

Coolimat-2000

Band Filter

Instruction Manual

Original Instructions



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1 About this manual

**CAUTION**

Struers equipment must only be used in connection with and as described in the Instruction Manual supplied with the equipment.

**Note**

Read the Instruction Manual carefully before use, and save it for future reference.

**Note**

If you want to view specific information in detail, see the online version of this manual.

1.1 Accessories and consumables

Accessories

For information about the available range, see the Coolimat-2000 brochure on our website at www.struers.com.

Consumables

The machine is designed to be used only with Struers consumables specifically designed for this purpose and this type of machine.

Other products may contain aggressive solvents, which dissolve e.g. rubber seals. The warranty may not cover damaged machine parts (e.g. seals and tubes), where the damage can be directly related to the use of consumables not supplied by Struers.

For information about the available range, visit our website at www.struers.com.

Required

- A large pump with a capacity of 65 L/min at 1 bar/17 gallons/min).
- Additive for the recirculation cooling unit to prevent corrosion and improve cutting results.
- Filter paper. We recommend that you use filter paper rolls with a tensile strength of 20N and a length of 100 m/328 ft.

Recommended

- For easy cleaning, use a plastic inlay (liner) to collect surplus waste material.

Optional

- An additional recirculation pump. – A second pump can be mounted to supply coolant to 2 machines. When purchased from Struers, the pump is equipped with a cable that can be plugged directly into the rear of the control unit.

2 Safety

2.1 Intended use

Coolimat-2000 is intended for filtration, cooling and recirculation of cooling fluid containing waste from machining of materials. Coolimat-2000 is designed for use with Struers grinding and cutting machines.

The machine must be operated only by skilled/trained personnel. The machine is for use in a professional working environment (e.g. a materialographic laboratory).

The machine is only intended to be used with cooling fluids and filter materials which are specified for this purpose and this type of machine. For the intended Coolimat-2000 function, a signal from the machine is required.

Do not use the machine for the following

Filtering any type of explosive and/or flammable and/or unstable material from the cutting process.

Furthermore, the machine must not be used with consumables (cooling fluids, filter materials) that are not compliant with function and materials of Coolimat-2000.

Model

Coolimat-2000 BF (Band Filter)

2.2 Safety precautions



Read carefully before use

1. The machine must be installed in compliance with local safety regulations. All functions on the machine and any connected equipment must be in working order.
2. The operator must read the safety precautions and Instruction Manual, as well as relevant sections of the manuals for any connected equipment and accessories.
3. Do not use cooling liquid other than water mixed with additives, which are compliant with the machine.
4. The operator must read the Instruction Manual and, where applicable, the Safety Data Sheets for the applied consumables.
5. Observe the current safety regulations regarding handling, mixing, filling, emptying, and disposing of coolant with additives. Take care, the coolant may be hot!
6. Keep a copy of the manual in an easy-to-access place for future reference.
7. Ignoring this information and mishandling of the equipment can lead to severe bodily injuries and material damage.
8. Mishandling or modifying the equipment can lead to severe bodily injuries and material damage.

9. To achieve maximum safety and lifetime of the machine, use only original Struers consumables.
10. The machine must be disconnected from the electrical power supply before any service.
11. Always wear protective gloves and safety goggles when you clean and fill up the tank.
12. The recirculation pump must be disconnected from the electrical power supply before it can be removed from the cooling unit. Use of safety shoes is recommended when handling the pump.
13. All safety functions must be intact and in working order. If they are not, they must be replaced or repaired before the machine can be used.
14. Keep the area around the tank clean and free from spills.
15. If you observe malfunctions or hear unusual noises, switch off the machine and call technical service.
16. Struers recommend the use of an exhaust system as the cutting process may emit harmful gasses or dust.
17. In case of fire, alert bystanders and the fire brigade. Disconnect the electrical power supply. Use a powder fire extinguisher. Do not use water.
18. The machine must be installed in a well-ventilated and well-lit (300 lux) room.
19. Struers equipment must only be used in connection with and as described in the Instruction Manual supplied with the equipment.
20. The machine is designed to be used only with Struers consumables specifically designed for this purpose and this type of machine.
21. If the equipment is subjected to misuse, incorrect installation, alteration, neglect, accident or incorrect repair, Struers will accept no responsibility for damage to the user or the equipment.
22. Dismantling of any part of the equipment, during service or repair, should always be performed by a qualified technician (electromechanical, electronic, mechanical, pneumatic, etc.)

2.3 Safety messages

Struers uses the following signs to indicate potential hazards.



ELECTRICAL HAZARD

This sign indicates an electrical hazard which, if not avoided, will result in death, or serious injury.



WARNING

This sign indicates a hazard with a medium level of risk which, if not avoided, could result in death, or serious injury.



CRUSHING HAZARD

This sign indicates a crushing hazard which, if not avoided, could result in minor, moderate, or serious injury.



CAUTION

This sign indicates a hazard with a low level of risk which, if not avoided, could result in minor, or moderate injury.



Emergency stop

Emergency stop

General messages



Note

This sign indicates that there is a risk of damage to property, or a need to proceed with special care.



Hint

This sign indicates that additional information and hints are available.

2.4 Safety messages in this manual



CRUSHING HAZARD

Wear safety shoes when handling heavy machinery.



ELECTRICAL HAZARD

Switch off the electrical power supply before installing electrical equipment.



ELECTRICAL HAZARD

The machine must be earthed (grounded).



ELECTRICAL HAZARD

Make sure that the actual electrical power supply voltage corresponds to the voltage stated on the name plate of the machine.
Incorrect voltage can damage the electrical circuit.



WARNING

Disconnect the power before performing any maintenance work.



CAUTION

Struers equipment must only be used in connection with and as described in the Instruction Manual supplied with the equipment.

**CAUTION**

Prolonged exposure to loud noises may cause permanent damage to a person's hearing.
Use hearing protection if the exposure to noise exceeds the levels set by local regulations.

**CAUTION**

Wear gloves and safety goggles when you handle coolant.

**CAUTION**

Take care, the coolant may be hot.

**CAUTION**

Wear safety shoes when you handle the pump.

**CAUTION**

The collection bin is heavy when it is full and should not be handled without assistance.

**CAUTION**

Avoid spilling coolant when you fill, empty or top up the tank.

**CAUTION**

Wear safety shoes with slip-resistant soles.

**WARNING**

Do not use the machine with defective safety devices.
Contact Struers Service.

**WARNING**

In case of fire, alert bystanders, the fire brigade and cut power. Use a powder fire extinguisher. Do not use water.

**WARNING**

Safety critical components must be replaced after a maximum lifetime of 20 years. Contact Struers Service for information.

3 Get started – introduction

3.1 Device description for Coolimat-2000 Band Filter

Coolimat-2000 Band Filter is a filtration and recirculation machine for coolant with waste/debris, typically swarf and particles from cut-off wheels. It is intended to filter and cool down the coolant from up to 2 cutting and/or grinding machines.

Coolant is directed into the filter paper which is placed on a metal rod. Filtered coolant is collected in a tank underneath the filter unit and is then recirculated to the cutting machine using up to two pumps that are inserted in the tank. The coolant must be filled/topped up, correctly mixed and replaced according to specifications.

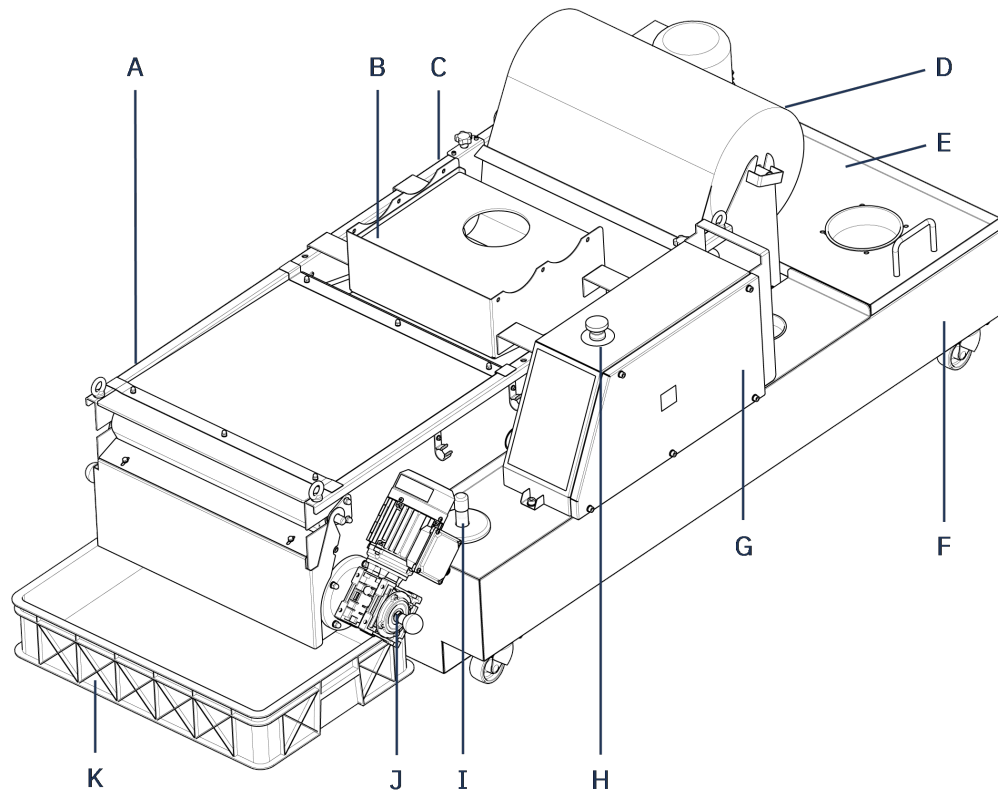
The filter paper is automatically moved to ensure the filter capacity is adapted to the amount of debris. A flotation device activates the motorized metal band filter when maximum water level above the filtration paper is reached. This ensures that the band continuously positions a fresh section of filter paper under the coolant inlet.

The debris is automatically conveyed to a waste collection bin in front of the machine. When the filter paper moves, the debris is scraped from the used filter paper and is deposited in a waste collection bin. The waste collection bin can be removed to dispose of the debris. When the disposable filter paper is used up, it is easily replaced by the operator.

Coolimat-2000 does not have start and off buttons. It is activated or stopped by signals via the control cable from the machine to which it is connected. This means, that it will typically start and stop simultaneously with a master, and stand by when circulation is not required.

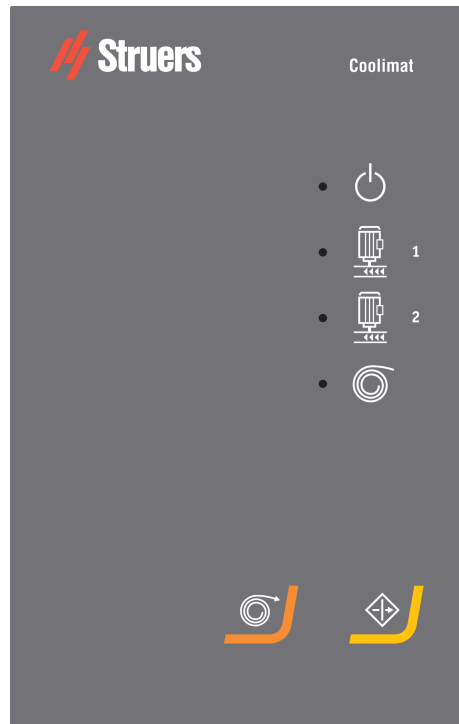
If the emergency stop is activated on the master machine, Coolimat-2000 will also stop. A category 0 emergency stop cuts the power to Coolimat-2000.

3.2 Overview of Coolimat-2000 Band Filter



A Band filter unit with lid	F Coolant tank (wheel mounted)
B Water dispersal plate with lid	G Control unit
C Water inlet duct	H Emergency stop button
D Roll of filter paper (consumable) on a paper rod	I Water-level indicator
E Pump cover	J Band filter motor
	K Waste collection bin

3.3 Overview of the control panel



On/Off (power)

Green LED: Standby mode.

Red LED: Unit error (after power-up or pump or emergency stop).



Pump (pump 1 + 2)

Green LED: Pump is energized.

Red LED: Pump error (not connected or pump failure/overload).



Paper winding

Green LED: Paper winding is energized.

Red LED: Paper-winding error (e.g. the pump is not connected, it is overloaded, or there is a unit error). (Only for the band filter version).



Manual paper winding

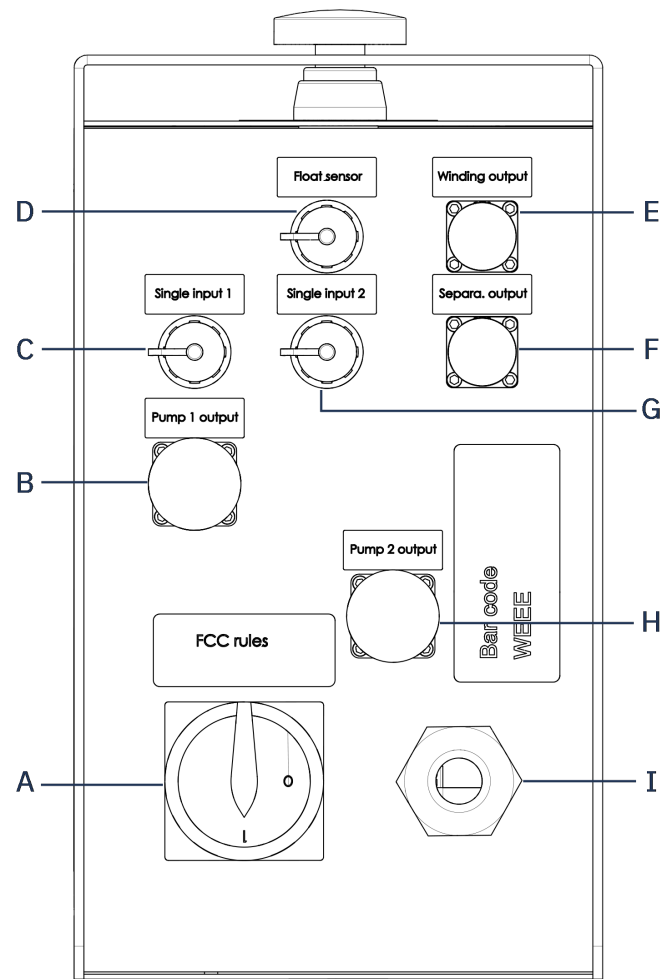
To start winding of paper.



Resume

To activate the unit after power up or emergency stop.

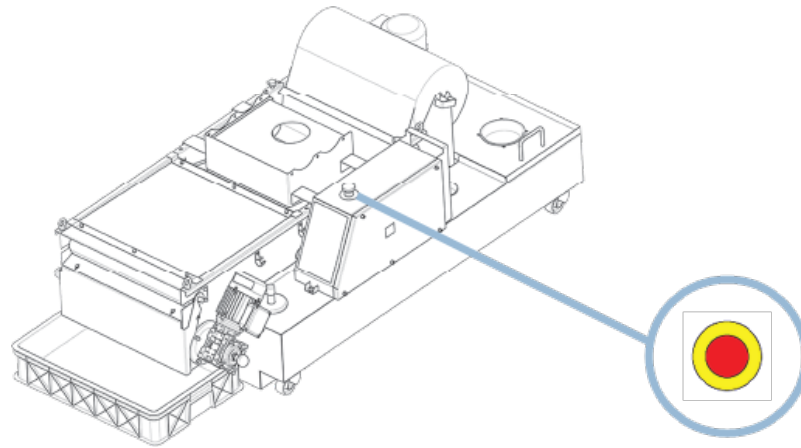
3.3.1 Rear view of the control unit



A Main switch	E Winding motor output
B Pump 1 output	F Optional accessory output (not used)
C Single input 1 signal to control Pump 1 output	G Single input 2 signal to control Pump 2 output
D Floater sensor input	H Pump 2 output
	I Electrical power supply cable

3.4 Emergency stop

The Emergency stop button is located on the top of the control unit.



The Emergency stop button initiates a safety stop of all movements and sources of energy. The Emergency stop work both in conjunction with the cutting machine and independently.

1. Push the button to activate.

**Emergency stop**

Do not use the Emergency stop button for operational stop of the machine during normal operation.

2. Turn the button clockwise to release.

**Emergency stop**

Before releasing (disengaging) the Emergency stop, investigate the reason for activating this, and take any necessary corrective action.

4 Transport and storage

If, at any time after the installation, you have to move the unit or place it in storage, there is a number of guidelines we recommend that you follow.

- Package the unit securely before transportation. Insufficient packaging could cause damage to the unit and will void the warranty. Contact Struers Service.
- We recommend that you use the original packaging and fittings.

Transport of Coolimat-2000

1. Disconnect the power supply.
2. Clean and dry the filter unit and tank.
3. Lift Coolimat-2000 onto the pallet and move it to the new location.

At the new location

1. The facilities required are in place.

2. Check with the Pre-Installation Checklist.

Long-time storage or shipping of Coolimat-2000

1. Remove the control unit, pump(s) and the water-level indicator, and place in a box.
2. Place the box in the tank.
3. Build a crate around the machine.
4. To keep the machine dry, plastic-wrap the machine and place a bag of desiccant (silica gel) in the crate.
5. Place a lid on the crate.

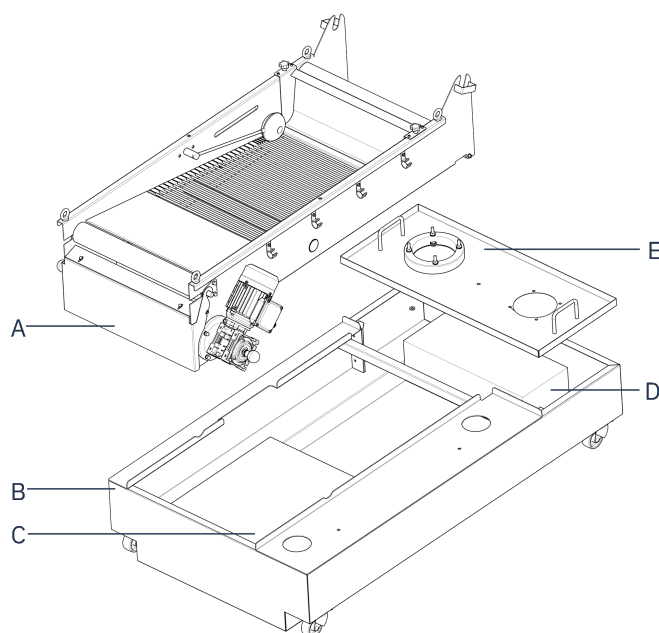
5 Installation

5.1 Unpack Coolimat-2000



Note

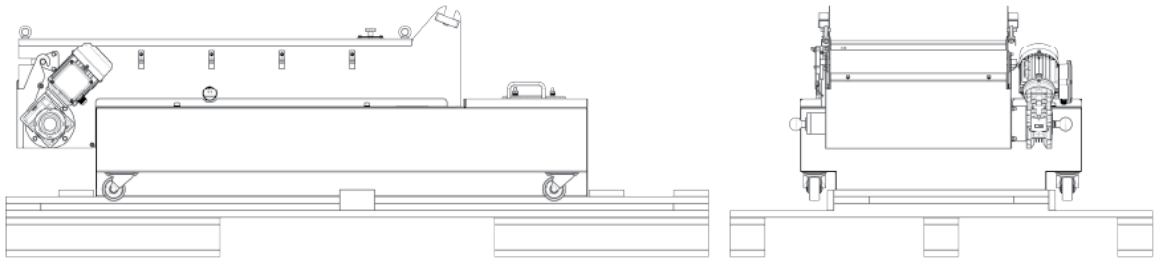
We recommend that you keep all original packaging and fittings for future use.



- A** Filter unit
- B** Tank
- C** Loose parts

- D** Pump
- E** Pump cover

Coolimat-2000 is delivered on a pallet and fastened with cable ties.



Loose parts and the pump are located in the waste collection bin.

The control unit is packed separately.

1. Remove the transport box.
2. Remove the plastic wrapping.
3. Save the packaging and pallet for future use.
4. Lift off the filter unit and pump cover and remove the waste collection bin and the fluid level indicator from inside the tank.

5.2 Check the packing list

Components in the packing box

Pcs.	Description
1	cooling unit tank, 200 l
1	waste collection bin
1	filter unit: Band Filter
1	water level indicator
1	recirculation pump
1	control unit Coolimat-2000
1	24 V/CAN control cable
1	Instruction Manual



Note

The power supply cable comes without a plug.

Optional components

Pcs.	Description
1	additional recirculation pump (to be mounted on the tank)

**Note**

Band filter paper is not part of the delivery (this is an additional consumable).

5.3 Lift Coolimat-2000

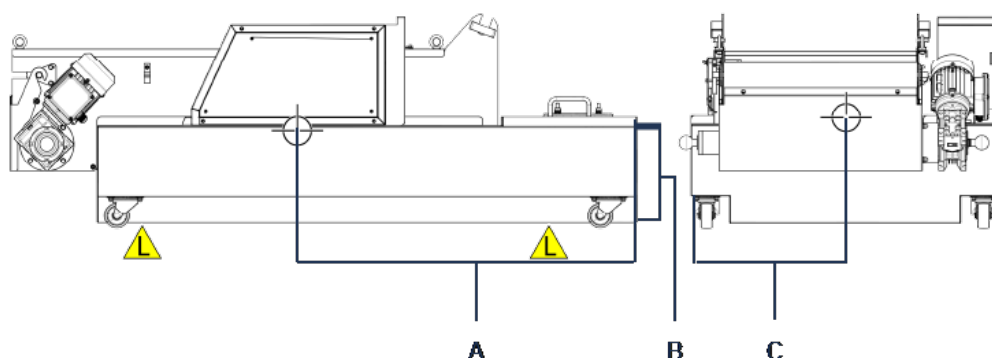
**CRUSHING HAZARD**

Wear safety shoes when handling heavy machinery.

Weight	
Coolimat-2000 with band filter	136 kg/299.8 lbs

For more specific details, see [Technical data sheet](#) ► 32.

Lifting points (L) and center of gravity



A 902 mm/35.5" ft

C 414 mm/16.3"

B 251 mm/9.9"

When you use a crane

1. Position the 2 lifting straps under the machine so that they are on the inner side of the rollers.
 - A lifting bar is recommended to keep the 2 straps apart below the lifting point.
 - When you use a crane to lift the tank, place the straps parallel to the front and rear of the tank.
2. Lift the tank from the pallet.
3. Place the tank on the floor next to the machine you wish to connect it to.

When 2 people lift manually

- Lift off the filter unit and remove the loose items from inside the tank.

5.4 Assemble Coolimat-2000 Band Filter

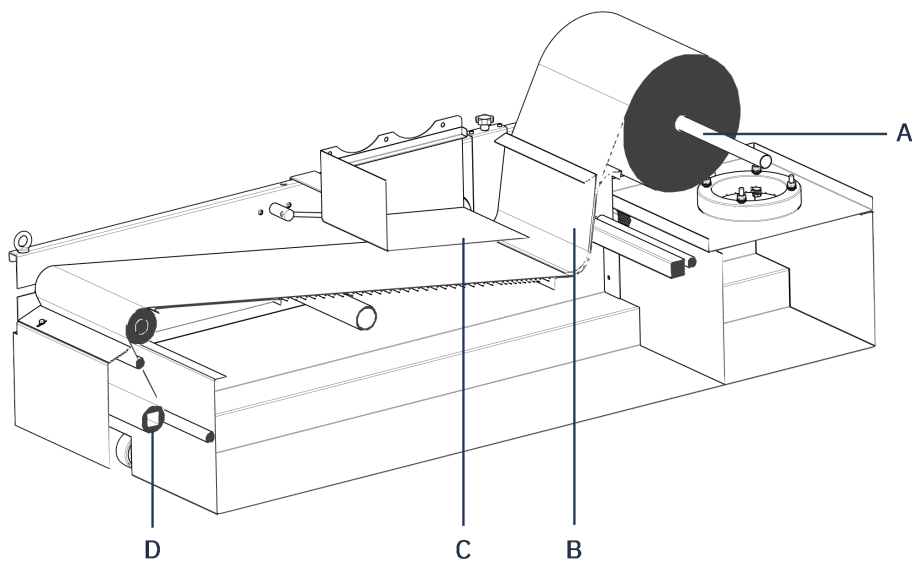
1. Place the filter unit and the pump cover on the tank.
2. Mount the control unit to the tank using the attached screws.
3. Connect water level sensor and winding motor to the control unit.

5.4.1 Mount the filter paper roll

1. Insert the paper holder rod into the roll of filter paper.
2. Mount the roll of filter paper onto the roll holder.
3. Pull out approximately 2 meters of filter paper from the roll.
4. Guide the paper under the guide rail, and lay flat onto the band filter.
5. Tape the end of the filter paper to the collecting rod that came with the filter roll.
6. Press the manual paper winding button on the control unit.

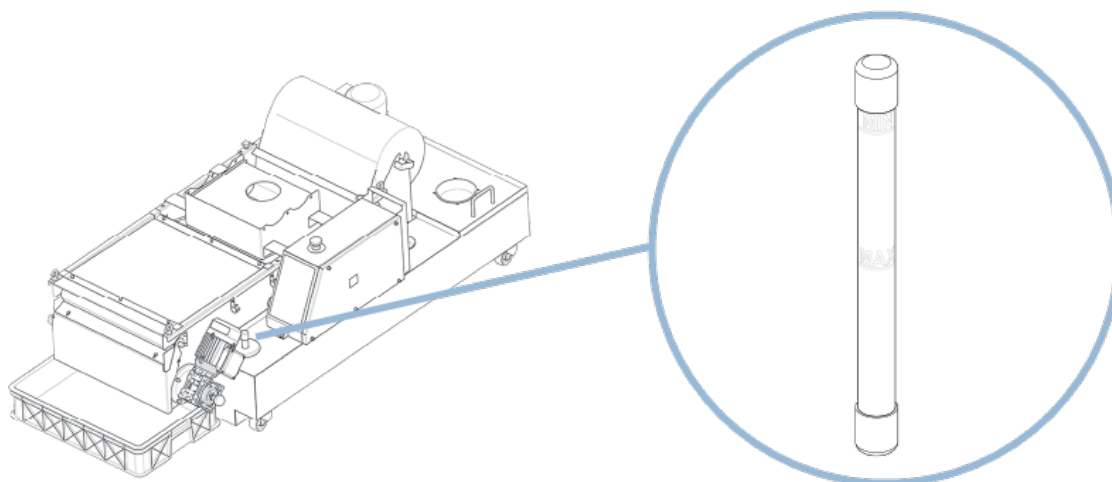


7. Wind 10-20 cm of filter paper onto the collecting rod.



A Rod	C Water dispersal plate
B Guide rail	D Collecting rod

5.4.2 Water-level indicator



- Place the water-level indicator in the hole provided.

Top up or refill the tank with coolant when the level is too low. See [The coolant ► 27](#).

5.4.3 Recirculation pump

- Mount the recirculation pump in the hole provided. See [Rear view of the control unit ► 13](#).

Pump no. 2

An additional pump can be mounted in the 2nd hole. This is required in cases where the Coolimat-2000 with band filter will work together with 2 cut-off machines.

1. Remove the cover from the 2nd hole and position the adapter ring over the hole.
2. Mount the 2nd recirculation pump.
3. Connect the 2nd recirculation pump to the control panel.

5.5 Prepare the cooling unit for use

5.5.1 Water supply

Water inlet

The recirculation tank of Coolimat-2000 is filled with water from the main water supply (no hose is supplied).

Water inlet duct: 115 mm/4.5" dia.

Water outlet – drain

To empty the recirculation tank, use the recirculation pump or use an external dredge pump (not supplied).

**Note**

The coolant contains additive and cutting swarf and must not be disposed of into the waste-water drain.

Coolant must be disposed of in compliance with local safety regulations.

5.5.2 Fill the tank

1. Use coolant comprised of 192 l/50.7 US gallon water and 8.0 l/2.1 US gallon Cooli Additive or Cooli Additive Plus.
2. Fill the tank with the coolant through the pump housing hole.

**Note**

Do not fill the tank by pouring water into the cutting chamber, as it would be difficult to check the increasing level in the tank.

**Note**

The cooling unit is very heavy when it is full.

Before you fill the tank:

- Either check that the cooling unit is in its final position.
- Or ensure that the tank is directly in front of its final position with the control unit facing forwards so that it is ready to be pushed into position without being moved to the left or right.

**Note**

To avoid corrosion, we recommend the use of Struers Additive, Cooli Additive or Cooli Additive Plus in the coolant (percentage stated on the Additive container). Remember to top up with Struers Additive each time you refill with water.

5.5.3 Power supply

**ELECTRICAL HAZARD**

Switch off the electrical power supply before installing electrical equipment.

**ELECTRICAL HAZARD**

The machine must be earthed (grounded).

**ELECTRICAL HAZARD**

Make sure that the actual electrical power supply voltage corresponds to the voltage stated on the name plate of the machine.
Incorrect voltage can damage the electrical circuit.

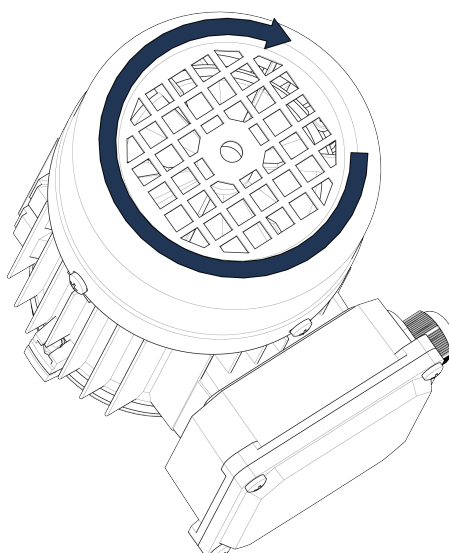
Coolimat-2000 is factory mounted with a 1.8 m / 5.9 ft power cable.

- Mount an approved plug on the cable or hard-wire into the power supply according to electrical specifications of your unit and local regulations:

EU cable		UL cable	
L1	Brown	L1	Black
L2	Black	L2	Red
L3	Black or grey	L3	Orange/turquoise
Earth	Green/yellow	Earth	Green/yellow
Neutral	Blue (not used)	Neutral	White (not used)

5.5.4 Verify correct installation

- The fan beneath the intake cover must rotate clockwise.
- If the fan rotates counter-clockwise, switch 2 of the phases.



5.6 Connect Coolimat-2000 to the cutting machine

The recirculation pump is controlled by the cutting machine.

Water is directed from the cutting machine to Coolimat-2000 via the water-outlet pipe supplied with the cutting machine.

On the large floor-type cutting machines of Struers the pipes is rigid. A drain angle is supplied with which the outlet pipe fits into the water inlet duct on the filter unit cover.

- Connect the 24 V / CAN control cable to the Coolimat-2000 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 Coolimat-2000 control unit.
- Connect one end of the Coolimat-2000 water hose to the quick coupling on the pump, and connect the other end to the water inlet of the cutting machine.

3. Mount the drain angle to the water outlet from the cutting machine and insert above the water-dispersal plate.

5.7 Noise level



CAUTION

Prolonged exposure to loud noises may cause permanent damage to a person's hearing. Use hearing protection if the exposure to noise exceeds the levels set by local regulations.

For information on the sound pressure level value, see .

6 Operate the device

6.1 Start Coolimat-2000

Coolimat-2000 starts automatically when the cutting machine starts to cut. Coolimat-2000 enters the standby mode when it stops cutting.

1. Turn the main switch on.
2. Check that the power LED is green. If it is not, press **Resume**.



Note

Be aware of possible exothermic reactions dependent on the combination of the metallic swarf produced during cutting. For further information, see [Disposal ► 30](#).

6.2 Power off

Before turning off Coolimat-2000 Band Filter:

- Press **Manual paper winding** to replace the used, wet paper with new, dry paper.



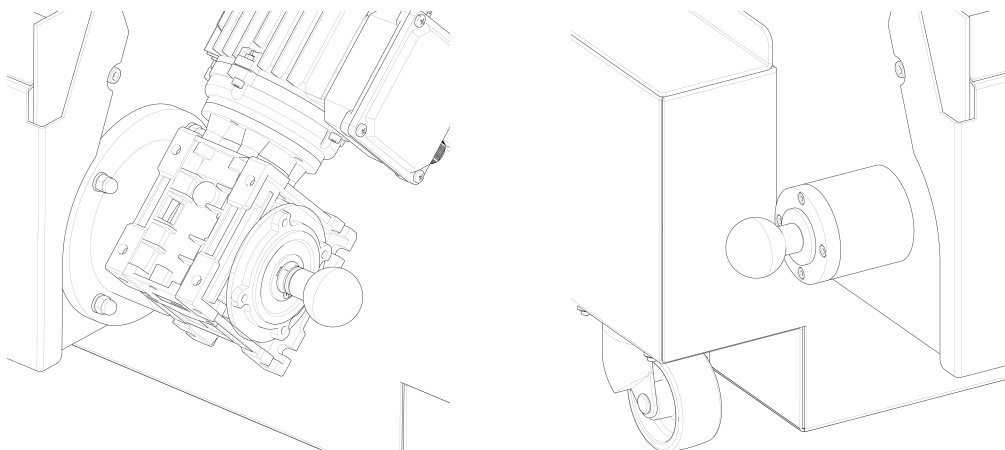
See [Change the paper in the band filter ► 23](#).

To disconnect the power supply to Coolimat-2000:

- Turn the main switch off.

6.3 Change the paper in the band filter

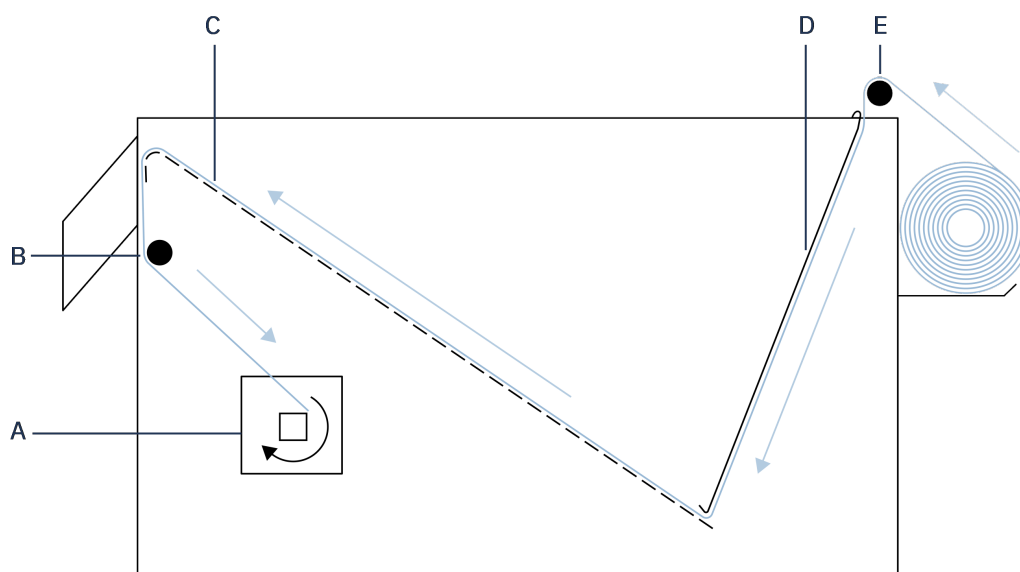
1. Turn the main switch off to disconnect the power and wait 10 seconds.
2. Remove the waste collection bin.
3. Remove any remaining paper.
4. Clean the surfaces that are in contact with the filter paper.
5. On each side of the band filter unit, pull out the handles on the right and left side to release the spool.



6. Remove the spool of used paper together with the collector rod, and discard.
7. Fit a new collector rod.

Insert filter paper

1. Mount a roll of filter paper onto the paper roll holder.
2. Remove the metal plate (for holding the filter paper in place).
3. Guide the filter paper over the guide roller, around the guide bar and secure onto the collector rod (see illustration).
4. Slide the metal plate into position.



- | | |
|----------------------------------|-----------------------|
| A Collector rod | D Metal plate |
| B Guide bar | E Guide roller |
| C Perforated bottom plate | |

5. Check the operation of the level float mechanism by raising and lowering the float.
6. Check that the level float is positioned correctly so that the filter paper is replaced before the level of coolant reaches the edge of the perforated bottom plate.

If necessary, adjust the angle of the level float by loosening the adjustment screw located on the end of the arm of the level float.

Re-tighten the screw when adjustment is completed.

7. Place the band filter unit into position in the cooling unit compartment.
8. Turn the main switch on.
9. Press **Resume** to activate the Coolimat-2000.



Note

Empty the waste collection bin periodically to prevent blockages.

6.4 Adjust the water-float sensor

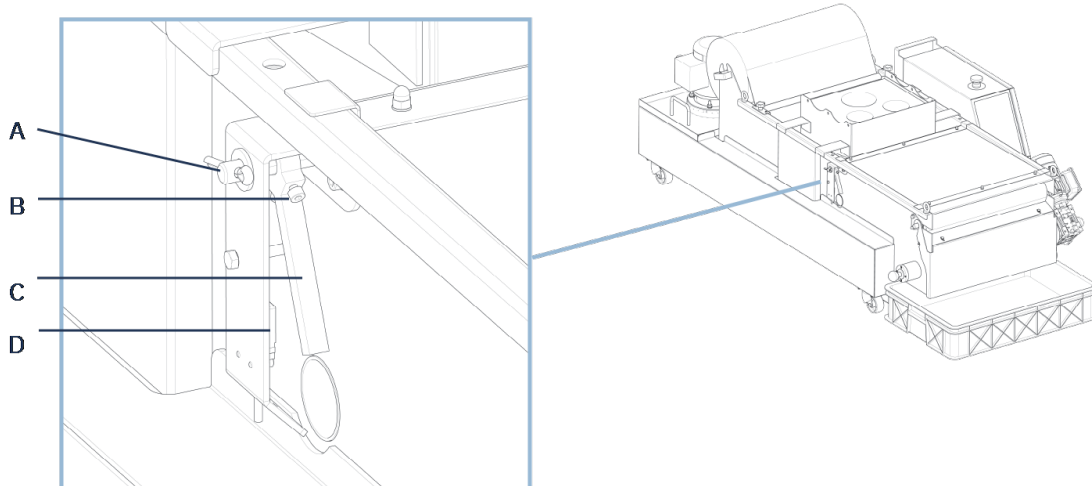
The floater is adjusted before the band filter is shipped. It is possible to adjust the position of the floater to achieve higher water filtration or lower paper consumption.

1. Ensure that there are no cutting operations from the connected machine.
2. Wait until there is no water above the paper.

3. Release the waste paper roll from the winding mechanism (or make an adjustment before new paper is inserted)
4. Lift the floater from the bottom, until the paper winding LED on the control panel turns green – this is the set water level for this machine.



5. Adjust the position of the activation rod (in millimeters):
 - Release the tightening screw.
 - Raise the floater for less paper consumption.
 - Lower the floater for better filtration.
 - Move the activation rod until the sensor is activated and the paper winding LED is green.
 - Tighten the screw.



A Floater arm

B Screw

C Activation rod

D Sensor

6. Reposition the waste paper roll in the winding mechanism.
7. Press **Manual paper winding** to check the function.



Note

Do not leave equipment without checking that the new setting works correctly and that automatic paper winding is activated as required.

7 Maintenance and service

Proper maintenance is required to achieve the maximum up-time and operating lifetime of the machine. Maintenance is important in ensuring continued safe operation of your machine.

The maintenance procedures described in this section must be carried out by skilled or trained personnel.

Safety Related Parts of the Control System (SRP/CS)

For specific safety related parts, see the section "Safety Related Parts of the Control System (SRP/CS)" in the section "Technical data" in this manual.

Technical questions and spare parts

If you have technical questions or when you order spare parts, state serial number and voltage/frequency. The serial number and the voltage are stated on the name plate of the machine.

To ensure a longer lifetime for your machine, we strongly recommend regular cleaning.



WARNING

Disconnect the power before performing any maintenance work.



CAUTION

Wear gloves and safety goggles when you handle coolant.



CAUTION

Wear safety shoes when you handle the pump.



CAUTION

Take care, the coolant may be hot.



CAUTION

The collection bin is heavy when it is full and should not be handled without assistance.



Note

Accumulated dirt and swarf can restrict or cause damage to the water inlet valves.

7.1 Daily

7.1.1 The coolant

The coolant level

During use, the coolant evaporates, and the level in the tank is reduced over time. Therefore, the operator must refill periodically.

- The coolant level must be approximately 25 mm / 0.98" below the upper edge of the tank (follow the marking on the floater).

The coolant mix

In order for the coolant to function as intended, always maintain a constant mix of additive and coolant.

Remember to add Struers Additive, Cooli Additive or Cooli Additive Plus.

To check the concentration of additive, use a refractometer.

Mixing ratio:

- One part of Additive for 25 parts of water.
- Concentration = 1.9 x Brix value.
- The concentration of additive should always be 4%.

Add Cooli Additive or Cooli Additive Plus if the concentration is too low.

Always follow the information on the coolant additive.



Hint

We recommend the use of Struers Additive, Cooli Additive or Cooli Additive Plus to minimize foam generation in the coolant.

7.1.2 Check the coolant

1. Check, and if necessary, replace the coolant. See [Replace the coolant ► 28](#).
2. Top up with coolant if required. See [The coolant ► 27](#).



Note

Replace the coolant immediately if you notice that it is infected by algae or bacteria.
Flush the tank and tubes with a suitable antibacterial disinfectant, e.g. Struers Unitclean.

3. Check and if necessary empty and clean the waste collection bin.
4. Check and if necessary replace the roll of filter paper.



Note

Always ensure that there is sufficient filter paper on the roll. The band filter unit will continue to operate even if the filter paper runs out.

7.1.3 Replace the coolant

**CAUTION**

Avoid spilling coolant when you fill, empty or top up the tank.

**CAUTION**

Wear working shoes with slip-resistant soles.

Empty the cooling unit tank

**Note**

The coolant contains additive and cutting swarf and may not be disposed of into a main drain.

The coolant must be disposed of in compliance with local safety regulations. See [Disposal ► 30](#).

**Note**

Do not leave equipment unsupervised when you empty the cooling unit tank.

If you use the recirculation pump

1. Disconnect the cooling unit's water outlet hose from the quick coupling on the cutting machine.
2. Place the open end of the hose in a suitable container.
3. Start the recirculation pump by activating the flushing gun on the cutting machine.
4. Turn off Coolimat-2000 on the main switch when the tank is empty.

If you use an industrial dredge pump

1. Place the open end of the hose in a suitable container.
2. Empty the cooling unit completely, and clean out all water and debris from the tank.
3. Clean the tank and connected tubes thoroughly.

Refill the cooling unit tank

Empty any debris that may be left in the tank before refilling it.

Refer to [Fill the tank ► 20](#).

**Note**

Remember to add Struers Additive each time you refill with water.

**Note**

Always maintain the correct concentration of Struers Additive, Cooli Additive or Cooli Additive Plus in the coolant (percentage stated on the container of the additive).

7.2 Weekly

- Clean all surfaces that are in contact with the filter paper.

7.3 Monthly

- Clean all surfaces with a damp cloth.

7.4 Annually

7.4.1 Test the safety devices

**WARNING**

Do not use the machine with defective safety devices. Contact Struers Service.

Only skilled or trained personnel may carry out the safety test.

Test 1

1. Start a cutting process. Both the cutting machine and Coolimat-2000 start.
2. Activate the emergency stop on the cutting machine.
 - The filter pump(s), band filter motor and optional auxiliary equipment stop
 - The cutting machine stops.
 If not, turn Coolimat-2000 off on the main switch and contact Struers Service.

Test 2

1. Start a cutting process. Both the cutting machine and Coolimat-2000 start.
2. Activate the emergency stop on Coolimat-2000.
 - The filter pump(s), band filter motor and optional auxiliary equipment stop.
 If not, turn off the machine on the main switch and contact Struers Service.

7.5 Spare parts

For specific safety related parts, see the section "Safety Related Parts of the Control System (SRP/CS)" in the section "Technical data" in this manual.

Technical questions and spare parts

If you have technical questions or when you order spare parts, state the serial number and the year of production. This information is stated in the name plate on the machine.

For further information, or to check the availability of spare parts, contact Struers Service. Contact information is available on [Struers.com](http://www.struers.com).

7.5.1 Spare parts list

The following is a list of selected wear parts that may need replacement during the lifetime of the machine.

For further information, or to check the availability of other replacement parts, contact your local Struers Service department. Contact information is available on [The Struers Website](http://www.struers.com) (<http://www.struers.com>).

Spare part	Struers catalog no.
Wheel Swivel Ø65 mm/2.6"), 2 pcs.	RGB00120
Float assembly	R6160022

7.6 Service and repair

We recommend that a regular service check be carried out yearly or after every 1500 hours of use.

When the machine is started up, the display shows information about total operation time and the machines service information.

After 1500 hours of operation time, the display will show a message reminding the user that a service check should be scheduled.



Note

Service must only be performed by a qualified technician (electromechanical, electronic, mechanical, pneumatic, etc.).
Contact Struers Service.

7.7 Disposal



Equipment marked with a WEEE symbol contains electrical and electronic components and must not be disposed of as general waste.

Contact your local authorities for information on the correct method of disposal in accordance with national legislation.

For disposal of consumables and recirculation fluid, follow local regulations.



WARNING

In case of fire, alert bystanders, the fire brigade and cut power. Use a powder fire extinguisher. Do not use water.

**Note**

The recirculation fluid will contain additive and cutting or grinding swarf. Do not dispose of the recirculation fluid into a main drain. Follow the current safety regulations for handling and disposal of swarf and additive for recirculation fluid.

Keep track of which metals you cut or grind and the amount of swarf produced.

Depending on which metals you cut or grind, it is possible that the combination of the metallic swarf from metals with a large difference in electropositivity, can result in exothermic reactions when favorable conditions are present.

Examples:

The following are examples of combinations which can result in exothermic reactions if a large amount of swarf is produced during cutting or grinding on the same machine, and when favorable conditions are present:

- Aluminum and copper.
- Zinc and copper.

8 Troubleshooting

Error	Cause	Action
Water leakage.	A leak in the cooling unit water hose.	Check the hose for leakages and tighten the hose clamp.
	The drain from the cutting machine is blocked with debris.	Check and clean the drain and tubes.
	Water overflow in the water tank	Remove the excess water in the tank
The cooling unit has stopped and cannot be restarted	Blown fuses	Contact Struers Service.
Corrosion of specimens, cooling unit or equipment	Insufficient additive for coolant.	Add coolant additive in the correct concentration to the coolant. Check with a refractometer. Follow the instructions in The coolant ► 27 .
The pump has stopped	Emergency stop on the cutting machine has been activated. This will stop the pump.	Release the Emergency stop. Pressing the Emergency stop button on Coolimat-2000 will not stop the cutting machine.

Error	Cause	Action
Filter paper does not move and/or the water level rises.	When the filter paper is saturated with swarf, the water level rises, and a float activates the winding motor which automatically feeds fresh filter paper.	Check that the float is functioning correctly. Adjust the water sensor, if needed. Check that the filter paper is not torn close to the winding mechanism.
No or low flow of coolant in the cutting machine.	The direction of the pump is incorrect.	Switch 2 of the phases. See Verify correct installation ► 21.
	The water inlet to the cutting machine is blocked.	Check the water inlet hose for blockages. For cutting machines with an inline filter, see the Instruction Manual for the machine.

9 Technical data

9.1 Technical data sheet

Pump	Flow	65 l/min (17 gallons/min) at 1 bar mm (14.5 psi)
	Nominal power	0.75 kW (1 hp)
	Water outlet	GEKO 3/4"
Safety standards		See the Declaration of Conformity
Operating environment	Surrounding temperature	5 - 40°C (41 - 104°F)
	Humidity	< 85% RH non-condensing
Storage and transport conditions	Surrounding temperature	0 - 60°C (21 - 140°F)
	Humidity	< 85% RH non-condensing

Power supply 1	Voltage/frequency	3 x 200 V (50 Hz)
	Power inlet	3L + (N) + PE
	Current, nominal load (1 Pump / Band Filter)	3.7 A / 10.3 A
	Current, max. (1 Pump / Band Filter)	7.5 A / 20.6 A
	Ampere rating of the largest motor or load (1 Pump / Band Filter)	3.7 A / 3.7 A
Power supply 2	Voltage/frequency	3 x 200-210 V (60 Hz)
	Power inlet	3L + (N) + PE
	Current, nominal load (1 Pump / Band Filter)	3.8 A / 10.6 A
	Current, max. (1 Pump / Band Filter)	7.6 A / 21.2 A
	Ampere rating of the largest motor or load (1 Pump / Band Filter)	3.8 A / 3.8 A
Power supply 3	Voltage/frequency	3 x 220-240 V (60 Hz)
	Power inlet	3L + (N) + PE
	Current, nominal load (1 Pump / Band Filter)	3.3 A / 9.2 A
	Current, max. (1 Pump / Band Filter)	6.6 A / 18.4 A
	Ampere rating of the largest motor or load (1 Pump / Band Filter)	3.3 A / 3.3 A

Power supply 4	Voltage/frequency	3 x 380-415 V (50 Hz)
	Power inlet	3L + (N) + PE
	Current, nominal load (1 Pump / Band Filter)	1.9 A / 5.2 A
	Current, max. (1 Pump / Band Filter)	3.7 A / 10.4 A
	Ampere rating of the largest motor or load (1 Pump / Band Filter)	1.9 A / 1.9 A
Power supply 5	Voltage/frequency	3 x 460-480 V (60 Hz)
	Power inlet	3L + (N) + PE
	Current, nominal load (1 Pump / Band Filter)	1.7 A / 4.7 A
	Current, max. (1 Pump / Band Filter)	3.3 A / 9.4 A
	Ampere rating of the largest motor or load (1 Pump / Band Filter)	1.7 A / 1.7 A
Safety Circuit Performance Level	Emergency stop, Pump 1	PL c
	Emergency stop, Pump 2	PL c
	Emergency stop, Winding	PL c
	Emergency stop from main machine, Pump 1, Schlegel E- stop	PL c
	Emergency stop from main machine, Pump 2, Schlegel E- stop	PL c
	Emergency stop from main machine, Pump 1, Omron E- stop	PL c
	Emergency stop from main machine, Pump 2, Omron E- stop	PL c

Noise level	A-weighted sound emission pressure level at workstations	LpA = 65.5 dB(A) (measured value). Uncertainty K = 4 dB (In combination with Magnutom-5000 cutting an Aluminium alloy rod Ø110 mm)
Dimensions and weight (Tank itself)	Width	80 cm (31")
	Depth	140 cm (55")
	Height	27.5 cm (10.8")
	Volume	200 l (52.8 gallons)
	Weight	48 kg (105.8 lbs)
Dimensions and weight (Pump itself)	Width	22 cm (8.7")
	Depth	22 cm (8.7")
	Height	52 cm (20.5")
	Weight	10 kg (22 lbs)
Dimensions and weight (Band filter with tank and pump)	Width	83 cm (32.7")
	Depth	162.5 cm (64")
	Depth incl. waste basket	182.5 cm (71.9")
	Height with filter paper roll	62 cm (24.4")
	Height without filter paper roll	54.5 cm (21.5")
	Weight	136 kg (299.8 lbs)

9.2 Safety Related Parts of the Control System (SRP/CS)



WARNING

Safety critical components must be replaced after a maximum lifetime of 20 years. Contact Struers Service for information.



Note

Replacement of safety critical components must only be performed by a Struers engineer or a qualified technician (electromechanical, electronic, mechanical, pneumatic, etc.).
Safety critical components must only be replaced by components with at least the same safety level.
Contact Struers Service.

**Hint**

SRP/CS (safety-related parts of a control system) are parts that have an influence on safe operation of the machine.

Safety- related part	Manufacturer/Manufacturer description	Manufacturer catalog no.	Electrical ref.	Struers catalog no.
Emergency stop	Schlegel	Rondex RV dia. 22	S1	2SA10400
Emergency stop	Schlegel	Module holder MHR-5	S1	2SA41605
Emergency stop	Schlegel	MTO NC switch	S1.2, S1.3, S1.4, S1.5	2SB10071
Motor contactor	ABB	AF09Z-30-10-21	K6, K7	2KM11310
Motor contactor	Omron	J7KNA-12-10-24VD-VS	K4, K5	2KM70911

9.3 Diagrams

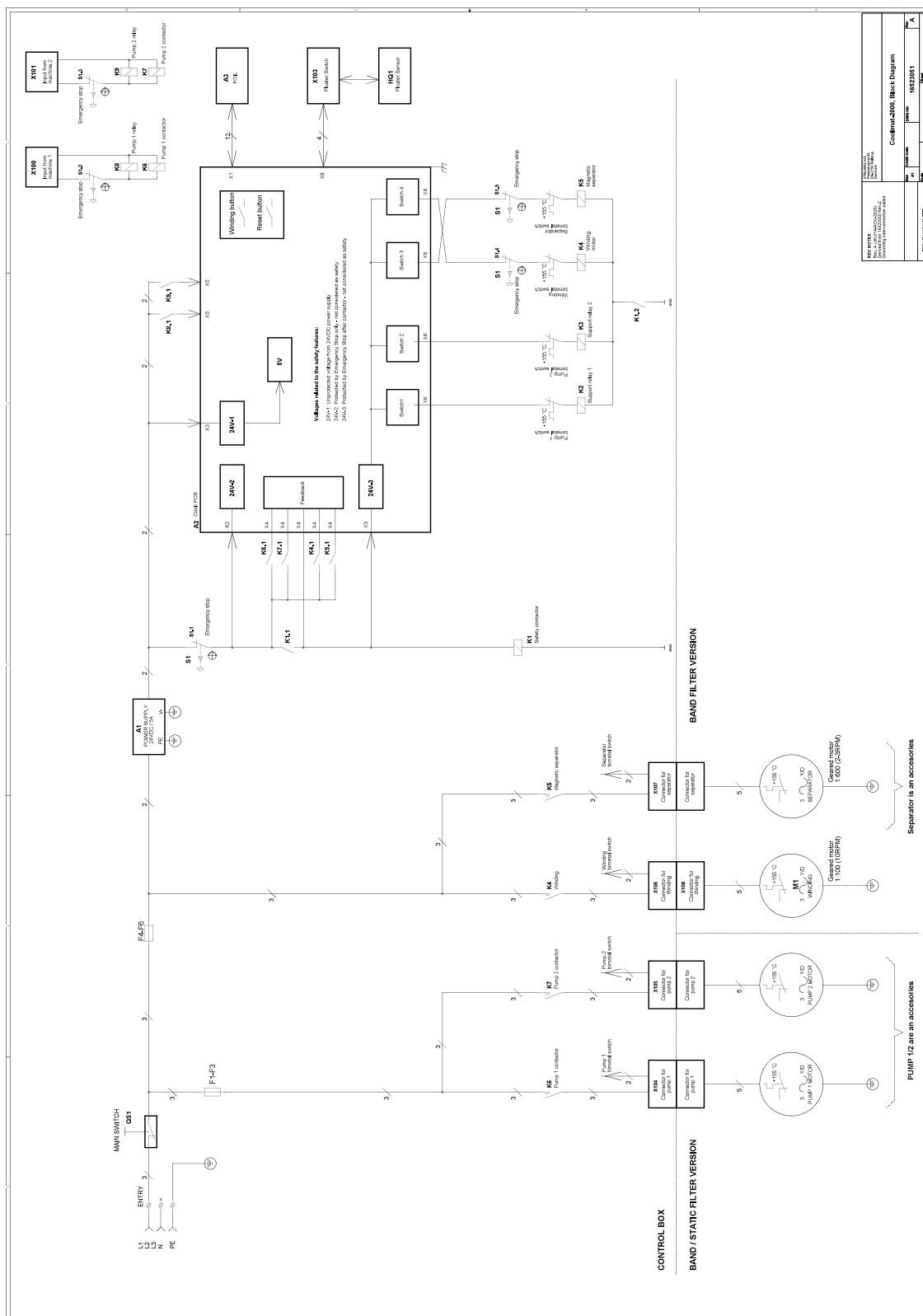
**Note**

If you want to view specific information in detail, see the online version of this manual.

9.3.1 Circuit diagram

See the diagram number on the name plate of the equipment, and contact Struers Service via [Struers.com](https://www.struers.com).

9.3.2 Block diagram – 16523051 A



9.4 Legal and regulatory information

FCC notice

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Pursuant to Part 15.21 of the FCC Rules, any changes or modifications to this product not expressly approved by Struers ApS could cause harmful radio interference and void the user's authority to operate the equipment.

EN ISO 13849-1:2015

All SRP/CS are limited to a lifetime of 20 years. After expiration of this period, all components must be replaced.

10 Manufacturer

Struers ApS
Pederstrupvej 84
DK-2750 Ballerup, Denmark
Telephone: +45 44 600 800
Fax: +45 44 600 801
www.struers.com

Responsibility of the manufacturer

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

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

The manufacturer is to be considered responsible for effects on safety, reliability, and performance of the equipment only if the equipment is used, serviced, and maintained in accordance with the instructions for use.

Declaration of Incorporation of Partly Completed Machinery

Manufacturer	Struers ApS • Pederstrupvej 84 • DK-2750 Ballerup • Denmark
Name	Coolimat-2000 Band Filter Coolimat-2000 Static Filter
Model	N/A
Function	Recirculation cooling unit
Type	0652
Cat. no.	06526129, 06526130, 06526136 06526146, 06526229, 06526230, 06526236, 06526246, 06526254

The above listed machinery is only intended to be used with Struers machinery and consumables, and shall not be put into service until the final machinery into which it is to be incorporated has been declared in conformity with this regulation, where appropriate.

Serial no.



Module H, according to global approach

EU

We declare that the product mentioned is in conformity with the following legislation, directives and standards:

2006/42/EC	EN ISO 12100:2010, EN ISO 13849-2:2012, EN ISO 13849-1:2015, EN ISO 13850:2015, EN 60204-1:2018, EN 60204-1-2018/Corr.:2020
2011/65/EU	EN 63000:2018
2014/30/EU	EN 61000-6-2:2005/Corr.:2005, EN 61000-6-2:2005, EN 61000-6-3:2007, EN 61000-6-3-A1:2011, EN 61000-6-3-A1-AC:2012, EN 61000-3-3:2013, EN 61000-3-2:2014
Additional standards	NFPA 79, FCC 47 CFR Part 15 Subpart B

Authorized to compile technical file/
Authorized signatory

Date: [Release date]

en For translations see
bg За преводи вижте
cs Překlady viz
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