Compact Liquid Chiller

(Heating & Cooling)

Model: LC3220E-H

RIGID HVAC CO., LTD

Ph: +86 8837-9768

Fax: +86 8888-5399

Email: info@rigidhvac.com

WEB: www.rigidchill.com

https://www.rigidhvac.com

SPECIFICATION:

Model	LC3220E-H
Compressor	QX3202VDL
Refrigerant	R134a
Rated Voltage	24V
Rated Speed	2600rpm
Speed Range	2000-4500rpm
Dimension LxWxH	335x205x235 mm
Water Volume	400ml
Net Weight	22lbs/10Kg
Noise	48↓dB(A)
Vibration	≤0.65m/s2
Driver Board	Variable Frequency Controller
Quick Fitting	Inner Diameter Φ8mm

Cooling			
Nominal Capacity	Input Power	Rated current	Evaporating Temperature
350W	115W	4.8A	-18℃

Heating			
Nominal Capacity	Input Power	Rated current	Evaporating Temperature
550W	185W	11A	7.2℃

CONNECTING THE WIRING HARNESS:

The Liquid Chiller LC3220E-H requires a 24V 15 amps or greater power supply.

- Use 24V power supply
- Connect to your application

When connect to your application / device, be absolutely sure to install the blue wire as **negative**. The red wire as **positive**. Reversing the polarity of the power will fry the system and void the warranty.

*Do NOT power the Liquid Chiller on without liquid or coolant formula in the reservoir. Lubrication is necessary for the system to run properly.

DIMENSION & WEIGHT:

The Liquid Chiller is portable, you can take it anywhere you like.

External dimension: 13.18” x 8” x 9.25”
Net weight: 10kgs/22lbs.

Mounting location should be in the coolest, most ventilated portion of your system. Chiller air will boost efficiency and reduce current draw. Mount the chiller where the intake is facing away from the transmission tunnel and exhaust.

We recommend you use 1 – 1.5 inch spacers between the base plate and the floor pan to prevent from heat soak.

ADDITIONAL RESOURSES FOR COOLING EFFICIENCY:

- 2 x 1m (39 inches) liquid hoses
- 2 x quick connectors
- 1x power cord

Like an air conditioner, aftermarket parts affect performance.

In most laser devices and equipment, power blower/fan is necessary to source cooler air and enable your Liquid Chiller to perform to its potential.

If your device is a compact and confined enclosure, you can consider installing extra fan for better ventilation.

Also, consider the shorter the distance between chiller and the system, the more efficient the cooling. Cooling hoses can be cut to fit and shrink wrapped for a clean, finished look.

PRIMING THE SYSTEM:

- Pre-mix one part liquid to one part distilled water

*Do not power the system on before priming.

With this powerful Liquid Chiller LC3220E-H, we pre-lubricate and fully-charge with refrigerant before shipping. Before hooking up the chiller to 24V power supply, please pick up and shake the system vigorously. Shake it the same way you would a can of spray paint – this re-lubricates the internals and eliminates air bubbles.

Fill the coolant reservoir with one part liquid or one part distilled water mixture until the fluid level reaches .5 inches from the top (water tank).

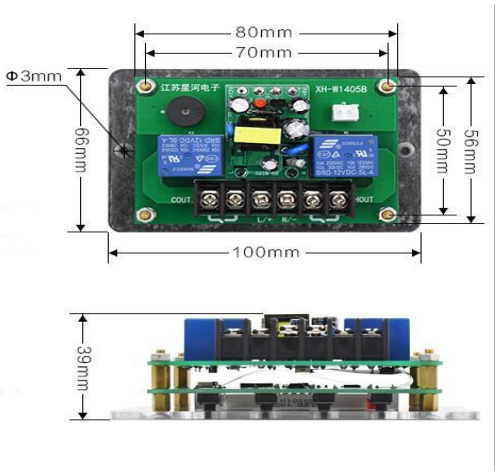
Connect the priming tube (6 inch clear tubing included in Liquid Chiller LC3220E-H packaging) to a dual prong adapter to create a priming loop.

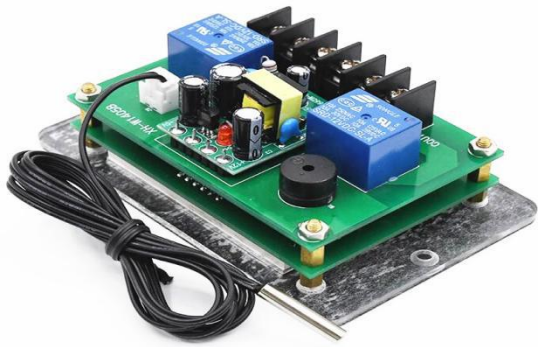
Snap the priming loop onto the Liquid Chiller prongs.

Plug in the wiring harness or DC power supply.Turn on the on/off switch  ,you will see the display lights come on.

Once the system powers on, you will see the coolant mixture start to pump through the priming loop and the coolant reservoir level will go down. This is due to the formula traveling throughout the system.

DISPLAY CONTROLLER:





:Heating Down Button

:Heating Up Button

:Cooling Down Button

:Cooling Up Button

:Heating "Down" Button

Short Press:
Display heating stop temperature.

Long Press:
When LED Display starts flashing, press the heating up or down button to set the stop temperature for heating.

:Cooling "Up" Button

Short Press:
Display cooling start temperature.

Long Press:
When LED Display starts flashing, press the cooling up or down button to set the start temperature for cooling.

:Heating "Up" Button

Short Press:
Display heating start temperature.

Long Press:
When LED Display starts flashing, press the heating up or down button to set the start temperature for heating.

:Cooling "Down" Button

Short Press:
Display cooling stop temperature.

Long Press:
When LED Display starts flashing, press the cooling up or down button to set the stop temperature for cooling.

TEMPERATURE SETTING:

Notice: The indicator lights only when the temperature difference between the **Start-Stop** value is set.

Heating Mode:

♦For Example:Setting the target heating temperature to 60℃.

1.Press this button for 3 seconds until the LED Display flashes.
2.Then press this button to set the target temperature 60℃.

Start-Stop temperature difference setting:

♦When the heating target temperature is set to 60℃ and the temperature drops to 58℃, reheat to 60℃.

1.Press this button for 3 seconds until the LED Display flashes.
2.Then press this button to set to 58 ℃.

Notice: The indicator lights only when the temperature difference between the **Start-Stop** value is set.

Cooling Mode:

♦For Example:Setting the target cooling temperature to 20℃.

1.Press this button for 3 seconds until the LED Display flashes.
2.Then press this button to set the target temperature 20℃.

Start-Stop temperature difference setting:

♦When the cooling target temperature is set to 20℃ and the temperature rises to 23℃, recool to 20℃.

1.Press this button for 3 seconds until the LED Display flashes.
2.Then press this button to set to 23 ℃.

Remark: In cooling mode, set the temperature difference Starting Temperature should be higher than the Target Cooling Temperature.

Heating Mode:

Notice: 1.The indicator lights only when the temperature difference between the **Start-Stop** value is set.
2.When the Red indicator light is On, start heating.

♦For Example:Setting the target heating temperature to 60℃.

1.Press this  button for 3 seconds until the LED Display flashes.
2.Then press this  button to set the target temperature 60℃.

Start-Stop temperature difference setting:

♦When the heating target temperature is set to 60℃ and the temperature drops to 58℃, reheat to 60℃.

1.Press this  button for 3 seconds until the LED Display flashes.
2.Then press this  button to set to 58 ℃

Cooling Mode:

Notice: 1.The indicator lights only when the temperature difference between the **Start-Stop** value is set.
2.When the Blue indicator light is On, start cooling.

♦For Example:Setting the target cooling temperature to 20℃.

1.Press this  button for 3 seconds until the LED Display flashes.
2.Then press this  button to set the target temperature 20℃.

Start-Stop temperature difference setting:

♦When the cooling target temperature is set to 20℃ and the temperature rises to 23℃, re-cool to 20℃.

1.Press this  button for 3 seconds until the LED Display flashes.
2.Then press this  button to set to 23 ℃

Remark: In cooling mode, set the temperature difference Starting Temperature should be higher than the Target Cooling Temperature.

Notice:

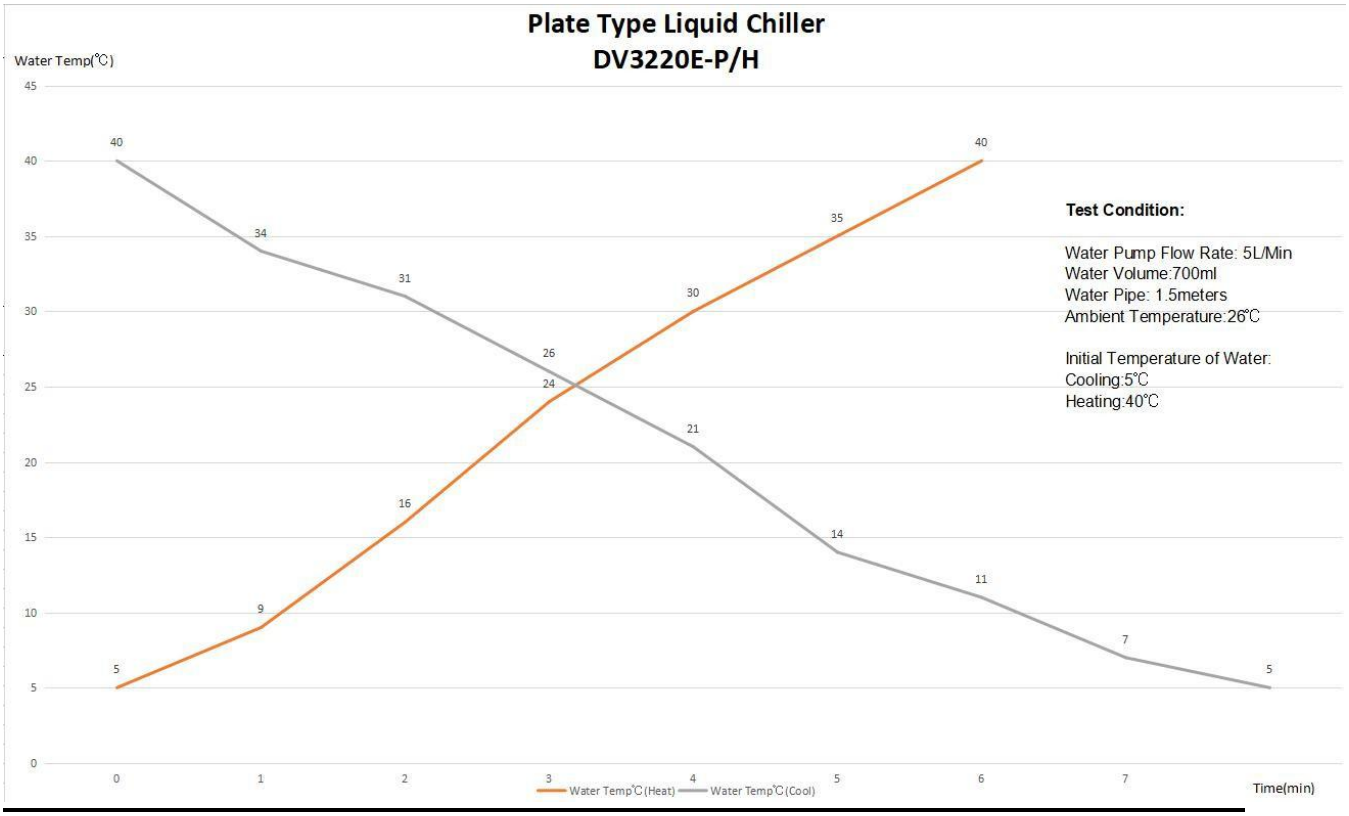
1. The cooling hose is optional part. You can use your own transparent PVC soft tubing.
2. Disconnect the priming tube (you do not have to turn the system off for this step).
3. Connect the cooling hose to water tank or reservoir pre-cooling loop at the end to the system prongs where the loop was connected before.

You will immediately see the fluid level decrease due to the transfer throughout the hose and garment internals.

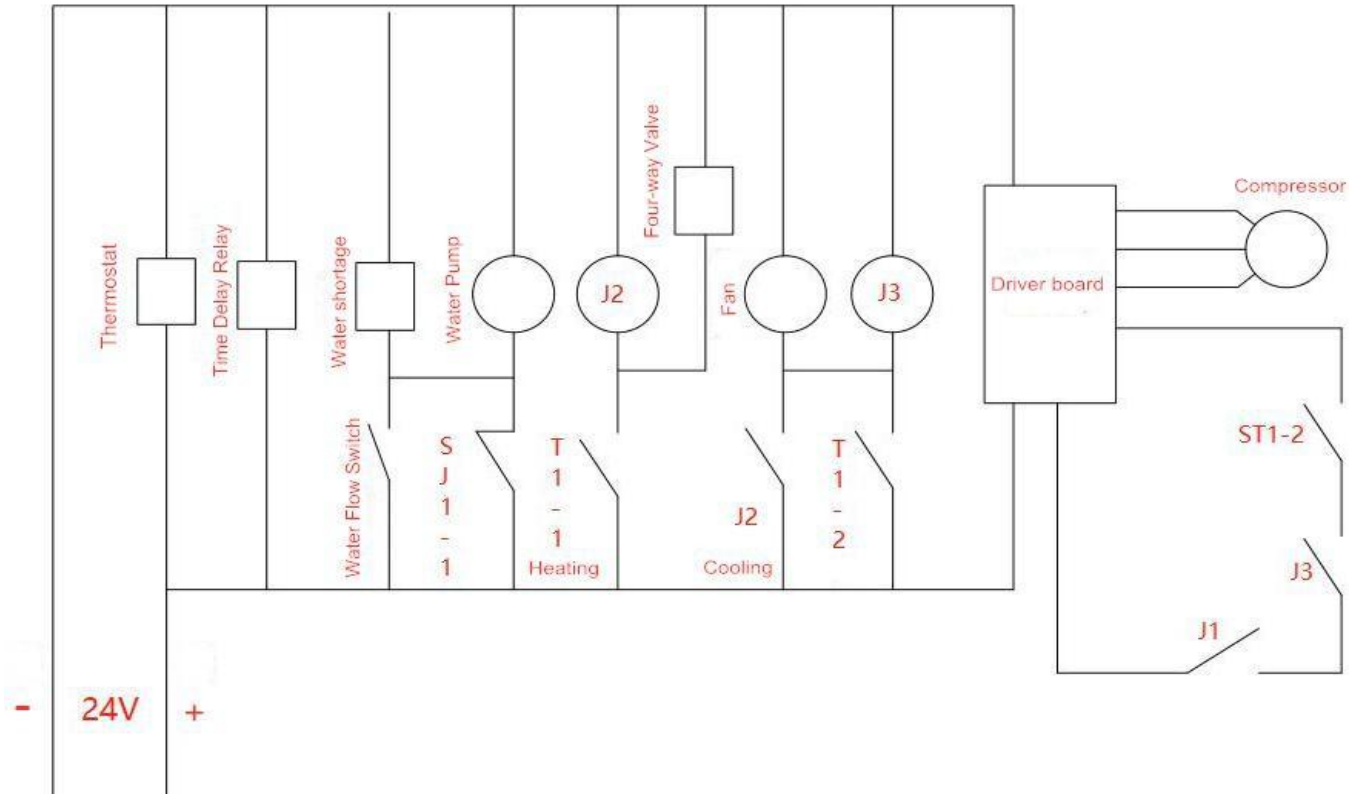
Gradually refill the reservoir with coolant mixture until it reaches .5 inches from the top once again.

After you tighten the cap on the reservoir, your system is primed and ready to be used.

COOLING PERFORMANCE CHART:

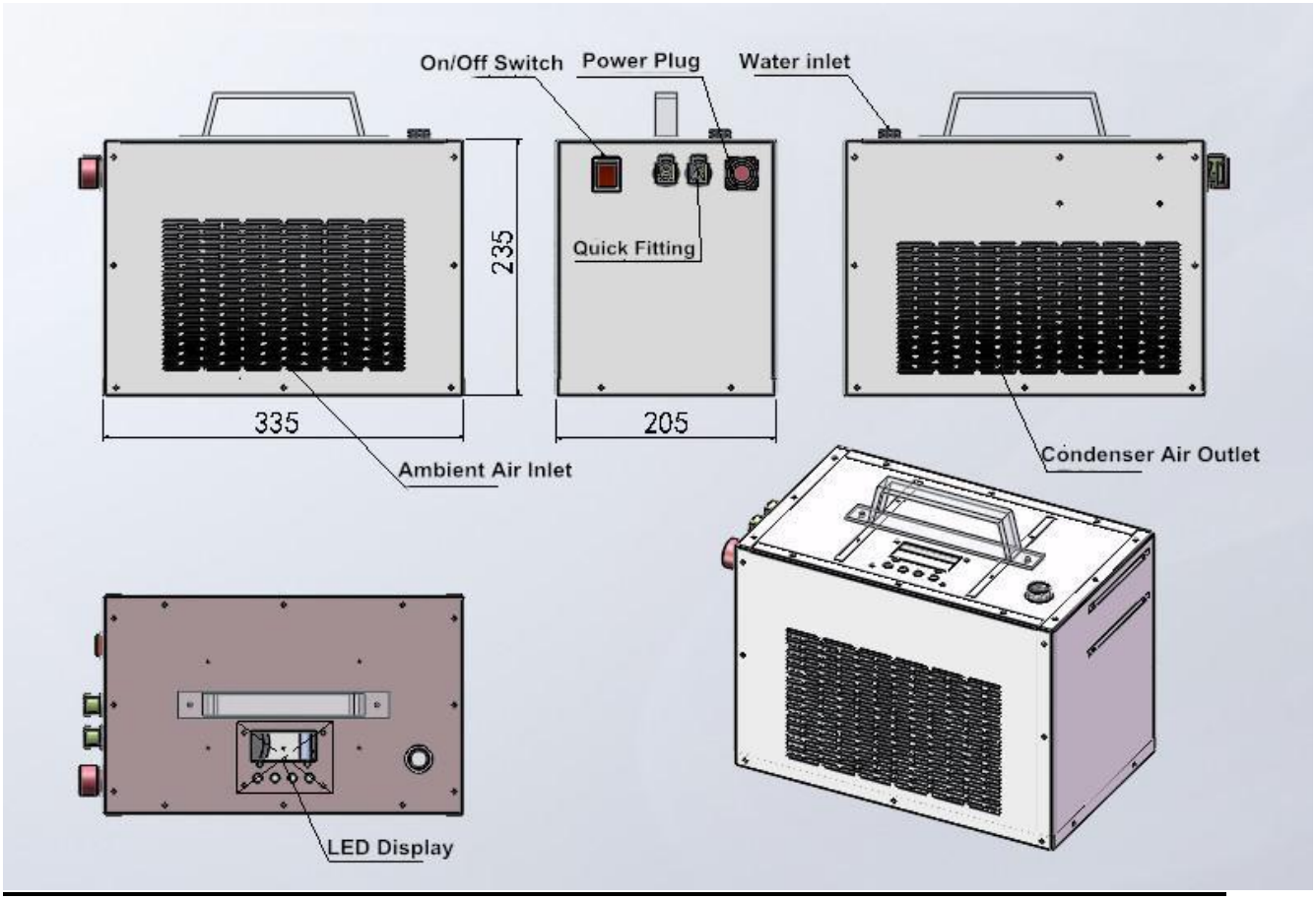


WIRING DIAGRAM:



External Dimension:

335 x 205 x 235mm (LxWxH)



ATTENTIONS:

1. If you run the fluid level in the system low for too long, a safety mechanism will activate, shutting the Liquid Chiller down to prevent it from running dry and overheating. If this occurs, turn the system off and refill the reservoir before powering on.

2. If the system does not power back on, unplug the wiring harness (or AC adapter) from the Liquid Chiller, wait a few seconds, then plug it back in.

UPDATE DETAILS:

The Liquid Chiller includes the following features:

- Auto-restarting power converter – If there is a voltage drop, as a safety function, the system automatically shuts the compressor off.
- More powerful fans – Dual high-efficient fan. This not only increases cooling performance but helps decrease amp draw due to the elimination of excessive heat within the chiller.
- Pre-cooling – Included with 2 x 1m (39 inches) liquid pipes. With a dual prong adapter, the tube can also be used for pre-cooling. Connect the priming loop onto the end of the cooling hose, or connect the loop directly to your system's water tank.
- Wide range temp setting – Our compressor makes better use of various temperature setting (4C ~ 45C degree), utilizing it for a longer period of time. The system will stay at 100% power until it is within 2 degrees of the target temperature setting.
- Lower amp draw – Expect to see a power savings. Working current 4.8-11 amps.
- Power on/off – If the system is turned off and the power is removed and then reconnected, the system will stay off. If the system is on and the power is removed and then reconnected, the system will come back on.

RIGID accepts OEM manufacturing and offers customize service. Our easy-going R&D teams work for your special needs.

WARNING:

- Do not add any fluid other than RIGID Systems' Coolant Formula and distilled water to the Liquid Chiller. (Serums, antifreeze, etc.) Could possibly result in the congelation or freezing of the internals of the system.
- Do not power the Liquid Chiller on without Coolant Formula in the reservoir. The safety mechanism shuts the system down if it runs too low. Refill the system with a one to one mixture of coolant formula and distilled water before reconnecting power to the Liquid Chiller.
- Be aware of frozen of the internal of the system, when you set temperature lower than 4C degree (39F).
- Liquid Chiller operating temperature should not exceed 60C degree (140F). Voltage should not exceed 30V.

Installation Guide Video in YouTube: https://youtu.be/TdTyWLpBw3A