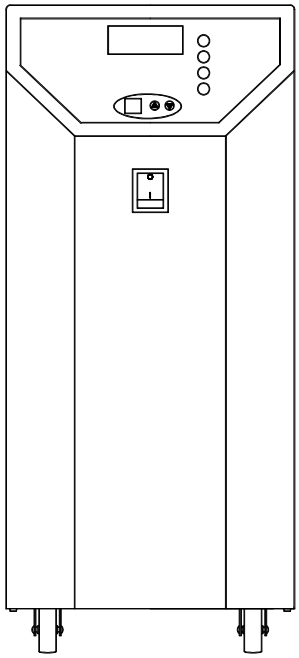
LabTech

H50

Water Chiller



USER'S MANUAL

CE

LABTECH Srl

CONTENTS

NOTE: Please read the manual carefully! Any incorrect action may result in the unit damage, so it will out of its warranty.

The operator who intends to use the unit should have received training appropriate for this purpose.

Chapter 1

REMARKS

The information contained in this document may be the object of patents or patent applications by LABTECH.

The possession of the document in force does not confer any licence rights in and to such patents:

The following names are LABTECH trademarks throughout the world:

LABTECH
H50-350 and H50-500.

Chapter 2

GUARANTEE

The new equipment and material sold by LABTECH is guaranteed against any manufacturing defects for one year (unless otherwise stated by LABTECH) with effect:

- From the technical acceptance of the equipment in the factory by the buyer or his designee,
- or failing this: For destinations: from the date of factory shipment certified by air waybill, consignment note or bill of lading.

The LABTECH company guarantee applies exclusively to defectiveness arising from a design fault or from a concealed defect. It is strictly limited to the free dispatching of replacement parts (except for consumable items) or to the repairing of the equipment in our workshops within a deadline of 10 working days (shipping delay not included).

By express agreement, the following are strictly excluded from our guarantee:

- All damages, notably for staff costs, loss of earnings, business trouble, etc.
- Any breakdown due to an incorrect use of the equipment (non-adapted mains, fall, attempt at transformation, etc) or to a lack of maintenance by the user or to poor storage conditions.
- Any breakdown due to the use of parts not supplied by LABTECH, on LABTECH equipment.
- Any breakdown due to the transporting of the equipment in packaging which is not its original packaging.
- Generally any item which appears in the "accessories" section on the price list.

Our customers are kindly asked to apply for our consent before returning any instrument for repair. No return of materials may be accepted whithout the prior written consent of our Sales Management which will precise the terms of such return.
If the above consent is given, articles shall be returned in their original packaging on a prepaid basis to the following address:

LABTECH Srl – Via Fatebenefratelli 1/5, 24010 Sorisole (BG), Italy

We reserve the right to reship all instruments received collect failing such consent.

Whatever method and conditions of transport are chosen for the shipment of the equipment to be repaired under guarantee, in the original packaging, the corresponding costs and the insurance costs will be payable by the customer.

Any damage connected to the return transport of the equipment falls within the framework of the guarantee on the express condition that the customer has sent his complaint within 48 hours by registered letter with acknowledgement of receipt to the carrier. A copy of the letter should be sent to LABTECH.

For equipment with a guaranty card, this is only applicable if the card delivered with the equipment is returned to LABTECH duly completed.

TRADE SECRET AND PROPERTY RIGHTS

RECEPTION

If the material is not immediately used, it agrees that it is stored in an own and dry place. To respect temperatures of storage (0 - 50°C).

The material LABTECH has been conceived, made, tested and inspected while respecting procedures bound to the norm CE certificate.

The material LABTECH is inspected carefully before its conditioning. Upon receipt of your device, control the state of the packing and if you note an anomaly, file a claim to the carrier with 48 hours. Consult then, and verify that all is in order. Finally, if you note that something is missing or if the material is damaged:

DO NOT WAIT, CONTACT LABTECH

To benefit some LABTECH services (cards of applications, LABTECH information, technical advices...), send back now the joined guarantee questionnaire duly completed to the following address:

LABTECH
Via Fatebenefratelli 1/5
24010 Sorisole (BG)
Italy

Tel : +39 035 576614
Fax : +39 035 4729414
E-mail: info@labtechsrl.com
www.labtechsrl.com

Chapter 4

SAFETY

4.1 WARNINGS

Make sure you read and understand all instructions and safety precautions list in this manual before installing or operating your unit. If you have any questions concerning the operation of your unit or the information in this manual, please contact our Customer Service Center.

4.2 PRECAUTIONS

Never place the unit in a location where excessive heat, moisture, or corrosive materials are present.

The unit construction provides extra protection against the risk of electrical shock by grounding appropriate metal parts. The extra protection may not function unless the power cord is connected to a properly grounded outlet. It is the user's responsibility to assure a proper ground connection is provided.

Never connect the inlet or outlet fitting to your building water supply or any water pressure source.

Never use flammable or corrosive fluids with this unit.

Do not use automotive antifreeze. Commercial antifreeze contains silicates that can damage the pump seals. Use of automotive antifreeze will void the manufacturer's warranty.

Transport the unit with care. Sudden jolts or drops can damage the refrigeration lines.

Observe all warning labels and never remove warning labels.

Never operate damaged or leaking equipment.

Never operate the unit without cooling fluid in the reservoir.

Always turn off the unit and disconnect the power cord from the power source before performing any service or maintenance procedures, or before moving the unit.

Never operate equipment with damaged power cords.

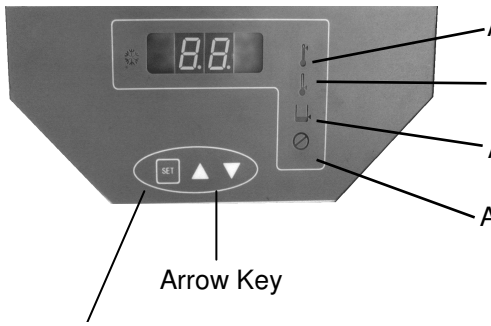
Performance of installation, operation, or maintenance procedures other than those described in this manual may result in a hazardous situation and may void the manufacturer's warranty.

Chapter 5

GENERAL INFORMATION

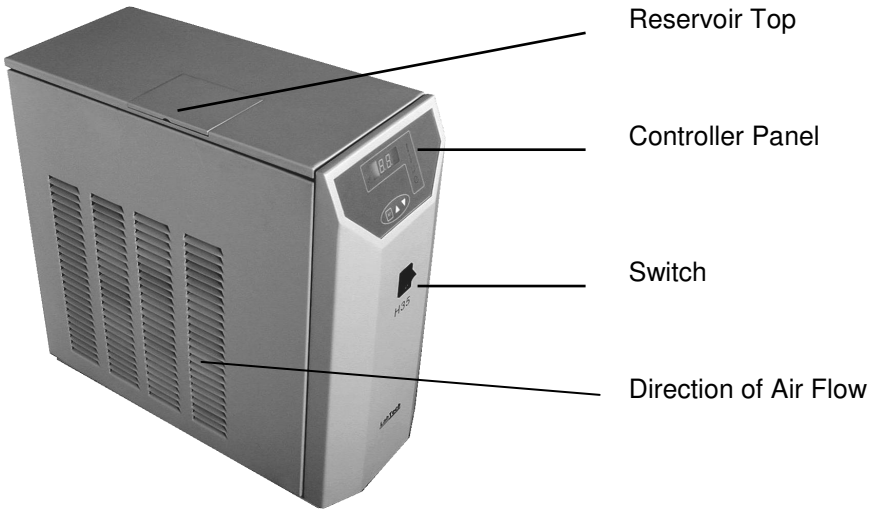
5.1 THE CONTROLLER PANEL

The controller panel consists of the following keys:



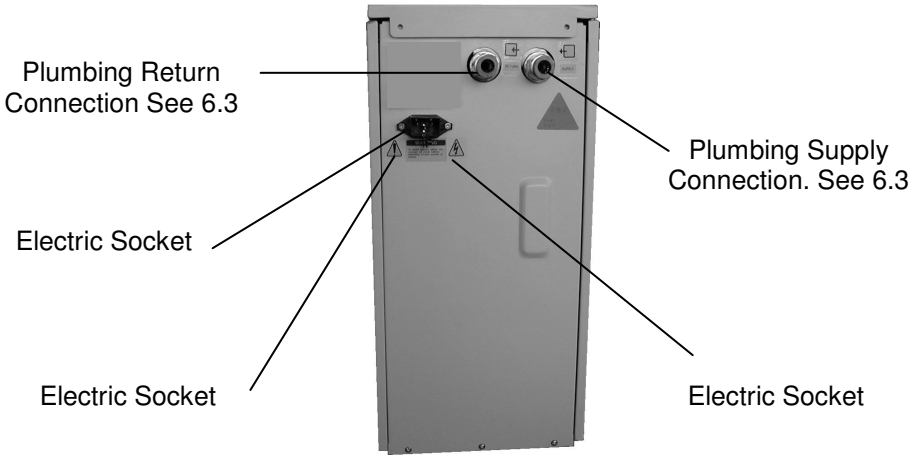
5.2 FRONT VIEW

The front panel consists of the following keys:



5.3 REAR VIEW

The rear panel consists of the following keys:



5.4 SPECIFICATION

The H50 series recirculating water chiller is designed to provide continuous supply of cooling fluid at a constant temperature and volume. The unit consists of an air-cooled refrigeration system, plate heat exchanger, recirculating pump, reservoir and a microprocessor temperature controller.

The following model options are available:

Model	H50-500
Temp. control range	5℃ ~ 35℃
Temp. control mode	PID
Cooling mode	Compressor cooling
Temp. stability	±0.3 ℃
Refrigerant	R134A
Refrigeration capacity	500W
Cooling capacity/W	500W@25℃
Pump capacity	4.5L/min@10psi
Reservoir volume	1,7L
Pressure	0.1MPa

NOTE: The value of Temperature stability is tested in standard operating mode.

Chapter 6

INSTALLATION

6.1 LOCATION

The unit should be located in a clean environment where ambient temperature is between 10℃ and 35℃ (50℉ to 94℉).

Never place the unit in a location where excessive heat, moisture, or corrosive materials are present.

The unit has an air-cooled refrigeration system. Air is drawn through one side of the unit and discharged through the other side. The unit must be positioned so the intake and discharge are not impeded. A minimum space of 3 feet (1 meter) on all vented sides is necessary for adequate ventilation. Inadequate ventilation will cause a reduction in cooling capacity and, in extreme cases, compressor failure.

Excessively dusty areas should be avoided and a periodic cleaning schedule should be instituted (see Chapter 8, Maintenance). Optional air filters are available, contact our Customer Service Center.

The unit will retain its full rated capacity in ambient temperatures up to approximately 25℃(77℉). Reduce the cooling capacity 1% for every 0.5℃(1℉) above 25℃(77℉), up to a maximum ambient temperature of 35℃(94℉).

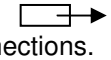
6.2 ELECTRICAL REQUIREMENTS

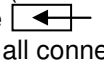
The unit provides extra protection against the risk of electrical shock by grounding appropriate metal parts. The extra protection may not function unless the power cord is connected to a properly grounded outlet. It is the user's responsibility to assure a proper ground connection is provided.

The following power options are available:

Model	Voltage/V	Frequency /Hz	Phase	Circuit Capacity/A	IP Degree
H50-350	230	50	1	5	20
H50-500	230	50	1	5	20

6.3 PLUMBING REQUIREMENTS

The plumbing connections are located on the rear of the unit and labeled  and  . Remove the plastic protective plugs from both plumbing connections. Install the barbed adapters to these connections.

Connect the  (SUPPLY) fitting to the hose feeding the inlet of your application. Connect the  (RETURN) fitting to the hose from the outlet of your application. Clamp all connections.

Never connect the fitting to your tap water supply or any water pressure source.

NOTE: On units equipped with PO pumps, ensure your plumbing is rated to withstand 40 Psi at the highest operating temperature.

It is important to keep the distance between the unit and the instrument being cooled as short as possible. Tubing should be straight and without bends. If diameter reductions must be made, they should be made at the inlet and outlet of your application, not at the chiller.

When you want to change the fitting, shut down the unit at first, then put a cup on the ground, and disconnect the fitting on your application, let the fluids in reservoir flow out into the cup, and disconnect the fitting on our unit. Now you may connect your application with the unit by new fittings. Then refill the reservoir with correct fluids.

6.4 FLUIDS

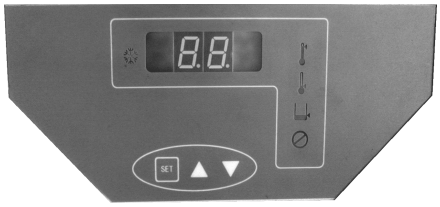
Never use flammable or corrosive fluids with this unit. Do not use automotive antifreeze. Commercial antifreeze contains silicates that can damage the pump seals. Use of automotive antifreeze will void the manufacturer's warranty.

Fluids should be pure, contain none of impurity such as grains. Otherwise, the impurity will be prone to damage the pump. Use of unpurged fluids will void the manufacturer's warranty. Fluids should be exchanged once every 6 months.

OPERATION

7.1 CONTROLLER

The displayed values are always the latest used value arbitrarily



7.1.1 Display the setpoint

Press and hold the temperature setting/display button, the temperature of setpoint is displaying on LCD.

7.1.2 Change the setpoint

Press and hold the temperature setting/display button, use ▼ or ▲ buttons to decrease or increase the temperature of setpoint.

7.2 START UP/SHUT DOWN

Before starting the unit, double-check all electrical and pumping connections. Have extra recirculating fluid on hand.

Place the switch located on the rear of the unit to the up position, the controller will flash and the unit will start up.

Place the switch located on the rear of the unit to the down position, the unit will shut down.

NOTE: If you want to turn on the unit at once after shut down, please wait for 10 seconds.

MAINTENANCE

8.1 RESERVOIR CLEANING

Periodically inspect the fluid inside the reservoir. If cleaning is necessary, flush the reservoir with a cleaning fluid compatible with the circulating system and the cooling fluid.

The cooling fluid should be replaced periodically. Replacement frequency depends on the operating environment and running time.

Before changing the cooling fluid ensure that it is at a safe handing temperature.

8.2 CONDENSER CLEANING

For proper operation, the unit needs to pull substantial amounts of air through a condenser. A build up of dust or debris on the fins of the condenser will lead to a loss of cooling capacity. Optional air filters are available, contact our Service Department.

The lower front of the unit has a one-piece grille assembly. Using your hands gently pry the assembly off. Use care not to scratch the paint.

Periodic vacuuming of the condenser fins is necessary. The cleaning frequency depends on the operating environment. After initial installation we recommend a monthly visual inspection of the condenser. After several months, the cleaning frequency will be established.

Use care cleaning the condenser fins, they can easily bend.

TROUBLESHOOTING

9.1 UNIT WILL NOT START

Check the power cord; ensure it is plugged in.

Check the position of the circuit breaker on the front of the unit. It ought to be in upper position.

Check the Voltage of power supply.

NOTE: On units with a Low Flow Switch and configured to shut down with a low flow fault, several starting attempts may be necessary.

9.2 UNIT WILL NOT CIRCULATE FLUID

Check the water level in reservoir. Fill, if necessary.

Check the instrument being cooled for restrictions in the cooling line.

Check the pump work well.

9.3 INADEQUATE TEMPERATURE CONTROL

Verify the setpoint.

If the temperature continues to rise, make sure your application's heat load does not exceed the rated specification.

Make sure the air intake and discharge are not impeded and the ambient temperature does not exceed +35℃.

Make sure the condenser is free of dust and debris.

SERVICE

The LABTECH worldwide Technical Support network consists of highly trained Field Service Engineers, Technical Support Specialists and Service Coordinators who are ready to quickly assist customers with answers and solutions to service needs and application questions.

If you need any help, please feel free to tell LABTECH, and we will do our best to support you.

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