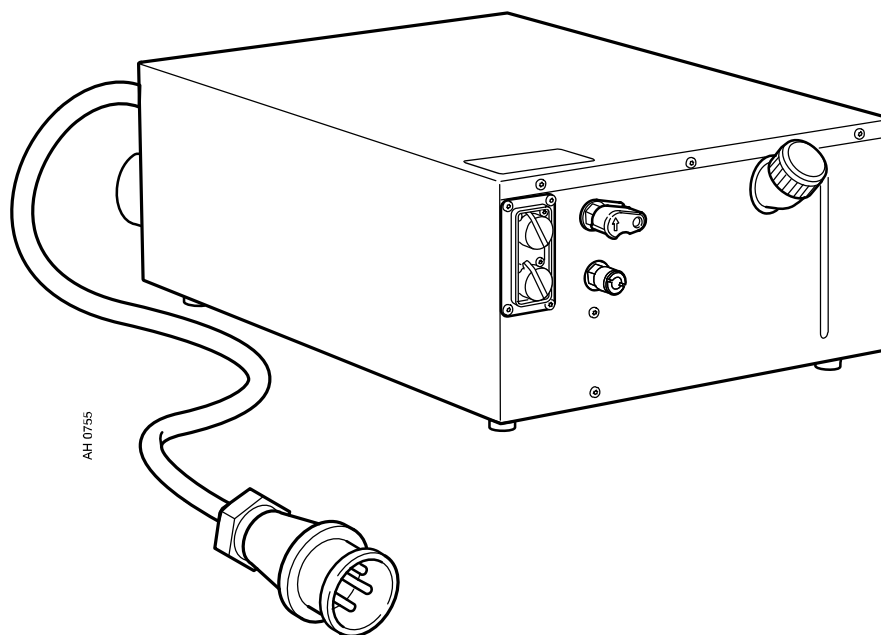


# *CoolMidi 1800*



**Instruction manual**

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# 1 SAFETY

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.

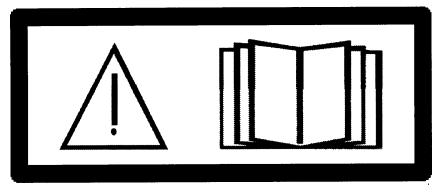
All work must be carried out by trained personnel well-acquainted with the operation of the equipment. Incorrect operation of the equipment may lead to hazardous situations which can result in injury to the operator and damage to the equipment.

1. Anyone who uses the equipment must be familiar with:
  - its operation
  - location of emergency stops
  - its function
  - relevant safety precautions
  - welding and cutting
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
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.



## CAUTION

*Read and understand the instruction manual before installing or operating.*





# WARNING



**Arc welding and cutting can be injurious to yourself and others. Take precautions when welding and cutting. Ask for your employer's safety practices which should be based on manufacturers' hazard data.**

**ELECTRIC SHOCK - Can kill**

- Install and earth the unit in accordance with applicable standards.
- Do not touch live electrical parts or electrodes with bare skin, wet gloves or wet clothing.
- Insulate yourself from earth and the workpiece.
- Ensure your working stance is safe.

**FUMES AND GASES - Can be dangerous to health**

- Keep your head out of the fumes.
- Use ventilation, extraction at the arc, or both, to take fumes and gases away from your breathing zone and the general area.

**ARC RAYS - Can injure eyes and burn skin.**

- Protect your eyes and body. Use the correct welding screen and filter lens and wear protective clothing.
- Protect bystanders with suitable screens or curtains.

**FIRE HAZARD**

- Sparks (spatter) can cause fire. Make sure therefore that there are no inflammable materials nearby.

**NOISE - Excessive noise can damage hearing**

- Protect your ears. Use earmuffs or other hearing protection.
- Warn bystanders of the risk.

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

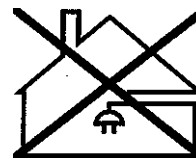
**Read and understand the instruction manual before installing or operating.**

**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.*



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

In observance of European Directive 2002/96/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 can provide you with all necessary welding protection and accessories.**

## 2 INTRODUCTION

Cooling unit **CoolMidi 1800** is intended for cooling welding guns and TIG torches.

**ESAB's accessories for the product can be found on page 15.**

### 2.1 Equipment

The cooling unit is supplied with an instruction manual and 1 m control cable.

## 3 TECHNICAL DATA

<b>CoolMidi 1800</b>	
<b>Mains voltage</b>	400 V, $\pm 10\%$ , 3~ 50/60 Hz
<b>Primary current</b> I <sub>max</sub> 50 Hz I <sub>max</sub> 60 Hz	0.70 A 0.75 A
<b>Cooling power</b> at 400 V	1.8 kW at 40° C temperature difference and flow 1 l/min
<b>Continual sound pressure at no-load</b>	< 70 dB (A)
<b>Type of cooling</b>	50% water / 50% mono-ethylene glycol
<b>Coolant quantity</b>	4.2 l
<b>Maximum water flow</b>	4 l/min
<b>Fuse in cooling unit, delayed action</b>	2 x 1 A
<b>Max pressure lift for welding gun</b> Q <sub>max</sub>	7 m
<b>Max pressure</b>	3.8 bar
<b>Operating temperature</b>	-10 to +40° C
<b>Transportation temperature</b>	-20 to +55° C
<b>Rpm</b> at 50 Hz at 60 Hz	2800 rpm 3200 rpm
<b>Maximum water pressure</b> at 50 Hz at 60 Hz	3 bar 3.8 bar
<b>Dimensions l x w x h</b>	710 x 385 x 208 mm
<b>Weight</b> water-filled empty	23 kg 19 kg
<b>Protection class</b>	IP23 C

#### 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 designed for indoor and outdoor use.

## 4 INSTALLATION

*The installation must be carried out by a professional.*

### 4.1 Location

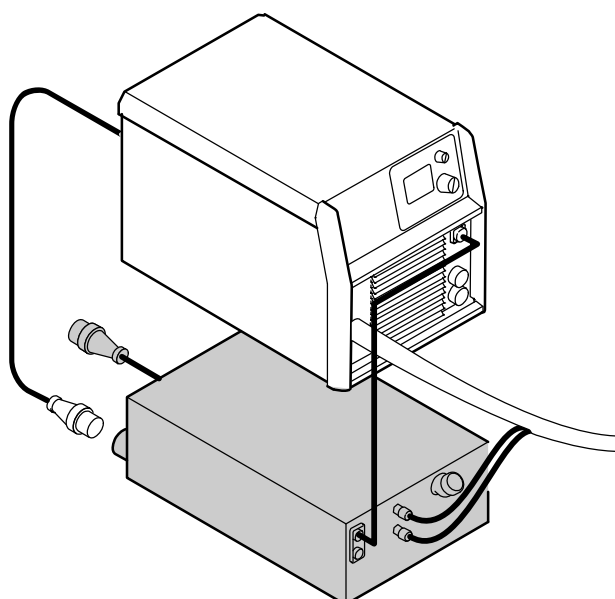
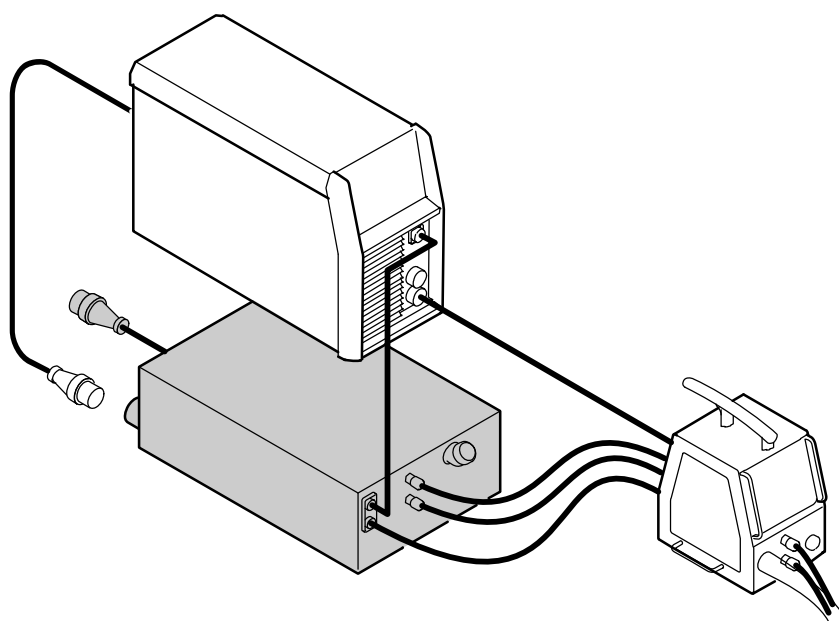
Position the cooling unit such that its cooling air inlets and outlets are not obstructed.

### 4.2 Mains power supply

Check that the cooling unit is connected to the correct mains power supply voltage, and that it is protected by the correct fuse rating, see the instruction manual for relevant welding power source.

A protective earth connection must be made in accordance with regulations.

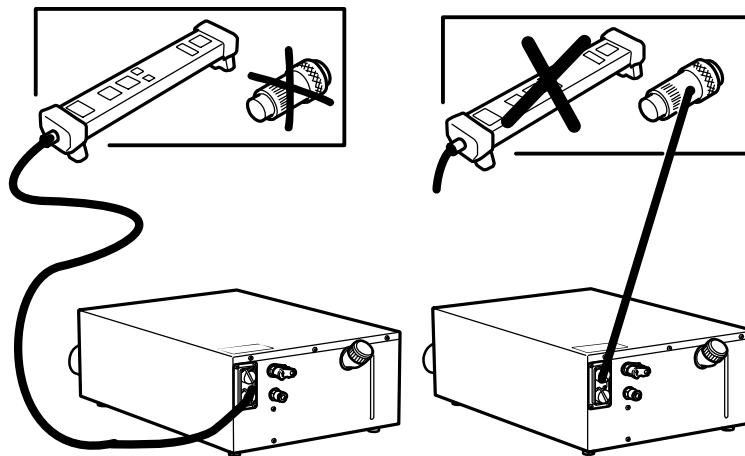
### 4.3 Connecting welding equipment



AH 0758

## 4.4 Connecting the terminating resistor

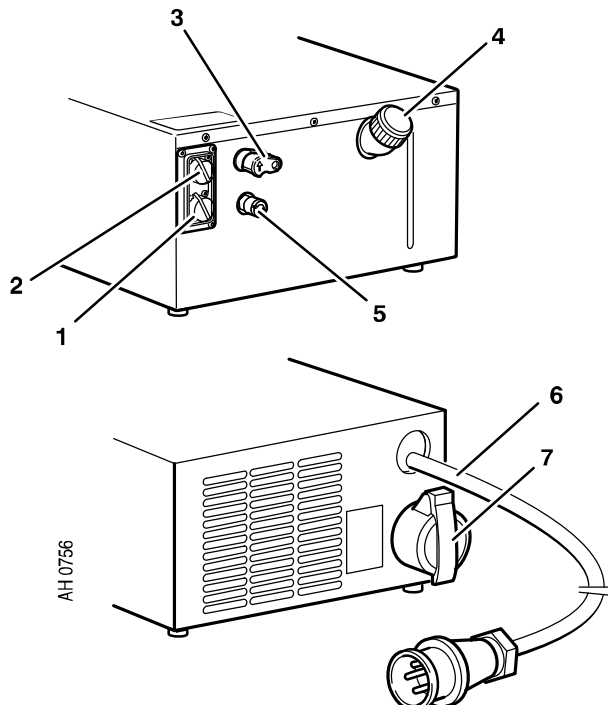
To avoid communication interference, the remote socket must be fitted with a terminating resistor, when a remote control unit is not connected.



## 5 OPERATION

**General safety regulations for handling the equipment can be found on page 3. Read through before you start using the equipment!**

### 5.1 Connections

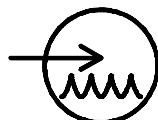


- 1 Connection for wire feed unit or remote control unit
- 2 Connection for control cable from power source
- 3 Connection BLUE, with ELP\* for coolant from cooling unit
- 4 Topping up with coolant
- 5 Connection RED for coolant to cooling unit
- 6 Mains power supply voltage connection
- 7 Connection for mains cable from power source

\* ELP = ESAB Logic Pump, see point 5.2.

**Note**

Coolant in



Coolant out

## 5.2 Water connection

The cooling unit is equipped with a detection system **ELP (ESAB Logic Pump)** which checks that the water hoses are connected. When connecting a water-cooled welding gun, cooling starts.

Detection only works with power sources that are equipped with ELP.

To ensure problem-free operation, the installation height from the cooling unit to the welding gun must be max. 7 m. Heights in excess of this can cause problems, such as long starting times, air bubbles, vacuums, etc.

If an installation height in excess of 7 m is required, we recommend an installation kit comprising a non-return valve and a solenoid valve, refer to accessories on page 15. Once these valves have been installed, the hose package must be horizontal during the initial startup so that everything fills with water. Then raise the wire feed unit and hose package to the high height. Continued safe operation at installation heights of up to 12 m can now commence.

## 5.3 Water flow guard

The water flow guard blocks the power source if the coolant stops (minimum water flow 0.7 l/min). The water flow guard is an accessory, see page.15

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# 6 MAINTENANCE

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*Regular maintenance is important for safe, reliable operation.*

*Only those persons who have appropriate electrical knowledge (authorized personnel) may remove the safety plates.*



### CAUTION

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

## 6.1 Inspection and cleaning

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.

Replace the coolant approximately once a year.

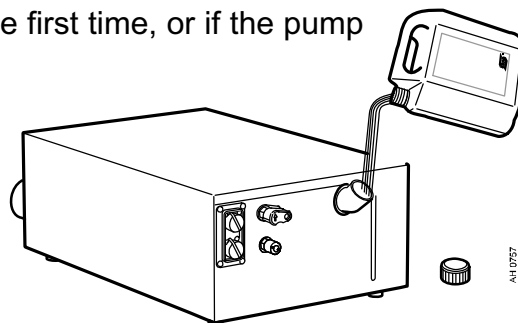


## 6.2 Filling the coolant

ESAB's ready mixed coolant is recommended for use. See accessories on page 15.

When the water container is to be filled for the first time, or if the pump has been running without water:

- Fill the coolant to the maximum level.
- Disconnect the coolant hose for outgoing water (blue) in order that any trapped air can disappear.
- Connect the coolant hose again.



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

The temperature of the coolant must not exceed 70° C.



### CAUTION

*The coolant must be handled as chemical waste.*

## 7 FAULT-TRACING

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

Fault	Action
The control panel indicates a fault code for water flow.	<ul style="list-style-type: none"> <li>• Check that the cooling unit is running.</li> <li>• If there is a flow, the water flow guard may be defective.</li> </ul>
Poor cooling effect	<ul style="list-style-type: none"> <li>• Clean the cooling element using compressed air.</li> </ul>

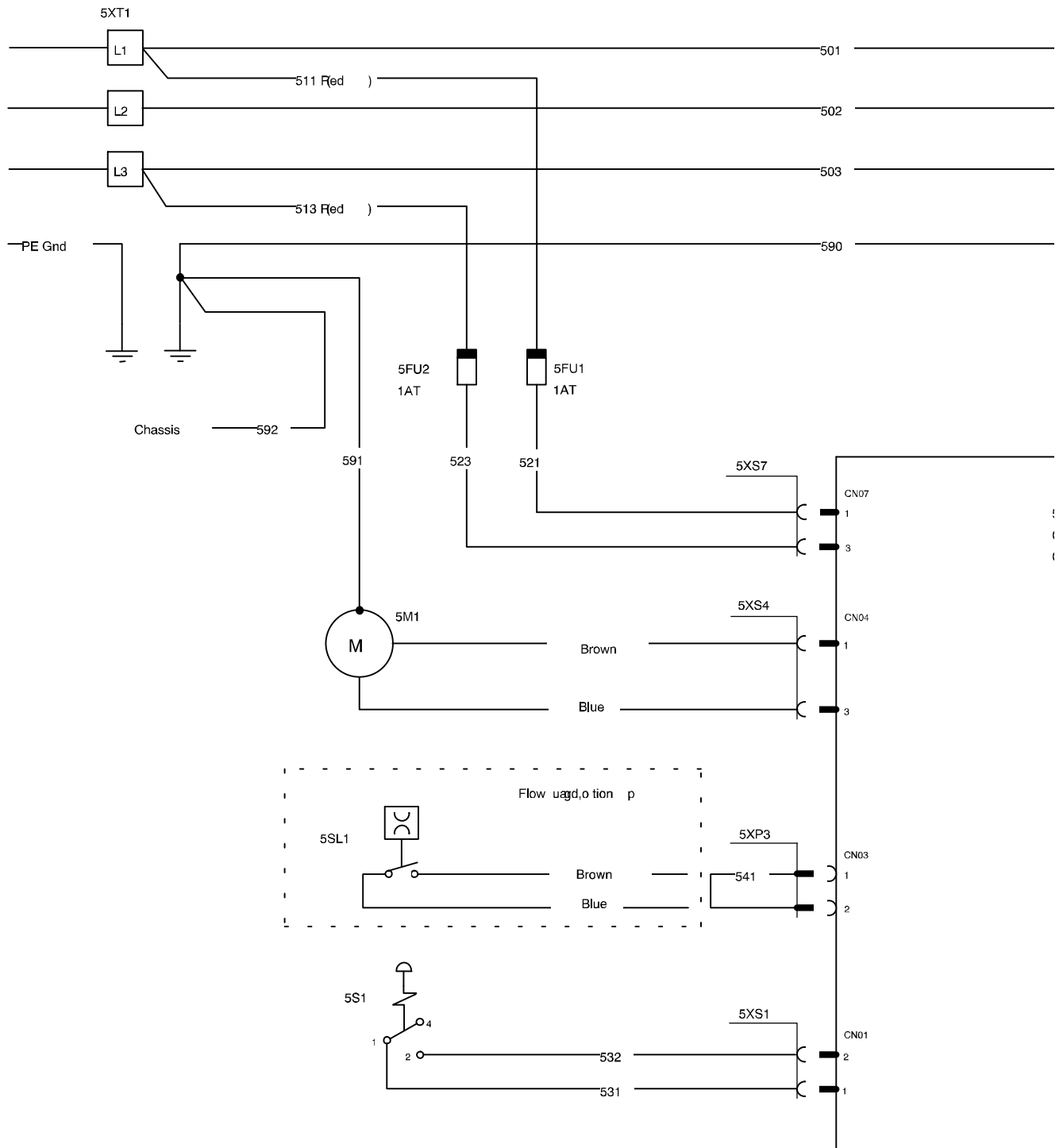
## 8 ORDERING SPARE PARTS

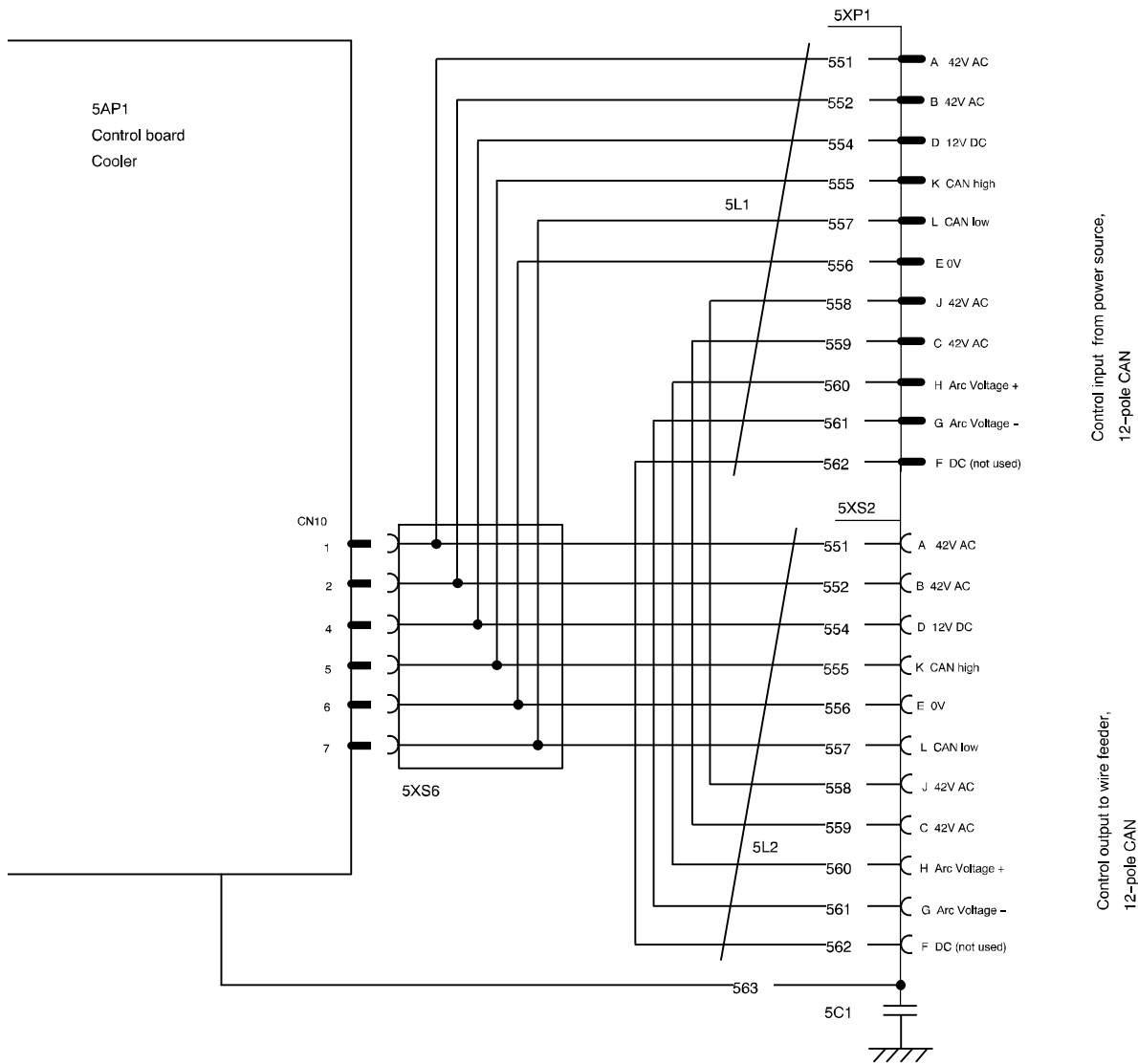
*Repair and electrical work should be performed by an authorised ESAB service technician. Use only ESAB original spare and wear parts.*

**CoolMidi 1800 is designed and tested in accordance with the international and European standards IEC/EN 60974-2 and EN 60974-10. It is the obligation of the service unit which has carried out the service or repair work to make sure that the product still conforms to the said standard.**

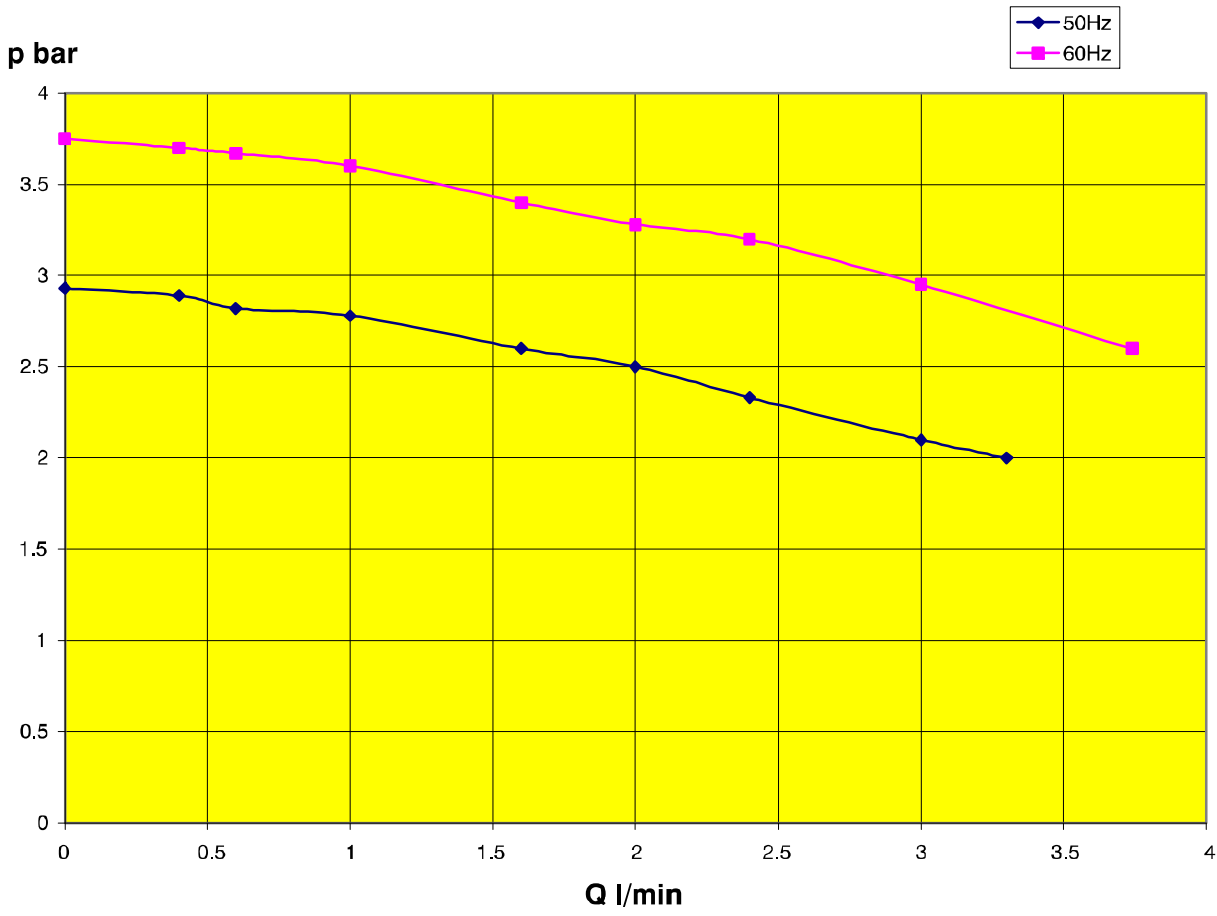
Spare parts may be ordered through your nearest ESAB dealer, see the last page of this publication.

# Diagram



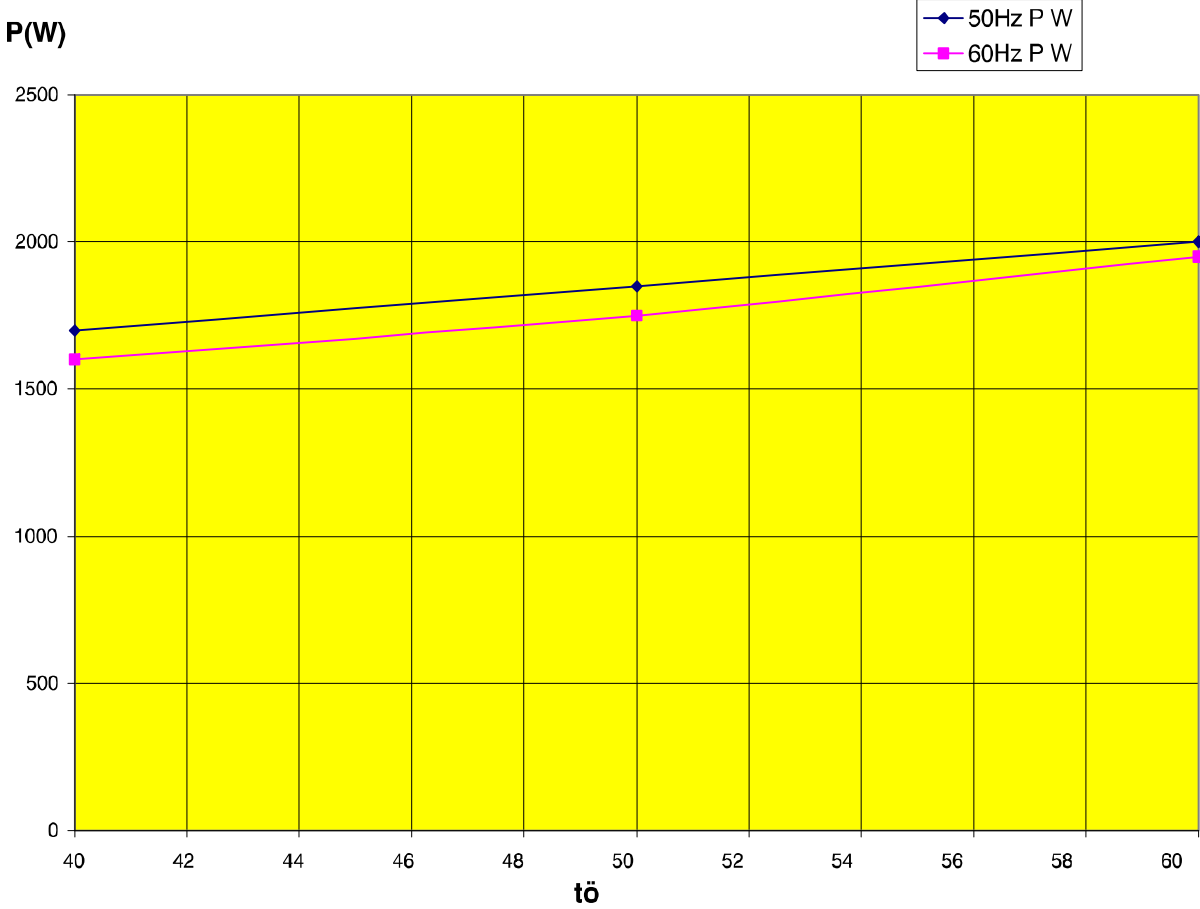


# Pump data



**P** = Pump pressure  
**Q** = Flow rate

# Cooling characteristic



Q = Flow rate

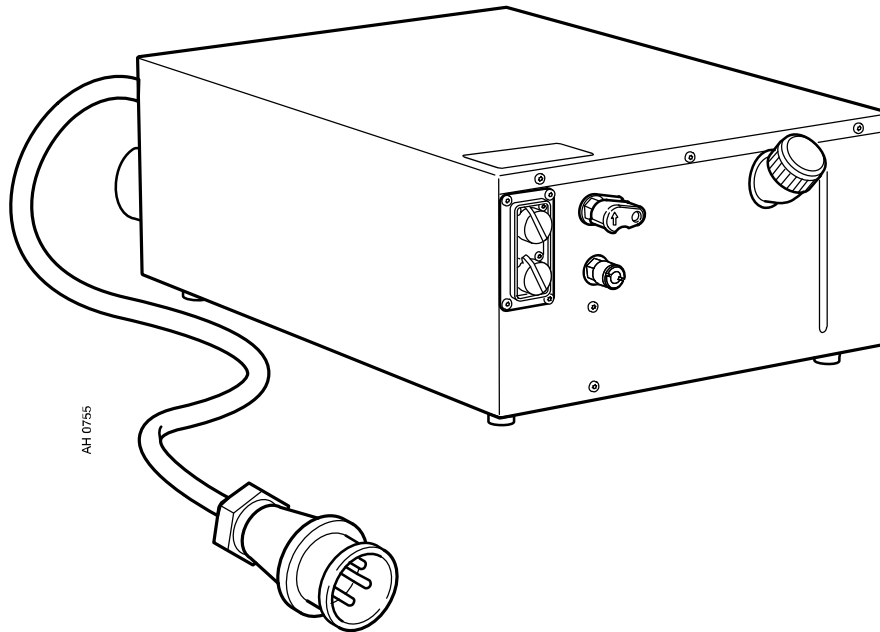
Temperature difference

P = Power

## CoolMidi 1800

### Order number

esab.com

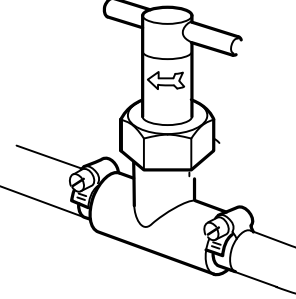
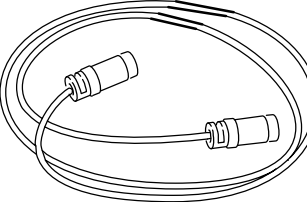
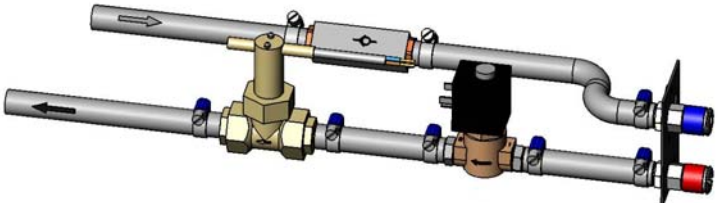
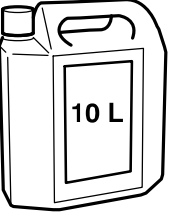


Ordering no.	Denomination	Type
0459 840 880	Cooling unit	CoolMidi 1800
0459 840 881	Cooling unit for MechTig	CoolMidi 1800
0459 839 004	Spare parts list	CoolMidi 1800

Technical documentation is available on the Internet at [www.esab.com](http://www.esab.com)

# CoolMidi 1800

## Accessories

 A technical drawing of a water flow guard. It consists of a central vertical pipe with a T-shaped handle on top. A horizontal pipe passes through the center of the vertical pipe, and the flow guard is designed to prevent backflow. Arrows indicate the direction of flow.	<p><b>Water flow guard</b> ..... 0456 855 881</p>
 A technical drawing of a control cable. It is a coiled cable with two connectors at the ends. One connector is a standard electrical plug, and the other is a specialized connector for the cooling unit.	<p><b>Control cable</b> ..... 0456 527 886 Cooling unit to power source</p>
 A technical drawing of a water return flow guard. It is a complex assembly of pipes, valves, and a solenoid valve. It is designed to prevent backflow in the return line. Arrows indicate the direction of flow.	<p><b>Water return flow guard</b> ..... 0461 203 880 Flow guard, non return valve &amp; solenoid valve</p>
 A technical drawing of a 10-liter jug of ESABs ready mixed coolant. The jug is white with a handle and a label that reads "10 L".	<p><b>ESABs ready mixed coolant</b> ..... 0007 810 012</p>

# ESAB subsidiaries and representative offices

<b>Europe</b> <b>AUSTRIA</b> ESAB Ges.m.b.H Vienna-Liesing Tel: +43 1 888 25 11 Fax: +43 1 888 25 11 85 <b>BELGIUM</b> S.A. ESAB N.V. Brussels Tel: +32 2 745 11 00 Fax: +32 2 745 11 28 <b>BULGARIA</b> ESAB Kft Representative Office Sofia Tel/Fax: +359 2 974 42 88 <b>THE CZECH REPUBLIC</b> ESAB VAMBERK s.r.o. Vamberk Tel: +420 2 819 40 885 Fax: +420 2 819 40 120 <b>DENMARK</b> Aktieselskabet ESAB Herlev Tel: +45 36 30 01 11 Fax: +45 36 30 40 03 <b>FINLAND</b> ESAB Oy Helsinki Tel: +358 9 547 761 Fax: +358 9 547 77 71 <b>FRANCE</b> ESAB France S.A. Cergy Pontoise Tel: +33 1 30 75 55 00 Fax: +33 1 30 75 55 24 <b>GERMANY</b> ESAB GmbH Solingen Tel: +49 212 298 0 Fax: +49 212 298 218 <b>GREAT BRITAIN</b> ESAB Group (UK) Ltd Waltham Cross Tel: +44 1992 76 85 15 Fax: +44 1992 71 58 03 ESAB Automation Ltd Andover Tel: +44 1264 33 22 33 Fax: +44 1264 33 20 74 <b>HUNGARY</b> ESAB Kft Budapest Tel: +36 1 20 44 182 Fax: +36 1 20 44 186 <b>ITALY</b> ESAB Saldatura S.p.A. Bareggio (Mi) Tel: +39 02 97 96 8.1 Fax: +39 02 97 96 87 01 <b>THE NETHERLANDS</b> ESAB Nederland B.V. Amersfoort Tel: +31 33 422 35 55 Fax: +31 33 422 35 44	<b>NORWAY</b> AS ESAB Larvik Tel: +47 33 12 10 00 Fax: +47 33 11 52 03 <b>POLAND</b> ESAB Sp.zo.o. Katowice Tel: +48 32 351 11 00 Fax: +48 32 351 11 20 <b>PORTUGAL</b> ESAB Lda Lisbon Tel: +351 8 310 960 Fax: +351 1 859 1277 <b>ROMANIA</b> ESAB Romania Trading SRL Bucharest Tel: +40 316 900 600 Fax: +40 316 900 601 <b>RUSSIA</b> LLC ESAB Moscow Tel: +7 (495) 663 20 08 Fax: +7 (495) 663 20 09 <b>SLOVAKIA</b> ESAB Slovakia s.r.o. Bratislava Tel: +421 7 44 88 24 26 Fax: +421 7 44 88 87 41 <b>SPAIN</b> ESAB Ibérica S.A. Alcalá de Henares (MADRID) Tel: +34 91 878 3600 Fax: +34 91 802 3461 <b>SWEDEN</b> ESAB Sverige AB Gothenburg Tel: +46 31 50 95 00 Fax: +46 31 50 92 22 ESAB international AB Gothenburg Tel: +46 31 50 90 00 Fax: +46 31 50 93 60 <b>SWITZERLAND</b> ESAB AG Dietikon Tel: +41 1 741 25 25 Fax: +41 1 740 30 55 <b>UKRAINE</b> ESAB Ukraine LLC Kiev Tel: +38 (044) 501 23 24 Fax: +38 (044) 575 21 88	<b>North and South America</b> <b>ARGENTINA</b> CONARCO Buenos Aires Tel: +54 11 4 753 4039 Fax: +54 11 4 753 6313 <b>BRAZIL</b> ESAB S.A. Contagem-MG Tel: +55 31 2191 4333 Fax: +55 31 2191 4440 <b>CANADA</b> ESAB Group Canada Inc. Mississauga, Ontario Tel: +1 905 670 02 20 Fax: +1 905 670 48 79 <b>MEXICO</b> ESAB Mexico S.A. Monterrey Tel: +52 8 350 5959 Fax: +52 8 350 7554 <b>USA</b> ESAB Welding & Cutting Products Florence, SC Tel: +1 843 669 44 11 Fax: +1 843 664 57 48 <b>Asia/Pacific</b> <b>AUSTRALIA</b> ESAB South Pacific Archerfield BC QLD 4108 Tel: +61 1300 372 228 Fax: +61 7 3711 2328 <b>CHINA</b> Shanghai ESAB A/P Shanghai Tel: +86 21 2326 3000 Fax: +86 21 6566 6622 <b>INDIA</b> ESAB India Ltd Calcutta Tel: +91 33 478 45 17 Fax: +91 33 468 18 80 <b>INDONESIA</b> P.T. ESABindo Pratama Jakarta Tel: +62 21 460 0188 Fax: +62 21 461 2929 <b>JAPAN</b> ESAB Japan Tokyo Tel: +81 45 670 7073 Fax: +81 45 670 7001 <b>MALAYSIA</b> ESAB (Malaysia) Snd Bhd USJ Tel: +603 8023 7835 Fax: +603 8023 0225 <b>SINGAPORE</b> ESAB Asia/Pacific Pte Ltd Singapore Tel: +65 6861 43 22 Fax: +65 6861 31 95	<b>SOUTH KOREA</b> ESAB SeAH Corporation Kyungnam Tel: +82 55 269 8170 Fax: +82 55 289 8864 <b>UNITED ARAB EMIRATES</b> ESAB Middle East FZE Dubai Tel: +971 4 887 21 11 Fax: +971 4 887 22 63 <b>Africa</b> <b>EGYPT</b> ESAB Egypt Dokki-Cairo Tel: +20 2 390 96 69 Fax: +20 2 393 32 13 <b>SOUTH AFRICA</b> ESAB Africa Welding & Cutting Ltd Durbanvill 7570 - Cape Town Tel: +27 (0)21 975 8924  <b>Distributors</b> <i>For addresses and phone numbers to our distributors in other countries, please visit our home page</i> <a href="http://www.esab.com">www.esab.com</a>
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