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INSTRUCTION BOOK

P320-20240



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CONTENTS

1. NOTES TO USING THIS MANUAL 4

2. SUMMARY OF THE WARNING AND PRECAUTIONARY NOTES 6

3. INTRODUCTION 7

3.1 PRODUCT DESCRIPTION 7
3.2 NOTES TO APPLICATION 7
3.2.1 Electrical safety 8
3.2.2 Operational safety 8
3.2.3 Safety labels 8

4. GETTING STARTED 9

4.1 UNPACKING THE UNIT 9
4.2 OPERATING THE CHILLER 10
4.2.1 Positioning 10
4.2.2 Connecting the water hoses 10
4.2.3 Setting Up the Electrical Connections 11
4.2.4 Getting ready to operate 13
4.3 PREPARING THE COOLANT WATER-FEEDBACK CHILLER FOR TRANSPORT TO THE CUSTOMER 13
4.3.1 Storage 13
4.3.2 Place of Operation 14
4.3.3 Transport to the customer 14

5. SYSTEM DESCRIPTION 15

5.1 SET UP AND FUNCTION 15
5.1.1 Refrigerant circuit 15
5.1.2 Coolant water circuit 16
5.1.3 Industrial water circuit 17
5.1.4 Electrical circuit 19

6. MAINTENANCE WORK 23

6.1 SAFETY NOTES 23
6.2 REPLACING THE WATER FILTER 23
6.3 REFILLING WATER 25
6.4 REPLACING THE WATER 26
6.5 REFRIGERANT CIRCUIT 27

7. INSTRUCTIONS FOR REPAIR. 28

7.1 SAFETY NOTES 28
7.2 REPAIRS TO THE ELECTRICAL CIRCUIT 29
7.2.1 Replacing the fuses 29

8. OTHER 30

8.1 SERIAL NUMBER 30
8.2 WASTE DISPOSAL INSTRUCTION 30
8.3 NOT SATISFIED? 31

1. Notes to using this manual

This manual has been designed to support the user with the transport, installation, commissioning, operation, inspection, servicing and repair of the unit.

The user should read the manual before beginning to install the unit. Termotek AG takes no responsibility for damage caused through incorrect installation, commissioning, repair or operation of this unit.

This chiller complies with the current European standards. Changes made to the construction or deviations from the intended application by the customer can void this compliance.

The notational convention to this user manual

The following notation and symbols apply throughout the whole document.

	**CAUTION. DANGER!**
	**CAUTION. CORROSIVE MATERIAL**
	**CAUTION. HOT OR COLD SURFACES**
	**CAUTION. ELECTRICAL VOLTAGE**
	**CAUTION. NOXIOUS MATERIAL**
	**RE-MOVE PLUG BEFORE OPENING**
	**USEFUL INFORMATION**

2. Summary of the warning and precautionary notes

- Service and repair work should only be carried out by appropriately qualified personnel.
- Undertake no work on the refrigerant circuit as there is a danger that poisonous and corrosive gas (R134a) may leak out. Any work carried out on the refrigerant circuit must be carried out by refrigeration experts. (Refrigerant R134a).
- When working on the chiller, ensure that the unit is disconnected from the power supply. Switch the power supply off. Ensure that unauthorised reconnection of the power supply is not possible.
- Do not disable any security measures.
- The electrical connection is designed according to the VDE and the EN- and IEC-Standards. Ensure that the live and neutral wires are correctly connected. Furthermore, ensure that the unit is correctly earthed.
- Do not operate the unit without water to avoid damaging internal components e.g. pump.
- Use only filtered (less than 50 µm) industrial water in accordance to the specification chapter 5.1.3.
- Do not operate the chiller unit without a water filter.
- Refill the unit only with the permitted filtered (< 25 µm)coolant water.
- Do not use or maintain the chiller outdoors. These units were not designed to withstand outdoor weather conditions.
- Ensure that sufficient air circulation is maintained to guarantee the required heat transfer.
- Do not alter the controller setting. An altered setting can render the unit non-functional.
- Note the water flow direction when connecting the water hoses.
- Before transporting the unit, it must be thoroughly drained. Otherwise it is possible that the unit be damaged by residual water freezing inside the unit.

3.Introduction

3.1 Product description

The chiller unit was constructed and developed to maintain the temperature of a user medium (de-ionised water) between two predefined limits with the help of a cooling process. It has been designed to operate under continual operation for the purpose of cooling systems such as for laser equipment. The noise emission is lower than 70dB, in an integrated system.

The chiller operates within is a closed circuit system and is fitted inside a robust and compact steel enclosure.

Advantages of the chiller unit:

- compact enclosure
- low service
- simple operation and handling
- intended for use at ambient temperatures of +15°C to +40°C
- reliable, quiet operation
- high temperature stability of the coolant water

3.2 Notes to application

The chiller unit is intended, exclusively, to cool filtered (< 25 µm) water in compliance with all the corresponding installation and safety regulations.
Termotek AG takes no responsibility for damage caused through improper use or improper operation of the unit.

3.2.1 Electrical safety

The chiller unit has been built according to the generally recognised technical regulations.



Caution, danger of electrical shock!

Ensure that the unit is disconnected from the power supply before carrying out any assembly work. All work undertaken on the chiller unit, particularly on electrical equipment, is only to be carried out by suitably trained personnel.

3.2.2 Operational safety

The chiller unit is a compressor chiller design with a closed cooling circuit.



Attention!

Do not operate the chiller without coolant water. Check the coolant water level at regular intervals. The chiller is quoted as secondary component of the complete system (Slave). At error messages of the chiller (low/high temp.), it must be rapidly switched off. If you don't follow these instructions, consequential damage to the complete system can't be ruled out. For these damages TERMOTEK excludes liability.

3.2.3 Safety labels



Information!

Damaged or unreadable safety labels must be replaced immediately. When reordering please give the article number.

4. Getting started

4.1 Unpacking the unit

The chiller contains many electrical and mechanical components. In order to protect the individual components during transport, a special packaging material has been used. This material absorbs most of the shock and vibration likely to occur.
The internal packaging material consists of PE - foamed material. The external packing material used is cardboard. This protects the unit from dust and other pollution.

When unpacking the unit proceed as follows:

1. Check the packaging for signs of damage.
2. Open the packaging and remove the packing foam
3. Take the chiller out.
4. Check the chiller for signs of transport damage.

Information!
Should the chiller have been damaged during transport, inform both the haulage firm and the supplier in writing without delay. Retain the packaging material and note the external and internal damage. Take one or more photos.

5. Place the chiller at the planned operating location.
6. Protect the chiller from dirt and dampness prior to installation.
7. Dispose of the packaging material.

Information!
Please ensure that the surrounding cardboard, the transport pallet and the packing foam are disposed of separately for recycling purposes.

4.2 Operating the chiller

4.2.1 Positioning

The chiller unit is designed as a 19” euro rack slide-in unit. The chiller must be installed horizontally. Fasten the chiller with the front panel. Ensure that the chiller lies with the botton plate on the side rails from the rack.

Ensure that the air flow through the side panels is not restricted. Avoid short circuiting the air inlet and outlet.

Do not use or maintain the chiller outdoors. These units were not designed to withstand outdoor weather conditions.

4.2.2 Connecting the water hoses

Before the chiller can be operated together with the user equipment, the water hoses must be connected correctly. Ensure that the hoses to be used are designed to operate at the maximum pressure required by the unit. The water connections are located on the rear panel of the chiller. Connect the water supply to the chiller. Please ensure that the connection points are not under any strain. If necessary, take steps to ensure that no strain on the connections can occur during operation of the chiller.



Attention!

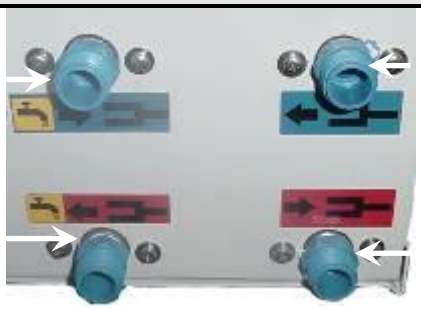
Note the direction of flow when connecting the hoses:

Blue label = cold water

Red label = heated water

Industrial water supply inlet (BLUE)

Industrial water supply outlet (RED)



Water outlet (to user) BLUE

Water inlet (from user) RED



On the first start you must fill up the pump. Open the bleeding cap on the front panel of the chiller and the filler. Fill the water in the chiller via the filler neck on the front panel up to the maximum water level. Close the bleeding cap.

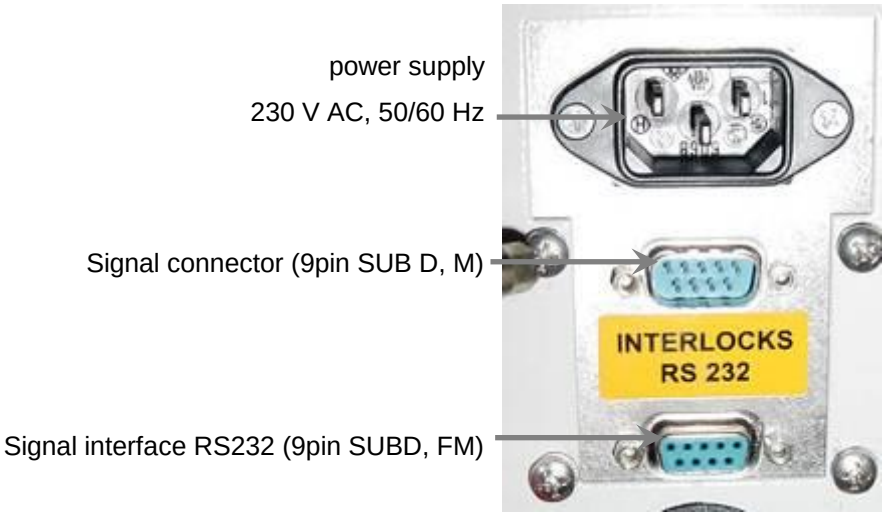


4.2.3 Setting Up the Electrical Connections



Connecting the Power Supply

A cable has been fitted on to the rear panel for the purpose of connecting the electrical power supply. Connect the chiller power supply using an external separator with sufficient contact separation and ensure that it is located near the chiller unit and is clearly labelled as belonging to the unit. Use a 16A. fuse in the power phase. When using an automatic cut out fuse (Charakteristic C) it is possible to use this as the power supply separator as long as this fulfills the requirements. The fuses must be designed for inductive loads!



Connections for the data transfer

The 9 pin Sub-D connectors for data transfer and interface are located on the rear panel of the chiller unit. Open circuit in error case. Maximum load of contacts 150mA/24V.

Signal connector

Pin Connections	Signal Outputs
Pin 1	High pressure
Pin 2	High/low temperature
Pin 3	Flow monitor
Pin 4	Collective fault contact
Pin 5	Alarm water level
Pin 6	Alarm conductivity
Pin 7	Common
Pin 8	GND for remote start from customer
Pin 9	+24 V DC remote start from customer

Signal interface RS 232

Pin Connections	Signal Outputs
Pin 1	NC
Pin 2	TxD
Pin 3	RxD
Pin 4	NC
Pin 5	GND
Pin 6	NC
Pin 7	NC
Pin 8	NC
Pin 9	NC

4.2.4 Getting ready to operate

1. After connecting the power supply, “water level alarm” appears in the chiller controller display and the red LED lights.
2. Fill the chiller with water using the filler pipe located on the front panel of the chiller until the error message “water level warning” appears (chap 4.2.2 and 6.3).
3. Continue filling the chiller until no more water level error message appears. Confirm the message with the quit – key (⇩). The red LED switches off.
4. If the maximum water level is reached, you can switch on the chiller by pressing the UP-button.



If the chiller has the option remote start, it is has to be switched on via remote start.

5. Sometimes the hose system of the laser must be filled. Therefor activate the filling mode in the 2nd programming level and fill the hose system via the filler pipe of the chiller (Chap 5.1.4). The filling mode disables the water level control and activates the pump for a short period to fill the hose system in one process.



Fill water in any event if you use the filling mode. Otherwise there is danger of dry running and damaging of the pump and is danger of damaging the chiller and laser!

4.3 Preparing the coolant water-feedback chiller for transport to the customer

Since the chiller comprises of a large number of sensitive, electronic and mechanical components, keep to the following requirements and instructions before storing, installing or transporting the unit. The chiller weight is ca. 70 kg.

4.3.1 Storage

Should the expected storage time of the chiller exceed four weeks then the coolant water should be completely drained out of the unit (see chapter 6.4). The chiller must be stored in a horizontal position. Ensure that the unit is protected from pollution and dampness.

The following ambient conditions are necessary during storage:

Temperature: +5°C to +65°C

Relative humidity: 10 – 75%, **no condensation**

4.3.2 Place of Operation

- Do not install the chiller in an environment where other equipment is likely to cause a high ambient temperature. The chiller operates efficiently foe ambient temperatures of up to 40°C. An over-pressure switch protects the refrigerant circuit from pressure increases.
- The chiller unit must be installed such that sufficient air circulation can be maintained. Ensure that the air inlet and outlets of the rack enclosure system are completely unrestricted during operation at a later date. A restriction of the air flow will have an adverse effect on the cooling capacity of the unit.
- To reduce the vibration the parts from the chiller are mounted on vibration dampers. If the vibration for the complete unit is too high, mount the whole chiller with the botton plate on vibration dampers.

4.3.3 Transport to the customer

The chiller should be transported as carefully as possible, with a minimum of shock and vibration. Please take note of the following precautions:

- The chiller must be completely drained before being transported.
- The chiller must be kept upright during transport and may not be thrown.
- Use only suitable packing materials - which absorb shock and vibration – in order to ensure that sensitive components inside the chiller are not damaged during transport. Ensure that the unit is protected from dust and other pollution. Also ensure that the chiller is packed to prevent damage from shock or being dropped.
- Should the chiller be despatched individually, then use the original packing materials.
- Ship the chiller only fixed on a pallet.
- Before transportation, the packed unit should also be labelled: “protect against moisture“, “Transport and store this way up“, “Fragile“.



Attention frost damage!

Before transportation, the unit should be completely drained otherwise there is a danger of residual coolant water freezing and causing damage inside the chiller.

5. System description

5.1 Set up and function

The chiller is a compressor chiller with a closed coolant circuit. The chiller is a closed unit and has the following circuits:

- Refrigerant circuit
- Coolant water circuit
- Industrial water circuit
- Electrical circuit

5.1.1 Refrigerant circuit

The refrigerant circuit is a closed system, inside which the refrigerant medium circulates. Within the refrigerant circuit, the compressor sucks gaseous refrigerant medium R 134a out of the evaporator and compresses it. The heat generated by the compressed refrigerant is transferred to the industrial water. During this compressing process the refrigerant changes from gas to fluid.

The refrigerant fluid then passes through the dryer, which removes any residual moisture, and is finally injected into the tank (heat exchanger) via an expansion valve (nozzle). The refrigerant evaporates at the reduced pressure, and takes the energy required for this process from the coolant water circuit. This results in the coolant water being cooled.

5.1.2 Coolant water circuit

The warm water flows into the chiller via the water inlet hose. A flow monitor, located directly after the water inlet point, monitors the flow in the water circuit. The water flows through the heat exchanger into the tank. The heat is transferred in the heat exchanger.from the refrigerant to the coolant water. The cooled water is then pumped out of the tank into the pump.

The coolant water flows from the pump to the filter. The filter removes minute dirt particles out of the water. After passing through the filter, the coolant water flows out of the chiller via the chiller outlet hose.

Bypass on front panel

A bypass valve is mounted. You can adjust the flow to the heat source +/- 30 % there. **The chiller has to work while adjusting!** To adjust proceed as follows:

Adjust the required flow. Therefore adjust the valve and check the flow on the display.



Information!

The filter should be changed at regular intervals. More detailed information can be found in the chapters for Service work and Replacing the filter.

5.1.3 Industrial water circuit

The industrial water supply flows in the chiller then it flows through a filter. The industrial water cools, via the heat exchanger, the refrigerant to the required temperature.
After passing through the heat exchanger, the warmed supply water flows back out of the chiller.

Specification for industrial water

To minimize chiller troubles you should maintain the following values for water contents and their parameters.

	Contamination Please regard to maintain the DIN regulations for drinking- and heating water, Vd-TÜV (Technical Inspections Authority) guidelines and the AGFW regulations for water contents. (See chart 1)

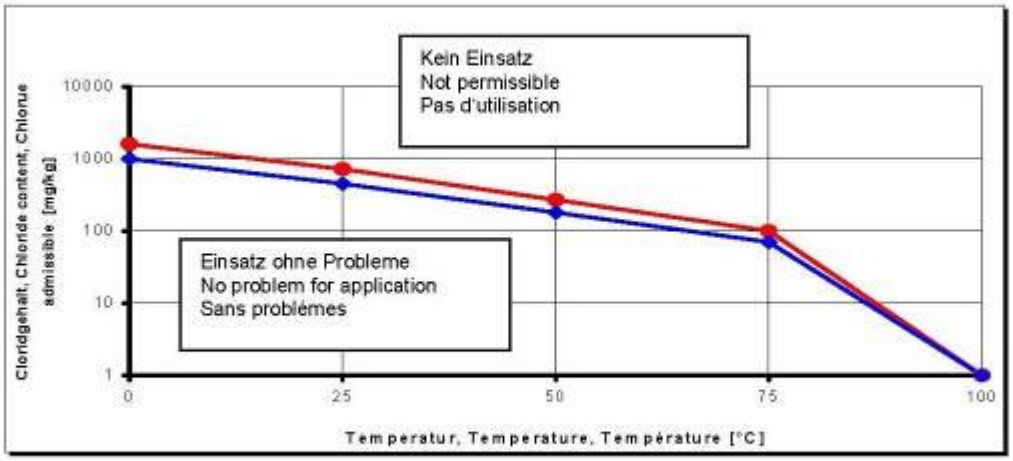
Chart 1:

Water content + parameter	unity	Value
PH Value	°dH	7-9
Total hardness of water	mg/l	6-15
Filtered substances	mg/l	< 30
Chlorides (up to water temperature of 50°C)	mg/l	< 200
Free chlorine	mg/l	< 0,5
Sulfate	mg/l	< 100
Sulfide	mg/l	< 1
Conductivity	µS/cm	10-500
Hydrosulfide	mg/l	< 0,05
Ammoniac	mg/l	< 2
Hydrogencarbonate	mg/l	< 300
Hydrogencarbonate / Sulfide	mg/l	< 1
Nitrate	mg/l	< 100
Nitrite	mg/l	< 0,1
Dissolved ferric	mg/l	< 0,2
Manganese	mg/l	< 0,1
Free aggressive carbonic acid	mg/l	< 20

	Cleaning Should you expect a coating to be generated due to the water quality (such as a high water hardness or pollution), clean the chiller (heat exchanger) regularly. It is possible to clean the heat exchanger by rinsing it against the flow direction.

The tolerable chloride concentration changes depending on the water temperature (see chart 2).

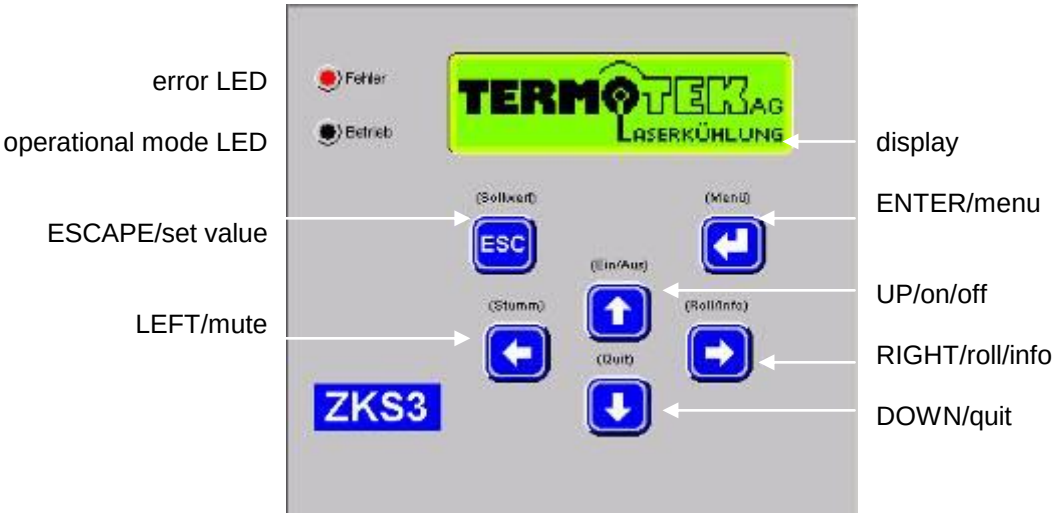
Chart 2:



Zulässiger Chloridgehalt in Abhängigkeit der Temperatur (1.4404 / SA240 316L)
Permitted chloride content into dependence of the temperature (1.4404 / SA240 316L)
Résistance à la corrosion en fonction de la température (1.4404 / SA240 316L)

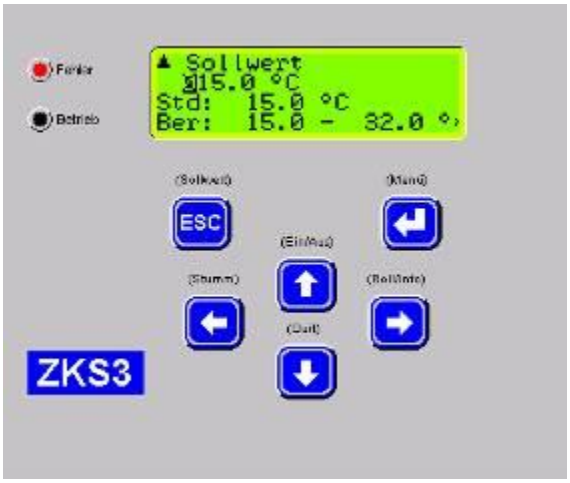
5.1.4 Electrical circuit

The operational mode is indicated by lighting of the green LED. If a fault occurs, the red LED will light. It depends to the fault and the adjusted parameters whether the chiller discontinues operating. In this case, the green LED goes out. The beeper can be disabled by pressing the mute-button. The error messages are self-explanatory.



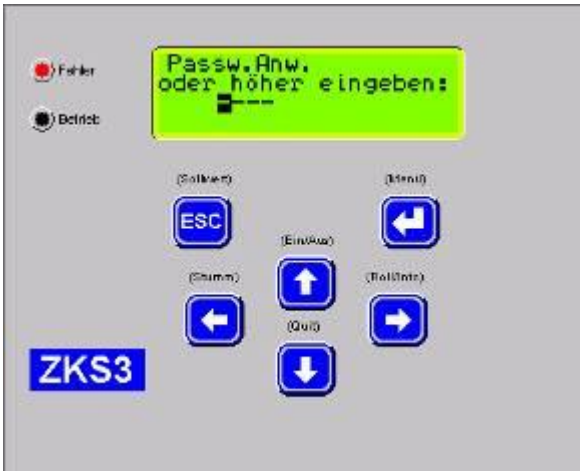
Adjusting set value

By pressing the escape-button, you can reach the set value display (1st programming level). By pressing the UP- and DOWN-button you can adjust the value of the digit, with the RIGHT- and LEFT-button you can choose the digit. The set value is affirmed by pressing the ENTER-button, you can cancel the input by pressing the ESCAPE-button.



Adjusting parameters

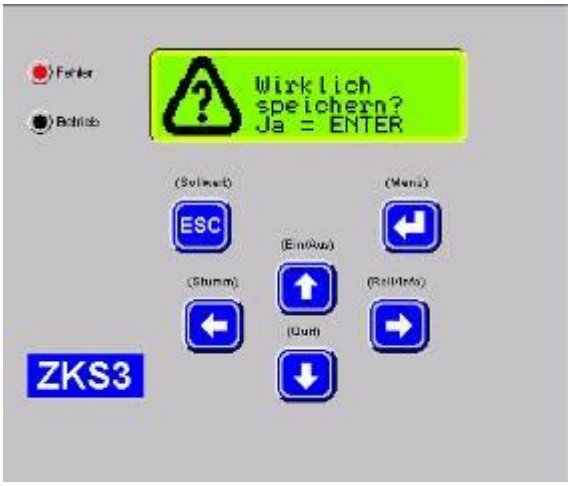
By pressing the ENTER-button, you can reach the 2nd programming level. Therefor, please enter your user-password (0020). By pressing the UP- and DOWN-button you can adjust the value of the digit, with the RIGHT- and LEFT-button you can choose the digit. The set value is affirmed by pressing the ENTER-button, you can cancel the input by pressing the ESCAPE-button.



You can use and change following functions and parameters.

→ Language	→ Sensor function	→ Temperature water function
→ Filling	→ Pressure function	→ Passwords
→ System function	→ Flow 1 function	→ Calibration
→ Control function	→ Flow 2 function	→ Diagnostics

Choose the required parameter and confirm the ENTER-button. To save, press the ESCAPE-button afterwards until the following display appears.



You can confirm the storage by pressing the ENTER-button, you can cancel the input by pressing the ESCAPE-button and return to the start screen.

Caution. Danger of damage!
Do not alter the controller setting. An altered setting can render the unit non-functional.

Parameters user-level

Function	Range	Default	Customer setting
Language	GERMAN ENGLISH FRENCH *(PROJECTED)*	GERMAN	
Fill			
Water level/**Switch off output**	NO/YES	NO	
Water level/**Level monitor**	DISABLE/ENABLE	DISABLE	
System function/**Beeper**	ON/OFF	ON	
System function/**Rolling menu**	ON/OFF	ON	
System function/**Operating hours**	*Only read out*		
System function/**Starting mode**	KEY/LINE/ REMOTE START	KEY	
System function/**Temperature scale**	°C/°F	°C	
System function/**Baud rate**	9600, 14400, 19200, 28800, 38400, 57600	9600	
Control functions/**Pump operation hours**	*Only read out*		
Control functions/**Hot gas valve operation Hours**	*Only read out*		

Parameter Description

Language

Choose the required language for display.

Water level/

Switch off output

This allows the disabling of the outputs at water level alarm to be prohibited. In this case, simultaneous operation together with the flow alarm will be prevented (i.e. Switch off output = YES) => at water alarm, no flow alarm will be given.

Level monitor

This allows you to switch on/off the level indicator on the display.

System functions/

Beeper

No beeper will sound except warning at filling mode.

Rolling mode

The different values will appear successive.

Operation hours

Read out the hours of operation.

Starting mode

The controller can switched on or off using either the UP-button (↑) on the front panel or the remote start input.

If the remote start input is used to enable the outputs, then the controller is always on.

Using the starting mode line, the chiller will start as soon as voltage is applied.

Baud rate

Adjust speed of the RS232 interface.

Control functions/

Pump operation hours

Read out the operational hours of pump.

Heating operation hours

Read out the operational hours of heating.

6. Maintenance work

6.1 Safety notes





Attention!

- Service work must only be carried out by suitably qualified personel.
- When carrying out any work on the chiller, ensure that the power supply is off. Switch the power supply off and ensure that it cannot be switched on accidentally.
- Do not disable the security measures.





Attention – poisonous, corrosive gases and liquids!

Do not undertake any work on the refrigerant circuit, as poisonous, corrosive gases and liquids may leak out. Should a repair on the refrigerant circuit be necessary, contact a refrigerant engineer or your supplier.

6.2 Replacing the water filter

The filtering out of all particles >= 50 µm within the primary circuit (industrial water) and 25 µm within the secondary circuit (coolant water) will eventually lead to blockage of the filter. Once the filter has turned grey, it should be replaced. The maximum time of use of a filter should not exceed 6 months. The water quality must be checked at regular intervals (every 12 months).
The water circuit should be drained and rinsed.
The particle filter can be replaced once the circuit has been rinsed. The system can be drained and rinsed without removing any connections as follows:
Drain the water out of the tank using the drainage point below the chiller. Ventilate the tank by opening the filler pipe inlet.
Refill the tank with clean water and let the pump run for approx. 10 minutes in order to rinse out the system hoses and connections. Repeat this process approx. 3 times. Check that the pump is running quietly. Should the pump become loud during operation, then it is likely that the pressure is too high – this can be caused through a bent hose preventing the water flow. Check for any water leakage around the seals and hoses. Now proceed to replace the particle filter:

Particle filter

The particle filter is installed in the water outlet hose on the rear panel of the chiller. The filter can be replaced as follows:

- Switch the chiller off and disconnect from power supply.
- Unscrew the transparent filter dome and remove this by pulling downwards in order to reveal the inserted filter sleeve.

Replace the old filter with a new one,

- Clean the filter sleeve cap.
- Screw the filter sleeve cap onto the upper portion. Check the seal for signs of damage when doing this.



Industrial water filter  Cooling water filter



Attention!

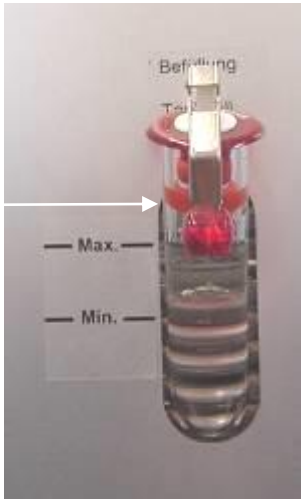
- Do not operate the chiller without the water filter.
- After replacing the filter check that it is correctly fitted.
- After replacing the filter check the tank, its mounts and the hoses for leaks.
- Replace the filter at least every 6 months.

6.3 Refilling water

The chiller indicates the water level with the water level display on the front panel. Should the water level fall below the minimum, then the aquivalant message will be displayed. Should the level fall further, below the minimum alarm level, then various components inside the chiller are switched off (pump, compressor, heating). This condition is indicated by a red LED and a corresponding message.
To refill water, proceed as follows:

1. Remove the cap from the filler pipe.
2. Gradually fill filtered (< 25 µm) water into the chiller via the filler pipe until the maximum level is displayed.

Filler pipe and water level display



3. Confirm the message with the quit – key (⇩). The red LED switches off.
4. Screw the cap back onto the filler pipe.

6.4 Replacing the water

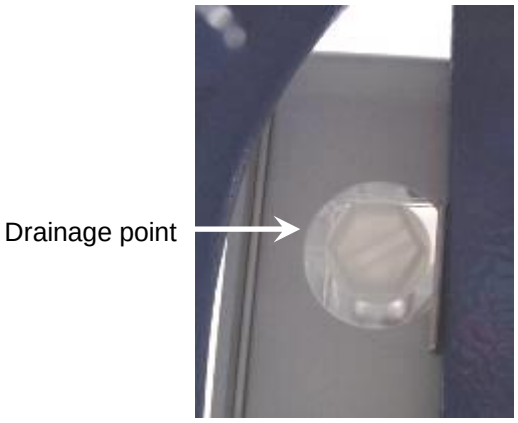
In the following cases, it is necessary to drain the water out of or to replace the water in the chiller:

- The chiller is to be despatched to another location
- The chiller is to be put into long term storage

Carry out the following steps to drain out the coolant water:



1. Switch the chiller off and disconnect from the power supply.
2. Remove the water hoses from the rear panel of the chiller.
3. Place a sufficiently large vessel (min 5 liter) beneath the chiller to collect the water.
4. Allow the water to drain out of the drainage point below the chiller. You can open the tank with a 17 mm flatspanner (see picture below).
5. Remove the cap from the filler pipe.
6. Continue until no more water drains out of the tank.
7. Drain the filter cup as described at chapter 6.2. The filter cup must be half-drained at least to avoid damages through freezing water.
8. Suck the water at the water outlet and inlet off.
9. Reseal the drainage point and the filler pipe.



To refill, proceed as follows:

1. Connect the hoses to the rear panel as described in chapter 4.2.2.
2. Fill the chiller as described in chapter 4.2.4 and chapter 6.3.

6.5 Refrigerant circuit

- Any work to be carried out on the refrigeration circuit should be undertaken by a refrigeration engineer!
- The chiller is filled with the refrigerant R 134a. There is no danger as long as the refrigerant circuit does not leak. Should, however, a leak of refrigerant occur, there is a slight danger to personnel or environment. Please note the following precautions:
  - Do not inhale or consume any refrigerant residue, avoid skin and eye contact. Should refrigerant come into contact with the skin or eyes, then first allow it to evaporate and then rinse with water.
  - First aid measures are usually sufficient. How, should the contamination be considerable, then professional medical assistance is necessary. In this case the doctor should be informed that the contamination is caused through R134a.
  - The leakage of R134a is of slight danger to the environment. To prevent this happening, absorb and remove and refrigerant leakage and avoid any further leakage.
  - Ensure sufficient ventilation! Open all windows and doors!
- The refrigerant circuit is protected with a high pressure switch. These switches will auto-reset after being activated provided the pressure has returned to normal.
- The high pressure switch becomes active when the refrigerant circuit is overloaded, i.e. the refrigerant pressure is too high.
- **Should there be any queries, please contact the manufacturer:**

7.Instructions for repair.

7.1 Safety notes



Attention!

- Service work must only be carried out by suitably qualified personel.
- When carrying out any work on the chiller, ensure that the power supply is off. Switch the power supply off and ensure that it cannot be switched on accidentally.
- Do not disable the security measures.



Attention – poisonous, corrosive gases and liquids!

Do not undertake any work on the refrigerant circuit, as poisonous, corrosive gases and liquids may leak out. Should a repair on the refrigerant circuit be necessary, contact a refrigerant engineer or your supplier.

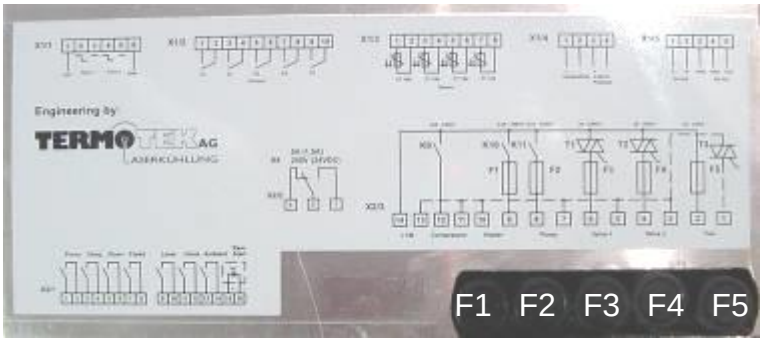
7.2 Repairs to the electrical circuit

7.2.1 Replacing the fuses

To replace one of the fuses, proceed as follows:

1. Switch the chiller off.
2. Loose the four fastening screws of the controller and take it carefully out
3. Using a screwdriver, unscrew the cap of the defective fuse.
4. Replace with a new fuse.

Fuse type: 5x20mm



F1: Heating

F2: Pump

F3: Hot gas valve

F4: NC

F5: NC

Attention!

Use only fuses with the same trigger characteristic.

Should the fuse trigger again, then it is possible that there is a serious defect within the chiller.

- **In this case, please contact the manufacturer.**

8.Other

8.1 Serial number

The serial number is located on the rear panel of the chiller. All important data for our service are marked grey on the sample.

TERMOTEK AG
LASERKÜHLUNG
76532 Baden-Baden, Im Rollfeld 6
Tel. 07221/9711-0
Type: PXXX-YYYYY
Cooling power: ??? W ati ?? °C water/?? °C ambient
Pumping power: ?l/min at ? bar
Electrical consumption: ??? V, ?? Hz, ? A
Refrigerant: R134a Max pressure: 18,5 Bar
Serial-Nr.: XXXXX year of construction: MM/2007

8.2 Waste disposal instruction

The chiller is constructed of several parts, which have to be disposed separately. The waste disposal must be professional and must be done on adequate places.
The chiller can be divided into three parts.

1. Electrical equipment/components/cables of all types will be deconstructed as far as possible and disposed afterwards. Electrical equipment/components can be delivered to the recycling area or the electrical equipment deconstruction.
2. Not disposal waste (synthetic materiel, insulating material, sheet metal compenents and so on) can be disposed via the dust bin respectively the recycling areas.
3. The refrigeration circuit must be disposed following your local laws. The deconstruction of the refigeration circuit may only be done by a refrigeration engineer.
4. Contaminated cooling medium or cooling medium with additives may not reach the canalisation or waters. The cooling medium is classified as hasardous waste and is allowed to be disposed via authorised companies and recycling areas only.



Attention!
All waste must be disposed according to the local laws.

8.3 Not satisfied?

We really regret this. We publiced a trouble shooting procedure at <<http://www.termotek-ag.com/en/support/support-overview/>>, for download. If this procedure cannot help you, please contact your dealer. To facilitate please have the model number and serial number (located on rear of the chiller) of the unit.

We are always anxious to improve our products and documentation. If you have a suggestion for improvement or you discover a fault, please give notice. Certainly we will be glad about a commendation too.

You can communicate to us your constructive suggestions for improvement and ideas via phone (+49 (0)7221 9711-0), fax (+49 (0)7221 9711-111) or email (info@termotek-ag.com).

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