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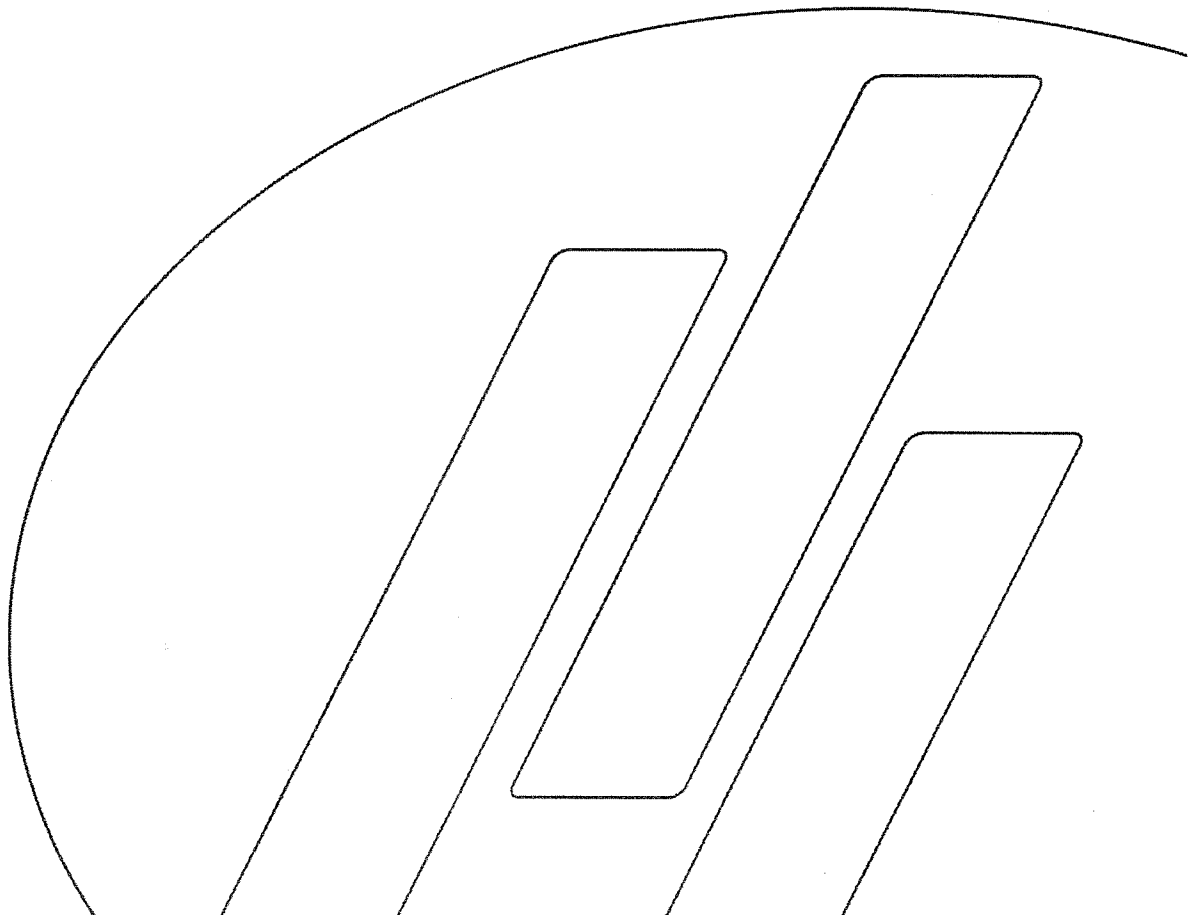
# Struers Cooling Units



Manual No.: 15767001

Date of Release 07.01.2012

## Instruction Manual



## *Struers Cooling Units Instruction Manual*

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Always state *Serial No* and *Voltage/frequency* if you have technical questions or when ordering spare parts. You will find the *Serial No.* and *Voltage* on the type plate of the machine itself. We may also need the *Date* and *Article No* of the manual. This information is found on the front cover.

The following restrictions should be observed, as violation of the restrictions may cause cancellation of Struers legal obligations:

**Instruction Manuals:** Struers Instruction Manual may only be used in connection with Struers equipment covered by the Instruction Manual.

**Service Manuals:** Struers Service Manual may only be used by a trained technician authorised by Struers. The Service Manual may only be used in connection with Struers equipment covered by the Service Manual.

Struers assumes no responsibility for errors in the manual text/illustrations. The information in this manual is subject to changes without notice. The manual may mention accessories or parts not included in the present version of the equipment.

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## **Struers Cooling Units Safety Precaution Sheet**

### **To be read carefully before use**

1. The unit must be installed in compliance with local safety regulations.
2. To achieve maximum safety and lifetime of the machine, use only original Struers consumables.
3. Observe the current safety regulations for handling, mixing, filling, emptying and disposal of the additive for cooling fluid.  
Do not use flammable cooling fluid.
4. Use of gloves and safety goggles is recommended when filling and cleaning the tank.
5. The machine must be disconnected from the mains prior to any service.
6. The recirculation pump must be disconnected from the power supply prior to removal from the cooling unit.

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The equipment should only be used for its intended purpose and as detailed in the Instruction Manual.

The equipment is designed for use with consumables supplied by Struers. If subjected to misuse, improper installation, alteration, neglect, accident or improper repair, Struers will accept no responsibility for damage(s) to the user or the equipment.

Dismantling of any part of the equipment, during service or repair, should always be performed by a qualified technician (electromechanical, electronic, mechanical, pneumatic, etc.).

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## **1. Getting Started**

### **Struers Cooling Units Components**

The cooling unit will be delivered as a number of separate components, which will need to be assembled before use.

#### Main components

- 1 Wheel-mounted cooling unit tank (50 l or 100 l)
- 1 Recirculation pump
- 1 Pump riser ring (50 l tank only)
- 1 Filter Bag (with adaptor for 100 l tanks)
- 1 Control unit
- 1 24 V / CAN control cable
- 2 Mains cables
- 1 Cable connection box

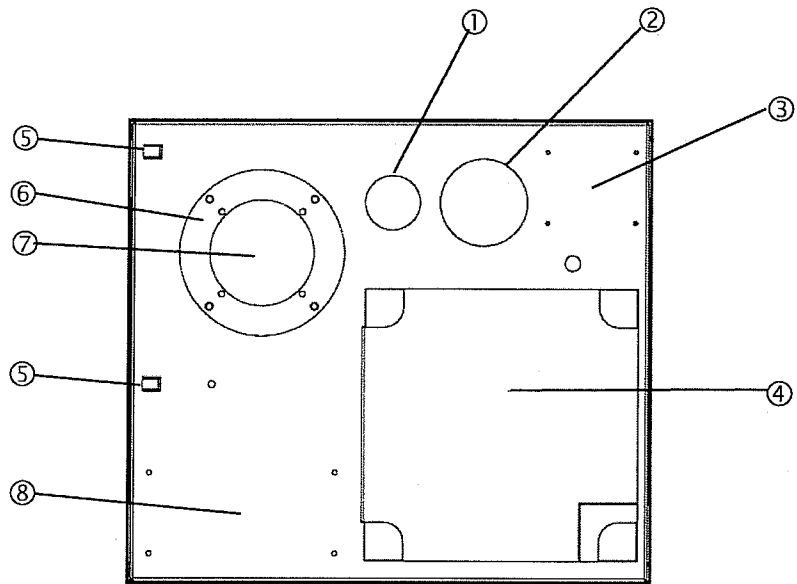
#### Optional Components (to be mounted on the tank)

Magnetic filter

**Assembling the Struers  
Cooling Unit**

50 l Tank

- Mount the components on the tank.

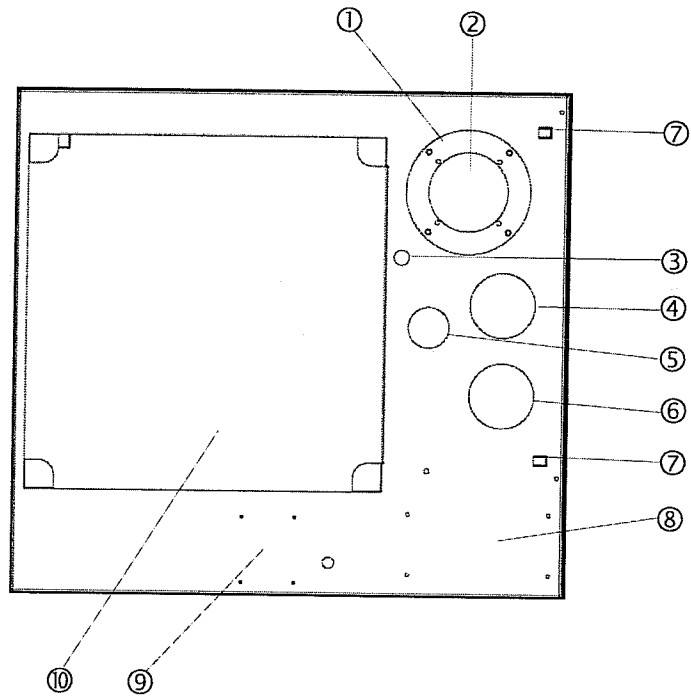


Mounting positions for:

- ① Not used
- ② Magnetic filter
- ③ Not used
- ④ Filter unit
- ⑤ Cable holders
- ⑥ Adapter ring for small pump
- ⑦ Recirculation pump
- ⑧ Cooli control unit

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100 l Tank



Mounting positions for:

- ① Adapter ring for small pump
- ② Recirculation pump
- ③ Not used
- ④ Not used
- ⑤ Not used
- ⑥ Magnetic filter
- ⑦ Cable holders
- ⑧ Cooli control unit
- ⑨ Not used
- ⑩ Filter unit (Filter Bag with adapter)

**Preparing the Cooling Unit for  
Use**

*Filling the Tank*

***Important!***

The cooling unit will be very heavy when full.  
Before filling the tank, check that the cooling unit is in position.  
If this is not possible, ensure that the tank is directly in front of its final position (e.g. the cut-off machine's cooling unit compartment), with the tank's wheels in-line with the sides of the compartment and the control unit at the front so that it is ready to be pushed into position without being moved to the left or right.

***Note***

To avoid corrosion, Struers recommends the use of Struers Additive, Corrozip in the cooling water (percentage stated on the Additive container). Remember to top up with Struers Additive each time you refill with water.

50 l tank  
100 l tank

- Fill with cooling fluid comprised of 48.5 l water and 1.5 l Corrozip.
- Fill with cooling fluid comprised of 97 l water and 3.0 l Corrozip.



*Connecting to the Power Supply*

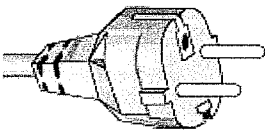
Always remember to switch the power off when installing electrical equipment.

**Important**

Check that the mains voltage corresponds to the voltage stated on the type plate on the machine

The Cooling Unit is shipped with 2 types of Mains cables:

*Single-phase Supply*

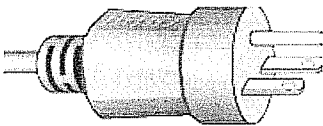


The 2-pin (European Schuko) plug is for use on single-phase connections.

If the plug supplied on this cable is not approved in your country, then the plug must be replaced with an approved plug. The leads must be connected as follows:

Yellow/green: earth  
Brown: line (live)  
Blue: neutral

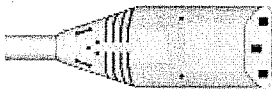
*2-phase Supply*



The 3-pin (North American NEMA) plug is for use on 2-phase power connections.

If the plug supplied on this cable is not approved in your country, then the plug must be replaced with an approved plug. The leads must be connected as follows:

Green: earth  
Black: line (live)  
White: line (live)



- Connect the mains cable to the power cable on the control unit.

**Important!**

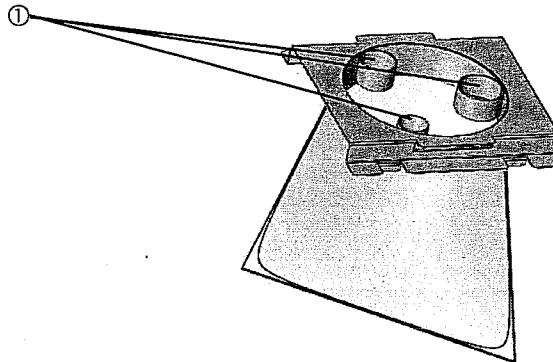
Place the cable box around the connection of the two cables.  
This protects the cables from water.

**WARNING!**

The output voltage from this cable is 200 – 240V and not 110V.  
DO NOT use this cable to connect equipment that uses an 110V power supply. Failure to adhere to this may result in material damage.

- Hang the cables in the cable hooks mounted on the cooling unit tank (this is to prevent the cable trailing on the ground and being damaged).

*Filter Bag*



① Holes for outlet hose from connected machine

- Insert the water outlet hose from the connected machine into the hole with the correct size in the Filter Bag.

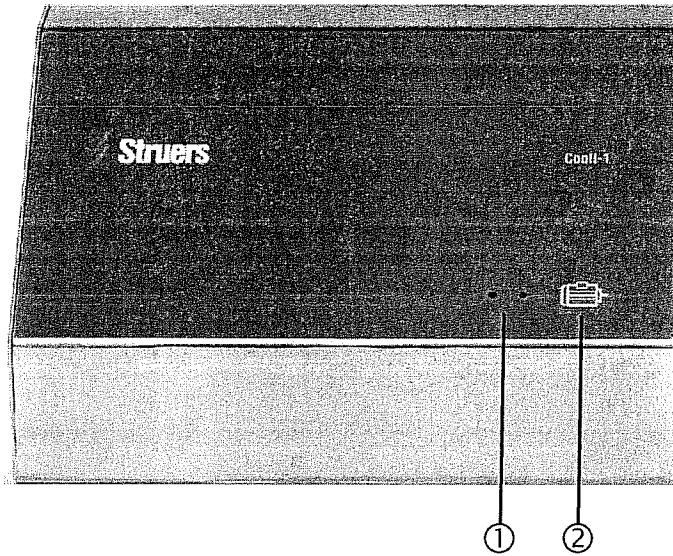
**Connecting the Cooling Unit to the Machine**

- Connect the cooling unit's water outlet hose to the quick coupling on the machine.
- Connect the 24 V / CAN control cable to the Cooli control unit by plugging one end into the machine's control socket (see machine manual for details) and the other end into the socket on the rear panel of the Cooli control unit.
- Place the cooling unit underneath the outlet on the connected machine, or lead the outlet hose from the machine into the filter unit on the cooling unit tank.

## 2. Operation

### Cooli-1 Control Panel

The diagram below illustrates the Cooli-1 control panel.




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**Control Panel Indicators/  
Functions**

The pump LED's will only light up after the cooling unit has been started.

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Name	Key	Function
① POWER		Constant Green: Power on. Normal operation. Constant Red: Cooli is on Standby.
② PUMP		Constant Green: Normal operation. Constant Red: Error. Pump failure (Overload).

### **3. System Components and Accessories**

Please refer to the *Struers Cooling System brochure* for details of the range available.

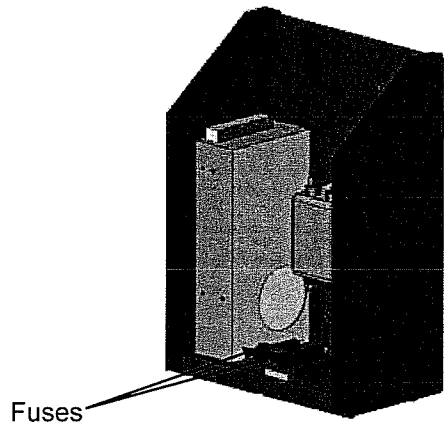
## 4. Troubleshooting

### Problem Solving

The following table describes the problems that users may potentially experience when using the cooling units and contains advice on how to solve them.

Error	Explanation	Action
Water leaking.	Leak in recirculation water hose.	Check the hose and tighten the hose clamp.
	Water overflow in the recirculation water tank.	Remove the excess water in the tank.
Cool unit stops and cannot be restarted.	Blown fuse(s)	Replace using appropriate 15 A, slow-blow fuse(s). See illustration, below.
Samples, cooling unit or equipment corroded.	Insufficient additive for cooling fluid.	Add Struers Additive for cooling fluid to the cooling water, using the correct concentration. Check with a refractometer. Follow the instructions in the Maintenance section.

### Location of Fuses



## 5. Maintenance

**Important**

Disconnect the power  
before performing any maintenance work.

**NB**

Use of gloves and safety goggles is recommended  
when filling and cleaning the tank.

### Daily Service

The cooling unit should be checked for cooling water after 8 hours' use.

Remember to add Struers Additive Corrozip: One part of Additive for 33 parts of water.

To check the concentration of additive, use a refractometer.

Concentration = 1.9 x Brix value.

The concentration of additive should always be between 2.7 and 3.3 %. Add Corrozip if the concentration is too low.

### Filter Bag

- Check and if necessary empty and clean the Filter Bag.
- Disconnect the power.
- Remove the cooling unit from the machine's compartment.
- Remove the Filter Bag from the tank and turn it upside down over a waste container of suitable size.
- Let the debris fall down into the waste container and clean the Filter Bag.
- Replace the Filter Bag on the tank.

## Monthly Service

### Replacing the Cooling Water

- Replace the cooling fluid in the cooling unit tank.

### Emptying the Cooling Unit Tank

When replacing the cooling water, the cooling unit is emptied using its recirculation pump. To do this, proceed as follows:

- Disconnect the cooling unit's water outlet hose from the quick coupling on the equipment.
- Connect the cooling unit's water outlet hose to the quick coupling on the extra length of hose supplied with the cooling unit.
- Place the open end of the hose in a suitable container.
- Start the equipment. This will start the recirculation pump, to pump the cooling fluid out of the tank.
- Stop the equipment when the tank is empty.
- Empty the cooling unit completely and clean out all water and debris from the tank.
- Clean the tank and connected tubes thoroughly.  
If the cooling water has been infected with bacteria or algae, flush the tank and tubes with a suitable antibacterial disinfectant

### Refilling the Cooling Unit Tank

**IMPORTANT!**

The cooling unit will be very heavy when full.  
Before filling the tank, check that the cooling unit is in position.  
If this is not possible, ensure that the tank is directly in front of its final position (e.g. the cut-off machine's cooling unit compartment), with the tank's wheels in-line with the sides of the compartment and the control unit at the front so that it is ready to be pushed into position without being moved to the left or right.

- Refill the cooling unit with water using an external water hose or via direct connection to the water mains. Stop refilling when the water level is 25 mm from the upper edge.

50 l tank

- Fill with cooling fluid comprised of 50 l water and 1.5 l Corrozip.

100 l tank

- Fill with cooling fluid comprised of 100 l water and 3.0 l Corrozip.

**NB!**

Never refill by pouring the water into the cutting chamber/ turntable compartment, as it would be impossible to check the increasing level in the tank.

**IMPORTANT!**

Always maintain the correct concentration of Struers Additive, Corrozip, in the cooling water (percentage stated on the container of the Additive).  
Remember to add Corrozip each time you refill with water.  
Use only Struers Additive in the Recirculation Cooling Unit.  
Struers Additive is specially selected for use with Struers equipment.  
Other additives may not be compatible with some of the components of the equipment.



## 6. Technical Data

Subject	Specification	
	Metric/International	US
<b>50 l tank</b>		
Height	260 mm	10.2 "
Width (with extended handle)	520 mm 526 mm)	20.7 " (21.0 ")
Depth	460 mm	18.1 "
Volume	50 l	13.2 gallons
<b>100 l tank</b>		
Height	260 mm	10.2 "
Width (with extended handle)	730 mm (736 mm)	28.7 " (29.0 ")
Depth	670 mm	26.4 "
Volume	100 l	26.4 gallons
<b>Small pump</b>		
Flow	42 l/min at 0.2 bar	11.1 gallons/min at 0.2 bar
Power	0.16 kW	
<b>Large pump</b>		
Flow	46 l/min at 1.6 bar	12.2 gallons/min at 1.6 bar
Power	0.7 kW	