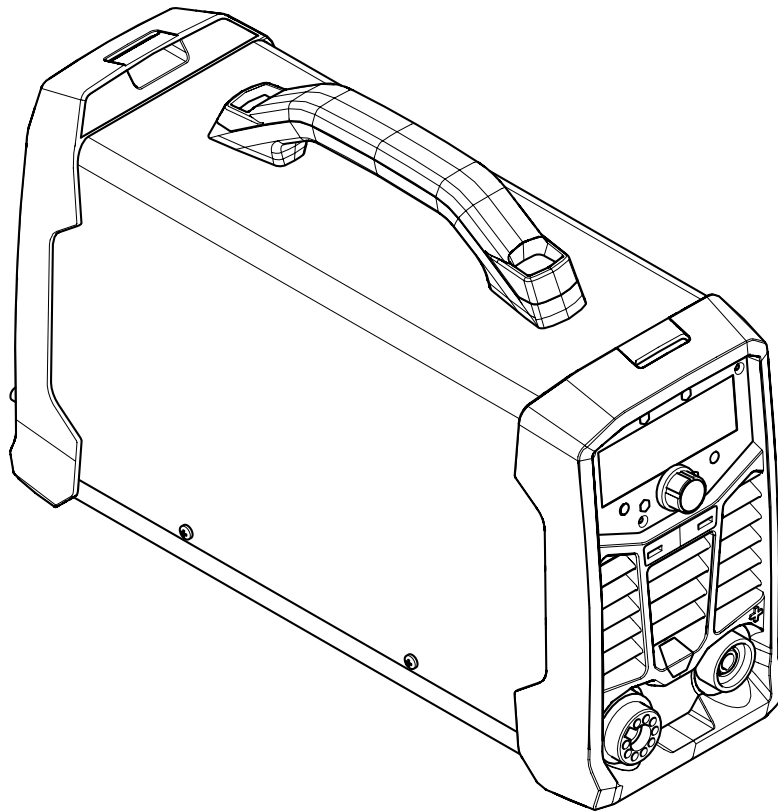




Rogue EHP 45



Instruction manual

0448 801 001 US 20260813

Valid for: HA616-XXXX-XXXX

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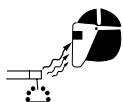
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CHAPTER 1: SAFETY

1.01 Safety Precautions



WARNING:: These safety precautions are for your protection. Summarizes the cautionary information for the part numbers listed in the 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 hearing protection. The electric arc, like the sun, emits ultraviolet light (UV) and other radiation and can damage the skin and eyes. Hot metal can cause burns. Training in the proper use of processes and equipment is essential to prevent accidents. This means that we:

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

Use a face shield equipped with the correct filter and cover plates to protect your eyes, face, neck, and ears from sparks and arc flashes when operating or observing operations. Warn bystanders not to observe the arc or be exposed to arc flashes or hot metal.

Wear fire-resistant gloves, a thick-sleeved long-sleeved shirt, cuffless trousers, high shoes, and a welding helmet or cap to protect your hair from arcing and sparks or hot metal. A flame retardant apron may also be desirable as protection against radiated heat and sparks.

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

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

Wear safety glasses when crushing slag or crushing. Chipped slag can be hot and fly away. Bystanders must also wear glasses over safety glasses.



FIRE AND EXPLOSION-- Heat from flames and arcs can cause fire. Hot slag or sparks can also cause fire and explosion. This means that we:

Remove all combustible materials from the work area or cover with a non-flammable protective blanket. Combustible materials include wood, fabric, sawdust, liquid and gaseous 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 fire or fires in the lower floor. Make sure that these openings are protected from hot sparks and metal."

Do not weld, cut, or perform any other hot work until the workpiece has been thoroughly cleaned so that no substances that may produce flammable or toxic vapors remain on the workpiece. Do not perform hot work in closed containers. They may explode.

Have fire extinguishing equipment ready for immediate use, such as a garden hose, water bucket, sand bucket, or handheld fire extinguisher. Make sure that you have been trained in its use.

Do not use the equipment beyond its rated values. For example, an overloaded welding wire can overheat and create a risk of fire.

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

For additional information, refer to NFPA 51B, "Fire Prevention in the 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 safety limits. You should protect your ears from loud noise to prevent permanent hearing loss.

To protect your hearing from loud noises, use plugs and/or earmuffs. Protect others in the workplace.

Noise levels must be measured to ensure that the decibels (sound) do not exceed safe levels.

For information on how to perform noise tests, see "OSHA, SAFETY AND HEALTH STANDARDS, 29CFR 1910", can be obtained from the Document Superintendent, U.S. Government Print Office, Washington, D.C. 20402."



ELECTRIC SHOCK - Contact with live electrical parts and ground can cause serious injury or death. DO NOT use AC welding current in wet areas, if movement is restricted or if there is a risk of falling.

Make sure that the power supply frame (chassis) is connected to the input power grounding system.

Connect the part to a good electrical ground.

Connect the work lead to the workpiece. A poor or missing connection can expose you or others to a fatal discharge.

Use well maintained equipment. Replace worn or damaged cables.

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

Make sure all parts of your body are isolated from work and grounding.

Do not stand directly on metal or earth while working in confined spaces or in a wet area; stand on dry boards or an insulated platform and wear rubber soled shoes.

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

Switch off the power before removing gloves.

Refer to ANSI/ASC Z49.1 (listed on the next page) for specific grounding recommendations. Do not mix up ground line with ground line.



ELECTRICAL AND MAGNETIC FIELD - can be dangerous. The electrical current flowing through any conductor causes localized electrical and magnetic fields (EMC). The welding and cutting current generates electromagnetic forces around welding cables and welding machines. This means that we:

Welders with pacemakers should consult their doctor before welding. Electromagnetic fields (EMC) can interfere with some pacemakers.

Exposure to EMC may have other health effects that are unknown.

Welders must use the following procedures to minimize exposure to EMC:

- A. Route electrode and work leads together. Fix them with adhesive tape where possible.
- B. Never wrap the torch or work lead around your body.
- C. Do not place the body between the torch and the work leads. Route lines on same side of body.
- D. Connect the work lead to the workpiece as close as possible to the area to be welded.
- E. Keep the power supply and welding cables as far away from the body as possible.



VAPORS AND GASSES - Vapors and GASSES can cause discomfort or damage, especially in confined spaces. Do not breathe vapors and gasses. Protective gasses can cause suffocation.

This means that we:

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 or stainless steel, copper, zinc, lead, beryllium, or cadmium unless positive mechanical ventilation is provided. Do not breathe vapors from these materials.

Do not operate near degreasing and spraying operations. Heat or arcing can react with chlorinated hydrocarbon vapors to form phosgene, a highly toxic gas, and other irritating gasses.

If a momentary irritation of the eyes, nose or throat occurs during the operation, this indicates that ventilation is not adequate. Stop the work and take the necessary measures to improve the ventilation in the work area. Do not continue operation if physical discomfort persists.

Refer to ANSI/ASC Z49.1 (see list 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 this product.



CYLINDER HANDLING - Cylinders, if improperly handled, may rupture and release gas violently. Sudden rupture of the cylinder, valve, or relief device can cause injury or death. This means that we:

Use the appropriate gas for the process and the appropriate pressure reducing regulator designed to operate from the compressed gas cylinder. Do not use adapters. Keep hoses and fittings in good condition. Observe the manufacturer's operating instructions for installing the regulator on a compressed-gas cylinder.

Always secure cylinders in vertical position with a chain or strap to suitable manual forklifts, undercarriages, benches, walls, posts, or racks. Never attach cylinders to work tables or accessories where they may be part of an electrical circuit.

Keep cylinder valves closed when not in use. Fit the valve protection cap if the regulator is not connected. Secure and move the cylinders using suitable hand trucks. Avoid rough handling of the cylinders.

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

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



EQUIPMENT MAINTENANCE – Defective or improperly maintained equipment can cause injury or death. This means that we:

Always have installation, troubleshooting, and maintenance performed by qualified personnel. Do not perform any electrical work unless you are qualified to do so.

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

Keep cables, ground wire, connections, power cord, and power supply in good working order. Do not use any equipment in defective condition.

Do not abuse any equipment or accessories. Keep the equipment away from heat sources such as ovens, damp conditions such as puddles of water, oil or grease, corrosive atmospheres, and adverse weather conditions.

Keep all safety devices and cabinet covers in place and in good condition.

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



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

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

ANSI/ASC Z49.1 - "Safety in welding and cutting".

AWS C5.1 - "Best practices for plasma arc welding".

AWS C5.2 - "Plasma Arc Cutting Best Practices".

AWS C5.3 - "Best Practices for Airborne Carbon Arc Gouging and Cutting".

AWS C5.5 - "Best practices for tungsten gas arc welding".

AWS C5.6 - "Best practices for metal arc welding with gas".

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

ANSI/AWS F4.1, "Recommended safe practices for welding and cutting containers that have contained hazardous substances."

CSA Standard – W117.2 = Safety in welding, cutting and other related processes.



Meaning of the symbols used in this manual: Meaning of the symbols As used in this manual: Your safety is at stake.

DANGER

But be careful!

CAUTION

Indicates possible hazards that could result in personal injury or death.

WARNING

Means that potential hazards can cause personal injury, which could be fatal.

Enclosure Type

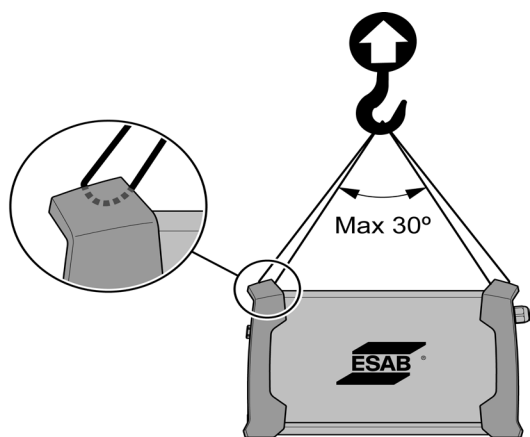
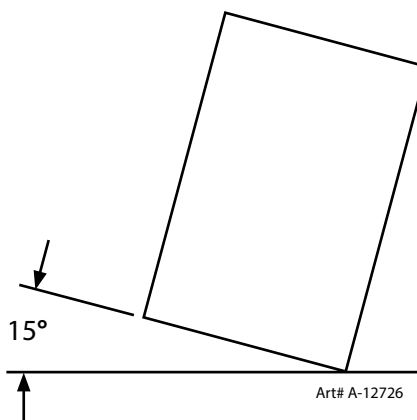
The IP code indicates the protection class, i.e. the degree of protection against the ingress of solid objects or water. Protection is provided against finger contact, penetration of solid objects larger than 12 mm and against water spray up to 60 degrees from the vertical. Equipment marked with IP23S can be stored, but is not designed to be used outdoors during precipitation unless protected.

CAUTION

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

CAUTION

If the unit is set up on a surface with an incline of more than 15°, it may tip over. Personal injury and/or serious damage to the equipment may occur.

**CAUTION**

To avoid personal injury and/or equipment damage, lift using the method and attachment points shown here. Use both handles, not just one.

CHAPTER 2: INTRODUCTION

2.01 How to use this manual

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

The words WARNING, CAUTION and NOTE may appear in this manual. Pay particular attention to the information in these sections. These special annotations can be easily recognized as follows:


NOTE!

An operation, procedure, or background information that requires additional emphasis or is useful for efficient system operation.


CAUTIONS:

A procedure which, if not followed correctly, may result in damage to the equipment.


WARNING

A procedure that, if not followed correctly, can cause injury to the operator or others in the operating area.


WARNING

Provides information about a possible electric shock injuries. The warnings will be attached in a box like this.

Additional copies of this manual can be obtained by contacting ESAB at the address and telephone number for your area listed on the back cover of this manual. Include the number of the operation manual and the identification numbers of the equipment.

Electronic copies of this manual can also be downloaded free of charge in Acrobat PDF format from the ESAB website 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 nameplate/label attached to the back of the power supply. Equipment that does not have a data label, such as torch and cord assemblies, is only identified by the specification or part number printed on a loose card or on the shipping container. Note these numbers at the bottom of page i for future reference.

2.03 Equipment Receipt

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

Included CETL items:

- Power supply (Rogue EHP 45)
- Connection cable with connection clamp, 3 meters
- EASB 60A hand torch, plasma torch, 5 meters
- Wear part cutting tip, 0.9 mm hole and gouging tip
- Manual with quick start guide and instruction manual
- Open-end spanner
- Air connection, 1/4" NPT Milton type D
- 50 A to 15 A adapter plug
- CTA Warranty Card

Rogue EHP 45

CE Included Items:

- Power supply (Rogue EHP 45)
- Connection cable with connection clamp, 3 meters
- EASB 60A hand torch, plasma torch, 5 meters
- Wear part cutting tip, 0.9 mm hole and gouging tip
- Open-end spanner
- Air connection, 1/4" NPT EU type
- Manual with quick start guide and safety instructions

Move the unit to the installation site before unpacking the unit. Be careful not to damage the equipment when opening the box.

2.04 Power Supply Specifications-CETL

Rogue EHP 45 1-Phase Power Supply Specifications				
Input Voltage Range		120/230 V AC single phase, 50/60 Hz		
Mains power cable		The power supply includes a 3 m, 14 AWG 3/C single phase input cable with NEMA 6-50P connector		
Electrical outlet port		15–45 A, infinitely adjustable		
Power supply gas filtration capacity		Particles down to 5 microns		
Max. inlet pressure		125 PSI (8.6 bar)		
1 phase power supply duty cycle *				
Ambient air temperature range		Duty cycle ratings at 40°C (104°F) Operating range -10°C to +50°C		
Evaluation Rating				
120 VAC	Intermittency factor	40%	60%	100%
	Current	25A	20A	16A
	Voltage	90V	88V	87V
Evaluation Rating				
230 VAC	Intermittency factor	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 graph.				

2.05 Power Supply Specifications-CE

Rogue EHP 45 1-Phase Power Supply Specifications				
Input Voltage Range		230 V AC $\pm$ 15%, 1 phase, 50/60 Hz		
Mains power cable		Power supply includes 3 m single phase 3 x 2.5 mm ² input cable with 16 A Schuko plug		
Electrical outlet port		15 – 45 A, infinitely adjustable		
Power supply gas filtration capacity		Particles down to 5 microns		
Max. inlet pressure		125 PSI (8.6 bar)		
1 phase power supply duty cycle *				
Ambient air temperature range		Duty cycle ratings at 40°C (104°F) Operating range -10°C to +50°C		
Evaluation Rating				
230 VAC	Intermittency factor	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 graph.				

Rogue EHP 45	
Punching and cutting	Maximum
1/2"(12 mm)	1"(25 mm)

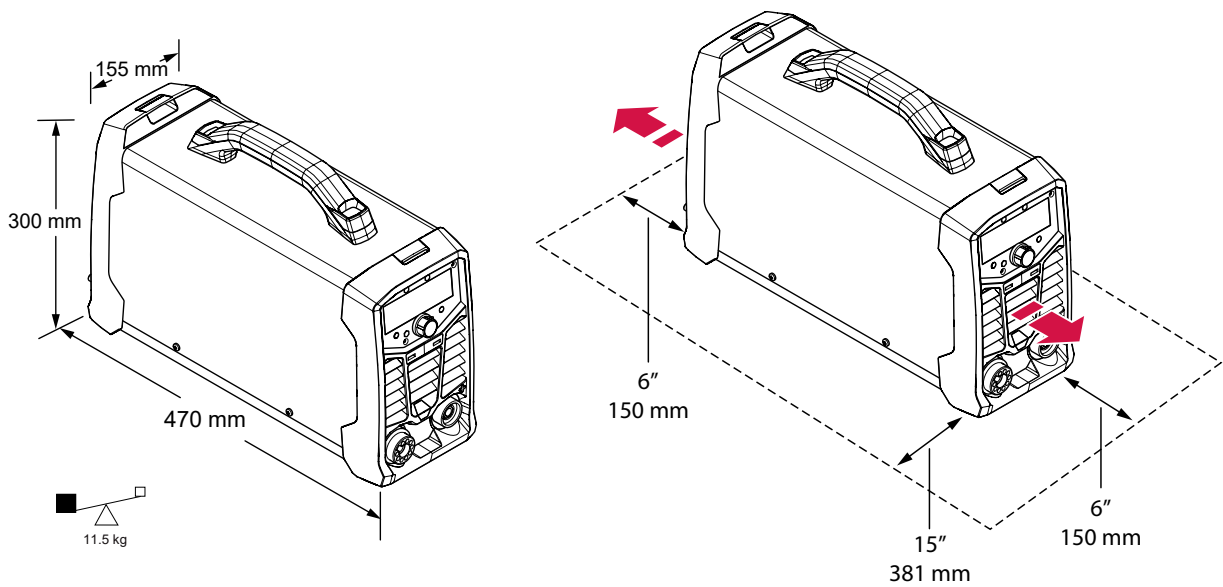
Generator Recommendations

When using generators to power the Rogue EHP 45 plasma cutter, the following ratings are minimum and should be used in conjunction with the ratings listed below.

Rogue EHP 45 Generator Specifications	
Generator rated power	Electrical outlet port
9kW	45A

**NOTE!**

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



Power supply dimensions and weight

Clearance requirements for ventilation

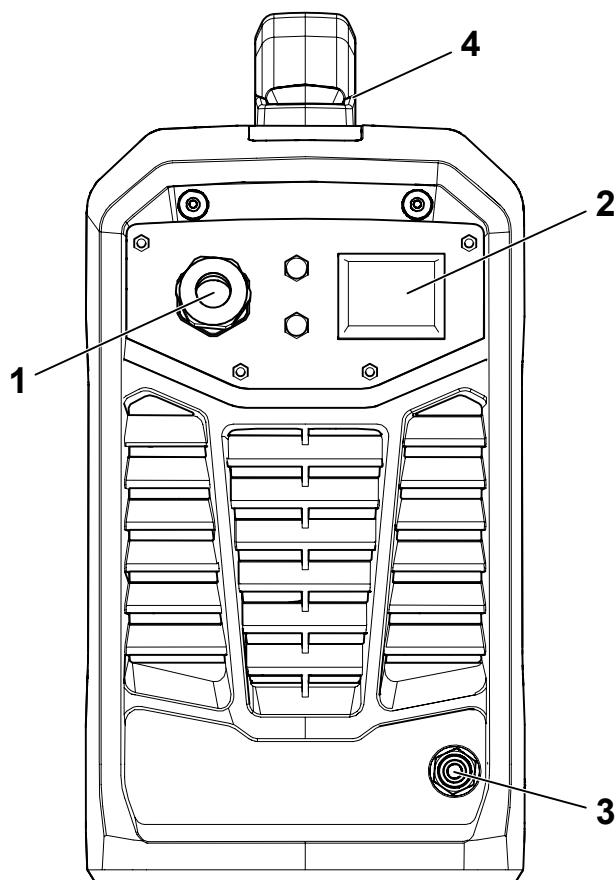
2.06 Input Wiring Specifications

Rogue EHP 45 (CETL) Power Supply Input Cable Wiring Requirements							
	Input Voltage Range	Periodicity	Power supply current			Recommended sizes	
	Volts	Hz	kVA	I _l max	I _l eff	Fuse (ampere)	Flexible cable (min. AWG)
1 Phase	230	50/60	5.3	23	13.6	30	14 AWG (2.5 mm ²)/3C
Suggested Circuit Protected Line Voltages and Cable Sizes Based on National Electrical Code and Canadian Electrical Code							

Rogue EHP 45 Power Supply Input Wiring Requirements (CE)							
	Input Voltage Range	Periodicity	Power supply current			Recommended sizes	
	Volts	Hz	kVA	I _l max	I _l eff	Fuse (ampere)	Flexible cable (min. AWG)
1 phase	230	50/60	5.3	23	13.6	32	3x2.5 mm ² /3C



NOTE!
Consult local and national codes or local authorities for proper wiring requirements.
The cable size is reduced according to the duty cycle of the equipment.

2.07 Power supply characteristics

- 1. AC power supply cable
- 2. Power ON/OFF switch
- 3. Gas inlet openings
- 4. Handle

2.01 Scope of the manual

This manual contains descriptions, operating instructions, and maintenance procedures for the ESAB 60A plasma cutting torches. Maintenance of this equipment is restricted to properly trained personnel; non-qualified personnel are strictly advised not to attempt repairs or adjustments not covered by this manual, as this may invalidate the warranty.

Please read this manual carefully. A full understanding of the features and capabilities of this equipment ensure reliable operation for which it is designed.

2.02 Overview

Plasma torches have a similar design to automotive spark plugs. They consist of negative and positive sections separated by a central insulator. Inside the torch, the pilot arc starts at the gap. Once the pilot arc has ionized the plasma gas, the superheated gas column flows through the small hole in the torch tip, which centers on the metal to be cut.

A single torch lead supplies gas from a single source that can be used as plasma gas and secondary gas. The air flow is divided within the torch head. Single gas operation provides a smaller torch size and economical operation.



CAUTIONS:

The torch leads and hoses are flexible, but internal wires can break. Do not exceed a bending radius of 2' and avoid repeated tight bends whenever possible.



NOTE!

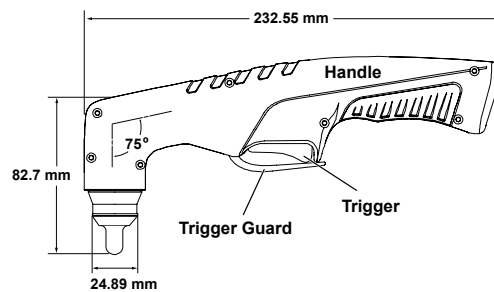
Refer to Introduction to Plasma,, for a more detailed description of plasma torch operation.

Refer to the appendix pages for additional specifications related to the power supply used.

2.03 Specifications

A. Torch Configurations

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



B. Torch lead lengths

The torch lead is 5 m long.

C. Torch consumables

The torch consists of the following consumables:

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

D. Cooling type

Combination of ambient air and gas flow through the torch.

E. Torch Ratings

Hand torch ratings	
Ambient temperature range	104° F 40° C
Duty Cycle	60% at 60 A
Max. amperage	60 Ampere
Voltage (V_{peak})	500VDC

F. Gas requirements

Hand torch gas specifications	
Gas (plasma and secondary)	Compressed-Air Supply
Operating pressure See NOTE	58–87 psi 4–6 bar 400–600 kPa
Max. inlet 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

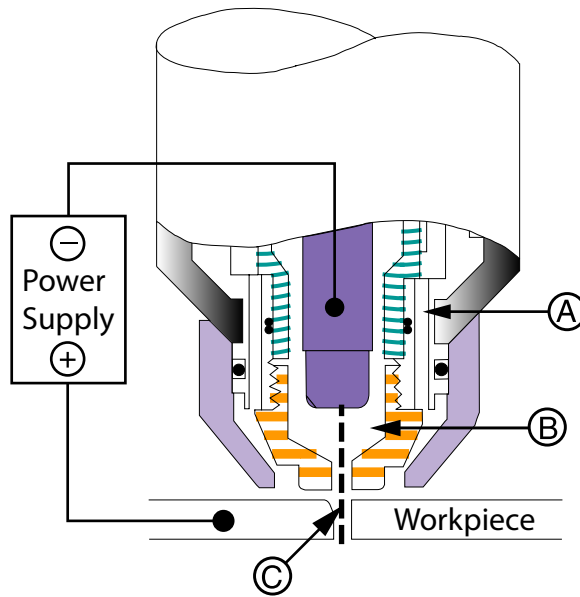
For the tip with spacer, the recommended spacer is 3/16 in. or 4.7 mm.

2.04 Plasma Introduction**A. Plasma gas flow**

Plasma is a gas that has been heated to an extremely high temperature and ionized to become an electrical conductor. Arc cutting and plasma gouging processes use this plasma to transfer an electric arc to the part. The metal to be cut or removed is melted with the heat of the arc and then blown off.

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

In a plasma cutting torch, a cold gas enters the retention cup, where a pilot arc between the electrodes and the nozzle ionizes the gas. The main cutting arc is then transferred to the part through the plasma gas column coming from the TIP. To transfer, the electrode must defect a completed circuit through the ground core connected to the workpiece. Typical transfer ratio is 3/14 to 1/2" to material.



Typical torch head data

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

B. Gas distribution

The individual gas used is internally divided into plasma and secondary gasses. 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

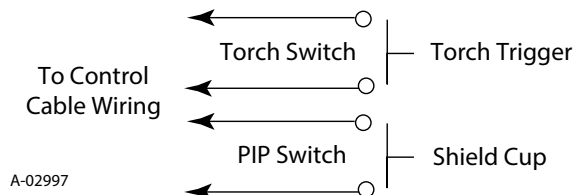
When the torch is started, a pilot arc is established between the electrode and the cutting tip. This pilot arc creates a path for the main arc to transfer to the part.

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 lead and to the torch via a pilot lead.

E. Parts – On Site (PIP)

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



On-site parts circuit diagram for hand torch

CHAPTER 3: INSTALLATION

3.01 Unpacking

1. Use packing lists to identify and count each item.
2. Inspect each item for possible transport damage. If there is any obvious damage, contact your dealer and/or transport company before proceeding with the installation.
3. Record the power supply and torch model, serial numbers, date of purchase, and supplier name in the information block at the front of this manual.

3.02 Lifting Options

The power supply includes handles for manual **lifting only**. Make sure that the unit is lifted and transported safely.



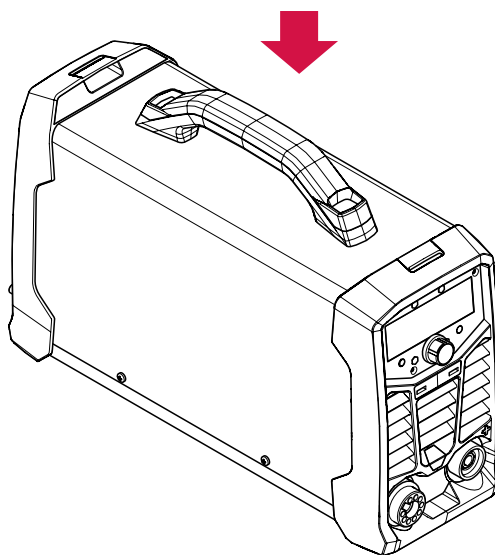
WARNING

Do not touch electrically charged parts.

Disconnect the input power cable before moving the unit.

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

The HANDLES are not for mechanical lifting.



WARNING!

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



3.03 Main Input Power Connections – CETL



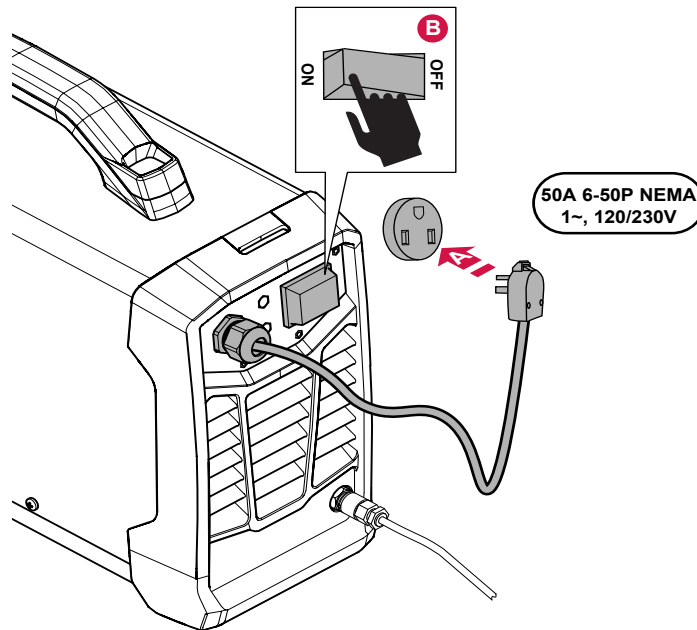
Note

The power supply is a multi-voltage system capable of operating with an input voltage of 120 V and 230 V, as specified in the technical specifications. Make sure that the input power cables meet the specifications provided in the table in section 2.06, as they may vary by region.



NOTE!

As long as the power supply is connected to the input power 120 V or 230 V, the system will automatically detect and operate as appropriate.



PRECAUTIONS:

Set the maximum output current not to exceed 21 A when the 50 A to 15 An adapter plug is connected and plug into a 120 V outlet.

3.04 Gas connections

Connecting the gas supply to the 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.

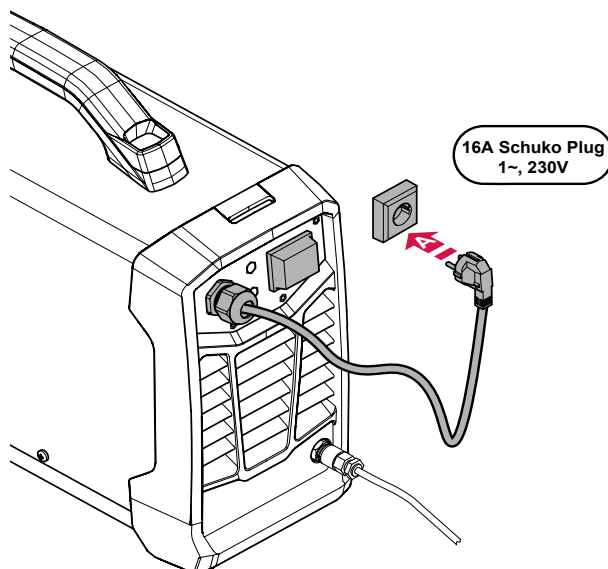
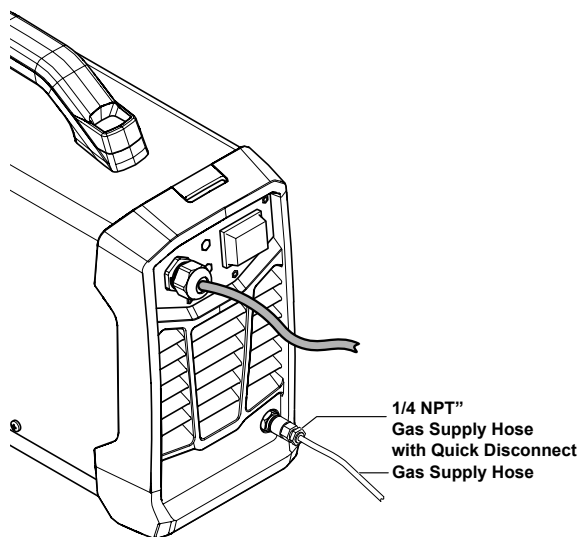
1. Connect air line to inlet port. The illustration shows a typical mounting example.



NOTE!

For a secure seal, apply thread sealant to the connection threads in accordance with the manufacturer's instructions. Do not use Teflon tape as a thread sealant, as small particles of the tape can break and block the small torch air passages.

3.05 Primary Input Power Connections-CE

*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 an accessory of your choice 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 the Optional Single-Stage Air Filter

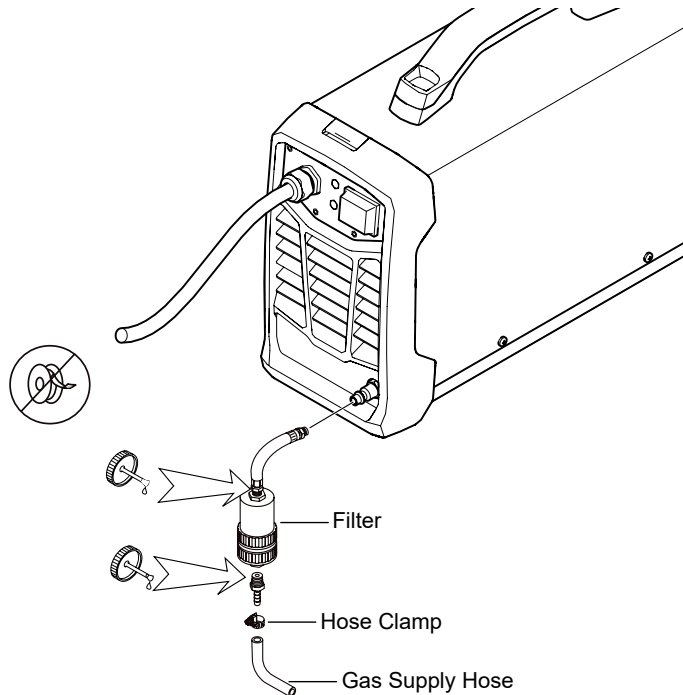
An optional filter kit (7-7507) is recommended to improve filtration with compressed air, to keep moisture and debris out of the torch.

1. Connect the one-stage filter hose to the system filter inlet port.
2. Connect the filter assembly to the filter hose.
3. Connect air line to filter using 1/4" NPT. The illustration shows a typical mounting example.



NOTE!

For a secure seal, apply thread sealant to the connection threads in accordance with the manufacturer's instructions. Do not use Teflon tape as a thread sealant, as small particles of the tape can break and block the small torch air passages.



Optional one-stage filter installation



NOTE!

Filter spare part numbers can be found in section 6 of this manual

Use of high-pressure pneumatic cylinders

When using high-pressure air cylinders as an air supply:

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

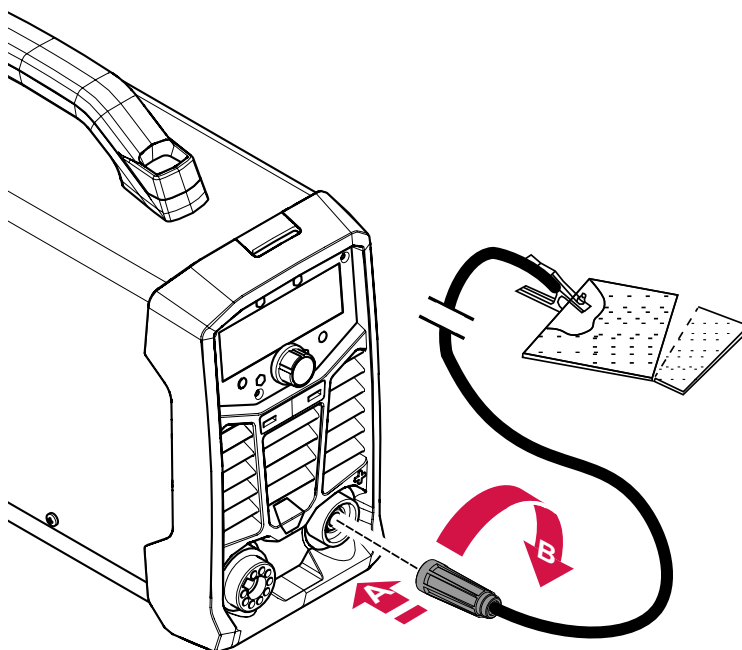
**NOTE!**

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

3.06 Ground cable connections

Connect the ground wire to the power source and workpiece.

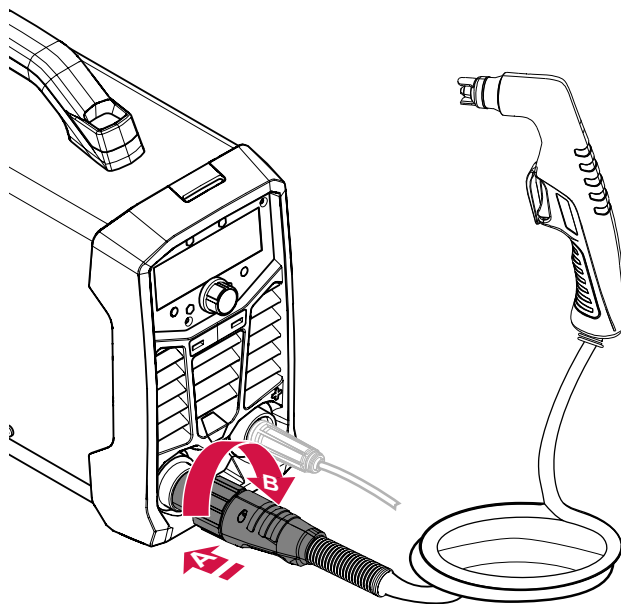
1. Connect the dinse type connection of the ground cable to the front panel of the power supply as shown below. Push and turn clockwise until tight.
2. Attach the work clamp to the workpiece or cutting table. The area must be free of oil, paint, and rust. Connect only to the main part of the workpiece;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



3.07 Torch Installation

If necessary, connect the torch to the power supply. Only connect the ESAB 60A plasma torch to this power supply.

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



NOTICE

Switch off the main power at the source before connecting the torch.

Check air quality

To test the air quality:

1. Switch on the power supply.
2. Press and hold the encoder button on 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!

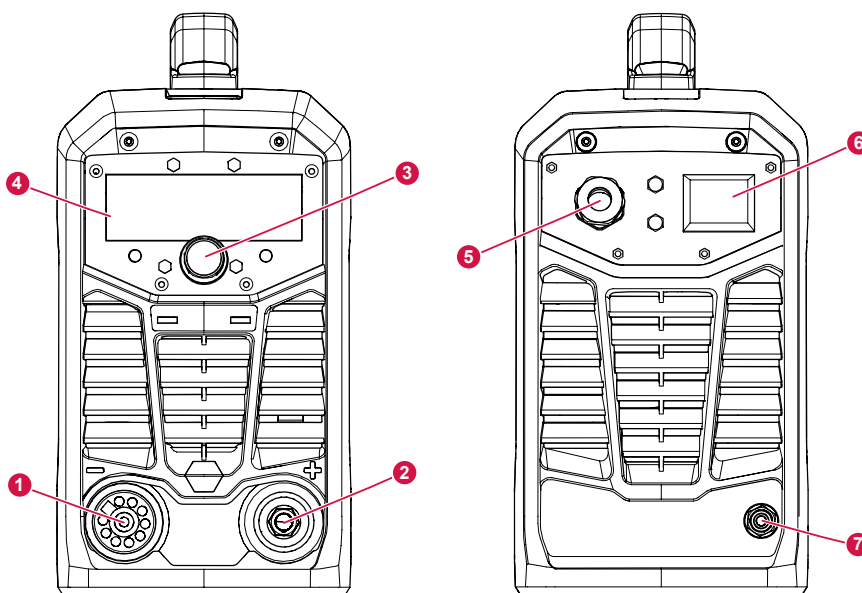
If moisture or contaminants come out of the nozzle on the arc, install an additional air filter.
Make sure that the filter is the correct size to provide the pressure and flow rate required for the system.

4. Make sure that the pin assignment of the connector and the customer-supplied connector match.

CHAPTER 4: OPERATION

4.01 Front Panel Controls/Features

See illustration for numbering identification



1. Receptacle for torch lead

Connect the torch leads by aligning the connectors, pushing them in, and turning the locking ring clockwise to secure. Make sure that the connection is tight without using any tools.

2. Main working connector

Align the Dinse type connector of the work lead with the receptacle, push and turn clockwise until it is tight.

3. Press the encoder knob



The rotary pushbutton control is used to navigate in the menu, to set the unit for current and pressure and to select the desired option

Features & Benefits

- Turn clockwise to advance.
- Turn counterclockwise to move in reverse direction.

4. HMI screen

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

5. Power cord

Designed to operate within the specified input voltage and frequency range. Make sure that the cable is properly connected to a grounded power source before use.

Rogue EHP 45

6. ON/OFF Switch

When the switch is ON, the HMI screen on the front panel turns on and the fan starts running.

7. Gas inlet port

The gas inlet of the equipment can accept a 1/4" NPT male plug, use type Milton D for CETL power supply and type EU for CE power supply.

4.02 Menu/Functions Screen

Home/Process Screen



1. Selecting the Cutting Mode

Press the button to activate cutting mode.



Press the button again to select plate cutting.



Press the button again to select trimming.

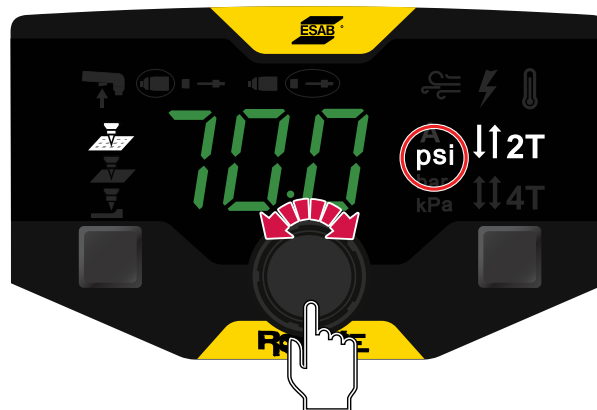


2.Setting the intensity and pressure unit

Turn the knob to adjust the AMPS setting.

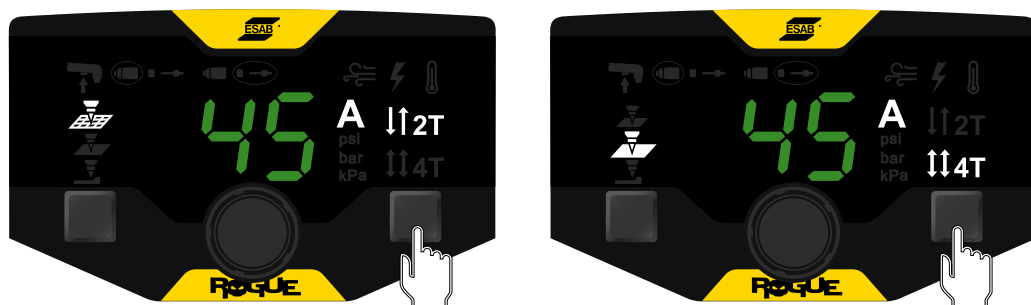


Press the button to display the pressure and then turn the knob to set the pressure unit.



3.2T/4T Trigger Lock

Press the button to select the desired trigger function.

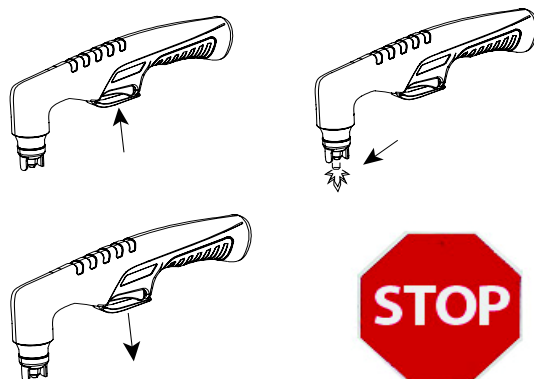


Rogue EHP 45

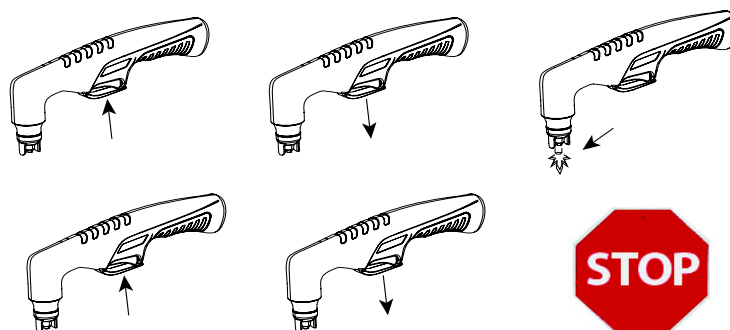
Shot mode is used to change the functionality of the torch trigger between 2T (normal) and 4T (lock mode).

In grid cutting, only 2T mode is available.

In 2T mode, the torch trigger must be held down to activate the cut output.



4T mode is mainly used for prolonged cutting operations to reduce operator fatigue.



4.03 Main screen

1. Torch Trigger Action Error Screen:

The start signal is active when the ON/OFF switch is turned to the ON position.



2. Torch Installation or Mounting Error Screen:

The Torch Install Error or Incorrect Shroud Assembly screen displays when the torch or torch consumable is not properly installed.

Check torch installation and consumables.



3. Electrode or Nozzle Installation Error Screen

The Electrode or Cutting Nozzle Installation Error screen displays when the electrode or cutting nozzle is not installed correctly.

Check or replace worn cutting nozzle and electrode.



4. Air Pressure Error Screen

The air pressure error screen is displayed when the outlet air pressure is out of range. Set the compressed air pressure between 6 and 8 bar. The error alarm will be deactivated.

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



E06: High air pressure (over 7.5 bar/750 kPa/108 psi)



5. Voltage error display

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

E02: Excess voltage



E03: Under voltage



6. Overheating error display

The cutting attachment is protected by a temperature sensor. The overheat error screen is displayed if the machine is overheated, which normally occurs if the truck duty cycle is exceeded.

If the overheat error screen is displayed, the machine output will be disabled. Leave the truck ON to allow the internal components to cool. When the unit is cool enough, the overheat error display disappears automatically.

Note that the ON/OFF switch must remain in the ON position, so that the fan continues to run and allows the equipment to cool down sufficiently.



4.04 Preparations for operation



WARNING

Switch off the main power supply at the source before mounting or disassembly of the power supply, torch parts, or torch and cord assemblies.

Torch Part Selection

Check that the torch is correctly assembled and that the torch parts are correct. Torch parts must match the type of operation and amperage output of this power supply (maximum 45 amps).

Torch connection

Check that the torch is properly connected.

Check the primary power supply

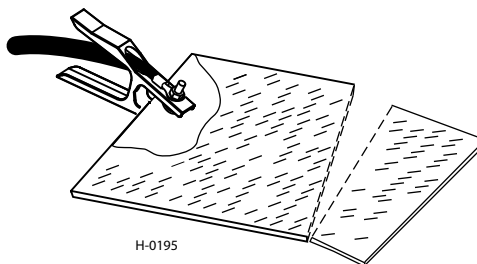
1. Check the power supply to verify that the input voltage is adequate. Make sure that the input power supply meets the power requirements of the unit as specified.
2. Connect the input power cable (or close the main disconnect switch) to supply power to the system.

Compressed-Air Supply

Make sure the source meets the requirements, check the connections, and turn on the air supply.

Connect torch lead

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



Switch on the POWER SUPPLY

Turn the power supply ON/OFF switch to the ON position. The system will power up, which can be seen when the HMI is powered up. If a problem is detected in the system, such as "Overvoltage", "Undervoltage", etc., the corresponding error icons will light up.

Once the torch trigger is pressed (start signal) 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 because the fan is turned off.



NOTE!

Minimum inlet pressure for power supply operation 90 psi.

Current setting

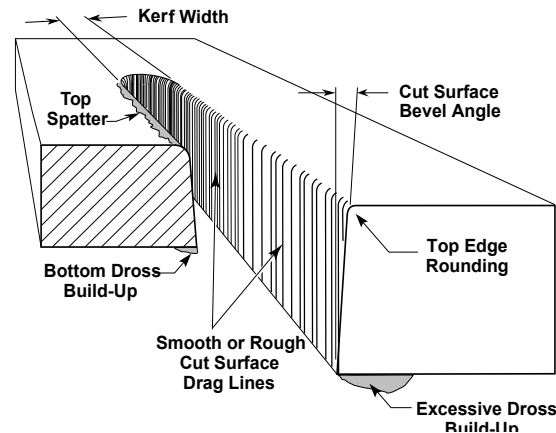
1. Turn the encoder knob to set the desired current according to the cutting process requirements.

4.01 Cut quality

**NOTE!**

Cut quality depends heavily on setup and parameters such as torch distance, workpiece alignment, cut speed, gas pressures, and operator skill.

Cutting quality requirements vary depending on the application. For example, nitride build-up and bevel angle can be important factors when the surface is to be welded after cutting. Dross-free cutting is important when a final cut quality is desired to avoid a secondary cleaning operation. The following cut quality characteristics are illustrated in the figure below:



Cutting quality characteristics

Cutting surface

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

Nitride accumulation

Nitride deposits may remain on the cutting surface when nitrogen is present in the plasma gas stream. These build-ups can create difficulties if the material is to be welded after the cutting process.

Slope Angle

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

Top edge rounding

Rounding at the upper edge of a cut due to wear from the initial contact of the plasma arc with the workpiece.

Dross build-up at the bottom

Melted material that is not ejected from the cutting area and solidifies again on the plate. Excess slag may require secondary cleaning operations after cutting.

Cutting Width

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

Upper Slag (Rechupe)

Splashes or slag on top of the cut caused by slow feed rate, excessive cutting height, or a cutting tip with an elongated hole.

4.02 General information on cutting



WARNING

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



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



CAUTIONS:

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



NOTE!

Handle the torch leads with care and protect them from damage.

Controlling the

Piloting is more detrimental to part life than actual cutting because the pilot arc is directed from the electrode to the tip instead of a workpiece. Whenever possible, avoid excessive pilot arc time to improve part life.

Torch facing

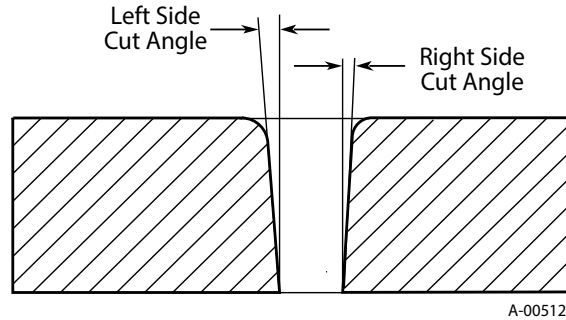
Incorrect clearance (the distance between the torch tip and the workpiece) can negatively affect the life of the tip as well as the life of the protective cup. The distance between the torch and the workpiece can also significantly affect the angle of the bevel. Reducing the separation distance will generally result in a more square cut.

Edge Start

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 should begin. Starting at the edge of the plate, do not stop at the edge or force the arc to "reach" the edge of the metal. Set the cutting arc as fast as possible.

Cutting direction

On torches, the plasma gas flow rotates as it exits the torch to maintain a uniform gas column. This swirling effect makes one side of the cut more square than the other. Viewed in the feed direction, the right side of the cut is more square than the left side.



Lateral features of the cut

To make a square edge cut along the inner diameter of a circle, the torch must be moved counterclockwise around the circle. To keep the square edge on an OD cut, the torch must be moved clockwise.

Slag

When dross is present in mild steel, it is commonly referred to as “high speed, low speed or superior dross”. Dross on the top of the plate is usually caused by too much distance between the torch and the plate. “Top slag” is usually very easy to remove and can often be cleaned with a welding glove. Low speed slag is normally present at the bottom edge of the plate. It can vary from a light to a heavy layer, but does not adhere firmly to the cut edge and can easily be scraped off. “High speed slag” usually forms a narrow strip along the bottom of the cut edge and is very difficult to remove. When cutting a problematic steel, it is sometimes useful to reduce the cutting speed to produce “low speed slag”. Any resulting cleaning can be done by scraping, not sanding.

Hand torch drilling

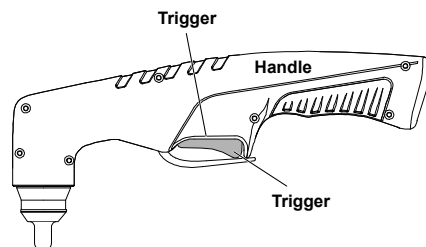
1. The torch can be held comfortably with one hand or stabilized with both hands. Place your hand to press the trigger on the torch handle. With the hand torch, the hand can be placed close to the torch head for maximum control or close to the back end for maximum heat protection. Choose the technique that is most comfortable for you and allows good control and movement.



NOTE!

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

2. Slightly tilt the torch to direct the kickback particles away from the torch tip (and the operator) rather than directly toward the torch until piercing is complete.
3. On a portion of the unwanted metal, start punching outside the cut line and then continue cutting over the line. Hold the torch perpendicular to the workpiece once the punching is complete.
4. Keep the torch away from your body.
5. Slide the trigger toward the back of the torch handle while simultaneously squeezing the trigger. The pilot arc will start.



**NOTE!**

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

6. Clean splashes and slag from the retaining CUP and tip as soon as possible. Spraying the COPA with anti-splash compound will minimize the amount of slag adhering to it.

The cutting speed depends on the material, thickness and the ability of the operator to precisely follow the desired cutting line. The

The following factors may affect the performance of the system:

- Torch parts wear out
- Air quality
- Line voltage fluctuations
- Torch separation height
- Proper work lead connection

4.03 Over-collection

**WARNING**

Make sure that the operator is equipped with appropriate gloves, clothing, eye and ear protection, and that all safety precautions listed at the beginning of this manual have been followed. Make sure that no part of the



The operator's body comes into contact with the workpiece when the torch is activated.

Disconnect the main power to the system before disassembling the torch, cables, or power supply.

Roughing Parameters

Roughing performance depends on parameters such as torch travel speed, current level, feed angle (the angle between the torch and the workpiece), and distance between the torch tip and workpiece (separator)

**CAUTIONS:**

Touching the torch tip or holding the COPA on the work surface will cause excessive wear on the parts.

Torch traveling speed

**NOTE!**

Refer to the appendix pages for additional information related to the power supply used.

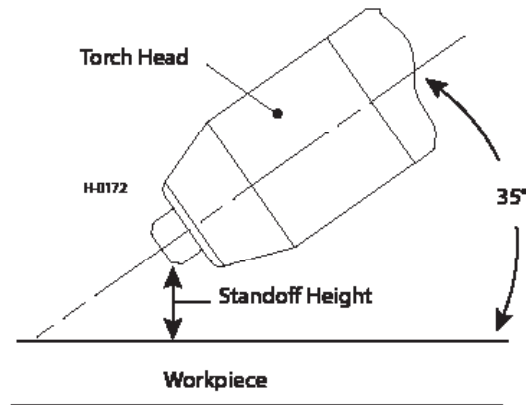
The optimal torch travel speed depends on the current setting, the feed angle, and the mode of operation (hand or machine torch).

Current setting

The current settings depend on the torch travel speed, the mode of operation (manual or automatic torch), and the amount of material to be removed.

Caster Angle

The angle between the torch and the workpiece depends on the output current setting and the torch travel speed. The recommended caster angle is 35° . With a lead angle greater than 45° , the molten metal will not be ejected from the slot and can be blown back to the torch. If the feed angle is too small (less than 35°), less material can be removed, which will require more passes. In some applications, such as removing welds or working with light metal, this may be desirable.



Roughing Angle and Clearance Distance

Clearance distance

The distance from the tip to the job affects the quality and depth of the roughing. A $1/8$ to $1/4$ inch (3 to 6 mm) clearance allows for smooth and consistent metal removal. Smaller separation distances may result in a separation cut instead of a notch. Separation distances greater than $1/4$ inch (6 mm) can result in minimal metal removal or loss of the transferred main arc.

Slag accumulation

Slag generated by roughing materials such as carbon and stainless steels, nickel and alloy steels can be easily removed in most cases. Slag does not obstruct the roughing process if it accumulates next to the roughing path. However, slag build-up can cause inconsistencies and uneven metal removal if large amounts of material build up in front of the arc. Accumulation is often the result of inadequate travel speed, feed angle, or clearance height.

CHAPTER 5: MAINTENANCE

5.01 Summary

Regular maintenance is important to ensure safe and reliable operation.

ESAB recommends that maintenance of the equipment is performed only by qualified professionals.

**CAUTIONS:**

All terms of the supplier's warranty commitment shall cease to apply if the customer attempts to repair any fault in the product during the warranty period.

5.02 Preventive Maintenance

Under normal operating conditions, the equipment does not require special maintenance.

The operator may occasionally blow any debris with low pressure compressed air. The operator must regularly check that the external electrical connections are tight and that the wiring of the components is secure. Check for cracks in the insulation of electrical cables or conductors, including cuts or other insulation, and replace as necessary.

**CAUTIONS:**

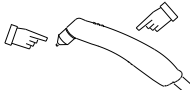
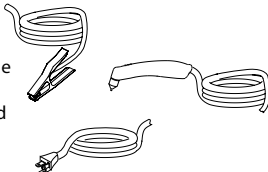
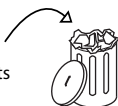
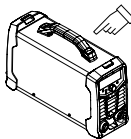
Disconnect all power before performing ANY service

5.03 Corrective Maintenance

Use only original ESAB consumables, torch and cables. The use of non-original or non-approved parts will automatically void the warranty provided.

Replacement torches and leads can be obtained from ESAB's authorized service centers or from the sales offices listed on the last page of this document. Always refer to the model number of the equipment ordered.

5.04 Equipment Preventive Maintenance Plan

<div><div></div><div><div>Warning!</div><div>Disconnect input power before maintaining.</div></div></div> <div>Maintain more often if used under severe conditions</div>	
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.	 <div>Visually inspect the cables and leads. Replace as needed</div> 
3 Months	
Replace all broken parts	 <div>Clean exterior of power supply</div>  <div>Check the external air filter (Turn the equipment.OFF Close the gas supply and bleed.) Replace as needed.</div>

Art # A-07938NEW

Art # A-07938NEW



NOTE!
Leave the internal ground wire on the correct plate.

CHAPTER 5: TORCH MAINTENANCE

5.01 Torch Cleaning

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

**CAUTIONS:**

Disconnect the main power to the system before disassembling the torch or torch leads.

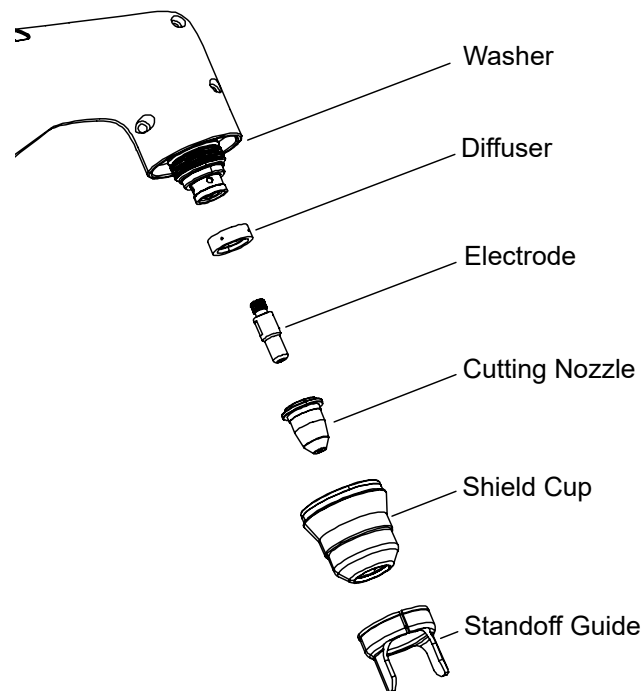
DO NOT touch any internal part of the torch while the AC indicator light on the power supply is ON.

**CAUTIONS:**

The inside of the torch should be cleaned with electrical contact cleaner using a cotton swab or a soft, damp cloth. 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 out with compressed air.

5.02 Inspecting and Replacing Torch Consumables

Remove the consumable part from the torch as follows:

**NOTE!**

Part numbers for filter replacement can be found in Section 6 of this manual

CHAPTER 6: TROUBLESHOOTING



WARNING STATEMENT

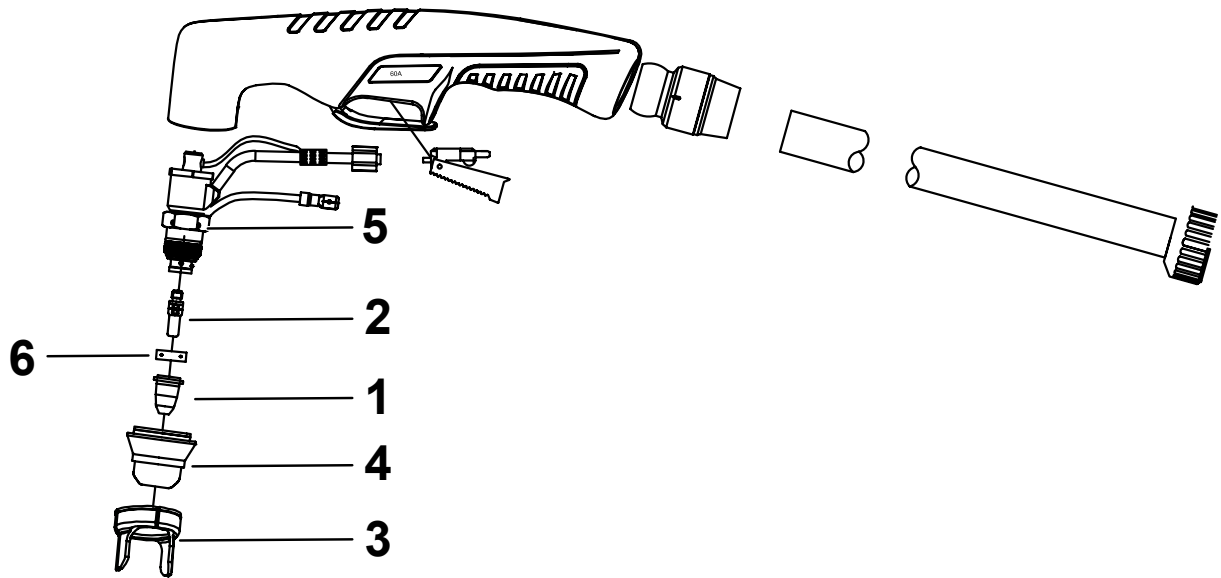
Extremely dangerous voltage and power levels are present inside this unit. Do not attempt to diagnose or repair unless you have been trained in power electronics measurement and troubleshooting techniques.

If major complex subassemblies are defective, the power supply must be returned to an approved ESAB service provider for repair. The basic level of troubleshooting can be performed without special equipment or knowledge.

Error code	Description	Solution
E01	Overheating	A) Leave the power supply on and allow it to cool down. Note that the overheat error screen must close before cutting begins. B) Maintain ventilation space. C) Check that the fan is running when the main switch is ON.
E02	Voltage is too high	Make sure that the power supply is between 120 and 230 VAC $\pm$ 15%
E03	Turning on the Power	
E04	Torch head is not installed correctly	A) Check that the protective cup is correctly installed. B) Check that the ATC male connector is properly installed.
E05	Low air pressure (less than 3 bar/300 kPa/43.5 psi)	A) Set the air inlet pressure to 6 bar ~ 8 bar. B) Disconnect the gas hose at the back of the power supply or proportioner and blow out any impurities. C) Check for a gas leak between the gas valve and the gas inlet or cylinder outlet.
E06	High air pressure (above 7.5 bar/750 kPa/108 psi)	
E07	Trigger safety guard engaged	Make sure that the plasma torch trigger is not activated before power is turned on.
E08	The electrode or nozzle is not properly installed.	A) Reinstall the electrode or tip. B) Check that the electrode and tip are in good condition and replace if necessary.

6.01 Consumables

Item	Qty	Ordering number	Description
1	1	0559337001	Cutting tip 35A
		0559337002	Cutting tip 45A
		0559337008	Plasma gouging NOZZLE 15-45A
2	1	0559337003	Electrode
3	1	0559337004	Spacing guide
4	1	0559337005	Protection covers
5	1	0559337006	O-ring seals
6	1	0559337007	Gas nozzles



7.01 Ordering spare parts

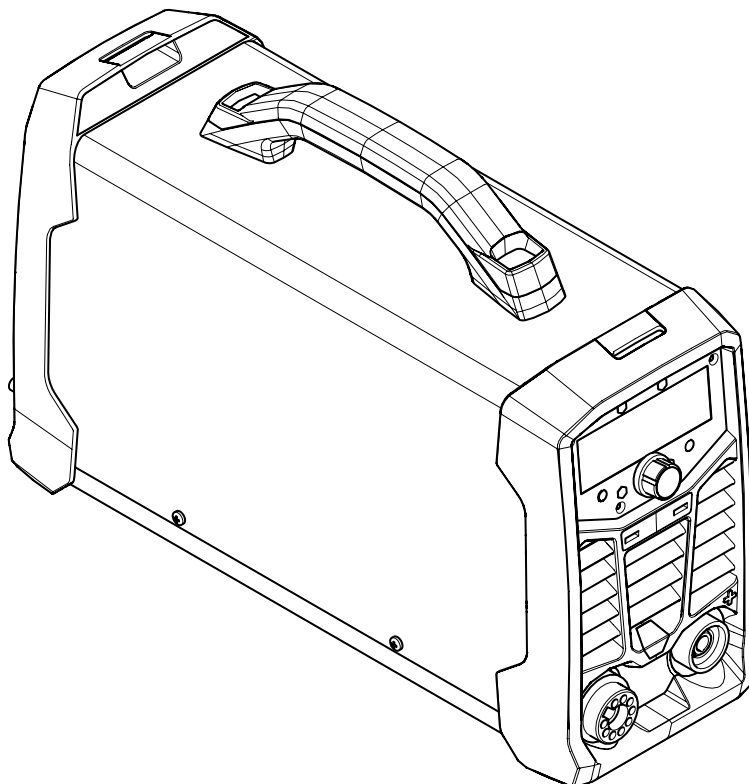


CAUTIONS:
All electrical repairs and work must be carried out by an ESAB authorized service technician.
Always use original ESAB spare parts and consumables.

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

APPENDIX

Purchase Order Numbers



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

The last three digits of the manual document number indicate the manual version. They are therefore replaced by an asterisk (*) in this text. Use a manual with a serial number or software version that corresponds to the product, see the front page of the manual.

The technical documentation is available online at: www.esab.com

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<http://manuals.esab.com>

