



FULL FEATURED  
**AC/DC TIG  
SYSTEMS.**



ESAB® ET 220i AC/DC & ET 301i AC/DC

A close-up photograph of a welder wearing a yellow ESAB Warrior Tech helmet and yellow protective gloves. The welder is focused on a task, with a bright light reflecting off the metal workpiece. The helmet features the ESAB logo and the text 'WARRIOR Tech'. The background is a blurred industrial setting with horizontal slats.

# BUILT TOUGH FOR **EXTREME** USAGE. **LIGHT** & PORTABLE.

The ESAB® ET 220i AC/DC and ET 301i AC/DC are high output, full digital control, AC/DC, Stick/Lift TIG/HF TIG inverter power supplies with expanded input voltage capabilities for maximum flexibility. Standard features include: High frequency start, Lift TIG start, automatic downslope, pulse, repeat (latch) function, memory function and automatic gas management. The ET AC/DC power supplies provide the ultimate in precision TIG and Stick welding for ferrous and non-ferrous metals.

# ADVANCED SYSTEM.

- **Inverter Technology**

Embedded microprocessor with digital controls delivers ultimate performance and perfect welding characteristics.

- **Tiptronic Memory Function**

Store up to 100 exact optimized welding parameters then digitally recall them with perfect repeatability.

- **Automatic Input Voltage Selection**

Operates on 208-230/460V Single or Three Phase.

- **Robust Case**

Crash proof with protection at 9 individual crash points.

- **Highly Portable**

Compact size and light weight ensure a small workspace footprint and job site portability.



# CONTROLS.

## Parameter Scroll Buttons

Depress button to scroll through available welding parameters

## Tiptronic Save/Load Buttons

Saves up to 100 welding programs

## Welding Type Function

Depress to change type:  
HF TIG, Lift TIG, Output + or -, AC or DC output

## Multi-Function Control

Adjusts available process parameters

## Gas Purge Button

Ensures gas lines are purged at start of weld

## Simple to use Operator Interface

Scrolls through selections for parameter values

## Welding Mode Function

Selects welding process mode. GTAW 2T, GTAW 4T, GTAW Spot, GTAW Pulse, Tiptronic, SMAW



# FEATURES.



## Digital Meters

Displays both the pre-set current and actual output current of the power source. Also displays Welding Parameter Codes.

## Recessed Front Panel

Protects multi-function knob and controls

## IP23S Approved Design

Suitable for outdoor use

## Output Terminals

50 mm Dinse welding output terminals with polarity reversal capability

## 8 Pin Remote Receptacle

Easy to connect to remote controls

## Extreme Durability

Stainless Steel Handle, Heavy-Duty Base Plate and Strong Feet built tough

# APPLICATIONS.

The ESAB ET AC/DC range of inverter welding power supplies deliver outstanding arc characteristics thanks to advanced embedded microprocessor technology and digital control.

Market-leading features combined with a compact, portable inverter design and a full range of packaged accessories address the needs of the growing aluminum and stainless steel fabrication and repair and maintenance sectors. ESAB ET power supplies meet the rigorous demands of a broad scope of welding applications:

- General Aluminum and Stainless Steel Fabrication
- Stainless Steel Tank and Pipe Fabrication
- Boat Building / Shipyards
- Automotive Components and Repairs
- Technical Schools
- Custom Job Shops
- Aerospace
- Applications Requiring Stringent Welding Procedure Adherence



# MACHINE FEATURES.

- **AC and DC output for aluminum and non-ferrous alloys, stainless, mild steel and chrome molys.**
- **Process selection between TIG or Stick.**
- **AC Frequency:** Adjustable frequency of the AC square wave when welding aluminum for optimized set up.
- **Wave Balance:** Adjustable for optimized penetration or cleaning action when welding aluminum.
- **TIG Pulsar:** Changes the weld current from high to low at a specified frequency, reduces heat input on thin material.
- **Rapid Pulse:** Focus the arc, increase amperage, run faster and shrink the heat-affected zone – all while maintaining excellent penetration.
- **Preflow & Postflow:** Enables independent control over shielding gas before and after the weld.
- **TIG Sloper / Initial Current / Upslope / Downslope & Crater modes:** Eliminates blow holes on starting and cracking at the end of the weld.
- **HF Arc Start:** Provides non-contact arc starting that eliminates tungsten or material contamination.
- **Trigger Hold:** 4T (Latch) eliminates operator fatigue.
- **Lift TIG Start:** Provides optimized TIG arc starting without the use of high frequency.
- **Digital Meters:** Voltage and Amperage; Preview and hold capability for easy set up.
- **Remote Receptacle Fitted:** Allows remote devices to be connected for controlling amperage and output contactor.
- **Tungsten Size:** Select tungsten size for optimum starting performance.
- **Spot Mode:** Enables timer functions for consistent spot welds.
- **Thermal Overload Protection:** Alerts the operator if the duty cycle is exceeded or airflow is blocked. Shuts down the power source to protect the internal electrical components from overheating.
- **Excellent MMA (Stick) Welding:** Hot start, anti-stick and arc force regulation allow the operator to achieve excellent MMA welding results.
- **Intelligent Heat Sensing Fan:** Operates as needed to cool components and reduce airborne contaminants pulled through the power source.



# SYSTEM PACKAGES.

## ET 220i AC/DC HF TIG Inverter Power Source

Part No. W1009300

- ET 220i AC/DC HF TIG Inverter Power Source includes two 50 mm Dinse Adapters and DVD with Quick Start Guide & Operating Manual



## ET 220i AC/DC TIG Torch Package

Part No. W1009301

- Includes ET 220i AC/DC HF TIG Inverter (W1009300)

### PLUS

- 200 Amp 15 ft (4.6 m) TIG Torch
- Electrode Holder & Lead
- Ground Clamp & Lead
- Victor Flowgauge/Regulator
- Gas Hose
- 15 ft (4.6 m) Foot Control



## ET 220i AC/DC TIG Torch Trolley Package

Part No. W1009302

- Includes ET 220i AC/DC HF TIG Inverter (W1009300)

### PLUS

- Running Gear/Cylinder Rack Trolley
- 200 Amp 15 ft (4.6 m) TIG Torch
- Electrode Holder & Lead
- Ground Clamp & Lead
- Victor Flowgauge/Regulator
- Gas Hose
- 15 ft (4.6 m) Foot Control







## ET 301i AC/DC HF TIG Inverter Power Source

Part No. W1009400

- ET 301i AC/DC HF TIG Inverter Power Source includes two 50 mm Dinse Adapters and DVD with Quick Start Guide & Operating Manual

## ET 301i AC/DC Water Cooled TIG System

Part No. W1009401

- Includes ET 301i AC/DC HF TIG Inverter (W1009400)

### PLUS

- Coolant Recirculator and Interface Cable
- Running Gear/Cylinder Rack Trolley
- 300 Amp 25 ft (7.6 m) Water Cooled TIG Torch
- Electrode Holder & Lead
- Ground Clamp & Lead
- Victor Flowgauge/Regulator
- Gas Hose
- 15 ft (4.6 m) Foot Control



# SPECIFICATIONS. TECHNICAL DATA.



Description	ET 220i AC/DC		ET 301i AC/DC	
<b>Welder Type</b>	Inverter Power Source		Inverter Power Source	
<b>Cooling</b>	Fan Cooled		Fan Cooled	
<b>Type: Constant Current</b>	AC/DC TIG & Stick Welder		AC/DC TIG & Stick Welder	
<b>Maximum Rated Output</b>	TIG - 220 Amp @ 40%	Stick - 170 Amp @ 40%	TIG - 300 Amp @ 30%	Stick - 200 Amp @ 30%
<b>Nominal Supply Frequency</b>	50/60 Hz		50/60 Hz	
<b>Number of Phases</b>	Single/Three Phase (1/3 Phase)		Single/Three Phase (1/3 Phase)	
<b>Nominal Supply Voltage</b>	208-230/460 VAC (1 Phase) +/-15%	208-230/460 VAC (3 Phase) +/-15%	208-230/460 VAC (1 Phase) +/-15%	208-230/460 VAC (3 Phase) +/-15%
<b>Amperage Range (Stick mode)</b>	10 – 150 Amp (1 Phase)	10 – 170 Amp (3 Phase)	10 – 150 Amp (1 Phase)	10 – 200 Amp (3 Phase)
<b>Amperage Range (TIG mode)</b>	5 – 200 Amp (1 Phase)	5 – 220 Amp (3 Phase)	5 – 200 Amp (1 Phase)	5 – 300 Amp (3 Phase)
<b>TIG (GTAW) Welding Output @ 104°F (40°C), 10 Min.</b>	200A / 18.8V @ 45% Duty Cycle (1 Phase) 180A / 17.2V @ 60% Duty Cycle (1 Phase)	220A / 18.8V @ 40% Duty Cycle (3 Phase) 160A / 16.4V @ 100% Duty Cycle (3 Phase)	200A / 18V @ 60% Duty Cycle (1 Phase) 170A / 16.8V @ 100% Duty Cycle (1 Phase)	300A / 22V @ 30% Duty Cycle (3 Phase) 215A / 18.6V @ 60% Duty Cycle (3 Phase) 170A / 16.8V @ 100% Duty Cycle (3 Phase)
<b>Stick (SMAW) Welding Output @ 104°F (40°C), 10 Min.</b>	150A / 26V @ 40% Duty Cycle (1 Phase) 140A / 25.6V @ 60% Duty Cycle (1 Phase)	170A / 26.8V @ 40% Duty Cycle (3 Phase) 140A / 25.6V @ 60% Duty Cycle (3 Phase)	150A / 26V @ 100% Duty Cycle (1 Phase)	200A / 28V @ 60% Duty Cycle (3 Phase) 165A / 26.6V @ 100% Duty Cycle (3 Phase)
<b>Effective Input Current (I<sub>1eff</sub>)</b>	37.3A (208V, 1 Phase) 33.7A (230V, 1 Phase) 18.1A (460V, 1 Phase)	16.8A (208V, 3 Phase) 15.2A (230V, 3 Phase) 8.2A (460V, 3 Phase)	37.3A (208V, 1 Phase) 33.7A (230V, 1 Phase) 18.1A (460V, 1 Phase)	23.8A (208V, 3 Phase) 21.6A (230V, 3 Phase) 11.6A (460V, 3 Phase)
<b>Maximum Input Current (I<sub>1max</sub>)</b>	37.3A (208V, 1 Phase) 33.7A (230V, 1 Phase) 18.1A (460V, 1 Phase)	24.5A (208V, 3 Phase) 22.1A (230V, 3 Phase) 11.9A (460V, 3 Phase)	37.3A (208V, 1 Phase) 33.7A (230V, 1 Phase) 18.1A (460V, 1 Phase)	35.4A (208V, 3 Phase) 32.0A (230V, 3 Phase) 17.2A (460V, 3 Phase)
<b>Warranty Period</b>	3 Years*		3 Years*	
<b>Standards/Approvals</b>	CSA E60974-1, ANSI/IEC 60974-1, UL 60974-1		CSA E60974-1, ANSI/IEC 60974-1, UL 60974-1	
<b>Protection Class</b>	IP23S		IP23S	
<b>Power Source Dimensions: (H x W x D)</b>	13" x 7.25" x 19" (326 mm x 185 mm x 483 mm)		13" x 7.25" x 19" (326 mm x 185 mm x 483 mm)	
<b>Power Source Weight (Mass)</b>	29.5 lb (13.4 kg) without power cable		35.9 lb (16.3 kg) without power cable	
<b>Open Circuit Voltage</b>	<113 Volts (VRD active)		<113 Volts (VRD active)	
<b>Generator Requirement</b>	13 kW (16.0 kVA @ 0.8 PF)		13 kW (16.0 kVA @ 0.8 PF)	

# OPTIONS & ACCESSORIES

## TIG Torch

**PART NO. W4013600**

TIG Torch 26 w/Hand Remotes, 12.5 ft (3.8 m), 50 mm & Accessory Kit



## Water Cooled TIG Torch

**PART NO. W4013604**

TIG Torch 25 ft (7.6 m), Water Cooled with Accessories



## Tweco Electrode Holder

**PART NO. 9110-1177**

Tweco 200 Amp Electrode Holder & Lead Accessory, 13 ft (4 m) Length, 50 mm Dinse



## Tweco Ground Clamp

**PART NO. 9255-1140**

Tweco 200 Amp Ground Clamp & Lead Accessory, 10 ft (3 m) Length, 50 mm Dinse



## Victor Flowgauge Regulator

**PART NO. 0781-5120**

Victor ESS3-RG-580 EDGE Argon Flowgauge Regulator



## Gas Hose

**PART NO. W4013900**

Gas Hose, 12.5 ft (3.8 m) Length, Male 5/8"-18unf gas fittings



## Foot Control

**PART NO. 600285**

Foot Control Contactor On/Off & Current Control w/8-pin Male Plug & 15 ft (4.6 m) Cable



## Foot Control

**PART NO. 10-4016**

Foot Control Contactor On/Off & Current Control w/8-pin Male Plug & 25 ft (7.6 m) Cable



## Hand Pendant

**PART NO. 10-4014**

HP-100 Hand Held Remote Control Penant



## Water Recirculator

**PART NO. W4001303**

110VAC Water Recirculator



## Interface Cable

**PART NO. W4001350**

Water Recirculator to power supply interface cable

## Industrial Trolley Cart

**PART NO. W4010003**

Running Gear / Cylinder Rack Trolley Cart holds ESAB power source, water recirculator and accessories



## Dinse Connector

**PART NO. 9425-1431**

Dinse Male Connector 50 mm



## Torch Mounted Contactors

**PART NO. 10-4006**

Torch Mounted Contactor On/Off w/8-pin Male Plug & 15 ft (4.6 m) Cable



**PART NO. 10-4007**

Torch Mounted Contactor On/Off w/8-pin Male Plug & 25 ft (7.6 m) Cable

**PART NO. 10-4008**

Torch Mounted Contactor On/Off & Current Control w/8-pin Male Plug & 15 ft (4.6 m) Cable, Fits CK9 Style Handle



**PART NO. 10-4009**

Torch Mounted Contactor On/Off & Current Control w/8-pin Male Plug & 15 ft (4.6 m) Cable, Fits CK17 Style Handle

**PART NO. 10-4010**

Torch Mounted Contactor On/Off & Current Control w/8-pin Male Plug & 15 ft (4.6 m) Cable, Fits CK26 Style Handle

**PART NO. 10-4011**

Torch Mounted Contactor On/Off & Current Control w/8-pin Male Plug & 25 ft (7.6 m) Cable, Fits CK9 Style Handle

**PART NO. 10-4012**

Torch Mounted Contactor On/Off & Current Control w/8-pin Male Plug & 25 ft (7.6 m) Cable, Fits CK17 Style Handle

**PART NO. 10-4013**

Torch Mounted Contactor On/Off & Current Control w/8-pin Male Plug & 25 ft (7.6 m) Cable, Fits CK26 Style Handle

**PART NO. 600296**

Torch Mounted Rotary Contactor On/Off & Amperage Control 5k w/8-Pin Plug & 15 ft (4.6 m) Cable for TD8



**PART NO. 600297**

Torch Mounted Rotary Contactor On/Off & Amperage Control 5k w/8-Pin Plug & 25 ft (7.6 m) Cable for TD8

\* Subject to change without notice

# UNRIVALED SERVICE AND SUPPORT.

ET AC/DC power supplies, like all ESAB products, 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 machines. And our products are backed with the most comprehensive warranty in the business.

With ESAB, you can be sure you purchased a machine that will meet your needs today and in the future. Product and process training is also available. Ask your ESAB sales representative or distributor for a complete ESAB solution.

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

## 3-Year Warranty.

ESAB's industry-leading service and support means that if you do need help, you'll be protected by the most comprehensive warranty in the business.



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