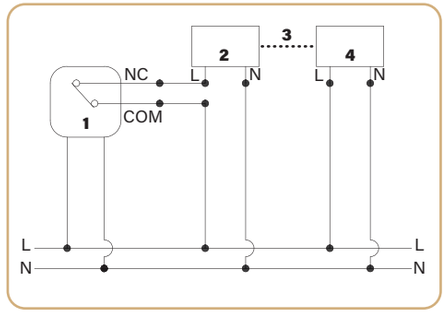
WIRING

KEY

1 Pump Unit
2 Indoor A/C Unit
3 Interconnecting Cable
4 Outdoor A/C Unit

(L) Live (hot): Brown
(N) Neutral (common): Blue
(NC) Normally Closed: Black
(COM) Common: White



TEST OPERATION

- After installation, test pump operation by slowly pouring water into the air conditioner drain pan. Repeat until the pump runs 2–3 times.
- Check for any water leaks, kinked or pinched lines, or siphoning action.
- Clicking noises heard at initial start-up are normal and are usually only heard for the first few operations.
- Allow a one minute rest after each cycle to prevent triggering the thermal protector.

TROUBLESHOOTING

Unit does not run.	▶ Check the power supply. ▶ Check the air conditioner to see if condensation is actually being produced. ▶ Check hoses are not clogged or kinked. ▶ Check metal filter is not clogged.
Unit makes loud noises even after the first dry-running phase.	▶ Check if pump has contact with any hard surfaces. If it does, anti-vibration materials should be positioned between the pump and all hard surface. ▶ Check hoses are not clogged or kinked. ▶ Check there is no siphoning action. ▶ Check outlet hose is not blocked.
Unit runs but does not pump liquid out properly.	▶ Check the highest point of the discharge hose does not exceed the maximum delivery head of the pump. ▶ Check hoses are not clogged or kinked. ▶ Check the flow rate of the pump is sufficient for the condensation volume of air conditioner.

MAINTENANCE

Ensure power to the pump is disconnected before performing any service or maintenance.

1) Clean the reservoir every six months, preferably at the beginning and end of the air conditioning season.
   a) Open the reservoir cover using the opening latch.
   b) Clean the reservoir, float and metal filter using a water solution containing 5% bleach.
   c) Replace the float in the initial position (magnet facing UP).
   d) Reinstall the reservoir cover.
2) Perform a **TEST OPERATION**.

LIMITED WARRANTY

Liberty Pumps Wholesale Products Limited Warranty

Liberty Pumps, Inc. warrants that Liberty Pumps wholesale products are free from all factory defects in material and workmanship for a period of three (3) years from the date of purchase (excluding* batteries and "Commercial Series" models). The date of purchase shall be determined by a dated sales receipt noting the model and serial number of the pump. The dated sales receipt must accompany the returned pump if the date of return is more than three years from the date of manufacture noted on the pump nameplate.

The manufacturer's sole obligation under this Warranty shall be limited to the repair or replacement of any parts found by the manufacturer to be defective, provided the part or assembly is returned freight prepaid to the manufacturer or its authorized service center, and provided that none of the following warranty-voiding characteristics are evident:

The manufacturer shall not be liable under this Warranty if the product has not been properly installed, operated, or maintained per manufacturer instructions; if it has been disassembled, modified, abused, or tampered with; if the electrical cord has been cut, damaged, or spliced; if the pump discharge has been reduced in size; if the pump has been used in water temperatures above the advertised rating; if the pump has been used in water containing sand, lime, cement, gravel, or other abrasives; if the product has been used to pump chemicals, grease, or hydrocarbons; if a non-submersible motor has been subjected to moisture; or if the label bearing the model and serial number has been removed.

Liberty Pumps, Inc. shall not be liable for any loss, damage, or expenses resulting from installation or use of its products, or for indirect, incidental, and consequential damages, including costs of removal, reinstallation or transportation.

There is no other express warranty. All implied warranties, including those of merchantability and fitness for a particular purpose, are limited to three years from the date of purchase. This Warranty contains the exclusive remedy of the purchaser, and, where permitted, liability for consequential or incidental damages under any and all warranties are excluded.

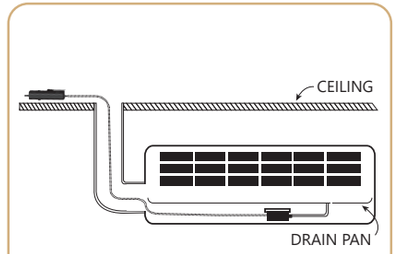
*Liberty Pumps, Inc. warrants StormCell® batteries for 1 year from date of purchase, and warrants that pumps of its Commercial Series are free from all factory defects in material and workmanship for a period of 18 months from the date of installation or 24 months from the date of manufacture, whichever occurs first, and provided that such products are used in compliance with their intended applications as set forth in the technical specifications and manuals.

Liberty Pumps
A Family and Employee Owned Company

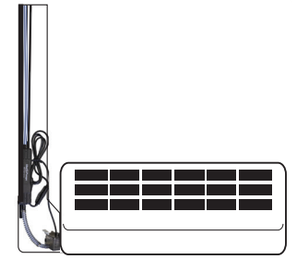
USER GUIDE

LCU-MS Series
Mini-Split Condensate Pump

For Air Conditioners up to 7 kW



LCU-MS



LCU-MS2
(LCU-MS + DUCTS)

Read this user guide carefully before attempting to install, operate, or service the LCU-MS Series pump. Know the pump application, limitations, and potential hazards. Protect yourself and others by observing all safety information. Failure to comply with these instructions could result in personal injury and/or property damage. Retain this user guide for future reference. Installation, connections, and service shall be done by qualified personnel only.

PRODUCT INFORMATION

▶ Keep this manual handy for future reference
▶ Retain dated sales receipt for warranty

Pump Model #: _____

Pump Serial #: _____

Install Date: _____

Intertek
4007096
CONFORMS TO ANSI/UL STD. 778
CERTIFIED TO CAN/CSA STD. C22.2 NO.108

Liberty Pumps
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Bergen, NY 14416
Phone 800-543-2550
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www.LibertyPumps.com

MADE IN KOREA
2035000B

Liberty Pumps LCU-MS Series is an automatic condensate removal system designed to remove water from a ductless mini-split air conditioner evaporative coil when gravity-feed drainage is not possible or practical.

SPECIFICATIONS

► Specifications subject to change without notice.

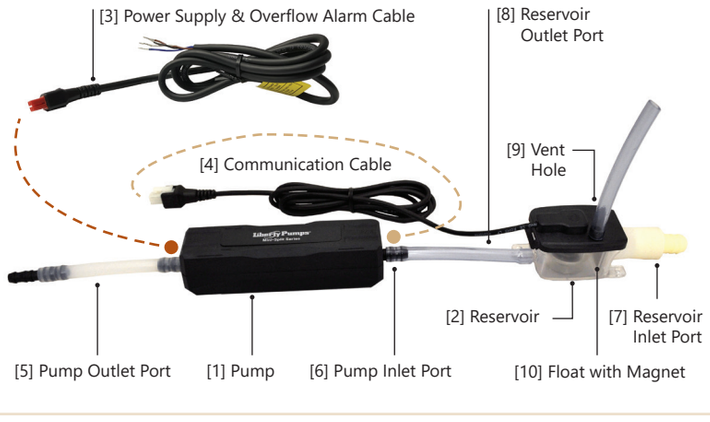
ITEM	SPECIFICATION
For Use With	Air Conditioner (max 7 kW)
Power Supply	Refer to Product Label
Electrical Output	9W
Safety Switch Contacts	Max 3A 110 VAC 3A 240 VAC
Max Suction Head	2 m 6.6 ft
Max Discharge Head	8 m 26.2 ft
Max Flow Rate @ Zero Head	16 l/hr 4.23 gal/hr

ITEM	SPECIFICATION
Fluid [Fresh Water]	1–40°C 33.8–104°F
Operating Time (Non-continuous)	5 min ON 1 min OFF
Thermal Protection	100°C 212°F
Pump On, Dry Run	<1 min
Pump Size (LxWxH)	mm: 167.2 x 73.6 x 43 in: 6.6 x 2.9 x 1.7
Reservoir Size (LxWxH)	mm: 76.7 x 43.2 x 40.3 in: 3 x 1.7 x 1.6
Reservoir Capacity	35 ml 1.2 oz

FLOW RATES

Head	0 m [0 ft]	4 m [13 ft]	6 m [20 ft]	8 m [26 ft]
Liter/Hour	16.0	9.0	6.0	4
Gallon/Hour	4.23	2.38	1.59	1.06

COMPONENT IDENTIFICATION



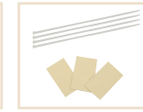
COMPONENTS


[11] Inlet Hose


[12] Anti-kink Spring


[13] Reservoir Connection/ Discharge Hose


[14] Vent Hose


[15] Cable Ties & Double-sided Adhesive Pad

Ducts for LCU-MS2


Straight Duct


Elbow Duct


Duct Socket


Duct End

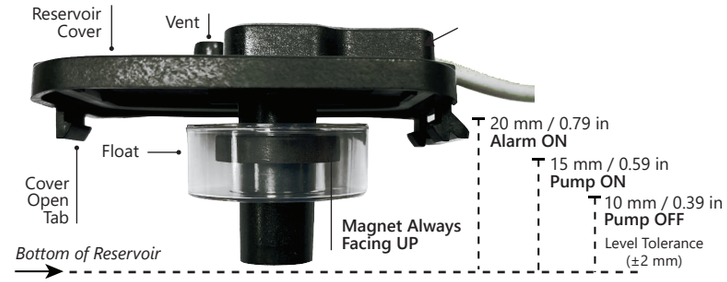
WARNINGS

- Do not use to pump flammable or explosive fluids such as gasoline, fuel oil, kerosene, etc. Do not use in flammable and/or explosive atmospheres.
- Do not handle or unplug pump with wet hands, when standing on a wet/damp surface, or in water.
- Pump shall be properly grounded, using its supplied grounding conductor. Do not bypass grounding wires or remove ground prong from attachment plugs. Failure to properly ground the pump system can cause all metal portions of the pump and its surroundings to become energized.
- This pump has not been investigated for use in swimming pool or marine areas.
- Connect pump to power supply as specified on pump nameplate.
- For cord replacement: power cord must be of the same length and type as originally installed on the Liberty Pumps product. Use of incorrect cord may lead to exceeding the electrical rating of the cord and could result in death, serious injury, or other significant failure.
- Allow means to disconnect wiring.
- In any installation where property damage and/or personal injury might result from an inoperative or leaking pump, a backup system and/or alarm should be used.
- Accidental contact with electrically live parts, items, or water can cause serious injury or death.
- Always disconnect pump from power source before handling or making any adjustments.
- All electrical and safety practices shall be followed for the NEC, OSHA, or applicable local codes and ordinances.
- Do not allow children to play with the pump.
- Do not submerge pump or allow pump to be exposed to water. Pump is intended for dry, indoor locations only.
- All installation and service of pumps shall be done by qualified personnel.
- Do not run pump dry.
- Do not modify the pump/pump system in any way.
- This product contains chemicals known to the State of California to cause cancer and birth defects, or other reproductive harm. www.p65warnings.ca.gov.

NOTES

- Do not use pumps with fluid over 40°C (104°F).
- Do not twist or kink the inlet or discharge hoses.
- Enclosure Type 2
- Thermally protected

WATER LEVEL SENSOR



INSTALLATION

1. Carefully unpack the unit and check for damage. Make sure all parts are included. The units are thoroughly tested before packing to insure safe delivery and operation. If there is any sign of damage due to shipment, return it to the place of purchase for repair or replacement.
2. Select proper mounting location for the reservoir and the pump.
3. Connect the inlet hose [11] to the drain hose of the air conditioner. Connect the other end of the inlet hose [11] to the reservoir inlet port [7].
4. Connect the vent hose [14] to the vent hole [9] on the reservoir cover.

   Note: The vent and vent hose must not get clogged.
5. Mount the reservoir [2] at the selected location using the double-sided adhesive pad [15].

   Note: Reservoir [2] must be level and mounted horizontally.
6. Connect the reservoir outlet port [8] and the pump inlet port [6] with the connection hose [13].
7. Attach the double-sided adhesive pad [15] to the bottom of the pump. Mount the pump [1] at the established location. If needed, use the cable ties [15] to secure the pump [1].

   Note: Attach the double-sided adhesive pad [15] between the pump [1] and any hard surface to reduce vibration noise.
8. Connect the overflow alarm cable (COM and NC) into the cooling signal wire of the air conditioner indoor unit to stop operation of the air conditioning unit in the event the of blockage or pump failure.

   Note: All wiring shall be done by qualified personnel who have assessed the set-up of the individual air conditioning unit.
9. Connect the discharge hose [13] to the pump outlet port [5] and extend the discharge hose to an appropriate drain.

   Note: Make sure connection hoses are not clogged, kinked, or twisted. Use anti-kink spring on tubing as needed [12].
10. Verify the power source voltage matches the pump's voltage requirement. Connect the pump power supply cable [3] to a constant source of power (not a fan or other device that runs intermittently).

    Note: Do NOT connect or link the air conditioner's power cable directly to the power supply cable of the pump [3].
11. When preceding steps are complete, verify the unit and connections by performing a **TEST OPERATION** [next page].