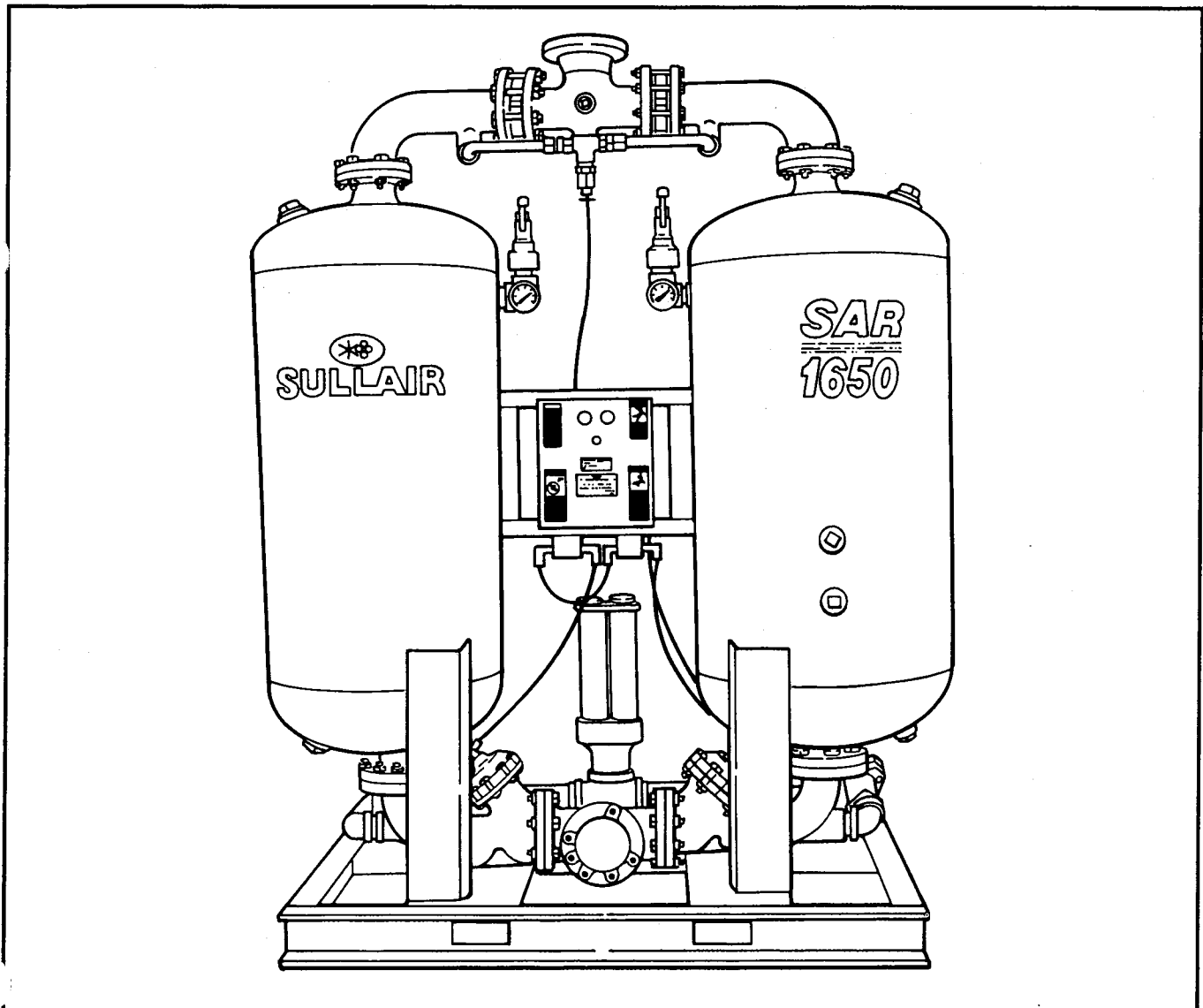


# Operator's Manual and Parts List

# SULLAIR® SAR Regenerative Dryer

Models 830-3100



Part Number 250041-259  
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Effective 4/91

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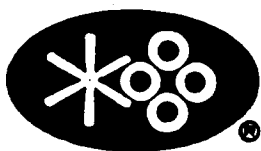
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### 1.1 GENERAL

Sullair® Corporation and its subsidiaries design and manufacture all of its products so they can be operated safely. However, the responsibility for safe operation rests with those who use and maintain these products. The following safety precautions are offered as a guide which, if conscientiously followed, will minimize the possibility of accidents throughout the useful life of this equipment.

The dryer should be operated only by those who have been trained and delegated to do so, and who have read and understand this Operator's Manual. Failure to follow the instructions, procedures and safety precautions in this manual can result in accidents and injuries.

**NEVER** start the dryer unless it is safe to do so. **DO NOT** attempt to operate the dryer with a known unsafe condition. Tag the dryer and render it inoperative by disconnecting and locking out all power at the source or otherwise disable its prime mover so others, who may not know of the unsafe condition, will not attempt to operate it until the condition is corrected.

Install, use and operate the dryer only in full compliance with all pertinent OSHA regulations and all applicable Federal, State, and Local codes, standards and regulations.

**DO NOT** modify the dryer and/or controls in any way except with written factory approval.

While not specifically applicable to all types of dryers with all types of prime movers, most of the precautionary statements contained herein are applicable to most dryers and the concepts behind these statements are generally applicable to all dryers.

### 1.2 PERSONAL PROTECTIVE EQUIPMENT

Prior to installing or operating the dryer, owners, employers, and users should become familiar with, and comply with, all applicable OSHA regulations and any applicable Federal, State and Local codes, standards, and regulations relative to personal protective equipment, such as eye and face protective equipment, respiratory protective equipment, equipment intended to protect the extremities, protective clothing, protective shields and barriers and electrical protective equipment, as well as noise, exposure, administrative and/or engineering controls and/or personal hearing protective equipment.

### 1.3 PRESSURE

**A. DO NOT** hydrostatically test a dryer with desiccant in the dryer. Testing of this nature may damage the desiccant.

**B.** Before filling with desiccant, relieve pressure and isolate the dryer.

**C. DO NOT** tamp or ram desiccant during filling of the dryer.

**D.** Secure all connections by wire, chain or other suitable retaining devices to prevent tools or hose ends from being accidentally disconnected and expelled.

**E. DO NOT** overpressure unit. Maximum pressure is 140 PSIG (965kPa) for standard machines. Consult factory for high pressure applications.

**F.** Vent **ALL** internal pressure prior to opening any line, fitting, hose, valve, drain plug, connection or other component, such as filters and line oilers.

**G.** Keep personnel out of line with, and away from, the discharge opening of hoses or tools or other points of compressed air discharge.

**H.** Use air pressures less than 30 PSIG (207kPa) for cleaning purposes, and then only with effective chip guarding and personal protective equipment per OSHA Standard 29 CFR 1910.242(b).

**I. DO NOT** engage in horseplay with air hose as serious injury or death may result.

**J. DO NOT** pass air through the dryer while the dryer is in the OFF position.

**K. DO NOT** operate a dryer at abnormal conditions. Consult manual for normal operating conditions.

### 1.4 FIRE AND EXPLOSION

**A.** Clean up spills of lubricant or other combustible substances immediately, when such spills occur.

**B.** Shut off the dryer and allow it to cool. Then keep sparks, flames and other sources of ignition away.

**C. DO NOT** permit fluids, including air line anti-icer system antifreeze compound or fluid film, to accumulate on, under or around external surfaces of the air dryer or on internal surfaces of the enclosure. Wipe down using an aqueous industrial cleaner or steam clean as required. **DO NOT** use flammable solvents for cleaning purposes.

**D.** Disconnect and lock out all power at the source prior to attempting any repairs or cleaning of the dryer or of the inside of the enclosure, if applicable.

**E.** Keep electrical wiring, including all terminals and pressure connectors, in good condition. Replace any wiring that has cracked, cut, abraded or otherwise degraded insulation or terminals that are worn, discolored or corroded. Keep all terminals and pressure connectors clean and tight.

**F.** Keep grounded and/or conductive objects such as tools away from exposed live electrical parts such as terminals to avoid arcing which might serve as a source of ignition.

## Section 1 SAFETY

G. Remove any acoustical material or other material that may be damaged by heat or that may support combustion and is in close proximity, prior to attempting weld repairs.

H. Keep suitable fully charged Class BC or ABC fire extinguisher or extinguishers nearby when servicing and operating the dryer.

I. Keep oily rags, trash, leaves, litter or other combustibles out of and away from the dryer.

J. **DO NOT** attempt to operate the compressor and dryer in any classification of hazardous environment unless the compressor and dryer have been specially designed and manufactured for that duty.

### 1.5 MOVING PARTS

A. Wear snug fitting clothing and confine long hair when working around this dryer, especially when exposed to hot or moving parts.

B. Keep access doors, if any, closed except when making repairs or adjustments.

C. Make sure all personnel are out of and/or clear of the dryer prior to attempting to start or operate it.

D. Disconnect and lock out all power at the source and verify at the dryer that all circuits are de-energized to minimize the possibility of accidental start-up or operation, prior to attempting repairs or adjustments. This is especially important when compressors and dryers are remotely controlled.

E. Keep hands, feet, floors, controls and walking surfaces clean and free of fluid, water or other liquids to minimize the possibility of slips and falls.

### 1.6 HOT SURFACES, SHARP EDGES AND SHARP CORNERS

A. Avoid bodily contact with hot fluid, hot coolant, hot surfaces and sharp edges and corners.

B. Keep all parts of the body away from all points of air discharge.

C. Wear personal protective equipment including gloves and head covering when working in, on or around the dryer.

D. Keep a first aid kit handy. Seek medical assistance promptly in case of injury. **DO NOT** ignore small cuts and burns as they may lead to infection.

### 1.7 TOXIC AND IRRITATING SUBSTANCES

A. **DO NOT** use air from this dryer for respiration (breathing) except in full compliance with OSHA Standards 29 CFR 1910 and any other Federal, State or Local Codes or regulations.

B. **DO NOT** use air line anti-icer systems in air lines supplying respirators or other breathing air

utilization equipment and **DO NOT** discharge air from these systems in unventilated or other confined areas.

C. Operate the dryer only in open or adequately ventilated areas.



Death or serious injury may result from inhaling compressed air without using proper safety equipment. See OSHA standards on safety equipment.

### 1.8 ELECTRICAL SHOCK

A. This dryer should be installed and maintained in full compliance with all applicable Federal, State and Local codes, standards and regulations, including those of the National Electrical Code, and also including those relative to equipment grounding conductors, and only by personnel that are trained, qualified and delegated to do so.

B. Keep all parts of the body and any hand-held tools or other conductive objects away from exposed live parts of electrical system. Maintain dry footing, stand on insulating surfaces and **DO NOT** contact any other portion of the dryer when making adjustments or repairs to exposed live parts of the electrical system. Make all such adjustments or repairs with one hand only, so as to minimize the possibility of creating a current path through the heart.

C. Attempt repairs in clean, dry and well lighted and ventilated areas only.

D. **DO NOT** leave the dryer unattended with open electrical enclosures. If necessary to do so, then disconnect, lock out and tag all power at the source so others will not inadvertently restore power.

E. Disconnect, lock out, and tag all power at the source prior to attempting repairs or adjustments to rotating machinery and prior to handling any ungrounded conductors.

### 1.9 LIFTING

A. Dryers to be lifted by helicopter must be supported by slings. In any event, lift and/or handle only in full compliance with OSHA standards 29 CFR 1910 subpart N.

B. Inspect points of attachment for cracked welds and for cracked, bent, corroded or otherwise degraded members and for loose bolts or nuts prior to lifting.

C. Make sure entire lifting, rigging and supporting structure has been inspected, is in good condition and has a rated capacity of at least the weight of the dryer. If you are unsure of the weight, then weigh dryer before lifting.

D. Make sure lifting hook has a functional safety latch or equivalent, and is fully engaged and latched on the bail or slings.

E. Use guide ropes or equivalent to prevent twisting or swinging of the dryer once it has been lifted clear of the ground.

F. **DO NOT** attempt to lift in high winds.

G. Keep all personnel out from under and away from the dryer whenever it is suspended.

H. Lift dryer no higher than necessary.

I. Keep lift operator in constant attendance whenever dryer is suspended.

J. Set dryer down only on level surfaces capable of safely supporting at least its weight and unit loading.

K. When moving dryers by forklift truck, utilize fork pockets if provided. Otherwise, utilize pallet if provided. If neither fork pockets nor pallet are provided, then make sure dryer is secure and well balanced on forks before attempting to raise or transport it any significant distance.

L. Make sure forklift truck forks are fully engaged and tipped back prior to lifting or transporting the dryer.

M. Forklift no higher than necessary to clear obstacles at floor level and transport and corner at minimum practical speeds.

N. Make sure pallet-mounted dryers are firmly bolted or otherwise secured to the pallet prior to attempting to forklift or transport them. **NEVER** attempt to forklift a dryer that is not secured to its pallet, as uneven floors or sudden stops may cause the dryer to tumble off, possibly causing serious injury or property damage in the process.

#### **1.10 ENTRAPMENT**

A. If the dryer enclosure, if applicable, is large enough to hold a man and if it is necessary to enter it to perform service adjustments, inform other personnel before doing so, or else secure and tag the access door in the open position to avoid the possibility of others closing and possibly latching the door with personnel inside.

B. Make sure all personnel are out of dryer before closing and latching enclosure doors.

## Section 2

# DESCRIPTION

### 2.1 INTRODUCTION

The SAR regenerative air dryer provides a continuous supply of dry compressed air by automatically cycling the flow of air through activated alumina desiccant beds contained in twin towers. While air is being dried in one tower, the other is being reactivated by diversion of a small amount of the dried air through the wetted desiccant to desorb the water. This system (also known as pressure swing) eliminates the need for heaters, insulation and equipment guards.

The air which is dried to  $-40^{\circ}\text{F}$  ( $-40^{\circ}\text{C}$ ) pressure dewpoint is ideal for applications wherein the compressed air piping is located outdoors or in processes which require an extremely low dewpoint.

Non-lube switching valves provide the cycling of flow between the towers. The SAR regenerative air dryers use diaphragm valves for this purpose. These valves are air actuated through solenoid valves. A control air filter supplies clean air to the actuators.

A non-adjustable solid state timer provides the cycling signal and operates on a 10 minute NEMA cycle.

The purge flow is manually controlled by a needle valve at the top of the towers.

Check valves in the outlet piping control the outlet flow of dried compressed air.

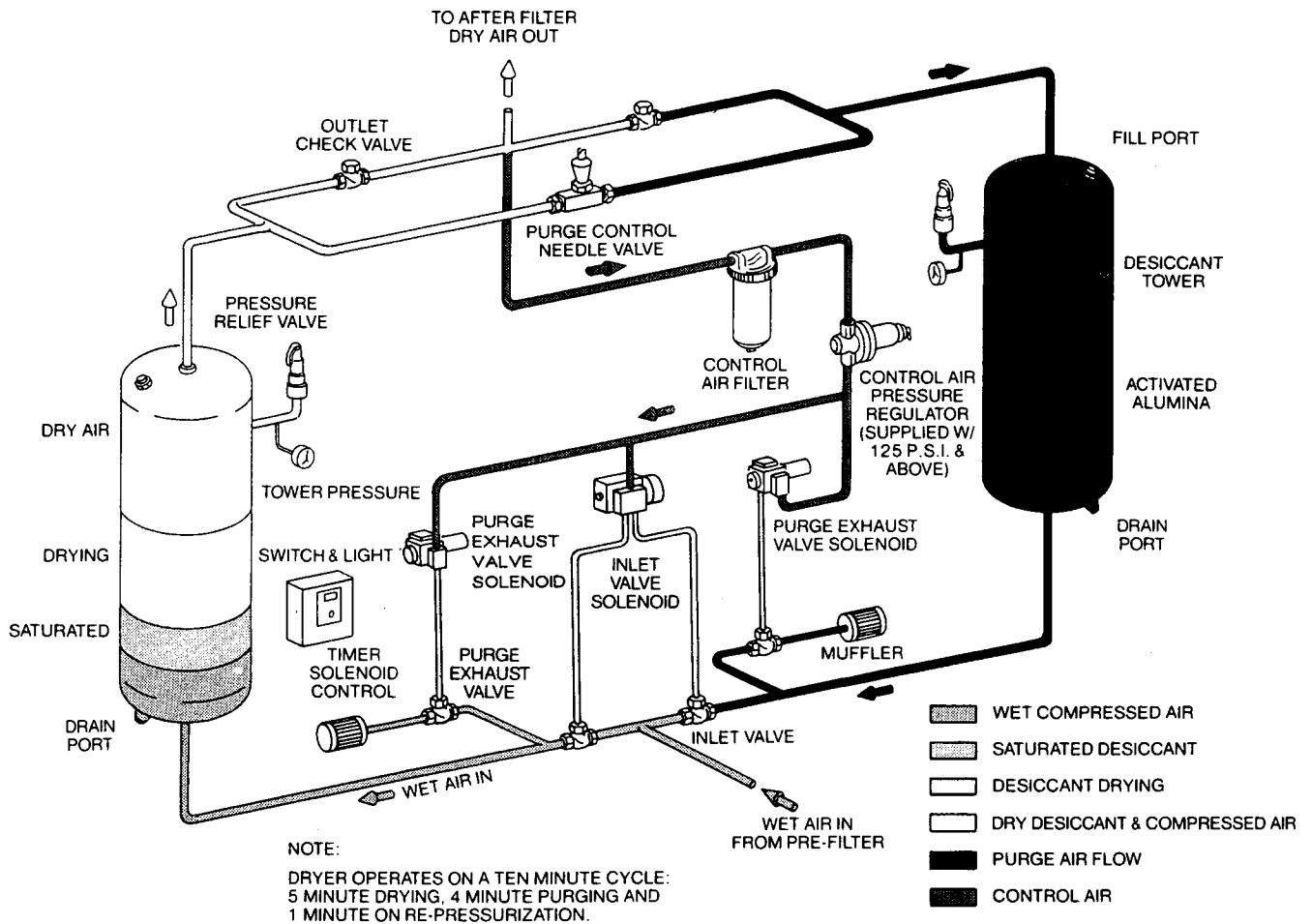
The desiccant towers are ASME code stamped pressure vessels rated for 200 PSIG (1379kPa) maximum working pressure. Each tower is fitted with a pressure relief valve, pressure gauge and incorporates heavy gauge perforated stainless steel desiccant retainers and flow distributors at the inlet and outlet connections.

The electrical enclosure is NEMA 4 standard and is wired for 115/60 with a 1.0 amp fuse, "power on" light and "on/off" switch.

Fill and drain ports are conveniently located on the outer side of the towers.

# Section 2 DESCRIPTION

Figure 2-1 Regenerative Air Dryer (Models SAR 830 through SAR 3100)



REGENERATIVE AIR DRYER - TYPICAL SCHEMATIC DIAGRAM (Models SAR 830 through SAR 3100)

# Section 3 SPECIFICATIONS

## SPECIFICATIONS

	<u>SAR 830</u>	<u>SAR 1000</u>	<u>SAR 1350</u>	<u>SAR1650</u>
Flow Capacity SCFM at 100 PSIG (689kPa) and 100°F (38°C)	830	1000	1350	1650
Flow Capacity M <sup>3</sup> /hr. at 100 PSIG (689kPa) and 100°F (38°C)	1410	1699	2294	2805
Electrical (volts/phase/Hz)	120/1/60	120/1/60	120/1/60	120/1/60
Desiccant Activated Alumina				
Pounds/Tower	360	432	585	714
Kilograms/Tower	163	196	265	324
Height (inches)	93.13	93.13	93.13	104.44
Height (mm)	2366	2366	2366	2653
Width (inches)	73.38	73.38	73.38	82.88
Width (mm)	1864	1864	1864	2105
Depth (inches)	36	36	36	40
Depth (mm)	914	914	914	1016
Weight (lbs.) w/o Dessiccant	1480	1480	1480	1840
Weight (kgs.) w/o Desiccant	672	672	672	835
Air Inlet and Outlet Connections				
F.P.T.	N/A	N/A	N/A	N/A
150# Flange	3	3	3	4
	<u>SAR 2250</u>	<u>SAR 2650</u>	<u>SAR3100</u>	
Flow Capacity SCFM at 100 PSIG (689kPa) and 100°F (38°C)	2250	2650	3100	
Flow Capacity M <sup>3</sup> /hr. at 100 PSIG (689kPa) and 100°F (38°C)	3825	4505	5270	
Electrical (volts/phase/Hz)	120/1/60	120/1/60	120/1/60	
Desiccant Activated Alumina				
Pounds/Tower	974	1145	1340	
Kilograms/Tower	442	520	610	
Height (inches)	104.44	117.56	117.56	
Height (mm)	2653	2986	2986	
Width (inches)	82.88	95.00	95.00	
Width (mm)	2105	2413	2413	
Depth (inches)	40	47	47	
Depth (mm)	1016	1191	1191	
Weight (lbs.) w/o Desiccant	1840	2980	2980	
Weight (kgs.) w/o Desiccant	835	1356	1356	
Air Inlet and Outlet Connections				
F.P.T.	N/A	N/A	N/A	
150# Flange	4	4	4	

## Section 4

# INSTALLATION

### 4.1 GENERAL

Make sure undue stress is not placed on the dryer fittings when connecting all piping. Check to see that all pipe and tubing connections are tight as they may have loosened during transit. Make control electric connections.

### 4.2 LOCATION OF DRYER

The dryer should be located on a level floor free from vibrations. The ambient temperature should fall within the 35°F to 120°F (2°C to 49°C) range. Dryer operating outside this temperature range should be avoided.

Leave a space of three (3) feet (914mm) on all sides of the dryer. This is necessary to make piping connections and servicing components.

### 4.3 PREFILTRATION

It is important to install a good coalescing prefilter on any regenerative desiccant dryer. Good prefiltration of the inlet air will enhance the dewpoint depression capability, remove compressor lubricant, and prolong the life of the desiccant. The prefilter should remove all entrained liquids (both water and compressor lubricant) before they can enter the dryer and foul the desiccant.

Connect the aftercooler/separator outlet (on rotary screw compressors) or the outlet from the air receiver (on piston-type compressors) to the prefilter inlet. The prefilter outlet should be connected to the dryer inlet.

The prefilter sump should be piped to a suitable drain using an automatic trap to ensure adequate separated liquid disposal.

### 4.4 AFTERFILTRATION

All regenerative desiccant dryers gradually produce abrasive desiccant fines. These particulates can readily be removed by a suitable afterfilter. Connect the dryer outlet to the afterfilter inlet and the afterfilter to the compressed air distribution system.

### 4.5 BLOCK AND BYPASS

A suitable manual block and bypass valve should be installed to facilitate servicing the dryer and filters without interruption of compressed air flow. Bypass valving should be bubble-tight to assure shutoff and prevent migrations of water vapor.

### **CAUTION**

DO NOT service dryer or filters without first reducing internal pressure to 0 PSIG.

### 4.6 PIPING ARRANGEMENTS

Refer to Figure 4-4. The suggested piping arrangements drawing depicts the proper arrangement for both rotary and piston compressor applications.

### 4.7 PURGE EXHAUST PIPING

To eliminate either nuisance caused by tower depressurization or purge exhaust noise and/or indoor moisture condensation, the purge exhaust may be piped outdoors with proper equipment to control noise and moisture per Local, State and Federal codes.

The extended purge exhaust piping must be kept as short as possible to prevent harmful tower back pressure build-up during desiccant regeneration.

If the equivalent length of pipe does not exceed 10 feet (3048mm), the extended purge exhaust piping may be the same size as the purge exhaust valve. If the equivalent length of pipe does not exceed 20 feet (6096mm), the extended purge exhaust piping should be one pipe size larger than the purge exhaust valve.

For unusual installations, consult your Sullair representative or the factory.

### 4.8 START-UP

Before turning the dryer control power switch on, open the block valve upstream of the dryer to gradually pressurize the dryer towers. When the dryer pressure gauges indicate full compressed air line pressure, the dryer outlet block valve can be slowly opened. Then the dryer bypass valve should be closed. Compressed air flow is now through the drying system.

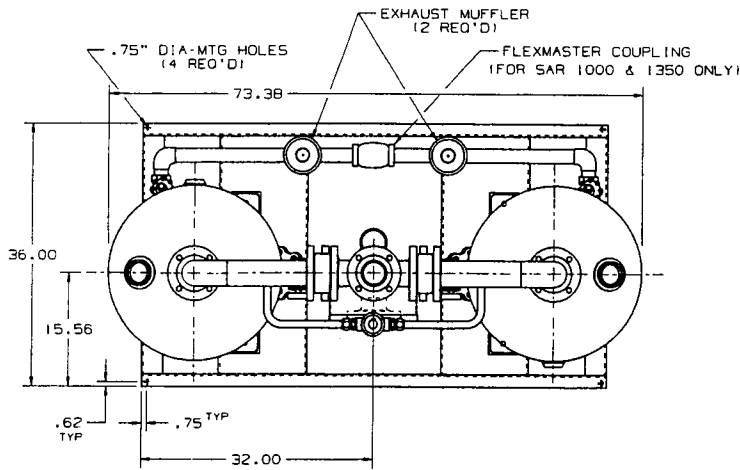
Dryer operation should **NEVER** be initiated by suddenly pressurizing the dryer towers from the inlet end as the desiccant beads could be fluidized by the rapid in-rush of high velocity air. Desiccant fluidization will create excessive desiccant fines, resort in high dewpoint and hasten the need for desiccant bed replacement.

The dryer control power switch should now be turned on. Immediately, or at most, one minute after activating the dryer control circuit, one tower will depressurize to atmospheric pressure through the purge exhaust valve. Purge for air reactivation will then flow through the depressurized tower.

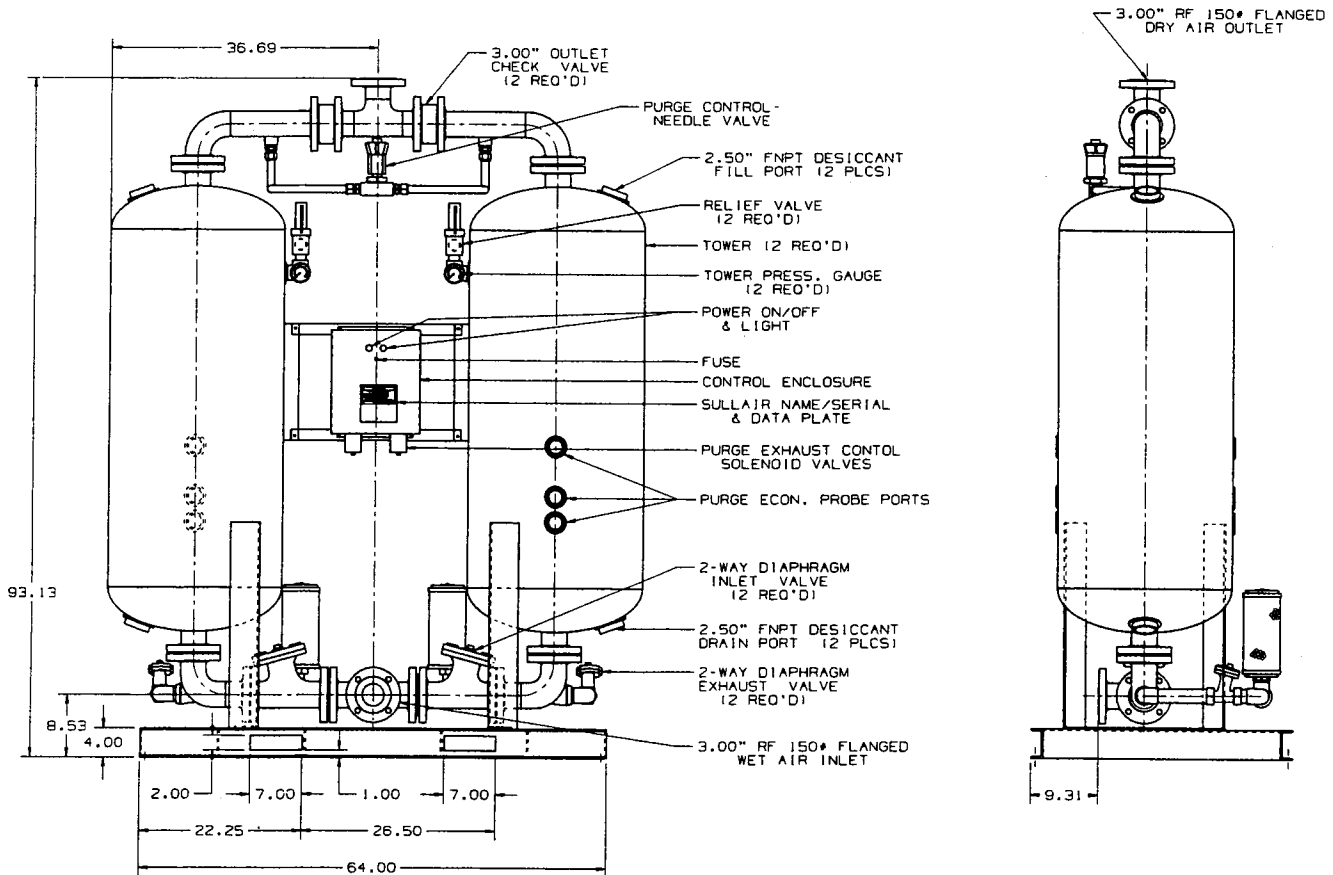
The purge control needle valve should be adjusted for the correct purge flow. The proper adjustment is shown in the table in Figure 4-5.

# Section 4 INSTALLATION

Figure 4-1 Installation Drawing (Models SAR 830 through SAR 1350)

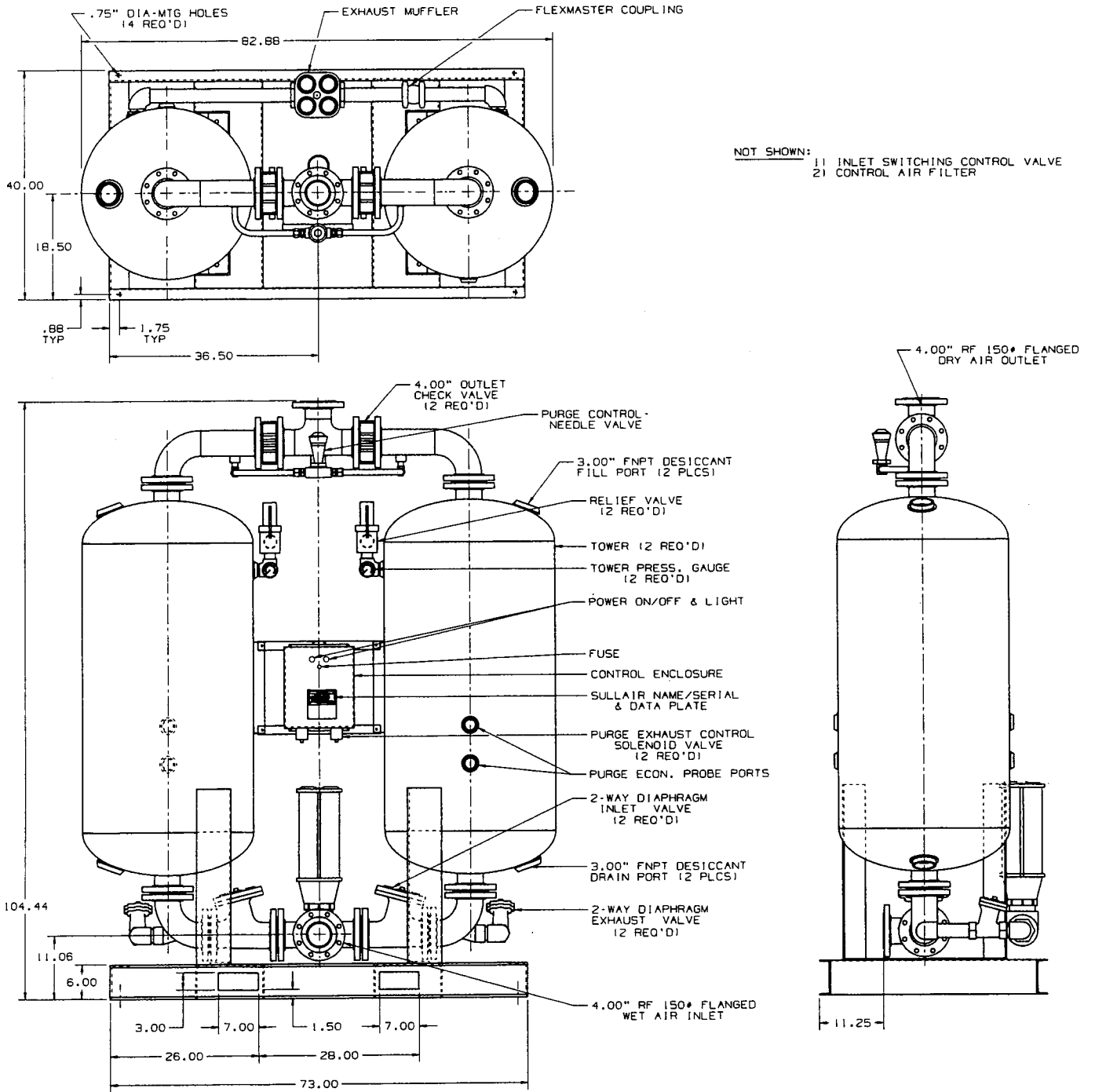


- NOT SHOWN:
- 1) INLET SWITCHING CONTROL VALVE
  - 2) CONTROL AIR FILTER
  - 3) WEIGHT WITHOUT DESICCANT -- 1480#



# Section 4 INSTALLATION

Figure 4-2 Installation Drawing (Models SAR 1650 through SAR 2250)



# Section 4 INSTALLATION

Figure 4-3 Installation Drawing (Models SAR 2650 through SAR 3100)

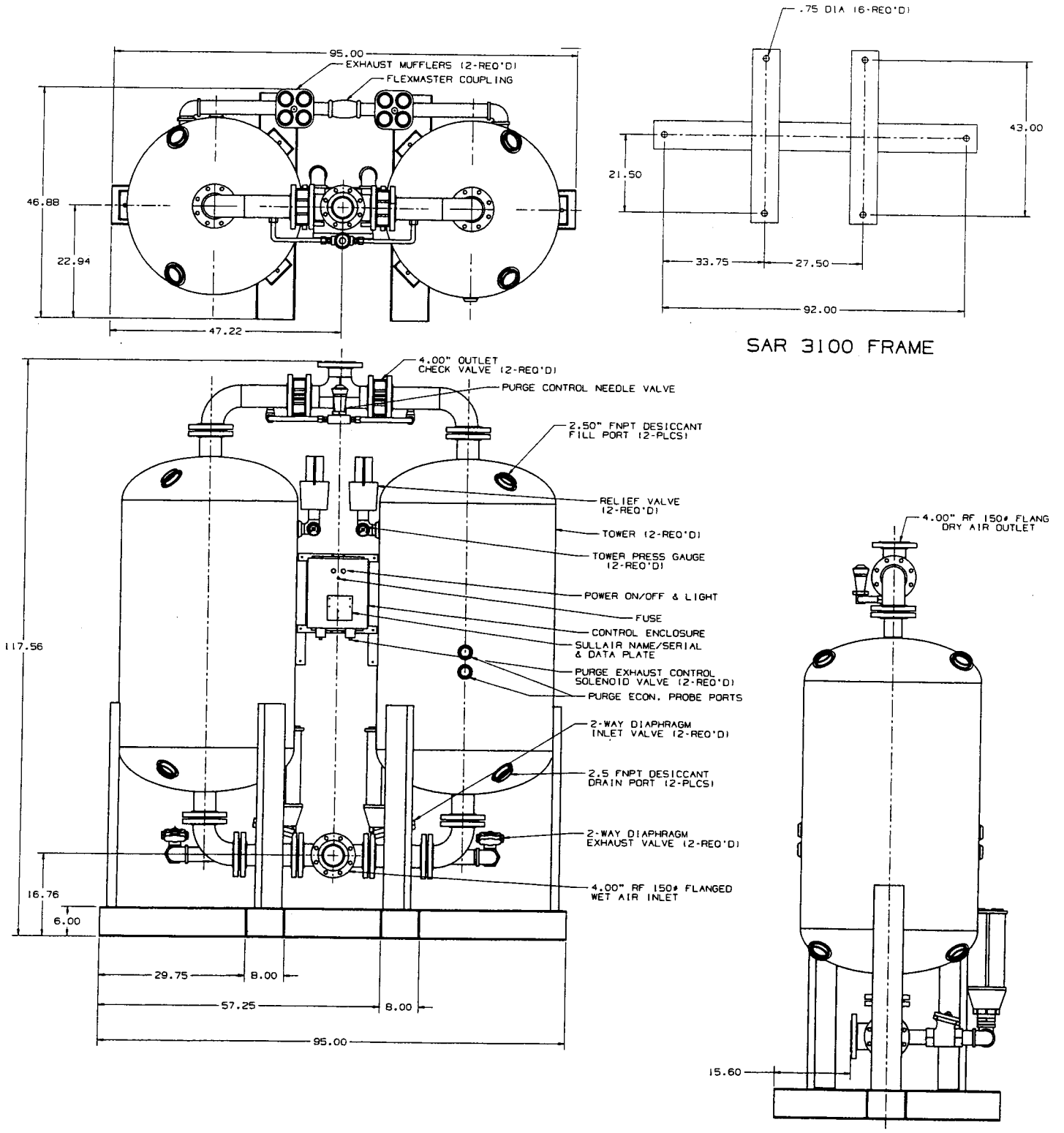
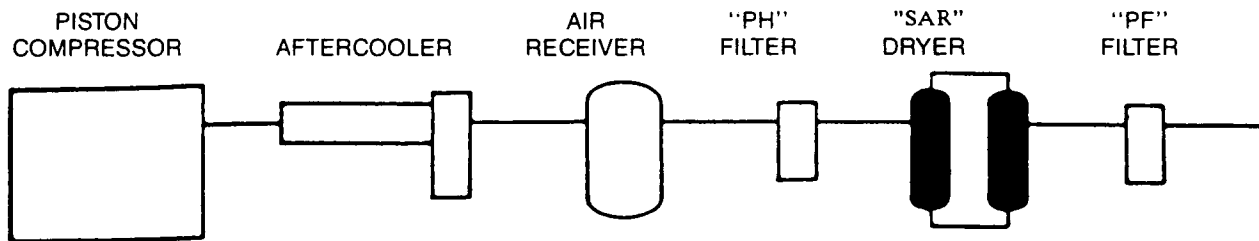
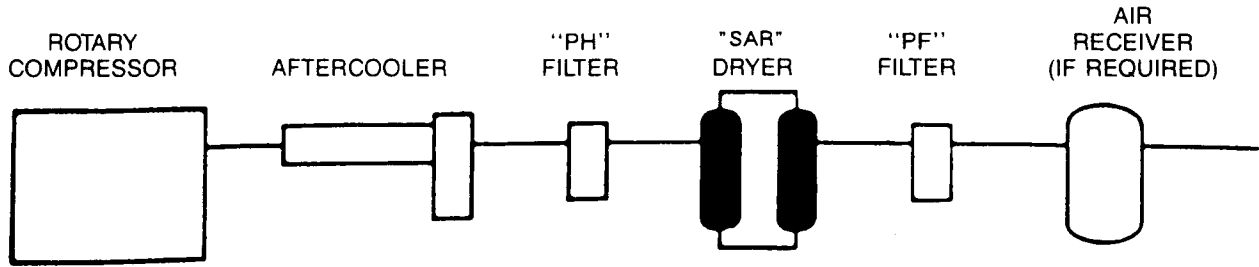
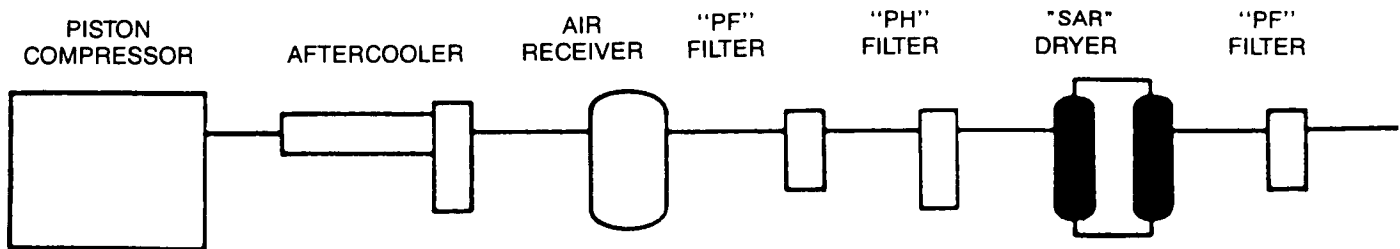
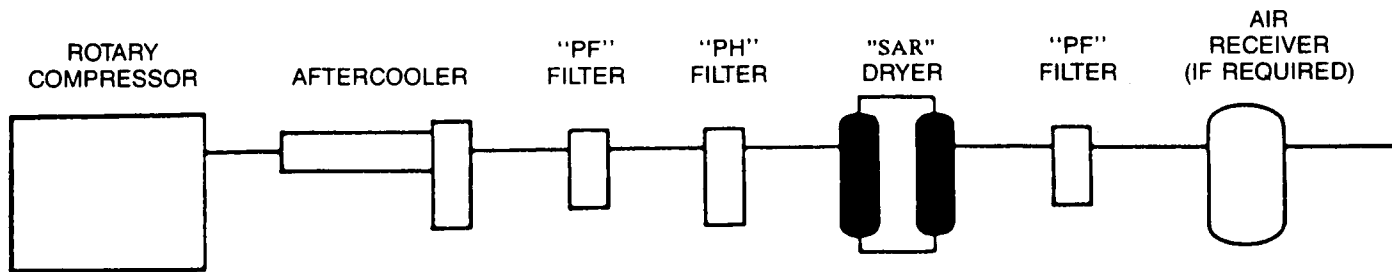


Figure 4-4 Piping Arrangements



**CLEAN COMPRESSED AIR APPLICATION**



**CONTAMINANT-FREE COMPRESSED AIR APPLICATION**

**NOTE:** It is suggested that Bypass piping be placed around dryers and filters for ease of servicing.

**SUGGESTED PIPING ARRANGEMENTS FOR SAR INSTALLATION**

# Section 4 INSTALLATION

Figure 4-5 Purge Flow Chart

DRYER MODEL	NUMBER OF TURNS OPEN (I)	MINIMUM VALVE POSITION (TURNS OPEN) (II)	VALVE SIZE
SAR 830	4	3	1"
SAR 1000	4 $\frac{1}{4}$	3	1"
SAR 1350	4 $\frac{1}{2}$	3 $\frac{1}{2}$	1"
SAR 1650	4 $\frac{3}{4}$	4	1"
SAR 2250	5 $\frac{1}{4}$	4	1"
SAR 2650	6	5 $\frac{3}{4}$	1"
SAR 3100	6 $\frac{3}{4}$	5 $\frac{3}{4}$	1"

(I) For 100 PSIG (689kPa) dryer inlet pressure.

(II) The valve should not be closed below the minimum position or the towers will not repressurize adequately.

Dryers equipped with the dewpoint hygrometer option should be operated continuously for one (1) week prior to opening the inlet valve to the hygrometer probe sample block. This will protect the probe against possible damage caused by wet start-ups.

On dryers equipped with purge economizer and/or high dewpoint indicator options, the probes should be removed and replaced with plugs for the first week of continuous operation. On dryers using two purge economizer probes, special care should be taken to return the probes to their original positions because the probe and its control board are a matched set.

### NOTE

These probes and their control boards must be recalibrated once a year.

The dryer should operate continuously for several days to condition the desiccant to its dry state. During this step, all residual adsorbed water vapor is stripped from the desiccant. Desiccant "conditioning" may be hastened by employing excess purge.

### ⚠ WARNING

NEVER close purge control valve. This valve must be left open far enough to allow repressurization before tank switchover occurs. Otherwise damage to desiccant beads will result.

### 5.1 GENERAL

Refer to Figures 5-1 and 5-2. The operation of the air reactivated desiccant dryer can be easily followed by referring to Figures 5-1 and 5-2. The sequence of operations is fully automatic and is controlled by a non-adjustable solid state timer.

Wet and dirty compressed air leaving the compressor aftercooler and mechanical separator is freed of entrained liquids and aerosols, as well as solid contaminants, by the accessory coalescing prefilter. Liquid contaminants are discharged from the prefilter sump through an automatic drain trap.

The compressed air, still laden with water vapor, enters either the left or right tower of the desiccant dryer, depending upon the position of the inlet switching valve. Assume that the wet compressed air is being dried by the left desiccant tower.

Within the left tower, the compressed air gives up its water vapor to the dry desiccant. The dry compressed air leaving the left tower will have a pressure dewpoint of  $-40^{\circ}\text{F}$  ( $-40^{\circ}\text{C}$ ).

A small portion of this dry compressed air is expanded to near atmospheric pressure by passing through the manually adjusted purge flow control valve. Expansion of this already dry gas to near atmospheric pressure increases the ability of the purge stream to strip previously absorbed water

vapor from the partially saturated desiccant within the right tower. The water vapor removed from the desiccant is passed out of the dryer through the purge exhaust valve and muffler.

Prior to tower switchover or reversal, the purge exhaust valve is closed and the right chamber is gradually brought back up to line pressure by air flow through the purge circuit. This assures that both towers are at equal pressure before switchover and that no desiccant bed "bumping" can take place upon tower reversal.

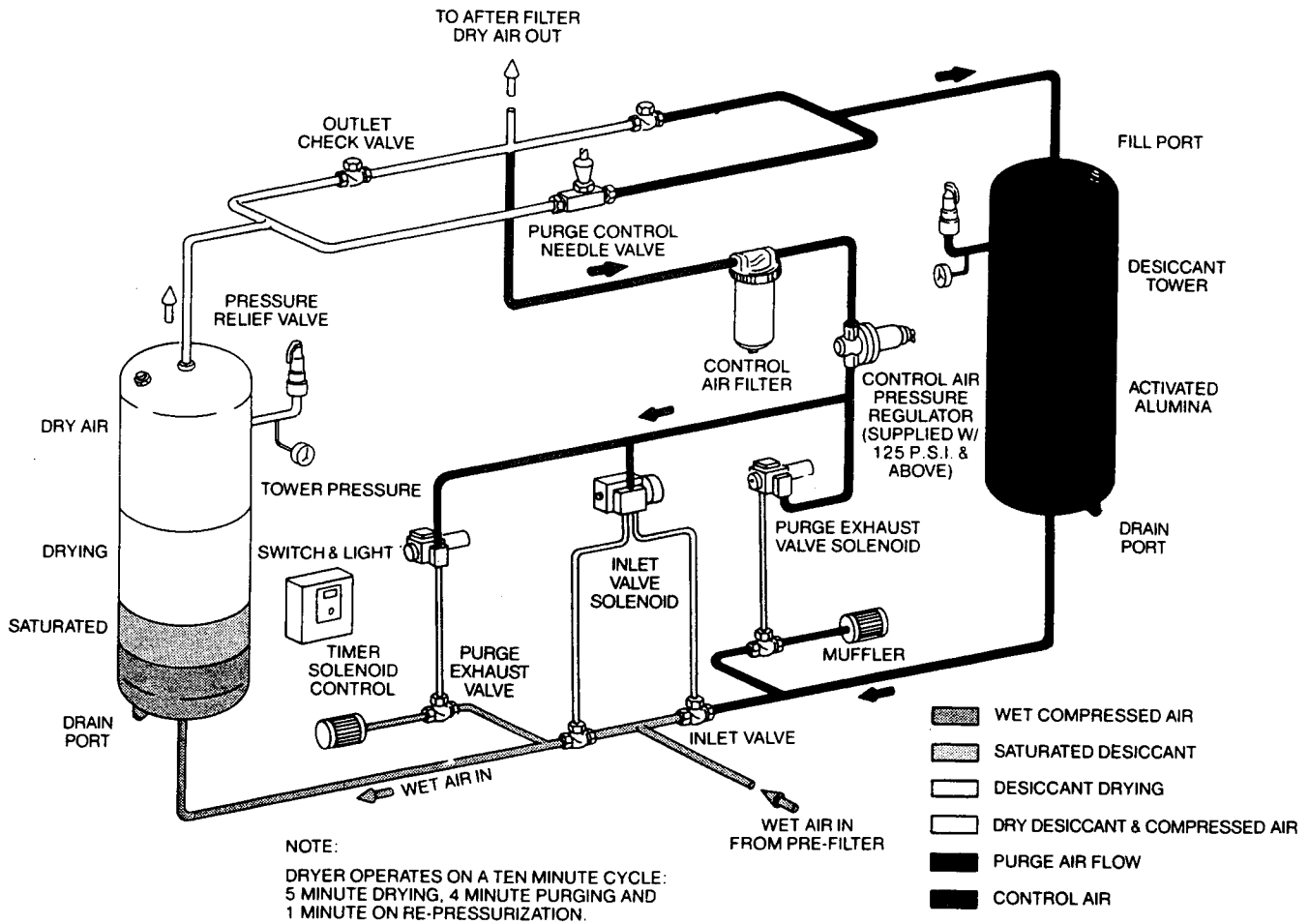
The dryer inlet valves will then switch, diverting wet inlet compressed air flow to the right tower. The purge exhaust valve will then open, depressurizing the left desiccant tower and permitting air reactivation of the desiccant within the left tower.

This process will repeat as long as the control power switch is in the "on" position. Should the control power switch be turned "off", or should an electrical power failure occur, the dryer inlet switching valve will be positioned such that the right tower will be on steam and both purge exhaust valves will automatically close. Compressed air flow can still be effectively dried for several hours before a substantial increase in the outlet dryer air dewpoint will occur.

The dry gas leaving the desiccant dryer should then pass through an accessory afterfilter where all desiccant fines are removed.

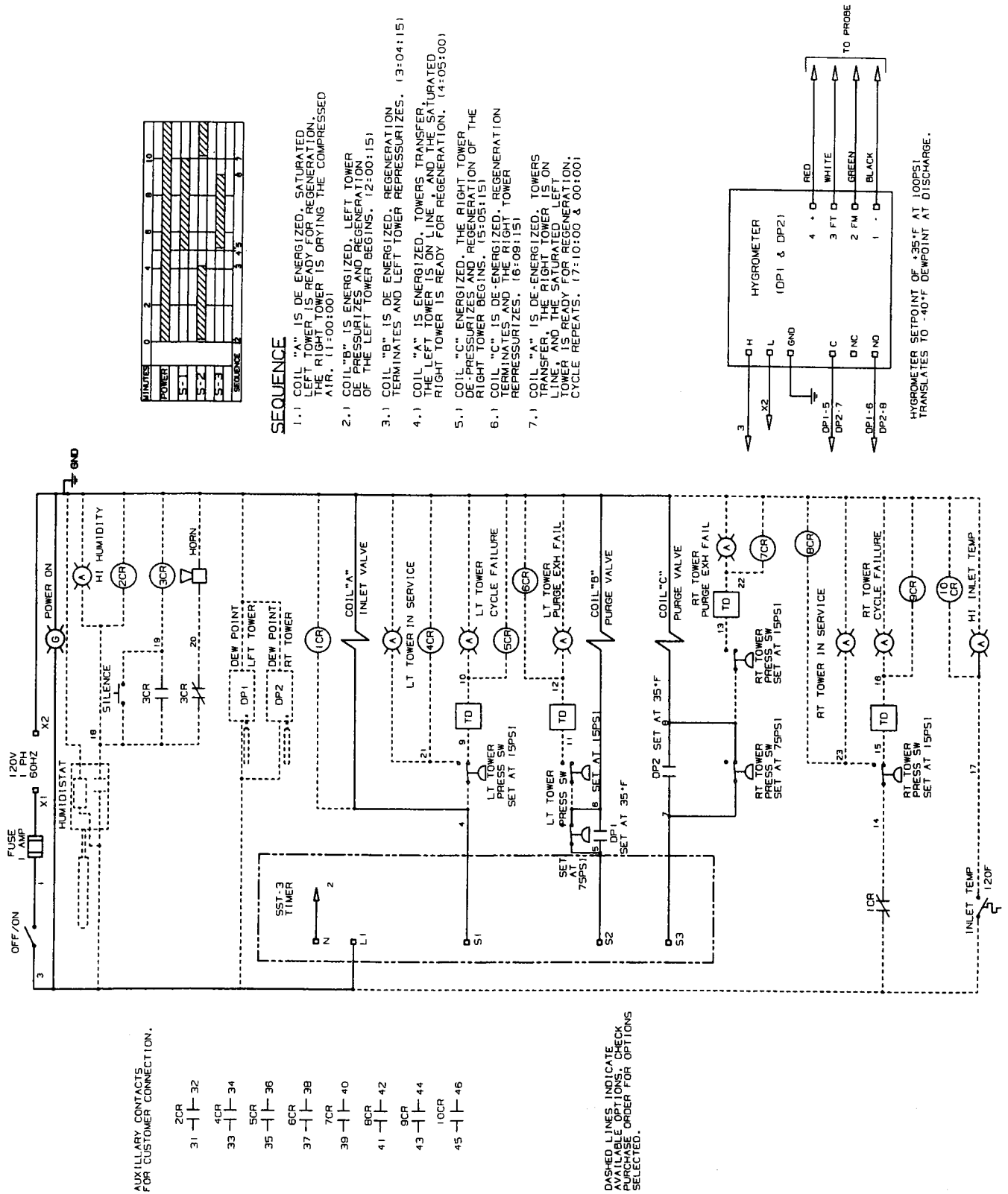
# Section 5 OPERATION

Figure 5-1 Dryer Flow Schematic (Models SAR 830 through SAR 3100)



REGENERATIVE AIR DRYER - SCHEMATIC DIAGRAM (Models SAR 830 through SAR 3100)

Figure 5-2 Wiring Diagram (Models SAR 830 through SAR 3100)



## Section 6

# MAINTENANCE

### 6.1 GENERAL

#### PREFILTER (ACCESSORY)

The filter elements should be replaced whenever the pressure drop over the prefilter becomes excessive.

#### NOTE

A pressure differential of 15 PSIG (103kPa) should be considered the maximum allowable.

Filter life can be extended by placing a mechanical separator immediately upstream of the coalescing prefilter, if one has not been provided with the aftercooler.

It is important to check the operation of the automatic drain trap to assure that separated liquids are not accumulating within the prefilter housing sump to be eventually carried over to the dryer, since the dryer cannot remove water in liquid form.

#### PURGE RATE

An adequate supply of purge gas is essential for desiccant reactivation and desired dewpoint depression. Readjustment of the purge rate can be made with the manually adjustable purge flow control valve. It is important that the exhaust muffler is checked often for possible plugging. Tank pressures higher than 3 to 5 PSIG (21 to 34kPa) during reactivation indicate a plugged muffler, or an excessive purge rate. This will result in failure to strip moisture from desiccant, and will raise pressure dewpoint.

#### AFTERFILTER (ACCESSORY)

The filter elements should be replaced whenever the pressure drop over the afterfilter becomes excessive.

#### CONTROL AIR FILTER

Frequent inspection and replacement of the control air filter element will protect the dryer solenoid valves from particulate matter.

#### SOLENOIDS

Failure of a solenoid to function properly may be caused by:

1. A Faulty Control Circuit; check the electrical system including the timer contacts to verify that the solenoid is receiving electrical input.
2. A Burnt Out Coil; replace solenoid coil.
3. Improper Voltage; input voltage should be within plus or minus 10% of solenoid nameplate voltage. Too low of a voltage may cause solenoid chattering.
4. Leakage; take apart valve and clean as required. Replace worn or damaged parts.

#### CYCLE TIMER

The solid state electronic timer has been accurately set in the factory and cannot be adjusted in the field. Should the timer fail to control tower switching to purge exhaust, replace it with a new timer.

#### VALVE SEAT AND SEALS

The inlet and purge exhaust valves contain Elastomeric diaphragms and seals. It is recommended that valve rebuilding kits be kept on hand as spares.

#### DESICCANT REPLACEMENT

The spent desiccant is drained from the towers through the desiccant drain ports. Fresh desiccant is charged to the towers through the desiccant fill ports. The necessary amount of desiccant is specified in Section 7.

Be certain only to employ the special activated alumina desiccant which Sullair supplies. It excels with respect to both dewpoint depression ability and attrition resistance.

### 6.2 SUGGESTED PREVENTIVE MAINTENANCE

#### MONTHLY

- A. Check operating conditions of inlet flow, pressure, temperature and purge valve setting.
- B. Check the pressure loss over the prefilters and afterfilters. Replace filter elements if excessive.
- C. Check for plugged muffler. Replace the disseminator element if necessary.
- D. Watch dryer through a complete cycle to assure proper tower switching depressurization, purging and repressurization.

#### SEMI-ANNUALLY

Blowdown pressure relief valves.

#### ANNUALLY

Inspect desiccant and replace if it is badly broken up, or fractured, or contaminated with compressor lubricant.

Inspect and clean solenoid valves.

Inspect seats, seals of the inlet diaphragm valves and the purge exhaust diaphragm valves. Replace if badly worn or scored. It is recommended that valve rebuilding kits be kept on hand as spares.

### 6.3 TROUBLESHOOTING

The information contained in the Troubleshooting Chart has been compiled from field report data and factory experience. It contains symptoms and usual causes to the described problems, however, **DO NOT** assume that these are the only problems that may occur. All available data concerning the trouble should be systematically analyzed before undertaking any repairs or component replacement procedures.

A detailed visual inspection is worth performing for almost all problems and may avoid unnecessary additional damage to the dryer.

## Section 6 MAINTENANCE

- Check for loose wiring.
- Check for damaged piping.
- Check for parts damaged by heat or an electric

cal short circuit, usually apparent by discoloration or a burnt odor.

### TROUBLESHOOTING

SYMPTOM	PROBABLE CAUSE	REMEDY
POOR DEWPOINT DEPRESSION	Entrained Water	Check mechanical separator.
	Too Little Purge Volume	Check purge flow needle valve for proper setting.
	Inlet Pressure Below Design	Check pressure and reset purge valve.
	Inlet Flow Rate Too High	Check flow rate and reset purge valve.
	Inlet Temperature Above 100°F (38°C)	Check compressor aftercooler operation.
	Desiccant Soaked with Compressor Lubricant	Replace desiccant and check filter elements.
HIGH PRESSURE DROP ACROSS DRYER	Excessive Inlet Flow	Check flow rate.
	Inlet Pressure (80 PSIG [552kPa]) Minimum Below Design	Check pressure.
SWITCHING FAILURE	No Input Power	Check fuse, timer and "on/off" switch.
	No Pilot Air	Check pilot air lines and control air filter.
	Faulty Switching Solenoid Valve	Check inlet solenoid valve.
DRYER FAILS TO PRESSURIZE	Purge Exhaust Valve Fails to Close	Check timer, solenoid and purge exhaust valve.
FAILURE TO PURGE	Purge Flow Control Valve Closed	Open and properly set purge control valve.
	Purge Exhaust Valve Fails to Open	Check timer solenoid and purge exhaust valve.
EXCESSIVE TOWER BACK PRESSURE	Clogged Muffler Disseminator Element	Replace disseminator.
	Purge Exhaust Piping of Excessive Length for Line Size	Increase pipe and fitting size.
ONE TOWER HAS LOW PRESSURE	Defective Check Valve(s)	Repair or replace defective check valve.
DRYER FAILS TO REPRESSURIZE PURGED TOWER TO LINE PRESSURE BEFORE SWITCHOVER	Improperly Set Purge Needle Valve	Open purge needle valve until repressurization occurs properly.

## NOTES

## Section 7

# ILLUSTRATIONS AND PARTS LIST

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### 7.1 PROCEDURE FOR ORDERING PARTS

Parts should be ordered from the nearest Sullair Representative or the Representative from whom the compressor was purchased. If for any reason parts cannot be obtained in this manner, contact the factory directly at the address below.

When ordering parts always indicate the **Serial Number** of the dryer. This can be obtained from the Bill of Lading for the compressor or from the Serial Number Plate located on the dryer.

#### SULLAIR CORPORATION

Subsidiary of Sundstrand Corporation  
3700 East Michigan Boulevard  
Michigan City, Indiana 46360

Telephone: (219) 879-5451  
See Toll-free Numbers Below  
Telex: 4946922  
FAX: (219) 874-1273

#### SULLAIR CORPORATION

Parts Distribution and Service Department  
1625 E. Second Street  
Michigan City, Indiana 46360

Telephone: (219) 879-5451 or  
1-800-348-2722 (United States)  
1-800-525-5506 (Canada)  
Telex: 4320147  
FAX: (219) 874-1835 (Parts)  
FAX: (219) 874-1805 (Service)

### 7.2 RECOMMENDED SPARE PARTS LIST

DESCRIPTION	KIT NUMBER	QUANTITY
element for air control filter	250011-827	1
element for air exhaust muffler		
• 1½" replacement disseminator for muffler 405815-005 (SAR 830)	405815-505	2
• 2" replacement disseminator for muffler 405815-006 (SAR 1000 through SAR 1350)	405815-606	2
• 4" replacement disseminator for muffler 405893-001 (SAR 1650 through SAR 2250)	405893-101	4
replacement muffler for 405893-003 (SAR 2650 and SAR 3100)	405893-003	2
replacement coil for 3-way valve	250031-738	2
replacement kit for 3-way valve	250031-737	1
replacement coil for 4-way valve	250031-431	1
repair kit for diaphragm valve 3" - normally open (SAR 830 through SAR 1350)	250031-397	2
repair kit for diaphragm valve 4" - normally open (SAR 1650 through SAR 2250)	250031-398	2
repair kit for diaphragm valve 1½" - normally closed (SAR 830 through SAR 1350)	250031-395	2
replacement kit for 1½" Flexmaster coupling (SAR 1000 through SAR 1350)	040146	2
replacement gasket for 2" Flexmaster coupling (SAR 1650 through SAR 3100)	040930	2
repair kit for diaphragm valve 2" - normally closed (SAR 1650 through SAR 2250)	250031-396	2
repair kit for diaphragm valve 4" - normally open (SAR 2650 and SAR 3100)	250031-398	2
repair kit for diaphragm valve 2½" - normally closed (SAR 2650 and SAR 3100)	250031-396	2
1 amp fuse	250025-933	2
activated alumina desiccant (110 lbs.)	250030-081	(I)
activated alumina desiccant (350 lbs.)	250030-082	(I)

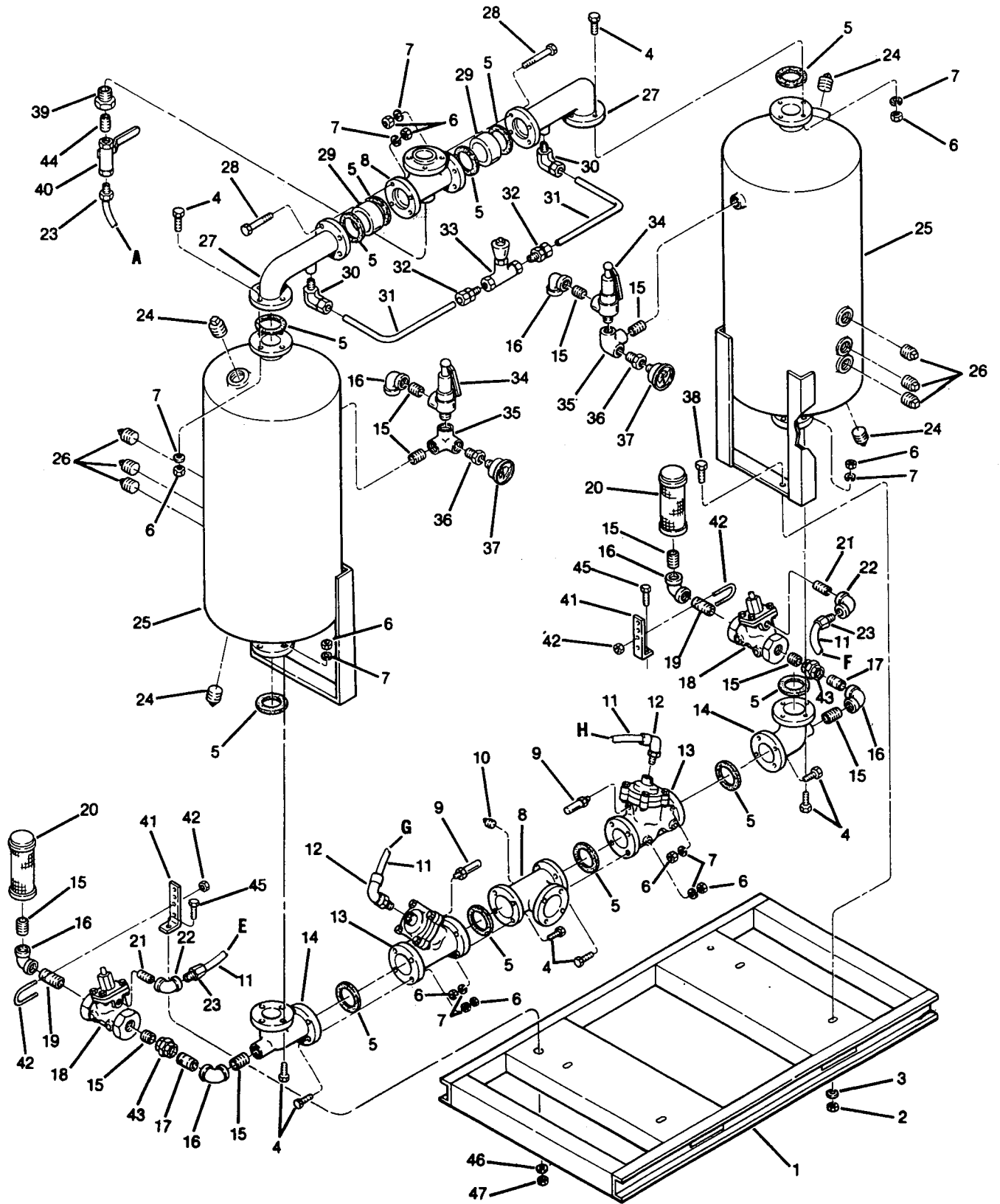
(I) See Section 3, Specifications, to determine desiccant quantities for your dryer.

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**PLEASE NOTE: WHEN ORDERING PARTS, INDICATE SERIAL NUMBER OF DRYER**

# Section 7 ILLUSTRATIONS AND PARTS LIST

## 7.3 BASE, TANKS, PIPING AND PARTS (SAR 830 through SAR 1350)



## Section 7 ILLUSTRATIONS AND PARTS LIST

### 7.3 BASE, TANKS, PIPING AND PARTS (SAR 830 through SAR 1350)

<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
1	frame	250030-505	1
2	nut, 1/2"	824208-448	4
3	washer, lock 1/2"	837508-125	4
4	capscrew, hex 5/8"-11 x 3"	828610-300	32
5	gasket, 150# 3"	240621-8	12
6	nut, hex 5/8"-11	828210-559	40
7	washer, lock 5/8"	837510-156	40
8	tee, flanged outlet	019111	2
9	silencer	044916	2
10	plug, 1" npt 150#	802815-040	1
11	tubing, thermoplastic 3/8" od (ft.)	250024-746	19
12	connector, tube-el 1/4"mpt x 3/8"t	813706-250	11
13	valve, diaphragm 3" (I)	250029-794	2
14	elbow, bottom	250030-473	2
15	nipple, pipe 1 1/2" x close	822224-000	10
16	elbow, pipe 1 1/2" 90°	801515-060	6
17	nipple, pipe 1 1/2" x 6"	822124-030	2
18	valve, diaphragm 1 1/2" (II)	250028-806	2
19	nipple, pipe 1 1/2" x 2"	822124-020	2
20	muffler, air exhaust 1 1/2" (III)	405815-005	2
21	nipple, pipe 1/8" x close	823202-000	2
22	elbow, reducing 1/4" x 1/8"	803601-005	2
23	connector, tube straight 1/4" x 3/8"t	813606-250	5
24	plug, pipe 2 1/2"	802815-100	4
25	tank	250030-300	2
26	plug, pipe 1 1/2"	802815-060	6
27	elbow, top	250031-365	2
28	capscrew, hex 5/8"-11 x 5 1/2"	828610-550	8
29	valve, check 3"	405812-013	2

(continued on Page 23)

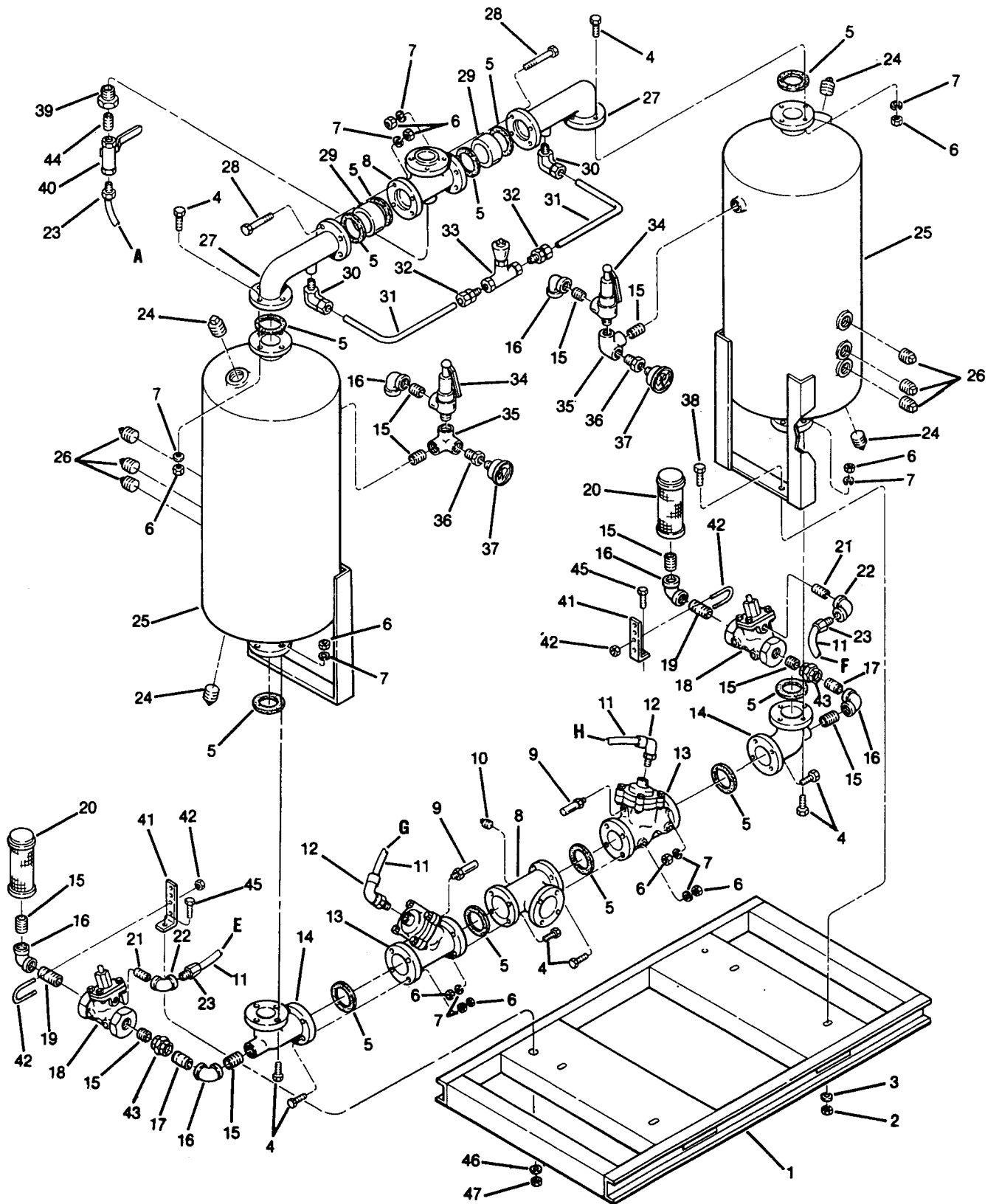
- (I) For maintenance on diaphragm valve no. 250029-794, order repair kit no. 250031-397 (2 required).
- (II) For maintenance on diaphragm valve no. 250028-806, order repair kit no. 250031-395 (2 required).
- (III) For maintenance on air exhaust muffler no. 405815-005, order replacement disseminator no. 405815-505.

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**PLEASE NOTE: WHEN ORDERING PARTS, INDICATE SERIAL NUMBER OF DRYER**

# Section 7 ILLUSTRATIONS AND PARTS LIST

## 7.3 BASE, TANKS, PIPING AND PARTS (SAR 830 through SAR 1350)



Section 7  
**ILLUSTRATIONS AND PARTS LIST**

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7.3 BASE, TANKS, PIPING AND PARTS (SAR 830 through SAR 1350) (continued)

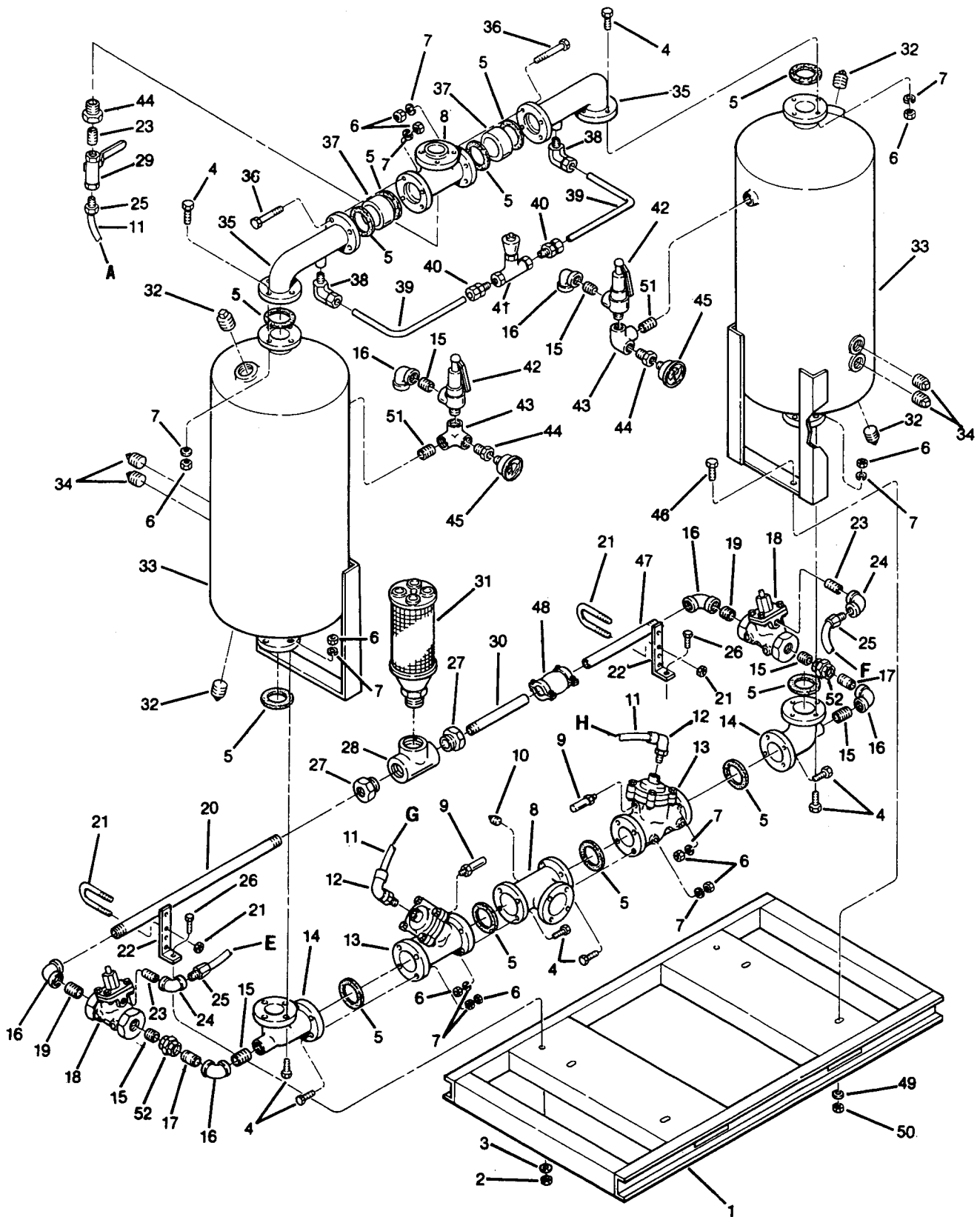
<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
30	elbow, tube-m 1" x 1"	810516-100	2
31	tube, steel 1" (ft.)	841115-016	3
32	connector, tube-m 1" x 1"	810216-100	2
33	valve, needle 1"	250026-357	1
34	valve, relief 1½" x 1½"	405818-004	2
35	elbow, side outlet 1½"	802615-060	2
36	bushing, reducing hex 1½" x ¼"	802106-010	2
37	gauge, pressure	405821-001	2
38	capscrew, hex ½"-13 x 1½"	828608-150	4
39	bushing, reducing 1" x ¼"	802104-010	1
40	valve, ball ¼" npt	047115	1
41	bracket, support	250031-835	2
42	u-bolt, ¼" x 1½"	829004-150	2
43	union, 1½" brass seat	802515-060	2
44	nipple, ¼" x close	823104-000	1
45	capscrew, hex ¼"-20 x ¾"	829104-075	2

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PLEASE NOTE: WHEN ORDERING PARTS, INDICATE SERIAL NUMBER OF DRYER

# ILLUSTRATIONS AND PARTS LIST

## 7.4 BASE, TANKS, PIPING AND PARTS (SAR 1650 THROUGH SAR 2250)



## Section 7 ILLUSTRATIONS AND PARTS LIST

### 7.4 BASE, TANKS, PIPING AND PARTS (SAR 1650 THROUGH SAR 2250)

key number	description	part number	quantity
1	frame	250030-509	1
2	nut, lock 1/4"	825506-198	2
3	washer, 1/4"	837204-071	2
4	capscrew, hex 5/8"-11 x 3"	828610-300	64
5	gasket	240621-10	12
6	nut, hex 5/8"-11	824210-559	80
7	washer, lock 5/8"	837510-156	80
8	tee, flanged outlet	019198	2
9	silencer	044916	2
10	plug, 1/2"	807800-020	2
11	tubing, thermoplastic 3/8" od (ft.)	250024-746	20
12	connector, tube-el 1/4" mpt x 3/8" t	813706-250	13
13	valve, diaphragm 4" (I)	250029-795	2
14	elbow, bottom	250030-479	2
15	nipple, pipe 2" x close	822132-000	6
16	elbow, pipe 90° 2"	801515-080	6
17	nipple, pipe 2" x 2 1/2"	822132-025	2
18	valve, diaphragm 2" (II)	250029-791	2
19	nipple, pipe 2" x close	822132-000	2
20	nipple, pipe 2" x 26"	822132-260	1
21	u-bolt, 5/16" x 2" pipe	829005-200	2
22	bracket, purge loop	250031-835	2
23	nipple, pipe 1/4" x close	823104-000	3
24	elbow, pipe galvanized 90° 1/4"	803515-010	2
25	connector, tube straight 1/4" x 3/8" t	813606-250	3
26	capscrew, hex 1/4"-20 x 3/4"	829104-075	2
27	bushing, reducing hex 3" x 2"	802112-080	2
28	tee, reducing 3" x 3" x 4"	250010-497	1
29	valve, ball 1/4" npt	047115	1
30	nipple, pipe half 2" x 1 1/2"	822832-115	1

(continued on Page 27)

(I) For maintenance on diaphragm valve no. 250029-795, order repair kit no. 250031-398 (2 required).

(II) For maintenance on diaphragm valve no. 250028-791, order repair kit no. 250031-396 (2 required).

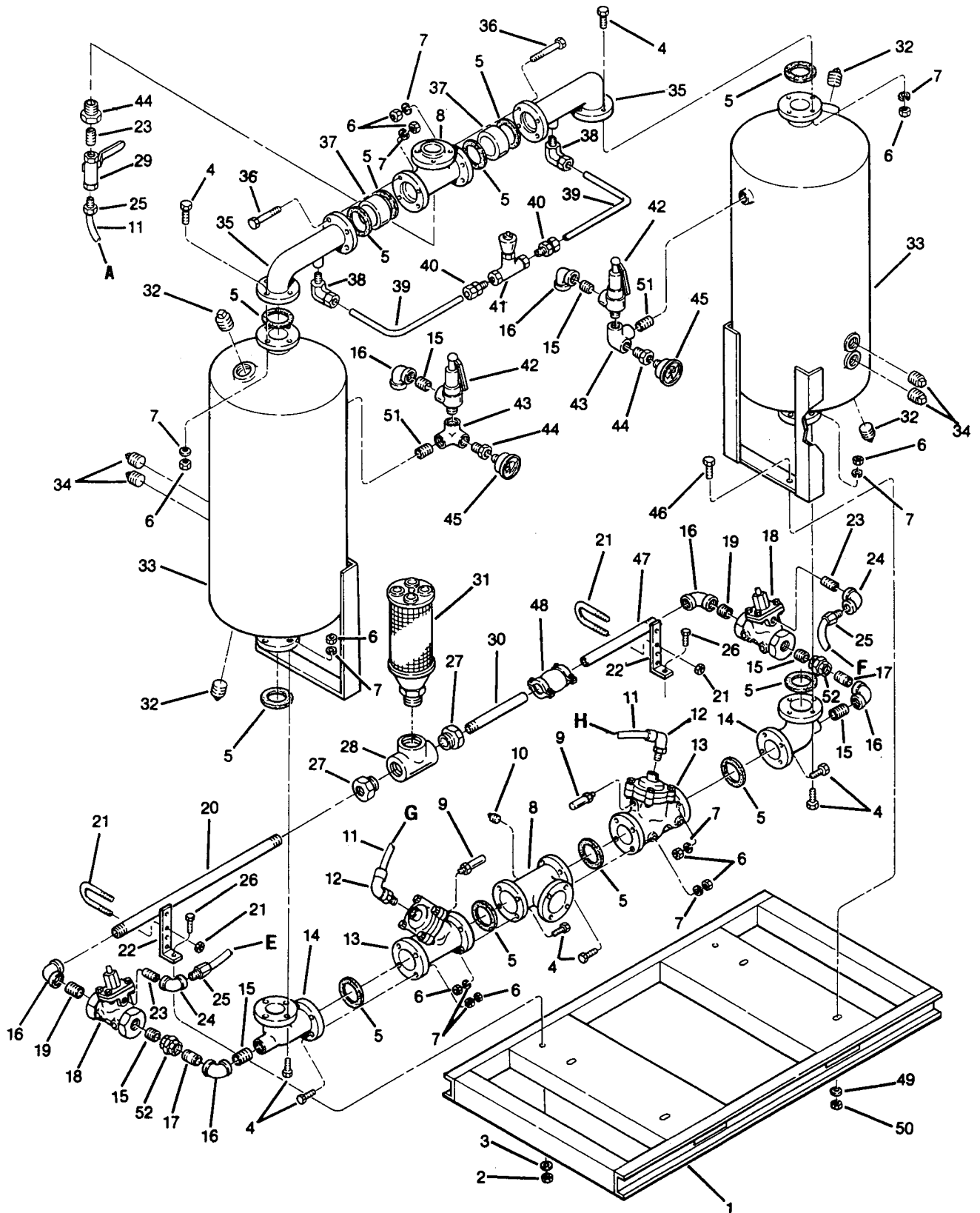
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PLEASE NOTE: WHEN ORDERING PARTS, INDICATE SERIAL NUMBER OF DRYER

Section 7

# ILLUSTRATIONS AND PARTS LIST

## 7.4 BASE, TANKS, PIPING AND PARTS (SAR 1650 THROUGH SAR 2250)



## Section 7 ILLUSTRATIONS AND PARTS LIST

### 7.4 BASE, TANKS, PIPING AND PARTS (SAR 1650 THROUGH SAR 2250) (continued)

<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
31	muffler, air exhaust 4" (III)	405893-001	1
32	plug, pipe 3"	802815-120	4
33	tank	250030-302	2
34	plug, pipe 1½"	802815-060	4
35	elbow, top	250031-366	2
36	capscrew, hex ⅝"-11 x 5½"	828610-550	16
37	valve, check 4"	405812-008	2
38	elbow, tube-m 1" x 1"	810516-100	2
39	tube, steel 1" (ft.)	841115-016	3
40	connector, tube-m 1" x 1"	810216-100	2
41	valve, needle 1"	250026-357	1
42	valve, relief 1½" x 1½"	405818-005	2
43	elbow, side outlet 1½"	802615-060	2
44	bushing, reducing hex 1½" x ¼"	802106-010	3
45	gauge, pressure	405821-001	2
46	capscrew, hex ½"-13 x 1½"	828608-150	4
47	nipple, half 2" x 13"	822832-130	1
48	coupling, Flexmaster 2" (IV)	040913	1
49	washer, regular ½"	837508-125	4
50	nut, hex lock ½"-13	824208-448	4
51	nipple, pipe 1½" x 2"	822124-020	2
52	union, pipe 2" 150#	802515-080	2

(III) For maintenance on air exhaust muffler no. 405893-001, order replacement disseminator no. 405893-101.

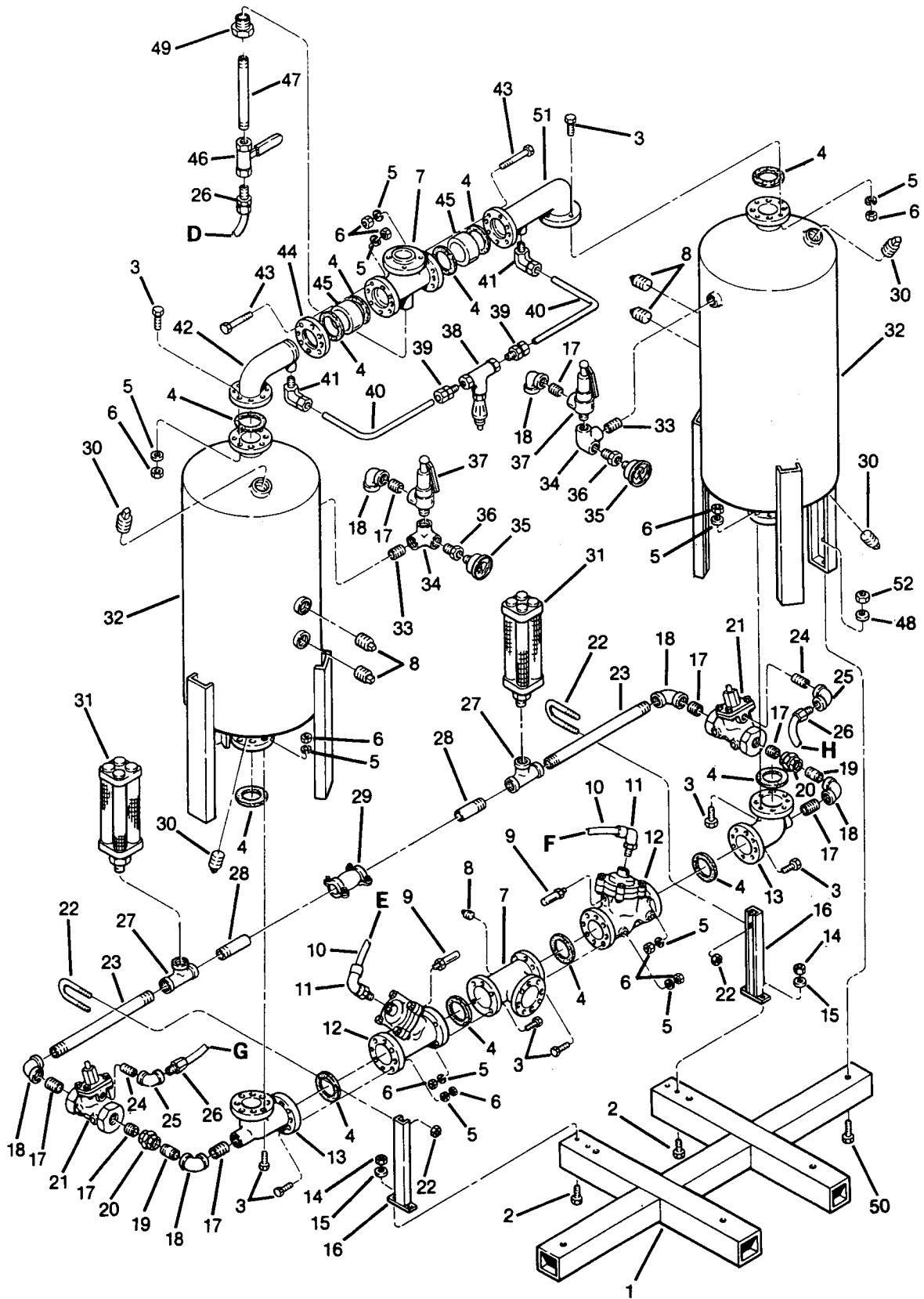
(IV) For maintenance on Flexmaster gasket no. 040913, order replacement gasket no. 040930 (2 required).

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PLEASE NOTE: WHEN ORDERING PARTS, INDICATE SERIAL NUMBER OF DRYER

# Section 7 ILLUSTRATIONS AND PARTS LIST

## 7.5 BASE, TANKS, PIPING AND PARTS (SAR 2650 AND SAR 3100)



## Section 7 ILLUSTRATIONS AND PARTS LIST

### 7.5 BASE, TANKS, PIPING AND PARTS (SAR 2650 AND SAR 3100)

<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
1	frame	250038-148	1
2	capscrew, hex gr5 $\frac{3}{8}$ "-16 x 1"	828606-100	4
3	capscrew, hex gr5 $\frac{5}{8}$ "-11 x 3"	828610-300	64
4	gasket, asa flange 4"	240621-010	12
5	lockwasher, $\frac{5}{8}$ "	837510-156	80
6	nut, hex $\frac{5}{8}$ "	824210-559	80
7	tee, outlet	019198	2
8	plug, pipe 1 $\frac{1}{2}$ "	802815-060	5
9	silencer, $\frac{1}{4}$ "	044916	2
10	tubing, thermoplastic $\frac{3}{8}$ " od (ft.)	250024-746	25 feet
11	elbow, tube 90° $\frac{3}{8}$ " x $\frac{1}{4}$ "	813706-250	2
12	valve, diaphragm 4" (I)	250029-795	2
13	elbow, bottom	250039-245	2
14	nut, hex lock $\frac{3}{8}$ "	825506-198	4
15	washer, $\frac{3}{8}$ "	838206-071	8
16	bracket, purge loop	250040-456	2
17	nipple, pipe 2 $\frac{1}{2}$ " x close	822240-000	8
18	elbow, pipe 90° 2 $\frac{1}{2}$ "	801515-100	6
19	nipple, pipe 2 $\frac{1}{2}$ " x 7"	822140-070	2
20	union, pipe 2 $\frac{1}{2}$ "	802515-100	2
21	valve, diaphragm 2 $\frac{1}{2}$ " (II)	250029-792	2
22	u-bolt, pipe $\frac{3}{8}$ " x 2 $\frac{1}{2}$ "	829006-250	2
23	nipple, pipe 2 $\frac{1}{2}$ " x 18"	822140-180	2
24	nipple, galvanized $\frac{1}{4}$ " x close	823204-000	2
25	elbow, pipe 90° $\frac{1}{4}$ "	803515-010	2
26	connector, tube starter $\frac{3}{8}$ " x $\frac{1}{4}$ "	813606-250	3
27	tee, reducing 2 $\frac{1}{2}$ " x 2 $\frac{1}{2}$ " x 3"	802210-112	2
28	nipple, half 2 $\frac{1}{2}$ " x 6"	822840-060	2
29	coupling, flexible 2 $\frac{1}{2}$ "	040648	1
30	plug, pipe 2 $\frac{1}{2}$ "	802815-100	4

(continued on Page 31)

(I) For maintenance on diaphragm valve no. 250029-795, order repair kit no. 250031-398 (2 required).

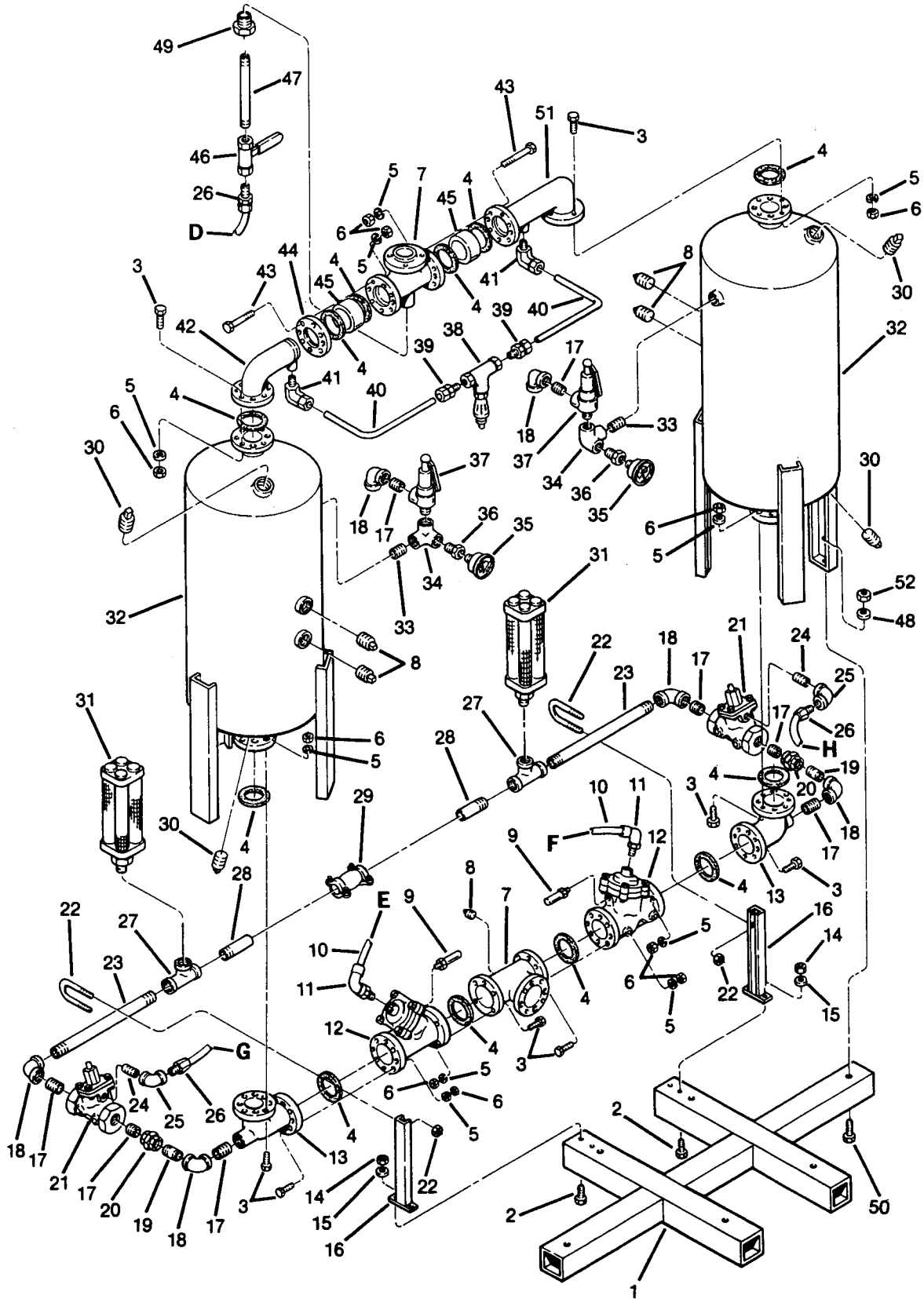
(II) For maintenance on diaphragm valve no. 250029-792, order repair kit no. 250031-396 (2 required).

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**PLEASE NOTE: WHEN ORDERING PARTS, INDICATE SERIAL NUMBER OF DRYER**

# Section 7 ILLUSTRATIONS AND PARTS LIST

## 7.5 BASE, TANKS, PIPING AND PARTS (SAR 2650 AND SAR 3100)



## Section 7

**ILLUSTRATIONS AND PARTS LIST****7.5 BASE, TANKS, PIPING AND PARTS (SAR 2650 AND SAR 3100) (continued)**

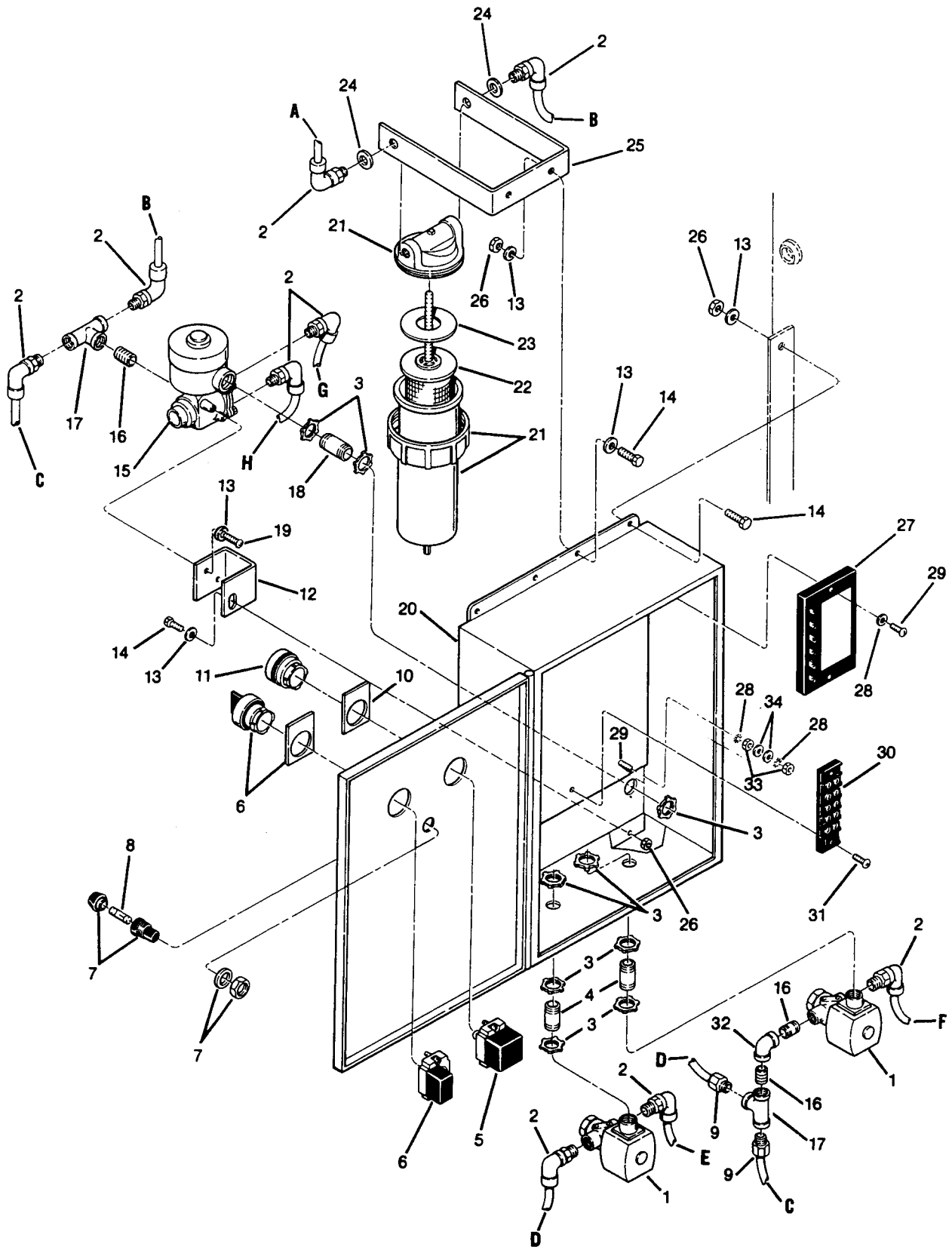
<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
31	muffler, air exhaust 3"	405893-003	2
32	tank	250030-304	2
33	nipple, pipe 2" x close	822132-000	2
34	elbow, side outlet 2"	802615-080	2
35	gauge, pressure	405821-001	2
36	bushing, reducing hex 2" x 1/4"	802108-010	2
37	valve, relief 2"	250019-948	2
38	valve, needle, 1"	250026-357	1
39	connector, tube-m 1" x 1"	810216-100	2
40	tubing, steel 1" (ft.)	841115-016	3
41	elbow, tube-m 1" x 1"	810516-100	2
42	elbow, top	250031-391	1
43	capscrew, hex gr5 5/8"-11 x 5 1/2"	828610-550	16
44	flange, adapter	819215-064	1
45	valve, check 4"	405812-008	2
46	valve, ball 1/4"	047115	1
47	nipple, pipe 1/4" x 3 1/2"	823104-035	1
48	washer, 1/2"	837508-125	6
49	bushing, reducing hex 1 1/2" x 1/4"	802106-010	1
50	capscrew, hex gr5 1/2"-13 x 1/2"	828608-150	6
51	elbow, top	250031-366	1
52	nut, hex 1/2"	824208-448	6

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**PLEASE NOTE: WHEN ORDERING PARTS, INDICATE SERIAL NUMBER OF DRYER**

# Section 7 ILLUSTRATIONS AND PARTS LIST

## 7.6 ELECTRICAL BOX (SAR 830 THROUGH SAR 2250)



## Section 7

# ILLUSTRATIONS AND PARTS LIST

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### 7.6 ELECTRICAL BOX (SAR 830 THROUGH SAR 2250)

<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
1	valve, solenoid ¼" (I)	250031-695	2
2	connector, tube-el ¼" x ⅜"t	250024-709	9
3	locknut, conduit ½"	847200-050	9
4	nipple, conduit ½" x 1½"	250007-169	2
5	bulb, assembly power on	250027-544	1
6	switch, on/off	406054	1
7	holder, fuse	250022-212	1
8	fuse, amp	250025-933	1
9	connector, tube ¼" x ⅜"t	250024-690	2
10	nameplate, power on	406036-001	1
11	lens, power on	250026-994	1
12	bracket, support solenoid	250031-370	1
13	washer, regular ¼"	837204-071	15
14	capscrew, hex ¼"-20 x 1"	829104-100	7
15	valve, solenoid 4-way ¼" (II)	250025-516	1
16	nipple, galvanized xs ¼" x close	823204-000	3
17	tee, pipe galvanized ¼"	804415-010	2
18	nipple, conduit ½" x 2"	250007-166	1
19	screw, hex head	829104-050	2
20	box, electrical	250031-367	1
21	filter, air (III)	250023-345	1
22	element, air filter	250011-827	1
23	gasket, element air filter	250011-841	1
24	washer, brass	233133	2
25	bracket, air filter	250028-446	1
26	nut, hex lock ¼"-20	825504-145	7
27	timer	250030-405	1
28	washer, lock ext tooth	838402-025	4
29	screw, machine rod 1"	831601-100	2
30	block, terminal	250025-282	1
31	screw, machine rod ½"	835601-050	2
32	elbow, pipe galvanized 90° ¼"	803515-010	1
33	nut, hex plated 8-32 unc	825201-130	2
34	washer, pl-b regular plated	838201-045	1

(I) For maintenance on solenoid valve no. 250031-695, order coil replacement no. 250031-738, or rebuild kit no. 250031-737.

(II) For maintenance on solenoid valve no. 250025-516, order replacement coil no. 250031-431.

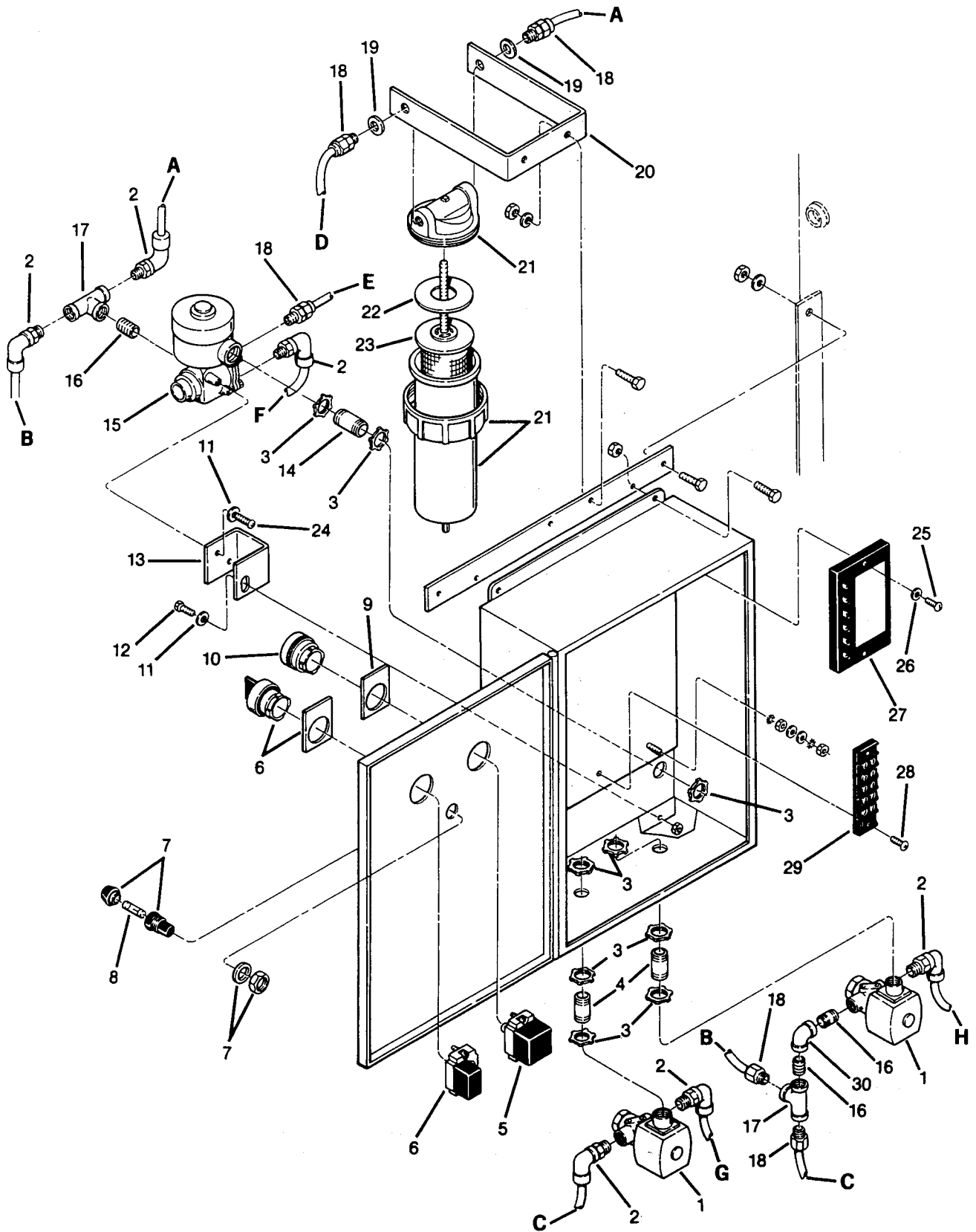
(III) For maintenance on air filter no. 250023-345, order replacement kit no. 250011-827.

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**PLEASE NOTE: WHEN ORDERING PARTS, INDICATE SERIAL NUMBER OF DRYER**

# Section 7 ILLUSTRATIONS AND PARTS LIST

## 7.7 ELECTRICAL BOX (SAR 2650 AND SAR 3100)



## Section 7 ILLUSTRATIONS AND PARTS LIST

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### 7.7 ELECTRICAL BOX (SAR 2650 AND SAR 3100)

<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
1	valve, solenoid (I)	250031-695	2
2	elbow, tube 90° 3/8" x 1/4"	813706-250	6
3	locknut, conduit 1/2"	847200-050	9
4	nipple, conduit 1/2" x 1 1/2"	250007-169	2
5	bulb, assembly power on	250027-544	1
6	switch, on/off	406054	1
7	holder, fuse	250022-212	1
8	fuse, amp	250025-933	1
9	nameplate, power on	406036-001	1
10	lens, power on	250026-994	1
11	washer, regular 1/4"	837204-071	3
12	capscrew, hex 1/4"-20 x 1"	829104-100	7
13	bracket, support solenoid	250031-370	1
14	nipple, conduit 1/2" x 2"	250007-166	1
15	valve, solenoid 4-way 1/4" (II)	250025-516	1
16	nipple, galvanized xs 1/4" x close	823204-000	3
17	tee, pipe galvanized 1/4"	804415-010	2
18	connector, tube straight 3/8" x 1/4"	813606-250	3
19	washer, brass	233133	2
20	bracket, air filter	250028-446	1
21	filter, air (III)	250023-345	1
22	gasket, element air filter	250011-841	1
23	element, air filter	250011-827	1
24	screw, hex head	829104-050	2
25	screw, machine rod #8-32 x 1"	831601-100	2
26	lockwasher, external tooth	838402-025	4
27	timer	250030-405	1
28	screw, machine	835601-050	2
29	block, terminal	250025-282	1
30	elbow, pipe galvanized 90° 1/4"	803515-010	1

(I) For maintenance on solenoid valve no. 250031-695, order coil replacement no. 250031-738, or rebuild kit no. 250031-737.

(II) For maintenance on solenoid valve no. 250025-516, order replacement coil no. 250031-431.

(III) For maintenance on air filter no. 250023-345, order replacement kit no. 250011-827.

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**PLEASE NOTE: WHEN ORDERING PARTS, INDICATE SERIAL NUMBER OF DRYER**

Section 7  
**ILLUSTRATIONS AND PARTS LIST**

7.8 DECAL GROUP (SAR 830 THROUGH SAR 3100)



**⚠ DANGER**

Death or serious injury can occur from inhaling compressed air without using proper safety equipment.  
 See OSHA standards on safety equipment.

**⚠ WARNING**

Do not permit air from this equipment to contact food stuff except in full compliance with FDA Standard 21CFR178.3570, and all other applicable federal, state and local, codes, standards and regulations.

**⚠ WARNING**

PRESSURIZE DRYER TO 80 PSIG MIN. FOR TWO (2) MINUTES BEFORE SWITCHING ON. PRIOR TO RELIEVING PRESSURE FROM DRYER (OR STOPPING COMPRESSOR) SHUT SWITCH OFF. THE ABOVE MUST BE STRICTLY ADHERED TO OR PNEUMATIC CONTROL MALFUNCTION MAY RESULT.

**⚠ DANGER**

**Lethal shock hazard inside.**  
**Disconnect all power at source, before opening or servicing.**

**⚠ WARNING**

Do not remove caps, plugs, or other components when DRYER is running or pressurized.  
 BYPASS DRYER and relieve all internal pressure before doing so.

250027-935

Section 7  
**ILLUSTRATIONS AND PARTS LIST**

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7.8 DECAL GROUP (SAR 830 THROUGH SAR 3100)

<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
1	decal, "830"	250031-384	1
	• decal, "1000" (not shown)	250031-385	1
	• decal, "1350" (not shown)	250032-122	1
	• decal, "1650" (not shown)	250031-386	1
	• decal, "2250" (not shown)	250031-387	1
	• decal, "2650" (not shown)	250031-388	1
	• decal, "3100" (not shown)	250031-389	1
2	decal, "Sullair" w/logo 7" x 22"	250031-361	1
3	decal, "SAR" 3.25" x 6"	250031-309	1
	• decal, "SAR" 5" x 11"	250031-310	1
	• decal, "SAR" 6" x 13"	250031-311	1
4	decal, caution pars-pneu	406432	1
5	sign, danger electrocution	049850	1
6	sign, warning "food grade" lube	250003-144	1
7	decal, danger breath air	250027-935	1
8	sign, warning dryer pressurized	250034-528	1

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PLEASE NOTE: WHEN ORDERING PARTS, INDICATE SERIAL NUMBER OF DRYER

# NOTES

# NOTES

## NOTES



# WORLDWIDE SALES AND SERVICE

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