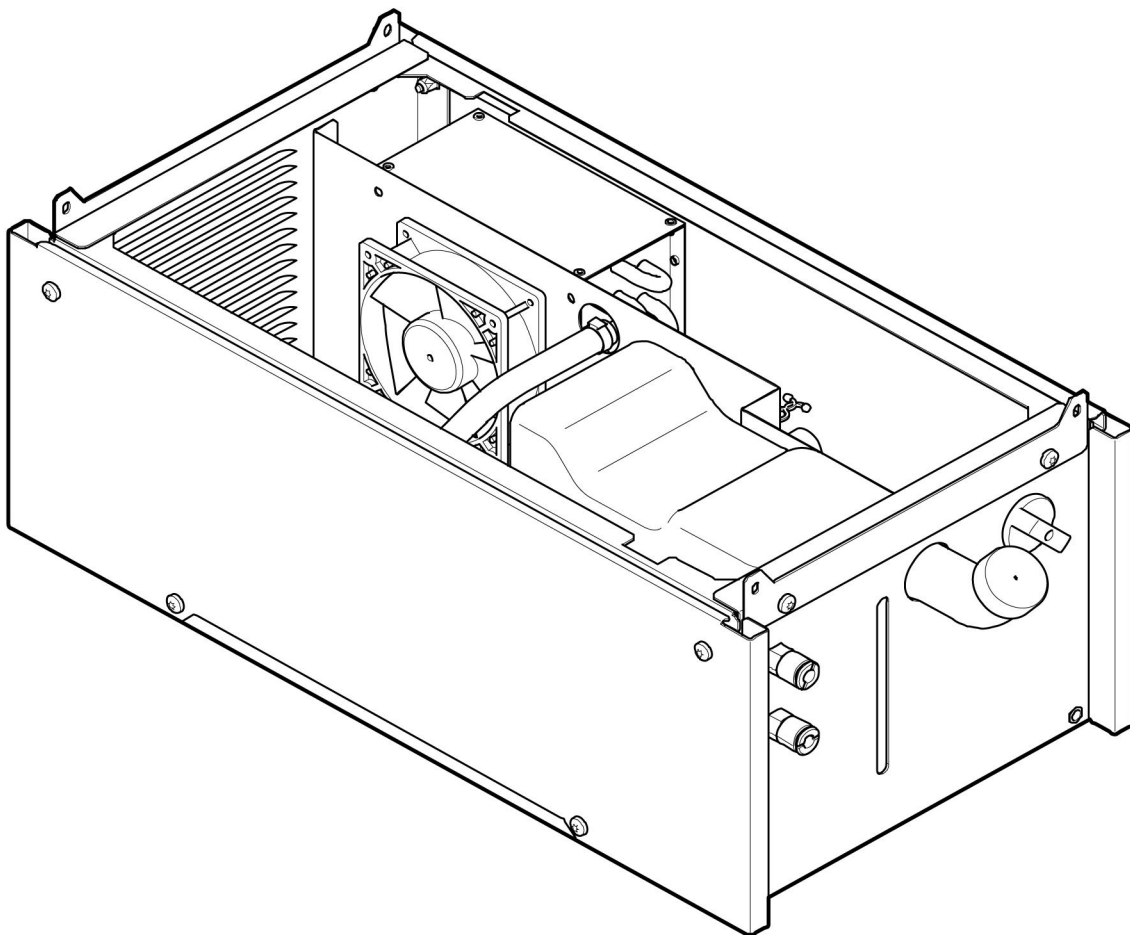


# **COOL 2**



## **Instruction manual**



## DECLARATION OF CONFORMITY

According to

The Low Voltage Directive 2006/95/EC, entering into force 16 January 2007

The EMC Directive 2004/108/EC, entering into force 20 July 2007

The RoHS Directive 2011/65/EC, entering onto force 2 January 2013

### Type of equipment

Welding cooling system

### Type designation

Cool 2, from serial number 324 xxx xxxx (2013 w24)  
Cool 2, is a member of the ESAB Warrior™ product family

### Brand name or trade mark

ESAB

### Manufacturer or his authorised representative established within the EEA

Name, address, telephone No:

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

Phone: +46 31 50 90 00, Fax: +46 584 411 924

### The following harmonised standard in force within the EEA has been used in the design:

EN 60974-1, Arc Welding Equipment – Part 2: Liquide cooling systems

EN 60974-10, Arc Welding Equipment – Part 10: Electromagnetic Compatibility (EMC) requirements

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

**By signing this document, the undersigned declares as manufacturer, or the manufacturer's authorised representative established within the EEA, that the equipment in question complies with the safety requirements stated above.**

Date  
Gothenburg  
14-June-2013

Signature  
  
Stephen Argo  
Clarification

Position  
Global Director  
Equipment

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# 1 SAFETY

## 1.1 Meaning of symbols

As used throughout this manual: Means Attention! Be Alert!

**DANGER!**

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

**WARNING!**

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

**CAUTION!**

Means hazards which could result in minor personal injury.

**WARNING!**

Before use, read and understand the instruction manual and follow all labels, employer's safety practices and Safety Data Sheets (SDSs).



## 1.2 Safety precautions

Users of ESAB equipment have the ultimate responsibility for ensuring that anyone who works on or near the equipment observes all the relevant safety precautions. Safety precautions must meet the requirements that apply to this type of equipment. The following recommendations should be observed in addition to the standard regulations that apply to the workplace.

All work must be carried out by trained personnel well-acquainted with the operation of the equipment. Incorrect operation of the equipment may lead to hazardous situations which can result in injury to the operator and damage to the equipment.

1. Anyone who uses the equipment must be familiar with:
  - its operation
  - location of emergency stops
  - its function
  - relevant safety precautions
  - welding and cutting or other applicable operation of the equipment
2. The operator must ensure that:
  - no unauthorised person is stationed within the working area of the equipment when it is started up
  - no-one is unprotected when the arc is struck or work is started with the equipment
3. The workplace must:
  - be suitable for the purpose
  - be free from drafts

4. Personal safety equipment:
  - Always wear recommended personal safety equipment, such as safety glasses, flame-proof clothing, safety gloves
  - Do not wear loose-fitting items, such as scarves, bracelets, rings, etc., which could become trapped or cause burns
5. General precautions:
  - Make sure the return cable is connected securely
  - Work on high voltage equipment **may only be carried out by a qualified electrician**
  - Appropriate fire extinguishing equipment must be clearly marked and close at hand
  - Lubrication and maintenance must **not** be carried out on the equipment during operation

**If equipped with ESAB cooler**

Use ESAB approved coolant only. Non-approved coolant might damage the equipment and jeopardize product safety. In case of such damage, all warranty undertakings from ESAB cease to apply.

Recommended ESAB coolant ordering number: 0465 720 002.

For ordering information, see the "ACCESSORIES" chapter in the instruction manual.



**WARNING!**

Arc welding and cutting can be injurious to yourself and others. Take precautions when welding and cutting.

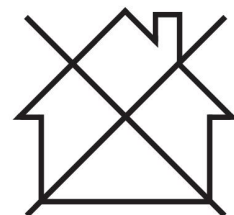
**MALFUNCTION - Call for expert assistance in the event of malfunction.**

**PROTECT YOURSELF AND OTHERS!**



**CAUTION!**

Class A equipment is not intended for use in residential locations where the electrical power is provided by the public low-voltage supply system. There may be potential difficulties in ensuring electromagnetic compatibility of class A equipment in those locations, due to conducted as well as radiated disturbances.



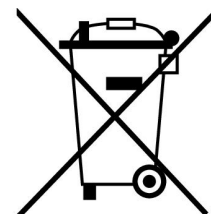
**NOTE!**

**Dispose of electronic equipment at the recycling facility!**

In observance of European Directive 2012/19/EC on Waste Electrical and Electronic Equipment and its implementation in accordance with national law, electrical and/or electronic equipment that has reached the end of its life must be disposed of at a recycling facility.

As the person responsible for the equipment, it is your responsibility to obtain information on approved collection stations.

For further information contact the nearest ESAB dealer.



**ESAB has an assortment of welding accessories and personal protection equipment for purchase. For ordering information contact your local ESAB dealer or visit us on our website.**

## 2 INTRODUCTION

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Cooling unit **COOL 2** is intended for cooling water-cooled MIG/MAG welding torches.

**Cool 2** cooling unit is compatible with the following power sources:

- Warrior™ 400i CC/CV, 500i CC/CV, MV 350i and MV 400i
- Aristo® 500ix

**ESAB accessories for the product can be found in the "ACCESSORIES" chapter of this manual.**

### 2.1 Equipment

The cooling unit is supplied with installation instructions and instruction manual.

### 3 TECHNICAL DATA

<b>COOL 2</b>	
<b>Power consumption</b>	40 V AC / 2A, 50/60 Hz
<b>Cooling power</b>	1 kW
<b>Noise (Constant sound pressure when idling)</b>	< 70 dB(A)
<b>Coolant</b>	"ESAB's ready mixed coolant, see the "ACCESSORIES" chapter.
<b>Coolant quantity</b>	4.5 l
<b>Maximum water flow</b>	1.8 l/min
<b>Max pressure lift for torch <math>Q_{max}</math></b>	4.6 bar
<b>Operating temperature</b>	-10° to +40°C
<b>Transportation temperature</b>	-20° to +55°C
<b>Dimensions (l × w × h)</b>	680 × 330 × 230 mm
<b>Weight empty</b>	15 kg
<b>Enclosure class</b>	IP23

The cooling unit is rated 500 A at 60% duty cycle at 77°F (25°C) ambient temperature.

#### Enclosure class

The **IP** code indicates the enclosure class, i.e. the degree of protection against penetration by solid objects or water.

Equipment marked **IP23** is intended for indoor and outdoor use.



## 4 INSTALLATION

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The installation must be carried out by a professional.



### CAUTION!

This product is intended for industrial use. In a domestic environment this product may cause radio interference. It is the user's responsibility to take adequate precautions.

### 4.1 Location

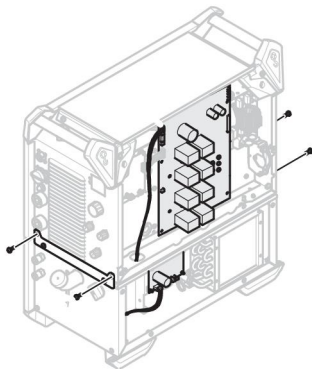
Position the cooling unit such that its cooling air inlets and outlets are not obstructed.

### 4.2 Power supply

The cooling unit is supplied from the power source, see the "OPERATION" chapter.

### 4.3 Installing welding equipment

Installation instruction for this product can be found in the "ASSEMBLY INSTRUCTIONS" chapter".

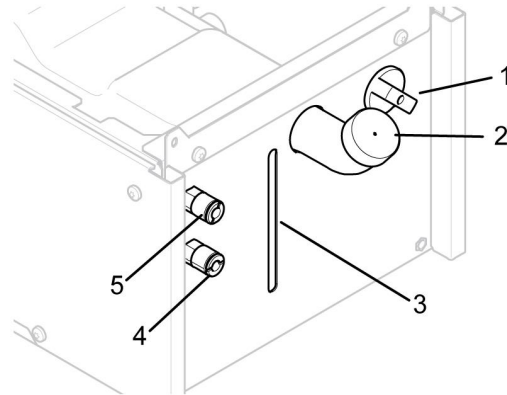


## 5 OPERATION

General safety regulations for handling the equipment can be found in the "SAFETY" chapter of this manual. Read it through before you start using the equipment!

### 5.1 Connections and control devices

1. Switch for On/Off
2. Coolant filling
3. Min/max of coolant
4. Connection RED for coolant (return) to cooling unit
5. Connection BLUE for coolant from cooling unit



### 5.2 Usage of the cooling unit



#### CAUTION!

**Important!** Turn OFF the cooling unit when welding MMA or using air cooled MIG/TIG welding torches to avoid excessive wear of the pump. Otherwise the pump will work against a closed valve.

Turn ON the cooling unit when using a water cooled MIG welding torch to avoid damages on the cable set.

### 5.3 Coolant connection

For problem free operation it is recommended that the height from the cooling unit to the water-cooled MIG/MAG torch is a maximum of 8.5 m.

### 5.4 Coolant pressure controller

The pump has an enclosed pressure relief valve. The valve opens gradually when the pressure is too high. This can occur if a hose is folded, which causes the flow to fail or stop.

## 6 MAINTENANCE



### NOTE!

Regular maintenance is important for safe and reliable operation.



### CAUTION!

Only persons with the appropriate electrical knowledge (authorised personnel) may remove the safety plates.



### CAUTION!

All warranty undertakings from the supplier cease to apply if the customer attempts any work to rectify any faults in the product during the warranty period.

### 6.1 Inspection and cleaning



### WARNING!

The mains supply must be disconnected before cleaning.

#### Dust, grinding, swarf etc

The air stream through the cooling unit carries particles that become trapped in the cooling element, particularly in dirty working environments. This results in reduced cooling capacity. For this reason, blow clean using compressed air at regular intervals.

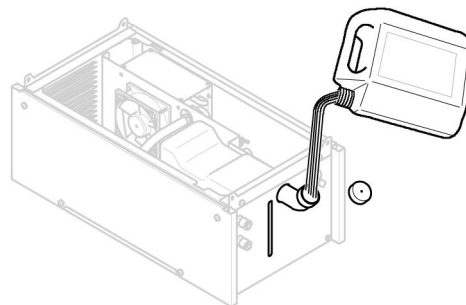
#### The coolant system

The recommended coolant must be used in the system otherwise clumps can be created that block the pump, water connections or elements. Flushing can only be performed via red water connection. Then drain the tank manually, i.e. empty via the tank's filling hole.

### 6.2 Filling the coolant

Only use ESAB's ready mixed coolant, see the "ACCESSORIES" chapter.

- Fill with coolant. (The fluid level must not exceed the upper marking but neither must it be below the lower marking.)



### NOTE!

Coolant must be topped up if connecting a welding torch or coolant hoses that are 5 metres in length or longer. When adjusting the water level by topping up, the coolant hoses do not need to be disconnected.



### CAUTION!

The coolant must be handled as chemical waste.

## 7 FAULT TRACING

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Try these recommended checks and inspections before sending for an authorized service technician.

<b>Type of fault</b>	<b>Corrective action</b>
Poor cooling effect	<ul style="list-style-type: none"><li>• Clean the cooling element using compressed air.</li><li>• Check the coolant level.</li><li>• Check that the on/off switch on the cooling unit is set to ON.</li></ul>

## 8 ORDERING SPARE PARTS

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### CAUTION!

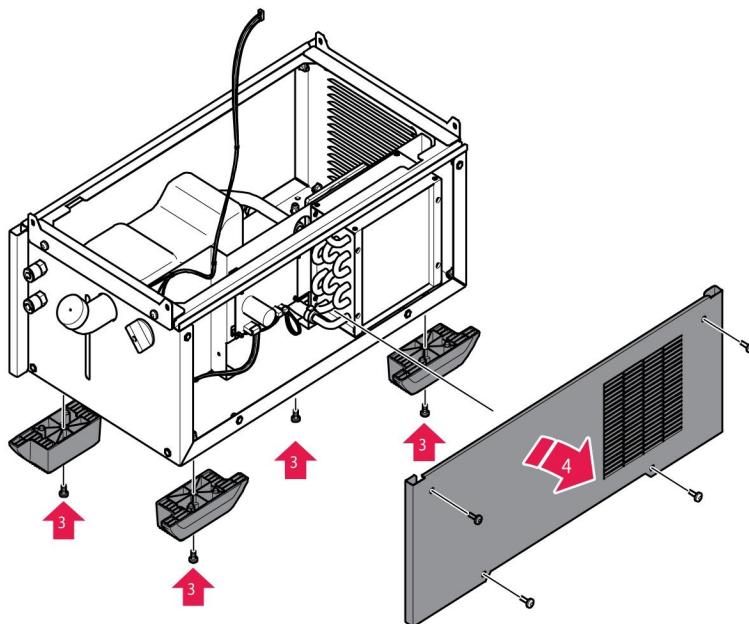
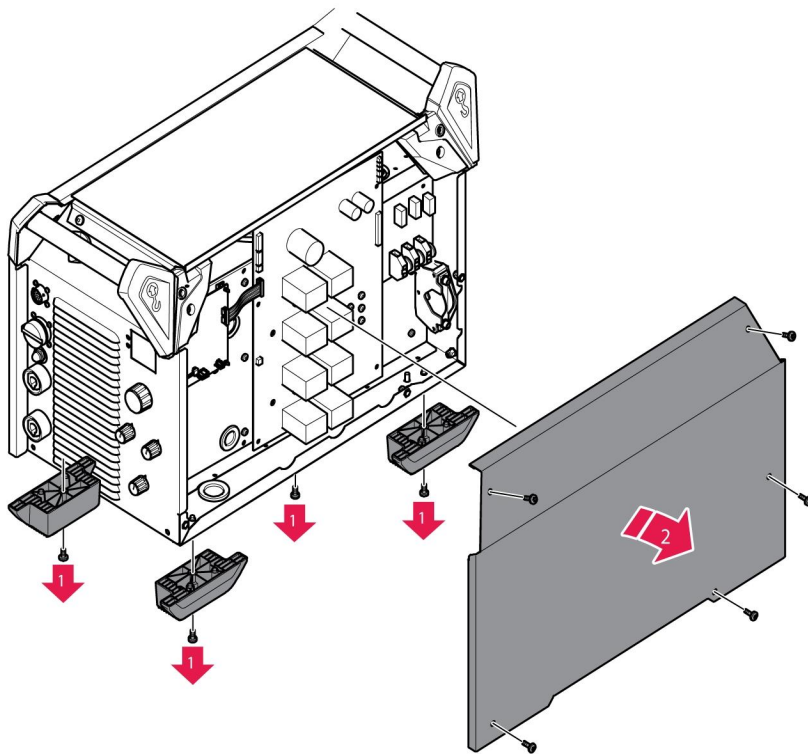
Repair and electrical work should be performed by an authorised ESAB service technician. Use only ESAB original spare and wear parts.

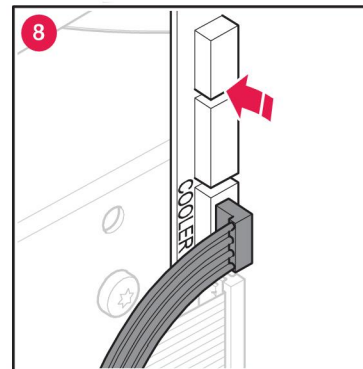
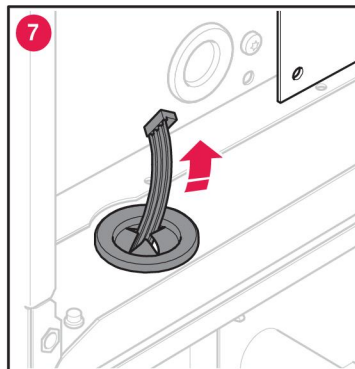
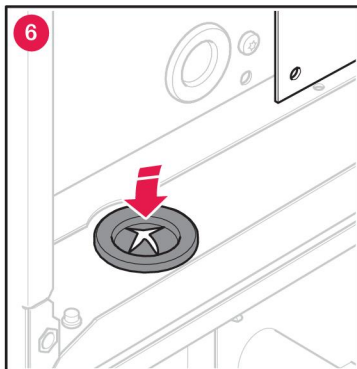
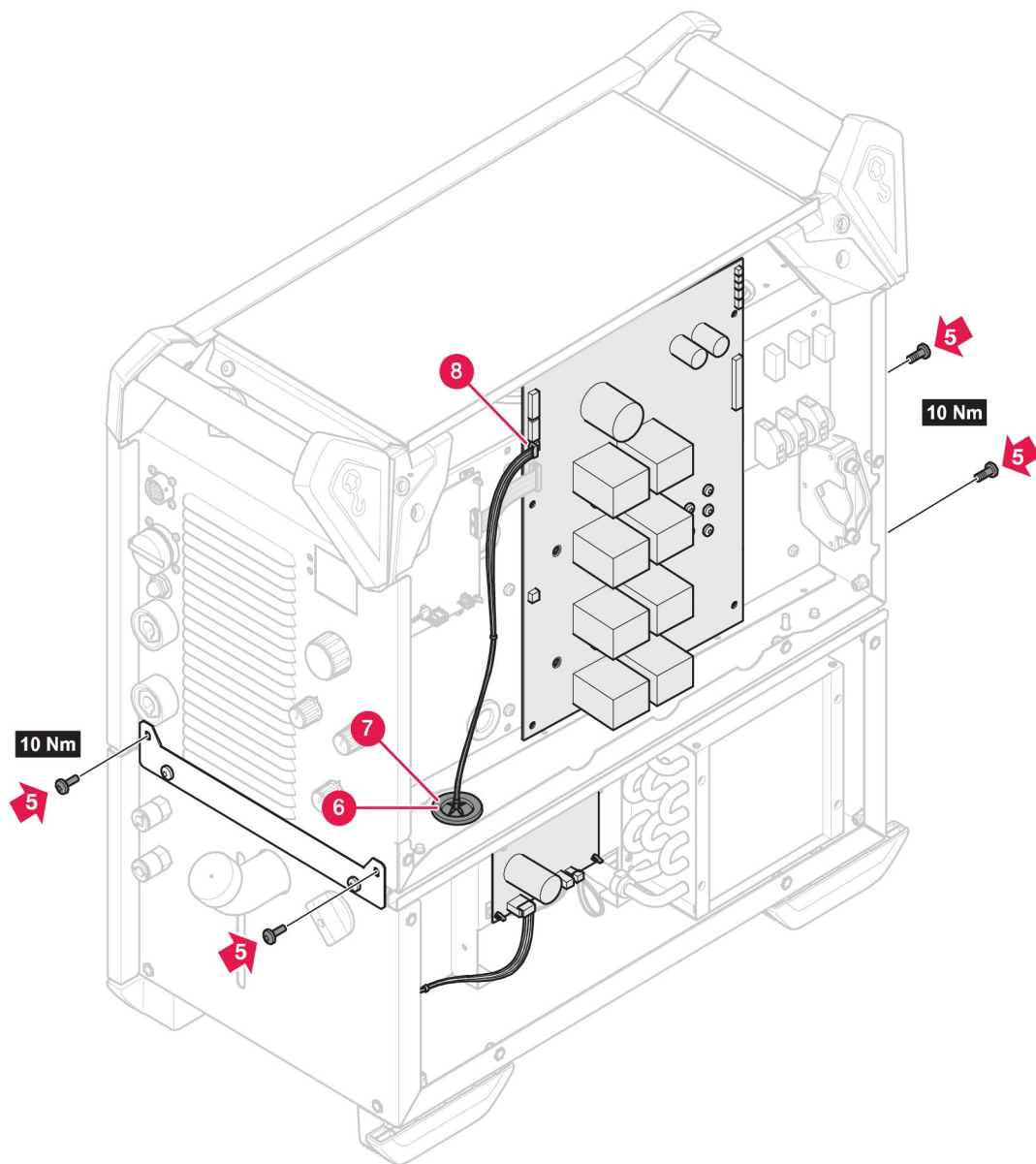
The COOL 2 is designed and tested in accordance with International and European standards IEC/EN 60974-2 and IEC/EN 60974-10, Canadian standards CAN/CSA-E60974-1 and US standards ANSI/IEC 60974-1. On completion of service or repair work, it is the responsibility of the person(s) performing the work to ensure that the product still complies with the requirements of the above standards.

Spare parts and wear parts can be ordered through your nearest ESAB dealer, see [esab.com](http://esab.com). When ordering, please state product type, serial number, designation and spare part number in accordance with the spare parts list. This facilitates dispatch and ensures correct delivery.

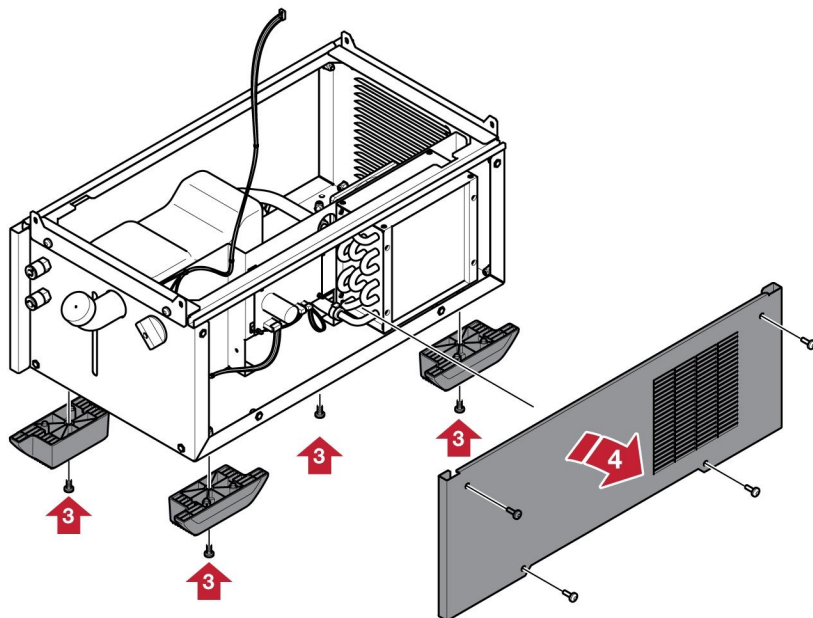
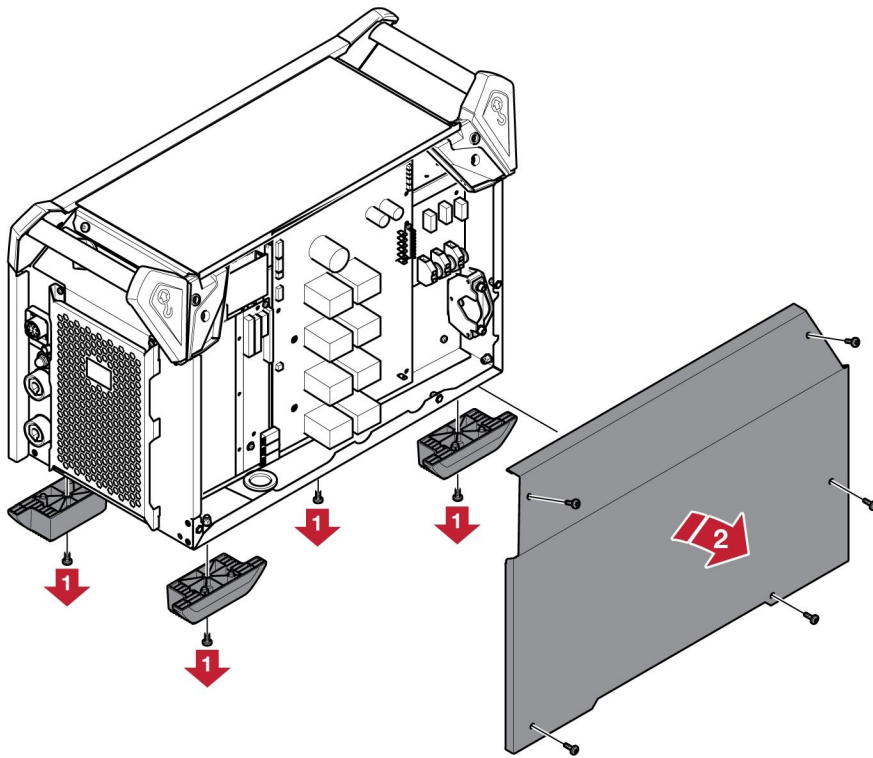
# ASSEMBLY INSTRUCTIONS

For Warrior power sources:

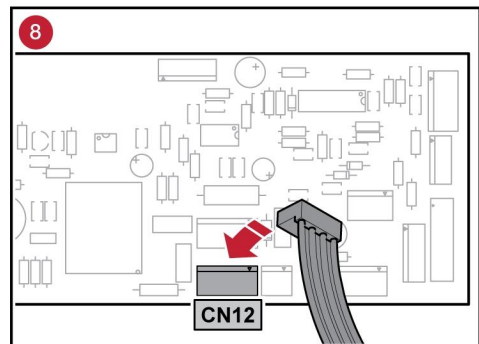
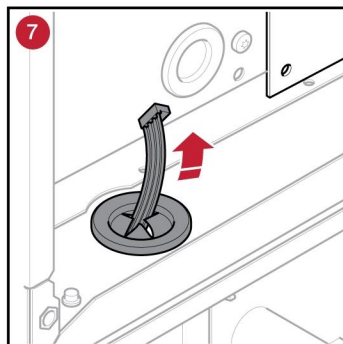
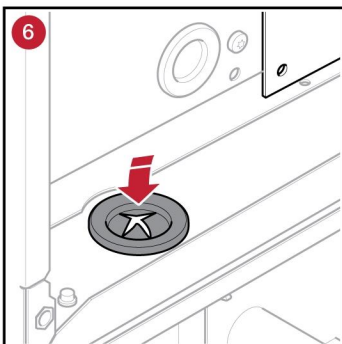
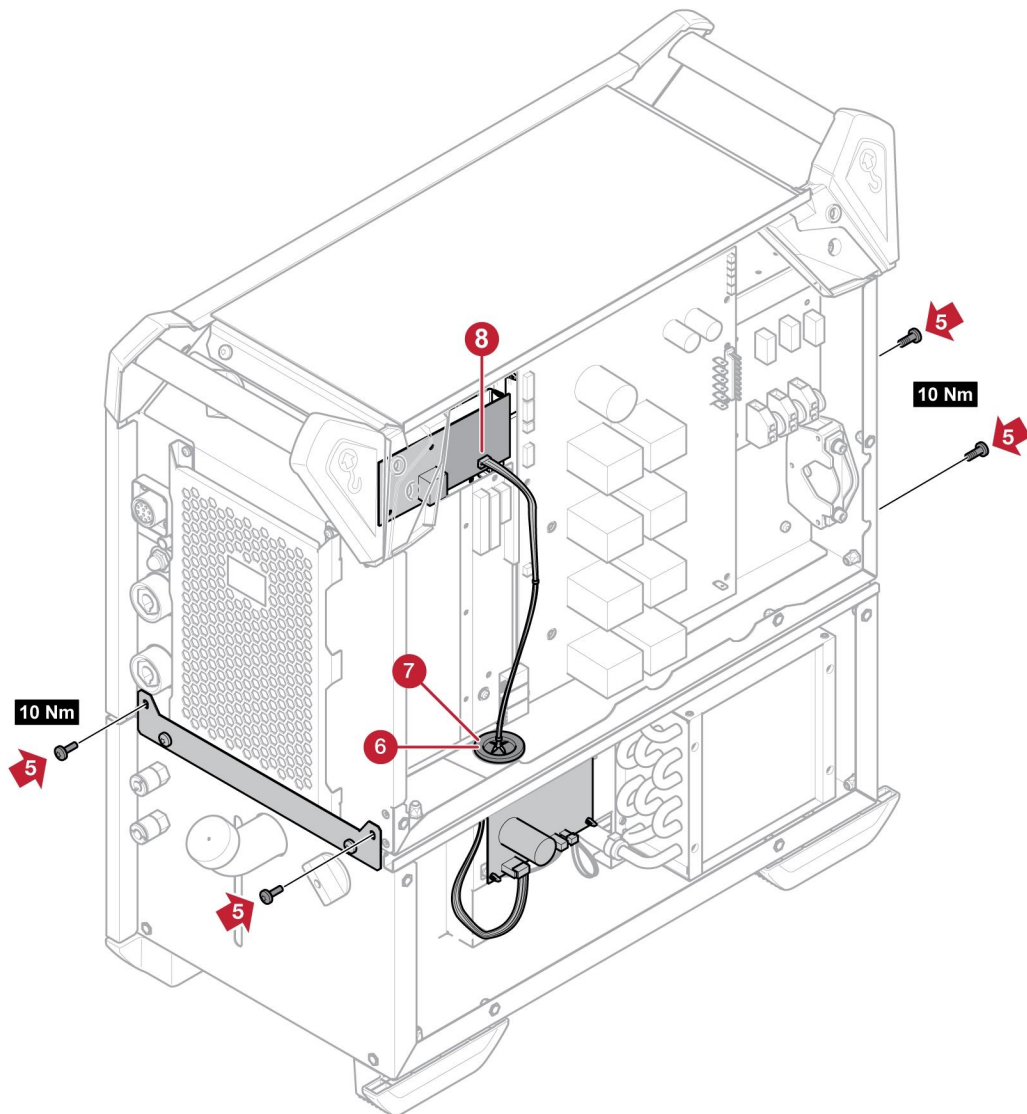




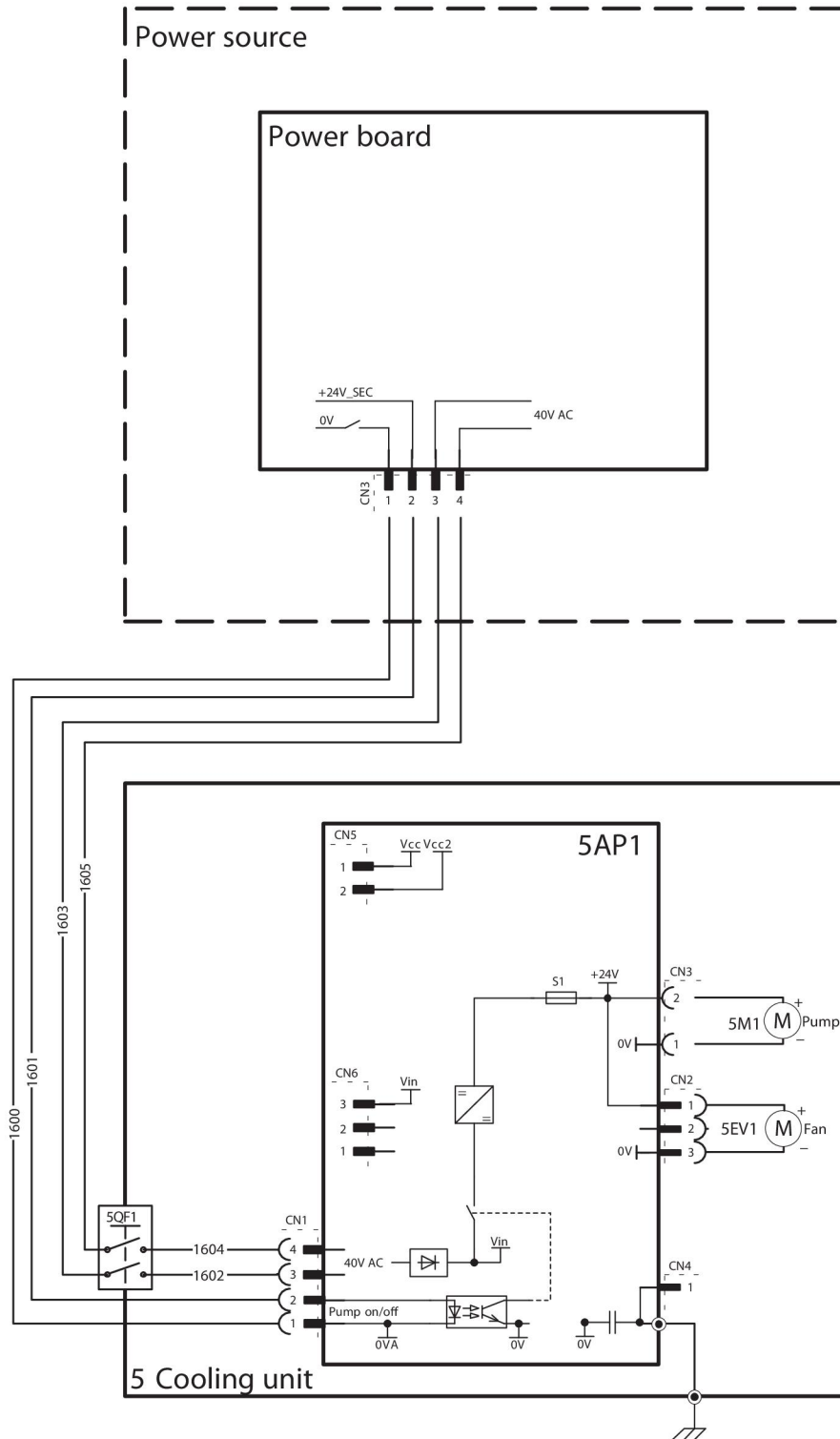
For Aristo 500ix power source:







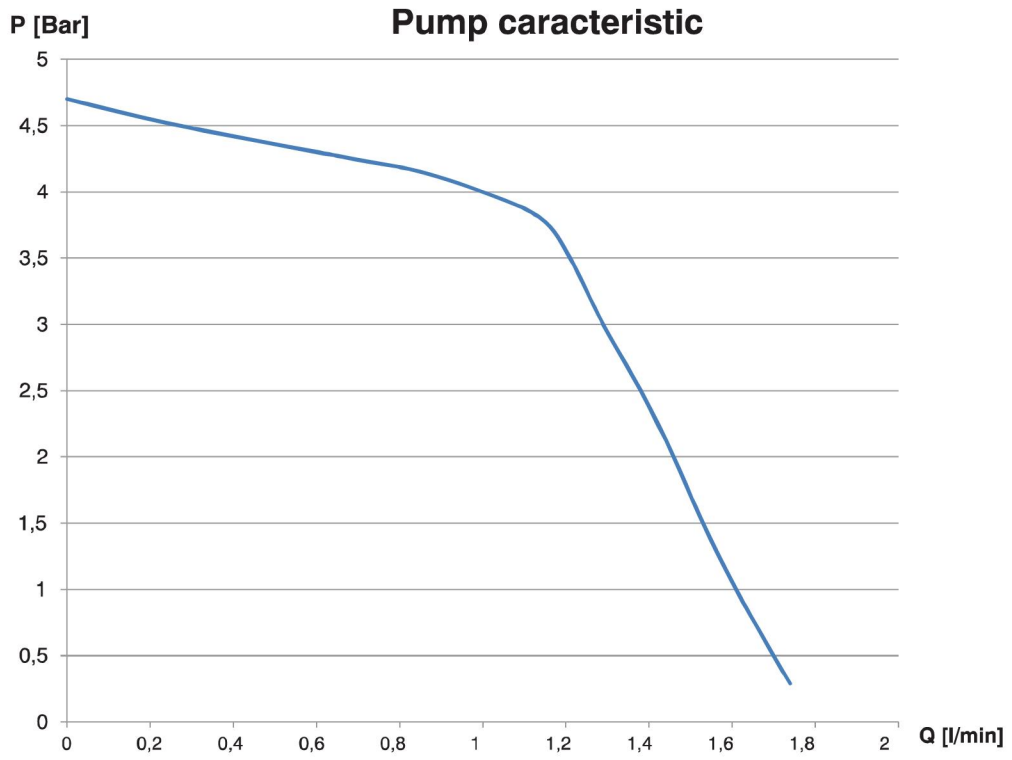
# DIAGRAM



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## PUMP DATA

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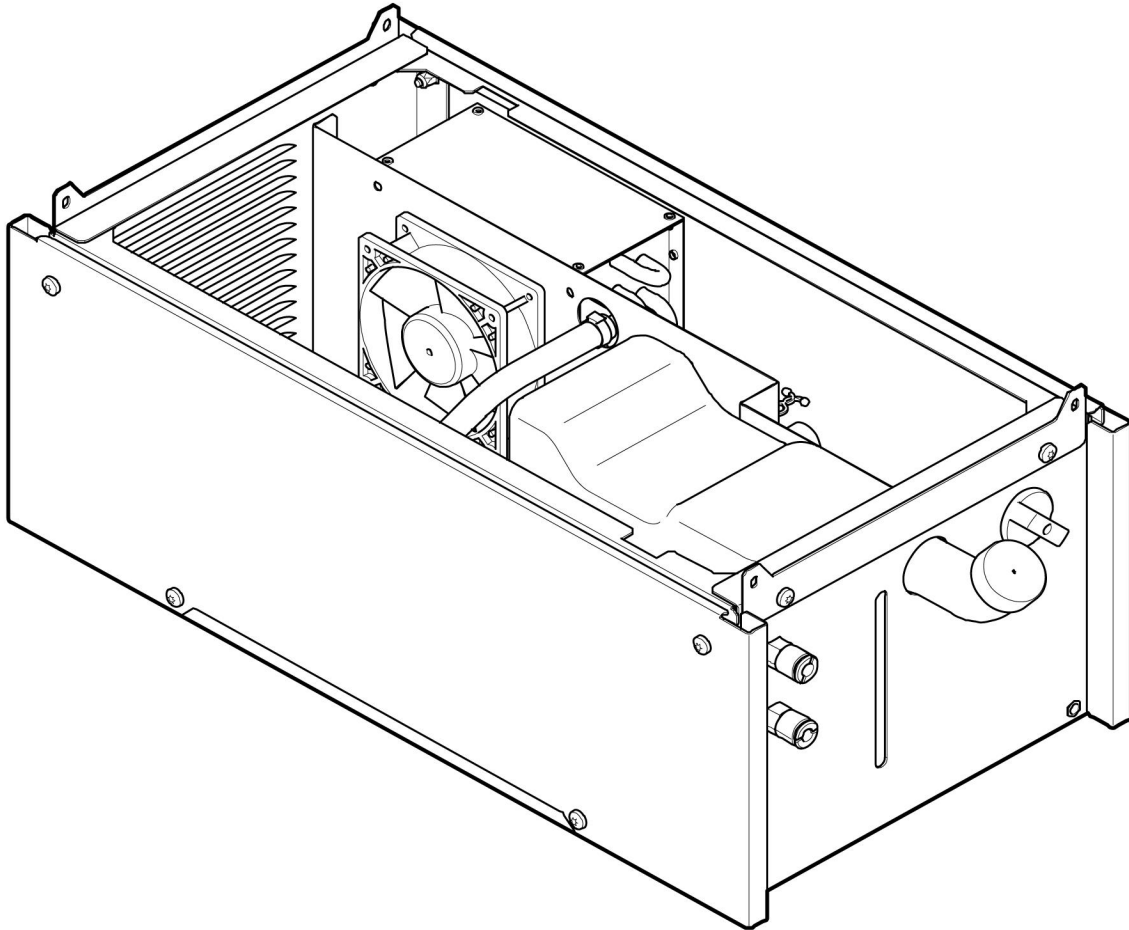
P = Pump pressure,

Q = Flow rate,

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**ORDERING NUMBERS**

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Ordering Number	Denomination	Type
0463 348 880	Cooling unit	COOL 2
0463 348 *	Instruction manual	COOL 2
0459 839 092	Spare parts list	COOL 2


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](http://www.esab.com)

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**ACCESSORIES**

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0465 720 002	<b>ESAB ready mixed coolant</b> (10 l / 2.64 gal) Use of any other cooling liquid than the prescribed one might damage the equipment. In case of such damage, all warranty undertakings from ESAB cease to apply.	
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# A WORLD OF PRODUCTS AND SOLUTIONS.



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

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

<http://manuals.esab.com>

