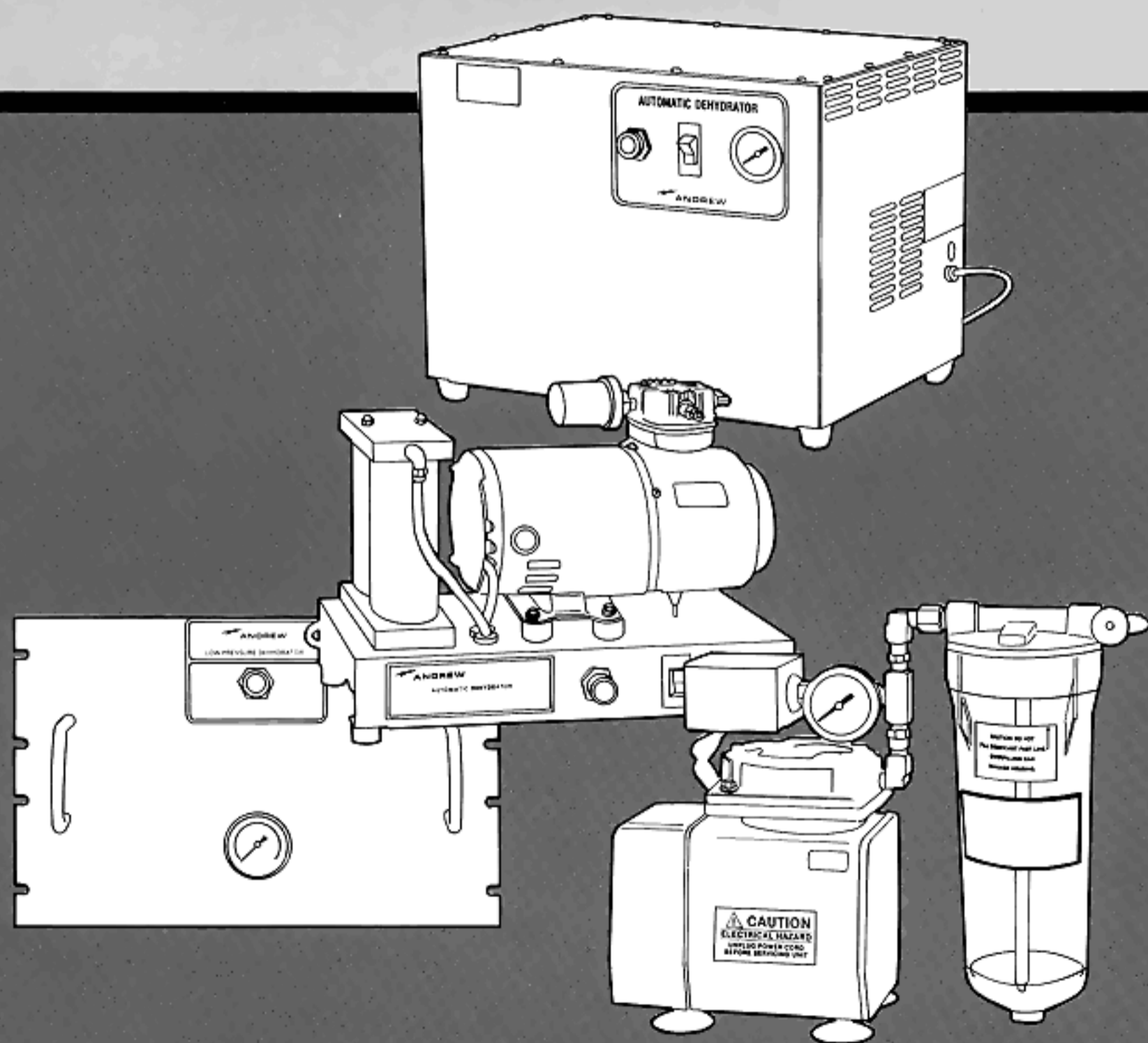


The Biannual Care and Feeding of Your Andrew Dehydrator




ANDREW

Description

This booklet contains information on preventative maintenance and trouble-shooting tips for Andrew dehydrators. The maintenance procedures, performance checks and recommendations contained in this booklet will help ensure the smooth operation of your Andrew dehydrator. Although this information pertains specifically to Andrew dehydrators, the design of the types of units described is standard, and the information can be applied to comparable dehydrators.

Andrew Corporation presents this booklet to help you maintain trouble-free dehydrator operation and a properly pressurized communications system. If you should require further assistance or have questions about dehydrators that are beyond the scope of this booklet, please do not hesitate to contact us. Our Technical Service Department and the Andrew Customer Support Center are available to answer your questions 24 hours a day.

Technical Service Department — (708) 349-5900

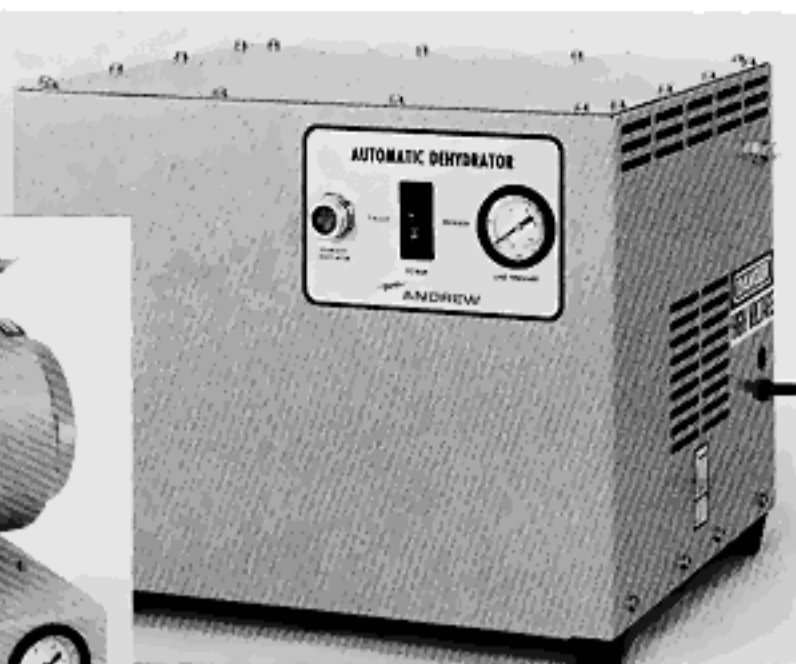
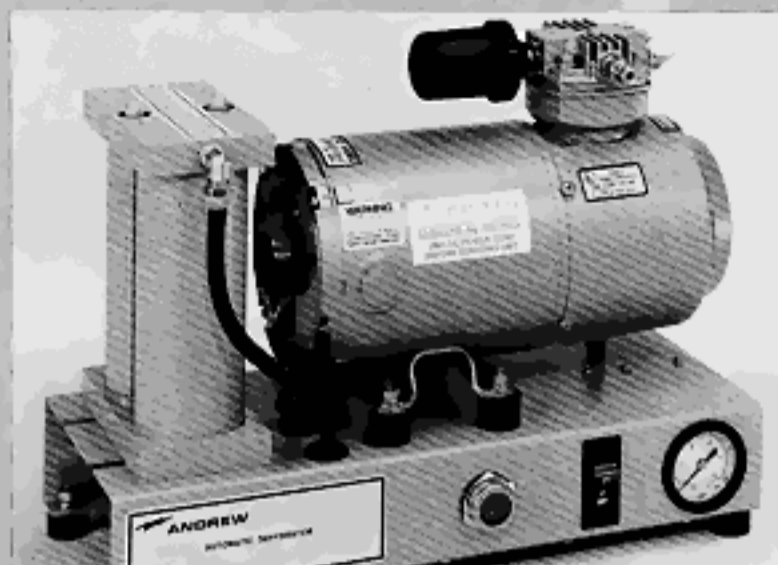
Customer Support Center — 1-(800)-255-1479

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1920 Series

1930 Series



Type 65630B



Type 40525A

Introduction

Preventative maintenance will assure you of uninterrupted service and minimize downtime. By maintaining a constant supply of dry air to your pressurization system you guard against moisture infiltration, arc over, loss of power, increased attenuation, or increased VSWR, problems that can degrade system operation or cause system failure.

Pressurized Transmission Lines

Pressurized transmission line systems contain dry air pretreated to a condensation temperature, or dew point, far below the lowest anticipated ambient temperature. The air in the system is maintained at a higher pressure than atmospheric pressure to ensure that moisture-rich air cannot enter the system.

Automatically Regenerated Dehydrators

Automatic dehydrators basically consist of a motor-compressor and a dryer unit. The dehydrator begins operation when transmission line pressure decreases to a preset level and operation stops when the pressure increases to a preset level. Desiccant regeneration is automatic for the 1920 and 1930 series dehydrators. While one drying cylinder, or tower, is drying the air passing through it, it supplies a small amount of dry air to the other tower so as to purge it of accumulated moisture. The drying towers contain a molecular sieve material which adsorbs and releases moisture under pressure.

Since the compressor has low-friction piston rings and the motor has sealed bearings, no lubrication is required. The air intake filter assemblies should be replaced at least annually.

The front panel of each automatic dehydrator has a humidity indicator, pressure gauge and illuminated circuit breaker. The humidity indicator contains a color-indicating desiccant which provides for a visual check of the moisture content in the air being delivered to the system.

Manually Regenerated Dehydrators

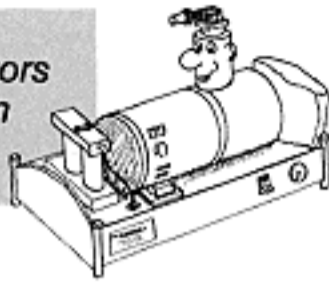
The 40525A and 65630B dehydrators are manually regenerated dehydrators. The 40525A dehydrator consists of a motor compressor and a desiccant container. The 65630B dehydrator consists of an air pump and a canister desiccant container. These dehydrators require periodic inspection and replacement or regeneration of the desiccant. The clear desiccant container on the 40525A dehydrator holds a color-indicating desiccant. There is no humidity indicator, or sight glass. The 65630B dehydrator uses a color-indicating desiccant in the sight glass, and noncolor-indicating Sorbead^{*} in its canister desiccant container. Saturated desiccant can be replaced or reactivated. Reactivation requires heating the desiccant to 350°F for four hours in an ordinary oven.

*Sorbead is a registered trademark of the Kalichemie Co.

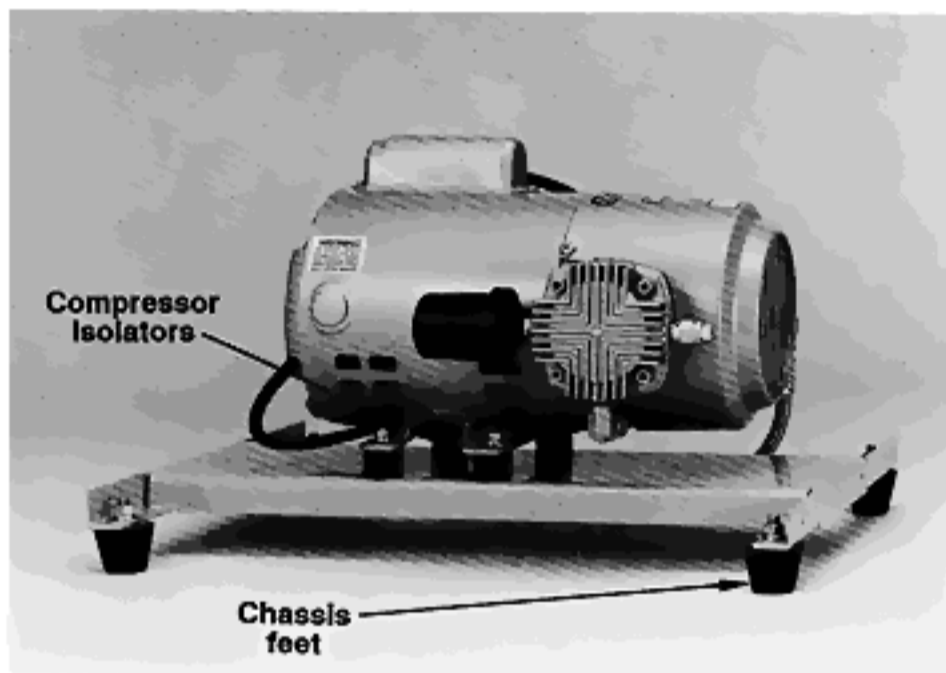
Preventative Maintenance

Compressor Isolators and Chassis Feet

Visually Check Compressor Isolators and Chassis Feet for Deterioration Every Six Months.



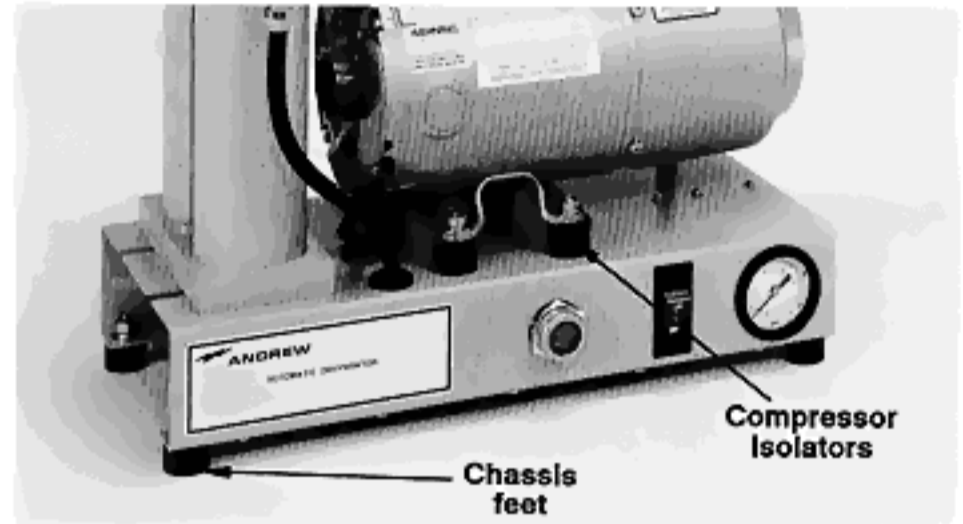
Excessive noise and vibration can result from deteriorated compressor isolators and chassis feet. Look for indications of cracking or hardening. The compressor isolators may also separate from the mounting studs.



1920 Series

Ordering Information

Unit	Chassis Feet	Type Numbers for Isolators
1920 series	12472-2	42300
1930 series	42371-2	42300
40525A	46174	N/A



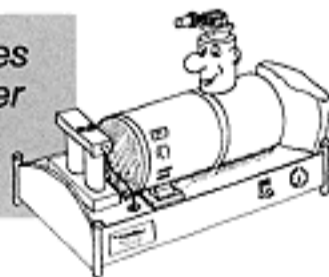
1930 Series



Type 40525A

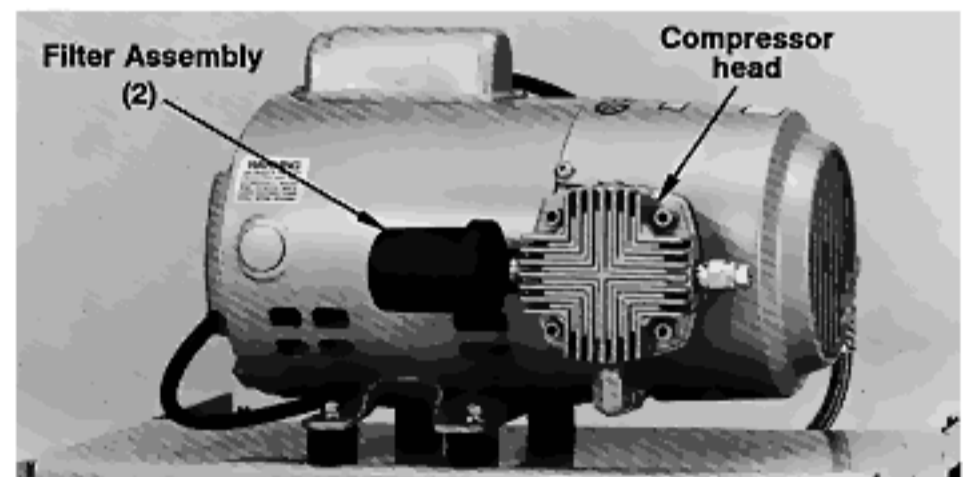
Compressor Air Intake Filter

Replace Intake Filters or Assemblies Every Six Months to Maintain Proper Compressor Output Volume and Extend the Life of the Compressor.

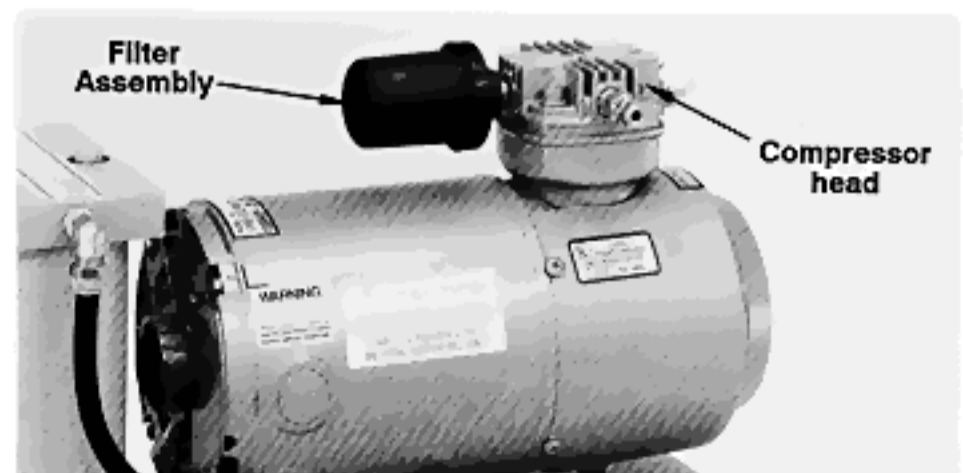


The filter element in the air intake filter assemblies on the 1920 and 1930 series dehydrators protects the compressor from contamination and extends the service life of the compressor piston rings. The filters should be replaced every six months or more often if the site is located in an extremely dusty environment. The filter is fabricated from a felt material which cannot be cleaned and reused.

To replace the filter, rotate the filter housing counterclockwise about 1/4 turn and remove the filter housing to expose the filter element. A new element can be inserted into the filter assembly. Be careful to reset the filter disk into the bottom of the housing.

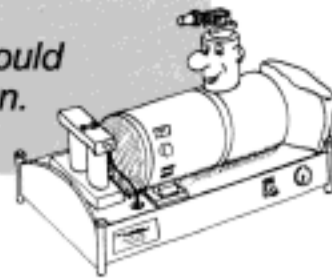


1920 Series



1930 Series

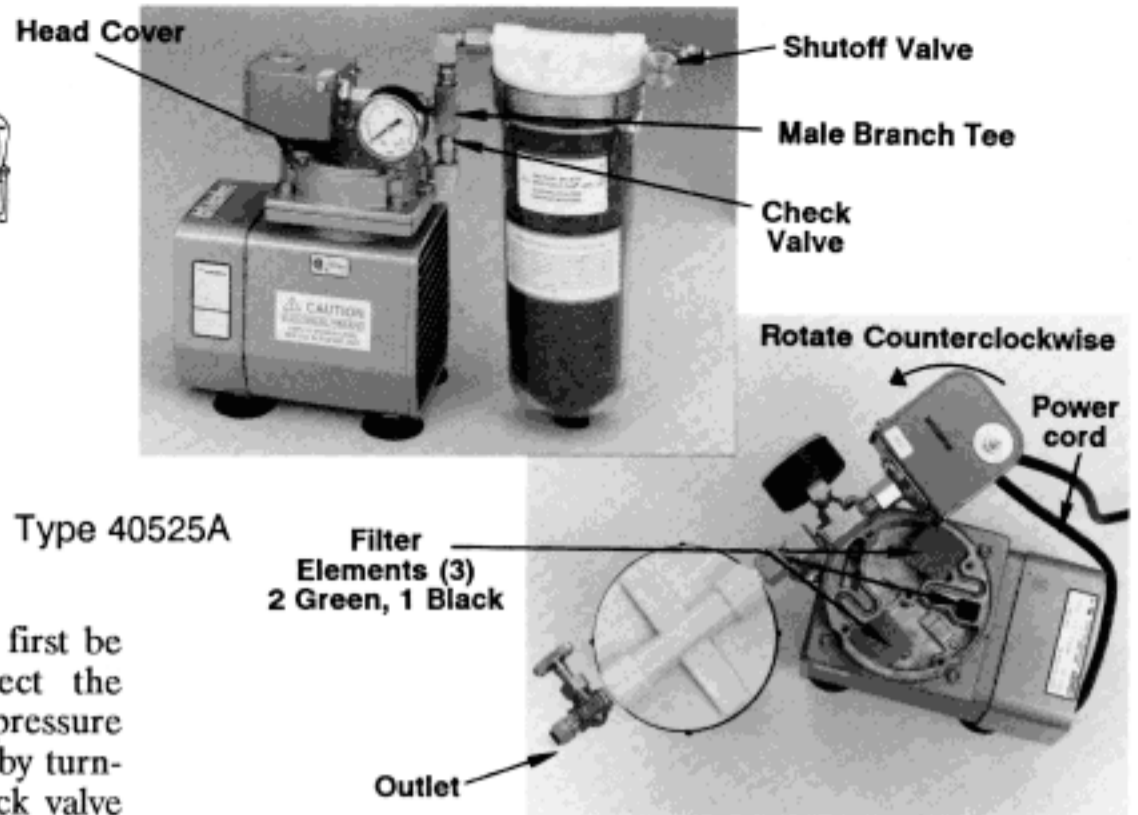
40525A Filter Elements Should Be Washed or Blown Clean.



The 40525A dehydrator contains three diaphragm filter elements located under the top head cover. These filters (two green and one black) can be removed and washed in water and detergent or blown free of contaminants using compressed air.

To clean and replace the three filters, access must first be gained to the cover-attaching screws. Disconnect the polytubing from the outlet. Carefully move the pressure switch and pressure gauge assembly out of the way by turning counterclockwise using the junction of the check valve and the male branch tee as the pivot point. Take care not to damage the power cord. Remove the five screws attaching the head cover to the head. Note the orientation of the arrows on the cover. The cover and the rubber gasket can fit properly in only one position. The gasket should be washed in clear water. After washing and replacing the filters, replace the gasket and the head cover. Arrow markings on the head cover point toward the desiccant container when in its operational position.

Type 40525A



Ordering Information

Unit	Type Numbers for	
	Filter Elements	Filter Assemblies
1920 and 1930 series	46173-1	46173
40525A	Cleanable and Reusable	

Desiccant Cylinder Solenoid Valves

The two drying towers operate alternately to supply dry air to the transmission line. While one provides dry air to the system it also supplies a small amount of dry air to the opposite cylinder. This "blow down" process serves to purge the second cylinder of moisture. As atmospheric air enters the air-supplying cylinder, the molecular sieve (a pellet-like desiccant) adsorbs the moisture and this cylinder is then purged during the next cycle.

The drying cylinders of the 1930 and 1920 series dehydrators have two solenoid valve exhaust ports which should be clean and free of dust or tan clay material.

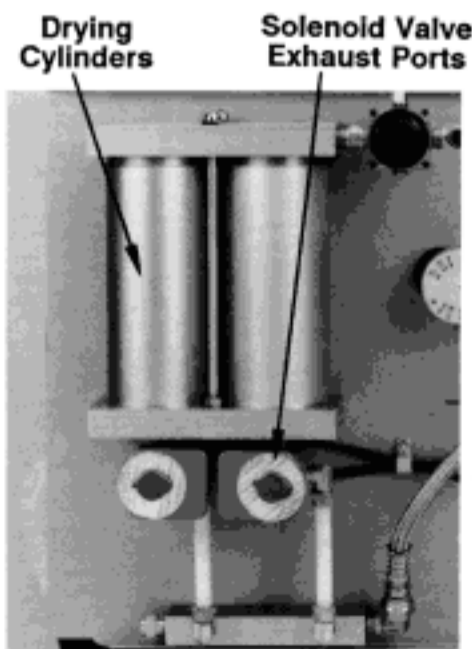
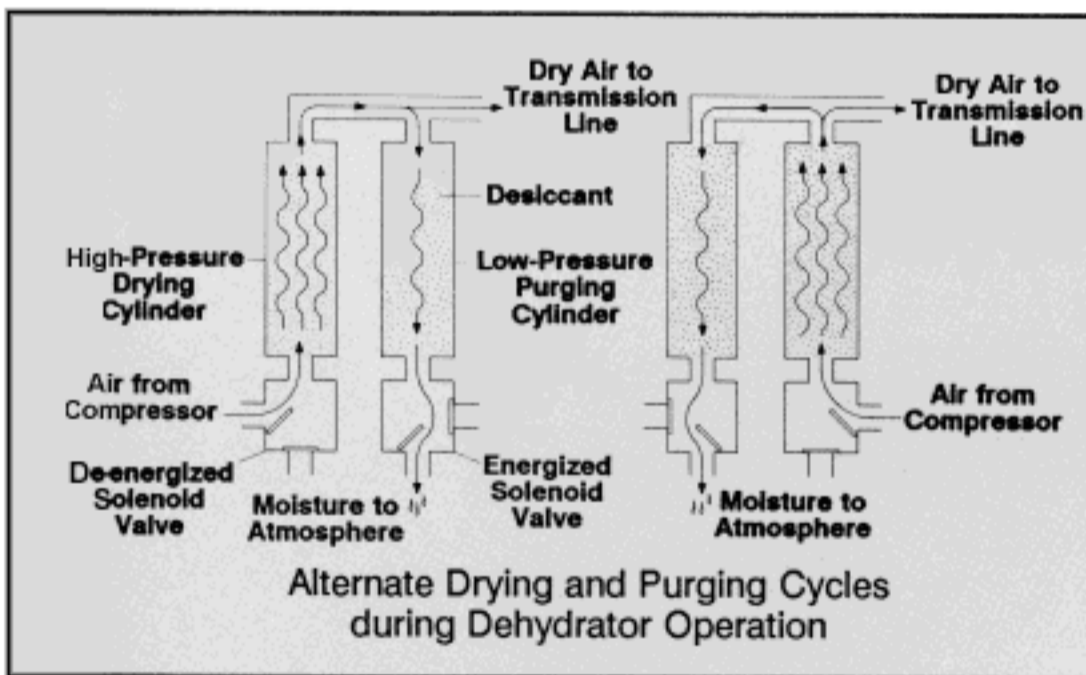
Incomplete Purging of the Drying Cylinders

Faulty solenoid valves can cause inadequate purging.

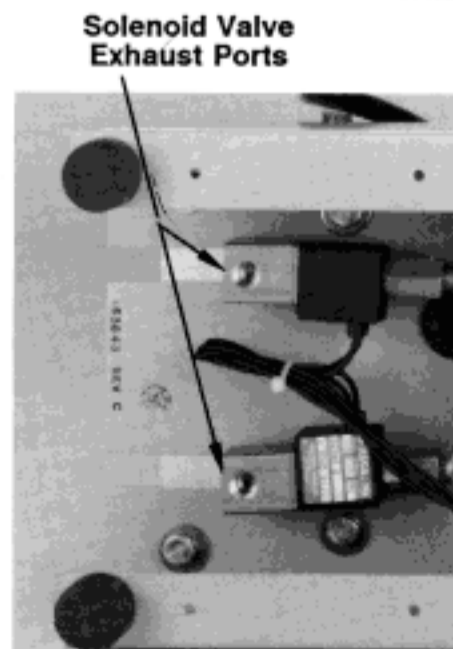
If a chalky tan material is found at the exhaust ports it is an indication that the molecular sieve in the drying tower has become saturated and the desiccant material is disintegrating. Should the molecular sieve in the towers become saturated, the drying towers will need to be reconditioned.

Another prime culprit is using the wrong dehydrator for the size of the system requiring pressurization. Small, tight systems, ones which have volumes as low as 1.5 cu ft., can experience short cycling which is indicated by dehydrators which operate less than 30 seconds during each alternate cycle. Short cycling prevents a complete purging, or blow down, of the cylinders and eventually, as each is alternately saturated, the system will fail. Once the cylinders are saturated the molecular sieve material must be removed and regenerated.

It is recommended that the cylinders be returned to Andrew for reconditioning. Effecting an overhaul of the drying cylinders of the 1920 and 1930 series dehydrators will void warranties pertaining to dehydrator operation.



1920 Series (inside view)



1930 Series (bottom view)

To prevent short cycling in small, tight systems, Andrew offers the Timed Humidity Bypass Kit, an add-on feature for its dehydrators and pressurization monitors. The bypass unit eliminates the moisture permeation that results from incomplete purge cycles and dehydrator inactivity, common problems found in small systems.

The kit consists of a solenoid, a fixed timer, a relay and the corresponding wiring and hardware. Should a cylinder overhaul be required due to saturated or disintegrating desiccant material, it is recommended the bypass kit be added to the dehydrator at the time of reconditioning. The Timed Humidity Bypass unit is also available as a preinstalled option with the Andrew 40004A pressurization monitors.

Bypass Kits for Dehydrators

Dehydrators Model	Power	Bypass Kit Type No.
1930B or 1930C	120V 60 Hz	AE01K-D0182-005
1931C	120V 50 Hz	AE01K-D0182-005
1934C	230V 50 Hz	AE01K-D0182-006
1920D	120V 60 Hz	AE01K-D0182-001
1920E	120V 60 Hz	AE01K-D0182-002
1921D	120V 50 Hz	AE01K-D0182-001
1921E	120V 50 Hz	AE01K-D0182-002
1924D	230V 50 Hz	AE01K-D0182-003
1924E	230V 50 Hz	AE01K-D0182-004

Kits for Pressurization Monitors

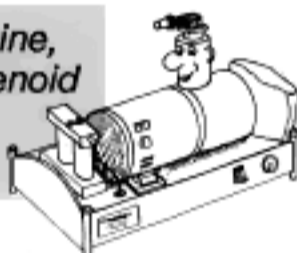
40004A	120V 60 Hz	AE01K-D0181-001
40004A-2	230V 50 Hz	AE01K-D0181-002
4004B-6	120V 60 Hz	AE01K-D0181-003
4004B-7	230V 50 Hz	AE01K-D0181-004

Pressurization Monitors with Timed Bypass Units

AE01A-D032001	120V 60 Hz
AE01A-D0320-002	230V 50 Hz
AE01A-D0320-003	120V 60 Hz with timer
AE01A-D0320-004	230V 50 Hz with timer

Duty Cycles

Check for Leaks in the Transmission Line, Black Soot on the Drying Cylinder Solenoid Valve Exhaust Ports, and Constant Hissing at One of the Solenoid Valves.



If the exhaust ports are coated with a black soot it may be an indication the compressor needs to be overhauled. Blow by caused by ring wear robs the system of the required air flow.

Andrew dehydrators under normal operating conditions, and with regular maintenance, will provide up to 10 years of trouble-free operation. Dehydrators are designed for a 5 percent duty cycle, or 72 minutes of operation every 24 hours. Of course, the nominal duty cycle assumes the dehydrator chosen for the system is one designed to provide the correct capacity for the system to be pressurized.

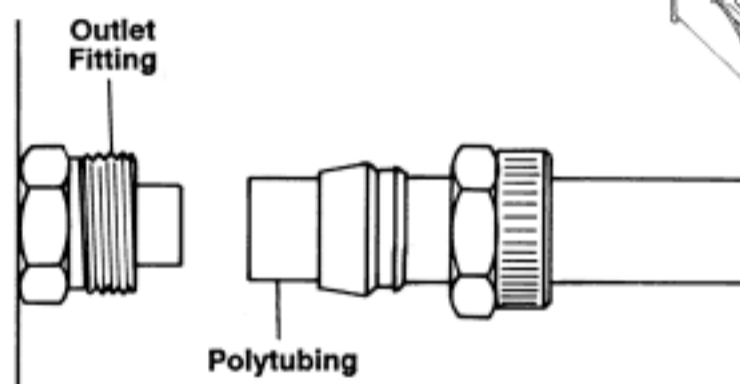
Should excessive dehydrator operation occur, check the following system or dehydrator components:

Transmission Line Check all joints and connections, and along the entire length of the transmission line for damage and leaks using soapy water or a commercial leak detector. Tighten all loose connections and repair or replace damaged transmission line. Also check for leaks in the tube air lines at the dehydrator and at the pipe joints in the dehydrator. Note that during operation, some air leakage will occur around the compressor head of the 1920 and 1930 series dehydrators. This is normal. No attempt should be made to seal this leakage. This built-in leakage is the pressure relief for the compressor and does not affect system pressurization.

Reduced Compressor Air Flow A compressor will require an overhaul after approximately 4,000 hours of operation. As the elapsed compressor operation time increases over its life, ring "blow by" may occur which will require a higher than normal rate of operation to provide the standard level of air

flow through the drying cylinders. Evidence of blow by is a black soot on the solenoid valve exhaust ports.

If When Checking Compressor Operation, it Takes More Than 10 Seconds for Airflow to be Felt from the Dehydrator Outlet, an Overhaul of the Compressor may be Required.



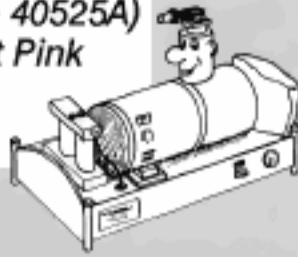
Tubing Connection to Dehydrator Outlet Fitting

To determine if excessive dehydrator operation can be attributed to the compressor, shut off the air line providing treated air to the transmission line. Turn off the power to the dehydrator. Allow the dehydrator to remain idle for 10 minutes. Remove the polytubing from the dehydrator at the dehydrator outlet. Turn on the power. Using your hand, feel for airflow at the outlet. If airflow is not felt within 10 seconds after power is restored, the compressor is faulty.

Solenoid Valve Malfunction The drying cylinders are alternately energized by a timing motor every 30 seconds during operation to expel moisture. A faulty solenoid valve or timing motor will cause one solenoid to operate continuously in the open position. Listen for a timed hiss 30 seconds in duration which should alternate between solenoid valves. If a constant hiss is heard the solenoid valve or timing motor is malfunctioning. This problem will allow the compressor to run non-stop.

Identifying Saturated Desiccant and Replacement of Desiccant

The Desiccant in the Sight Glass (or Clear Desiccant Container for the 40525A) Will Turn from a Deep Blue to a Light Pink When the System Desiccant becomes Saturated.

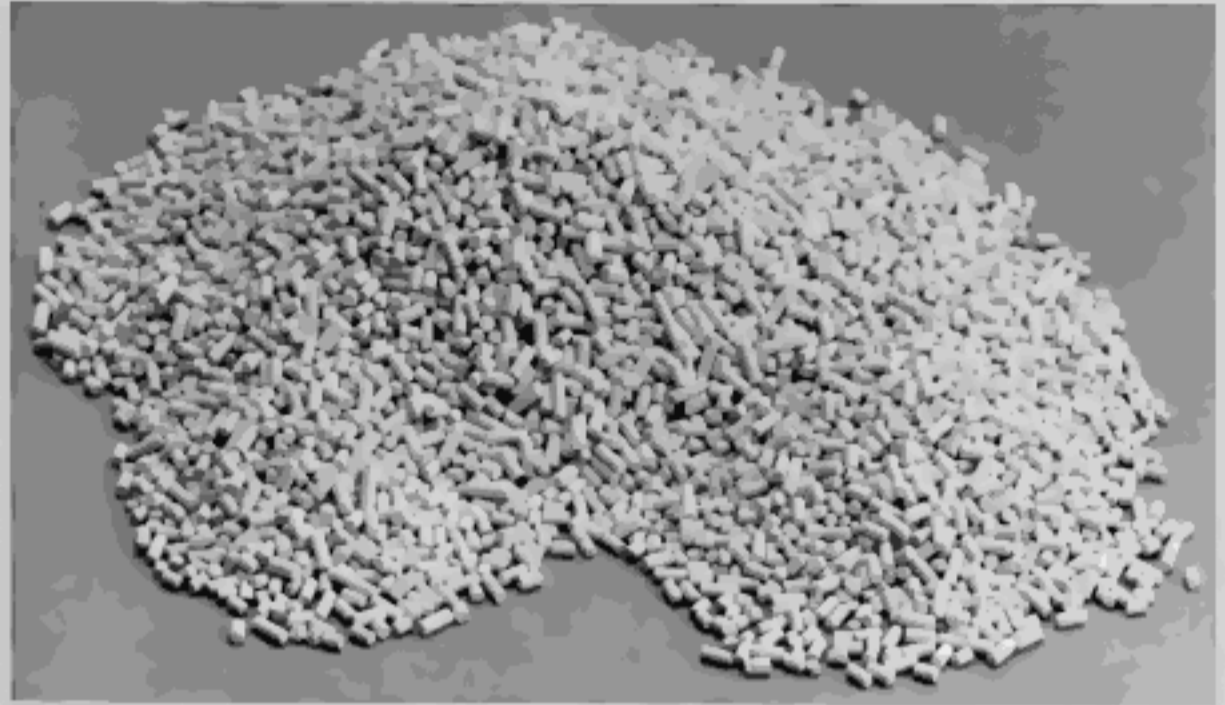


There are basically three types of desiccant used in the desiccant containers or drying cylinders of Andrew dehydrators. The 1920 and 1930 series dehydrators are equipped with a molecular sieve material. The 40525A manually regenerated dehydrator contains a color-indicating desiccant Type 210 and the 65630B unit is armed with Sorbead, a noncolor-indicating desiccant.

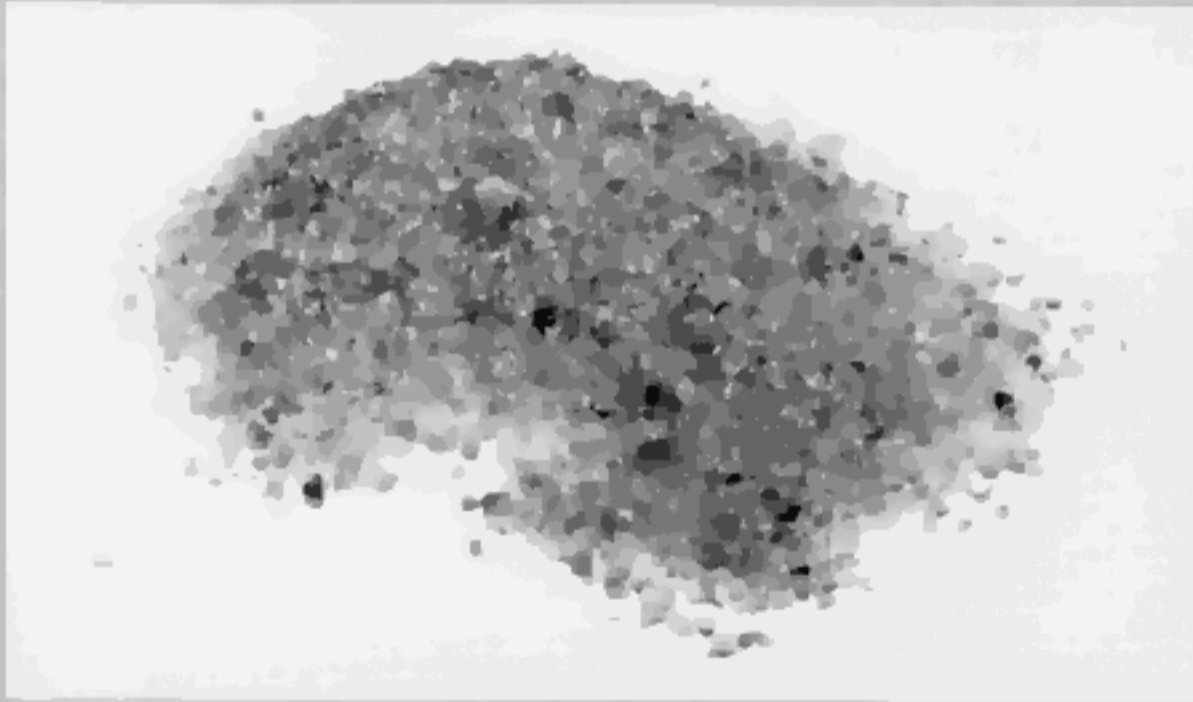
The sight glasses for all units so equipped contain the color-indicating desiccant Type 210.

Molecular Sieve Desiccant

The drying cylinders of the 1920 and 1930 series dehydrators contain a light tan molecular sieve material manufactured from zeolite crystals in a clay binder. This pellet-like material is approximately 1/16 in in diameter and 3/16 in in length. The molecular sieve adsorbs and releases moisture under pressure. The material is not suitable for use in a sight glass. Although the material can be regenerated by heating, the complexity of tower reconditioning precludes a convenient method of desiccant regeneration (see page 9, "Can My Dehydrator Purge Itself?").



Molecular Sieve Desiccant



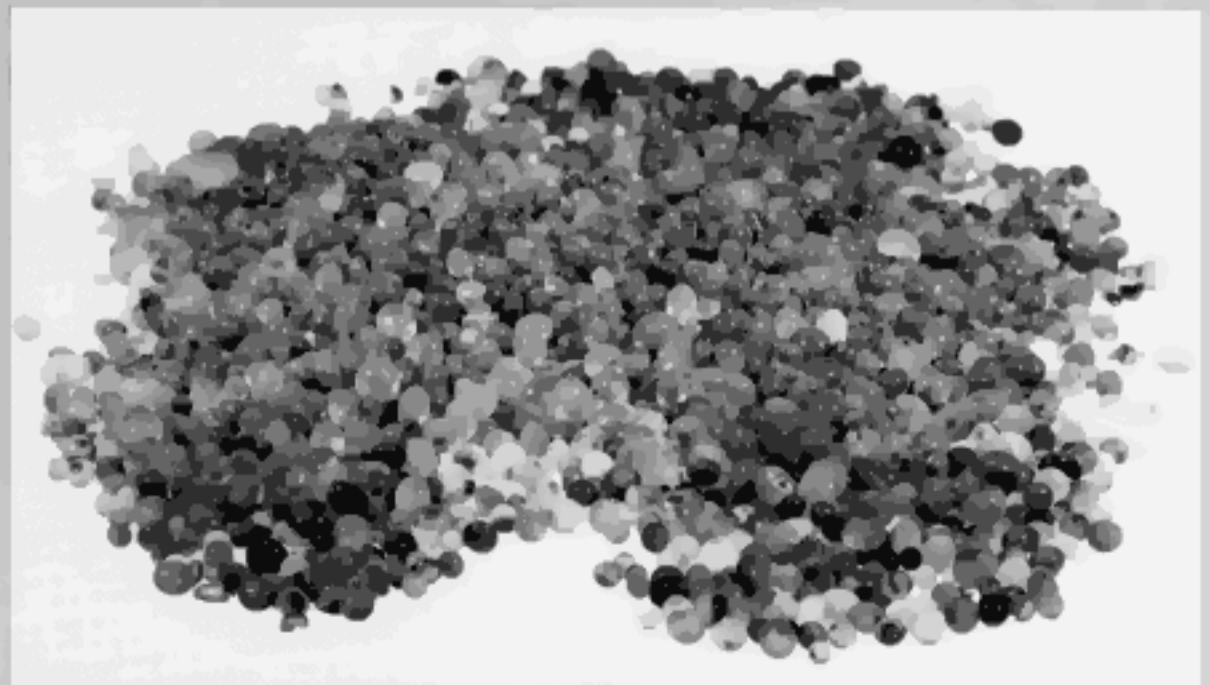
Type 210 Color-indicating Silica Desiccant

Color-Indicating Type 210 Silica Desiccant

The 210 silica gel desiccant is deep blue in color when fresh, and varies in texture from round to crushed crystals. When saturated, the desiccant changes color from blue to pink. Dark blue desiccant indicates a relative humidity of less than 10 percent in the air line. The normal operating maximum dew point of -40° F/C is equivalent to about 0.5 percent relative humidity at room temperature. The desiccant can be regenerated by baking for four hours at 350° F in an ordinary oven.

Noncolor-Indicating Sorbead Desiccant

This silica gel will vary in color from white to dark brown, but does not change color as it becomes saturated, and, therefore, cannot be used in a sight glass. It varies in texture from round pellets to crushed crystals. It can be regenerated by baking for four hours at 350° F in an ordinary oven. After baking, it should be stored in an airtight container.



Sorbead Noncolor-Indicating Desiccant

Replacing Desiccants

1920 and 1930 series The molecular sieve in the drying towers is automatically regenerated during dehydrator operation. If the desiccant in the sight glass of the unit turns pink, it is an indication the molecular sieve has become saturated. Saturated desiccant is evidence of problems with the solenoid valve, a failed timing motor or the misapplication of the dehydrator for the size of the system to be pressurized. If the desiccant material becomes saturated, the drying towers must be overhauled. After tower reconditioning, the dehydrator can be placed into operation (off line) and the sight glass desiccant will turn from pink back to blue. Following regeneration of the sight glass desiccant, reconnect the dehydrator to the system.

It is recommended that the cylinders be returned to Andrew for reconditioning. Effecting an overhaul of the drying cylinders of the 1920 and 1930 series dehydrators will void warranties pertaining to dehydrator operation.

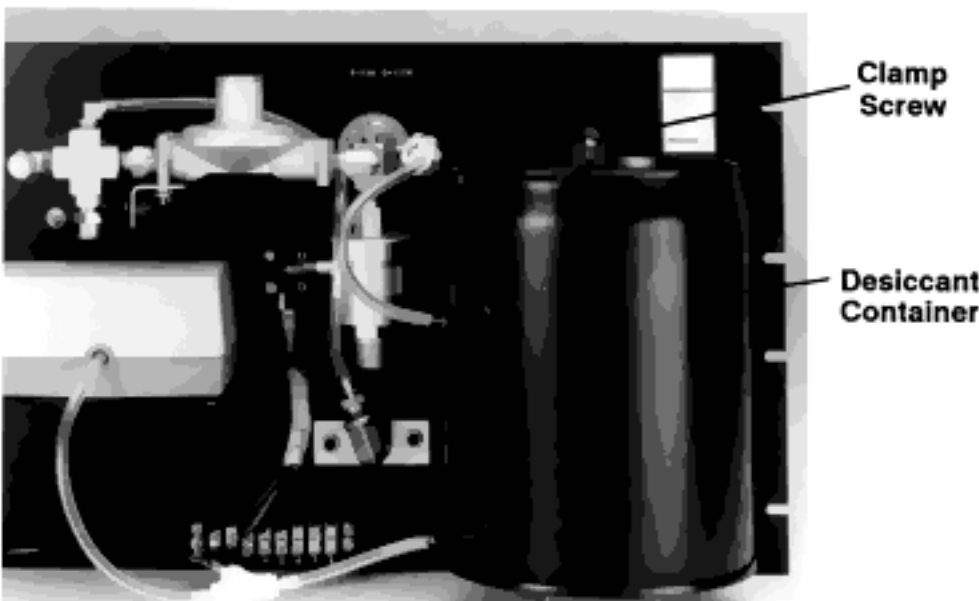
If a Hiss is Heard from Only One Solenoid Valve, it is an Indication that the Valve is Stuck Open or the Other is Stuck in the Closed Position. If the Timing Motor Mechanism is not Rotating, or the Solenoid Valves are not Cycling, it is an Indication the Timing Motor Must be Replaced.



Type 40525A dehydrator This manually regenerated unit is not equipped with a sight glass. The color-indicating 210 desiccant contained in its clear see-through drying canister must be replaced after the majority of the gel has turned pink. Shut off the pressurization line using the shutoff valve, then unscrew the glass canister. Replace the saturated desiccant with fresh 210 silica gel desiccant. The saturated desiccant can be discarded or regenerated. Replace the canister being sure the O-ring surface is clean. Return the shutoff valve to operating position.



Type 40525A



Type 65630B (rear view)

Type 65630B dehydrator This rack-mounted manually regenerated dehydrator contains noncolor-indicating Sorbead in its canister located on the back side of its front panel. Pink desiccant in the sight glass indicates the Sorbead needs to be replaced. Disconnect the pressure lines from the desiccant container and remove the clamp screws then remove the container. Unscrew the container cap and pour the saturated desiccant into a large flat metal pan (for regeneration). Pour fresh Sorbead desiccant into the container. The saturated desiccant can be discarded or regenerated.

Note that in this unit, the desiccant in the sight glass must also be replaced. Disconnecting the unit from the pressurization system so that it can operate long enough to purge the sight glass desiccant would consume as much as 1/4 of the drying capacity of the unit's Sorbead desiccant.

To Replace the Sight Glass Desiccant

Unscrew the knurled sight glass cap. Tip the dehydrator if possible to remove the loose desiccant. Note that inside the sight glass assembly is a cylinder holding the desiccant and at the rear of the sight glass container is a screen that prevents the desiccant from entering the air lines. Make sure that the screen remains in place. Refill the sight glass assembly with fresh 210 desiccant. Replace the cap being sure that the O-ring and sealing surfaces are clean.

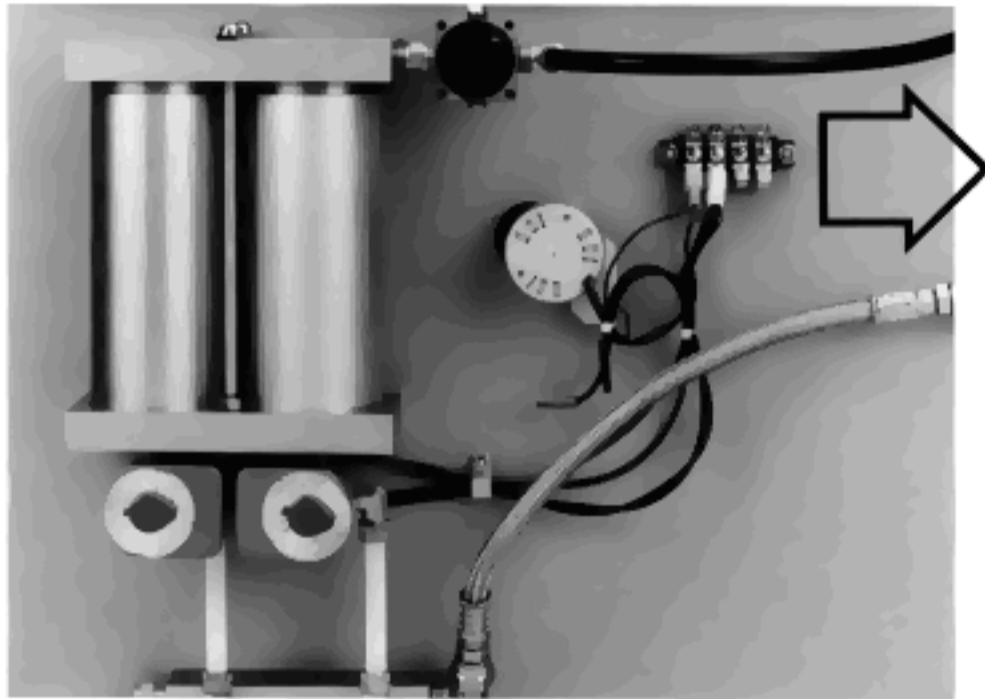


(1930 Series shown)

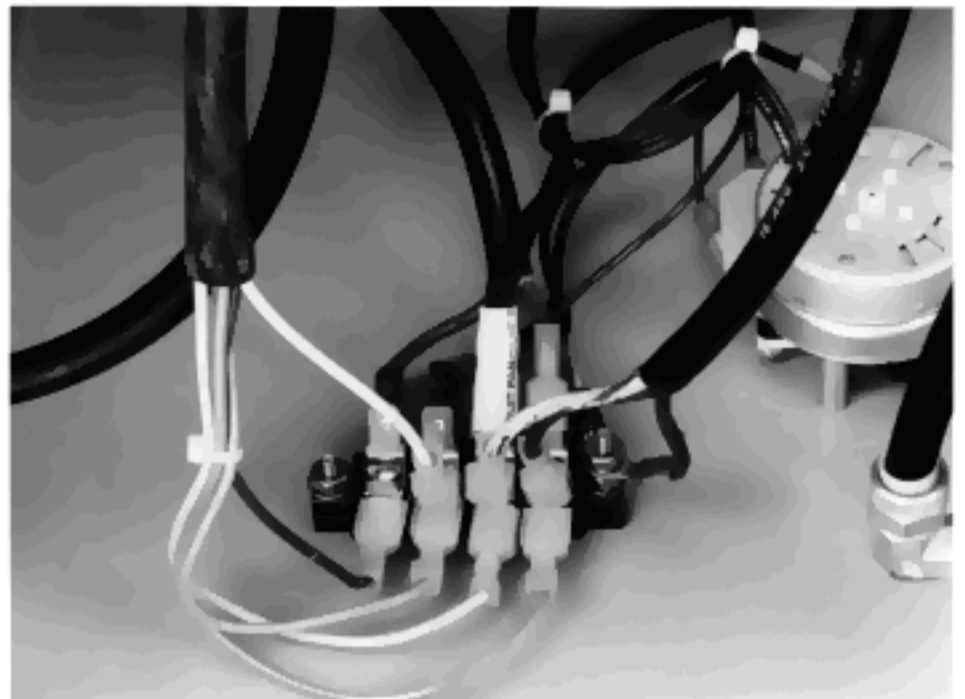
Ordering Information

Unit	Type Numbers for	
	Blue color-indicating Desiccant	Sorbead (noncolor-indicating)
1920 series and 1930 series Sight Glass	Type AE01K-B0214 (1 oz package)	—
40525A Desiccant Container	Type 210 (2, 1.5 lb cans required)	—
65630B Sight Glass	Type AE01K-B0214 (1 oz package)	—
65630B Desiccant Container	—	52665-2 (5 lb package)

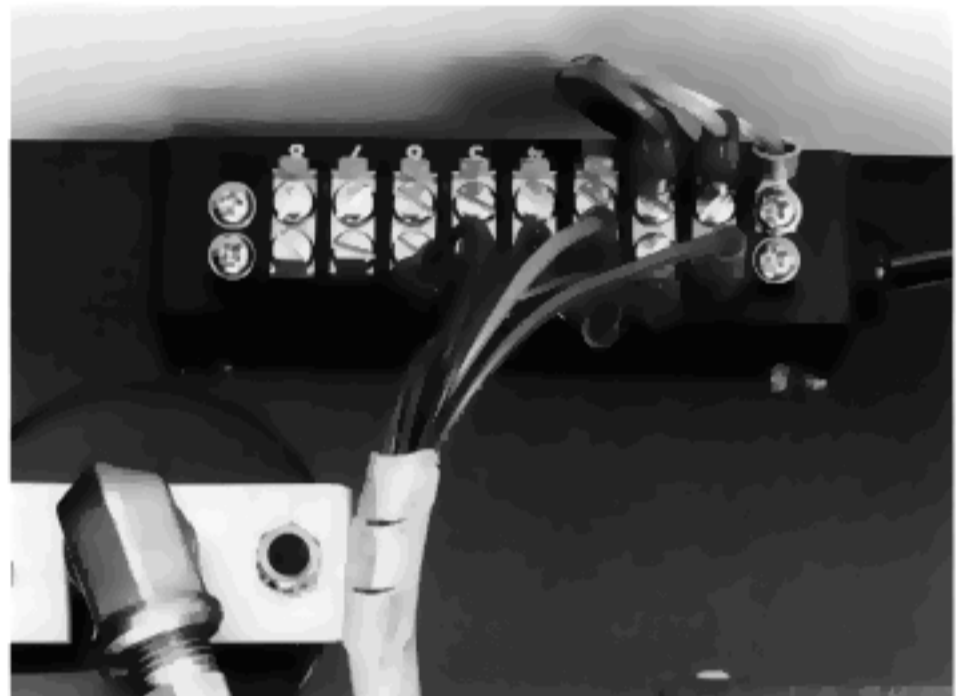
Power-On Light and Electrical Connections



1920 Series (inside view)



1930 Series
(bottom view with cover plate removed)



Type 65630B

Warning: Service personnel must at all times observe all safety regulations. Do not perform any maintenance on the equipment without first turning off the main power supply. Under certain conditions, dangerous potentials may exist when the main power supply controls are in the off position. Only qualified technicians should attempt to effect maintenance or repairs on electrical equipment.

Resettable breaker The 1920E and 1930C dehydrators have a resettable breaker which contains a power-on light. When lighted, the power-on breaker visually indicates there is power to the dehydrator. If not lighted, and the unit has not experienced a low-pressure alarm, the breaker is defective and must be replaced.

Ordering Information for Resettable Breakers

Unit Type	Breaker Type No.
1920E and 1921E	162988
1924E	163324
1930C and 1931C	163637
1934C	163723

Electrical connections All Andrew dehydrators should be checked for loose or corroded electrical connections. A loose terminal can cause erratic operation and unnecessary downtime. Check the screw-on and push-on terminals and tighten as required.

Ground wire All Andrew dehydrators should be checked for proper ground wire connection to protect operations personnel. A green ground wire is attached between the power terminal strip to the dehydrator chassis. The ground lug screw or stud nut must be tight to effect a proper ground.

Pressurization Monitor Humidity Sensor

The humidity sensor and relay board on units so equipped should be inspected at least annually to ensure proper operation. The terminal strip connection to the relay board and inspection of the cable connection to the sensor housing is the only routine maintenance required. The sensor element should be replaced every two years.

Failure to perform inspections or to replace the sensor can result in erroneous alarms or a degradation in system performance since excess humidity may go undetected.

Trouble-Shooting Tips

This section provides information regarding inspections and procedures to follow when trouble-shooting the specified Andrew dehydrators. It is not intended as a comprehensive explanation as to dehydrator operation, repair or servicing. For further assistance contact the Andrew Technical Service Department by calling (312) 349-5900.

Warning: Service personnel must at all times observe all safety regulations. Do not perform any maintenance on the equipment without first turning off the main power supply. Under certain conditions, dangerous potentials may exist when the main power supply controls are in the off position. Only qualified technicians should attempt to effect maintenance or repairs on electrical equipment.

Trouble-shooting for 1920E, 1921E and 1924E Series and 1930C, 1931C and 1934C Series Dehydrators

Dehydrator fails to start:

- Check the power cord to be sure power is reaching the dehydrator. Measure the voltage at the terminal strip.
- Disconnect the power cord and check the position of the circuit breaker.

If the breaker is on, check for loose or broken wiring, or a defective pressure switch. Bypass the switch by applying ac power directly to the compressor motor windings; if the motor runs, the switch is defective. If the motor does not run, disconnect the ac power and rotate the motor fan blades; they should move freely. If not, an obstruction has caused motor overheating and activation of the thermal overload switch, disconnecting the motor; replace the motor-compressor unit.

If the circuit breaker is off, the cause of the overload may be shorted wiring, shorted motor windings, or a short in the pressure sensitive switch.

Dehydrator stops and starts repeatedly before reaching preset transmission line pressure:

- Check for large leaks in the transmission line or connecting line tubing.
- Check the connecting line tubing for restrictions such as kinks. Reroute the tubing to remove kinks.
- Check to see if the transmission line is too restrictive for the pressure delivered by the dehydrator; that is, the dehydrator produces more pressure than the line can handle. If the line is too restrictive, connect a pressure regulating tank between the dehydrator and the line. The tank outlet pressure can then be adjusted to suit the transmission line.

Dehydrator runs excessively – 30% to 50% more than normal:

- Check the dehydrator running time and frequency of operation. An antenna system incorporating an auto-

matic dehydrator should be designed so that the dehydrator runs no more than 72 minutes and no less than 10 minutes during a 24-hour period. If the running time is longer or operation occurs more frequently, there is major leakage in the system.

- Check for external leakage. Disconnect the connecting line tubing from the dehydrator outlet, block the outlet with your finger, and run the dehydrator. The dehydrator should shut off at the preset pressure of 8 psi within one minute. If it does, the leakage is either in the connecting line or transmission line. If the dehydrator continues to run after one minute, there is internal leakage.
- Check the dehydrator for internal leaks. Cap the outlet, run the dehydrator, and apply a soapy solution at all fittings and around components. Check components such as the back pressure regulator valve, pressure switch, humidity indicator, and the pressure gauge. Bubbling indicates leakage. Tighten leaky fittings and replace leaky components. Then recheck operation with the outlet capped; it should shut off at 8 psi within one minute.

Dehydrator either does not start at pressure of 3 psi or shut off at 8 psi:

- Readjust the limits of or replace the pressure switch.

System pressure does not increase when compressor runs:

- Readjust or replace the back pressure regulator valve.
- Replace the motor-compressor unit or rebuild the compressor. For the 1920 series dehydrators use compressor repair kit 39878. For the 1930 series dehydrators use compressor repair kit 40486.

Color of humidity indicator either pink, brown or white:

- Measure the delivery air flow rate. It should be at least 10 to 12 cubic feet per hour. A flow rate that is too low or too high indicates that the back pressure regulator valve needs readjustment or it is defective. If this adjustment or replacement does not affect the flow rate, the compressor should be repaired or replaced.
- Check solenoid valve cycle time. Incorrect cycle timing is caused by a defective solenoid timing motor or solenoid switch.
- Run the dehydrator for 12 hours and check the humidity indicator. If there is little or no color change, replace the dryer assembly. (The dryer assembly includes the solenoid valves.)

Trouble-shooting for 40525A dehydrators

Dehydrator fails to start

- Check the power cord to be sure power is reaching the dehydrator.

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- Disconnect the power cord. Check the power source. Check the dehydrator internal wiring for loose or broken connections.

Dehydrator stops and starts repeatedly before reaching preset transmission line pressure:

- Check for large leaks in the transmission line or connecting tubing.
- Check the connecting tubing for restrictions such as kinks. Reroute the tubing to remove kinks.

Dehydrator runs excessively – 30% to 50% more than normal:

- Check the dehydrator running time and frequency of operation. An antenna system should be designed so that the dehydrator runs no more than 72 minutes and no less than 10 minutes during a 24-hour period. If the running time is longer or operation occurs more frequently, there is major leakage in the system.
- Check for external leakage. Close the shutoff valve and run the dehydrator. The dehydrator should shut off at the preset upper limit pressure within one minute. If it does, the leakage is either in the connecting line or transmission line. If the dehydrator continues to run after one minute, there is internal leakage.
- Check the dehydrator for internal leaks. Close the shutoff valve, run the dehydrator, and apply a soapy solution at all fittings and around the desiccant container. Bubbling indicates leakage. Tighten leaky fittings and replace leaky components. Then recheck operation with the shutoff valve closed; the dehydrator should shut off at the upper pressure limit within one minute.

Dehydrator does not stop or start at the correct pressure limits:

- Readjust the limits of or replace the pressure switch.

Pressure does not increase when dehydrator runs:

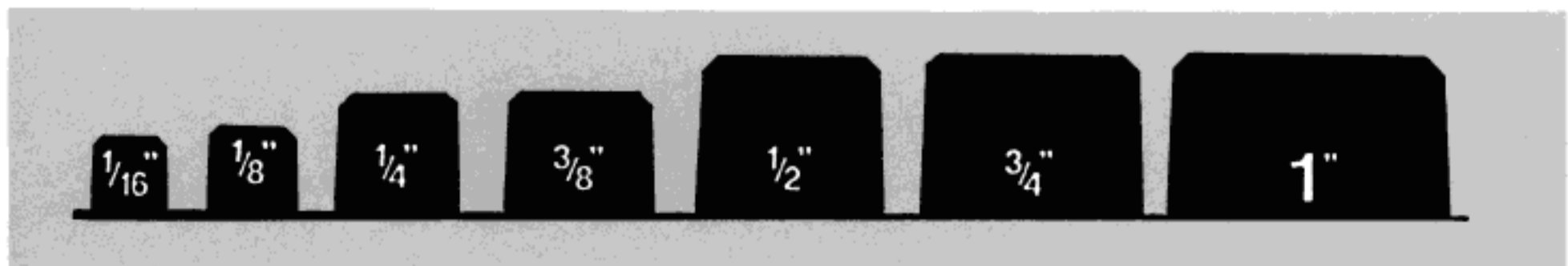
- Replace the motor-compressor or rebuild the compressor using compressor repair kit 39795-2.

Trouble-shooting for 65630B dehydrators

Dehydrator fails to start

- Check the power cord to ensure that power is reaching the dehydrator.
- If the dehydrator fails to start after the cord is connected to a power source, disconnect the cord, then check the power source.

Male Pipe Thread Profiles



- Check for broken connections in the internal wiring of the dehydrator.

Dehydrator stops and starts repeatedly before reaching preset transmission line pressure.

- Check for restrictions in the polytubing caused by kinks between the dehydrator and the transmission line. Reroute tubing to eliminate kinks.

Dehydrator runs excessively

- If the dehydrator operates continuously check the polytubing and all transmission line connections for leakage. Use a commercial leak detector or soapy water on joints. Bubbles indicate leaks.

Pressure does not increase during operation

- The compressor cannot be overhauled, and must be replaced.

The Most Often Asked Questions About Dehydrator Operation

"Can my dehydrator purge itself?"

"Yes, but . . ."

Once the desiccant in the sight glass of a 1930 or 1920 series dehydrator has turned color from blue to pink or white, the molecular sieve material in the drying cylinders must be reconditioned for the unit to properly operate. These dehydrators are designed to automatically regenerate the molecular sieve, or desiccant. Due to the complexity of cylinder assembly, it is highly recommended the unit be returned to Andrew for cylinder overhaul or be replaced. Effecting an overhaul of the drying cylinders of the 1920 and 1930 series dehydrators will void warranties pertaining to dehydrator operation.

So the true answer is "No" unless on-site technical personnel are completely familiar with rebuilding dehydrator towers. (See Incomplete Purging of the Drying Cylinders, page 3.)

Manually regenerated units cannot, by definition, purge the desiccant.

"How can you identify an 1/8 in NPT valve fitting?"

"The indicated NPT fitting size (1/8 in or 3/8 in etc.,) does not correspond to the outside diameter of the fitting, but rather, the fitting's inside diameter."

Pipe sizes are identified through the dimension of the fitting's inside diameter (ID). When working with pipe fittings, the National Pipe Thread (NPT) size refers to the internal, nominal,

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flow diameter. For example, a 1/8 in NPT fitting has a nominal internal flow diameter of 0.125 in. The actual measurement of a fitting's ID will differ slightly from piece to piece.

A direct comparison of the profile of the male fitting with one of those shown will aid in determining the NPT fitting size.

"Can the molecular sieve be baked to remove moisture?"

"Yes, the molecular sieve material itself can be baked and regenerated."

But once again, tower assembly requires a technical expertise that in most instances would preclude on-site personnel from attempting the tower overhaul. Moreover, the fact that the molecular sieve desiccant in the cylinders is completely saturated is a sign of more critical problems. (See Desiccant Cylinder Solenoid Valves and Duty Cycles, pages 3 and 4.)

"Why is my dehydrator running constantly?"

"Excessive leakage or a faulty compressor can cause non-stop dehydrator operation."

A dehydrator will operate continually when it is not capable of supplying the airflow demanded by the pressurization system. Leakage in the transmission line or connections can be large enough to cause excessive operation.

A dehydrator compressor that is worn beyond its useful life can also force the unit to run constantly. (See Duty Cycles, page 4.)

Andrew Corporation is a multinational supplier of communications products and systems, and is recognized worldwide for its superior service. For more details on the pressurization system products offered by Andrew, or further information on any of our fine products, system components and services, please contact Andrew.

"Can the output pressure of the dehydrator be changed?"

"Yes, output pressure can be changed, but care must be taken to protect system components."

Adjusting the output pressure can be effected by changing the setting of the compressor control pressure switch.

However, this pressure switch is set at the factory and should not require adjustment. Tampering with the pressure switch adjustment can result in damage to the feed window or other components in the transmission line due to over-pressurization. Please contact Andrew if there is evidence that the compressor control pressure switch is faulty.

"Can different types of desiccant be used as substitutes?"

"Color-indicating 210 desiccant and Sorbead can be exchanged but neither can be used to substitute for molecular sieve desiccant."

Type 210 desiccant, a color-indicating desiccant, can be used where Sorbead is recommended. The color-indicating gel is more expensive however. Sorbead is a noncolor-indicating desiccant and is not suitable for use in a sightglass. The molecular sieve material used in the drying cylinders of Andrew 1920 and 1930 series dehydrators cannot be used in exchange for either 210 or Sorbead.



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