



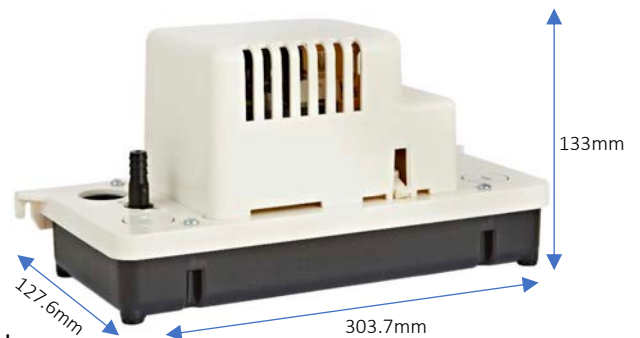
VCCA-20S 'Gravity Fed' Condensate Pump

VCCA-20S low profile pump is primarily used in locations with low condensate drain and for OEM equipment such as portable dehumidifiers, refrigerated beverage display cases and open top cold storage cases with limited room for standard size condensate pump.

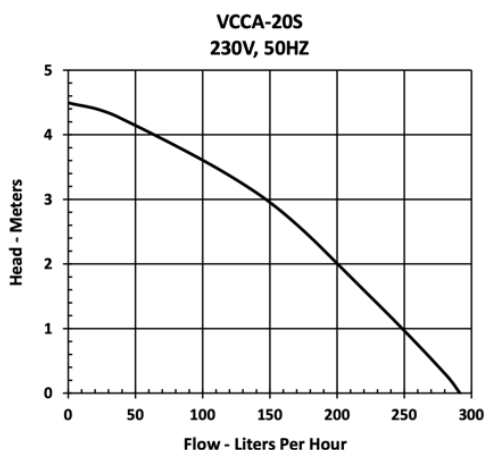
- Designed for automatic collection and removal of condensate from air conditioning, refrigeration, and dehumidification equipment when gravity drainage is not possible or practical. The low tank height of the VCCA Series allows these condensate pumps to be used where other condensate pumps will not fit.
- Suitable for high efficiency condensing furnace and boiler equipment applications.

VCCA-20S is the Companion Product to the World Class VCMA-20S Pump

- 230V 50HZ
- 294 LPH Max Flow
- 4.5m Shut Off Head
- 1/4-turn twist off check valve discharge adapter
- Includes Overflow Safety Switch (NC or NO connection)
- External pump switch test lever
- Rubber feet on bottom of tank
- CE & RoHS Compliant
- Tank Height – 47mm
- Three 29mm diameter inlet openings (two with knock-out plugs)
- Designed for use with air conditioning and refrigerat condensate
- Liquid temperatures up to 49^oC
- Power Cord: 1.8m with stripped leads
- Thermally protected motor
- External Test lever to activate pump
- Rubber Feet on bottom of tank
- Height: 133mm Length: 303.7mm Width: 127.6mm Pan Height: 47mm
- 1 Year Warranty



ITEM	MODEL	AMPS	WATTS	COMPLIANT
554202102	VCCA-20S, 230V 50HZ	0.6	75	CE & RoHS



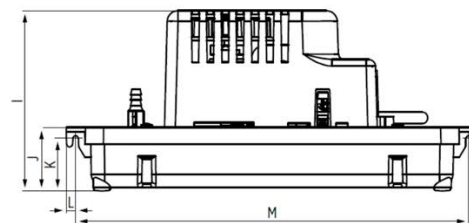
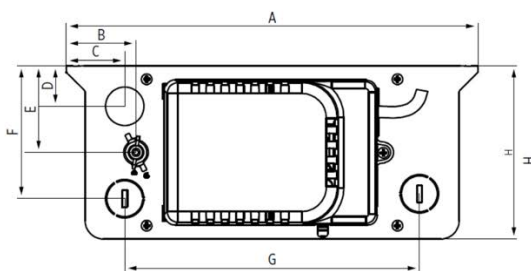
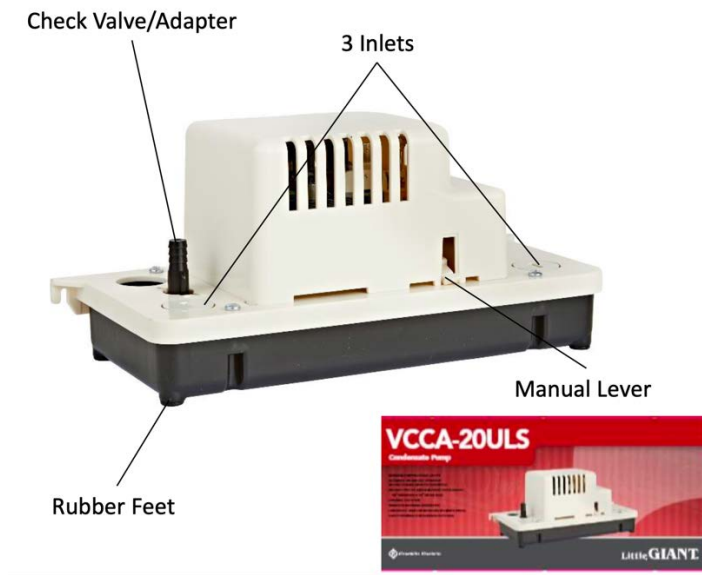
230V 50HZ Performance LPH

Max	0.5m	1.0m	2.5m	4.0m	Shut Off
294	270	248	175	70	4.5m

VCCA-20S Series: New Feature Overview

Benefits

- **Twist-off Check Valve Adapter** – Easy to remove 9.5mm (3/8") discharge adapter when installing or removing tube or when cleaning pump tank, adapter for 6mm (1/4") tubing included
- **Manual Test/Maintenance Lever** – Manually test operation of pump without need of filling the tank. Convenient for draining pump during cleaning/maintenance
- **Rubber Feet** - Rubber feet installed from factory help isolate noise from vibration when pump is operating
- **3 Inlets** – 3 inlet openings to accommodate more condensate producing equipment to drain into pump
- **Closed inlets** – Knock-out plug keep unused inlets closed to keep dirt and bugs from getting inside tank



A	B	C	D	E	F	G	H	I	J	K	L	M
11.96" (303.7 mm)	2.02" (51.4 mm)	1.70" (43.2 mm)	1.18" (30 mm)	2.52" (64 mm)	3.85" (98 mm)	8.55" (217.4 mm)	5.02" (127.6 mm)	5.23" (133 mm)	1.85" (47 mm)	1.52" (38.8 mm)	0.27" (6.9 mm)	2.90" (11.42 mm)

VCCA-20S INSTALLATION SHEET

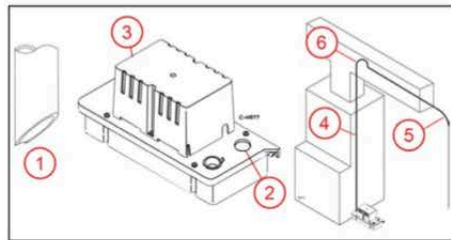


Physical Installation

1. Install the pump on a flat surface.
 - Make sure the mounting surface will support the combined weight of the pump and water filled tank.
 - The air vent openings around the motor housing must not be blocked or obstructed to allow the free flow of air.
 - Ensure that the pump is level and the inlet is below the coil drain.
2. The pump can also be mounted on a wall or the side of an air conditioner or furnace. The tank has two mounting slots, one located at each end of the tank.

Piping Connections

1. Cut end of pipe(s) from evaporator or furnace drain at a 45° angle as shown to prevent pipe(s) from sealing closed when sitting against the tank's floor.
2. The pump will accept up to three drain lines. However, take care to make sure that total inflow does not exceed the rated output of the pump to prevent overflow. Route drain pipe(s) downward into one or more pump inlet openings one to three inches, insuring no interference with float operation. Keep any unused openings closed using the supplied cap plugs.
3. Install outlet tubing or piping on to outlet check valve and secure with hose clamp(not provided).
4. Use 10mm inside diameter maximum tubing or piping to prevent excessive flow back to unit.
5. Route outlet tubing or piping from pump straight up as high as necessary.
6. From the high point, slope discharge line down slightly to a point above the drain area. Then, turn down and route to a suitable drain at a point below or approximately level with the bottom of the pump, if possible. This will produce a siphoning effect which will improve efficiency of the pump.
7. If it is not possible to slope the discharge line down, make an inverted "U" trap directly above the pump at the highest point.



Electrical Connections

The power cord must be connected to a constant source of power matching the voltage specified on the pump nameplate.

- The pump should be connected or wired to its own circuit, with no other electric receptacles or equipment in the circuit. Do not connect to a fan or any device that runs intermittently.
 - The fuses or circuit breaker should be of ample capacity in the electrical circuit.
 - Connect to a circuit equipped with a ground fault circuit interrupter (GFCI) device if required by code. Some models are supplied with a stripped wire cord end. Power connections must be made within a junction box, and must comply with the National Electrical Code. Wires are color coded as follows:
 - Green/yellow = Ground; Brown = Line; Blue = Line (230 V) or Neutral (115 V)
- IMPORTANT:** The power cord cannot be replaced. In case of damage, the whole unit must be replaced.

INSTALLATION Electrical Connections High Water Level Switch Connection

1. High Water Level Switch
2. NC terminal. Connect here to activate an external alarm or relay.
3. NO terminal. Connect here to shut off the condensing unit of the heating/cooling system.
4. Motor Cover and Screw
5. Thermostat
6. Air Conditioner/Furnace
7. High Water Level Switch wiring leads

There are two options for connecting the high level switch:

3. The switch is factory wired to the NO and COM terminals. This configuration will open (break) an electrical circuit

when the switch is activated by a high water level in the reservoir, which can be used to stop the condensing unit(s) of the heating/cooling system.

- Refer to the thermostat and heating/cooling unit's Operating Manual for expected switch operation and wiring

connections. Connect the switch leads (7) in series with the low voltage thermostat circuit as specified in the

heating/cooling unit's operating manual.

4. The installer can reconfigure this switch to the NC terminal to close a low voltage circuit in the event of high water level, which

could activate an external alarm or relay (purchased separately). Use the following procedure if an NC configuration is required:

- Remove the pump's motor cover (4).
- Support the switch and carefully change the lead wire from the NO terminal to the NC terminal (3).

- Re-install the motor cover.

- Connect the switch leads in series with the low voltage external component as specified in the component's

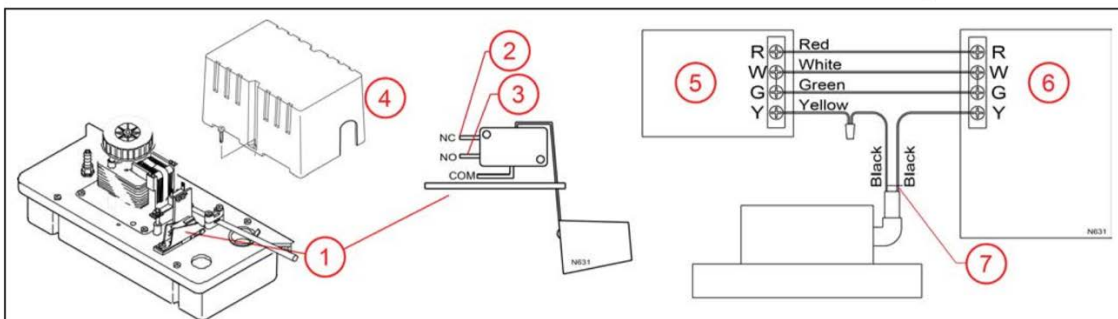
manual.

Place the "Attention Service Technician" label included with the pump on the outside of the access panel in a visible location.

⚠ CAUTION

Risk of bodily injury or property damage.

- In applications where property damage and/or personal injury might result from an inoperative or leaking pump due to power outages, discharge line blockage, or any other reason, a backup system(s) (e.g. auxiliary switch) and/or alarm should be used and monitored.
- The high level switch should be connected to a Class II Low Voltage circuit. The two switch wires are black. Do not confuse these wires with the line voltage power conductors.
- The high level switch is placed in an orientation that reverses the normal function of normally open and normally closed terminals. Pay close attention to the following instructions.



⚠ CAUTION

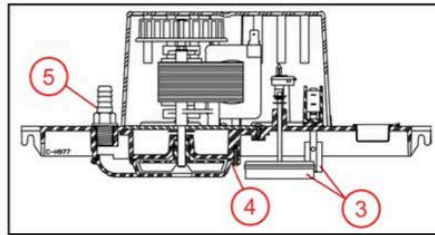
Risk of bodily injury or property damage.

- Do not allow the tank to overflow during this maintenance.
- Inspect and test the condensate removal system condition and operation every 6 months (more frequently in heavy-use applications).

MAINTENANCE

Operation Testing

Place the “Attention Service Technician” label included with the pump on the outside of the access panel in a visible location.



Operation Testing

1. Disconnect the pump from the power source.
2. Remove tank cover assembly from the tank.
 - The cover snaps on to the reservoir.
 - Carefully lift the cover assembly from the tank and hold level.
3. Be sure the floats move freely. Clean as necessary
4. Remove the volute and check for obstructions. Clean as necessary.
5. Remove the check valve and backwash the discharge port into the volute. Do this over a sink.
6. Clean the tank with warm water and mild soap.
7. Flush tank with fresh water. This helps to ensure that residual condensate does not create localized pockets of acid that could cause pitting.
8. Check inlet and outlet piping. Clean as necessary. Be sure there are no kinks in the line that would inhibit flow.
9. Replace the tank cover assembly.
10. Test operation of the system.

MAINTENANCE Troubleshooting

Carefully lift the cover assembly from the tank and hold level.

3. Be sure the floats move freely. Clean as necessary
4. Remove the volute and check for obstructions. Clean as necessary.
5. Remove the check valve and backwash the discharge port into the

Problem	Probable Causes	Corrective Action
Pump does not start when tank is full of condensate water.	Pump is not connected to electrical power.	Connect pump to a dedicated GFCI circuit.
	Circuit breaker off or fuse removed.	Turn on circuit breaker or replace fuse.
	Accumulation of debris or build-up on float.	Clean float; a dirty float could be too heavy to operate correctly.
	Float movement obstruction.	Remove the tank. Check float movement path. Remove any debris or obstruction.
	Defective switch.	Replace pump.
	Defective motor.	Replace pump.
Condensate is overflowing from the tank.	Pump is not connected to electrical power.	Connect pump to a dedicated GFCI circuit.
	Liquid inflow matches or exceeds pump output capacity.	Larger pump required. The high level switch should shut off the A/C unit or signal an alarm in this condition if connected in the circuit correctly. Check to ensure that the pump high level switch is connected to the A/C unit (or alarm circuit), and that the leads are connected to the correct switch terminals for the application. Refer to "High Water Level Switch Connection" on page 4.
	Pump is not level.	Check to ensure that the pump is level. If the pump is not level, it may not activate, causing water to overflow from the tank. Place unit on a flat and level surface.
	Accumulation of debris or build-up on float.	Clean float. A dirty float could be too heavy to operate correctly.
	Check valve stuck or plugged	Remove check valve and inspect for proper operation.
	Outlet flow is blocked.	Check outlet tubing to ensure that it is not kinked or blocked. Clear blocked tubing of slime and debris. Clean inlet and outlet piping.
	Pump impeller is not turning.	Clear any blockage in the impeller housing.
	Defective switch. Defective motor.	Replace pump. Replace pump.
Pump will not shut off.	Float movement obstruction.	Remove the tank. Check float movement path. Remove any debris or obstruction.
	Liquid inflow matches or exceeds pump output capacity.	Larger pump required. The high level switch should shut off the A/C unit or signal an alarm in this condition if connected in the circuit correctly. Check to ensure that the pump high level switch is connected to the A/C unit (or alarm circuit), and that the leads are connected to the correct switch terminals for the application. Refer to "High Water Level Switch Connection" on page 4.
	Defective switch.	Replace pump.
Pump runs but does not discharge liquid.	Check valve stuck or plugged.	Remove check valve and inspect for proper operation.
	Lift too high for pump.	Check rated pump performance.
	Inlet to impeller plugged.	Pull pump and clean.
	Outlet flow is blocked.	Check outlet tubing to ensure that it is not kinked or blocked. Clear blocked tubing of slime and debris. Clean inlet and outlet piping.
Pump does not deliver rated capacity.	Check valve stuck or plugged.	Remove check valve and inspect for proper operation.
	Lift too high for pump.	Check rated pump performance.
	Low voltage, speed too slow.	Check that supply voltage matches nameplate rating.
	Impeller or discharge pipe is clogged.	Pull pump and clean. Check pipe for scale or corrosion.
Pump cycles continually.	Check valve leaking.	Remove check valve and inspect for proper operation.