

# ACCUSTAT PRESSURE DIFFERENTIAL MONITOR / NEGATIVE ROOM PRESSURE MONITORS

## **INSTALLATION AND OPERATION INSTRUCTIONS** **MOUNTED ON WALL OUTSIDE OF ROOM TO BE** **MONITORED**

### **ON/OFF and Negative/Positive Key Switch:**

A top mounted ON/OFF key switch is positioned on the top of the ACCUSTAT Pressure Monitor case. This allows the unit to operate or be switched off only by authorized personnel. To the right of the ON/OFF switch is an optional key switch for changing the unit from positive to negative pressure (your unit was undoubtedly set up for negative pressure at the factory). If this optional key switch was not ordered originally with the unit, you will observe only the single ON/OFF key switch. (There is, however, a manual internal adjustment to make the negative/positive conversion, which is described later in this operation instruction).

The ACCUSTAT Pressure Monitor is inoperable when the key points to the OFF label position (rear), and is ON when pointing to the right ON label. When in the ON position, the lighted digital readout will appear in the window. The key can be removed when either position has been chosen, and operation will remain in that position.

**NOTE:** It is not advisable to constantly switch unit on and off, as it may require more frequent zero calibration adjustment.

### **INSTALLATION INSTRUCTIONS: ACCUSTAT ROOM PRESSURE MONITORS**

1. Position rear support base on wall. Scribe position for mounting holes and air sampling tube which will go into room. Electrical transformer cord can be brought in through back rectangular opening (non-exposed wire) or run down the outside of wall (exposed) and brought in through a small hole provided in top of case.
2. Use a 1/4" drill bit to drill holes for anchors. Attach and secure ACCUSTAT to wall using plastic anchors and screws (supplied).
3. Install the sample tube. If you are going to run the tube directly from the ACCUSTAT Room Pressure Monitor into the room, drill a hole to accommodate the 1/4" tubing provided. If you are running it through an anteroom, or over a ceiling or another, non-linear method, run tubing now. **MAKE SURE THERE ARE NO KINKS, SHARP BENDS OR OBSTRUCTIONS.** If the tubing is not continuously open, the readings will be dramatically affected. Also, **BE SURE THAT NOTHING ENTERS THE TUBE.** Again, if the tube is blocked, it will not give accurate readings. After the tube is installed, carefully seal around it to prevent air leakage. **DO NOT CONNECT THE ACCUSTAT YET.**
4. Connect power cord to ACCUSTAT Room Pressure Monitor and allow it to run for at least 15 minutes (up to an hour will be best if possible). **DO NOT ATTACH SAMPLING TUBE.** This will allow internal parts to warm up and become acclimated to the new environment and provide an accurate reading. If after 15 minutes, the ACCUSTAT Room Pressure Monitor is not reading .000, let it run longer; it should reach .000. The ACCUSTAT Room Pressure Monitor displays both positive and negative readings. Positive readings have no sign, but negative ones read with (-) sign. For calibration -.000 and .000 are the same. If it settles at a reading other than .000, you will need to calibrate it. Start calibration with slide switch in center position. There is a set screw in the front upper right corner. You will need to turn it slightly with a jeweler's screwdriver or other small instrument. A **clockwise** turn moves it more **positive, counterclockwise, more negative.** Disregard the alarm light until you are ready to set the alarm set point. **DO NOT ADJUST ANY INTERNAL COMPONENTS**
5. After it is calibrated, attach the sample tube(s) to the back port(s). The ACCUSTAT Room Pressure Monitor is internally set up for the room sample tube in a negative pressure room to be attached to the P-2 port. Putting it on the wrong port will give erroneous readings, and can cause damage to the transducer. Be sure there are no kinks or sharp bends in the tubing. Also, do not allow anything to enter the tube which will block and possibly damage the sensor. You should now have a differential reading in the display.
6. Fasten the ACCUSTAT Room Pressure Monitor to the wall mounted support base. Be sure not to kink the tube(s) or abrade the electrical cord.
7. You can now set your alarm point. The black switch in the lower left area should be moved to the left position. The

set point reading will be displayed in the window. Take a small slot screwdriver and adjust to the set point you want. If the room is close to neutral (-.001 to -.004), you will need a set point at or very near neutral in order to avoid many false alarms. You might consider trying to get a better negative reading. (There are several suggestions under trouble shooting.) A room with a reading of -.005 or better could have a set point negative enough to warn before a more serious situation would occur. Once the alarm point is set, the LED should be green, if the room is functioning as expected, and the ACCUSTAT Room Pressure Monitor is installed properly.

8. Move the black switch to the center. You should still have a green light. You are now in the visual alarm mode. If an alarm were to occur, the LED would flash red.

9. To activate the audible alarm, move the switch to the far right position. You will now have a visual and audible alarm when the set point is exceeded. In an alarm condition, the switch can be moved to the middle position to silence the audible alarm, but the visual alarm will remain until the condition is brought back to that required.

10. There is a one minute delay for the audible alarm. If an alarm occurs, the red light will flash for one minute (approx.) before the audible alarm is activated. This is to avoid nuisance alarms.

11. Calibration -- The ACCUSTAT Room Pressure Monitor should be calibrated at least every 6 months of continual use or after turning on and off four or more times. To calibrate, remove cover plate and sample tube from sensor port and now follow Section 4 of installation instructions.

*Warning:* Do not exceed over pressure of 5 psi which will damage the transducer.  
Do not operate in temperatures below -40 or above 185 degrees Fahrenheit. Damage may result from reversal of supply and ground connections.

### **NORMAL OPERATION – ACCUTSTAT ROOM PRESSURE MONITORS**

This instrument is designed to monitor pressure in two distinct air masses. Typically, this will be a patient room and a corridor. Each individual port on the sensor measures air from one air mass. The reading on the front of the ACCUSTAT Room Pressure Monitor indicates the actual air pressure difference between the air masses. This is given in inches of water. If the ACCUSTAT itself is in one air mass being compared, no sample tube is required because there is an opening in the top for air to be sampled.

The readings seen on the ACCUSTAT Room Pressure Monitor will fluctuate. This is NORMAL. The air in any hospital is not static, but rather is dynamic. It is in constant movement. This creates slight changes in pressures and air balances. These pressure changes are very slight, but detectable by the ACCUSTAT Room Pressure Monitor. Many changes are likely in the hallway. They can be caused by rooms opening or closing, elevator movements, stairway doors or fire doors opening and closing, changes in supply air to individual patient rooms for comfort or combinations. Since many different areas have pressure differentials, slight changes in one can affect others.

These changes in the readout on the ACCUSTAT Room Pressure Monitor are no cause for concern. They are simply reflecting what was occurring already. You might need to experiment some in order to get alarm set points which will be useful though.

### **TROUBLE SHOOTING ACCUSTAT ROOM PRESSURE MONITORS**

*NOTE:* ACCUSTATs are adjusted at factory to read .000" as the zero calibration setting and .000" (neutral reading) on alarm set point. The unit may need to be re-calibrated to zero (.000) when received, due to temperature, and pressure variances between the factory and the user's location. Allow unit to reach room temperature before making adjustments.

<b>PROBLEM</b>	<b>SOLUTION</b>
1. ACCUSTAT has no readout.	Make sure power is connected.
2. Readout is neutral for negative pressure room.	Is room completely sealed; is exhaust greater than supply, (check with condition is reached. velometer).
3. Alarm LCD remains green when alarm	Check user alarm set point (push black slide switch to left). Check that air condition is reached. sampling tube is placed on correct port (P2).

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| 4. | Readings are erratic and won't stabilize   | Make sure probe tube isn't connected to port, unit cannot be zero calibrated when setting zero reading. probe tube is attached. Check that power connection is secure.  |
| 5. | Readings are erratic and won't stabilize   | Make sure probe is properly attached to port, probe lines are not bent, chinked, when probe tube is connected. pinched, cracked or obstructed. Inspect that power supply is constant and does not exceed or fall below required voltage requirements. |
| 6  | Audio alarm does not sound when alarm set point is reached and LCD turns red. REV. | Audio alarm is on a one-minute delay cycle.   |