COOLSPACE®
EVAPORATIVE COOLING

Operation and Maintenance Manual

230V/50HZ

GLACIER
CS5-16-VD
CS5-16-VD-TB2

AVALANCHE
CS6-36-VD

BLIZZARD
CS6-50-VD

⚠ WARNING

IMPORTANT SAFETY INFORMATION INSIDE

Serious injury or death possible. Read, understand, and follow all safety information and instructions in the manual before operating or servicing this product.

CE

CONTENTS

Due to continuous product innovations, we reserve the right to change product specification without due notice.

SIGNAL WORD DEFINITIONS	
⚠ DANGER	DANGER indicates an imminently hazardous situation which, if not avoided, WILL result in death or serious injury.
⚠ WARNING	WARNING indicates a potentially hazardous situation which, if not avoided, COULD result in death or serious injury.
⚠ CAUTION	CAUTION indicates a potentially hazardous situation which, if not avoided, MAY result in minor or moderate injury.
IMPORTANT	IMPORTANT indicates a potentially hazardous situation which, if not avoided, MAY result in property damage.

SAFETY NOTICE

◊ The appliance is not to be used by children or persons with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction.

◊ Children being supervised should be instructed not to play with the appliance.

◊ Maximum altitude: < 1000 m.

1.0 INTRODUCTION

COOL-SPACE® is a patented and registered Trademark of Hale Industries, Inc. and manufactured in Indiana, USA.

COOL-SPACE® is a compact, self-contained, high-efficiency portable evaporative cooler capable of lowering existing temperatures by as much as 15ºC.

IMPORTANT

Carefully examine the carton for damage before opening. If the carton is damaged notify the shipping company immediately.

2.0 UNPACKING YOUR COOL-SPACE UNIT

The CS5-16 units are shipped in a cardboard box. Open the top panel and lift the unit out. The larger units are shipped on a wooden skid with a cardboard cover and lid. The cardboard cover simply lifts off the COOL-SPACE unit. The cooler must be lifted off the wooden skid.

NOTE: Variations in housing colour may occur.

3.0 SET-UP OF THE COOL-SPACE UNIT

The COOL-SPACE unit is factory tested and ready to use. The unit should be placed on a level surface, and the castors locked to prevent inadvertent movement. Follow instructions below to connect water and electrical supply.

Set-Up instructions, including instructional videos can be found online at www.row.cool-space.com/cool-space-support/

3.1 CONNECTING THE WATER SUPPLY

⚠ CAUTION

Do not connect the unit to any water source where water pressure exceeds 8 bar (827 kPa). This will cause permanent damage to the unit.

The COOL-SPACE unit comes equipped with a male garden hose water source connection. Attach the unit to a standard garden hose outlet for a water source. The unit should not be attached to any water source with operating pressure above 8 bar (827 KPa). Pressures above 8 bar (827 kPa) must use a pressure regulator which may be purchased at your local hardware store. Note: a female - ¾: to 22mm connection may be required (not supplied) depending on local pipe sizing. If you have purchased the optional portable water tank, use a standard garden hose (not provided) to connect the tank to the cooler.

3.2 CONNECTING THE ELECTRICAL SUPPLY

IMPORTANT

The unit should be plugged into a fused or circuit breaker protected 230 Volt, 50Hz circuit that meet the minimum amperage requirements.

All models utilize standard 230-volt power supply. The unit should be plugged into a fused or circuit breaker protected 230 Volt, 50Hz circuit that meet the following minimum amperage requirements:

◊ 13A UK and IE plug

◊ 16A Euro plug

◊ 10A China, Australia and New Zealand

If the unit is custom built for a specific application, please consult the factory for proper configuration. Refer to Table 1 for amperage requirement for specific models and Table 2 for the proper 3-conductor heavy-duty extension cord requirements.

⚠ CAUTION

Do not exceed the amperage ratings of the extension cord. Undersized extension cords result in excessive drops in voltage, which cause the electric motors to generate excessive heat. This condition results in inefficient motor operation and premature motor failure, WHICH WILL VOID THE WARRANTY.

AMPERAGE REQUIREMENTS			
MODEL NUMBER	VOLTS ± 10%	FREQUENCY (Hz)	RUNNING AMPS
CS5-16-VD	230	50	1.8
CS5-16-VD-TB2	230	50	1.8
CS6-36-VD	230	50	4.2
CS6-50-VD	230	50	5

Table 1: Electrical Requirements

3-CONDUCTOR HEAVY- DUTY EXTENSION CORD REQUIREMENTS				
LENGTH	CORD SIZE			
	16 GA	14 GA	12 GA	10 GA
6	13 A	15 A	15 A	15 A
16	13 A	14 A	15 A	15 A
32	10 A	12 A	13 A	15 A

Table 2: Cord Size Requirements

NOTE: POWER CORD CAN ONLY BE REPLACED BY THE MANUFACTURER OR AN AUTHORIZED AGENT.

4.0 OPERATING PROCEDURES

Operating procedures, including instructional videos can be found online at www.row.cool-space.com/cool-space-support/

There are 3 factors to consider when determining where to place the COOL-SPACE unit.

1. ***Fresh air supply:*** The inlet side of the unit (pad side) requires a constant, uninterrupted supply of fresh air for maximum performance. A distance of 1 metre clear space to any obstructions at the rear or inlet side of the unit is recommended.
2. ***Discharge air flow:*** The cool air discharged from the unit should be free of obstruction to allow the air to circulate in order to maximize the cooling zone.
3. ***Ventilation:*** In order to operate at maximum effectiveness, it is helpful to have provisions to remove the air discharged from the COOL-SPACE unit from the cooling area. This ensures that the COOL-SPACE unit does not recirculate air that has already been through the evaporative cooling process.

The COOL-SPACE unit must be placed on a level surface to operate correctly. The units create an oval shaped air pattern that can reach out as far as +20 metres with larger fans. Obstacles such as racks and workbenches may interfere with the air flow. An attempt should be made to locate the unit in such a manner that interruption of the air pattern is held to a minimum. Multiple units may be required to cover larger areas.

When the COOL-SPACE unit is placed near a wall or other vertical obstruction, it is recommended that there be a space of at least 1 metre between the back (pad side) of the unit and the obstruction. This ensures that a clear supply of fresh air is able to get to the inlet of the unit.

OPERATIONAL WEIGHTS:

CS5-16-VD Unit: 68 kg. (unit) + 10 kg. (pad operating weight) + 60 kg. (60 L. reservoir) = 138 kg.

CS5-16-VD-TB2 Unit: 82 kg. (unit) + 10 kg. (pad operating weight) + 200 kg. (200 L. reservoir) = 292 kg.

CS5-36-VD Unit: 123 kg. (unit) + 27 kg. (pad operating weight) + 174 kg. (174 L. reservoir) = 324 kg.

CS-50-VD Unit: 191 kg. (unit) + 45 kg. (pad operating weight) + 242 kg. (242 L. reservoir) = 478 kg.

4.1 FILLING THE UNIT WITH WATER

Once the COOL-SPACE unit has been connected to a water source as described in 3.1, turn the water supply valve on and the unit will fill with water. The float valve will shut off the water flow when the sump is full.

4.2 STARTING THE FAN

Set the fan switch to the "ON" position and adjust the speed to your preferred setting.

4.3 STARTING THE PUMP AND ADJUSTING THE WATER FLOW

IMPORTANT

DO NOT flood the pads with water. New pads will take a few days before they become completely saturated. It is normal to have several dry streaks on the face of the pads about 25 to 50 mm wide. If the streaks are larger adjust the flow control knob to allow more water to flow onto the pads. **NOTE:** New pads may also emanate an odour under initial operating conditions from the resin used to construct the media. Flush the pads by running the pump without the fan running for at least 12 hours. Empty the sump and refill. Repeat if odour still exists.

NOTE: Run the fan while adjusting the water flow. Once the sump is full, the pump switch may be turned to the 'ON' position. The flow control knob will need to be adjusted on initial start-up. It is located at the side of the unit; it controls the volume of water that is delivered to the top of the cooling pads.

⚠ CAUTION

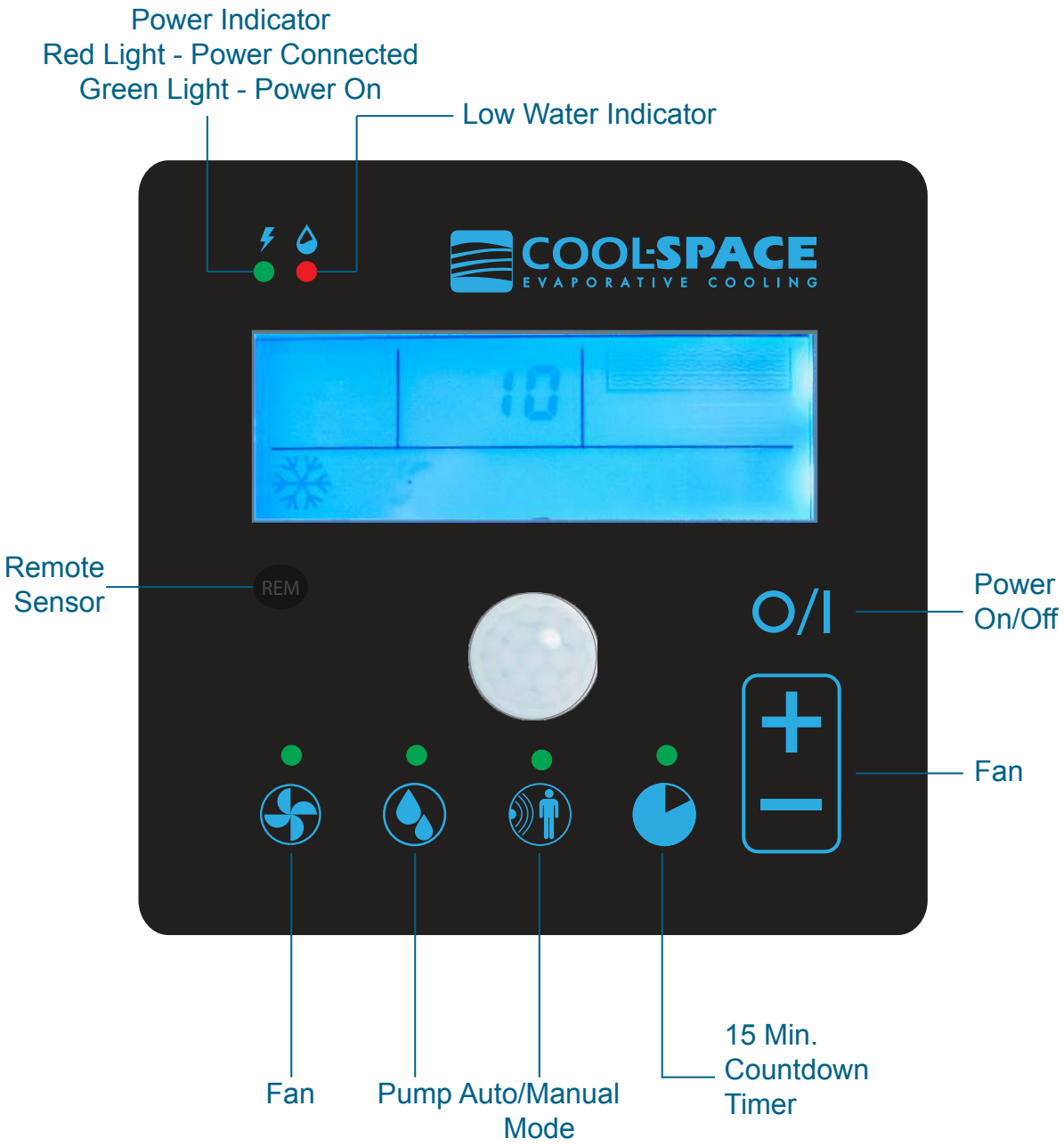
Prolonged use of hard water without proper water treatment will create mineral deposit build up causing the pump to fail which is NOT COVERED BY WARRANTY

IMPORTANT

Pump equipped with LOW WATER CUT OFF which may take up to 5 minutes to reset each time the power is turned on.

4.4 INTUITIVE CONTROL PANEL

The BLIZZARD-50 comes equipped with an intuitive control panel.



O/I Turns machine on and off

- Default Speed is 6
- Press + to increase speed
- Press − to decrease speed

Turns fan on and off in manual mode

Turns pump on and off in manual mode

Switches machine between auto and manual mode
In Auto Mode
- Indicator light will be on
- Machine will run when motion is detected
- When no motion detected, machine will run for 10 minutes and then shut down

Puts machine into shutdown mode
- When pressed the pump shuts off and the fan will continue to run for 15 minutes and then shut down
- Works in auto and manual mode

5.0 MAINTENANCE AND STORAGE

Maintenance instructions, including instructional videos can be found online at www.row.cool-space.com/cool-space-support/

⚠ WARNING

ELECTRICAL SHOCK HAZARD

Disconnect the power supply before performing any service or maintenance.
Failure to do so may result in serious injury or death.

5.1 REMOVING THE COOLING MEDIA TO ACCESS THE INSIDE OF THE UNIT

In order to perform any maintenance on internal components, the cooling pads must be removed to access the inside of the unit.

1. Remove the bolts connecting the pad retainer bar (pad-side) from the housing.
2. Remove top pads on CS6-36-VD.
3. Starting with the center pad(s), tilt pads from the top; lift out of the unit.
   NOTE: Reinstall pads correctly according to the markings on the pads.

5.2 DAILY MAINTENANCE

IMPORTANT

When shutting down the unit at the end of each use, the pump should be turned off approximately 15 minutes before the fan is turned off. This will allow the pads to drain and dry out. To avoid disfiguring the housing the unit should be drained after every use. These simple guidelines will ensure long and efficient pad life as well as help to control mildew and bacteria growth, and unit longevity.

5.3 PERIODIC MAINTENANCE

Depending on how often the COOL-SPACE unit operates, this procedure should be performed anywhere from every week for heavy use to monthly for light use. Shut down the unit and drain the water sump. The cooling pads act as a filtering agent and remove dust and other particles from the incoming air stream. These particles will flow into the sump and collect there. Also, impurities in the water will collect in the sump.

DRAINING THE WATER SUMP

1. Close the water flow valve and open the drain valve or remove drain plug located at bottom of reservoir.
2. Run pump until sump is dry then immediately shut off pump.
3. Turn unit off and disconnect the power supply.
4. Remove cooling pads, refer to section 5.1.
5. Clean out reservoir with either a towel or wet/dry vacuum.
6. Remove the water spray bar and its plug. Insure holes are free of debris.
7. Reinstall pads and pad retainer.

To keep the COOL-SPACE unit operating at peak efficiency, ensure that the cooling pads are kept clean and dust-free. Dust and other particles have an adverse effect on the media's ability to introduce water into the air stream. If the pad surface becomes dirty or dusty, clean with a soft brush and water.

5.4 STORAGE

1. Remove the pads, as described in section 5.1
2. Clean with a soft brush and water to remove dust and debris (never use bleach)
3. Drain sump using procedure described in section 5.3 and wipe dry
4. Store in a dry area and cover to prevent dust build-up. Covers can be found online at www.cool-space.com.

Troubleshooting guides and repair instructions, including instructional videos can be found online at www.row.cool-space.com/cool-space-support/

6.1 TROUBLESHOOTING

⚠ WARNING

ELECTRICAL SHOCK HAZARD

Disconnect the power supply before performing any service or maintenance.
Failure to do so may result in serious injury or death.

The COOL-SPACE unit consists of three systems: the fan, water distribution and pump. It is important to determine which system of the COOL-SPACE unit the problem is associated with. This may not always be obvious, in that certain problems may be associated with more than one system.

When determining which system has a problem, you must define the associated problem, (e.g. the pump is not running). Although this might seem a bit simplified, several things may cause this particular problem. So while defining the problem, a careful check of all systems should be made to fully understand the extent of the problem.

If you have a complete understanding of all of the systems of the COOL-SPACE unit and how they depend on each other, it will be simple to define and solve any problem.

NECESSARY TOOLS:

Although the COOL-SPACE unit is designed to be simple to maintain, it will be necessary to have some basic hand tools (screwdrivers, pliers, adjustable wrenches, etc.) as well as a volt/ohm metre when troubleshooting the electrical system.

⚠ CAUTION

Please use caution when troubleshooting or repairing all electrical components. Be certain that all power is disconnected from the COOL-SPACE unit before the cooling pads or fan guard are removed to gain access to the fan.

6.0 TROUBLESHOOTING/REPAIR

6.2 TROUBLESHOOTING GUIDES

FAN SYSTEM

FAN WON'T RUN AND MAKES NO SOUND

Check power cord, extension cord, switches, circuit breaker
- •Reconnect power or extension cord
- •Reset breaker

FAN WON'T RUN - MAKES HUMMING SOUND

Blade in contact with shroud
Re-center blade hub

Motor stalled (will not turn by hand)
Replace motor

BREAKER TRIPS OR FUSE BLOWS WHEN FAN IS STARTED

Motor stall
Replace motor

Check power source for min. 230v/10 amp
Upgrade power supply

Extension cord gauge too small
Replace with heavier cord

MOTOR OVERHEATS, SHUTS OFF AND RESTARTS SEVERAL MINUTES LATER

Extension cord gauge too small
Replace with heavier cord

Inlet air obstructed or too close to wall
Provide minimum 1 metre inlet clearance

Faulty motor
Replace motor

FAN MOTOR WON'T RUN - SWITCH MAKES SOFT CLICKING SOUND

Ensure that switch is making good contact
Replace switch if needed

FAN BLADE DOESN'T TURN - UNIT MAKES SQUEALING SOUND

Motor stall (will not turn by hand)
Replace motor

FAN WILL NOT REACH SPEED BUT TURNS AND MAKES HUMMING SOUND

Check Capacitor (where visible) and motor electrical connections
Replace capacitor or motor

Extension cord gauge too small
Replace with heavier cord

INTUITIVE CONTROL PANEL ERROR CODES

E1 - OVER CURRENT PROTECTION

Current draw too high
- •Check extension cord size
- •Check motor spins freely
- •Check airflow not obstructed
- •Replace motor

E2 - OVER VOLTAGE PROTECTION

- •Supply voltage too high ≥ 253V
- •Try different circuit
- •Install Voltage Regulator

E3 – LOW VOLTAGE PROTECTION

Supply voltage too low ≤ 207V
- •Try different circuit
- •Install voltage regulator

E4 – LOSS OF PHASE PROTECTION

Motor phase imbalance
Loose or disconnected motor wire, Replace motor

E7 – OVERLOAD PROTECTION

Motor running too hot
Check extension cord size, Check motor spins freely, Check airflow not obstructed, Replace motor

F6 – COMMUNICATION FAILURE

Failure of communication between control panel and control board
Check connection of control cable, Check control cable not broken

6.2 TROUBLESHOOTING GUIDES

WATER SYSTEM

The water distribution system consists of two (2) assemblies:

1. The Water Inlet Assembly
   - •Brass bulkhead fitting
   - •Float valve assembly
2. The Hose and Valve Assembly
   - •Spray Bar Assembly
   - •Valve Assembly
   - •Connection Hose

FLOOR AT SIDE OF UNIT IS WET

Water inlet hose is loose at supply hose or inlet hose is loose at bulkhead fitting.
Tighten connections and/or replace hose washers.

UNIT OVERFLOWS FROM RESERVOIR OR IS SPITTING WATER THROUGH FAN

Float valve hose is loose at bulkhead fitting or at float valve.
Tighten connections and/or replace hose washers

Water pressure is too high to allow float valve to shutoff (8 bar or 827 kPa max)
Reduce water pressure by adding an inline reducer

Float valve not properly seated
Check all hoses for leaks

WATER SPITTING FROM THE UNIT

Check The Hose and Valve Assembly
- •Reduce flow control setting
- •Replace cracked hose and valve assembly
- •Tighten hose connections
- •Adjust spray bar
- •Ensure pads were installed correctly

WATER LEAKING FROM DRAIN VALVE

Check for worn washer, stem or open drain valve
- •Replace washer
- •Replace drain valve

TOO MANY DRY STREAKS ON THE PADS

Check for blocked holes in the spray bar or adjust water flow
- •Remove spray bar, remove plug and clean tube and holes
- •Open water flow control valve

PUMP

PUMP MOTOR WILL NOT RUN WHEN SWITCH IS TURNED ON

Turn fan on to check for power
- •If fan doesn't start check breaker and cord plug-in
- •If fan does start; check for power to and through pump switch (when turned on)

Ensure water level is high enough to make the low-water cut-off circuit
Fill water reservoir

PUMP MOTOR HUMS WHEN SWITCH IS TURNED ON, BUT DOES NOT PUMP WATER

Obstruction in impellor
Remove object(s)

Pump motor failure
Replace pump

BREAKER TRIPS OR FUSE BLOWS WHEN SWITCH IS TURNED ON

Check power cord length and breaker rating
Refer to page (2) for unit amperage draw and to determine required cord gauge

Check for locked-up pump
Replace pump

PUMP RUNS BUT DOES NOT PUMP WATER

Air lock in outlet side of pump
Turn off and on to bleed

Ensure the impellor is turning in pump
If not, replace pump

6.0 TROUBLESHOOTING/REPAIR

6.3 REPAIR PROCEDURES

⚠ CAUTION

Repairs should be performed by a qualified technician!

⚠ WARNING

ELECTRICAL SHOCK HAZARD

Disconnect the power supply before performing any service or maintenance.
Failure to do so may result in serious injury or death.

FAN MOTOR REPLACEMENT FOR CS5-16-VD, CS5-16-VD-TB2

1. Remove cooling pads (see section 5.1 for pad removal instructions)
2. Remove the black motor wiring plate and disconnect motor wires. (Mark each wire with a marker or marker tape to allow for easy matching when installing new motor.
3. Remove the (4) nuts and bolts that mount the motor, fan, and support braces (complete fan assembly).
4. Replace new fan assembly.
5. Secure with (4) nuts and bolts.
6. Replace any wire ties that were removed when taking out the old fan assembly.
7. Replace the black motor wiring plate.
8. Reinstall pads and connect power

FAN MOTOR REPLACEMENT FOR CS6-36-VD, CS6-50-VD

1. Remove cap from bottom of motor. Disconnect wires. Clip wire ties.
2. Remove (4) fan mounting bolts from the front. (Support fan to ensure it doesn't fall.)
3. Pull the fan out of the unit.
4. Remove blade mounting nut and blade.
5. Remove mounting arms by loosening (8) bolts holding the arms to the motor. (Make note of arms positions for reinstallation.)
6. Install arms and blade on new motor.
7. Install fan in opening and secure with mounting bolts.
8. Reconnect wires and attach cord to motor arm with wire ties to keep them out of fan.

PUMP REPLACEMENT FOR CS5-16-VD-TB2

1. Loosen PVC Union
2. Remove pump and PVC pipe
3. Unplug the cord from the top of the pump by removing 2 screws
4. Unscrew PVC pipe from the pump
5. Reverse steps 1-4 to reinstall the new pump
6. Reinstall cooling pads and guards, reconnect power, and test pump

PUMP REPLACEMENT FOR CS5-16-VD, CS6-36-VD, CS6-50-VD

1. Unscrew fitting from pump
2. Unplug the cord from the top of the pump by removing (2) screws
3. Remove pump from water sump and install new pump
4. Reverse the above procedures to reconnect the wiring, lift pump bracket and reconnect the hose. Secure wires to fan frame with wire ties to clear the fan blades. Be sure to position the plug correctly.
5. Reinstall cooling pads and guards, reconnect power and test pump.

6.4 TECHNICAL SUPPORT

Support and service is available directly from your distributor or the COOL-SPACE Technical Support Hot Line at 001-317-577-0337, email sales@cool-space.com or visit www.cool-space.com.

7.0 WARRANTY

Warranty Information and product registration can be found online at www.row.cool-space.com/warranty

Under normal use, the warranty covers the unit and its components for thirty-six (36) months from date of invoice. Refer to the manufacturer's Warranty Policy for details.

7.1 WARRANTY PARTS

Warranty replacement parts are available through your local distributor or supplier where you purchased your COOL-SPACE unit. If you have any questions or concerns, please contact us direct at 00 44 7979 243154 simon.hartles@cool-space.com. Please have your model number and serial number ready.

DO NOT DISCARD FAULTY PARTS

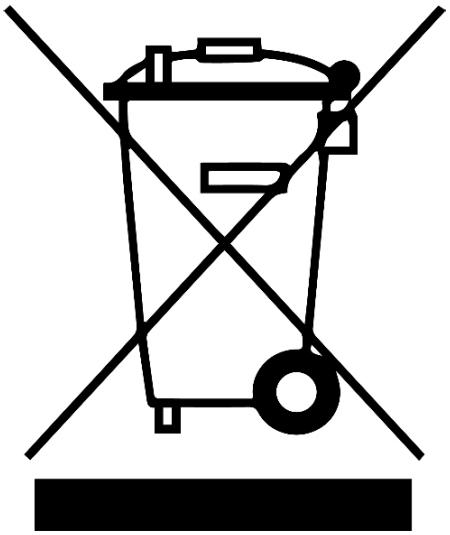
Check with the Manufacturer as they may need to be returned for warranty credit.

7.2 OPTIONAL ACCESSORIES AND REPLACEMENT PARTS

Accessories and replacement parts are available from your local distributor or supplier. To order parts or for help finding a distributor or supplier visit the COOL-SPACE website at www.cool-space.com or call 00 44 7979 243154 simon.hartles@cool-space.com.

FAN MOTOR	
CS-F16.1-VD-50HZ	**CS5-16-VD, CS5-16-VD-TB2 45cm (18") Fan Assembly with Motor**
CS-M36-220V	**CS6-36-VD 90cm (36") Variable Speed 50HZ**
CS-M50-VD-50HZ	**CS6-50-VD 127cm (50") Variable Speed 50HZ**
SWITCHES	
CS-E110	**On/Off Pump & Single Speed Fan**
CS-E180 + CS-E172	**CS6-36-VD Variable Speed controller + knob**
CS-E199-VD	**CS5-16-VD, CS5-16-VD-TB2 220/230 VD Controller**
PUMP	
CS-E192-2	**CS5-16-VD, CS6-36-VD, CS6-50-VD**
20CM (8") PADS	
CS-H610 + CS-H611	**CS5-16-VD, CS-16-VD-TB2 (3 required (1 x CS-H610) + (2 x CS-H611))**
CS-H613	**CS6-36-VD (5 required)**
CS-H48-140	**CS6-50-VD (6 required)**
FLOAT ASSEMBLY	
CS-P143	**CS5-16-VD, CS6-36-VD, CS6-50-VD (Post 2017) ½" Compact Water Control Valve (Vertical)**
CS-P142	**CS5-16-VD-TB2 (Post 2017) ½" Compact Water Control Valve (Horizontal)**

FOR EXPLODED VIEW DRAWINGS PLEASE GO TO WWW.COOL-SPACE.COM



This symbol on the product or on its packaging indicates that this product must not be disposed of with your other household waste. Inappropriate disposal may be harmful. Instead, it is your responsibility to dispose of your waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact y our local city office, your household waste disposal service or the shop where you purchased the product.

COOLSPACE®
EVAPORATIVE COOLING

International Sales Office

PO Box 6916

Bridgnorth WV16 9ED UK

00 44 7979 243154

simon.hartles@cool-space.com

www.cool-space.com

DISTRIBUTOR:

Cross Hire Services
Heating & Cooling

Cross Hire Services
11 Broomhill Road ,
Tallaght, Dublin 24
Ireland

P: 1890 247 266

info@crosshire.ie
www.crosshireservices.ie

A DIVISION OF HALE INDUSTRIES

MADE IN USA

CE

REV 24FEB2020 PN CS5-16-VD, CS5-16-VD-TB2, CS6-36-VD, CS6-50-VD 230V/50HZ MANUAL