Sentra SR Series with V Control Instrument

REFERENCE GUIDE

INSTALLATION • OPERATION • TROUBLESHOOTING

Download and read the manual before starting installation. The complete manual is available online at www.advantageengineering.com/Sentra-SRV.

Maximum Setpoint

250°F*

This reference guide covers standard Advantage temperature control units with the T Control Instrument. This guide may be used for customized units using the T Control Instrument even when the unit may not be physically the same as the units depicted in the included photos.

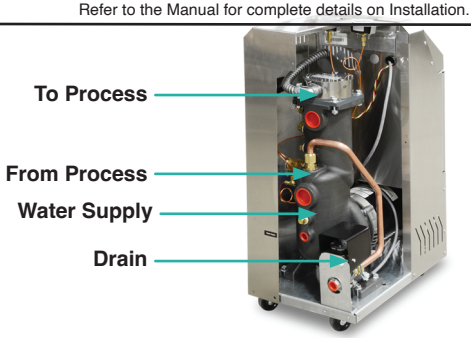
Before Installing or Operating

1. This unit is designed to be used with water as the circulating fluid. The quality of fluid used in your temperature control unit will greatly effect its short and long-term operation. Lack of as well as improper water treatment can damage the temperature control unit by causing scale build-up, excessive corrosion and/or bacterial contamination. It is the equipment owner's responsibility to prevent damage caused by poor water quality. The services of a water treatment professional is recommended.
2. Before installing and operating the unit, be aware of and follow any local laws and codes that apply to the installation.
3. When contacting the Service Department always have the unit Model and Serial number from the data tag located on the side of the unit.

SERVICE DEPARTMENT: 317-887-0729

*Reference the manual for requirements for 250°F set point.

ADVANTAGE®
MAKING WATER WORK.



Typical unit with ¾ - 3 HP pump and/or 10 - 16 kW heater.

1. **Electrical:** Be certain all electrical connections are tight in the unit. Install unit power cord (when supplied) to power disconnect switch. Applied power must be equal to the unit voltage and amps listed on the unit data tag. Follow all applicable local and national electrical codes.

2. **Plumbing:** Care should be taken to use materials (hose, rigid piping, valves or filters) rated for the temperature and pressure duty of your unit. Most units have a maximum operating temperature of 250°F or less and a maximum pressure of 150 PSI. The unit is most efficient when full size plumbing is run from the unit connections to and from the process. If necessary, reduce the plumbing size at your process, not at the unit.

3. Connect *To Process* port to the *Water In* port on the process manifold.

4. Connect *From Process* port to the *Water Out* port on the process manifold.

5. **Please note:** Process water piping circuitry should be designed to avoid an excessive use of elbows and/or lengths of pipe or hose. If hose is the material of choice, avoid tight twists or curls and excessive lengths.

6. Valves and filters may be installed in the process water piping circuitry to facilitate service and maintenance, provided that such devices maintain the full inside diameter of the process connection. If installed, all such devices must be open and clean during unit operation.

7. **Connect Unit drain to** plant's open drain, tower water system return or chilled water system return. The factory recommends a minimum of 20 psi pressure differential between the water supply and drain line. A larger differential may be required for larger cooling needs.

8. **Connect unit water supply to plant's cooling water source.** This is usually chilled water, tower water, city water or well water. Water supply pressure requirements vary with operating temperatures as shown in the chart below.

Operating Temperature						
180°F	190°F	200°F	210°F	220°F	230°F	250°F
20 PSI	25 PSI	30 PSI	35 PSI	40 PSI	45 PSI	50 PSI
Water Supply Pressure						

Start Unit

Refer to the Manual for complete details on start up and operations information.

1. Fill unit with water.
2. Apply power. All indicating lights and digits on the display will momentarily illuminate.
3. A System Fault may prevent startup. Items that may prevent start up are probe, water supply pressure, pump overload or high temperature limit faults. A *no FLO* indication is displayed. Correction of the fault must be corrected prior to operation.
4. The instrument controller features an temperature display screen, four indicating lights and toggle switch.
5. Determine that the pump is rotating in a clockwise direction when viewed from the rear of the motor. Follow the instructions in Section 3.2 of the factory operations manual.

WARNING: *proper care should be employed when checking pump rotation as power is applied to the unit at this point.*

6. Switch the On/Off toggle to On to start the unit. The fluid temperature will show in the temperature display window. The unit will auto vent if the fluid temperature is below 100°F.
7. Adjust the setpoint to the desired value by pressing the Up or Down arrow buttons until the value is displayed. The unit will heat or cool to maintain the setpoint temperature.

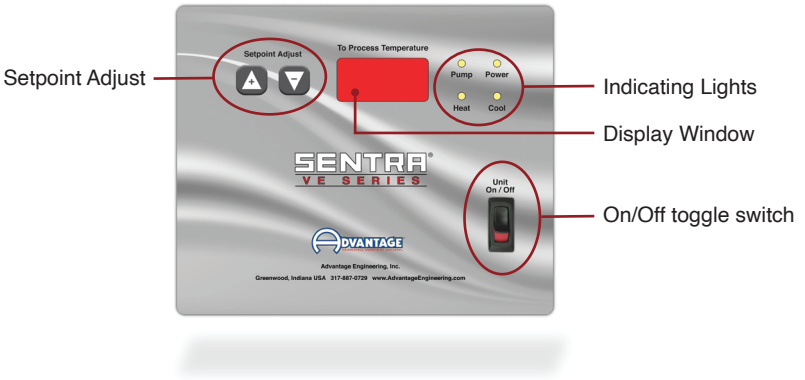
Stop Unit

Refer to the Manual for complete details on shut down information.

1. Decrease the setpoint temperature lower than 85°F and allow the unit to cool to the temperature. Press the Stop Button to disengage the pump. **Caution.** Dissipate static pressure prior to disconnecting hoses.

V Series Controller

Refer to the Manual for full information for complete Controller operation.



V Series Controller

Continued

On/Off Switch: Engages/disengages the pump, heater and cooling valve.

Up & Down Arrows: Depress briefly to display the setpoint temperature. Depress and hold Up Arrow to increase the setpoint. Depress and hold Down Arrow to decrease the setpoint. If pressed momentarily the setpoint value will change by one degree. If held down longer the setpoint will change slowly at first and then faster. The setpoint control range is 32° to 250°F (0° - 121°C).

Power On: Illuminates when power is applied to the unit.

Pump: Illuminates when the unit's *On / Off* rocker switch is turned "on" and the motor pump is operating. The *Pump* light will not illuminate if a safety fault condition exists.

Heat: Illuminates when the heater is on to increase process water temperature.

Cool: Illuminates when the cooling valve is open. Opening the valve will discharge process water to the drain. Opening the valve also allows cooling water flow from the water supply source to enter the circulating system and mix with the heated process water to reduce process temperature.

Troubleshooting

Basic Troubleshooting is shown here. Refer to the Manual for full information.

Unit Will Not Start (Display Blank & Off)

1. Fuse open at main power disconnect switch.
2. Transformer fuse open

Unit Will Not Start (Display On)

1. Error or alert indicator displayed.
2. Follow instructions on screen to troubleshoot and refer to manual or contact the service department.

Unit Overheats

1. Low water supply pressure.
2. PVT™ Cooling valve defective.
3. Drain line obstructed.
4. Instrument defective.
5. Cooling requirement exceeds cooling valve capacity.

Unit Underheats

1. Process water leakage - defective PVT™ cooling valve.
2. Heater element failure.
3. Process heating requirement exceeds unit heating capability.
4. Control instrument defective and not calling for heat.

Pressure Relief Valve Leaks

1. Water supply pressure too high. See manual.
2. Pressure relief valve contamination.

ADVANTAGE MAKING WATER WORK.

SRV Scan me

Current Factory Operations Manual

Scan this QR code to download an electronic PDF copy to a smart phone or tablet. Download the electronic PDF copy to a desktop computer for view or print: www.advantageengineering.com/Sentra-SRV.

If you have any questions regarding this Reference Guide, the Sentra SRV Series Operations Manual, installation, operation or servicing of the unit, please call the Advantage Service Department.

317-887-0729

525 East Stop 18 Road, Greenwood, IN 46143 phone: 317-887-0729 fax: 317-881-1277
Web site: www.AdvantageEngineering.com Email: service@AdvantageEngineering.com

Form #ADV-1090 updated 03/23/2023