

Backpack ICE Water Cooling System

Model: COMP-BPIC-7430

Rev. B

Operation Manual



Compcooler Technology
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COMP cooler Introduction:

Comp cooler Technology specializes in working for personal cooling & heating systems for harsh conditions. Comp cooler has established its resume as a manufacturer for Military, Electronic, Medical cooling equipment. The employees at Comp cooler's state of the art manufacturing facility have been producing liquid heating & cooling systems over 15 years. Quality system: ISO9001 and AS9100 registered facility. Certifications for major items: CE, FCC, UL, PSE, CB, FDA.

Product Categories

1. Personal ICE Water Circulation Systems
2. Micro Refrigeration Chiller Units
3. Liquid Heating & Cooling Chiller
4. Liquid Cooling & Heating Garment
5. Industrial Chiller Unit Module
6. Customized Cooling Systems

Certifications for major items



Quality System for facility



BACKGROUND OF PERSONAL COOLING SYSTEM

In conditions of extreme heat, people may be at risk of heat stress where body under stress from overheating. Heat stress is not only a serious condition for workers, but it can result in occupational illnesses and injuries, heat related discomforts and illnesses include heat exhaustion, heat cramps, heat rash or even heat stroke. Symptoms can range from profuse sweating to dizziness, cessation of sweating and collapse. At greatest risk of heat stroke are the elderly, children and people with medical conditions, however, even young and healthy individuals can succumb to heat if they participate in strenuous physical activities during hot weather. It will need immediate action to cool the person until help arrives.

LIQUID CIRCULATION COOLING SYSTEM

Liquid circulation cooling system is an active cooling solution, it can cool the body temperature fast to decrease incidence of thermal stress and heat stroke while increase comfort, safety, focus and endurance. Liquid circulation system includes a liquid circulation unit and a cooling garment. Mini pump circulates cold water from chiller or ICE bladder to cooling channels embedded on the cooling garment, and continuously flow around the body, it will keep the user's body temperature at a comfort and safety range.

BENEFITS OF LIQUID COOLING SYSTEM

Reduction in body core temperature, increased duration.
Reduction in skin temperature, decrease in hydration need
Reduction in heart rate, improve mental acuity
Reduction in sweat rate, maintain physical performance

COMP cooler Personal ICE Water Circulation Cooling System (PICS)

PICS includes a liquid circulation unit and liquid cooling garment. Mini pump circulates the cold ICE water from bladder to micro-tubing cooling channel embedded on the liner of garment, it continuously flows around the body to reduce body core temperature and keep user at a comfortable cool range in hot conditions.

Detachable Bladder: 1.5L, 2.0L, 3.0L and 4.0L (Hydration)

Cooler Unit: 6L, 25L Cooler

Pump Control Unit:

ON/OFF mode: cold water circulation only

Flow control mode: 3 levels water flow control

Temp control mode: precise temp control for circulation liquid

Liquid Temperature range: 2°C-10°C (36 °F -50 °F)

Cooling time:

1-3 hours for 1.5L frozen bladder

3-6 hours for 3.0L frozen bladder

4-8 hours for 6L ICE Cooler

8-12 hours for 25L ICE Cooler

Operation Ambient: 10°C-65°C (36 °F -148 °F)

COMP cooler, PERSONAL THERMAL TECHNOLOGY

Backpack ICE Water Cooling System Model: COMP-BPIC-7430

Description:

Compcooler Backpack ICE Water Cooling System (BPIC) is made up of Backpack, 3.0L detachable bladder, On/Off pump unit, battery and liquid cooling vest. Pump unit circulates cold water from bladder to cooling channel embedded on the vest liner, continuously flow around the body to reduce body core temperature, it keeps user at a comfort and safety range to against heat stress. Backpack model with 3.0L bladder provides 3-5 hours cold water circulation. Mesh liquid cooling vest has better air permeability, front zipper and sides adjustable device, body fit design. BPIC is designed for portable underwear application.

Components List



Backpack



3.0L Bladder



Battery



Pump



Liquid Cooling Vest

Item	Description	Quantity
1	Backpack Circulation Unit (Includes: Backpack, Bladder, Pump)	1
2	Mesh Liquid Cooling Vest	1
3	Battery 7.4V 2200mAh	1
4	Charger 110V-220V	1
5	Manual	1

Backpack ICE Water Cooling System

Model: COMP-BPIC-7430

Specifications:

Backpack

Fabric: Black Oxford

Liner: Reflective insulation material

Detachable Bladder

Material: TPU

Connector: Quick fittings

Open: Roll Close

Diaphragm Pump unit

Control: On/Off mode

Water flow: 500ml/min

Voltage: 7.4V

Current: 0.2A

Pump Case: plastic

Connector: CPC female quick fittings



Battery

7.4V 2200mAh Rechargeable Li-Ion Battery

Charger: 110-220V

Mesh Liquid Cooling Vest

Fabric: Nylon Stretch Mesh

Liner: Mesh

Color: Black, Green, Blue

Zipper: YKK

Cooling Channel: Silicon Tubing

Manifold: aluminum

Connector: CPC male quick fittings

Sides adjustable device: stretch Velcro

Dry weight: 0.5kg

Size: XS/S, M/L, XL/2XL, 3XL/4XL



Vest size				
Item	XS/S	M/L	XL/XXL	3XL/4XL
Chest	84cm/33.1"	100cm/39.4"	108cm/42.5"	123cm/49.6"
Length	64cm/25.2"	68cm/26.8"	70cm/27.6"	73cm/28.8"

COMP COOLER, PERSONAL THERMAL TECHNOLOGY

Backpack ICE Water Cooling System Model: COMP-BPIC-7430

Backpack Performance:

Cooling time: 3-5 hours by 3.0L frozen bladder

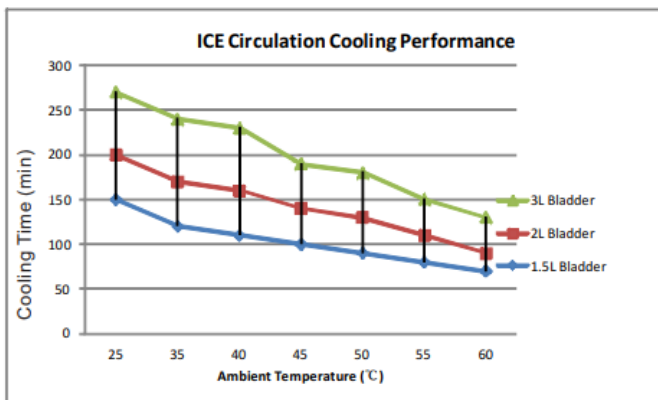
Temperature range: 2°C-10°C (36 °F -50 °F)

Battery operation: 8 hours

Noise: 45dBA

Dry Weight: 1.5KGS

Ambient Temperature: 0-65°C



Optional Components

1. Pump unit

Flow control mode, 3 levels pump control

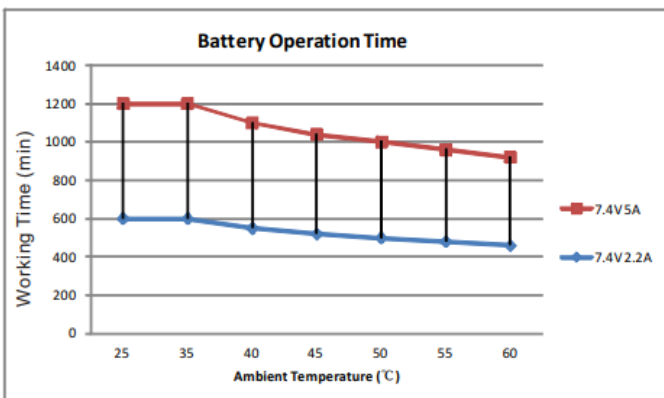
Level I 200ml/min

Level II 350ml/min

Level III 500ml/min

2. Battery

7.4V 5A Rechargeable battery



COMP cooler, PERSONAL THERMAL TECHNOLOGY

Operation Processes

Preparation and Unit Checking

1. Battery Charging

Full Charge of battery, LED light of charger change from RED to GREEN

TIPS: press “Remaining Battery Capacity” on battery,
 3 Led lights mean 80-100%, 2 lights mean 60-80%, 1 light means 50% less.



2. Bladder Connection:

Filling water into Roll-Top, connect the bladder Outlet/Inlet with backpack unit.

Checking: bladder no leaks, quick fittings connection is fine,

3. Vest Connection:

Connect backpack unit with cooling vest, once you hear a click, it's in position.

Checking: Vest no leaks, quick fittings connection is fine.

4. Start circulation:

Press On/Off switch, Pump circulates water from bladder into micro tubing cooling channels of cooling vest, then flow back to bladder. User may see the water flow back to bladder from Inlet fitting.

Checking: Battery works fine, pump works fine.

5. Bladder Freeze:

Step I- Freeze Bladder: Fill water into ROLL TOP. Water must be below FILL LINE to create an air packet.

Step II-After bladder is frozen, fill small amount circulation water into the roll top.

Step III-Connect ICE bladder to cooling unit, Outlet and Inlet.

Step IV-Start circulation with ON/OFF switch or Temp controller.



Lay Flat Freeze

ICE Cubes option:

For instant use, fill ICE cubes with small amount water into Roll Top.
(ICE cubes may melt faster than frozen bladder.)

Cleaning and Drying

Disconnect bladder from cooling unit and remove moisture, then hang to dry.

Operation step I

1. Bladder connection:

Fill small amount circulation water into roll top for quick operation
Connect bladder with backpack unit by quick fittings

Tips: if bladder was not lay flat or not create an air packet in the fridge, quick fittings are possible to be froze, please be patient for fitting melt or unfreeze quick fittings by tap water.

2. Battery connection

Connect battery with pump unit by 4017 plug.

Operation Step II

1. Liquid Cooling Vest:

Put on liquid cooling vest, adjust sides body fit device and make sure cooling channel contact your skin.

Tips: User may adjust the size to a comfortable range and get better cooling performance.



2. Backpack Unit

Pull on Backpack, tight the strap, connect quick fitting with cooling vest, once you hear a click, it's in position.

Tips: no difference for inlet or outlet for cooling vest connection.

3. Start cooling

User may press On/Off switch to start cold water circulation or stop circulation.
Please make sure vest be connected before circulation.

4. Extend cooling time

User may replace the frozen bladder to extend cooling time.
User may fill in ICE cubes for quick cooling operation.

Clean and Maintenance

1. Backpack:
User may use wet clothing to clean the backpack exterior dirty directly.
2. Vest clean:
Prefer to clean by hand wash then hang dry.
Machine wash by Laundry bag: wash liquid heating and cooling vest using a front-loading wash machine with cold water on a gentle/delicate cycle.

Note: DO NOT BLEACH, NO IRON, NO DRYER, TUMBLE DRY ON LOW

Components Renewal

1. Battery: user may purchase an extra replacement battery or 7.4V 5A battery.
2. Bladder: user may purchase more extra bladders to extend cooling time.
3. Pump: user may purchase flow control pump unit to replace On/Off pump unit.
4. Cooling vest: user may purchase cooling T-shirt or cooling garment to replace the cooling vest, all Compcooler cooling garments are compatible with backpack circulation unit.

Storage:

Unit Storage

Please empty the circulation water from circulation system and vest before storage.

1. Bladder empty: disconnect the bladder from backpack, empty the liquid.
2. Vest empty: connect the empty bladder with backpack, lean or upside down, press On/Off to restart circulation, pump will push the water inside cooling channel return to bladder,

Tips: make sure no water re-circulation from bladder to vest.

3. Unit dry: please hang dry the bladder and unit more than 10 hours before storage.
4. Restart system: after long term storage, please fill in clean water and run the unit more than 10 minutes to reactive pump.

Battery Storage

1. Shall be in the clean and dry ventilation room at temperature 0°C-35°C (32°F-95°F)
2. Shall keep out of fire or heat and avoid touching corrosion elements
3. Shall be charged every 6 months during storage
4. Keep the battery out of children's reach

Please STOP using the battery if any abnormal be found!

Safety:

It is important to become thoroughly familiar with the manual and operating characteristics of the unit. It is the owner's responsibility to assure proper operator training, installation, operation and maintenance of the unit. Observe all warning can result in injury to the operator and severe mechanical damage to the unit.

Warranty:

Compcooler Warrants to the original Purchaser that products sold shall be free from defects material and workmanship for warranty period not exceed one year from the date of shipment. Compcooler agrees to correct for the original user of this product, either by repair, or at the manufacturer's election by replacement. This warranty shall not apply if the defect or malfunction was caused by accident, neglect, unreasonable use, improper service, or other causes not arising out of defects in material or workmanship. The manufacturer's sole obligation under this warranty is limited to the repair or replacement of a defective product and shall not in any event be liable for any incidental or consequential damages of any kind resulting from use or possession of this product.



COMPCOOLER

Personal Thermal Technology,
Keep you body cool and comfortable in harsh conditions!