



# SHIPBUILDING SOLUTIONS



Complete portfolio of welding and cutting products **for all types of vessels.**

# INNOVATION POWERED BY EXPERTISE.

To succeed in today's demanding shipbuilding industry, you need more than a product supplier – you need an expert partner. ESAB offers complete welding and cutting solutions, delivering everything from automation to manual equipment to filler metals with unparalleled service.

We understand the unique challenges of shipbuilding, especially when it comes to finding and training qualified personnel. That is why ESAB solutions are designed to automate both simple and complex tasks, as well as be easy to operate. We also have a team of resident experts – including application and automation engineers – ready to optimize your processes and help you get the job done.

ESAB has been proudly serving the shipbuilding industry for over 70 years, and we look forward to being a trusted partner on your next project.

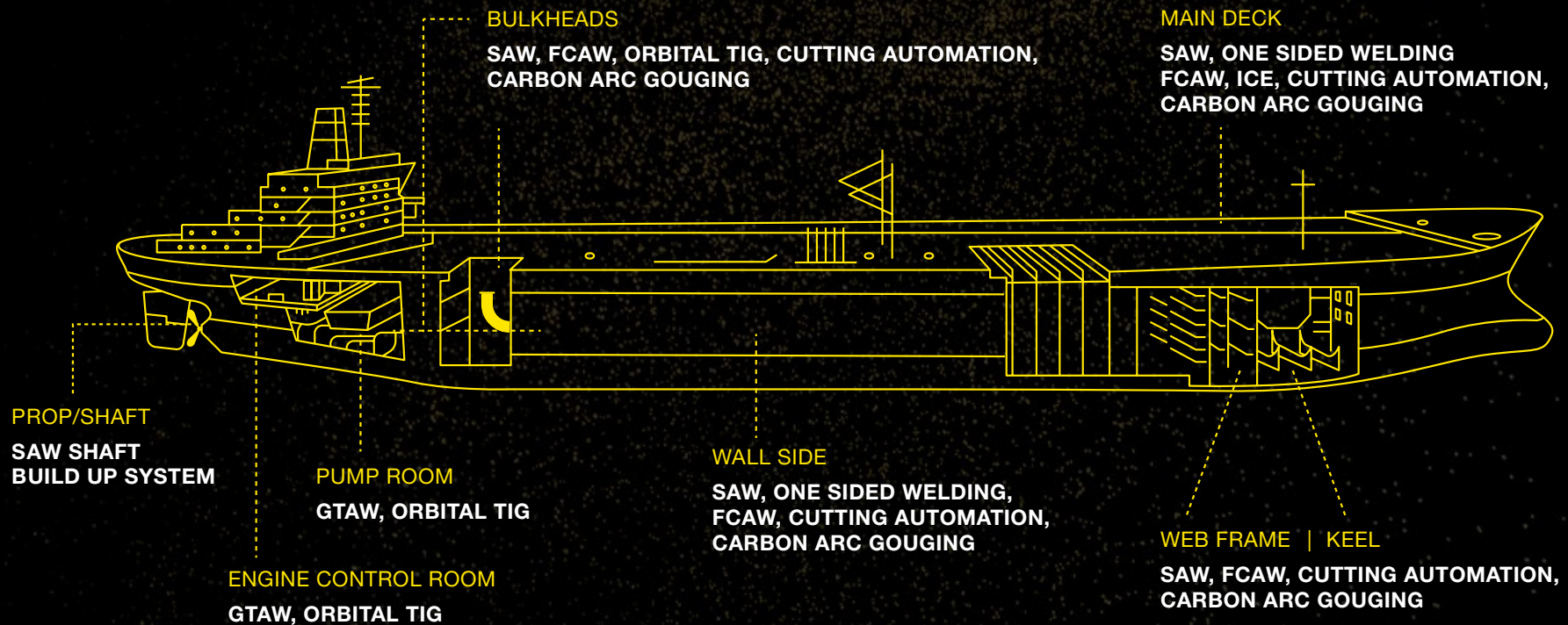
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ESAB's extensive portfolio includes more products for shipbuilding not mentioned in this handbook. Contact your local sales representative for more information.

# TYPICAL APPLICATIONS FOR SHIPBUILDING.

ESAB offers complete welding and cutting solutions for all stages of shipbuilding. The following is a representation of typical applications. Talk to your ESAB representative about products that suit your exact needs.



# WELDING SOLUTIONS.

## SAW

### FILLER METALS

[OK Autrod Solid Wire](#)  
[OK Flux](#)  
[Shield-Bright](#)  
[Inconel](#)  
[Exaton](#)

### EQUIPMENT

**Power sources:**  
[Aristo 1000 AC/DC](#)  
[LAF](#)  
[TAF](#)

### AUTOMATION/MECHANIZATION

#### SAW tractors:

[Versotrac](#)  
[A2 Mastertrac](#)  
[A6 Mastertrac](#)

[ICE \(One Sided Welding\)](#)  
[Shaft Build Up System](#)  
[CaB Systems](#)  
[A6S Arc Master](#)

### DIGITAL SOLUTIONS

[WeldCloud](#)  
[WeldQAS](#)  
[WeldScanner](#)

## FCAW

### FILLER METALS

[Dual Shield Series](#)

### EQUIPMENT

**Power sources:**  
[Warrior 400i/500i](#)  
[Warrior 750i](#)

#### Wire feeder:

[Robust Feed](#)  
[Robust Feed Pro](#)

### AUTOMATION/MECHANIZATION

#### Mechanized MIG tractors:

[Railtrac B42V](#)  
[Miggytrac B5001](#)  
[Miggytrac B501](#)

### DIGITAL SOLUTIONS

[WeldCloud](#)  
[WeldQAS](#)  
[WeldScanner](#)

## GTAW

### FILLER METALS

Recommended per specific material

## GMAW

### FILLER METALS

[OK Autrod Series](#)

### EQUIPMENT

[Rebel EMP 285ic](#)  
[Tweco Velocity2 torches](#)  
[Tweco Smoke Master torches](#)  
[Tweco Classic torches](#)  
[PSF Torch Series](#)

### AUTOMATION/MECHANIZATION

[Miggytrac B5001](#)  
[Miggytrac B501](#)

## ORBITAL TIG

### EQUIPMENT

**Power sources:**  
[M317 Orbital Welding Controller](#)  
[M415 Orbital Welding Controller](#)  
[M501 hot wire system](#)  
[M802-DV camera monitor system](#)

#### Weld Heads

[M52](#)  
[M79](#)  
[M81](#)  
[M13 Elbow welder](#)  
[M2 Dual axis slide weld head](#)

CLICK ON A PRODUCT NAME TO LEARN MORE DETAILS

# GOUGING AND CUTTING SOLUTIONS.

CARBON ARC GOUGING	MANUAL PLASMA CUTTING	CUTTING AUTOMATION
<p><b>CONSUMABLES</b></p> <p><a href="#">Arcair Gouging Electrodes</a> <a href="#">CutSkill Gouging Electrodes</a></p> <p><b>EQUIPMENT</b></p> <p><a href="#">AirPro X4000</a> <a href="#">Professional Angle-Arc K4000</a> <a href="#">Professional K-5</a></p> <p><b>AUTOMATION/MECHANIZATION</b></p> <p><a href="#">Arcair-Matic N7500</a></p>	<p><b>EQUIPMENT</b></p> <p><a href="#">Cutmaster 40</a> <a href="#">Cutmaster 60i</a> <a href="#">Cutmaster 102</a> <a href="#">Cutmaster 152</a></p> <p><a href="#">ESAB Cutmaster 60</a> <a href="#">ESAB Cutmaster 80</a> <a href="#">ESAB Cutmaster 100</a> <a href="#">ESAB Cutmaster 12.</a></p>	<p><b>EQUIPMENT</b></p> <p><a href="#">iSeries Plasma</a></p> <p><b>AUTOMATION/MECHANIZATION</b></p> <p><a href="#">Suprarex</a> <a href="#">Numorex</a> <a href="#">Telorex</a> <a href="#">DMX</a> <a href="#">Oxy-fuel beveling</a> <a href="#">Marking</a> <a href="#">Primal removal processes</a> <a href="#">Materials handling and systems automation</a></p> <p><b>DIGITAL SOLUTIONS</b></p> <p><a href="#">CutCloud</a> <a href="#">Columbus III</a></p>

CLICK ON A PRODUCT NAME TO LEARN MORE DETAILS



# AUTOMATION

# WELDING TRACTORS.

As a practical first step into the world of automation, a welding tractor ensures consistent weld quality and reduces labor costs. ESAB offers a wide selection of tractors with various wire options and productivity features.



## Versotrac

- Versatile and operator-friendly welding tractor
- Modular design – perfect for any application
- Can be configured for MIG, SAW, and SAW twin welding applications, as well as three- and four-wheel versions for optimum stability on any surface
- Add gouging capability with Arcair-Matic N7500
- Easily change between single SAW, twin SAW, and gouging heads



## A2 Multitrac With A2-A6 Process Controller PEK

- Compact versatile tractor suitable for butt and fillet welds with extremely fast changeover time
- Four-wheel drive ensures accurate travel speed
- Digital control panel allows exact preset and control of welding parameters
- Fully mobile and can easily be moved from one welding station to another
- Choose single or twin wire

## A2N Custom

- Weight of components to be less than 22.7 kg (50 lb.)
- No tools to take apart components
- Quickly change between single SAW, twin SAW, and gouging heads
- Maximize cross-seam adjustment when the torch is to the side of the tractor

# WELDING TRACTORS.



## Miggytrac B5001

- A compact and programmable 42V AC tractor that's driven either by power source or by 18V Li-ion battery
- Easily mechanizes GMAW processes and thermal cutting applications where weaving is not required
- Used for both continuous and intermittent welding
- True four-wheel drive and high-friction wheels for stable forward or backward movement



## Railtrac B42V

- Multipurpose system for welding and cutting in harsh environments
- New joint system allows for both stiff and flexible rail applications
- Straightforward, well-designed programming unit with up to 5 different programs
- Can be customized with a wide range of accessories



## Miggytrac B501

- Battery-powered tractor that can easily mechanize GMAW processes and thermal cutting applications where weaving is not required
- Quick setup and easy to operate
- Carriage follows the welding joint using guide wheels that adjust to allow the unit to drive itself against the workpiece
- Operating time up to eight hours

# COLUMN AND BOOM SYSTEMS.

ESAB offers integrated column and boom solutions, including welding process, manipulator movement, and control of third axis products. A modular design allows total customization using a large selection of standard components. Each model is available in stationary or mobile rail-traveling carriage systems.

## CaB System 300S/300M

- Standard working ranges of 3 m x 3 m (9.8 x 9.8 ft.) to 5 m x 5 m (16.4 ft x 16.4 ft.)
- Single or twin wire setup with the A2 or A6 welding head
- 30 kg (66 lb.) wire spools



## CaB System 460

- A versatile system ranging from 4 m x 4 m (13 ft. x 13 ft.) to 7 m x 7 m (23 ft. x 23 ft.)
- ICE weld heads
- Operator seat
- 100 kg (220 lb.) rear-mounted wire spools



## A6S Arc Master

- Heavy SAW production system offering flexibility, reliability, and durability
- A6 VEC motor for reliable and consistent wire feed
- Accurate, easy manual PAV or automatic GMH joint tracking
- Feedback system ensures consistent welding quality and saves time and material
- Customizable with component and module system

# ICE™

Integrated Cold Electrode, or ICE, is a revolutionary SAW technology ideal for shipbuilding. ICE exploits the excess heat generated by the welding process to melt an additional non-powered welding electrode, yielding significant productivity benefits without increasing heat input.

- Up to 50% higher deposition rate
- High Deposition Root™ enables the use of tandem welding in root passes
- Reduced energy consumption
- Flat Cap Control™ produces a flatter cap to the weld, increasing fatigue resistance and reducing the need for post-weld treatment
- Reduced flux consumption by up to 20% when welding with a 50% higher deposition rate



## CUSTOMER

Shipyards using one-sided welding (OSW) to provide vessels to major industries



## EXISTING PROCESS

Three-wire SAW



## THE CHALLENGE

- Increase weld material thicknesses from 6.35 mm (.25 in.) to 25.4 mm (1 in.) in a single pass
- Pass all mechanical testing



## SOLUTION

ESAB tandem ICE welding process to reduce heat input and create a flat panel



## THE RESULTS

- Successful weld process for each material thickness
- Ability to weld 25.4 mm (1 in.) material in a single pass

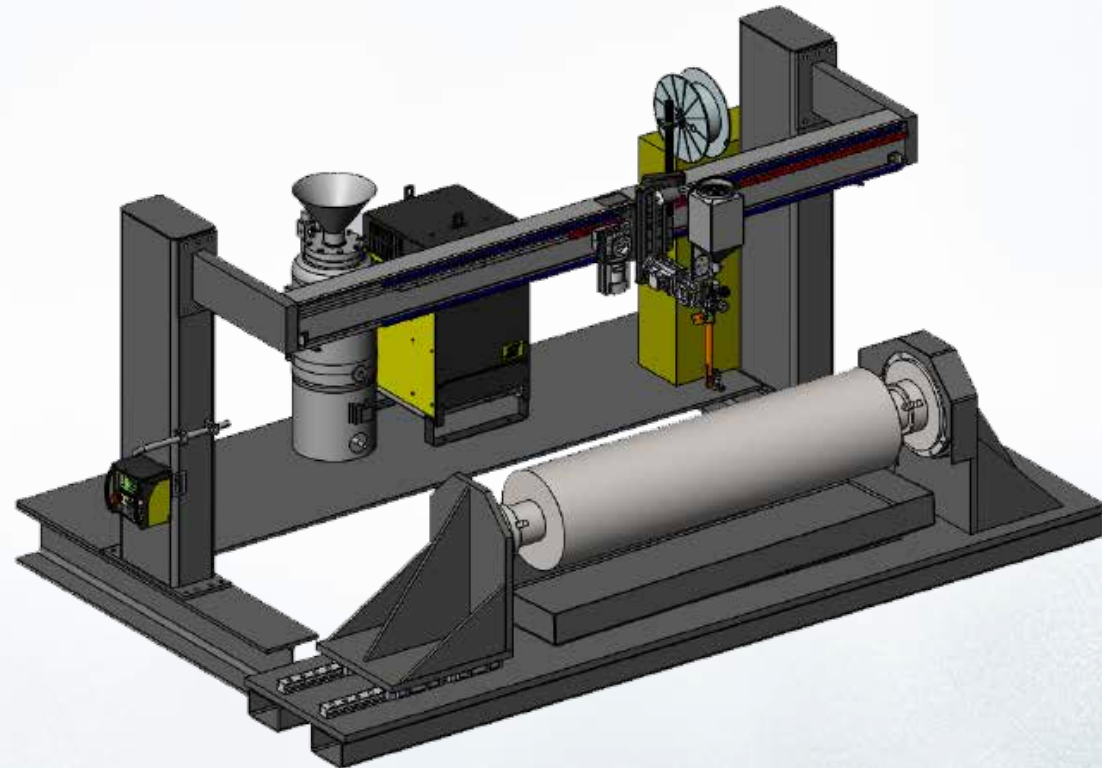
# SHAFT BUILDUP SYSTEM.

ESAB offers an integrated shaft welding machine to maximize productivity and efficiency. The system can be customized to your needs with optional equipment, including flux systems, automatic joint tracking, remove vision, and more.

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## Standard system includes:

- Simple PEK Process Controller or PLC
- Settable spiral or step-over functions
- Integrated to ESAB's drive roll for rotational speed control with PEK controller
- Encoder feedback for precise surface speed and location
- Capable of multiple welding processes
- Heavy-duty weld head with 1,500 A welding capacity



# POWER SOURCES.

In addition to offering impressive performance, many of ESAB's advanced welding solutions are fitted with industry-standard connectivity to external devices such as robotic controllers and WeldCloud™ digital technology.

## LAF 1001/ 1251/ 1601



- Three-phase, fan-cooled DC welding power sources designed for high productivity SAW or GMAW
- Used in combination with ESAB's A2-A6 equipment range and the A2-A6 PEK or A2 PEI process controllers
- Offer good arc stability at both high and low arc voltages
- Adjust and monitor the welding parameters from the front panel of the process controller

## TAF 801 and 1251 AC



- Square wave AC power sources
- Offer excellent strike characteristics and good welding properties
- Used in combination with ESAB's A2-A6 equipment range and the A2-A6 process controllers (PEK)
- Capacity for continuous welding
- Optimized open circuit voltage

## Aristo 1000 AC/DC



- Provides high productivity and high quality to meet real-world welding challenges
- Designed for use with the digital PEK controller and A2-A6 feeder units
- A global inverter – connect to a three-phase main supply from 380 to 575 V, 50 or 60 Hz
- Change from DC and AC with a push of a button

# FRICTION STIR WELDING.

Compared to conventional welding techniques, FSW requires no filler metals or gas and consumes significantly less energy. Shipbuilders can look forward to excellent weld-strength quality and boosted productivity. Plus, FSW contributes to a better, safer work environment.

- Rapid and high-quality welds of aluminum alloys, copper, and magnesium
- No joint preparation – degreasing only
- Increased tensile strength, outstanding fatigue properties, and corrosion resistance
- Environmentally friendly
- Low operational cost
- No post treatment – low distortion and shrinkage



As a key contributor in the development of the process nearly 30 years ago, ESAB offers a wide range of FSW solutions, including:

- Carriers and manipulators
- Controllers
- Process heads and torches

# CARBON ARC GOUGING.

Arcair invented arc gouging in 1949. As part of the ESAB family, the brand continues to be the industry leader in innovation, quality, and performance.



## Arcair-Matic N7500

- High-productivity gouging system
- The most advanced air carbon-arc gouging/grooving system in the world
- Improves quality and reduces man-hours and process cost
- System is easily connected to various power supplies



## AUTOMATION MADE EASY.

When paired with the Versotrac tractor, the Arcair-Matic N7500 delivers unsurpassed automated gouging. With automatic head detection, Versotrac makes it quick and simple to change processes.

# CUTTING AUTOMATION - MACHINES.



## Small Parts / Plate Cutting - Suprarem

- A high-performance gantry cutting machine that delivers exceptional strength and productivity, Suprarem is perfect for cutting a wide variety of both straight and bevel cuts
- Heavy-duty design and quality craftsmanship ensure long-lasting reliability and service life
- Equipped with a complete machine safety package that fully complies with EC Machinery Directive
- A modular design allows Suprarem to carry any combination of plasma or oxy-fuel cutting tools, plus marking and labeling tools as necessary for shipyard part cutting operations



## Large Plate Cutting & Beveling - Numorex

- Designed for heavy-duty bevel cutting even under the toughest conditions, Numorex is the best machine to handle multiple large plate cutting and beveling operations
- Delivers high accuracy over wide cutting areas, with a massive drive system that delivers high acceleration for optimum performance, even on the smallest contours
- Can be equipped with any combination of oxy-fuel or plasma beveling tools, plus marking and labeling tools



## Panel Line Processing - Telerex

- Telerex is the premier panel line cutting machine used in all leading shipyards worldwide
- Customizable with beveling, marking, and primer removal tools required for any size ship panel processing
- Customized process tool stations and control systems speed up panel processing to keep pace with the rest of the line
- Designed to provide precision support for large combination process stations
- Cutting widths of up to 26 m (85 ft.)

Enhance your productivity even further by combining automation equipment with ESAB Digital Solutions such as Columbus and CutCloud. **LEARN MORE** ⇨

# CUTTING AUTOMATION - FEATURED SYSTEMS.

ESAB's automated cutting solutions offer state-of-the-art technology to boost productivity, reduce downtime, and deliver an exceptional return on investment.

## DMX

- The DMX is the most reliable plasma beveller available. This next generation system features a simplified mechanical design with very few moving parts and requires no mechanical alignment
- Advanced Collision Sensing detects and absorbs a torch crash, then automatically resets the torch, improving operator safety – no need to touch the torch or climb on the table
- Compound Motion delivers faster cycle times, no rotation limits, and does not twist the torch leads, improving reliability and uptime
- Complete Cable Protection system guards all hoses and cables from pierce spatter for higher reliability and improved uptime
- ESAB SmartBevel™ Technology simplifies bevel programming and delivers consistently accurate results



## iSeries Plasma

- Delivers superior quality, high productivity, ultimate flexibility, and the lowest operating cost in the industry
- Fastest and easiest consumable change over with SpeedLok plasma torch
- HeavyCut™ provides the best cut quality, precision, and parts life with XTremeLife™ Wear Parts
- Highest cut speed in its class on stainless steel – up to three times faster than similar cutting systems, with Water Mist Secondary (WMS®) process using half the water of similar water-injection techniques
- Available in 100, 200, 300, or 400 A



Enhance your productivity even further by combining automation equipment with ESAB Digital Solutions such as Columbus and CutCloud. **LEARN MORE** ⇨

# CUTTING AUTOMATION - PROCESS TOOLS.

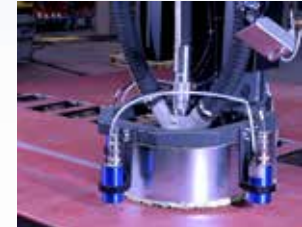
## Oxy-Fuel Beveling

- Thicker plates and panels are easily processed with a 3-torch oxy-fuel bevel station, maximizing productivity by applying the entire plate edge prep in a single pass
- ESAB's 5-axis, infinite rotating, oxy-fuel bevel head provides highest productivity and complete automation by adjusting the bevel angles and offsets on-the-fly, for fastest setup and the ability to change the bevel geometry while cutting
- Automatically handle plate thickness transitions while bevel cutting



## Primer Removal Processes

- Shipyards panel processing includes primer removal and stiffener weld marking combined with various cutting processes and accurately applied before the panel is cut
- Combine a belt-grinder or vacuum-blast system with marking tools for simultaneous primer removal and stiffener weld line marking



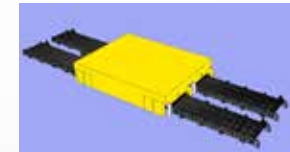
## Marking

- Automated marking systems allow text or line marking on the plate, either temporary or permanent.
- Mark weld locations, weld instructions, or part numbers for traceability and production support
- Marking is completely automated for maximum productivity and accuracy
- Utilize ink-jet, plasma marking, zinc oxide marking, pneumatic punch, or pin-stamp marking tools.



## Material Handling and Systems Automation

- Customized material handling systems, such as shuttle tables and self-cleaning down draft systems offer increased productivity and safety
- Machine enclosures maximize safety by shielding all personnel from arc glare, noise, and smoke
- System automation delivers maximum productivity with centralized planning and control of multiple cutting machines, tables, cranes, and material inventory



# PIPE WELDING. **AMI**

AN ESAB BRAND

Part of the ESAB portfolio of products, Arc Machines, Inc. (AMI) equipment offers innovation and reliability for pipe welding.

## M317 Power Supply – Orbital Welding Controller



- Provides the highest power/weight ratio in the industry with 100% duty cycle
- Modern touchscreen improves performance and efficiency
- Advanced orbital welding features include automated pipe schedule generation

## M415 Power Supply – Orbital Welding Controller



- Up to 8 servo control capacity for demanding applications
- Built-in water cooler for torch cooling (with optional second cooler available for system accessories)
- Easy operation with 30.5 cm (12 in.) touchscreen or remote control software
- Output capacity: 400 A, 100% duty cycle

## M501 Hot Wire Power Supply



- Used to preheat filler wire in GTAW applications to increase deposition rates and burn-off residue on wire
- Uses AC output to minimize arc interference with DC GTAW
- Interfaces with AMI power supplies or controlled through remote pendant
- Output capacity: 200 A, 20 V AC

## M802-DV Camera Monitor system



- Compact, portable unit to view up to two AMI digital cameras
- “Snap Shot” feature allows the operator to take live digital images of the weld
- Digital image capabilities included zoom, rotate, and flip to provide the desired image on the screen
- Cross-hair generator enables the operator to target the desired position on screen

# PIPE WELDING. **AMI**

AN ESAB BRAND

## M52 Heavy-Duty Weld Head

- For all pipe sizes 200 mm (8 in.) and up, including flat
- Offered with various AVC and cross-seam slide strokes to meet project requirements
- Heavy-duty construction and capacity allow for precise movement of AMI's most advanced torch options
- Available with one- and two-wire drive configurations with 200 mm (8 in.) diameter wire spools



## M79 Weld Heads with Digital Cameras

- Dual camera configuration, providing leading/trailing view of the welding arc
- Can cover diameter ranges from 127–168.3 mm (5–6.625 in.)
- Improved AVC and OSC slide designs to handle the increased weight capacity from the cameras and motorized wire manipulators



## M81 Weld Head with Digital Cameras

- Full function orbital pipe weld head featuring programmable arc voltage control, torch oscillation, onboard wire feeder, and travel
- Compact package with dual cameras to view leading and trailing of the welding arc
- Designed for pipe sizes from 48–142 mm (1.9–5.563 in.)
- For applications with limited axial and radial clearances



## M13 Elbow Welder

- Weld head with integrated track designed to mount to elbows
- Dual wire feed allows for welding in either direction
- Modular design allows for easy setup, take-down, and changing out of modules for minimal downtime
- 225 A capacity to handle thick wall pipes



## M2 Dual Axis Slide Weld Head

- Traditional two- or three-axis configurations with torch options
- Various slide lengths and weight capacities to meet the project demands
- Designed and typically used for non-orbital welding solutions
- Cold and hot wire configurations available
- Ideal for welding and cladding/overlay applications





# MANUAL EQUIPMENT

# POWER SOURCES.

No matter your welding process or application requirements, ESAB has the ideal power source for shipbuilding.



## Aristo 500ix

- A portable, heavy-industrial pulse power source
- Advanced pulse functionality reduces heat input and minimizes spatter
- Reliable mechanical design with thick metal side panels, double-bent sides, and large feet for ample clearance
- Up to 250 pre-programmed synergic lines (U82 Plus)
- IP23 rating for outdoor and indoor use in rough environments



## Warrior 400i/500i

- A reliable and easy-to-use multi-process welding machine designed for heavy-duty productivity
- Up to 500 A delivered with superb arc characteristics
- High duty cycle for long runs across a variety of applications – delivers 400 A or 500 A at 60% duty cycle
- IP23 rating for outdoor and indoor use in rough environments
- Wide input voltage range to support regional requirements
- Multiple operator system racks are available upon request



## Warrior 750i Arcair

- ESAB's most powerful, portable, durable, and reliable welding package for harsh environments and high-output industrial applications
- 750A output at 100% duty cycle and 820A output at 60% duty cycle
- Uses 380V to 575V 3ph primary power

# WIRE FEEDERS.

No matter your welding process or application requirements, ESAB has the ideal wire feeder for shipbuilding.



## Robust Feed

- Durable, ergonomic, and high-performing wire feeder
- Three comfortable handles, rounded edges, and high-durability wear surfaces
- Unrivaled portability with optional flat and vertical wheel kits and trolley integrations
- Delivers 550 A at 50% duty cycle, 500 A at 60%, and 400 A at 100%
- Clear and bright front panel display can rotate 90 degrees



## Robust Feed Pro

- Equipped with a new precision wire drive system with enough power to handle up to 2.0 mm (.078 in.) solid wire and 2.4 mm (.09 in.) cored wire
- Great portability with ergonomic handles, five lifting points, and safe for crane lifting handles
- Weatherproof, enclosed design that withstands rain from all directions and inside heater ensures the filler metal is kept dry
- Large, sun-friendly display and clear controls make setup efficient and easy – even when wearing gloves



## MobileFeed 201AVS/301AVS

- Portable, durable wire feeder with the most advanced features to meet today's welding requirements
- Built for the toughest welding conditions
- Quick-change, four-roll drive reduces downtime and provides consistent feeding results
- Digital meters for both voltage and WFS ensure more arc time, reduce labor, and are beneficial for critical welds using specific welding procedures
- Available as multipack configurations

# PORTABLE WELDING SYSTEMS.

Compact and innovative, ESAB's line of portable welding systems provide outstanding performance wherever you need it.



## Miniarc Rogue

- Robust and durable power source that provides smooth DC welding power
- Power Factor Control (PFC) technology creates a highly efficient and steady arc that's resistant to power fluctuations
- Can be used with electrodes up to 4 mm (.16 in.)
- Easy-to-use and durable design (IP23S)



## Rebel EMP 285ic

- True multi-process machine that combines power, mobility, and flexibility in any fabrication environment
- 4-wheel wire feed system provides high and consistent weld quality, regardless of the material being welded
- Automatically adaptive start parameters provide distinct and precise starts every time
- Maximum output of 300 A (1 phase model) and 350 A (3 phase model)



## Rebel 205 AC/DC

- Portable, durable, and fully-loaded power source
- Best-in-class performance for MIG, flux-cored, stick, DC TIG, and AC TIG welding
- LiftTIG and high frequency (HF) start, AC wave balance (60%–90%), AC frequency (25–400 Hz), pulsed (DC) (1–500 pps), and amplitude offset
- smartMIG – offering simple setup and the exclusive, built-in arc control

# TORCHES.

Tweco® brand MIG torches provide industry-leading performance, comfort, and safety.

## TWECO Velocity2

- The longest-lasting MIG consumable on the market
- Groundbreaking tips and nozzles give you a superior welding performance with a smoother arc and a better weld bead
- Simple design makes changeouts quick and easy – no tools required
- Large copper-to-copper surface contact for superior thermal and electrical efficiency
- Designed for air-cooled torches only



## TWECO Smoke Master 250/450

- Family of air-cooled fume extraction MIG guns
- Efficiently removes up to 90% of smoke from the welding zone
- Features Tweco Eliminator style consumable parts
- Full-length leather outer jacket for increased flexibility and enhanced cable life



## TWECO Classic

- World's most iconic family of air-cooled MIG guns
- Classic 3 model offers 300 A, 60% duty cycle for medium/heavy-duty fabrication
- Classic 4 model offers 400 A, 60% duty cycle for heavy-duty fabrication



# PSF TORCH SERIES.

Our premium line of industrial MIG torches just got better. The latest PSF torches come with superior performance and improved handling to help you get the job done like never before. The redesigned PSF torches are still fully-compatible with the well-known, strong and durable front-end wear parts you trust from the previous PSF generation.

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## Maximum Performance has Arrived.

We gave all of our PSF welding torches better wire feeding capabilities for a more stable arc and improved weld quality. The brand new PSF 520W water torch is our most powerful yet, capable of taking on the most demanding jobs. The enhanced performance and the brand-new dual circuit water cooling system ensures your torch stays cool even when working in the toughest welding applications. Less heat means better wire feedability and fewer production stops to change wear parts.

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## Engineered for Easier Handling.

We worked hard to optimise the balance of our PSF torches to help avoid fatigue on the job. All PSF torches are ergonomically designed to ensure a comfortable and firm hold, no matter the conditions. The PSF 260 features a small, compact handle and rotatable neck so you can weld in more places without changing positions. The larger PSFs, including the water cooled models, have a larger handle with rubberized soft-grip areas and knuckle joints.



# HANDHELD PLASMA CUTTING.

ESAB's Thermal Dynamics® brand sets the standard for plasma cutting performance. Choose the lightweight and productive manual plasma cutter that best suits your needs.



## Cutmaster® 40

- Best-in-class portability – weighs only 10 kg (22 lb.) with ergonomic design and 3 lift points
- Flexibility for use in unusual cutting positions while maintaining cut quality
- Hybrid cooling technology with 40% duty cycle at 40 A
- Impressive performance: up to 12 mm (.04 in.) pierce, 12 mm cut (.04 in.), and 25 mm (.08 in.) sever
- Can be used on 110V or 220V



## Cutmaster 60i

- Offers the highest power-to-weight ratio in its class
- Built for portability and durability with the integral multi-handle design, available in either a 1-phase or 3-phase unit
- 50% duty cycle at 60A with automatic multi-voltage detection from 208-480V
- Up to 20 mm (.75 in.) recommended cut capacity with maximum sever of 38 mm (1.5 in.) and 20 mm (.75 in.) pierce capability



## Cutmaster 102

- Weighs 28.1 kg (62 lb.) and provides 100 A of cutting power
- This unit combined with the 1Torch® has a maximum cut capacity of 45 mm (1.75 in.)
- Front Panel LEDs indicate status conditions for maximum efficiency
- Versatile 1Torch with ATC disconnect makes it easy to add lead extensions or convert to a machine torch
- True Guard roll bar provides easy transportation and protection for unmatched durability



## Cutmaster 152

- Weighs only 28 kg (62 lb.) and offers multi-voltage 1- or 3-phase input capability
- Provides 120 A of cutting power for a 30 mm (1.25 in.) recommended cut and 50 mm (2 in.) maximum cut
- Storage compartment for convenient access to spare parts and consumables
- Versatile 1Torch with ATC disconnect makes it easy to add lead extensions or convert to a machine torch
- Auto Pilot Restart feature instantly reignites the pilot arc while cutting expanded metals

\*Branding of manual plasma lineup may vary by region. Ask your ESAB representative for details.

# ESAB CUTMASTER PLASMA CUTTING.

The portable plasma cutters with more power than you thought possible.

Choose the lightweight and productive manual plasma cutter that best suits your needs.



## ESAB Cutmaster 60

- True Cut™ – 20mm (3/4")
- Quick Disconnect Torch for easy maintenance or machine torch conversion
- Auto-Restrike on mesh or expanded metal for maximum productivity
- True-Guard™ roll bar for ultimate protection
- TD Surelok® technology for better quality cuts and longer tip life



## ESAB Cutmaster 80

- True Cut™ – 25mm (1")
- Quick Disconnect Torch for easy maintenance or machine torch conversion
- Auto-Restrike on mesh or expanded metal for maximum productivity
- True-Guard™ roll bar for ultimate protection
- TD Surelok® technology for better quality cuts and longer tip life



## ESAB Cutmaster 100

- True Cut™ – 35mm (1-3/8")
- Quick Disconnect Torch for easy maintenance or machine torch conversion
- Auto-Restrike on mesh or expanded metal for maximum productivity
- True-Guard™ roll bar for ultimate protection
- TD Surelok® technology for better quality cuts and longer tip life



## ESAB Cutmaster 120

- True Cut™ – 40mm (1-1/2")
- Quick Disconnect Torch for easy maintenance or machine torch conversion
- Auto-Restrike on mesh or expanded metal for maximum productivity
- True-Guard™ roll bar for ultimate protection
- TD Surelok® technology for better quality cuts and longer tip life

# MANUAL CARBON ARC GOUGING.

Arcair® invented arc gouging in 1949. As part of the ESAB family, the brand continues to be the industry leader in innovation, quality, and performance.



## AirPro™ X4000

- The next generation air carbon-arc metal removal torch and cable assembly
- Unique, pneumatically operated upper arm and air valve design eliminate air leakage



## Arcair Professional Angle-Arc® K4000

- The industry standard and most preferred manual gouging torch and cable in the world

## CutSkill® Gouging Electrodes



- Cost-efficient copper-coated electrode that delivers professional-level quality
- Operates at lower amp and has lower metal removal rate



## Arcair Professional K-5

- Straight handle manual gouging torch designed for heavy-duty metal removal applications due to its carbon electrode capacity

## Arcair Gouging Electrodes



- High-grade, all-purpose copperclad pointed gouging electrode
- Controlled copper coating improves electrical conductivity and helps maintain electrode diameter at the point of the arc



# FILLER METALS

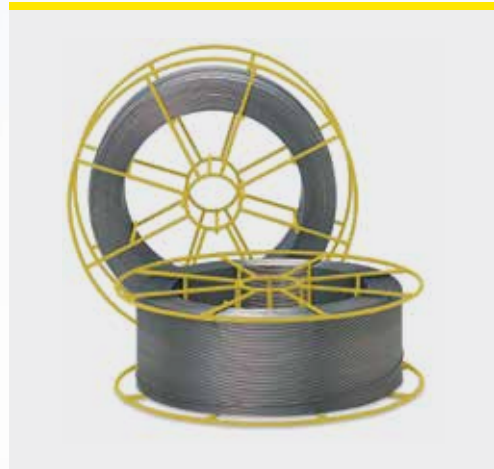
# FILLER METALS.

ESAB offers an unbeatable selection of filler metals from the top brand names in consumables, including AlcoTec®, OK Autrod, OK Series, and more. Extensively researched and tested, our filler metals have achieved the highest agency approvals in shipbuilding.



## OK Autrod (SAW & GMAW)

OK Autrod Stainless Steel Wires are produced using a superior manufacturing process – a result of detailed design, analysis and testing. OK Autrod gives welders lower spatter, faster arc stabilization and better wire feedability. This results in less downtime on automatic welding equipment and less clean up and preparation time for overall reduction in operating costs and increased productivity.



## Shield-Bright

Shield-Bright stainless steel cored wires are especially designed to produce superior operability for all-positional welding applications. Regardless of position, the weld deposit will be flat, provided by the faster freezing slag. In having a rutile based slag system Shield-Bright wires always operate in the spray transfer mode and can be used at high currents and resulting in high deposition rates with extremely low spatter levels.



## OK Flux

OK flux for submerged arc welding consist of neutral fluxes for multi-layer welding of unlimited plate thickness, and active fluxes with more Si and Mn for porosity resistance, improved bead appearance and toughness in high dilution applications for single pass or limited multi-layer welding. Available from 25 kg vacuum-sealed bags to 1000 kg BigBag to suit all applications.

# FILLER METALS.



## Exaton™

Exaton specialty alloy filler metals are your best defense against corrosion. Exaton specializes in crafting the highest-quality filler metals with unwavering consistency for welding stainless steel and nickel alloys in the most demanding environments.



## Dual Shield®

Dual Shield offers the broadest variety of mild steel and low alloy flux cored wires available globally. Dual Shield wires offer deep penetration with high deposition rates and efficiencies. This dramatically reduces weld time, thereby increasing productivity. These flux cored wires are also easy to use and produce a weld bead with almost no ripple and very little spatter.



## Alcotec NT wire or OK Autrod

AlcoTec NT aluminum welding wire is manufactured using a patented technology to remove microfines and surface abrasions generated during wire drawings to significantly minimize wire shavings and greatly improve feedability and arc stability. This means longer life for torch liners and less wear and tear on consumables.



## OK Series

OK Electrodes are ESAB Premium electrodes that produces a high-quality weld and high deposition efficiency. These low-hydrogen, moisture-resistant electrodes are known for their superior welding performance, tough mechanical properties, crack resistance, high operator appeal and consistent quality.



# **ALUMINUM SOLUTIONS**

# ALUMINUM SOLUTIONS.

When it comes to the specific challenges of aluminum welding, ESAB has you covered. Our family of products and brands maximize the performance and flexibility for your shipbuilding needs.



**POWER SUPPLY  
AND FEEDERS**



**ALCOTEC OR  
OK AUTROD**



**TWECO PPG TORCHES  
(AIR-COOLED AND  
WATER-COOLED)**

Contact your local ESAB sales representative for an aluminum welding solution tailored to your specific application.



# **APPLICATION ENGINEERING SUPPORT**

# VALUE ADDED ENGINEERING.

When you partner with ESAB, you get more than industry-leading products. You also gain access to our welding and cutting experts, along with our Value Added Engineering (VAE) process. Guided by data collected at your facility, the VAE team can make recommendations to improve quality, enhance productivity, and boost profits.

## The VAE process.

### 1. Productivity assessment:

A comprehensive analysis of your welding production – from material flow in and out, cutting and welding procedures, wastes, and current quality output.

### 2. Profitability analysis:

Based on the assessment, you receive a technical evaluation that includes opportunities for improvement – both small- and large-scale changes.

### 3. Solutions implementation:

ESAB works with you to successfully implement the changes, whether it's training employees or adding new processes or custom solutions.



### Weld cost calculator

Use ESAB's easy-to-use Quick Weld Productivity Analyzer to calculate the total welding cost of your production.

[GO TO CALCULATOR](#) ⇨



# **DIGITAL SOLUTIONS**

# ESAB DIGITAL SOLUTIONS.

ESAB Digital Solutions is a complete suite of digital services that brings fabrication into the 21st century – and beyond. Put the power of data to work to maximize productivity, ensure consistent quality, track consumption, avoid downtime, and more.



## WeldCloud™

WeldCloud™ is a cutting-edge software platform that allows you to manage your welding operations like never before. Secure and scalable, WeldCloud™ constantly tracks weld data. Real-time information is conveniently accessible via laptop, desktop, or mobile device.

### MULTIPLE FUNCTIONALITIES TO WORK SMARTER:

- **WeldCloud Productivity**  
Discover actionable insights for continuous productivity and operational improvements
- **WeldCloud Notes**  
Central management of welding procedures, welder qualifications, and project planning
- **WeldCloud Mobile App**  
Scan barcodes of filler metals, gases, and operator badges to add data and detail to each welding session



#### PRODUCTIVITY

Analyze arc-time efficiency by department, shift, welding asset, and time



#### REPORTS

Productivity reports are automatically emailed to provide an instant view of relevant production data



#### CONSUMPTION

View filler metal consumption by type and weight to clarify cost per weld



#### EVENT MANAGEMENT

Receive SMS alerts on critical events to prevent unplanned downtime



#### QUALITY

Track welding parameters against your WPS, assuring quality welds in real time



#### WELD SESSIONS

In-depth record of individual weld seams for complete weld productivity transparency



# ESAB DIGITAL SOLUTIONS.



A premier cutting software platform, CutCloud enables you to record, measure, and control your cutting operations with real-time data collection and reporting.

- **Advanced production and quality reporting**  
Combines Columbus™ CAD/CAM nesting data and DataLeap™ production data
- **Easy to install, use, and maintain**  
Webserver application can be accessed on desktop and mobile devices, and reduces the total investment of IT hardware
- **Fast, reliable data recording and data transfer**  
Make optimal management decisions based on process control and data acquisition from your cutting machines
- **Customized software to automate your workflow**  
Integrates with your existing systems, including ERP, MDM, MRP, QA, and more



## Columbus III

Our latest version of Columbus software makes it easy for operators to program various cutting processes and marking and labeling processes.

- Software guides simple and highly complex cuts, labeling, and nesting jobs quickly and easily
- Network compatible, developed using the leading Microsoft .NET standard
- New layouts can be created with just a few clicks – reducing training time
- Supports Precision Hole Technology with a built-in database



# ESAB DIGITAL SOLUTIONS.



## WeldQAS

WeldQAS is an automatic welding monitoring system that acquires real-time data from welding production, reveals inefficiencies, and enables action to optimize the production process.

- Calculate welding parameters, including heat input and deposition rate, for all welding technologies
- Patented algorithm detects pores, burn-through, wire defects (MSG), and other welding irregularities
- Identify power source errors
- Minimize non-destructive-testing (NDT) and audit efforts
- Improve productivity and traceability
- Data automatically stored on a central server



## WeldScanner

Easy to operate and ruggedly built, the WeldScanner is a multi-purpose measuring device that can be used for documentation, calibration, and validation.

- Recording of welding seams for up to 64 hours of process
- Easily find the root cause of errors with error analysis
- Measure heat input, cooling time, and other welding parameters
- Simplify data access with convenient exporting
- Interactive touch screen with curve progression that shows all welding parameters
- Connect to any welding power source



**SAFETY**

# PPE & SAFETY PRODUCTS.

From large-scale projects across various industries to welding hobbyists, ESAB is supremely committed to safety. We want all of our customers to be as protected as they are productive. To that end, we've developed a full range of PPE and other tools to help keep you safe while on the job. ESAB also reminds you to comply with your local regulations and industry safety standards.

## Featured shipbuilding safety products.

- Sentinel™ A50 Helmet
- Savage A40 Helmet
- Aristo safety glasses
- Curved MIG/MAG Gloves

### Full product availability

To learn about more safety solutions and what products are available in your region, visit [esab.com](http://esab.com) or contact your ESAB representative.



# THE GLOBAL LEADER OF WELDING AND CUTTING SOLUTIONS.

At ESAB, our roots as pioneers in welding date back to 1904. Today, we remain at the forefront of welding and cutting technology. Through our commitment to quality, the environment, and safety, we strive to improve our products and processes to meet the ever-changing demands of our customers.



## Our complete solutions include:

- Consistent, globally available welding consumables
- High-productivity welding equipment
- Cutting-edge automation and robotics integration
- Cutting machines and software
- Full range of personal protection equipment

## Manufacturing excellence.

ESAB is one of a 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.



## Product documents.

All products for Shipbuilding are supported by core documentation such as product data sheets (PDS) and safety data sheets (SDS).

Available at [esab.com/shipbuilding](https://esab.com/shipbuilding)

# UNRIVALED SERVICE AND SUPPORT.

Like all ESAB products, our shipbuilding solutions are 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
- 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

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.

**For more information, visit [esab.com](http://esab.com).**



ESAB [esab.com](http://esab.com)

