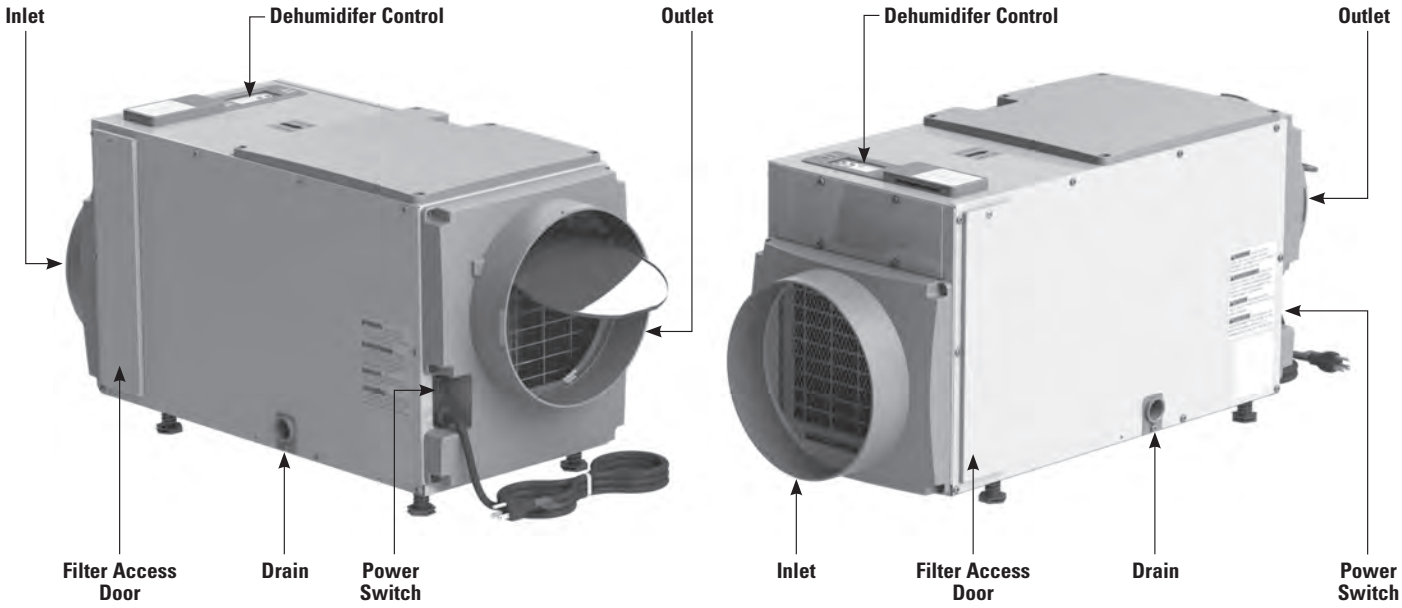
Johnson Controls
Unitary Products

TECHNICAL GUIDE

70, 95 & 130 PINT CENTRAL DEHUMIDIFIERS

Models S1-CVD070T01A, S1-CD095T01A and S1-CVD130T01A Central Dehumidifier



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- Purchased by homeowners for health, comfort, preservation and energy savings.
- Compact designs are made for tight spaces.
- All models incorporate an onboard user interface control for easy set up and operation or can be controlled by an external thermostat with dehumidifier logic.
- All models incorporate built in ventilation logic, fan cycling and blower activation.
- All units incorporate a built in back flow damper.
- Made in the USA.

Product Features (All Models)

Feature	Description
Control	Built-In Digital Control with Display*
Control Mounting Option	Field Interchangeable from Front to Top
Air Discharge Orientation	Top or End Air Discharge
Inlet and Outlet Duct Size	10" Round
Back Damper at Outlet	Included
Power Cord Type	Plug Type
Coil Corrosion Resistance	E-coated Coil
Drain Connection	3/4" PVC (adapter for clear drain tubing included)
Warranty	5 Years
System Options As applicable, capable to be used on vertical or horizontal air handlers/furnaces	Main Return to Main Return Dedicated Return to Main Supply Dedicated Return to A/C Return Dedicated A/C Return to A/C Return Main Return to Main Supply Unducted / Freestanding
Air Cycling	Yes
Ventilation	Yes
HVAC Fan On with Dehumidifier	Yes
Dehumidifier Lockout with Air Conditioning Call (field setting)	Yes
Fault Indicator/Diagnostic	Yes – with self-diagnostics**

*Built-in automatic control capable to be set up for dehumidification, and ventilation or zoning.

**Diagnostic codes are displayed on the LCD.

Product Specifications			
Model	**S1-CVD070T01A**	**S1-CVD095T01A**	**S1-CVD130T01A**
Capacity[1] (pints/day)	70 ppd	95 ppd	130 ppd
Energy Factor[1]	1.91 L/kWh	2.2 L/kWh	2.9 L/kWh
Energy Star Qualified	Yes	No	Yes
Air Flow @ Various External Static Pressure – Dry Coil			
0.0" w.c.	160 CFM	265 CFM	310 CFM
0.2" w.c.	120 CFM	230 CFM	267 CFM
0.4" w.c.	70 CFM	200 CFM	226 CFM
0.6" w.c.			178 CFM
Voltage, Phase, Frequency	120VAC, 1, 60 Hz	120VAC, 1, 60 Hz	120VAC, 1, 60 Hz
Current Draw[1]	6.3 Amps	8.0 Amps	8.3 Amps
Sound Level	47 dBA ducted	54 dBA ducted	50 dBA ducted
Dimensions – Cabinet Only			
Width	12.5"	12.5"	19.5"
Height[2]	14.5"	14.5"	18.75"
Length	25"	27.5"	30"
Weight	67 lbs	75 lbs	113 lbs
Air Filter	Washable MERV 8	Washable MERV 8	Washable MERV 9
Refrigeration	R-410A	R-410A	R-410A
Cabinet Insulation	1/2" EPS	1/2" EPS	1/2" EPS
Operating Condition			
Inlet Air Operating Conditions	50°F – 104°F, 40°F dew point min.	50°F – 104°F, 40°F dew point min.	50°F – 104°F, 40°F dew point min.
Ambient/Ventilation	40°F – 140°F, 0% – 99% RH	40°F – 140°F, 0% – 99% RH	40°F – 140°F, 0% – 99% RH
Discharge Air Temperature Rise	10°F – 30°F	10°F – 30°F	10°F – 30°F

(1) Rated Capacity and Energy Factor test done and Current Draw measured in accordance with AHAM DH-1 2008 at 80°F/60%RH inlet air at 0.0 ESP.

(2) Height does not include adjustable feet or casters. The width excludes the filter doors, and length excludes the duct collars.

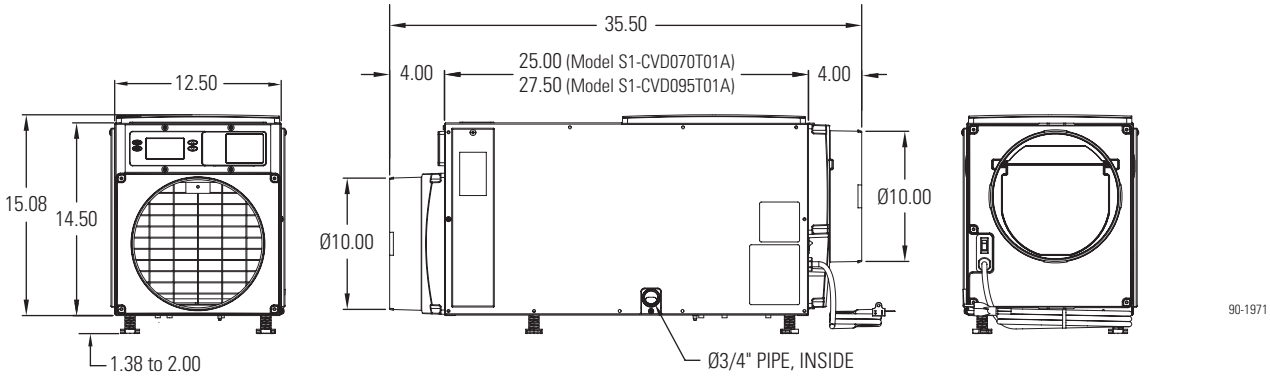
Diagnostic Codes

Diagnostic Code	Failure Mode	Action	Reset
E1	Internal Humidity or Temperature Sensor Open or Shorted	1. Check the connection between the sensor board and control board. 2. If connection okay, replace sensor board, Part No. S1-5460.	Cycle Power
E2	High Refrigeration Pressure	1. Verify that the fan works, the backflow damper swings freely and there is no blocked or restricted ductwork. 2. If the fault persists, call Technical Support.	Cycle Power
E3	S1-DDHC76 Remote Control Communication Loss	1. Check connections between S1-DDHC76 and dehumidifier control board. Terminals should be fully inserted and secured in the control board and S1-DDHC76 control terminals. 2. If connections are correct and secure, turn off the dehumidifier and remove the S1-DDHC76. Use a short section of 4-wire cable to reconnect the S1-DDHC76 to the control board. Turn the dehumidifier back on and increase the dryness level setting on the S1-DDHC76. If the dehumidifier turns on, the problem is with the wiring between the dehumidifier and control. 3. If the dehumidifier does not turn on, call Technical Support.	Self-Correcting
E4	Insufficient Capacity	1. Check the frost sensor connection at the power board. Terminal should be fully seated on the power board pins. 2. Remove the side access panel and verify that the sensor is secured to the suction line. 3. If the sensor is connected and secured to the refrigeration line proceed to the next step. 4. Reset the fault by cycling power to the dehumidifier. 5. Turn the humidity setting down (below room/home humidity level) to make a dehumidification call. 6. Allow the fan and compressor to run for approximately 10-15 minutes and then enter diagnostic test mode by simultaneously pressing the UP ARROW and MODE buttons for 3 seconds. The LCD will display the temperature measured by the internal sensor while also displaying AIR SAMPLING and ON, the humidity measured by the internal sensor while also displaying %RH and ON, and the frost sensor temperature while also displaying ON. Scroll through these values and by using the UP/DOWN arrow buttons. 7. Record values and call Technical Support.	Cycle Power
E5	High Temperature Thermistor Failure	1. Check the high temperature sensor connection at the power board. Terminal should be fully seated on the power board pins. 2. Remove the side access panel and verify the sensor is not damaged and connected to the refrigeration line coming from the compressor. 3. If the sensor is connected and secured to the refrigeration line, it may need to be replaced with Part No. S1-5456 – contact Technical Support to confirm.	Cycle Power
E6	Low Temperature Thermistor Failure	1. Check the low temperature sensor connection at the power board. 2. Remove the side access panel and verify the sensor is not damaged and connected to the suction line. 3. If the sensor is connected and secured to the refrigeration line, it may need to be replaced with Part No. S1-5455 – contact Technical Support to confirm.	Cycle Power
E7	Float Switch Open	1. Empty the condensate pan. 2. Check the float switch connection at the control board. 3. If not using a float switch, verify jumper is between float switch terminals on dehumidifier control board. 4. If the problem persists, replace the float switch.	Self-Correcting
E8	Inlet Air Temperature Out of 50°F – 104°F Range, or Dew Point Below 40°F	1. Verify all ductwork is properly sealed. 2. If no signs of leak points, contact Technical Support.	Self-Correcting
E9	Outdoor Temperature Sensor Open or Shorted	1. Check the sensor connection at the power board. 2. Remove the wires from the terminals and measure the resistance. A short circuit will have a resistance very close to 0 Ohms and an open circuit will have a very very high resistance. The table at right can be used to approximate the resistance based on outdoor temperature. 3. If the sensor is not reading correctly, replace the sensor, Part No. S1-8052.	Self-Correcting

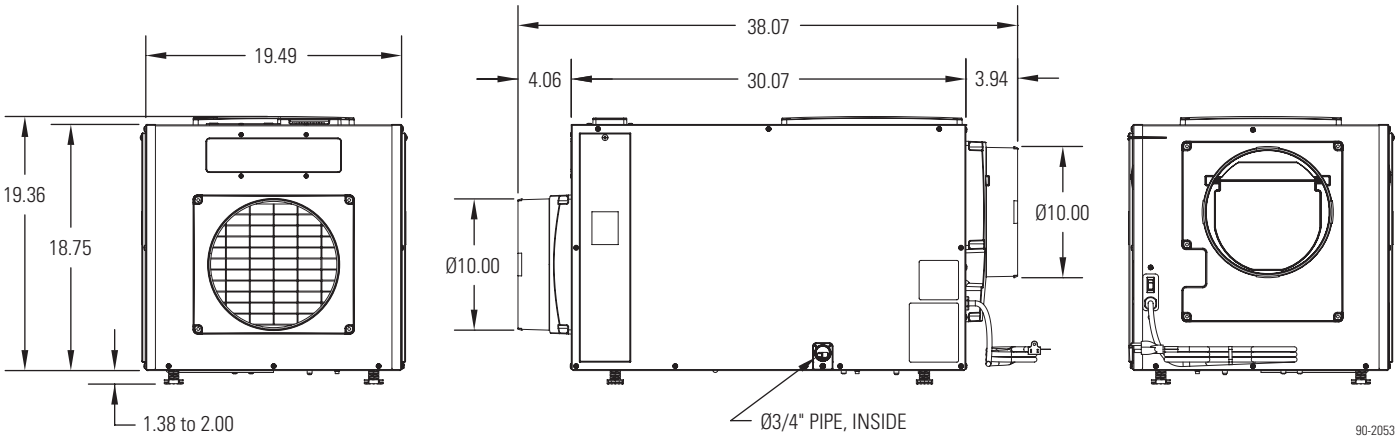
Outdoor Temperature	Resistance
0°F	84,500 Ohms
20°F	46,000 Ohms
40°F	26,000 Ohms
60°F	15,500 Ohms
80°F	9,500 Ohms
100°F	6,000 Ohms

Dimensions

Models S1-CVD070T01A and S1-CVD095T01A

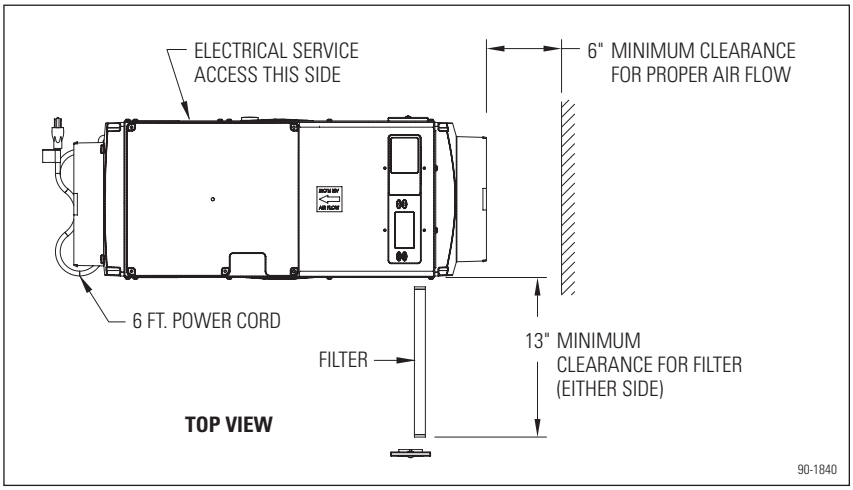


Model S1-CVD130T01A



Location Considerations

- Allow sufficient clearance for filter removal and to prevent airflow obstruction
- Electrical service access will require the removal of the side panel shown. Allow sufficient space for service on this side of the unit.
- If locating the unit in an attic or crawl space, an S1-DDHC76 control mounted in the living space is recommended.
- For attic installations, it is recommended that the dehumidifier be suspended.
- Always install the dehumidifier in a condensate pan when locating in or over a finished space.



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