 m) V-grooved guide rail ............. 16V82
Sections can be linked to extend length.

Heat shield kit ............................................... 995586
For use with prolonged cutting, cutting thick material, or cutting close to carriage.
Ultra-Graph™

- Simple, accurate, magnetic tracing system lets you reproduce quickly and precisely, at speeds from 4-150 ipm (1.0-3.8 m/min)
- Variable-speed direct drive motor performs smoothly and dependably
- Cut shapes accurately and economically with a single-torch system that’s become the industry standard
- Put all machine functions at your fingertips with the RC or DC series Ultra-Graph controls

Since its introduction decades ago, the Ultra-Graph has become the industry standard for single torch contour cutting. Many fabricating shops have found the Ultra-Graph to be a practical, dependable design that allows cutting highly complex shapes inexpensively and accurately, in a fraction of the time required by other means.

A magnetic rotor follows the contours of a metal template. In turn, it guides the cutting arm and torch with exceptional precision. The Ultra-Graph can be either a floor standing or table mounted model, each providing a 60 in. (1.5 m) cutting radius.

Cutting and tracing speeds range from 4-150 ipm (1.0-3.8 m/min), selectable by size of the magnetic rotor. The speed range required depends on the application, plate thickness, type of material and process. Rotors are available from 1/8 in. (3.2 mm) to 7/8 in. (22 mm), in 1/16 in. (1.6 mm) increments. The direct-drive motor allows precise speed control. The Ultra-Graph can be used for oxy-fuel or plasma-arc cutting or plasma, GMAW, and GTAW welding.

**Specifications**

<table>
<thead>
<tr>
<th>Ultra-Graph</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating radius, in. (m)</td>
<td>60 (1.5)</td>
</tr>
<tr>
<td>Circle - max. diameter, in. (m)</td>
<td>55 (1.4)</td>
</tr>
<tr>
<td>Straight - line - max., in. (m)</td>
<td>110 (2.8)</td>
</tr>
<tr>
<td>Weight - RC floor, lbs. (kg)</td>
<td>264 (120)</td>
</tr>
<tr>
<td>Weight - RC table, lbs. (kg)</td>
<td>192 (87)</td>
</tr>
<tr>
<td>Weight - DC floor, lbs. (kg)</td>
<td>248 (112.5)</td>
</tr>
<tr>
<td>Weight - DC table, lbs. (kg)</td>
<td>176 (80)</td>
</tr>
<tr>
<td>Power requirement</td>
<td>115V, 50/60Hz, 1ph</td>
</tr>
</tbody>
</table>

**DC Series Control** - The DC-Control features basic speed control and direction control (CW / OFF / CCW). Solid state, full-wave rectification ensures accurate speed control over the entire speed range. Also included are fuses and power indicator.

**RC Series Control** - Expanded capabilities are available with the RC-Control. It includes push-button controls to operate an oxy-fuel torch, as well as the optional torch ignitor. It also includes a solenoid valve for cutting oxygen control. Speed and direction controls are also included.

**Ordering Information**

<table>
<thead>
<tr>
<th>Model</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC/60 Floor Ultra-Graph</td>
<td>2232855</td>
</tr>
<tr>
<td>DC/60 Table Ultra-Graph</td>
<td>2232722</td>
</tr>
<tr>
<td>RC/60 Floor Ultra-Graph</td>
<td>2232851</td>
</tr>
<tr>
<td>RC/60 Table Ultra-Graph</td>
<td>2232721</td>
</tr>
</tbody>
</table>

Basic machine includes control unit, 1/4 in. rotor and 1/2 in. rotor. Does not include torch. All models have a 60 in. reach.

**Options & Accessories**

Transformer 50Hz ................................................. 2236319

**Standard rotors**

1/8 in. (3.2 mm) ........................................... 1301017
3/16 in. (4.8 mm) ........................................ 923107
1/4 in. (6.4 mm) ........................................... 923074
5/16 in. (8 mm) ........................................... 923108
3/8 in. (9.5 mm) ........................................ 923075
7/16 in. (11 mm) ........................................ 923109
1/2 in. (12.7 mm) ....................................... 923076
5/8 in. (15.8 mm) ..................................... 923110
3/4 in. (19 mm) ......................................... 923111
7/8 in. (22.2 mm) ..................................... 923112
Rotor set (10 pieces) .................................. 1251501
Both the Ultra-Line and Ultra-Graph machines may be equipped with a plasma cutting torch by ordering the following accessories: Plasma Cutting Torch, Plasma Power Supply, Plasma Torch Consumables, and Remote Control Switch.

**Options & Accessories**

1. **PT-37 Plasma Cutting Torch**
   The PT-37 Torch includes a gear rack mounted to the side of the torch for manual vertical adjustments.
   - PT-37 torch with 25 ft. leads.......................... 0558004862
   - PT-37 torch with 50 ft. leads.......................... 0558004863

2. **Plasma Power Supply**
   Choose one of the following:
   - PowerCut 1300, 70A power supply...................... 0558007881
     208/230/460V, 50/60Hz, 1/3ph.
   - PowerCut 1300, 70A power supply...................... 0558007882
     400V, CE, 50Hz, 3ph
   - PowerCut 1600, 90A power supply...................... 0558007883
     208/230/460V, 50/60Hz, 1/3ph
   - PowerCut 1600, 90A power supply...................... 0558007884
     400V, CE, 50Hz, 3ph
   *Note: “CE” Items are used outside North America*

3. **Plasma Torch Consumables**
   Choose the spare parts kit necessary to support the plasma amperage available from the selected plasma power supply:
   - 60A ................................................................. 0558008248
   - 70A ................................................................. 0558008247
   - 90A ................................................................. 0558008889

4. **Remote Control Switch**
   Allows manual control of plasma ON/OFF.
   - Remote control switch, 25 ft. (7.6 m) cable .... 0558005548
   - Remote control switch, 50 ft. (15.2 m) cable ... 0558005549
Crossbow

- Compact oxy-fuel/plasma CNC cutting system that is portable and economical
- Equipped with plasma, oxy-fuel or both:
  - plasma cut mild steel or aluminum up to 20 mm (3/4 in.), stainless steel up to 15 mm (5/8 in.)
  - using oxy-fuel cut mild steel up to 100 mm (4 in.)
- Fully integrated CNC, eliminating the need for the user to add a controller to the system

Specifications

<table>
<thead>
<tr>
<th>Crossbow</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Effective Cutting Width</td>
<td>1,550 mm (60 in.)</td>
</tr>
<tr>
<td>Effective Cutting Length</td>
<td>3,100 mm (120 in.) or 1,220 mm (48 in.)</td>
</tr>
<tr>
<td>Maximum Traverse Speed</td>
<td>3,000 mm/min (118 lpm)</td>
</tr>
<tr>
<td>Overall Cross Bar Length</td>
<td>2,362 mm (93 in.)</td>
</tr>
<tr>
<td>Overall Track Length</td>
<td>4,000 mm (157 in.)</td>
</tr>
<tr>
<td>Overall Dimensions</td>
<td>600 x 460 x 420 mm (23.6 x 18.1 x 16.5 in.)</td>
</tr>
<tr>
<td>Total Weight</td>
<td>95.9 kg (211 lbs.)</td>
</tr>
<tr>
<td>Input Voltage</td>
<td>110/220 VAC, 50/60 Hz</td>
</tr>
</tbody>
</table>

Portable Cutting Solution
Crossbow is compact and lightweight for easy transport as your application requires. It’s small size makes it ideal for small fabrication shops, maintenance and repair shops, trade schools, or for portable use within large facilities and construction sites.

Economical Cutting Solution
Automated functions and a user friendly CNC provide powerful, versatile, oxy-fuel or plasma processing in a "value-minded package. Precision guide rail enables stable motion of the crossbeam and full support of the cutting torch for accurate, reliable performance. Precision linear rails minimize vibration during cutting to ensure accurate cutting over the entire working envelope.

Flexible Process Solution
Crossbow can be equipped with plasma, oxy-fuel, or both. With plasma cut mild steel or aluminum up to 20 mm (3/4 in.), or stainless steel up to 15 mm (5/8 in.). Using oxy-fuel cut mild steel up to 100 mm (4 in.) thick. It’s simple, menu-driven interface makes operation easy to learn and use. The CNC features a comprehensive library of 24 common shapes which minimize programming and set-up time. Dimensions are easily edited to create custom shapes without additional programming. Custom programs are supported through basic M- and G-Code programming, and off-line programmed NC files can be transferred to the machine using a standard USB connection.
Crossbow

Ordering Information

Basic Machine
Crossbow 4x4 - 4x4 ft. (1.2x1.2 m) cut area ... 0560954394
Crossbow 5x10 - 5x10 ft. (1.5x3 m) cut area ... 0560954395

Basic machine includes central unit with CNC, rail-track assembly, cross beam assembly with fuel-gas and oxygen tubes, motorized torch lifter, cutting oxygen solenoid valve, arc voltage height control with Ohmic Contact IHS, two (2) cable holders, plasma interface cable, power cable, user manual, and basic programming software.

Options & Accessories

For Oxy-Fuel Cutting
Oxy-fuel kit for fuel gases other than Acetylene . .0560954396
Includes Oxweld C-69 Torch with needle valves, torch hoses, 8m supply hoses, and three (3) 1515 series tips (1/4 - 1/2, 3/4 - 1-1/2, 2 - 4).

Oxy-fuel kit for use with Acetylene .................0560954397
Includes Oxweld C-70 Torch with needle valves, torch hoses, 8m supply hoses, and three (3) 1502 series tips (3/8 - 1/2, 5/8 - 1-1/2, 2 - 4).

Optional Regulators
Machine requires one (1) Oxygen and one (1) Fuel Gas regulated input.
SC-250-125-540, Oxygen ......................... SC07819400
SC-250-75-580, Propane/Propylene ........... SC07819410
SC-250-15-510, Acetylene ..................... SC07819405

Plasma Cutting Packages
PowerCut 900, 50A, 460 VAC, 3ph .......... 0560954744
PowerCut 900, 50A, 208/230 VAC, 3ph ..... 0560954745
PowerCut 900, 50A, 575 VAC, 3ph .......... 0560954746
PowerCut 1300, 70A, 230/460 VAC, 3ph .... 0560954747
PowerCut 1300, 70A, 575 VAC, 3ph .......... 0560954748
ESP-101, 100A, 460 VAC, 3ph .............. 0560954749
ESP-101, 100A, multi-voltage ............... 0560954750
PT-38 hand torch ................................. 0558006786

All of the plasma packages listed include a 25 ft. (7.6 m) PT-37 torch and start-up consumable kit.

Machine may be purchased with both an oxy-fuel torch and a plasma torch, which must be manually swapped as needed.

Cutting Tables
4x4 ft. with mounting brackets for rail track ... 0560954398
5x10 ft. with mounting brackets for rail track ... 0560954399
"Build-Your-Own" drawing package, 4x4 ...0560954398D
"Build-Your-Own" drawing package, 5x10 ... 0560954399D
Rugged, High Performance

Performance and accuracy are assured with a heavy steel beam, precision machined mating surfaces, and linear rail. This rugged design ensures smooth motion, accuracy and long term machine durability. With dual-side, high-speed AC drives and a fast torch lifter, SGX enables higher productivity through rapid cut-to-cut cycle times.

Precision Plasma Cutting

The SGX cutting machine equipped with ESAB’s m3 Plasma™ enables precision plasma cutting for a wide range of material types and thicknesses:

- Mild steel up to 50 mm (2 in.)
- Stainless steel up to 25 mm (1 in.)
- Aluminum up to 30 mm (1.5 in.)

The m3 Plasma automatic gas control makes plasma setup quick and easy. The operator simply selects material type and thickness on the Vision® T5 CNC touch screen, and all plasma parameters are set automatically.

Compact Design

The compact design of the SGX cutting machine minimizes floor space requirements. One-meter rail increments keep the footprint small to maximize production space.

Easy-to-Use Vision® T5 CNC

Fully integrated with ESAB plasma and oxy-fuel process controls, a built-in process database and an easy-to-use touch screen, the Vision® T5 CNC enables simple, automated operation.

ESAB Quality at a Great Value

The SGX cutting machine provides ESAB quality, precision and leading-edge technology ideal for small fabricators and manufacturers.

*IGC system

Specifications

<table>
<thead>
<tr>
<th>SGX</th>
<th>2000</th>
<th>2500</th>
<th>3000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rail Gauge</td>
<td>2000 mm (78.7 in.)</td>
<td>2500 mm (98.4 in.)</td>
<td>3000 mm (118.1 in.)</td>
</tr>
<tr>
<td>Machine Width</td>
<td>2759 mm (108.6 in.)</td>
<td>3259 mm (128.3 in.)</td>
<td>3759 mm (148 in.)</td>
</tr>
<tr>
<td>Maximum Table Width</td>
<td>1626 mm (64 in.)</td>
<td>2126 mm (84 in.)</td>
<td>2626 mm (103 in.)</td>
</tr>
<tr>
<td>Maximum Station Travel with One Tool</td>
<td>1560 mm (61.4 in.)</td>
<td>2060 mm (81.1 in.)</td>
<td>2560 mm (100.8 in.)</td>
</tr>
<tr>
<td>Maximum Station Travel with Two Tools’</td>
<td>1270 mm (50.0 in.)</td>
<td>1770 mm (69.7 in.)</td>
<td>2270 mm (89.4 in.)</td>
</tr>
<tr>
<td>Maximum Station Travel with Three Tools’</td>
<td>1070 mm (42.1 in.)</td>
<td>1570 mm (61.8 in.)</td>
<td>2070 mm (81.5 in.)</td>
</tr>
<tr>
<td>Maximum Machine Speed</td>
<td>25400 mm/m (1000 ipm)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work Table Height</td>
<td>660-700 mm (26-27 in.)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Station and travel is reduced by 90 mm (3.5 in.) when machine is equipped with optional band and pulley.
SGX Features and Options

- **Easily to install and align** with sturdy, fully adjustable rail pedestals for straight and level machine rails.

- **Perfect rail system alignment** with triple machined T-rails that guide the cutting system in the longitudinal axis; a precision drive rack mounted directly to the machined side of the rail provides perfect rail-to-rack alignment.

- **Increased cutting productivity** through 1,000 ipm traverse speed.

- **Choice of tool station options** for three stations enables up to two oxy-fuel cutting stations (maximum 100 mm/4 in. thick) and one plasma torch, plasma marking with optional M3 Plasma* or one air-scribe marker.

- **Efficient piercing of thicker materials** using hi-lo oxy-fuel gas control with ease-on cutting oxygen.

- **Add the cutting table to suit your needs**, the machine can be supplied with a down draft table for dry cutting, or water table for above or under water plasma cutting.

- **Load and unload material with a forklift**, is enabled through low rail design.

- **Configured with 1.5, 2 and 2.5 m (4, 5, 6 and 8 ft.) cutting widths and 2.5 m (8 ft.) to 14.5 m (48 ft.) cut lengths** (enables cutting of two 6 m/20 ft. long plates).

*IGC system
The Combirex DX offers large gantry design and performance in a compact package. The rugged gantry features all-steel construction with machined mating surfaces for stiffness and accuracy. Heavy-duty H-beam weldments support triple machined T-rails to provide a sturdy, stable foundation, and easy installation on any concrete floor. Featuring a precision linear rail Y-axis guiding system, precision three-axis rack-and-pinion drives, digital AC drives and AC brushless motors, this machine delivers the cutting performance you would expect from much more expensive gantries.

The Combirex DX can be equipped with air plasma systems up to 100 amps or ESAB's m3 Plasma® System, which allows the machine to cut and mark with the same plasma torch. The m3 system is available on the Combirex DX in 200 Amps, 360 Amps, and 450 Amps configurations.

### Specifications

<table>
<thead>
<tr>
<th>Combirex DX</th>
<th>2500</th>
<th>3000</th>
<th>3500</th>
<th>4000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommended max. plate width, ft. (m)</td>
<td>5 (1.5)</td>
<td>6 (2)</td>
<td>8 (2.4)</td>
<td>10 (3)</td>
</tr>
<tr>
<td>Maximum cross travel with 1 tool, in. (m)</td>
<td>78.7 (2)</td>
<td>98.4 (2.5)</td>
<td>118.1 (3.0)</td>
<td>137.8 (3.5)</td>
</tr>
<tr>
<td>Maximum cross travel with 2 tools, in. (m)</td>
<td>78.7 (2)</td>
<td>98.4 (2.5)</td>
<td>118.1 (3.0)</td>
<td>137.8 (3.5)</td>
</tr>
<tr>
<td>Maximum cross travel with 3 tools, in. (m)</td>
<td>70.9 (1.8)</td>
<td>90.5 (2.3)</td>
<td>110.2 (2.8)</td>
<td>129.9 (3.3)</td>
</tr>
<tr>
<td>Maximum cross travel with 4 tools, in. (m)</td>
<td>62.9 (1.6)</td>
<td>82.7 (2.1)</td>
<td>102.4 (2.6)</td>
<td>122 (3.1)</td>
</tr>
<tr>
<td>Rail gauge, in. (m)</td>
<td>98.4 (2.5)</td>
<td>118.1 (3.0)</td>
<td>137.8 (3.5)</td>
<td>157.5 (4.0)</td>
</tr>
<tr>
<td>Internal clearance, in. (m)</td>
<td>86 (2.2)</td>
<td>106 (2.7)</td>
<td>126 (3.2)</td>
<td>145 (3.7)</td>
</tr>
<tr>
<td>Maximum table outside width, in. (m)</td>
<td>77 (1.9)</td>
<td>96.5 (2.5)</td>
<td>116 (2.9)</td>
<td>136 (3.5)</td>
</tr>
<tr>
<td>Machine width, in. (m)</td>
<td>142.7 (3.6)</td>
<td>162.4 (4.1)</td>
<td>182.1 (4.6)</td>
<td>201.8 (5.1)</td>
</tr>
<tr>
<td>Machine height, in. (m)</td>
<td>83 (2.1)</td>
<td>83 (2.1)</td>
<td>83 (2.1)</td>
<td>83 (2.1)</td>
</tr>
<tr>
<td>Work table height, in. (m)</td>
<td>26-30 (0.7-0.8)</td>
<td>26-30 (0.7-0.8)</td>
<td>26-30 (0.7-0.8)</td>
<td>26-30 (0.7-0.8)</td>
</tr>
<tr>
<td>Parking area, in. (m)</td>
<td>56 (1.5)</td>
<td>56 (1.5)</td>
<td>56 (1.5)</td>
<td>56 (1.5)</td>
</tr>
<tr>
<td>Speed range, ipm (m/min)</td>
<td>2-1,000 (0.05-25.4)</td>
<td>2-1,000 (0.05-25.4)</td>
<td>2-1,000 (0.05-25.4)</td>
<td>2-1,000 (0.05-25.4)</td>
</tr>
<tr>
<td>Power requirement</td>
<td>230/460/575V, 50/60Hz, 1ph, 30A (special input voltages are available upon request)</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
Sabre™ DXG

- 3 axis gantry with rack-and-pinion drives
- Dual precision linear rail y-axis guide ways for greater accuracy
- Vision® T5 CNC - Windows® based, touch-screen controller with Operating Wizard for simple step-by-step guided operation
- Digital AC drive amplifiers for years of maintenance free operation
- AC brushless motors for wide speed range with accurate speed control
- Precision heavy-duty gearboxes for accuracy and smooth motion
- Machined 85# crane rail system for accuracy and durability 3 axis gantry with rack-and-pinion drives

The Sabre DXG is a heavy-duty, low profile gantry designed for high speed plasma and oxy-fuel shape cutting with up to 2 plasma torches or up to 8 oxy-fuel torches, over widths up to 14 ft. It is built around a reinforced main beam featuring dual precision linear ways that provide outstanding accuracy. The gantry sits on a heavy-duty crane rail system mounted on H-beams, providing a stable foundation and easy installation. The Sabre DXG is equipped with an advanced drive system using the latest generation digital AC drives and high-speed motors, and an precision gearbox optimized for shape cutting machines. This system provides a wide speed range with smooth, accurate motion.

The Sabre DXG can be equipped with ESAB’s m3 Precision Plasmarc System, which can cut and mark with the same plasma torch. The m3 Plasma® system is available on the Sabre DXG in configurations from 200 up to 600 Amp. The m3 system offers precision cutting with current ranges from 30 up to 600 Amps, cutting gauge material up to 2.5 in. thick carbon steel or stainless steel and aluminum up to 6 in. thick. The system is completely automated by the Vision CNC, the operator simply selects the material type and thickness, and the CNC automatically sets the optimal start, cut and shield gas combination.

The Sabre DXG may be equipped with up to 8 oxy-fuel cutting stations, and the Advanced Electronic Gas Control System which uses electronic proportional flow control valves for Cutting Oxygen, Preheat Fuel Gas, and Preheat Oxygen pressures. All gas settings are controlled from the Vision CNC so that oxy-fuel cutting easy to setup and simple to use. With a maximum cutting capacity of 48 torch-in., the Sabre DXG can oxy-fuel cut up to 6 in. thick with up to 8 torches.

The Sabre DXG can also be equipped with a number of different processes tools, including routers, drill stations, plasma markers, scribe markers, or many others.

### Specifications

<table>
<thead>
<tr>
<th>Sabre DXG</th>
<th>2500</th>
<th>3000</th>
<th>3500</th>
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<td>Recommended Plate Width, ft. (m)</td>
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<td>10 (3)</td>
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<td>93 (2381)</td>
<td>113 (2881)</td>
<td>133 (3381)</td>
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<td>172 (4381)</td>
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<td>Cutting Width* with 4 Tool, in. (mm)</td>
<td>66 (1678)</td>
<td>85 (2178)</td>
<td>105 (2678)</td>
<td>125 (3178)</td>
<td>144 (3678)</td>
<td>164 (4178)</td>
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<td>Cutting Width* with 5 Tool, in. (mm)</td>
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<td>97 (2475)</td>
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<td>Cutting Width* with 6 Tool, in. (mm)</td>
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<td>69 (1772)</td>
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<td>109 (2772)</td>
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<tr>
<td>Cutting Width* with 7 Tool, in. (mm)</td>
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<td>61 (1569)</td>
<td>81 (2069)</td>
<td>101 (2569)</td>
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<tr>
<td>Cutting Width* with 8 Tool, in. (mm)</td>
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<td>53 (1365)</td>
<td>73 (1865)</td>
<td>93 (2365)</td>
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<td>Maximum Table Width, in (mm)</td>
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<td>117 (2962)</td>
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<td>Internal Clearance, in. (mm)</td>
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<td>103 (2617)</td>
<td>122 (3117)</td>
<td>142 (3617)</td>
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<td>182 (4617)</td>
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<tr>
<td>Rail Gauge, in (mm)</td>
<td>98.4 (2500)</td>
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<td>Machine Width , in. (mm)</td>
<td>140 (3567)</td>
<td>160 (4067)</td>
<td>180 (4567)</td>
<td>199 (5067)</td>
<td>219 (5567)</td>
<td>239 (6067)</td>
</tr>
</tbody>
</table>

* Cutting Width is valid for standard straight cutting plasma and oxy-fuel station only. Bevel tools or special stations reduce the available cutting width.

** Machine width includes CNC, but does not include the cable chain and its tray, which can be mounted on the floor, or overhead.
Avenger™ X

- 3 axis gantry with reinforced fabricated welded beam for stiffness and accuracy
- Precision dual-linear rail Y-axis guiding system for greater accuracy
- Digital AC drive amplifiers for years of maintenance free operation
- AC brushless motors for wide speed range with accurate speed control
- Precision heavy-duty gearboxes for accuracy and smooth motion
- Heavy-duty 85# machined crane rail system for accuracy and durability
- Wide variety of cutting and marking process tools available

The Avenger X represents the latest in engineering excellence from ESAB Cutting Systems. This large gantry design delivers the speed, accuracy, and flexibility desired by fabricators, ship builders, and equipment manufacturers around the globe. Its dual-precision linear ways and high-stiffness fabricated beam structure make it ideal for precision cutting, marking, and beveling. High-speed AC drives and oversized gearboxes make it fast, precise, and durable for added productivity.

A maximum positioning speed of 1,400 in. per minute keeps traverse time to a minimum. Combined with ESAB’s high-speed lifters and integrated process control, this means maximum throughput, and lowest cost per part.

The machine features a heavy-duty 85# floor mounted crane rail system for extreme durability. The Avenger X features positioning accuracy of +/- 0.010 in. and repeatability of +/- 0.003 in.

Available in widths to cover 8 to 18 ft., the Avenger X can carry a wide variety of cutting and marking tools, including precision plasma torches, oxy-fuel torches, plasma or oxy-fuel bevel heads, punch markers, drills, and router stations. Additional options include a rider’s platform, heat shields, and overhead cable track drag bracket.

The Avenger X supports a wide array of process tool station options. Each machine is custom built-to-order depending on the application and customer needs. Tool configuration can include nearly any combination of the following:

- Plasma Torch Station - vertical plasma cutting from 100 to 720 Amp on mild steel up to 2.5 in. thick, stainless steel and aluminum from gauge to 6 in. thick.
- Plasma Bevel Station - bevel cuts with plasma up to 450 Amps, cuts up to 1.25 in. thick at 45° on mild steel.
- Plasma Edge Prep Station - straight line bevel cuts in either X or Y direction.
- Oxy-Fuel Torch Station - vertical cutting of mild steel up to 6 in. thick standard, optionally thicker if necessary.
- Oxy-Fuel Edge Prep Station - three torch unit for weld edge prep cutting along a straight line in X or Y direction.
- Oxy-Fuel Contour Bevel Station - three torch unit with manually adjusted torches and automatic rotation to cut a bevel along any contour.
- Ink Jet Marker - fast marking for text on cut parts and plates.
- Pneumatic Punch Marker - air hammer type marking for lines or center point punch marks.
- Plasma Marker - high speed line marking with variable width and depth can also be used for lettering.
- Drill Station - standard drill stations handle up to 3/4 in. holes in up to 2 in. plate.

### Specifications

<table>
<thead>
<tr>
<th></th>
<th>3500</th>
<th>4000</th>
<th>4500</th>
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<td>236 (5992)</td>
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<td>Rail Gauge, in. (mm)</td>
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<td>157.5 (4000)</td>
<td>177.2 (4500)</td>
<td>196.9 (5000)</td>
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<td>Machine Width, in. (mm)</td>
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<td>242 (6153)</td>
<td>262 (6653)</td>
<td>281 (7153)</td>
<td>301 (7653)</td>
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</table>
The Avenger 2 is the most versatile machine in the ESAB product line, providing a heavy-duty gantry structure which accommodates almost every available cutting and marking process. Large, all-welded end trucks support a machined beam and an independent reinforced deck structure. Up to twelve process stations may be installed, including up to four plasma cutting stations.

The Avenger 2 is also on the leading edge of machine technology, incorporating the industry’s most reliable digital servo amplifiers, AC brushless motors, and precision planetary gearboxes. When equipped with ESAB’s touch-screen based Vision® T5 CNC, this machine easily becomes the most productive part of your cutting operation.

Available in widths to cover 12 to 30 ft., the Avenger 2 can carry a wide variety of cutting and marking tools, including precision plasma torches, oxy-fuel torches, plasma or oxy-fuel bevel heads, punch markers, drills, and router stations. Additional options include a rider’s platform, heat shields, and overhead cable track drag bracket.

The Avenger 2 supports a wide array of process tool station options. Each machine is custom built-to-order depending on the application and customer needs. Tool configuration can include nearly any combination of the following:

- **Plasma Torch Station** - vertical plasma cutting from 100 to 720 Amp on mild steel up to 2.5 in. thick, stainless steel and aluminum from gauge to 6 in. thick.
- **Plasma Bevel Station** - bevel cuts with plasma up to 450 Amps, cuts up to 1.25 in. thick at 45° on mild steel.
- **Plasma Edge Prep Station** - straight line bevel cuts in either X or Y direction.
- **Oxy-Fuel Torch Station** - vertical cutting of mild steel up to 6 in. thick standard, optionally thicker if necessary.
- **Oxy-Fuel Edge Prep Station** - three torch unit for weld edge prep cutting along a straight line in X or Y direction.
- **Oxy-Fuel Contour Bevel Station** - three torch unit with manually adjusted torches and automatic rotation to cut a bevel along any contour.
- **Ink Jet Marker** - fast marking for text on cut parts and plates.
- **Pneumatic Punch Marker** - air hammer type marking for lines or center point punch marks.
- **Plasma Marker** - high speed line marking with variable width and depth can also be used for lettering.
- **Drill Station** - standard drill stations handle up to 3/4 in. holes in up to 2 in. plate.

### Specifications

<table>
<thead>
<tr>
<th>Avenger 2</th>
<th>4</th>
<th>5</th>
<th>6</th>
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<td>173 (4394)</td>
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<td>Rail Gauge, in. (mm)</td>
<td>194.1 (4930)</td>
<td>233.5 (5930)</td>
<td>272.8 (6929)</td>
<td>312.2 (7929)</td>
<td>351.6 (8930)</td>
<td>390.9 (9928)</td>
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<td>Machine Width, in. (mm)</td>
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<td>353.3 (8973)</td>
<td>392.7 (9974)</td>
<td>454.6 (11546)</td>
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</table>
Avenger™ 3

- 3 axis gantry with reinforced fabricated welded beam for stiffness and accuracy
- Precision dual-linear rail Y-axis guiding system for greater accuracy
- Welded and machined end trucks with extra-long wheel base for added stability
- Digital AC drive amplifiers for years of maintenance free operation
- AC brushless motors for wide speed range with accurate speed control
- Precision heavy-duty planetary gearboxes for accuracy and smooth motion
- Heavy-duty 85# machined crane rail system for accuracy and durability

The Avenger 3 supports a wide array of process tool station options. Each machine is custom built-to-order depending on the application and customer needs. Tool configuration can include nearly any combination of the following:

- Plasma Torch Station - vertical plasma cutting from 100 to 720 Amp on mild steel up to 2.5 in. thick, stainless steel and aluminum from gauge to 6 in. thick.
- Plasma Bevel Station - bevel cuts with plasma up to 450 Amps, cuts up to 1.25 in. thick at 45° on mild steel.
- Plasma Edge Prep Station - straight line bevel cuts in either X or Y direction.
- Oxy-Fuel Torch Station - vertical cutting of mild steel up to 6 in. thick standard, optionally thicker if necessary.
- Oxy-Fuel Edge Prep Station - three torch unit for weld edge prep cutting along a straight line in X or Y direction.
- Oxy-Fuel Contour Bevel Station - three torch unit with manually adjusted torches and automatic rotation to cut a bevel along any contour.
- Ink Jet Marker - fast marking for text on cut parts and plates.
- Pneumatic Punch Marker - air hammer type marking for lines or center point punch marks.
- Plasma Marker - high speed line marking with variable width and depth can also be used for lettering.
- Drill Station - standard drill stations handle up to 3/4 in. holes in up to 2 in. plate.

The Avenger 3 is the largest gantry in the standard ESAB product line. Designed to provide precision support for the largest process stations, it can span up to 32 ft., and carry any cutting or marking process. Large, all-welded end trucks support a machined beam and an independent reinforced deck structure. Up to twelve process stations may be installed, including up to four plasma cutting stations.

The Avenger 3 is also on the leading edge of machine technology, incorporating the industry’s most reliable digital servo amplifiers, AC brushless motors, precision planetary gearboxes, and linear rails and bearings. When equipped with ESAB’s Vision® T5 CNC, this machine easily becomes the most productive part of your cutting operation.

The Avenger 3 is the perfect platform for plasma or oxy-fuel bevel cutting. It can accurately support up to two of ESAB’s Plasma Bevel stations, or two of ESAB’s Three Torch Oxy-Fuel Bevel stations.

Specifications

<table>
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<tr>
<th>Avenger 3</th>
<th>4</th>
<th>5</th>
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<tr>
<td>Machine Width, in. (mm)</td>
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<td>Rail Gauge, in. (mm)</td>
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<td>413.4 (10500)</td>
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<td>Maximum Table Width, in. (mm)</td>
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<td>367 (9320)</td>
<td>406 (10320)</td>
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ESAB provides specialty solutions to unique customer requirements, including customized panel cutting machines for shipbuilding block assembly lines. By incorporating an automated cutting step after assembly of the panel, accuracy is vastly improved, and a number of process steps which were traditionally done by hand can be automated. This includes panel marking with text and layout lines, primer removal for stiffener weld joints, weld joint line marking, interior cutouts with bevel cutting, and automated bevel cutting of the panel periphery.

The Avenger 4 Telerex is the largest gantry in the ESAB product line, and provides the ultimate combination of performance and capabilities. Designed to provide precision support for large combination process stations, it can span more than 26 m, and carry any cutting or marking process.

ESAB is also the only supplier able to fully automate all processes associated with panel lines, including precision automated 3 torch bevel cutting, plasma bevel cutting, vacu-blast primer removal, high-speed grinder primer removal, dual contour Y axis cutting, high speed omni-directional plate character marking, high-speed layout line marking, automated plate thickness transitioning, and many other special innovations developed for the shipbuilding industry.

### Specifications

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<th>Avenger 4</th>
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<td>Cutting Widths</td>
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<td>Maximum Stations</td>
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<td>Speed Range, ipm (mm/min)</td>
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### Process Options

- Plasma Cutting
- Oxy-Fuel Cutting
- Plasma Bevel Cutting
- Oxy-Fuel 3-Torch Bevel Cutting
- Plasma Marking
- Ink-Jet Marking
- Pneumatic Punch Marking
- Zinc Oxide Marking
- Vacu-Blast Primer Removal
- Belt-Grinder Primer Removal
- X-Y Table for Character Marking
- Pin Stamp Text Marking
The Hydrocut LR Waterjet Cutting System is a heavy-duty gantry style waterjet cutting machine. Floor mounted rails and a rigid gantry are combined with digital AC drive amplifiers, brushless AC motors, and precision planetary gearboxes. The result is a high-performance multi-process capable machine. The Hydrocut LR easily combines waterjet with other cutting and marking processes, such as plasma cutting, plasma marking, oxy-fuel cutting, ink-jet marking or drilling.

Waterjet is an extremely precise cutting process, but it is also an expensive process to operate. Many fabricators require parts cut with high precision for only a small portion of the entire part, while most of the part could be cut with a more economical process. By combining plasma and waterjet processes on the same machine, you have the ability to dramatically reduce the overall cost to produce those parts.

As with all ESAB cutting machines, ESAB’s Vision® CNC fully automates all process control and setup, making operation easier and faster. Whether its waterjet, plasma, oxy-fuel, or marking, all parameters are captured in the on-board database, where the operator only needs to select material type, thickness, and process type.

ESAB’s abrasive cutting head provides maximum cutting speeds with reduced operating costs and extremely simple maintenance. The pre-aligned cartridge body, orifice and focusing tube produce a sharp and coherent water-abrasive stream, which cuts faster than other nozzles while consuming less abrasive. Pre-aligned components require no tools for installation, are easily installed in seconds and maintain proper centering when replaced. Diamond orifice technology maximizes productivity for only pennies an hour. Complete installation and maintenance training takes only minutes.

ESAB’s exclusive patent allows you to combine the non-thermal waterjet process with the thermal plasma cutting process on the same gantry. The Hydrocut LR can be equipped with ESAB’s m3 Plasma® systems from 200 up to 720 Amps. The air-curtain option allows the plasma to cut under-water, as well as the water jet. Fast switching and automatic process control allows both plasma and waterjet tools to be used on the same part.

ESAB brings you the performance and reliability of the Streamline SL-V Plus series intensifier pumps. The SL-V Plus intensifiers are designed to deliver optimum levels of component reliability and system uptime. Ease of installation and maintenance have made Streamline intensifiers the standard of the industry for both water and abrasive cutting applications.

### Specifications

<table>
<thead>
<tr>
<th>Hydrocut LX</th>
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<td>Rail Gauge, in. (mm)</td>
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<tr>
<td>Internal Clearance, in. (mm)</td>
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ESAB, the industry leader in plasma and oxy-fuel cutting, has joined forces with the leading laser manufacturer, TRUMPF, to produce the Alpharex large plate laser cutting machine.

With working widths of up to 17 ft. (5 m), the Alpharex has no theoretical restriction in working length. The specially designed laser resonator is mounted on the machine and moves with the machine in the longitudinal direction. In the transverse direction, the beam is delivered by flying optics to the workpiece. This design feature eliminates beam divergence along the longitudinal axis, and ensures that the laser intensity and the cut quality remain constant over the full work space.

ESAB's Alpharex laser cutting machine is fitted with a CO₂ laser system supplied by TRUMPF. The TLF-turbo lasers, featuring power selections of 3.2 up to 6 kw, enable ESAB to guarantee high precision cutting of carbon steel up to 1.0 in. (25 mm) thick. The Alpharex may also be configured with a laser bevel head for cutting up to 45° bevels on parts.

As with all ESAB cutting machines, the laser process is fully controlled and automated through ESAB's Vision® CNC. All laser parameters, such as power, frequency, piercing routines, gas pressures, and cutting height, are set automatically by the CNC. The Vision CNC also controls the adaptive optics which provides autofocus and also ensures consistent beam quality.

Specifications

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<th>AXD - 7000</th>
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<td>Cutting Length</td>
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PT-37 Plasma Torch

The patented PT-37 torch cuts up to 1 in. (25 mm) material using air as the plasma and shielding gas. Utilizing a blowback start and an electronically controlled pilot arc the PT-37 sets a new standard for starting reliability, cutting characteristics and consumable life. The PT-37 torch comes standard with the PowerCut® and ESP-101 mechanized plasma cutting packages.

- Air-plasma torch for up to 100 Amp plasma cutting
- Simple, low cost consumables, only 10 total parts to manage
- 100% Duty Cycle for enhanced productivity allowing for continuous operation even at maximum thickness
- Machined torch body with 1-3/8 in. metal handle and 32-pitch rack fits standard torch holders
- Torches without rack are available
- Robust machined torch components provide for reliability, durability and ease of maintenance
- Metal nozzle and shield stand up to the toughest cutting conditions
- Wear parts are available individually, in sets and in value packs which eases ordering and saves money
- Long-Life consumables and repairable torch minimize operating costs
- Blowback torch design eliminates high-frequency starting
- One year warranty on torch
PT-36 Precision Plasmarc® Torch

Precision

- High precision torch for longer consumable life and better cut quality
- Precision close tolerance concentricity for optimum straight or bevel cutting, with highest cut quality and consumable life
- Posi-Thread design makes it easier to install consumables, and eliminates the worry of damaged threads on electrode, electrode holder, and torch body

Versatility

- Extremely versatile multi-gas torch, allows you to pick the combination of gases, speed, and cut quality that you want
- Adapts to your cutting requirements – cut dry on carbon steel or use the optional water injection module for superior cut quality on stainless steel and aluminum
- Practical cutting ranges – Low current cutting, conventional plasma cutting and 600 Amp thick plate cutting with the same torch and the appropriate power source
- Cuts carbon steel up to 2.5 in. thick with 450 Amp Oxygen Plasma
- Cuts stainless steel or aluminum up to 1.5 in. thick with 600 Amp Nitrogen Plasma, up to 3 in. thick with 720 Amp water injection plasma, or up to 6 in. thick with 600 Amp Argon-Hydrogen (H-35)

Value

- Does not require de-ionized water, reducing maintenance cost
- Requires fewer parts to purchase and stock, lowering operating cost
- Current capacity of 720 Amps at 100% duty cycle
- “Speed-Loader” aids in consumable changes without the worries and leaks caused by O-rings, or the expense of spare torch bodies
- With higher arc density, the PT-36 provides higher speed with better cut quality
- No “special” beveling consumables are necessary
- The torch body and consumables are designed with high accuracy and concentricity for more consistent bevel angles and part size
- The PT-36 is much more robust, with heavier, thicker nozzles, cups, shields, and retainers, the PT-36 holds up better in demanding beveling applications
- Available Lifetime Warranty on torch body

Precision Plasmarc® Cutting Torch

The PT-36 is a versatile torch that lowers operating cost and delivers excellent cutting performance. It can be used with a variety of gas combinations and can be configured for use in a wet or dry mode to suit your specific cutting application. Use it dry for cutting carbon steel or use the water injection capability for superior cuts on stainless and aluminum.

Water Injection Plasma

The PT-36 is capable of both dry (dual-gas) or wet (water injection) cutting. Water Injection produces superior cuts on stainless and aluminum at reduced cost when compared to Argon-Hydrogen cutting.

SpeedLoader Fixture

The special SpeedLoader fixture allows pre-assembly of the nozzle, nozzle retainer, diffuser, shield, and shield retainer. The operator can swap out pre-assembled consumable sets quickly and easily, minimizing down-time for consumable replacement or changeover. The SpeedLoader requires no expensive torch bodies and does not break any of the fluid connections when swapping parts - eliminating the risk of o-ring damage or leaks.
Air Plasma Systems

**PowerCut® 900**
- Cuts up to 1/2 in. thick mild steel
- Utilizes a “drawn arc” to initiate the cut which eliminates high frequency interference from the starting circuits
- Electronically controlled pilot arc provides for consistent starting and longer consumable life
- High operating voltages are ideal for demanding mechanized cutting applications
- Includes a full CNC interface with Arc Voltage Height Control support
- Built in line conditioner protects against damage from power line noise and spikes, even with poor quality power
- Digital Readout Display shows help codes to assist in troubleshooting errors, minimizing downtime
- Automatic fan control only runs the cooling fan when necessary, conserves energy and reduces dust and dirt inside the console
- Built-in power line conditioner protects against damage from power line noise and spikes, even with poor-quality power
- 3 year warranty on console

**PowerCut® 1300**
- Cuts up to 5/8 in. thick mild steel
- 100% Duty Cycle (when powered by 3 phase) for continuous operation even at maximum thickness
- Utilizes a “drawn arc” to initiate the cut which eliminates high frequency interference from the starting circuits
- Electronically controlled pilot arc provides for consistent starting and longer consumable life
- High operating voltages are ideal for demanding mechanized cutting applications
- Includes a full CNC interface with Arc Voltage Height Control support
- Built in line conditioner protects against damage from power line noise and spikes, even with poor quality power
- Digital Readout Display shows help codes to assist in troubleshooting errors, minimizing downtime
- Automatic fan control only runs the cooling fan when necessary, conserves energy and reduces dust and dirt inside the console
- 3 year warranty on console

---

**PowerCut 900**
- Output: 60 Amps @ 125V - 60% Duty Cycle
- Input: 208/230 VAC 60 Hz, 28/23 A
- Dimensions: 12.7x14.9x27.8 in. (323x378x706 mm)
- Weight: 90 lbs. (41 kg)
- Min. Air Requirements: 500 cfh @ 90 psig (236 l/min @ 6.2 bars)

**PowerCut 1300**
- Output: 70 Amps @ 100% Duty Cycle
- Input Voltage: 230/400/460/575 VAC
- Input Current: 31/20/18/14 A
- Cutting Capacity: Cuts up to 1/2 (13)
- Dimensions: 12.7x14.9x24.8 in. (322x379x630 mm)
- Weight: 78 lbs. (35.4 kg)
- Min. Air Requirements: 400 cfh @ 80 psig (165 l/min @ 4.8 - 5.2 bars)
Air Plasma Systems

PowerCut® 1600
- Cuts up to 5/8 in. thick mild steel
- Can use single phase power at lower duty cycle
- Utilizes a “drawn arc” to initiate the cut which eliminates high frequency interference from the starting circuits
- Electronically controlled pilot arc provides for consistent starting and longer consumable life
- High operating voltages are ideal for demanding mechanized cutting applications
- Includes a full CNC interface with Arc Voltage Height Control support
- Built in line conditioner protects against damage from power line noise and spikes, even with poor quality power
- Digital Readout Display shows help codes to assist in troubleshooting errors, minimizing downtime
- Automatic fan control only runs the cooling fan when necessary, conserves energy and reduce dust and dirt inside the console
- 3 year warranty on console

ESP-101
- 100% Duty Cycle for continuous operation even at maximum thickness
- Utilizes a “drawn arc” to initiate the cut which eliminates high frequency interference from the starting circuits
- Electronically controlled pilot arc provides for consistent starting and longer consumable life
- High operating voltages are ideal for demanding mechanized cutting applications
- Includes a full CNC interface with Arc Voltage Height Control support
- Built in line conditioner protects against damage from power line noise and spikes, even with poor quality power
- Digital Readout Display shows help codes to assist in troubleshooting errors, minimizing downtime
- Automatic fan control only runs the cooling fan when necessary, conserves energy and reduce dust and dirt inside the console
- Optional Remote Arc Starter allows up to 150 ft. between torch and power supply
- 3 year warranty on console

PowerCut 1600

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output</td>
<td>90 Amps @ 60% Duty Cycle</td>
</tr>
<tr>
<td>Input Voltage</td>
<td>208/230/400/460/575 VAC</td>
</tr>
<tr>
<td></td>
<td>3-Phase 50/60 Hz</td>
</tr>
<tr>
<td>Input Current</td>
<td>44/47/28/23/20 A (3-phase)</td>
</tr>
<tr>
<td>Cutting Capacity, in. (mm)</td>
<td>Cuts up to 5/8 (16)</td>
</tr>
<tr>
<td>Dimensions, WxHxD, in. (mm)</td>
<td>12.7x14.9x27.8 (323x378x706)</td>
</tr>
<tr>
<td>Weight, lbs. (kg)</td>
<td>90 (41)</td>
</tr>
<tr>
<td>Min. Air Requirements</td>
<td>400 cfm @ 80 psig</td>
</tr>
<tr>
<td></td>
<td>(165 l/min @ 4.8 - 5.2 bars)</td>
</tr>
</tbody>
</table>

ESP-101

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output</td>
<td>100 Amps @ 100% Duty Cycle</td>
</tr>
<tr>
<td>Input</td>
<td>20 KVA, 3 Ph, 50/60 Hz</td>
</tr>
<tr>
<td></td>
<td>208/230/380/400/460/475/575 Volts, 3 ph</td>
</tr>
<tr>
<td></td>
<td>54/49/29/28/25/24/20 A</td>
</tr>
<tr>
<td>Cutting Capacity, in. (mm)</td>
<td>Cuts up to 1 (25)</td>
</tr>
<tr>
<td>Dimensions, WxHxD, in. (mm)</td>
<td>15.5x19.4x26.25 (394x493x667)</td>
</tr>
<tr>
<td>Weight, lbs. (kg)</td>
<td>125 (38.6)</td>
</tr>
<tr>
<td>Min. Air Requirements</td>
<td>500 cfm @ 80 psig</td>
</tr>
<tr>
<td></td>
<td>(236 l/min @ 4.8 - 5.2 bars)</td>
</tr>
</tbody>
</table>
ESAB’s new EPP-202 and EPP-362 series of plasma power sources feature a wide operating current range that allows plasma marking and cutting with the same torch and power supply. All EPP power sources feature a highly efficient, high-power factor design for the most efficient use of electrical input power. All ESAB plasma power supplies feature a 3-year limited warranty.

**EPP-202**
- 100% duty cycle at 200 Amp output
- High-speed data bus for precise current control and better diagnostics from the machine CNC
- Integrated water cooler takes up less floor space
- Innovative water cooled power block provides better cooling and longer component life
- Efficient, high-power factor design

**EPP-362**
- 100% duty cycle at 360 Amp output
- High-speed data bus for precise current control and better diagnostics from the machine CNC
- Integrated water cooler takes up less floor space
- Efficient, high-power factor design
- High Output Voltage Capacity for better bevel cutting.
- Can be paralleled to deliver 720 Amps

### Specifications

<table>
<thead>
<tr>
<th></th>
<th>EPP-202</th>
<th>EPP-362</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input Voltage</td>
<td>200/230/380/400/460/575 V, 50/60 Hz, 3 Ph</td>
<td>380/400/460/575 V, 50/60 Hz, 3 Ph</td>
</tr>
<tr>
<td>Input Current (at rated load)</td>
<td>115/96/60/57/50/43 Amps</td>
<td>134/128/109/88 Amps</td>
</tr>
<tr>
<td>Rated Output Current</td>
<td>200 Amps DC</td>
<td>360 Amps DC</td>
</tr>
<tr>
<td>Duty Cycle</td>
<td>100% Duty Cycle</td>
<td>100% Duty Cycle</td>
</tr>
<tr>
<td>Output Current Range</td>
<td>10 to 200 Amps</td>
<td>10 to 360 Amps</td>
</tr>
<tr>
<td>Output Voltage</td>
<td>160 V</td>
<td>200 V</td>
</tr>
<tr>
<td>Open Circuit Voltage</td>
<td>360 V</td>
<td>360 V</td>
</tr>
<tr>
<td>Power Factor (at rated load)</td>
<td>90%</td>
<td>94%</td>
</tr>
<tr>
<td>Dimensions, WxHxD, in. (mm)</td>
<td>24x41x47 (603x1035x1200)</td>
<td>24x41x47 (603x1035x1200)</td>
</tr>
<tr>
<td>Weight, lbs. (kg)</td>
<td>1085 (492)</td>
<td>1140 (518)</td>
</tr>
</tbody>
</table>
ESAB’s EPP-450 and EPP-601 plasma power sources feature a wide operating current range that allows plasma marking and cutting to be accomplished with the same torch and power supply. Each power source features a highly efficient, high-power factor design for the most efficient use of electrical input power. All ESAB plasma power supplies feature a 3-year limited warranty.

### EPP-450
- 12 - 450 Amps variable output
- Fan on demand technology
- Digital ammeter
- Input voltage protection
- Local or remote front panel control
- Led status lights for easy troubleshooting

### EPP-601
- 12 - 600 Amps variable output
- Fan on demand technology
- Digital ammeter
- Input voltage protection
- Local or remote front panel control
- Led status lights for easy troubleshooting

### Specifications

<table>
<thead>
<tr>
<th></th>
<th>EPP-450</th>
<th>EPP-601</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Input Voltage</strong></td>
<td>400 V, 50/60 Hz CE, 3 Ph 460/575 V, 60 Hz, 3 Ph</td>
<td>400 V, 50/60 Hz CE, 3 Ph 460/575 V, 60 Hz, 3 Ph</td>
</tr>
<tr>
<td><strong>Input Current (at rated load)</strong></td>
<td>138 Amps, 460 V, 3 Ph 159 Amps, 400 V, 3 Ph 110 Amps, 575 V, 3 Ph</td>
<td>179 Amps, 460 V, 3 Ph 206 Amps, 400 V, 3 Ph 143 Amps, 575 V, 3 Ph</td>
</tr>
<tr>
<td><strong>Rated Output Current</strong></td>
<td>450 Amps DC</td>
<td>600 Amps DC</td>
</tr>
<tr>
<td><strong>Duty Cycle</strong></td>
<td>100% Duty Cycle</td>
<td>100% Duty Cycle</td>
</tr>
<tr>
<td><strong>Output Current Range</strong></td>
<td>10 to 450 Amps</td>
<td>10 to 600 Amps</td>
</tr>
<tr>
<td><strong>Output Voltage</strong></td>
<td>200 VDC @ 450 Amps</td>
<td>200 VDC @ 600 Amps</td>
</tr>
<tr>
<td><strong>Open Circuit Voltage</strong></td>
<td>400 V, 427 VDC 460 V, 431 VDC 575 V, 431 VDC</td>
<td>400 V, 427 VDC 460 V, 431 VDC 575 V, 427 VDC</td>
</tr>
<tr>
<td><strong>Power Factor (at rated load)</strong></td>
<td>90%</td>
<td>90%</td>
</tr>
<tr>
<td><strong>Dimensions, WxHxD, in. (mm)</strong></td>
<td>37x40x45 (946x1022 x1143)</td>
<td>37x40x45 (946x1022 x1143)</td>
</tr>
<tr>
<td><strong>Weight, lbs. (kg)</strong></td>
<td>1870 (850)</td>
<td>1870 (850)</td>
</tr>
</tbody>
</table>
Oxy-Fuel Bevel Systems

Three-torch oxy-fuel bevel stations make it possible to produce all standard welding edges, including "X", "V", "Y", and "K" cuts. ESAB offers a variety of oxy-fuel three-torch bevel heads to suit any application.

Edge Prep Station
The Straight Line Manual Edge Prep Station is designed to bevel the edge of rectangular plates for subsequent welding operations. It is ideal for tank or pipe manufacturers that need to bevel cut large rectangles prior to rolling and welding the plates into their final products.

Contour Bevel Station
The Contour Bevel Station adds automatic infinite rotation capability, allowing the station to cut bevels on contours or to automatically rotate to cut bevels on multiple sides of a part. This system is ideal for many wind-tower and power-pole manufacturers who cut cone sections for subsequent rolling and welding.

Oxy-Fuel VBA Station
The VBA Station adds programmable/motorized tilt and offset capability, allowing the station to change bevel angle and torch setup automatically. This capability allows the highest possible automation and productivity for high volume applications such as wind-tower and ship building.

The combination of infinite rotation and programmable bevel angles allows the program to do all torch setup, as well as change the setup during the program, cut variable bevel angles, handle thickness changes, or cut mirror image bevels.

Oxy-Fuel Bevel Systems

<table>
<thead>
<tr>
<th>Feature</th>
<th>Spec</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bevel Angle Adjustment</td>
<td>Manual or Automatic</td>
</tr>
<tr>
<td>Bevel Angle Range</td>
<td>0° - 45°</td>
</tr>
<tr>
<td>Thickness Range, in. (mm)</td>
<td>1/2 - 3 (12-75) at 45°**</td>
</tr>
<tr>
<td>Lateral Adjustment Range, in. (mm)</td>
<td>3.5 - 5.7 (90 - 145) for stripping</td>
</tr>
<tr>
<td>Lead-Lag Adjustment Range, in. (mm)</td>
<td>+/-1/2 (12)</td>
</tr>
<tr>
<td>Torch Ignition</td>
<td>Automatic Pilot Light</td>
</tr>
<tr>
<td>Gas Controls</td>
<td>Proportional valve pressure controls with individual torch solenoids</td>
</tr>
</tbody>
</table>

*Angle and thickness are interrelated, not all angles can be achieved on every thickness. Also depends on station design.
Plasma Bevel Systems

- Plasma bevel capability available on all Avenger class gantries
- Outstanding bevel cutting with the industry’s most accurate system
- Reliable productivity from a well protected, robust mechanical system
- Tactile sensor - provides the only system capable of precisely maintaining torch height relative to the plate surface
- ESAB’s PT-36 Plasma Torch delivers the highest accuracy cutting and increased consumable life
- Dual-mode initial height sensing uses pneumatically balanced tool-tip sensing and electrical plate sensor for accurate, light-touch plate sensing
- Encoder equipped Z-axis lifter precisely controls the initial height and enables Smart Voltage Height Control
- Capable of high quality hole cutting with Precision Hole Technology™ when vertical cutting

ESAB’s Variable Bevel Angle Systems are used to accurately plasma bevel cut plate, and are fully programmable to cut parts with both bevel and straight cuts. The systems automatically switch between high accuracy tactile sensing and Smart Voltage Height Control to provide the most accurate plasma cutting, and fully program controlled, multi-part, bevel and straight cutting. The integration of ESAB’s m3 Plasma® System, Vision® CNC, and bevel systems allows unequalled control of bevel cutting. All bevel compensations are handled by the Vision CNC, so bevel programming is simplified and accuracy is fine-tuned.

Reliability
- Simple, reliable protractor based design automatically puts the torch tip at the focal point of tilt and rotation
- Magnetic breakaways protect torch and tactile sensor
- Split-gear zero backlash feedback system for accurate rotation control
- High cutting speeds and outstanding cut quality with latest nozzle technology
- Heavy-duty vertical lifter with dual-linear rails and oversized ball-screw
- Digital AC amplifiers and brushless motors for both Z-axis and rotation drives

Capabilities
- Straight cutting with Smart Voltage Height Control
- Bevel cutting with Tactile Sensor or Arc Voltage
- Bevel cutting with Arc Voltage Sample and Hold
- Variable bevel on-the-fly
- "X", "V", "Y", and "K" bevel cutting*
- +/- 45 degree maximum achievable cut angle
- +/- 540 degree automatic rotation
- Cuts up to 1-1/4 in. thick mild steel at angles up to 45 degrees with 450 Amp oxygen plasma
- Torch height is controlled within 0.012 in. (.30mm) of the plate surface regardless of cutting speed or thickness
- Cuts on dry tables or under-water

* Depending on plate thickness and bevel geometry. An appropriate post processor is required to support multi-pass beveling.
Vision® 51 CNC

- Ergonomic Design with color coded graphical interface
- Easily networked or expanded with standard USB devices
- On board process database eliminates the guesswork in setting up process parameters, so you get consistent cut quality every shift, every operator, everytime!
- Powerful Diagnostic Tools allow for detailed troubleshooting
- Program parking allows operator to interrupt a program to take care of urgent projects, and returning to it after processing the parts that just can’t wait

The Vision® 51 maximizes durability and reliability in a simplified package ideal for controlling up to four process tools.

The compact package includes a robust front panel that is completely sealed, with solid state components and an industrial operating system for ultimate reliability.

The built-in process database makes it easy and automatic to set up any process tool. The colour LCD display and graphical user interface make operating easier for any machine configuration.

ESAB’s Vision 51 cutting machine controller features a PC processor running Windows CE® Embedded. The Microsoft Windows CE® 5.0 environment is designed for stability and security and optimised for use on industrial control systems.

Designed for rugged reliability in the harshest environment, the Vision 51 uses the most reliable Windows based platform ever built. A solid state hard drive and industrial PC-based components ensure long term reliability.

A user-friendly interface, large color LCD with graphical menu driven operation, and its compact design make the Vision 51 a highly functional control.

The Vision 51 is easy to learn, easy to use, and allows complete mastery of any cutting operation.

The numerous built-in diagnostics allow for easier installation, startup, and maintenance of the machine. And ESAB’s Remote Diagnostics feature allows our technicians to do real-time testing, troubleshooting, and diagnostics on-line.

On Board Process Database simplifies process setup by automatically setting parameters such as cutting speed, kerf offset, and timers based on material thickness, material type and cut quality desired. The operator sees which plasma consumables are needed.

Real-Time Graphics show program progress, and Program Completion Timer shows expected time to complete program execution.
Vision® T5 CNC

- Simple operation through advanced touch screen interface
- Operator Wizard simplifies basic operation
- New process selector reduces setup time
- Context sensitive help system
- Remote diagnostics for faster support
- Built-in process database
- Automatic data collection with included DataLeap light feature
- Bright, wide-format, 18.5 in. touch-screen
- DXF / DWG import with lead-in/out handling
- Windows® XP for networking and USB support
- Optional EasyNest Automatic True-Shape Nesting

The Vision® T5 has been designed specifically for cutting systems. It supports the entire range of cutting tools, including plasma, oxy-fuel, water jet or laser cutting. It controls the most complex processes such as bevelling, drilling, plate marking and labelling.

The Vision T5 is a powerful, yet easy-to-use, CNC designed specifically for shape cutting machines. Windows XP Embedded provides a stable, open architecture operating system to run the Control Software, provide network connectivity, support USB devices, and other Windows software. The “Dual-Processor” design separates motion and process control from the Windows XP interface to ensure reliable real-time control.

ESAB is the only manufacturer that offers a complete range of fully integrated CNC shape cutting machines. By integrating all process controls into the Vision T5, operation is simplified and manual errors are reduced, unlocking all of the productivity potential from your machine. Virtually every step of the production process can be controlled and automated to ensure fast, accurate, and easy operation.

Simplicity and ease of operation are the core principles guiding the development of the new Vision T5 touch-screen based control. The touchable, graphical user interface is designed to provide more information and feedback to the operator. Important information is always visible, and operating steps are clear and intuitive, guiding the operator every step of the way.

The Built-In Process Database simplifies cutting tool setup by automatically setting parameters such as cutting speed, kerf offset, and timers based on material thickness, material type and cut quality desired. The operator sees a picture and part number for the torch parts that are needed, for both plasma and oxy-fuel torches.

The Process Selector for the Process Database makes it easy to select material type, thickness, and quality, then the Vision T5 shows you which parts to put in the torch.

Menu colors show which window is active, since multi-tasking allows working two concurrent windows. All process controls are on-screen for quick access to exactly the controls you need.
Columbus® CAD/CAM Software

Programming Technology for the Future
CAD/CAM Software Solutions for Optimal Cutting Machine Productivity

New software innovations support faster programming of cutting and marking codes. Columbus is a completely new development based on the leading Microsoft SQL standards, so users, developers, and administrators will all benefit from the standard Windows interface, streamlined programming process, long-term software support, and a customizable user work space.

The modular Columbus package can be scaled to meet your exact needs for any cutting application. By combining the modules you need, the basic package can adapt and expand as required.

The basic package: Layout Designer

At the heart of Columbus is a user-friendly interface that gives complete control over the entire programming process. The Layout Designer manages all functions necessary for generating a CNC program or nest (straight cutting). Oxy-fuel, plasma, laser, and marking processes are supported. A wide array of data is securely stored in a SQL database for instant recall that helps streamline your workflow.

Programming can begin by importing a DXF/DWG file through an import interface that features a graphical preview and automatic cutting tool assignments. To create geometry from scratch, a fully integrated CAD program is available for 2D part construction.

Numerous standard features are included for part manipulation, including common-line cutting, cutting bridges, corner loops, pre-piercing, and optimizing small holes using ESAB’s Precision Hole Technology™.

Automatic Nesting

Fully automatic, true-shape nesting maximizes plate utilization while automatically creating nests for specific projects using any number of plates or remnants. Multi-torch nesting automatically reduces the number of torches when necessary. Nesting jobs can automatically use specific plates, or plates can be manually switched if desired. Maximum software flexibility makes nesting as easy as possible.

Job Control

Easily set up tables for jobs and subassemblies. Jobs can contain parts together with their associated data, and they are available from the Layout Designer for further processing. Subassemblies which have been created from existing parts in the parts database, can be added into jobs. The table for job parts displays the processing status of each part.
**Bevel Cutting**

The bevel cutting function in Columbus® enables simple programming of oxy-fuel, plasma, and laser bevel systems. Choose from a multitude of pre-defined bevel profiles (V upper bevel, V lower bevel, Y upper bevel, Y lower bevel, X bevel, K bevel) or create your own bevel profiles - up to five-pass cutting of a contour. Programmed bevel parts are saved in a parts database with object descriptions so they can easily be re-used in other projects.

**Plate Management**

Rectangular as well as remnant plates are managed and defined here. Accordingly, many data fields ensure unique identification of each individual plate (and also plate copy). Comprehensive traceability of the material from the last remnant plate through to the original plate is ensured. Areas of a plate which have not been nested can be divided into any number of remnant plates.

**Subassembly Management**

Significantly speeds up processing of jobs containing subassemblies. Part geometry and quantity are predefined in the subassembly, making it easy to add the entire group of parts to a nesting job.

**Print Designer**

The Print Designer offers maximum flexibility to create professional reports, customized data output, and use of custom formats and print templates. Easily adapt templates or start from the included sample reports to produce exactly the reports you need. Support for bar codes is also included.

**Navigation with the Explorer**

Columbus offers an intuitive Explorer screen to view all objects and data, such as parts, nests, jobs, and subassemblies. The Explorer window shows the hierarchy and the structure of the objects, making it easy to visualize relationships and dependencies, and the selected objects can be edited directly.

Columbus® CAD/CAM Software
Technology Upgrades

Plasma System Upgrades - Improve Quality and Reduce Operating Cost

- Higher Cutting Speeds with latest nozzle technology
- Faster, easier plasma setup thanks to Automatic Gas Controls
- Dramatically improved hole cutting with Precision Hole Technology™
- More flexibility and improved cut quality with shield gas selection and mixing
- Precision cutting of thin materials using Micro Nozzle technology
- Reduced operating cost due to longer consumable life
- Significantly higher cutting capacity with thick plate piercing technology
- Better consistency provided by closed loop pressure control
- More flexibility, improved accuracy, and faster cycle time when plasma marking and cutting using the same torch
- Less down-time with robust, more reliable power supplies technology
- Improved stainless steel and aluminum cutting with Argon-Hydrogen and Water Injection cutting

Typical Plasma Upgrades

PT-36 Torch Upgrade - Improve cut quality and reduce operating cost by upgrading to the latest plasma torch.

XR Nozzle Upgrades - Speed up your production and improve cut quality on the PT-36 torch by upgrading to XR nozzle technology.

Precision Hole Technology - Dramatically improve hole quality by upgrading to m3 plasma with Precision Hole Technology, allowing effortless production of bolt-ready holes.

Enhanced Hole Technology - Get the best possible plasma cut holes with your existing equipment by upgrading software and process technology files - works with the Vision PC control and many older plasma systems.

Micro Nozzle - Improve thin plate cutting capability with Micro Nozzles for the PT-36 torch.

Water Injection Upgrades - Add water injection capability to the m3 plasma system for reduced cost cutting on stainless steel and aluminum.

Cut Faster
New plasma technology cuts 1/2 in. Carbon Steel as much as 45% faster than older technology.

Cut Thicker
Newer plasma technology easily cuts 2 in. Carbon Steel up to 80% faster than older technology.
CNC Retrofits

CNC Upgrades - Modernize Technology To Gain Productivity

- Extend the life of your existing machine with a CNC retrofit package
- Eliminate the cost and down-time of maintaining old equipment
- Improve plasma hole quality with CNC support for Precision Hole Technology™
- Make operation faster and easier with a modern user interface
- Enhance machine performance with better kerf and path control
- Get faster processing speed for graphics, shapes, and calculations
- Dramatically increase data storage for nests and parts with the modern PC-based hardware
- Open the door to modern machine drive upgrades for better positioning speed and performance
- Handle larger, more complex programs with ease
- Utilize better communication options, including USB and Ethernet
- Improve operator ergonomics with higher resolution display and graphical, color-coded menus
- Upgrade to EasyNest™ Automatic Nesting right on the CNC
- Speed up troubleshooting with built-in remote diagnostics

Easily Upgrade from Older Vision CNCs

New retrofit versions of the Vision 51 and Vision T5 are designed to quickly and easily replace an older Vision CNC, such as the Vision 500, Vision 1000, Vision 2000, or Vision PC.

These new controls have identical mounting holes and feature identical electrical interface plugs, so swapping an old control for a new one is almost plug-and-play. The new electrical interface also supports many older I/O systems, so in most cases the only thing that needs to be replaced is the CNC itself. This means the hardware upgrade can be done in a matter of hours, getting you back up and running quickly.

Improve productivity with an intuitive Windows® graphical user interface. CNC upgrades lead to improved productivity, reduced down-time, and increased reliability.

New CNC Features

Intuitive, touch-screen interface makes operation easier. Make it easier to get new operators up to speed quickly.

The built-in Operating Wizard simplifies basic operation, from machine startup to cutting a nest.

Improved Shape Library for faster programming of common shapes. No programming knowledge is required to create optimized parts with optimized lead-ins & lead-outs.

DXF and DWG Import lets you handle customer drawings right at the machine. Simple, clean DXF and DWG files can be quickly and easily post-processed into part programs right at the control, with optimized lead-ins and lead-outs appended automatically.

Built-in Precision Hole Technology™ cuts better holes automatically. Any parts created from the EasyShape library or imported from DXF and DWG files can have Precision Hole Technology automatically applied, so you get the best quality possible from plasma cut holes without any special operator intervention.

Built-In Process Database shows torch parts and makes process setup fast and easy. Setting up the process tools is quick, easy, intuitive. The operator simply selects the material type, thickness, and a few other options. The control does the rest, setting the plasma system or oxy-fuel gas controls automatically.
The ESAB Advantage
As the technology leader in machine and process automation and the only total system supplier, ESAB is uniquely qualified to integrate the entire plasma cutting process. Only ESAB delivers the entire package. Rely on ESAB to manufacture the gantry and integrate the entire system, including the plasma, CNC, height control, programming software, and the motion system. ESAB stands behind the entire system because we make the entire system.

Smart Voltage Height Control
Engineered for consistent cut quality and maximum consumable life.

Improved Cut Quality
Smart Voltage Height Control automatically corrects the arc voltage as the electrode wears. Cutting height remains constant even as the arc gets longer. Cut quality is maintained because the correct cutting height is maintained.

Maximum Consumable Life
Unnecessary consumable changes are reduced because the torch stays at the correct height. The electrode can fully wear without the torch cutting closer and closer to the plate. Fewer crashes means fewer damaged nozzles.

Lower Operating Cost
The result is better cut quality and consistency in all of your cut parts. Overall cost-per-part is reduced by maximizing consumable life and reducing production interruptions.

Higher Productivity
Productivity improves by reducing interruptions and automating arc voltage corrections. Fewer consumable changes and more consistent cut quality result in more parts cut per shift.

Smart Voltage Height Control

New Electrode

Electrode erodes, Smart Voltage Control adjusts arc length.

Spent Electrode

Height stays constant as electrode wears.
CNC Plasma Integration

Precision Hole Technology™

Effortless production of bolt-ready holes.

Precision Hole Technology is an integrated set of systems that improve hole cutting cylindricity and deliver the highest possible edge quality. This system captures the best hole cutting techniques in ESAB’s new Columbus III programming software, and also in the Vision T5 CNC. Only ESAB m3 plasma systems can fully control shield gases. Extensive testing shows that pure oxygen is not the ideal shield gas for edge quality. Precision Hole Technology uses a mix of Oxygen and Nitrogen as the shield gas, and changes the shield gas between starting and cutting to minimize pierce spatter.

The result is easy, automatic production of bolt-ready holes from your plasma cutting machine. Precision Hole Technology also applies to slots having width to thickness ratios down to 1:1.

SmartCycle™ Technology

Boosting productivity through total CNC and plasma system integration.

Faster Cycle Time
SmartCycle Technology is all about eliminating unproductive time and motion. By skipping initial height sensing where possible, and eliminating the full torch retract after every cut, the total time required to cut a nest can be dramatically reduced.

Increased Productivity
Depending on part geometry, productivity gains can be significant. Nests filled with smaller parts with more holes will see dramatic improvements. Nests with large part and few holes will also see some benefit.

Easier Operation
The power of ESAB’s integration is the ability to control all process tools and systems through the Vision CNC. This level of integration makes operation easier, and allows the CNC to automate more of the system through advanced programming.

Single Source Responsibility
Since we at ESAB make the entire system, write our own software, and stands behind everything we make, there’s no need for you to juggle multiple vendors to support individual components. One call to ESAB is all it takes to get professional support for your entire system.

More Parts Per Hour
Depending on part geometry, production rate (parts per hour) can more than double when using SmartCycle Technology versus traditional methods.

Contact ESAB today to find out how you can increase productivity with an ESAB integrated plasma cutting system.
UNRIVALLED SERVICE AND SUPPORT.

Every ESAB product is backed by our commitment to superior customer service and support. Our skilled customer service department is prepared to quickly answer any questions, address problems, and help with the maintenance and upgrading of your ESAB equipment and software. We offer:

- Value packages, including machine and process audits to maximize your investment
- Proactive preventive maintenance programs and maintenance contracts to keep your equipment and software up and running
- ESAB plasma consumables for the perfect cut
- Specialized repair services
- Retrofit upgrade products and packages for the latest in machine, control, and software technology
- Complete product and process training, including advanced training programs
- All service and support is provided by ESAB-certified technicians, not contract manufacturers or third-party service providers

And, our products are backed with the most comprehensive warranty in the business. With ESAB, you can be confident that the product you purchased will meet your needs today and in the future. Ask your ESAB sales representative or distributor for a complete ESAB solution.

To learn more, visit esab-cutting.com.