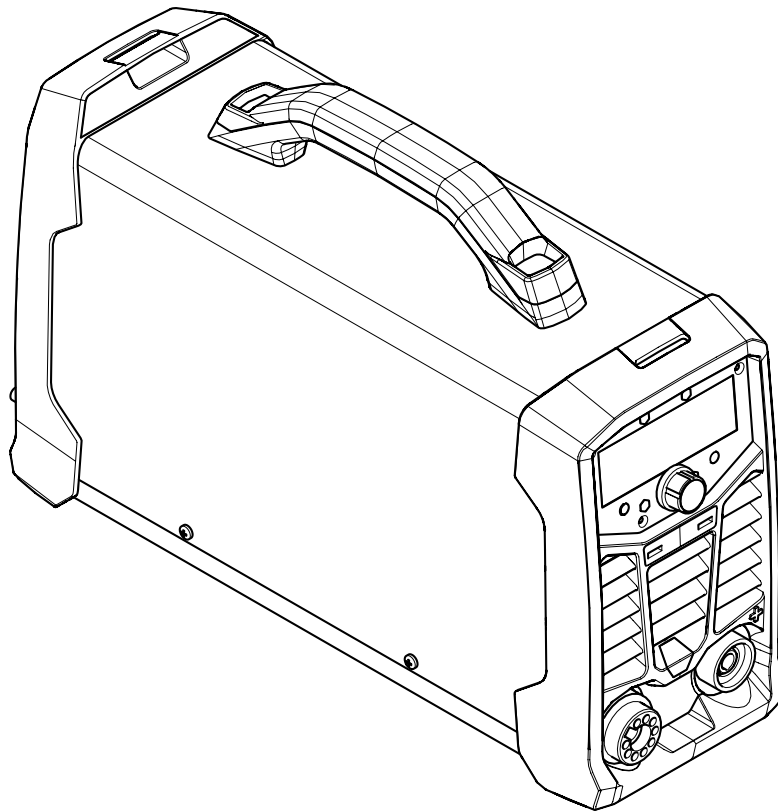




Rogue EHP 45



Instruction manual

0448 801 001 GB 20260813

Valid for: HA616-XXXX-XXXX



EU DECLARATION OF CONFORMITY

According to:

The Low Voltage Directive 2014/35/EU;
The RoHS Directive 2011/65/EU;

The EMC Directive 2014/30/EU;
The Ecodesign Directive 2009/125/EC

Type of equipment

Arc welding power source

Type designation

Rogue EHP 45

from serial number HA616 YY XX XXXX

X and Y represents digits, 0 to 9 in the serial number, where YY indicates year of production.

Brand name or trademark

ESAB

Manufacturer or his authorised representative established within the EEA

ESAB AB

Lindholmsallén 9, Box 8004, SE-402 77 Göteborg, Sweden

Phone: +46 31 50 90 00, www.esab.com

The following EN standards and regulations in force within the EEA has been used in the design:

EN IEC 60974-1:2022+A11:2022+A12:2023+A13:2025	Arc Welding Equipment - Part 1: Welding power sources
EU reg. no. 2019/1784	Ecodesign requirements for welding equipment pursuant to Directive 2009/125/EC
EN IEC 60974-10:2021	Arc Welding Equipment - Part 10: Electromagnetic compatibility (EMC) requirements

Additional Information:

Restrictive use, Class A equipment, intended for use in locations other than residential.

EHP 45 is part of ESAB Rogue family.

Place/Date

Signature

Göteborg
2026-07-21

Peter Burchfield
VP, Equipment Solutions



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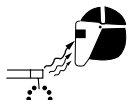
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SECTION 1: SAFETY

1.01 Safety Precautions



WARNING: These Safety Precautions are for your protection. They summarize precautionary information from the references listed in Additional Safety Information section. Before performing any installation or operating procedures, be sure to read and follow the safety precautions listed below as well as all other manuals, material safety data sheets, labels, etc. Failure to observe Safety Precautions can result in injury or death.



PROTECT YOURSELF AND OTHERS -- Some welding, cutting, and gouging processes are noisy and require ear protection. The arc, like the sun, emits ultraviolet (UV) and other radiation and can injure skin and eyes. Hot metal can cause burns. Training in the proper use of the processes and equipment is essential to prevent accidents. Therefore:

Always wear safety glasses with side shields in any work area, even if welding helmets, face shields, and goggles are also required.

Use a face shield fitted with the correct filter and cover plates to protect your eyes, face, neck, and ears from sparks and rays of the arc when operating or observing operations. Warn bystanders not to watch the arc and not to expose themselves to the rays of the electric-arc or hot metal.

Wear flameproof gauntlet type gloves, heavy long-sleeve shirt, cuffless trousers, high-topped shoes, and a welding helmet or cap for hair protection, to protect against arc rays and hot sparks or hot metal. A flameproof apron may also be desirable as protection against radiated heat and sparks.

Hot sparks or metal can lodge in rolled up sleeves, trouser cuffs, or pockets. Sleeves and collars should be kept buttoned, and open pockets eliminated from the front of clothing.

Protect other personnel from arc rays and hot sparks with a suitable non-flammable partition or curtains.

Use goggles over safety glasses when chipping slag or grinding. Chipped slag may be hot and can fly far. Bystanders should also wear goggles over safety glasses.



FIRES AND EXPLOSIONS -- Heat from flames and arcs can start fires. Hot slag or sparks can also cause fires and explosions. Therefore:

Remove all combustible materials well away from the work area or cover the materials with a protective non-flammable covering. Combustible materials include wood, cloth, sawdust, liquid and gas fuels, solvents, paints and coatings, paper, etc.

Hot sparks or hot metal can fall through cracks or crevices in floors or wall openings and cause a hidden smoldering fire or fires on the floor below. Make certain that such openings are protected from hot sparks and metal."

Do not weld, cut or perform other hot work until the work piece has been completely cleaned so that there are no substances on the work piece which might produce flammable or toxic vapors. Do not do hot work on closed containers. They may explode.

Have fire extinguishing equipment handy for instant use, such as a garden hose, water pail, sand bucket, or portable fire extinguisher. Be sure you are trained in its use.

Do not use equipment beyond its ratings. For example, overloaded welding cable can overheat and create a fire hazard.

After completing operations, inspect the work area to make certain there are no hot sparks or hot metal which could cause a later fire. Use fire watchers when necessary.

For additional information, refer to NFPA Standard 51B, "Fire Prevention in Use of Cutting and Welding Processes", available from the National Fire Protection Association, Battery March Park, Quincy, MA 02269.



NOISE -- Noise can cause permanent hearing loss. Plasma arc processes can cause noise levels to exceed safe limits. You must protect your ears from loud noise to prevent permanent loss of hearing.

To protect your hearing from loud noise, wear protective ear plugs and/or ear muffs. Protect others in the workplace.

Noise levels should be measured to be sure the decibels (sound) do not exceed safe levels.

For information on how to test for noise, see "OSHA, SAFETY AND HEALTH STANDARDS, 29CFR 1910, obtainable from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402."



ELECTRICAL SHOCK -- Contact with live electrical parts and ground can cause severe injury or death. DO NOT use AC welding current in damp areas, if movement is confined, or if there is danger of falling.

Be sure the power source frame (chassis) is connected to the ground system of the input power.

Connect the work piece to a good electrical ground.

Connect the work cable to the work piece. A poor or missing connection can expose you or others to a fatal shock.

Use well-maintained equipment. Replace worn or damaged cables.

Keep everything dry, including clothing, work area, cables, torch/electrode holder, and power source.

Make sure that all parts of your body are insulated from work and from ground.

Do not stand directly on metal or the earth while working in tight quarters or a damp area; stand on dry boards or an insulating platform and wear rubber-soled shoes.

Put on dry, hole-free gloves before turning on the power.

Turn OFF the power before removing your gloves.

Refer to ANSI/ASC Standard Z49.1 (listed on next page) for specific grounding recommendations. Do not mistake the work lead for a ground cable.



ELECTRIC AND MAGNETIC FIELDS — May be dangerous. Electric current flowing through any conductor causes localized Electric and Magnetic Fields (EMF). Welding and cutting current creates EMF around welding cables and welding machines. Therefore:

Welders having pacemakers should consult their physician before welding. EMF may interfere with some pacemakers.

Exposure to EMF may have other health effects which are unknown.

Welders should use the following procedures to minimize exposure to EMF:

- A. Route the electrode and work cables together. Secure them with tape when possible.
- B. Never coil the torch or work cable around your body.
- C. Do not place your body between the torch and work cables. Route cables on the same side of your body.
- D. Connect the work cable to the work piece as close as possible to the area being welded.
- E. Keep welding power source and cables as far away from your body as possible.



FUMES AND GASES -- Fumes and gases, can cause discomfort or harm, particularly in confined spaces. Do not breathe fumes and gases. Shielding gases can cause asphyxiation.

Therefore:

Always provide adequate ventilation in the work area by natural or mechanical means. Do not weld, cut, or gouge on materials such as galvanized steel, stainless steel, copper, zinc, lead, beryllium, or cadmium unless positive mechanical ventilation is provided. Do not breathe fumes from these materials.

Do not operate near degreasing and spraying operations. The heat or arc rays can react with chlorinated hydrocarbon vapors to form phosgene, a highly toxic gas, and other irritant gases.

If you develop momentary eye, nose, or throat irritation while operating, this is an indication that ventilation is not adequate. Stop work and take necessary steps to improve ventilation in the work area. Do not continue to operate if physical discomfort persists.

Refer to ANSI/ASC Standard Z49.1 (see listing below) for specific ventilation recommendations.

WARNING: This product contains chemicals, including lead, known to the State of California to cause birth defects and other reproductive harm. Wash hands after handling.



CYLINDER HANDLING -- Cylinders, if mishandled, can rupture and violently release gas. Sudden rupture of cylinder, valve, or relief device can injure or kill. Therefore:

Use the proper gas for the process and use the proper pressure reducing regulator designed to operate from the compressed gas cylinder. Do not use adaptors. Maintain hoses and fittings in good condition. Follow manufacturer's operating instructions for mounting regulator to a compressed gas cylinder.

Always secure cylinders in an upright position by chain or strap to suitable hand trucks, undercarriages, benches, walls, post, or racks. Never secure cylinders to work tables or fixtures where they may become part of an electrical circuit.

When not in use, keep cylinder valves closed. Have valve protection cap in place if regulator is not connected. Secure and move cylinders by using suitable hand trucks. Avoid rough handling of cylinders.

Locate cylinders away from heat, sparks, and flames. Never strike an arc on a cylinder.

For additional information, refer to CGA Standard P-1, "Precautions for Safe Handling of Compressed Gases in Cylinders", which is available from Compressed Gas Association, 1235 Jefferson Davis Highway, Arlington, VA 22202.



EQUIPMENT MAINTENANCE -- Faulty or improperly maintained equipment can cause injury or death. Therefore:

Always have qualified personnel perform the installation, troubleshooting, and maintenance work. Do not perform any electrical work unless you are qualified to perform such work.

Before performing any maintenance work inside a power source, disconnect the power source from the incoming electrical power.

Maintain cables, grounding wire, connections, power cord, and power supply in safe working order. Do not operate any equipment in faulty condition.

Do not abuse any equipment or accessories. Keep equipment away from heat sources such as furnaces, wet conditions such as water puddles, oil or grease, corrosive atmospheres and inclement weather.

Keep all safety devices and cabinet covers in position and in good repair.

Use equipment only for its intended purpose. Do not modify it in any manner.



ADDITIONAL SAFETY INFORMATION -- For more information on safe practices for electric arc welding and cutting equipment, ask your supplier for a copy of "Precautions and Safe Practices for Arc Welding, Cutting and Gouging", Form 52-529.

The following publications, which are available from the American Welding Society, 550 N.W. LeJuene Road, Miami, FL 33126, are recommended to you:

ANSI/ASC Z49.1 - "Safety in Welding and Cutting".

AWS C5.1 - "Recommended Practices for Plasma Arc Welding".

AWS C5.2 - "Recommended Practices for Plasma Arc Cutting".

AWS C5.3 - "Recommended Practices for Air Carbon Arc Gouging and Cutting".

AWS C5.5 - "Recommended Practices for Gas Tungsten Arc Welding".

AWS C5.6 - "Recommended Practices for Gas Metal Arc Welding".

AWS SP - "Safe Practices" - Reprint, Welding Handbook.

ANSI/AWS F4.1, "Recommended Safe Practices for Welding and Cutting of Containers That Have Held Hazardous Substances."

CSA Standard - W117.2 = Safety in Welding, Cutting and Allied Processes.



Meaning of symbols - As used throughout this manual: Means Attention! Be Alert! Your safety is involved.

DANGER

Means immediate hazards which, if not avoided, will result in immediate, serious personal injury or loss of life.

CAUTION

Means potential hazards which could result in personal injury or loss of life.

WARNING

Means hazards which could result in minor personal injury.

Enclosure Class

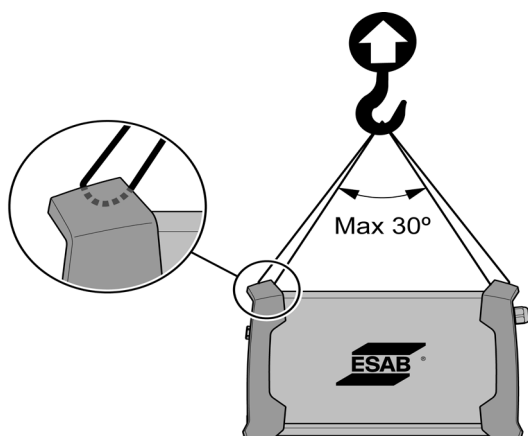
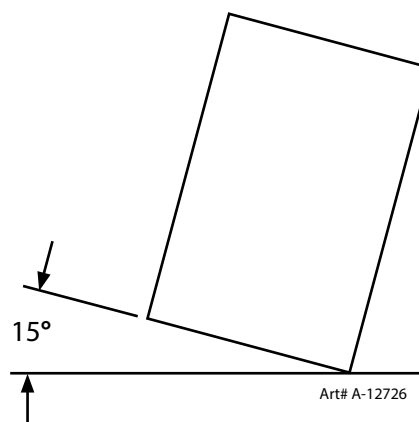
The IP code indicates the enclosure class, i.e. the degree of protection against penetration by solid objects or water. Protection is provided against touch with a finger, penetration of solid objects greater than 12mm and against spraying water up to 60 degrees from vertical. Equipment marked IP23S may be stored, but is not intended to be used outside during precipitation unless sheltered.

CAUTION

This product is solely intended for plasma cutting. Any other use may result in personal injury and / or equipment damage.

CAUTION

If equipment is placed on a surface that slopes more than 15°, toppling over may occur. Personal injury and / or significant damage to equipment is possible.



CAUTION

To avoid personal injury and/or equipment damage, lift using method and attachment points shown here. Use both handles; do not use a single handle.

SECTION 2 SYSTEM: INTRODUCTION

2.01 How To Use This Manual

To ensure safe operation, read the entire manual, including the chapter on safety instructions and warnings.

Throughout this manual, the words WARNING, CAUTION, and NOTE may appear. Pay particular attention to the information provided under these headings. These special annotations are easily recognized as follows:


NOTE!

An operation, procedure, or background information which requires additional emphasis or is helpful in efficient operation of the system.


CAUTION

A procedure which, if not properly followed, may cause damage to the equipment.


WARNING

A procedure which, if not properly followed, may cause injury to the operator or others in the operating area.


WARNING

Gives information regarding possible electrical shock injury. Warnings will be enclosed in a box such as this.

Additional copies of this manual may be purchased by contacting ESAB at the address and phone number in your area listed on back cover of this manual. Include the Operating Manual number and equipment identification numbers.

Electronic copies of this manual can also be downloaded at no charge in Acrobat PDF format by going to the ESAB web site listed below

<http://www.esab.com>

2.02 Equipment Identification

The unit's identification number (specification or part number), model, and serial number usually appear on a data tag/rating plate attached to the rear side of the power source. Equipment which does not have a data tag such as torch and cable assemblies are identified only by the specification or part number printed on loosely attached card or the shipping container. Record these numbers on the bottom of page i for future reference.

2.03 Receipt of Equipment

When you receive the equipment, check it against the invoice to make sure it is complete and inspect the equipment for possible damage due to shipping. If there is any damage, notify the carrier immediately to file a claim. Furnish complete information concerning damage claims or shipping errors to the location in your area listed on the back cover of this manual.

Included items CETL:

- Power Source (Rogue EHP 45)
- Work Lead with Work Clamp, 3 meters
- Manual Torch EASB 60A plasma torch, 5 meters
- Wear part cutting tip, 0.9 mm orifice and gouging tip
- Manual with Quick Start Guide, and Instruction Manual
- Wrench
- Air fitting, 1/4" NPT Milton type D
- 50A to 15A adapter plug
- CTA warranty card

Included items CE:

- Power Source (Rogue EHP 45)
- Work Lead with Work Clamp, 3 meters
- Manual Torch EASB 60A plasma torch, 5 meters
- Wear part cutting tip, 0.9 mm orifice and gouging tip
- Wrench
- Air fitting, 1/4" NPT EU type
- Manual with Quick Start Guide, and Safety Instruction

Move the equipment to the installation site before un-boxing the unit. Use care to avoid damaging the equipment when opening the box.

2.04 Power Supply Specifications-CETL

Rogue EHP 45 1 Phase Power Supply Specifications				
Input Voltage		120/230 V AC Single Phase, 50/60 Hz		
Input Power Cable		Power Supply includes 3m single phase 14AWG 3/C input cable with 6-50P NEMA plug		
Output Current		15 -45 Amps, Continuously adjustable		
Power Supply Gas Filtering Ability		Particulates to 5 Microns		
Maximum Inlet Pressure		125 PSI (8.6 bar)		
1 Phase Power Supply Duty Cycle *				
Ambient Air Temperature		Duty Cycle Ratings @ 40° C (104° F) Operating Range -10° to +50° C		
Rating				
120 VAC	Duty cycle	40%	60%	100%
	Current	25A	20A	16A
	Voltage	90V	88V	87V
Rating				
230 VAC	Duty cycle	35%	60%	100%
	Current	45A	35A	27A
	Voltage	98V	94V	91V
* NOTE: The duty cycle will be reduced if the primary input power (AC) is low or the output voltage (DC) is higher than shown in this chart.				

Rogue EHP 45- 1 Phase Power Supply Specifications				
Input Voltage		230 VAC ±15%, 1 Phase, 50/60 Hz		
Input Power Cable		Power Supply includes 3m single phase 3x2.5mm² input cable with 16A Schuko plug		
Output Current		15 - 45 Amps, Continuously adjustable		
Power Supply Gas Filtering Ability		Particulates to 5 Microns		
Maximum Inlet Pressure		125 PSI (8.6 bar)		
1 Phase Power Supply Duty Cycle *				
Ambient Air Temperature		Duty Cycle Ratings @ 40° C (104° F) Operating Range -10° to +50° C		
Rating				
230 VAC	Duty cycle	35%	60%	100%
	Current	45A	35A	27A
	Voltage	98V	94V	91V
* NOTE: The duty cycle will be reduced if the primary input power (AC) is low or the output voltage (DC) is higher than shown in this chart.				

Rogue EHP 45	
Pierce & Cut	Maximum
1/2"(12mm)	1"(25mm)

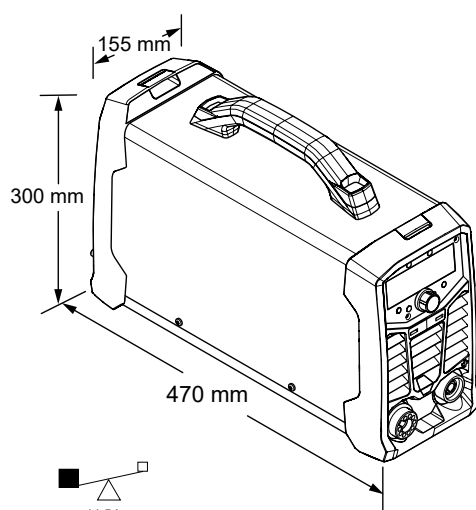
Generator Recommendations

When using generators to power the Rogue EHP 45 Plasma Cutting System, the following ratings are a minimum and are to be used along with the ratings listed below.

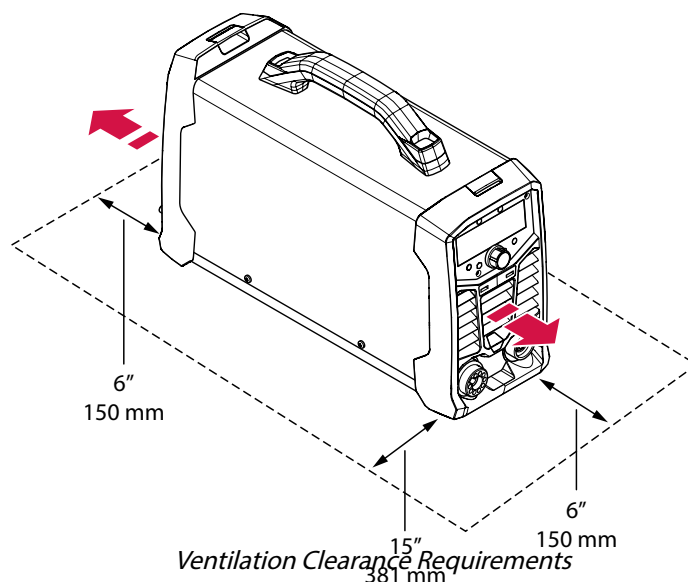
Rogue EHP 45 Generator Specifications	
Generator Output Rating	Output Current
9kW	45A



NOTE!
Due to circuitry, age and condition two generators with the same ratings may produce different results. Adjust the amperage accordingly.



Power Supply Dimensions & Weight



Ventilation Clearance Requirements

2.06 Input Wiring Specifications

Rogue EHP 45 Power Supply Input Cable Wiring Requirements(CETL)							
	Input voltage	Freq	Power Input			Suggested Sizes	
	Volts	Hz	kVA	I_{max}	I_{eff}	Fuse (amps)	Flexible Cord (Min. AWG)
1 Phase	120	50/60	2.7	22.8	14.4	30	14 AWG (2.5mm ²)/3C
	230	50/60	5.3	23	13.6	30	14 AWG (2.5mm ²)/3C
Line voltages with suggested circuit protection and wire sizes Based on National Electric Code and Canadian Electric Code							

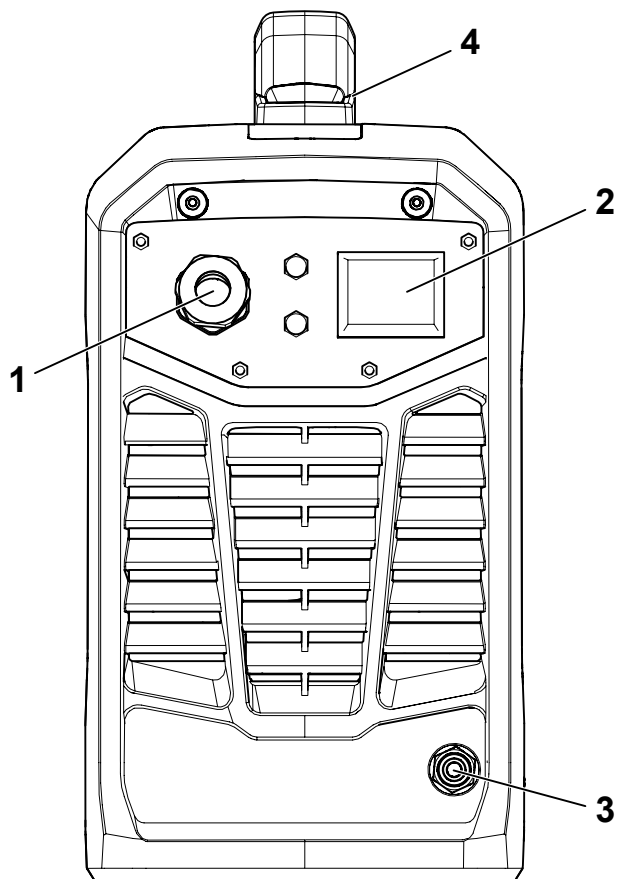
Rogue EHP 45 Power Supply Input Cable Wiring Requirements(CE)							
	Input voltage	Freq	Power Input			Suggested Sizes	
	Volts	Hz	kVA	I_{max}	I_{eff}	Fuse (amps)	Flexible Cord (Min. AWG)
1 Phase	230	50/60	5.3	23	13.6	32	3x2.5 mm ² /3C



NOTE!

Refer to local and national codes or local authority having jurisdiction for proper wiring requirements.

Cable size is de-rated based on the Duty Cycle of the equipment.



- 1. Input power cord
- 2. Input power ON/OFF switch
- 3. Gas inlet port
- 4. Handle

SECTION 2 : INTRODUCTION- TORCH

2.01 Scope of Manual

This manual contains descriptions, operating instructions, and maintenance procedures for the ESAB 60A plasma cutting torches. Service of this equipment is restricted to properly trained personnel; unqualified personnel are strictly cautioned against attempting repairs or adjustments not covered in this manual, at the risk of voiding the warranty.

Read this manual thoroughly. A complete understanding of the characteristics and capabilities of this equipment will assure the dependable operation for which it was designed.

2.02 General Description

Plasma torches are similar in design to the automotive spark plug. They consist of negative and positive sections separated by a center insulator. Inside the torch, the pilot arc starts in the gap. Once the pilot arc has ionized the plasma gas, the superheated column of gas flows through the small orifice in the torch tip, which is focused on the metal to be cut.

A single torch lead provides gas from a single source to be used as both the plasma and secondary gas. The air flow is divided inside the torch head. Single - gas operation provides a smaller sized torch and inexpensive operation.



CAUTION

Torch leads are flexible but internal wires can be broken. Do not exceed a 2' Radius bend and avoid repeated tight bends when possible.



NOTE!

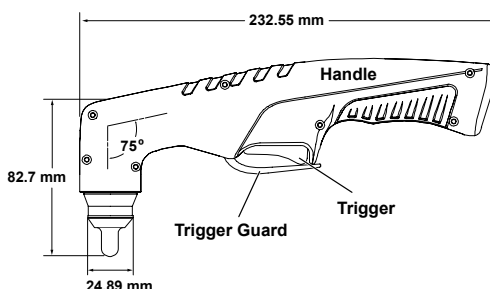
Refer to Introduction to Plasma, for a more detailed description of plasma torch operation.

Refer to the Appendix Pages for additional specifications as related to the Power Supply used.

2.03 Specifications

A. Torch Configurations

The hand torch head is at 75° to the torch handle. The hand torches include a torch handle and torch trigger assembly.



B. Torch Lead Lengths

The torch cable is 5m long.

C. Torch consumables

The torch consists of the following consumable parts:

Electrode, nozzle, cover, gas diffuser, and standoff guide.

D. Type Cooling

Combination of ambient air and gas stream through torch.

E. Torch Ratings

Manual Torch Ratings	
Ambient Temperature	104° F 40° C
Duty Cycle	60% @ 60Amps
Maximum Current	60 Amps
Voltage (V_{peak})	500VDC

F. Gas Requirements

Manual Torch Gas Specifications	
Gas (Plasma and Secondary)	Compressed Air
Operating Pressure Refer to NOTE	58 - 87 psi 4 - 6 bar 400-600 kPa
Maximum Input Pressure	125 psi / 8.6 bar 840 kPa
Gas Flow (Cutting and Gouging)	3.9 - 5.3 SCFM 233 - 318 scfh 110 - 150 lpm

G. Direct Contact Hazard

For standoff tip the recommended standoff is 3/16 inches or 4.7 mm.

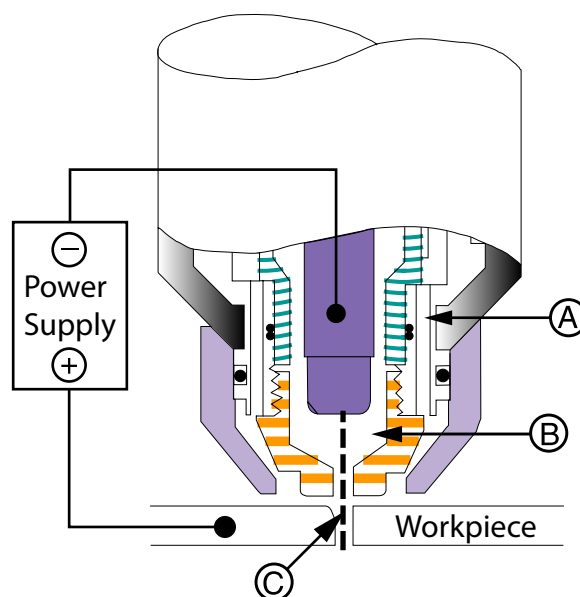
2.04 Introduction to Plasma

A. Plasma Gas Flow

Plasma is a gas which has been heated to an extremely high temperature and ionized so that it becomes electrically conductive. The plasma arc cutting and gouging processes use this plasma to transfer an electrical arc to the workpiece. The metal to be cut or removed is melted by the heat of the arc and then blown away.

While the goal of plasma arc cutting is separation of the material, plasma arc gouging is used to remove metals to a controlled depth and width.

In a plasma cutting torch, a cool gas enters the retaining cup, where a pilot arc between the electrode and nozzle ionizes the gas. The main cutting arc then transfers to the workpiece through the column of plasma gas coming from the TIP. In order to transfer, the electrode must defect a completed circuit through the ground cable connected to the workpiece. Typical transfer distribution is between 3/14 and 1/2" to material.



Typical Torch Head Data

By forcing the plasma gas and electric arc through a shield CAP, the torch delivers a high concentration of heat to a small area.

B. Gas Distribution

The single gas used is internally split into plasma and secondary gases. The plasma gas flows into the torch through the negative lead, around the electrode, and out through the tip orifice. The secondary gas flows down around the outside of the torch tip, and out between the shield cup around the plasma arc.

C. Pilot Arc

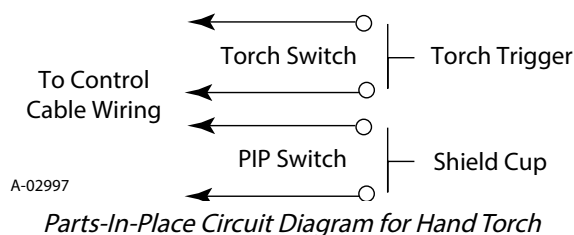
When the torch is started a pilot arc is established between the electrode and cutting tip. This pilot arc creates a path for the main arc to transfer to the work.

D. Main Cutting Arc

DC power is also used for the main cutting arc. The negative output is connected to the torch electrode through the torch lead. The positive output is connected to the workpiece via the work cable and to the torch through a pilot wire.

E. Parts - In - Place (PIP)

The torch includes a 'Parts - In - Place' (PIP) circuit. When the shield cup is installed, it closes a switch. The torch will not operate if this switch is open.



SECTION 3 SYSTEM: INSTALLATION

3.01 Unpacking

1. Use the packing lists to identify and account for each item.
2. Inspect each item for possible shipping damage. If damage is evident, contact your distributor and / or shipping company before proceeding with the installation.
3. Record Power Supply and Torch model and serial numbers, purchase date and vendor name, in the information block at the front of this manual.

3.02 Lifting Options

The Power Supply includes handles for **hand lifting only**. Be sure unit is lifted and transported safely and securely.



WARNING

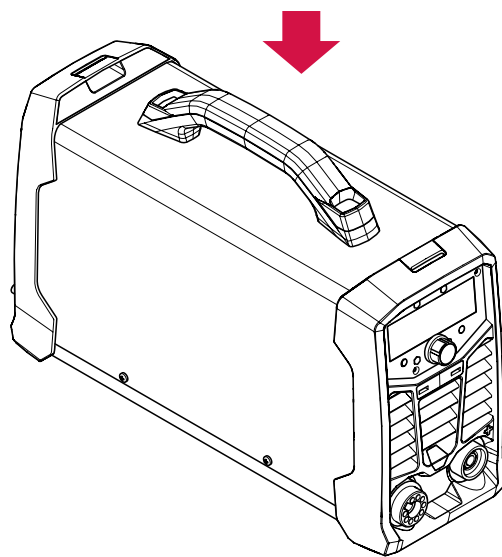
Do not touch live electrical parts.

Disconnect input power cord before moving unit.



FALLING EQUIPMENT can cause serious personal injury and can damage equipment.

HANDLES are not for mechanical lifting.



WARNING!

Secure the equipment - particularly if the ground is uneven or sloping.



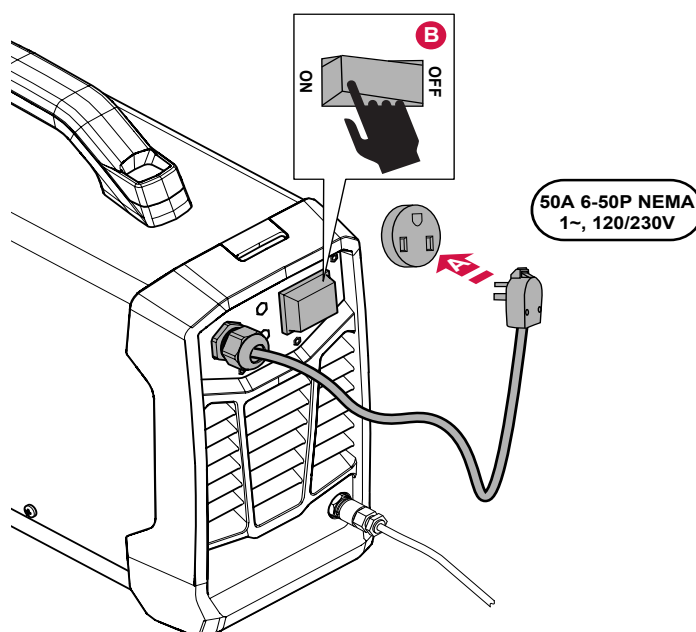
3.03 Primary Input Power Connections-CTEL


Note

The power source is a multi-voltage system capable of operating at 120V and 230V input voltage, as specified in the technical specifications. Ensure that the input power cables meet the specifications provided in the table in section 2.06 as these may vary by region.


NOTE!

As long as the power supply is connected to input power being 120 V or 230 V, the system will automatically detect this and run accordingly.


CAUTION

Set the maximum output current not to exceed 21A when the 50A to 15A adapter plug is attached and plug into a 120V power socket.

3.05 Gas Connections

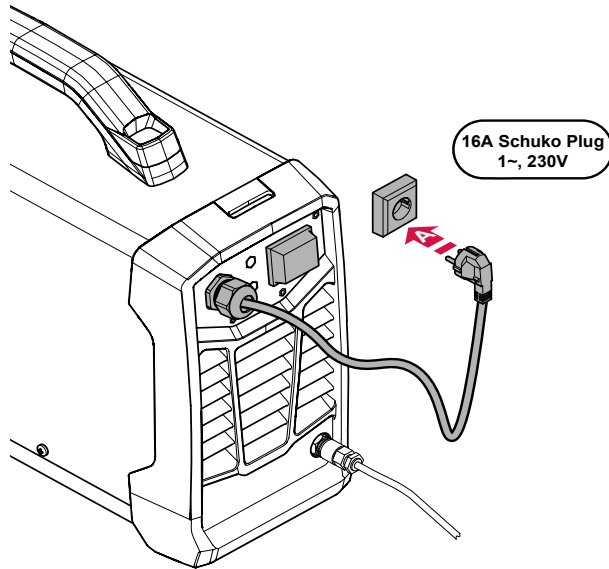
Connecting Gas Supply to Unit

The connection is the same for compressed air or high pressure cylinders. Refer to the following two subsections if an optional air line filter is to be installed.

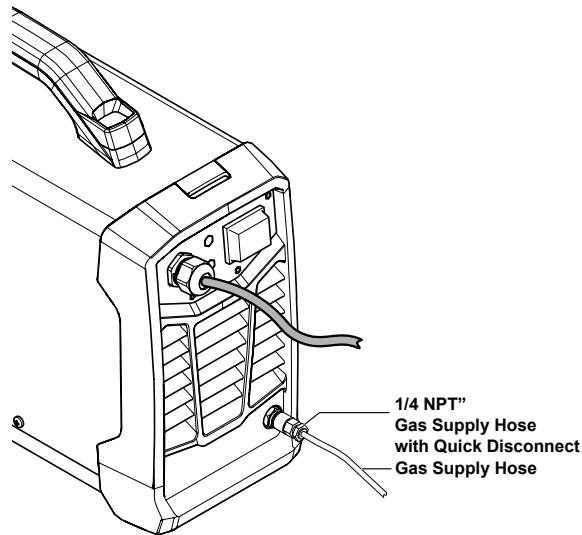
1. Connect the air line to the inlet port. The illustration shows typical fittings as an example.


NOTE!

For a secure seal, apply thread sealant to the fitting threads, according to manufacturer's instructions. Do not use teflon tape as a thread sealer, as small particles of the tape may break off and block the small air passages in the torch.



Single Phase Power Wiring



Air Connection to Inlet Port



NOTE!

The system includes a standard air fitting specific to your region. You can replace it with a fitting of your choice by following the gas connection instructions in this section.



NOTE!

Filter replacement part numbers and variant details can be found in Section 6 of this manual.

Installing Optional Single - Stage Air Filter

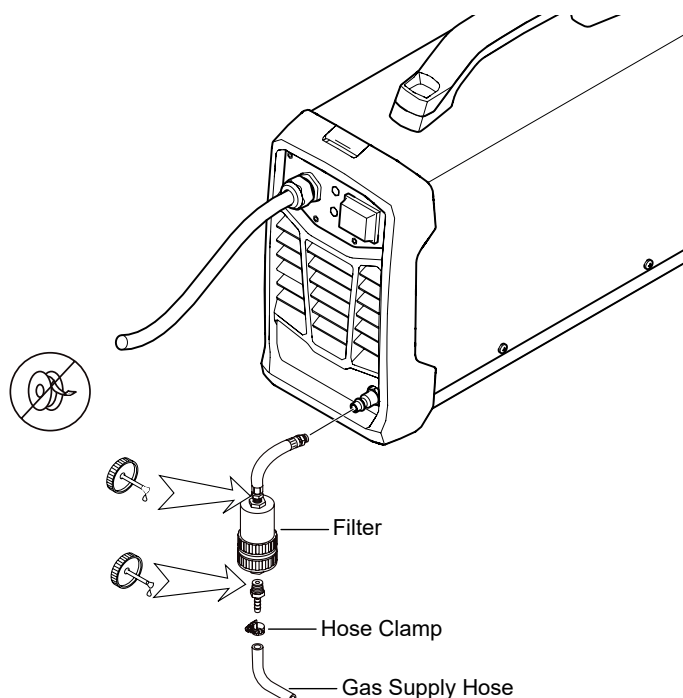
An optional filter kit (7-7507) is recommended for improved filtering with compressed air, to keep moisture and debris out of the torch.

1. Attach the Single - Stage Filter Hose to the Inlet Port of the system filter.
2. Attach the Filter Assembly to the filter hose.
3. Connect the air line to the Filter using the 1/4" NPT. The illustration shows typical fittings as an example.



NOTE!

For a secure seal, apply thread sealant to the fitting threads, according to manufacturer's instructions. Do not use Teflon tape as a thread sealer, as small particles of the tape may break off and block the small air passages in the torch.



Optional Single - Stage Filter Installation



NOTE!

Filter replacement part numbers can be found in Section 6 of this manual

Using High Pressure Air Cylinders

When using high pressure air cylinders as the air supply:

1. Refer to the manufacturer's specifications for installation and maintenance procedures for high pressure regulators.
2. Examine the cylinder valves to be sure they are clean and free of oil, grease or any foreign material. Briefly open each cylinder valve to blow out any dust which may be present.
3. The cylinder must be equipped with an adjustable high - pressure regulator capable of outlet pressures up to 125 psi (8.7 bar) maximum and flows of least 300-500 scfh / 5 - 8.3 CFM (142-235 lpm).
4. Connect supply hose to the cylinder.

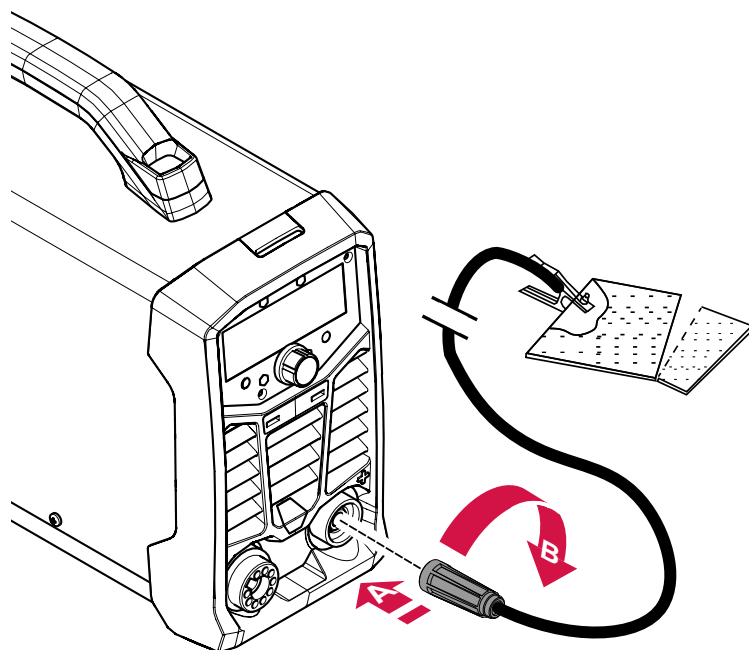
**NOTE!**

Set the pressure between 90–125 psi (6.5–8.7 bar). Do not exceed 125 psi (8.7 bar) at the high-pressure cylinder regulator.

3.06 Work Lead Connections

Connect the Work Lead to the power supply and the work piece.

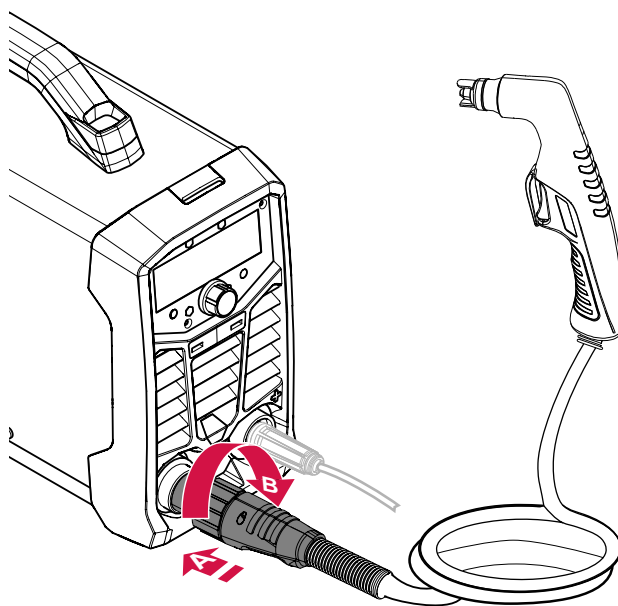
1. Attach the Dinse type connection of the work lead to the power supply front panel as shown below. Push in and turn clockwise to the right until tight.
2. Connect the work clamp to the workpiece or cutting table. The area must be free from oil, paint and rust. Connect only to the main part of the work piece; do not connect to the part to be cut off.



3.07 Torch Installation

If necessary, connect the torch to the Power Supply. Connect only the ESAB 60A plasma torch to this power supply.

1. Align the ATC male connector (on the torch lead) with the female receptacle. Push the connector into the female receptacle. The connectors should together with a small amount of pressure.
2. Secure the connection by turning the locking nut clockwise. **DO NOT** use the locking nut to pull the connection together. Do not use tools to secure the connection.

**WARNING**

Disconnect primary power at the source before connecting torch.

Check Air Quality

To test the quality of air:

1. Turn ON the power source.
2. Long press the encoder knob in the front panel.
3. Place a welding filter lens in front of the torch and turn ON the air. **DO NOT START AN ARC!.**

Any oil or moisture in the air will be visible on the lens.

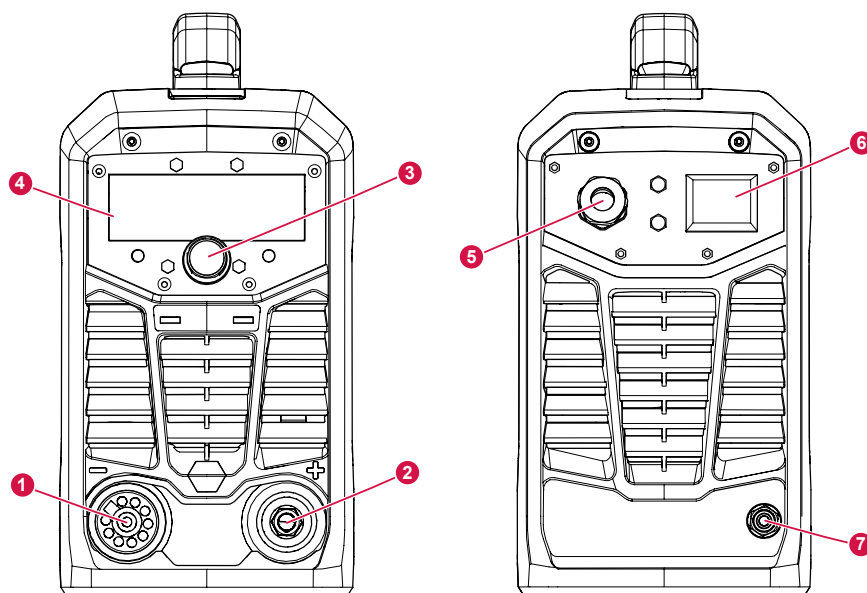
**NOTE!**

If moisture or contaminants exit the tip onto the arc, install an additional air filter. Make sure the filter is properly sized to provide the required pressure and flow rate for the system.

2. Note the pin-out of the connector and that the customer supplied connector matches.

4.01 Front Panel Controls / Features

See Illustration for numbering Identification

**1. Torch lead receptable**

Connect the torch leads by aligning the connectors, pressing them in, and turning the locking ring clockwise to secure. Ensure the connection is snug without using any tools.

2. Work lead connector

Align the Dinse type connector on work lead with receptacle, press in and turn clockwise to the right until tight.

3. Push Encoder Knob

The push encoder knob is used to navigate in the menu, adjust current and pressure unit and for selecting desired functions and features.

- Turn clockwise to move in the forward direction.
- Turn counterclockwise to move in the reverse direction.

4 HMI display

The display provides real-time information about the system's status, allowing the operator to see critical data such as amperage, pressure, job and other relevant features.

5. Input power cord

Designed to operate within the specified input voltage and frequency range. ensure the cord is properly connected to a grounded power supply before operation.

6. ON/OFF switch

When the switch is ON, the front panel HMI screen lights up and the fan starts.

7. Gas inlet port

The equipment gas input may accept 1/4" NPT male plug, use the Milton type D for CETL power source and EU type for CE power source.

4.02 Menu Screen / Features**Home/Process Screen****1. Cutting mode selection**

Press the button to enable the cutting mode.



Press the button again to select the plate cutting.



Rogue EHP 45

Press the button again to select the gouging.

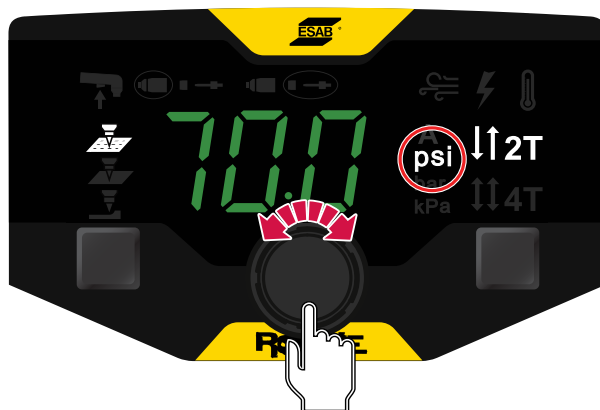


2. Setting Amperage and Pressure Unit

Rotate the knob to adjust the AMPS setting.



Press the button to display the pressure and then to rotate the knob to set pressure unit.



3. 2T/4T Trigger lock

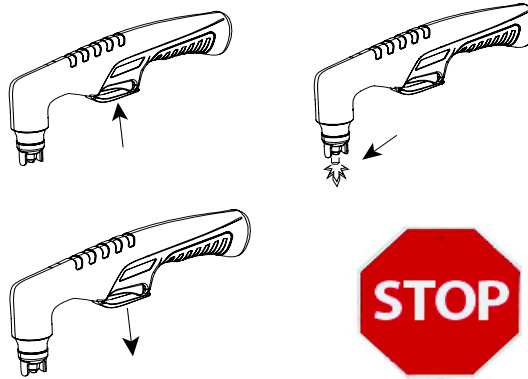
Press the button to select the desired trigger feature.



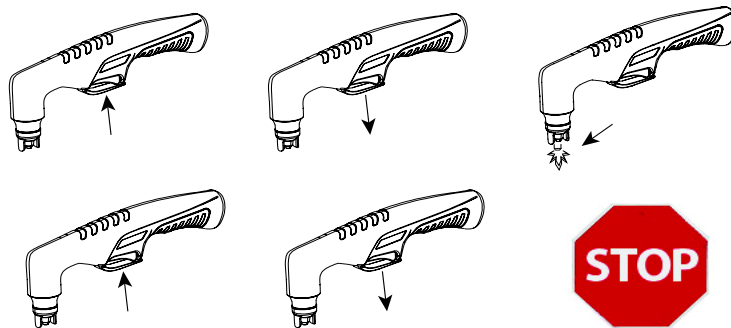
The trigger mode is used to change the torch trigger functionality between 2T (normal) and 4T (lock mode).

In the grid cutting, only 2T mode is available.

In the 2T mode, the torch trigger must remain pressed to activate the cutting output.



The 4T mode is used mainly for long cutting operations in order to reduce operator fatigue.



4.03 Main Screen

1. Torch trigger action error screen:

Start signal is active when ON/OFF switch is turned to ON position.



2. Torch installation or cover assembly error screen:

The torch installation or incorrect cover assembly error screen is displayed when the torch or torch consumable are not installed correctly.

Check the torch and consumable installation.



3. Electrode or nozzle installation error screen

The electrode or cutting nozzle installation error screen is displayed when the electrode or cutting nozzle are not installed correctly.

Check or replace the worn cutting nozzle and electrode.



3. Air pressure error screen

The air pressure error screen is displayed when the output air pressure is out of range. Adjust the compressed air pressure between 6 and 8 bar. The error alarm will deactivate.

E05: Low air pressure (less than 3bar / 300kPa / 43.5psi)



E06: High air pressure (more than 7.5bar / 750kPa / 109psi)



4. Voltage error screen

The voltage error screen is displayed when the input voltage is very low or high. In this case, it is advisable to contact an ESAB Authorized Service Center to assess the equipment.

E02: Overvoltage



E03: Undervoltage



5. Overheating error screen

The cutting equipment is protected by a temperature sensor. The overheating error screen is displayed if the machine is overheated, which normally occurs if the equipment work cycle is exceeded.

If the overheating error screen displays, the machine output shall be deactivated. Let the equipment ON to allow the internal components to cool down. When the equipment is cool enough, the overheating error screen disappears automatically.

Notice that the ON/OFF switch must remain in the ON position, so that the fan continues to operate and allow the equipment to cool down enough.



4.04 Preparations for Operation



WARNING

Disconnect primary power at the source before assembling or disassembling power supply, torch parts, or torch and leads assemblies.

Torch Parts Selection

Check the torch for proper assembly and appropriate torch parts. The torch parts must correspond with the type of operation, and with the amperage output of this Power Supply (45 amps maximum).

Torch Connection

Check that the torch is properly connected.

Check Primary Input Power Source

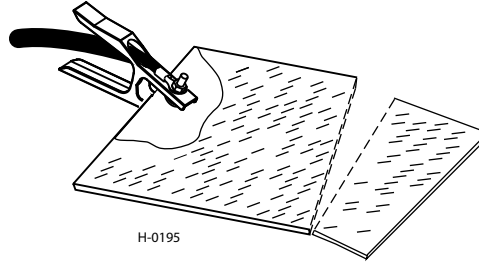
1. Check the power source for proper input voltage. Make sure the input power source meets the power requirements for the unit per specifications.
2. Connect the input power cable (or close the main disconnect switch) to supply power to the system.

Air Source

Ensure source meets requirements and check connections and turn air supply ON.

Connect Work Cable

Clamp the work cable to the workpiece or cutting table. The area must be free from oil, paint and rust. Connect only to the main part of the workpiece; do not connect to the part to be cut off.



Power ON

Place the power supply ON/OFF switch in the ON position. The system will power up, which can be seen from the HMI turning on. If there are any issues detected in the system, like "Overvoltage," "Undervoltage," etc., the corresponding error icons will be lit.

Once the torch trigger (start signal) is pressed or any thermal error is detected, the fan will run. If the machine is not operated for 7 minutes, the system will enter low power mode, which can be detected by the fan turning off.



NOTE!

Minimum input pressure for power supply operation 90 psi.

Current adjustment

1. Rotate the encoder knob to set the desired current according to the requirements of the cutting process.

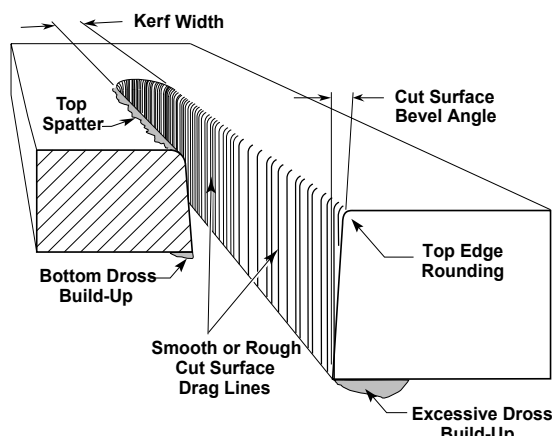
SECTION 4 : OPERATION-TORCH

4.01 Cut Quality


NOTE!

Cut quality depends heavily on setup and parameters such as torch standoff, alignment with the workpiece, cutting speed, gas pressures, and operator ability.

Cut quality requirements differ depending on application. For instance, nitride build - up and bevel angle may be major factors when the surface will be welded after cutting. Dross - free cutting is important when finish cut quality is desired to avoid a secondary cleaning operation. The following cut quality characteristics are illustrated in the following figure:



Cut Quality Characteristics

Cut Surface

The desired or specified condition (smooth or rough) of the face of the cut.

Nitride Build - Up

Nitride deposits can be left on the surface of the cut when nitrogen is present in the plasma gas stream. These buildups may create difficulties if the material is to be welded after the cutting process.

Bevel Angle

The angle between the surface of the cut edge and a plane perpendicular to the surface of the plate. A perfectly perpendicular cut would result in a 0° bevel angle.

Top - Edge Rounding

Rounding on the top edge of a cut due to wearing from the initial contact of the plasma arc on the workpiece.

Bottom Dross Buildup

Molten material which is not blown out of the cut area and resolidifies on the plate. Excessive dross may require secondary cleanup operations after cutting.

Kerf Width

The width of the cut (or the width of material removed during the cut).

Top Spatter (Dross)

Top spatter or dross on the top of the cut caused by slow travel speed, excess cutting height, or cutting tip whose orifice has become elongated.



WARNING
Disconnect primary power at the source before disassembling the power supply, torch, or torch leads.



Frequently review the Important Safety Precautions at the front of this manual. Be sure the operator is equipped with proper gloves, clothing, eye and ear protection. Make sure no part of the operator's body comes into contact with the workpiece while the torch is activated.



CAUTION
Sparks from the cutting process can cause damage to coated, painted, and other surfaces such as glass, plastic and metal.



NOTE!
Handle torch leads with care and protect them from damage.

Piloting

Piloting is harder on parts life than actual cutting because the pilot arc is directed from the electrode to the tip rather than to a workpiece. Whenever possible, avoid excessive pilot arc time to improve parts life.

Torch Standoff

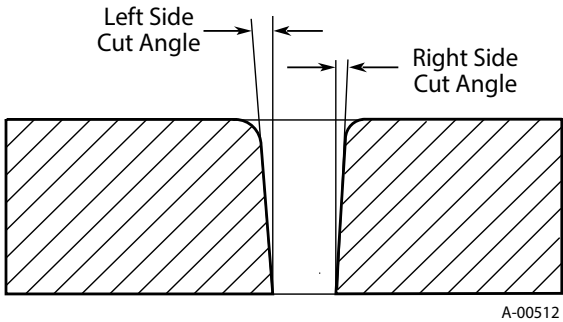
Improper standoff (the distance between the torch tip and workpiece) can adversely affect tip life as well as shield cup life. Standoff may also significantly affect the bevel angle. Reducing standoff will generally result in a more square cut.

Edge Starting

For edge starts, hold the torch perpendicular to the workpiece with the front of the tip near (not touching) the edge of the workpiece at the point where the cut is to start. When starting at the edge of the plate, do not pause at the edge and force the arc to "reach" for the edge of the metal. Establish the cutting arc as quickly as possible.

Direction of Cut

In the torches, the plasma gas stream swirls as it leaves the torch to maintain a smooth column of gas. This swirl effect results in one side of a cut being more square than the other. Viewed along the direction of travel, the right side of the cut is more square than the left.



Side Characteristics Of Cut

To make a square - edged cut along an inside diameter of a circle, the torch should move counterclockwise around the circle. To keep the square edge along an outside diameter cut, the torch should travel in a clockwise direction.

Dross

When dross is present on carbon steel, it is commonly referred to as either "high speed, slow speed, or top dross". Dross present on top of the plate is normally caused by too great a torch to plate distance. "Top dross" is normally very easy to remove and can often be wiped off with a welding glove. "Slow speed dross" is normally present on the bottom edge of the plate. It can vary from a light to heavy bead, but does not adhere tightly to the cut edge, and can be easily scraped off. "High speed dross" usually forms a narrow bead along the bottom of the cut edge and is very difficult to remove. When cutting a troublesome steel, it is sometimes useful to reduce the cutting speed to produce "slow speed dross". Any resultant cleanup can be accomplished by scraping, not grinding.

Piercing With Hand Torch

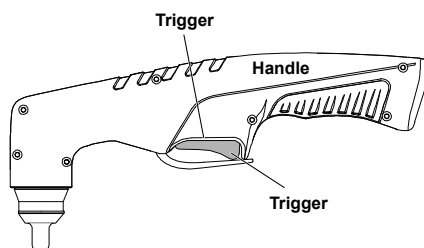
1. The torch can be comfortably held in one hand or steadied with two hands. Position the hand to press the Trigger on the torch handle. With the hand torch, the hand may be positioned close to the torch head for maximum control or near the back end for maximum heat protection. Choose the technique that feels most comfortable and allows good control and movement.



NOTE!

The tip should never come in contact with the workpiece except during drag cutting operations.

2. Angle the torch slightly to direct blowback particles away from the torch tip (and operator) rather than directly back into it until the pierce is complete.
3. In a portion of the unwanted metal start the pierce off the cutting line and then continue the cut onto the line. Hold the torch perpendicular to the workpiece after the pierce is complete.
4. Hold the torch away from your body.
5. Slide the trigger release toward the back of the torch handle while simultaneously squeezing the trigger. The pilot arc will start.



NOTE!

The gas preflow and postflow are a characteristic of the power supply and not a function of the torch. When the Retaining CUP is properly installed, there is a slight gap between the CUP and the torch handle. Gas vents through this gap as part of normal operation. Do not attempt to force the CUP to close this gap. Forcing the Retaining CUP against the torch head or torch handle can damage components.

7. Clean spatter and scale from the Retaining CUP and the tip as soon as possible. Spraying the CUP in anti-spatter compound will minimize the amount of scale which adheres to it.

Cutting speed depends on material, thickness, and the operator's ability to accurately follow the desired cut line. The following factors may have an impact on system performance:

Rogue EHP 45

- Torch parts wear
- Air quality
- Line voltage fluctuations
- Torch standoff height
- Proper work cable connection

4.03 Gouging



WARNING

Be sure the operator is equipped with proper gloves, clothing, eye and ear protection and that all safety precautions at the front of this manual have been followed. Make sure no part of the operator's body comes in contact with the workpiece when the torch is activated.



Disconnect primary power to the system before disassembling the torch, leads, or power supply.

Gouging Parameters

Gouging performance depends on parameters such as torch travel speed, current level, lead angle (the angle between the torch and workpiece), and the distance between the torch tip and workpiece (standoff).



CAUTION

Touching the torch tip or Retaining CUP to the work surface will cause excessive parts wear.

Torch Travel Speed



NOTE!

Refer to Appendix Pages for additional information as related to the Power Supply used.

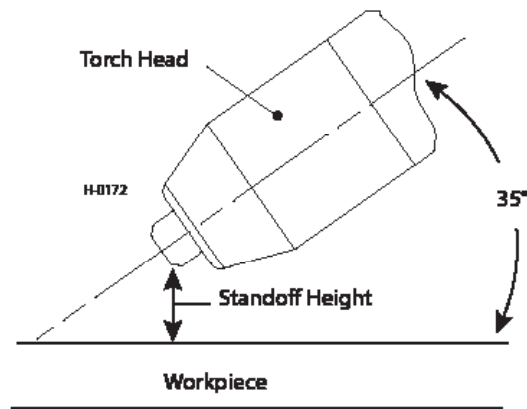
Optimum torch travel speed is dependent on current setting, lead angle, and mode of operation (hand or machine torch).

Current Setting

Current settings depend on torch travel speed, mode of operation (hand or machine torch), and the amount of material to be removed.

Lead Angle

The angle between the torch and workpiece depends on the output current setting and torch travel speed. The recommended lead angle is 35°. At a lead angle greater than 45° the molten metal will not be blown out of the gouge and may be blown back onto the torch. If the lead angle is too small (less than 35°), less material may be removed, requiring more passes. In some applications, such as removing welds or working with light metal, this may be desirable.



Gouging Angle and Standoff Distance

Standoff Distance

The tip to work distance affects gouge quality and depth. Standoff distance of 1/8 - 1/4 inch (3 - 6 mm) allows for smooth, consistent metal removal. Smaller standoff distances may result in a severance cut rather than a gouge. Standoff distances greater than 1/4 inch (6 mm) may result in minimal metal removal or loss of transferred main arc.

Slag Buildup

Slag generated by gouging on materials such as carbon and stainless steels, nickels, and alloyed steels, can be removed easily in most cases. Slag does not obstruct the gouging process if it accumulates to the side of the gouge path. However, slag build - up can cause inconsistencies and irregular metal removal if large amounts of material build up in front of the arc. The build - up is most often a result of improper travel speed, lead angle, or standoff height.

SECTION 5: MAINTENANCE

5.01 Overview

Periodic maintenance is important to ensure safe and reliable operation.

ESAB recommends that equipment maintenance should only be performed by qualified professionals.

**CAUTION**

All supplier warranty commitment terms shall no longer be applied if the client attempts to repair any products faults during the warranty period.

5.02 Preventive Maintenance

In normal operational conditions, the equipment does not require special maintenance service.

Operator can occasionally blow any debris away with low pressure compressed air. Operator should regularly check if any external electrical connections are tight and component wiring is fastened. Check for the eventual presence of cracks in electrical cable or wire insulations, including cutting, or other insulators, and replace as required.

**CAUTION**

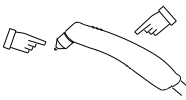
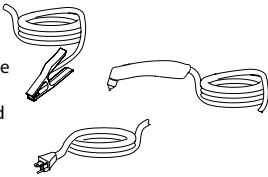
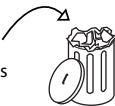
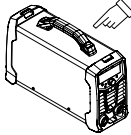
Disconnect all power before performing ANY service

5.03 Corrective Maintenance

Use only original ESAB consumables, torch and leads. Using non-original or unapproved parts lead to automatic cancellation of the warranty provided.

Replacement torch and leads can be obtained from ESAB authorized services or from the sales branches indicated in the last page herein. Always reference the model number of the equipment ordered.

5.04 Equipment Preventive Maintenance Plan

 <div>Warning! Disconnect input power before maintaining.</div>		Maintain more often if used under severe conditions
Each Use		
Visual check of torch tip and electrode		
Weekly		
Visually inspect the torch body, washer, diffuser, electrode, cutting nozzle, shield cup, and standoff guide tip.		
Visually inspect the cables and leads. Replace as needed		
3 Months		
Replace all broken parts	Clean exterior of power supply	Check the external air filter (Turn the equipment.OFF Close the gas supply and bleed.) Replace as needed.
		

Art # A-07938NEW



NOTE!
Leave the internal earth wire in the correct plate.

SECTION 5: TORCH MAINTENANCE

5.01 Cleaning The Torch

Even if precautions are taken to use only clean air with a torch, eventually the inside of the torch becomes coated with residue. This build-up can affect the pilot arc ignition and the overall cut quality of the torch.



CAUTION

Disconnect primary power to the system before disassembling the torch or torch leads. DO NOT touch any internal torch parts while the AC indicator light of the Power Supply is ON.

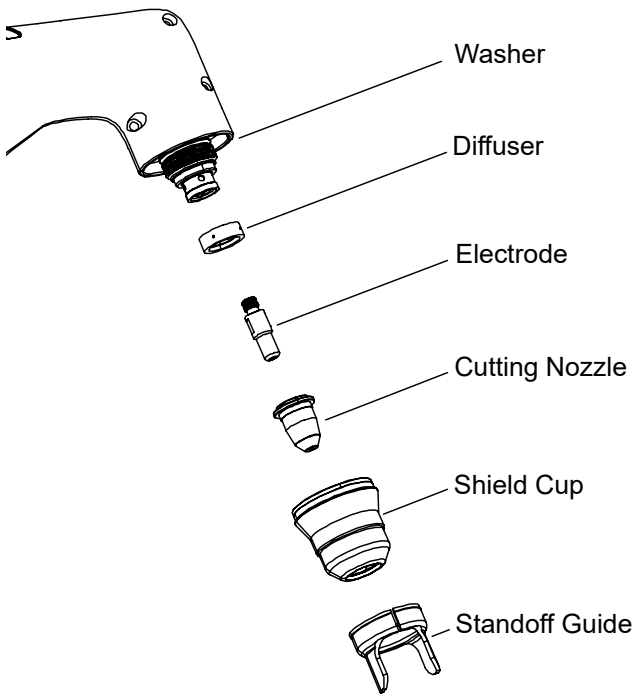


CAUTION

The inside of the torch should be cleaned with electrical contact cleaner using a cotton swab or soft wet rag. In severe cases, the torch can be removed from the leads and cleaned more thoroughly by pouring electrical contact cleaner into the torch and blowing it through with compressed air.

5.02 Inspection and Replacement of Torch Consumables

Remove the consumable torch part as folows:





NOTE!

Filter replacement part numbers can be found in Section 6 of this manual

SECTION 6: TROUBLESHOOTING



WARNING

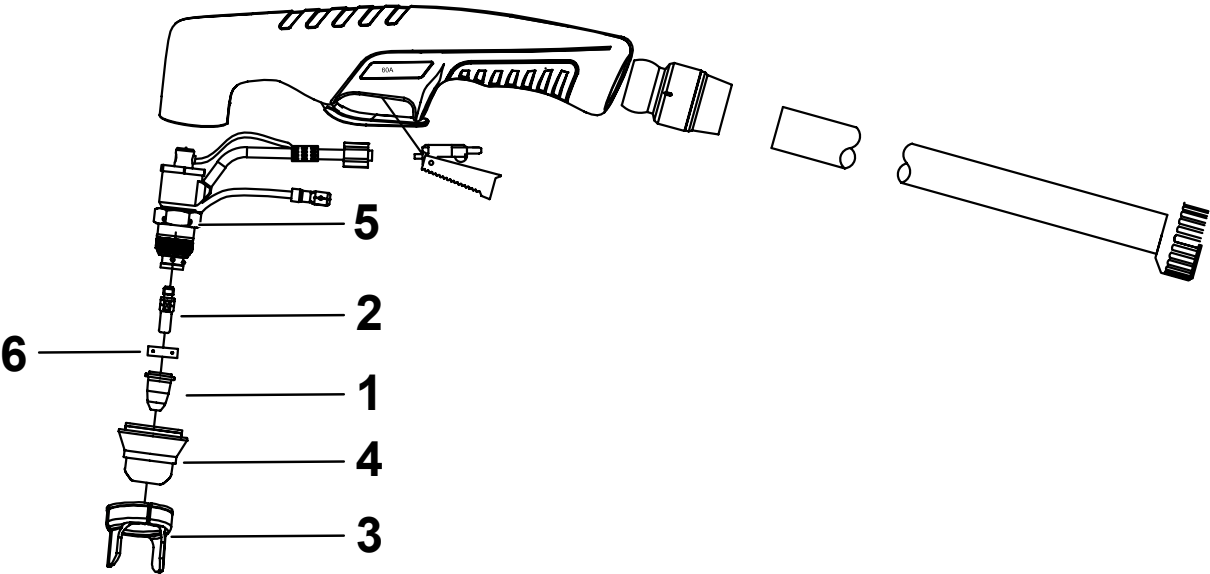
There are extremely dangerous voltage and power levels present inside this unit. Do not attempt to diagnose or repair unless you have had training in power electronics measurement and troubleshooting techniques.

If the main complex sub-assemblies are defective, the power supply must be returned to an authorized ESAB service provider for repair. The basic problem solution level can be performed without equipment or special knowledge.

Error Code	Description	Solution
E01	Overheating	A) Leave the power supply on and let it cool down. Note that the overheating error screen must close before the beginning of the cut. B) Maintain the ventilation gap. C) Check if the fan operates when the main switch is ON.
E02	Overvoltage	Ensure that the power supply is within 120 or 230 VAC $\pm$ 15%
E03	Undervoltage	
E04	Torch head is not installed properly	A) Check if the shield cup is installed properly. B) Check if the ATC male connector is installed tightly.
E05	Low air pressure (less than 3bar / 300kPa / 43.5psi)	A) Adjust the input air pressure to 6bar ~ 8bar. B) Disconnect the gas hose from the rear of the power supply or feeder and blow the impurities. C) Check if there is gas leakage between the gas valve and the gas input or cylinder output.
E06	High air pressure (more than 7.5bar / 750kPa / 108psi)	
E07	Trigger engaged safety protection	Ensure the trigger of the plasma torch is not activated before power on.
E08	Electrode or nozzle is not installed properly.	A) Reinstall the electrode or tip. B) Check if the electrode and tip are in good condition, replace it with a new one if needed.

6.01 Consumable parts

Item	Qty	Ordering number	Description
1	1	0559337001	Cutting tip 35A
		0559337002	Cutting tip 45A
		0559337008	Plasma gouging TIP 15-45A
2	1	0559337003	Electrode
3	1	0559337004	Standoff guide
4	1	0559337005	Shield cup
5	1	0559337006	O-ring
6	1	0559337007	Gas diffuser



SECTION 7: ORDERING SPARE PARTS

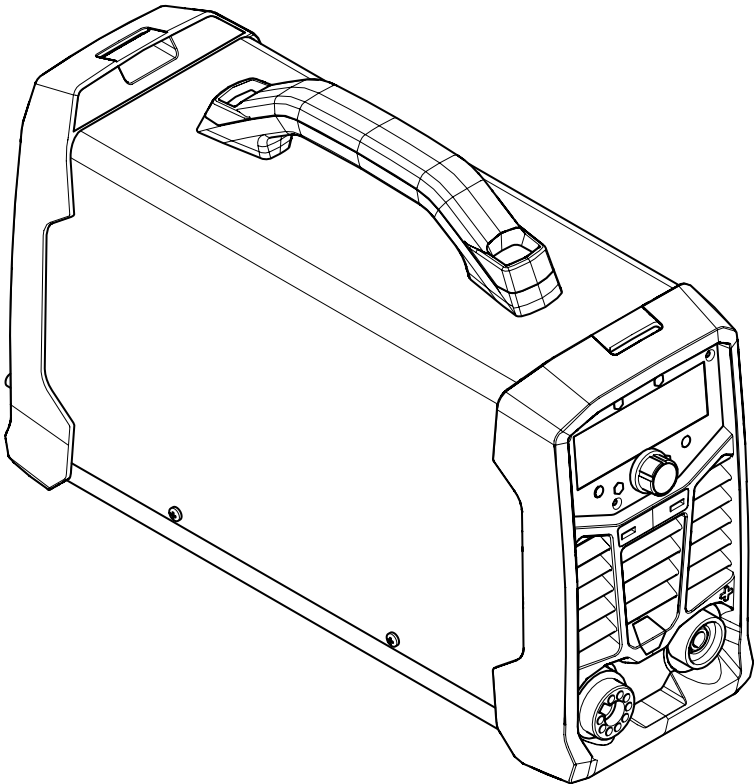
7.01 Ordering Spare Parts

**CAUTION**

Repair and electrical work should be performed by an authorised ESAB service technician.
Use only ESAB original spare and wear parts.

The Rogue EHP 45 are designed and tested in accordance with the international and European standards EN IEC 60974-1 and EN IEC 60974-10 Class A. On completion of service or repair work, it is the responsibility of the person(s) performing the work to ensure that the product still complies with the requirements of the above standards.

Ordering Numbers



Ordering number	Denomination	Notes
0700 200 500	Rogue EHP 45	CETL
0700 200 501	Rogue EHP 45	CE
0448 801 *	Instruction Manual	

The three last digits in the document number of the manual show the version of the manual. Therefore they are replaced with * here. Make sure to use a manual with a serial number or software version that corresponds with the product, see the front page of the manual.

Technical documentation is available on the Internet at: www.esab.com

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For contact information visit esab.com

ESAB Group Inc, 2800 Airport Rd. Denton, TX 76207 USA, Telephone: 1-800-426-1888

ESAB AB, Lindholmsallen 9, Box 8004, 402 77 Gothenburg, Sweden, Phone +46 (0) 31 50 90 00

<http://manuals.esab.com>

