COMPCOOLER COMP-BMCS-746L ICE Cooler Cooling System User Manual

COMPCOOLER

ICE Cooler Cooling System
Model: COMP-BMCS-746L
Rev. B
Operation Manual

Contents

COMPCOOLER Introduction:

Compcooler Technology specializes in working on personal cooling & heating systems for harsh conditions. Compcooler has established its resume as a manufacturer of Military, Electronic, and Medical cooling equipment. The employees at Compcooler's state-of-the-art manufacturing facility have been producing liquid heating & cooling systems for 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 when the body is 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

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

COMPCOOLER Personal ICE Water Circulation Cooling System (PICS)

PICS includes a liquid circulation unit and liquid cooling garment. A mini pump circulates the cold ICE water from the bladder to a micro-tubing cooling channel embedded on the liner of the garment, it continuously flows around the body to reduce body core temperature and keep the 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 of water flow control
Temp control mode: precise temp control for circulation of 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 a 6L ICE Cooler
8-12 hours for 25L ICE Cooler
Operation Ambient: 0°C-65°C (32 °F -148 °F)

Description:

Compcooler ICE Cooler Cooling System is made up of an ICE Cooler (6L or 25L), 3.0L ICE container, On/Off pump unit, Extension tubing, and liquid cooling vest. The pump unit circulates cold water from the cooler to the cooling channel embedded on the vest liner, and continuously flows around the body to reduce body core temperature, it keeps the user at a comfort and safety range to against heat stress. ICE cooler model with 3.0L container provides 3-5 hours of cold water circulation. Mesh liquid cooling vest has better air permeability, front zipper and sides adjustable device, and body fit design. Major applications are Motorcycle Riders, Racing drivers, and Floor-type use. Operation by 7.4V battery, 12V power adapter, and 110-220V power adapter.

Components List

Cooler 6L ON/OFF Mode

Black Mesh Cooling Vest

Cooler 6L Temp Control Mode

Blue Mesh Cooling Vest

Item	Description	Quantity
1	ICE Cooler 6L Circulation Unit	1
2	3L ICE Container	1
3	Pump unit (On/Off, Flow or Temp Control)	1
4	Mesh Liquid Cooling Vest	1
5	Extension Tubing 6ft	1
6	Power Adapter 12V 0r 110-220V	1
7	Battery 7.4V and Charger 110V-220V	Optional
8	Manual	1

Motorcycle Riders ICE Cooler Solo Cooling System (ON/OFF Mode)
Model: COMP-BMCS-746L-V
Operated by 12V motorcycle power

Specifications:

ICE Cooler 6L
Material: PP with insulation
Cooler pack: Black Oxford with reflective insulation
ICE Container 3L
Material for the soft container: TPU
Material for the hard container: PPDiaphragm Pump unit
Control: On/Off mode
Water flow: 500ml/min
Voltage: 7.4V
Current: 0.2A
Pump Case: plastic
Connector: CPC female quick fittings

Power Adapter
12V to 7.4V with 4017 and SAE plug
Power cable with SAE plug

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′

Motorcycle Riders ICE Cooler Tandem
Cooling System (ON/OFF Mode)
Model: COMP-BMCS-746L-2V
Operated by 12V motorcycle power

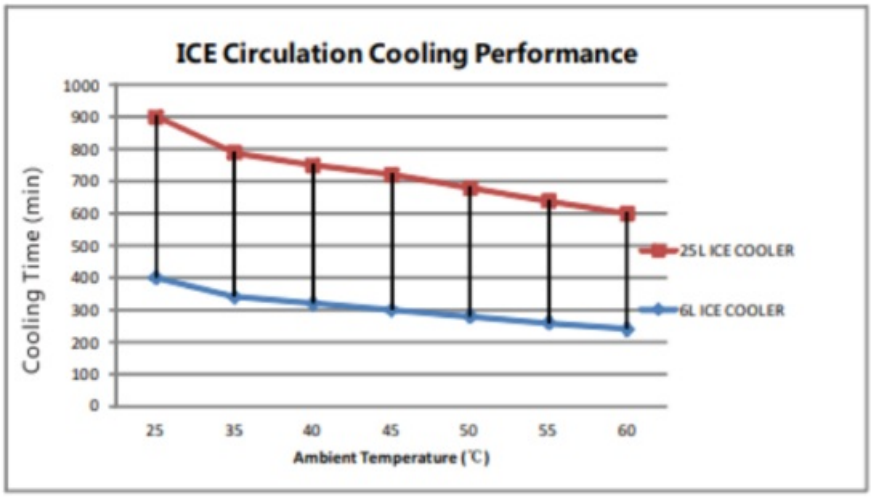
Racing Driver ICE Cooler Cooling System
(Temp Control Mode)
Model: COMP-BMCS-74TC-T
COMP-BMCS-74TC-FRT(Fire Resistant Tshirt)
Operated by 12V racing car power

Indoor ICE Cooler 6L Cooling System (Temp
Control Mode)
Model: COMP-BMCS-11074TC-V
Operated by Indoor AC110-220V wall plug.

Indoor ICE Cooler 25L Tandem Cooling
System (Temp Control Mode)
Model: COMP-BMCS-7425L-2V
Operated by an indoor AC110-220V wall plug

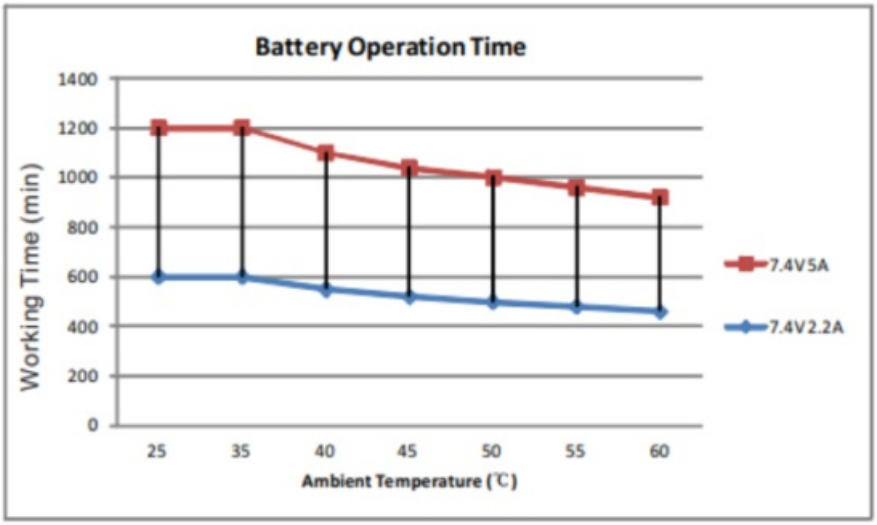
ICE Cooler Water Cooling System
Performance:

Cooling time:
3-4 hours for 6L ICE Cooler
8-10 hours for 25L ICE Cooler
Liquid Temperature range: 2°C-10°C (36 °F -50 °F)
Noise: 45dBA
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
   Temp Control Pump Unit
   0°C-30°C (32 °F -92 °F)
2. Battery
   7.4V 2.2A rechargeable battery
   7.4V 5.0A Rechargeable battery



Operation Processes

Preparation and Unit Checking

1. Water Circulation
   Fill water into Cooler

Checking: Cooler no leaks

2. Vest Connection:

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

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

3. Start circulation:

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

   Checking: pump works fine.

Operation step I

1. Container Freeze:

   Fill water into the container to fill the line.

   Freeze the ICE container in the fridge.

2. Circulation Water

   Add a small amount of water into the ICE cooler for pump circulation

Operation Step II

1. Liquid Cooling Vest:

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

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

2. Liquid Cooling Vest Connection

   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

   Users 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

   Users may replace the frozen container to extend cooling time.

   Users may fill in ICE cubes for quick cooling operation.

Clean and Maintenance

1. Cooler Unit:
   Users may use wet clothing to clean the cooler 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, secure the connection tubes to minimize the risk of it flailing in the spin cycle and damaging connector and tubing sewing.

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

Components Renewal

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

Storage:

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

1. Vest empty: empty cooler, press On/Off to restart circulation, the pump will push the water inside cooling channel to cooler,
   Tips: please raise the inlet tubing, and make sure no water re-circulation from cooler to vest.
2. Restart system: after long-term storage, please fill in clean water and run the unit for more than 10 minutes to the reactive pump.

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 warnings 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 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 the use or possession of this product.

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

COMPCOOLER, PERSONAL THERMAL TECHNOLOGY

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Compcooler Technology

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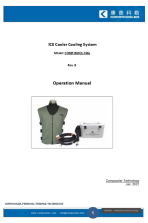
Documents / Resources

	COMPCOOLER COMP-BMCS-746L ICE Cooler Cooling System [pdf] User Manual COMP-BMCS-746L ICE Cooler Cooling System, COMP-BMCS-746L, ICE Cooler Cooling System