




### FOR MODELS S-1000-SI / S-1000-US

- 1.0 Scope: This specification applies to the SENTINEL enteral feeding pumps for US facilities.
- 2.0 Purpose: To provide a test procedure to comply with JCAHO standards for OEM specifications.
- 3.0 Application: Testing, according to this procedure, is to be performed annually or as needed by authorized service representatives only.
- 4.0 Responsibility: It is the responsibility of the Distributor to follow this document and notify ALCOR Scientific of any patient injury, harm or death associated with the pump.
- 5.0 PUMP CHECK: Any step below that fails to operate as expected shall be noted and the pump will be removed from use and held for authorized service.
- 5.1 INITIAL CHECK: Performed after pump has been plugged into AC outlet for minimum 10hr.

#### For Model S-1000-SI

- 5.1.1 While unit is unplugged, press "ON" button.
- 5.1.2  amber battery LED should be illuminated.
- 5.1.3 Press and hold CLEAR for seven beeps.
- 5.1.4 "Infusion Rate" display should show "5".
- 5.1.5 "Volume Delivered" display should show a blinking "0".
- 5.1.6 Plug unit in.  LED should go out; and green  LED should be on.
- 5.1.7 Check the pump housing for cracks or missing parts.
- 5.1.8 Unit must be cleaned before proceeding to 4.2.  
Refer to SENTINEL Operating Manual, page 10, sec. 5 under Maintenance.

#### For Model S-1000-US

- 5.1.1 Press "ON" button (while unit is unplugged).
- 5.1.2 Press and hold CLEAR for seven beeps.
- 5.1.3 "Infusion Rate" display should show "5".
- 5.1.4 "Volume Delivered" display should show a blinking "0".
- 5.1.5 "BAT" LED should be illuminated green.
- 5.1.6 Plug unit in, green "BAT" LED should go out.
- 5.1.7 Check enteral pump housing for cracks or missing parts.
- 5.1.8 Unit must be cleaned before proceeding to 4.2.  
Refer to SENTINEL Operating Manual, page 10, sec. 5 under Maintenance.

## 5.2 BATTERY STATUS:

- 5.2.1 Place pump in test mode as follows: Set the rate to 295. Press and hold the “UP” button for approximately 8 seconds. The unit will go into test mode. Release the “UP” button.
- 5.2.2 Press and hold the “UP” button, then press the “DOWN” button and release both. **EP1** should be in left display. The right display should read the total amount delivered in liters. Record the total amount delivered on the QC Checklist.
- 5.2.3 Press the “UP” button and **EP2** should appear in left window. In right window, the total number of hours on battery is displayed. Record the total hours on battery on the QC Checklist.

**NOTE: REPLACE BATTERY IF EITHER:**

- EP2 IS GREATER THAN 30HR AND PUMP IS LESS THAN 3YR IN SERVICE.  
OR
- PUMP HAS MORE THAN 3YR SERVICE TIME on current battery.

- 5.2.4 Press “OFF” button.

## 5.3 OPERATIONAL TEST:

- 5.3.1 Press the “UP” button a few times to make sure rate value increases. Press and hold the “UP” button for a more rapid pace until you reach 20. Wait a few seconds to make sure the value is retained.
- 5.3.2 Press the “DOWN” button a few times to make sure the rate decreases. Press and hold the “DOWN” button for a more rapid pace until you reach 10. Wait a few seconds to make sure the value is retained.
- 5.3.3 Press and hold the “UP” button until the “Infusion Rate” reaches “295”.
- 5.3.4 Press the “RUN/STOP” button . Observe that rotor turns in counterclockwise direction. Occlusion/Empty alarm should sound when volume delivered reaches 2 milliliters.
- 5.3.5 Press the “RUN/STOP” button to put the unit in STOP mode, then press and hold the “CLEAR” button. **cLr** appears on the left display and after 7 beeps the milliliters/hour reset to “5” and the volume infused to “0”.

## 6.0 DOSE CHECK OPERATION:

- 6.1 Press “Dose Check” button; **tot** should appear on left display. Note the total accumulated volume on the right display.

*Confidential Information*

- 6.2 Set Infusion Rate to 295 ml/hr.
- 6.3 Press the "RUN/STOP" button until the pump alarms and indicator LED "Occ Emp" illuminates. The volume infused display should increase by 2 milliliters.
- 6.4 Press "RUN/STOP" to silence alarm.
- 6.5 Press "Dose Check"; **tot** should appear in left display. The volume in the right display should have increased by 2 ml.

## 7.0 KNOB/POLE CLAMP:

- 7.1 Turn pump so that back of pump is facing you and observe Pole Clamp. On the right side of Pole Clamp, the V-shaped notch should face to the right.
- 7.2 Turn knob so the clamp extends and cannot move any further. Knob should turn without requiring excessive force while clamp moves.
- 7.3 Turn knob in the opposite direction, until the clamp returns to its original position. Knob should have turned easily while clamp moves.

## 8.0 EXCESS FLOW ALARM CHECK:

- 8.1 Press "ON" button.
- 8.2 Set infusion rate at 295 ml/hr.
- 8.3 Place a finger into drip chamber mounting position.
- 8.4 Press "RUN/STOP".
- 8.5 In approximately 5 seconds pump should sound alarm and display **FLO FAST**.
- 8.6 Press "RUN/STOP" to silence alarm.

## 9.0 RUN TEST:

- 9.1 Install a water filled Test Loop..
- 9.2 Unplug unit and press "ON" button.
- 9.3 Set infusion rate to 200ml/hr.
- 9.4 Press "RUN/STOP".
- 9.5 Allow pump to run until volume infused display shows 400 milliliters.
- 9.6 Press "RUN/STOP".
- 9.7 Plug unit into AC outlet and press "ON" button.
- 9.8 Place pump in test mode as follows: Set the rate to 295. Press and hold the "UP" button for approximately 8 seconds. The unit will go into test mode. Release the "UP" button.
- 9.9 After a minimum of 10 hr, observe that pump is functioning correctly in test mode .
- 9.10 Press "OFF" button.

10.0 CLEAR ALL MEMORY:

- 10.1 Press "ON" button.
- 10.2 Press and hold the "CLEAR" button for 7 beeps.
- 10.3 Press "Dose Check" button, and within 2 seconds, press the "CLEAR" button for 3 beeps.

11.0 FINAL CHECK:

- 11.1 Check pump to make sure the following labels are present:

Front:            Arrows Label  
                          Danger Label

Rear:             Serial Number Label

Left Side:        Direction Label  
                          To View Dose Set Label

Bottom:          QC Inspection Label

- 11.2 Hold pump firmly with both hands. Lift and shake vigorously. There should be no evidence of loose or unattached parts inside of pump.
- 11.3 Check Cord Wrap Plate to make sure it is not loose.

### QC Checklist

4.0 Patient injury or harm? (Y)\_\_\_\_ (N)\_\_\_\_\_

5.0 Housing ok? (5.1) (Y)\_\_\_\_ (N)\*\_\_\_\_\_

\* Distributor repaired? \_\_\_\_\_ Returned to ALCOR? \_\_\_\_\_  
(List Parts) (Part failed)

Pump Cleaned? (5.1) (Y)\_\_\_\_ (N)\_\_\_\_\_

Battery Status (5.2)

EP1 = \_\_\_\_\_ LITERS DELIVERED

EP2 = \_\_\_\_\_ HOURS ON BATTERY

Battery Replaced? (Y)\_\_\_\_ (N)\_\_\_\_\_

**Pass** **Fail**

Operational Check (5.3) \_\_\_\_\_

6.0 Dose Check Operation (6.1-6.5) \_\_\_\_\_

7.0 Knob/Pole Clamp (7.1-7.3) \_\_\_\_\_

8.0 Excess flow alarm CHECK (8.1-8.6) \_\_\_\_\_

9.0 Run Test (9.1-9.10) \_\_\_\_\_

10.0 Clear All Memory (10.1-10.3) \_\_\_\_\_

11.0 Final Check (11.1-11.3) \_\_\_\_\_

QC Check Complete

All Pass: Apply Recertification Sticker

Any Failures or broken or cracked housing: Remove from use, include a copy of QC Checklist and return to Manufacturer.

MODEL: SENTINEL S-1000-SI or S-1000-US (Circle One)

Serial Number tested: \_\_\_\_\_ QC Performed by: \_\_\_\_\_ Date: \_\_\_\_\_