

**Vision® T5**  
A Touch of Simplicity.

## **COMBIREX CXL** iSeries Plasma Systems

The next generation of  
high precision plasma cutting.

# BEST-IN-CLASS SOLUTION FOR BETTER PRODUCTION.

Combirex CXL does not just meet your expectation – it exceeds them.

From superior engineering to reliable performance to advanced technology, the machine is packed with features that enhance productivity.

Plus, a modular design and versatile tool stations allow you to tailor the machine to your precise needs. It all makes Combirex the ideal choice for productive, economical oxy-fuel and plasma cutting.



## Heavy-duty design

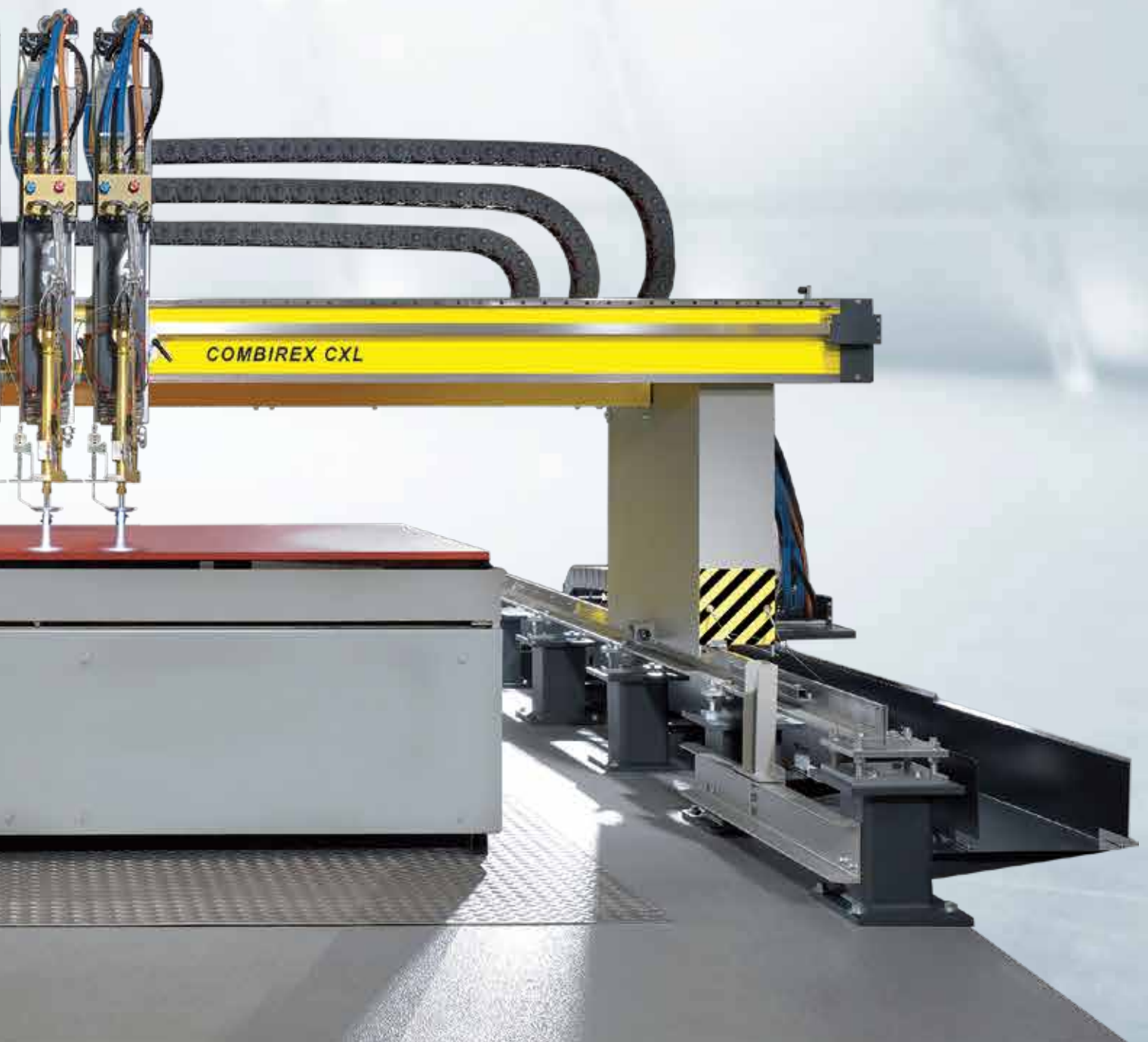
Built with sturdy components, Combirex delivers exceptional durability.

## Dependable performance

Combirex makes it easy to produce high-quality parts thanks to high speeds, excellent accuracy, and smooth motion.

## Precise positioning

Featuring heavy-duty drives, linear rails, and a stiff gantry design, Combirex excels at precision plasma and small hole cutting.



# RUGGED AND RELIABLE.



## Heavy-duty design

Featuring a reinforced box beam design and all-steel construction, Combirex is an exceptionally strong, durable machine. It also comes in a compact package with extendable lengths to minimise floor space requirements. ESAB's advanced engineering ensures accurate machine motion and a long service life.

- High-stiffness, engineered beam assemblies.
- All welded and precision-machined end trucks provide stability required for precise machine positioning.
- Heavy-duty, accurate platform for cutting with plasma and oxy-fuel.
- Suitable for material up to 150mm thick standard.

## Single-source quality

As a complete automated cutting supplier, ESAB ensures that all components of your machine - including CNC, software, height control, plasma, and gas torches - have been expertly designed and built to work together perfectly. This integration also eliminates the need to mix and match components from different vendors.

### Benefits of a single-source supplier:

- Streamlined support
- Lower operation cost over lifetime of system
- Increased reliability
- Simpler maintenance

# PRECISION WHERE IT COUNTS.

When producing high-quality parts, there is no room for error. That is why Combirex is optimised for precise positioning - from heavy-duty drives to linear rails to a stiff gantry design. You can count on outstanding dynamic accuracy, smooth motion, superior cut edges, and high throughput.

- High-performance drive system.
- Heavy-duty parallel-shaft gearboxes with heavy duty output shaft and bearing.
- Precision linear-rail drive engagement.
- Simpler maintenance.

## THE PERFORMANCE YOU NEED

### Fast and accurate

Combirex keeps pace with your demanding production needs and quality standards by providing high speeds, excellent accuracy, and smooth motion.

- AC brushless motors for wide speed range with accurate speed control.
- Maximum machine speed of 20,000mm/min
- High positioning speed reduces part-to-part cycle time.

### Easy-to-use technology

ESAB's Vision T5 CNC dramatically simplifies operation and fully automates complex cutting tools and processes such as plasma, oxy-fuel, and marking.

- Clear and intuitive touchscreen interface
- Innovative Operator Wizard guides operator
- Integrated Process Database
- Flexible design and modular tool stations



# FLEXIBLE TOOL SELECTION.

With a modular design and a variety of tools available, Combirex can be customised to your production needs—whether it is high-precision plasma cutting, precision hole cutting, thick plate oxy-fuel cutting, or marking and labeling. Offering up to four stations, the machine can be equipped with multiple configurations of plasma and oxy-fuel torches.

## Plasma Cutting And Marking

A single torch gives you a wide range of plasma capabilities. Switching between plasma marking and cutting is effortless with an automatic gas control.

- Pneumatically balanced tool holder for extremely accurate initial height sensing.
- High-accuracy arc voltage height control.
- Magnetic break-away crash protection system.
- Heavy-duty torch lifter provides 200mm of vertical stroke.
- Intelligent positioning aid with laser diode.



## Oxy-fuel Cutting

Combirex can carry up to four oxy-fuel cutting stations for cutting materials up to 150mm thick. The stations feature heavy-duty motorised lifters with capacitive height control and pilot flame torch ignitors.

## ACCESSORIES AND UPGRADES

Based on your production requirements, Combirex can be configured with a number of tool and machine options.

- Air curtain for underwater plasma cutting
- Laser pointer for manual plate alignment
- Downdraft or water cutting tables
- Columbus™ programming software

# SPECIFICATIONS.

## COMBIREX CXL

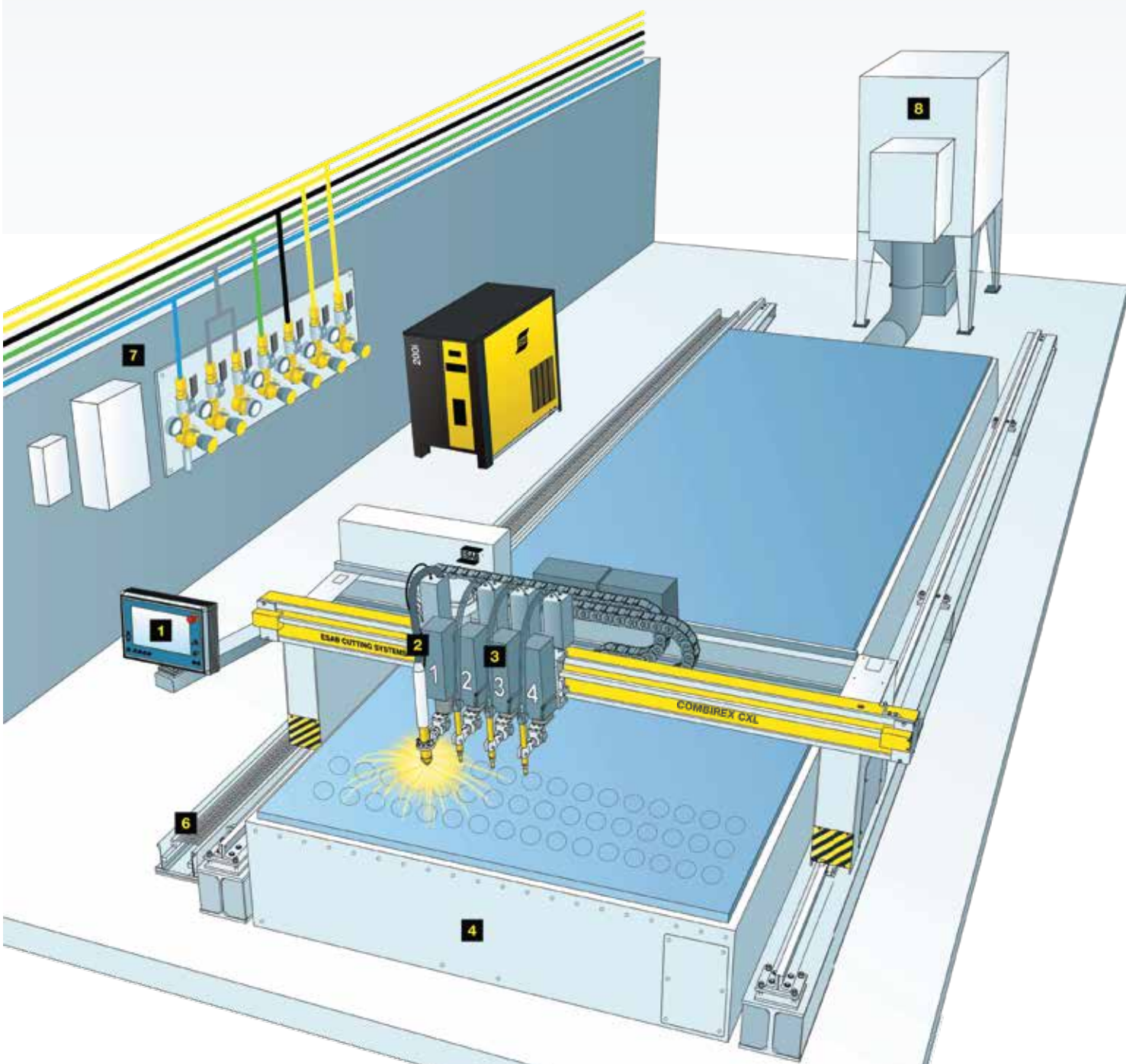
|                              | METRIC                                   |
|------------------------------|--|
| Track width                  | 2500–4500 mm                             |
| Cutting length               | max 18.000 mm                            |
| Cutting processes            | Plasma and oxy-fuel                      |
| Plasma cutting thickness     | max 50 mm,<br>depending on plasma system |
| Maximum plasma torches       | 1  |
| Oxy-fuel cutting thickness   | max 150mm                                |
| Maximum oxy-fuel torches     | 4  |
| Maximum positioning speed    | 20,000 mm/min                            |
| Overall Machine width        | 3,600 – 5,600 mm                         |
| Overall Machine height       | 2200 mm                                  |
| Cutting table surface height | 700 mm +/- 50 mm                         |
| Rail height                  | 410 mm from floor to top of rail         |

## COMBIREX SYSTEM COMPONENTS

1. Vision® controller
2. Plasma cutting station
3. Oxy-fuel cutting station
4. Cutting table
5. Plasma power source
6. Rail axis cable chain & tray
7. Power & gas supplies
8. Dust collector

**Note:** Number of oxy-fuel torches depends on the use of a plasma station. If no plasma is installed, up to 4 oxy-fuel torches can be used. If a plasma station is installed, up to 3 oxy-fuel torches can be used. If a plasma bevel station is installed, there may or may not be sufficient room for oxy-fuel equipment, depending on machine width.

Subject to technical modifications and enhancements. Products may vary from those pictured.



# iSERIES

## THE NEXT GENERATION OF HIGH PRECISION PLASMA CUTTING.

The new iSeries technology provides the next generation of higher productivity, increased flexibility and confidence in high precision plasma cutting. This performance on mild steel will meet or beat anyone and is superior on non-ferrous metals. With the ability to grow with your business, you can expand from one system to the next higher in minutes. The iSeries systems utilise StepUp™ modular power technology, allowing units to be easily upgraded - ensuring you always have the right amount of power today - and tomorrow.



### Higher Productivity Delivers Greater Profits

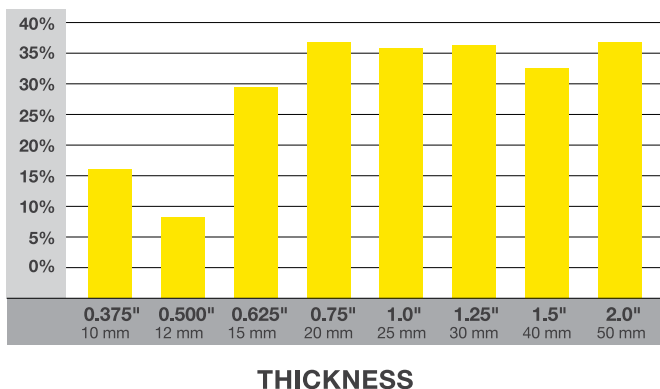
iSeries high precision systems deliver superior cut quality, at superior cutting speeds.

- Outstanding parts life to reduce down time and lower the overall cost of ownership.
- Highest kW output for maximised duty cycle and cut speed.
- Reduced downtime during parts changes with the SpeedLok™ cartridge design.
- Lower current draw to reduce cutting cost.
- Shorter switching time between marking and cutting process for higher daily throughput.
- Highest cut speed in its class on stainless steel – up to 3 times faster than similar cutting systems.

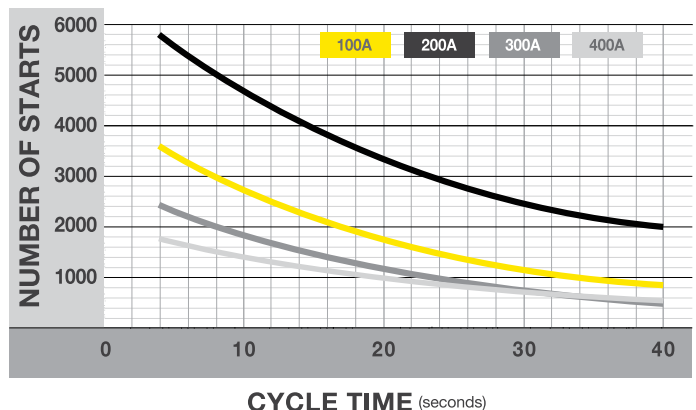
### HeavyCut™ Technology

When cutting parts thicker than 20 mm, HeavyCut Technology delivers the best cut quality, precision and parts life with XTremeLife™ Consumables. Heavy-Cut 200A, 300A and 400A electrodes with multiple hafnium inserts increase parts life at high current applications.

#### Average Cost Savings on Mild Steel Compared to Competition



#### Consumables – Longer Parts Life





# Superior Cut Quality Means Greater Efficiency

Eliminate expensive secondary operations and take parts directly from the cutting table to welding, painting or assembly.

iSeries high precision plasma systems deliver:

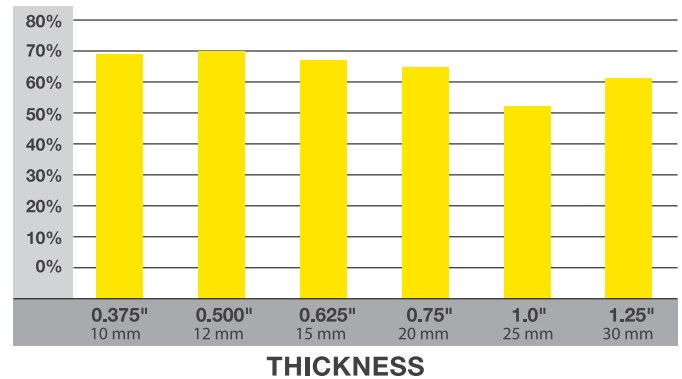
- Excellent dross-free cuts using oxygen (O<sub>2</sub>) plasma on mild steel.
- Unmatched cut quality on non-ferrous metals using unique Water Mist Secondary (WMS<sup>®</sup>) process.
- ISO 9013:2002 (E). Class 3 (depending on cut thickness angles below 3 degrees) or better cut angles for true High Precision cuts.
- Minimal heat affected zone (HAZ) to improve welding quality.



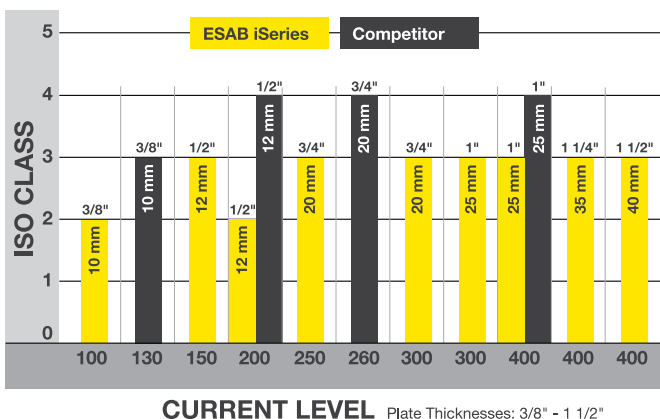
## Water Mist Secondary (WMS) Optimises Non-ferrous Metal Cutting

- Excellent non-ferrous metal cut quality using N<sub>2</sub> as plasma gas and ordinary tap water as the secondary.
- Lowest operating cost.
- Dross-free cutting from 1.0 mm to 40 mm.
- Oxide-free cut face surface.
- Wide parameter window.
- Higher cut speeds compared to H35 cutting.

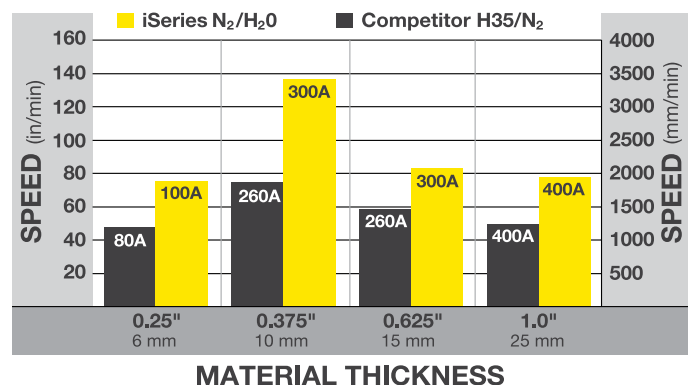
### Average Cost Savings on Stainless Steel Compared to Competition



### iSeries Cut Angle Comparison



### Stainless Steel Cutting Speed Comparison



# iSERIES - THE FLEXIBILITY TO GROW WITH YOUR BUSINESS.



With StepUp™ Modular Power Technology, your system has the flexibility to grow with your business. You can start with an iSeries 100i, and when you are ready, expand to a 200, 300 or 400 Amp system. With the iSeries, you never have to worry about choosing the right system.

## EXPAND AS YOUR CUTTING NEEDS GROW

ESAB designed the iSeries with the flexibility to grow with your business. It features modular “inverter blocks” and a common cabinet for all amperages. To expand a 100A system into a 200A, 300A or 400A system, additional blocks can be easily installed. \*A field technician can install a new inverter block in less than 30 minutes.

The ESAB intelligent approach means never “under-buying” again. With iSeries systems, you’ll always have the right amount of power today — and tomorrow.

*\* Any existing system can be upgraded up to 400A.*

### Easy-to-Service

The iSeries high precision system’s modular design is not only easier to upgrade, but also easier to maintain.

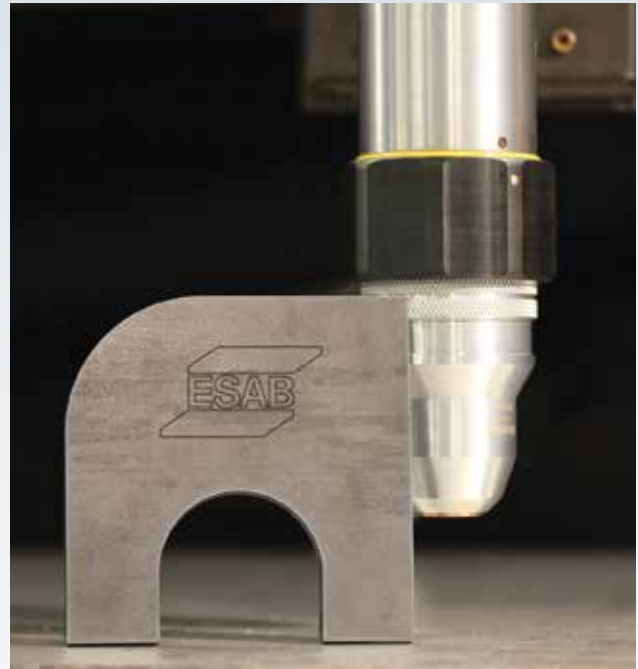
- The Amperage/Error display indicates the status of the iSeries system to accelerate trouble shooting.
- Common components in the iSeries system minimise inventory.

## Better Flow Control And Plasma Marking With Automatic Gas Control

Good gas flow control enhances cut quality and extends consumables life. Digital flow control with the automatic gas control — when paired with the Vision T5 CNC system — provides a better level of quality control. Together, they instantly set and control gas pressure, leading to faster cycle times and more productive cutting.

And for plasma marking with argon, automatic gas control and iSeries minimises the purge cycle between marking and cutting, as well as the changeover time associated with manual controls. Change seamlessly between cutting and marking to:

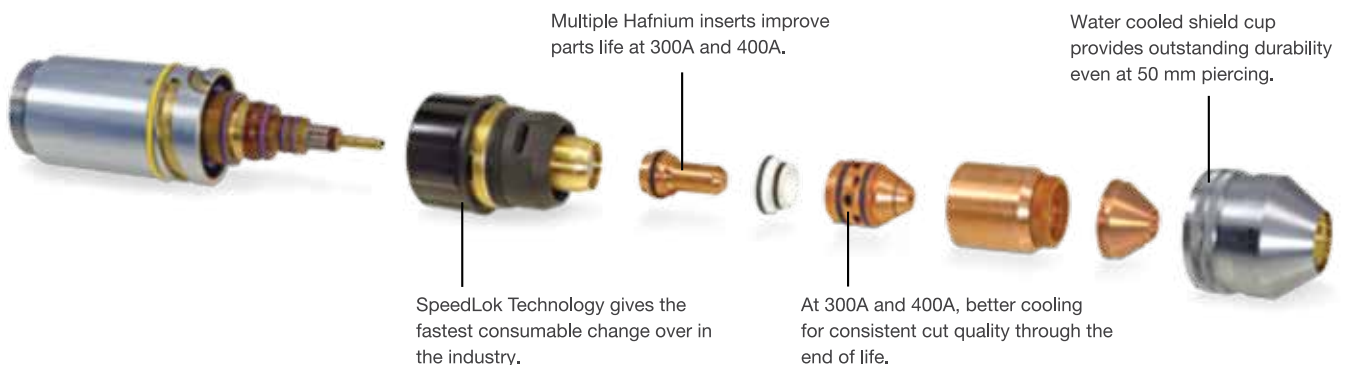
- Indicate part numbers
- Drill or hole points
- Weld locations
- Lot numbers
- Bend or cut lines



## Reliability – Performance You Can Rely On.

ESAB rigorously tests its plasma cutters to ensure flawless performance. Should your iSeries need service, our modular approach minimises parts inventory and repair time. Even if one inverter block malfunctions, cutting is still possible with the remaining blocks.

## iSERIES TORCH TECHNOLOGY – THE NEW STANDARD FOR HIGH PRECISION PLASMA CUTTING SYSTEMS.



## 'Leakless' Torch Head Design

Coolant doesn't drip from the torch head when the consumables cartridge is removed.

The design prevents air from entering the system and becoming trapped in the leads.

## No Tools Required

Unlike other torches, no tools are required to change either the torch consumables or major components in the torch head.

## Self-Centering Components

Consumable parts and torch body are precisely engineered to lock into place for absolute alignment and remain positioned cut after cut. Independently-aligned tip and electrode assures accurate re-centering of the consumable cartridge after each parts change. This guarantees best cut quality time and again.

## Precision Cuts on All Metals

The iSeries Torch dual gas technology provides one of the highest arc density plasma streams in the industry for precision cuts on mild steel, stainless steel, aluminium and other non-ferrous materials, and Ar for marking with the automatic gas control. Choices for plasma gas include - Air, N<sub>2</sub>, O<sub>2</sub>, Ar-H<sub>2</sub> and Ar for marking. Shield gas choices include - Air, N<sub>2</sub>, O<sub>2</sub>, Ar-H<sub>2</sub> and H<sub>2</sub>O.



## Precision Cuts on All Metals Superior Warranty

ESAB's iSeries Torch warranty covers components and service for a full 1-year period.

## Relaxed Cutting Parameters

With the iSeries Torch the operating window permits wide travel speed variance, which means you'll get great cuts more often with less wasted material and time.

- Less critical standoff height
- Wider 'Operating Window' for dross-free cutting

**The iSeries is the latest addition to ESAB integrated automated plasma system solution. The next generation iSeries combines high precision cutting with exceptional cost-performance benefits to deliver a more profitable plasma cutting operation.**

# TECHNOLOGY.



### Automatic Gas Control

Digital Flow Control for optimised and easy set up for frequent changes between materials and thicknesses. A must for marking with Argon and fast switching between cutting and marking.

### Power Supply

- Microprocessor controlled for optimised cut quality and parts life.
- Power upgrade. Inverter blocks can be easily added for higher cutting capacity.

### iSeries Torch

Fastest consumable changes with SpeedLok technology.

### Remote Arc Starter

For reduced HF emission.

## SYSTEM CAPABILITIES

|                 |                   | iSeries 100i | iSeries 200i | iSeries 300i | iSeries 400i |
|-----------------|-------------------|--------------|--------------|--------------|--------------|
| MILD STEEL      | Production Pierce | 12 mm        | 25 mm        | 40 mm        | 50 mm        |
|                 | Maximum Pierce    | 15 mm        | 40 mm        | 45 mm        | 50 mm        |
|                 | Edge Start        | 20 mm        | 65 mm        | 75 mm        | 90 mm        |
| STAINLESS STEEL | Production Pierce | 12 mm        | 25 mm        | 25 mm        | 50 mm        |
|                 | Maximum Pierce    | 15 mm        | 25 mm        | 30 mm        | 50 mm        |
|                 | Edge Start        | 20 mm        | 50 mm        | 50 mm        | 100 mm       |
| ALUMINIUM       | Production Pierce | 12 mm        | 20 mm        | 25 mm        | 50 mm        |
|                 | Maximum Pierce    | 15 mm        | 25 mm        | 30 mm        | 60 mm        |
|                 | Edge Start        | 20 mm        | 50 mm        | 50 mm        | 90 mm        |

# SPECIFICATIONS

|  | iSeries 100i  | iSeries 200i  | iSeries 300i  | iSeries 400i  |
|--|---|---|---|---|
| <b>Rated Output (Amps)</b>               | 100 A   | 200 A   | 300 A   | 400 A   |
| <b>Output Range (Amps)</b>               | 5-100 A   | 5-200 A   | 5-300 A   | 5-400 A   |
| <b>Output (Volts)</b>                    | 180 V   | 180 V   | 180 V   | 200 V   |
| <b>Input Volts (Volts, Phase, Hertz)</b> | 380 V, 3 ph, 50-60 Hz,<br>400 V, 3 ph, 50-60 Hz,<br>480 V, 3 ph, 50-60 Hz                           | 380 V, 3 ph, 50-60 Hz,<br>400 V, 3 ph, 50-60 Hz,<br>480 V, 3 ph, 50-60 Hz                           | 380 V, 3 ph, 50-60 Hz,<br>400 V, 3 ph, 50-60 Hz,<br>480 V, 3 ph, 50-60 Hz                           | 380 V, 3 ph, 50-60 Hz,<br>400 V, 3 ph, 50-60 Hz,<br>480 V, 3 ph, 50-60 Hz                           |
| <b>Input Amps (Amps, Volts)</b>          | 33 A @ 380 V<br>31 A @ 400 V<br>26 A @ 480 V  | 65 A @ 380 V<br>62 A @ 400 V<br>52 A @ 480 V  | 97 A @ 380 V<br>93 A @ 400 V<br>77 A @ 480 V  | 144 A @ 380 V<br>137 A @ 400 V<br>114 A @ 480 V   |
| <b>Duty Cycle (@ 40° C)</b>              | 100% (20 kW)  | 100% (40 kW)  | 100% (60 kW)  | 100% (80 kW)  |
| <b>Max OCV</b>                           | 425 V   | 425 V   | 425 V   | 425 V   |
| <b>Plasma Gas</b>                        | Air, O <sub>2</sub> , Ar-H <sub>2</sub> , N <sub>2</sub> @ 8.3 bar and Ar for marking with DFC 3000 | Air, O <sub>2</sub> , Ar-H <sub>2</sub> , N <sub>2</sub> @ 8.3 bar and Ar for marking with DFC 3000 | Air, O <sub>2</sub> , Ar-H <sub>2</sub> , N <sub>2</sub> @ 8.3 bar and Ar for marking with DFC 3000 | Air, O <sub>2</sub> , Ar-H <sub>2</sub> , N <sub>2</sub> @ 8.3 bar and Ar for marking with DFC 3000 |
| <b>Shield Gas</b>                        | Air, N <sub>2</sub> , O <sub>2</sub> @ 8.3 bar, H <sub>2</sub> O @ 0.6 l/min                        | Air, N <sub>2</sub> , O <sub>2</sub> @ 8.3 bar, H <sub>2</sub> O @ 0.6 l/min                        | Air, N <sub>2</sub> , O <sub>2</sub> @ 8.3 bar, H <sub>2</sub> O @ 0.6 l/min                        | Air, N <sub>2</sub> , O <sub>2</sub> @ 8.3 bar, H <sub>2</sub> O @ 0.6 l/min                        |
| <b>Power Supply Weight</b>               | 186 kg  | 205 kg  | 244 kg  | 252 kg  |
| <b>Dimensions</b>                        | 1219 x 698 x 1031 mm  | 1219 x 698 x 1031 mm  | 1219 x 698 x 1031 mm  | 1219 x 698 x 1031 mm  |
| <b>Certifications</b>                    | CSA, CE, CCC  | CSA, CE, CCC  | CSA, CE, CCC  | CSA, CE, CCC  |

# CUTTING SPEED

| Amps              | Plasma/ Shield                   | Thickness (mm) | Speed mm/min. |
|-------------------|----------------------------------|----------------|---------------|
| <b>MILD STEEL</b> |                                  |                |               |
| 30                | O <sub>2</sub> /O <sub>2</sub>   | 3              | 1340          |
| 70                | O <sub>2</sub> /Air              | 6              | 2710          |
| 100               | O <sub>2</sub> /Air              | 6              | 3940          |
|                   |                                  | 10             | 2170          |
|                   |                                  | 12             | 1690          |
| 200               | O <sub>2</sub> /Air              | 20             | 1590          |
|                   |                                  | 25             | 1250          |
| 300               | O <sub>2</sub> /Air              | 20             | 2430          |
|                   |                                  | 25             | 1830          |
|                   |                                  | 35             | 1080          |
| 400               | O <sub>2</sub> /Air              | 25             | 2100          |
|                   |                                  | 40             | 1110          |
|                   |                                  | 50             | 790           |
| <b>ALUMINIUM</b>  |                                  |                |               |
| 30                | N <sub>2</sub> /H <sub>2</sub> O | 1.5            | 3210          |
| 70                | N <sub>2</sub> /H <sub>2</sub> O | 6              | 2060          |
| 100               | N <sub>2</sub> /H <sub>2</sub> O | 10             | 1660          |
|                   |                                  | 12             | 1180          |
| 200               | N <sub>2</sub> /H <sub>2</sub> O | 20             | 2170          |
|                   |                                  | 25             | 1350          |
| 300               | N <sub>2</sub> /H <sub>2</sub> O | 25             | 1560          |
|                   |                                  | 35             | 760           |
|                   | H35/N <sub>2</sub>               | 25             | 2190          |
| 400               | N <sub>2</sub> /H <sub>2</sub> O | 20             | 2170          |
|                   |                                  | 40             | 1280          |
| 400               | H35/N <sub>2</sub>               | 25             | 2330          |
|                   |                                  | 50             | 810           |

| Amps                   | Plasma/ Shield                   | Thickness (mm) | Speed mm/min. |
|------------------------|----------------------------------|----------------|---------------|
| <b>STAINLESS STEEL</b> |                                  |                |               |
| 30                     | N <sub>2</sub> /H <sub>2</sub> O | 1.5            | 5500          |
| 50                     | N <sub>2</sub> /H <sub>2</sub> O | 2              | 4310          |
|                        |                                  | 4              | 2410          |
| 70                     | N <sub>2</sub> /H <sub>2</sub> O | 6              | 1490          |
| 100                    | N <sub>2</sub> /H <sub>2</sub> O | 6              | 2670          |
|                        |                                  | 12             | 1350          |
| 200                    | N <sub>2</sub> /H <sub>2</sub> O | 20             | 1190          |
|                        |                                  | 25             | 910           |
| 300                    | N <sub>2</sub> /H <sub>2</sub> O | 25             | 1030          |
|                        |                                  | 35             | 720           |
| 300                    | H35/N <sub>2</sub>               | 25             | 920           |
|                        |                                  | 40             | 600           |
| 400                    | N <sub>2</sub> /H <sub>2</sub> O | 20             | 2286          |
|                        |                                  | 40             | 760           |
| 400                    | H35/N <sub>2</sub>               | 25             | 1170          |
|                        |                                  | 50             | 440           |
| 400                    | H35/H35                          | 100            | 90            |

**Note:** This cutting speed chart includes preliminary data and is subject to change without notice. Take care in comparison. The speeds noted above are best cut quality speeds. Often, competitors show maximum cutting speeds. Although much higher speeds can be achieved, edge quality and bevel angle may be compromised. The capabilities shown in this table were obtained by using new consumables, correct gas and current settings, accurate torch height control and with the torch perpendicular to the workpiece. The operating chart does not list all processes available for the iSeries systems. Please contact ESAB® for more information.

# Vision<sup>®</sup> T5

## Hardware and Software to Drive Efficiency



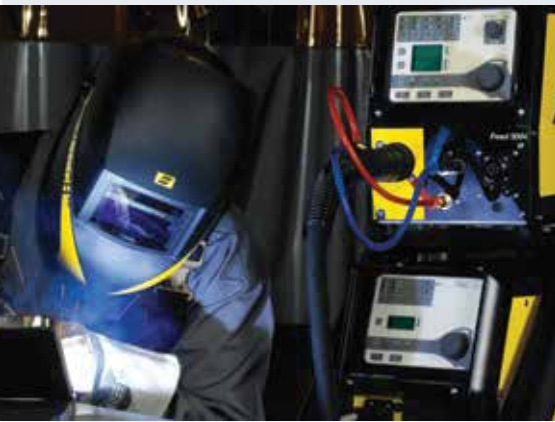
### Touch-Screen Technology

The Vision<sup>TM</sup> T5 uses a 5-wire resistive touch screen for unmatched durability, reliability and performance. Resistive screens are very durable and can be used in a variety of environments. They offer high touch resolution, are pressure sensitive and work with any stylus and are unaffected by dirt, dust, water or light.

### Features & Benefits

- True multi-tasking increases productivity.
- Built-in process database for plasma, oxy-fuel and marking processes allows quick and easy setups  
Built-in Precision Hole Technology<sup>™</sup> for effortless production of bolt-ready holes.
- Controls from 1 to 12 stations without additional panels.
- Controls numerous axes for variable beveling and rotating tools.
- Automatic machine referencing makes machine startup quick and easy.
- Program parking allows cutting of rush jobs without losing your place in a nest.
- Up to 6 working areas for use with multiple cutting tables.
- Real-time graphics with zoom lets the operator see exactly where the tool is cutting.
- Remote diagnostics speeds up troubleshooting or training.

# World leader in welding and cutting technology and systems



ESAB operates at the forefront of welding and cutting technology. Over one hundred years of continuous improvement in products and processes enables us to meet the challenges of technological advance in every sector in which ESAB operates.

## Quality and environment standards

Quality, the environment and safety are three key areas of focus. ESAB is one of few international companies to have achieved the ISO 14001 and OHSAS 18001 standards in Environmental, Health & Safety Management Systems across all our global manufacturing facilities. At ESAB, quality is an ongoing process that is at the heart of all our production processes and facilities worldwide.

Multinational manufacturing, local representation and an international network of independent distributors brings the benefits of ESAB quality and unrivalled expertise in materials and processes within reach of all our customers, wherever they are located.

## Esab Sales And Support Offices Worldwide



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### Western Region

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Andheri Kurla Road, Saki Naka,  
Andheri East, Mumbai - 400 072.  
Tel: (022) 2851 7386

### Central Region

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South Ambazari Road  
Bajaj Nagar, Nagpur - 440 010  
Tel: (0712) 222 9547 / 48

### Northern Region

239 & 240, DLF Tower,  
Shivaji Marg, Opp. Audi showroom  
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