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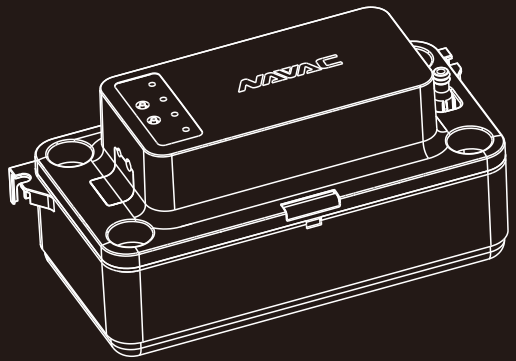
NCT145

Tank Pump
User Manual



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MADE IN PRC

Failure to follow warnings could result in death or serious injury.

SAVE THIS MANUAL FOR FUTURE REFERENCE

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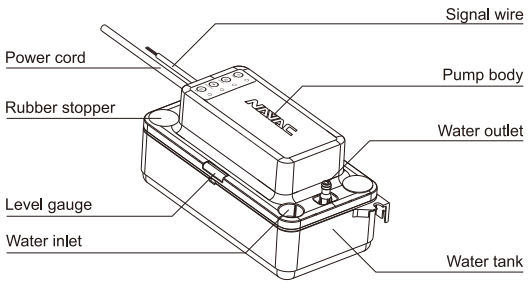
⚠ Warning

Risk of electric shock- This pump is supplied with a grounding conductor and grounding-type attachment plug. To reduce the risk of electric shock, be certain that it is connected only to a properly grounded, grounding-type receptacle.

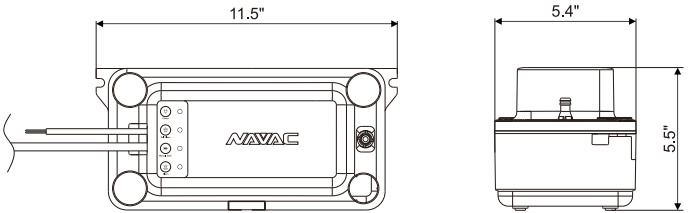
⚠ Caution

This Pump Has Been Evaluated for Use With Water Only.

1. Structure



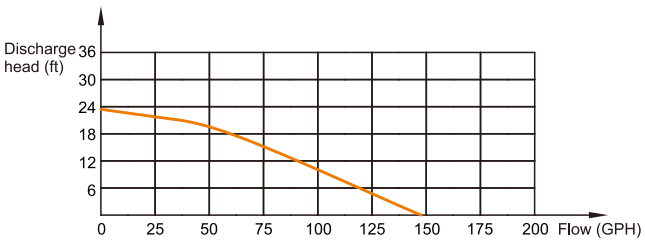
2. Dimensional Drawing (Unit: inch)



3. Technical Parameters

Model	NCT145
Voltage	120V~ 60Hz
Discharge head (Max.)	23ft / 7m
Flow rate (Max.)	145 GPH / 545L/h
Effective water tank capacity	0.5 gallon
Unit output (Max.)	200,000btu/h / 58kW
Noise at 1m	45 dB(A)
Max Condensate Temp	122°F (50°C)
Waterproof rating	IP24

4. Flow Rate



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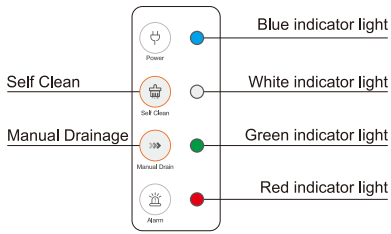
5. Lighting Button Function Description

Button	Lighting	Lighting function description	Button function description
Power	Blue indicator light	Standby indicator (pump body powered on and normal)	/
Self Clean	White indicator light	Self-cleaning function activated	After pressing the button, the white light illuminates. When the water level reaches the alarm level, the pump initiates self-cleaning, operating until the stop level is reached before returning to normal function. Long press for 2 seconds to exit the self-cleaning mode.
Manual Drain	Green indicator light	Water level in the tank reaches start level	After pressing the button, the green indicator light will illuminate, and the pump will be forcibly activated for drainage for 2 seconds.
Alarm	Red indicator light	Water level in the tank reaches alarm level	/

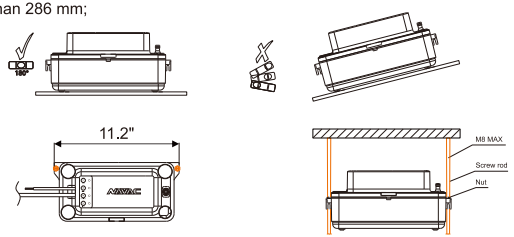
⚠Note:

1. The two button functions cannot be executed simultaneously. Operation of the next function is only possible once the previous function has been completed;
2. If the pump body loses power unexpectedly during the self-cleaning process, the machine will revert to its default state when power is restored. To re-enter the self-cleaning mode, please press the button again.
3. When the water level reaches the alarm level, the pump operates at full speed. If it remains at the alarm level for 5 seconds, the unit will enter self-cleaning mode, working until the stop level is reached before resuming normal operation.
4. In any self-cleaning mode, long press the self-cleaning button for 2 seconds to exit.



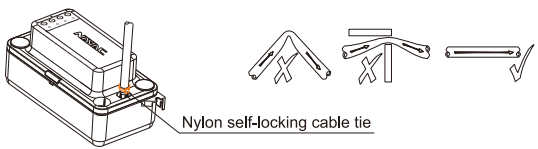
6. Installation Steps

6.1 The installation site shall be kept dry and well-ventilated, and it should be away from high temperatures, humidity, and strong magnetic field environments; The product shall be installed in a horizontal position (use the spirit level provided for calibration); The maximum diameter of the suspension mounting screw rod shall not exceed M8, and the installation spacing shall not be less than 286 mm;

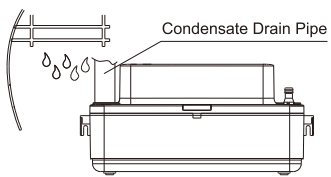


6.2 Connect the pump outlet securely to the water pipe. The outlet of the pump body shall be connected to the discharge pipe, which should have an outer diameter of 12 mm and an inner diameter of 9 mm. The pipe joint shall be fastened with a self-locking nylon cable tie. Please ensure that the pipe is not bent or obstructed;

6.3 The pump body is equipped with a built-in check valve;



6.4 Connect the inlet of the water tank with the drainage pipe of the air conditioner. Depending on the size of the inlet pipe, an adapter fitting may be used;



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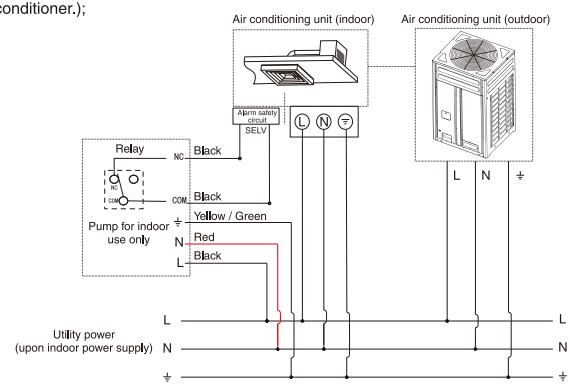
6.5 Connect the power cord and signal wire properly. The power cord is a three-core cable, and the signal wire is a two-core red wire. Please follow the diagram to make the correct connections;

(Note: The input power supply shall not exceed 380 V. As long as the two signal wires are connected to NC and COM, the condensate pump will be able to properly control the air conditioner.);



6.6 Check that all water pipes and electrical connections are correctly in place. Then, turn on the power supply. At this point, the condensate pump will light up with a blue indicator, showing that power is on. The air conditioner can then be operated.

6.7 Slowly pour water into the air conditioner evaporator pan using a water-filled container. Observe whether the condensate pump operates normally and check for any pipeline leaks. When the water tank level reaches the activation level, the condensate pump will start. During operation, a green indicator light will illuminate. Alternatively, press the manual drainage button (with a certain amount of water in the tank) to force the pump to operate, thus verifying its normal function;

6.8 The condensate pump is equipped with a signal wire. If the water level exceeds the warning level due to delayed drainage (red indicator light illuminated), the pump will shut down the air conditioner via the signal wire. During this period, the pump will continue operating until the water level returns to normal, at which point power to the air conditioner will be restored (this function requires connecting the signal wire to the air conditioner's alarm safety circuit);

6.9 The condensate pump features a self-cleaning function. Press the self-cleaning button to activate the white indicator light. Add water to the alarm level in the tank, and the pump will perform self-cleaning, resuming normal function after completion.

6.10 After completing the above tests, it indicates that the condensate pump is operating normally, and the installation is complete.

7. Operation Note

7.1 The condensate pump is only applicable to the condensate water of air conditioner units, but not applicable to any other corrosive liquids.

7.2 It shall not be used in environments containing corrosive or harmful gases;

7.3 Upon installation or adjustment, please ensure that the condensate pump is disconnected rom the power supply.

7.4 Installation and maintenance shall be operated by professionals, in order to avoid the occurrence of danger.

7.5 The air conditioner condensate pump is designed for indoor use but is not recommended for environments with oil mist or dust. (Never directly pour large quantities of particles larger than 1mm, fibrous impurities, or liquids containing magnetic particles into the water tank);

7.6 Proper use and regular maintenance can effectively extend the service life of the product. It is recommended to inspect and clean the air conditioner condensate pump every six months or annually (Note: Do not clean the air conditioner with strong acid detergents, as they may corrode the condensate pump). . At the same time, check the wiring connections, and replace them promptly if there is any sign of aging or damage;

7.7 The air conditioner condensate pump requires continuous power supply. It is recommended to install an independent power circuit. Strictly follow the wiring diagram indicated in the equipment manual when connecting the power supply, to avoid loose connections or short circuits. Proper insulation treatment shall be applied at all joints;

7.8 The selection of the air conditioner condensate pump model shall be based on the cooling capacity of the air conditioner. Otherwise, if the instantaneous inflow volume is too large, the condensate pump may fail to discharge water in time, causing overflow. In addition, frequent motor starts and continuous operation may lead to overheating and malfunction;

7.9 The air conditioner condensate pump is equipped with a signal wire. When the signal wire is properly connected to the air conditioner's alarm safety circuit (SELV), if the water level exceeds the warning level, the drain pump will cut off the air conditioner's power supply. At this point, please promptly switch off both the air conditioner and the condensate pump, and contact qualified personnel for inspection and repair;

7.10 When using the manual drainage function, please add an adequate amount of water into the water tank (Note: it is strictly prohibited to run the pump dry for extended periods);

7.11 Do not use an air gun to blow air into the pump body through the outlet, as this may damage the internal check valve structure and the water pump.

7.12 If poor drainage, abnormal noise, or water leakage is detected, the unit shall be shut down immediately for inspection and repair. It is strictly forbidden to operate with faults;

7.13 During installation, building electrical codes and air-conditioning equipment installation standards shall be followed to ensure compliance with local fire protection and safety regulations.

7.14 During the first use (test), to prevent the pump from "vapor locking", do not directly insert the water pipe into the water (or block it).

7.15 During initial installation testing, do not directly insert the water pipe into water or block the outlet to prevent the pump from experiencing "vapor lock," which would impede drainage.

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8. Troubleshooting

Fault	Fault Causes	Fault Removal Method
Condensate pump has low discharge volume / fails to start	Power supply cable not providing power.	Check whether the blue indicator light is illuminated. If not, verify that the power cable is properly connected and the power is switched on.
	Water level not detected.	Add water to the start level and check whether the green indicator light comes on. If it does not, clean the water tank filter comb, the tank, and the surface of the water level electrode.
	Main board failure.	Ensure the circuit voltage meets requirements. Observe whether the light and button functions are normal. If issues are detected, replace the pump body.
	If "vapor lock" occurs, meaning air cannot be discharged from the pump chamber:	Ensure the outlet pipeline is unobstructed. Test operation by pressing manual drainage to confirm water flow from the outlet. If the pipeline is blocked, perform self-cleaning or disconnect the pipe for clearance.
	Outlet pipe blocked by foreign particles.	Activate the self-cleaning function, add water up to the alarm level, and allow the pump body to carry out self-cleaning.
	This creates a "vapor lock" – a situation where air becomes trapped in the pump cavity and thus cannot be expelled.	Make sure the outlet pipe is clog-free and then add water. Should drainage fail to initiate, it is recommended to run the self-cleaning cycle to resolve the issue.
	Water outlet blocked by foreign matter.	If self-cleaning fails to resolve the issue, inspect the pipeline and manually clean the outlet (refer to the following steps for cleaning).
	Pump body failure.	In the absence of blockage by foreign particles, add water to the start level and check whether the pump is operating (you may also press the manual drainage button to observe whether the pump is working normally). If there is an issue, the water pump shall be replaced.

Fault	Fault Causes	Fault Removal Method
Condensate pump operating with excessive noise	The outlet pipeline is being compressed or bent, resulting in obstructed drainage.	Inspect the routing of the drainage pipe.
	Outlet pipe blocked by foreign particles.	Activate the self-cleaning function, add water up to the alarm level, and allow the pump body to carry out self-cleaning.
	Water tank placed in a tilted position.	When the water tank is tilted, the pump may draw in air during operation. Use a miniature level gauge to check and adjust the water tank to ensure it is level.
Water overflow	The outlet pipeline is being compressed or bent, resulting in obstructed drainage.	Inspect the routing of the drainage pipe.
	Excessive air conditioner drainage volume.	Check whether the maximum drainage capacity of the pump meets the air conditioner's drainage requirements.
	Water tank placed in a tilted position.	Use a miniature level gauge to check and adjust the water tank level.

9. Quick steps for manual cleaning of the outlet

1. Rotate the outlet clockwise by 90° to the position shown in Fig.2;

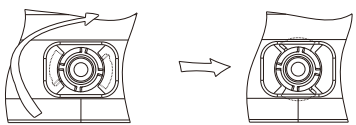

Fig.1 Fig.2

2. Lift the outlet upward by a certain distance as shown in Figure 3, then rotate the outlet clockwise by 90° in the direction of the arrow (as shown in Fig. 4), to move the outlet away from obstructions for easy removal.

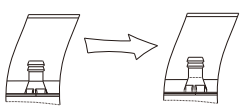

Fig.3

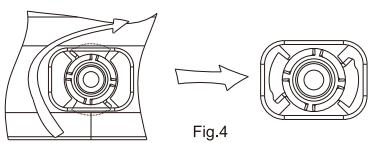

Fig.4

3. Remove the outlet upward (as shown in Figure 5). Use a small flat-head screwdriver to extract the sealing ring from the bottom. Then, invert the check float ball for cleaning. Clean the outlet, sealing ring, and check float ball with water before reassembling.

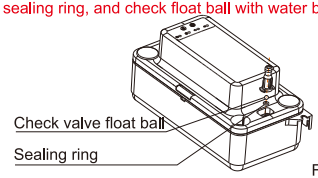

Fig.5

⚠ Note: For reassembly, follow the disassembly steps in reverse order.

10. Warranty

The warranty coverage is as follows:

1. Products confirmed by a qualified inspection agency to have manufacturing defects;
2. Products that have not been repaired or disassembled without authorization;
3. Products that are used correctly in accordance with the user manual. All warranty services shall be performed within the warranty period;
4. This product is covered by a one-year warranty.

Correct disposal of this product:

This symbol indicates that this product should not be disposed of together with other household waste. To prevent uncontrolled waste disposal that may cause harm to the environment or human health, please use return and collection systems or contact the retailer from whom the product was purchased. They can ensure this product is recycled in an environmentally safe manner.

11. Disclaimer

1. This equipment is only intended for its designated applications and environments. Users shall strictly follow the operating steps and precautions in the manual. For any use beyond the specified scope of this equipment, or for any damage, misuse, or accidents caused by failure to comply with the manual, our company assumes no liability;
2. All warranty services shall be carried out within the warranty period. If repairs are needed, please replace components in accordance with the forms specified in our company's maintenance manual.
3. Disposal of the product shall strictly comply with the requirements of local laws and regulations;
4. Once the condensate pump has exceeded its warranty period, or if there is a significant decline in drainage efficiency, frequent malfunctions, or other issues, to ensure normal operation and avoid unexpected damage, it is recommended to replace the condensate pump promptly with a new one;
5. Our company reserves the right of final interpretation of the content of this manual. If you have any questions or require further clarification, please contact NAVAC.