

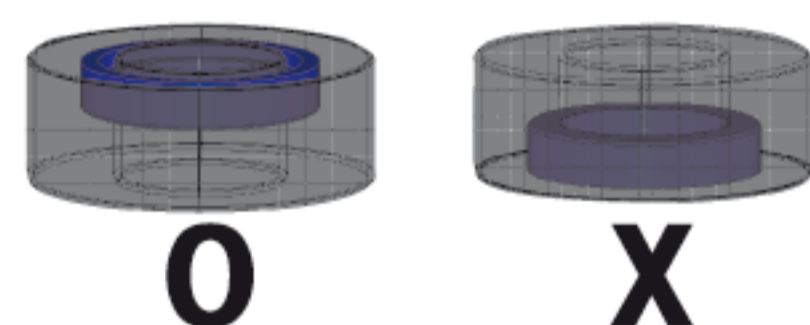
- (10) Make sure that the power source voltage matches with the pump's requirement. Connect the power supply cable(8) to a constant source of power (not a fan or other device that runs intermittently). Do NOT connect or link the air conditioner's power cable directly to the power supply cable of pump(8).
- (11) When all the above tasks are done, please perform trial operations.

<TIP> TRIAL OPERATION

- After the installation, please test pump's operation for 8~10 times by pouring water slowly into the drain pan of air conditioner.
- Please check if there is any water leak or siphoning action.
- There will be clicking noises for the initial start up phase only (usually for the first 1~5 times of pumping operation) which is not a disorder but a normal operation.

SERVICE & MAINTENANCE INSTRUCTIONS

- 1) Before attempting to service or disassemble any component, make sure that the unit is disconnected from the power source.
- 2) The cleaning of reservoir should be done every six months usually at the beginning and the end of the air conditioning season.
- 3) Open the reservoir cover using the opening wing.
- 4) Clean the reservoir and the float using a solution of water containing 5% bleach. Replace the float in the initial position (Magnet Faced Up) and reinstall the reservoir cover.



- 5) Perform the trial operation.

TROUBLESHOOTING

The unit does not run.	<ul style="list-style-type: none"> → Check the power supply. → Check the air conditioner to see if the condensation is actually being produced. → Make sure the inlet piping is not clogged.
The unit makes loud noises even after the first dry-running phase.	<ul style="list-style-type: none"> → Check if the pump is contacting with any hard surfaces. If it is, anti-vibration materials should be positioned between the pump and the hard surface. → Make sure there is no siphoning action.
The unit runs but does not pump the liquid out properly.	<ul style="list-style-type: none"> → Check the highest point of the discharge piping does not exceed the maximum delivery head of the pump. → Check every piping is not clogged or twisted. → Check the flow rate of the pump is sufficient for the condensation volume of air conditioner.

LIMITED WARRANTY

MICRODAM condensate removal pump is warranted against defective materials and workmanship for a period of 12 months. Any product that should fail for either of the above two reasons and is still within the warranty period will be repaired or replaced at the option of Sungshin hasco, Ltd. as the sole remedy of buyer.

For our customers located outside of Korea (R.O.K), please return the defective unit to any authorized local distributor or dealer with a brief written explanation of the problem. If there are no apparent signs of customer abuse, unit will be repaired or replaced. If dispute arises over replacement of the pump, the distributor or dealer is to segregate such items and hold for inspection by a representative of Sungshin Hosco, Ltd. or notify factory with details of the problem for factory disposition and settlement of warranty claim.

DISCLAIMER : The foregoing warranty is an exclusive warranty in lieu of any other express warranties. Any implied warranties (including, but not limited to any implied warranty of merchantability or fitness for a particular purpose) to the extent either applies to a pump shall be limited in duration to the periods of the express warranties given above.

Warranty will be VOID if any of the following conditions are found :

1. Sealed motor housing opened.
2. Product connected to voltage other than indicated on nameplate.
3. Cord cut off to a length less than three feet.
4. Pump allowed to operate dry (fluid supply cut off).
5. Pump used to circulate anything other than fresh water at approximately room temperature.
6. Any type of product abuse by customer.

Any oral statements about the product made by the seller, the manufacturer, the representatives or any other parties, do not constitute warranties, shall not be relied upon by the user and are not part of the contract for sale. Seller's and manufacturer's only obligation, and buyer's only remedy, shall be the replacement and/or repair by the manufacturer of the product as described above. Neither seller nor the manufacturer shall be liable for any injury, loss or damage, direct, incidental or consequential (including, but not limited to incidental or consequential damages for lost profits, lost sales, injury to person or property, or any other incidental or consequential loss), arising out of the use or the inability to use the product and the user agrees that no other remedy shall be available to it. Before using, the user shall determine the suitability of the product for the intended use, and user assumes all risk and liability whatsoever in connection therewith. We recommend each pump be used with a GFCI (Ground Fault Circuit Interrupter).

NO MORE BUCKET !

MICRODAM™ CONDENSATE REMOVAL PUMPS ARE HERE FOR YOU.

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MADE IN KOREA



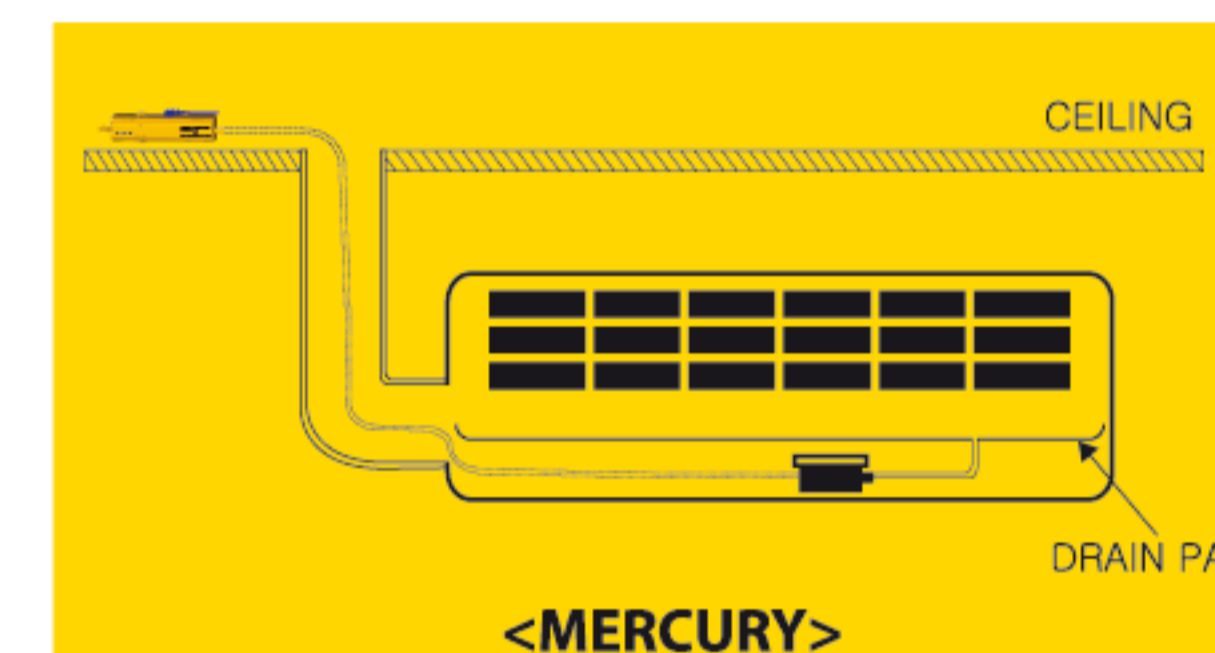
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USER GUIDE

Mini Piston Pump Series

MERCURY

Silent, Modern, & Reliable



<MERCURY>



<MERCURY PLUS>
MERCURY + DUCTS

Model No. MD1010PM
For Air Conditioning up to 7kW

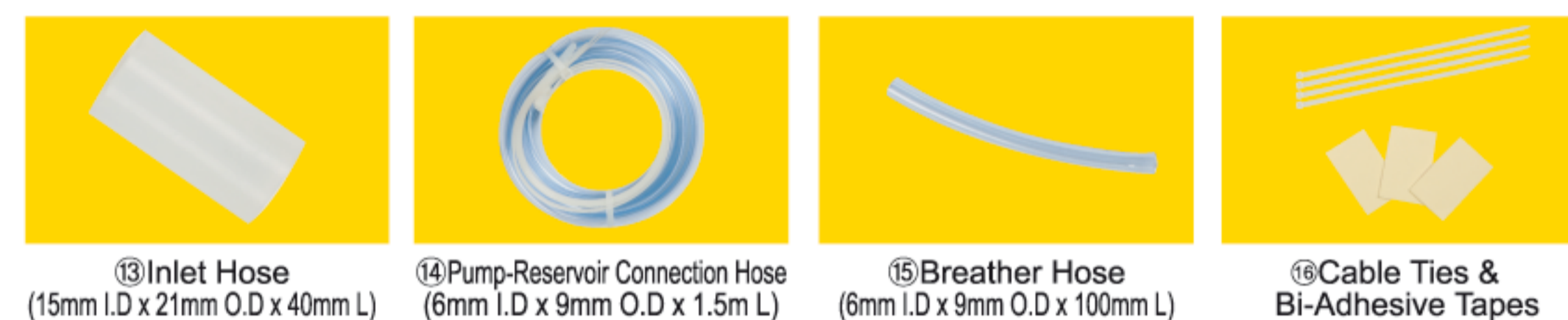
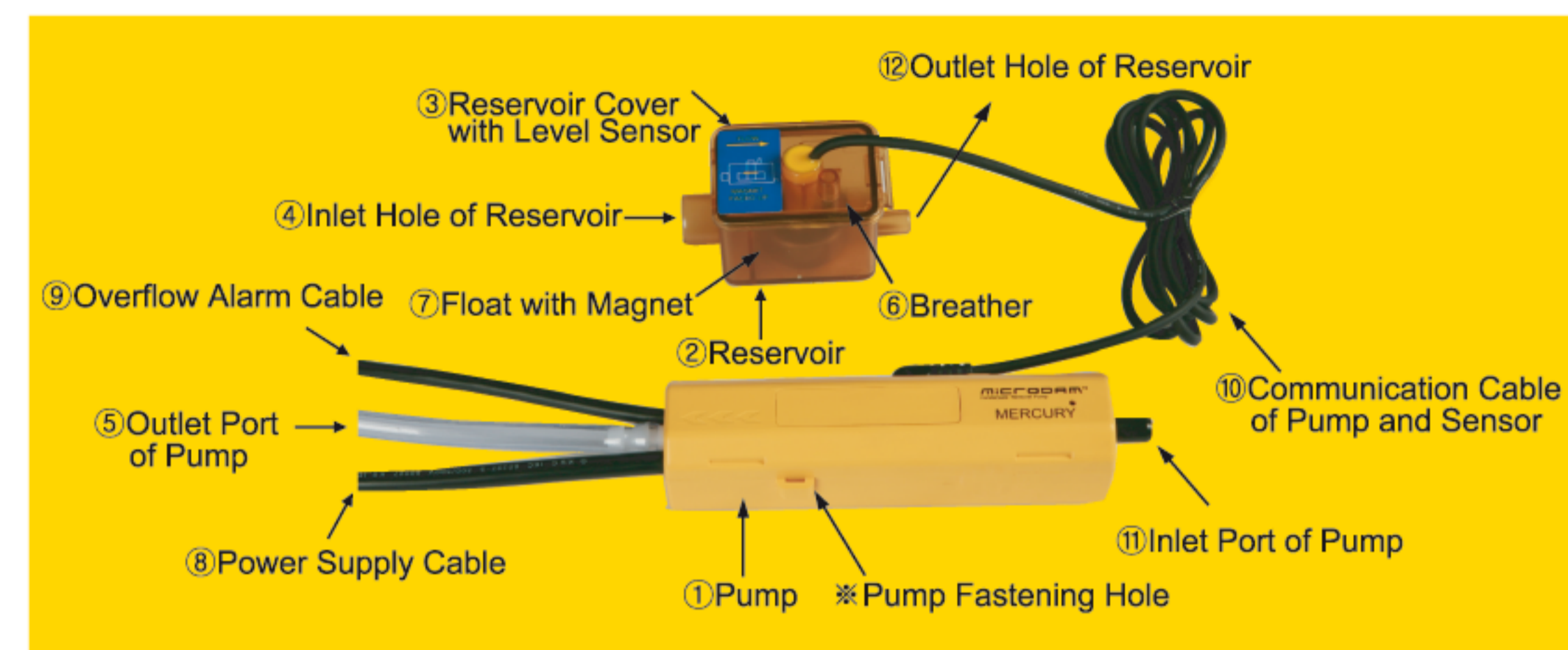
Smart Guard for Your Comfortable Place!

Please read this user guide carefully before attempting to install, operate or service the MICRODAM pump. Know the pump application, limitations and potential hazards. Protect yourself and others by observing all safety information. Failure to comply with instructions could result in personal injury and/or property damage. Retain this user guide for future reference. Installation, connections, and after-sale service are to be made by a qualified person.

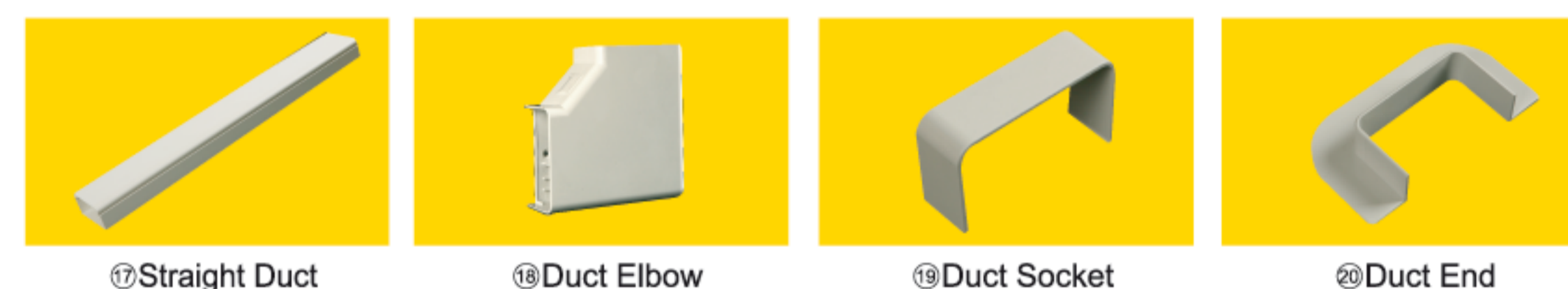


MICRODAM™ MERCURY Pump is designed to automatically remove the drainage liquid produced by air-conditioners of maximum 7kW cooling capacity.

NAME of EACH COMPONENT



<TAILORED DUCTS for MERCURY PLUS>

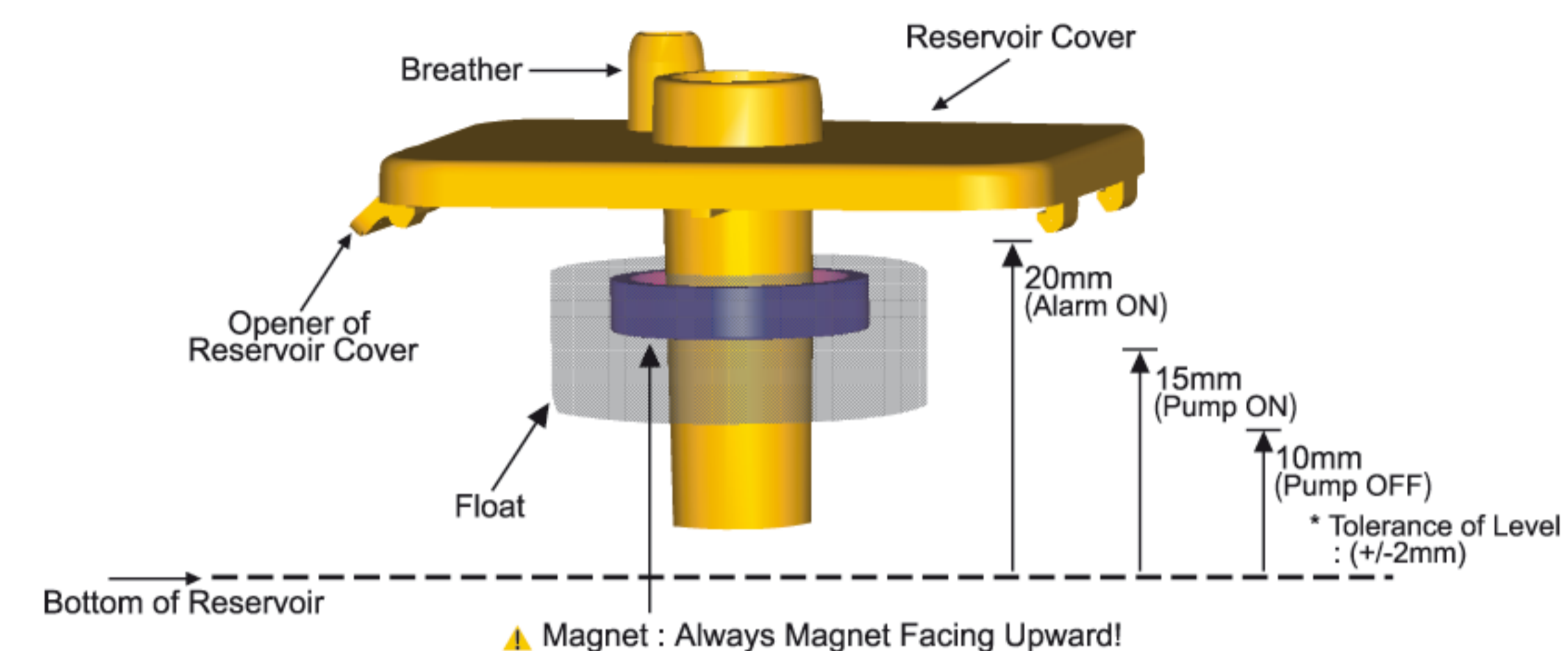


SPECIFICATIONS

ITEM	SPECIFICATION	ITEM	SPECIFICATION
Use with	Air Conditioner (Max. 7kW)	Available Fluid	Fresh Water of 1~40℃
Power Supply	Refer to the Product Label	Non-continuously Rated-Operating Time	5min. On / 1min. Off
Electrical Output	12W	Thermal Protection	100℃
Safety Switch Contacts	Max. 3A 110VAC or Max. 3A 240VAC	Working without Fluid coming through Pump	Less than 1min. Only Available
Max. Suction Head	2.5m	Pump Size	33mm H x 32mm W x 132mm L
Max. Discharge Head	8m	Reservoir Size	41mm H x 43mm W x 74mm L
Max. Flow Rate at Zero Head	10l/h	Effective Capacity of Reservoir	35ml

→ The above specifications can be changed without a notice for functional improvements.

ACTIVITIES OF WATER LEVEL SENSOR



FLOW RATES at EACH HEAD

Head	0m / 0ft.	4m / 13ft.	6m / 20ft.	8m / 26ft.
l/h	10.0	9.0	6.0	3.5
gal/h	2.64	2.38	1.59	0.92

⚠ WARNING ⚠

- DO NOT USE TO PUMP FLAMMABLE OR EXPLOSIVE FLUIDS SUCH AS GASOLINE, FUEL OIL, ALCOHOL, ETC.
- DO NOT USE IN EXPLOSIVE ATMOSPHERES.
- DO NOT USE TO PUMP HOT WATER OVER 40℃
- DO NOT HANDLE PUMP WITH WET HANDS OR WHEN STANDING ON A WET OR DAMP SURFACE, OR IN WATER.
- TO REDUCE THE RISK OF ELECTRICAL SHOCK, BE CERTAIN THAT THE PUMP IS CONNECTED TO A PROPERLY GROUNDED GROUNDING TYPE RECEPTACLE.
- CONNECT THE PUMP ONLY TO THE POWER SUPPLY SPECIFIED ON THE NAMEPLATE OF THE PUMP.
- IF THE POWER SUPPLY CORD IS DAMAGED, IT MUST BE REPLACED BY THE MANUFACTURER OR ITS SERVICE AGENT OR A SIMILARLY QUALIFIED PERSON IN ORDER TO AVOID A HAZARD.
- THE MEANS FOR DISCONNECTION MUST BE INCORPORATED IN THE FIXED WIRING ACCORDING TO THE WIRING RULES.
- IN ANY INSTALLATIONS WHERE PROPERTY DAMAGE AND/OR PERSONAL INJURY MIGHT RESULT FROM AN INOPERATIVE PUMP, A BACKUP SYSTEM AND/OR ALARM SHOULD BE USED.
- DO NOT TWIST THE DRAIN HOSE AND THE DISCHARGE HOSE.
- BEFORE ANY MAINTENANCE OR REPAIR OF THE PUMP, PLEASE DISCONNECT THE PUMP FROM THE POWER SUPPLY TO AVOID AN ELECTRICAL SHOCK.
- PLEASE AVOID CHILDREN'S APPROACH TO THE PUMP.
- PLEASE KEEP IN MIND THAT THE PUMPS ARE NOT SUBMERSIBLE PUMPS.
- EVERY INSTALLATION OR AFTER-SALES SERVICE SHOULD BE DONE BY QUALIFIED SERVICE TECHNICIAN.
- THE INTERMITTENT RATINGS OF THESE PUMPS ARE NOT LONGER THAN 5 MINUTES.
- THIS PUMP IS NOT DESIGNED TO RUN DRY! REPEATED RUNS IN DRY CAUSE THE EVENTUAL PUMP FAIL. THIS PUMP SHOULD NOT WORK OVER 1 MINUTE WITHOUT FLUID FLOWING THROUGH THE PUMP.

INSTALLATION GUIDE

- Carefully unpack the unit and check for damage. Make sure that all of the required 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.
- Select a proper mounting location. In case of MERCURY PLUS, install the included ducts next to air conditioner at first.
- Connect the inlet hose(13) to the drain hose of air conditioner. Connect the other end of inlet hose (13) to the inlet hole of reservoir(4).
- Connect the breather hose(15) to the breather of reservoir cover(6).
 - ⚠ The breather and the breather hose should NOT be clogged!
- Mount the reservoir(2) on a proper location using the bi-adhesive tape.
 - ⚠ The reservoir(2) should be mounted horizontally!
- Connect the outlet hole of reservoir(12) and the inlet port of pump(11) with the connection hose(14).
- Attach the bi-adhesive tape(16) on the bottom of pump. Mount the pump(1) on a proper location. If needed, use the cable tie(16) to fasten the pump.
 - ⚠ Attach the bi-adhesive tape(16) between the pump(1) and any hard surfaces to reduce the vibration noise!
- Connect the overflow alarm cable(COM and NC) into cooling signal wire of the air conditioner indoor unit, to avoid the continued operation of the air conditioning unit in the event of the pump failing.
 - ⚠ All wiring to be done by qualified service technicians, who have assessed the set-up of the individual air conditioning unit!
- Connect your 6mm I.D x 9mm O.D discharge hose to the outlet port of pump(5) and extend the discharge hose to an appropriate drain.
 - ⚠ Make sure that every connection hose is not clogged or twisted!

<Warning!> TO PREVENT SIPHONING

- The siphoning action causes the eventual pump fail as well as the loud noise because it makes the pump to run dry.
- To prevent siphoning action, please cut discharge hose minimum 150mm above water level of air conditioner drain pan and direct end into a larger PVC or copper pipe. Then, the air gap between the discharge hose and the larger pipe will prevent the siphoning action.
- Please make sure that the horizontal length of discharge hose is longer than the vertical length.

