Automatic Air Dehydrator
ADH Sirocco (Part Number 24434)

Instruction Manual

Environmental Technology, Inc.

1850 North Sheridan Street
South Bend, Indiana 46628 USA
http://www.networketi.com/

SAFETY INFORMATION AND WARNINGS

Abnormal Odor or Smoke

In the event of smoke or a burning or abnormal odor, immediately interrupt power to the ADH Sirocco using the POWER switch on the back of the unit, unplug the unit, or turn off the circuit breaker controlling the outlet.

Lethal Voltages Present

Lethal voltages are present inside the ADH Sirocco. Service should be performed by qualified personnel only. There are no user serviceable components inside the chassis.

Pneumatics

Each of the air pumps inside the ADH Sirocco automatic air dehydrator is capable of generating as much as 24 psig (1,655mbar). Other attached dry air sources may be capable of generating even higher pressures. Proper safety practice requires treating all pneumatic components with care. Always vent the system to atmospheric pressure before servicing pneumatic components.

Rack Mounting

Before and after rack mounting the ADH Sirocco, ensure that the rack is stable. Mounting of the ADH Sirocco into a rack should be such that a hazardous condition is not created due to uneven mechanical loading. Verify that adequate air flow and power source capacity is available to the unit. Ensure that the ADH Sirocco maximum operating temperature of 113°F (45°C) will not be compromised by other components in the rack. Ensure reliable earthing of the ADH Sirocco.

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UNPACKING THE UNIT

Immediately upon receipt, inspect the container and packing material for any noticeable damage. Unpack the ADH Sirocco, taking care not to damage the packing materials. Save the shipping container and related materials until normal operation has been established. If the unit must be returned, take care to ensure that it is repackaged as it was received.

As soon as it arrives at your facility, inspect the ADH Sirocco for electrical and mechanical damage. If any of the following problems is found, contact Environmental Technology, Inc., Customer Service immediately:

- contents incomplete or incorrect;
- internal or external mechanical damage; or
- defective operation.

Environmental Technology, Inc., Customer Service is available between 8:00 a.m. and 5:00 p.m. Eastern Time. In the event of shipping damage, keep the packing materials for inspection by the carrier.

RETURNS AND REPLACEMENT PART PURCHASES

Prior to removal of equipment for return, please contact Environmental Technology, Inc., Technical Support for troubleshooting assistance.

Before returning an ADH Sirocco to Environmental Technology, Inc., obtain a Return Merchandise Authorization from our Customer Service Department, available between 8:00 a.m. and 5:00 p.m. Eastern Time.If possible, use the original container and packing materials when packing the ADH Sirocco for shipment. It is important to mark the Return Merchandise Authorization clearly on the outside of the shipping container so that it may be correctly processed upon receipt at Environmental Technology.

For more information about replacement parts or for a replacement Data Sheet, Installation Sheet, or Instruction Manual, please visit http://www.networketi.com/.

INVENTORY

Use the information in Table 1 below to verify that the shipping package contains all of the parts listed. If there are any discrepancies, notify Environmental Technology, Inc., Customer Service immediately. Customer Service is available between 8:00 a.m. and 5:00 p.m. Eastern Time.
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Qty.	Part No.	DESCRIPTION
1	24434	ADH Sirocco Automatic Air Dehydrator AC Power Supply
1	24431	ADH Sirocco Operation/Instruction Manual
1	24432	ADH Sirocco Installation Sheet
1	17618	Power Cord, Euro
1	18198	1/8" NPT to 1/4" Barbed Brass Fitting
1	23428	1/8" NPT to 3/8" Barbed Brass Fitting
1	14513	1/8" NPT to 1/4" Barbed Elbow Brass Fitting
4	23245	Mounting Bracket
8	11040	Rack-Mounting Screw (#8-32)
8	10641	#8 Split Washer

Table 1. PACKING LIST FOR THE ADH SIROCCO.

DATA LOG

To get the best service from and gain the greatest understanding of your system, it is recommended to keep a Data Log tracking the most significant system statistics. Such a Data Log should include items such as ambient temperature, relative humidity, system pressure, duty cycle, flow rate, and canister temperature. Entries to the Log can be made at a time interval of your choosing, once daily or weekly, for instance, and should reflect the specific conditions in which your system operates. The Data Log will help you understand your system by allowing you to track system performance in various environmental conditions, including daily and seasonal variations. In keeping such a Log, performance patterns will begin to emerge, enabling you to have a greater understanding of your system's performance over time, as well as greater control when setting or changing the user-configurable performance parameters.

GLOSSARY

Listed below are some important terms and their definitions.

Duty Cycle

The amount of time, expressed as a percentage, that the compressor is actively pumping dry, pressurized air.

High Duty Cycle Alarm Level

The configurable set point at which the ADH Sirocco will indicate a high duty cycle. The factory default setting is 50%. The system duty cycle and the discharge pressure are available for display. Typically, the system should be tight enough to limit the duty cycle to less than 20%. System component life decreases as duty cycle increases. A Duty Cycle Alarm occurs if the duty cycle exceeds the configured Duty Cycle Alarm level.

High Limit Target Pressure

The high set point of the operating pressure range for the dehydrator. This is the pressure setting which the unit will target during compressor operation. The actual turn-off pressure is adjusted in the software every pressurization cycle after determining the rate of pressure change during that cycle. This software compensation for the rate of pressure change during pressurization minimizes compressor "undershoot." The High Limit Target Pressure must be between 0.20 psig and 7.5 psig (14mbar to 517mbar). The factory default setting for High Limit Target Pressure is 0.5 psig (34.5mbar).

High Pressure Alarm Level

The user-configurable high pressure limit at which an alarm condition will be indicated. Note that the High Pressure Alarm Level must be set higher than the High Limit Target Pressure setting. The factory default setting is 1.5 psig (103.5mbar). A High Pressure Alarm occurs if the pressure exceeds the configured High Pressure Alarm Level for more than 30 seconds. Mechanical Overpressure protection is recommended within the system to prevent pressure reaching the High Pressure Alarm level.

Low Limit Target Pressure

The low set point of the operating pressure range for the dehydrator. This is the pressure setting at which the unit will turn off the compressor during compressor operation. The Low Limit Target Pressure must be set lower than the High Limit Target Pressure by at least 0.1 psig (7mbar). The factory default Low Limit Target Pressure is 0.30 psig (21mbar).

Low Pressure Alarm Level

The user-configurable low pressure limit at which an alarm condition will be indicated. Note that the Low Pressure Alarm Level setting must be set lower than the Low Limit Target Pressure setting, and that the factory default setting is 0.15 psig (10mbar). A Low Pressure Alarm occurs if the pressure stays below the configured Low Pressure Alarm Level for more than 30 seconds.

Solar Gain

Generally occurring each day at sunrise, the time when sunlight and heat increase, resulting in a natural corresponding rise in temperature and pressure inside a cable line. Solar gain can also occur before or after a major weather effect.

VSWR

VSWR means Voltage Standing Wave Ratio and is used to measure the amount of energy that is reflected back into the transmitter from the antenna when the antenna is not tuned properly. Water in the transmission line will de-tune the antenna and cause a higher VSWR.

PRODUCT FEATURES

Major features of the ADH Sirocco automatic air dehydrator are listed below. Refer to Figure 1 for a schematic drawing of the ADH Sirocco.

The ADH Sirocco is functionally equivalent to the earlier ADH-2A COM and the ADH-3COM automatic air dehydrators with regard to basic mechanical features such as air drying and pressurization. Product features include:

- Similar specifications to earlier ADH dehydrator models
- Two air drying canisters with automatic desiccant regeneration
- Visual display module to facilitate configuring of system parameters and viewing operational status
- Optional PSI or mbar display mode
- Optional degrees F or degrees C display mode
- 15+ year maintenance-free life expectancy
- Wall, shelf, or rack mounting configurations for multiple installation options
- 100 to 240 VAC power options, 50/60 Hz
- Three alarm relays, including one user-configurable alarm relay

ADH SIROCCO COMPONENTS

An assembly drawing of ADH Sirocco Automatic Air Dehydrator is presented in Figure 1 below.

1...DRYING CANISTER #1
2..DRYING CANISTER #2
3..OUTLET MANIFOLD
4..EVAPORATOR TRAY
5..POWER SWITCH
6..AC POWER SUPPLY MODULE
7..OUTLET SOLENOID #2
8...OUTLET SOLENOID #1
9..AC SWITCHING POWER SUPPLY
10..DUAL DIAPHRAGM BRUSHLESS COMPRESSOR
11..INLET SOLENOID
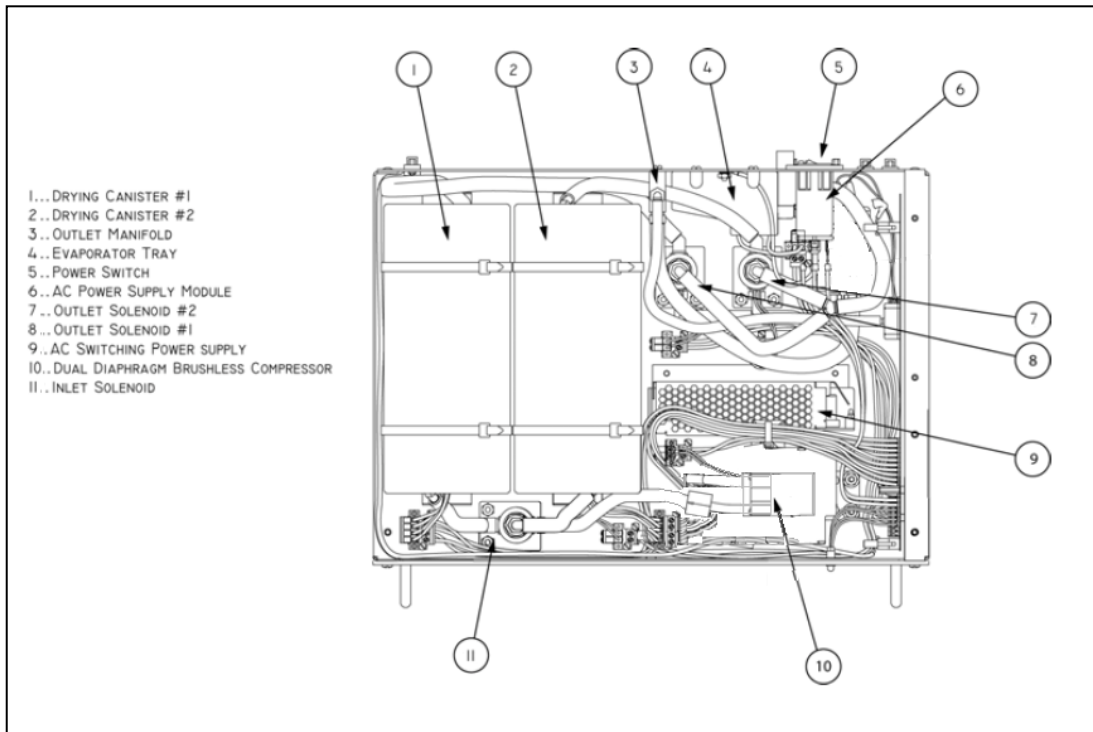
Figure 1. ADH SIROCCO COMPONENTS.

MEAN TIME BETWEEN FAILURE STATEMENT

ADH SIROCCO™ AUTOMATIC AIR DEHYDRATOR MEAN TIME BETWEEN FAILURE RELIABILITY STATEMENT
Environmental Technology, Inc., hereby confirms that all original components and spare or replacement parts used in the ADH Sirocco Automatic Air Dehydrator have the reliability characteristics stated below. The ADH Sirocco meets or exceeds our previous generation of automatic air dehydrators in all aspects of fit, form, and function.
ADH Sirocco - Overall Reliability Mean Time Between Failure (MTBF) Rate: More than 75,000 hours when maintaining a 5% or lower duty cycle.

ADH Sirocco AUTOMATIC AIR DEHYDRATOR ORIGINAL COMPONENT AND REPLACEMENT PART RELIABILITY LIST				
Item Number	Part Description	Replacement Part Number	MTBF (hours)	Storage (°C)
1	Main Circuit Board	23253	75,000+	-40 to +60
2	Compressor Assembly	23216	160,000+	-40 to +60
3	Absorption Unit (Air Drying Canister)	23218	96,000+	-40 to +60
4	Power Filter Module and Switch (AC)	23446	458,900+	-40 to +60
5	Discharge Manifold with safety relief valve	23173	100,000+	-40 to +60
6	Solenoid, Right Outlet	23269	150,000+	-40 to +60
7	Solenoid, Left Outlet	23214	150,000+	-40 to +60
8	Solenoid, Inlet	23270	150,000+	-40 to +60
9	ADH Sirocco Manual	24431	–	-40 to +60
10	AC Power Supply Module	23445	420,500+	-40 to +60

ETI Products and Accessories:
http://www.networketi.com/products.htm
Telecom Products and Data Sheets:
http://www.networketi.com/products.htm
Telecom manuals:
http://www.networketi.com/telecom_manuals.html

DESCRIPTION AND THEORY OF OPERATION

A detailed product description and theory of operation for the ADH Sirocco automatic air dehydrator are presented below.

FUNCTION

Unpressurized transmission lines allow the entry of moist ambient air through leaking seals and cracks. When the line passes from one environment to another (such as entering a shelter from the antenna outside) or when there is a change in existing environmental conditions (such as a weather front or nightfall) the pressure and/or temperature changes in the air will result in the collection of water inside the line. This is normally the result of the ambient temperature dropping below the dew point. Water in transmission lines causes corrosion, voltage arcing, and increased VSWR, all of which reduce system performance.

The ADH Sirocco automatic air dehydrator prevents the accumulation of moisture in transmission lines by maintaining the pressure and dew point of the air inside the line. Supplying low pressure dry air, the ADH Sirocco keeps waveguides, air-dielectric coaxial cable and related components used in earth station and terrestrial UHF and microwave communication systems dry.

PRINCIPAL CONSIDERATIONS

The ADH Sirocco automatic air dehydrator works best supplying dry air in a flowing system, where the dehydrator completely replaces the air on a regular basis. Consequently, the equipment being supplied dry air should have a bleed system. For a waveguide, this is best accomplished by slightly opening a purge valve at the window end of the system. Installing a pressure relief valve, purposely set higher than the High Limit Target Pressure, will allow the solar pressure gain to bleed off. This will provide for greater system stability and repetitive daily performance and results. Likewise, air dielectric coaxial cable should be equipped with a valve at the far end which can be set to allow a small continuous bleed. Many systems will have sufficient normal leakage that such actions might not be necessary. For optimal performance and life expectancy of the dehydrator, a duty cycle between 1% and 10% is recommended.

The ADH Sirocco has check valves in the air path and a pressure relief valve. A tightly sealed system may experience a pressure increase with a rise in ambient temperature. The ADH Sirocco will relieve such build-up should it reach 8 psig (552mbar) but it is advised the ADH Sirocco not be used as the only means of overpressure protection.

DEHYDRATION SYSTEM

The ADH Sirocco is a low pressure automatic air dehydrator. Low pressure air provides personnel and equipment safety along with energy efficiency. Activated alumina is used as the drying agent. Alumina, or aluminum oxide, is an energy efficient desiccant with a long life expectancy.

Air is dehydrated by passing it through one of two drying canisters containing the drying agent. Dry air is delivered to the communications equipment through a connection in the rear panel. The moisture is removed from the drying canisters by heat. The default configuration provides dry air at 0.5 psig (34.5mbar) and is capable of delivering 26 cubic feet of air per hour (12.3 liters per minute).

Two drying canisters provide a continuous supply of dry air. One unit is active while the other is maintained in stand-by or being regenerated. Under normal circumstances, the dew point of the air is nominally -70°C, with a maximum value of -40°C. The unit operates on one canister for a pre-determined length of time, after which, the stand-by drying canister is brought into service and the used canister is regenerated. The drying canister being regenerated is heated internally until a temperature is attained which will convert all absorbed water into steam. The resulting vapor is purged by pumping ambient air through the drying canister and collecting the water in an evaporator where it is again heated and driven off as water vapor. No drain line or special ventilation is needed.

PRESSURIZATION

The single-diaphragm compressor features a brushless motor with a 15+ year life expectancy. It provides a maximum unrestricted flow rate of 6 lpm (12.7cfh). The discharge pressure cycles between two limits. These limits are user-configurable in a range between 0.20 psig and 7.50 psig (13.8mbar - 57mbar). Additional information regarding user-configurable settings is provided later in this manual. A safety relief valve operates at 8 psig (552mbar) to provide over-pressure protection for the compressor.

A solid state pressure transducer senses discharge pressure. The transducer's signal is digitized and processed to control the compressor. The compressor comes on when the pressure reaches the Minimum Pressure (Low Limit Target Pressure) and shuts off at the Maximum Pressure (High Limit Target Pressure).

Note: If the temperature inside the unit is measured at less than 32°F (0°C), the dehydrator will not turn the compressor on.

Typically, the system should be tight enough to limit the duty cycle to less than 20%. Dehydrator life decreases as duty cycle increases. A Duty Cycle Alarm occurs if the duty cycle exceeds the configured Duty Cycle Alarm level. The factory default Duty Cycle Alarm level is 50%.

DISPLAYS

Standard display configuration includes two LED indicators on the front panel, for POWER and SUMMARY ALARM, and an OLED display. Refer to Figure 2.
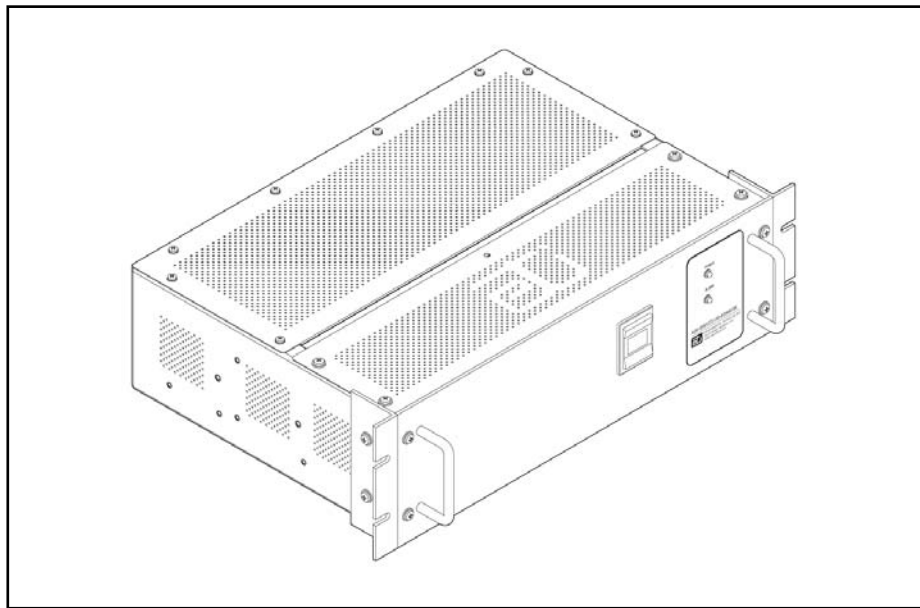
Figure 2. THE ADH SIROCCO.

The ADH Sirocco automatic air dehydrator includes three alarm relays which communicate alarm conditions. These are configured at the factory for Summary Alarm, Low Pressure Alarm, and Dew Point Alarm, though the third alarm relay can be configured by the operator to indicate any of the alarm conditions tracked by the dehydrator. Each relay has one contact which closes on an alarm condition, or loss of power, and one contact which opens under the same circumstances. Refer to Table 2 on page 76 for more information.

SUPPLY POWER

The ADH Sirocco automatic air dehydrator has a switching power supply which operates from 100 to 240 VAC, 50/60Hz. The unit does not require any user adjustments to operate within the allowed supply power range.

CANISTER REGENERATION

Drying canister regeneration is controlled by the microprocessor. A thermocouple monitors the temperature of the drying canister. The drying canister is heated until the desired temperature is reached. The drying canister and its contents are allowed to soak at this temperature for approximately two and one-half hours. The drying canister is then purged by pressurized air into the internal evaporator tray, eliminating the need for a drain line.

If the drying canister fails to reach the desired temperature, it is declared dead and an error is issued. The drying canister is allowed six (6) hours to cool. If it fails to cool to less than 18°F (10°C) above the ambient temperature, the unit is declared dead and an error is issued.

CONDITIONS FOR REGENERATION

The amount of time that a drying canister is in service is recorded by the ADH Sirocco. As a precaution, if a drying canister stays in service for 200 hours, the ADH Sirocco will place that canister into regeneration even though moisture has not reached levels that would be considered wet. This ensures that the drying agent is periodically regenerated even in low dew point conditions to extend the life of the drying agent and ensure peak operation of the dehydrator. When power is initially applied to the unit, operation begins with the use of one drying canister, while the other is started on a regeneration cycle.

SENSORS

The ADH Sirocco automatic air dehydrator has four internal sensors. There are three temperature sensors: the ambient air temperature sensor on the control board, as well as a temperature sensor on the housing of each of the two drying canisters. A fourth sensor, located on the control board, measures the discharge air pressure.

CONTROL BOARD

The ADH Sirocco uses a single control board which includes the microprocessor, the pressure sensor, and I/O connections for both internal control and external alarms, and the ambient temperature sensor. The microprocessor controls all internal dehydrator functions. It acts on data collected from various sensors to control operation of the compressor, absorption canister heaters, and solenoid valves. It monitors system operation and generates status and alarm conditions which are communicated via LED indicators (power and summary alarm), and alarm relays.

MACHINE PREPARATION AND SET-UP

To begin installation, connect the proper fitting and air line, as well as the various cables, to the back panel. Refer to Figure 3. Two types of brass fittings are supplied. They are not interchangeable, though both install in the same way. The first type, Part Number 18198, connects a 1/8" NPT to a 1/4" barbed fitting. The second type of fitting, Part Number 23428, connects a 1/8" NPT to a 3/8" barbed fitting. It is recommended to use Part Number 23428, with the 3/8" barbed fitting, on runs of longer than one hundred (100) feet or about 30 meters.
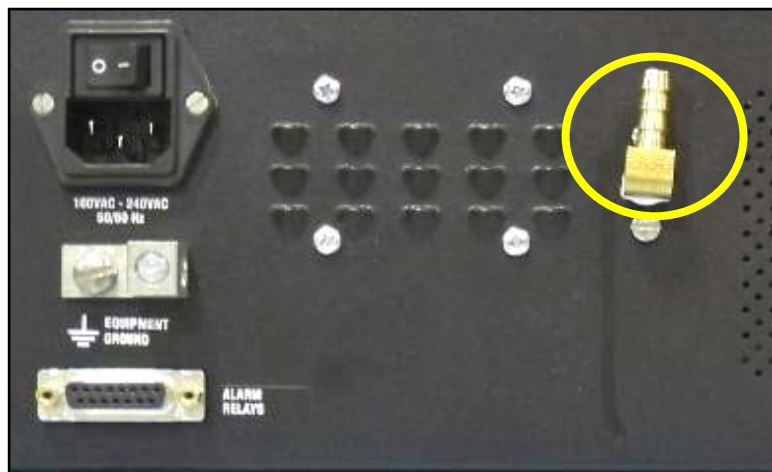
Figure 3. ADH SIROCCO REAR PANEL
(with fitting installed)**.**

1.   Before installing the fitting, apply Teflon® thread tape (or compatible thread sealant) around the threads of the fitting. Refer to Figure 4.


Figure 4. THREAD TAPE ON FITTING.

2.   Install and finger-tighten the fitting into the port on the back of the unit. Using a wrench, fully tighten the fitting onto the port. Carefully rotate the fitting with the wrench at least two more turns to the right or clockwise until fully tightened into the back of the unit.

3.   Once the brass fitting has been properly installed onto the port, secure the air hose in place on the fitting by pressing the hose tightly onto the fitting.

4.   Connect the other end of the hose into the fitting on the waveguide flange or the component to be pressurized with dry air.

5.   Before connecting the power cable, ground the chassis by connecting the ground lead to the Equipment Ground terminal on the back of the unit. Refer to Figure 5. The 3-prong power cable provides ground protection, as well, but this provides additional ground protection for increased safety.
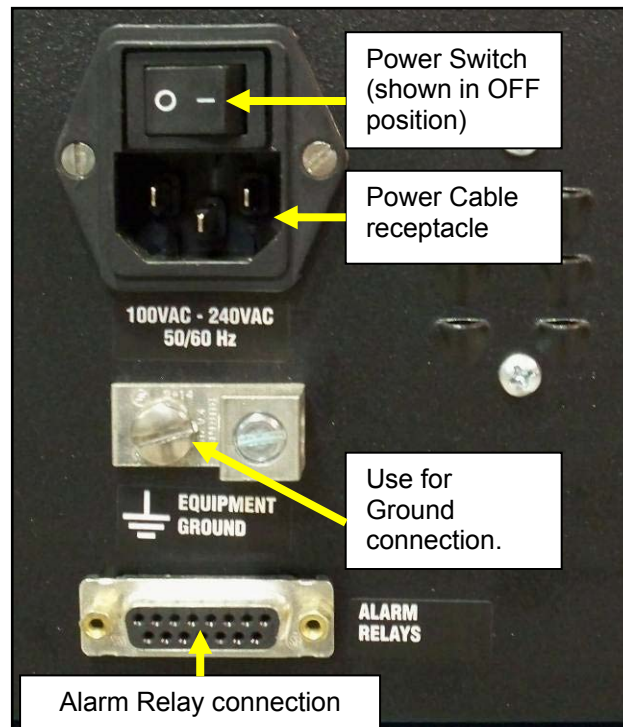
Figure 5. ADH SIROCCO REAR PANEL DETAIL.

6.   For optional remote communication of the alarm conditions, connect a DB15 connector to the Alarm Relays port. The three alarm relays are reverse acting, meaning that the state they take when there is an alarm is the same state they take when there is no power. Refer to the Alarms section of this manual for specific pin assignments.

7.   With the ground wire connected, make sure that the power switch is in the OFF or "O" position, then connect the power cable to the unit and plug it into a surge protecting electrical outlet power strip. Leave the power switch in the OFF position.

INSTALLATION

The ADH Sirocco automatic air dehydrator can be rack mounted or mounted to a wall. Refer to Figure 6, as well as the information below.

| Rack Mount | Wall Mount |
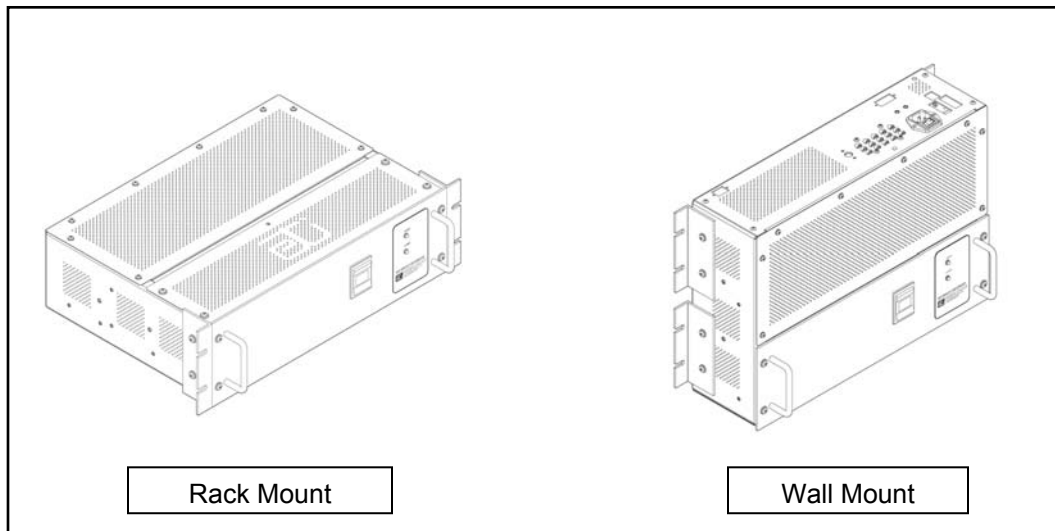
**Figure 6. A STANDARD ADH SIROCCO CONFIGURED FOR
RACK MOUNT OR WALL MOUNT INSTALLATION.**

To configure the dehydrator for wall mount installation, remove the front panel and the portion of the vented cover with the ETI logo, then re-install each where the other had been. Reinstall the front panel so that it will be in the new front position once the dehydrator is positioned for wall mounting. Reinstall the small vented panel so that it will be in the new bottom position. Refer to Figure 7.

Unit comes ready for rack mount installation.

To configure for wall mount installation, remove and switch panels as shown.
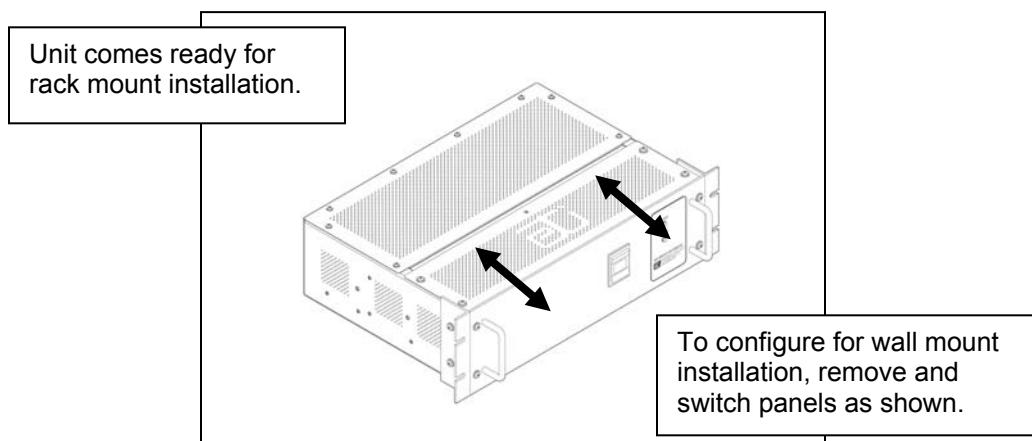
Figure 7. SWITCHING PANELS FOR INSTALLATION.

RACK MOUNTING

The ADH Sirocco automatic air dehydrator can be mounted in a standard 19" communications rack at one of four depths utilizing two mounting locations. Mounting depths available are flush, 2", 6", and 8". Refer to Figures 8 through 17. The side panels of the chassis contain tapped holes (#8-32) to facilitate installation. The dehydrator should be mounted using chassis slide rails (not supplied) or on support channels mounted on the inside of the relay rack. Because the dehydrator seldom requires operator attention, a location in the lower portion or extreme upper portion of the rack may be considered.

CAUTION

Before and after rack mounting the ADH Sirocco, ensure that the rack is stable. Mounting of the unit into the rack should be such that a hazardous condition is not created due to uneven mechanical loading. Verify that adequate air flow and power supply capacity is available to the unit. Ensure that the maximum operating temperature of 113°F (45°C) will not be compromised by other components in the rack. Ensure reliable earthing of the ADH Sirocco.
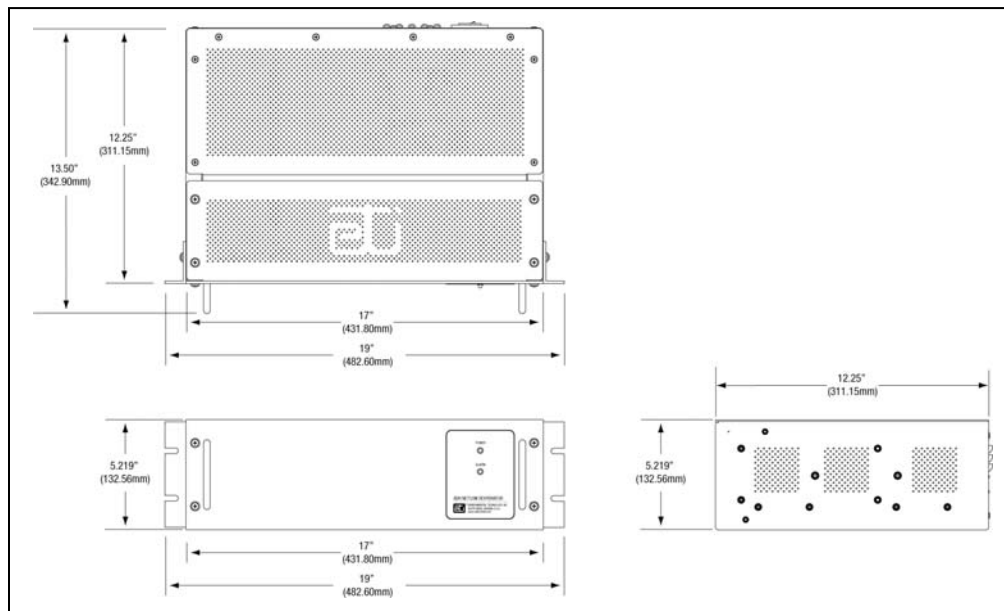
Figure 8. ADH SIROCCO RACK MOUNT DIMENSIONS.
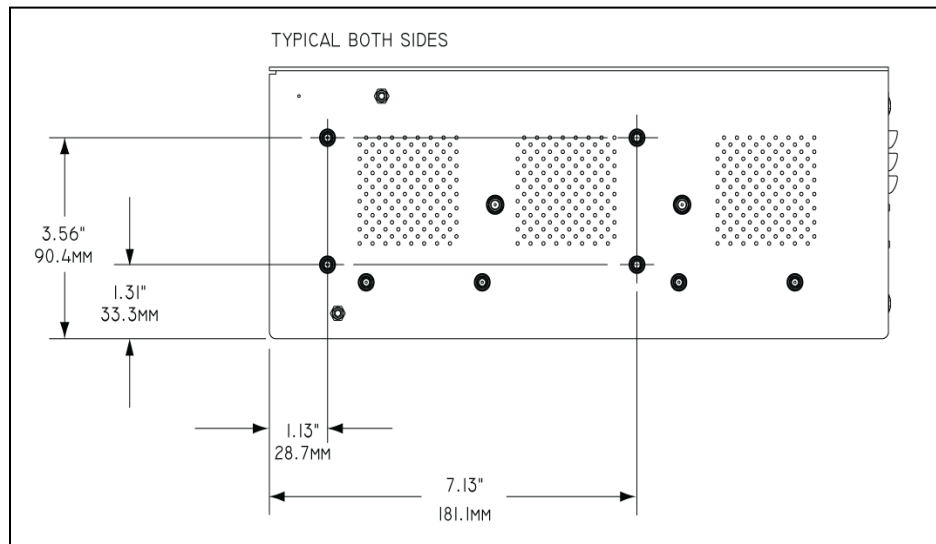
**Figure 9. ADH SIROCCO RACK
MOUNT HOLE DIMENSIONS.**
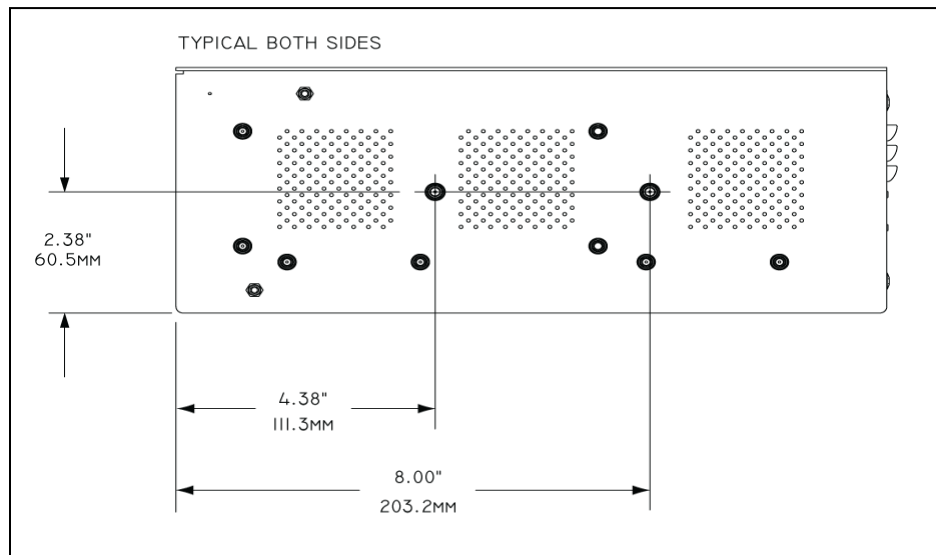
**Figure 10. ADH SIROCCO SLIDE RAIL
MOUNT HOLE DIMENSIONS.**

Install mounting brackets as shown for flush mount installation (2 places).
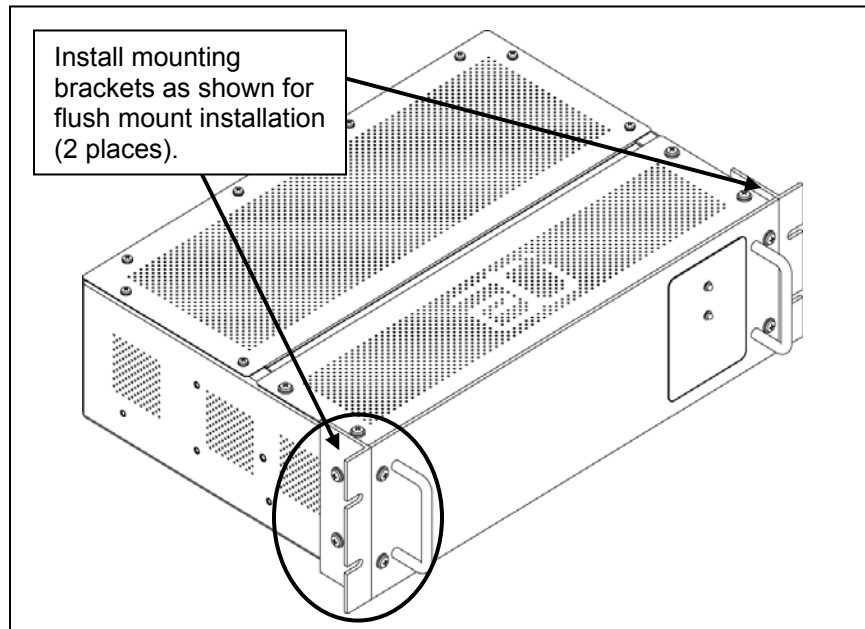
Figure 11. MOUNTING BRACKETS IN FLUSH MOUNT POSITION.

Install mounting brackets as shown for 2-inch depth mount installation (2 places).
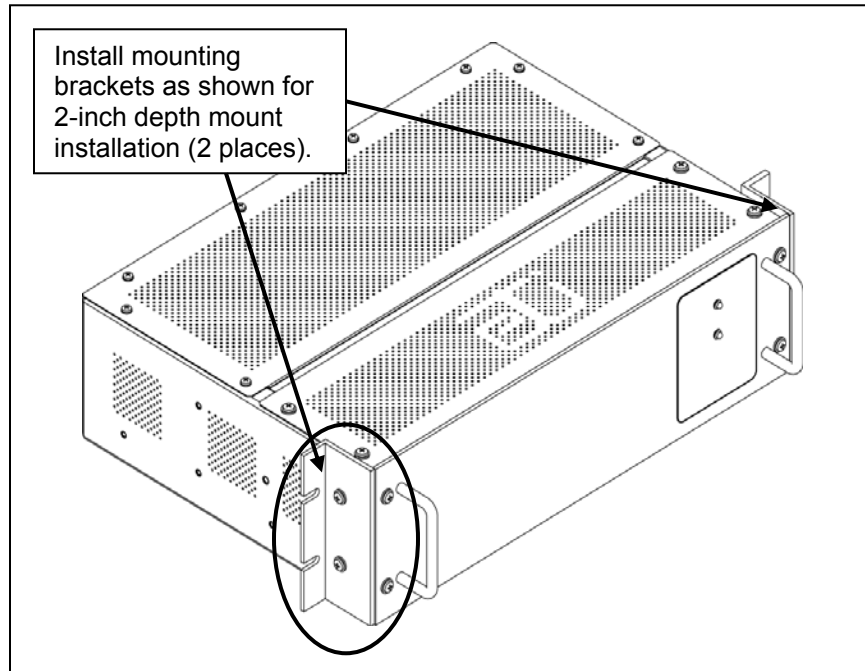
Figure 12. MOUNTING BRACKETS IN 2-INCH DEPTH POSITION.

Install mounting brackets as shown for 6-inch depth mount installation (2 places).
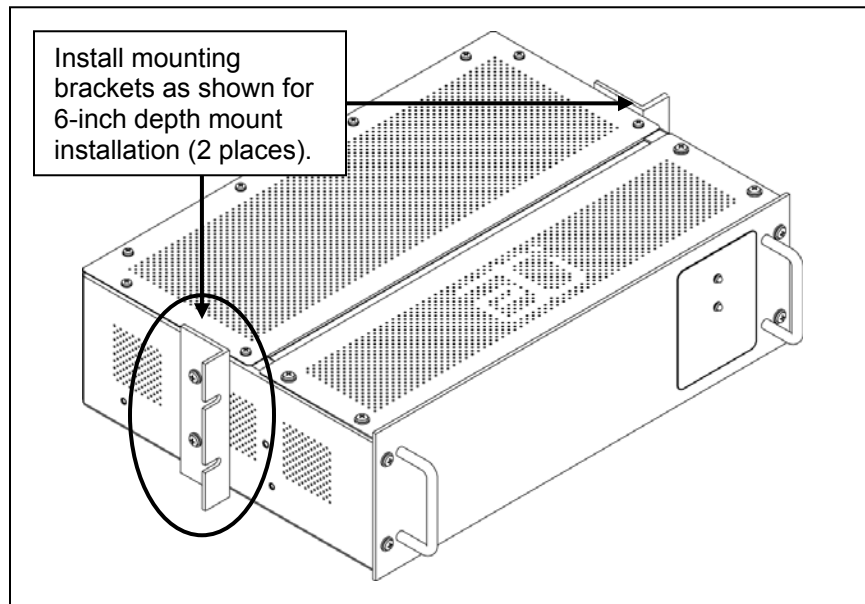
Figure 13. MOUNTING BRACKETS IN 6-INCH DEPTH POSITION.

Install mounting brackets as shown for 8-inch depth mount installation (2 places).
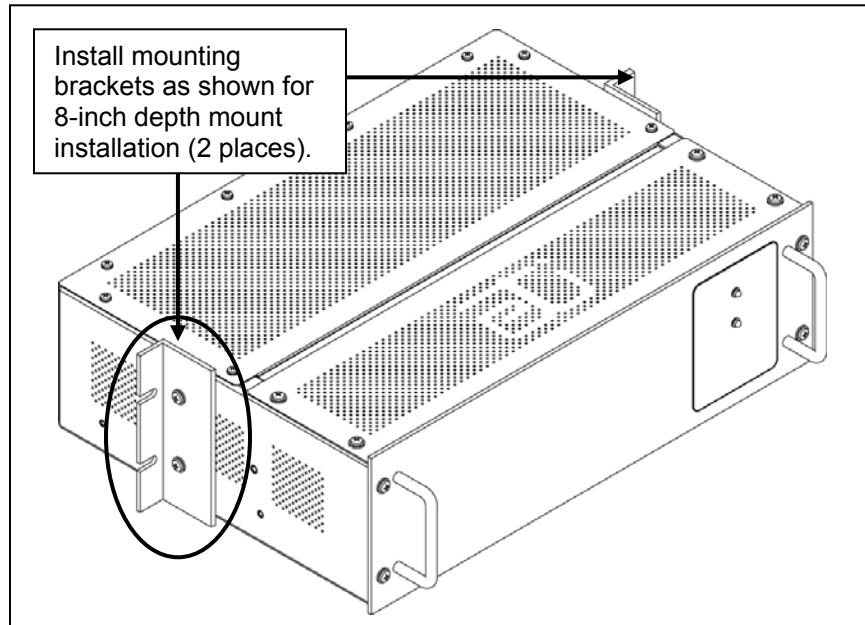
Figure 14. MOUNTING BRACKETS IN 8-INCH DEPTH POSITION.

WALL MOUNTING

Wall mounting an ADH Sirocco requires an area approximately 17″ high by 19″ wide, and will project almost 6″ out from the wall. Refer to Figure 15. Plan your installation so that the ADH Sirocco will not interfere with normal traffic patterns at your site. Ensure that the wall mounted unit has sufficient clearance above the connection panel to facilitate access to the power, communications, and pneumatic interfaces.
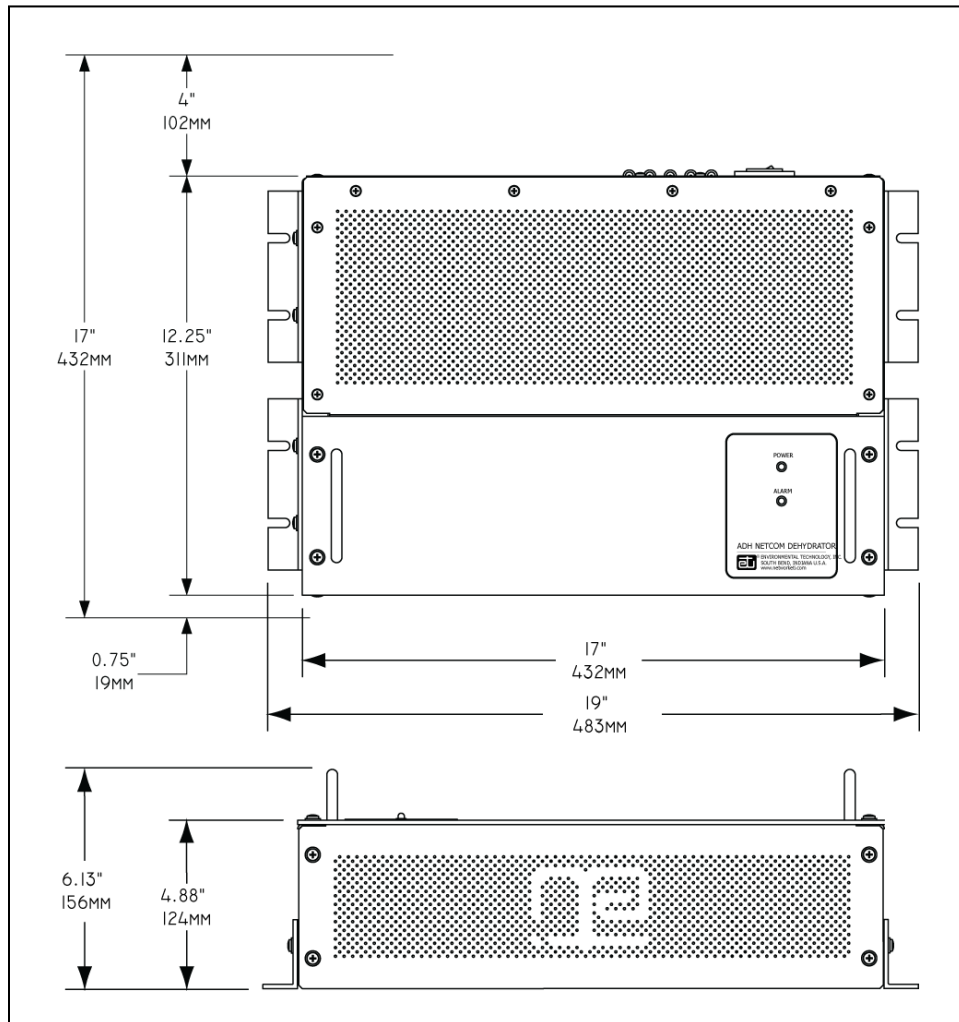
Figure 15. WALL MOUNT DIMENSIONS.

To wall mount an ADH Sirocco automatic air dehydrator, all four mounting brackets are used. Refer to Figures 16 and 17. The mounting brackets will accommodate fasteners up to 1/4″ (6mm) in diameter. The choice of anchors and companion hardware should be appropriate for the mounting surface. At least four anchors (minimum one per mounting bracket) should be used and each should be capable of supporting at least 16 pounds (7.3 kg). If more than four anchors are used, it is recommended that the combined load capacity be at least 64 pounds (29 kg).

TYPICAL BOTH SIDES

10.19"
258.8MM

7.94"
201.7MM

4.13"
104.9MM

1.88"
47.8MM

1.00"
25.4MM
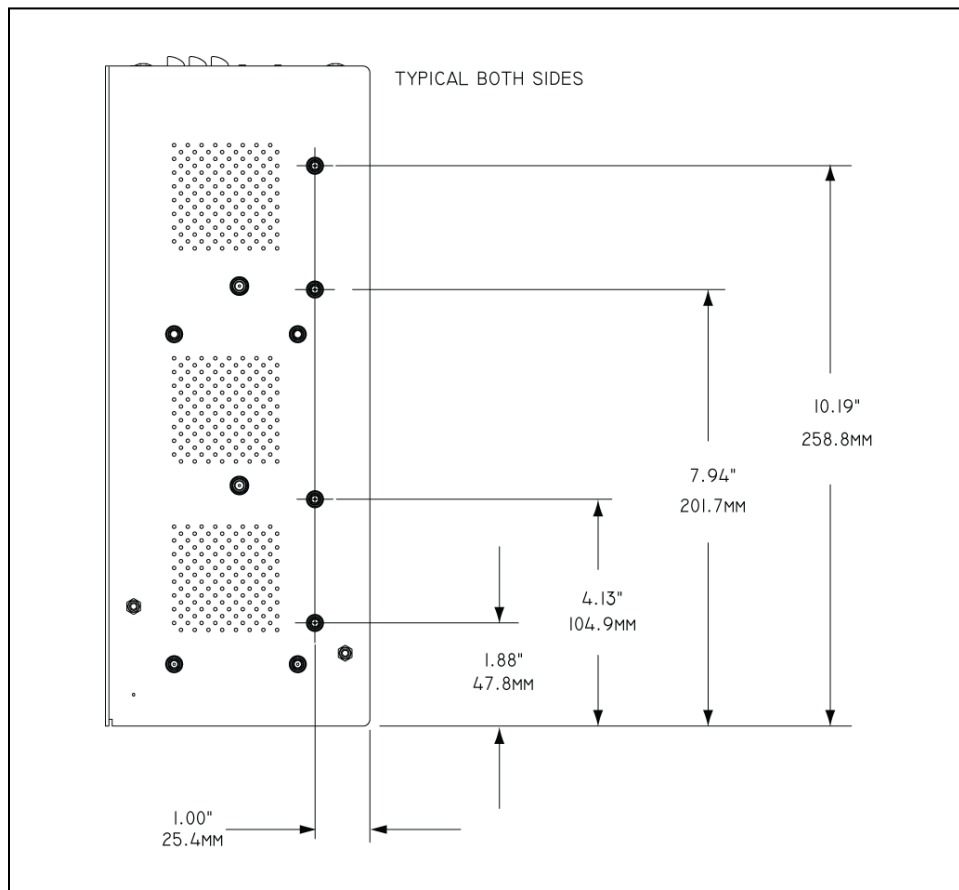
Figure 16. WALL MOUNT BRACKET HOLE DIMENSIONS.
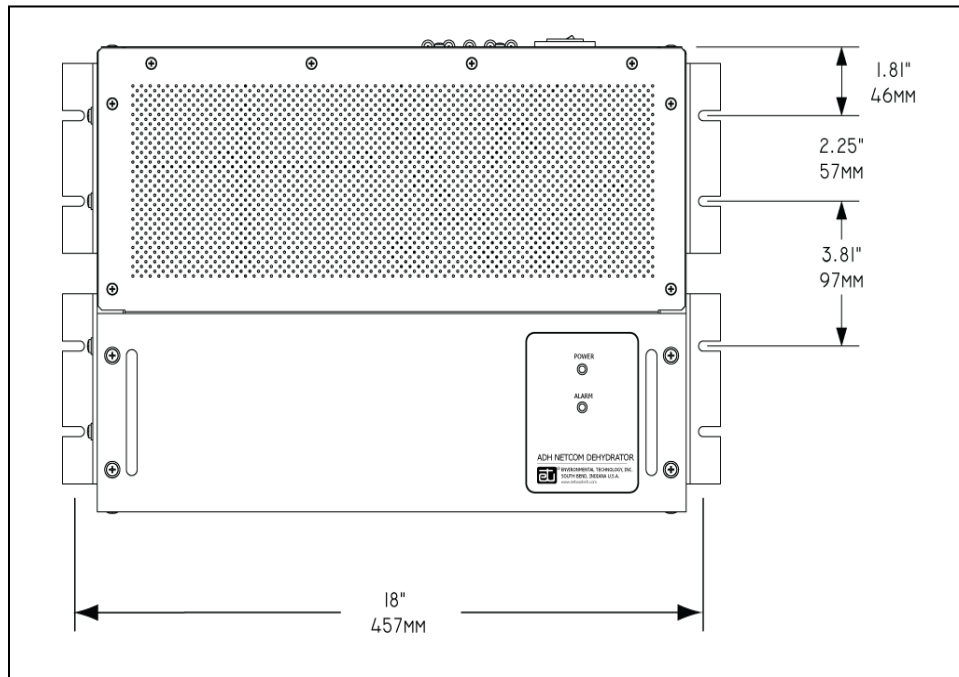
Figure 17. WALL MOUNT POINT DIMENSIONS.

POWER CONNECTIONS

The ADH Sirocco uses a standard NEMA 5-15P to IEC 320-C13 power cord (included, Part Number 17618). If the power cord is not already connected, place the unit power switch in the OFF position, then connect the power cord.

GENERAL TIPS FOR USING THE ROCKER SWITCH

The following tips will help you work with the rocker switch as you perform the various operations you can do with it. As you will see from reading this section, as well as from working with the unit, if you focus on what you're doing, you cannot make a mistake. You will have ample opportunity after making or changing any system setting to cancel or discard any changes you just made, should you change your mind or realize that you changed the wrong setting or that you changed the intended setting but entered the wrong number or value.

In every case without exception, there are at least two screens you will see after changing any setting and before returning to the system pressure Main screen, both of which screens will give you the opportunity to cancel any incorrect or undesired changes you might make by mistake before those changes can take effect or have any adverse or undesired impact on system operation.

1.   A 3-position rocker switch serves as the control button for the dehydrator. Use the middle section of the rocker switch, the part with the display window in it, as an Enter or Select key. Use the lower edge of the rocker switch as a next or down arrow. Use the upper edge of the rocker switch as a last or up arrow. Refer to Figure 18. To display the system set-up screens, press and hold the middle of the rocker switch for about one and a half seconds until the display changes. Once you have started the "change" mode, it will not be necessary to press and hold the middle of the rocker switch for nearly as long; typically, just press it and release it.
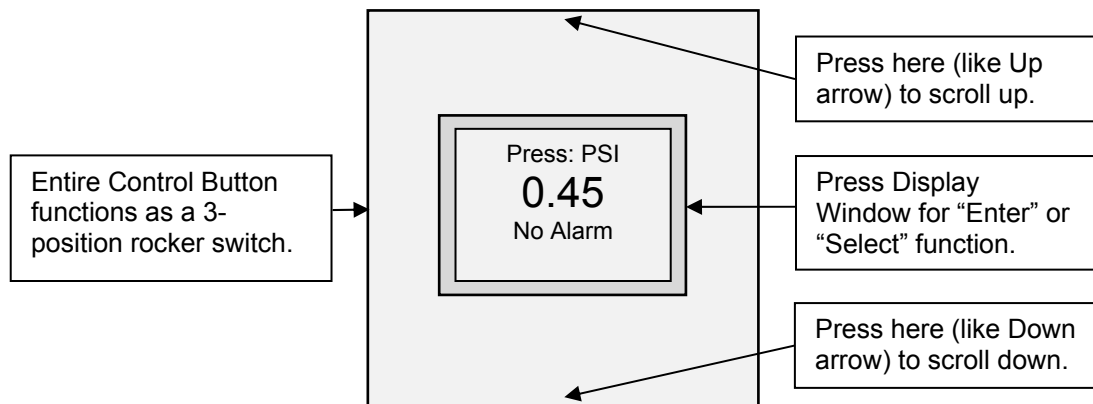
Figure 18. THE ADH SIROCCO MAIN SCREEN.

2. If you thought you were in the Edit Cfg function but selected the View Cfg function by mistake, you will not see any of the lines highlighted on the change or settings screens. Refer to Figure 19. Similarly, if you wish only to view the current settings but happen to enter the Edit Cfg routine by mistake, you can still view the current operational settings while in the Edit Cfg mode; just don't change anything.

UNIT	English
LALM	0.15
LLIM	0.30
HLIM	0.50
HLRM	1.50
Hum Sensor	Y
Hit a key	

UNIT	English
LALM	0.15
LLIM	0.30
HLIM	0.50
HLRM	1.50
Hum Sensor	Y
Keep	Cancel

The View screens have no highlight line.

The Edit screens have a highlight line.
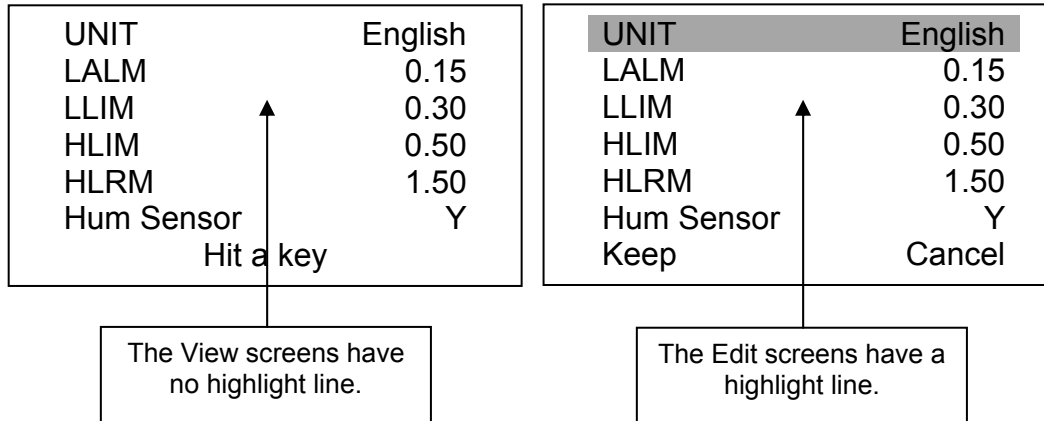
Figure 19. SAMPLE VIEW AND EDIT SCREENS.

3. At the bottom of every change screen, as well as the screen leading directly into or out of it, is a "Can" or Cancel option. Refer to Figure 20. To cancel or discard a change, scroll down to highlight "Can" at the bottom of the screen, then select it by pressing the middle of the rocker switch. The message Edit DONE will appear and the previous screen will display. Similarly, if you select the Keep option at the bottom of the change screen itself, but then select the Cancel option at the bottom of the next screen, the message Edit QUIT will appear and the system pressure Main screen will display. Either way, you can always cancel any setting made in error before that change takes effect. Following a cancellation, you may repeat the change process, as desired.

Operat'n	UNIT	English
Alarms	LALM	0.15
Display	LLIM	0.30
	HLIM	0.50
Save Can	HLRM	1.50
	Hum Sensor	Y
	Keep Cancel	

DCycl 50	Screen 2
SCTim 01	Saver(s)
Alrm3Sel	Brite 10
Keep Can	Keep Can

Figure 20. SAMPLE CANCEL SCREENS.

4.   If you should happen to "lose your place" while working with the various screens and wish to return to the system pressure Main screen, scroll down to highlight the Keep or Return option (depending on the specific screen) on the last line of most of the screens, then press the middle of the rocker switch. Refer to Figure 21. Repeat as necessary, highlighting Return then pressing the middle of the rocker switch, until the system pressure Main screen appears. When finished, view the settings to make sure they are set as desired. If not, begin the Edit Cfg process again as directed in this manual.

View Cfg	Operat'n
Edit Cfg	Alarms
Passcode	Display
Return	Return

Figure 21. THE RETURN OPTION.

5. After changing any of the configuration settings using the Edit Cfg mode, it is recommended to go back into the settings screen using the View Cfg mode to review the settings after they've been changed, just to make sure that they were changed and are now set as desired. If not, you can go back into the Edit Cfg mode to change whichever setting(s) you desire. When finished, write down all of the current configuration settings in case they ever need to be restored.

6. It is recommended to write down all system settings as shown on the various configuration screens so that if any of the settings should ever be lost or changed accidentally, they can always be reconfigured.

7. The section of this manual entitled Operational Procedures has been divided into specific "how-to" procedures which, if desired, can be photocopied and displayed at or near the dehydrator work area for easy use and reference.

ADH SIROCCO SOFTWARE MAP

The software map below presents the major screens and user functions on the ADH Sirocco automatic air dehydrator. The individual procedures in this manual present one screen at a time as they will be seen during operation. This guide, however, presents an overview of the screens and functions and provides greater understanding than is possible from seeing only one screen at a time. Note that all spellings are as shown on the unit display screen.

		View Cfg / Edit Cfg	

Save Can(cel)	Display	Alarms	Operat'n
	Screen 2 Saver(s) Brite 10 Keep Can	DCycl 50 SCTim 01 Alrm3Sel Keep Can	Unit English LALR 0.15P LLIM 0.30P HLIM 0.50P HLRM 1.50P Hum Sensor Y Keep Cancel

To view the current settings only without changing them, select the View Cfg option. To actually change the current settings, select the Edit Cfg option. Listed below are the functions associated with each screen.

Select the <u>Display</u> option to:
- change the <u>screen saver time setting</u>
- change the <u>brightness setting</u>

Select the <u>Alarms</u> option to:
- change the <u>duty cycle alarm setting</u> (DCycl)
- change the <u>short cycle time alarm setting</u> (SCTim)
- change the <u>alarm relay #3 configuration</u> (Alrm3Sel)

Select the <u>Operat'n</u> option to:
- change the <u>display unit of measure</u> (Unit)
- change the <u>low pressure alarm level setting</u> (LALR)
- change the <u>low limit target setting</u> (LLIM)
- change the <u>high limit target setting</u> (HLIM)
- change the <u>high pressure alarm level setting</u> (HLRM)
- configure the unit for the optional <u>humidity sensor</u> (Hum Sensor)

OPERATIONAL PROCEDURES

The ADH Sirocco automatic air dehydrator is controlled using a 3-position rocker switch. Refer to Figure 22. Pressing the rocker switch in the middle, directly on the display screen itself, works like an Enter or Select button. On screens which present several lines of information, use the bottom of the rocker switch to scroll down or the top of the rocker switch to scroll up to highlight the various lines.
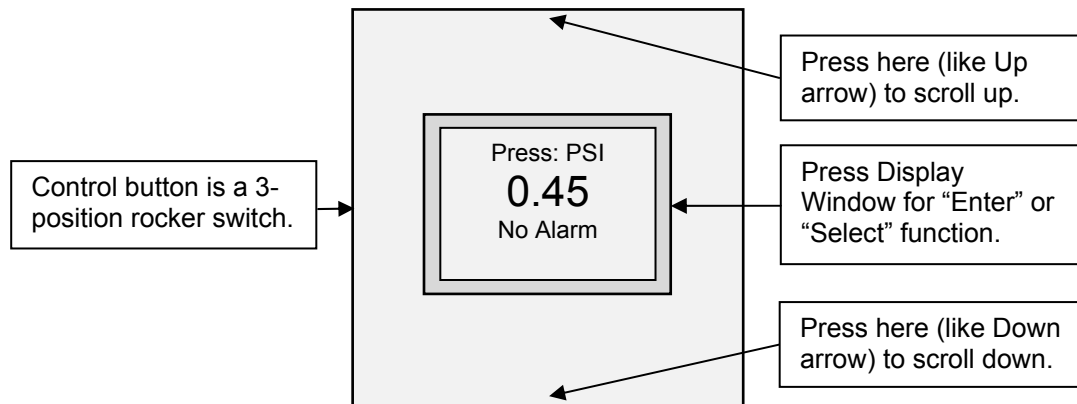
Figure 22. THE ADH SIROCCO SYSTEM PRESSURE MAIN SCREEN.

This display of the current system pressure is the Main screen. This is the screen which will display most of the time. From this screen, all other system screens and functions are accessible. The Main screen shows three lines of information. The top line is the current unit of measure of the system pressure reading (PSI or mbar); the second line, in larger type, is the current system pressure reading itself; and the third line displays any current alarm conditions. Should there be more than one current alarm condition, the third line of the Main screen will display all current alarm conditions in succession.

There are, in fact, several screens which display system status information. To access these screens, press either the top edge or the bottom edge of the rocker switch and these system status screens will display in succession. Whether you press the top or the bottom edge of the rocker switch, those status screens will display in turn, then return to the Main or system pressure screen.

- Temperature (in degrees F or degrees C)
- Canister Status (canister condition and usage; see next page for details)
- Duty Cycle (expressed as a percentage)
- Cycle Information (the On and Cycle times; see next page for details)
- Compressor Hours (lifetime; in hours)

The Canister Status screen shows the condition status and usage status of each canister, using 3-letter codes. Refer to Figure 23. The condition codes are:

- UNK – Unknown; the initial state if using a humidity sensor
- INI – Initial; the initial state if no humidity sensor
- DRY – Dry; the normal condition
- WET – Wet or full; needs to be regenerated
- DED – Dead; failed regeneration

The two codes are separated by a slash mark. The usage codes are:

- IDL – Idle
- USE – In use (for pressurization)
- REG – Being regenerated

Figure 23 shows a sample Status screen with no current alarm conditions.

Statuses
1DRY/IDL
2DRY/USE
No Alarm

This screen indicates that Canister 1 is idle and that Canister 2 is being used for pressurization.
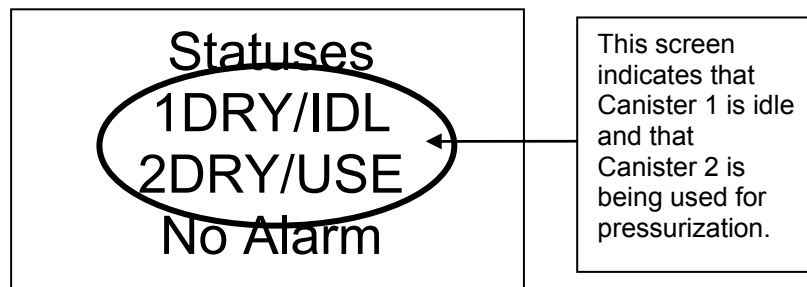
Figure 23. A TYPICAL CANISTER STATUS SCREEN.

The Cycle Information screen presents dehydrator cycling information in seconds (s) or minutes (m), as applicable. Refer to Figure 24. The "On" number is the length of time the compressor is actively pumping; the "Tot" number is the total cycle time, including both the pumping time ("ramp up") and the time in between pumping cycles ("ramp down") before the next pumping cycle starts.

Cycl Info
On 21.7s
Tot 159s
No Alarm

This screen indicates a pump cycle of 21.7 seconds and pumping plus idle time of 159 seconds.
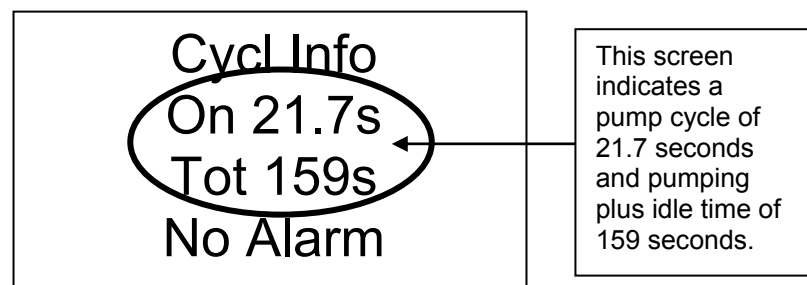
Figure 24. THE CYCLE INFORMATION SCREEN.

The ADH Sirocco automatic air dehydrator has been factory configured to low pressure specifications and retains those settings in memory. This is done to protect the system feed horn window during initial system start-up. Check your feed horn window specifications to confirm this prior to applying system power. Upon initial start-up, it is perfectly acceptable to let the system operate using the default settings.

If you do operate the dehydrator initially using the default settings, observe system performance for a certain period of time, in light of your specific system requirements. Then, if you choose to change any of the default settings, you may do so at any time. You may, in fact, change the system settings as often as you need to, remembering that it might take some time for system performance to stabilize after certain settings have been changed.

Several advanced functions are available which are used only for troubleshooting or diagnostic purposes. These functions are passcode protected and are not part of normal operations. They are used only when working with Technical Support personnel when trying to resolve a specific situation. Passcodes do not refer to, nor are they assigned to, specific personnel at your site. Rather, passcodes are based only on the specific function selected. Should it become necessary to use one of these advanced functions, your Technical Support representative will provide you the passcode for that function at that time.

If you should happen to select an option which requires or is protected by a passcode, you will be prompted to enter the relevant passcode for that option. If this happens and you didn't mean to select whichever option prompted the passcode request, wait a few seconds, press nothing, and the display will "time out" then return to the previous screen.

Finally, you will notice that some words on some of the screens have either been abbreviated or appear misspelled in some way. As the screen is small, this was done deliberately to present the operator with the greatest number of options, as well as the greatest amount of control.

VIEWING THE SYSINFO SCREEN

As a basic introduction to using the rocker switch, try viewing the Sysinfo screen. This will help familiarize you with the touch or response of the rocker switch without the risk of accidentally changing or deleting anything before you go in to view or change any of the actual system settings.

To view the Sysinfo screen, perform the steps below.

1.   With power running to the unit, press and hold the middle of the rocker switch until you see the Configure screen. Refer to Figure 25. The top line, Configur, will already be highlighted.

<div align="center">

Configur
Sysinfo
Advanced
Return

</div>
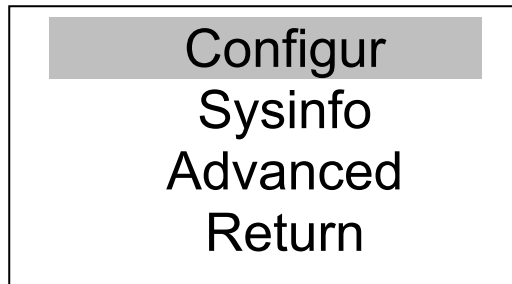
Figure 25. THE CONFIGURE SCREEN (with Configur highlighted)**.**

2.   When the Configure screen appears, press the bottom of the rocker switch to scroll down to highlight the second option: Sysinfo. Refer to Figure 26.

<div align="center">

Configur
Sysinfo
Advanced
Return

</div>
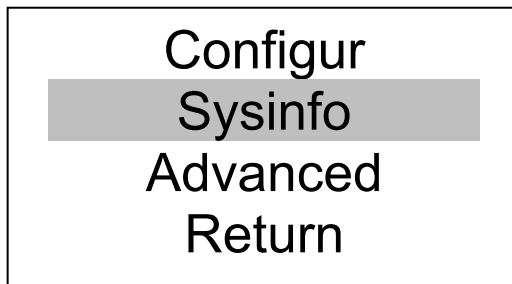
Figure 26. THE CONFIGURE SCREEN (with Sysinfo highlighted)**.**

3. With Sysinfo highlighted, press the middle of the rocker switch to select it. The Sysinfo screen will be displayed. Refer to Figure 27.

Firmware
SIR 1.01
Ser Num
00XX
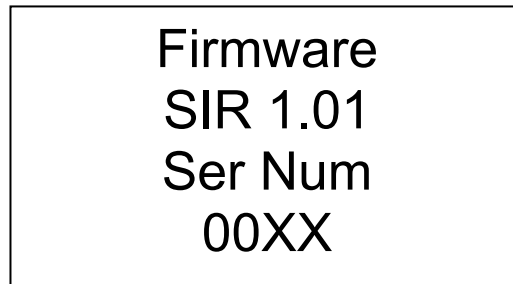
Figure 27. THE SYSINFO SCREEN.

4. On the Sysinfo screen are the Serial Number of the circuit board, as well as the revision level of the firmware inside your unit. There is nothing on this screen that can be changed; it is just for reference should the information be needed. When finished viewing the information, press the middle of the rocker switch to return to the previous screen.

5. Now, use the lower portion of the rocker switch to scroll down to highlight Return. Refer to Figure 28. Press the middle of the rocker switch, and the system pressure Main screen will be displayed.

Configur
Sysinfo
Advanced
Return
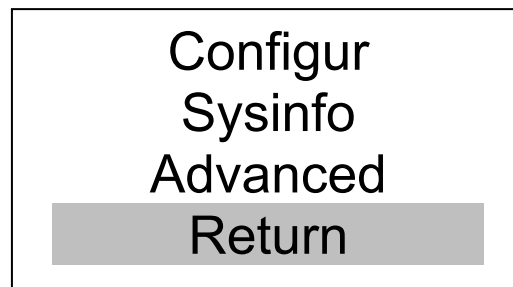
Figure 28. THE CONFIGURE SCREEN.

SETTING THE UNITS OF MEASURE

The ADH Sirocco automatic air dehydrator can be configured to display either English or metric units of measure, as desired by the user. Temperature can be displayed in either degrees Fahrenheit or degrees Celsius, and system air pressure can be displayed in either PSI or mbar. Note that both the temperature and the system air pressure units of measure will be changed at the same time.

<u>To toggle from either unit of measure to the other</u>, perform the steps below.

1. With power running to the unit, press and hold the middle of the rocker switch until the display changes. This will display the Configure screen. Refer to Figure 29.

```
Configur
Sysinfo
Advanced
Return
```
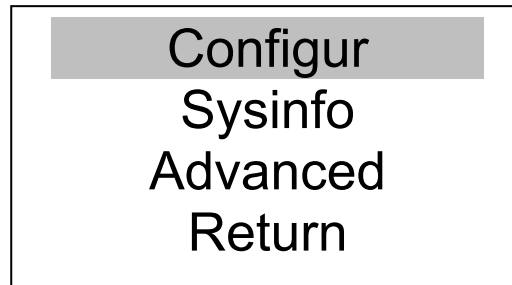
Figure 29. THE CONFIGURE SCREEN.

2. On the Configure screen, the first option: Configur, should already be highlighted. Select it by pressing the middle of the rocker switch. This will display the View / Edit screen. Refer to Figure 30.

```
View Cfg
Edit Cfg
Passcode
Return
```
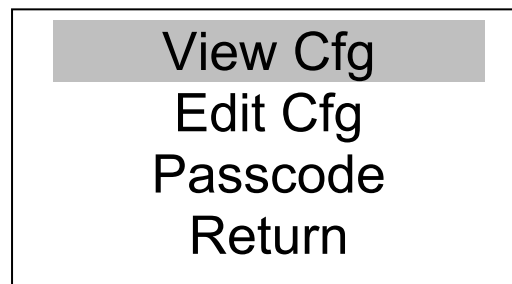
Figure 30. THE VIEW / EDIT SCREEN (with View Cfg highlighted)**.**

3. On the View / Edit screen, View Cfg should already be highlighted. Press the bottom of the rocker switch to highlight Edit Cfg, then press the middle of the rocker switch to select it. Refer to Figure 31.

```
┌─────────────────────────┐
│       View Cfg          │
│  ┌───────────────────┐  │
│  │      Edit Cfg     │  │
│  └───────────────────┘  │
│       Passcode          │
│        Return           │
└─────────────────────────┘
```
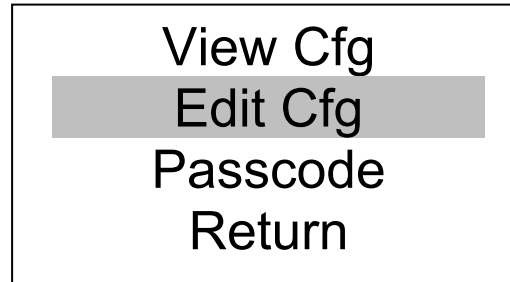
Figure 31. THE VIEW / EDIT SCREEN (with Edit Cfg highlighted)**.**

4. With Edit Cfg highlighted on the View / Edit screen, press the middle of the rocker switch to select it. The Function screen will display. Refer to Figure 32.

```
┌─────────────────────────┐
│  ┌───────────────────┐  │
│  │      Operat'n     │  │
│  └───────────────────┘  │
│        Alarms           │
│        Display          │
│        Return           │
└─────────────────────────┘
```
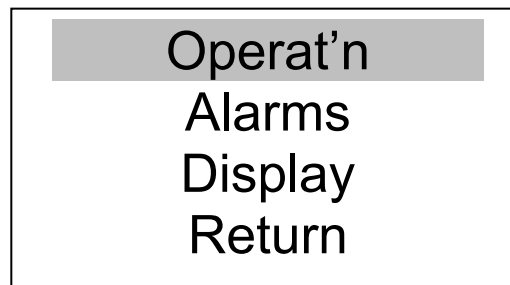
Figure 32. THE FUNCTION SCREEN.

5. On the Function screen, Operat'n should already be highlighted. Press the middle of the rocker switch to select it. This will display the Operational Settings screen. Refer to Figure 33.

```
┌────────────────────────────┐        ┌──────────────┐
│  UNIT           English  ◄─┼────────│ "English" will│
│  LALM              0.15    │        │ display       │
│  LLIM              0.30    │        │ degrees F     │
│  HLIM              0.50    │        │ and PSI;      │
│  HLRM              1.50    │        │ "Metric" will │
│  Hum Sensor          Y     │        │ display       │
│  Keep           Cancel     │        │ degrees C     │
└────────────────────────────┘        │ and mbar.     │
                                       └──────────────┘
```
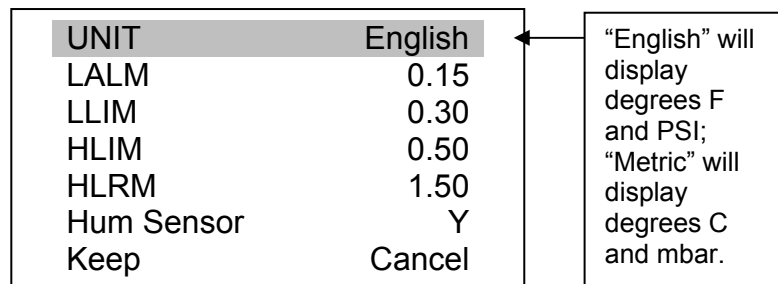
Figure 33. THE OPERATIONAL SETTINGS SCREEN.

6. On the Operational Settings screen, UNIT appears on the top line and should already be highlighted. Press the middle of the rocker switch to select it. The highlight will narrow to just the unit of measure.

7. To toggle from the current unit of measure to the other, press either the top or the bottom of the rocker switch, then press the middle of the rocker switch to enter the change. The entire line will again be highlighted.

8. Scroll down and highlight the Keep option at the bottom of the screen. Press the middle of the rocker switch to select Keep. Refer to Figure 34.

UNIT	English
LALM	0.15
LLIM	0.30
HLIM	0.50
HLRM	1.50
Hum Sensor	Y
Keep	Cancel

Figure 34. THE OPERATIONAL SETTINGS SCREEN.

9. On the Function screen, scroll down to highlight the Save option at the bottom. Refer to Figure 35. Press the middle of the rocker switch to select it.

Operat'n
Alarms
Display
Save   Can

Figure 35. THE FUNCTION SCREEN.

10. On each of the next two screens, scroll down to highlight Return, then press the middle of the rocker switch each time. Refer to Figure 36. The message Edit DONE will appear and the display will return to the system pressure Main screen.

| View Cfg |
| Edit Cfg |
| Passcode |
| Return |

| Configur |
| Sysinfo |
| Advanced |
| Return |

Figure 36. THE VIEW / EDIT AND CONFIGURE SCREENS.

CONFIGURING THE OPTIONAL EXTERNAL HUMIDITY SENSOR

The ADH Sirocco automatic air dehydrator is programmed to alternately regenerate its two air drying canisters based on time in service since their last regeneration. For that reason, the Sirocco can run equally well without a humidity sensor and still produce successful drying and pressurizing results.

Even if you choose to run the dehydrator initially using the factory default settings, you will still need to verify that the unit is properly configured with regard to the humidity sensor before operating the system. To verify the proper setting has been made for the humidity sensor, perform the steps below. Note that this can be verified by using the View mode also, but we will go directly into the Edit mode as it is more direct, should a change be necessary.

The following procedure configures the dehydrator for use with the optional external humidity sensor. Whether you are using the sensor or not, both options are addressed in step 7 of this procedure.

To configure the optional external humidity sensor, perform the steps below.

1.   With power running to the unit and the system pressure Main screen showing in the display window, press and hold the middle of the rocker switch until the display changes. This next screen is called the Configure screen. Refer to Figure 37.

```
┌─────────────────────────┐
│  ████████████████████   │
│  █    Configur     █    │
│  ████████████████████   │
│        Sysinfo          │
│        Advanced         │
│        Return           │
└─────────────────────────┘
```
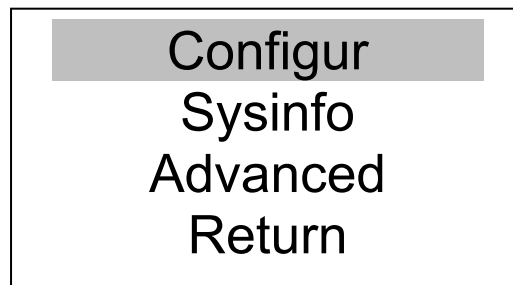
Figure 37. THE CONFIGURE SCREEN.

2. On the Configure screen, the first option: Configur, should already be highlighted. Select it by pressing the middle of the rocker switch. This will bring up the View / Edit screen. Refer to Figure 38.

```
  View Cfg
   Edit Cfg
  Passcode
   Return
```
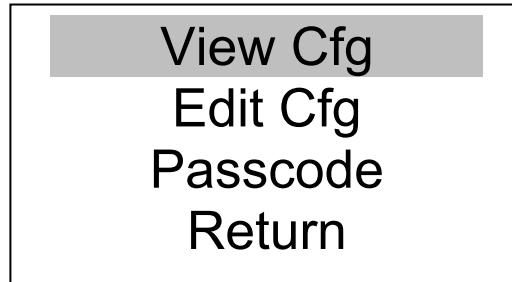
Figure 38. THE VIEW / EDIT SCREEN (with View Cfg highlighted)**.**

3. On the View / Edit screen, View Cfg should already be highlighted. Press the bottom of the rocker switch to highlight Edit Cfg, then press the middle of the rocker switch to select it. Refer to Figure 39.

```
   View Cfg
   Edit Cfg
  Passcode
   Return
```
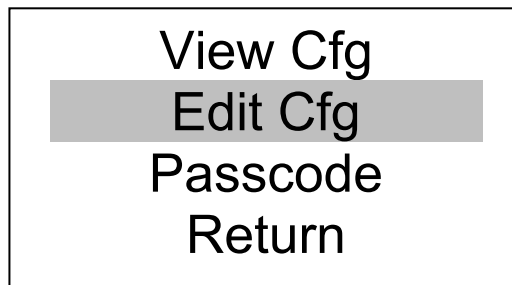
Figure 39. THE VIEW / EDIT SCREEN (with Edit Cfg highlighted)**.**

4. Pressing the middle of the rocker switch as directed in step 3 above will display the Function screen. Refer to Figure 40.

```
  Operat'n
   Alarms
   Display
   Return
```
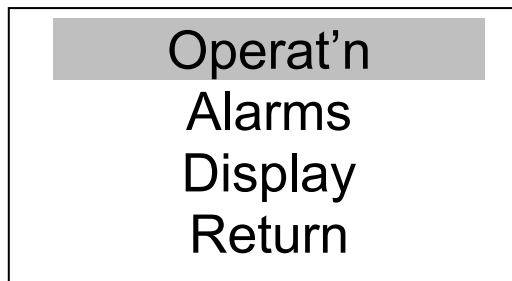
Figure 40. THE FUNCTION SCREEN.

4. On the Function screen, the top line, Operat'n, should already be highlighted. Press the middle of the rocker switch to select it. This will bring up the Operational Settings screen. Refer to Figure 41.

UNIT	English
LALM	0.15
LLIM	0.30
HLIM	0.50
HLRM	1.50
Hum Sensor	Y
Keep	Cancel

Low Alarm
Low Limit
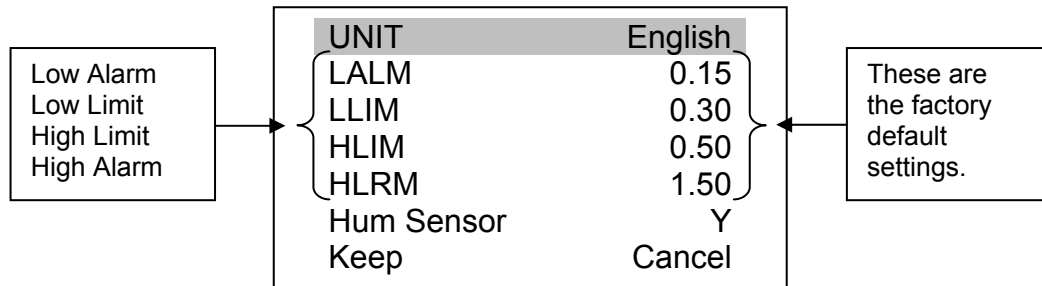High Limit
High Alarm

These are the factory default settings.

Figure 41. THE OPERATIONAL SETTINGS SCREEN
(with UNIT highlighted)**.**

5. On the Operational Settings screen, UNIT is already highlighted. The humidity sensor appears on line 6. Press the bottom of the rocker switch to scroll down to highlight "Hum Sensor" then press the middle of the rocker switch to select it. Refer to Figure 42.

UNIT	English
LALM	0.15
LLIM	0.30
HLIM	0.50
HLRM	1.50
Hum Sensor	Y
Keep	Cancel

Y to use the optional Humidity Sensor; N if not used.
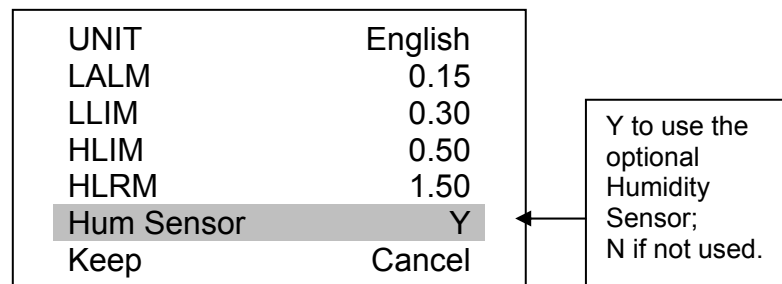
Figure 42. THE OPERATIONAL SETTINGS SCREEN
(with Humidity Sensor highlighted)**.**

6. Once Hum Sensor is selected by pressing the middle of the rocker switch, the highlight will narrow to just the one letter at the end of that line.

7. If the character at the end of that line is a Y (for Yes), the dehydrator is currently configured for use with the optional humidity sensor. If the character at the end of that line is an N (for No), the dehydrator is not currently configured for use with the optional humidity sensor. To toggle from either Y or N to the other, press the top or the bottom of the rocker switch, then press the middle of the rocker switch. The highlight will again show across the entire line. When done, press the middle of the rocker switch to enter the change and proceed.

8.   Scroll down and highlight the Keep option at the bottom of the screen. Refer to Figure 43. Press the middle of the rocker switch to select Keep.

UNIT	English
LALM	0.15
LLIM	0.30
HLIM	0.50
HLRM	1.50
Hum Sensor	Y
Keep	Cancel

Figure 43. THE OPERATIONAL SETTINGS SCREEN
(with Keep highlighted)**.**

9.   On the Function screen, scroll down to highlight Save at the bottom. Refer to Figure 44. Press the middle of the rocker switch to select it.

Operat'n
Alarms
Display
Save   Can

Figure 44. THE FUNCTION SCREEN.

10.   On each of the next two screens, scroll down to highlight Return, then press the middle of the rocker switch each time. Refer to Figure 45. The message Edit DONE will appear and the display will return to the system pressure Main screen.

View Cfg
Edit Cfg
Passcode
Return

Configur
Sysinfo
Advanced
Return

Figure 45. THE VIEW / EDIT AND CONFIGURE SCREENS
(with Return highlighted)**.**

NOTE

One of the 22 system alarm conditions, Alarm 17, specifically, relates to the configuration of the humidity sensor setting. Alarm 17 will be indicated <u>either</u> if there is a humidity sensor present but the system is currently configured as N <u>or</u> if there is no humidity sensor present though the system is currently configured as Y.

11. An intentional 10-minute delay has been built into the system software from the time the Y configuration is made until the time Alarm 17 is indicated in the display window ("HUMSENSR"). This delay allows for the installation of the humidity sensor. If you just configured the humidity sensor setting from N to Y but have not yet actually installed the sensor, install it at this time on the back panel of the unit.

NOTE

If the humidity sensor has been installed and you have changed the setting from N to Y to indicate the presence of the humidity sensor, you should not see Alarm 17 indicated on the display. If, however, you do see Alarm 17 indicated in the display window ("HUMSENSR"), shut off unit power, then turn it back on to clear the situation.

VIEWING THE CURRENT SETTINGS

To view the current operational settings without changing them, perform the steps below.

1.   From the Main screen, press and hold the middle of the rocker switch until the display changes. This will display the Configure screen. Refer to Figure 46.

```
┌─────────────────────────────┐
│  ┌───────────────────────┐  │
│  │       Configur        │  │
│  └───────────────────────┘  │
│          Sysinfo            │
│          Advanced           │
│           Return            │
└─────────────────────────────┘
```
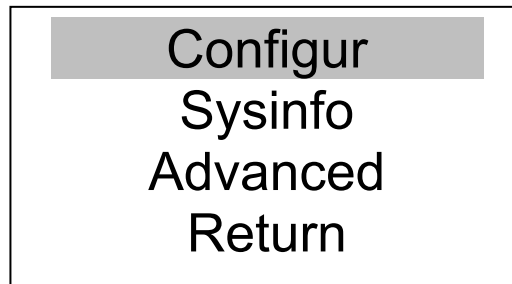
Figure 46. THE CONFIGURE SCREEN.

2.   The first line is Configur and it will be highlighted. Press the middle of the rocker switch to select it. The View / Edit screen will appear. Refer to Figure 47.

```
┌─────────────────────────────┐
│  ┌───────────────────────┐  │
│  │       View Cfg        │  │
│  └───────────────────────┘  │
│          Edit Cfg           │
│          Passcode           │
│           Return            │
└─────────────────────────────┘
```
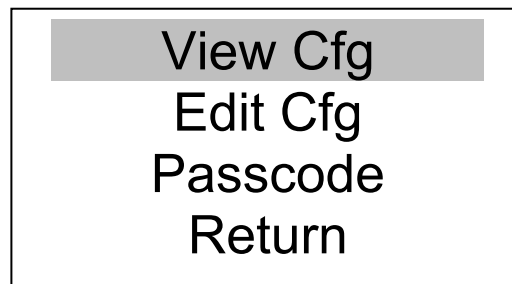
Figure 47. THE VIEW / EDIT SCREEN.

3. The first line, View Cfg, should already be highlighted. Press the middle of the rocker switch to select it. Now, you will see the Function screen. Refer to Figure 48.

```
    Operat'n
     Alarms
     Display
     Return
```
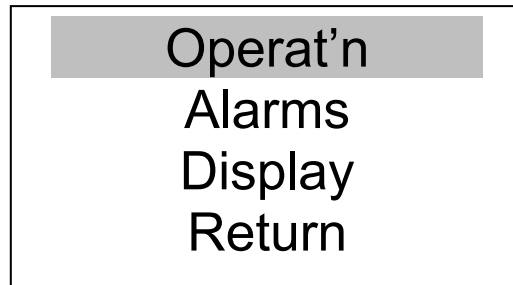
Figure 48. THE FUNCTION SCREEN.

4. The first line, Operat'n, should already be highlighted. Press the middle of the rocker switch to select it. The View Operational Settings screen will appear. Refer to Figure 49.

```
Low Alarm          UNIT        English        These are
Low Limit          LALM          0.15         the factory
High Limit         LLIM          0.30         default
High Alarm         HLIM          0.50         settings.
                   HLRM          1.50
                   Hum Sensor       Y
                      Hit a key
```
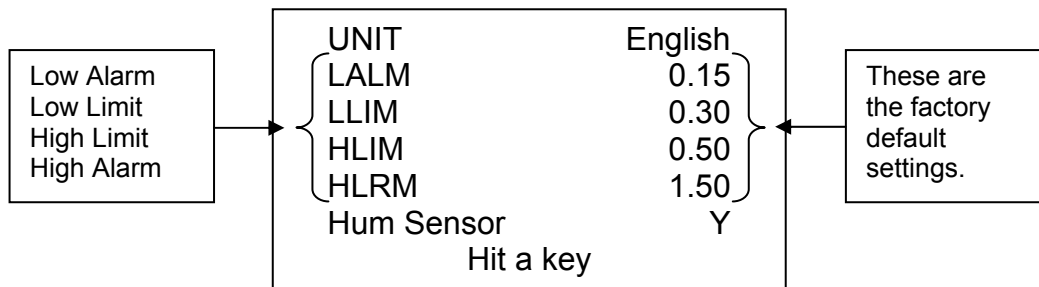
Figure 49. THE VIEW OPERATIONAL SETTINGS SCREEN.

5. You will notice that on the View Operational Settings screen, there are no highlighted lines. This is because this is not the screen used to change the operational settings, but only to view them.

6. While the operational settings are displayed, it is recommended that you write them down as a quick reference and retain them in should any of the settings ever be lost or accidentally changed and it becomes necessary to restore them.

7. Once you have viewed the settings, press the rocker switch as prompted by the Hit a key prompt at the bottom of the screen and the Function screen will appear.

8.   Scroll down to highlight the Return option on the last line of the Function screen (refer to Figure 50), as well as each of the next two screens (refer to Figure 51), then press the middle of the rocker switch each time to return to the Main screen.

```
Operat'n
Alarms
Display
Return
```
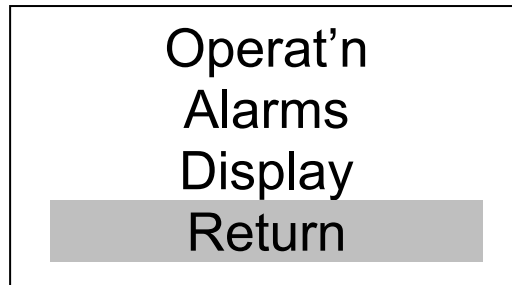
Figure 50. THE FUNCTION SCREEN.

```
View Cfg          Configur
Edit Cfg          Sysinfo
Passcode          Advanced
Return            Return
```
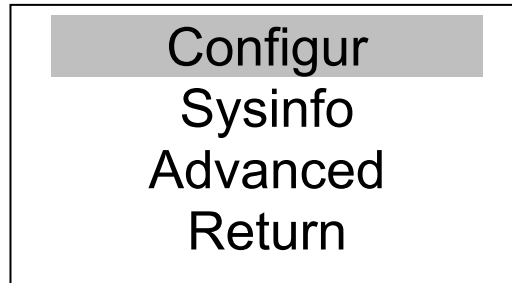
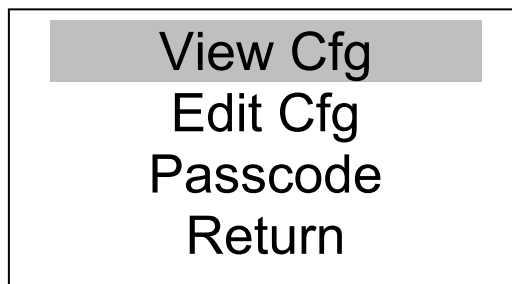**Figure 51. THE VIEW / EDIT AND CONFIGURE SCREENS.**

To view the current alarm settings without changing them, perform the steps below.

1. From the Main screen, press and hold the middle of the rocker switch until the display changes. This is the Configure screen. Refer to Figure 52.

```
┌─────────────────────────┐
│      Configur           │
│                         │
│       Sysinfo           │
│                         │
│      Advanced           │
│                         │
│       Return            │
└─────────────────────────┘
```

Figure 52. THE CONFIGURE SCREEN.

2. With Configur highlighted on the Configure screen, press the middle of the rocker switch to select it. The View / Edit screen will be displayed. Refer to Figure 53.

```
┌─────────────────────────┐
│       View Cfg          │
│                         │
│       Edit Cfg          │
│                         │
│       Passcode          │
│                         │
│       Return            │
└─────────────────────────┘
```

Figure 53. THE VIEW / EDIT SCREEN.

3. With View Cfg highlighted, press the middle of the rocker switch to select it. The Function screen will be displayed. Refer to Figure 54.

```
┌─────────────────────────┐
│       Operat'n          │
│                         │
│        Alarms           │
│                         │
│        Display          │
│                         │
│        Return           │
└─────────────────────────┘
```
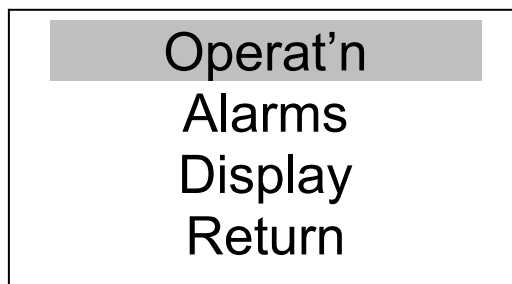
Figure 54. THE FUNCTION SCREEN (with Operat'n highlighted)**.**

4. Now, use the lower edge of the rocker switch to scroll down to the second option: Alarms. Refer to Figure 55.

Operat'n
Alarms
Display
Return

Figure 55. THE FUNCTION SCREEN (with Alarms highlighted)**.**

5. With Alarms highlighted on the Function screen, press the middle of the rocker switch to select it. The View Alarm Settings screen will be displayed. Refer to Figure 56.
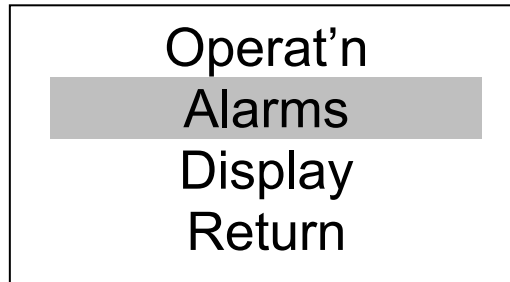
DCycl   50 ← (Percent)
SCTim   01 ← (Seconds)
HitKeyTo
SeeAlrm3
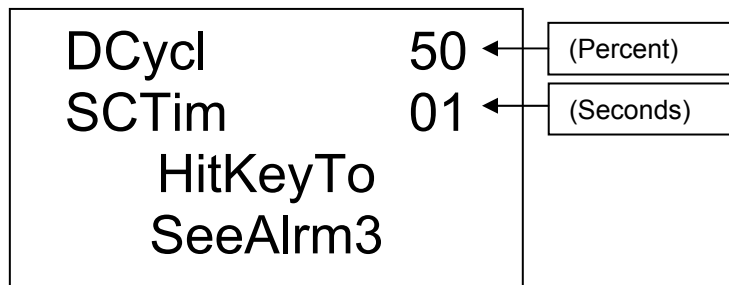
Figure 56. THE VIEW ALARMS SCREEN.

6. On the View Alarms screen, you will see the current alarm settings. Note that as on the other view-type screens, there is no highlight line on this screen because this screen is used only to view settings and not to change them.

7. Press the middle of the rocker switch again to display the current alarm relay #3 setting. Refer to Figure 57. To save display space, the alarm conditions are referred to as explained in Figure 57. Refer to the Alarms section of this manual for a listing of the 22 alarm conditions and their numeric designation.
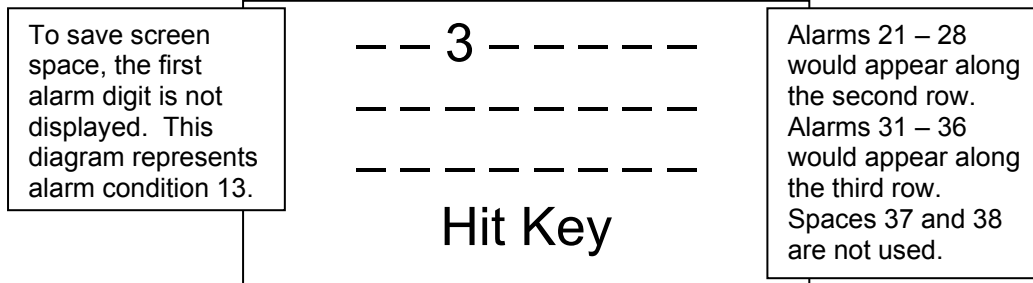
| To save screen space, the first alarm digit is not displayed. This diagram represents alarm condition 13. | _ _ 3 _ _ _ _ _
_ _ _ _ _ _ _ _
_ _ _ _ _ _ _ _

Hit Key | Alarms 21 – 28 would appear along the second row. Alarms 31 – 36 would appear along the third row. Spaces 37 and 38 are not used. |

Figure 57. THE VIEW ALARM RELAY #3 SCREEN.

8. Press the middle of the rocker switch to begin returning to the Main screen. On each of the next three screens (refer to Figures 58 and 59), scroll down to highlight Return, then select it to return to the Main screen.

Operat'n
Alarms
Display
Return
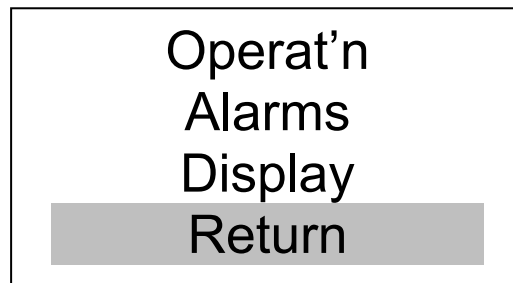
Figure 58. THE FUNCTION SCREEN.

View Cfg
Edit Cfg
Passcode
Return

Configur
Sysinfo
Advanced
Return
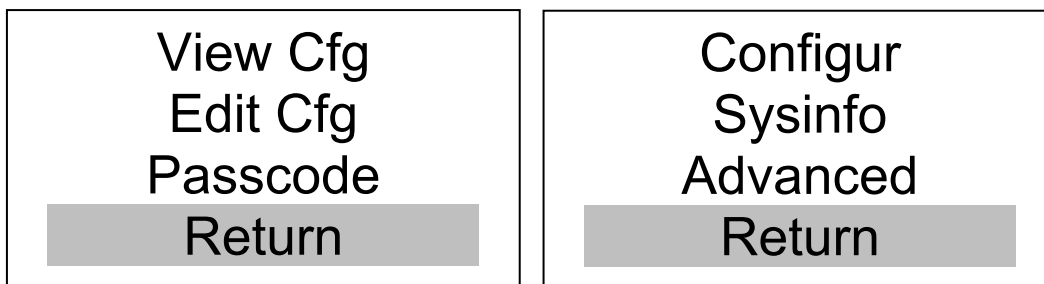
Figure 59. THE VIEW / EDIT AND CONFIGURE SCREENS.

<u>To view the current display settings without changing them</u>, perform the steps below.

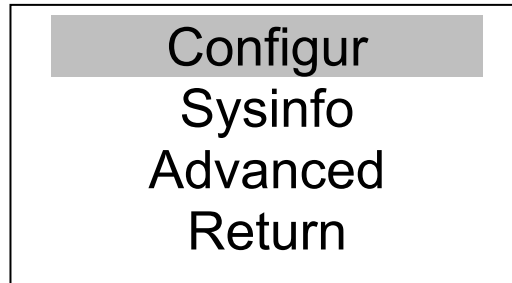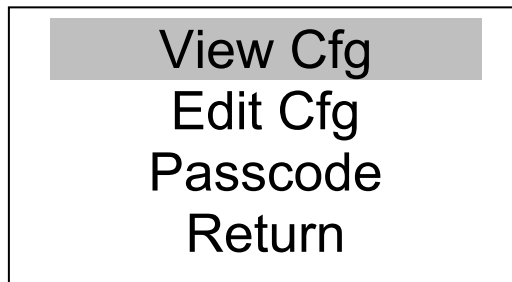1.   From the Main screen, press and hold the middle of the rocker switch until the display changes. This is the Configure screen. Refer to Figure 60.

```
┌─────────────────────────────┐
│     ▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓        │
│        Configur             │
│        Sysinfo              │
│        Advanced             │
│        Return               │
└─────────────────────────────┘
```

Figure 60. THE CONFIGURE SCREEN.

2.   With Configur highlighted on the Configure screen, press the middle of the rocker switch to select it. The View / Edit screen will be displayed. Refer to Figure 61.

```
┌─────────────────────────────┐
│     ▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓        │
│        View Cfg             │
│        Edit Cfg             │
│        Passcode             │
│        Return               │
└─────────────────────────────┘
```

Figure 61. THE VIEW / EDIT SCREEN.

3.   With View Cfg highlighted, press the middle of the rocker switch to select it. The Function screen will be displayed. Refer to Figure 62.

```
┌─────────────────────────────┐
│     ▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓        │
│        Operat'n             │
│        Alarms               │
│        Display              │
│        Return               │
└─────────────────────────────┘
```
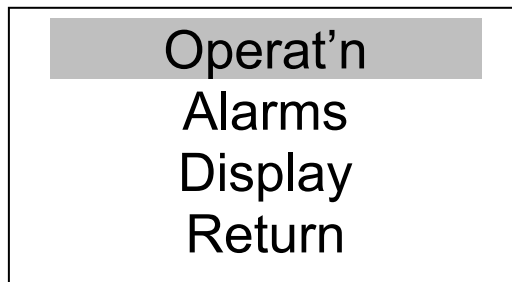
Figure 62. THE FUNCTION SCREEN (with Operat'n highlighted)**.**

4. Now, use the lower edge of the rocker switch to scroll down to the third option: Display. Refer to Figure 63.

Operat'n
Alarms
Display
Return
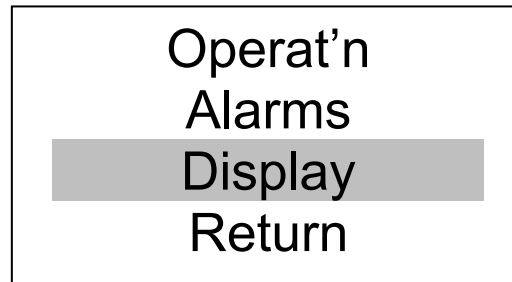
Figure 63. THE FUNCTION SCREEN (with Display highlighted)**.**

5. With Display highlighted, press the middle of the rocker switch to select it. This will show the current display settings. Refer to Figure 64.
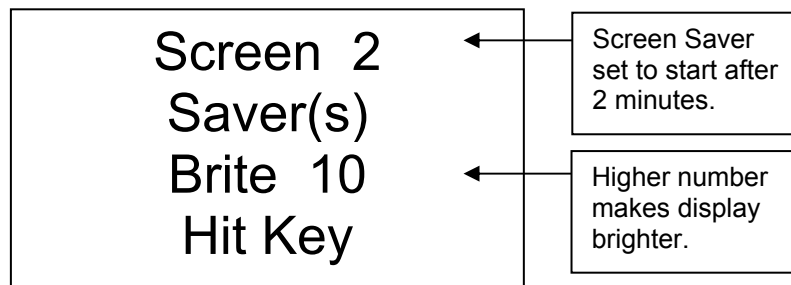
Screen 2
Saver(s)
Brite 10
Hit Key

Screen Saver set to start after 2 minutes.

Higher number makes display brighter.

Figure 64. THE VIEW DISPLAY SCREEN.

6. As prompted at the bottom of the display, press the middle of the rocker switch to back out of this function and begin returning to the Main screen.

7. On each of the next three screens (refer to Figures 65 and 66), scroll down to Return, then press the middle of the rocker switch to work your way back to the Main screen.

Operat'n
Alarms
Display
Return
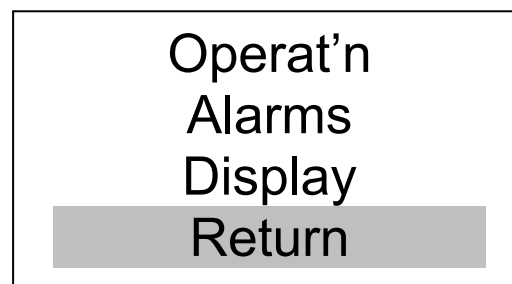
Figure 65. THE FUNCTION SCREEN.

View Cfg Edit Cfg Passcode Return	Configur Sysinfo Advanced Return
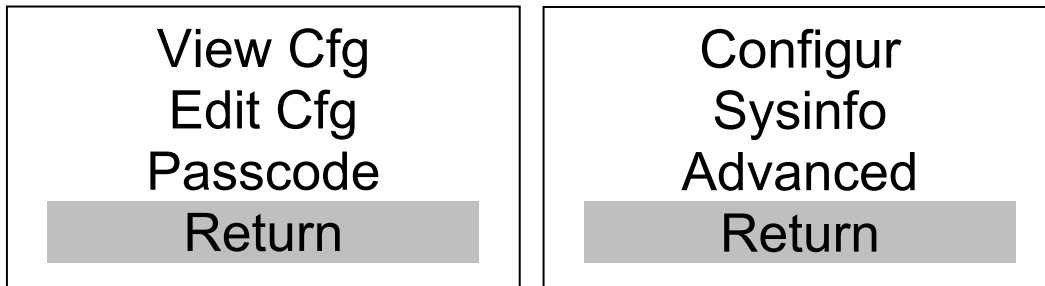
Figure 66. THE VIEW / EDIT AND CONFIGURE SCREENS.

CHANGING THE OPERATIONAL PRESSURE SETTINGS

The two most important factors in determining the system pressure parameters are to keep a constant supply of dry, pressurized air circulating through the system and to avoid any damage to the system feed horn window and other sensitive system components. Before describing how to change the operational pressure settings, it is important to first understand how these settings are determined and how they work together.

Four numeric settings comprise the pressure parameters of the ADH Sirocco automatic air dehydrator. In ascending order (which is how they appear on the Operational Settings screens), these four settings are:

- Low Pressure Alarm
- Low Pressure Limit
- High Pressure Limit
- High Pressure Alarm

The Low Pressure Alarm setting must be at least 0.01 PSI lower than the Low Pressure Limit, just as, at the high end, the High Pressure Alarm setting must be at least 0.01 PSI higher than the High Pressure Limit. Additionally, there are other requirements for each of the settings that an operator must know.

- The Low Pressure Alarm must be set to at least 0.1 PSI or 7 mbar.
- The Low Pressure Limit must be set to at least 0.2 PSI or 14 mbar.
- The High Pressure Limit can be no greater than 7.50 PSI or 517 mbar.
- The High Pressure Alarm can be no greater than 9.00 PSI or 620 mbar.

As it is explained later in this section, not only can none of these settings overlap, but the dehydrator is programmed such that any overlapping or out of range setting will not even be accepted by the unit.

If, for instance, you want to lower the Low Pressure Limit setting from the default setting of 0.30 PSI to 0.12 PSI, you must first make sure that the Low Pressure Alarm setting is no greater than 0.11 PSI. The same, though in reverse, is true at the high end. To increase the High Pressure Limit from the default setting of 0.50 PSI to 3.0 PSI, for example, it will first be necessary to make sure that the High Pressure Alarm setting is at least 3.01 PSI. The software inside the dehydrator will help you make these settings by not accepting or allowing any setting that is out of the acceptable range.

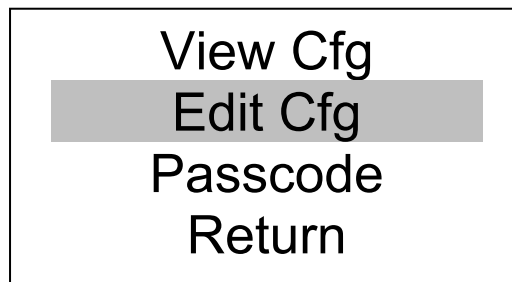To change the operational settings, perform the steps below.

1.   From the Main screen, press and hold the middle of the rocker switch to display the Configure Screen. Refer to Figure 67.

```
┌─────────────────────────┐
│  ▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓   │
│       Configur          │
│       Sysinfo           │
│       Advanced          │
│       Return            │
└─────────────────────────┘
```
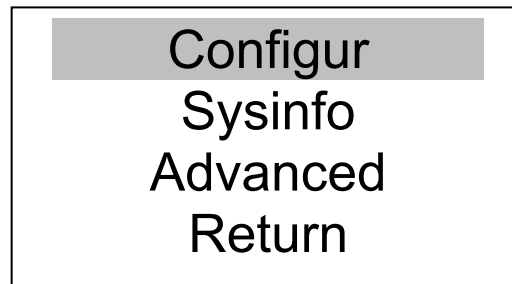
Figure 67. THE CONFIGURE SCREEN.

2.   Use the lower edge of the rocker switch to scroll down to highlight the second line on the View / Edit Screen: Edit Cfg, then press the middle of the rocker switch to select it. Refer to Figure 68.

```
┌─────────────────────────┐
│       View Cfg          │
│  ▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓   │
│       Edit Cfg          │
│       Passcode          │
│       Return            │
└─────────────────────────┘
```

Figure 68. THE VIEW / EDIT SCREEN.

3.   The Function screen will appear. Refer to Figure 69. The top line, Operat'n, will already be highlighted. Select Operat'n by pressing the middle of the rocker switch.

```
┌─────────────────────────┐
│  ▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓   │
│       Operat'n          │
│       Alarms            │
│       Display           │
│       Return            │
└─────────────────────────┘
```
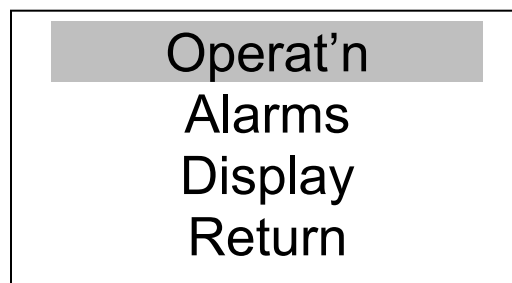
Figure 69. THE FUNCTION SCREEN.

4. If the configuration settings have been locked, you will be prompted at this time to enter the passcode for the Edit Cfg function. If you are prompted for the passcode, press the rocker switch as described below to enter the Operational Settings screen. Within 5 seconds of seeing the passcode prompt, enter the passcode as described below. Wait no longer than 2 seconds in between pressing the switch each time.

- Press the upper edge of the rocker switch 3 times;
- then press the middle of the rocker switch 1 time;
- then press the lower edge of the rocker switch 3 times.
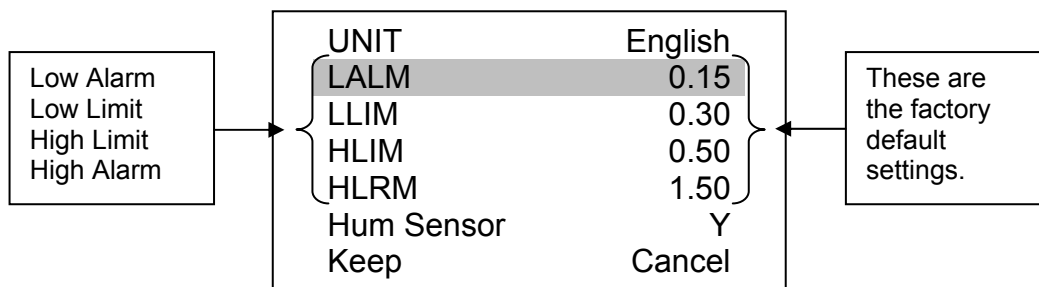
    Now, repeat the pattern.

- Press the upper edge of the rocker switch 3 times;
- press the middle of the rocker switch 1 time;
- press the lower edge of the rocker switch 3 times.

    As described above, you will press the rocker switch a total of 14 times. The passcode will be accepted 2 seconds after the lower edge of the rocker switch is pressed for the last time.

NOTE

If you should happen to select an option which requires or is protected by a passcode and you didn't mean to select whichever option prompted the passcode request, wait a few seconds, press nothing, and the display will "time out" then return to the previous screen.

5. Once you have successfully entered the passcode, you will see the same system settings you saw under the View function but this time, they will be highlighted for selection. Refer to Figure 70.

Low Alarm	UNIT	English	These are
Low Limit	LALM	0.15	the factory
High Limit	LLIM	0.30	default
High Alarm	HLIM	0.50	settings.
	HLRM	1.50	
	Hum Sensor	Y	
	Keep	Cancel	

Figure 70. THE OPERATIONAL SETTINGS SCREEN.

6.   Use the upper and lower portions of the rocker switch as arrow keys to highlight the line displaying the desired setting. When the line you wish to change is highlighted, press the middle of the rocker switch. The highlight will narrow to just the actual value rather than across the entire line.

7.   At this point, use only the top of the rocker switch button to increase the setting or the bottom of the rocker switch to decrease the setting. If you press and hold the top or bottom part of the switch, the number will increase or decrease automatically without having to press it once for each number by which you want to change the setting.
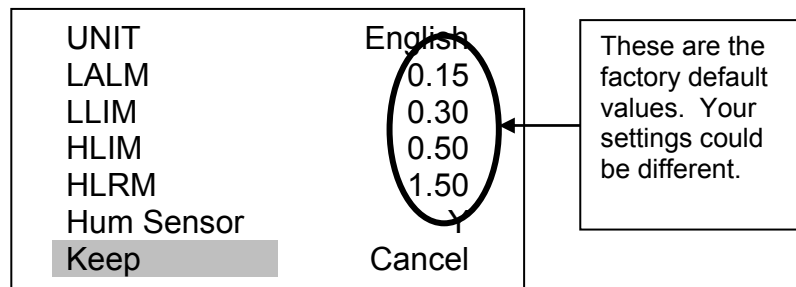
NOTE

Because the pressure settings cannot overlap each other at any point, the software has been designed to automatically help you set those values to comply with that requirement. If you press and hold the top or the bottom of the rocker switch to increase or decrease any value automatically, you might notice that the numbers stop advancing, whether up or down, as you near the allowable upper or lower range. This is done deliberately so that the settings do not overlap. You may change more than one setting at a time, as long as they don't overlap. Remember, as well, that it might be necessary to first increase the upper or to decrease the lower alarm limit setting, respectively, before you will be able to increase or decrease the associated high or low pressure setting.

NOTE

If you make a mistake and don't want to keep the change(s) you just made, scroll down to highlight the Can(cel) option at the bottom of the screen, press the middle of the rocker switch to select it and cancel the changes you just made, then repeat the change process.

8.   Once the configuration values have been changed as desired, use the bottom of the rocker switch to scroll down to highlight the Keep option, then press the middle of the rocker switch to confirm the new entries. Refer to Figure 71. If you make a mistake and don't want to keep the changes you just made, scroll to the Cancel option at the bottom of the screen, press the middle of the rocker switch to cancel, and return to the previous screen.
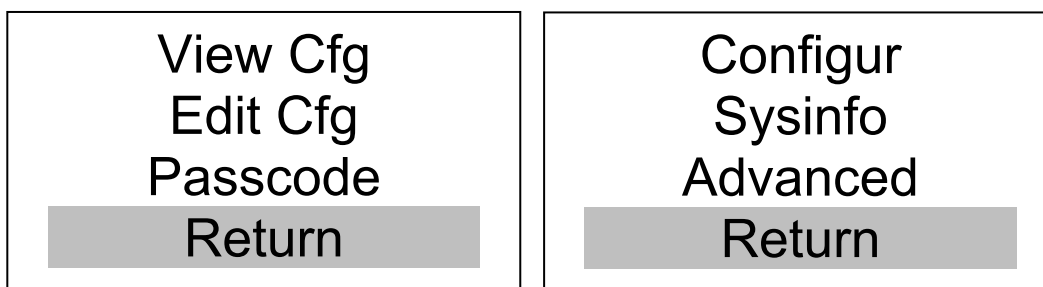
```
UNIT              English
LALM               0.15
LLIM               0.30
HLIM               0.50
HLRM               1.50
Hum Sensor           Y
Keep              Cancel
```

These are the factory default values. Your settings could be different.

Figure 71. THE OPERATIONAL SETTINGS SCREEN.

9.   On the Function screen, using the bottom part of the rocker switch, scroll down to highlight the Save option, then press the middle of the rocker switch to confirm the new value(s). Refer to Figure 72.

```
        Operat'n
        Alarms
        Display
    Save        Can
```
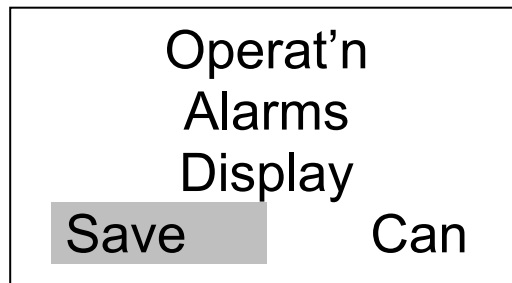
Figure 72. THE FUNCTION SCREEN.

10.   Highlight the Return option on each of the next two screens (refer to Figure 73), and press the middle of the rocker switch each time. The display will show the message Edit DONE and will then display the system pressure screen.

```
    View Cfg           Configur
    Edit Cfg           Sysinfo
    Passcode           Advanced
    Return             Return
```
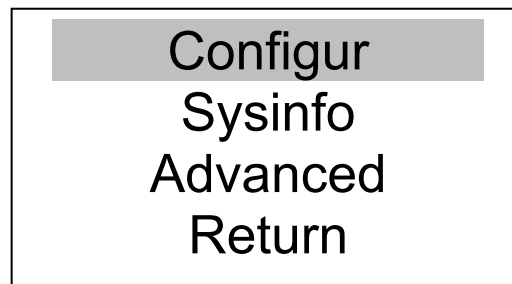
Figure 73. THE VIEW / EDIT AND CONFIGURE SCREENS.

CHANGING THE ALARM SETTINGS

The Edit Alarms screen presents three user-configurable alarm conditions: Duty Cycle, Short Cycle Time, and Alarm Relay #3 settings. They can be changed all at once, as desired, or individually, independent of the others. Each of the alarm conditions shown on the Edit Alarms screen has already been configured at the factory, but each can be user-configured for your individual preferences.

The default alarm settings will signal the operator when something major is wrong with the system. However, these same settings can be user-configured to signal a change in the system about which the operator should know before a larger problem develops. If, for instance, your system normally runs at a 5% Duty Cycle (DCycl on the screen), which is to say that the compressor is actually actively engaged in the act of pumping 5% of the time, but then starts running at a 10% or 15% Duty Cycle, this kind of change is something the operator should want to know about, regardless of the specific cause or causes. The same is true for Short Cycle Time (SCTim on the screen). If the compressor starts pumping too often within a certain period of time, this, too, signals a change in the system which needs to be investigated.

To change the Duty Cycle Alarm setting, perform the steps below.

1.   Press and hold the middle of the rocker switch to display the Configure screen. Refer to Figure 74.

```
┌─────────────────────────────┐
│    ███████████████████      │
│       Configur              │
│       Sysinfo               │
│       Advanced              │
│       Return                │
└─────────────────────────────┘
```

Figure 74. THE CONFIGURATION SCREEN.

2. Highlight Configur, then press the middle of the rocker switch to select it. The View / Edit screen will appear. Scroll down to highlight Edit Cfg on the second line of the View / Edit screen. Refer to Figure 75.

```
  View Cfg
  Edit Cfg
  Passcode
  Return
```
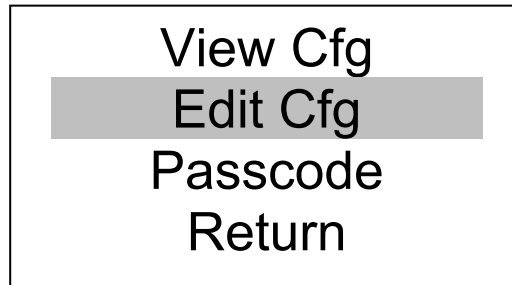
Figure 75. THE VIEW / EDIT SCREEN.

3. With Edit Cfg highlighted, press the middle of the rocker switch and the Function screen will appear. Refer to Figure 76.

```
  Operat'n
  Alarms
  Display
  Return
```
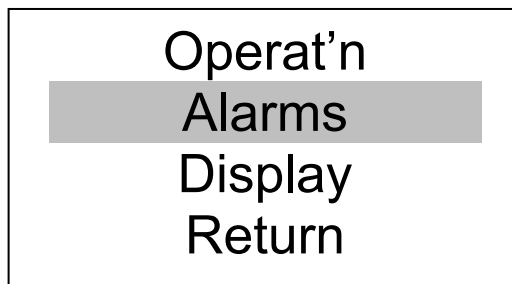
Figure 76. THE FUNCTION SCREEN.

4. On the Function screen. scroll down to highlight Alarms, then press the middle of the rocker switch. You will see the Edit Alarms screen. Refer to Figure 77.

```
  DCycl        50   ◄——  Expressed
  SCTim        01          in percent;
       Alrm3Sel             allowed
  Keep      Can            values are
                            0 to 99.
```
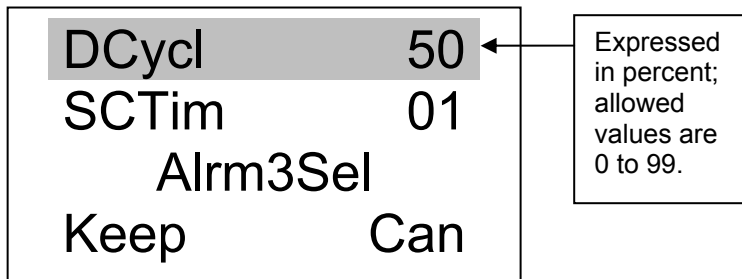
Figure 77. THE EDIT ALARMS SCREEN.

5.   The top line of the Alarms screen, DCycl, will already be highlighted. Press the middle of the rocker switch again to narrow the highlight to just the ac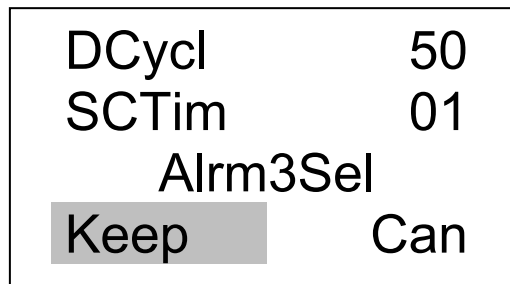tual value rather than across the entire line. At this time and before you actually change the setting, it is assumed that you know why you want to change the setting and to what percentage you wish to change it. Due to the unique nature of every system, there is no "best" setting and, thus, we cannot recommend what your Duty Cycle setting "should" be. It is, however, very strongly suggested that if you don't know why or what it is you wish to accomplish by changing the setting, then don't change it.

6.   To go ahead and actually change the Duty Cycle setting, use the top or bottom of the rocker switch, respectively, to increase or decrease it. If you want the system to indicate system changes to you before a larger problem develops, consider decreasing the 50 percent Duty Cycle default setting to, for instance, 15 or 20 percent. This is still well above what the actual Duty Cycle should be and will indicate any system changes you should know about. Allowed values, in percentages, are 0 to 99. Once the setting has been made as desired, press the middle of the rocker switch to enter the new value, and the entire line will again be highlighted.

NOTE

If you make a mistake and don't want to keep the change(s) you just made, scroll down to highlight the Can(cel) option at the bottom of the screen, press the middle of the rocker switch to select it and cancel the changes you just made, then repeat the change process.

7.   Once the change is made as desired, scroll to highlight Keep, then press the middle of the rocker switch to select it. Refer to Figure 78.

```
┌─────────────────────────────┐
│  DCycl          50          │
│  SCTim          01          │
│     Alrm3Sel                │
│ Keep            Can         │
└─────────────────────────────┘
```

Figure 78. THE EDIT ALARMS SCREEN.

8. On the Function screen, scroll down to Save, then press the middle of the rocker switch to select it. Refer to Figure 79.

```
Operat'n
Alarms
Display
Save        Can
```
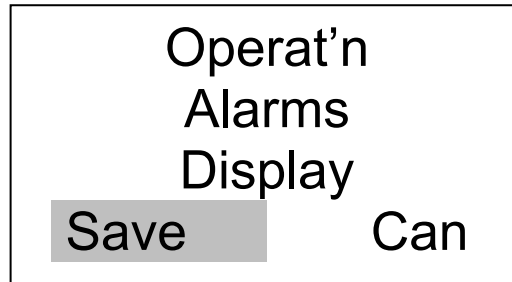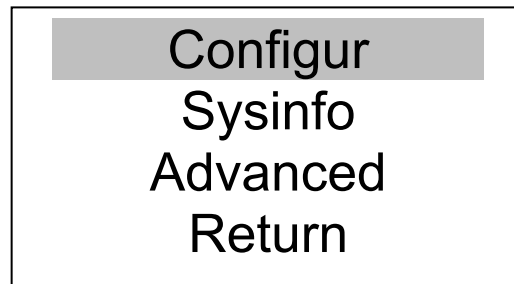
Figure 79. THE FUNCTION SCREEN.

9. On the next two screens, scroll to highlight Return, then press the middle of the rocker switch to work back to the Main screen. Refer to Figure 80.

```
View Cfg
Edit Cfg
Passcode
Return
```

```
Configur
Sysinfo
Advanced
Return
```
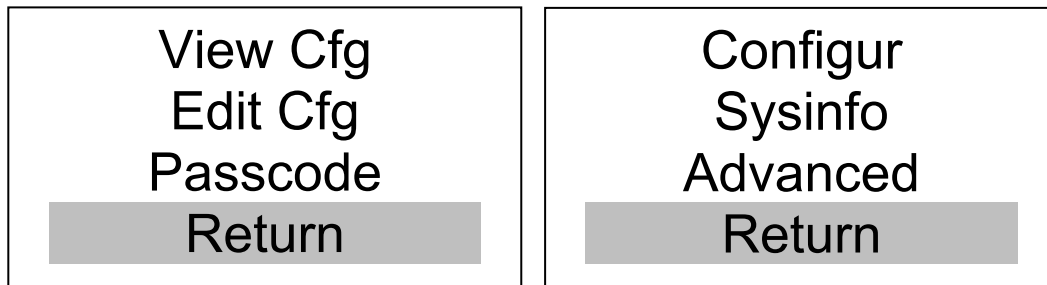
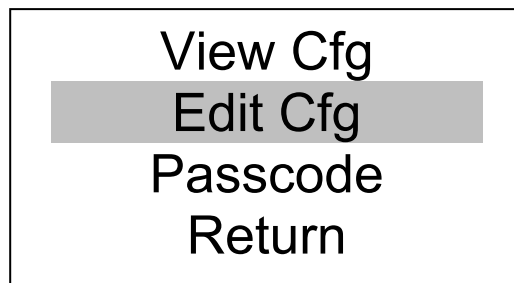**Figure 80. THE VIEW / EDIT AND CONFIGURE SCREENS.**

<u>To change the Short Cycle Time Alarm setting</u>, perform the steps below.

1.   Press and hold the middle of the rocker switch to display the Configure screen. Refer to Figure 81.

```
┌─────────────────────────┐
│      Configur           │
│      Sysinfo            │
│      Advanced          │
│      Return            │
└─────────────────────────┘
```

Figure 81. THE CONFIGURATION SCREEN.

2.   Highlight Configur, then press the middle of the rocker switch to select it. The View / Edit screen will appear. Refer to Figure 82. Scroll down to highlight Edit Cfg.

```
┌─────────────────────────┐
│      View Cfg           │
│      Edit Cfg           │
│      Passcode          │
│      Return            │
└─────────────────────────┘
```

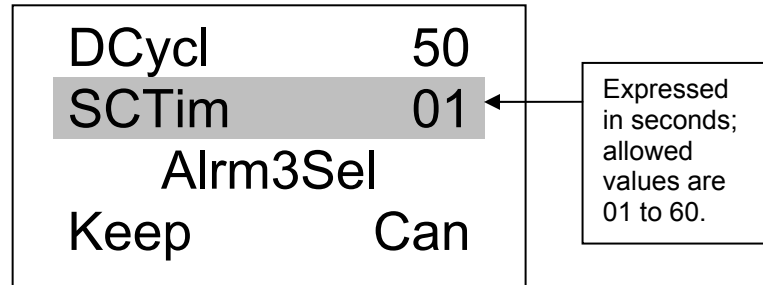**Figure 82. THE VIEW / EDIT SCREEN.**

3.   With Edit Cfg highlighted, press the middle of the rocker switch to select it. The Function screen will appear. Refer to Figure 83.

```
┌─────────────────────────┐
│      Operat'n           │
│      Alarms            │
│      Display           │
│      Return            │
└─────────────────────────┘
```
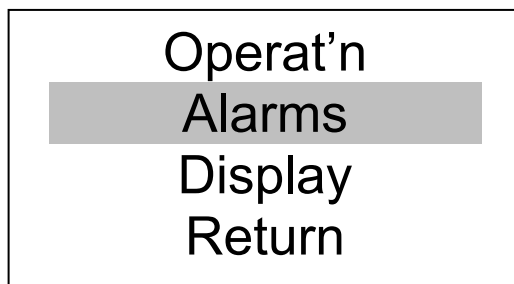
Figure 83. THE FUNCTION SCREEN.

4. On the Function screen. scroll down to highlight Alarms, then press the middle of the rocker switch. You will see the Edit Alarms screen. Refer to Figure 84.

```
DCycl          50
SCTim          01      ◄──  Expressed
                            in seconds;
    Alrm3Sel                allowed
                            values are
Keep         Can            01 to 60.
```

Figure 84. THE EDIT ALARMS SCREEN.

5. The top line of the Alarms screen, DCycl, will already be highlighted. Scroll down to highlight SCTim, then press the middle of the rocker switch. Press the middle of the rocker switch again to narrow the highlight to just the actual value rather than across the entire line. At this time and before you actually change the setting, it is assumed that you know why you want to change the setting and how you wish to change it. Due to the unique nature of every system, there is no "best" setting and, thus, we cannot recommend what your Short Cycle Time setting "should" be. It is, however, very strongly suggested that if you don't know why or what it is you wish to accomplish by changing the setting, then don't change it.

6. To go ahead and actually change the Short Cycle Time setting, use the top or bottom of the rocker switch to increase or decrease, respectively, the Short Cycle Time setting. If you want the system to indicate system changes to you, then consider observing the "normal" frequency of its cycling time then consider setting the new value at half or 3/4 of the "normal" cycling frequency. This setting will indicate to you any system changes you ought to know about. Allowed values are 01 to 60 seconds. Once the setting has been made as desired, press the middle of the rocker switch to enter the new value.

NOTE

If you make a mistake and don't want to keep the change(s) you just made, scroll down to highlight the Can(cel) option at the bottom of the screen, press the middle of the rocker switch to select it and cancel the changes you just made, then repeat the change process.

7. Scroll to highlight Keep, then press the middle of the rocker switch to select it. Refer to Figure 85.

```
DCycl        50
SCTim        01
     Alrm3Sel
Keep        Can
```
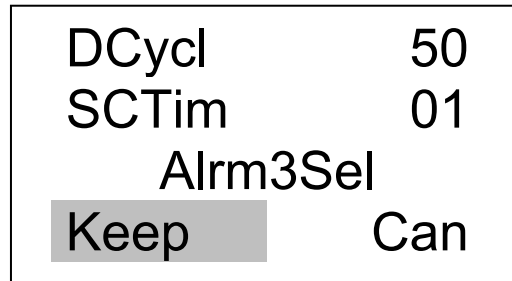
Figure 85. THE EDIT ALARMS SCREEN.

8. On the Function screen, scroll down to highlight Save, then press the middle of the rocker switch to select it. Refer to Figure 86.

```
   Operat'n
    Alarms
    Display
Save        Can
```
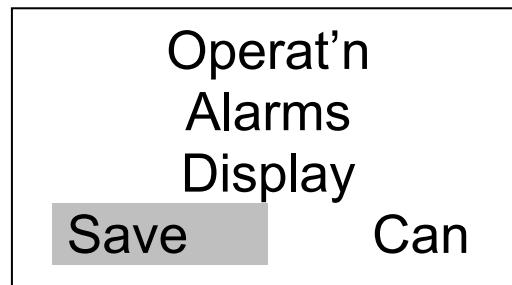
Figure 86. THE FUNCTION SCREEN.

9. On the next two screens, scroll down to highlight Return, then press the middle of the rocker switch to work back to the Main screen. Refer to Figure 87.
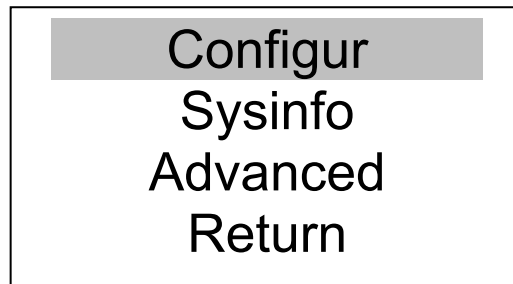
```
  View Cfg            Configur
  Edit Cfg            Sysinfo
  Passcode            Advanced
   Return              Return
```
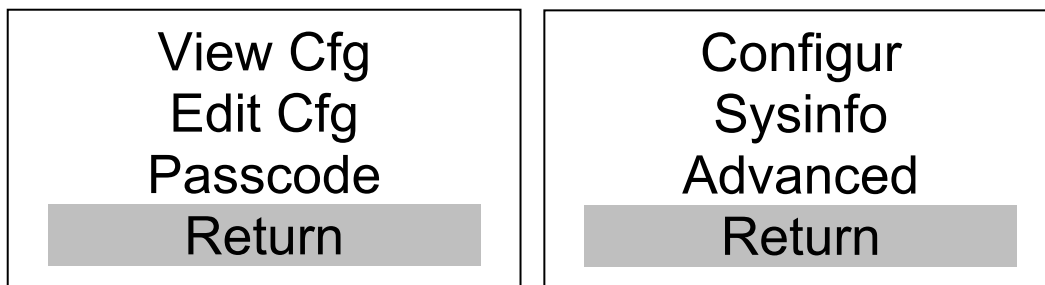
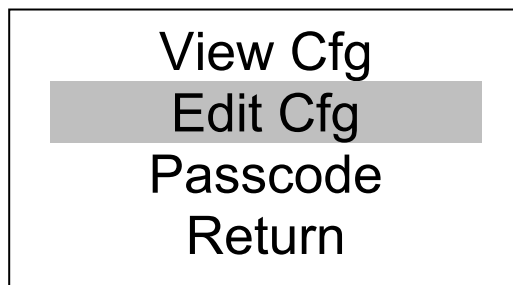**Figure 87. THE VIEW / EDIT AND CONFIGURATION SCREENS.**

<u>To change the Alarm Relay #3 setting</u>, perform the steps below.

1. Press and hold the middle of the rocker switch to display the Configure screen. Refer to Figure 88.
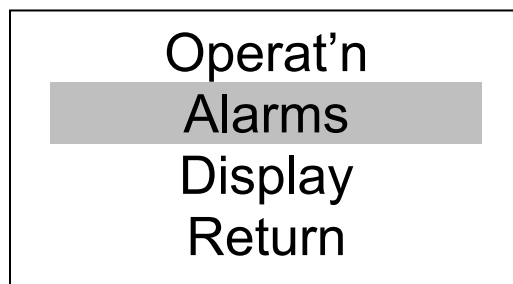
```
┌─────────────────────────┐
│  ┌───────────────────┐   │
│  │    Configur       │   │
│  └───────────────────┘   │
│       Sysinfo            │
│       Advanced           │
│       Return             │
│                          │
└─────────────────────────┘
```

Figure 88. THE CONFIGURE SCREEN.

2. With Configur highlighted, press the middle of the rocker switch to select it. The View / Edit screen will appear. Refer to Figure 89.

```
┌─────────────────────────┐
│       View Cfg           │
│  ┌───────────────────┐   │
│  │     Edit Cfg      │   │
│  └───────────────────┘   │
│       Passcode           │
│       Return             │
└─────────────────────────┘
```

Figure 89. THE VIEW / EDIT SCREEN.

3. Scroll down to highlight Edit Cfg on the second line of the View / Edit screen. Press the middle of the rocker switch to select it. This will display the Function screen. Refer to Figure 90.

```
┌─────────────────────────┐
│       Operat'n           │
│  ┌───────────────────┐   │
│  │     Alarms        │   │
│  └───────────────────┘   │
│       Display            │
│       Return             │
└─────────────────────────┘
```

Figure 90. THE FUNCTION SCREEN.

4. On the Function screen, scroll down to highlight Alarms, then press the middle of the rocker switch. You will see the same information as on the View Cfg screen, but this time, the line entries will be highlighted.

5. Scroll down to highlight Alrm3Sel, then press the middle of the rocker switch to select it. Refer to Figure 91. To save display space, the alarm conditions are referred to as explained in Figure 92.

```
DCycl           50
SCTim           01
    Alrm3Sel
Keep            Can
```

Figure 91. THE EDIT ALARMS SCREEN.

To save screen space, the first alarm digit is not displayed. This diagram represents alarm condition 13.	– – 3 – Hit Key	Alarms 21 – 28 would appear along the second row. Alarms 31 – 36 would appear along the third row. Spaces 37 and 38 are not used.

**Figure 92. THE ALARM RELAY #3
CONFIGURATION SCREEN.**

As described in greater detail in the Alarms section of this manual, the alarm conditions are represented as dashes along three lines, in positions 1 through 8. In Figure 92 above, alarm condition 13 is represented. In other words, by depicting the 3 banks of alarm conditions using three rows of dashes, the need to show the first digit is eliminated, saving display space. As you scroll through the dashes, remember that the first digit of any alarm condition represented, even though not it is displayed, is the row on which it appears. Remember that the three lines shown here do not represent the three alarm relays. Instead, they represent the three "banks" or divisions of alarm conditions: 11 – 18, 21 – 28, and 31 – 38, though 37 and 38 are currently not used.

Alarm relay #3 can be configured however you choose and can be configured to indicate more than one alarm condition, though the example shown in Figure 92 above shows alarm relay #3 configured to indicate only one alarm condition.

If you have not already done so, please refer at this time to the list of alarm conditions in the Alarms section of this manual to see all of the alarm conditions which alarm relay #3 can be configured to display. Decide which of the 22 alarm conditions are most useful to you, then configure alarm relay #3 as desired in light of your system requirements and as described in step 6 below.

6. To make or change the alarm relay #3 settings, scroll through the rows of dashed lines to the one or more corresponding to the alarm conditions you'd like to have set on alarm relay #3. You can select as many as you like. As each of the appropriate dashes is highlighted, select it, as desired, by pressing the middle of the rocker switch and it will turn from a dash to the alarm condition it represents. If you make a mistake, highlight the number again, and again press the middle of the rocker switch. The number will toggle back to a dash and the selection will be cancelled as part of the alarm relay #3 settings.

7. Once the alarm numbers corresponding to the desired alarm conditions have been set and display as numbers rather than dashes, press the middle of the rocker switch to display the previous screen.

NOTE

If you make a mistake and don't want to keep the change(s) you just made, scroll down to highlight the Can(cel) option at the bottom of the screen, press the middle of the rocker switch to select it and cancel the changes you just made, then repeat the change process.

8. Once your selections are set as desired, scroll to highlight Keep, then press the middle of the rocker switch to select it. Refer to Figure 93.

```
┌─────────────────────────────┐
│  DCycl          50          │
│  SCTim          01          │
│      Alrm3Sel               │
│  Keep           Can         │
└─────────────────────────────┘
```

Figure 93. THE EDIT ALARMS SCREEN.

9. Once configured as desired, scroll to Save, then press the middle of the rocker switch. Refer to Figure 94.

Operat'n
Alarms
Display
Save   Can
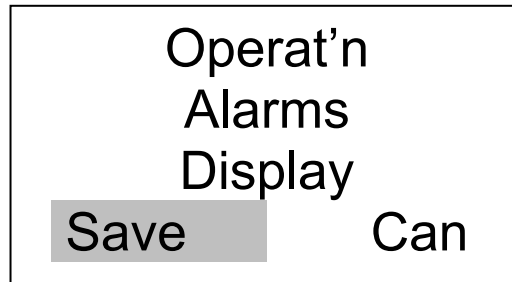
Figure 94. THE FUNCTION SCREEN.

10. Press the middle of the rocker switch, then select Return on the next two screens. Refer to Figure 95.

View Cfg
Edit Cfg
Passcode
Return

Configur
Sysinfo
Advanced
Return
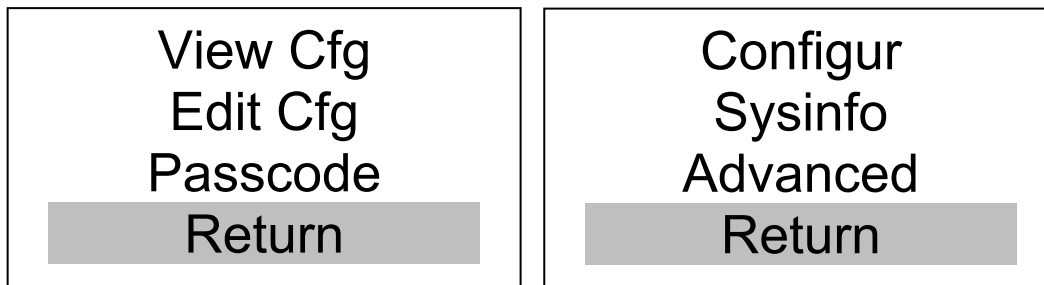
Figure 95. THE VIEW / EDIT AND CONFIGURE SCREENS.

CHANGING THE DISPLAY SETTINGS

Two display-related settings are user configurable, as desired. The first is when the screen saver starts and the second is the display brightness level.

To change the screen saver time setting, perform the steps below.

1.   Press and hold the middle of the rocker switch to display the Configure screen. Refer to Figure 96.

<div align="center">

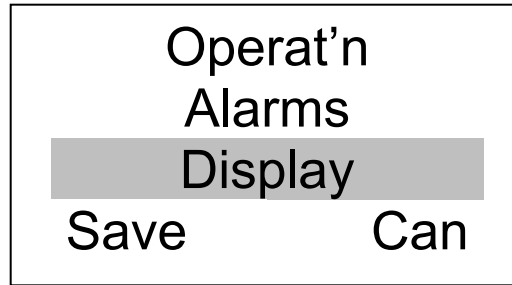| Configur |
|:---:|
| Sysinfo |
| Advanced |
| Return |

</div>
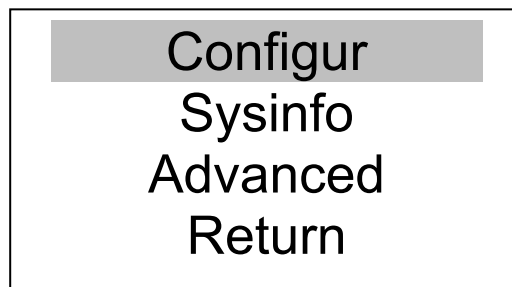
Figure 96. THE CONFIGURE SCREEN.

2.   With Configur highlighted, press the middle of the rocker switch to select it. The View / Edit screen will appear. Refer to Figure 97.
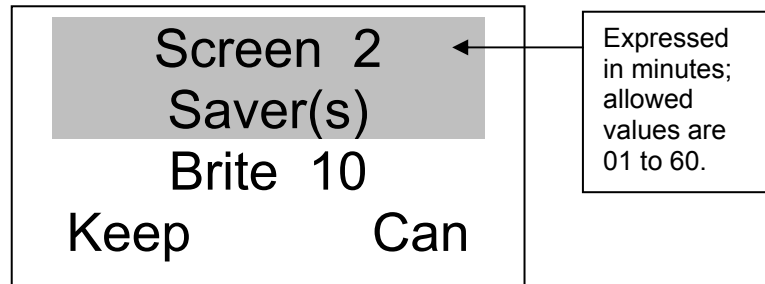
<div align="center">

View Cfg
Edit Cfg
Passcode
Return

</div>
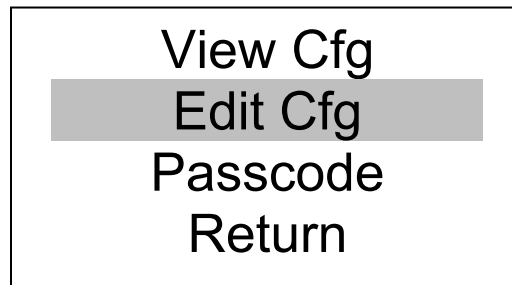
Figure 97. THE VIEW / EDIT SCREEN.

3.   On the View / Edit screen, scroll to highlight Edit Cfg, then press the middle of the rocker switch to select it. The Function screen will appear. Refer to Figure 98.

```
┌─────────────────────────────┐
│          Operat'n           │
│           Alarms            │
│         ▓Display▓           │
│      Save        Can        │
└─────────────────────────────┘
```

Figure 98. THE FUNCTION SCREEN.

4.   On the Function screen, scroll down to highlight Display and press the middle of the rocker switch to select it. The Edit Display screen will appear. Refer to Figure 99.
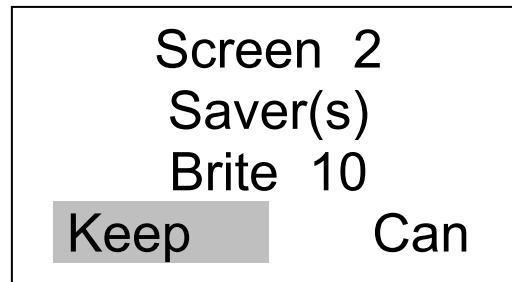
```
┌─────────────────────────────┐      ┌──────────────┐
│        ▓Screen  2▓     ◄─────┼──────│ Expressed    │
│        ▓Saver(s)▓            │      │ in minutes;  │
│         Brite  10           │      │ allowed      │
│      Keep        Can        │      │ values are   │
└─────────────────────────────┘      │ 01 to 60.    │
                                     └──────────────┘
```

Figure 99. THE EDIT DISPLAY SCREEN.

5.   On the Edit Display screen, with Screen Saver highlighted, press the middle of the rocker switch again to narrow the highlight to just the actual number itself.

6.   Use the upper and lower portions of the rocker switch to increase or decrease the setting. Allowed values are 1 to 60, in minutes. After making the setting, press the middle of the rocker switch to select it and the highlight will once again be on both Screen Saver lines.
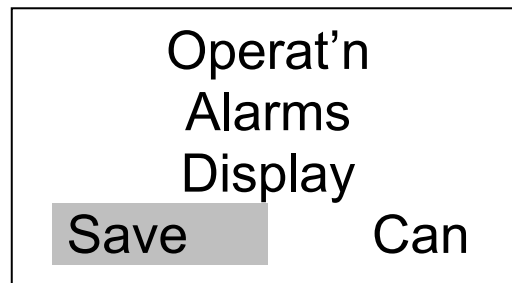
NOTE

If you make a mistake and don't want to keep the change(s) you just made, scroll down to highlight the Can(cel) option at the bottom of the screen, press the middle of the rocker switch to select it and cancel the changes you just made, then repeat the change process.

7.　　Scroll down to highlight Keep, then press the middle of the rocker switch to select it. Refer to Figure 100. The Function screen will appear.

```
+------------------------------+
|                              |
|        Screen  2             |
|        Saver(s)              |
|        Brite  10             |
|    [ Keep ]        Can       |
|                              |
+------------------------------+
```
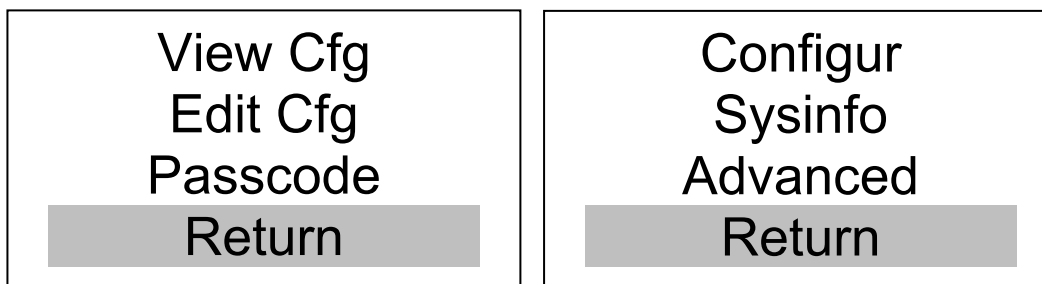
Figure 100. THE EDIT DISPLAY SCREEN.

8.　　On the View / Edit screen, scroll to highlight Save, then press the middle of the rocker switch to select it. Refer to Figure 101.

```
+------------------------------+
|                              |
|        Operat'n              |
|        Alarms                |
|        Display               |
|    [ Save ]        Can       |
|                              |
+------------------------------+
```

Figure 101. THE FUNCTION SCREEN.

9.　　On each of the next two screens, highlight Save, then press the middle of the rocker switch to select it and return to the Main screen. Refer to Figure 102.

```
+--------------------+    +--------------------+
|                    |    |                    |
|    View Cfg        |    |    Configur        |
|    Edit Cfg        |    |    Sysinfo         |
|    Passcode        |    |    Advanced        |
|   [ Return ]       |    |   [ Return ]       |
|                    |    |                    |
+--------------------+    +--------------------+
```

Figure 102. THE VIEW / EDIT AND CONFIGURE SCREENS.

There are two screen savers in the system. The "normal" screen saver shows the "eti" company logo. If there is a current alarm condition, however, you will see a screen saver with a warning symbol to indicate that condition. Refer to Figure 103. Press the middle of the rocker switch to display the Main screen. On the third line of that screen, the current alarm condition(s) will appear.
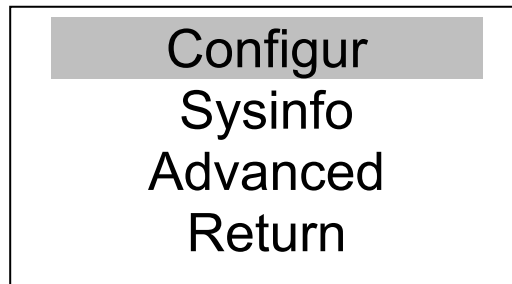

Screen saver with no current alarm condition(s).

Screen saver with current alarm condition(s).
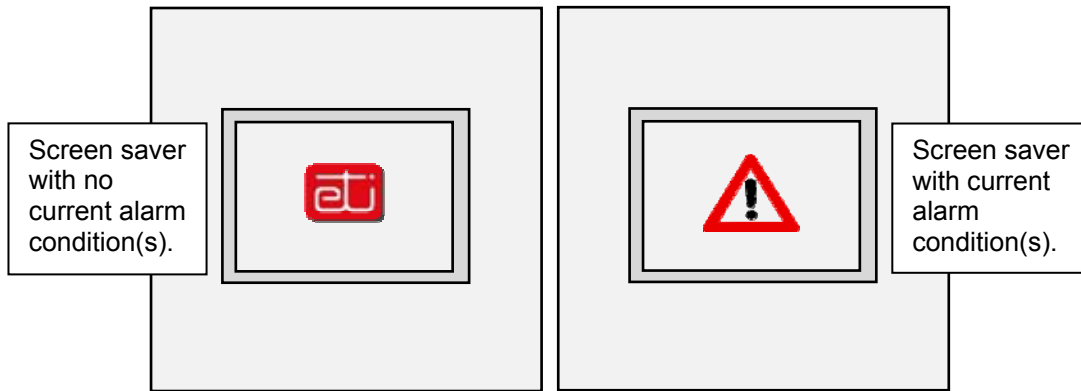
Figure 103. THE ADH SIROCCO SCREEN SAVERS.

<u>To change the display brightness level setting</u>, perform the steps below.
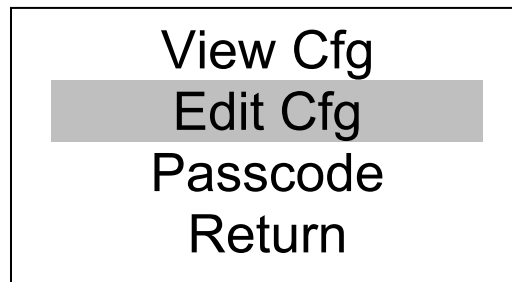
With allowable settings from 15 at the brightest down to 2 at the dimmest, the display screen can be configured to be brighter or dimmer, as desired. It is advised, however, that to prolong the life of the display unit, a dimmer setting rather than a brighter setting be used. As more light will likely be required while actively configuring the unit, consider using a brighter setting while actually making or changing the system settings, then turning the brightness setting back down following configuration. This will help prolong the life of the display unit.

1.   Press and hold the middle of the rocker switch to display the Configure screen. Refer to Figure 104.

```
 ┌─────────────────────────┐
 │      Configur           │
 │      Sysinfo            │
 │      Advanced           │
 │      Return             │
 └─────────────────────────┘
```

Figure 104. THE CONFIGURE SCREEN.

2.   With Configur highlighted, press the middle of the rocker switch to select it. The View / Edit screen will appear. Refer to Figure 105.

```
 ┌─────────────────────────┐
 │      View Cfg           │
 │      Edit Cfg           │
 │      Passcode           │
 │      Return             │
 └─────────────────────────┘
```

Figure 105. THE VIEW / EDIT SCREEN.

3. On the View / Edit screen, highlight Edit Cfg, then press the middle of the rocker switch. The Function screen will appear. Refer to Figure 106.

Operat'n
Alrms
Display
Save   Can
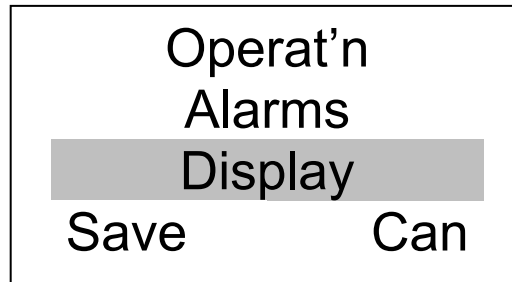
Figure 106. THE FUNCTION SCREEN.

4. On the Function screen, highlight Display then press the middle of the rocker switch to display the Edit Display screen. Refer to Figure 107.
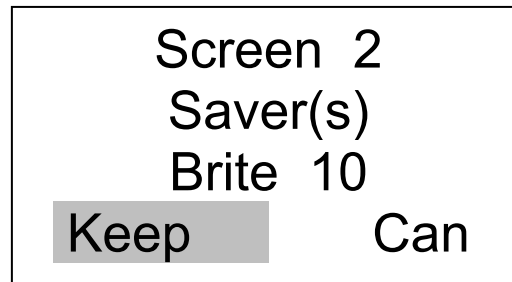
Screen 2
Saver(s)
Brite 10   ←   No unit of measure; allowed values are 2 to 15.
Keep   Can
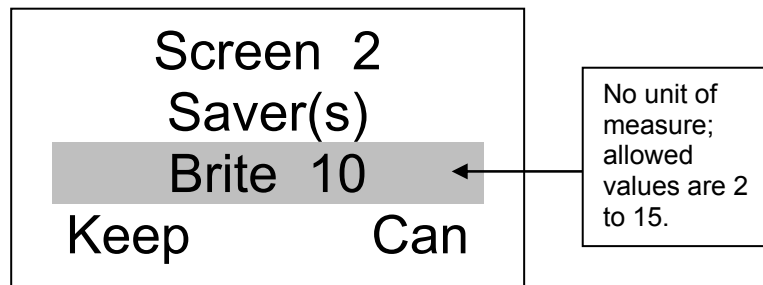
Figure 107. THE EDIT DISPLAY SCREEN.

5. On the Edit Display screen, highlight Brite, then press the middle of the rocker switch again to narrow the highlight to just the actual number itself.

6. Use the upper and lower portions of the rocker switch to increase or decrease the setting. Allowed values are 2 to 15, with the higher numbers being brighter. To prolong the life of the display unit, consider using a higher or brighter display setting while actually making changes to the configuration settings, then turning the brightness level back down as the normal operational setting. After setting, press the middle of the rocker switch and the highlight will once again be across the entire line.

NOTE

If you don't want to keep the change(s) you just made, highlight Can(cel) at the bottom of the screen, press the middle of the rocker switch to select it and cancel the changes you just made, then repeat the change process.

7. On the Edit Display screen, scroll down to highlight Keep, then press the middle of the rocker switch. Refer to Figure 108.

```
Screen  2
Saver(s)
Brite  10
Keep          Can
```

Figure 108. THE EDIT DISPLAY SCREEN.

8. On the View / Edit screen, scroll to highlight Save, then press the middle of the rocker switch to select it. Refer to Figure 109.

```
Operat'n
Alarms
Display
Save          Can
```
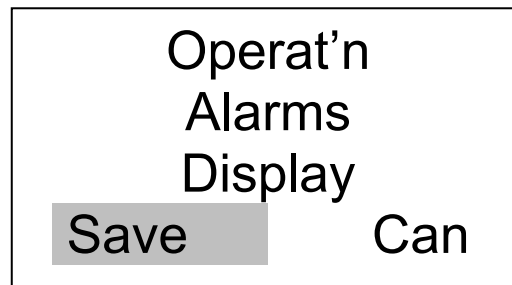
Figure 109. THE FUNCTION SCREEN.

9. On the next two screens, highlight Save, then press the middle of the rocker switch to select it to return to the Main screen. Refer to Figure 110.

```
View Cfg
Edit Cfg
Passcode
Return
```

```
Configur
Sysinfo
Advanced
Return
```
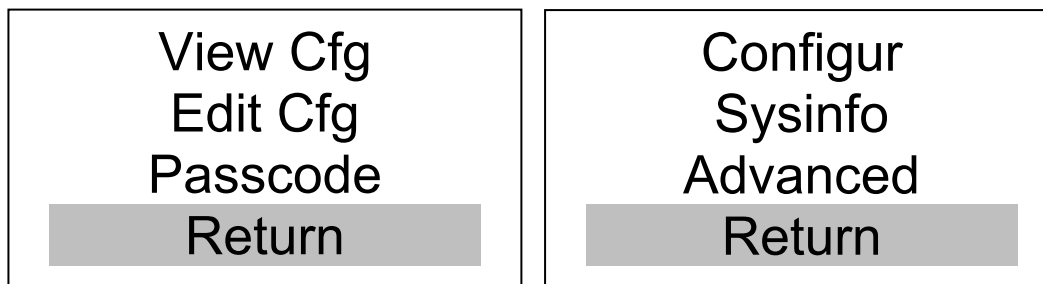
Figure 110. THE VIEW / EDIT AND CONFIGURE SCREENS.

ALARMS

The ADH Sirocco automatic air dehydrator alerts the user to 22 alarm conditions. These are identified and described below. Refer to the Glossary at the beginning of this manual for additional information.

For programming purposes and to more easily fit them onto the smaller display screen, the alarm designations have been divided into three groups. The numeric designations are used when configuring the third alarm relay. The second column is the way the relevant alarm conditions will appear in the display window. The third column is the explanation of the specific condition.

11	LO PRES	Low Pressure
12	HI PRES	High Pressure
13	DEWPOINT	Dew Point Alarm
14	DUTYCYCL	High Duty Cycle
15	SHORTCYC	Short Cycle
16	LEAKY	Leaky; no progress made toward pressurization
17	HUMSENSR	Humidity Sensor missing when it should be present or present when it should not be
18	STOPPED	Derived; other alarm(s) causes dehydrator not to try to pump; could be hot, cold, bad thermistor, or bad calibration

21	TOO COLD	Temperature too low
22	TOO HOT	Temperature too high
23	AMBTHERM	Ambient thermistor bad; temperature unknown
24	C1 THERM	Canister 1 thermistor bad
25	C2 THERM	Canister 2 thermistor bad
26	BAD CAL	Calibration factors missing or corrupted; can't pump
27	BAD CFG	Configuration corrupted; use defaults if necessary (some parts might still be good; user should check)
28	BAD TIME	Compressor time corrupted; clear by resetting the compressor time

31	C1NOHEAT	Canister 1 would not heat
32	C1NOCOOL	Canister 1 would not cool
33	C1NOTREG	Could not regenerate canister 1; thermistor bad
34	C2NOHEAT	Canister 2 would not heat
35	C2NOCOOL	Canister 2 would not cool
36	C2NOTREG	Could not regenerate canister 2; thermistor bad
37	—	Unused at this time
38	—	Unused at this time

Alarm conditions 21 and 22, "Too Cold" and "Too Hot" respectively, will actually be signaled to the operator before the temperature is extreme enough to cause pumping to actually stop. Done intentionally, this gives the operator some time to investigate and fix the problem before pressurization is lost. The unit will indicate alarm condition 21, "Too Cold," at 32°F, although pumping does not actually stop until 23°F. Similarly, at the high end, the unit will indicate alarm condition 22, "Too Hot," at 155°F, although pumping does not actually stop until 170°F.

The three alarm relays are reverse acting, meaning that the state they take when there is an alarm is the same state they take when there is no power. Alarm relay 1 is a "Summary" alarm, meaning that any of the 22 alarm conditions will cause it to activate. Alarm relay 2 is a Low Pressure alarm. Alarm relay 3 is set at the factory as the Dew Point alarm by default, though it is also configurable by the operator, as desired.

As it is used in facilitating the communication of the various alarm conditions to the operator, the pin assignments and descriptions for the DB15 connector are listed in Table 2 below.

PIN	DESCRIPTION
1	RELAY 1 Closed on alarm
2	RELAY 1 Open on alarm
3	RELAY 2 Closed on alarm
4	RELAY 2 Common
5	RELAY 2 Open on alarm
6	Not used
7	Not used
8	Not used
9	RELAY 1 Common
10	RELAY 3 Common
11	RELAY 3 Open on alarm
12	RELAY 3 Closed on alarm
13	Not used
14	Not used
15	Not used

**Table 2. DB15 PIN ASSIGNMENTS
AND CONNECTION DESCRIPTIONS.**

OPERATION

NORMAL OPERATION

During normal operation, the ADH Sirocco automatic air dehydrator functions automatically once power is applied to the unit. No operator intervention is required following initial installation and system configuration.

INDICATORS

The ADH Sirocco has two LED indicators, both located on the front panel of the unit. The Power indicator lights up whenever power is running to the unit. The Alarm indicator functions as a summary alarm and lights up to indicate the presence of any of several alarm or warning conditions. When an Alarm condition is indicated, refer to the Alarms section of this manual for additional information.

STATUS INFORMATION

The ADH Sirocco displays several screens of operational and component status information to the operator. To display operational status for the ADH Sirocco system or any of its individual components, refer to Using the 3-Position Rocker Switch in this manual.

MAINTENANCE

PREVENTIVE MAINTENANCE

The ADH Sirocco automatic air dehydrator requires no preventive maintenance. All components are designed for a minimal operational life of 15 years at duty cycles up to 20%. Higher duty cycles may reduce component life.

CORRECTIVE MAINTENANCE

Verifying the performance of the ADH Sirocco requires special equipment, fixtures, and expertise. Please consult with Environmental Technology Customer Service before attempting to service or repair an ADH Sirocco unit.

WARNING

Servicing should be performed by qualified personnel. ADH Sirocco dehydrators contain lethal voltages. Assume that all circuits are live. Attached ADH Sirocco automatic air dehydrators may produce as much as 24 psig (1,655mbar) under worst-case failure. Vent the system to the atmosphere before servicing pneumatic components.

All fittings and hardware are in standard American dimensions, or inches. Use a solution of mild liquid dish detergent and water to locate air leaks. By convention, Drying Canister 1 is the drying canister on the left when viewed from the front of the unit.

CAUTION

Do not apply power to the unit unless all internal connections have been made. Failure to do this may result in component damage.

TROUBLESHOOTING

Presented below is a System Schematic Diagram for use in troubleshooting the ADH Sirocco automatic air dehydrator.
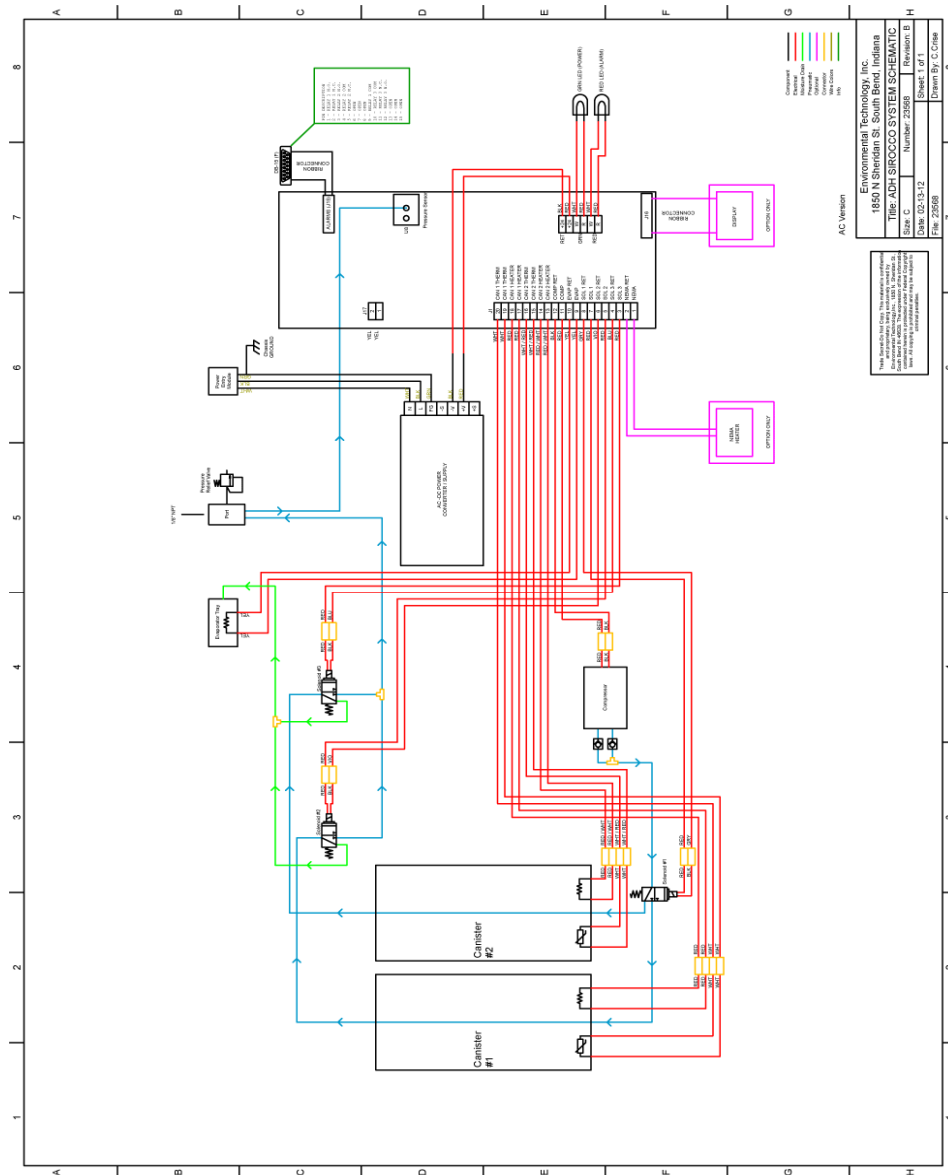
**Figure 111. ADH SIROCCO
SYSTEM SCHEMATIC DIAGRAM.**

Download available at:
http://www.networketi.com/telecom/adhsiroccoflow.html

REPLACEMENT PARTS

Listed below are the part names and numbers which may be used to order replacement parts for the ADH Sirocco automatic air dehydrator. To order parts for the ADH Sirocco or any ETI product, contact ETI Customer Service between the hours of 8:00 a.m. and 5:00 p.m., Eastern Time.

PART NUMBER	ITEM DESCRIPTION
23247	Front Panel Assembly
23253	Main Circuit Board
23216	Compressor Assembly
23218	Absorption Unit
23446	Power Module, AC Switched
23563	Power Filter, RFI
23173	Discharge Manifold with Safety Relief Valve
23269	Solenoid, Right Outlet
23214	Solenoid, Left Outlet
23270	Solenoid, Inlet
23219	Evaporator Module
23445	AC Power Supply
24431	ADH Sirocco Installation & Operation Manual (this document)
23257	Accessory Kit, ADH Sirocco, AC
17618	Power Cord, Euro
23245	Mounting Bracket Pair (2)

SPECIFICATIONS

Specifications for the ADH Sirocco automatic air dehydrator are listed below. Refer also to the Product Label on the unit itself.

GENERAL

Approvals	c (UL) US Type 1950 ® Information Technology Equipment LISTED 9R99 Also evaluated by Underwriters Laboratories Inc® In accordance with IEC Publication 60950 CE

ENCLOSURE

Dimensions	17" × 13" × 5-1/4" (432mm × 330mm × 133mm)
Weight	16 lbs. (7.26 kg)
Mounting	Dual-post rack, flush mounted Single-post rack, center mounted Wall mounted

POWER

Supply	100–240 VAC, 50/60 Hz
Maximum Current	0.9 Amps at 100 V
Power Usage	40 W typical; 75 W maximum
Heat Dissipation	136 BTU/hr. typical; 255 BTU/hr. maximum

OUTPUT

Flow Rate	11.1 scfh (5.25 lpm) @ 0.5 psig (34.5 mbar)
Maximum Pressure	7.5 psig (517 mbar)
Internal Safety Relief Valve	8 psig (552 mbar)
Discharge Port	1/8" NPT 3/8" or 1/4" hose barb (both included)
Display Units	SI (millibars); English (psig), default

CONTROL

Maximum Pressure	Configurable Range: 0.20 psig to 7.5 psig (14 mbar to 517 mbar), Default: 0.50 psig (34.5 mbar)
Minimum Pressure	Configurable Range: 0.10 psig to 7.4 psig (7 mbar – 510 mbar), Default: 0.30 psig (21 mbar)
Low Pressure Alarm Level	User-Configurable, Default: 0.15 psig (10 mbar)
High Pressure Alarm Level	User-Configurable, Default 1.5 psig (103.5 mbar)
Alarm Relays	Contact Type: Form C, SPDT, reverse acting Ratings: 0.25 Amps @ 60 V User-Configurable, Defaults: Defaults: Alarm Relay 1: Summary Alarm Alarm Relay 2: Low Pressure Alarm Alarm Relay 3: Dew Point Alarm (User-Configurable)
Duty Cycle Alarm	Default: 50% (User-Configurable)

ENVIRONMENTAL

Operating Temperature	32°F to 113°F (0°C to 45°C)
Storage Temperature	−40°F to 150°F (−40°C to 60°C)

ORDERING INFORMATION

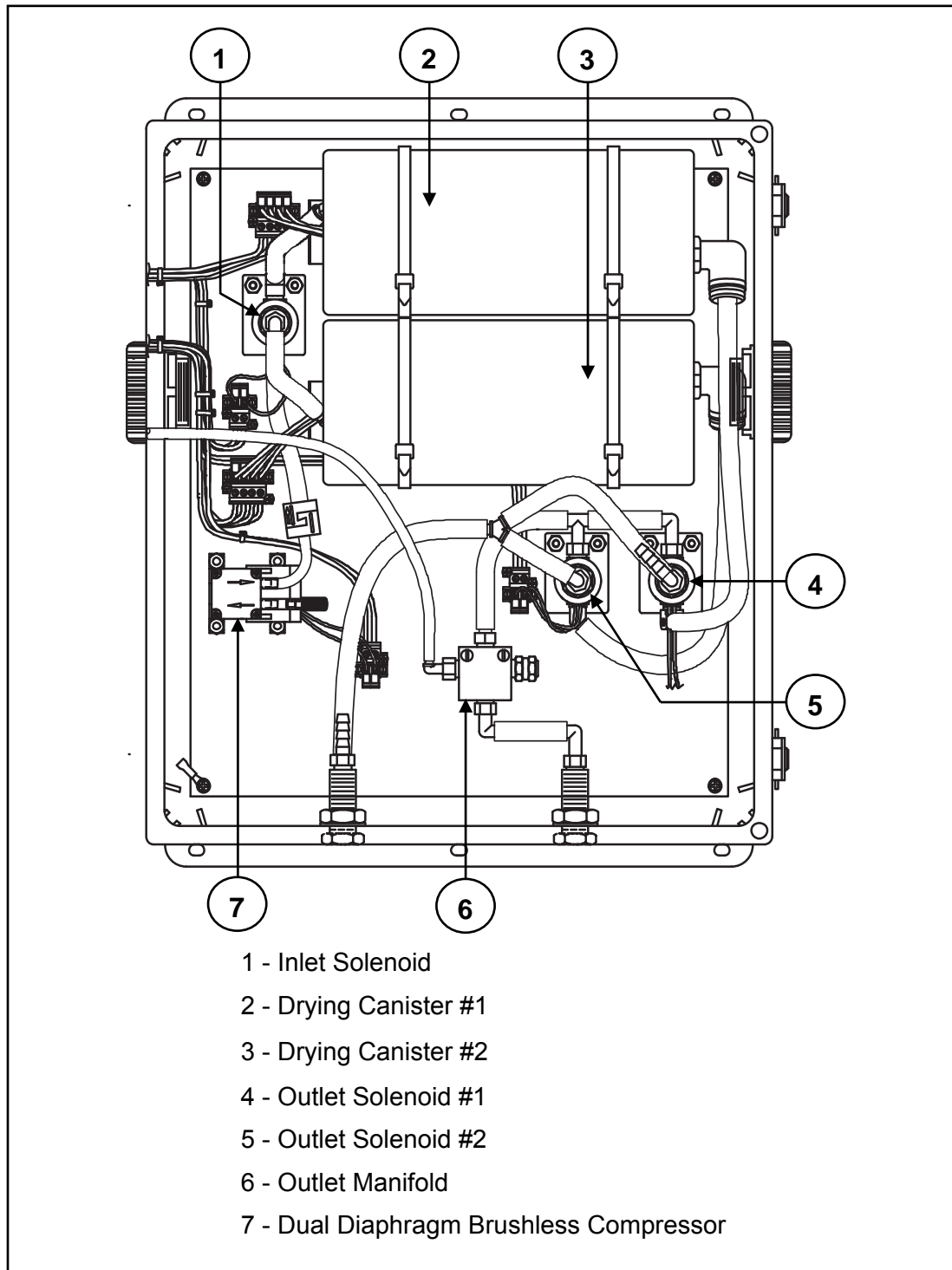| Order Number	Description
24434	ADH Sirocco Automatic Air Dehydrator
24431	ADH Sirocco Instruction and Operation Manual (this document)
24432	ADH Sirocco Installation Sheet
24433	ADH Sirocco Data Sheet

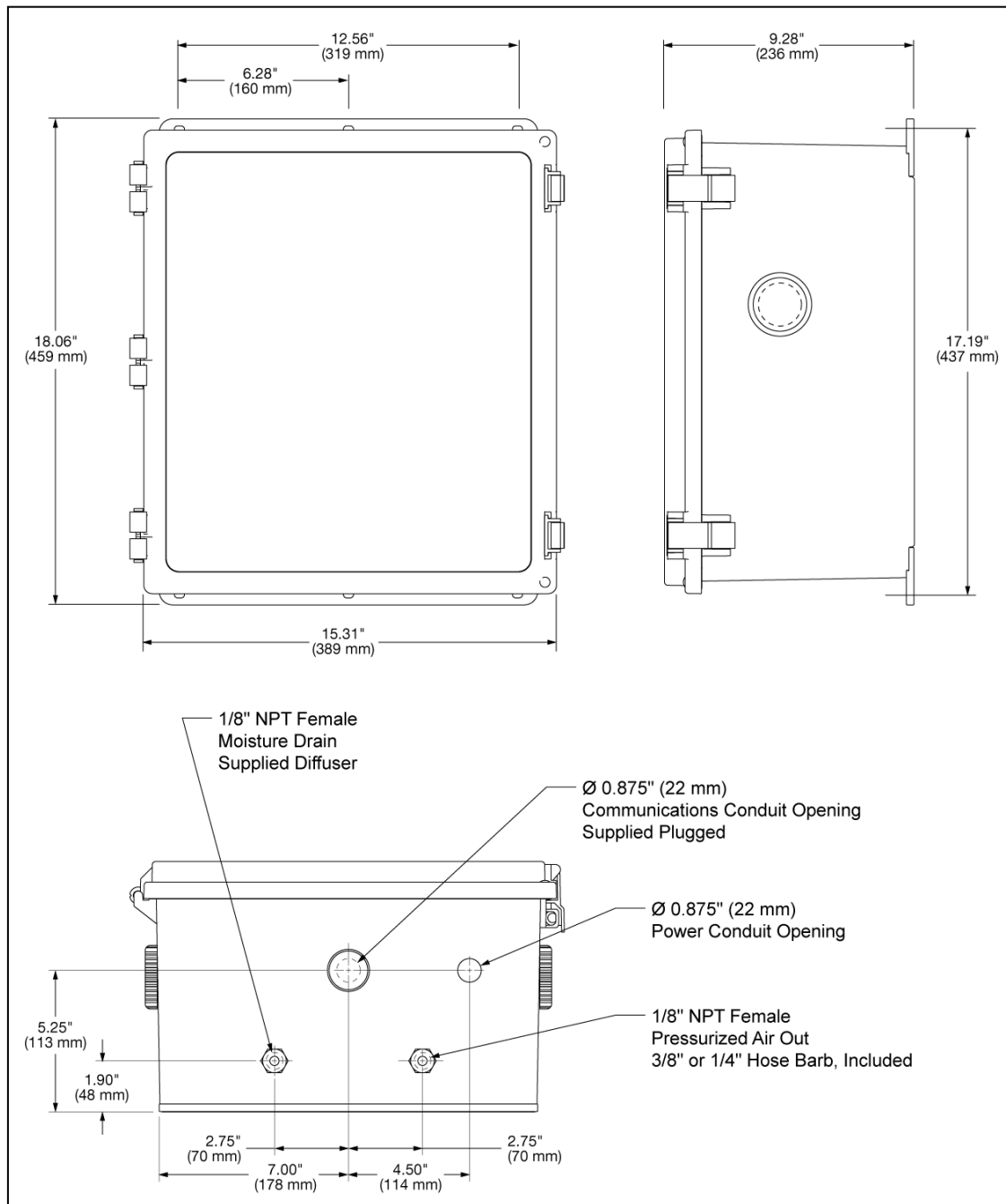# APPENDIX A – ADH SIROCCO AC NEMA CONFIGURATION

DESCRIPTION

The ADH Sirocco AC NEMA automatic air dehydrator provides the same functionality as the standard ADH Sirocco AC automatic air dehydrator, housed in an environmentally sheltered polypropylene, IP66, NEMA 4X enclosure. Because of the NEMA enclosure, the unit can be mounted outside which not only saves interior shelf space but also protects the unit from harmful environmental factors. While the NEMA enclosure keeps out moisture, the temperature control system allows operation down to -40°F (-40°C). Refer to Figures 1 and 2 below for views of internal components and dimensions.

Power requirements for the ADH Sirocco standard and AC NEMA versions are the same: 100 to 240VAC or +/-20 to 75VDC, 50 / 60Hz, and 1.5 Amps at 100V. Each voltage range is auto-sensing and requires no special configuration. The temperature control system in the NEMA unit allows reliable operation from -40°F (-40°C) to 130°F (55°C), with a storage temperature range from -40°F (-40°C) to 150°F (60°C).

The NEMA enclosure has a dedicated temperature and humidity control system to enable outdoor operation. To save energy, small heaters are mounted near the pump to allow normal operation at temperatures below 40°F, while excess heat from those heaters is utilized within the enclosure to heat other, less temperature sensitive components. To keep moisture from collecting internally, pressurized water vapor is discharged from the dehydrator through a discharge port and diffuser during regeneration. The ADH Sirocco AC NEMA automatic air dehydrator is also available with optional Type 1 and Type 2 MIL-SPEC connectors, making field replacement quick with minimal downtime.

1 - Inlet Solenoid

2 - Drying Canister #1

3 - Drying Canister #2

4 - Outlet Solenoid #1

5 - Outlet Solenoid #2

6 - Outlet Manifold

7 - Dual Diaphragm Brushless Compressor

Figure 1. ADH SIROCCO AC NEMA COMPONENTS.

Figure 2. ADH SIROCCO AC NEMA ENCLOSURE DIMENSIONS.

PREPARING FOR INSTALLATION

Prior to installing the unit, note the following information to assist in proper placement and installation. We recommend that you read these installation guidelines completely prior to beginning actual installation.

The ADH Sirocco AC NEMA automatic air dehydrator can be installed on a post or pole, on a shelf, or on a wall. Due to size and space constraints, do not mount the ADH Sirocco AC NEMA on a rack. The enclosure can be oriented with the hinges on the left side of the box (portrait), along the top of the box (landscape), or with the enclosure feet down (flat). See Figure 3.
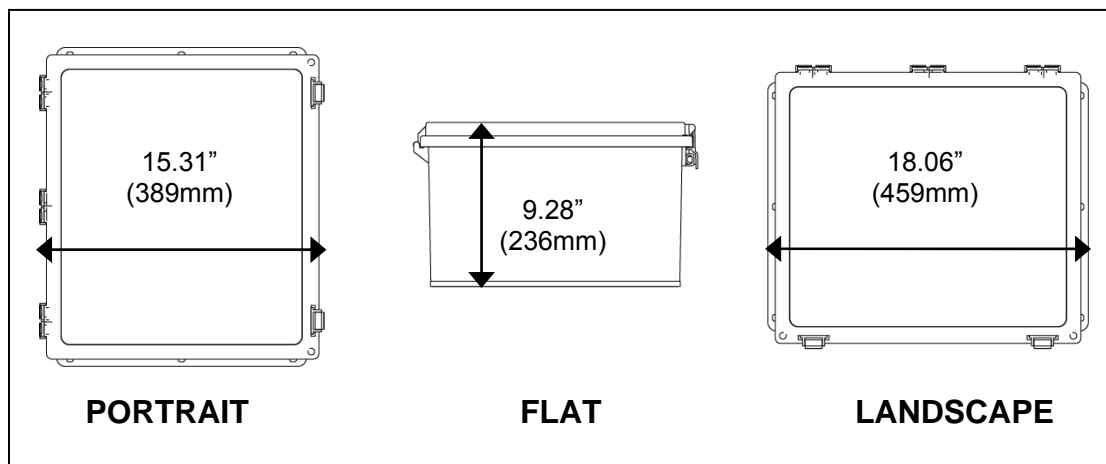
**Figure 3. THE ADH SIROCCO AC NEMA
IN ITS THREE MOUNTING OPTIONS.**

To install the unit in the Portrait position, a suitable mounting area measuring 15.31" W x 18.06" L x 9.28" D (389mm W x 459mm L x 236mm D) must be available. The mounting hardware and the wall should be capable of supporting a static load about four times the weight of the unit, or 100 pounds (45kg).

The ADH Sirocco AC NEMA automatic air dehydrator is permanently connected equipment and does not have an internal disconnect device. A readily accessible disconnect device, short circuit, and current protection shall be provided by the customer and are not supplied by Environmental Technology, Inc. If the unit is part of a building installation or may be subject to transient overvoltages exceeding those for International Electrical Code (IEC) Overvoltage Category II, then the customer shall also provide additional protection to satisfy IEC Overvoltage Category III and IV.

AC power shall be provided with protection that complies with UL 1449 and IEC 61643. A branch circuit with a 15A breaker for short circuit protection is required. When not using the optional Type 1 or Type 2 military connector kits, the power terminal block is suitable only with 14 AWG copper wire. A 7/8" hole is provided at the bottom of the enclosure for a conduit connection for the electrical wiring.

The customer is responsible for installing the unit in a secure, Restricted Access Location, accessible only by personnel qualified to work with this equipment.

INSTALLATION

To install the ADH Sirocco AC NEMA automatic air dehydrator, perform the steps below.

NOTE

The ADH Sirocco AC NEMA automatic air dehydrator does not have a Power Switch. For that reason, remember that power is running to the unit as soon as the power source cable is connected.

At this time, shut off the facility circuit breaker serving the ADH Sirocco AC NEMA.

1.   Before proceeding with installation, make sure the facility circuit breaker serving the ADH Sirocco AC NEMA unit has been shut off.

2.   Using four 5/16" mounting bolts, fasten the unit to the supporting wall or surface. To ensure stable mounting, use mounting hardware of a length appropriate to the surface or material on or into which the unit is being installed. The ADH Sirocco AC NEMA automatic air dehydrator unit weighs 24 lbs (10.9 kg). The installation surface or material must be capable of supporting a static load of approximately four times the weight of the unit, or 100 pounds (45kg). Fasten mounting hardware securely.

3. At this time, make the drain port connection. For this step, there are two options, as desired, depending on the installation location and function. Refer to Figure 4. Either carefully connect the bronze muffler to the fitting on the drain port (to serve as a moisture diffuser), or connect an 1/8" NPT male end barbed hose fitting to the drain port fitting, attach a hose, then route the hose to a facility drain.
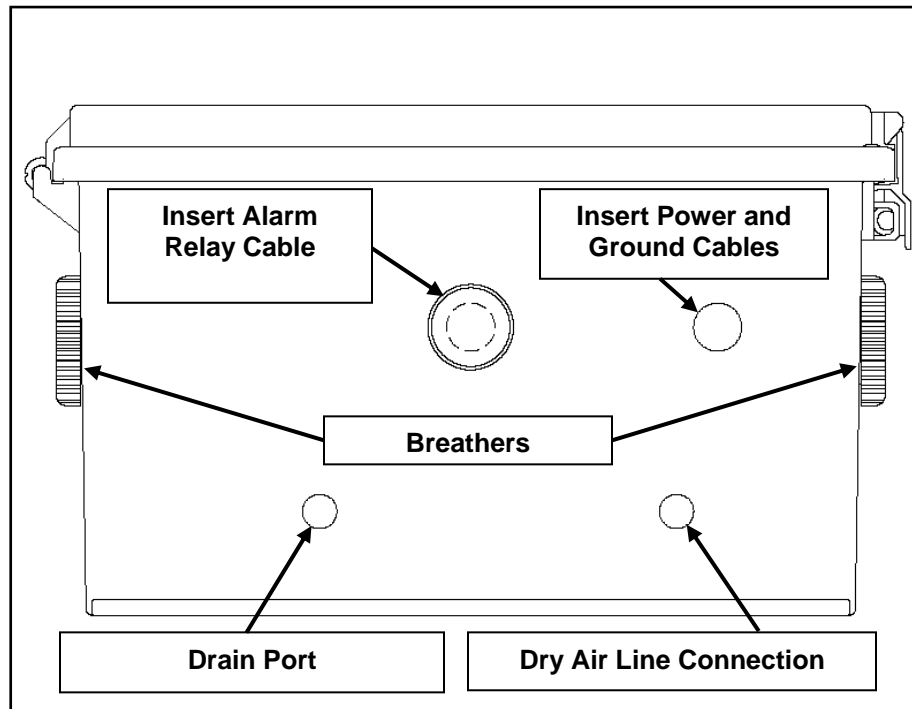

Figure 4. BASE OF NEMA ENCLOSURE.

NOTE

If using the bronze muffler, do not force it into place as doing so might strip the threads. If the muffler does not screw onto the drain port fitting easily, carefully unscrew it, reseat it, try screwing it in again. If using a hose connected to the drain port fitting, make sure the hose points down. The unit design prevents freezing inside the enclosure. It is the customer's responsibility to ensure that the added hose line does not freeze outside the enclosure. Finally, if using a hose, install a small filter or screen at the end of the hose to help keep bugs from getting up inside the hose.

4. Connect and secure the dry air supply line to the 1/8" NPT female connection at the bottom of the unit using the appropriate fitting.

5.   To install the power and ground wires, run the power and ground cables inside conduit through the 7/8" access hole in the bottom of the enclosure to the inside of the enclosure. The 7/8" hole will accommodate 1/2" conduit. Leave enough slack to extend the cables to their respective terminal lugs. Remove enough of the insulation at the end of the wire or cable to be able to make the connection into their respective terminal lugs.

6.   At this time, connect the power and ground wires to their respective terminal lugs inside the enclosure. Refer to Figure 5. Once the power and ground wires have been connected securely inside the enclosure, seal the access hole so that no ambient air can get inside the enclosure. If desired, first seal the hole and then connect the wires.
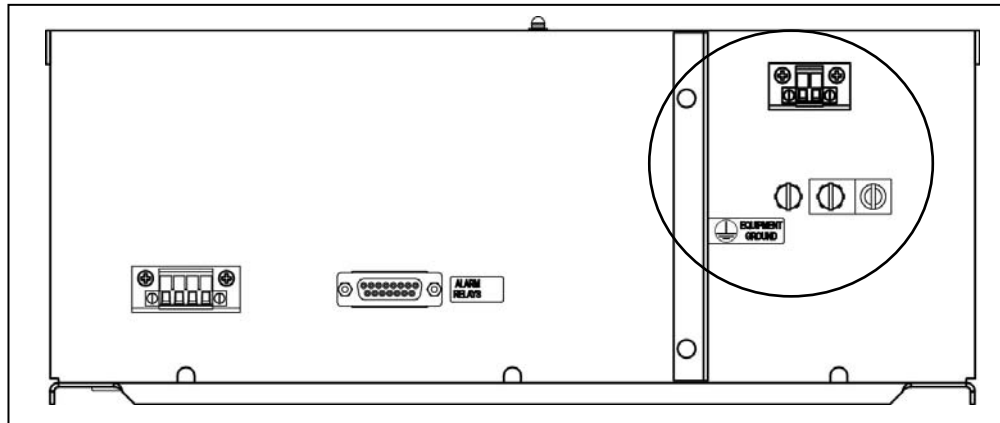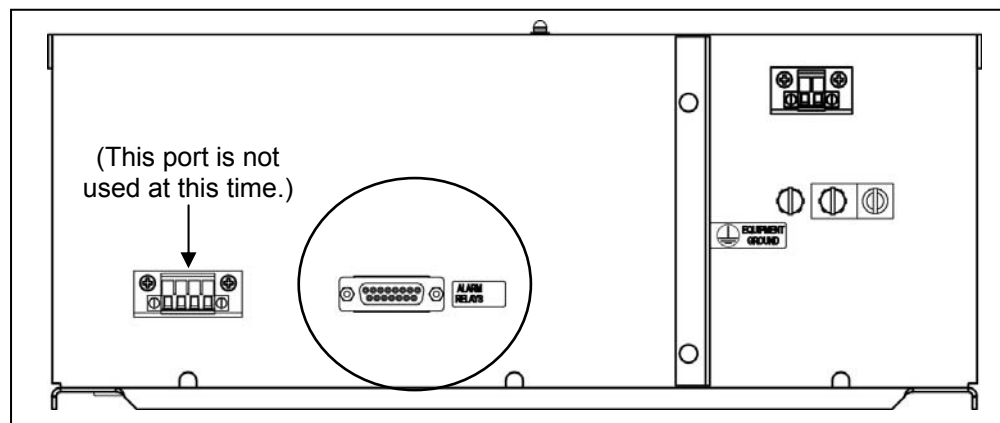

Figure 5. ADH SIROCCO AC NEMA
POWER AND GROUND CONNECTIONS.

7.   Two breathers are located on the enclosure, one on either side, as shown back in Figure 4 of this appendix. They allow air into the enclosure. Do not remove the breather caps. They are specially designed to let air into the enclosure, while preventing water and dust entry. Turn the breather caps clockwise at this time just to make sure they are properly seated.

INSTALLING THE ALARM RELAY CABLE

With the enclosure installed and the two breathers tightened, the filter or hose connected to the drain port, the power and ground wires connected, and the enclosure power and ground cable access hole sealed, the unit is now ready for operation. However, to take full advantage of the ADH Sirocco AC NEMA automatic air dehydrator capabilities, it is advised to connect, as desired, the alarm relay cable as described below. Although the unit can now function, it cannot alert the user to any of the alarm conditions which the unit has been designed to report without the alarm relay cable installed. See Page 77 in this Instruction Manual for alarm relay connector pin assignments.

8.   To install the alarm relay cable, begin by unscrewing the plug cap from the bottom of the enclosure covering the weather-tight gray connector port. Separate the two halves of the plug cap by unscrewing them from each other from the inside of the enclosure. Once removed, both halves of the plug cap can be discarded. Run conduit through the access hole, then feed the cable through into the enclosure. The hole in the cap can accommodate the width of a conduit. Feed in enough of the cable to leave some slack so it can reach the Alarm Relay port.

9.   Once the alarm relay cable has been fed into the enclosure, connect it to the Alarm Relay port inside the enclosure. Refer to Figure 6. As in step 6 above, seal the alarm relay cable access hole so that no ambient air can enter the enclosure. If desired, seal the hole first, then connect the cable.

**Figure 6. ADH SIROCCO AC NEMA
ALARM RELAY CABLE CONNECTION.**

10. Once the alarm relay cable is connected and the enclosure access holes are properly sealed, close and secure the enclosure using the fastening latches. Make sure the latches snap into position to make sure they are fully closed and secured.

11. Finally, once installation is complete, turn the facility circuit breaker back on and verify that the installation was successful. The unit will make a vibrating sound when the pump is operating.

CONFIGURING THE UNIT

Now that the unit is installed, it is necessary to configure the specific values and performance parameters for your specific unit, installation, or location. Refer back to the section entitled Configuring the System, starting on page 30 in this Instruction Manual. Once the unit has been configured, verify that the system pressurizes and is running at a Duty Cycle of less than 20%.

QUESTIONS AND COMMENTS

For technical help, questions, or comments concerning this product or any of Environmental Technology, Inc., products, contact the Customer Service Department between 8:00 a.m. and 5:00 p.m. Eastern Time at:

E-mail: info@networketi.com

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