

# **CAMAIR**

**THE LEADER IN DRY AIR TECHNOLOGY**

## **INSTALLATION AND OPERATING INSTRUCTIONS**

**XL50-ZA & XL100-ZA  
Fully Automatic Dryer**

**Serial NO.9701 and Above**

Page 2

Receiving and Inspection  
Locating the dryer in your shop

Page 3

Getting to know your dryer

Page 4

Installing your dryer  
Dryer operation  
Maintaining your dryer

Page 5

Trouble shooting guide

Page 6

Drain valve servicing sheet

Page 7

Regeneration instructions

Page 8

Wiring diagram

# XL-ZA FULLY AUTOMATIC DRYER

Congratulations on having purchased the finest compressed air drying system available. With routine and simple maintenance your CAMAIR dryer will give you years of trouble free service. With this dryer installed and operating, there is no further need for water traps or filters in your shop.

## RECEIVING AND INSPECTION

All CAMAIR dryers are inspected and tested before shipment. Please inspect this dryer carefully for any damage that may occur in shipment. If there is any transit damage, please file a claim with the trucking company that delivered the unit and notify the company you purchased the dryer from.

## LOCATING THE DRYER IN YOUR SHOP

The CAMAIR XL dryer must be located so that it is accessible for periodic maintenance. This area should be well lit, clean and ventilated. **The compressed air coming from your compressor into the dryer must be below 100 degrees F for the dryer to operate properly.** The ideal installation (Figure 1) would include an air cooled after cooler after your compressor and before your dryer. If you do not have an air cooled after cooler you should install the dryer after your receiver tank (Figure 2) and have a minimum of 50 feet of pipe between your receiver tank and the dryer.

FIGURE 1

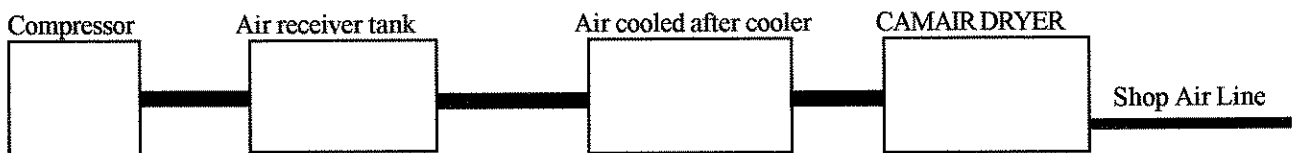
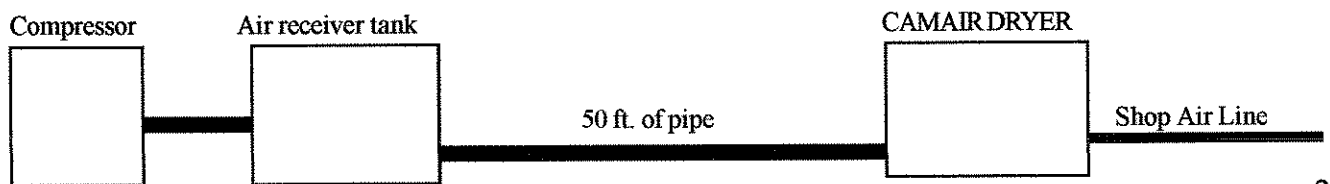


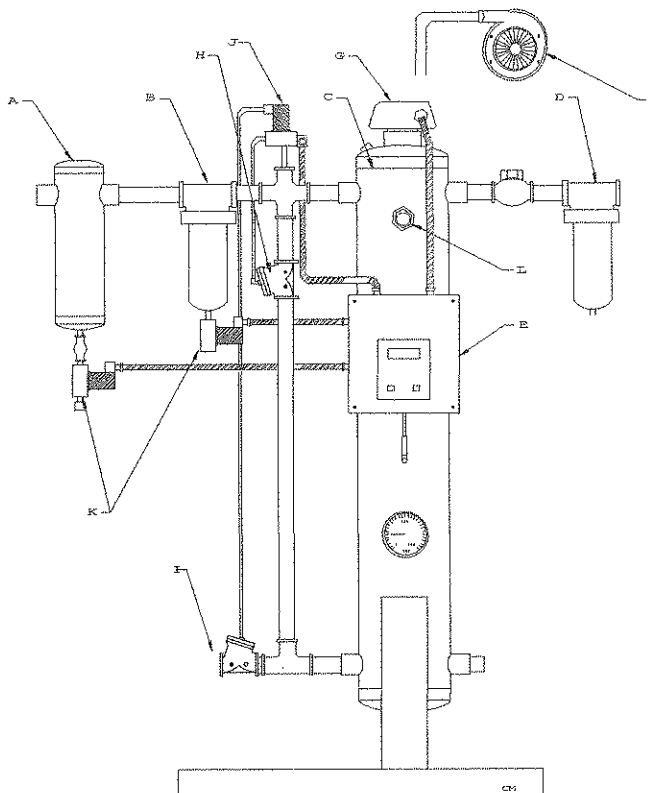
FIGURE 2



# GETTING TO KNOW YOUR DRYER

Look over your dryer and become familiar with the various parts. This will help you understand the dryer operation better and will alert you to where general maintenance is required. Refer to the drawing below to identify the major parts of your dryer.

- A) WATER SEPARATOR - Removes 95 % of the liquid water from the compressed air.
- B) COALESCER - Removes oil mist to .1 micron. Coalescer element should be replaced every 6 months with P/N 080-010.
- C) DESICCANT DRYING TOWER - Contains CAMAIR desiccant. As the compressed air passes up through the desiccant bed, it is stripped of the moisture vapor giving you dew points as low as -40. The desiccant should be replaced every 3 to 5 years.
- D) FINAL FILTER - Removes any desiccant dust that may occur during the regeneration cycle. Element can be cleaned & reused. If element is fractured, replace with P/N 080-015 for XL50 and P/N 080-017 for XL100.
- E) CONTROL BOX - Contains the 24 hour automatic programmable regeneration controller, automatic electronic drain controller and all the rest of the electronics needed to make your dryer work.
- F) REGENERATION BLOWER - Provides purge air during regeneration cycle.
- G) REGENERATION HEATER - Provides heat to the desiccant during the regeneration cycle.
- H) REGENERATION SHUT OFF VALVE - Stops the compressed air flow through the dryer during the regeneration cycle.
- I) REGENERATION AIR EXHAUST VALVE - Opens up during regeneration allowing purge air to escape.
- J) REGENERATION 3 WAY SOLENOID VALVE - Operates the regeneration shut off valve and the regeneration exhaust valve.
- K) AUTOMATIC DRAINS - Periodically drains the collected water from the separator and coalescer.
- L) MOISTURE INDICATOR - Reads green when the desiccant bed is dry and turns white when the desiccant bed is wet.



# INSTALLING THE DRYER

**-DANGER-**

**ELECTRICAL HAZARD AND STORED ENERGY HAZARD  
BEFORE WORKING ON DRYER LOCK, OUT AND TAG OUT COMPRESSED AIR AND  
ELECTRIC SUPPLIES TO THE DRYER PER OSHA REGULATIONS. BE SURE TO RELEASE  
COMPRESSED AIR FROM DRYER BEFORE WORKING ON IT.**

Remove the CAMAIR dryer from the shipping skid and set it in place. Shut your air compressor down. Lock it out in accordance with OSHA regulations and relieve the air pressure from your compressed air system. Connect the inlet air to the "AIR IN" of the CAMAIR dryer. (We recommend that you install a bypass around the dryer for routine servicing) Next, connect the shop air line to the "AIR OUT" of the dryer. Plug the dryer into a standard 115 volt outlet and you are ready to go.

**IMPORTANT: Be sure to check the polarity of the outlet you are using Reverse polarity is a safety hazard. It may cause erratic operation of the drain valves, and damage the regeneration heater.**

## DRYER OPERATION

The CAMAIR XL-ZA dryer is fully automatic and requires only periodic maintenance. The dryer will automatically regenerate every night. The automatic 24 hour programmable regeneration timer is equipped with a 2 week memory in case of power failure. **After you install the dryer and plug it in, you must set the regeneration timer. (See regeneration instructions at the back of this manual)**

**When setting the regeneration timer you must take into account this dryer requires a full 8 hours for regeneration. If you start work at 8:00 AM the latest you can start the regeneration is 12:00 AM (midnight)**

The CAMAIR XL air dryer has a built in blower for regeneration. It will automatically regenerate every night. **Do not leave your air compressor on overnight.** Just shut your compressor off as you normally do and go home. Your dryer will be fully regenerated and ready to go in the morning.

## MAINTAINING YOUR DRYER

There are several things you should do to insure trouble free operation of your dryer:

A) Check the operation of the automatic drains once a week to be sure they are draining properly. (Press the drain "TEST" button on the front control board. The drains should open up and blow out compressed air.) If they are not working or are sticking open, disassemble and clean non working valve. (See drain valve servicing at the back of this manual.)

B) Check and clean the final filter element once a month. Replace element if fractured with P/N 080-015 for the XL50-ZA and P/N 080-015 for the XL100-ZA.

C) Check the coalescer element once a month. Change the element when either the outside of it is oil stained or every six months. Replace with P/N 080-010 for XL50-ZA and XL100-ZA air dryers.

# TROUBLE SHOOTING YOUR DRYER

**-DANGER-**

## **ELECTRICAL HAZARD AND STORED ENERGY HAZARD**

**BEFORE WORKING ON DRYER, LOCK OUT AND TAG OUT COMPRESSED AIR AND ELECTRIC SUPPLIES TO THE DRYER PER OSHA REGULATIONS. BE SURE TO RELEASE COMPRESSED AIR FROM DRYER BEFORE WORKING ON IT.**

### **A) NO AIR PRESSURE AFTER DRYER**

- 1) Air compressor shut off---- Turn on compressor
- 2) Inlet valve closed----Open inlet valve
- 3) The regeneration shut off valve (Figure H) has failed to open after regeneration----Remove the air line leading to this valve. If air comes out of this line, replace the diaphragm in the valve. If air does not come out of this line, replace the regeneration solenoid valve (Figure J)

### **B) DIGITAL READOUT FLASHING**

**This is a low or high temperature shutdown of the unit DO NOT ATTEMPT TO RESTART THE UNIT CALL THE FACTORY FOR TROUBLE SHOOTING INSTRUCTIONS (800-943-7924)**

### **C) AIR PRESSURE COMING OUT OF REGENERATION AIR EXHAUST VALVE**

- 1) Regeneration exhaust valve (Figure I) has failed to close after regeneration----Remove the air line leading to this valve. If air comes out of this line, replace the diaphragm in the valve. If air does not come out of this line, replace the regeneration 3 way solenoid valve (Figure J)

### **D) MOISTURE INDICATOR DOES NOT TURN GREEN**

- 1) Moisture indicator is no good---- Replace indicator
- 2) Dryer has failed to regenerate---- When you first start the regeneration cycle, the compressed air in the dryer should depressurize out of the regeneration air exhaust valve. (Figure I) If this does not happen, remove the air line leading to this valve. If air comes out of this line, replace the diaphragm in the valve. If air does not come out of this line, replace the regeneration 3 way solenoid valve (Figure J)
- 3) Blower is not working---- When you first start the regeneration cycle, the unit should depressurize and the blower should come on and a steady stream of purge air should be coming out of the regeneration exhaust valve. (Figure I) If it does not, blower is bad---- Replace blower.
- 4) Heater is not working---- Start the regeneration cycle. After 1/2 of regeneration time the dryer should reach temperatures between 130-300 F on the digital temperature readout. (Figure E) If it does not, the heater is bad---- Replace heater.

### **E) EXCESSIVE PRESSURE DROP ACROSS DRYER**

- 1) Coalescer element is saturated with oil---- Replace element
- 2) Final filter is clogged---- Clean final filter or replace

### **F) WATER IN AIR LINES AFTER DRYER**

- 1) See (D) "MOISTURE INDICATOR DOES NOT TURN GREEN" Solutions # 2, # 3 and # 4
- 2) Inlet air too hot (over 100 F)---- Move dryer further downstream or install after cooler
- 3) Automatic drains not working---- Press the drain "TEST" button on the control board. The drains should open up and air should come out of both drain lines. If not, replace the drain coil.
- 4) Dryer is overloaded-- Take your compressor horse power and multiply it by 3.3. That number should not exceed the model # of your dryer. (EX: if you have a 30 HP compressor  $\times 3.3 = 99$  CFM you must have a XL100 or larger)

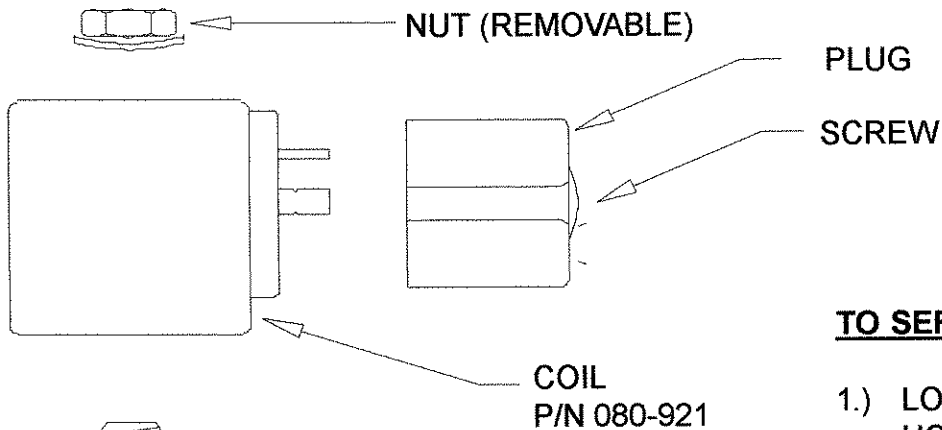
### **G) AUTOMATIC DRAINS LEAKING AIR**

- 1) Disassemble and clean leaking valve. ( See drain valve servicing sheet at the back of this manual)

If you are unable to get your dryer back into operation by using this trouble shooting guide, or need further information about this dryer or any other product please call (800-943-7924)

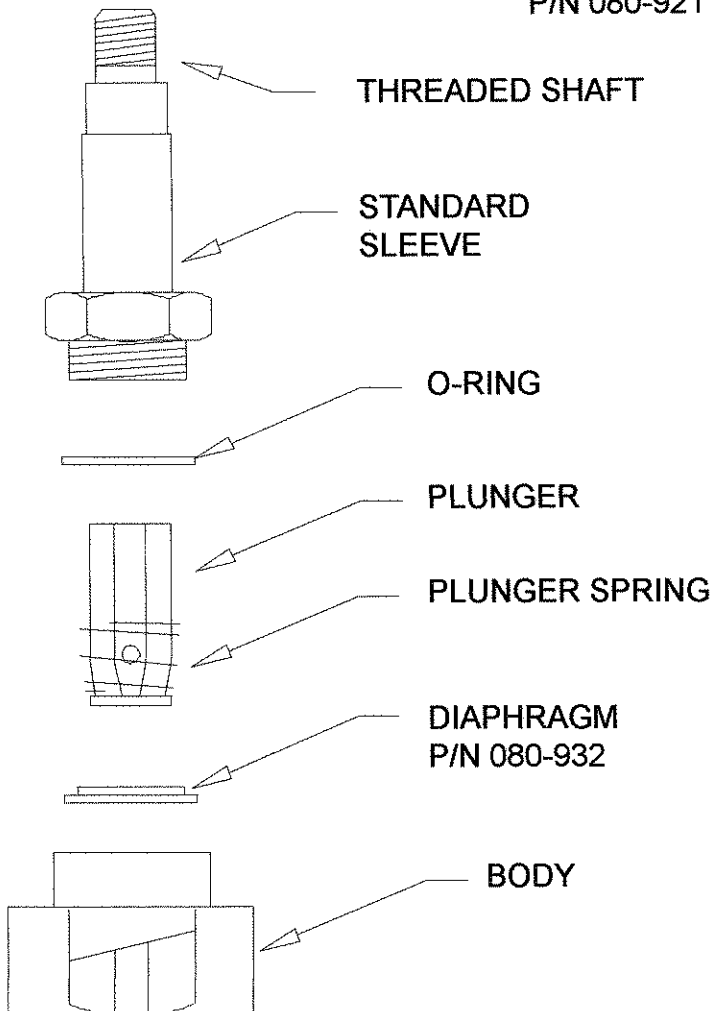
# DRAIN VALVE SERVICING SHEET

## CAMAIR XL DRYERS DRAIN VALVE SERVICING



### TO SERVICE THE DRAIN VALVES

- 1.) LOOSEN THE SCREW HOLDING THE PLUG ON THE COIL AND REMOVE IT.
- 2.) REMOVE THE TOP NUT AND TAKE THE COIL OFF.
- 3.) REMOVE THE STANDARD SLEEVE, BEING CAREFUL NOT TO LOOSEN THE O-RING OR THE PLUNGER AND SPRING.
- 4.) REMOVE THE DIAPHRAGM, CLEAN IT WITH A SOFT CLOTH.
- 5.) REASSEMBLE AND PUT BACK IN SERVICE.



# Regeneration Instructions

## How to set 24 hour regeneration timer using the L.E.D. Readout and the push-button on the control panel.

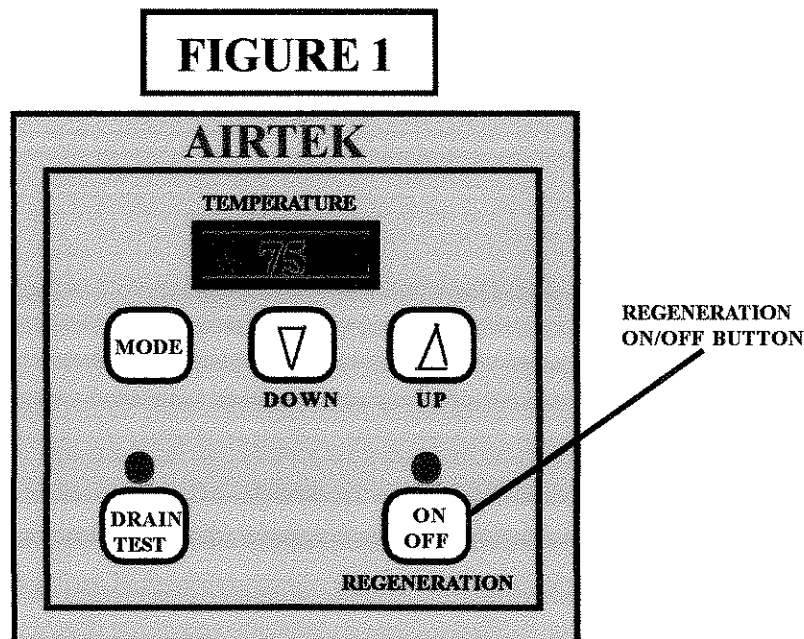
First, figure out the number of hours ahead of the current time you want the dryer to start the regeneration cycle.

EX: If it is 10:30 AM in the morning and you want the dryer to start regenerating at 10:00 PM at night, this is 11 1/2 hours ahead.

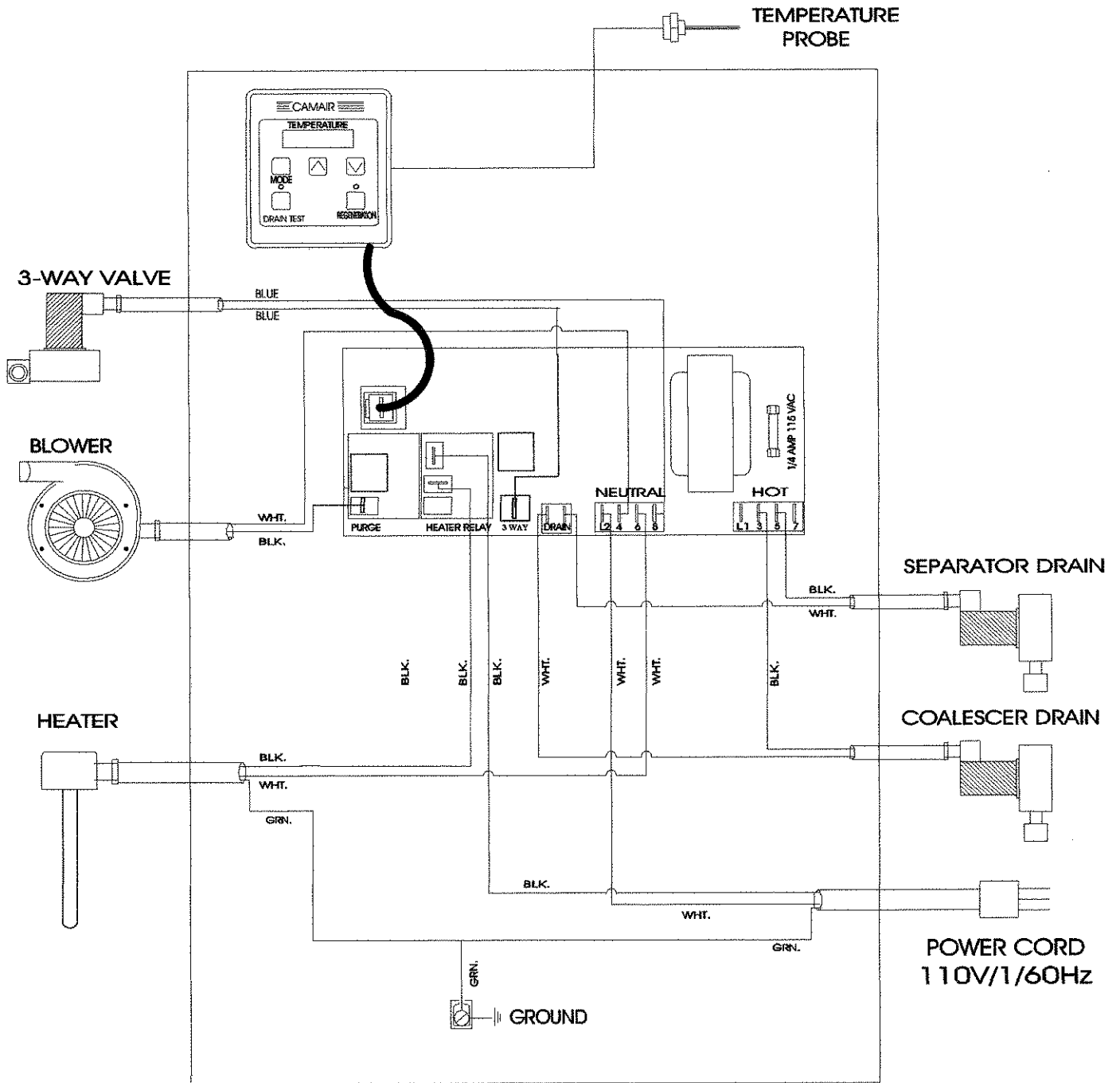
Using the push-button on the control panel, (Figure 1) first, press the "Mode" button (L.E.D. Readout will change from temperature to hours) then, using the up and down buttons (^ v) set the L.E.D. Readout to 11.5 This tells the timer to regenerate 11 1/2 hours from now. You only need to set the regeneration time once. The internal electronic timer remembers to start the regeneration cycle every 24 hours.

**Warning:** The regeneration cycle takes 8 hours. If you start work at 8:00 AM, the latest you can start the regeneration cycle is 12:00 PM midnight.

NOTE: The CAMAIR dryer has a built in blower for regeneration, and will automatically regenerate every night. **Do not leave your compressor on over night.**



# WIRING DIAGRAM XL-ZA AIR DRYER





# CAMAIR PRODUCTS WARRANTY

The warranty on CAMAIR desiccant compressed air dryers is the warranty of the manufacturer, CAMAIR Inc. , Buffalo NY.

CAMAIR Inc. warrants the desiccant compressed air dryers manufactured by it to be free of defects in materials and workmanship for a period of one (1) year from the date of purchase by the user of such equipment.

CAMAIR will replace, without charge, any part of the desiccant compressed air dryer, except those noted below, upon verification by the distributor that such part has failed.

This warranty does not cover intentional or accidental damage or damage due to improper application of the equipment.

**This warranty does not cover replaceable filter elements, desiccant or moisture indicator.**

CAMAIR will install such parts, without charge, if the unit is returned to the factory in Buffalo, NY, or such other location specified by CAMAIR, freight prepaid . The unit will be repaired and returned freight prepaid.

This express warranty is in lieu of all other warranties, expressed or implied, including any implied warranty of merchantability for fitness for a particular purpose. The remedies stated above are the sole and exclusive remedy for the obligations of CAMAIR, Inc. arising from the sale of its products and in no case will CAMAIR, Inc. be liable for incidental or consequential loss or damages, including without limitation damage to other property, loss of profits, loss of good will, or other economic loss whether such incidental or consequential damage is claimed on account of breach of warranty, breach of contract, negligence, strict liability in tort, or any other legal theory.