SULLAIR

SULLAIR REFRIGERATED AIR DRYER SRD 400–1000

OPERATOR'S MANUAL AND PARTS LIST

Part Number 02250069–075

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Attn: Service Training Department

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1.1 GENERAL

Sullair Corporation designs and manufactures 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 understood 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 disabling 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. Anyone working on the dryer must be certified in accordance with EPA regulation 40 CFR part 82 subpart F.

1.3 PRESSURE

⚠ WARNING

DO NOT remove caps, plugs, and/or other components when dryer is running or pressurized. Stop dryer and relieve all internal air pressure before doing so. Freon must be removed in accordance with EPA requirements.

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

B. DO NOT overpressure the unit.

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

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

E. Use air at pressures less than 30 psig (2.1 bar) for cleaning purposes, and then only with effective chip guarding and personal protective equipment per OSHA Standard 29 CFR 1910.242(b), or applicable code, standards, and regulations.

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

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

H. DO NOT pass air through the dryer until the dryer has been stabilized. This condition exists when the refrigeration suction and discharge gauges read normal.

I. DO NOT operate a dryer at abnormal conditions. Consult the manual for normal operating conditions.

J. Only qualified personnel should attempt to repair leaks or problems with the refrigerant system of the dryer.

K. For potential hazards of fluorocarbon refrigerants, see Table 1 and Table 2 in this section.

1.4 FIRE AND EXPLOSION

A. Clean up spills of lubricant or other combustible substances immediately, if 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 de-icer system antifreeze compound or fluid film to accumulate on, under or around acoustical material, or on any 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. If necessary, remove acoustical material, clean all surfaces and then replace acoustical material. Any acoustical material with a protective covering that has been torn or punctured should be replaced immediately to prevent accumulation of liquids or fluid film within the material. **DO NOT** use flammable solvents for cleaning purposes.

TABLE 1 POTENTIAL HAZARDS OF FLUOROCARBON REFRIGERANTS

⚠ WARNING Dryers contain HCFC. This substance harms the public health and environment by destroying the ozone in the upper atmosphere.

CONDITION	POTENTIAL HAZARD	SAFEGUARD
VAPORS MAY DECOMPOSE IN FLAMES OR IN CONTACT WITH HOT SURFACES	Inhalation Of Toxic Decomposition Products	Good ventilation. Toxic decomposition products serve as warning agents. Avoid misuse. Vent refrigerant outdoors.
VAPORS ARE 4 TO 5 TIMES HEAVIER THAN AIR. HIGH CONCENTRATIONS MAY TEND TO ACCUMULATE IN LOW PLACES	Inhalation Of Concentrated Vapors Can Be Fatal	Avoid misuse. Vent refrigerant outdoors. Forced–air ventilation at the level of vapor concentration. Individual breathing devices with air supply. Lifelines when entering tanks or other confined areas. **DO NOT** administer epinephrine or other similar drugs.
DELIBERATE INHALATION TO PRODUCE INTOXICATION	Can Be Fatal	Avoid misuse. Vent refrigerant outdoors. Forced–air ventilation at the level of vapor concentration. Individual breathing devices with air supply. Lifelines when entering tanks or other confined areas. **DO NOT** administer epinephrine or other similar drugs.
SOME FLUOROCARBON LIQUIDS TEND TO REMOVE NATURAL OILS FROM THE SKIN	Irritation Of Dry, Sensitive Skin	Gloves and protective clothing.
LOWER BOILING LIQUID MAY BE SPLASHED ON SKIN	Freezing Of Skin	Gloves and protective clothing.
LIQUIDS MAY BE SPLASHED INTO EYES	Lower Boiling Liquids May Cause Freezing. Higher Boiling Liquids May Cause Temporary Irritation And If Other Chemicals Are Dissolved, May Cause Damage	Wear eye protection. Get medical attention. Flush eyes for several minutes with running water.
CONTACT WITH HIGHLY REACTIVE METALS	Violent Explosion May Occur	Test the proposed system and take appropriate safety precautions.

TABLE 2 CRITICAL PROPERTIES OF REFRIGERANT

REFRIGERANT	CRITICAL TEMPERATURE		CRITICAL PRESSURE	
	°F	°C	Psia	kg/cm^2
HCFC 22	205	96	722	50.8

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

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.

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 operate the dryer without proper flow of cooling air or water or with inadequate flow of lubricant or with degraded lubricant.

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

1.5 MOVING PARTS

A. Keep hands, arms and other parts of the body and also clothing away from couplings, fans and other moving parts.

B. DO NOT attempt to operate the dryer with the fan, coupling or other guards removed.

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

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

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

F. Disconnect and lock out all power at 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.

G. 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.

⚠ DANGER

Death or serious injury can 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 who 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 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 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. DO NOT lift dryer by motor lifting eye.

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

I. Lift dryer no higher than necessary.

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

K. Set dryer down only on a level surface capable of safely supporting at least its weight and unit loading equipment.

L. When moving dryers by forklift truck, utilize fork pockets if provided. Otherwise, utilize pallet if provided. If neither fork pockets or pallet are provided, then make sure dryer is secure and well balanced on forks before attempting to raise or transport it any significant distance.

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

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

O. 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 is large enough to hold a person 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.

2.1 INTRODUCTION

This manual provides information and recommendations for installing, operating and servicing the Sullair Refrigerated Air Dryer (SRD). The unit is designed and manufactured to the highest quality standards. All self–contained units have been fully tested and inspected by the manufacturer before shipment from the factory.

The information, specifications and illustrations in this manual are in accordance with information in effect at the time of printing. The manufacturer reserves the right to change design and specifications without notice and without incurring obligations.

It is extremely important to analyze completely every system and understand the intended function of each component before attempting to determine the cause of a malfunction or failure.

The refrigerant (R–22) and air circuit can be easily followed by referring to the table in Section 3, Specifications.

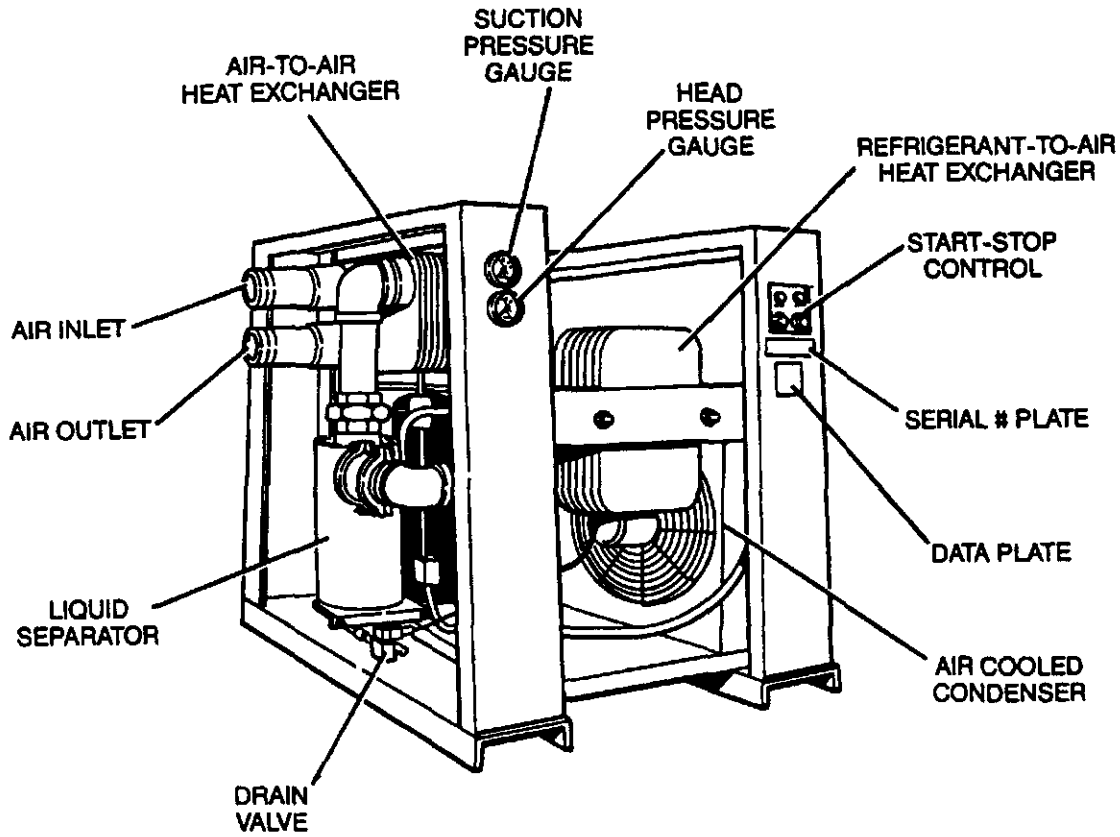
Refrigerant suction pressure and head pressure gauges are provided as standard equipment for analyzing the system operation and performance.

Any question or problem not covered herein can be directed to the nearest Sullair representative. Always specify the model and serial number of the dryer on all correspondence regarding service and parts.

2.2 IDENTIFICATION OF COMPONENTS

Refer to Figure 2–1. Parts can be ordered from the nearest Sullair representative. If for any reason parts cannot be obtained in this manner, contact the factory. Authorization and shipping instructions must be obtained from the factory before returning the parts to the factory. The manufacturer will not be responsible for parts returned without proper authorization or identification.

Figure 2–1 Identification of Components (SRD 400 through SRD 1000)



Section 2
DESCRIPTION

The Sullair Refrigerated Air Dryer (SRD) is designed for the purpose of removing moisture from compressed air by cooling it to a temperature of 35°F to 39°F (2°C to 4°C).

2.3 REFRIGERANT CIRCUIT, FUNCTIONAL DESCRIPTION

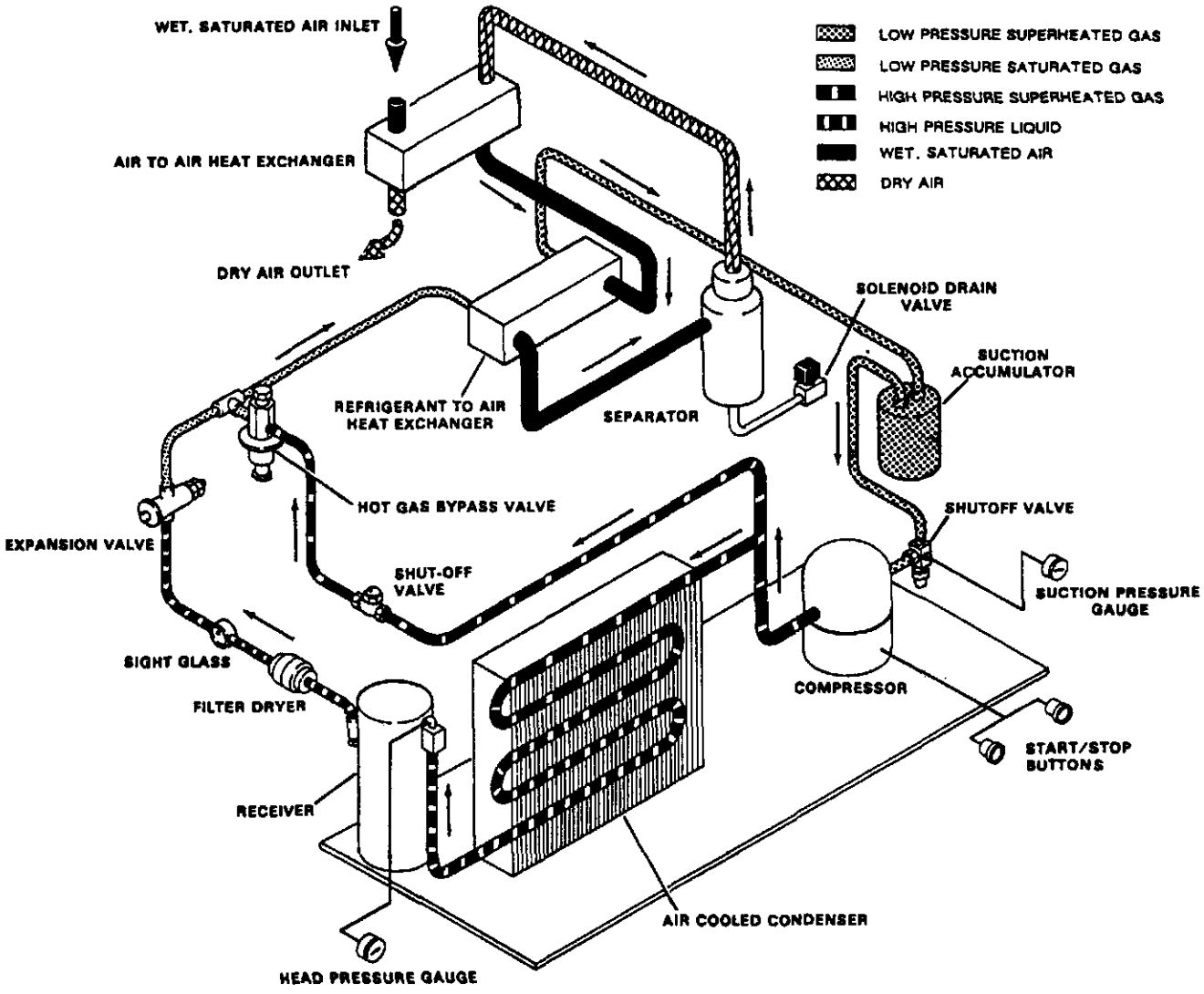
The SRD dryer cools the process air by the use of a closed–loop vapor compression refrigeration cycle. Refer to Figure 2–2 for the flow schematics.

Dry R–22 vapor enters the compressor inlet and its pressure and temperature are raised at discharge. The vapor continues through a condenser, where it is cooled to its liquid state at near constant pressure. A filter dryer now removes any water and impurities that may be carried by the refrigerant. A further reduction of temperature and pressure takes place as the liquid R–22 is throttled through an expansion valve. The resulting mixture of vapor and liquid picks up heat (does cooling) as it moves through the evaporator, where it turns back to its vapor state and routed back to the compressor inlet port.

To prevent feeding the compressor with liquid R–22 during low heat rejection operation (i.e., partial process air flow, low ambient temperature, etc.), a pressure operated valve bypasses hot R–22 vapor around the condenser to the evaporator inlet, thus assuring thorough evaporation on the refrigerant and preventing evaporator icing.

To insure that adequate head pressure is maintained during periods of low ambient temperatures or partial loads, a switch located at the compressor discharge cycles the condenser fans. If the head

Figure 2–2 Dryer Flow Schematic (SRD 400 through SRD 1000)



pressure is too low to insure adequate flow through the hot gas bypass valve, the condenser fans are shut off.

2.4 COMPRESSED AIR CIRCUIT, FUNCTIONAL DESCRIPTION

The compressed air drying circuit uses an air–to–air heat exchanger which acts as a pre–cooler/re–heater, and an air–to–refrigerant heat exchanger (evaporator).

Warm, saturated compressed air first enters the air–to–air heat exchanger, where it is precooled. By precooling the incoming air, energy is saved through the reduction of the heat load imposed on the refrigerant compressor and condenser. From the precooler, the air will enter the evaporator further reducing its temperature to 35°F to 39°F (2°C to 4°C). Moisture is condensed where it is separated by a cyclone separator and discharged through a timer controlled electric drain valve.

The chilled air then re–enters the air–to–air heat exchanger, where is it re–heated. Re–heating of the air does not affect the air's dewpoint. It prevents condensation of moisture on the outside of the air–distribution piping. The cold air flow through the air–to–air heat exchanger is in a direction opposite to the flow of the warm, saturated incoming air. This counterflow assures high temperature differential throughout the heat exchanger, resulting in a more effective heat transfer.

2.5 REFRIGERANT SYSTEM COMPONENT, FUNCTIONAL DESCRIPTION

The refrigerant **compressor** compresses low pressure refrigerant gas into high pressure refrigerant gas.

The air–cooled **condenser** changes high pressure gas from compressor discharge into high pressure liquid as the gas flows through it.

The **filter/dryer** removes any contaminant and moisture that may be in the system.

The **thermostatic expansion valve** (TXV) is an adjustable metering device which separates the high pressure side of the system from the low pressure side. The TXV regulates the flow of refrigerant to the evaporator in order to maintain an adjustable temperature difference (superheat) between the evaporator refrigerant inlet and outlet. As the temperature of the gas leaving the evaporator varies, the TXV power element bulb senses the refrigerant temperature and signals the TXV to meter the flow of refrigerant as required (see Figure 2–2).

The **hot gas bypass valve** (HGBV) is used to artificially load the evaporator during part–load conditions. The HGBV accomplishes this task by diverting high pressure gas from the compressor discharge around the condenser to the inlet of the evaporator. The HGBV separates the high pressure side of the system from the low pressure side. The HGBV will modulate from fully open to fully closed in response to its outlet pressure setting. The HGBV is set to maintain the minimum allowable suction line pressure.

The **refrigerant–to–air heat exchanger** chills the compressed air to achieve a temperature of 35°F to 39°F (2°C to 4°C). A low pressure liquid/gas mixture enters the refrigerant side of the heat exchanger and removes heat from the warm compressed air. The refrigerant changes phases as it passes through the heat exchanger and exits as a low pressure superheated gas.

The **suction accumulator** separates the refrigerant gas and liquid. The dry gas flows to the compressor while the liquid is metered back to the compressor.

NOTES

SPECIFICATIONS

3.1 TABLE OF SPECIFICATIONS– SRD 400 THROUGH SRD 1000

MODEL		SRD 400	SRD 500	SRD 630	SRD 830	SRD 1000
Flow Capacity (I)	SCFM at 35°F to 39°F (2°C to 4°C) Evaporator Outlet Air Temp.	400	500	630	830	1000
	M3/hr. at 2°C to 4°C Evaporator Outlet Air Temp.	680	850	1070	1410	1699
Power Input (KW)		7.8	14.1	14.1	17.1	20.1
Air Inlet/Outlet Connection (MPT)		1.5/1.5	2/2	2/2	2.5/2.5	3/3
Drain Connection (FPT)		1/4	1/4	1/4	1/4	1/4
Refrigerant Compressor HP Rating (KW)		2 (1.5)	3 (2.2)	3 (2.2)	4 (3)	5 (3.7)
Heat Rejection (BTU/hr.) (II)		24,780	42,060	42,060	55,620	65,580
Cooling Air Flow–CFM(M3/min)		2100(60)	2300(65)	2300(65)	4200(119)	5000(142)
R–22 Refrigerant/Charge–(lbs.) (kgs.)		12 (5.4)	13 (5.9)	13 (5.9)	23 (10.4)	23 (10.4)
Standard Voltage (Optional) (III)		A (B,C)	A (B,C)	A (B,C)	A (B,C)	A (B,C)
Minimum Circuitry Ampacity		6.7	8.9	8.9	11.7	13.9
Height	(inches)	44.38	44.38	44.38	44.38	44.38
	(mm)	1127	1127	1127	1127	1127
Width	(inches)	38.12	38.12	38.12	38.12	38.12
	(mm)	968	968	968	968	968
Length	(inches)	55.0	55.0	55.0	55.0	55.0
	(mm)	1397	1397	1397	1397	1397
Weight	(lbs.)	710	750	750	910	1140
	(kgs.)	322	340	340	413	517

(I) Flow Capacity rating is based on 100°F (38°C) air inlet temperature, 100 psig (6.9 bar) air inlet pressure and 100°F (38°C) ambient temperature.

(II) Maximum heat of rejection at 120°F (49°C) condensing temperature and 30°F (–1°C) evaporating temperature.

(III) Voltage Code: A – 460/3/60 B – 230/3/60 C – 575/3/60

NOTES

4.1 GENERAL

Each dryer is test run at the factory before shipment. Immediately upon receipt of the equipment, remove the cabinet and check the unit carefully for any physical damage that may have occurred in transit.

If there is any physical damage or a refrigerant leak, please file a claim with the shipper immediately and notify your Sullair representative or the factory of the nature of the damage. The carrier is legally responsible for any damages, since the unit is shipped F.O.B. Michigan City, Indiana. Your Sullair representative or Sullair Corporation will assist in any way possible to rectify problems.

After you are assured that the unit has sustained no shipping damage, the dryer is ready for installation.

4.2 MOUNTING OF DRYER

The dryer should be installed in an area that is clean and dry, allowing sufficient space on all sides for routine maintenance and service. The unit should be shielded from the weather elements, with ambient temperature above 40°F (4°C) and not more than 100°F (38°C). Occasional operation at ambient temperature up to120°F (49°C) will not damage the dryer, but will affect the capacity. Temperatures below 35°F (2°C) can cause freeze-ups of the condensate drains. If prolonged periods below 35°F (2°C) are expected, a heat source for these areas will have to be provided.

NOTE

If ambients are expected to fall below 65°F (18°C), a compressor crankcase heater and head pressure control valve should be installed. This will allow dryer operation in ambient temperatures as low as 40° F (5°C).

Sufficient ventilation must be provided to maintain acceptable ambient temperature for efficient operation.

SRD Refrigerated Air Dryers are designed to operate with saturated air at the inlet. They should be installed downstream of a functioning aftercooler/ separator combination to prevent slugging the dryer with liquid water.

⚠ CAUTION

A Sullair PF or MPF prefilter should be installed upstream of the SRD dryer to prevent contamination of the plate heat exchangers.

NOTE

A foundation or mounting capable of supporting the weight of the dryer, and rigid enough to maintain the frame level is required.

⚠ WARNING

All piping between compressor outlet and dryer inlet must be clean of all particulate by flushing or comparable cleaning method before initial air run through dryer.

4.3 DRYER PIPING

Refer to Figure 4-1. Compressed air piping should be at least of equal size to that furnished on the inlet and outlet of the dryer. Larger pipes reduced to the inlet/outlet pipe size may be used. It is recommended that shut-off valves with unions be *installed at each port, with a valved bypass to per*mit isolation of the unit for servicing to eliminate the need of shutting down the plant air system.

Make sure when piping is connected, that undue stress is not applied on the dryer fittings.

Drain lines should be sloped adequately to drain, by gravity, any water accumulated after separation. Drains must be connected directly to a proper disposal system.

4.4 ELECTRICAL PREPARATION

Refer to Figure 4-2. The nameplate on the instrument panel of each unit identifies the power supply requirements. A suitable fused disconnect switch in compliance with the National and Local Electrical Code requirements is recommended.

The wiring of all functional electrical components has been designed and manufactured in accordance with the following electrical codes/practices:

NEC – National Electrical Codes

NEMA – National Electrical Manufacturers Association

UL – Underwriters Laboratories – Recognized Components

CSA – Canadian Standards Association – Recognized Components

As stated in Section 1, Safety, use a qualified electrician for all electrical wiring. Connect the power supply lines to the terminals indicated on the wiring diagram corresponding to your unit. All units are supplied with control circuit protection and a "red" power indicating light. (On SRD units, with the control circuit transformer provided, a fuse is connected on the primary side of the control circuit transformer to protect the unit from overcurrent and short circuit).

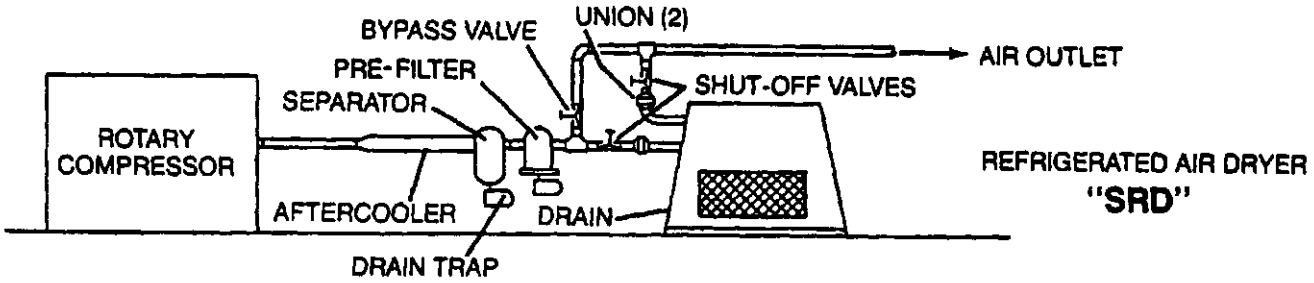
Connect ground wire to provided ground lug.

The compressor can rotate in either direction. The fans are single phase and will turn only in the correct direction (fan must pull air across the condenser).

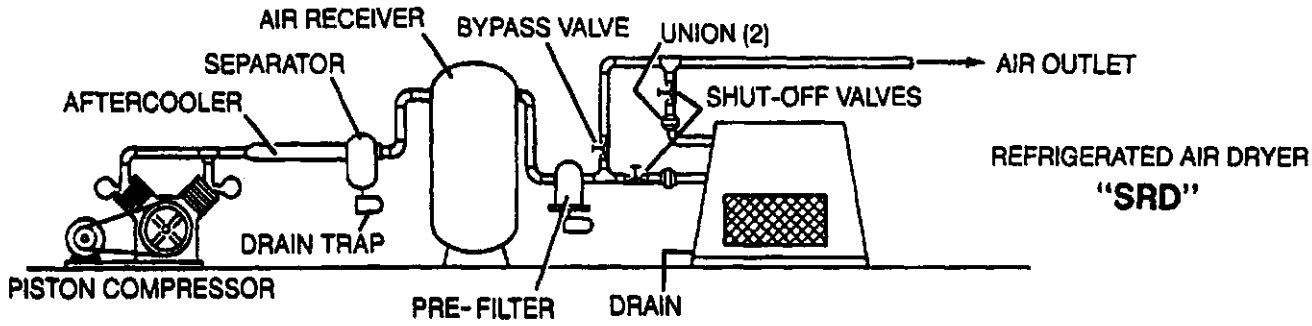
NOTE

Grounding of the frame is required.

Figure 4–1 Typical Rotary and Piston Compressor Air System

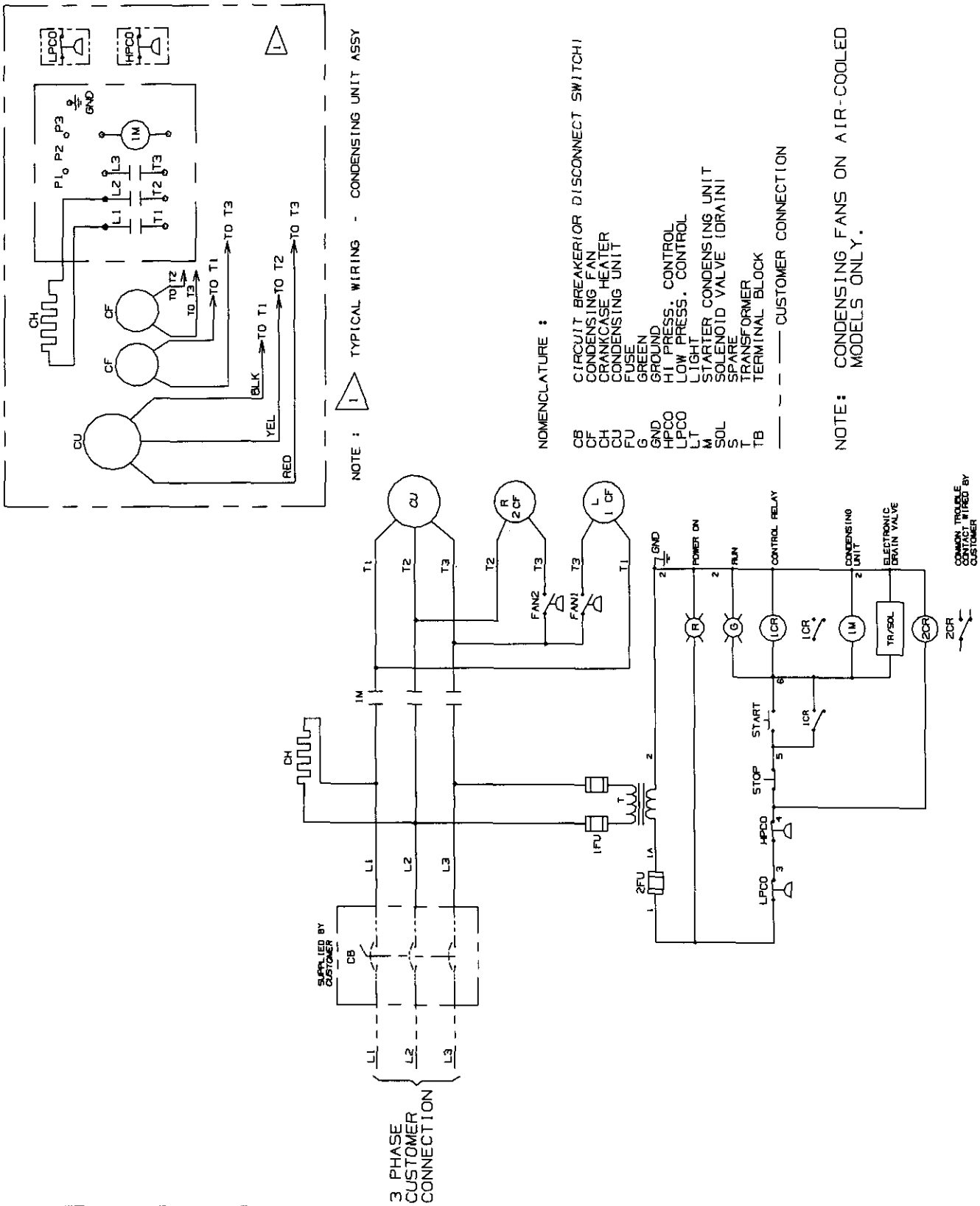


TYPICAL ROTARY COMPRESSOR AIR SYSTEM



TYPICAL PISTON COMPRESSOR AIR SYSTEM

Figure 4–2 Wiring Diagram (SRD 400 through 1000)



NOTES

5.1 GENERAL

While Sullair has built into this dryer controls and indicators to assist you in determining if it is operating properly, it will be necessary to recognize and interpret the condition which will call for service or indicate the beginning of a malfunction. Before starting the Sullair dryer, read this section thoroughly and familiarize yourself with the controls and indicators – their purpose, location and use.

5.2 PURPOSE OF CONTROLS

CONTROL OR INDICATOR	PURPOSE
REFRIGERANT SUCTION PRESSURE GAUGE	Indicates the refrigerant pressure as it enters the compressor. Before start–up, it is equivalent to the ambient temperature converted to pressure, e.g. at 70°F (21°C) ambient temperature, R–22 suction pressure is 120 psig (8.3 bar) (see Figure 5–1, Temperature Pressure Chart).
REFRIGERANT HEAD PRESSURE	Indicates the refrigerant pressure as it leaves the compressor. Before start–up, it will be the same pressure reading as the suction pressure.
SIGHT GLASS AND MOISTURE INDICATOR	Indicates the condition of the refrigerant in the system (full, wet or dry).

⚠ WARNING

All piping between compressor outlet and dryer inlet must be clean of all particulate by flushing or comparable cleaning method before initial air run through dryer.

5.3 INITIAL START–UP PROCEDURE

After the installation has been completed, the following items should be checked.

1. Check main electrical supply for proper input voltage. On units supplied with a control circuit transformer, a fuse is provided on the primary side.
2. Check proper connection and support of compressed air lines to the dryer (complete with bypass valving system).
3. Check that inlet air temperature and pressure to the dryer meet the specification requirements.

⚠ CAUTION

Make certain that all shut–off valves in the refrigerant circuit are open. Starting the dryer with a valve closed will damage the compressor. Rotate the valve stem counter–clockwise to open, until valve stem is backseated. Then, turn valve back one turn clockwise.

4. Turn on the main disconnect switch to the dryer. The dryer must be in this mode for at least twelve (12) hours to allow the compressor crankcase heater to energize. After twelve (12) hours, turn on the power switch of the dryer. The power indicating light will be on.
5. Check that the bypass valve in the main air line is open and the shutoff valve to the dryer is closed.
6. Check the refrigerant suction pressure. This should be checked with no air flowing through the dryer, with a head pressure of approximately 150 psig (10.3 bar), and without the condenser fans cycling.

   a. The suction pressure should be 58 – 60 psig (4 to 4.1 bar). It is normal for the dryer to cycle between these pressures. During this cycling the suction pressure should not fall below 58 psig (4 bar).

   b. If the fans cycle during the checking of the suction pressure, a jumper wire may be installed around the fan cycling switches to temporarily prevent cycling.

   c. To achieve the proper head pressure for checking the suction pressure the following should be done. To increase the head pressure increase the ambient air temperature or temporarily restrict the air flow to the condenser. To reduce the head pressure the ambient temperature must be reduced.

   d. Allow the dryer to run at least 15 minutes for stabilization either when checking or adjusting the suction pressure.

   e. If necessary, adjust the hot gas bypass valve to change the suction pressure. Turn clockwise to increase the suction pressure and counter-clockwise to decrease the suction pressure.

   f. Remove the jumper wire which was installed around the fan cycling switch in Step–b above.

NOTE

If the suction pressure was set or checked at a head pressure greater than 150 psig (10.3 bar), a suction pressure lower than 58 psig (4 bar) may result, which could result in evaporator icing.

7. Open the dryer shutoff valve slowly and close the bypass valve. Apply full rated compressed air flow to the dryer at its rating conditions. Rating conditions are 100°F (37°C) entering air temperature, 100 psig (6.9 bar) entering air pressure and 100°F (37°C) ambient air temperature.
8. Check the refrigerant suction pressure, refrigerant head pressure, sight glass and moisture indicator for normal operating conditions in Section 5.5.

   a. If necessary take corrective action as described in the Troubleshooting Section of this manual.

NOTE

The hot gas bypass valve is preset at the factory. However, it may require readjustment at initial installation and periodically to help assure the suction pressure remains in the specified range, as stated in the Operator's Manual. If the suction pressure is too low, icing of the evaporator is possible.

5.4 SUBSEQUENT START–UP PROCEDURE

1. If the main disconnect switch is open, close the switch and apply power to the dryer for a minimum of 12 hours before starting the dryer.
2. Turn on the power switch on the dryer.
3. With the air shutoff valve closed, check the suction pressure for a normal operating condition. If not within the normal unload range of 58–60 psig (4 to 4.1 bar), immediately take corrective action utilizing the Troubleshooting Section of this manual.
4. Open the air shutoff valve and apply load to the dryer. Check the suction pressure, head pressure, sight glass and moisture indicator for normal operating condition as shown in Section 5.5 of this manual.

5.5 RUNNING OPERATION

After the dryer has been started under rated load, let the dryer run for at least 15 minutes to allow stabilization of the system.

The dryer is designed to run continuously and should not be cycled with the air compressor.

The gauge readings should be as follows:

REFRIGERANT SUCTION PRESSURE

R–22 fully loaded is 60 psig (4.1 bar) and unloaded is 59 psig (4.1 bar).

NOTE

Add 1 psig to the minimum allowable suction pressures referred to in this manual for each 2000 feet elevation above sea level.

REFRIGERANT HEAD PRESSURE

To the ambient temperature add 25°F to 30°F (14°C to 17°C) then convert to pressure using the Temperature Pressure Chart (Figure 5–1). For proper dryer operation, the minimum discharge head pressure required is 156 psig (10.8 bar).

SIGHT GLASS AND MOISTURE INDICATOR

It may take up to twelve (12) hours of running before the indicator becomes the proper color indicating a dry system. Green color indicates a dry system. Yellow indicates a wet system. There should be no bubbles showing during full load operation.

Sight glass may appear half (1/2) full or less during no load or part load operation. Sight glass will appear full only during full load operation. If sight glass is not full during full load operation, repair refrigerant leak where required and re–charge. Full load is defined as 100°F (38°C), 100 psig (6.9 bar), 100% R.H. inlet air at dryer's flow rating with 100°F (38°C) ambient temperature.

The non–cycling operation of the dryer is controlled by the thermostatic expansion valve and the hot gas bypass valve. These valves will open and close automatically depending on the amount of heat load to the evaporator, thus maintaining the desired evaporator outlet temperature.

NOTE

The hot gas bypass valve is preset at the factory. However, it may require readjustment at initial installation and periodically to help assure the suction pressure remains in the specified range, as stated in the Operator's Manual. If the suction pressure is too low, icing of the evaporator is possible.

Adjust the hot gas bypass valve to maintain an R22 suction pressure of 57 psig (3.9 bar) (33°F [0.5°C] temperature). This should be done as described in Section 3.3.

Before final adjustment to the hot gas bypass valve is done, confirm that (A) Proper R22 charge has been installed, and (B) The TXV is properly adjusted and producing R22 temperatures of 38°F (3°C) (typically) at full dryer load.

Figure 5–1 TEMPERATURE PRESSURE CHART

Temperature (°F/°C)	Pressure (psig/bar) R–22	Temperature (°F/°C)	Pressure (psig/bar) R–22
20/–7	43/3.0	70/21	121/8.3
22/–5	45/3.1	75/24	132/9.1
24/–4	48/3.3	80/27	144/10.0
26/–3	50/3.5	85/29	156/10.8
28/–2	52/3.6	90/32	168/11.6
30/–1	55/3.8	95/35	182/12.6
32/0	58/4.0	100/38	195/13.4
34/1	60/4.1	105/40	211/14.6
36/2	63/4.3	110/43	226/15.6
38/3	66/4.6	115/46	243/16.8
40/4	69/4.8	120/49	260/18.0
45/7	76/5.2	125/52	278/19.2
50/10	84/5.8	130/54	297/20.5
55/13	93/6.4	140/60	337/23.2
60/15	102/7.0	150/121	381/26.3
65/18	111/7.7	160/71	430/29.6

NOTES

6.1 GENERAL

As you proceed in reading this section, it will be easy to see that the Maintenance Program for the dryer is quite minimal. The use of the service indicators will alert you when service maintenance is required. Checks on a regular basis on the dryer will help insure that all items are functioning properly.

6.2 ROUTINE MAINTENANCE

Check drain valve to insure proper operation. Proper drain valve maintenance is the owner's responsibility and is not covered by the warranty.

The condenser fins may need to be periodically cleaned to remove dust and lint, et cetera, to assure efficient heat transfer. High head pressure or a visual check will determine the need for cleaning.

Check the gauge readings periodically for good system operation.

At full load, inspect sight glass and moisture indicator. A continuous stream of bubbles indicates loss of refrigerant, or color change from green to yellow indicates moisture contamination of the refrigerant. Before working on the refrigerant system, read the Safety Section 1.3 pertaining to pressure.

6.3 TROUBLESHOOTING

The dryer consists of three basic systems: Air, Refrigerant and Electrical. An air leak at 100 psig (6.9 bar) will provide an audible signal indicating where there is a problem. R–22 has no color or odor, therefore a small refrigerant leak is difficult to find. However, it can be detected by a bubble test, halide torch (with a flame which changes from red–orange to blue on contact with refrigerant) or an electronic detector.

⚠ NOTE

Per Section 608 of the Clear Air Act, the EPA requires certification in CFC and HCFC in servicing and disposal of chlorofluorocarbon refrigerants.

The electrical system consists of **transformers**, ***starter***, **switches**, and **relays**. The use of a volt–ohm meter or similar equipment is required for checking continuity, amperage and voltage.

TROUBLESHOOTING

SYMPTOM	PROBABLE CAUSE	REMEDY
UNIT DOES NOT RUN	No Line Voltage	Follow wiring diagram and check voltage from compressor terminal to the power source to find where the circuit was interrupted.
		Inspect electrical components such as switches, controls, motors and transformers.
		The supply power voltage, frequency and phase must coincide with unit's nameplate.
	Improperly Wired	Check wiring against wiring diagram and tighten any loose connection.
	Blown Fuse or Tripped Circuit Breaker	Check for amperage draw of unit.
	Safety Controls Open	Inspect the controls such as low and high pressure switches, and fan cut–out switch (if unit is equipped with one), to see if the contact points are closed.
		The low pressure switch can shut down the unit due to loss of refrigerant or hot gas bypass valve being out of adjustment or low ambient temperature.
		The high pressure switch can shut down the unit due to high ambient air temperature, condenser not receiving proper cooling, hot gas bypass valve out of adjustment, or over–charge of refrigerant, or wrong refrigerant.
HEAD PRESSURE TOO HIGH	Refrigerant Overcharge	Discharge excess refrigerant; check unit's nameplate for total system refrigerant charge.
		Refrigerant overcharge may cause system not to perform properly and efficiently.
	Condenser Fouled and Dirty	Dismantle and clean condenser.
		Clogged fins in air–cooled condenser will reduce heat transfer efficiently. Fins should be periodically checked and cleaned.

TROUBLESHOOTING (CONTINUED)

SYMPTOM	PROBABLE CAUSE	REMEDY
HEAD PRESSURE TOO HIGH (cont'd.)	Defective Fan Control	Repair or replace. For R–22, fan controls cut in at 185 psig (12.8 bar) and 260 psig (18 bar), respectively.
	Defective Fan Motor	Replace.
	Dryer Location Too Hot (High Ambient)	Cool ambient or relocate the unit (see Section 4.1, Installation; Mounting of Dryer).
	Compressed Air Leaks to Refrigerant System	Evacuate, repair leak and recharge with refrigerant. Repair or replace evaporator. Can be detected by checking the color indicator or bubbles in the glass.
	Fan Operating In Wrong Direction	Reverse any two wires at disconnect (three phase fans). Single phase fan will rotate only in correct direction. For three phase fans, check for proper rotation (See Figure 4–2, Wiring Diagram in this manaual). Fans must pull air through condenser.
HEAD PRESSURE TOO LOW	Low Ambient Temperature	Increase ambient temperature. Repair or replace. For R – 22 , fan controls cut in at 185 psig (12.8) bar) and 260 psig (18 bar), respectively. If ambient temperature is too low, dryer freeze–up will take place. Add some type of head pressure control.
	Refrigerant Shortage	Check for leaks in the system and repair and recharge until bubbles disappear. Turn off the unit for five (5) minutes. Restart, watching sight glass. Bubbles should appear at first, due to the modulating action of the expansion and hot gas bypass valve. It is common to observe a half full sight glass during no load or part load operation. Check sight glass during full load. If no bubbles appear, system has correct charge. See unit's nameplate for total system charge.
SUCTION PRESSURE TOO LOW	Hot Gas Bypass Valve Out of Adjustment or Defective	Adjust or replace. Turn clockwise to increase suction pressure; see hot gas bypass valve adjustment procedure in Section 5.3.
	Refrigerant Shortage	Add enough refrigerant to maintain desired suction pressure. Can be detected in the sight glass. Also check amperage draw.
	Excessive Pressure Drop in High Side	Check for any restriction (plugged filter drier or receiver hand valve partially closed).

TROUBLESHOOTING (CONTINUED)

SYMPTOM	PROBABLE CAUSE	REMEDY
SUCTION PRESSURE TOO LOW (continued)	Excessive Pressure Drop in High Side (continued.)	Suction pressure should be steady and vary only 1 to 3 psig (.07 to .2 bar) from high to low at this condition.
	Head Pressure Too Low Due to Defective Fan Control Switch	Replace.
SUCTION PRESSURE TOO HIGH	Hot Gas Bypass Valve Out of Adjustment or Defective	Turn counterclockwise to lower suction pressure to desired reading.
		Compressed air dewpoint will rise as the suction pressure increases.
	Superheat Too Low or TXV is Out of Adjustment	Turn TXV clockwise. Make sure that adjustment is made one full turn at a time and wait for about 30 minutes to stabilize.
	TXV Bulb Location	Relocate bulb making sure it is parallel to the direction of flow and good thermal contact.
WATER IN THE COMPRESSED AIR SYSTEM	Drain Traps Clogged	Disassemble and clean traps to restore free *flow of drainage.*
		Check drain lines.
		Open manual pet cock weekly. Should more than one pint of fluid be discharged, clean traps thoroughly.
	Clogged Strainer	Check strainer and clean if required.
	Air Bypass System Open	Close air bypass valve (see Section 5.3, Initial Start–up Procedure in this manual).
	Malfunctioning or Clogged Electric Drain Valve	Check solenoid for proper operation. Clean or repair valve.
	Electric Drain Valve Does Not Open Long Enough	Reset drain valve timer. Recommended "on" time for solenoid 1 to 20 second adjustments to timer cycle are made by turning the small screw located topside on the timer body.
	Improperly Set or Malfunctioning Hot Gas Bypass Valve. Thermostatic Expansion Valve or Fan Cycling	Will be indicated by suction pressure being too high. Adjust or replace.
	Ambient Temperature Too High	Remove ambient or improve ventilation.

NOTES

7.1 PROCEDURE FOR ORDERING PARTS

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

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

SULLAIR CORPORATION
Subsidiary of Sundstrand Corporation
3700 East Michigan Boulevard
Michigan City, Indiana 46360 U.S.A.
Telephone: 1-800-SULLAIR or
1-219-879-5451
Fax: (219) 874-1273
Fax: (219) 874-1835 (Parts)
Fax: (219) 874-1205 (Service)

SULLAIR ASIA, LTD.
Sullair Road, No. 1
Chiwan, Shekou
Shenzhen, Guangdong Province
PRC Post Code 518068
Telephone: 755-6851686
Fax: 755-6853473

SULLAIR EUROPE, S.A.
Zone Des Granges BP 82
42602 Montbrison Cedex, France
Telephone: 33-477968470
Fax: 33-477968499

7.2 RECOMMENDED SPARE PARTS LIST

DESCRIPTION	KIT NUMBER	QUANTITY
replacement parts for condensing unit no. 250035-637 (460V) (SRD 400 AC):		
•switches, fan cut-out	250039-685	1
•heater, crankcase	250039-684	1
•cut-out, dual pressure (HI/LO)	250039-686	1
•blade, fan	250022-273	1
•motor	250022-266	1
•compressor	250040-126	1
•condenser	250033-918	1
replacement compressor for condensing unit no. 250038-989 (460V) (SRD 400 WC)	250040-126	1
replacement parts for condensing unit no. 405978 (460V) (SRD 500 & 600 AC):		
•compressor	406185	1
•condenser	02250061-552	1
•motor, fan	406129	1
•blade, fan	250033-921	1
•guard, fan	02250049-746	1

(Continued on page 25)

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

7.2 RECOMMENDED SPARE PARTS LIST (CONTINUED)

DESCRIPTION	KIT NUMBER	QUANTITY
replacement condenser for condensing unit no. 250038-990 (460V) (SRD 500 & 600 WC)	02250050-625	1
replacement compressor for no. 250038-990 (460V) (SRD 500 & 600 WC)	250022-292	1
replacement parts for condensing unit no. 250039-659 (460V) (SRD 830 AC):		
•compressor	406398	1
•condenser	02250061-553	1
•motor, fan	406136	1
•blade, fan	250039-683	1
•rec, cond unit	02250101-470	1
replacement condenser for condensing unit no. 250038-991 (460V) (SRD 830 & 1000 WC)	02250052-070	1
replacement compressorr for condensing unit no. 250038-991 (460V) (SRD 830 & 1000 WC)	250022-295	1
replacement parts for condensing unit no. 250039-174 (460V) (SRD 1000 AC):		
•compressor	406187	1
•condenser	02250061-558	1
•motor, fan	406136	1
•blade, fan	406134	1
valve, suction rotolock	02250071-529	1
adapter, suction rotolock	02250071-528	1
kit, repair for strainer no. 241771	241772	1
gasket replacement for flexible coupling no. 040648	040649	2
gasket replacement for flexible coupling no. 040913	040930	2
gasket replacement for flexible coupling no. 040327	040523	2
replacement solenoid for solenoid valve with timer no. 250038-163	250031-322	1
replacement timer for solenoid valve with timer no. 250038-163	250031-278	1
replacement compressor, optional condensing unit (230V) (SRD 400)	250040-127	1
replacement compressor, optional condensing unit (230V) (SRD 500 & 630)	406184	1
replacement compressor, optional condensing unit (230V) (SRD 830 & 1000)	406186	1

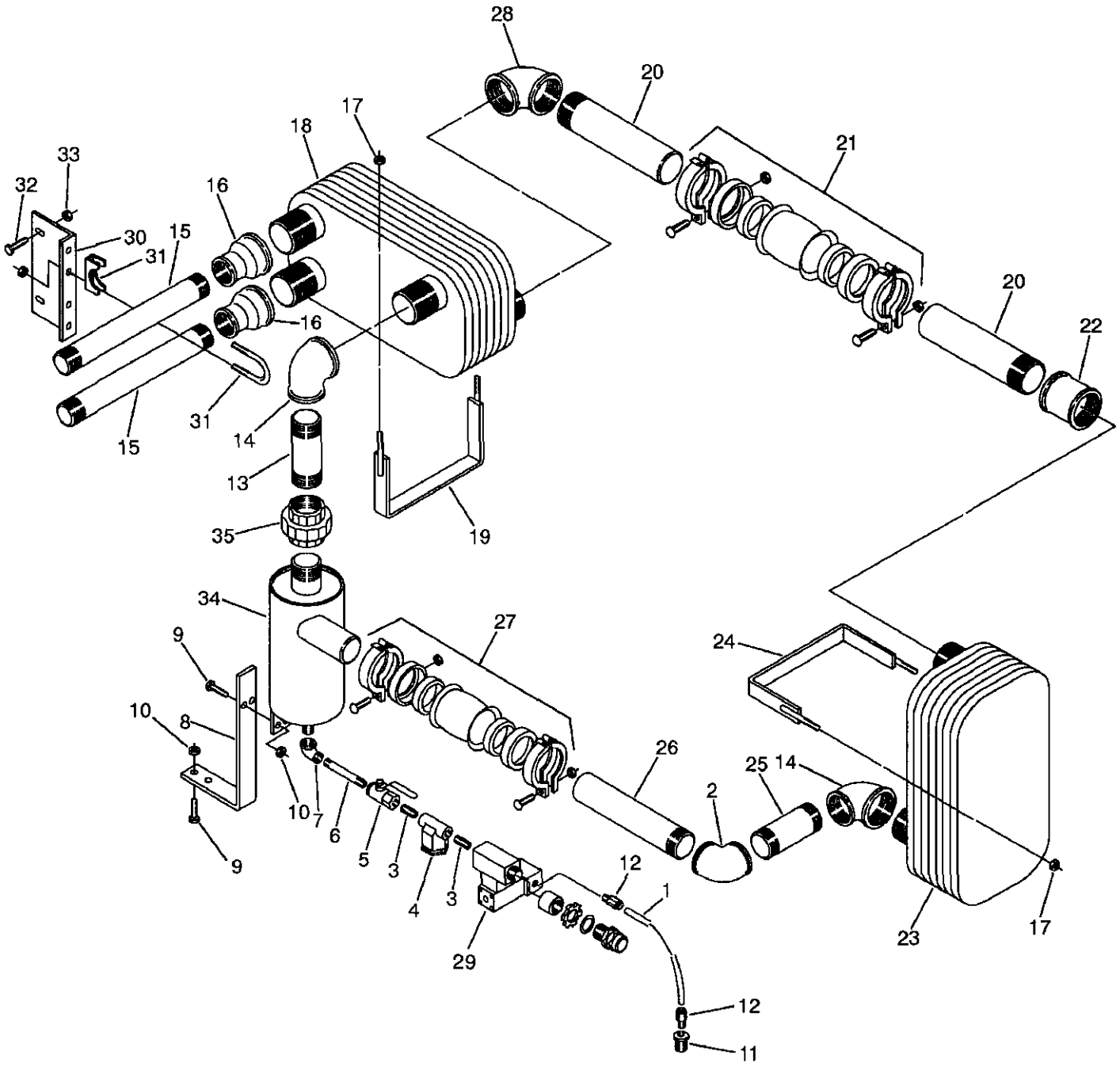
PLEASE NOTE: WHEN ORDERING PARTS, INDICATE SERIAL NUMBER OF DRYER

NOTES

Section 7

ILLUSTRATIONS AND PARTS LIST

7.3 AIR SYSTEM SRD 400–1000



7.3 AIR SYSTEM SRD 400–1000

key number	description	part number	quantity
1	tubing, 1/4" (plastic) (SRD 400–1000)	250024–745	4 ft
2	elbow, pipe 2"	801515–080	1
	•elbow, pipe 2 1/2" 90 (SRD 500–630)	801515–100	1
	•elbow, pipe 3" 90 (SRD 830–1000)	801515–120	1
3	nipple, pipe 1/4" x close galv. (SRD 400–1000)	823204–000	2
4	strainer, 1/4" (SRD 400–1000) (I)	241771	1
5	valve, hand shut–off 1/4" (SRD 400–1000)	047115	1
6	nipple, pipe 1/4" x 2–1/2"galv. (SRD 400)	823104–025	1
	•nipple, pipe 1/4" x 3" galv (SRD 500–600)	823104–030	1
	•nipple, pipe 1/4" x 4–1/2" galv (SRD 830–1000)	823104–045	1
7	elbow, reducing 1/2" x 1/4" galv. (SRD 400–1000)	803602–010	1
8	support, separator (SRD 400–630)	250035–687	1
	•support, separator (SRD 830–1000)	02250051–267	1
9	screw, hex 3/8" x 1–1/4" (SRD 400–1000)	829706–125	4
10	nut, hex 3/8"–16 (SRD 400–1000)	825306–347	2
11	bulkhead, 1/4" (SRD 400–1000)	841500–004	1
12	connector, 1/4 x 1/4 (SRD 400–1000)	250024–685	2
13	nipple, pipe 2" x 4" (SRD 400)	822132–040	1
	•nipple, pipe 2 1/2" x 6 1/2" (SRD 500–600)	822140–065	1
	•nipple, pipe 3" x 5 1/2" (SRD 830–1000)	822148–055	1
14	elbow, pipe reducing 2–1/2" x 2" (SRD 400)	801610–080	2
	•elbow, pipe 90 2 1/2 (SRD 500–630)	801515–100	2
	•elbow, reducing 3" x 2 1/2" (SRD 830–1000)	801612–100	2
15	nipple, pipe 1–1/2" x 12 1/2" (SRD 400)	823124–125	2
	•nipple, pipe 2" x 12 1/2" (SRD 630–500)	823132–125	2
	•nipple, pipe 2–1/2" x 9" (SRD 830–1000)	823140–090	2
16	coupling, reducing 2–1/2" x 1–1/2" (SRD 400)	02250049–547	2
	•coupling, reducing 2 1/2" x 2" (SRD 500–630)	250032–136	2
	•coupling, pipe 2 1/2" (SRD 830–1000)	803215–100	2
17	nut, hex 1/2"–13	825308–458	4

(Continued on page 29)

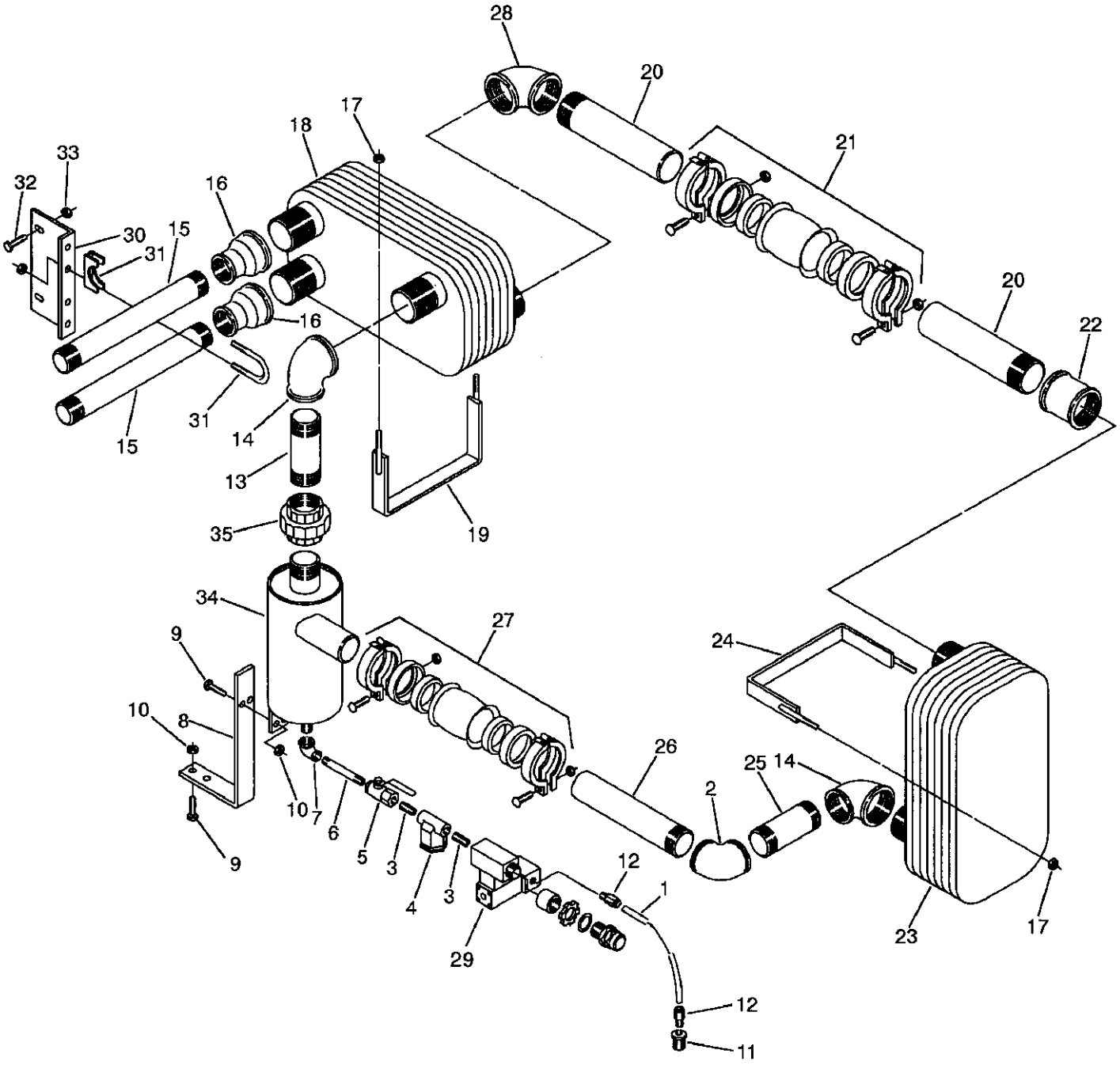
(I) For maintenance on strainer no. 241771, order repair kit no. 241772.

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

Section 7

ILLUSTRATIONS AND PARTS LIST

7.3 AIR SYSTEM SRD 400–1000



7.3 AIR SYSTEM SRD 400–1000 (CONTINUED)

key number	*description*	*part number*	*quantity*
18	heat exchanger, a x a (SRD 400)	250027–258	1
	•heat exchanger, a x a (SRD 500–630)	250027–259	1
	•heat exchanger, a x a (SRD 830)	250027–260	1
	•heat exchanger, a x a (SRD 1000)	02250044–782	1
19	U–bolt, a x a (SRD 400)	250034–530	1
	•U–bolt, a x a	250034–532	1
	•U–bolt, a x a (SRD 830)	250034–534	1
	•U–bolt, a x a (SRD 1000)	02250045–324	1
20	nipple, half 2 1/2" x 10 1/2" (SRD 400)	822840–105	2
	•nipple, half 2 1/2" x 9" (SRD 500–630)	822840–090	2
	•nipple, half 2 1/2" x 8 1/2" (SRD 830–1000)	822840–085	2
21	coupling, flexible 2 1/2" (SRD 400–1000) (II)	040648	1
22	coupling, pipe 2–1/2" (SRD 400–1000)	801215–100	1
23	evaporator, f x a (SRD 400)	250027–270	1
	•evaporator, f x a (SRD 500–630)	250027–271	1
	•evaporator, f x a	250027–272	1
24	U–bolt, f x a (SRD 400)	250034–529	1
	•U–bolt, f x a (SRD 500–630))	250034–531	1
	•U–bolt, f x a (SRD 830–1000)	250034–533	1
25	nipple, pipe 2–1/2" x 4–1/2" (SRD 400)	822132–045	1
	•nipple, pipe 2–1/2" x 6" (SRD 500–630)	822140–060	1
	•nipple, pipe 3" x 9 1/2"(SRD 830)	822148–095	1
	•nipple, pipe 3" x 10" (SRD 1000)	822148–100	1
26	nipple, half 2" x 15–1/2" (SRD 400)	822832–155	1
	•nipple, half 2 1/2" x 11" (SRD 500–630)	822840–110	1
	•nipple, half 3" x 6" (SRD 380–1000)	822848–060	1
27	coupling, flexible 2" (SRD 400–1000) (III)	040913	1
	•coupling, flexible 2 1/2" (SRD 500–630) (II)	040648	1
	•coupling, flexible 3" (SRD 830–1000) (IV)	040327	1
28	elbow, pipe 2 1/2" (SRD 400–1000)	801515–100	1

(Continued on page 31)

(II) For maintenance on flexible coupling no. 040648, order replacement gasket no. 040649 (2 required).

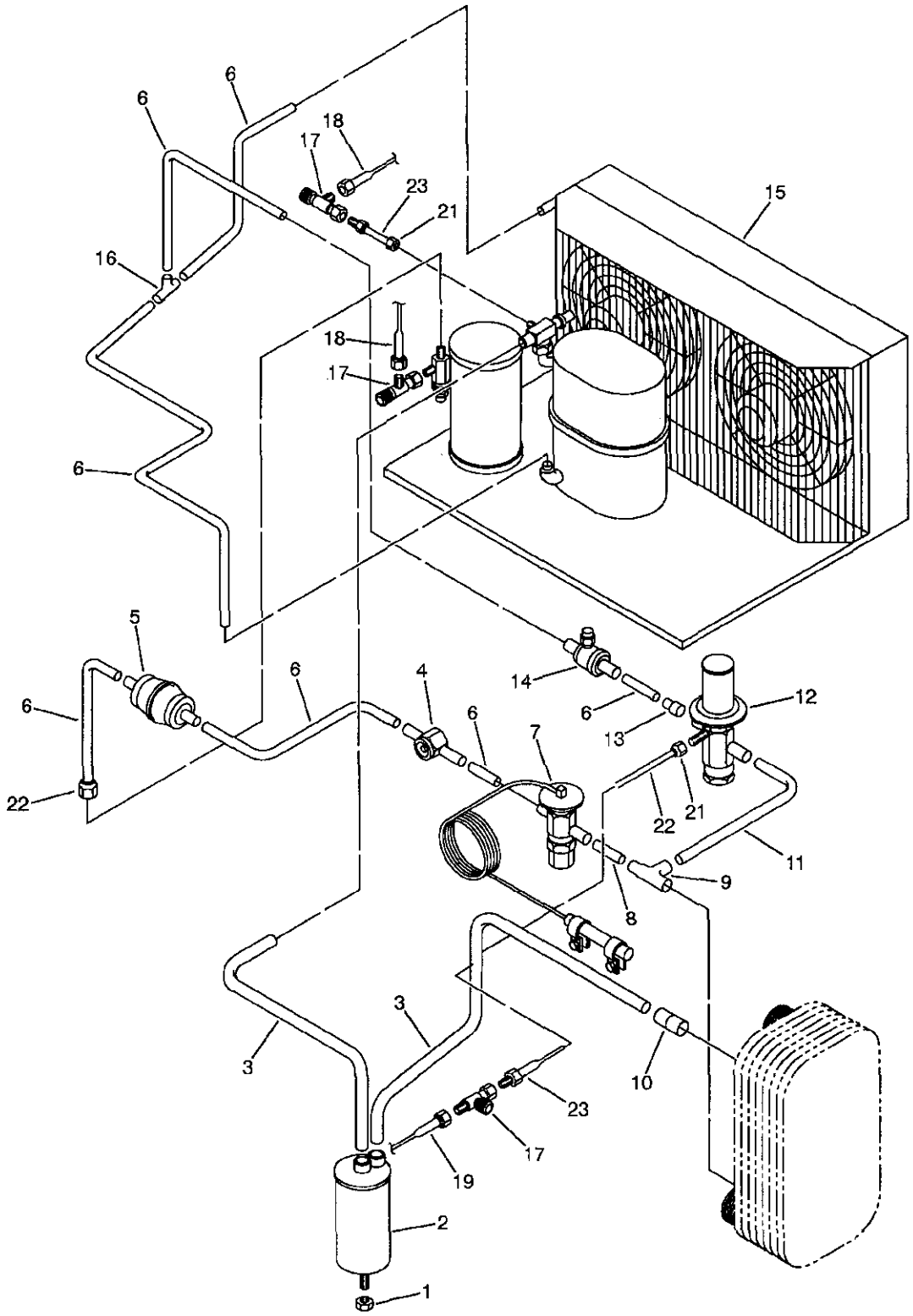
(III) For maintenance on flexible coupling no. 040913, order replacement gasket no. 040930 (2 required).

(IV) For maintenance on flexible coupling no. 040327, order replacement gasket no. 040523 (2 required).

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

ILLUSTRATIONS AND PARTS LIST

7.4 REFRIGERANT SYSTEM SRD 400



7.4 REFRIGERANT SYSTEM SRD 400

key number	*description*	*part number*	*quantity*
1	nut, hex 3/8"–16	825306–347	1
2	*accumulator, suction*	406408–005	1
3	tubing, copper 7/8"	840215–014	3.5 ft
4	glass, sight and moisture	406482	1
5	*filter, dryer*	406227	1
6	tubing, copper 3/8"	840215–006	4.5 ft
7	valve, expansion	250038–200	1
8	*tubing, copper 1/2"*	840215–008	.5 ft
9	tee, solder reducing 7/8" x 1/2" x 5/8"	805514–080	1
10	coupling, 7/8"	804000–088	1
11	*tubing, copper 5/8"*	840215–010	.5 ft
12	valve, hot gas	406464–009	1
13	bushing, reducing 5/8" x 3/8"	803805–038	1
14	*valve, hand control*	406483–001	1
15	unit, condensing (I)	250035–637	1
16	tee, 3/8"	805400–038	1
17	valve, access tee 1/4"	250032–322	3
18	line, gauge	250032–255	2
19	line, gauge	250022–040	1
20	tubing, copper 1/4"	840215–004	1.5 ft
21	nut, short forged 1/4"	805604–260	1
22	nut, short forged 3/8"	805606–385	1
23	valve, access strt. ext. 1/4"	250023–191	2

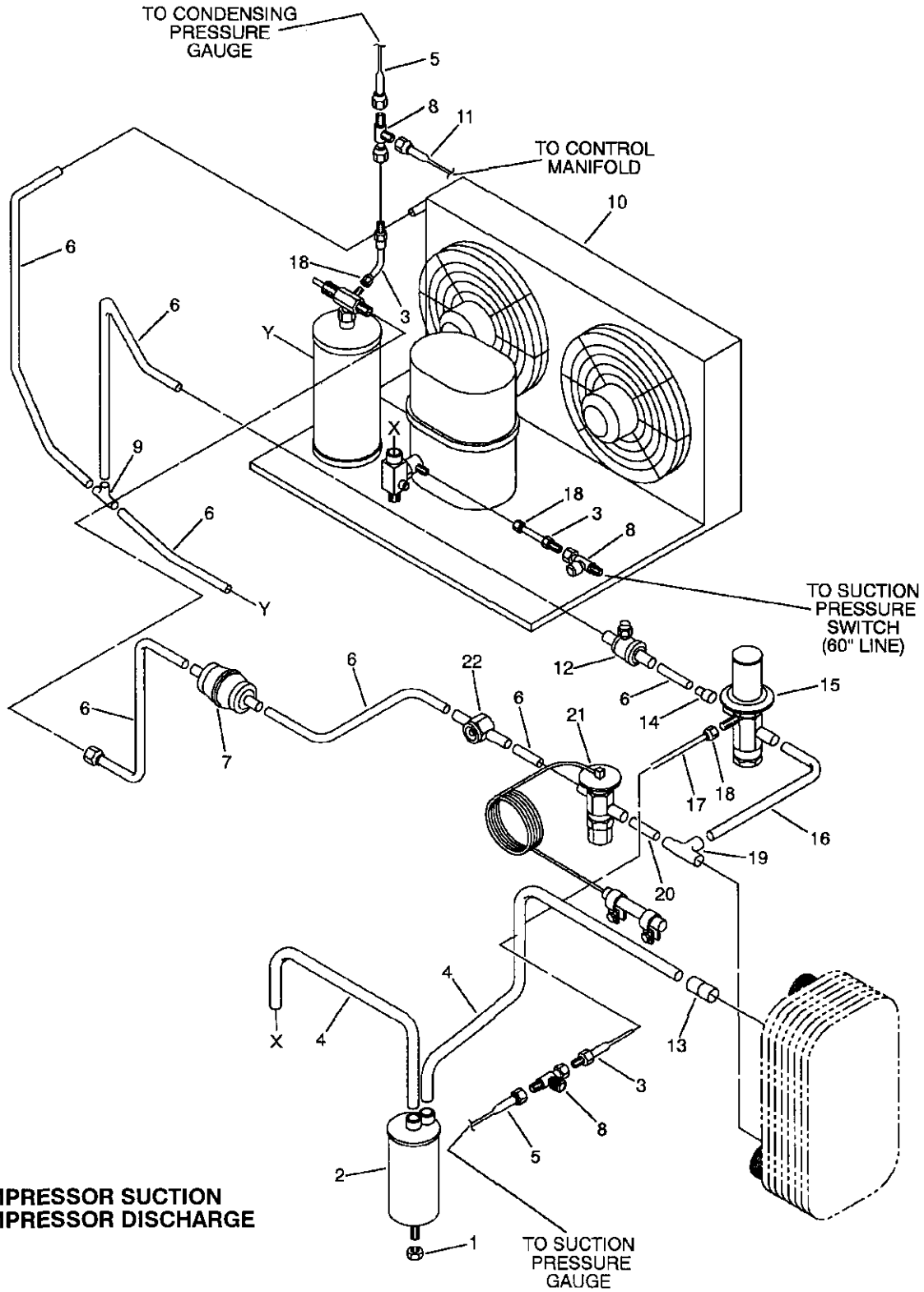
(I) For maintenance, order replacement compressor no. 250040–127 (230V), or no. 250040–126 (460V).

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

Section 7

ILLUSTRATIONS AND PARTS LIST

7.5 REFRIGERANT SYSTEM SRD 500–630



X– COMPRESSOR SUCTION
Y– COMPRESSOR DISCHARGE

7.5 REFRIGERANT SYSTEM SRD 500–630

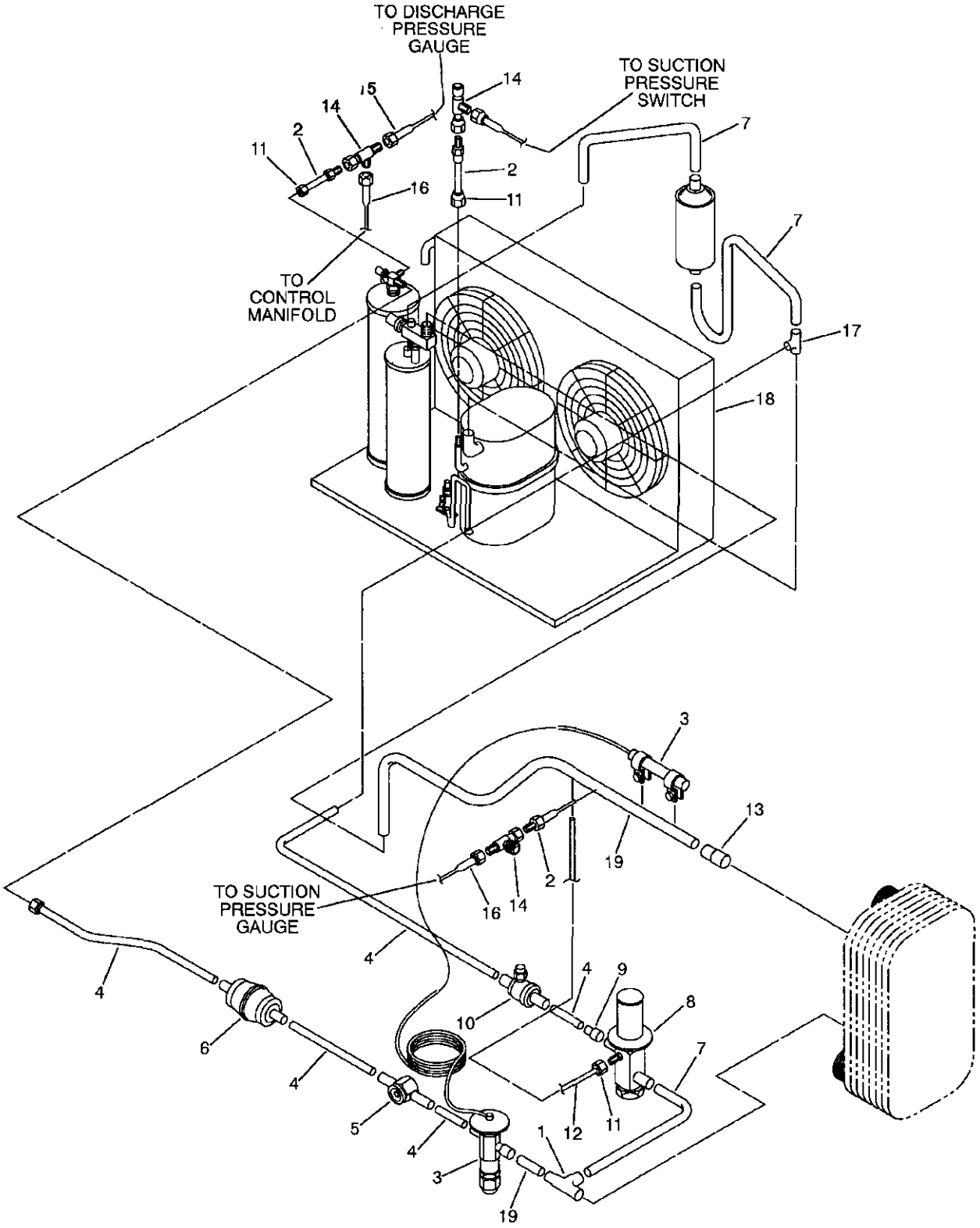
key number	*description*	*part number*	*quantity*
1	nut, hex 3/8"	825306–347	1
2	accumulator, suction	406408–005	1
3	valve, access straight 1/4"	250023–191	3
4	tubing, copper 7/8"	840215–014	4.25 ft
5	gauge, line 30"	250022–040	1
6	tubing, copper 3/8"	840215–006	5.5 ft
7	filter, dryer	406227	1
8	valve, access tee 1/4"	250032–322	3
9	tee, 3/8"	805400–038	1
10	unit, condensing (I)	405978	1
11	line, gauge 60"	250032–255	1
12	valve, hand control	406483–001	1
13	coupling, reducing 11/8" x 7/8"	804218–088	1
14	bushing, reducing 5/8" x 3/8"	803805–038	1
15	valve, hot gas	406464–006	1
16	tubing, copper 5/8"	840215–010	0.75 ft
17	tubing, copper 1/4"	840215–004	2.3 ft
18	nut, short forged 1/4"	805604–260	3
19	tee, solder reducing 7/8" x 1/2" x 5/8"	805514–080	1
20	tubing, copper 1/2"	840215–008	0.08 ft
21	valve, expansion	250038–200	1
22	glass, sight and moisture	406482	1
23	heater, crankcase compr assy (not shown)	250033–993	1

(I) For maintenance, order replacement compressor no. 406184 (230V), or no. 406185 (460V).

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

ILLUSTRATIONS AND PARTS LIST

7.6 REFRIGERANT SYSTEM SRD 830–1000 AC



7.6 REFRIGERANT SYSTEM SRD 830–1000 AC

key number	*description*	*part number*	*quantity*
1	tee, reducing 7/8" x 7/8" x 5/8"	805514–140	1
2	valve, access strt ext. 1/4"	250023–191	3
3	valve, thermal (SRD 830)	406466–004	1
	•valve, thermal (SRD1000)	406466–005	1
4	*tubing, copper 5/8" (SRD 830)*	*840215–010*	2.33 ft
	•tubing, copper 1/2" (SRD1000)	840215–008	3.25 ft
5	glass, sight and moisture indicator	406482–001	1
6	filter, dryer	406227–001	1
7	tubing, copper 1/2" (SRD 830)	840215–008	0.75 ft
	•tubing, copper 5/8" (SRD 1000)	840215–010	0.75 ft
8	valve, hot gas	406464–006	1
9	bushing, flush 1/2" x 3/8" (SRD 830)	803904–038	1
	•bushing, flush 5/8" x 1/2" (SRD 1000)	803910–050	1
10	valve, hand control 5/8" (SRD 830)	406483–003	1
	•valve, hand control 1/2" (SRD 1000)	406483–002	1
11	nut, short forged 45fl 1/4"	805604–260	3
12	tubing, copper 1/4"	840215–004	1.5 ft
13	bushing, reducing 1–1/8" x 7/8"	803818–088	1
14	valve, access tee 1/4"	250032–322	3
15	line, gauge	250032–255	1
16	line, gauge	250022–040	1
17	•tee, solder reducing 1/2" x 1/2" x 5/8" (SRD 830)	805508–080	1
	•tee, solder 1/2" (SRD 1000)	*805400–050*	1
18	unit, condensing (SRD 830) (I)	250039–659	1
	•unit, condensing (SRD 1000) (II)	250039–174	1
19	tubing, copper 7/8"	840215–014	3.5 ft
20	heater, crankcase compr assy (not shown)	250030–994	1

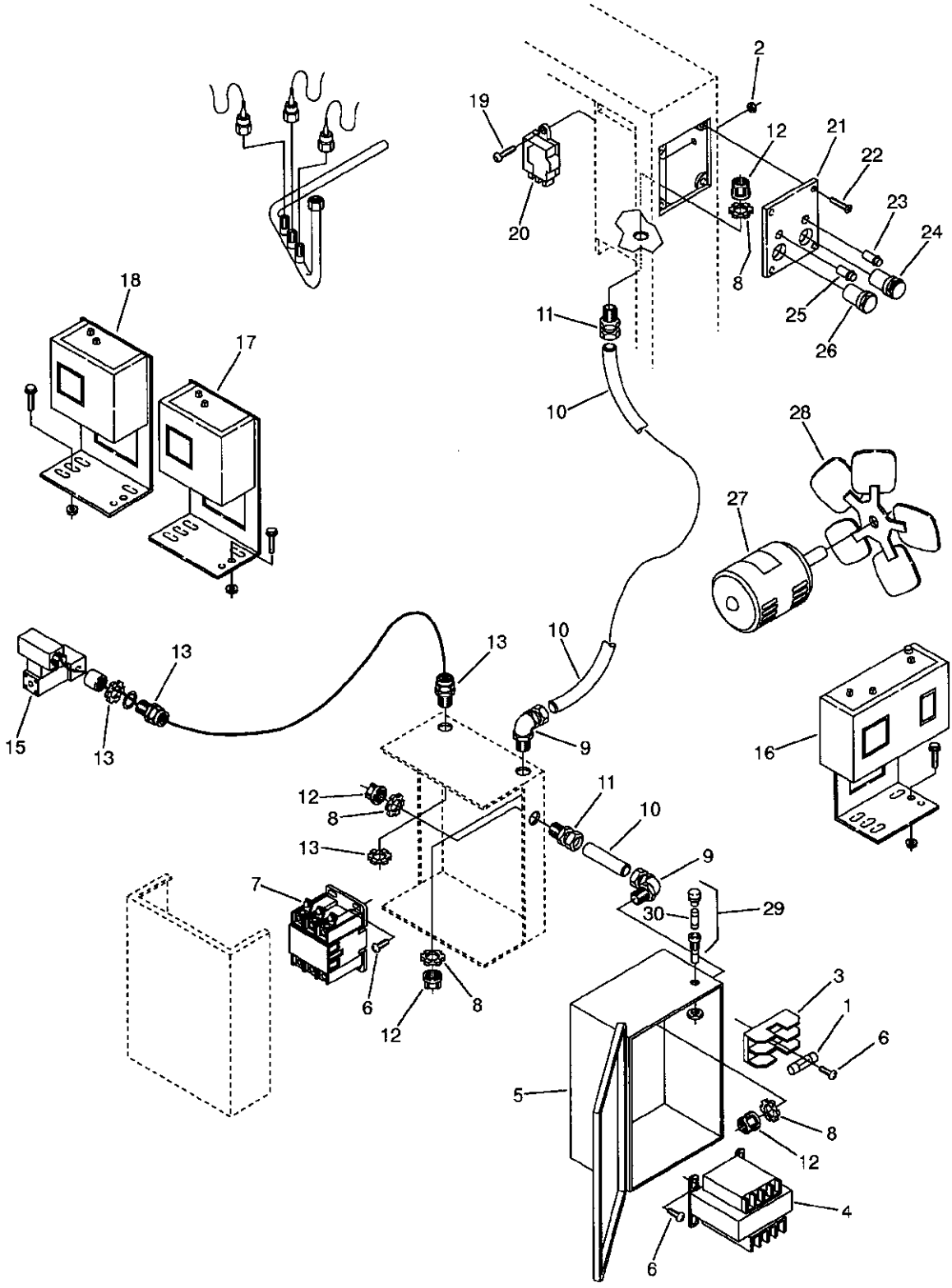
(I) For maintenance, order replacement compressor no. 406398–001 (230V), or no. 406398 (460V).

(II) For maintenance, order replacement compressor no. 406186 (230V), or no. 406187 (460V).

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

ILLUSTRATIONS AND PARTS LIST

7.7 ELECTRICAL SYSTEM SRD 400



7.7 ELECTRICAL SYSTEM SRD 400

key number	*description*	*part number*	*quantity*
1	fuse	250026–635	3
2	nut, hex #8–32	825201–130	2
3	holder, fuse	250019–772	1
4	transformer 208/230/ 460–115	250023–356	1
5	box	250038–508	1
6	screw, mach–rd #8–32 x 3/4	831601–075	8
7	contactor	250035–099	1
8	locknut, conduit 1/2"	847200–050	3
9	elbow, 90 conduit 1/2"	846600–050	2
10	conduit 1/2" (ft.)	846315–050	3.5 ft
11	connector, straight 1/2"	846400–050	2
12	bushing, conduit plastic 1/2"	848815–050	2
13	connector, cord .31 cable x 1/2	241585	2
14	bushing, reducing hex 1/2" x 1/4" valve	807602–010	1
15	solenoid 1/4" w x 1/4" timer	250038–163	1
	•valve	250031–278	1
	•solenoid and operator	250031–322	1
	•timer	250038–164	1
16	switch, high/low dual pressure	250039–686	1
17	switch, low pressure fan	250039–685	1
18	switch, high pressure fan	250039–685	1
19	screw, tc–f pan #8–32	831601–050	2
20	relay, gp DPDT 120V flange mount	250033–679	1
21	panel, control	250030–665	1
22	screw, machine flat #6–32 x 1/2"	831200–050	4
23	light, indicator neon 125V – red	406440	1
24	switch, pushbutton normally closed – red	250016–350	1
25	light, indicator neon 125V – green	406440–001	1
26	switch, pushbutton normally closed – green	250016–351	1
27	motor, fan 230V	250022–265	1
	•motor, fan 460V	250022–266	1
28	blade, fan 460V	250022–273	1
	•blade, fan 230V	250033–917	1
	heater, crankcase (I)	250039–684	1
29	holder, fuse (II)	250022–212	1

(I) Compressor crankcase replacement part.

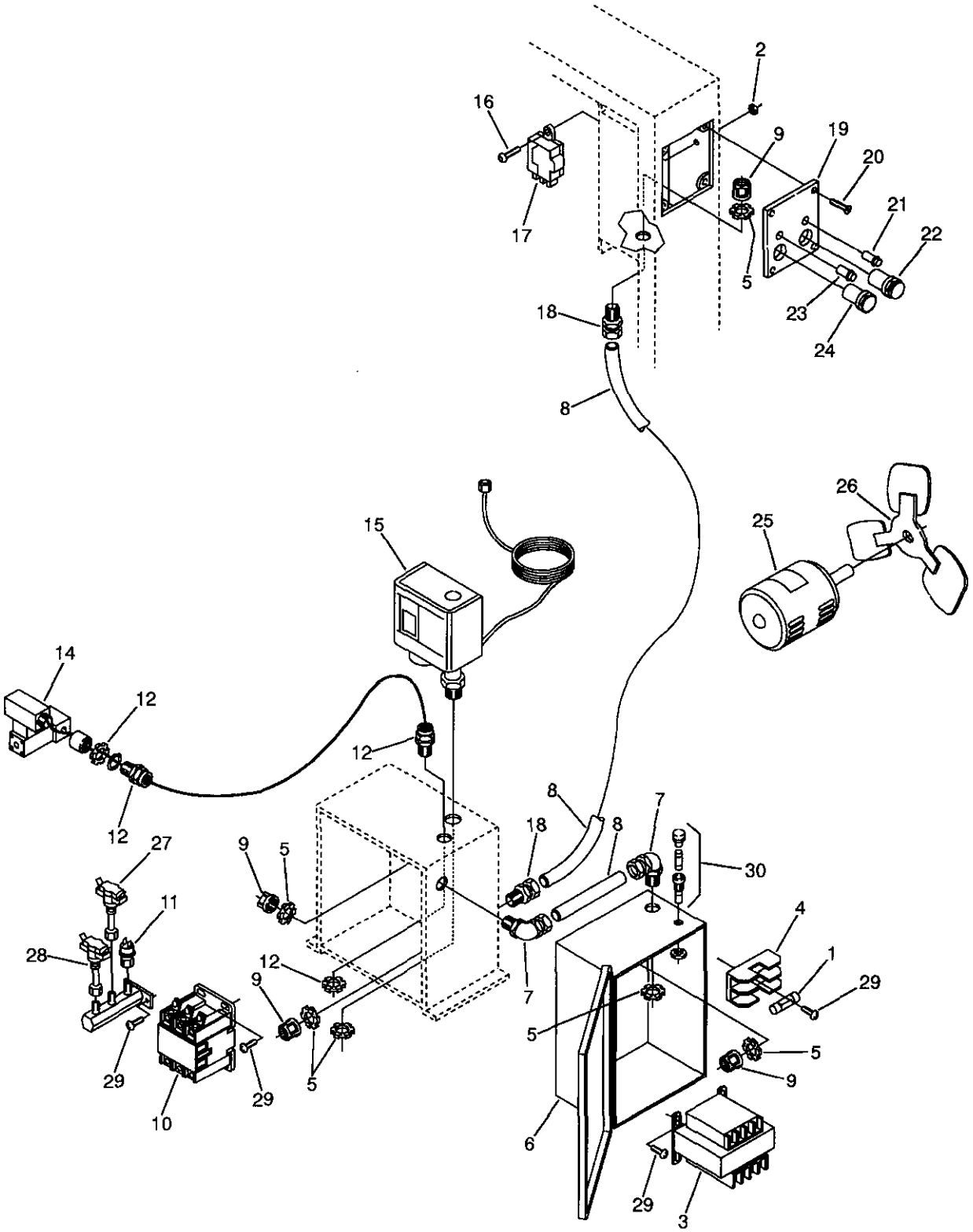
(II) Not used on all machines.

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

Section 7

ILLUSTRATIONS AND PARTS LIST

7.8 ELECTRICAL SYSTEM SRD 500–1000



7.8 ELECTRICAL SYSTEM SRD 500–1000

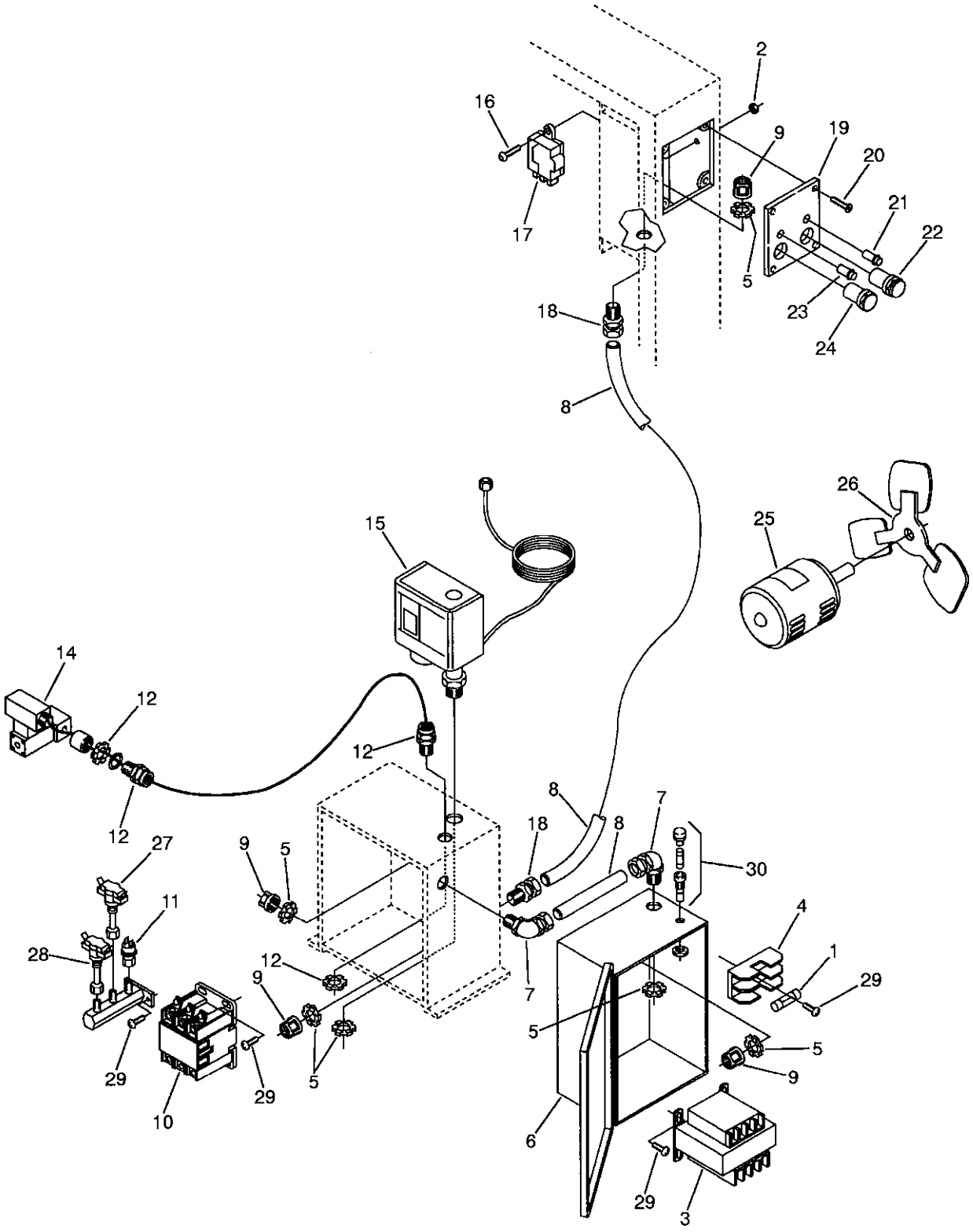
key number	*description*	*part number*	*quantity*
1	fuse	250026–637	3
2	nut, hex #8–32	825201–130	2
3	transformer 208/230/460–115	2500023–356	1
4	holder, fuse	250019–772	1
5	locknut, conduit 1/2"	847200–050	3
6	box	250038–508	1
7	elbow, 90 conduit 1/2"	846600–050	2
8	conduit 1/2"	846315–050	3 feet
9	bushing, conduit plastic 1/2"	848815–050	2
10	contactor	250035–099	1
11	switch, pressure high	406034–001	1
12	connector, cord .31 cable x 1/2	241585	2
13	bushing, reducing hex 1/2" x 1/4"	807602–010	1
14	valve, solenoid 1/4" w x 1/4" timer	250038–163	1
	•valve	250031–278	1
	•solenoid and operator	250031–322	1
	•timer	250038–164	1
15	switch, pressure low	406454	1
16	screw, mach–rd #8–32	831601–050	2
17	relay, gp DPDT 120V flange mount	250033–679	1
18	connector, conduit 1/2"	846400–050	2
19	panel, control	250030–665	1
20	screw, machine flat #6–32 x 1/2"	831200–050	4
21	light, indicator neon 125V – red	406440	1
22	switch, pushbutton normally closed – red	250016–350	1
23	light, indicator neon 125V – green	406440–001	1
24	switch, pushbutton normally closed – green	250016–351	1
25	motor, fan 230V, SRD 630	406125	1
	•motor, fan 230V, SRD 830 & SRD 1000	406136	1
	•motor, fan 460V, SRD 630	406129	1
	•motor, fan 460V, SRD 830 & SRD 1000	406136	1
26	blade, fan, SRD 630	250033–921	1
	•blade, fan, SRD 830	250039–683	1
	•blade, fan, SRD 1000	406134	1
27	switch, fan low pressure	406174	1
28	switch, fan high pressure	406170	1

(Continued on page 43)

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

ILLUSTRATIONS AND PARTS LIST

7.8 ELECTRICAL SYSTEM SRD 500–1000



7.8 ELECTRICAL SYSTEM SRD 500–1000

key number	*description*	*part number*	*quantity*
29	screw, tc–f pan #8–32	835601–050	8
30	holder, fuse (I)	250022–212	1
31	fuse (I)	250022–211	1

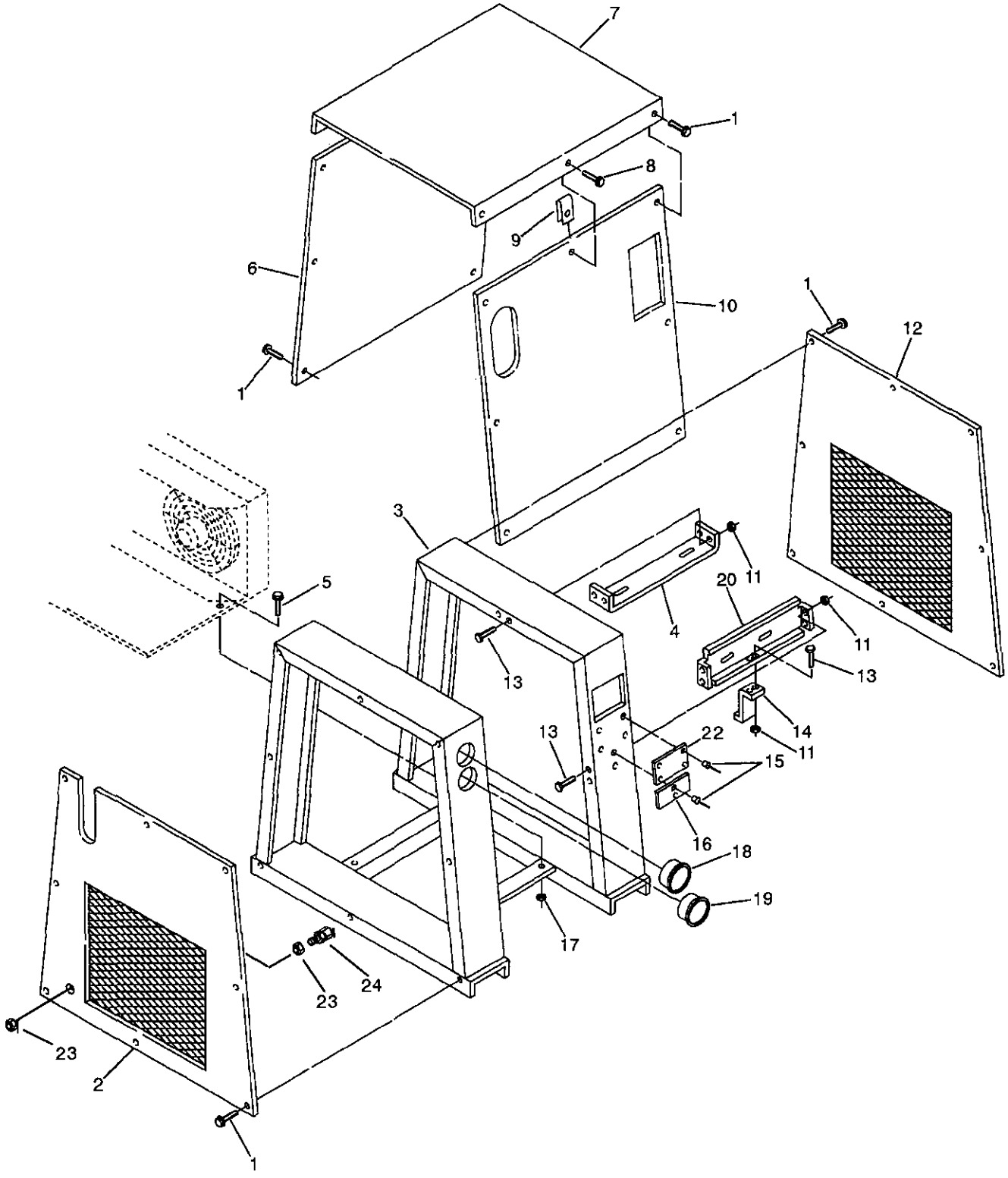
(I) Not used on all packages.

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

Section 7

ILLUSTRATIONS AND PARTS LIST

7.9 FRAME, COVER AND PARTS SRD 400–1000



7.9 FRAME, COVER AND PARTS SRD 400–1000

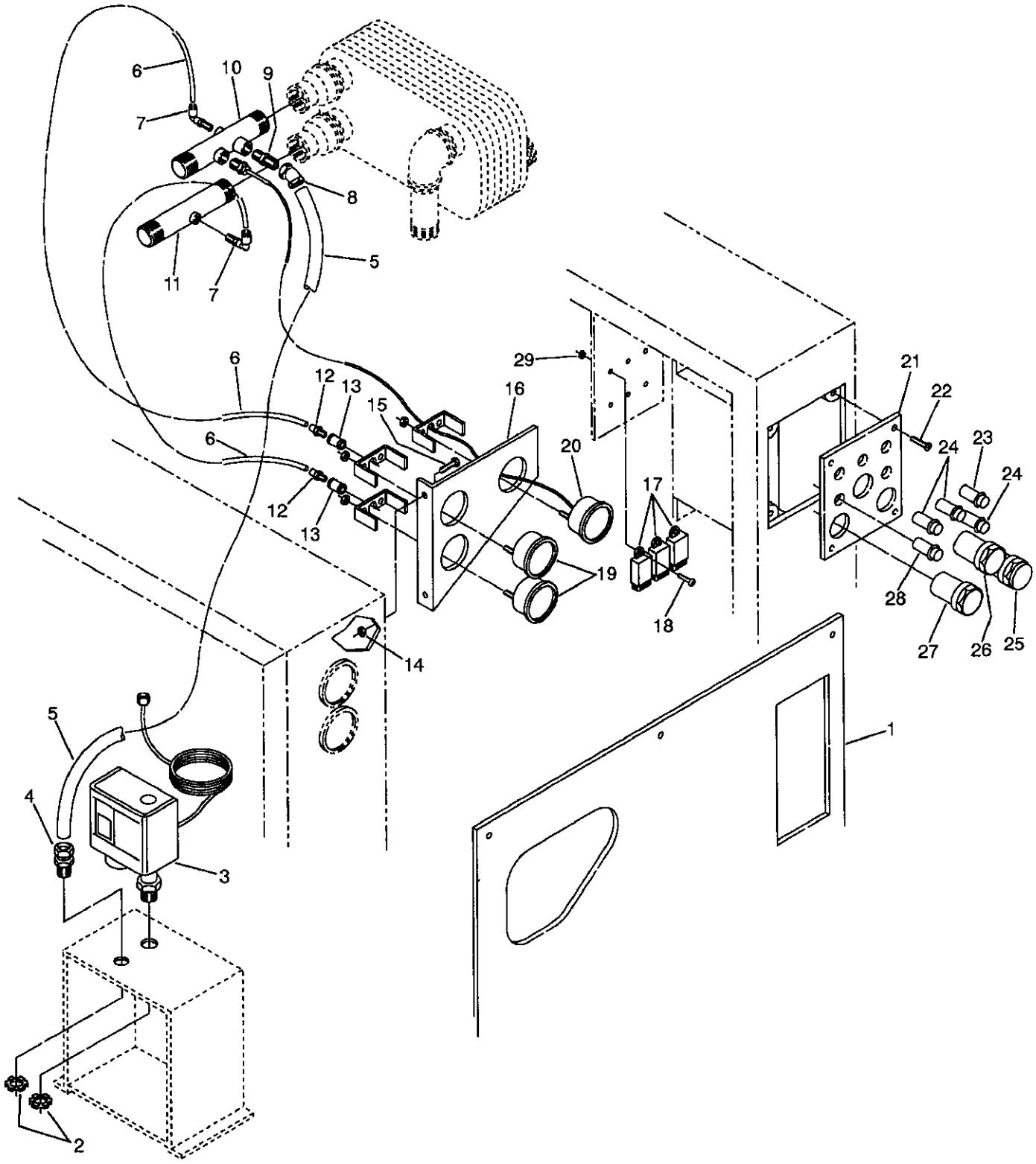
key number	*description*	*part number*	*quantity*
1	screw, self–drill 1/4" x 3/4"	834504–075	23
2	cover, end assembly	250033–111	1
3	frame, assembly	250032–521	1
4	bracket, cooler a x a	250032–534	1
5	screw, serrated washer 3/8" x 2"	829706–200	4
6	cover, rear	250033–844	1
7	cover, top	250033–112	1
8	screw, hex serrated washer 1/4" x 3/4"	829704–075	2
9	nut, retainer J–1/4"–20	860904–093	2
10	cover, front	250033–843	1
11	nut, hex 5/16"–18	825305–283	10
12	cover, end assembly	250033–113	1
13	screw, hex 5/16 x 1"	829705–100	10
14	support, evaporator bracket	250038–758	1
15	rivet, pop 1/8" x 1/2"	843102–050	6
16	nameplate, PSI	250031–936	1
17	nut, hex 3/8"–16	825306–347	4
18	gauge, pressure suction	02250046–815	1
19	gauge, pressure head	02250046–909	1
20	bracket, cooler f x a	250032–533	1
21	screw, self–drill 1/4" x 1–1/4"	834504–125	6
22	nameplate, Dryers serial no.	02250111–291	1
23	bulkhead, pipe 1/4"npt	841500–004	1
24	conn, tube strt 1/4 npt x 1/4 t	250024–685	1

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

Section 7

ILLUSTRATIONS AND PARTS LIST

7.10 CONTROL GAUGE OPTION SRD 400–1000 (WATER–COOLED ONLY)

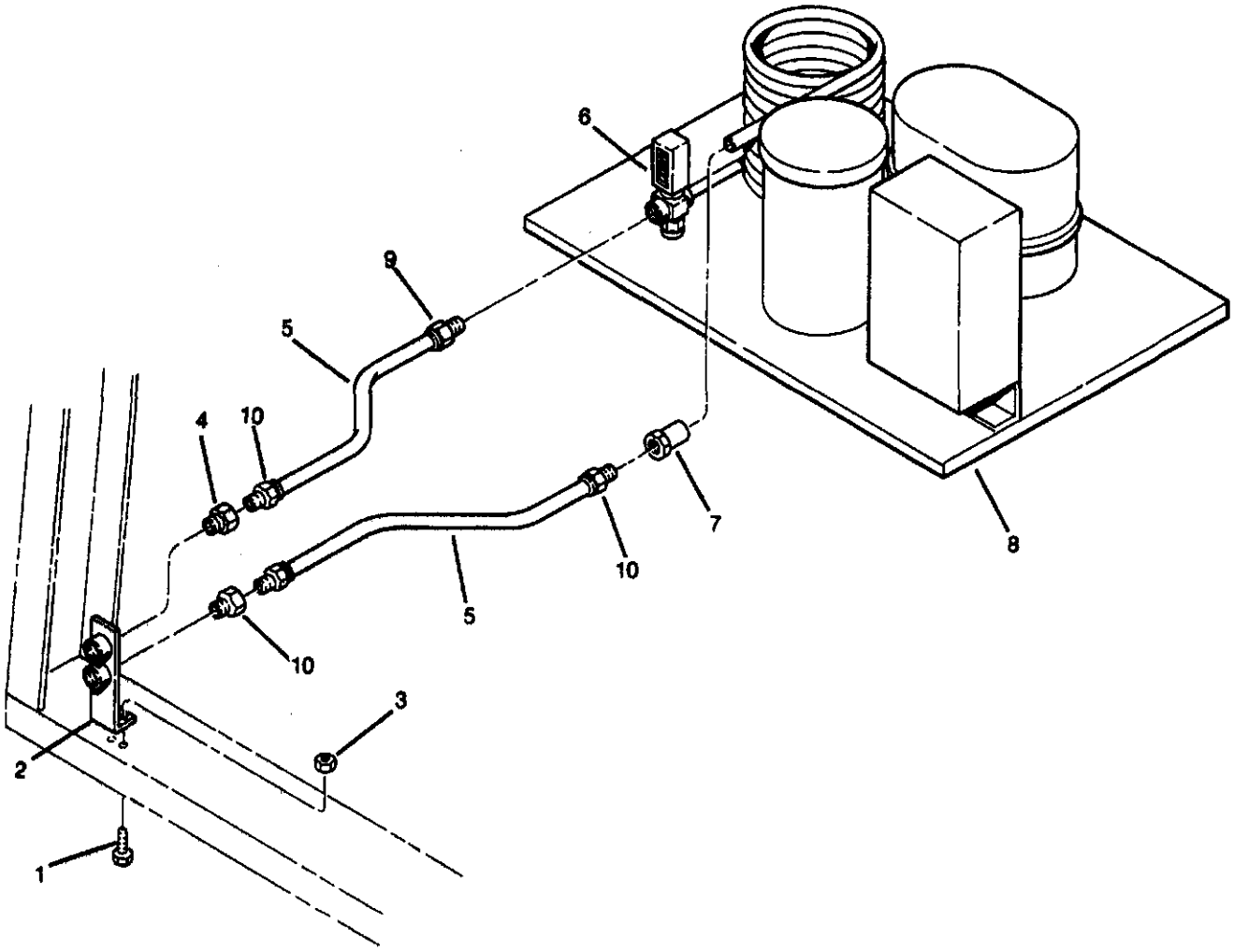


7.10 CONTROL GAUGE OPTION SRD 400 THROUGH SRD 1000 (WATER-COOLED ONLY)

key number	*description*	*part number*	*quantity*
1	cover, enclosure	250038-684	1
2	washer, lock external tooth conduit 1/2"	838401-023	1
3	switch, low pressure	406454	1
4	connector, straight 1/2"	846400-050	1
5	conduit, flexible 1/2"	846315-050	4 ft
6	tubing, plastic 1/4"	250024-745	8 ft
7	elbow, tube-m 90° 1/4" x 1/4"	813704-250	2
8	elbow, chase 1/2"	250008-823	1
9	switch, temperature	250032-326	1
10	manifold, air inlet (SRD 400)	250038-702	1
	•manifold, air inlet (SRD 500-630)	250038-705	1
	•manifold, air inlet (SRD 830-1000)	250038-706	1
11	manifold, air outlet - (SRD 400)	250038-710	1
	•manifold, air outlet - (SRD 500-630)	250038-711	1
	•manifold, air outlet - (SRD 830-1000)	250038-712	1
12	connector, tube-m 1/4" x 1/4" 5/16"	813605-250	2
13	coupling, pipe 1/4" galv.	803215-010	2
14	nut, hex 5/16"-18	825304-283	2
15	screw, hex 5/16" x 3/4"	829705-075	2
16	panel, gauge option	250030-214	1
17	relay	250035-684	3
18	screw, tc-f pan #8-32	835701-050	6
19	gauge, pressure	406047	2
20	gauge, temperature	250031-785	1
21	panel, control	250030-747	1
22	screw, machine flat #6-32 x 1/2"	831200-050	4
23	light, indicator neon - amber	406440-002	1
24	light, indicator neon - red	406440	3
25	switch, pushbutton normally closed - red	250016-350	1
26	switch, pushbutton - yellow	250034-630	1
27	switch, pushbutton normally open - green	250016-351	1
28	light, indicator neon - green	406440-001	1
29	nut, hex #8-32	825201-130	6

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

7.11 WATER–COOLED OPTION SRD 400–630

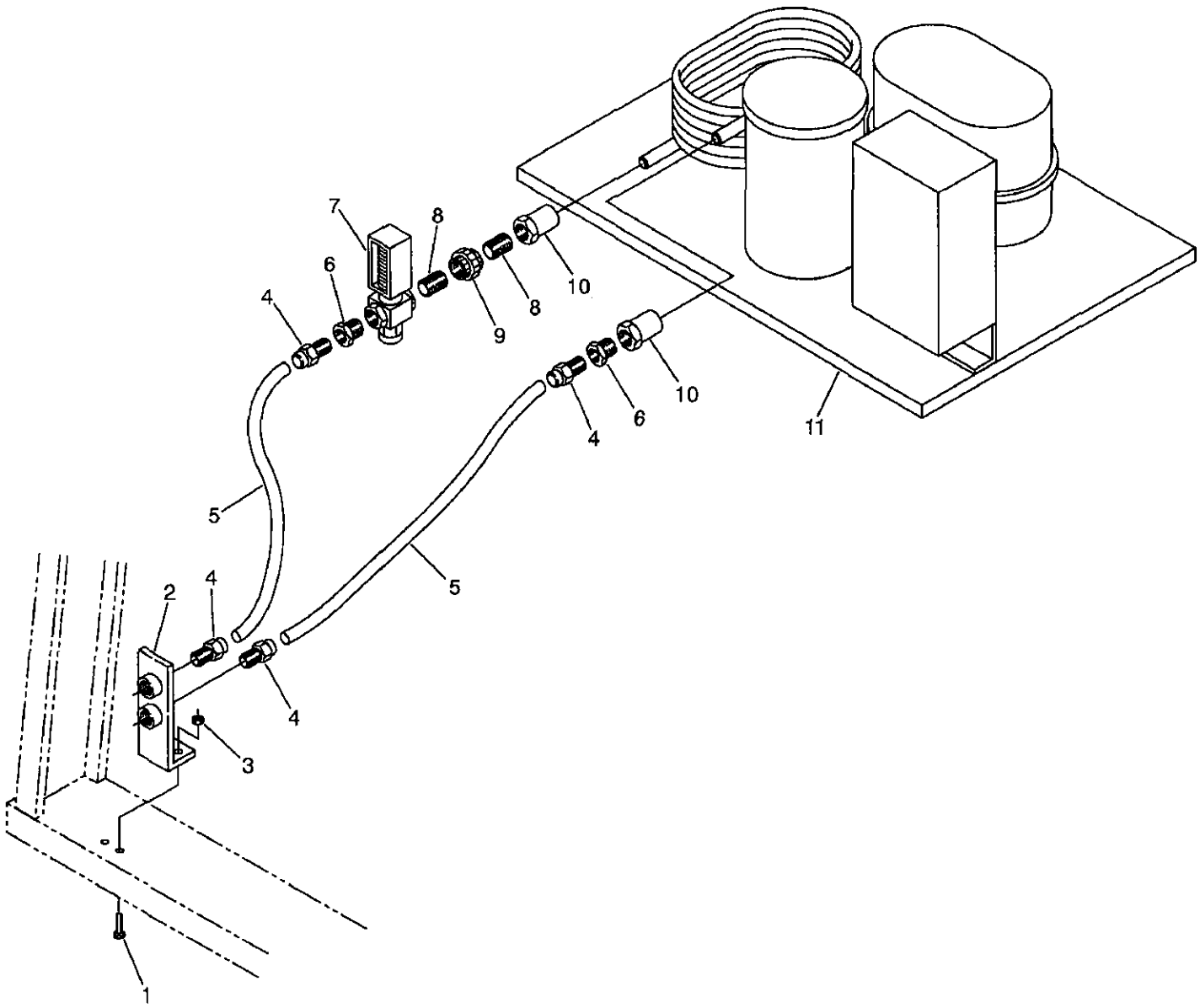


7.11 WATER–COOLED OPTION SRD 400–630

key number	*description*	*part number*	*quantity*
1	screw, hex 5/16" x 1"	829705–100	2
2	support, assembly water connector	250039–242	1
3	nut, hex 5/16"	825305–283	2
4	bushing, reducing 3/4" x 1/2"	804103–020	2
5	tubing, plastic 1/2"	250030–855	8 ft
6	valve, water regulator (SRD 400)	406484–013	1
	•valve, water regulator (SRD 500–630)	406484–001	1
7	adapter, solder 5/8" x 1/2"	803110–050	1
8	unit, condensing water–cooled 2HP (SRD 400)	250038–989	1
	•unit, condensing water–cooled (SRD 500–630)	250038–990	1
9	connector, tube–m 3/8" x 1/2" (SRD 400)	250024–694	1
	•connector, tube–m 1/2" x 1/2" (SRD 500–630)	250024–695	1
10	connector, tube–m 1/2" x 1/2"	250024–695	3

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

7.12 WATER–COOLED OPTION SRD 830 AND SRD 1000



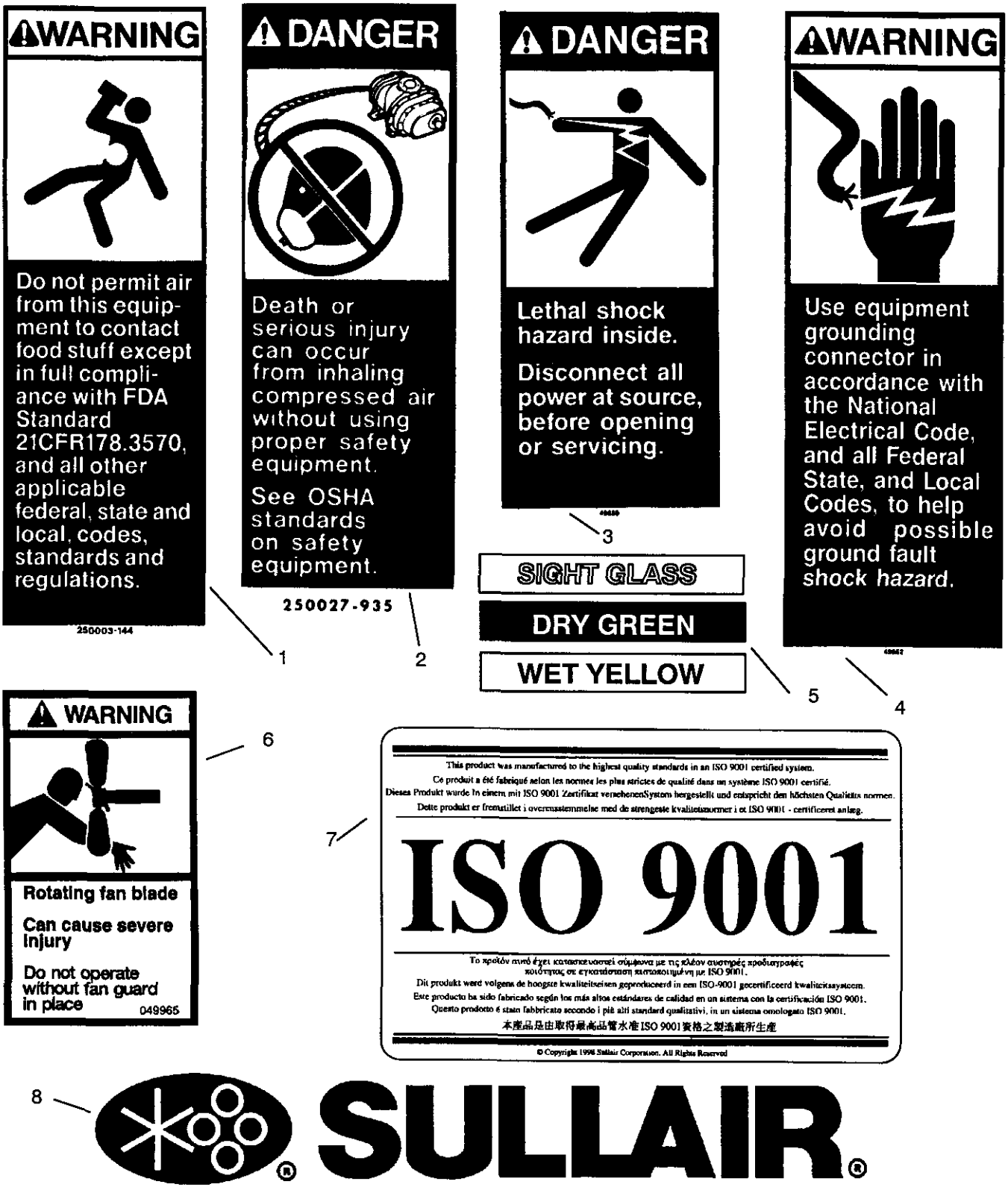
7.12 WATER–COOLED OPTION SRD 830 AND SRD 1000

key number	*description*	*part number*	*quantity*
1	screw, hex 5/16" x 1"	829705–100	2
2	support, assembly water connector	250039–242	1
3	nut, hex 5/16"	825305–283	2
4	connector, plastic tube 3/4" x 3/4"	250039–357	4
5	tubing, plastic 3/4"	250039–353	5 ft
6	bushing, pipe 1" x 3/4"	804104–030	2
7	valve, water control	406484–005	1
8	nipple, pipe 1" x close	823216–000	2
9	union, pipe 1"	802315–040	1
10	adapter, solder–f 1 1/8" x 1"	803118–100	2
11	unit, condensing water–cooled 4HP	250038–991	1

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

ILLUSTRATIONS AND PARTS LIST

7.13 DECAL GROUP



7.13 DECAL GROUP – SRD 400 THROUGH SRD 1000

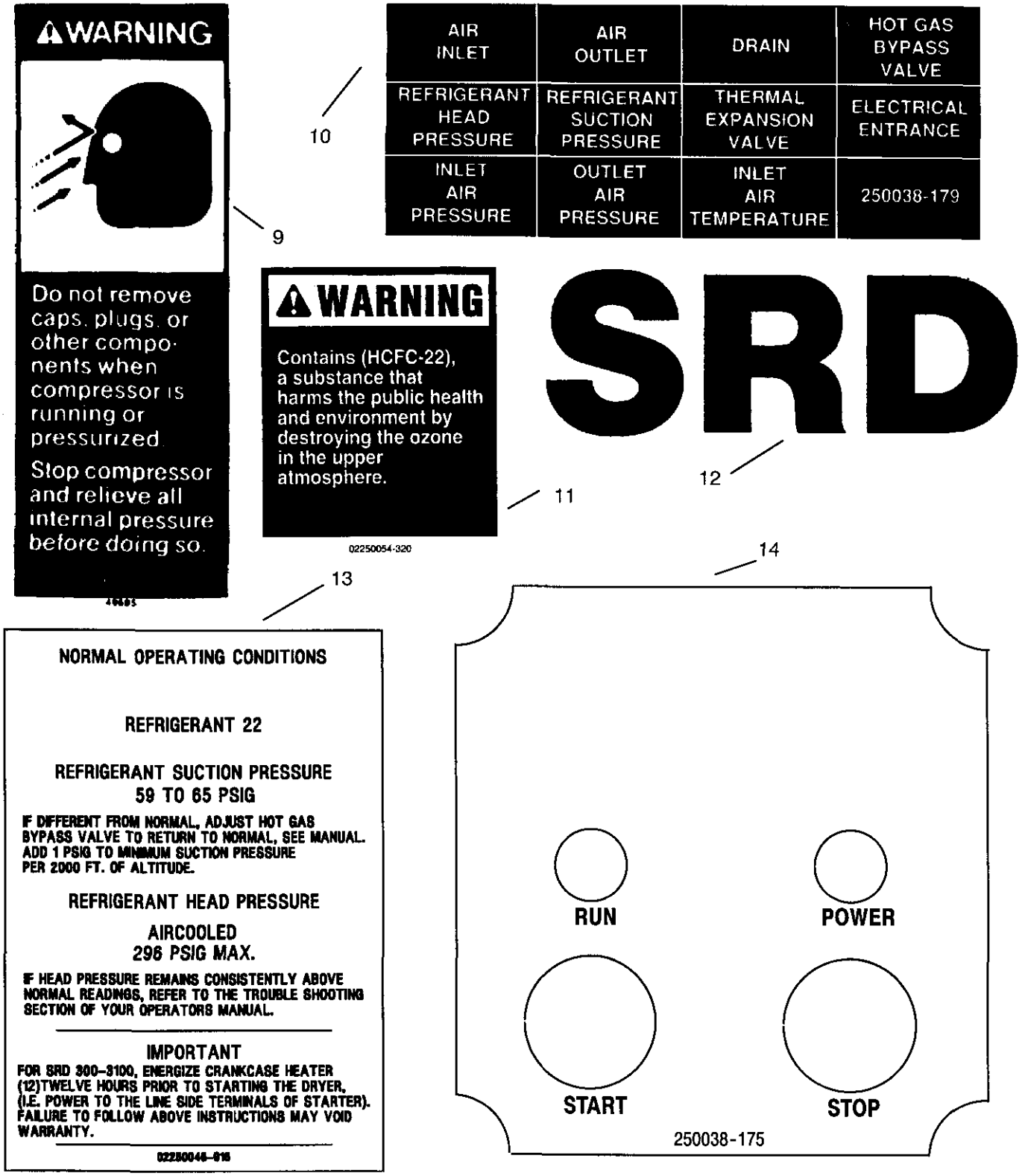
key number	*description*	*part number*	*quantity*
1	sign, warning "food grade" lube	250003–144	1
2	decal, danger breathing	250027–935	1
3	sign, danger electrocution	049850	1
4	sign, warning ground fault	049852	1
5	decal, sight glass	250024–165	1
6	sign, warning sever fan port	049965	1
7	decal, ISO 9001	02250057–624	1
8	decal, Sullair with logo	02250059–056	2

(Continued on page 55)

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

Section 7
ILLUSTRATIONS AND PARTS LIST

7.13 DECAL GROUP



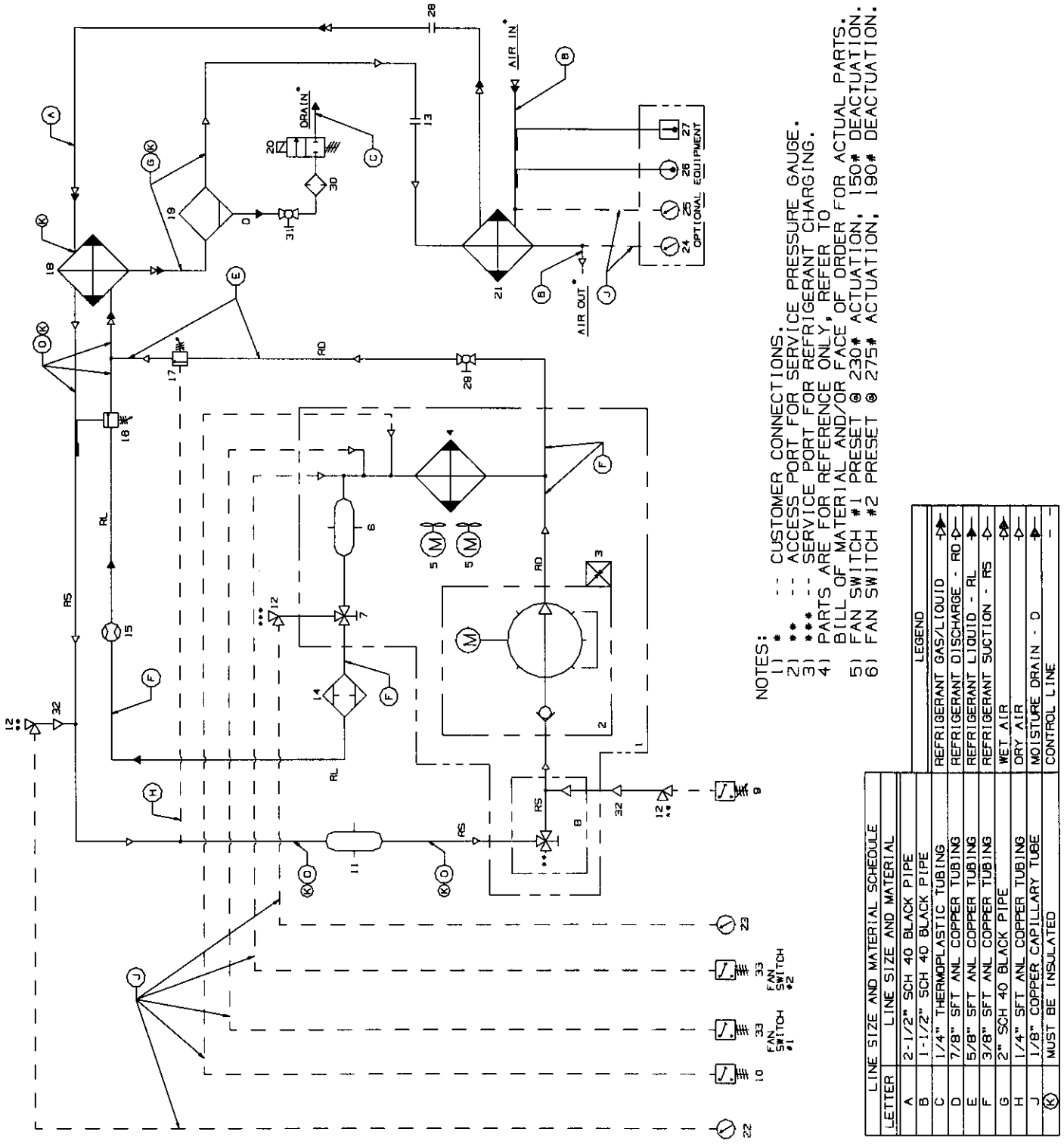
7.13 DECAL GROUP – SRD 400 THROUGH SRD 1000 (CONTINUED)

key number	*description*	*part number*	*quantity*
9	sign, warning pressurized	049685	1
10	kit, decal cont. std srd	250038–179	1
11	decal, warning HCFC 22	02250054–320	1
12	decal, SRD	02250075–362	2
13	decal, SRD norm op cond	02250046–916	1
14	decal, controls std 300	250038–175	1

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

ILLUSTRATIONS AND PARTS LIST

7.14 PIPING AND INSTRUMENTATION SRD 400 (AIR–COOLED)



NOTES:
1) * -- CUSTOMER CONNECTIONS.
2) ** -- ACCESS PORT FOR SERVICE PRESSURE GAUGE.
3) *** -- SERVICE PORT FOR REFRIGERANT CHARGING.
4) PARTS ARE FOR REFERENCE ONLY, REFER TO BILL OF MATERIAL AND/OR FACE OF ORDER FOR ACTUAL PARTS.
5) FAN SWITCH #1 PRESET @ 230# ACTUATION, 150# DEACTUATION.
6) FAN SWITCH #2 PRESET @ 275# ACTUATION, 190# DEACTUATION.

LINE SIZE AND MATERIAL SCHEDULE	
LETTER	LINE SIZE AND MATERIAL
A	2-1/2" SCH 40 BLACK PIPE
B	1-1/2" SCH 40 BLACK PIPE
C	1/4" THERMOPLASTIC TUBING
D	7/8" SFT ANL COPPER TUBING
E	5/8" SFT ANL COPPER TUBING
F	3/8" SFT ANL COPPER TUBING
G	2" SCH 40 BLACK PIPE
H	1/4" SFT ANL COPPER TUBING
J	1/8" COPPER CAPILLARY TUBE
K	MUST BE INSULATED

LEGEND	
REFRIGERANT GAS/LIQUID	
REFRIGERANT DISCHARGE - RD	
REFRIGERANT LIQUID - RL	
REFRIGERANT SUCTION - RS	
WET AIR	
DRY AIR	
MOISTURE DRAIN - D	
CONTROL LINE	- -

7.14 PIPING AND INSTRUMENTATION SRD 400 (AIR-COOLED)

key number	*description*	*part number*	*quantity*
1	*unit, cond 2HP-R22 460/3/60* (I)	250035-637	1
2	unit, compressor	(II)	1
3	heater, sump	(II)	1
4	coil, condensing air-cooled	(II)	1
5	fan, motor and blade cooling	(II)	1
6	tank, *receiver*	(II)	1
7	tap, pressure valve (part of receiver tank)	(II)	1
8	valve, inlet rotolock-compressor	(II)	1
9	switch, low suction pressure	(II)	1
10	switch, high head pressure	(II)	1
11	*accumulator, suction line*	406408-005	1
12	valve, access tee 1/4"	250032-322	3
13	coupling, flexible 2" (III)	040913	1
14	fliter-dryer	406227	1
15	glass, sight moisture indicator	406482	1
16	*valve, expansion*	250038-199	1
17	valve, hot gas by-pass	406464-009	1
18	evaporator, f x a srd-300	250027-270	1
19	separator, moisture	019271-001	1
20	valve, solenoid 1/4" n.c. (IV)	250031-810	1

(Continued on page 59)

(I) Key number items 2-10 come complete with the condenser unit. Recommended spare parts for the condenser unit are as follows:

switches, fan cut-out	250039-685	1
heater, crankcase	250039-684	1
cut-out, dual pressure (HI/LO)	250039-686	1
blade, fan	250022-273	1
motor	250022-266	1
compressor	250040-126	1
condenser	250033-918	1
valve, suction rotolock	02250071-529	1
adapter, suction rotolock	02250071-528	1

(II) This part is contained within the condenser unit assembly.

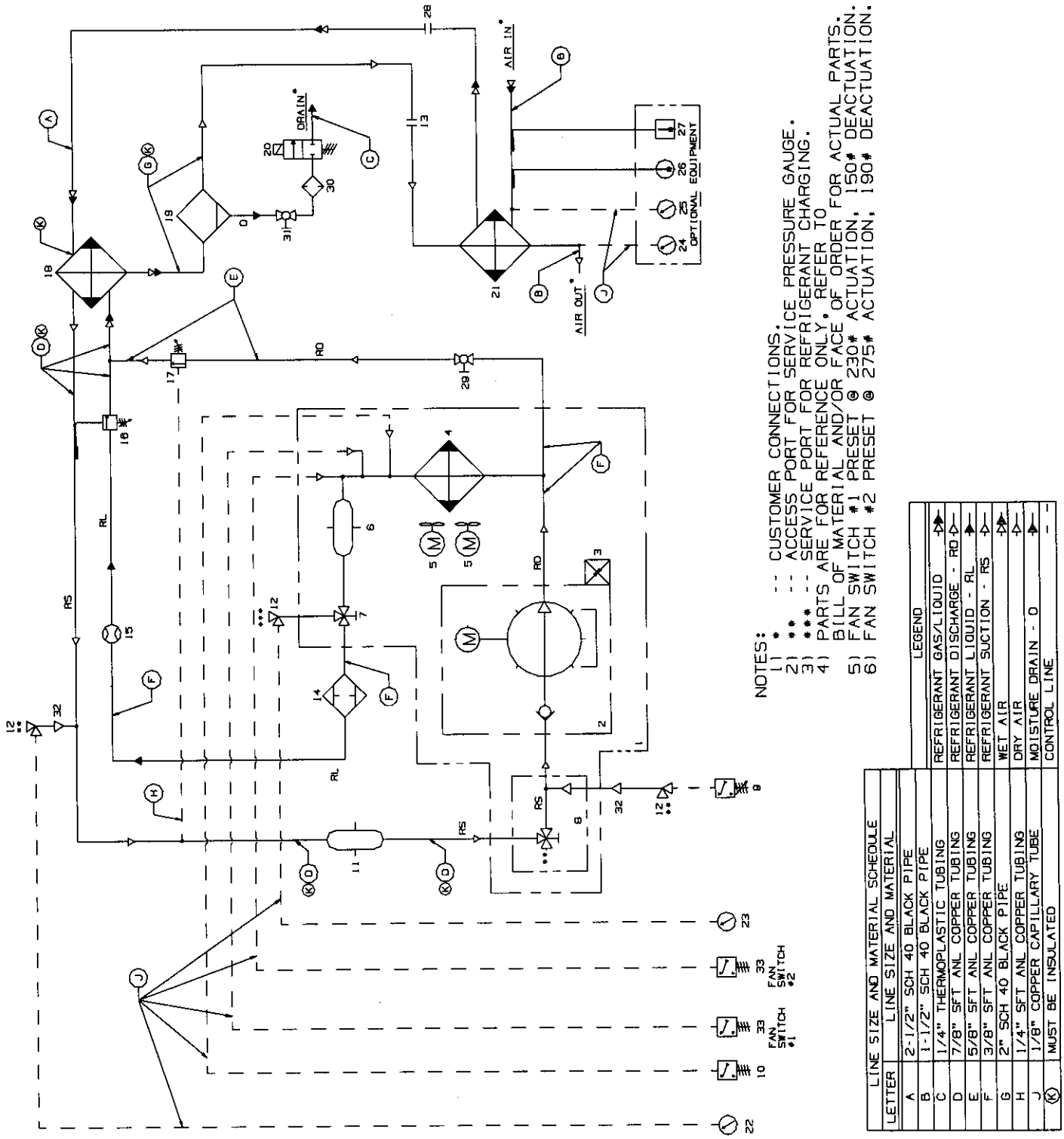
(III) For maintenance on flexible coupling no. 040913, order replacement gasket no. 040930 (2 required).

(IV) For maintenance on solenoid valve no. 250031-810, order no. 250031-322, replacement coil no. 250031-278, and replacement timer no. 250038-163.

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

ILLUSTRATIONS AND PARTS LIST

7.14 PIPING AND INSTRUMENTATION SRD 400 (AIR–COOLED)



NOTES:
1) * -- CUSTOMER CONNECTIONS.
2) ** -- ACCESS PORT FOR SERVICE PRESSURE GAUGE.
3) *** -- SERVICE PORT FOR REFRIGERANT CHARGING.
4) PARTS ARE FOR REFERENCE ONLY, REFER TO BILL OF MATERIAL AND/OR FACE OF ORDER FOR ACTUAL PARTS.
5) FAN SWITCH #1 PRESET @ 230# ACTUATION, 150# DEACTUATION.
6) FAN SWITCH #2 PRESET @ 275# ACTUATION, 190# DEACTUATION.

LINE SIZE AND MATERIAL SCHEDULE	
LETTER	LINE SIZE AND MATERIAL
A	2-1/2" SCH 40 BLACK PIPE
B	1-1/2" SCH 40 BLACK PIPE
C	1/4" THERMOPLASTIC TUBING
D	7/8" SFT ANL COPPER TUBING
E	5/8" SFT ANL COPPER TUBING
F	3/8" SFT ANL COPPER TUBING
G	2" SCH 40 BLACK PIPE
H	1/4" SFT ANL COPPER TUBING
J	1/8" COPPER CAPILLARY TUBE
(K)	MUST BE INSULATED

LEGEND	
REFRIGERANT GAS/LIQUID	
REFRIGERANT DISCHARGE - RD	
REFRIGERANT LIQUID - RL	
REFRIGERANT SUCTION - RS	
WET AIR	
DRY AIR	
MOISTURE DRAIN - D	
CONTROL LINE	- -

7.14 PIPING AND INSTRUMENTATION SRD 400 (AIR-COOLED) (CONTINUED)

key number	*description*	*part number*	*quantity*
22	gauge, suction pressure	02250046-815	1
23	gauge, head pressure	02250046-909	1
24	gauge, pressure 'air out'	250022-341	1
25	guage, pressure 'air in'	250022-341	1
26	gauge, temp. 'air in'	250031-785	1
27	switch, temp high inlet air temp n.o.	250032-326	1
28	coupling, flexible 2 1/2" (V)	040648	1
29	valve, shut-off hand control 5/8"	406483	1
30	strainer, drain line 1/4" (VI)	241771	1
21	exchanger, heat , a x a srd-400	250027-258	1
31	valve, ball 1/4" npt	047115	1
32	valve, access straight (solder)	250023-191	2
33	switch, fan cycling	250039-685	2

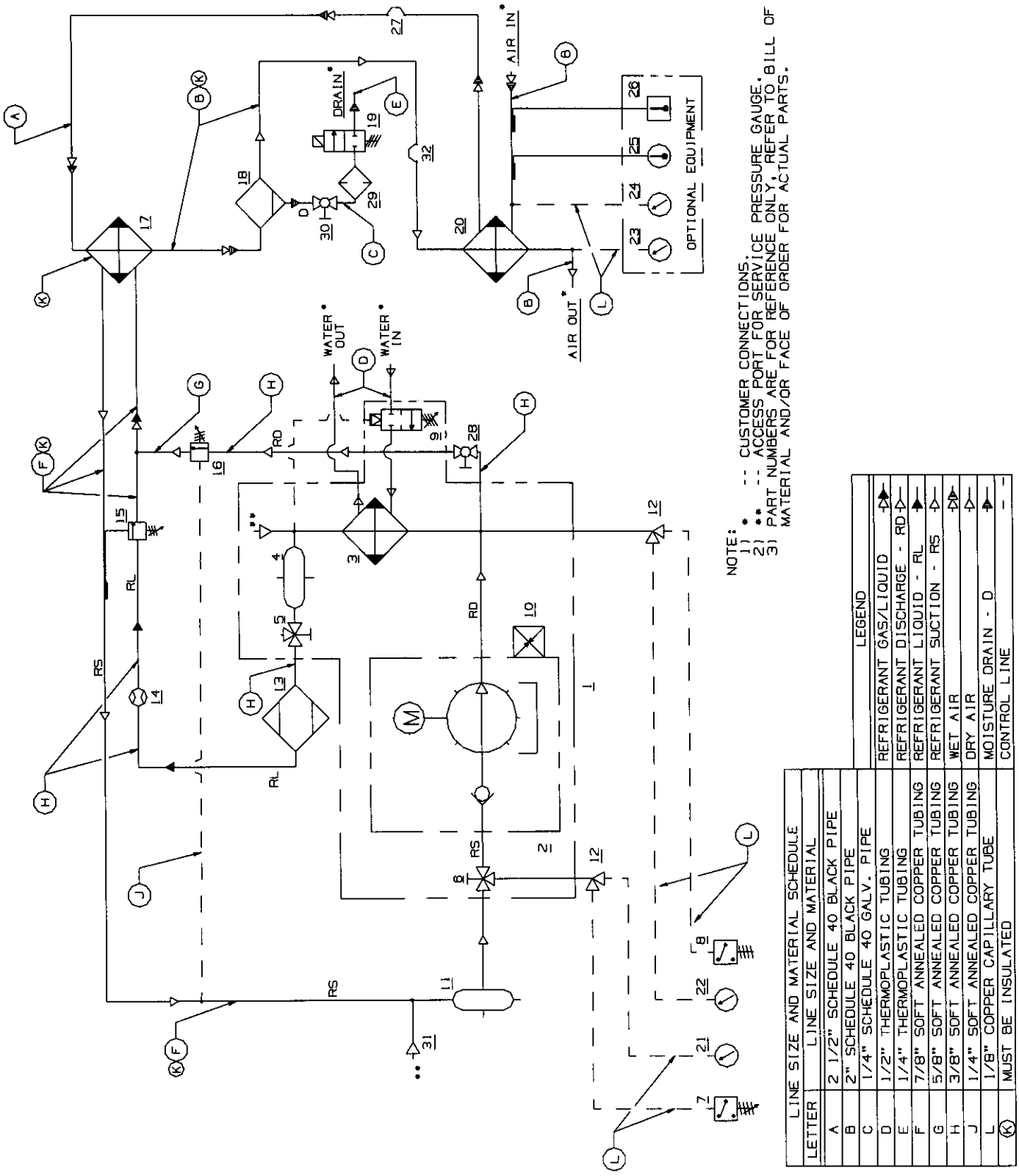
(V) For maintenance on flex coupling no. 040648, order replacement gasket no. 040649 (2 required).

(VI) For maintenance on strainer no. 241771, order repair kit no. 241772.

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

ILLUSTRATIONS AND PARTS LIST

7.15 PIPING AND INSTRUMENTATION SRD 400 (WATER-COOLED)



LINE SIZE AND MATERIAL SCHEDULE	
LETTER	LINE SIZE AND MATERIAL
A	2 1/2" SCHEDULE 40 BLACK PIPE
B	2" SCHEDULE 40 BLACK PIPE
C	1/4" SCHEDULE 40 GALV. PIPE
D	1/2" THERMOPLASTIC TUBING
E	1/4" THERMOPLASTIC TUBING
F	7/8" SOFT ANNEALED COPPER TUBING
G	5/8" SOFT ANNEALED COPPER TUBING
H	3/8" SOFT ANNEALED COPPER TUBING
J	1/4" SOFT ANNEALED COPPER TUBING
L	1/8" COPPER CAPILLARY TUBE
(K)	MUST BE INSULATED

LEGEND	
REFRIGERANT GAS/LIQUID	
REFRIGERANT DISCHARGE - RD	
REFRIGERANT LIQUID - RL	
REFRIGERANT SUCTION - RS	
WET AIR	
DRY AIR	
MOISTURE DRAIN - D	
CONTROL LINE	- -

7.15 PIPING AND INSTRUMENTATION SRD 400 (WATER–COOLED)

key number	*description*	*part number*	*quantity*
1	unit, cond 2hp R–22 460/3/60 (I)	250038–989	1
2	unit, compressor	(II)	1
3	coil, condensing–water cooled	(II)	1
4	tank, receiver	(II)	1
5	valve, pressure tap (part of receiver tank)	(II)	1
6	valve, suction rotalock	(II)	1
7	switch, low suction pressure n.c.	(II)	1
8	switch, high discharge pressure n.c.	(II)	1
9	valve, water regulating	(II)	1
10	heater, sump	(II)	1
11	accumulator, suction	406408–005	1
12	vlave, access tee 1/4"	250032–322	2
13	fliter–dryer	406227	1
14	glass, sight –moisture indicator	406482	1
15	valve, expansion	250038–199	1
16	valve, hot gas by–pass	406464–009	1
17	exchanger, heat f x a srd 400	2500207–270	1
18	separator, moisture 2"	250023–099	1
19	valve, solenoid 1/4" n.c. (III)	250031–810	1
20	exchanger, heat a x a srd 400	250027–258	1
21	gauge, suction pressure	02250046–815	1
22	gauge, head pressure	02250046–909	1
23	gauge, pressure 'air out'	250022–341	1
24	gauge, pressure 'air in'	250022–341	1
25	guage, temp 'air in'	250031–785	1
26	switch, temp high inlet air temp n.o.	250032–326	1
27	coupling, flexible 2–1/2" (IV)	040648	2
28	valve, shut–off hand control 3/8"	406483–001	1
29	strainer, drain line 1/4" (V)	241771	1

(Continued on page 63)

(I) For maintenance on condenser unit no. 250038–989, order replacement compressor no. 250040–126.

(II) This part is contained within the condenser unit assembly.

(III) For maintenance on soleniod valve no. 250031–810, order replacement solenoid no. 250031–322, replacement coil no. 250031–278, and replacement timer no. 250038–163.

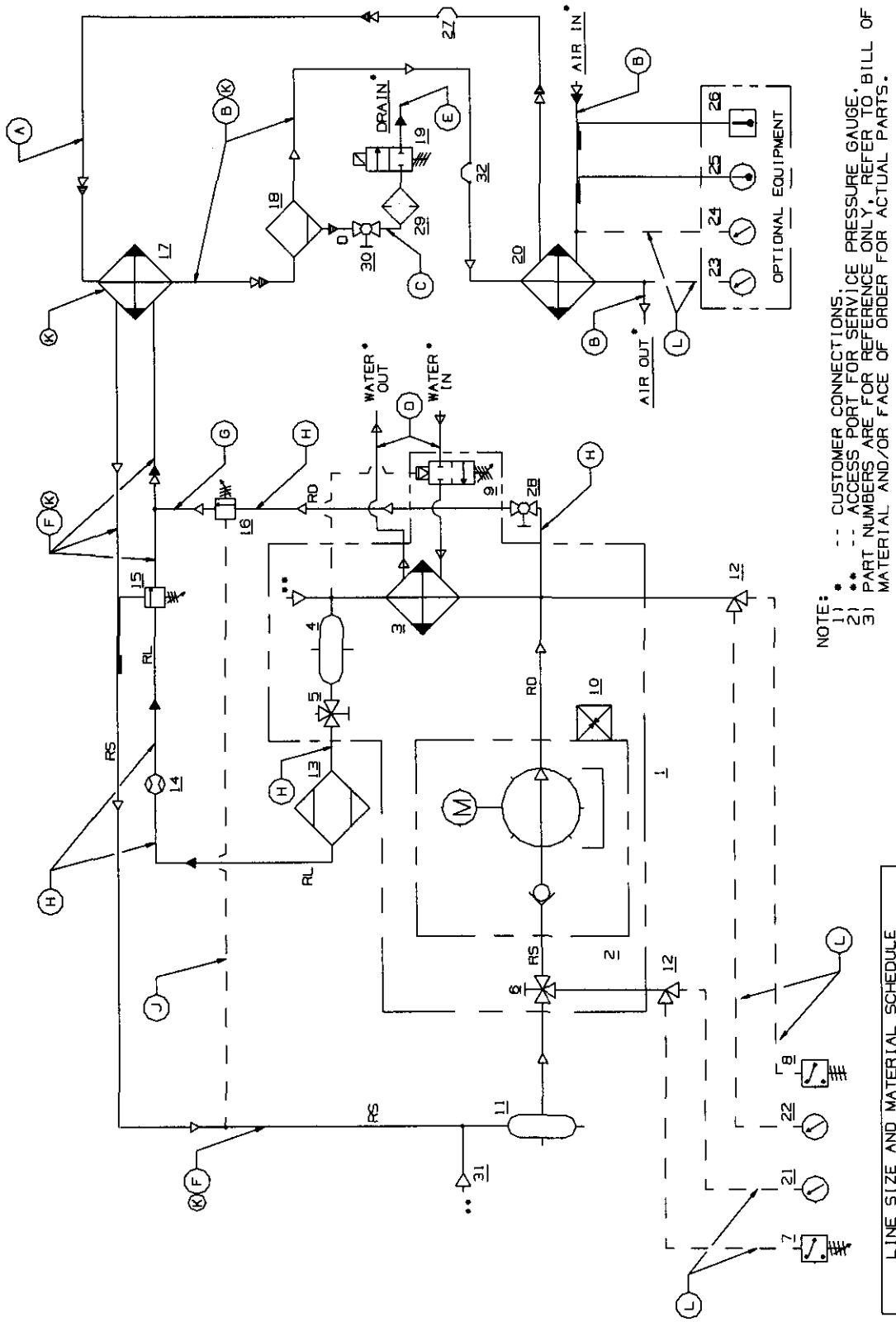
(IV) For flex coupling no. 040648, order replacement gasket no. 040649 (2 required).

(V) For maintenance on strainer no. 241771, order repair kit no. 241772.

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

ILLUSTRATIONS AND PARTS LIST

7.15 PIPING AND INSTRUMENTATION SRD 400 (WATER–COOLED)



NOTE:
1) * -- CUSTOMER CONNECTIONS.
2) ** -- ACCESS PORT FOR SERVICE PRESSURE GAUGE.
3) PART NUMBERS ARE FOR REFERENCE ONLY. REFER TO BILL OF MATERIAL AND/OR FACE OF ORDER FOR ACTUAL PARTS.

LINE SIZE AND MATERIAL SCHEDULE	
LETTER	LINE SIZE AND MATERIAL
A	2 1/2" SCHEDULE 40 BLACK PIPE
B	2" SCHEDULE 40 BLACK PIPE
C	1/4" SCHEDULE 40 GALV. PIPE
D	1/2" THERMOPLASTIC TUBING
E	1/4" THERMOPLASTIC TUBING
F	7/8" SOFT ANNEALED COPPER TUBING
G	5/8" SOFT ANNEALED COPPER TUBING
H	3/8" SOFT ANNEALED COPPER TUBING
J	1/4" SOFT ANNEALED COPPER TUBING
L	1/8" COPPER CAPILLARY TUBE
(K)	MUST BE INSULATED

LEGEND	
REFRIGERANT GAS/LIQUID	
REFRIGERANT DISCHARGE - RD	
REFRIGERANT LIQUID - RL	
REFRIGERANT SUCTION - RS	
WET AIR	
DRY AIR	
MOISTURE DRAIN - D	
CONTROL LINE	

7.15 PIPING AND INSTRUMENTATION SRD 400 (WATER–COOLED) (CONTINUED)

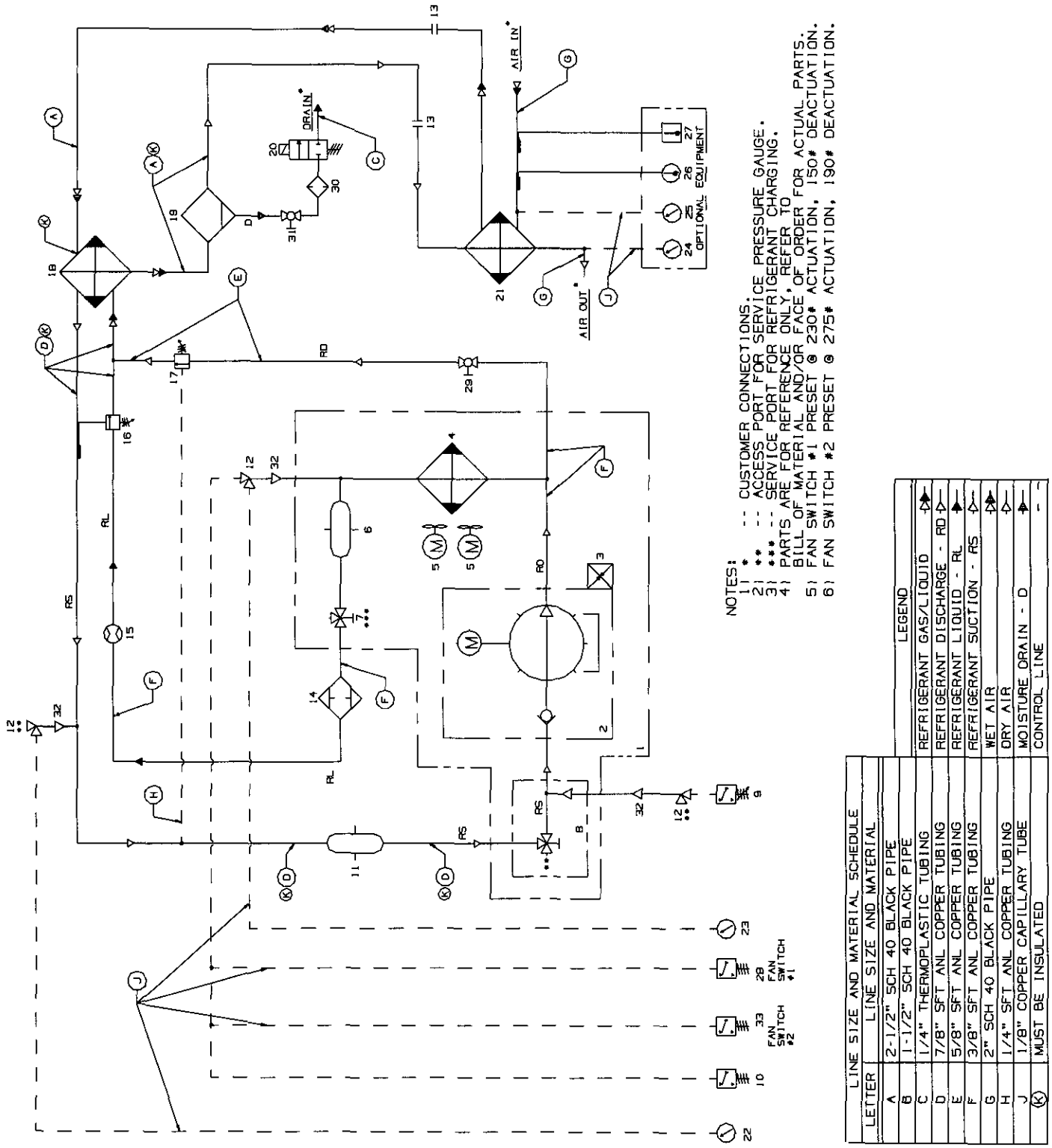
key number	*description*	*part number*	*quantity*
30	valve, ball 1/4" npt	047115	1
31	valve, access strt 1/4"	250023–191	1
32	coupling, flexible 2" (VI)	040913	1

(VI) For maintenance on flexible coupling no. 040913, order replacement gasket no. 040930 (2 required).

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

ILLUSTRATIONS AND PARTS LIST

7.16 PIPING AND INSTRUMENTATION SRD 500–630 (AIR–COOLED)



NOTES:
1) * -- CUSTOMER CONNECTIONS.
2) ** -- ACCESS PORT FOR SERVICE PRESSURE GAUGE.
3) *** -- SERVICE PORT FOR REFRIGERANT CHARGING.
4) PARTS ARE FOR REFERENCE ONLY, REFER TO BILL OF MATERIAL AND/OR FACE OF ORDER FOR ACTUAL PARTS.
5) FAN SWITCH #1 PRESET @ 230# ACTUATION, 150# DEACTUATION.
6) FAN SWITCH #2 PRESET @ 275# ACTUATION, 190# DEACTUATION.

LINE SIZE AND MATERIAL SCHEDULE	
LETTER	LINE SIZE AND MATERIAL
A	2-1/2" SCH 40 BLACK PIPE
B	1-1/2" SCH 40 BLACK PIPE
C	1/4" THERMOPLASTIC TUBING
D	7/8" SFT ANL COPPER TUBING
E	5/8" SFT ANL COPPER TUBING
F	3/8" SFT ANL COPPER TUBING
G	2" SCH 40 BLACK PIPE
H	1/4" SFT ANL COPPER TUBING
J	1/8" COPPER CAPILLARY TUBE
(K)	MUST BE INSULATED

LEGEND	
REFRIGERANT GAS/LIQUID	
REFRIGERANT DISCHARGE - RD	
REFRIGERANT LIQUID - RL	
REFRIGERANT SUCTION - RS	
WET AIR	
DRY AIR	
MOISTURE DRAIN - D	
CONTROL LINE	

7.16 PIPING AND INSTRUMENTATION SRD 500–630 (AIR–COOLED)

key number	*description*	*part number*	*quantity*
1	unit, cond 3hp–R22 460/3/60 (I)	405978	1
2	unit, compressor	(II)	1
3	heater, sump	(II)	1
4	coil, condensing air cooled	(II)	1
5	fan, motor & blade cooling	(II)	2
6	tank, receiver	(II)	1
7	valve, (part of receiver tank) press. tap	(II)	1
8	valve, rotolock–compr inlet	(II)	1
9	switch, low suction pressure	(II)	1
10	switch, high head pressure	(II)	1
11	accumulator, suction line	406408–005	1
12	valve, access tee 1/4"	250032–322	3
13	coupling, flexible 2" (III)	040913	2
14	fliter–dryer	406227	1
15	glass, sight moisture indicator	406482	1
16	valve, expansion	250038–200	1
17	valve, hot gas by–pass	406464–006	1
18	exchanger, heat, f x a srd 630	250027–271	1
19	moisture, separartor	250035–647	1
20	vlave, solenoid 1/4" n.c. (IV)	250038–163	1
21	exchanger, heat, a x a srd 630	250027–259	1
22	gauge, suction pressure	02250046–815	1
23	gauge, head pressure	02250046–909	1

(Continued on page 67)

(I) Key number items 2–10 come complete with the condenser unit. Recommended spare parts for the condenser unit are as follows:

compressor	406185	1
condenser	02250061–552	1
motor, fan	406129	1
blade, fan	250033–921	1
guard, fan	02250049–746	1

(II) This part is contained within the condenser unit assembly.

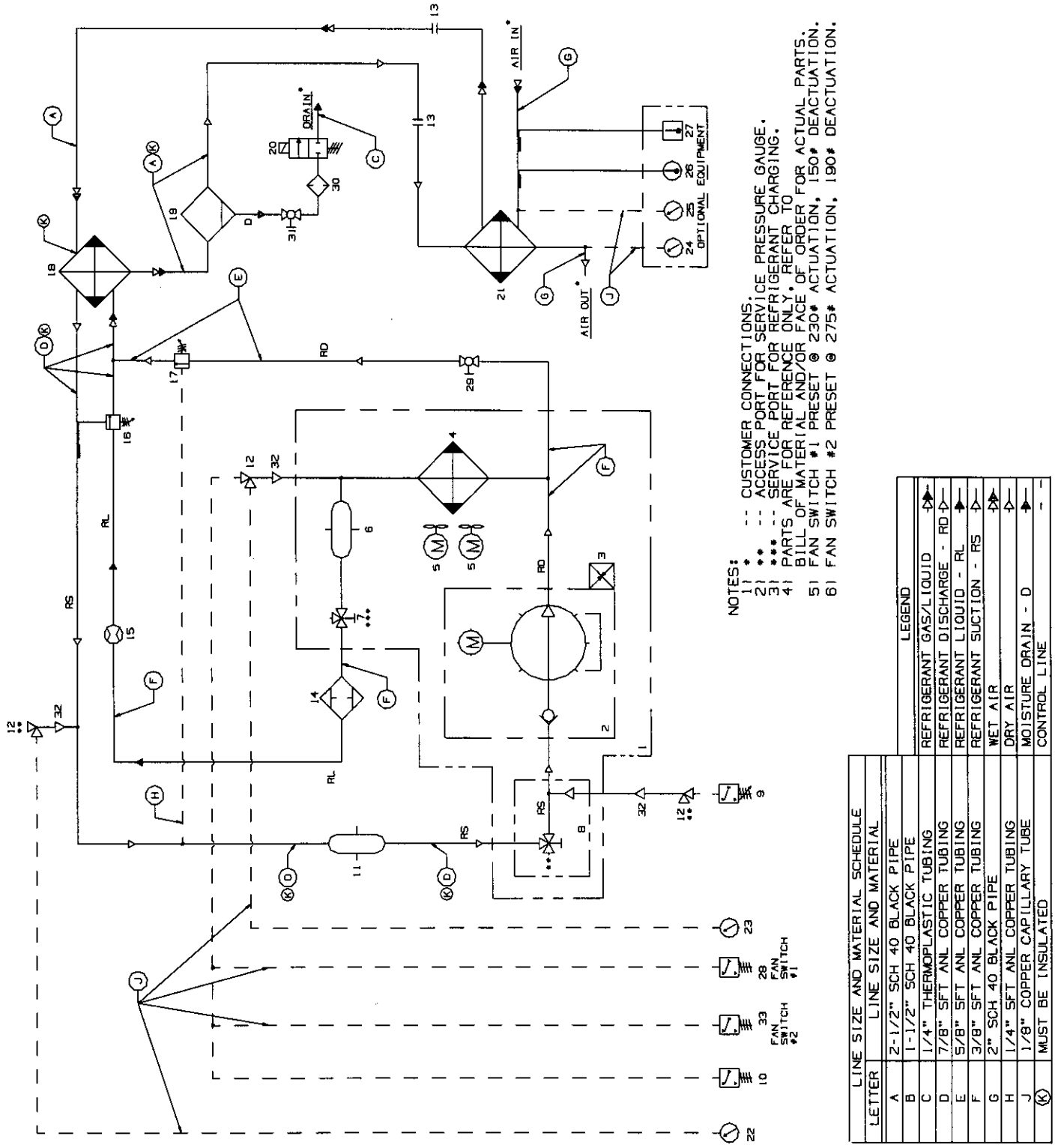
(III) For maintenance on flexible coupling no. 040913, order replacement gasket no. 040930 (2 required).

(IV) For maintenance on solenoid valve no. 250038–163, order repair kit no. 250031–322 (solenoid and operator), replacement solenoid no. 250031–278, and replacement timer no. 02250069–842.

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

ILLUSTRATIONS AND PARTS LIST

7.16 PIPING AND INSTRUMENTATION SRD 500–630 (AIR–COOLED)



NOTES:
1) * -- CUSTOMER CONNECTIONS.
2) ** -- ACCESS PORT FOR SERVICE PRESSURE GAUGE.
3) *** -- SERVICE PORT FOR REFRIGERANT CHARGING.
4) PARTS ARE FOR REFERENCE ONLY, REFER TO BILL OF MATERIAL AND/OR FACE OF ORDER FOR ACTUAL PARTS.
5) FAN SWITCH #1 PRESET @ 230# ACTUATION, 150# DEACTUATION.
6) FAN SWITCH #2 PRESET @ 275# ACTUATION, 190# DEACTUATION.

LINE SIZE AND MATERIAL SCHEDULE	
LETTER	LINE SIZE AND MATERIAL
A	2-1/2" SCH 40 BLACK PIPE
B	1-1/2" SCH 40 BLACK PIPE
C	1/4" THERMOPLASTIC TUBING
D	7/8" SFT ANL COPPER TUBING
E	5/8" SFT ANL COPPER TUBING
F	3/8" SFT ANL COPPER TUBING
G	2" SCH 40 BLACK PIPE
H	1/4" SFT ANL COPPER TUBING
J	1/8" COPPER CAPILLARY TUBE
(K)	MUST BE INSULATED

LEGEND	
REFRIGERANT GAS/LIQUID	
REFRIGERANT DISCHARGE - RD	
REFRIGERANT LIQUID - RL	
REFRIGERANT SUCTION - RS	
WET AIR	
DRY AIR	
MOISTURE DRAIN - D	
CONTROL LINE	- -

7.16 PIPING AND INSTRUMENTATION SRD 500–630 (AIR–COOLED) (CONTINUED)

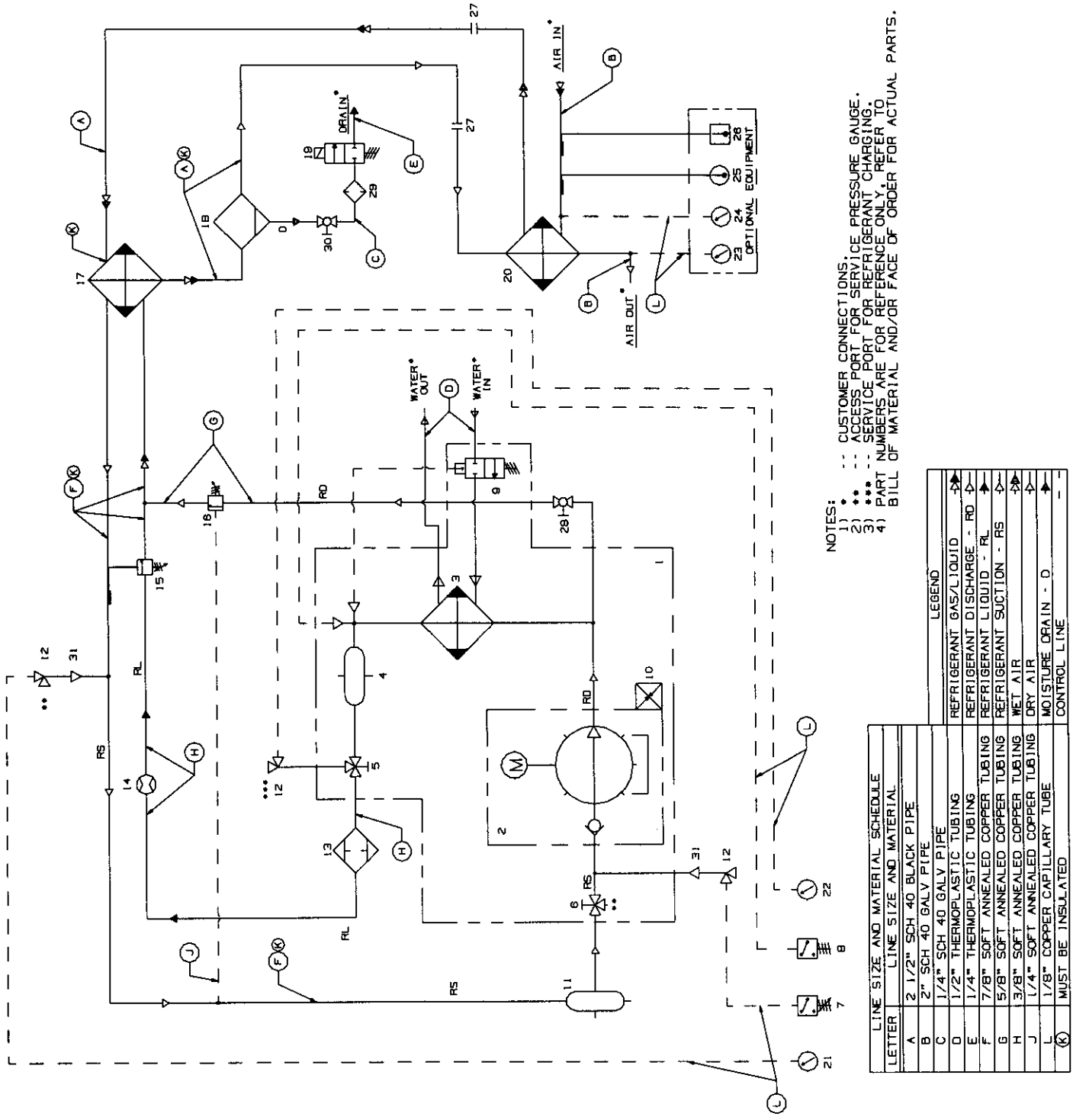
key number	*description*	*part number*	*quantity*
24	gauge, pressure 'air out'	250022–341	1
25	gauge, pressure 'air in'	250022–341	1
26	gauge, temp. 'air in'	250031–785	1
27	switch, temp high inlet air temp– n.o.	250032–326	1
28	switch, fan cycle– main	406174	1
29	valve, shut–off hand control 3/8"	406483–001	1
30	strainer, drain line– 1/4" (V)	241771	1
31	valve, ball 1/4" npt	047115	1
32	valve, access strt (solder)	250023–191	3
33	switch, fan cycle– secondary	406170	1

(V) For maintenance on strainer no. 241771, order repair kit no. 241772.

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

ILLUSTRATIONS AND PARTS LIST

7.17 PIPING AND INSTRUMENTATION SRD 500–630 (WATER–COOLED)



NOTES:
1) * -- CUSTOMER CONNECTIONS;
2) ** -- ACCESS PORT FOR SERVICE PRESSURE GAUGE.
3) *** -- SERVICE PORT FOR REFRIGERANT CHARGING.
4) PART NUMBERS ARE FOR REFERENCE ONLY, REFER TO BILL OF MATERIAL AND/OR FACE OF ORDER FOR ACTUAL PARTS.

LINE SIZE AND MATERIAL SCHEDULE	
LETTER	LINE SIZE AND MATERIAL
A	2 1/2" SCH 40 BLACK PIPE
B	2" SCH 40 GALV PIPE
C	1/4" SCH 40 GALV PIPE
D	1/2" THERMOPLASTIC TUBING
E	1/4" THERMOPLASTIC TUBING
F	7/8" SOFT ANNEALED COPPER TUBING
G	5/8" SOFT ANNEALED COPPER TUBING
H	3/8" SOFT ANNEALED COPPER TUBING
J	1/4" SOFT ANNEALED COPPER TUBING
L	1/8" COPPER CAPILLARY TUBE
(K)	MUST BE INSULATED

LEGEND	
	REFRIGERANT GAS/LIQUID
	REFRIGERANT DISCHARGE - RD
	REFRIGERANT LIQUID - RL
	REFRIGERANT SUCTION - RS
	WET AIR
	DRY AIR
	MOISTURE DRAIN - D
	CONTROL LINE

7.17 PIPING AND INSTRUMENTATION SRD 500–630 (WATER–COOLED)

key number	*description*	*part number*	*quantity*
1	unit, cond 3hp R–22 460/3/60 (I)	250038–990	1
2	unit, compressor	(II)	1
3	coil, condensing–water cooled	(II)	1
4	tank, receiver	(II)	1
5	valve, pressure tap (part of receiver tank)	(II)	1
6	valve, suction rotalock	(II)	1
7	switch, low suction pressure n.c.	(II)	1
8	switch, high discharge pressure n.c.	(II)	1
9	valve, water regulating	(II)	1
10	heater, sump	(II)	1
11	accumulator, suction	406408–005	1
12	vlave, access tee 1/4"	250032–322	3
13	fliter–dryer	406227	1
14	glass, sight –moisture indicator	406482	1
15	valve, expansion	250038–200	1
16	valve, hot gas by–pass	406464–006	1
17	exchanger, heat f x a srd 630	2500207–271	1
18	separator, moisture 2"	250035–647	1
19	valve, drain	250038–163	1
20	exchanger, heat a x a srd 630	250027–259	1
21	gauge, suction pressure	02250046–815	1
22	gauge, head pressure	02250046–909	1
23	gauge, pressure 'air out'	250022–341	1
24	gauge, pressure 'air in'	250022–341	1
25	guage, temp 'air in'	250031–785	1
26	switch, temp high inlet air temp n.o.	250032–326	1
27	coupling, flexible 2–1/2" (III)	040648	2
28	valve, shut–off hand control 3/8"	406483–001	1
29	strainer, drain line 1/4" (IV)	241771	1
30	valve, ball 1/4" npt	047115	1
31	valve, access strt 1/4"	250023–191	1

(I) For maintenance on condenser unit no. 250038–990, order replacement condenser no.02250050–625, and replacement compressor no. 250022–292.

(II) This part is contained within the condenser unit assembly.

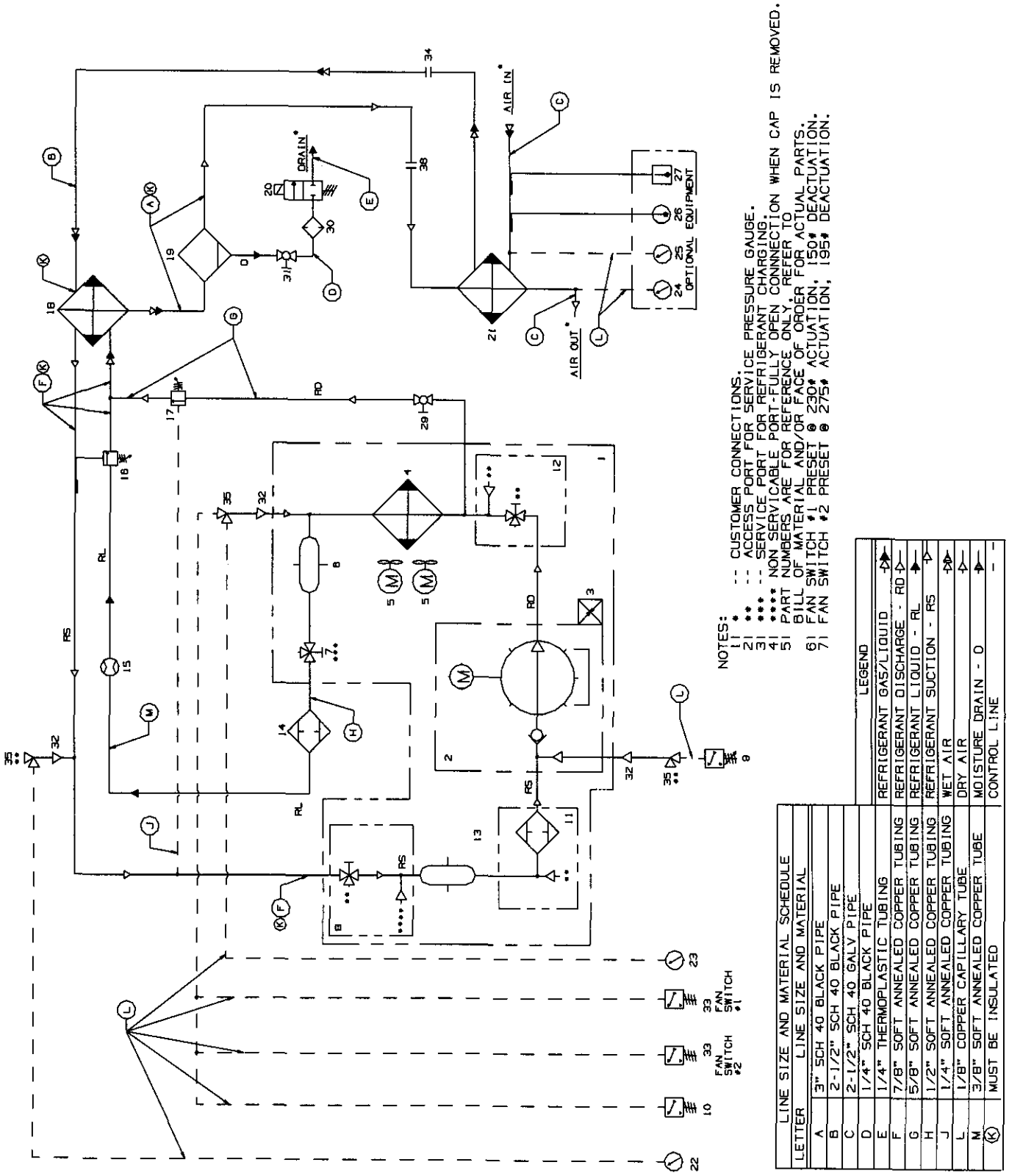
(III) For flex coupling no. 040648, order replacement gasket no. 040649 (2 required).

(IV) For maintenance on strainer no. 241771, order repair kit no. 241772.

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

ILLUSTRATIONS AND PARTS LIST

7.18 PIPING AND INSTRUMENTATION SRD 830 (AIR–COOLED)



NOTES:
1| * -- CUSTOMER CONNECTIONS.
2| ** -- ACCESS PORT FOR SERVICE PRESSURE GAUGE.
3| *** -- SERVICE PORT FOR REFRIGERANT CHARGING.
4| **** NON SERVICABLE PORT-FULLY OPEN CONNECTION WHEN CAP IS REMOVED.
5| PART NUMBERS ARE FOR REFERENCE ONLY, REFER TO BILL OF MATERIAL AND/OR FACE OF ORDER FOR ACTUAL PARTS.
6| FAN SWITCH #1 PRESET @ 230# ACTUATION, 150# DEACTUATION.
7| FAN SWITCH #2 PRESET @ 275# ACTUATION, 195# DEACTUATION.

LINE SIZE AND MATERIAL SCHEDULE	
LETTER	LINE SIZE AND MATERIAL
A	3" SCH 40 BLACK PIPE
B	2-1/2" SCH 40 BLACK PIPE
C	2-1/2" SCH 40 GALV PIPE
D	1/4" SCH 40 BLACK PIPE
E	1/4" THERMOPLASTIC TUBING
F	7/8" SOFT ANNEALED COPPER TUBING
G	5/8" SOFT ANNEALED COPPER TUBING
H	1/2" SOFT ANNEALED COPPER TUBING
J	1/4" SOFT ANNEALED COPPER TUBING
L	1/8" COPPER CAPILLARY TUBE
M	3/8" SOFT ANNEALED COPPER TUBE
(K)	MUST BE INSULATED

LEGEND	
REFRIGERANT GAS/LIQUID	
REFRIGERANT DISCHARGE - RD	
REFRIGERANT LIQUID - RL	
REFRIGERANT SUCTION - RS	
WET AIR	
DRY AIR	
MOISTURE DRAIN - D	
CONTROL LINE	

7.18 PIPING AND INSTRUMENTATION SRD 830 (AIR–COOLED)

key number	*description*	*part number*	*quantity*
1	unit, cond 4HP–R22 460/3/60 (I)	250039–659	1
2	unit, compressor	(II)	1
3	heater, sump	(II)	1
4	coil, condensing air–cooled	(II)	2
5	fan, motor and blade cooling	(II)	1
6	tank, receiver	(II)	1
7	valve, press tap (part of receiver tank)	(II)	1
8	valve, rotolock–accumulator	(II)	1
9	switch, low suction pressure	(II)	1
10	switch, high head pressure	(II)	1
11	filter, compressor inlet	(II)	1
12	valve, shut–off	(II)	1
13	accumulator, suction	(II)	1
14	dryer, filter	406466–001	1
15	glass, sight, moisture indicator	406482	1
16	valve, expansion	406466–004	1
17	valve, hot gas by–pas	406466–006	1
18	exchanger, heat f x a srd 830	250027–272	1
19	separator, moisture	250022–375	1
20	valve, solenoid 1/4 n.c. (III)	250031–810	1
21	exchanger, heat a x a srd 830	250027–260	1
22	gauge, suction pressure	02250046–815	1
23	gauge, head pressure	02250046–909	1
24	gauge, pressure 'air out'	250022–341	1
25	gauge, pressure 'air in'	250022–341	1

(Continued on page 73)

(I) Key number items 2–13 come complete with the condenser unit. Recommended spare parts for the condenser unit are as follows:

compressor	406398	1
condenser	02250061–553	1
motor, fan	406136	1
blade, fan	250039–683	1
rec, cond unit	02250101–470	1

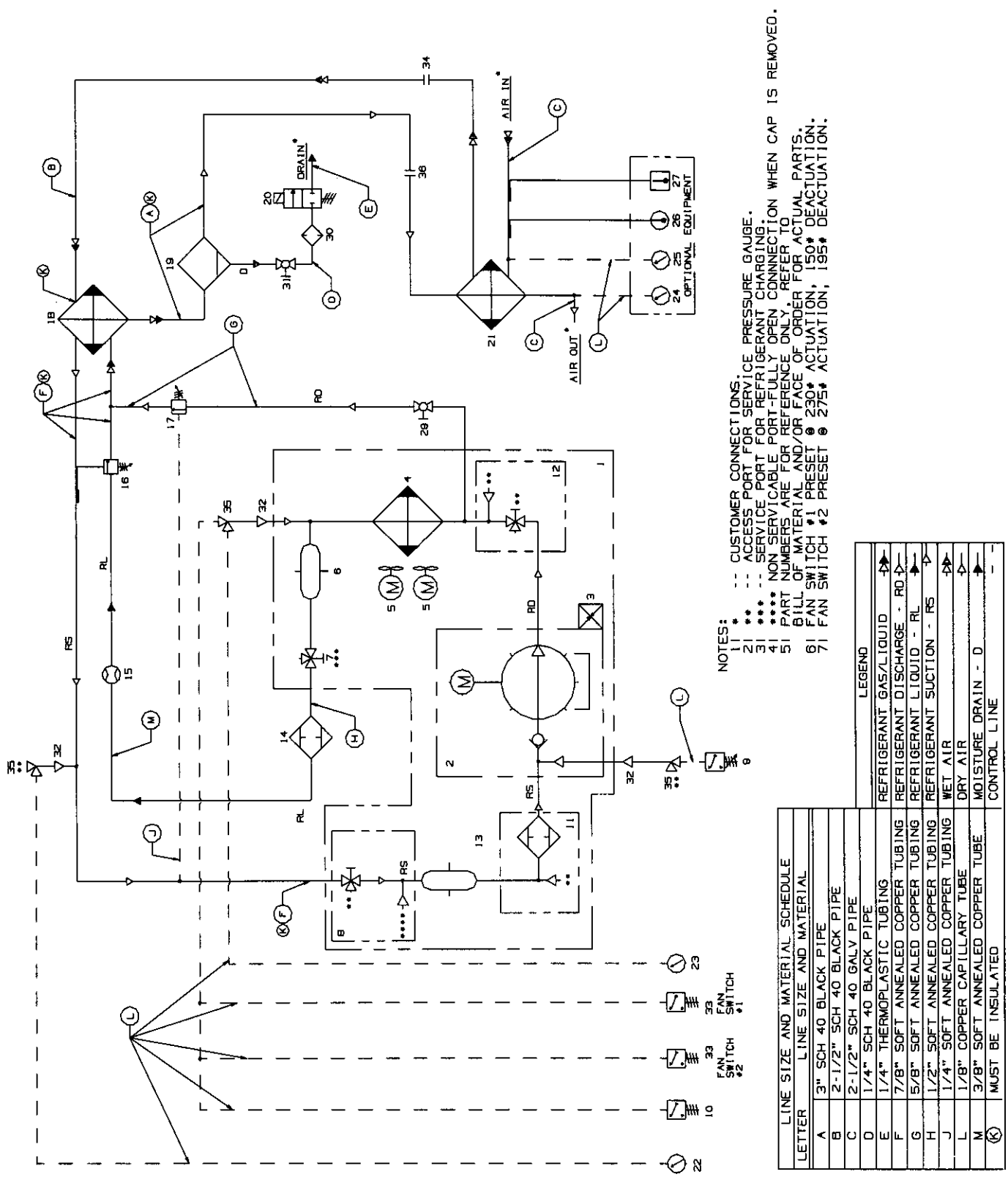
(II) This part is contained within the condenser unit assembly.

(III) For maintenance on solenoid valve no. 250031–810, order no. 250031–322, replacement coil no. 250031–278, and replacement timer no. 250038–163.

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

ILLUSTRATIONS AND PARTS LIST

7.18 PIPING AND INSTRUMENTATION SRD 830 (AIR–COOLED)



NOTES:
1. -- CUSTOMER CONNECTIONS.
2. ** -- ACCESS PORT FOR SERVICE PRESSURE GAUGE.
3. *** -- SERVICE PORT FOR REFRIGERANT CHARGING.
4. **** NON SERVICABLE PORT-FULLY OPEN CONNNECTION WHEN CAP IS REMOVED.
5. PART NUMBERS ARE FOR REFERENCE ONLY, REFER TO BILL OF MATERIAL AND/OR FACE OF ORDER FOR ACTUAL PARTS.
6. FAN SWITCH #1 PRESET @ 230# ACTUATION, 150# DEACTUATION.
7. FAN SWITCH #2 PRESET @ 275# ACTUATION, 195# DEACTUATION.

LINE SIZE AND MATERIAL SCHEDULE	
LETTER	LINE SIZE AND MATERIAL
A	3" SCH 40 BLACK PIPE
B	2-1/2" SCH 40 BLACK PIPE
C	2-1/2" SCH 40 GALV PIPE
D	1/4" SCH 40 BLACK PIPE
E	1/4" THERMOPLASTIC TUBING
F	7/8" SOFT ANNEALED COPPER TUBING
G	5/8" SOFT ANNEALED COPPER TUBING
H	1/2" SOFT ANNEALED COPPER TUBING
J	1/4" SOFT ANNEALED COPPER TUBING
L	1/8" COPPER CAPILLARY TUBE
M	3/8" SOFT ANNEALED COPPER TUBE
(K)	MUST BE INSULATED

LEGEND	
REFRIGERANT GAS/LIQUID	
REFRIGERANT DISCHARGE - RD	
REFRIGERANT LIQUID - RL	
REFRIGERANT SUCTION - RS	
WET AIR	
DRY AIR	
MOISTURE DRAIN - D	
CONTROL LINE	- -

7.18 PIPING AND INSTRUMENTATION SRD 830 (AIR–COOLED) (CONTINUED)

key number	*description*	*part number*	*quantity*
26	gauge, temp. 'air in'	250031–785	1
27	switch, temp high inlet air temp n.o.	250032–326	1
28	switch, fan cycle– main	406174	1
29	valve, shut–off hand control– 5/8"	406483–003	1
30	strainer, drain line 1/4" (IV)	241771	1
31	valve, ball 1/4" npt	047115	1
32	valve, acces strt (solder)	250023–191	3
33	switch, fan cycle– secondary	406170	1
34	coupling, flexible 2 1/2" (V)	040913	1
35	valve, access tee 1/4"	250032–322	3
36	coupling, fliexible 3" (VI)	040327	1

(IV) For maintenance on strainer no. 241771, order repair kit no. 241772.

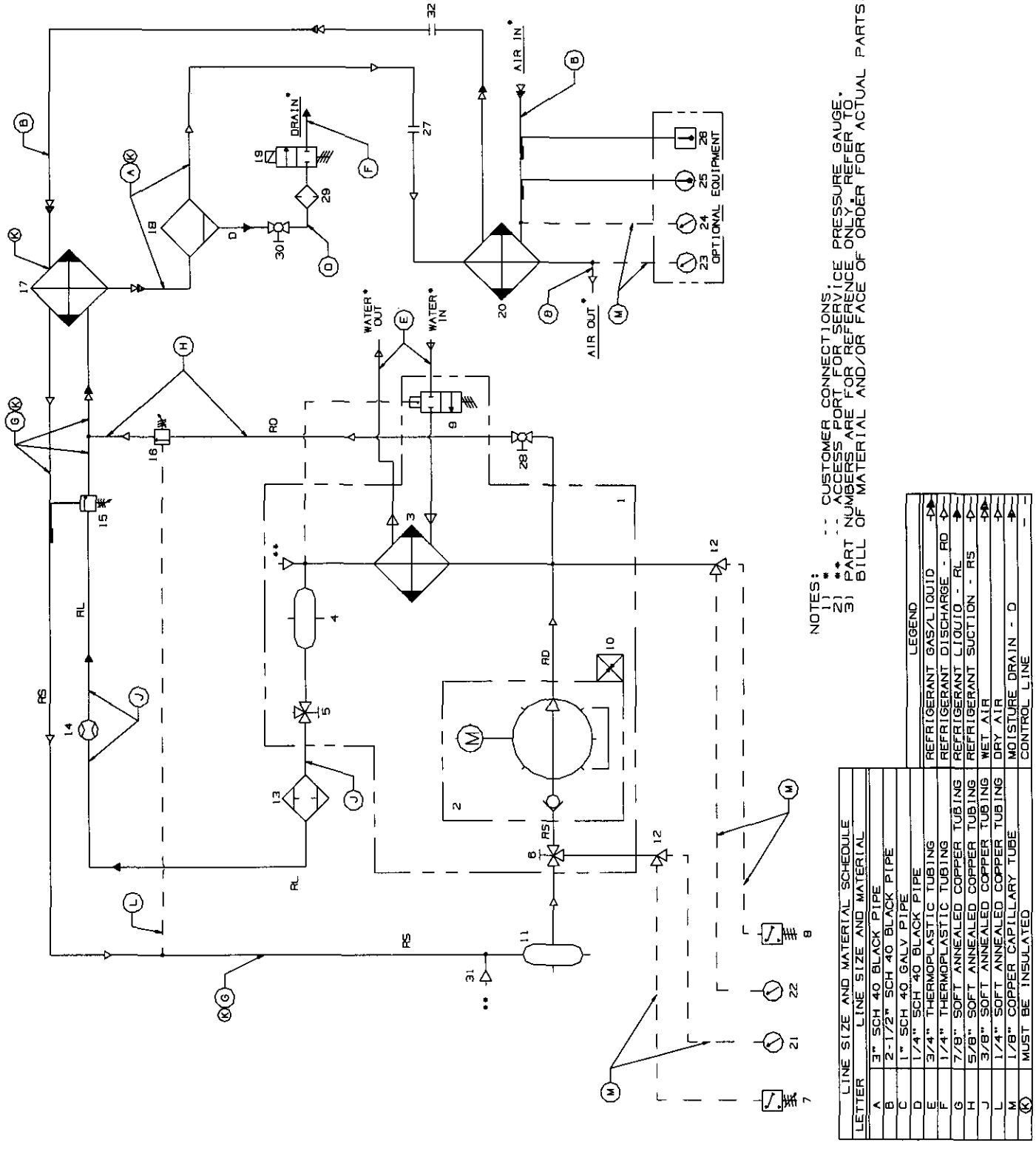
(V) For maintenance on flexible coupling no. 040913, order replacement gasket no. 040930 (2 required).

(VI) For maintenance on flexible coupling no. 040327, order replacement gasket no. 040523 (2 required).

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

ILLUSTRATIONS AND PARTS LIST

7.19 PIPING AND INSTRUMENTATION SRD 830 (WATER–COOLED)



7.19 PIPING AND INSTRUMENTATION SRD 830 (WATER–COOLED)

key number	*description*	*part number*	*quantity*
1	unit, cond 4hp R–22 460/3/60 (I)	250038–991	1
2	unit, compressor	(II)	1
3	coil, condensing–water cooled	(II)	1
4	tank, receiver	(II)	1
5	valve, pressure tap (part of receiver tank)	(II)	1
6	valve, suction rotalock	(II)	1
7	switch, low suction pressure n.c.	(II)	1
8	switch, high discharge pressure n.c.	(II)	1
9	valve, water regulating	(II)	1
10	heater, sump	(II)	1
11	accumulator, suction	406408–006	1
12	valve, access tee 1/4"	250032–322	2
13	fliter–dryer	406227	1
14	glass, sight –moisture indicator	406482	1
15	valve, expansion	406466–004	1
16	valve, hot gas by–pass	406464–006	1
17	exchanger, heat f x a srd 830	250027–272	1
18	separator, moisture	250022–375	1
19	valve, solenoid 1/4" n.c. (III)	250031–810	1
20	exchanger, heat a x a srd 830	250027–260	1
21	gauge, suction pressure	02250046–815	1
22	gauge, head pressure	02250046–909	1
23	gauge, pressure 'air out'	250022–341	1
24	gauge, pressure 'air in'	250022–341	1
25	guage, temp 'air in'	250031–785	1
26	switch, temp high inlet air temp n.o.	250032–326	1
27	coupling, flexible 3" (Iv)	040327	1
28	valve, shut–off hand control 5/8"	406483–003	1

(Continued on page 77)

(I) For maintenance on condenser unit, order replacement condenser no. 02250052–070, and/or replacement compressor no. 250022–295.

(II) This part is contained within the condenser unit assembly.

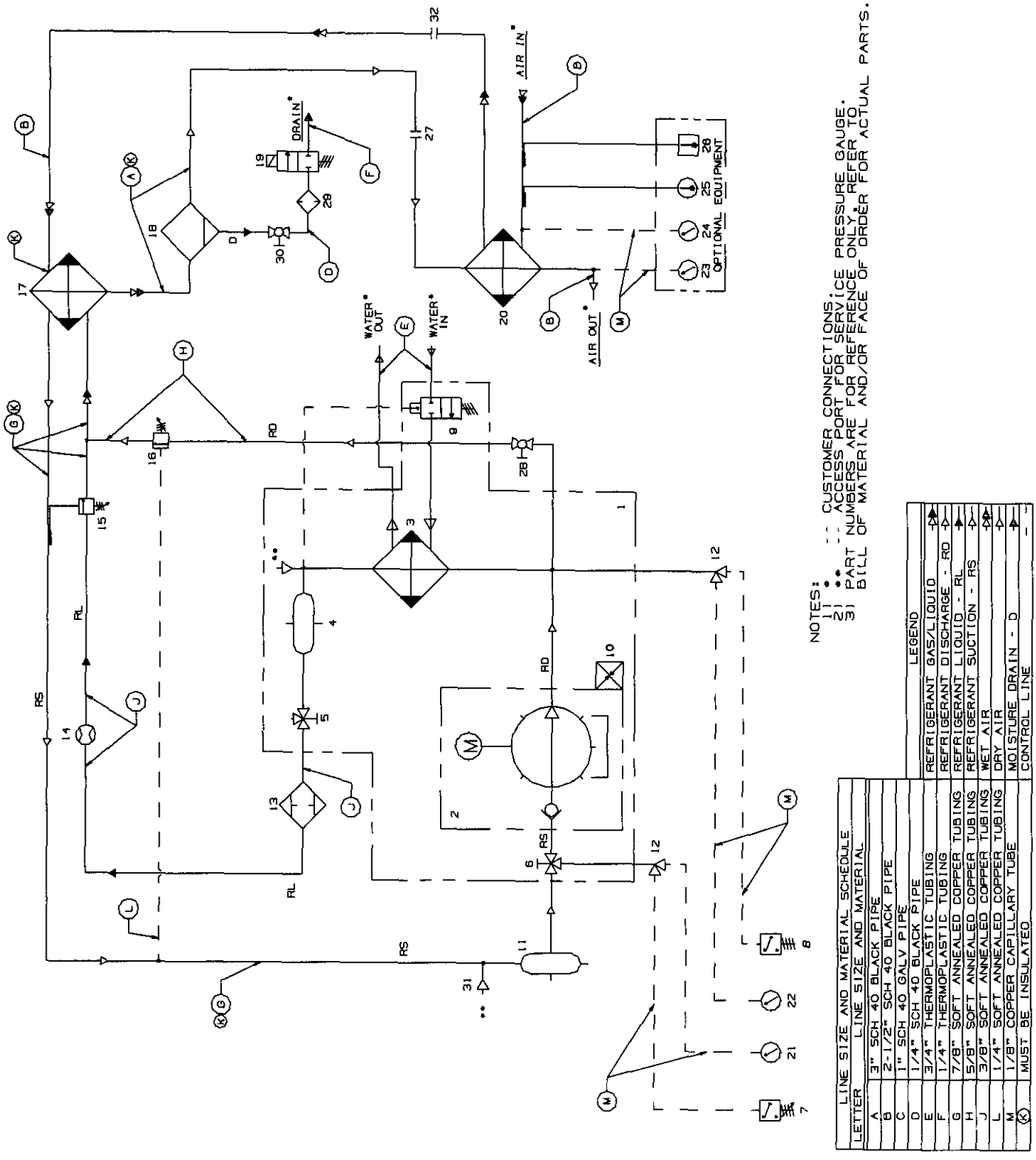
(III) For maintenance on solenoid valve no. 250031–810, order no. 250031–322, replacement coil no. 250031–278, and replacement timer no. 250038–163.

(IV) For maintenance on flexible coupling no. 040327, order replacement gasket no. 040523 (2 required).

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

ILLUSTRATIONS AND PARTS LIST

7.19 PIPING AND INSTRUMENTATION SRD 830 (WATER–COOLED)



7.19 PIPING AND INSTRUMENTATION SRD 830 (WATER–COOLED) (CONTINUED)

key number	*description*	*part number*	*quantity*
29	strainer, drain line 1/4" (V)	241771	1
30	valve, ball 1/4" npt	047115	1
31	valve, access strt 1/4"	250023–191	1
32	coupling, flexible 2–1/2" (VI)	040648	1

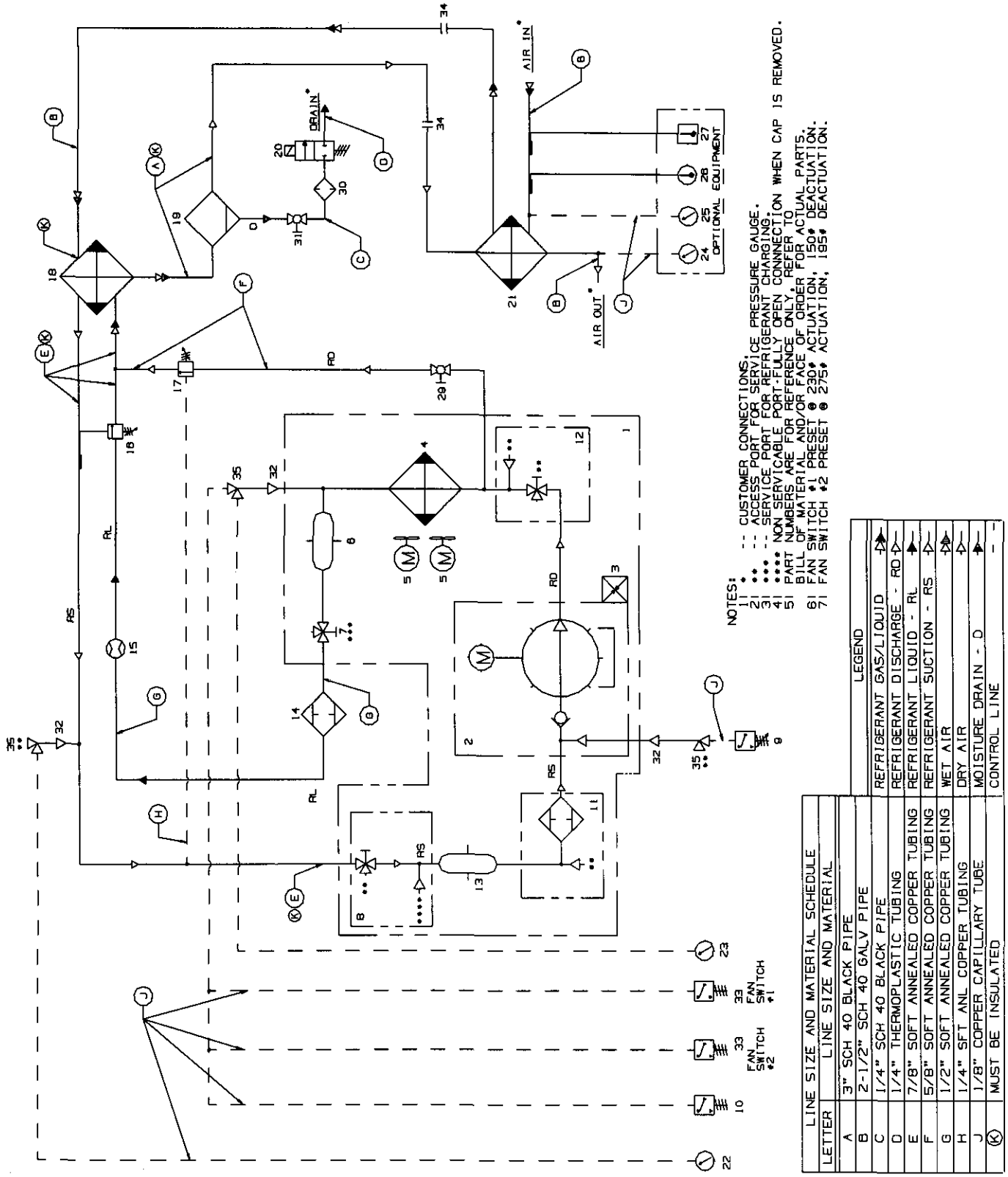
(V) For maintenance on strainer no. 241771, order repair kit no. 241772.

(VI) For maintenance on flexible coupling no. 040648, order replacement gasket no. 040649 (2 required).

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

ILLUSTRATIONS AND PARTS LIST

7.20 PIPING AND INSTRUMENTATION SRD 1000 (AIR–COOLED)



NOTES:
1) * -- CUSTOMER CONNECTIONS.
2) ** -- ACCESS PORT FOR SERVICE PRESSURE GAUGE.
3) *** -- SERVICE PORT FOR REFRIGERANT CHARGING.
4) **** NON SERVICEABLE PORT-FULLY OPEN CONNECTION WHEN CAP IS REMOVED.
5) PART NUMBERS ARE FOR REFERENCE ONLY. REFER TO BILL OF MATERIAL AND/OR FACE OF ORDER FOR ACTUAL PARTS.
6) FAN SWITCH #1 PRESET @ 230# ACTUATION, 150# DEACTUATION.
7) FAN SWITCH #2 PRESET @ 275# ACTUATION, 195# DEACTUATION.

LINE SIZE AND MATERIAL SCHEDULE		LEGEND	
LETTER	LINE SIZE AND MATERIAL		
A	3" SCH 40 BLACK PIPE	REFRIGERANT GAS/LIQUID	
B	2-1/2" SCH 40 GALV PIPE	REFRIGERANT DISCHARGE - RD	
C	1/4" SCH 40 BLACK PIPE	REFRIGERANT LIQUID - RL	
D	1/4" THERMOPLASTIC TUBING	REFRIGERANT SUCTION - RS	
E	7/8" SOFT ANNEALED COPPER TUBING	WET AIR	
F	5/8" SOFT ANNEALED COPPER TUBING	DRY AIR	
G	1/2" SOFT ANNEALED COPPER TUBING	MOISTURE DRAIN - D	
H	1/4" SFT ANL COPPER TUBING	CONTROL LINE	- -
J	1/8" COPPER CAPILLARY TUBE		
(K)	MUST BE INSULATED		

7.20 PIPING AND INSTRUMENTATION SRD 1000 (AIR–COOLED)

key number	*description*	*part number*	*quantity*
1	unit, cond 5HP–R22 460/3/60 (I)	250039–174	1
2	unit, compressor	(II)	1
3	heater, sump	(II)	1
4	coil, condensing air –cooled	(II)	1
5	fan, motor and blade cooling	(II)	2
6	tank, receiver	(II)	1
7	valve, press tap (part of receiver tank)	(II)	1
8	valve, rotolock–accumulator	(II)	1
9	switch, low suction pressure	(II)	1
10	switch, high head pressure	(II)	1
11	filter, compressor inlet	(II)	1
12	valve, shut–off	(II)	1
13	accumulator, suction	(II)	1
14	dryer, filter	406227–001	1
15	glass, sight moisture inidicator	406482–001	1
16	valve, expansion	406466–005	1
17	valve, hot gas by–pass	406464–006	1
18	exchanger, heat f x a srd 830/1000	250027–272	1
19	separator, moisture	250022–375	1
20	valve, solenoid 1/4" n.c. (III)	250031–810	1
21	exchanger, heat a x a srd 830	02250044–782	1
22	gauge, suction pressure	02250046–815	1
23	gauge, head pressure	02250046–909	1
24	gauge, pressure 'air out'	2500022–341	1
25	gauge, pressure 'air in'	2500022–341	1
26	gauge, temp. 'air in'	250031–785	1

(Continued on page 81)

(I) Key number items 2–13 come complete with the condenser unit. Recommended spare parts for *the condenser unit are as follows:*

compressor	406187	1
condeser	02250061–558	1
motor, fan	406136	1
blade, fan	406134	1

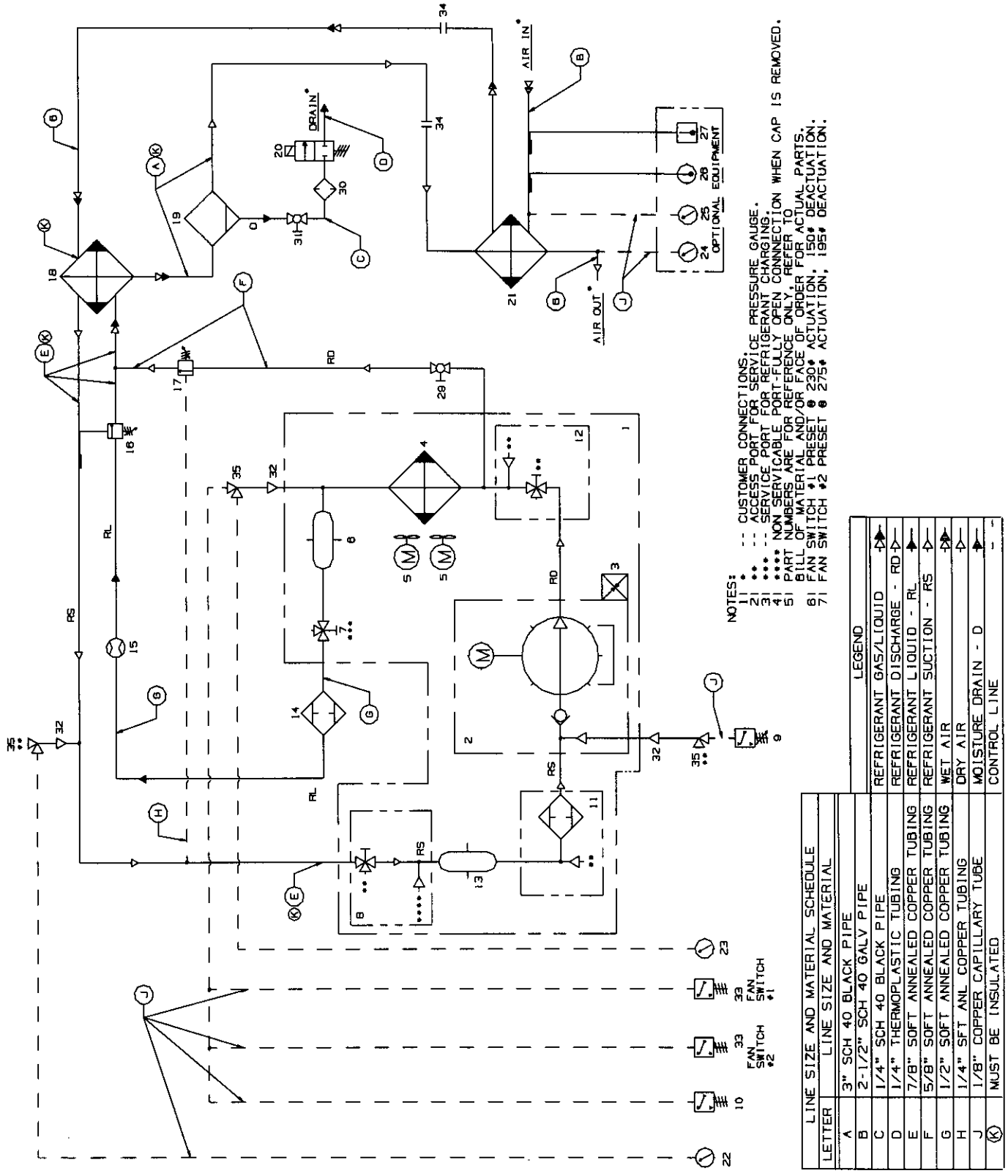
(II) This part is contained within the condenser unit assembly.

(III) For maintenance on solenoid valve no. 250031–810, order no. 250031–322, replacement coil no. 250031–278, and replacement timer no. 250038–163.

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

ILLUSTRATIONS AND PARTS LIST

7.20 PIPING AND INSTRUMENTATION SRD 1000 (AIR–COOLED)



LINE SIZE AND MATERIAL SCHEDULE		LEGEND
LETTER	LINE SIZE AND MATERIAL	
A	3" SCH 40 BLACK PIPE	
B	2-1/2" SCH 40 GALV PIPE	REFRIGERANT GAS/LIQUID
C	1/4" SCH 40 BLACK PIPE	REFRIGERANT DISCHARGE - RD
D	1/4" THERMOPLASTIC TUBING	REFRIGERANT LIQUID - RL
E	7/8" SOFT ANNEALED COPPER TUBING	REFRIGERANT SUCTION - RS
F	5/8" SOFT ANNEALED COPPER TUBING	WET AIR
G	1/2" SOFT ANNEALED COPPER TUBING	DRY AIR
H	1/4" SFT ANL COPPER TUBING	MOISTURE DRAIN - D
J	1/8" COPPER CAPILLARY TUBE	CONTROL LINE
(K)	MUST BE INSULATED	

7.20 PIPING AND INSTRUMENTATION SRD 1000 (AIR–COOLED)

key number	*description*	*part number*	*quantity*
27	switch, temp high inlet air temp n.o.	250032–326	1
28	switch, fan cycle– main	406174	1
29	valve, shut–off hand control 5/8"	406483–003	1
30	strainer, drain line 1/4" (IV)	241771	1
31	valve, ball 1/4" npt	047115	1
32	valve, access strt (solder)	250023–191	3
33	switch, fan cycle– secondary	406170	1
34	coupling, flexible 3" (V)	040327	1
35	valve, access tee 1/4"	250032–322	3

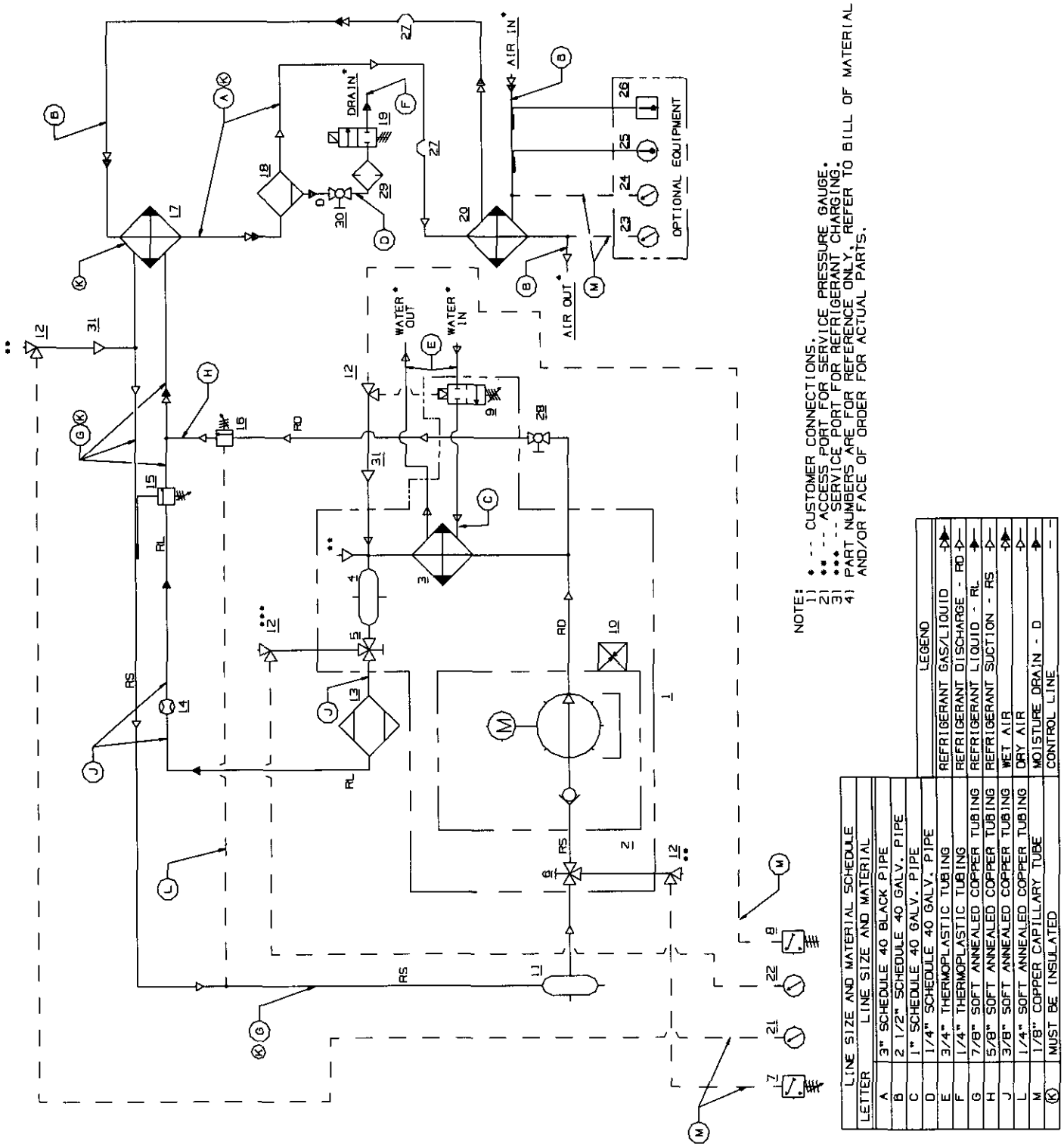
(IV) For maintenance on strainer no. 241771, order repair kit no. 241772.

(V) For maintenance on flexible coupling no. 040327, order replacement gasket no. 040523 (2 required).

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

ILLUSTRATIONS AND PARTS LIST

7.21 PIPING AND INSTRUMENTATION SRD 1000 (WATER-COOLED)



LINE SIZE AND MATERIAL SCHEDULE	
LETTER	LINE SIZE AND MATERIAL
A	3" SCHEDULE 40 BLACK PIPE
B	2 1/2" SCHEDULE 40 GALV. PIPE
C	1" SCHEDULE 40 GALV. PIPE
D	1/4" SCHEDULE 40 GALV. PIPE
E	3/4" THERMOPLASTIC TUBING
F	1/4" THERMOPLASTIC TUBING
G	7/8" SOFT ANNEALED COPPER TUBING
H	5/8" SOFT ANNEALED COPPER TUBING
J	3/8" SOFT ANNEALED COPPER TUBING
L	1/4" SOFT ANNEALED COPPER TUBING
M	1/8" COPPER CAPILLARY TUBE
(K)	MUST BE INSULATED

LEGEND	
	REFRIGERANT GAS/LIQUID
RD	REFRIGERANT DISCHARGE
RL	REFRIGERANT LIQUID
RS	REFRIGERANT SUCTION
	WET AIR
	DRY AIR
D	MOISTURE DRAIN
-	CONTROL LINE

7.21 PIPING AND INSTRUMENTATION SRD 1000 (WATER-COOLED)

key number	*description*	*part number*	*quantity*
1	unit, condenser – 4hp – r–22 460/3/60 (I)	250038–991	1
2	compressor unit	(II)	1
3	condensing coil – water cooled	(II)	1
4	receiver tank	(II)	1
5	valve, pressure tap(part of rec tank)	(II)	1
6	valve, suction rotalock	(II)	1
7	low suction pressure switch – n.c.	(II)	1
8	high discharge pressure switch – n.c.	(II)	1
9	water regulating valve	(II)	1
10	sump heater	(II)	1
11	suction accumulator	250031–837	1
12	valve, access tee – 1/4"	250032–322	4
13	filter–dryer	406227	1
14	sight glass–moisture indicator	406482	1
15	valve, expansion	406466–004	1
16	valve, hot gas by–pass	406464–009	1
17	heat exchanger, fxa srd–1000	250027–272	1
18	separator, moisture – 3"	250022–375	1
19	valve, solenoid 1/4" n.c. (III)	250031–810	1
20	heat exchanger, axa srd–1000	02250044–782	1
21	gauge, suction pressure	02250046–815	1
22	gauge, head pressure	02250046–909	1
23	gauge, pressure 'air out'	406047	1
24	gauge, pressure 'air in'	406047	1
25	gauge, temp. 'air in'	250031–785	1
26	switch, temp high inlet air temp–n.o.	250032–326	1
27	coupling, flexmaster–3" (IV)	040327	2
28	valve, shut–off hand control–5/8"	406483–003	1

(Continued on page 85)

(I) For maintenance on condenser unit, order replacement condenser no. 02250052–070, and/or replacement compressor no. 250022–295.

(II) This part is contained within the condenser unit assembly.

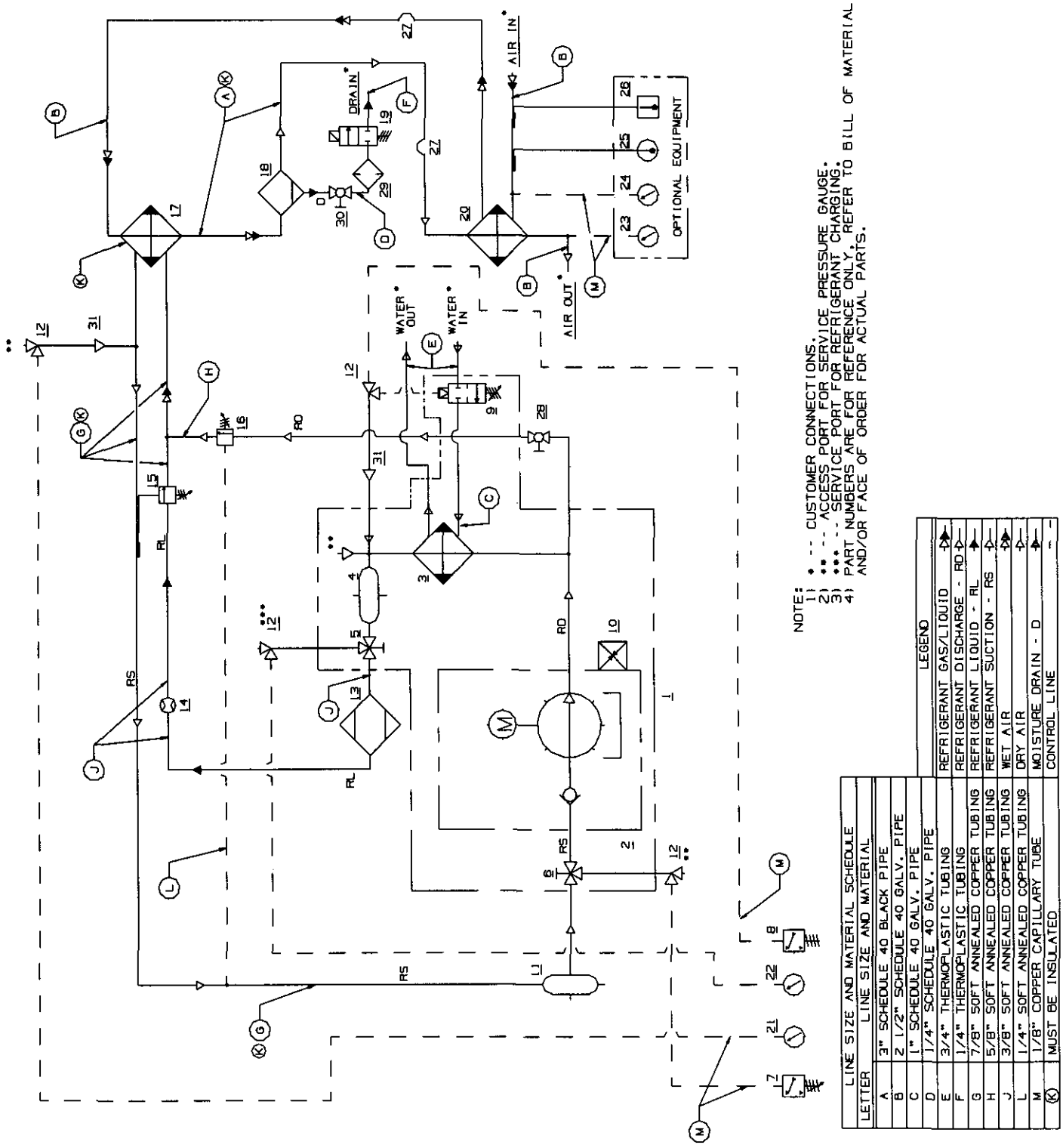
(III) For maintenance on solenoid valve no. 250031–810, order no. 250031–322, replacement coil no. 250031–278, and replacement timer no. 250038–163.

(IV) For maintenance on flexible coupling no. 040327, order replacement gasket no. 040523 (2 required).

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

ILLUSTRATIONS AND PARTS LIST

7.21 PIPING AND INSTRUMENTATION SRD 1000 (WATER–COOLED)



LINE SIZE AND MATERIAL SCHEDULE	
LETTER	LINE SIZE AND MATERIAL
A	3" SCHEDULE 40 BLACK PIPE
B	2 1/2" SCHEDULE 40 GALV. PIPE
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D	1/4" SCHEDULE 40 GALV. PIPE
E	3/4" THERMOPLASTIC TUBING
F	1/4" THERMOPLASTIC TUBING
G	7/8" SOFT ANNEALED COPPER TUBING
H	5/8" SOFT ANNEALED COPPER TUBING
J	3/8" SOFT ANNEALED COPPER TUBING
L	1/4" SOFT ANNEALED COPPER TUBING
M	1/8" COPPER CAPILLARY TUBE
(K)	MUST BE INSULATED

LEGEND	
REFRIGERANT GAS/LIQUID	◁▷
REFRIGERANT DISCHARGE - RD	◁▷
REFRIGERANT LIQUID - RL	◁▷
REFRIGERANT SUCTION - RS	◁▷
WET AIR	◁▷
DRY AIR	◁▷
MOISTURE DRAIN - D	◁▷
CONTROL LINE	- -

7.21 PIPING AND INSTRUMENTATION SRD 1000 (WATER–COOLED) (CONTINUED)

key number	*description*	*part number*	*quantity*
29	strainer, drain line–1/4" (V)	241771	1
30	valve, ball 1/4" npt	047115	1
31	valve, access strt. 1/4"	250023–191	2

(V) For maintenance on strainer no. 241771, order repair kit no. 241772.

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

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