SULLAIR

INDUSTRIAL ROTARY SCREW AIR COMPRESSOR

LS25S

200-350HP/ 149-261KW

AIR-COOLED & WATER-COOLED STANDARD AND 24KT

OPERATOR'S MANUAL AND PARTS LIST

KEEP FOR FUTURE REFERENCE

Part Number 02250137-621

AIR CARE
SEMINAR TRAINING

Sullair Air Care Seminars are 3-day courses that provide hands-on instruction in the proper operation, maintenance and service of Sullair equipment. Individual seminars on Industrial compressors and compressor electrical systems are presented at regular intervals throughout the year at a dedicated training facility at Sullair's corporate headquarters in Michigan City, Indiana.

Instruction includes discussion of the function and installation of Sullair service parts, troubleshooting of the most common problems, and actual equipment operation. The seminars are recommended for maintenance and service personnel.

For detailed course outlines, schedule and cost information contact:

Sullair Corporate Training Department
1-800-SULLAIR or 219-879-5451 (ext. 5630)
www.sullair.com/training.shtm
- Or Write -
Sullair Corporation
3700 E. Michigan Blvd.
Michigan City, IN 46360
Attn: Service Training Department

TABLE OF CONTENTS

OPERATOR IS REQUIRED TO READ ENTIRE INSTRUCTION MANUAL

TABLE OF CONTENTS

TABLE OF CONTENTS

Section 7
MAINTENANCE (Continued)

Section 8
ILLUSTRATION AND PARTS LIST

TABLE OF CONTENTS

Section 8
ILLUSTRATION AND PARTS LIST (Cont.)

Section 1
SAFETY

1.1 GENERAL

Sullair Corporation and its subsidiaries design and manufacture all of their 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 compressor 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. Read this manual prior to startup.

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

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

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

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

1.2 PERSONAL PROTECTIVE EQUIPMENT

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

1.3 PRESSURE RELEASE

A. Install an appropriate flow-limiting valve between the service air outlet and the shut-off (throttle) valve, either at the compressor or at any other point along the air line, when an air hose exceeding 1/2" (13mm) inside diameter is to be connected to the shut-off (throttle) valve, to reduce pressure in case of hose failure, per all applicable Federal, State and Local codes, standards and regulations.

B. When the hose is to be used to supply a manifold, install an additional appropriate flow-limiting valve between the manifold and each air hose exceeding 1/2" (13mm) inside diameter that is to be connected to the manifold to reduce pressure in case of hose failure.

C. Provide an appropriate flow-limiting valve at the beginning of each additional 75 feet (23m) of hose in runs of air hose exceeding 1/2" (13mm) inside diameter to reduce pressure in case of hose failure.

D. Flow-limiting valves are listed by pipe size and rated CFM. Select appropriate valves accordingly, in accordance with their manufacturer's recommendations.

E. DO NOT use air tools that are rated below the maximum rating of the compressor. Select air tools, air hoses, pipes, valves, filters, and other fittings accordingly. **DO NOT** exceed manufacturer's rated safe operating pressures for these items.

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

G. Open fluid filler cap only when compressor is not running and is not pressurized. Shut down the compressor and bleed the sump (receiver) to zero internal pressure before removing the cap.

H. Vent all internal pressure prior to opening any line, fitting, hose, valve, drain plug, connection or other component, such as filters and line oilers, and before attempting to refill optional air line anti-icer systems with antifreeze compound.

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

J. 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.

K. DO NOT engage in horseplay with air hoses as death or serious injury may result.

L. DO NOT tamper with sump and unit (if provided) relief valves. Check the relief valve as recommended in the Maintenance Section of this manual

or at a minimum of at least weekly to make sure it is not blocked, clogged, obstructed or otherwise disabled. **DO NOT** change the factory setting of the relief valve.

M. If the compressor is installed in an enclosed area, it is necessary to vent the relief valve to the outside of the structure or to an area of non-exposure.

1.4 FIRE AND EXPLOSION

⚠ WARNING

When installing a Base Load Transfer (BLT) System, remove jumpers between 16-17 & 18-19 (Dual Control Compressors) so the other compressor does not backfeed defeating the shutdown circuitry.

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

B. Shut off the compressor and allow it to cool. Then keep sparks, flames and other sources of ignition away and **DO NOT** permit smoking in the vicinity when checking or adding lubricant or when refilling air line anti-icer systems with antifreeze compound.

C. DO NOT permit fluids, including air line anti-icer system antifreeze compound or fluid film to accumulate on, under, or around acoustical material, or on any external surfaces of the air compressor 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.

D. Disconnect and lock out all power at source prior to attempting any repairs or cleaning of the compressor 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 fire extinguisher or extinguishers nearby when servicing and operating the compressor.

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

J. DO NOT operate the compressor 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 in any classification of hazardous environment unless the compressor 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 compressor with the fan, coupling or other guards removed.

C. Wear snug-fitting clothing and confine long hair when working around this compressor, 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 compressor prior to attempting to start or operate it.

F. Disconnect and lock out all power at source and verify at the compressor 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 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 compressor.

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 compressor for respiration (breathing) except in full compliance with any Federal, State or Local Codes or regulations.

⚠ DANGER

Death or serious injury can result from inhaling compressed air without using proper safety equipment.

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 compressor only in open or adequately ventilated areas.

D. Locate the compressor or provide a remote inlet so that it is not likely to ingest exhaust fumes or other toxic, noxious or corrosive fumes or substances.

E. Coolants and lubricants used in this compressor are typical of the industry. Care should be taken to avoid accidental ingestion and/or skin contact. In the event of ingestion, seek medical treatment promptly. Wash with soap and water in the event of skin contact. Consult the compressor operator's manual lubrication section for information pertaining to compressor fluid fill.

F. Wear goggles or a full face shield when adding antifreeze compound to air line anti-icer systems.

G. If air line anti-icer system antifreeze compound enters the eyes or if fumes irritate the eyes, they should be washed with large quantities of clean water for 15 minutes. A physician, preferably an eye specialist, should be contacted immediately.

H. DO NOT store air line anti-icer system antifreeze compound in confined areas.

I. The antifreeze compound used in air line antifreeze systems contains methanol and is toxic, harmful, or fatal if swallowed. Avoid contact with the skin or eyes and avoid breathing the fumes. If swallowed, induce vomiting by administering a tablespoon of salt, in each glass of clean, warm water until vomit is clear, then administer two teaspoons of baking soda in a glass of clean water. Have patient lay down and cover eyes to exclude light. Call a physician immediately.

1.8 ELECTRICAL SHOCK

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

B. Keep all parts of the body and any hand-held tools or other conductive objects away from exposed live parts of electrical system. Maintain dry footing, stand on insulating surfaces and **DO NOT** contact any other portion of the compressor 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 compressor 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 source prior to attempting repairs or adjustments to rotating machinery and prior to handling any ungrounded conductors.

F. Dry test all shutdown circuits prior to starting the compressor after installation.

1.9 LIFTING

A. If the compressor is provided with a lifting bail, then lift by the bail provided. If no bail is provided, then lift by sling. Compressors to be air lifted by helicopter must not be supported by the lifting bail but by slings instead. In any event, lift and/or handle only in full compliance with Federal, State and Local codes.

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 compressor. If you are unsure of the weight, then weigh compressor before lifting.

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

E. Use guide ropes or equivalent to prevent twisting

or swinging of the compressor once it has been lifted clear of the ground.

F. DO NOT attempt to lift in high winds.

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

H. Lift compressor no higher than necessary.

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

J. Set compressor down only on a level surface capable of safely supporting at least its weight and its loading unit.

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

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

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

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

O. DO NOT use the lifting eye bolt on the compressor motor, if supplied, to lift the entire compressor package.

1.10 ENTRAPMENT

A. If the compressor 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 compressor before closing and latching enclosure doors.

2.1 INTRODUCTION

Refer to Figures 2-1A and 2-1B. Your new Sullair lubricated rotary screw air compressor provides you with a unique experience in improved reliability and greatly reduced maintenance.

Compared to other types of compressors, the Sullair rotary screw is unique in its mechanical reliability and lack of “wear”. The compressor requires absolutely no inspection of its internal parts.

By reading through Section 6, you will notice the easy process of caring and maintaining this Sullair manufactured product. Should any questions arise which cannot be answered in this text, call your nearest Sullair representative or the Sullair Corporation Service Department.

2.2 DESCRIPTION OF COMPONENTS

Refer to Figures 2-1A and 2-1B. The components and assemblies of the air compressors are clearly shown. The complete package includes **compressor, electric motor, compressor inlet system, compressor discharge system, compressor cooling and lubrication system, capacity control system** and **Supervisor Controller™, microprocessor system** and **starter** all mounted on a structural steel frame

On air-cooled models, a fan draws air over the fan motor and forces it through the combined aftercooler and fluid cooler, thereby removing the heat of compression from the cooling fluid.

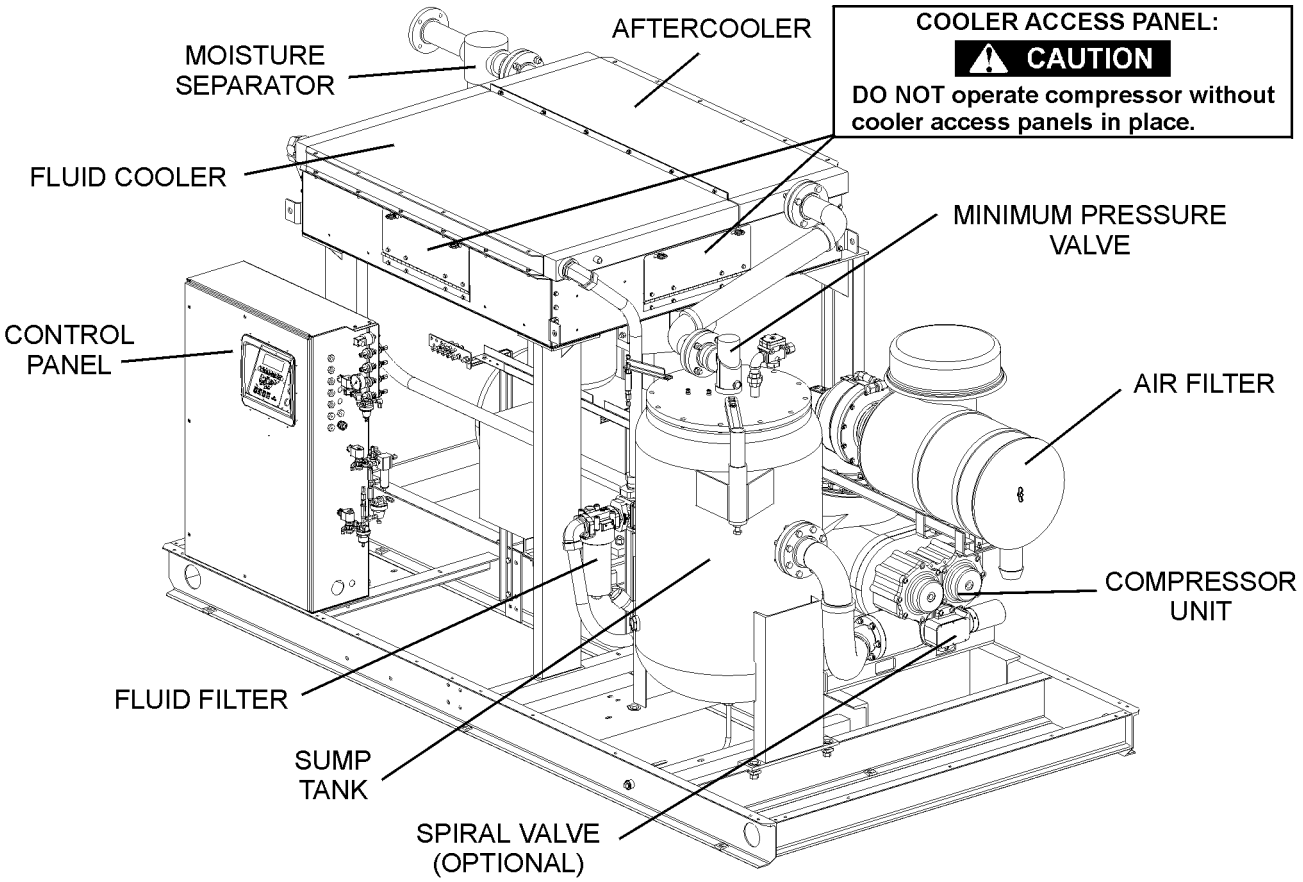
On water-cooled models, fluid is piped into a water-cooled heat exchanger where the heat of compression is removed from the fluid. A fan is used to supply sufficient ventilating air to compressors equipped with an optional enclosure.

Both air-cooled and water-cooled versions have easily accessible items such as the fluid filters and control valves. The inlet air filters are also mounted for easy access and servicing.

2.3 SULLAIR COMPRESSOR UNIT, FUNCTIONAL DESCRIPTION

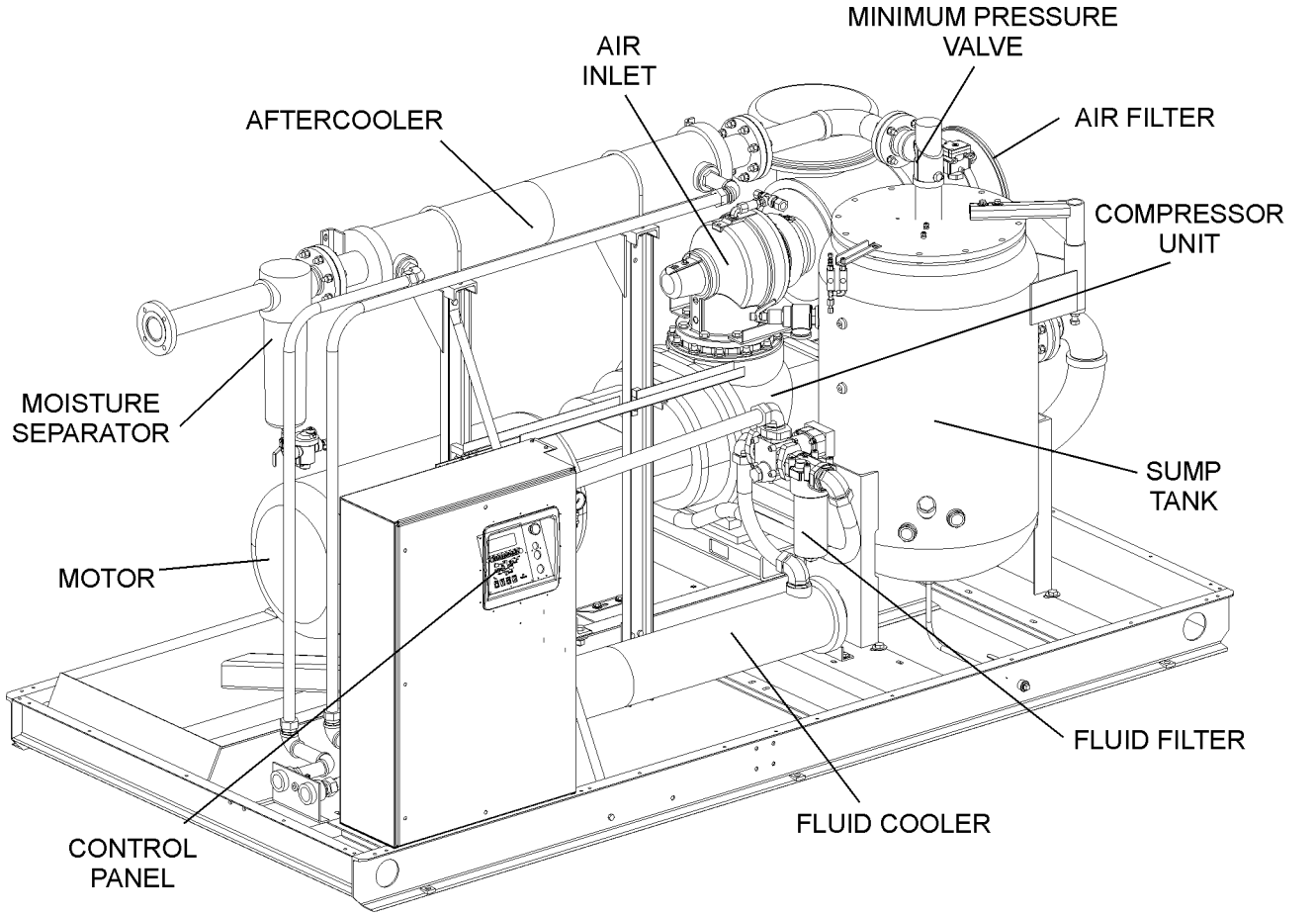
Sullair air compressors feature the Sullair compressor unit, a positive displacement fluid lubricated-type compressor. This unit provides continuous air compression to meet your needs.

Figure 2-1A Sullair Series LS25S Rotary Screw Compressor (Air-cooled Version)



Section 2
DESCRIPTION

Figure 2-1B Sullair Series LS25S Rotary Screw Compressor (Water-cooled Version)



Fluid is injected into the compressor unit where it mixes directly with the air as the internal rotors turn, compressing the air. The fluid flow has three basic functions:

1. As coolant, it controls the rise of air temperature normally associated with the heat of compression.

2. Seals the clearance between the rotors and the stator and also between the rotors themselves.

3. Acts as a lubricating film between the rotors allowing one rotor to directly drive the other, which is an idler. After the air/fluid mixture is discharged from the compressor unit, the fluid is separated from the air. At this time, the air flows to the service line and the fluid is cooled in preparation for re-injection.

NOTE

With a Sullair compressor, there is no maintenance or inspection of the internal parts of the compressor unit permitted in accordance with the terms of the warranty.

2.4 COMPRESSOR COOLING AND LUBRICATION SYSTEM, FUNCTIONAL DESCRIPTION

Refer to Figures 2-2, 2-3, 2-4, 2-5A, 2-5B, 2-5C and 2-5D. The **cooling and lubrication system** consists of a **fluid cooler, full flow fluid filter** and **thermal valve**.

The pressure in the receiver/sump causes fluid flow by forcing the fluid from the high pressure area of the sump to an area of lower pressure in the compressor unit.

Fluid flows from the receiver/sump to the thermal valve. The thermal valve is fully open to the compressor unit when the discharge temperature is below 170°F (77°C) for all compressors, except water-cooled 24KT models, which is fully open up to 195°F (91°C). The fluid passes through the thermal valve, the main fluid filter and directly to the compressor unit.

As the discharge temperature rises above 170°F (77°C) for all compressors (195°F [91°C] for water-cooled 24KT models), due to the heat of compres-

Figure 2-2 Compressor Piping and Instrument Diagram (200 -350HP/ 149-261KW)

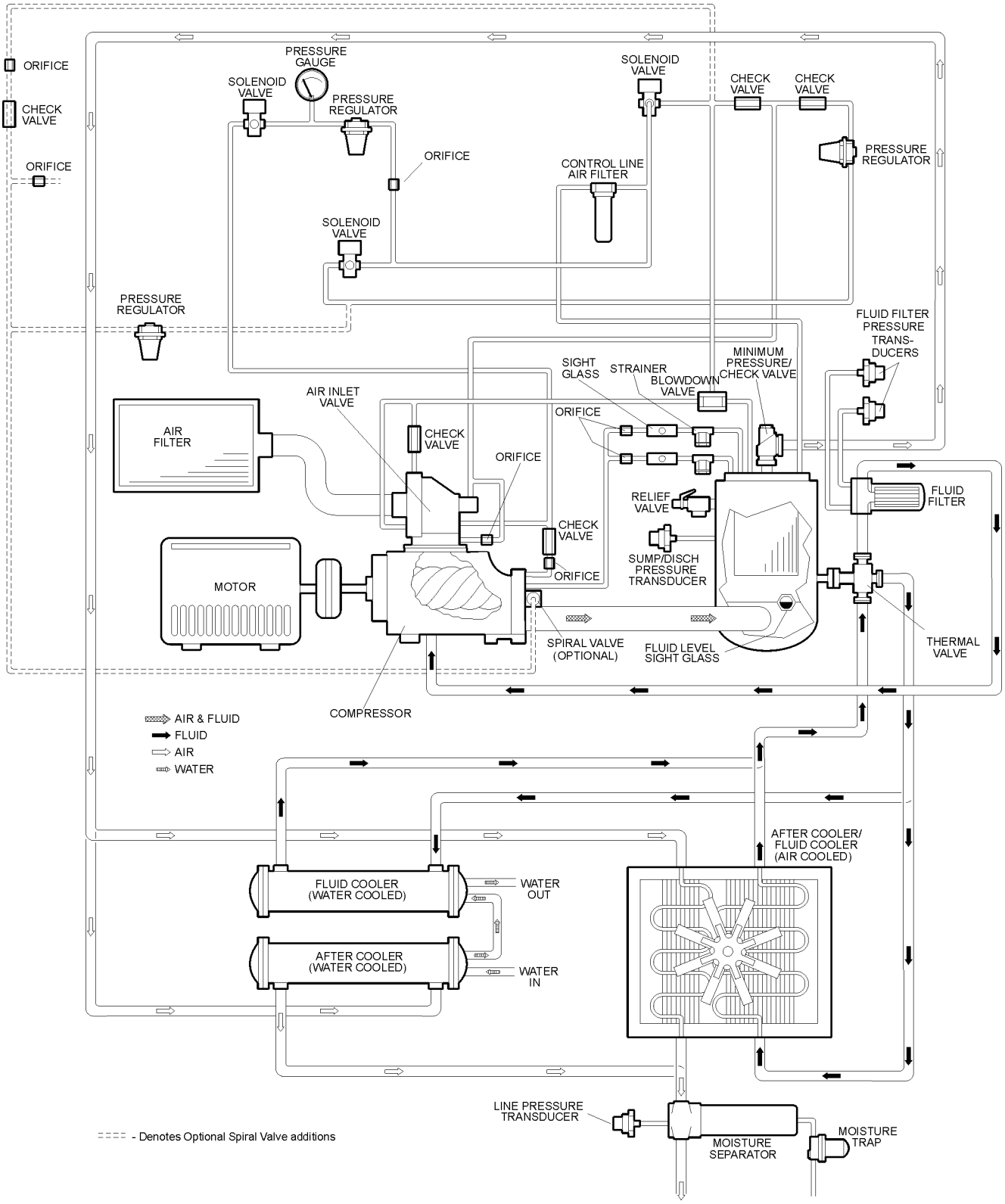
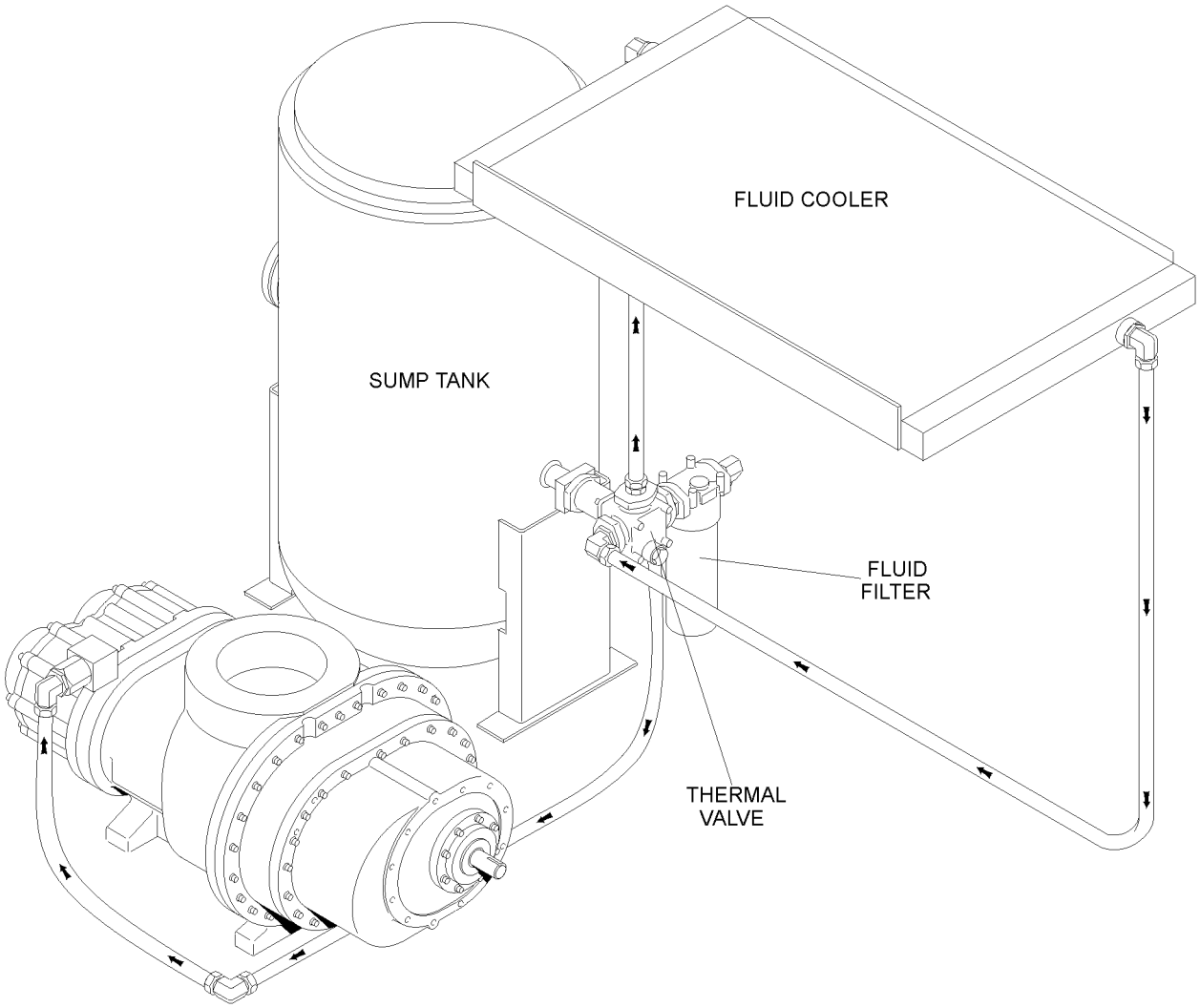


Figure 2-3 Compressor Cooling and Lubrication System (Air-cooled)



sion, the thermal valve begins to close and a portion of the fluid then flows through the cooler. From the cooler, the fluid flows to the main filter, and on to the compressor unit. The fluid filter has a replacement element and an integral pressure bypass valve.

Water-cooled models have a water pressure switch to prevent operation with inadequate water pressure.

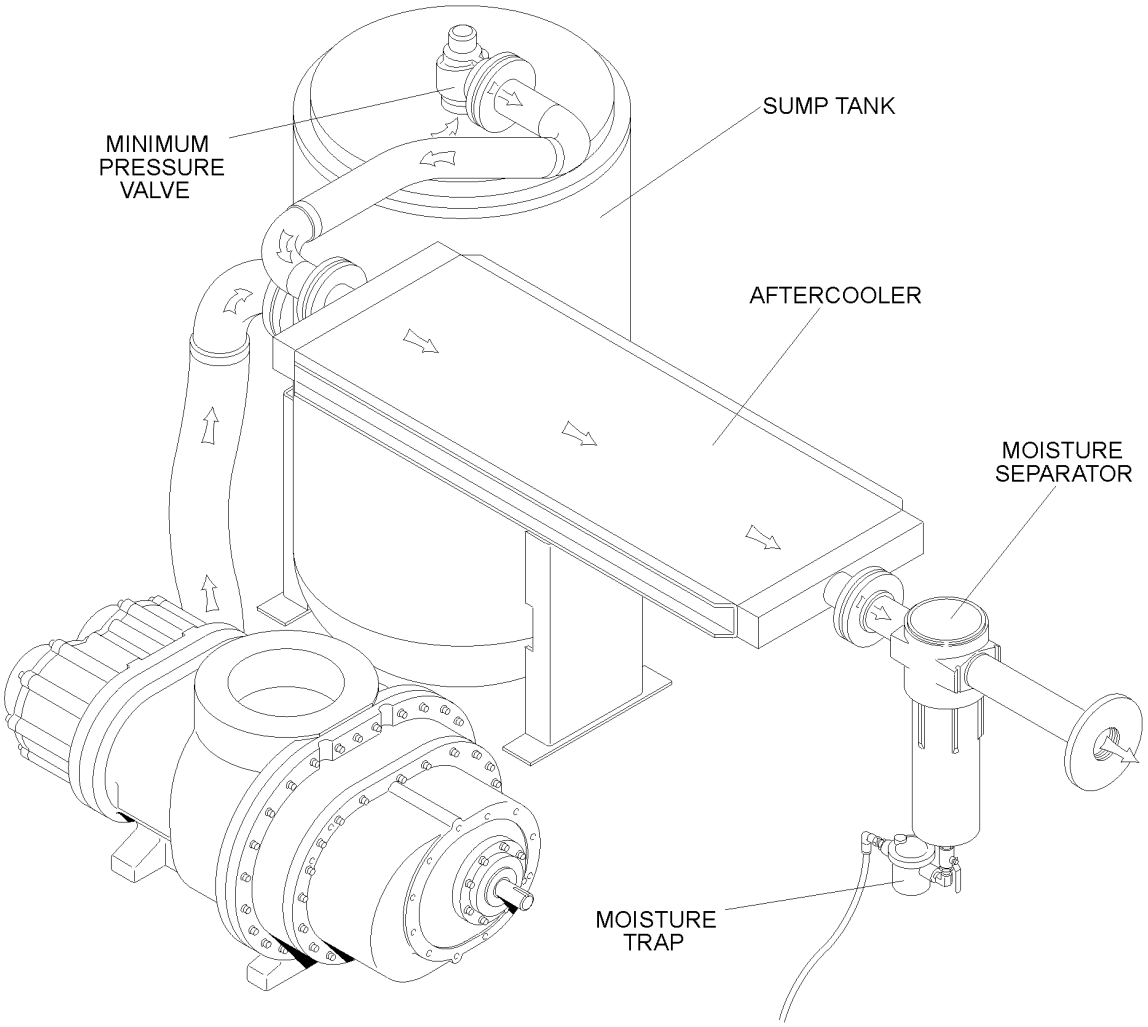
2.5 COMPRESSOR DISCHARGE SYSTEM, FUNCTIONAL DESCRIPTION

Refer to Figures 2-2 and 2-4. The compressor unit discharges the compressed air/fluid mixture into the combination receiver/sump. The receiver has three functions:

1. It acts as a primary fluid separator.
2. It serves as the compressor fluid sump.
3. It houses the final fluid/air separator elements.

The compressed air/fluid mixture enters the receiver and is directed against an internal baffle. The direction of movement is changed and its velocity significantly reduced, thus causing the large droplets of fluid to fall to the bottom of the receiver/sump. The fractional percentage of fluid remaining in the compressed air collects on the surface of the nested separator elements (primary and secondary) as the compressed air flows through them. Two return lines (or scavenge tubes) lead from the bottom of each separator element to the low pressure inlet region of the compressor unit. Fluid collecting on the bottom of each separator is returned to the compressor by a pressure difference between the receiver and the compressor inlet. Sight glasses are located in the return lines to observe this fluid flow. dP1 on the Supervisor

Figure 2-4 Compressor Discharge System (Air-cooled)



Controller™ microprocessor control monitors the condition of the separator elements by reading the differential pressure on the digital display. At a differential of 10 psig (0.7 bar), or greater, the operator will be told to service the separator elements. At this time, separator element replacement is necessary.

NOTE

Calibration of dP1 is required at start-up. Consult Supervisor manual.

The receiver is an ASME pressure vessel. A combination minimum pressure/check valve, located downstream from the separator, assures a minimum receiver pressure of 50 psig (3.4 bar) during full load operation. This pressure is necessary for proper air/fluid separation and proper fluid circulation while supplying air to the system. This valve also acts as a check valve preventing compressed air in the service line from bleeding back into the receiver on shutdown and during operation of the compressor in an unloaded condition.

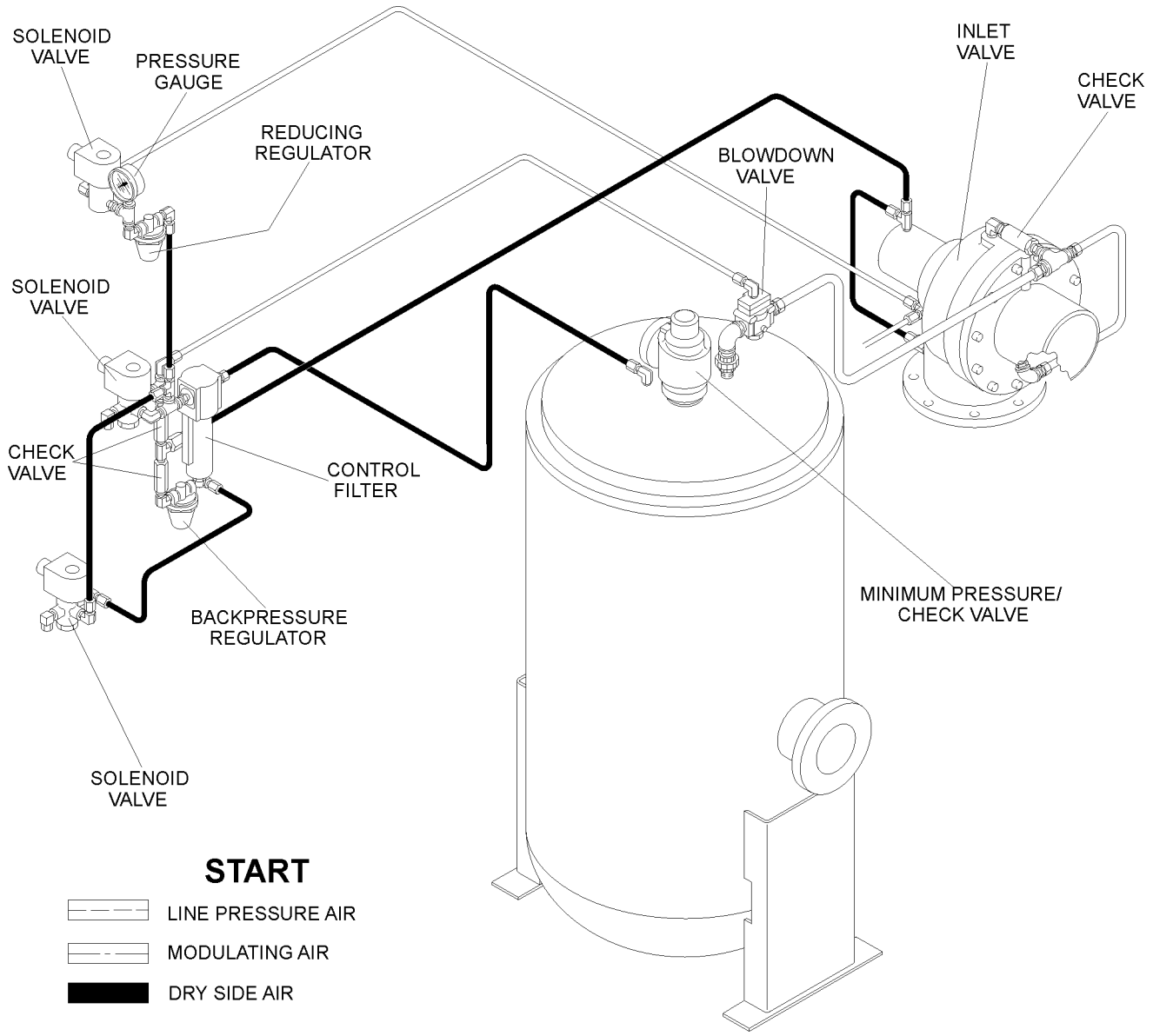
A pressure relief valve (located on the wet side of the separator) is set to open if the sump pressure exceeds the rated pressure of the tank.

All Sullair compressor models are equipped with high pressure shutdown protection to shut down the compressor at 20-35 psi above rated pressure. This prevents the pressure relief valve from opening under normal conditions, thereby preventing fluid loss through the pressure relief valve. The Supervisor will shut down the compressor if the discharge temperature reaches 235°F (113°C).

⚠ WARNING

DO NOT remove caps, plugs, and/or other components when compressor is running or pressurized.

Figure 2-5A Control System- START Stage (200-350HP/ 149-261KW)



Stop compressor and relieve all internal pressure before doing so.

Fluid is added to the sump via a capped fluid filler opening, placed low on the receiver tank to prevent over-filling of the sump. Two sight glasses enable the operator to visually monitor the sump fluid level.

2.6 CONTROL SYSTEM, FUNCTIONAL DESCRIPTION

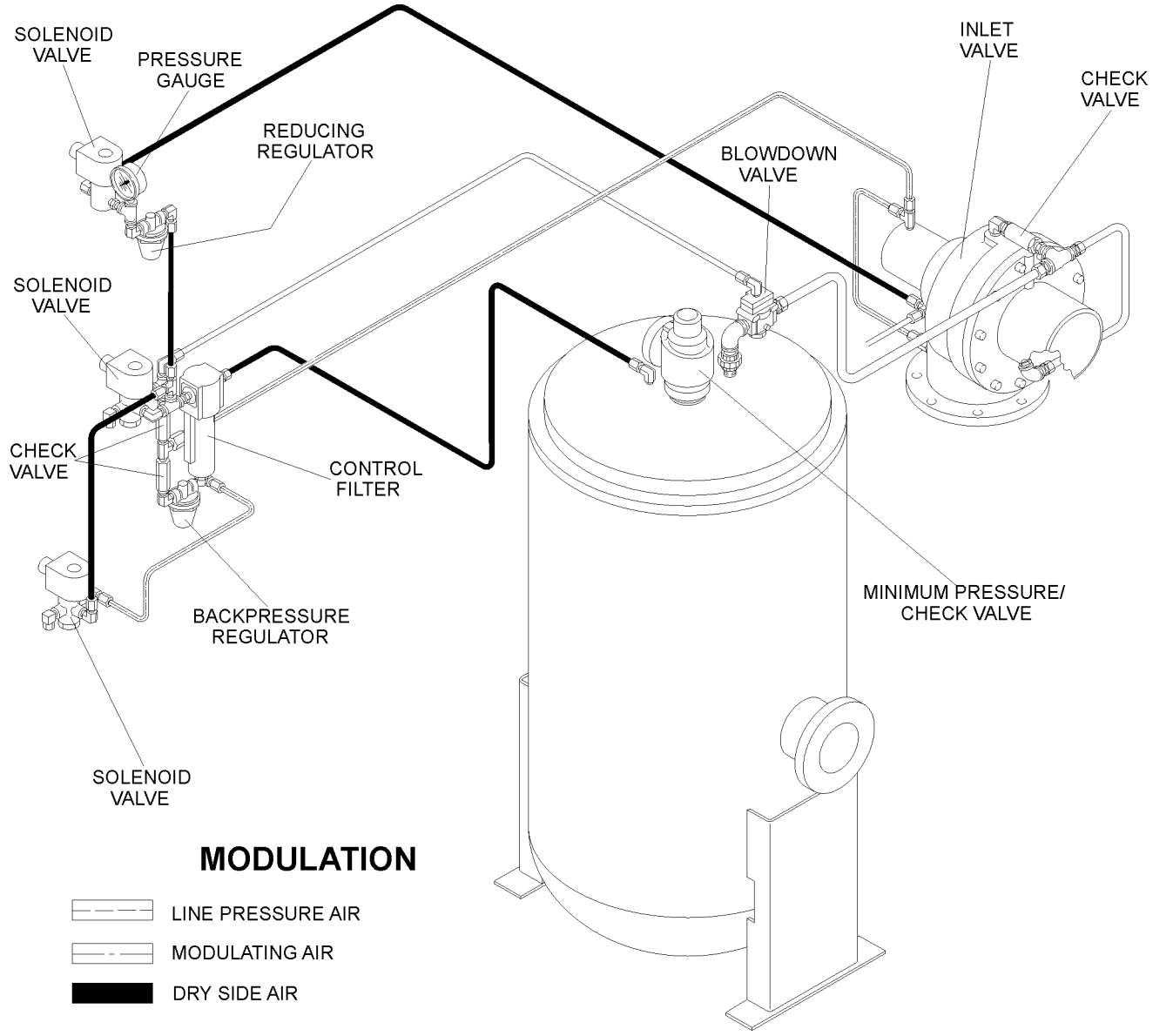
Refer to Figures 2-5A, 2-5B, 2-5C and 2-5D. The purpose of the compressor control system is to regulate the amount of air being compressed to match the amount of compressed air being used.

The capacity control system consists of a pneumatic inlet valve. The functional description of the control system is described below in four distinct phases of compressor operation. The following applies to LS25S Series compressors ranging from 200 through 350HP/ 149-261KW. For explanatory purposes, this description applies to any compressor with an operating range of 100 to 110 psig (6.9 to 7.6 bar). A compressor with any other pressure range would operate in the same manner except for the stated pressures.

START MODE - 0 TO 50 PSIG (0 TO 3.4 BAR)

When the compressor ▮ (ON) pad is depressed, the sump pressure will quickly rise from 0 to 50 psig

Figure 2-5B Control System MODULATION Stage (200-350HP/ 149-261KW)



(0 to 3.4 bar). During this period, both of the pressure regulators and the solenoid valve are closed and the pneumatic inlet valve is inoperative. The internal spring holds the inlet valve fully closed to reduce motor torque for starting. After eight (8) seconds the solenoid valve will open, opening the inlet valve, and the compressor will run at full rated capacity. The rising compressor air pressure is isolated from the service line in this phase by the minimum pressure valve set at approximately 50 psig (3.4 bar).

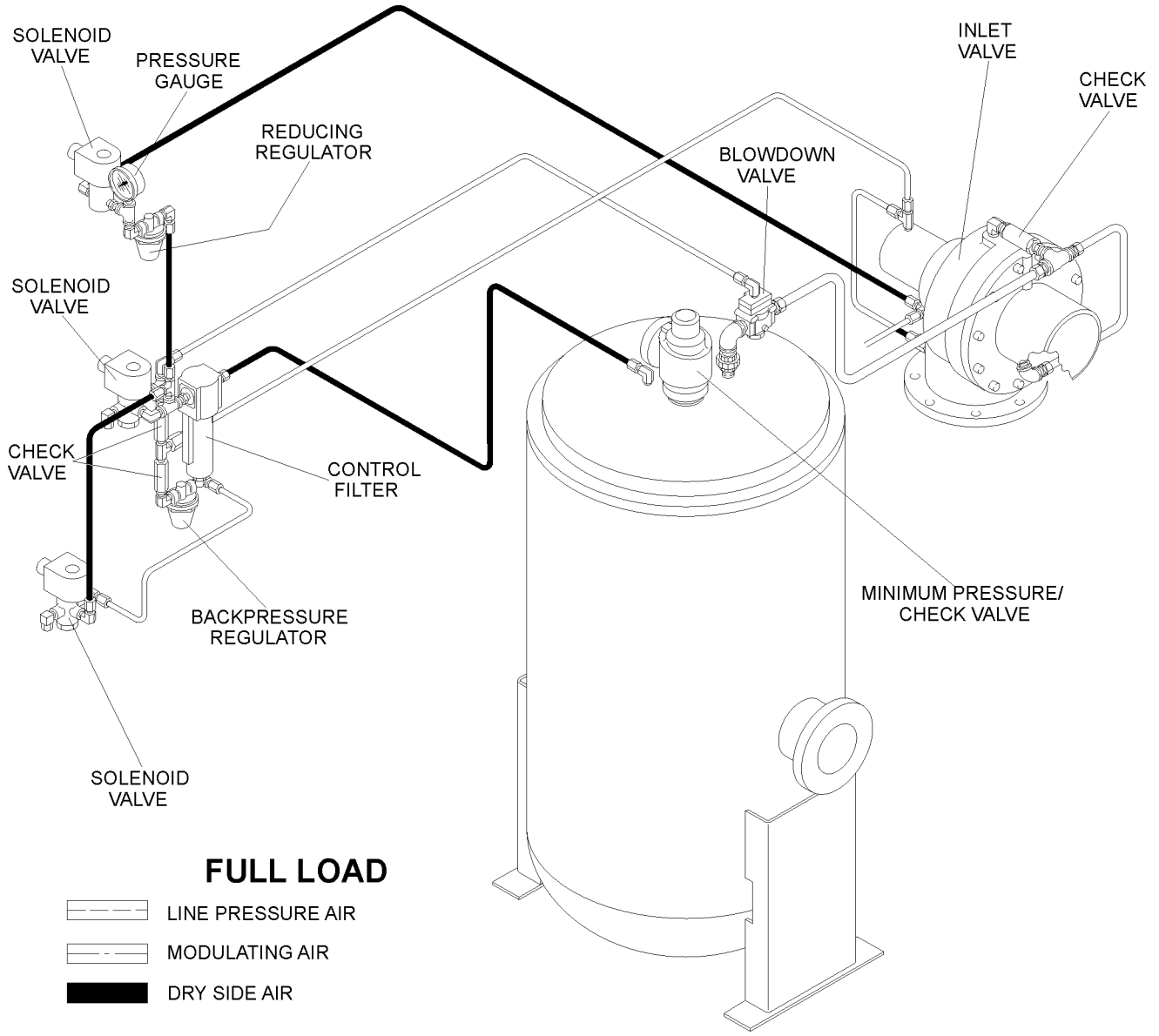
FULL LOAD MODE - 50 TO 100 PSIG (3.4 TO 6.9 BAR)

When the compressed air pressure in the sump rises above 50 psig (3.4 bar), the minimum pressure valve opens, allowing compressed air to flow into the service line. From this point on, the line air pressure is continually monitored by the Supervisor. A load signal is provided through a pressure reducing regulator set at 70 psig (4.8 bar) to maintain the inlet valve in an open position. The inlet valve will remain in the full load position as long as the compressor is running at 100 psig (6.9 bar) or below.

MODULATION - 100 TO 110 PSIG (6.9 TO 7.6 BAR)

As air demand drops below the rated capacity of the compressor, the line pressure will rise above 100 psig (6.9 bar). As the air pressure exceeds 100 psig

Figure 2-5C Control System FULL LOAD Stage (200-350HP/ 149-261KW)

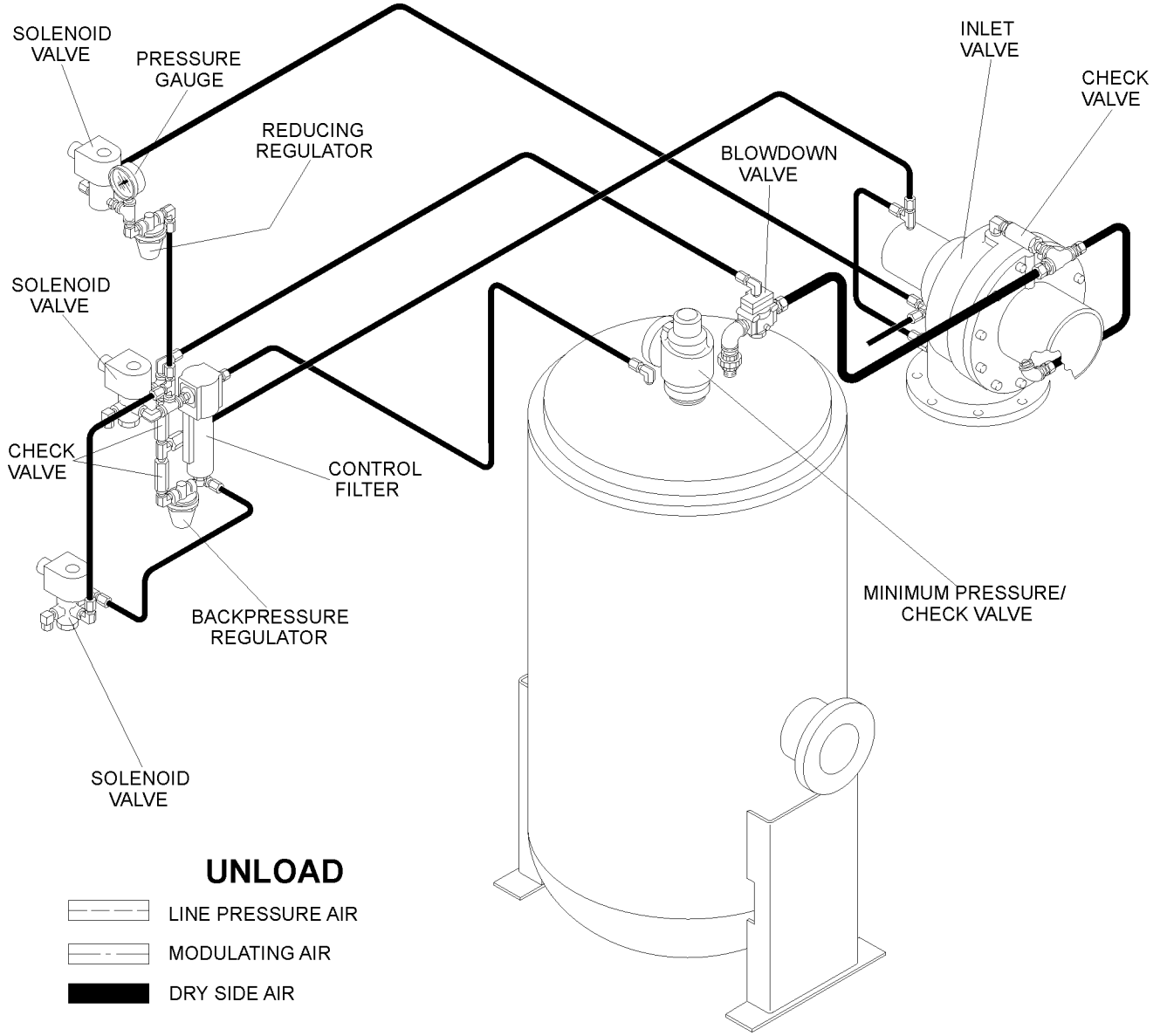


(6.9 bar), the differential pressure regulator controlling the inlet valve opens. This allows the air pressure into the unload chamber of the inlet valve, which starts partially closing the inlet valve, providing modulation. During this period, the pressure rises approximately from 100 to 110 psig (6.9 to 7.6 bar). When equipped with optional spiral valve, the differential pressure regulator controlling the spiral valve will operate to unload the spiral valve from 100-105 psi (6.9-7.2 bar) with the inlet valve acting from 105-110 psig (6.9 -7.6 bar).

UNLOAD MODE - IN EXCESS OF 110 PSIG (7.6 BAR)

When a relatively small amount or no air is being used, the service line pressure continues to rise. When it exceeds 110 psig (7.6 bar), Supervisor energizes the solenoid valve, applying pressure to the unload chamber of the inlet valve, which fully closes the valve. Simultaneously, the solenoid valve sends a pneumatic signal to the blowdown valve. The blowdown valve opens the sump to the atmosphere. This reduces the sump pressure to approximately 25 psig (1.7 bar), which results in low horsepower consumption. The check valve in the air service line prevents line pressure from returning to sump while the compressor is running in the unloaded mode. The inlet valve remains in the unload position.

Figure 2-5D Control System UNLOAD Stage (200-350HP/ 149-261KW)



When the line pressure drops back to 100 psig (6.9 bar) due to an increase in the air demand, Supervisor de-energizes the solenoid valve removing air pressure from the unload chamber, opening the inlet valve. The blowdown valve closes, and the inlet valve opens.

AUTOMATIC OPERATION

For applications with varied periods of time when there are no air requirements, Supervisor's Auto mode allows the compressor to shut down (time delayed) when no compressed air requirement is present and restart as compressed air is needed.

LOAD/ NO LOAD OPERATION

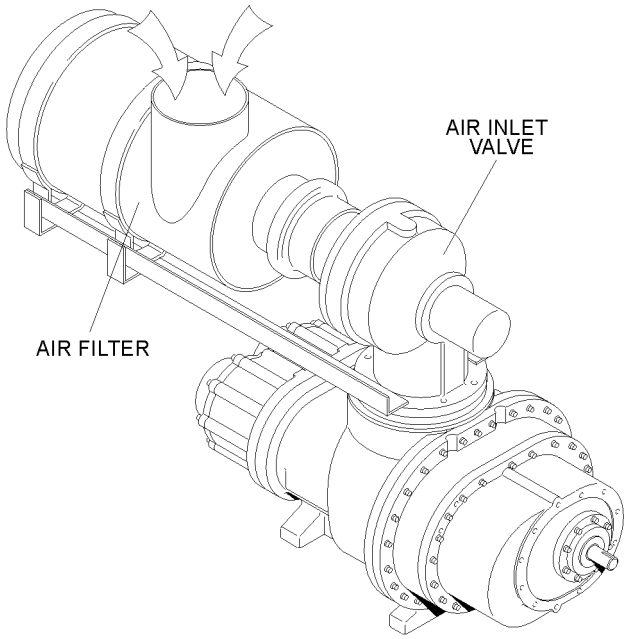
If applications call for load/no load operation, modulation can be disabled in the Supervisor Controller™ in the "Control Parameters" menu. If modulation is disabled, the unload pressure must be reset to the rated load pressure of the machine. For example, an L model rated for 100 psig full load operation and 110 psig unload must have the unload pressure reset to 100 psig. This ensures that the motor will not run in an overload condition.

2.7 AIR INLET SYSTEM, FUNCTIONAL DESCRIPTION

Refer to Figure 2-6. The **compressor inlet system** consists of a **dry-type air filter**, a **vacuum switch** and an **air inlet valve**.

The vacuum switch, located in the compressor

Figure 2-6 Compressor Air Inlet System



Supervisor control system, indicates the condition of the air filter. When the message “AIR FILTER MAINT RQD” is displayed, maintenance is required.

The pneumatic-type air inlet valve directly controls the amount of air intake to the compressor (Section 2.6).

3.1 SULLAIR SERIES LS25S SPECIFICATIONS

60 HZ MODEL (AC & WC)	LENGTH (IN)	WIDTH (IN)	HEIGHT (I) (IN)	WEIGHT (LB)
	154	78	86	(II)

50Hz MODEL (AC & WC)	LENGTH (CM)	WIDTH (CM)	HEIGHT (I) (CM)	WEIGHT (KG)
	392	198	218	(II)

(I) Add 7 in./18 cm for enclosure. Add 27.5 in./70 cm (200-350HP/149-261KW) for servicing the separator.

(II) For data on package weights, consult Sullair Factory Sales Department.

NOTE

For noise level information, please contact the Sullair Factory Service Department.

3.2 LUBRICATION GUIDE-STANDARD COMPRESSORS

Refer to Figure 3-1. Sullair LS25S Series standard compressors are filled with Sullube fluid as factory fill.

⚠ WARNING

Mixing of other lubricants within the compressor unit will void all warranties.

Sullube fluid should be changed every 8000 hours or once a year, whichever comes first. The fluid should be changed more frequently under severe operating conditions, such as high ambient temperatures coupled with high humidity, or when high particulate level, corrosive gases or strong oxidizing gases are present in the air.

Maintenance of all other components is still recommended as indicated in the Maintenance section of this manual.

3.3 LUBRICATION GUIDE- 24KT COMPRESSORS

Refer to Figure 3-1. Sullair 24KT compressors are filled with a lubricant which rarely ever needs to be changed. In the event a change of fluid or make-up fluid is required, use only Sullair 24KT fluid.

⚠ WARNING

Mixing of other lubricants within the compressor unit will void all warranties.

Sullair recommends that 24KT sample be taken at the first filter change and sent to the factory for analysis. This is a free service. A sample kit with instructions and self addressed container is supplied by your Sullair representative at start-up. The user will receive an analysis report with recommendations.

NOTE

A 24KT sample should be sent in annually, after the first year.

3.4 APPLICATION GUIDE

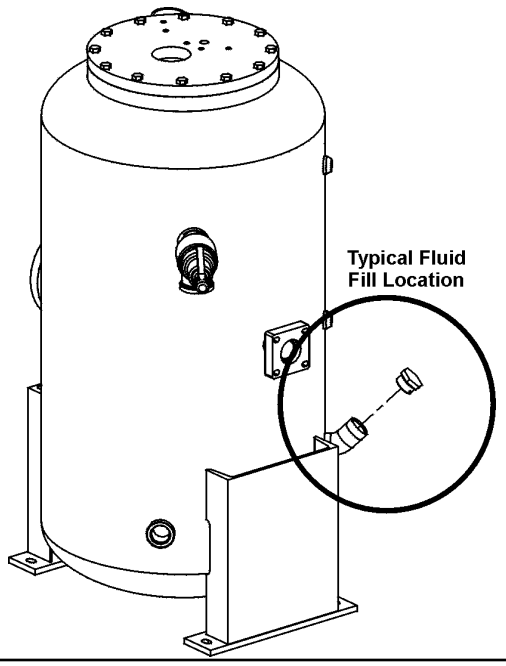
Sullair encourages the user to participate in a fluid analysis program with the fluid suppliers. This could result in a fluid change interval differing from that stated in the manual. Contact your Sullair dealer for details.

3.5 LUBRICATION CHANGE RECOMMENDATIONS AND MAINTENANCE

LUBRICANT	FLUID CHANGE	FLUID FILTER CHANGE	SEPARATOR CHANGE
Sullube	A, D	F, B	A, C
24KT	E, D	F, B	A, C

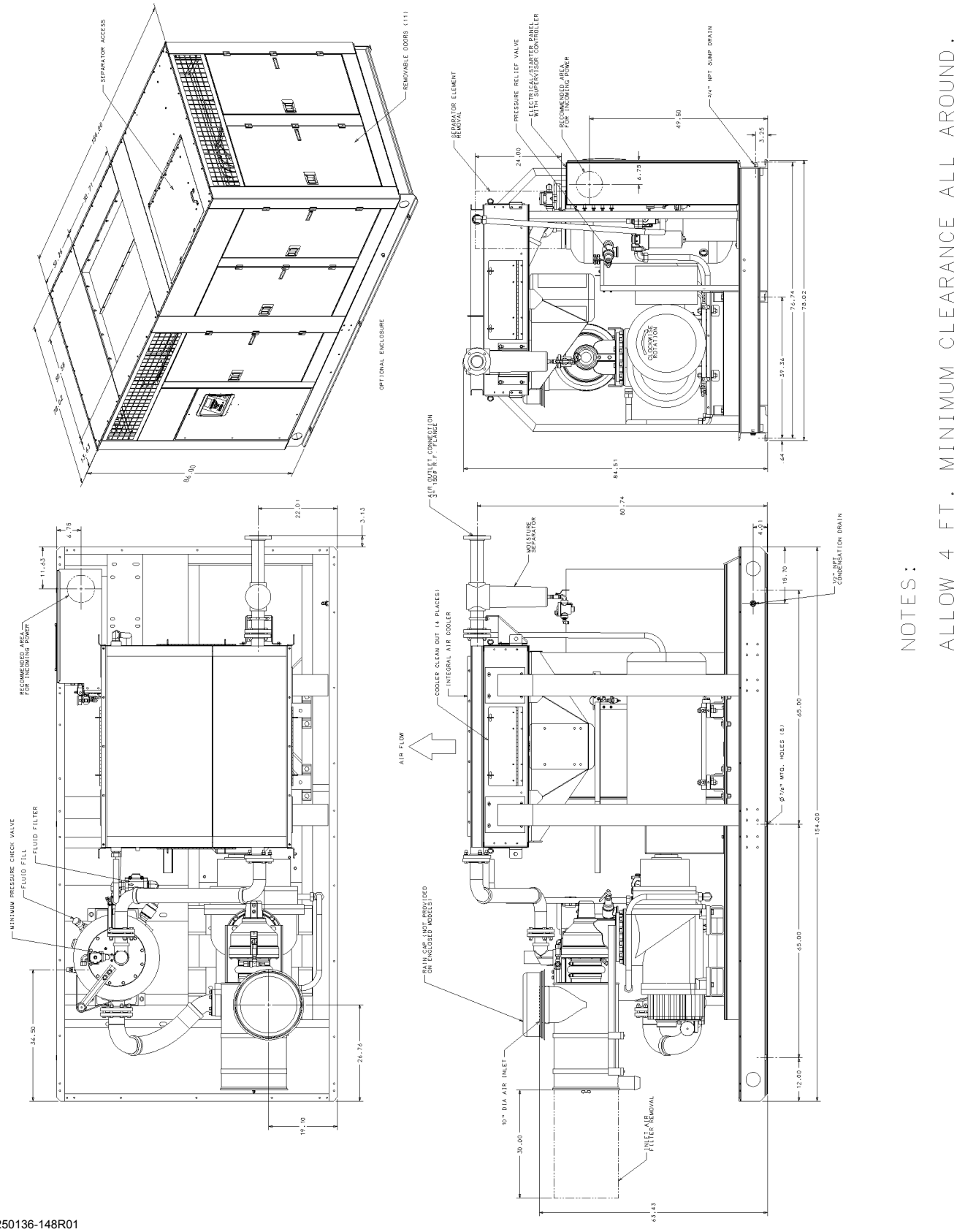
A - 8,000 Hours or once a year
B - When measured pressure loss exceeds 20 psig (1.3 bar).
C - When measured pressure loss exceeds 10 psig (0.7 bar).
D - When required by fluid analysis or known contamination.
E - Does not require replacement during normal service conditions.
F- Every 1000 hours.

Figure 3-1 Fluid Fill Location



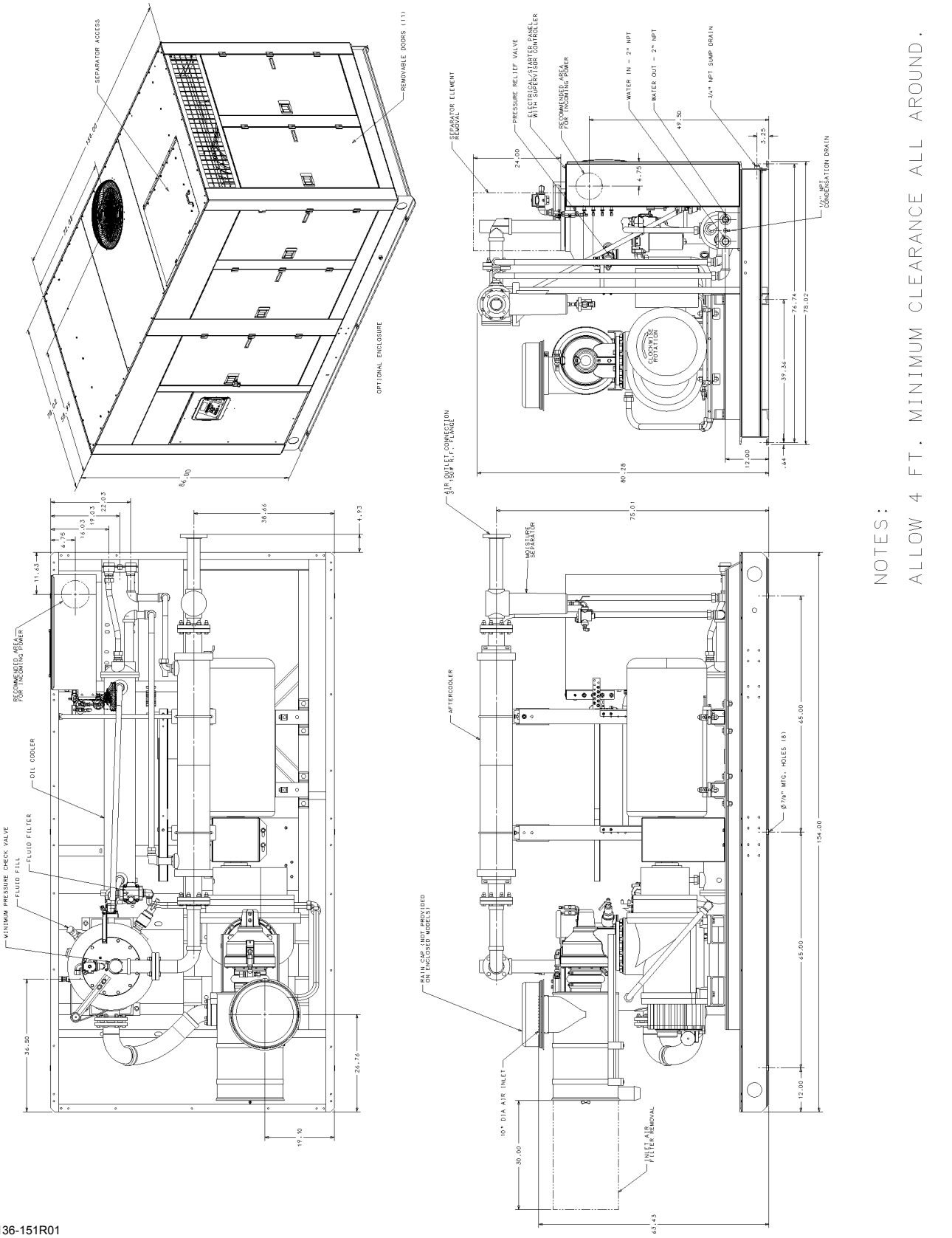
Section 3
SPECIFICATIONS

Figure 3-2 Identification- LS25S 200-250HP/ 149-186KW Air-cooled (Typical)



02250136-148R01

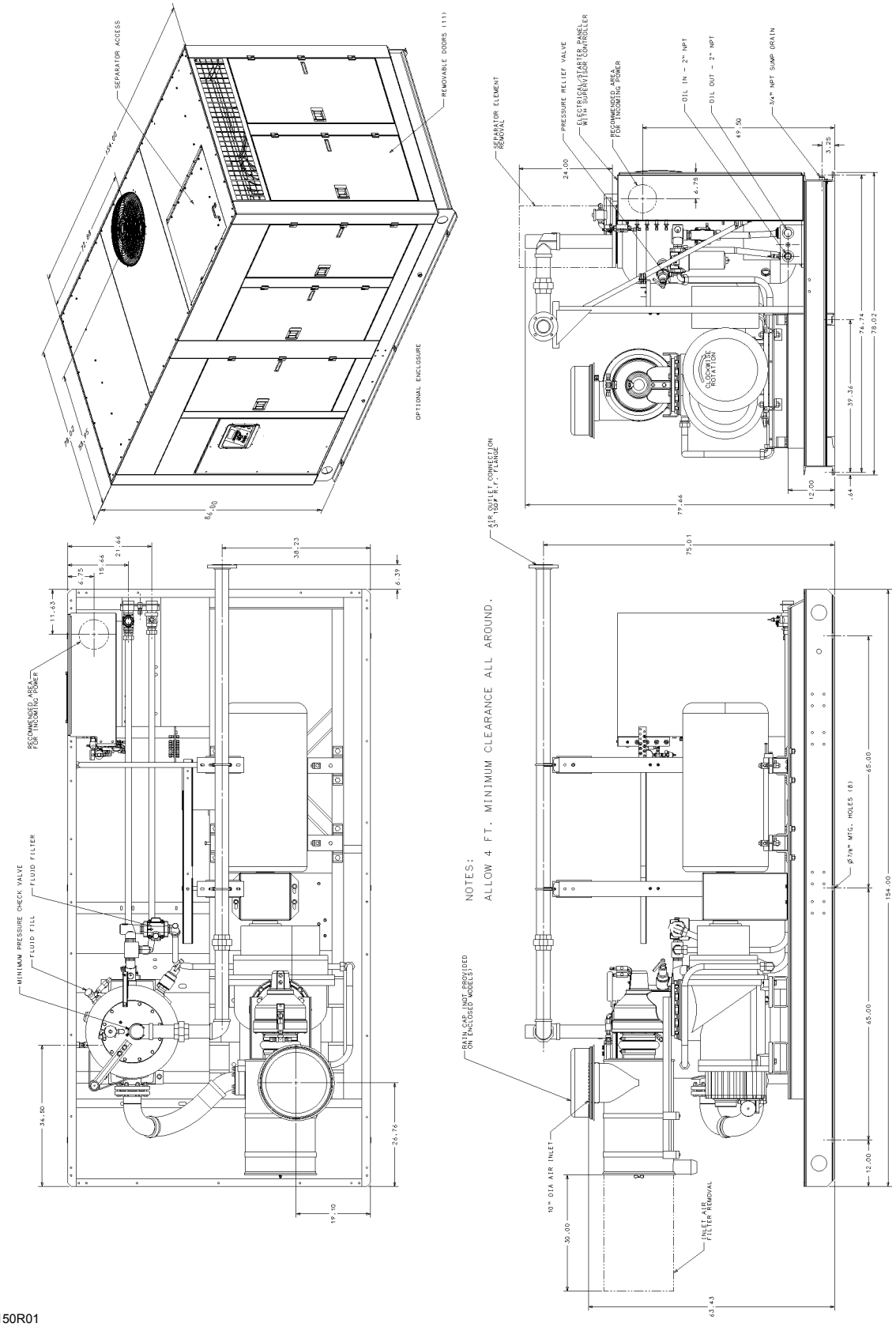
Figure 3-3 Identification- LS25S 200-250HP/ 149-186KW Water-cooled (Typical)



02250136-151R01

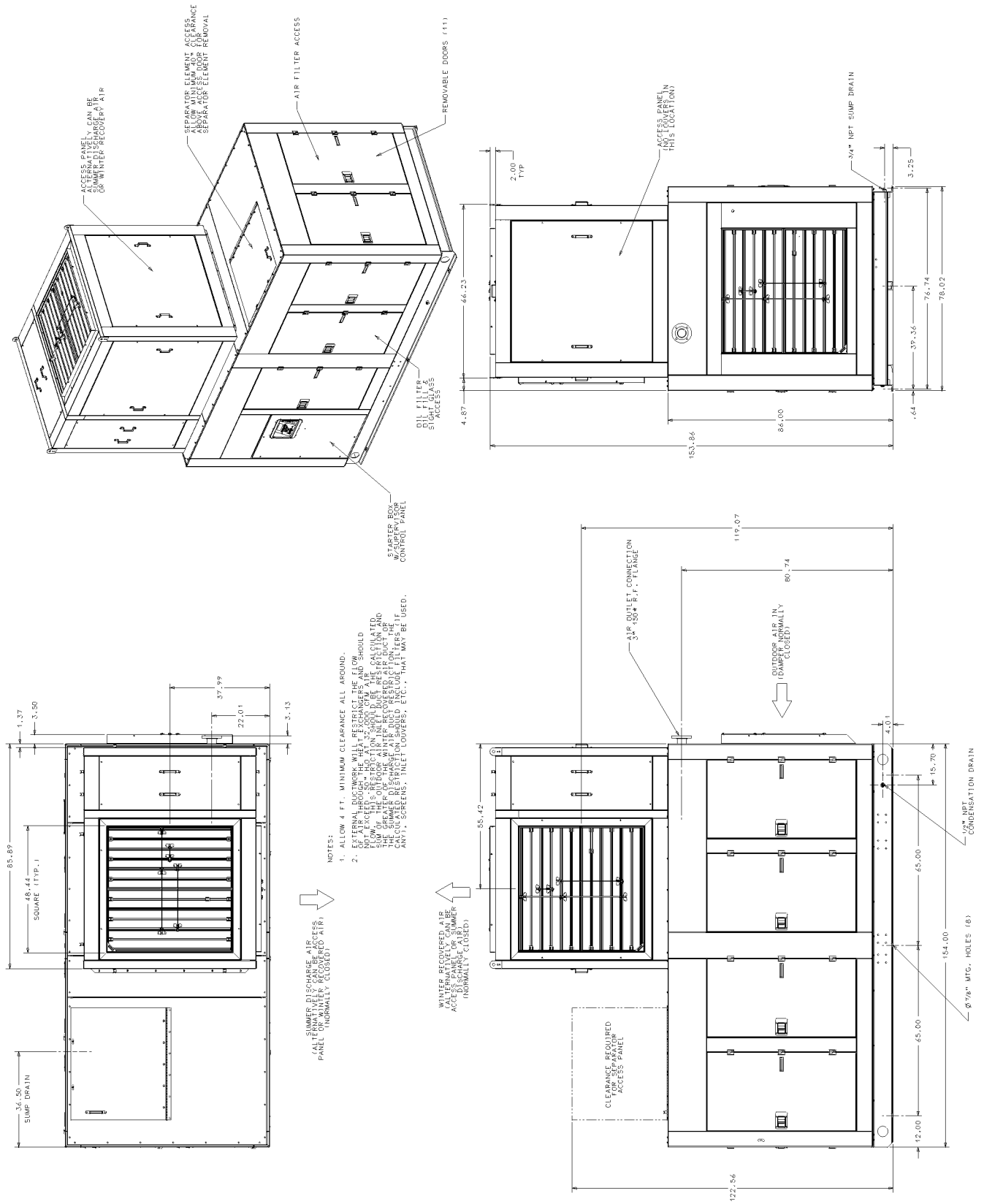
Section 3
SPECIFICATIONS

Figure 3-4 Identification- LS25S 200-250HP/ 149-186KW Remote-cooled (Typical)



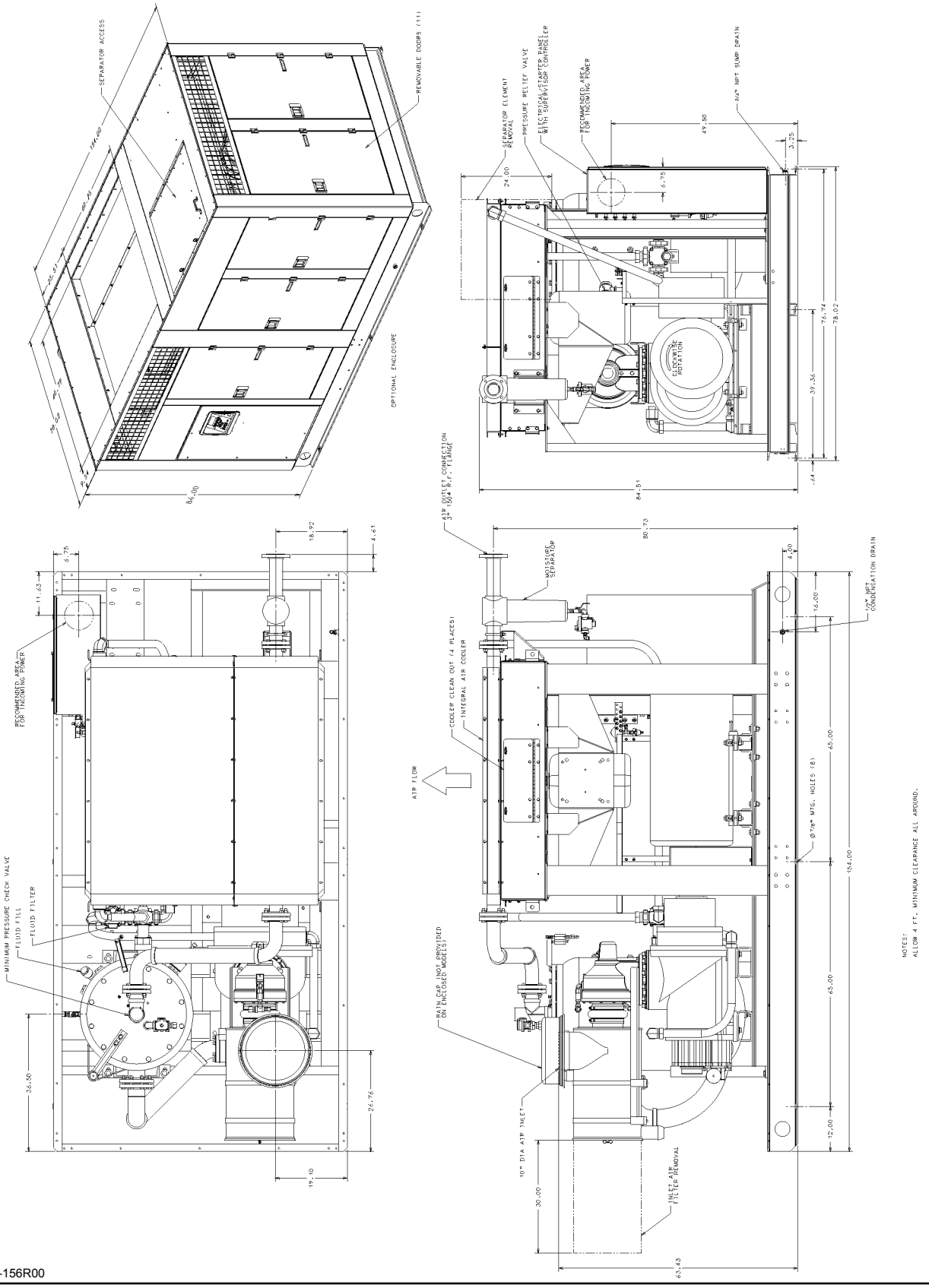
02250136-150R01

Figure 3-5 Identification- LS25S 200-350HP/ 149-261KW EES (Typical)



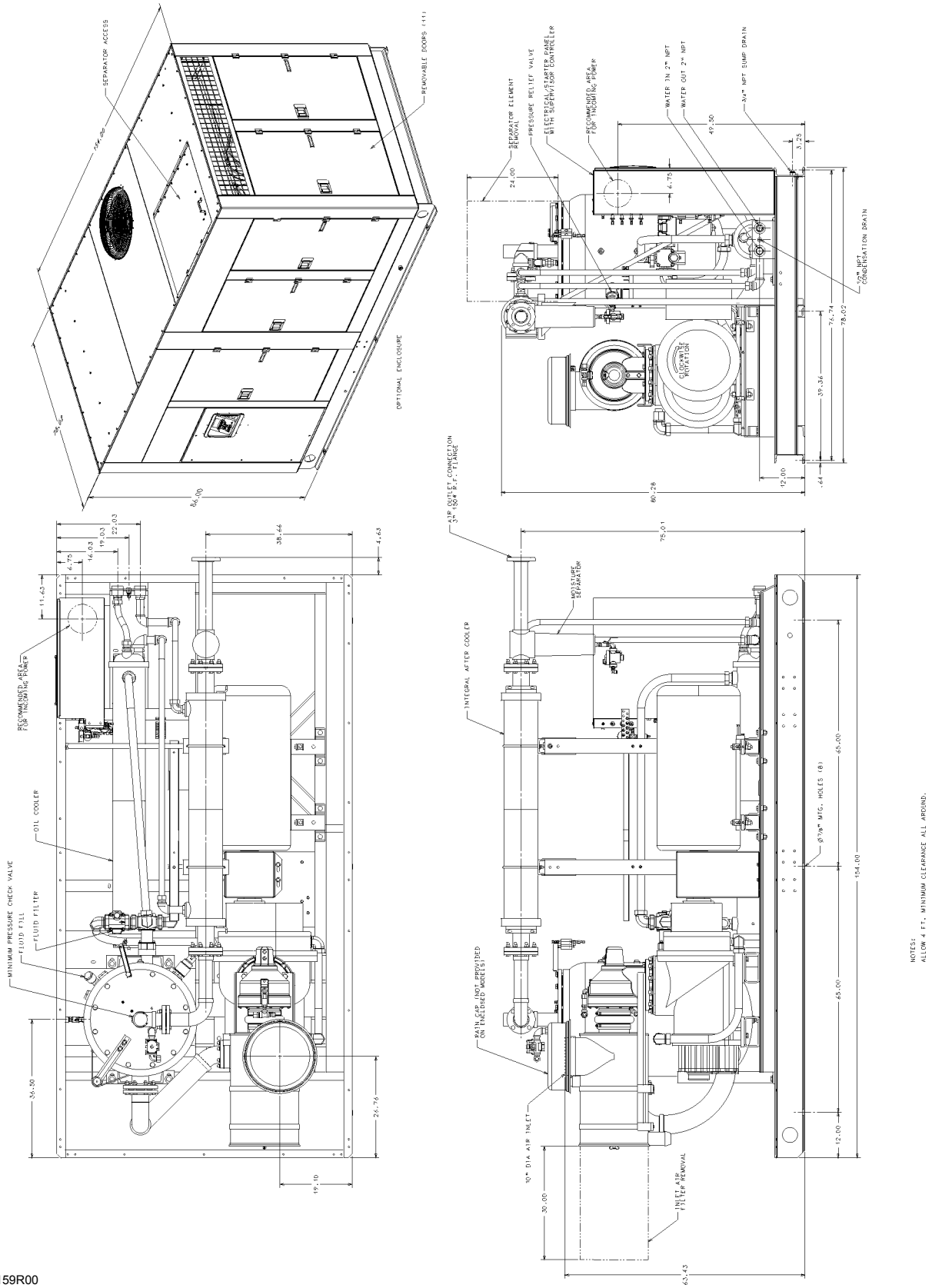
02250136-149R00

Figure 3-6 Identification- LS25S 300-350HP/ 224-261KW Air-cooled (Typical)



02250136-156R00

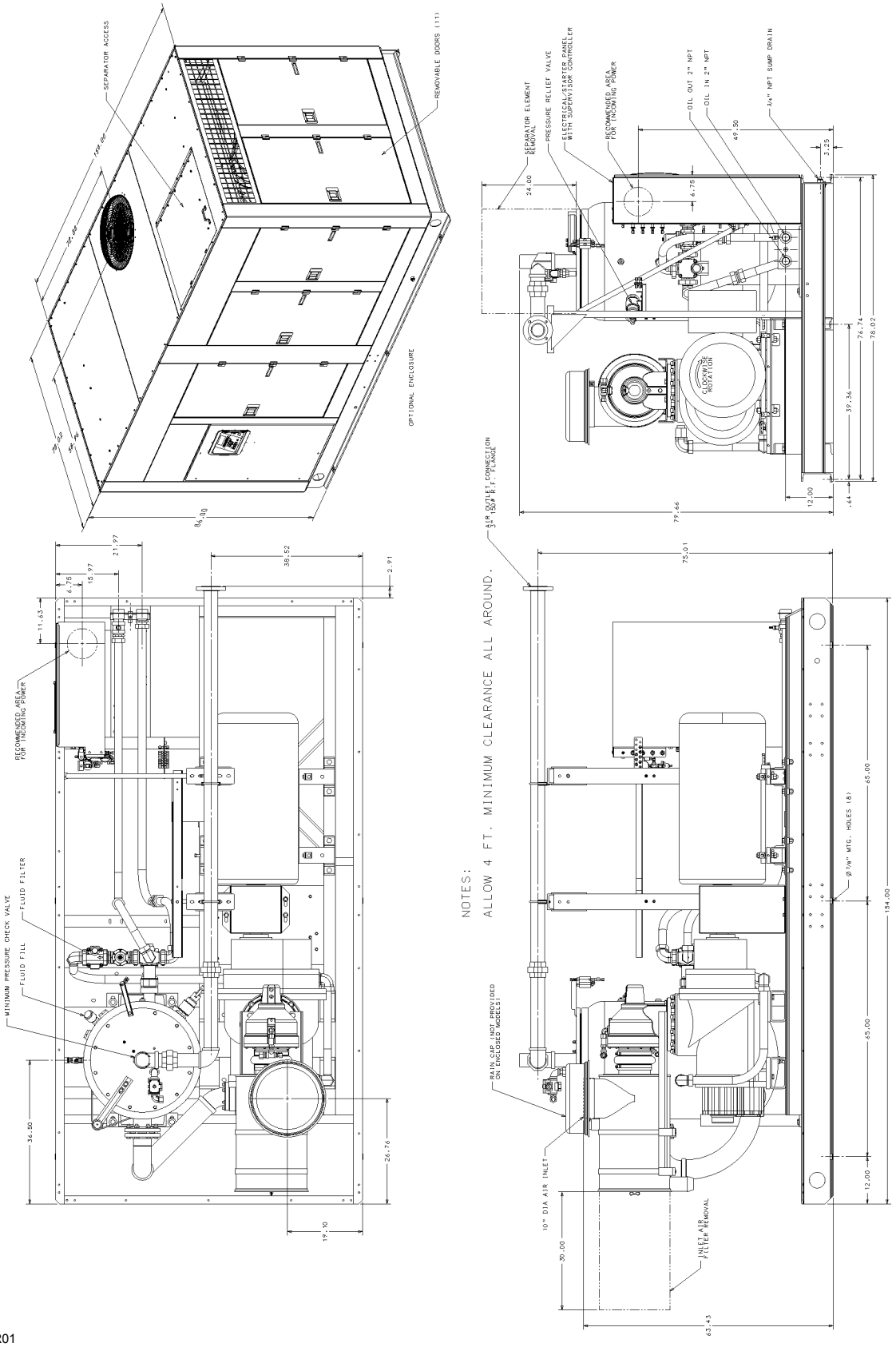
Figure 3-7 Identification- LS25S 300-350HP/ 224-261KW Water-cooled (Typical)



02250136-159R00

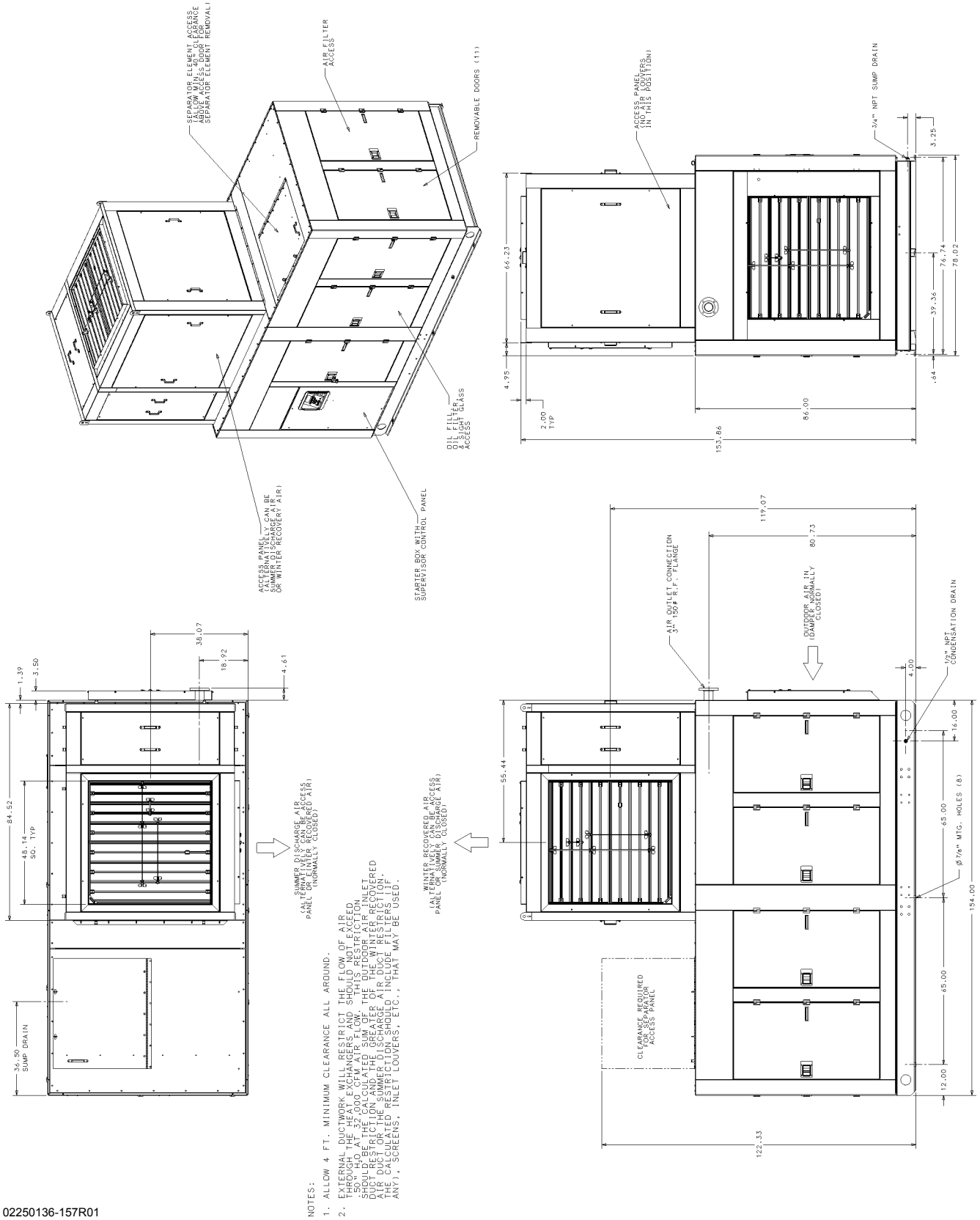
Section 3
SPECIFICATIONS

Figure 3-8 Identification- LS25S 300-350HP/ 224-261KW Remote-cooled (Typical)



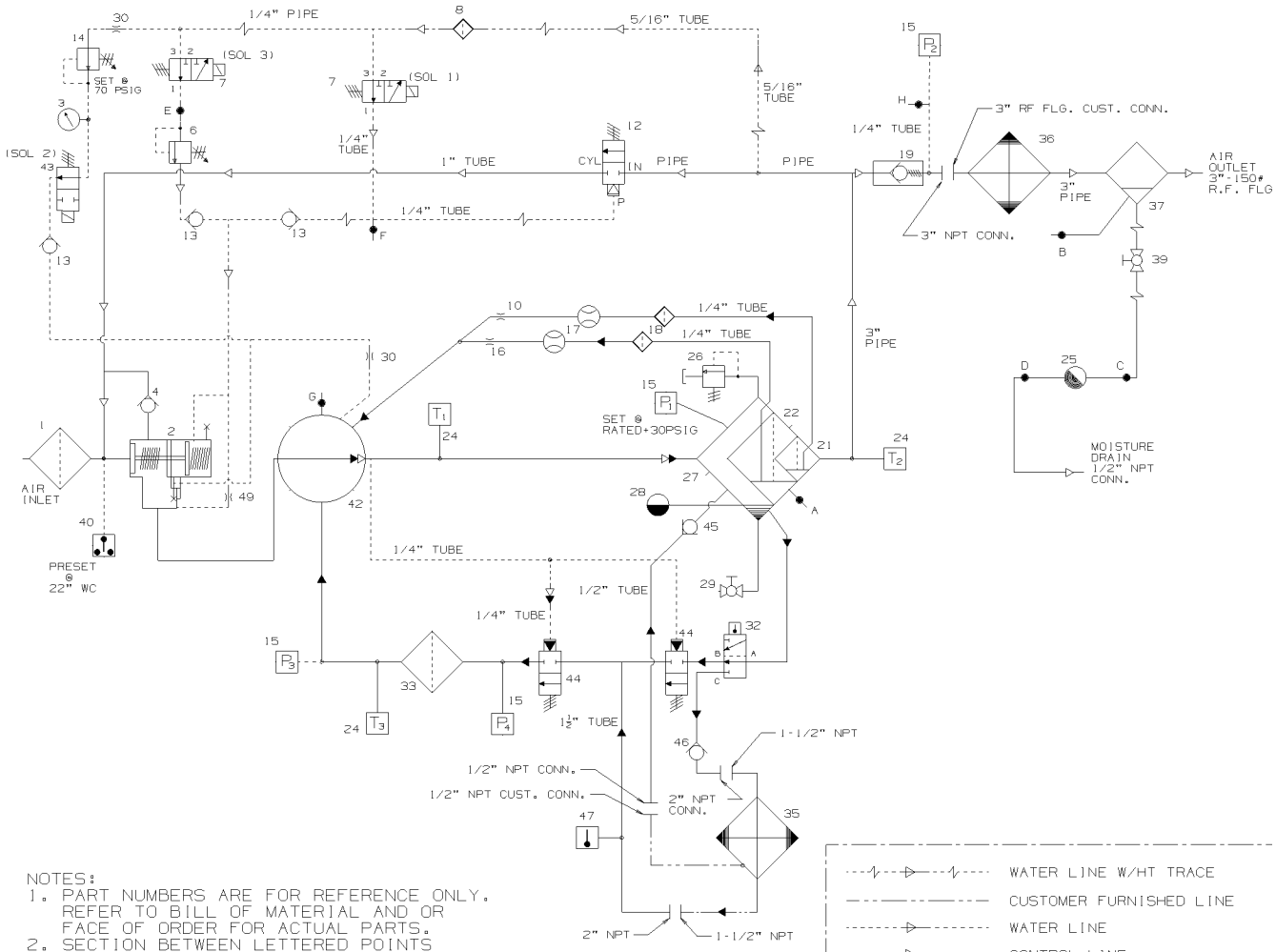
02250136-158R01

Figure 3-9 Identification- LS25S 300-350HP/ 224-261KW EES (Typical)

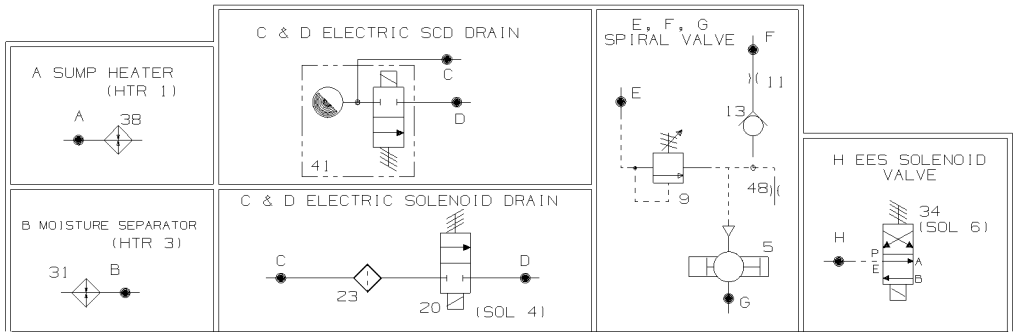


02250136-157R01

Figure 3-10 Piping and Instrumentation Diagram- LS25SC-200/250 Remote-cooled Supervisor with Pneumatic Control



NOTES:
1. PART NUMBERS ARE FOR REFERENCE ONLY. REFER TO BILL OF MATERIAL AND OR FACE OF ORDER FOR ACTUAL PARTS.
2. SECTION BETWEEN LETTERED POINTS ARE TO BE REPLACED WITH CORRESPONDING OPTION PICTURED BELOW, AS REQUIRED BY FACE OF ORDER.
3. HEAT TRACE SHOWN AS OPTIONAL. CHECK FACE OF ORDER FOR HEAT TRACE REQUIREMENTS.
4. ITEM 41 TO BE INSTALLED BY SULLAIR BUT ELECTRICALLY INSTALLED BY THE CUSTOMER IN THE FIELD.
5. THE SUPPLY AND RETURN PIPING FOR THE FLUID COOLER MUST BE ADEQUATELY SIZED TO PREVENT EXCESSIVE PRESSURE DROP. THE TOTAL PRESSURE DROP IN THE SUPPLY AND RETURN PIPING AND ASSOC. FITTINGS AND VALVES SHALL NOT EXCEED 10 PSIG (0.7 BAR). IF THE PRESSURE DROP IS EXCESSIVE, A PUMP MAY BE INSTALLED.
6. MINIMUM OPERATING TEMPERATURE OF 32°F FOR LOWER TEMPS. OIL LINES NEED TO BE HEATED AND INSULATED.



02250136-141R03

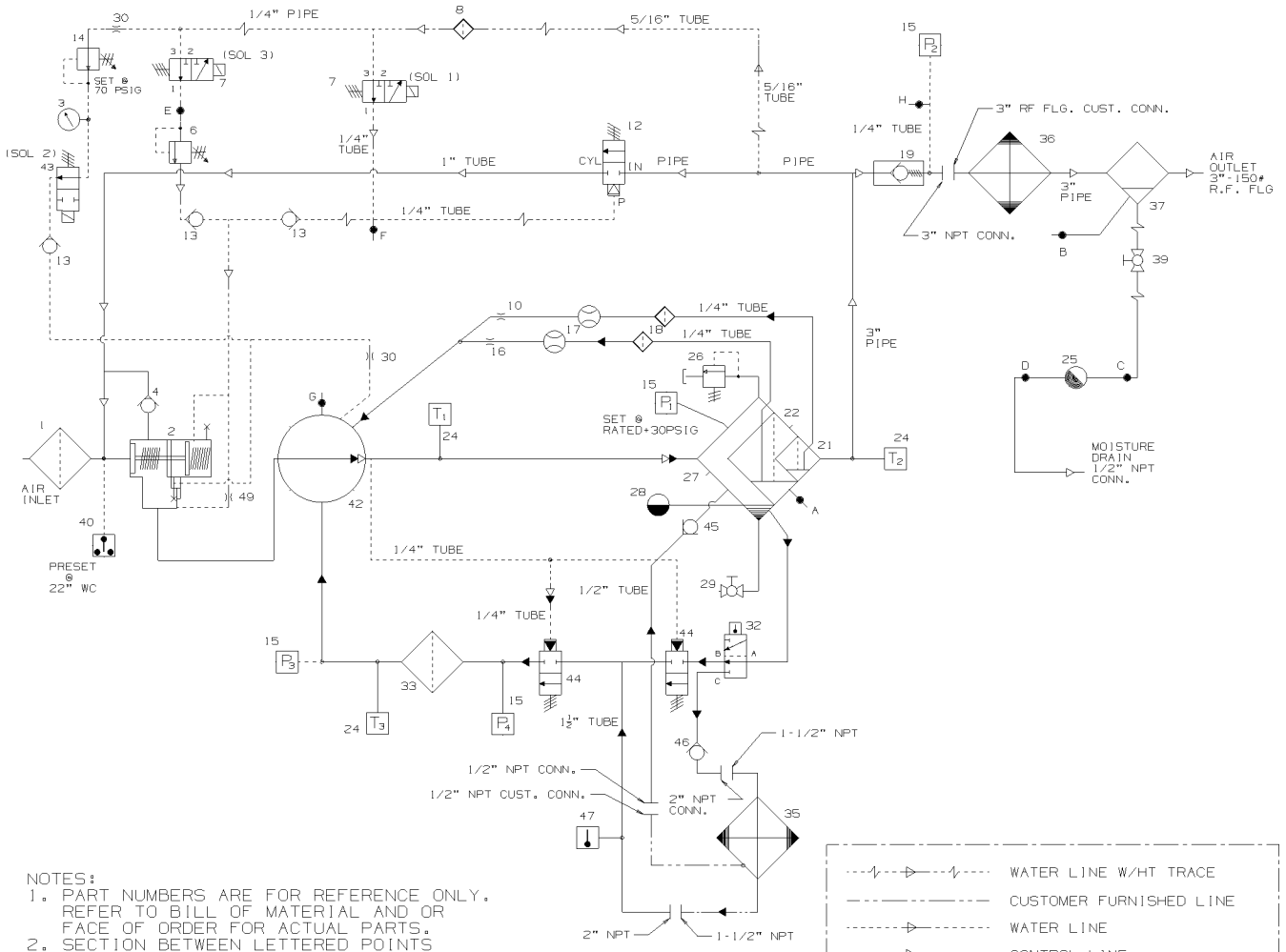
Figure 3-10 Piping and Instrumentation Diagram- LS25SC-200/250 Remote-cooled Supervisor with Pneumatic Control

key number	***description***	***part number***	***quantity***
1	filter, assy air inlet (heavy duty)	250006-718	-
2	vlv, inlet 8”	02250137-084	-
3	gauge, pressure	02250117-009	-
4	vlv, check 1/2”	042694	-
5	vlv, spiral	-	-
6	regulator, backpressure control 1/4”	02250052-358	-
7	vlv, sol 3wno 1/4” 115vac	02250125-657	-
8	filter, control 1/4” npt	02250112-032	-
9	vlv, press. reg.	406929	-
10	orifice, .032”	02250125-774	-
11	orifice, .03”	02250101-191	-
12	vlv, blowdown 1” nc 2-way	409783	-
13	vlv, check 1/4”	045244	-
14	regulator, reducing 1/4npt	02250046-568	-
15	pressure transducer n4	02250078-933	-
16	orifice, .094	02250125-776	-
17	glass, sight 1/4”	02250126-129	-
18	strainer,in line sae	02250117-782	-
19	vlv, min. press. check 3” npt	250033-821	-
20	vlv, sol 2way nc 1/4”	02250125-674	-
21	element, secondary separator	250034-133	-
22	element, primary separator	250034-121	-
23	strainer, y 1/2”	406480	-
24	probe, 100 ohm rtd 20’	02250044-985	-
25	trap, condensate 3/4”	042034	-
26	vlv, relief 1-1/2” 150#	02250119-109	-
27	tank, fluid sep.	02250120-350	-
28	glass, fluid level sight	02250097-611	-
29	vlv, ball 3/4”	02250125-221	-
30	orifice, .094”	022033	-
31	heater, moisture separator	02250087-631	-
32	hsg, thrmvlv 1 7/8sae 4 port	02250127-119	-
33	filter, fluid	02250121-658	-

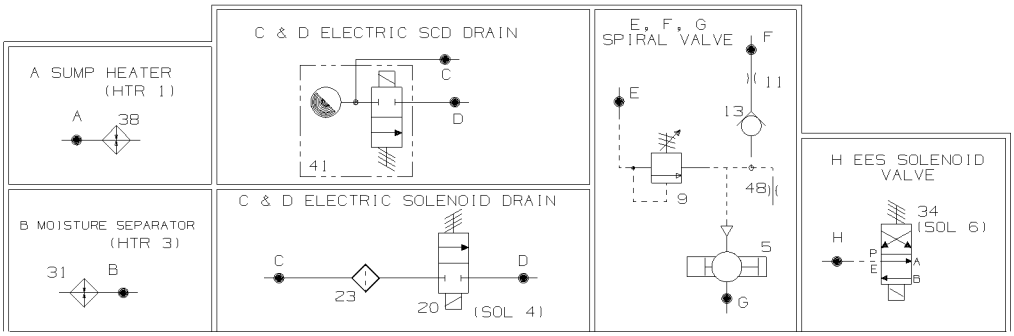
(Continued on page 27)

Section 3
SPECIFICATIONS

Figure 3-10 Piping and Instrumentation Diagram- LS25SC-200/250 Remote-cooled Supervisor with Pneumatic Control



NOTES:
1. PART NUMBERS ARE FOR REFERENCE ONLY. REFER TO BILL OF MATERIAL AND OR FACE OF ORDER FOR ACTUAL PARTS.
2. SECTION BETWEEN LETTERED POINTS ARE TO BE REPLACED WITH CORRESPONDING OPTION PICTURED BELOW, AS REQUIRED BY FACE OF ORDER.
3. HEAT TRACE SHOWN AS OPTIONAL. CHECK FACE OF ORDER FOR HEAT TRACE REQUIREMENTS.
4. ITEM 41 TO BE INSTALLED BY SULLAIR BUT ELECTRICALLY INSTALLED BY THE CUSTOMER IN THE FIELD.
5. THE SUPPLY AND RETURN PIPING FOR THE FLUID COOLER MUST BE ADEQUATELY SIZED TO PREVENT EXCESSIVE PRESSURE DROP. THE TOTAL PRESSURE DROP IN THE SUPPLY AND RETURN PIPING AND ASSOC. FITTINGS AND VALVES SHALL NOT EXCEED 10 PSIG (0.7 BAR). IF THE PRESSURE DROP IS EXCESSIVE, A PUMP MAY BE INSTALLED.
6. MINIMUM OPERATING TEMPERATURE OF 32°F FOR LOWER TEMPS. OIL LINES NEED TO BE HEATED AND INSULATED.



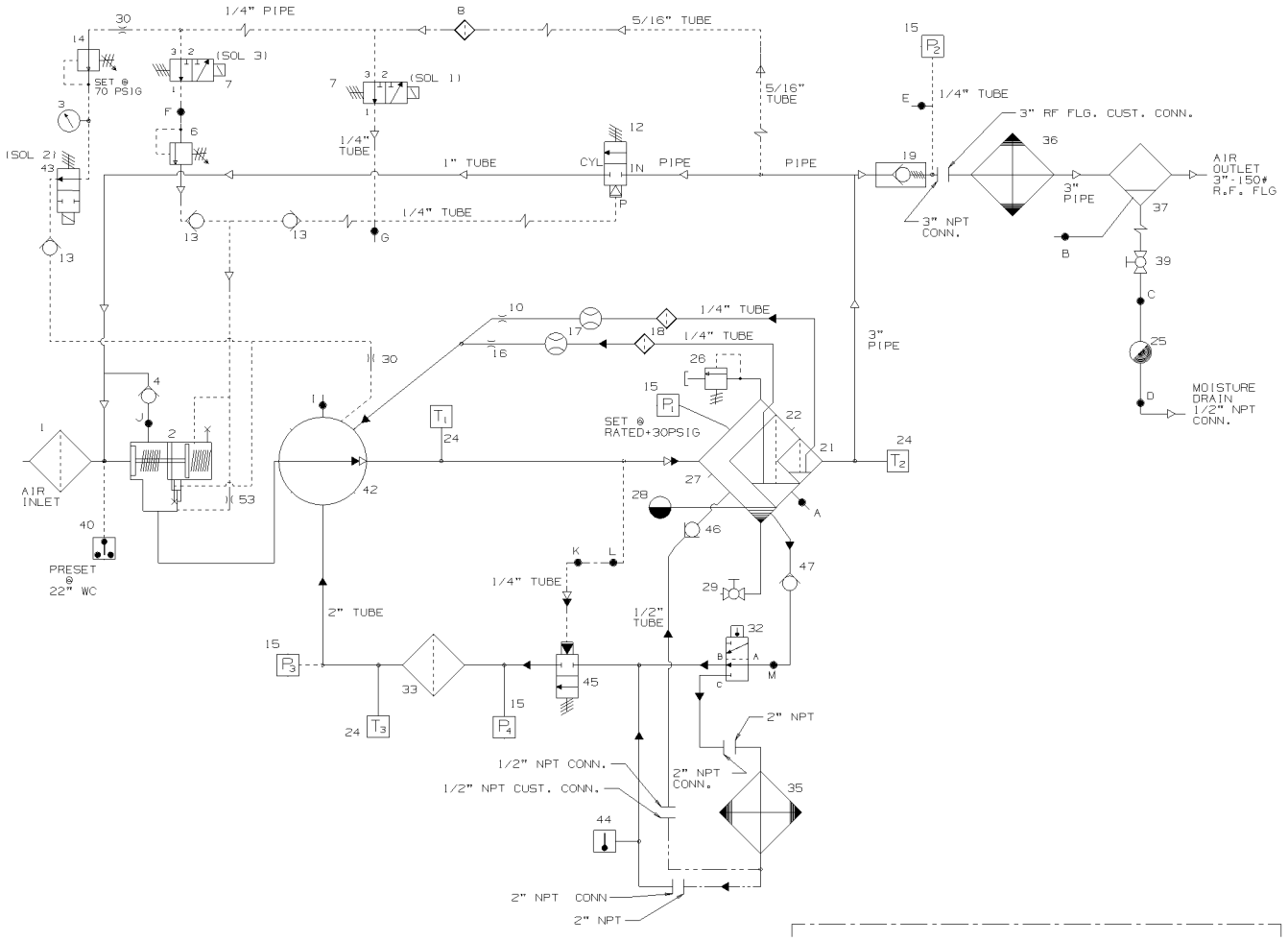
02250136-141R03

Figure 3-10 Piping and Instrumentation Diagram- LS25SC-200/250 Remote-cooled Supervisor with Pneumatic Control (Continued)

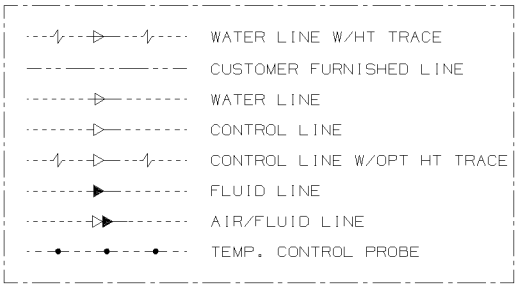
key number	***description***	***part number***	***quantity***
34	vlv, sol ees 1/4” 4-way	02250056-983	-
35	cooler, fluid w/ 1 -7/8-12 sae oil ports	02250122-858	-
36	aftercooler, air to air	02250121-098	-
37	separator, combo trap	02250111-105	-
38	heater, sump	047226	-
39	vlv,ball 1/2” npt	047117	-
40	switch, vac. 22” w.c. n4	02250078-249	-
41	drain,elec.conds. scd2400 115 vac	02250130-866	-
42	unit, compressor	-	-
43	vlv, sol 2way no 1/4”	02250125-667	-
44	vlv, oil stop w/sae ports	02250113-668	-
45	valve, check 1/2”	042694	-
46	valve, check 2”	040671	-
47	switch, temp n.o. 115f	043239	-
48	orifice, cap 1/4” npt .031 dia.	02250132-934	-
49	orf, 1/4”npt .046 dia (w/o spiral vlv)	02250137-619	-
49	orf, 1/4”npt .03 dia (w/spiral vlv)	02250101-191	-

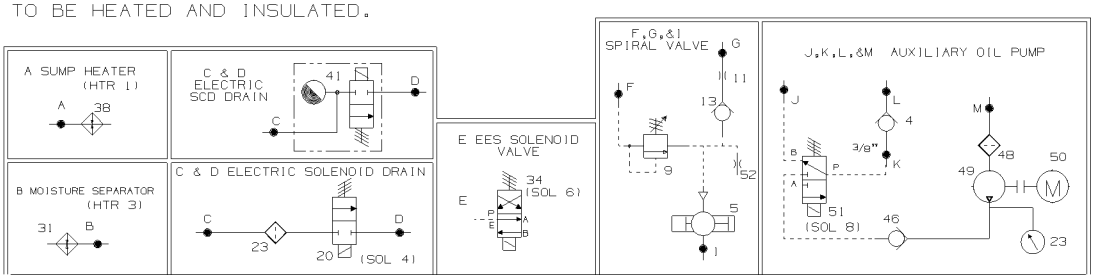
Section 3
SPECIFICATIONS

Figure 3-11 Piping and Instrumentation Diagram- LS25SC-300/350 Remote-cooled Supervisor with Pneumatic Control



NOTES:
1. PART NUMBERS ARE FOR REFERENCE ONLY. REFER TO BILL OF MATERIAL AND OR FACE OF ORDER FOR ACTUAL PARTS.
2. SECTION BETWEEN LETTERED POINTS ARE TO BE REPLACED WITH CORRESPONDING OPTION PICTURED BELOW, AS REQUIRED BY FACE OF ORDER.
3. HEAT TRACE SHOWN AS OPTIONAL. CHECK FACE OF ORDER FOR HEAT TRACE REQUIREMENTS.
4. ITEM 41 TO BE INSTALLED BY SULLAIR BUT ELECTRICALLY INSTALLED BY THE CUSTOMER IN THE FIELD.
5. THE SUPPLY AND RETURN PIPING FOR THE FLUID COOLER MUST BE ADEQUATELY SIZED TO PREVENT EXCESSIVE PRESSURE DROP. THE TOTAL PRESSURE DROP IN THE SUPPLY AND RETURN PIPING AND ASSOC. FITTINGS AND VALVES SHALL NOT EXCEED 10 PSIG (0.7 BAR). IF THE PRESSURE DROP IS EXCESSIVE, A PUMP MAY BE INSTALLED.
6. MINIMUM OPERATING TEMPERATURE OF 32°F FOR LOWER TEMPS. OIL LINES NEED TO BE HEATED AND INSULATED.





02250136-142R03

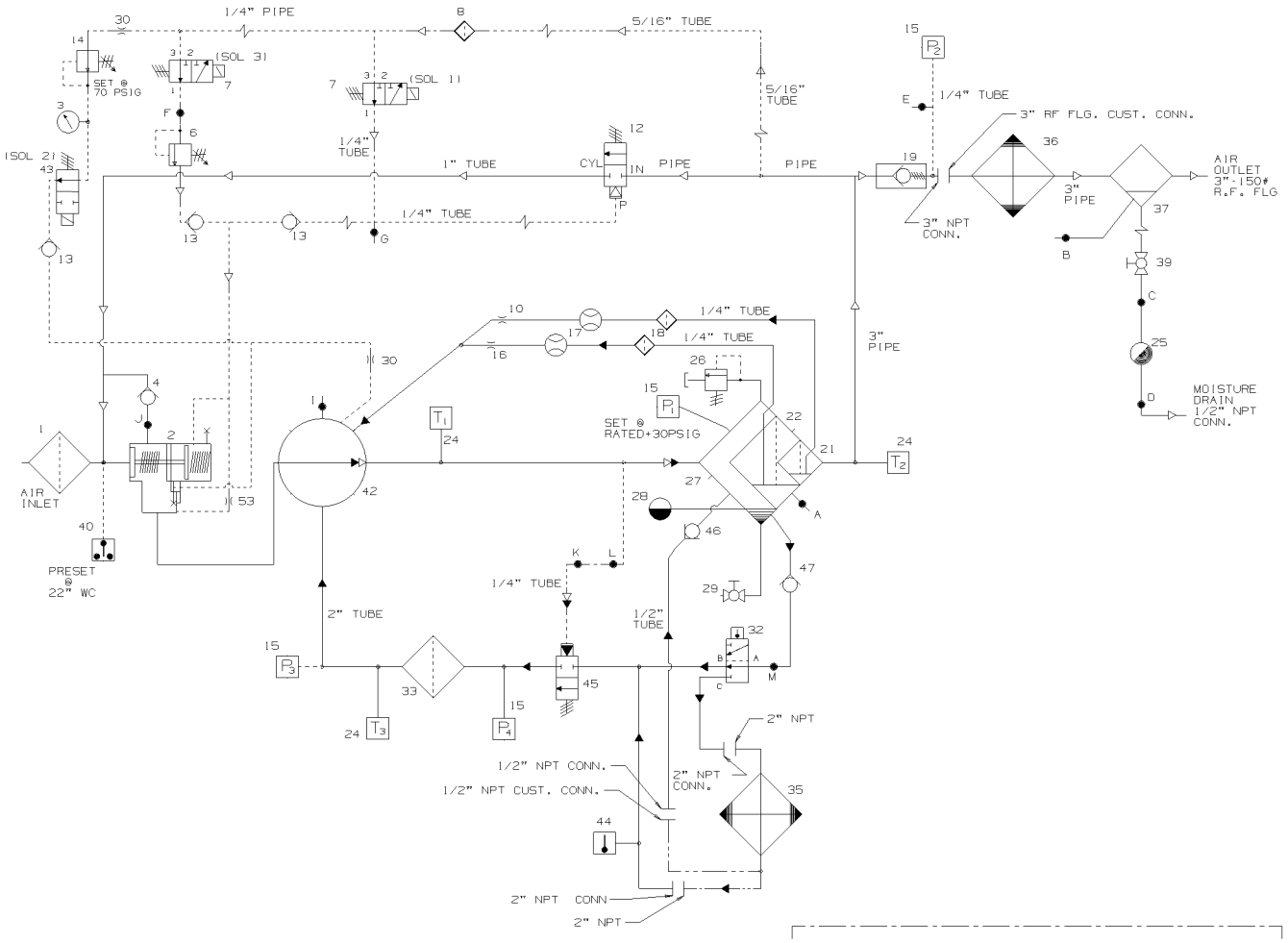
Figure 3-11 Piping and Instrumentation Diagram- LS25SC-300/350 Remote-cooled Supervisor with Pneumatic Control

key number	***description***	***part number***	***quantity***
1	filter, assy air inlet (heavy duty)	250006-718	-
2	vlv, inlet 8”	02250137-084	-
3	gauge, pressure	02250117-009	-
4	vlv, check 1/2”	042694	-
5	vlv, spiral	-	-
6	regulator, backpressure control 1/4”	02250052-358	-
7	vlv, sol 3wno 1/4” 115vac	02250125-657	-
8	filter, control 1/4” npt	02250112-032	-
9	vlv, press. reg.	406929	-
10	orifice, .032”	02250125-774	-
11	orifice, .03”	02250101-191	-
12	vlv, blowdown 1” nc 2-way	409783	-
13	vlv, check 1/4”	045244	-
14	regulator, reducing 1/4npt	02250046-568	-
15	pressure transducer n4	02250078-933	-
16	orifice, .094	02250125-776	-
17	glass, sight 1/4”	02250126-129	-
18	strainer,in line sae	02250117-782	-
19	vlv, min. press. check 3” npt	250033-821	-
20	vlv, sol 2way nc 1/4”	02250125-674	-
21	element, secondary separator	250034-129	-
22	element, primary separator	250034-123	-
23	strainer, y 1/2”	406480	-
24	probe, 100 ohm rtd 20’	02250044-985	-
25	trap, condensate 3/4”	042034	-
26	vlv, relief 1-1/2” 150#	02250119-109	-
27	tank, fluid sep.	02250120-612	-
28	glass, fluid level sight	02250097-611	-
29	vlv, ball 3/4”	02250125-221	-
30	orifice, .094”	022033	-
31	heater, moisture separator	02250087-631	-
32	vlv, thermal assy w/ sae ports	02250120-955	-
33	filter, fluid	02250121-638	-
34	vlv, sol EES 1/4” 4-way	02250056-983	-

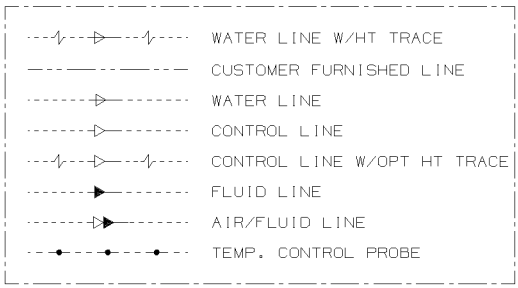
(Continued on page 31)

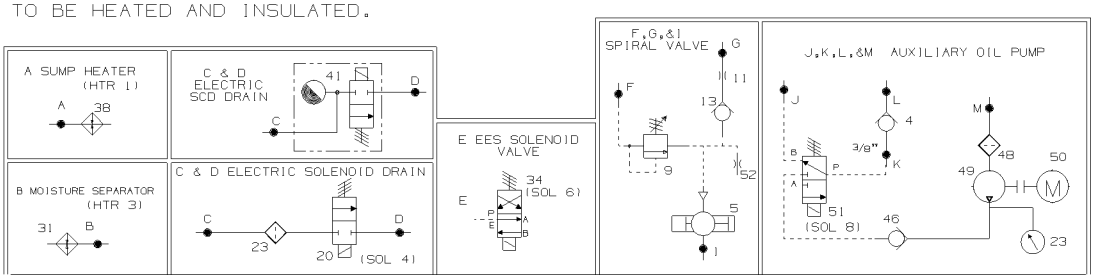
Section 3
SPECIFICATIONS

Figure 3-11 Piping and Instrumentation Diagram- LS25SC-300/350 Remote-cooled Supervisor with Pneumatic Control



NOTES:
1. PART NUMBERS ARE FOR REFERENCE ONLY. REFER TO BILL OF MATERIAL AND OR FACE OF ORDER FOR ACTUAL PARTS.
2. SECTION BETWEEN LETTERED POINTS ARE TO BE REPLACED WITH CORRESPONDING OPTION PICTURED BELOW, AS REQUIRED BY FACE OF ORDER.
3. HEAT TRACE SHOWN AS OPTIONAL. CHECK FACE OF ORDER FOR HEAT TRACE REQUIREMENTS.
4. ITEM 41 TO BE INSTALLED BY SULLAIR BUT ELECTRICALLY INSTALLED BY THE CUSTOMER IN THE FIELD.
5. THE SUPPLY AND RETURN PIPING FOR THE FLUID COOLER MUST BE ADEQUATELY SIZED TO PREVENT EXCESSIVE PRESSURE DROP. THE TOTAL PRESSURE DROP IN THE SUPPLY AND RETURN PIPING AND ASSOC. FITTINGS AND VALVES SHALL NOT EXCEED 10 PSIG (0.7 BAR). IF THE PRESSURE DROP IS EXCESSIVE, A PUMP MAY BE INSTALLED.
6. MINIMUM OPERATING TEMPERATURE OF 32°F FOR LOWER TEMPS. OIL LINES NEED TO BE HEATED AND INSULATED.



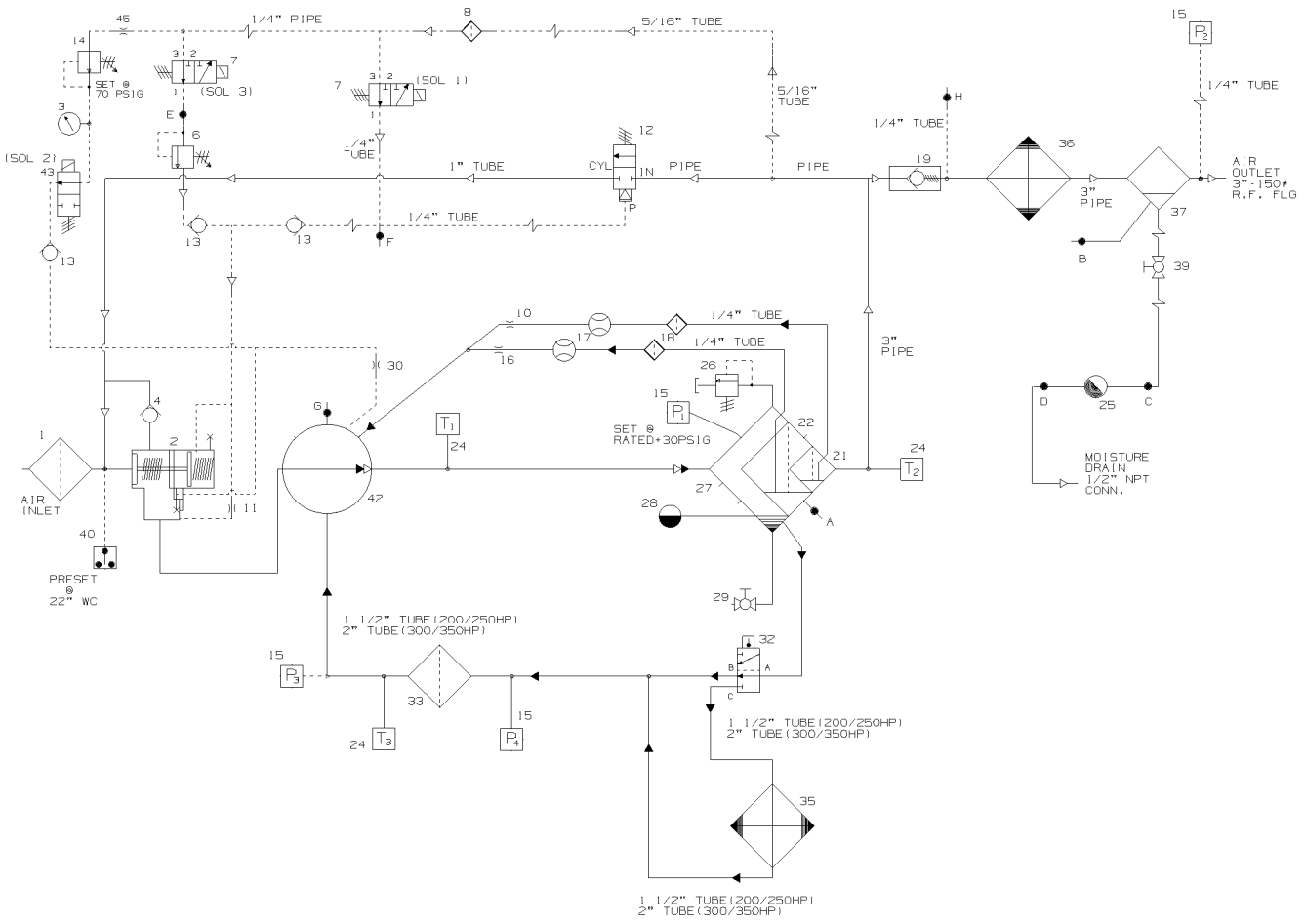


02250136-142R03

Figure 3-11 Piping and Instrumentation Diagram- LS25SC-300/350 Remote-cooled Supervisor with Pneumatic Control (Continued)

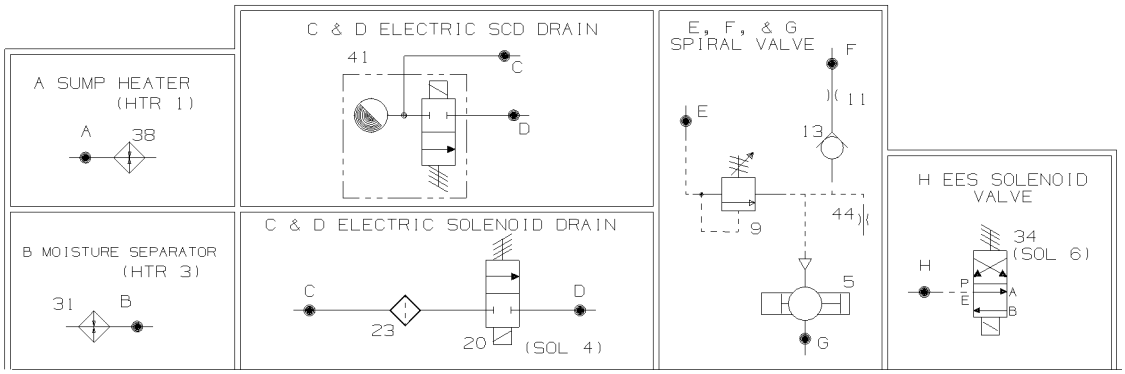
key number	***description***	***part number***	***quantity***
35	cooler, fluid w/ 1-7/8”-12 sae oil ports	02250122-218	-
36	aftercooler, air to air	02250122-219	-
37	separator, combo trap	02250111-105	-
38	heater, sump	047226	-
39	vlv,ball 1/2” npt	047117	-
40	switch, vac. 22” w.c. n4	02250078-249	-
41	drain,elec.conds. scd2400 115 vac	02250130-866	-
42	unit, compressor	-	-
43	vlv, sol 2way no 1/4”	02250125-667	-
44	switch, temp n.o. 115f	043239	-
45	vlv, oil stop w/sae ports	02250122-004	-
46	vlv, check 1/4”	02250110-557	-
47	vlv, inline check 2-1/2”	02250125-617	-
48	strainer, oil pump suction	250038-912	-
49	pump, fluid sys	250018-782	-
50	mtr, 5hp	VARIOUS	-
51	valve, control 3 way	043877	-
52	orifice, cap 1/4” npt .031 dia.	02250132-934	-
53	orf, 1/4”npt .046 dia (w/o spiral vlv)	02250137-619	-
53	orf, 1/4”npt .031 dia (w/spiral vlv)	02250101-191	-

Figure 3-12 Piping and Instrumentation Diagram- LS25SC-200/350 ACAC Supervisor with Pneumatic Control



NOTE:
1. PART NUMBERS ARE FOR REFERENCE ONLY. REFER TO BILL OF MATERIAL AND OR FACE OF ORDER FOR ACTUAL PARTS.
2. SECTION BETWEEN LETTERED POINTS ARE TO BE REPLACED WITH CORRESPONDING OPTION PICTURED BELOW, AS REQUIRED BY FACE OF ORDER.
3. HEAT TRACE SHOWN AS OPTIONAL. CHECK FACE OF ORDER FOR HEAT TRACE REQUIREMENTS.

- WATER LINE W/HT TRACE
- CUSTOMER FURNISHED LINE
- WATER LINE
- CONTROL LINE
- CONTROL LINE W/OPT HT TRACE
- FLUID LINE
- AIR/FLUID LINE
- TEMP. CONTROL PROBE



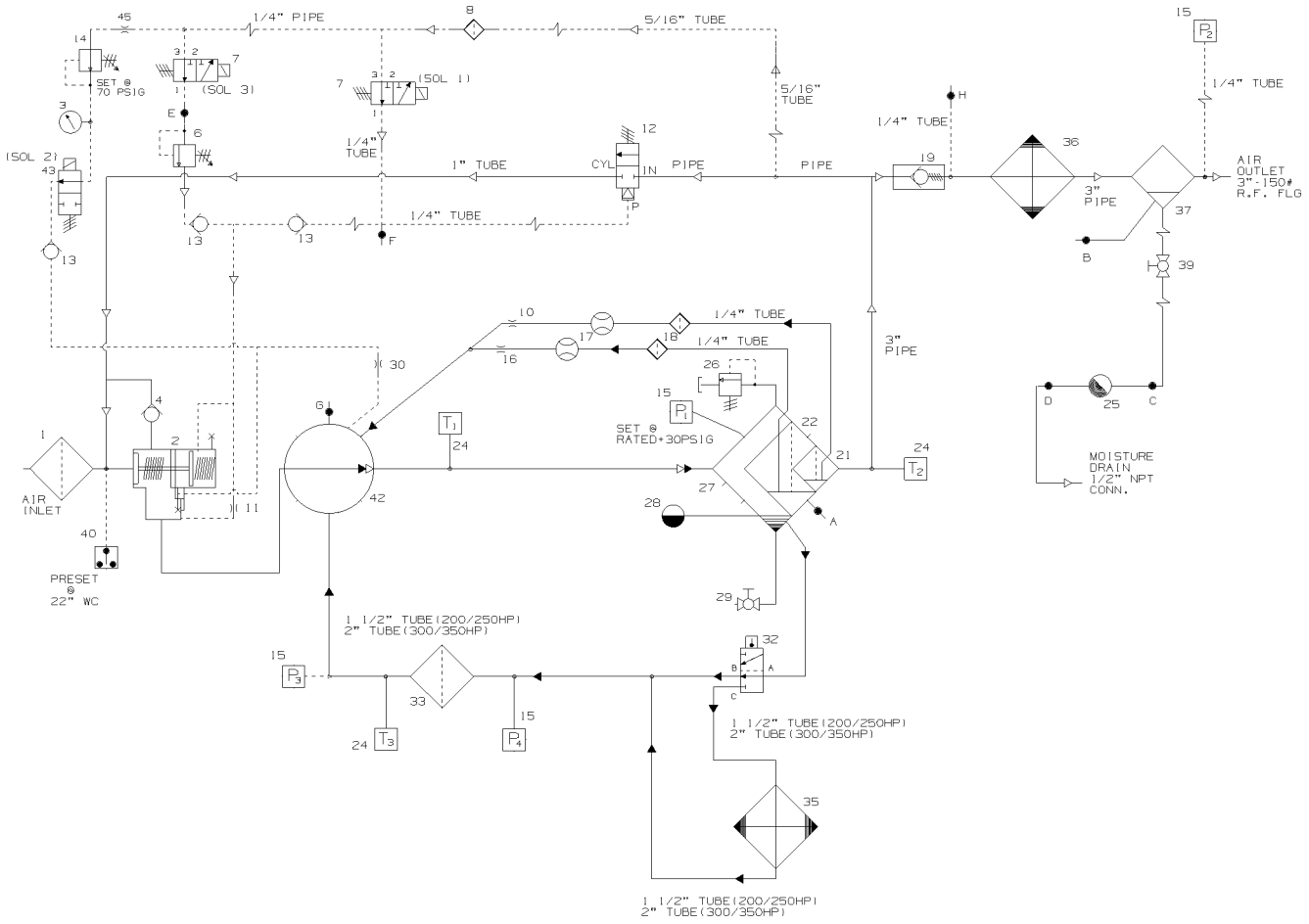
02250136-143R02

Figure 3-12 Piping and Instrumentation Diagram- LS25SC-200/350 ACAC Supervisor with Pneumatic Control

key number	*description*	*part no. 250HP*	*part no. 300/350HP*	*qty*
1	filter, assy air inlet (heavy duty)	250006-718	250006-718	1
2	vlv, inlet 8”	02250137-084	02250137-084	1
3	gauge, pressure	02250117-009	02250117-009	1
4	vlv, check 1/2”	042694	042694	1
5	vlv, spiral	-	-	1
6	regulator, backpressure control 1/4”	02250052-358	02250052-358	1
7	vlv, sol 3wno 1/4” 115vac	02250125-657	02250125-657	2
8	filter, control 1/4” npt	02250112-032	02250112-032	1
9	vlv, press. reg.	406929	406929	1
10	orifice, .032”	02250125-774	02250125-774	1
11	orifice, .03”	02250101-191	02250101-191	2
12	vlv, blowdown nc 2-way	409783	409783	1
13	vlv, check 1/4”	045244	045244	4
14	regulator, reducing 1/4npt	02250046-568	02250046-568	1
15	pressure transducer n4	02250078-933	02250078-933	4
16	orifice, .094	02250125-776	02250125-776	1
17	glass, sight 1/4”	02250126-129	02250126-129	2
18	strainer,in line sae	02250117-782	02250117-782	2
19	vlv, min. press. check 3” npt	250033-821	250033-821	1
20	vlv, sol 2way nc 1/4”	02250125-674	02250125-674	1
21	element, secondary separator	250034-133	250034-129	1
22	element, primary separator	250034-121	250034-123	1
23	strainer, y 1/2”	406480	406480	1
24	probe, 100 ohm rtd 20’	02250044-985	02250044-985	3
25	trap, condensate 3/4”	042034	042034	1
26	vlv, relief 1-1/2” 150#	02250119-109	02250119-109	1
27	tank, fluid sep.	02250120-350	02250120-612	1
28	glass, fluid level sight	02250097-611	02250097-611	2
29	vlv, ball 3/4”	02250125-221	02250125-221	1
30	orifice, .094”	022033	022033	1
31	heater, moisture separator	02250087-631	02250087-631	1
32	vlv, thermal assy w/sae ports	02250127-119	02250120-955	1
33	filter, fluid	02250121-658	02250121-638	1
34	vlv, sol ees 1/4” 4-way	02250056-983	02250056-983	1
35	cooler, fluid w/1-7/8”-12 sae oil ports	02250122-858	02250122-218	1

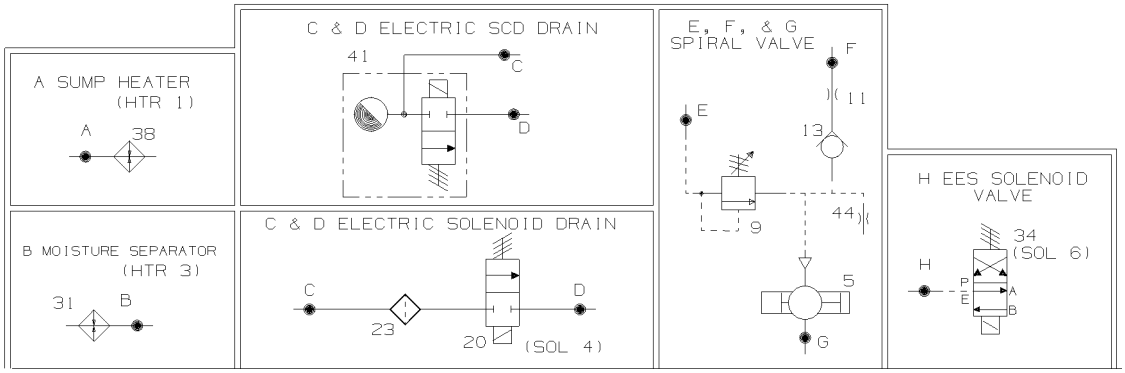
(Continued on page 35)

Figure 3-12 Piping and Instrumentation Diagram- LS25SC-200/350 ACAC Supervisor with Pneumatic Control



NOTE:
1. PART NUMBERS ARE FOR REFERENCE ONLY. REFER TO BILL OF MATERIAL AND OR FACE OF ORDER FOR ACTUAL PARTS.
2. SECTION BETWEEN LETTERED POINTS ARE TO BE REPLACED WITH CORRESPONDING OPTION PICTURED BELOW, AS REQUIRED BY FACE OF ORDER.
3. HEAT TRACE SHOWN AS OPTIONAL. CHECK FACE OF ORDER FOR HEAT TRACE REQUIREMENTS.

- WATER LINE W/HT TRACE
- CUSTOMER FURNISHED LINE
- WATER LINE
- CONTROL LINE
- CONTROL LINE W/OPT HT TRACE
- FLUID LINE
- AIR/FLUID LINE
- TEMP. CONTROL PROBE

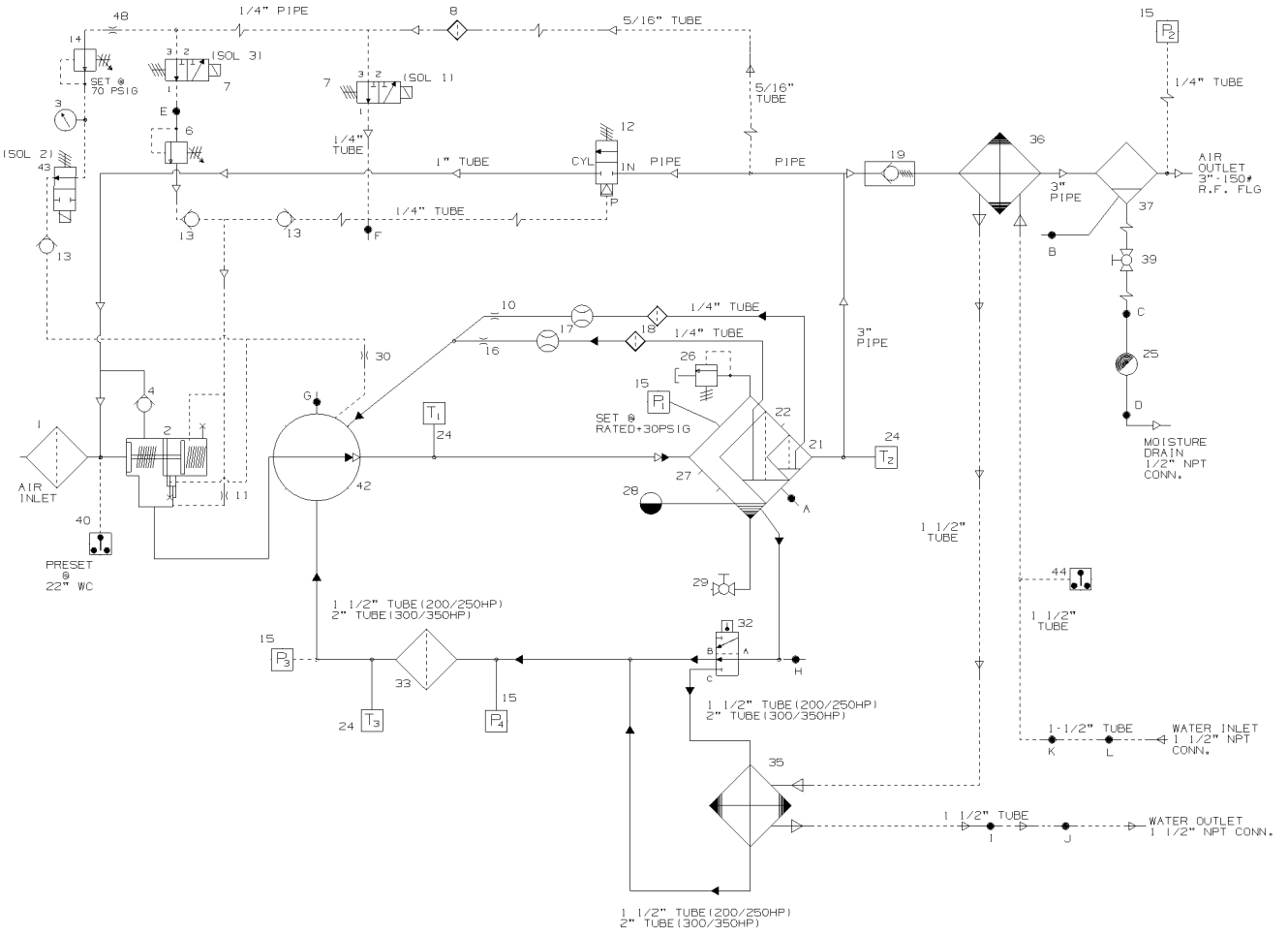


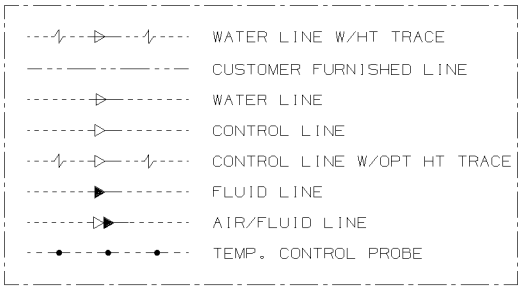
02250136-143R02

Figure 3-12 Piping and Instrumentation Diagram- LS25SC-200/350 ACAC Supervisor with Pneumatic Control (Continued)

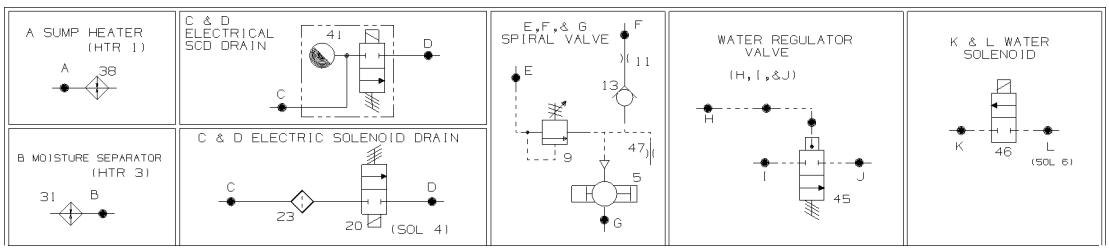
key number	***description***	***part no. 250HP***	***part no. 300/350HP***	***qty***
36	aftercooler, air to air	02250121-098	02250122-219	1
37	separator, combo trap	02250111-105	02250111-105	1
38	heater, sump	047226	047226	1
39	vlv,ball 1/2” npt	047117	047117	1
40	switch, vac. 22” w.c. n4	02250078-249	02250078-249	1
41	drain,elec.conds. scd2400 115 vac	02250130-866	02250130-866	1
42	unit, compressor	-	-	1
43	vlv, sol 2way no 1/4”	02250125-667	02250125-667	1
44	orifice, cap 1/4” npt .031 dia.	02250132-934	02250132-934	1
45	orifice, 1/4” npt .070 dia.	-	02250137-477	1
45	orifice, 1/4” npt .062 dia.	027443	-	1

Figure 3-13 Piping and Instrumentation Diagram- LS25SC-200/350 WCAC Supervisor with Pneumatic Control





NOTE:
1. PART NUMBERS ARE FOR REFERENCE ONLY. REFER TO BILL OF MATERIAL AND OR FACE OF ORDER FOR ACTUAL PARTS.
2. SECTION BETWEEN LETTERED POINTS ARE TO BE REPLACED WITH CORRESPONDING OPTION PICTURED BELOW, AS REQUIRED BY FACE OF ORDER.
3. HEAT TRACE SHOWN AS OPTIONAL. CHECK FACE OF ORDER FOR HEAT TRACE REQUIREMENTS.



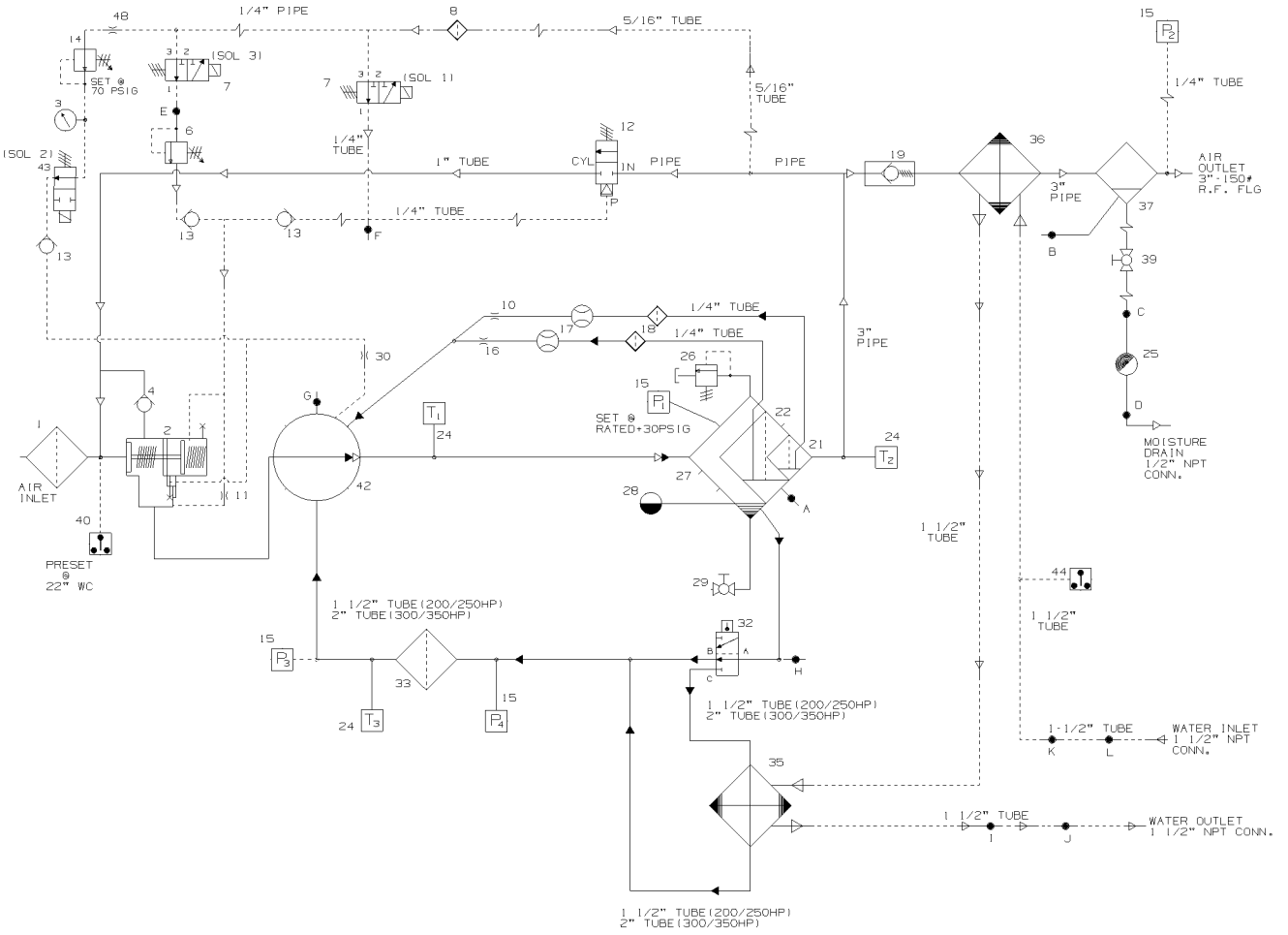
02250136-144R02

Figure 3-13 Piping and Instrumentation Diagram- LS25SC-200/350 WCAC Supervisor with Pneumatic Control

key number	*description*	*part no. 250HP*	*part no. 300/350HP*	*qty*
1	filter, assy air inlet (heavy duty)	250006-718	250006-718	1
2	vlv, inlet 8”	02250137-084	02250137-084	1
3	gauge, pressure	02250117-009	02250117-009	1
4	vlv, check 1/2”	042694	042694	1
5	vlv, spiral	-	-	1
6	regulator, backpressure control 1/4”	02250052-358	02250052-358	1
7	vlv, sol 3wno 1/4” 115vac	02250125-657	02250125-657	2
8	filter, control 1/4” npt	02250112-032	02250112-032	1
9	vlv, press. reg.	406929	406929	1
10	orifice, .032”	02250125-774	02250125-774	1
11	orifice, .03”	02250101-191	02250101-191	2
12	vlv, blowdown 1” nc 2-way	409783	409783	1
13	vlv, check 1/4”	045244	045244	4
14	regulator, reducing 1/4npt	02250046-568	02250046-568	1
15	pressure transducer n4	02250078-933	02250078-933	4
16	orifice, .094	02250125-776	02250125-776	1
17	glass, sight 1/4”	02250126-129	02250126-129	2
18	strainer,in line sae	02250117-782	02250117-782	2
19	vlv, min. press. check 3” npt	250033-821	250033-821	1
20	vlv, sol 2way nc 1/4”	02250125-674	02250125-674	1
21	element, secondary separator	250034-133	250034-129	1
22	element, primary separator	250034-121	250034-123	1
23	strainer, y 1/2”	406480	406480	1
24	probe, 100 ohm rtd 20’	02250044-985	02250044-985	3
25	trap, condensate 3/4”	042034	042034	1
26	vlv, relief 1-1/2” 150#	02250119-109	02250119-109	1
27	tank, fluid sep.	02250120-350	02250120-612	1
28	glass, fluid level sight	02250097-611	02250097-611	2
29	vlv, ball 3/4”	02250125-221	02250125-221	1
30	orifice, .094”	022033	022033	1
31	heater, moisture separator	02250087-631	02250087-631	1
32	vlv, thermal assy w/sae ports	02250127-119	02250120-955	1
33	filter, fluid	02250121-658	02250121-638	1
35	clr, fluid w/s.a.e. oil ports	02250126-003	02250126-002	1

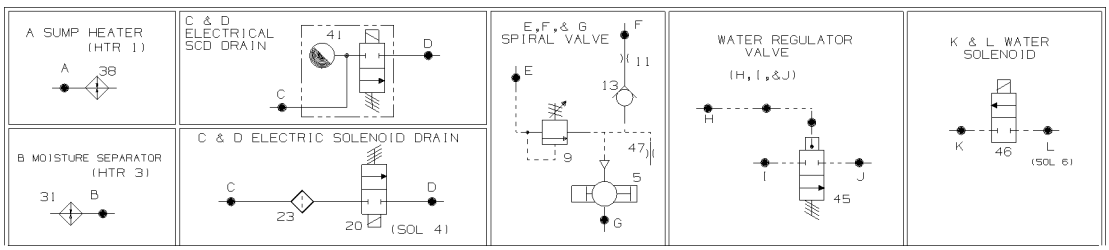
(Continued on page 39)

Figure 3-13 Piping and Instrumentation Diagram- LS25SC-200/350 WCAC Supervisor with Pneumatic Control



WATER LINE W/HT TRACE
CUSTOMER FURNISHED LINE
WATER LINE
CONTROL LINE
CONTROL LINE W/OPT HT TRACE
FLUID LINE
AIR/FLUID LINE
TEMP. CONTROL PROBE

NOTE:
1. PART NUMBERS ARE FOR REFERENCE ONLY. REFER TO BILL OF MATERIAL AND OR FACE OF ORDER FOR ACTUAL PARTS.
2. SECTION BETWEEN LETTERED POINTS ARE TO BE REPLACED WITH CORRESPONDING OPTION PICTURED BELOW, AS REQUIRED BY FACE OF ORDER.
3. HEAT TRACE SHOWN AS OPTIONAL. CHECK FACE OF ORDER FOR HEAT TRACE REQUIREMENTS.

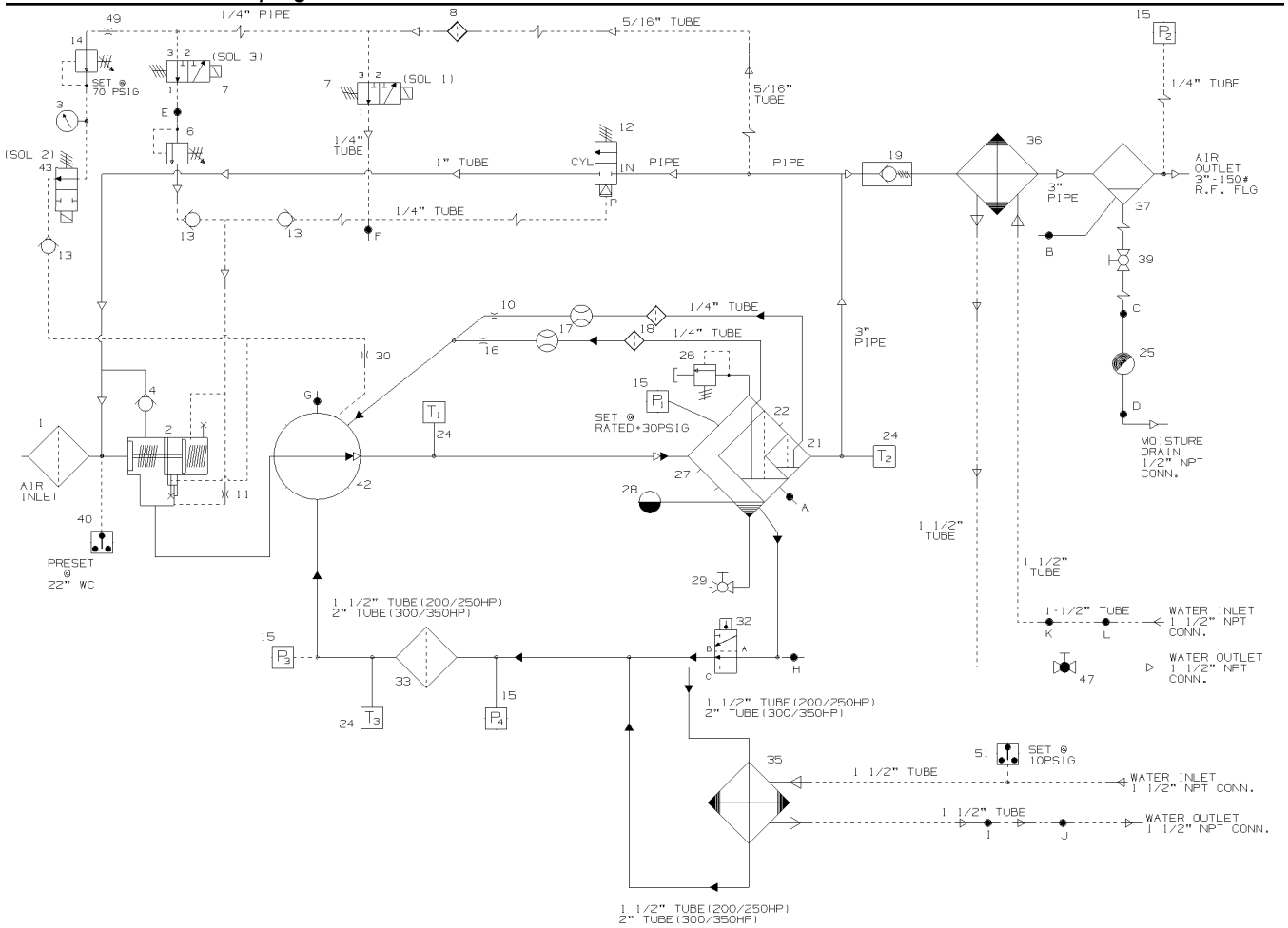


02250136-144R02

Figure 3-13 Piping and Instrumentation Diagram- LS25SC-200/350 WCAC Supervisor with Pneumatic Control (Continued)

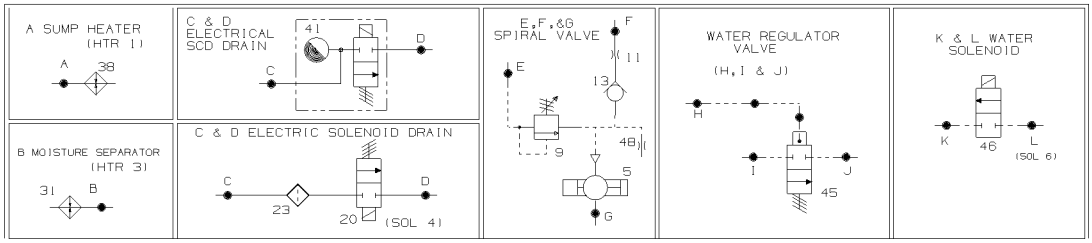
key number	***description***	***part no. 250HP***	***part no. 300/350HP***	***qty***
36	aftercooler, < = 150#	042950	042950	1
36	aftercooler, > = 150#	02250053-383	02250053-383	1
37	separator, combo trap	02250111-105	02250111-105	1
38	heater, sump	047226	047226	1
39	vlv,ball 1/2” npt	047117	047117	1
40	switch, vac. 22” w.c. n4	02250078-249	02250078-249	1
41	drain,elec.conds. scd2400 115 vac	02250130-866	02250130-866	1
42	unit, compressor	-	-	1
43	vlv, sol 2way no 1/4”	02250125-667	02250125-667	1
44	switch, press n.o. 10psi	250017-992	250017-992	1
45	vlv, water regulator 1-1/4”	248743	248743	1
46	vlv, sol 2wnc 1-1/2”	02250125-653	02250125-653	1
47	orifice, cap 1/4” npt .031 dia.	02250132-934	02250132-934	1
48	orifice, 1/4” npt .070 dia.	-	02250137-477	1
48	orifice, 1/4” npt .062 dia.	027443	-	1

Figure 3-14 Piping and Instrumentation Diagram- LS25SC-200/350 WCAC Supervisor with Pneumatic Control & Parallel Piping



NOTE:
1. PART NUMBERS ARE FOR REFERENCE ONLY. REFER TO BILL OF MATERIAL AND OR FACE OF ORDER FOR ACTUAL PARTS.
2. SECTION BETWEEN LETTERED POINTS ARE TO BE REPLACED WITH CORRESPONDING OPTION PICTURED BELOW, AS REQUIRED BY FACE OF ORDER.
3. HEAT TRACE SHOWN AS OPTIONAL. CHECK FACE OF ORDER FOR HEAT TRACE REQUIREMENTS.

- WATER LINE W/HT TRACE
- CUSTOMER FURNISHED LINE
- WATER LINE
- CONTROL LINE
- CONTROL LINE W/OPT HT TRACE
- FLUID LINE
- AIR/FLUID LINE
- TEMP. CONTROL PROBE



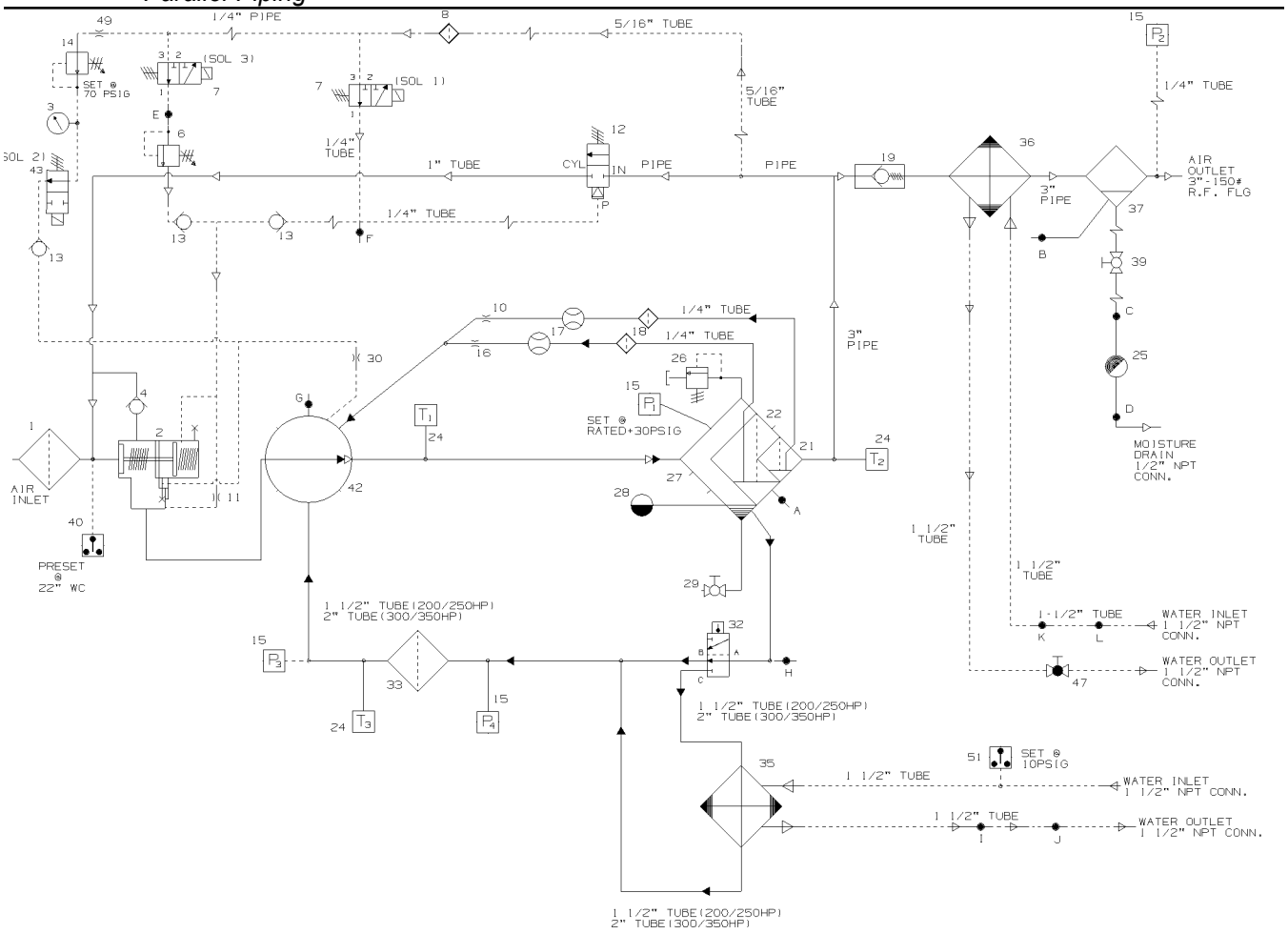
02250136-145R02

Figure 3-14 Piping and Instrumentation Diagram- LS25SC-200/350 WCAC Supervisor with Pneumatic Control & Parallel Piping

key number	***description***	***part no. 250HP***	***part no. 300/350HP***	***qty***
1	filter, assy air inlet (heavy duty)	250006-718	250006-718	1
2	vlv, inlet 8”	02250137-084	02250137-084	1
3	gauge, pressure	02250117-009	02250117-009	1
4	vlv, check 1/2”	042694	042694	1
5	vlv, spiral	-	-	1
6	regulator, backpressure control 1/4”	02250052-358	02250052-358	1
7	vlv, sol 3wno 1/4” 115vac	02250125-657	02250125-657	2
8	filter, control 1/4” npt	02250112-032	02250112-032	1
9	vlv, press. reg.	406929	406929	1
10	orifice, .032”	02250125-774	02250125-774	1
11	orifice, .03”	02250101-191	02250101-191	2
12	vlv, blowdown 1” nc 2-way	409783	409783	1
13	vlv, check 1/4”	045244	045244	4
14	regulator, reducing 1/4npt	02250046-568	02250046-568	1
15	pressure transducer n4	02250078-933	02250078-933	4
16	orifice, .094	02250125-776	02250125-776	1
17	glass, sight 1/4”	02250126-129	02250126-129	2
18	strainer,in line sae	02250117-782	02250117-782	2
19	vlv, min. press. check 3” npt	250033-821	250033-821	1
20	vlv, sol 2way nc 1/4”	02250125-674	02250125-674	1
21	element, secondary separator	250034-133	250034-129	1
22	element, primary separator	250034-121	250034-123	1
23	strainer, y 1/2”	406480	406480	1
24	probe, 100 ohm rtd 20’	02250044-985	02250044-985	3
25	trap, condensate 3/4”	042034	042034	1
26	vlv, relief 1-1/2” 150#	02250119-109	02250119-109	1
27	tank, fluid sep.	02250120-350	02250120-612	1
28	glass, fluid level sight	02250097-611	02250097-611	2
29	vlv, ball 3/4”	02250125-221	02250125-221	1
30	orifice, .094”	022033	022033	1
31	heater, moisture separator	02250087-631	02250087-631	1
32	vlv, thermal assy w/sae ports	02250127-119	02250120-955	1
33	filter, fluid	02250121-658	02250121-638	1
35	clr, fluid w/s.a.e. oil ports	02250126-003	02250126-002	1

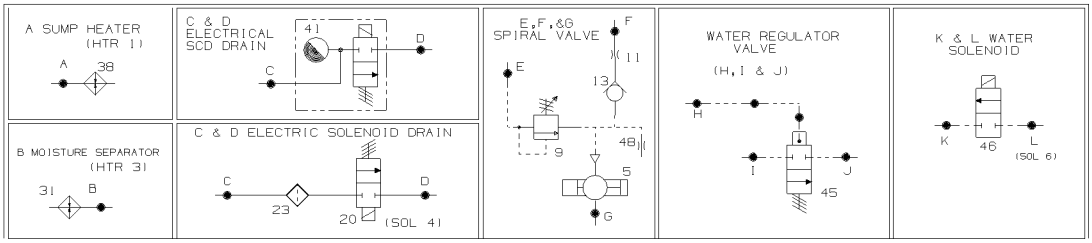
(Continued on page 43)

Figure 3-14 Piping and Instrumentation Diagram- LS25SC-200/350 WCAC Supervisor with Pneumatic Control & Parallel Piping



NOTE:
1. PART NUMBERS ARE FOR REFERENCE ONLY. REFER TO BILL OF MATERIAL AND OR FACE OF ORDER FOR ACTUAL PARTS.
2. SECTION BETWEEN LETTERED POINTS ARE TO BE REPLACED WITH CORRESPONDING OPTION PICTURED BELOW, AS REQUIRED BY FACE OF ORDER.
3. HEAT TRACE SHOWN AS OPTIONAL. CHECK FACE OF ORDER FOR HEAT TRACE REQUIREMENTS.

- WATER LINE W/HT TRACE
- CUSTOMER FURNISHED LINE
- WATER LINE
- CONTROL LINE
- CONTROL LINE W/OPT HT TRACE
- FLUID LINE
- AIR/FLUID LINE
- TEMP. CONTROL PROBE



02250136-145R02

Figure 3-14 Piping and Instrumentation Diagram- LS25SC-200/350 WCAC Supervisor with Pneumatic Control & Parallel Piping (Continued)

key number	***description***	***part no. 250HP***	***part no. 300/350HP***	***qty***
36	aftercooler, < = 150#	042950	042950	1
36	aftercooler, > = 150#	02250053-383	02250053-383	1
37	separator, combo trap	02250111-105	02250111-105	1
38	heater, sump	047226	047226	1
39	vlv,ball 1/2” npt	047117	047117	1
40	switch, vac. 22” w.c. n4	02250078-249	02250078-249	1
41	drain,elec.conds. scd2400 115 vac	02250130-866	02250130-866	1
42	unit, compressor	-	-	1
43	vlv, sol 2way no 1/4”	02250125-667	02250125-667	1
44	switch, press n.o. 10psi	250017-992	250017-992	1
45	vlv, water regulator 1-1/4”	248743	248743	1
46	vlv, sol 2wnc 1-1/2”	02250125-653	02250125-653	1
47	vlv, globe 1-1/2”	047834	047834	1
48	orifice, cap 1/4” npt .031 dia.	02250132-934	02250132-934	1
49	orifice, 1/4” npt .070 dia.	-	02250137-477	1
49	orifice, 1/4” npt .062 dia.	027443	-	1

NOTES

4.1 MOUNTING OF COMPRESSOR

A foundation or mounting capable of supporting the weight of the compressor, and rigid enough to maintain the compressor frame level and the compressor in alignment is required. The compressor frame must be leveled and secured with foundation bolts, and full uniform contact must be maintained between the frame and foundation. It is recommended that the frame be grouted to the foundation. The compressor unit and driver must be aligned after installation as specified in the Operator's Manual. No piping loads shall be transmitted to the compressor or the cooling package at the external connections.

4.2 VENTILATION AND COOLING

For air-cooled compressors, select a location to permit sufficient unobstructed air to flow in and out of the compressor cooling package to keep the operating temperature stable. The minimum distance that the compressor should be from surrounding walls is three (3) feet (914mm). To prevent excessive ambient temperature rise, it is imperative to provide adequate ventilation.

For water-cooled compressors, it is necessary to check the cooling water supply. The water system must be capable of supplying the following flows:

MODEL-HP/KW	WATER FLOW (GPM)
LS25S 200HP/149KW	44
LS25S 250HP/187KW	54
LS25S 300HP/225KW	65
LS25S 350HP/260KW	76

NOTE

Water flow requirements are based on 80°F to 85°F (27°C to 29°C) water inlet temperature.

Recommended water pressure range is 40 to 75 psig (2.8 to 5.2 bar). Water flow rates will vary with operating conditions. For rates based on criteria other than that listed, consult your local Sullair representative.

Table 4-1 Ventilation Requirements below indicates the ventilation requirements necessary to keep the compressor running at a normal operating temperature. The fan air requirement is the volume of air which must flow through the compressor and/or cooling package for proper ventilation. The specified heat rejection requirement is the amount of heat that is radiated by the compressor. This heat must be removed to assure a normal operating temperature. With air-cooled compressors it is possible to use this heat for space heating, providing excessive pressure drop is not created across the fan. Consult a Sullair office for assistance in utilizing this heat.

DO NOT install a water-cooled or an air-cooled/aftercooled compressor without adequate freeze protection where it will be exposed to temperature less than 32°F(0°C).

4.3 SERVICE AIR PIPING

Service air piping should be installed as shown in Figure 4-1. A shut-off valve should be installed to isolate a compressor from the service line if required. Also notice that the service line should be equipped with water legs and condensate drains throughout the system.

4.4 COUPLING ALIGNMENT CHECK

In preparation for the factory test, the coupling supplied with your compressor is properly aligned for operation. Refer to Coupling Alignment procedure explained in the Maintenance section of this manual.

4.5 FLUID LEVEL CHECK

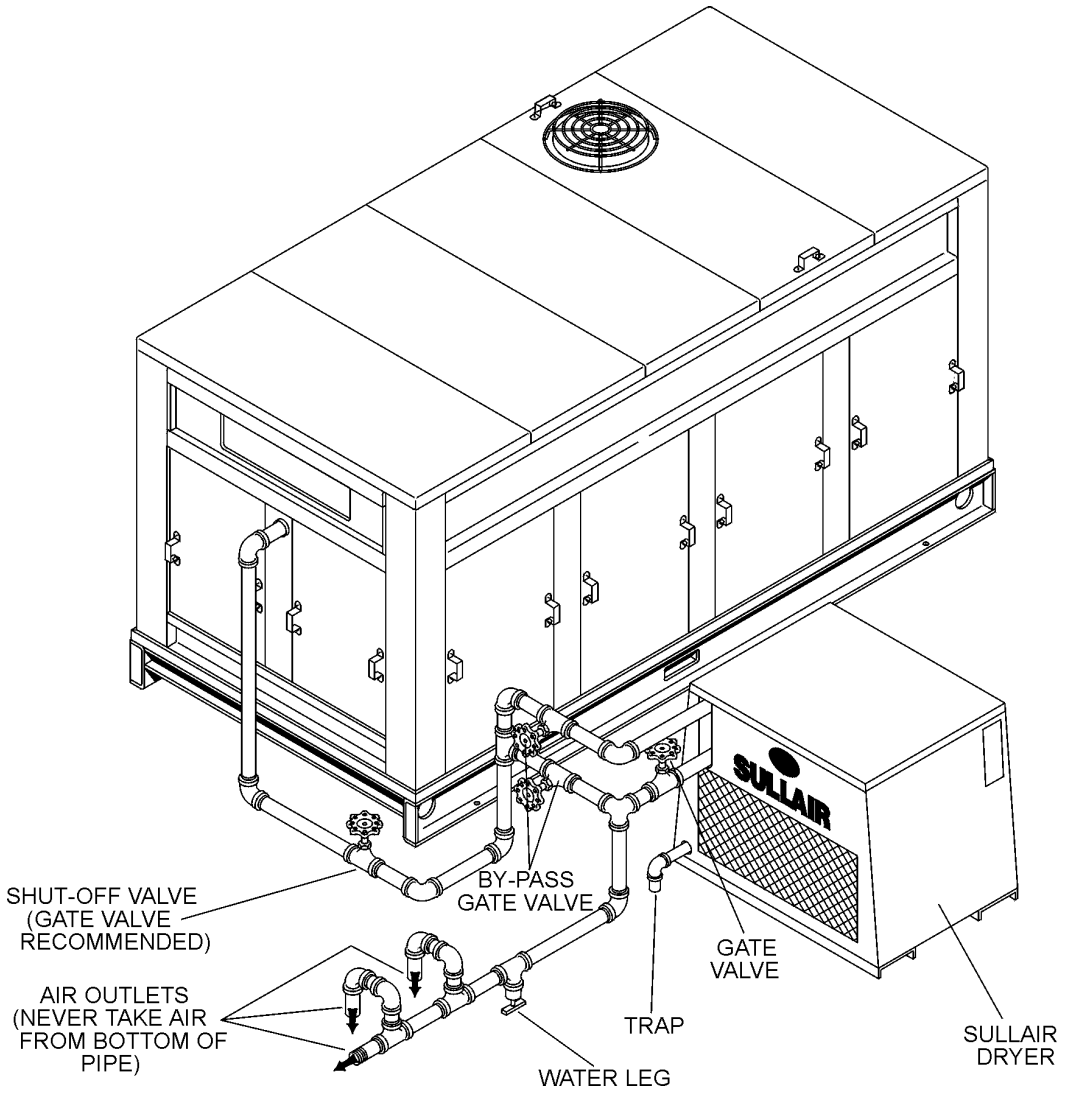
Your air compressor is also supplied with the proper amount of fluid. However, it is necessary to check the fluid level at installation. The level is checked by looking at the sight glass located on the sump. If the sump is properly filled, the coolant level should fill 1/2 of the upper sight glass when the compressor is shutdown. When the oil level falls below the center of the lower sight glass, fluid must be added.

Table 4-1 Ventilation Requirements

		WATER COOLED OR REMOTE COOLED COMPRESSOR PACKAGE		AIR-COOLED (I) COOLING PACKAGE	
MODEL	MOTOR HP/KW	HEAT REJECTION BTU/HR	VENT FAN FLOW (II) CFM	HEAT REJECTION BTU/HR	AIR FLOW CFM
LS25S-200	200/149	47,570	4150	576,500	18,000
LS25S-250	250/187	57,360	4150	695,500	18,000
LS25S-300	300/225	64,170	4150	847,500	28,000
LS25S-350	350/260	74,320	4150	955,000	31,000

(I) Applicable to air-cooled models only.
(II) Applicable to compressors with enclosure.

Figure 4-1 Service Air Piping (Typical Installation)



4.6 FLUID PIPING (REMOTE AIR-COOLED OPTION ONLY)

To allow de-pressurization of the cooling package and connecting piping between the compressor and the cooling package upon shutdown of the compressor, a 1/2”(13 mm) de-pressurization line must be installed between the top of the fluid cooler and the sump tank connection which is located on the fluid supply and return line connection bracket. This line must be maintained at a higher level than the supply and return piping for the fluid cooler.

The supply and return piping for the fluid cooler must be adequately sized to prevent excessive pressure drop. The total pressure drop in the supply and return piping and associated fittings and valves, not including the cooler, shall not exceed 10 psig (0.7 bar) at the worst case operating condition (usually lowest ambient). If the pressure drop is in excess of 10 psig (0.7 bar), a pump should be installed. Consult the Sullair Service Department for recommendations.

It is recommended that shutoff valves be installed in the supply and return piping to facilitate compressor component’s maintenance.

Because of the variability in installations, the fluid necessary to fill the supply and return piping for the fluid cooler is not part of the standard scope of supply for the compressor. The fluid necessary to fill this piping may be ordered from the nearest Sullair representative or the representative from whom the compressor was purchased. To assist in determining the amount of fluid necessary to fill the piping, the following chart may be used.

PIPE SIZE	GALLONS/LITERS OF FLUID PER 12 INCHES/304.8MM OF PIPE
2	.1635/.62
2 1/2	.2555/.97
3	.368/1.39
4	.6542/2.48
6	1.4719/5.57

4.7 ELECTRICAL PREPARATION

Interior electrical wiring is performed at the factory. Required customer wiring is minimal, but should be by a qualified electrician in compliance with OSHA, National Electrical Code, and any other applicable state or local electrical code concerning isolation switches, fuse disconnects, etc. Sullair provides a wiring diagram for use by the installer.

A few electrical checks should be made to help assure that the first start-up will be trouble free.

⚠ WARNING

Lethal shock hazard inside.

Disconnect all power at source, before opening or servicing starter or control panel.

1. Check incoming voltage. Be sure that the incoming voltage is the same voltage that the compressor was wired for.
2. Check starter and overload heater sizes (see Electrical Parts in Parts Manual).
3. Check all electrical connections for tightness.
4. “DRY RUN” the electrical controls by disconnecting the three (3) motor leads from the starter. Pull out the EMERGENCY STOP button on the control panel, press STOP ○, then press START |.

NOTE

Since some solid state starters have built-in power monitoring, a dry run will only indicate compressor overload when machine has this type of starter.

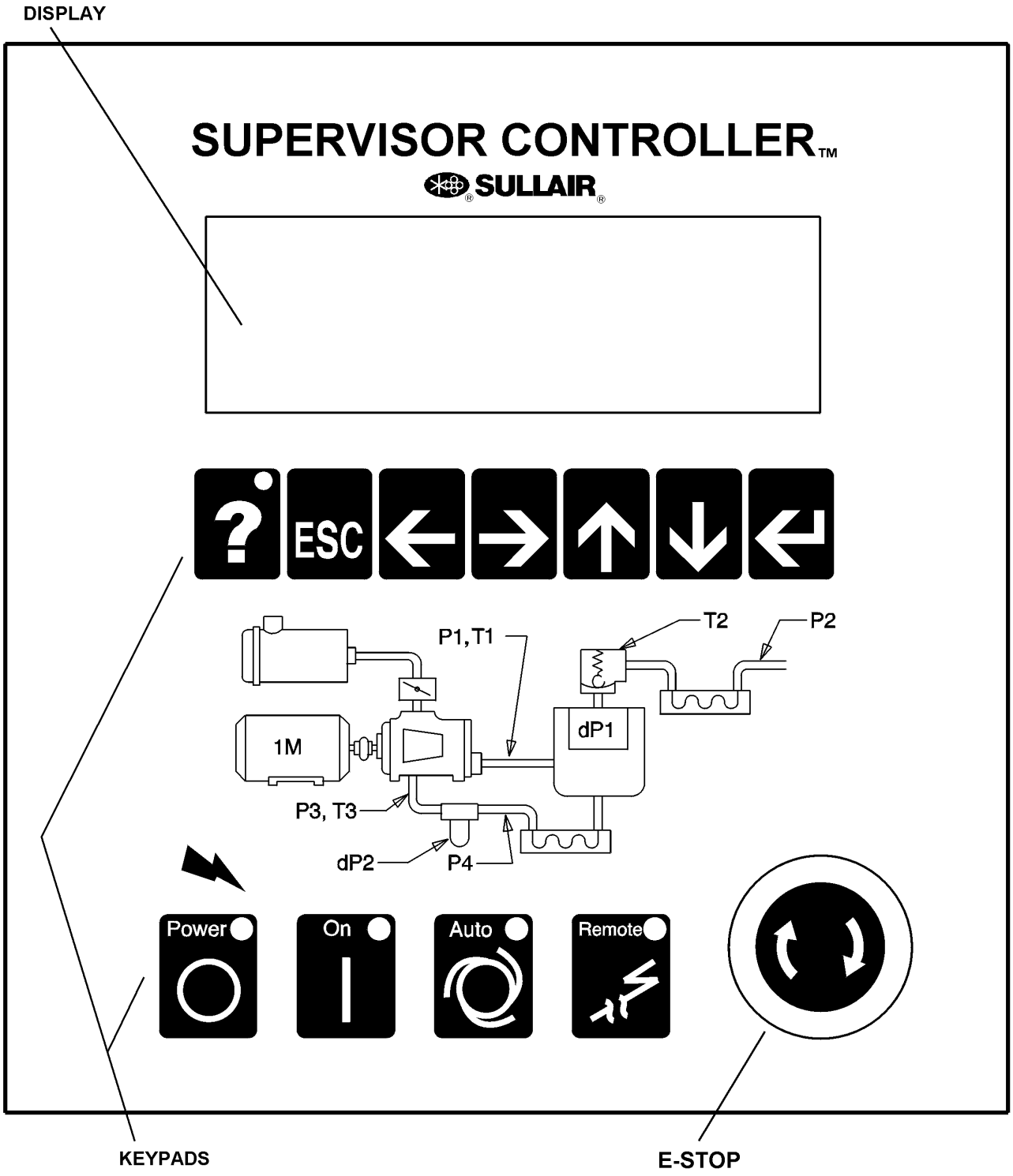
5. Reconnect the three (3) motor leads and jog the motor for a direction of rotation check, as explained in Section 4.8.
6. Verify all directions of rotations on all auxiliary motors.

4.8 MOTOR ROTATION DIRECTION CHECK

After the electrical wiring has been done, it is necessary to check the direction of the motor rotation. With the control system in MANUAL mode, press the | and ○ pads in succession to bump start the compressor. When looking at the motor from the end opposite the compressor unit, the shaft should be turning clockwise on all gear driven models, and counterclockwise on direct drive models. If the motor shaft is not turning in the proper direction, disconnect the power to the starter and exchange any two of the three power input leads, then recheck rotation. A “Direction of Rotation” decal is located on the coupling guard between the motor and compressor to show proper motor/compressor rotation.

Section 5
SUPERVISOR

Figure 5-1 Supervisor Control Panel



NOTE

For information concerning all aspects of the Supervisor Controller, consult the Supervisor Controller manual no. 02250133-517.

Section 6
COMPRESSOR OPERATION

6.1 INTRODUCTION

While Sullair has built into the LS25S Series package a comprehensive array of controls and indicators to assure its proper operation, the user should recognize and interpret readings which call for service or indicate the onset of a malfunction. Before starting the unit, the user should become familiar with the controls and indicators-their purpose, location, and use.

6.2 PURPOSE OF CONTROLS

All Supervisor Controller related functions and indicators are presented in the Supervisor Controller Manual, so please refer to that manual for further information. Additional indicators and functions included in the package are as follows:

CONTROL OR INDICATOR	PURPOSE
EMERGENCY STOP SWITCH	Pushing in this switch, found adjacent to the Supervisor, cuts all AC outputs from the Supervisor and de-energizes the starter. A fault message (E STOP) is displayed by the Supervisor until the button is pulled out and the “O” pad is depressed.
THERMAL O/L RESET	Momentarily pushing this button, found on the starter’s thermal overload element housing, re-closes the starter’s contacts after a current overload takes place. Please be aware that the elements must be allowed to cool sufficiently before resetting.
SPIRAL VALVE	Internally bypasses and controls the air flow capacity of the compressor, in order to match air supply to the demand.
PRESSURE REGULATOR (LOAD CHAMBER)	Maintains a maximum pilot pressure of 70 psig (4.8 bar).
PRESSURE REGULATOR (UNLOAD CHAMBER)	Opens a pressure line between the sump and the inlet unload chamber, allowing the inlet valve to regulate air delivery according to air demand. Works in conjunction with solenoid valve #3.
SOLENOID VALVE #1	Electrically actuated, 3-way valve which controls the flow of pneumatic logic signals. Used throughout package to: •Open the blowdown valve. •Pressurize the unload port/close the inlet valve during shutdown operation. •Open the (optional) spiral valve.
SOLENOID VALVE #2	Opens when the Wye-delta timer closes; closes when the Wye-delta timer is open. Opens a pressure line between the sump and inlet load chamber allowing the inlet valve to deliver air. This prevents any air system loss and de-pressurizes the controls when the compressor is shut off.
SOLENOID VALVE #3	Opens pressure line between sump and inlet unload chamber for modulation. Serves to control machine during sequencing with multiple machines. Designates whether machine is at full load or modulating.

CONTROL OR INDICATOR (CONT.)	PURPOSE (CONT.)
PNEUMATIC INLET VALVE	Blocks the reverse flow of air/fluid through the compressor unit during shutdown, and opens to allow air intake to the compressor during normal load.
MINIMUM PRESSURE VALVE	Maintains 50 psig (3.5 bar) in the receiver tank when the compressor is running loaded. Also incorporates a check valve, which prevents compressed air backflow from the system when unloaded or shutdown.
PRESSURE RELIEF VALVE	Vents the sump vessel to atmosphere before the compressed air pressure exceeds rated tank pressure. Its operation indicates fault with the Supervisor operation unload pressure set too high or failure of solenoid valve #1.
BLOWDOWN VALVE ASSEMBLY	Vents the sump vessel to atmosphere during unloading and shutdown.
THERMAL MIXING VALVE	Bypasses fluid flow around the cooler until the fluid reaches a temperature of 170°F, 77°C (195°F for water cooled KT and > 150 psi/ 10.3 bar). Useful for fast warm-up during start. Maintains a minimum temperature during periods of low load or low ambient temperatures.
FLUID STOP VALVE (remote-cooler package only)	Blocks the flow of cooler fluid to the sump during shutdown, thus preventing the overfill of fluid in the sump.
SUMP SIGHT GLASSES	Indicates level of lubricant in the sump. Located on the sump side, fluid level should be maintained at a level between the high and low sight glass.
SEPARATOR RETURN LINE SIGHT GLASSES	Indicate fluid flow in the separator return lines. Large flow should be visible during full load operation; little to no flow during unloaded operation. Sluggish flow during full load operation indicates the need to clean the strainers fitted to the return lines.
WATER PRESSURE SWITCH	De-energizes the starter, via the Supervisor, if the water pressure falls below 10 psig (0.7 bar). This switch is not adjustable. Used on water-cooled packages only.
DRAIN VALVES	Lubricant sump drain valve.

6.3 INITIAL START-UP PROCEDURE

The following procedure should be used to make the initial start-up of the compressor.

1. Read the preceding pages of this manual thoroughly.
2. Jog motor to check for correct rotation of fan (refer to Section 4.8).
3. Be sure that all preparations and checks described in the Installation Section have been made.
4. Open the shut-off valve to the service line.
5. Check for possible leaks in piping.
6. Slowly close the shut-off valve to assure proper nameplate pressure unload setting is correct. The compressor will unload at nameplate pressure. If adjustments are necessary, see Control

System Adjustments.

7. Observe the operating temperature. If the operating temperature exceeds 200°F (93°C) [215°F (102°C) for water-cooled 24KT and ≥ 150 psi], the cooling system and installation environment should be checked.
8. Open shut-off valve to the service line.
9. Reinspect the compressor for temperature and leaks the following day.

6.4 SUBSEQUENT START-UP PROCEDURE

On subsequent start-ups, check that the proper level is visible in the fluid sight glass and simply press the START or AUTO MODE button. When the compressor is running, observe the instrument panel and maintenance indicators.

6.5 SHUTDOWN PROCEDURE

To shut the compressor down, simply press the STOP button.

NOTES

7.1 GENERAL

As you proceed in reading this section, it will be easy to see that the Maintenance Program for the air compressor is quite minimal yet important. The use of the service indicators provided for the fluid filter, air filter and fluid separator, will alert you when service maintenance is required. When the maintenance message is displayed by the Supervisor Controller™, maintenance for that specific item is required. See instructions for each item in Section 7.7, Parts Replacement and Adjustment procedures.

7.2 DAILY OPERATION

Prior to starting the compressor, it is necessary to check the fluid level in the sump. Should the level be low, simply add the necessary amount. If the addition of fluid becomes too frequent, a simple problem has developed which is causing this excessive loss. See the Troubleshooting Section (7.8) under Excessive Fluid Consumption for a probable cause and remedy.

After a routine start has been made, observe the Supervisor control panel and be sure it monitors the correct readings for that particular phase of operation. After the compressor has warmed up, it is recommended that a general check of the overall compressor and Supervisor be made to assure that the compressor is running properly.

⚠ WARNING

DO NOT remove caps, plugs, and/or other components when compressor is running or pressurized.

Stop compressor and relieve all internal pressure before doing so.

7.3 MAINTENANCE AFTER INITIAL 50 HOURS OF OPERATION

After the initial 50 hours of operation, a few maintenance requirements are needed to rid the system of any foreign materials if any. Perform the following maintenance operations to prevent unnecessary problems.

1. Clean the return line strainers.
2. Clean the return line orifices.
3. Change the fluid filter element.
4. Clean the control line filters.

7.4 MAINTENANCE AFTER 1000 HOURS

After 1000 hours of operation, it will be necessary to perform the following:

1. Clean the return line strainers.
2. Replace the fluid filter element.

7.5 FLUID CHANGE

Standard models are filled with the long life lubricant Sullube.

Sullube should be changed under the following conditions, whichever occurs first:

1. Every 8000 hours.
2. Once a year.
3. As indicated by fluid analysis.

A fluid sample at every 1000 hours is recommended. For a free Sullube analysis, send fluid to:

Dow Chemical
Lubricant Technology Center
Building B-1605
Freeport, TX 77541

To facilitate this, a sample bottle is included with the compressor.

7.6 SEPARATOR MAINTENANCE

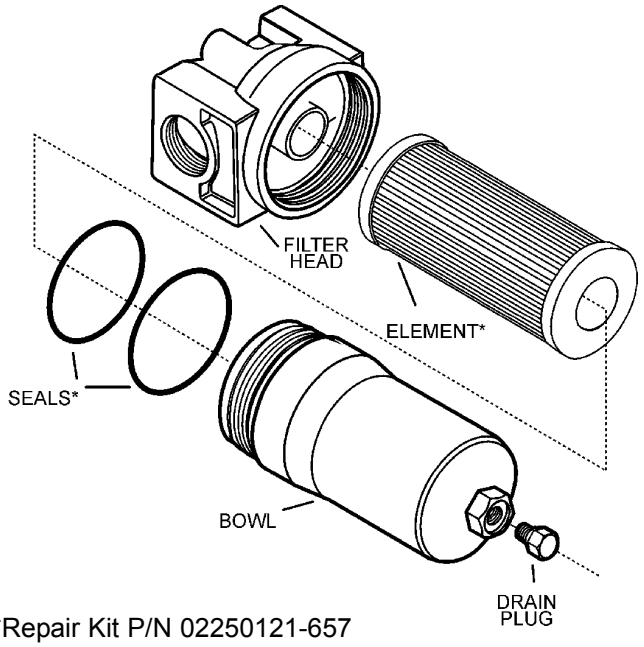
Replace the separator elements when a message is displayed or after one (1) year, whichever comes first. The separator elements must be replaced. **DO NOT** clean the separator elements.

7.7 PARTS REPLACEMENT AND ADJUSTMENT PROCEDURES

FLUID FILTER MAINTENANCE

Refer to Figure 7-1. The fluid filter (P/N 02250128-717) is located schematically after the thermal valve. When servicing the fluid filter, shut the compressor down, be sure all pressure has been released, then follow the instructions below. For

Figure 7-1 Fluid Filter (P/N 02250128-717)



*Repair Kit P/N 02250121-657

element replacement order kit number 02250121-657.

1. Drain the fluid from the canister by removing the bottom drain plug
2. Loosen the spin-on canister using a wrench on the bottom canister hex.
3. Pull the canister away from the filter head. The filter element will be attached to the head.
4. Separate the element from the head.
5. Remove the canister seals.
6. Thoroughly clean the filter head and canister in solvent.
7. Lubricate the new seals with the same type of fluid used in the compressor and position each seal in its appropriate place.
8. Slide the element into the canister.
9. Thread the canister and element back on the filter head.

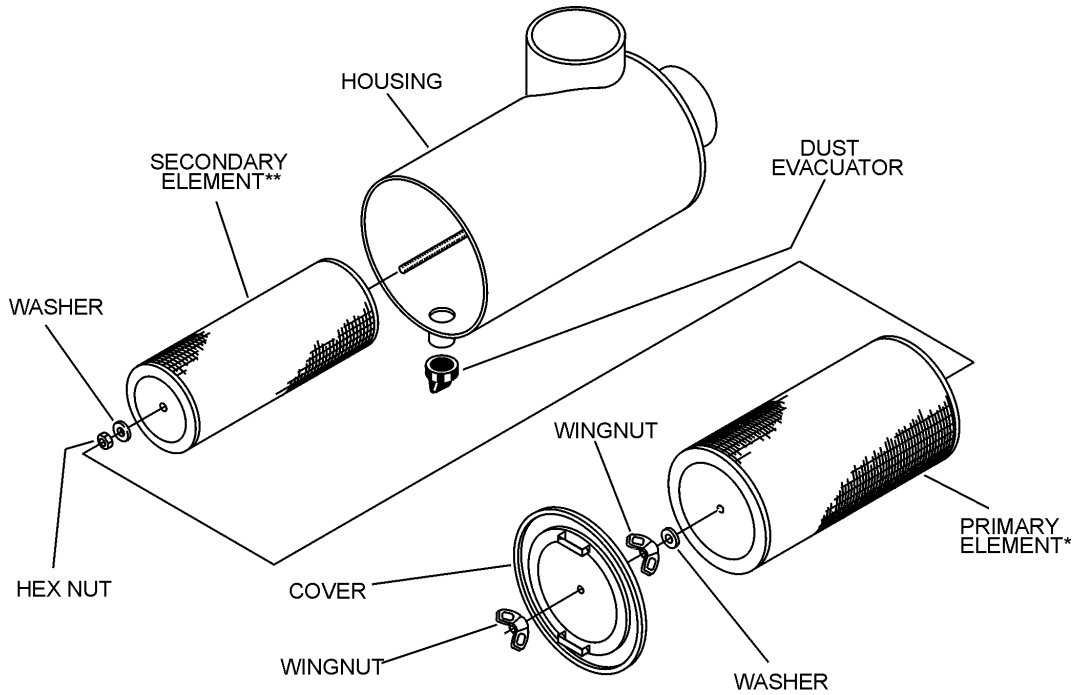
AIR FILTER MAINTENANCE

Refer to Figure 7-2. Air filter maintenance should be performed when the air filter maintenance message is displayed. The air filter is equipped with a primary element and a secondary element. As previously stated, the Supervisor will alert you as to when the primary element maintenance is necessary. When removing the primary element, always check the secondary element for visible dirt, grease or damage. The secondary element must be changed after every sixth primary element change. **DO NOT** clean the secondary element.

ELEMENT REMOVAL

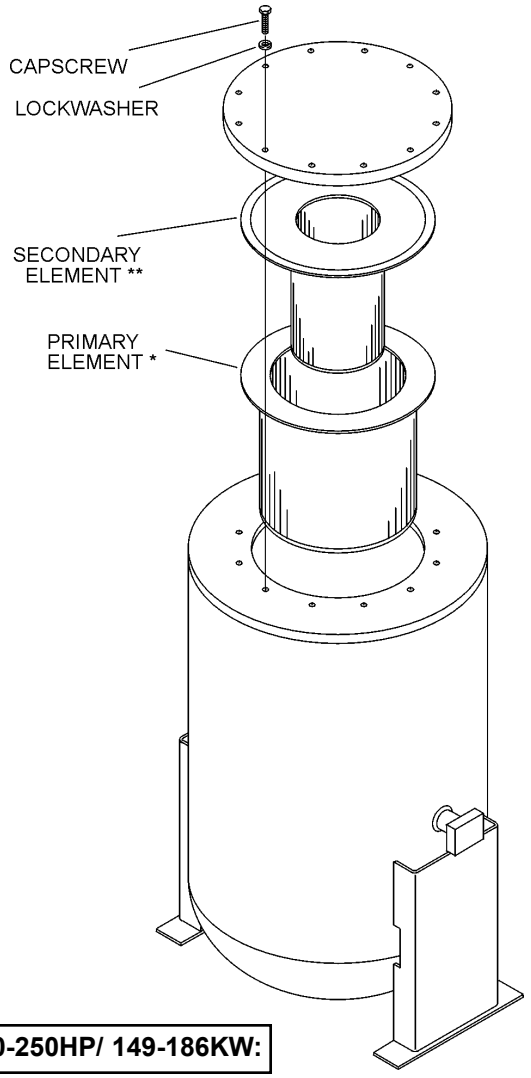
1. Clean the exterior of the air filter housing.
2. Remove the cover assembly by loosening the wingnut securing it.
3. Pull the element assembly out of the housing.
4. On the inside of the element, you will notice a wingnut which fastens the element to the housing. Remove the wingnut and pull the primary element out.
5. Loosen and remove the hex nut securing the secondary element. Remove the secondary element.
6. Inspect the secondary element and replace if necessary.
7. Clean the interior of the housing by using a damp cloth. **DO NOT** blow dirt out with compressor air.
8. Install the new secondary element and replace the sealing washer and hex nut.
9. With the secondary element in place, replace the primary element.

Figure 7-2 Air Filter Replacement (P/N 250006-718)



*Primary Replacement Element P/N 250007-838
**Secondary Replacement Element P/N 250007-839

Figure 7-3 Separator Element Replacement



200-250HP/ 149-186KW:

*Primary Replacement Element P/N 250034-122
**Secondary Replacement Element P/N 02250131-225

300-350HP/ 224-261KW:

*Primary Replacement Element P/N 250034-124
**Secondary Replacement Element P/N 250034-130

DO NOT strike the element against any hard surface to dislodge dust. This will damage the sealing surfaces and possibly rupture the element.

DO NOT "blow" dirt out of the interior of the filter housing. This may introduce dust downstream of the filter. Instead, use a clean damp cloth.

DO NOT oil the element.

ELEMENT INSPECTION

1. Place a bright light inside the element to inspect for damage or leak holes. Concentrated light will shine through the element, revealing any holes.
2. Inspect all gaskets and gasket contact surfaces of the housing. Should faulty gaskets be evident, correct the condition immediately.
3. If the clean element is to be stored for later use, it must be stored in a clean, closed container.
4. After the element has been installed, inspect and tighten, if necessary, all air inlet connections prior to resuming operation.

PRIMARY ELEMENT REPLACEMENT

1. Place the element in position over secondary element. Replace the sealing washer and wingnut. Tighten the wingnut so as to fully seat the element gasket.
2. Install the cover/element assembly and replace the wingnut.

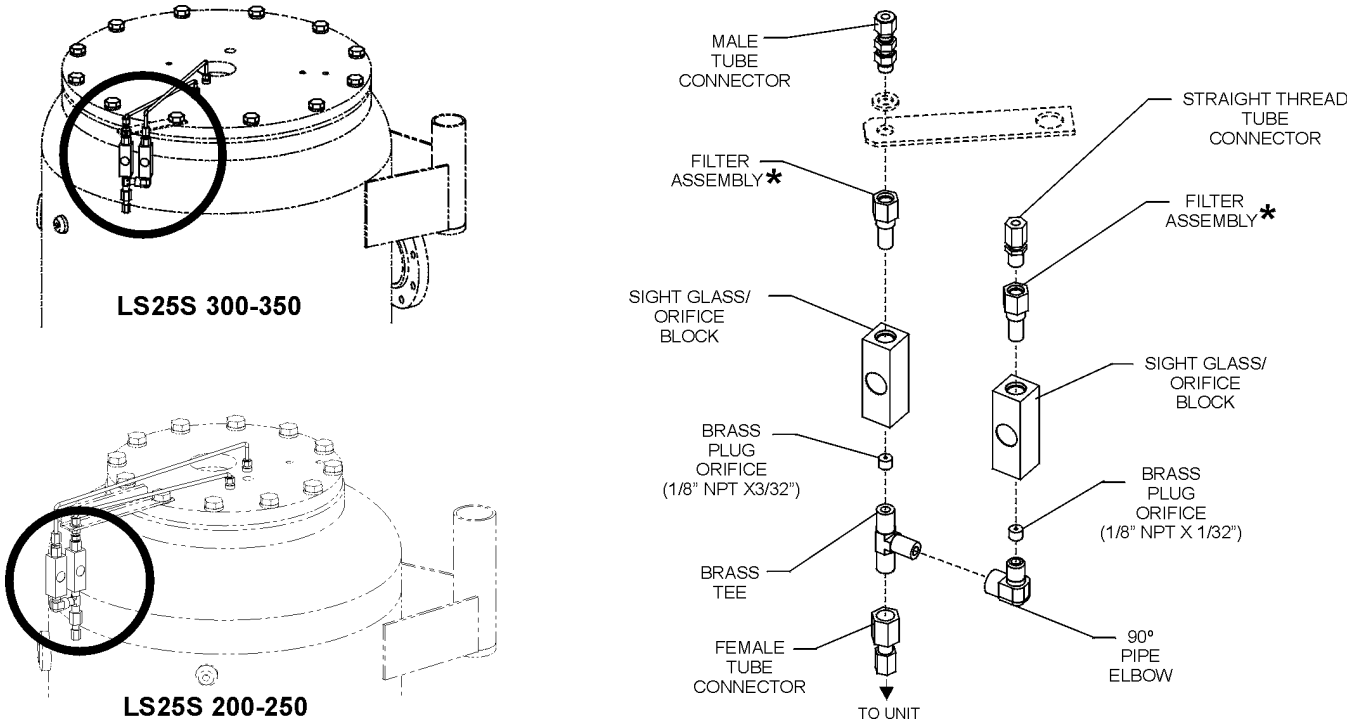
SEPARATOR ELEMENTS REPLACEMENT

Refer to Figure 7-3. The separator elements must be changed when "Separator Maintenance Required" message is displayed, or once a year whichever occurs first. Follow the procedure explained below for separator element replacement.

PROCEDURE FOR 200-350HP/149-261KW ELEMENT REPLACEMENT

1. Relieve all pressure from the separator and all compressor lines prior to disconnecting any pipes, tubing, etc.
2. Disconnect all piping connected to the separator cover to allow removal (return lines, service lines, etc.).
3. Loosen and remove the twelve (12) 3/4" x 3" hex head capscrews from the cover plate.
4. Lift the cover plate from the separator using a 3/4" jackscrew under the lifting arm post. The lid can be pivoted to the side supported by the lifting arm.
5. Remove the primary and secondary separator elements.
6. Scrape the old gasket material from the cover and flange on the sump being careful not to let the scraps fall in the sump.
7. Inspect the separator tank for rust, dirt, etc.
8. Reinsert the separator elements with gaskets attached into the sump taking care not to dent them against the tank opening. **DO NOT** remove grounding staples. Check between separator element flange and tank for continuity after torquing bolts. **DO NOT** use anti-seize com-

Figure 7-4 Oil Return/Sight Glass



*Replacement Filter Assembly P/N 02250117-782

pound on gaskets.

9. Clean the underside of the separator tank cover and remove any rust.
10. Replace the cover plate, washers and 3/4-10 capscrews. Lubricate and torque to 200 ft.-lbs. (271 Nm).
11. Reconnect all piping making sure return line tubes extend to the bottom or 1/4" (6mm) above the bottom of the separator element. This will assure proper fluid return flow to the compressor.
12. Check the return line strainers before restarting the compressor (order replacement kit no. 02250117-782).

OIL RETURN/SIGHT GLASS MAINTENANCE

Refer to Figure 7-4. The oil return/sight glass subassembly is attached to the separator tank lid. Oil return/sight glass maintenance should be performed on a routine basis parallel to that of the fluid filter, or as indicated in the Troubleshooting Sections (both Supervisor and Maintenance) of this manual. The maintenance on an oil return/sight glass is mainly concerned with the condition of the filter assembly. Order filter assembly no. 02250117-782, and use the following instructions as a guide.

NOTE

Always performing maintenance on both oil return/sight glasses at the same time.

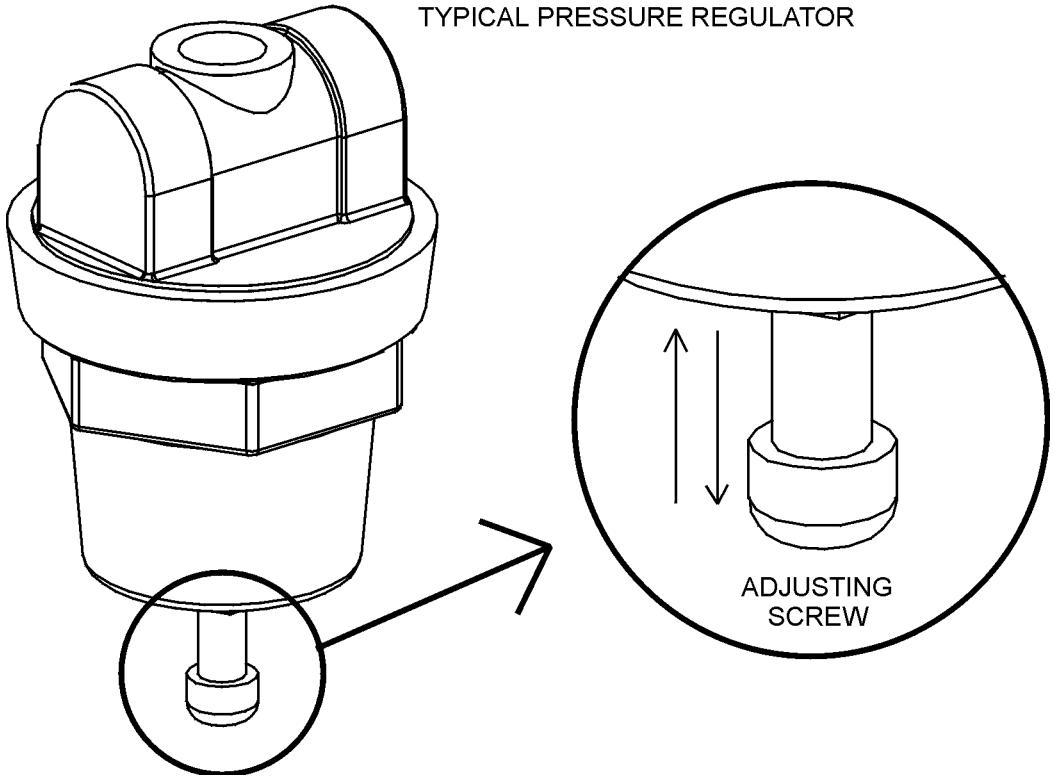
1. Disconnect the tubes at the tops of the sight glass assemblies.
2. Unscrew male connector (for left-side glass), or the straight thread tube connector (for right-side glass) from sight glass/orifice blocks.
3. Remove used filter assembly, and replace with new assembly.
4. Coat/lubricate the o-rings will silicone grease.
5. Reattach the connectors to the sight glass/orifice blocks.

DIFFERENTIAL PRESSURE REGULATOR ADJUSTMENT

Refer to Figure 7-5. The differential pressure regulators are adjusted by loosening the jam nut on the end of the cone shaped cover of the pressure regulator. When the jam nut is loose, turn the adjusting screw clockwise to increase or counterclockwise to decrease the setting.

Above 100 psig (6.9 bar), the inlet regulator should allow pressure to flow into the unload chamber of the inlet valve. Cycle the Control System several times and recheck all pressure settings.

Figure 7-5 Pressure Regulator Adjustments

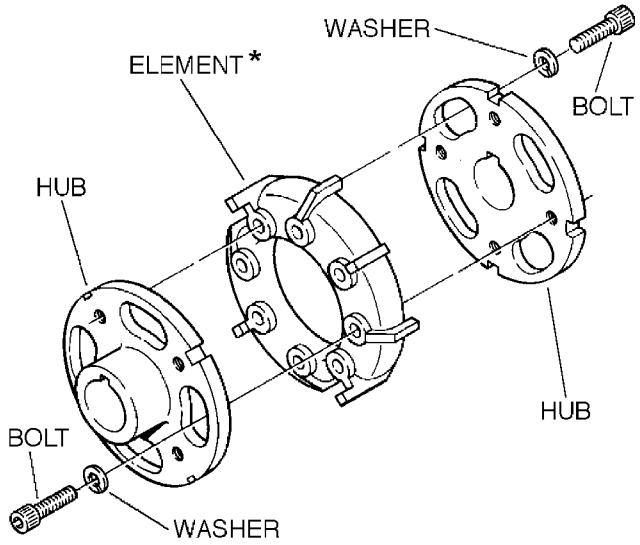


Above 100 psig (6.9 bar), the optional spiral valve regulator should allow pressure to flow into the chamber of the spiral valve actuator. The spiral valve should start to rotate at this time.

PRESSURE REDUCING REGULATOR

When running with compressor loaded, adjust the pressure reducing regulator to maintain 70 psig (4.8 bar) signal to open the inlet valve.

Figure 7-6 Drive Coupling (200-350HP/ 149-261KW)



*Replacement Element P/N 046999

DRIVE COUPLING INSTALLATION AND ALIGNMENT (200-350HP/ 149-261KW)

Refer to Figures 7-6, 7-7 and 7-8. For coupling installation and alignment, the tools required are a straight edge, a measuring scale, one set of feeler gauges, a set of standard Allen wrenches and one set of standard socket wrenches.

⚠ WARNING

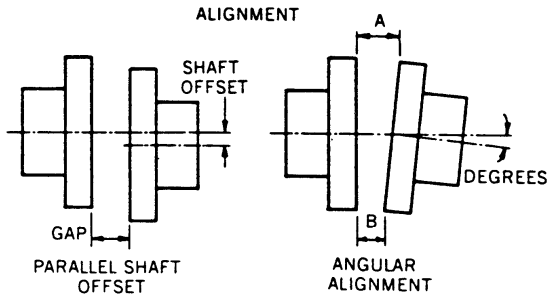
Disconnect all power at source, before attempting maintenance or adjustments.

TABLE 7-1
INSTALLATION DATA (200-350HP/149-261KW)

Tightening Torque ft.-lbs./Nm	Coupling Gap inches/cm	Max. Operating Misalignment Parallel Offset inches/cm	Max. Operating Misalignment Angular inches/cm **(l)**
200	2.969 + .030 - .000	.010	.010
271Nm	7.5 + .08 - .000	.03	.03

(l) *Angular misalignment in inches equals maximum A minus minimum B as shown in Figure 7-7. **DO NOT** exceed values in Table above.*

Figure 7-7 Drive Coupling Alignment



For installation and alignment of the drive coupling, follow the steps explained below.

STEP 1 MOUNT HUBS - Mount the motor hub and the compressor hub onto respective shaft. Position the hubs to establish the correct gap specified in *Table 7-1 Installation Data*. Secure each hub with a setscrew.

STEP 2 OFFSET ALIGNMENT - Clean any oil, grease, dirt or paint from coupling faces and the other surfaces of the drive flanges. Rotate shafts so that a straight edge will rest squarely (or within the 0.010 inch maximum limit shown in *Table 7-1 Installation Data*) on both flanges and at a point 90° away. The vertical offset alignment is adjusted by the addition or removal of motor mounting shims. Loosen the motor mounting bolts and slide the motor sideways to correct the horizontal offset.

STEP 3 COUPLING GAP AND ANGULAR ALIGNMENT - Position the hubs to establish the proper gap and angular alignment as indicated in *Table 7-1 Installation Data*. To determine the angular misalignment in inches, measure the maximum space between the hub flanges and the minimum space 180° away, and then subtract. To adjust the horizontal angular misalignment, loosen the motor mounting bolts and adjust the motor position until the angular alignment is within tolerance.

⚠ WARNING

DO NOT upset the offset alignment or hub gap when adjusting motor position.

When within the limits specified in *Table 7-1 Installation Data*, tighten the motor mounting bolts and recheck the offset and angular alignment. If the vertical angular alignment is not within .010 inch tolerance, shim the front or rear of the motor separately to correct. Recheck the vertical offset.

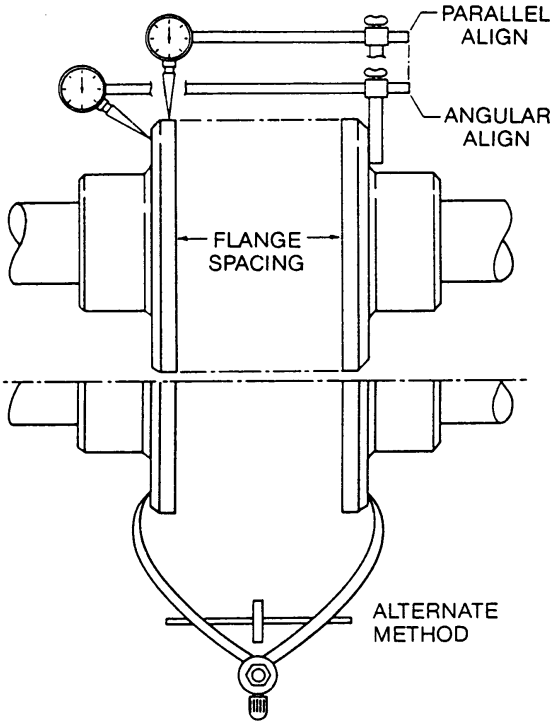
STEP 4 INSTALL THE FLEXIBLE ELEMENT - Position the motor and compressor keyways 180° apart. Insert the flexible element between the two hubs. The element should be compressed prior to insertion. The element can be compressed by tightening a suitably sized radiator hose clamp around the outer edge of the element as shown in Figure 7-8. Slide the ferry head capscrews with lockwashers through the holes in the hubs and element. Tighten the capscrews to 200 ft.-lbs. (271 Nm).

NOTE

Capscrews are 3/4-10 x 4" LG ASTM A354 Grade BD yellow zinc di-chromate. DO NOT substitute with any other bolts.

After tightening the capscrews, tighten the shaft setscrews and remove the hose clamp from the flexible element. At this time, the coupling is ready for operation.

Figure 7-8 Parallel/ Angular Offset Alignment



7.8 TROUBLESHOOTING

The information contained in the Troubleshooting chart is based upon both the actual applied situations and extensive testing at the factory. It contains symptoms and usual causes for the described problems. However **DO NOT** assume that these are the only problems that may occur. All available data concerning the trouble should be systematically analyzed before undertaking any repair or component replacement.

NOTE

For additional information on troubleshooting, consult the Supervisor Controller manual.

A detailed visual inspection is worth performing for almost any problems which may prevent unnecessary damage to the compressor. Always remember to:

a. Check for loose wiring.
b. Check for damaged piping.
c. Check for parts damaged by heat or an electrical short circuit, usually apparent by discoloration or a burnt odor.

Should your problem persist after making the recommended check, consult your nearest Sullair representative or the Sullair Corporation.

7.9 TROUBLESHOOTING GUIDE

SYMPTOM	PROBABLE CAUSE	REMEDY
COMPRESSOR WILL NOT START	Main Disconnect Switch Open	Close switch.
	Line Fuse Blown	Replace fuse.
	Control Transformer Fuse Blown	Replace fuse.
	Motor Starter Overloads Tripped	Reset. Should trouble persist, check whether motor starter contacts are functioning properly.
	Low Incoming Line Voltage	Check voltage. Should voltage check low, consult power company.
		Replace Supervisor display module if no display or erratic display.
COMPRESSOR SHUTS DOWN WITH AIR DEMAND PRESENT	Loss of Control Voltage	Check incoming power.
	Low Incoming Voltage	Check control fuses and wiring. Consult power company. The Sullair Supervisor will provide indication of most maintenance problems if control power has not been lost. Shutdowns will occur upon a faulty condition or a bad sender condition.
	Excessive Operating Pressure	Check maximum P2 pressure setting.
		HIGH PRESS P1 display; Max P1 pressure may be set too low. Consult factory for recalibration.
		Defective solenoid valve; solenoid valve should cause inlet to unload when unload pressure is exceeded. Repair if defective.
		Defective blowdown valve; blowdown valve should exhaust sump pressure to 25 psig (1.7 bar) for integrated coolers; 50 psig (3.4 bar) for remote coolers when maximum operating pressure is reached. Repair if defective.
		Open or shorted P1, P2, P3 or P4 sender message; replace sender indicated.

7.9 TROUBLESHOOTING GUIDE (CONTINUED)

SYMPTOM	PROBABLE CAUSE	REMEDY
COMPRESSOR SHUTS DOWN WITH AIR DEMAND PRESENT (CONTINUED)	HIGH TEMP T1 or T3 Message Displayed	Cooling water temperature too high; increase water flow (water-cooled only). Cooling water flow insufficient; check water lines, valves (water-cooled only) and available water pressure differential. Cooler plugged; clean tubes. If plugging persists, install water conditioner or water filter(water-cooled only). Cooling air flow restricted; clean cooler and check for proper ventilation. Ambient temperature is too high; provide sufficient ventilation. Cooling air ductwork, if installed, may restrict air flow. High static fan must be specified with customer-supplied ductwork, and ductwork must be sized to minimize flow restriction. Low fluid level; add fluid. Clogged filter; change the fluid filter element as indicated by Supervisor control. Thermal valve not functioning properly; replace element. Optional Water flow regulating valve not functioning properly; change (water-cooled only). Open or shorted T1 or T2 sender; check for a short or open circuit to probe and correct wiring. Excessive pressure drop in supply and return lines of remote air-cooled cooling package. Consult paragraph 4.6 of this manual.
	Low Fluid Pressure (LOW PRESSURE P3 display)	Check fluid level. Check for clogged fluid filter.
	Low Water Pressure (FAN OL/LOW WATER display)	Check the cooling fan motor or water flow system.
COMPRESSOR WILL NOT BUILD UP FULL DISCHARGE PRESSURE	Air Demand is Too Great	Check service lines for leaks or open valves.
	Dirty Air Filter	Check for filter maintenance message on supervisor panel and change or clean element if required.
	Pressure Regulator Out of Adjustment	Adjust regulator according to control adjustment instructions in the Maintenance Section.
	Defective Pressure Regulator	Check diaphragm and replace if necessary (kit available).
LINE PRESSURE RISES ABOVE UNLOAD P2 PRESSURE SETTING ON THE SUPERVISOR	Leak in Control System Causing Loss of Pressure Signals	Check for leaks.
	Defective Blowdown Valve	Check that sump pressure is exhausted to the atmosphere when in the OFF LOAD mode. Repair or replace if necessary (kit available).

7.9 TROUBLESHOOTING GUIDE (CONTINUED)

SYMPTOM	PROBABLE CAUSE	REMEDY
LINE PRESSURE RISES ABOVE UNLOAD P2 PRESSURE SETTING ON THE SUPERVISOR (CONT.)	Plugged Control Line Filter	Clean or repair if necessary.
EXCESSIVE FLUID CONSUMPTION	Clogged Return Line Strainer or Orifice	Clean strainer (screen with o-ring replacement kit available)
		Clean orifice.
	Separator Element Damaged or Not Functioning Properly	Check Separator Differential (plugged) dP1.
		Change Separator
	Leak in the Lubrication System	Check all pipes, connections and components.
	Excess Fluid Foaming	Drain and change.
	Fluid Level Too High	Drain excess fluid.
PRESSURE RELIEF VALVE OPENS REPEATEDLY	Defective Pressure Relief Valve	Replace pressure relief valve.
LIQUID WATER IN COMPRESSED AIR SERVICE LINE	Water Vapor Condensation From Cooling and Compression Occurs Naturally	Remove the water vapor from compressed air prior to distribution through the air system. Check operation of aftercooler and moisture separator. Install a compressed air dryer sized for the flow and dryness level required. (Note: Filters may also be required to remove particulates, liquid oil aerosols or for oil vapor removal. Change cartridges as recommended by the filter manufacturer.) Check all drain traps routinely to insure their proper operation. Maintain them regularly.

NOTES

Section 8
ILLUSTRATION AND PARTS LIST

8.1 PROCEDURE FOR ORDERING PARTS

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

When ordering parts always indicate the Serial Number of the compressor. This can be obtained from the Bill of Lading for the compressor or from the Serial Number Plate located on the compressor. For compressor unit parts only, order parts by the unit serial number place located on the compressor unit.

For ordering parts other than those pertaining to the compressor unit, use serial number located on nameplate mounted on control panel.

SULLAIR ASIA, LTD.
Sullair Road, No. 1
Chiwan, Shekou
Shenzhen, Guangdong PRV.
PRC POST CODE 518068
Telephone: 755-6851686
Fax: 755-6853473
www.sullair-asia.com

SULLAIR CORPORATION
3700 East Michigan Boulevard
Michigan City, Indiana 46360 U.S.A.
www.sullair.com
Telephone: 1-800-SULLAIR (U.S.A. Only)
or 1-219-879-5451
Fax: (219) 874-1273

PARTS DEPARTMENT
Fax: (219) 874-1835
www.sullair.com/parts.shtm

SERVICE DEPARTMENT
Fax: (219) 874-1205
www.sullaircompressors.com

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

8.2 RECOMMENDED SPARE PARTS LIST - 200-250HP/ 149-186KW

DESCRIPTION	KIT NUMBER	QTY
element for 18” diameter air filter 250006-718 (primary)	**250007-838**	**1**
element for 18” diameter air filter 250006-718 (secondary)	**250007-839**	**1**
element for separator with gaskets (primary)	**250034-122**	**1**
element for separator with gaskets (secondary)	**02250131-225**	**1**
repair kit for thermal valve (175°F) 02250127-119	**02250105-553**	**1**
repair kit for thermal valve (195°F) 02250127-962 **(I)**	**02250112-709**	**1**
repair kit for regulator valve 02250046-568	**02250055-911**	**1**
repair kit for blowdown valve 409783	**001667**	**1**
repair kit for control line filter 02250112-032	**02250112-031**	**1**
replacement kit for fluid return strainer	**02250117-782**	**1**
repair kit for fluid stop valve 02250113-668 (Remote Cooler only)	**02250116-697**	**1**
repair kit for water separator 02250111-105	**Consult Factory**	**1**

(Continued on page 64)

(I) For 24KT water-cooled, and ≥ 150 psig compressors.

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

8.2 RECOMMENDED SPARE PARTS LIST - 200-250HP/ 149-186KW (CONTINUED)

DESCRIPTION	KIT NUMBER	QTY
replacement kit for fluid filter 02250121-658	**02250139-995**	**1**
repair kit for solenoid valve 02250125-657	**02250125-829 (valve)**	**1**
replacement coil for solenoid valve 02250125-657	**02250125-861 (coil)**	**1**
repair kit for solenoid valve 02250125-667	**02250125-826**	**1**
replacement coil for solenoid valve 02250125-667	**02250125-858 (coil)**	**1**
repair kit for regulator valve 02250052-358	**048409**	**1**
repair kit for minimum pressure valve 250033-821	**250018-262**	**1**
repair kit for pressure regulator 406929	**041742**	**1**
repair kit with o-rings and and springs for inlet valve assembly	**02250141-645**	**1**
rebuild kit for inlet valve assembly	**02250141-648**	**1**
repair kit for shaft seal	**067329-001**	**1**
element for drive coupling	**046999**	**1**
diaphragm repair kit for spiral valve air cylinder 250016-183	**608311-001**	**1**
o-ring for 2 1/2 -12 SAE tube fittings	**250042-649**	-
o-ring for 1 7/8 -12 SAE tube fittings	**250042-648**	**-**
compressor Sullube fluid (5 gallons)	**250022-669**	**-**
compressor 24KT fluid (5 gallons)	**02250051-153**	**-**
compressor CP-4600-32-F fluid (5 gallons)	**250029-008**	**-**

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

8.3 RECOMMENDED SPARE PARTS LIST- 300-350HP/ 224-261KW

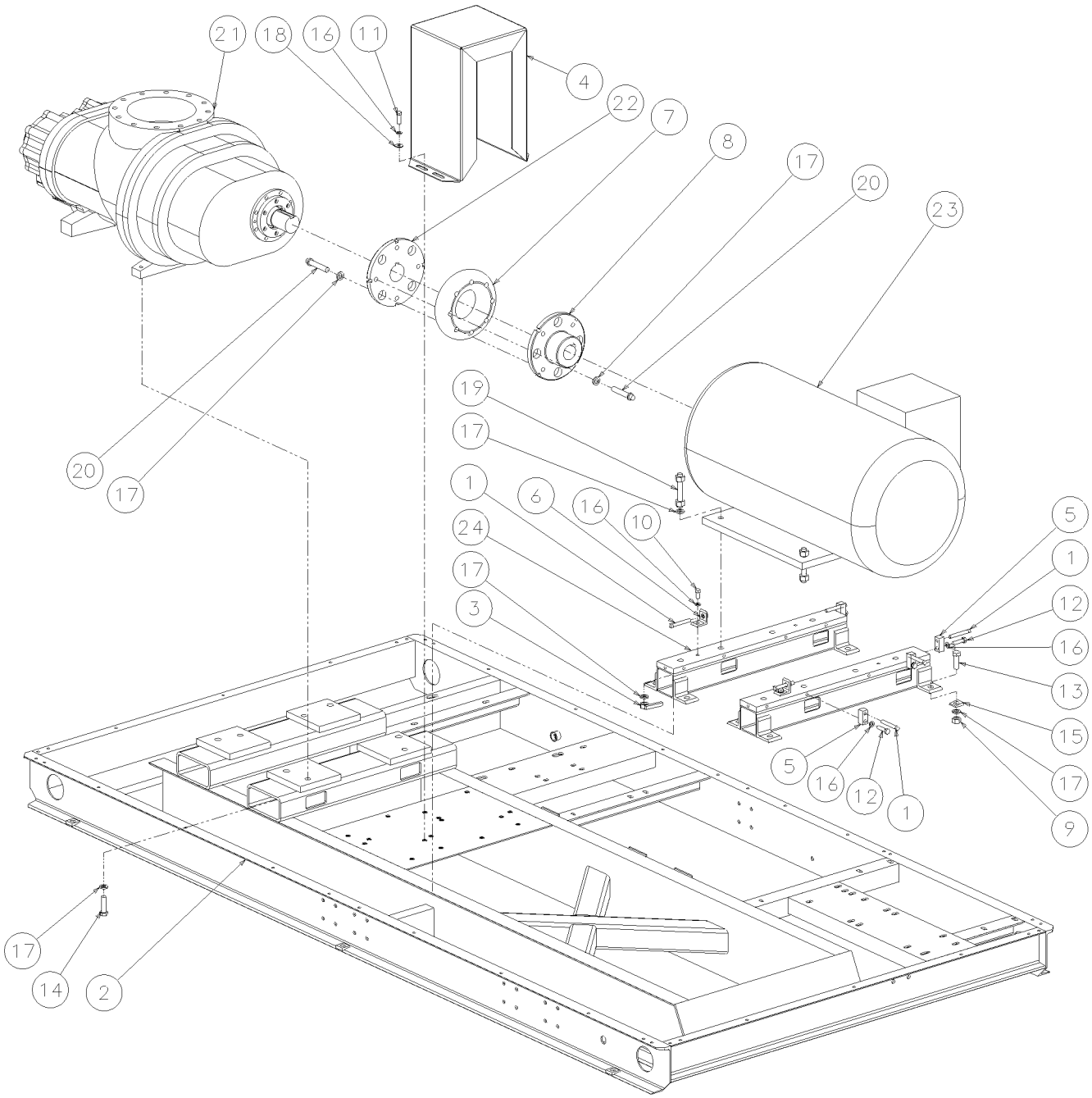
DESCRIPTION	KIT NUMBER	QTY
element for 18” diameter air filter 250006-718 (primary)	**250007-838**	**1**
element for 18” diameter air filter 250006-718 (secondary)	**250007-839**	**1**
element for separator with gaskets 250034-123 (primary)	**250034-124**	**1**
element for separator with gaskets 250034-129 (secondary)	**250034-130**	**1**
repair kit for water separator 02250111-105	**Consult Factory**	**1**
repair kit for thermal valve (170°F) 02250120-955	**02250120-957**	**1**
repair kit for thermal valve (195°F) 02250127-962 **(I)**	**02250127-963**	**1**
repair kit for regulator valve 02250046-568	**02250055-911**	**1**
repair kit for blowdown valve 409783	**001667**	**1**
repair kit for control line filter 02250112-032	**02250112-031**	**1**
repair kit for fluid return strainer	**02250117-782**	**1**
replacement kit for fluid filter 02250128-717	**02250121-657**	**1**
repair kit for solenoid valve 02250125-657	**02250125-829 (valve)**	**1**
replacement coil for solenoid valve 02250125-657	**02250125-861 (coil)**	**1**
repair kit for solenoid valve 02250125-667	**02250125-826**	**1**
replacement coil for solenoid valve 02250125-667	**02250125-858 (coil)**	**1**
repair kit for regulator valve 02250052-358	**048409**	**1**
repair kit for minimum pressure valve 250033-821	**250018-262**	**1**
repair kit for pressure regulator 406929	**041742**	**1**
repair kit with o-rings and and springs for inlet valve assembly	**02250141-645**	**1**
rebuild kit for inlet valve assembly	**02250141-648**	**1**
repair kit for fluid stop valve 02250122-004 (Remote Cooler only)	**001684**	**1**
repair kit for shaft seal	**067329-001**	**1**
element for drive coupling	**046999**	**1**
diaphragm repair kit for spiral valve air cylinder 250016-183	**608311-001**	**1**
o-ring for 2 1/2 -12 SAE tube fittings	**250042-649**	**1**
o-ring for 1 7/8 -12 SAE tube fittings	**250042-648**	**-**
compressor Sullube fluid (5 gallons)	**250022-669**	**-**
compressor 24KT fluid (5 gallons)	**02250051-153**	**-**
compressor CP-4600-32-F fluid (5 gallons)	**250029-008**	**-**

(I) For 24KT water-cooled, and ≥ 150 psig compressors.

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

Section 8
ILLUSTRATION AND PARTS LIST

8.4 MOTOR, COMPRESSOR, FRAME AND PARTS



8.4 MOTOR, COMPRESSOR, FRAME AND PARTS

key number	*description*	*part number*	*quantity*
1	screw, sqhd 0.5 x 3.5 cup set pt	02250112-193	6
2	frame, main LS25S/32-200/350hp	02250134-870	1
3	nut, assy compr mtg 32/25	02250135-358	4
4	guard, coupling LS25S	02250136-316	1
5	block, motor adjusting	02250137-596	4
6	angle, mtr adjust bolt on	02250137-597	2
7	element, drive cplg - saga 34a	046999	1
8	hub, coupling saga 34a 2-3/8 x 5/8	250004-635	1
9	nut, hex pltd 3/4-10	825212-665	8
10	capscr, hex gr5 1/2-13 x 1	829108-100	2
11	capscr, hex gr5 1/2-13 x 1 1/2	829108-150	4
12	capscr, hex gr5 1/2-13 x 2	829108-200	4
13	capscr, hex gr5 3/4-10 x 2 1/4	829112-225	8
14	capscr, hex gr5 3/4-10 x 2 1/2	829112-250	4
15	washer, bevel 3/4	837012-150	8
16	washer, spr lock reg pltd 1/2	837808-125	10
17	washer, spr lock reg pltd 3/4	837812-188	28
18	washer, pl-b reg pltd 1/2	838208-112	4
19	stud, with 2 nuts 3/4-10x5 1/2	842812-055	4
20	capscrew, ferry head hd pltd 3/4-10 x 4	867312-400	8
21	unit, compr dxr25 **(I)**	-	1
22	hub, compressor **(II)**	-	1
23	motor, main **(III)**	-	1
24	support, motor **(III)**	-	2

(I) There is an exchange program whereby a remanufactured compressor unit can be obtained from Sullair distributors or the factory at less cost than the owner could repair the unit. For information regarding the unit exchange program, contact your nearest Sullair representative or the Sullair Corporation.

The shaft seal is not considered part of the compressor unit in regard to the two year warranty. The normal Sullair parts warranty applies. For shaft seal repairs order repair kit no. 067329-001.

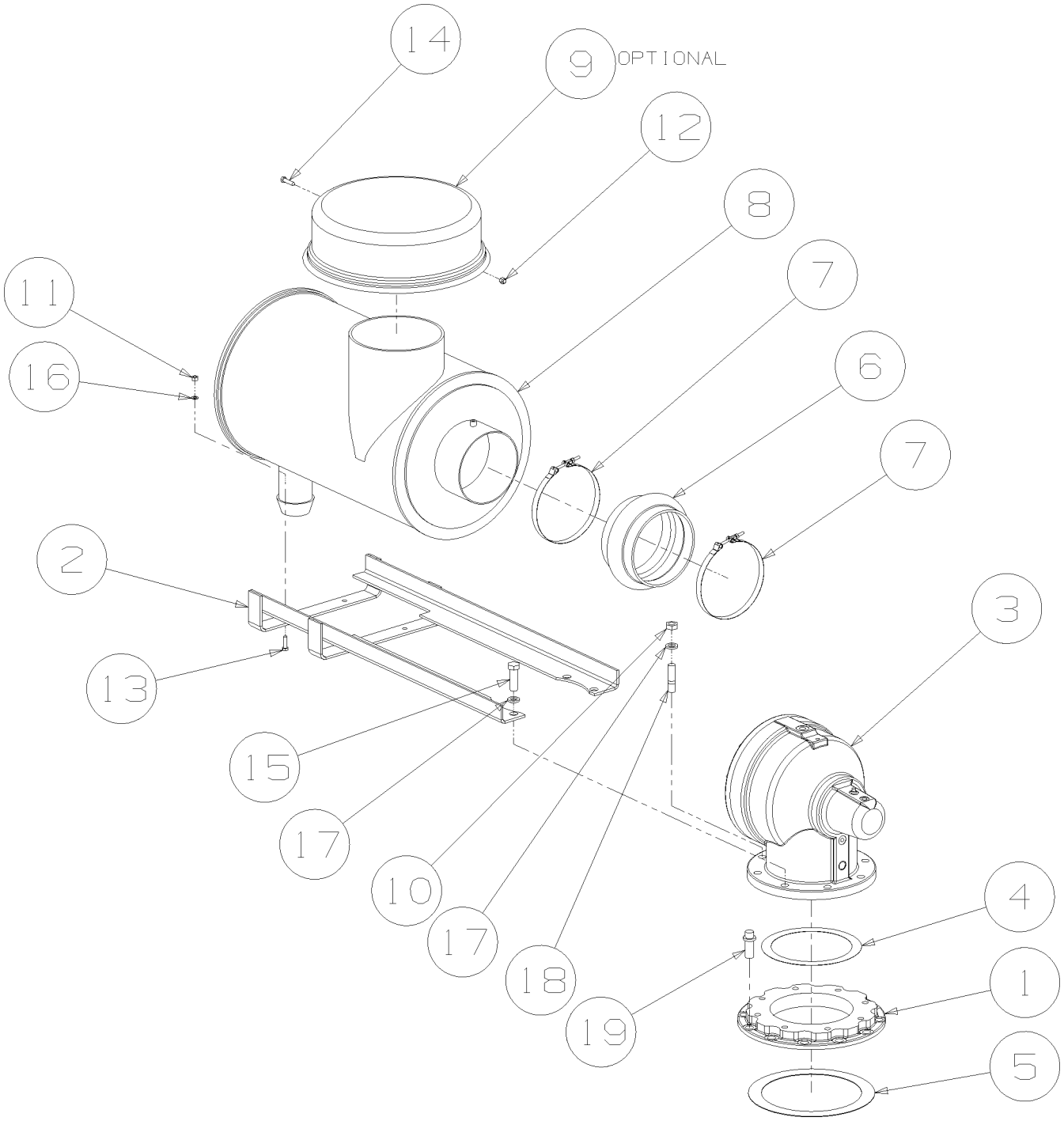
(II) For maintenance on drive coupling element, order drive coupling replacement no. 046999.

(III) Motor and motor support may vary. Consult factory with machine serial number.

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

Section 8
ILLUSTRATION AND PARTS LIST

8.5 AIR INLET SYSTEM



8.5 AIR INLET SYSTEM

key number	*description*	*part number*	*quantity*
1	adapter, compressor inlet 8” inl vlv	02250044-615	1
2	support, 18” filter LS25SC	02250134-882	1
3	sub assembly, 8” inlet valve **(I)**	02250137-084	1
4	gasket, 8-1/2” x 10-1/2” x 1/32”	040422	1
5	gasket, .06 x 10.5id x 13.25od	041079	1
6	hose, hump 8 x 5”	043596	1
7	clamp, hose 8”	043598	2
8	filter, 18” dia air **(II)**	250006-718	1
9	cap, air inlet 10”	250007-712	1
10	nut, jam rh unfin 3/4-10	824912-446	2
11	nut, hex pltd 3/8-16	825206-337	4
12	nut, hex locking 3/8-16	825506-198	1
13	capscr, hex gr5 3/8-16 x 1 1/4	829106-125	4
14	capscr, hex gr5 3/8-16 x 1 1/2	829106-150	1
15	capscr, hex gr5 3/4-10 x 2 1/2	829112-250	6
16	washer, spr lock reg pltd 3/8	837806-094	4
17	washer, spr lock reg pltd 3/4	837812-188	8
18	stud, threaded 3/4-10 x 3	839412-030	2
19	capscrew, ferry head hd pltd 7/8-9 x 2	867314-200	12

(I) For maintenance on inlet valve no. 02250137-084, order repair kit with o-rings and springs no. 02250141-645, or rebuild kit no. 02250141-648.

NOTE

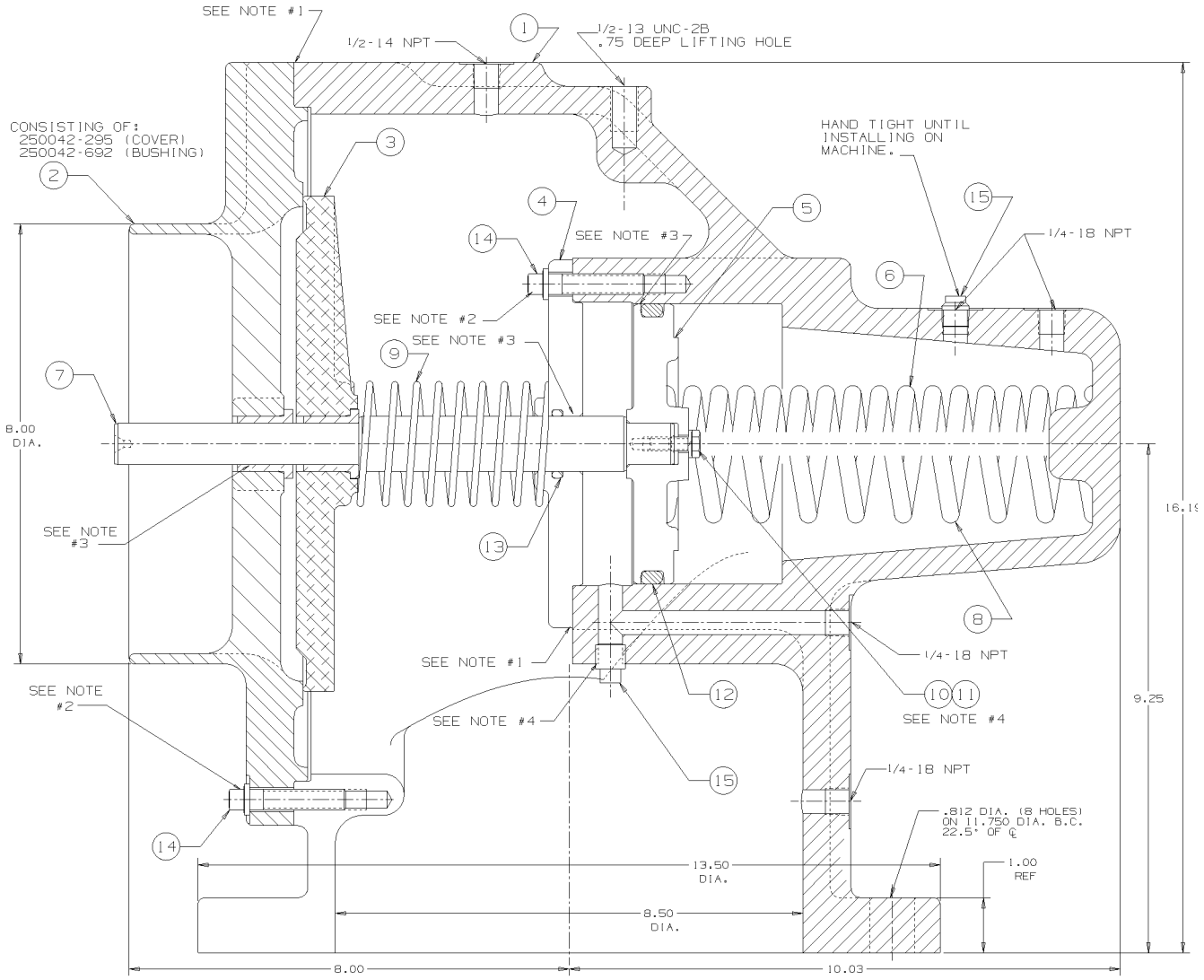
When performing maintenance on the inlet valve, gasket no. 040422 and gasket no. 041079 may also need to be replaced.

(II) For maintenance on air filter no. 250006-718, order primary replacement element no. 250007-838, and secondary replacement element no. 250007-839.

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

Section 8
ILLUSTRATION AND PARTS LIST

8.6 INLET VALVE



NOTES:

1. SEAL WITH SULLAIR GASKET COMPOUND #5910
   COLOR CODE: PURPLE.
2. TORQUE GRADE 5 BOLTS PER SULLAIR SPEC.
   005848 (A00-P-8) CONDITION B.

BOLT SIZE	TORQUE
1/4-20	7.0 FT-LBS.
3/8-16	27.0 FT-LBS.
1/2-13	65.0 FT-LBS.
5/8-11	130.0 FT-LBS.
3/4-10	230.0 FT LBS.

3. APPLY ANTI-SEIZE.
4. LOCK WITH SULLAIR ADHESIVE #5910,
   COLOR CODE: PURPLE.

02250137-085R00

8.6 INLET VALVE

key number	*description*	*part number*	*quantity*
1	housing, body 8” inlet valve **(I)**	250042-276	1
2	cover, assembly 8” inlet valve	02250048-491	1
3	plate, flow control 8” inlet valve	250042-297	1
4	cover, inter 8” inlet valve	250042-301	1
5	piston, 8” inlet valve	250042-299	1
6	spring, comp. 144 lbs inter	250042-384	1
7	shaft, 8” inlet valve	250042-305	1
8	spring, comp. 109 lbs outer	250042-383	1
9	spring, comp. 2.61 lbs	250042-656	1
10	capscr hx. gr.5 1/4-20 x 3/4	829104-075	1
11	washer, sprlock reg. 1/4	837804-062	1
12	o-ring, viton 4 5/8 x 1/4	826502-426	1
13	o-ring, viton 1 x 1/8	826502-214	1
14	screw, ferry hd, 3/8-16 x 13/4 lg	867306-175	18
15	plug, pipe 1/4-18 npt; stl 3000#	866900-010	2

(I) For maintenance on inlet valve no. 02250137-084, order repair kit with o-rings and springs no. 02250141-645, or rebuild kit no. 02250141-648.

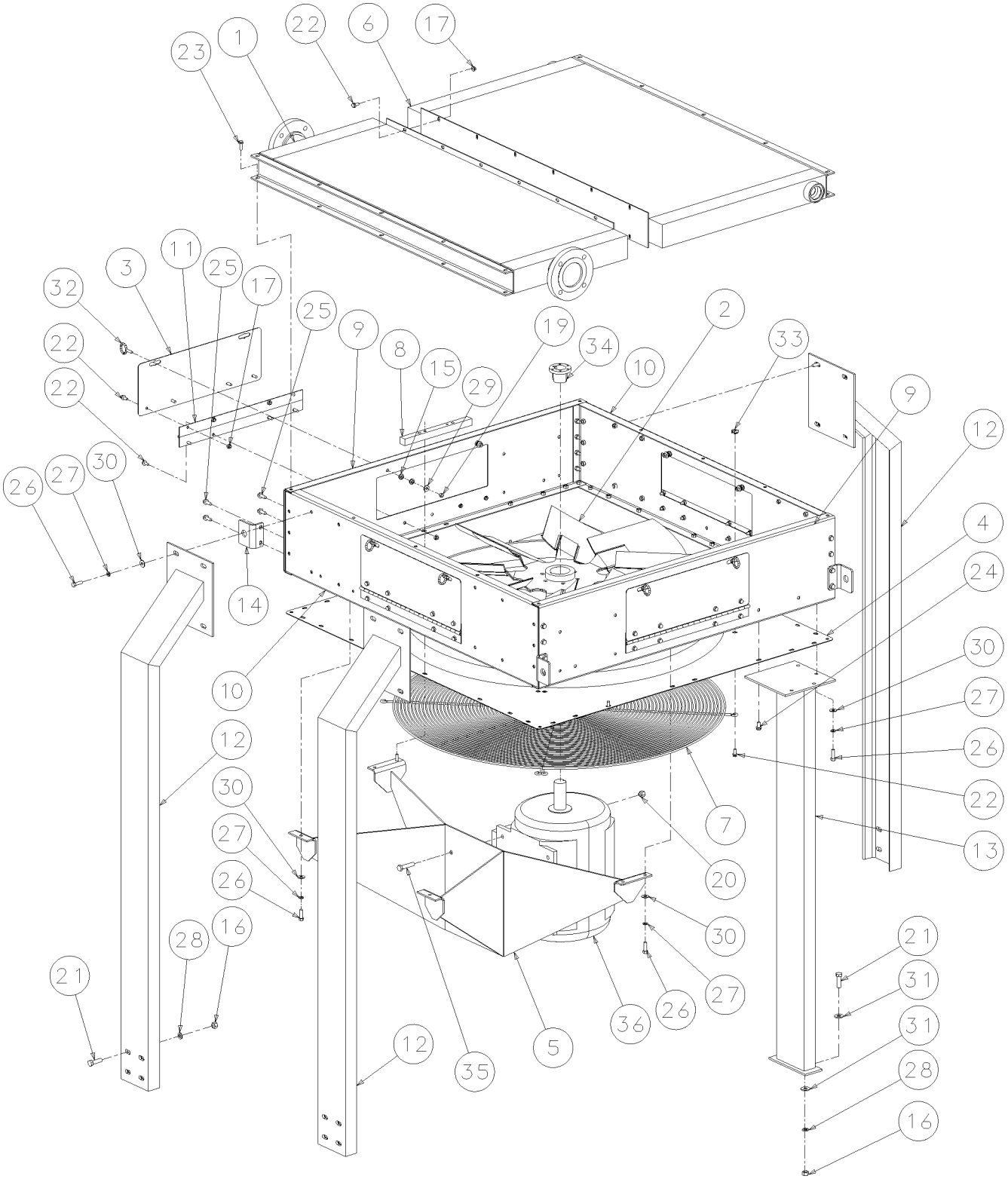
NOTE

When performing maintenance on the inlet valve, gasket no. 040422 and gasket no. 041079 may also need to be replaced.

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

Section 8
ILLUSTRATION AND PARTS LIST

8.7 FLUID COOLING SYSTEM- AIR-COOLED 200-250HP/ 149-186KW



02250134-080R02

8.7 FLUID COOLING SYSTEM- AIR-COOLED 200-250HP/ 149-186KW

key number	*description*	*part number*	*quantity*
1	cooler, air after 200/250hp 200psi	02250121-098	1
2	fan, 42” 250hp clr pk hi static	02250121-101	1
3	plate, clean out cover **(I)**	02250121-123	4
4	panel, venturi 42”fan TS20-250hpac	02250122-381	1
5	support, fan motor TS20-250hpacac (256t	02250122-428	1
6	cooler, oil(ac)200/250hp 200psi	02250122-858	1
7	guard, fan 42” TS20-150/250hpacac	02250123-366	1
8	bar, back-up horizontal clr pk	02250123-797	2
9	adapter, venturi panel 200/250hpac part	02250123-920	2
10	adapter, venturi panel 200/250hpac part	02250124-924	2
11	hinge, door	02250125-402	4
12	support, cooler TS32A-200/250 intac	02250126-432	3
13	support, cooler TS32A-200/250 intac spc	02250126-433	1
14	lug, lifting clr pk - 90deg bend	02250132-040	4
15	grommet, rubber	040125	16
16	nut, hex pltd 1/2-13	825208-448	14
17	nut, hex f pltd 5/16-18	825305-283	44
18	nut, hex f pltd 3/8-16	825306-347	4
19	nut, hex locking 5/16-18	825505-166	8
20	nut, hex locking 1/2-13	825508-262	4
21	capscr, hex gr5 1/2-13 x 1 3/4	829108-175	14
22	screw, hex ser washer 5/16-18 x 3/4	829705-075	50
23	screw, hex ser washer 5/16-18 x 1	829705-100	10
24	screw, hex ser washer 3/8-16 x 3/4	829706-075	4
25	screw, hex ser washer 3/8-16 x 1	829706-100	16
26	screw, hex ser washer 3/8-16 x 1 1/	829706-125	22
27	washer, spr lock reg pltd 3/8	837806-094	22
28	washer, spr lock reg pltd 1/2	837808-125	14
29	washer, pl-b reg pltd 5/16	838205-071	8

(Continued on page 75)

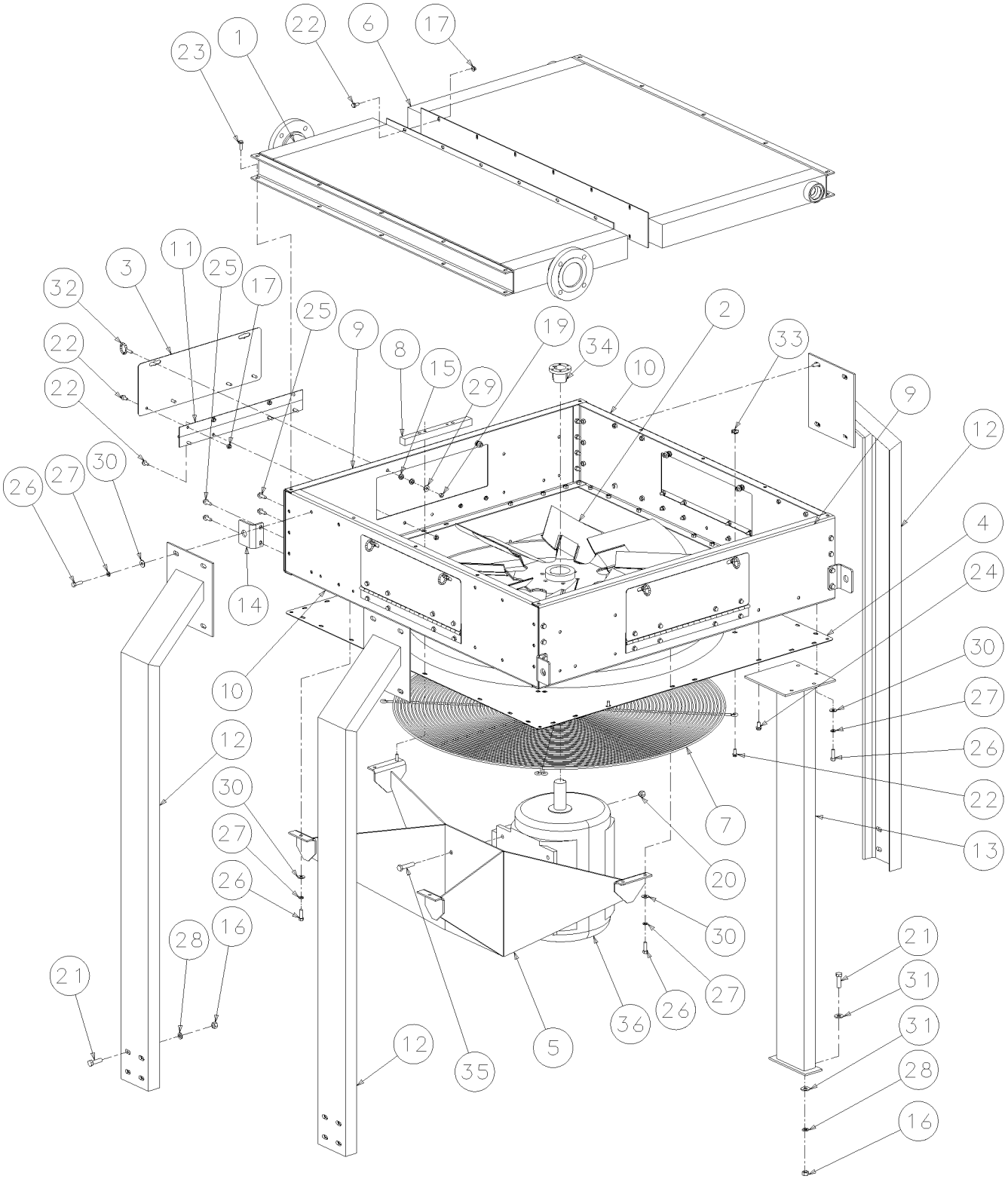
⚠ WARNING

(I) DO NOT operate compressor without cooler access panles in place.

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

Section 8
ILLUSTRATION AND PARTS LIST

8.7 FLUID COOLING SYSTEM- AIR-COOLED 200-250HP/ 149-186KW



8.7 FLUID COOLING SYSTEM- AIR-COOLED 200-250HP/ 149-186KW (CONTINUED)

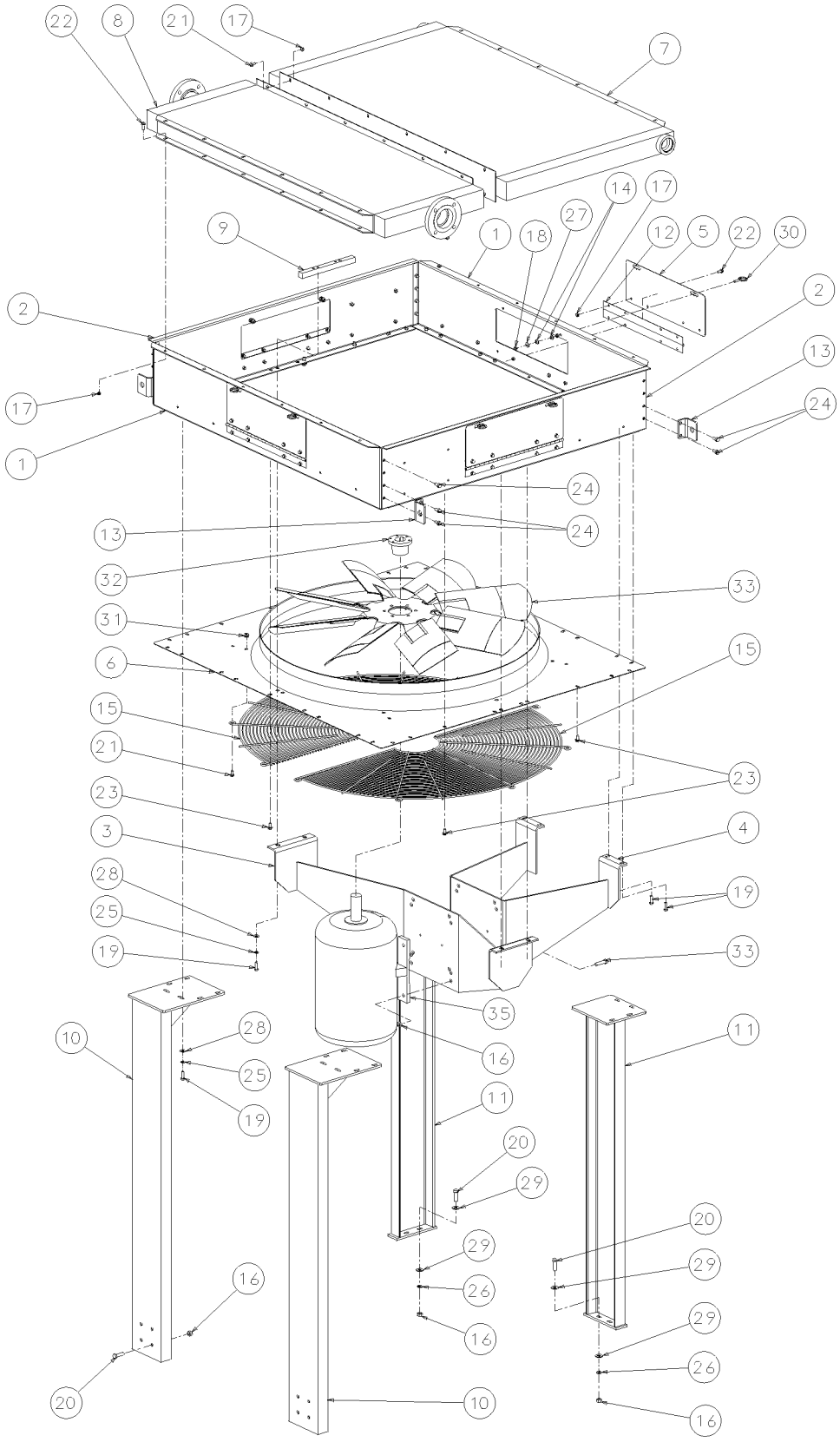
key number	*description*	*part number*	*quantity*
30	washer, pl-b reg pltd 3/8	838206-071	22
31	washer, pl-b reg pltd 1/2	838208-112	4
32	eyebolt, 5/16-18 x 1 1/8” pltd	839105-112	8
33	nut, retainer 5/16-18 .092	861405-092	6
34	bushing **(I)**	-	1
35	screw. hex ser washer 1/2-13 x various **(I)**	-	4
36	motor **(I)**	-	1

(I) This item may vary with machine. Consult factory with machine serial number.

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

Section 8
ILLUSTRATION AND PARTS LIST

8.8 FLUID COOLING SYSTEM- AIR-COOLED 300-350HP/ 224-261KW



02250128-959R02

8.8 FLUID COOLING SYSTEM- AIR-COOLED 300-350HP/ 224-261KW

key number	*description*	*part number*	*quantity*
1	panel, adapter 400hp clr pk	02250121-117	2
2	panel, adapter 400hp clr pk w/clean	02250121-118	2
3	saddle, motor supt 300/400hp clr pk	02250121-119	1
4	support, mtr 300/400hp clr pk	02250121-120	1
5	plate, clean out cover **(I)**	02250121-123	4
6	panel, venturi 48” TS32-300-450	02250121-343	1
7	cooler, oil 300/350 hp	02250122-218	1
8	cooler, air aft 300/350 hp	02250122-219	1
9	bar, back-up horizontal clr pk	02250123-797	2
10	support, cooler TS32A-300/350 intac mtrside	02250123-834	2
11	support, cooler TS32A-300/350 intac strside	02250123-835	2
12	hinge, door	02250125-402	4
13	lug, lifting clr pk - 90deg bend	02250132-040	4
14	grommet, rubber	040125	14
15	guard, fan (1600q)	241347	2
16	nut, hex pltd 1/2-13	825208-448	15
17	nut, hex f pltd 5/16-18	825305-283	20
18	nut, hex locking 5/16-18	825505-166	8
19	capscr, hex gr5 3/8-16 x 1 1/4	829106-125	14
20	capscr, hex gr5 1/2-13 x 1 3/4	829108-175	12
21	screw, hex ser washer 5/16-18 x 3/4	829705-075	32
22	screw, hex ser washer 5/16-18 x 1	829705-100	12
23	screw, hex ser washer 3/8-16 x 3/4	829706-075	6
24	screw, hex ser washer 3/8-16 x 1	829706-100	16
25	washer, spr lock reg pltd 3/8	837806-094	9
26	washer, spr lock reg pltd 1/2	837808-125	12
27	washer, pl-b reg pltd 5/16	838205-071	8
28	washer, pl-b reg pltd 3/8	838206-071	9
29	washer, pl-b reg pltd 1/2	838208-112	8
30	eyebolt, 5/16-18 x 1 1/8” pltd	839105-112	8
31	nut, retainer 5/16-18 .092	861405-092	10

(Continued on page 79)

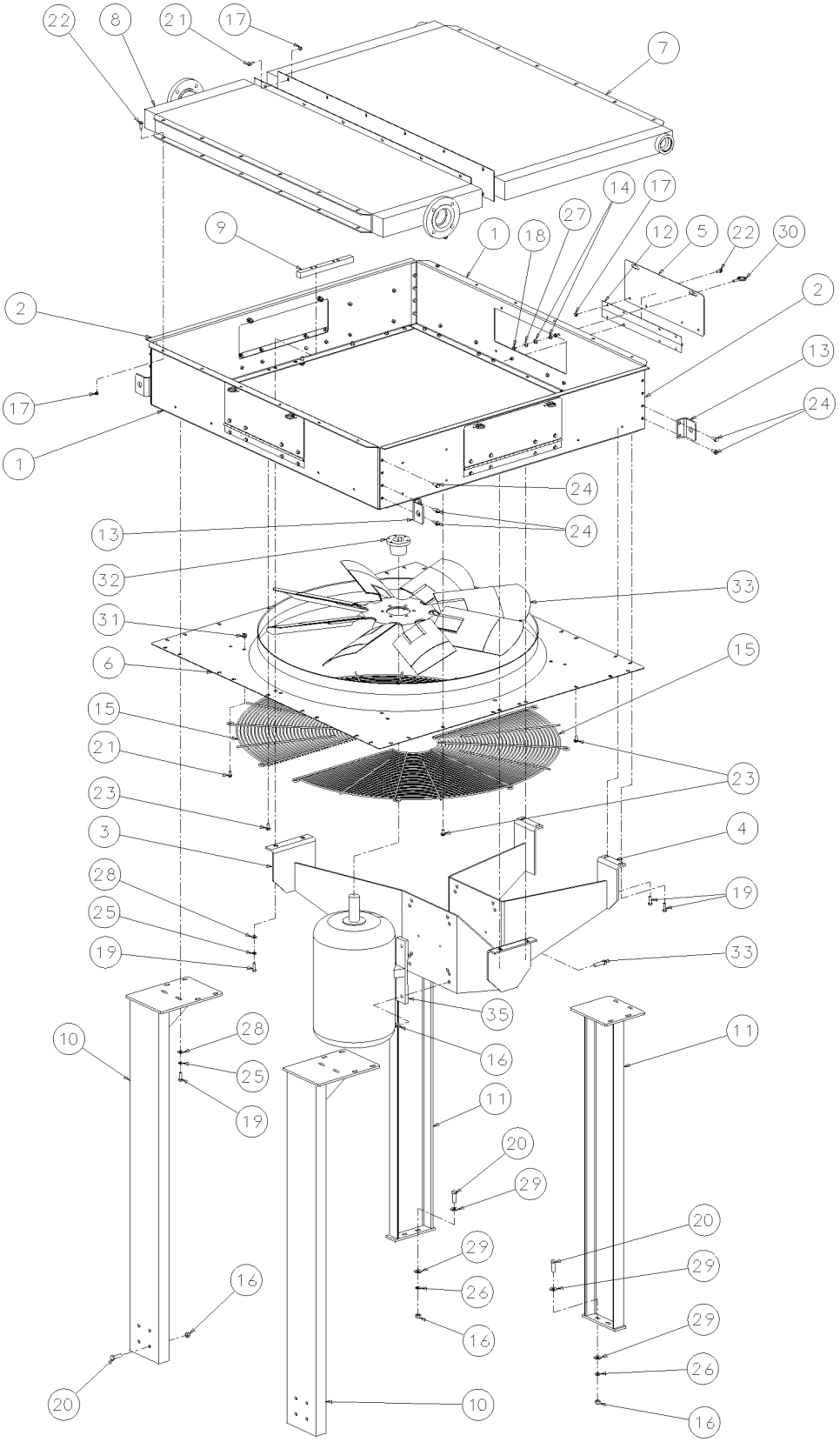
⚠ WARNING

(I) DO NOT operate compressor without cooler access panles in place.

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

Section 8
ILLUSTRATION AND PARTS LIST

8.8 FLUID COOLING SYSTEM- AIR-COOLED 300-350HP/ 224-261KW



02250128-959R02

8.8 FLUID COOLING SYSTEM- AIR-COOLED 300-350HP/ 224-261KW (CONTINUED)

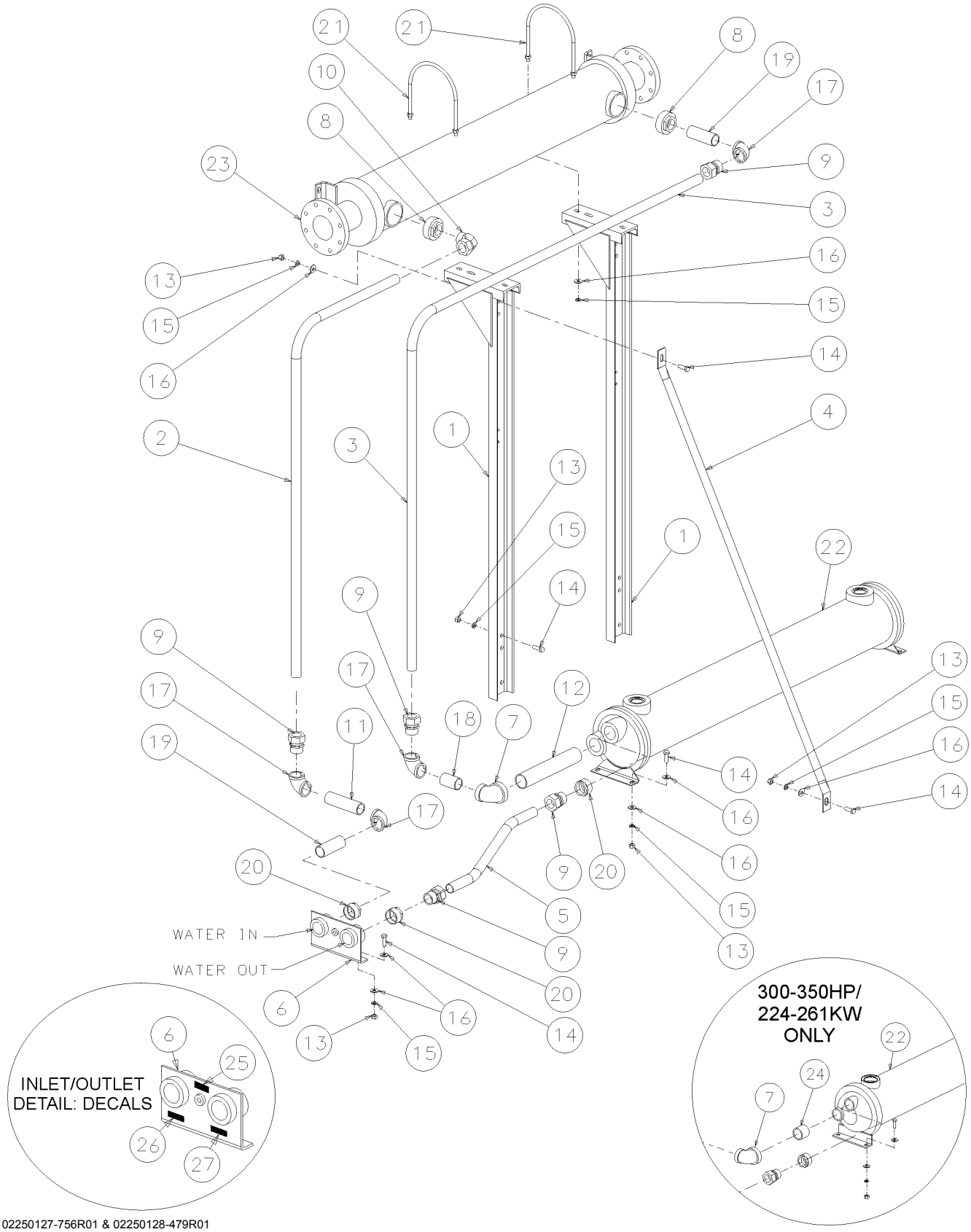
key number	*description*	*part number*	*quantity*
32	bushing **(I)**	-	1
33	capscr, hex gr5 1/2-13 x various len **(I)**	-	4
34	bushing **(I)**	-	1
35	motor **(I)**	-	1

(I) This item may vary with machine. Consult factory with machine serial number.

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

Section 8
ILLUSTRATION AND PARTS LIST

8.9 WATER COOLER PIPING- 200-350HP/ 149-261KW



02250127-756R01 & 02250128-479R01

8.9 WATER COOLER PIPING- 200-350HP/ 149-261KW

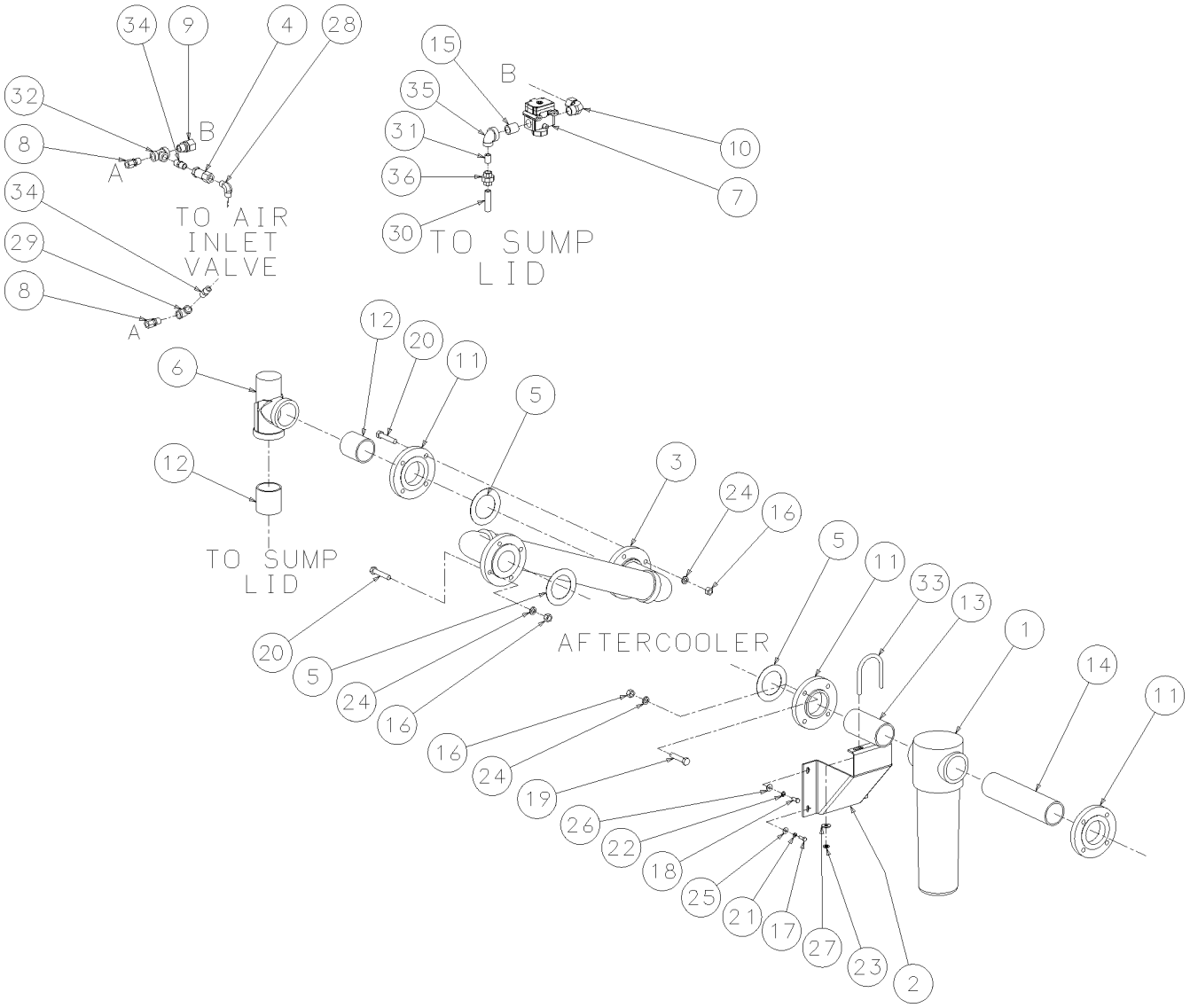
key number	*description*	*part number*	*quantity*
1	support, aftercooler	02250124-430	2
2	tube, water in/aftclr 1-1/2” o.d.	02250124-618	1
3	tube, aftclr/oilclr 1-1/2” o.d.	02250124-619	1
4	support,wc aftclr/ac discharge pipe	02250128-850	1
5	tube, TS32-200/250wc serpp wtrout to	02250134-267	1
	•tube, TS32-300/350wc serpp wtrout to	02250134-347	1
6	bracket, 2” npt oil in/out	250008-245	1
7	elbow, red 2 x 1 1/2 150#	801608-060	1
8	bushing, red hx 3 x 1 1/2	802112-060	2
9	connector, tube-m 1 1/2 x 1 1/2	810224-150	5
10	elbow, tube 90 deg m 1 1/2 x 1 1/2	810524-150	1
11	nipple, pipe 1 1/2 x 6 1/2	822124-065	1
12	nipple, pipe 2 x 13 (250 only)	822132-130	1
13	nut, hex pltd 1/2-13	825208-448	16
14	capscr, hex gr5 1/2-13 x 1 1/2	829108-150	16
15	washer, spr lock reg pltd 1/2	837808-125	20
16	washer, pl-b reg pltd 1/2	838208-112	18
17	elbow, pipe 90 deg plt 1 1/2”	866215-060	4
18	nipple, pipe pltd 1 1/2 x 3	866324-030	1
19	nipple, pipe pltd 1 1/2 x 5	866324-050	2
20	bushing, red pltd 2 x 1 1/2	867108-060	3
21	u-bolt, 1/2” x 8” pipe pltd	868308-800	2
22	cooler, fluid **(I)**	-	1
23	aftercooler **(I)**	-	1
24	nipple, pipe-xs plt 2 x cl (300-350 only)	866432-000	1
25	decal, water inlet-outlet	049873	1
26	decal, water in	250019-107	1
27	decal, water out	250019-108	1

(I) This item may vary with machine. Consult factory with machine serial number.

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

Section 8
ILLUSTRATION AND PARTS LIST

8.10 AIR PIPING SYSTEM- AIR-COOLED 200-250HP/ 149-186K



8.10 AIR PIPING SYSTEM- AIR-COOLED 200-250HP/ 149-186K

key number	*description*	*part number*	*quantity*
1	separator, water dh ws800 3”npt **(I)**	02250111-105	1
2	bracket, seperator mount	02250121-831	1
3	joint, expansion TS32A-200/250ac mpv/intac	02250127-208	1
4	valve, check 1/2”	042694	1
5	gasket, asa flange 150# 3”	240621-008	3
6	valve, min press check 3” (spl) **(II)**	250033-821	1
7	valve, blwdwn 1”nc 2way #c6654 **(III)**	409783	1
8	connector, tube-m 5/8 x 1/2	810210-050	2
9	connector, tube-m 1 x 3/4	810216-075	1
10	elbow, tube 90 deg m 1 x 1	810516-100	1
11	flange, thrd 3” 150# rf	819315-048	3
12	nipple, pipe 3 x 3 1/2	822148-035	2
13	nipple, pipe 3 x 7	822148-070	1
14	nipple, pipe 3 x 14	822148-140	1
15	nipple, pipe-xs 1 x cl	822216-000	1
16	nut, hex pltd 5/8-11	825210-559	12
17	capscr, hex gr5 5/16-18 x 1	829105-100	2
18	capscr, hex gr5 3/8-16 x 1	829106-100	2
19	capscr, hex gr5 5/8-11 x 3	829110-300	4
20	capscr, hex gr5 5/8-11 x 3 1/4	829110-325	8
21	washer, spr lock reg pltd 5/16	837805-078	2
22	washer, spr lock reg pltd 3/8	837806-094	2
23	washer, spr lock reg pltd 1/2	837808-125	2
24	washer, spr lock reg pltd 5/8	837810-156	12
25	washer, pl-b reg pltd 5/16	838205-071	2
26	washer, pl-b reg pltd 3/8	838206-071	2
27	washer, pl-b reg pltd 1/2	838208-112	2
28	elbow, pipe-90m 1/2 x 1/2	860508-050	1
29	elbow, pipe 90 deg plt 1/2”	866215-020	1

(Continued on page 85)

(I) For maintenance on water separator no. 02250111-105, consult factory for replacement parts.

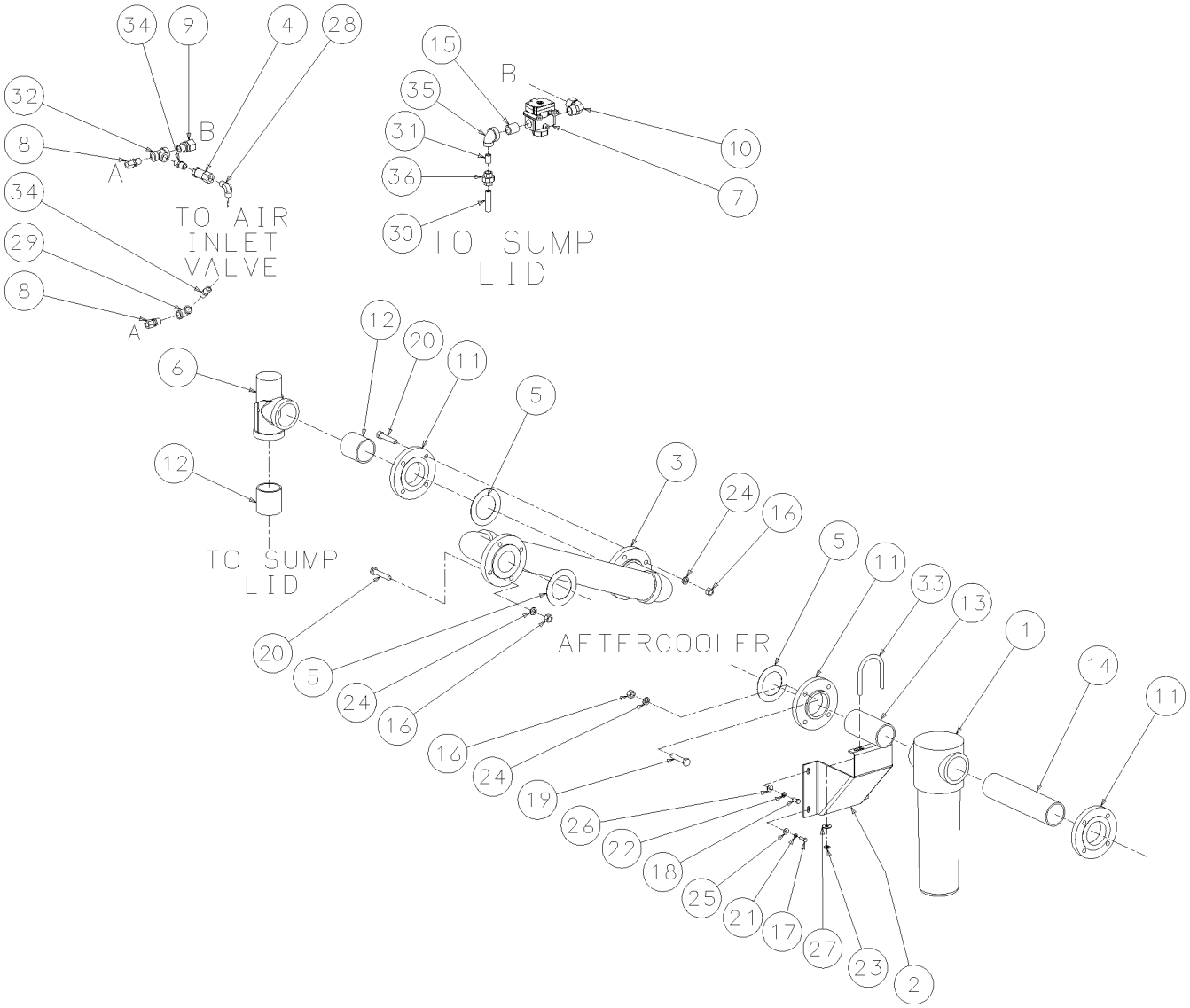
(II) For maintenance on minimum pressure check valve no. 250033-821, order repair kit no. 250018-262.

(III) For maintenance on blowdown valve no. 409783, order repair kit no. 001667.

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

Section 8
ILLUSTRATION AND PARTS LIST

8.10 AIR PIPING SYSTEM- AIR-COOLED 200-250HP/ 149-186K



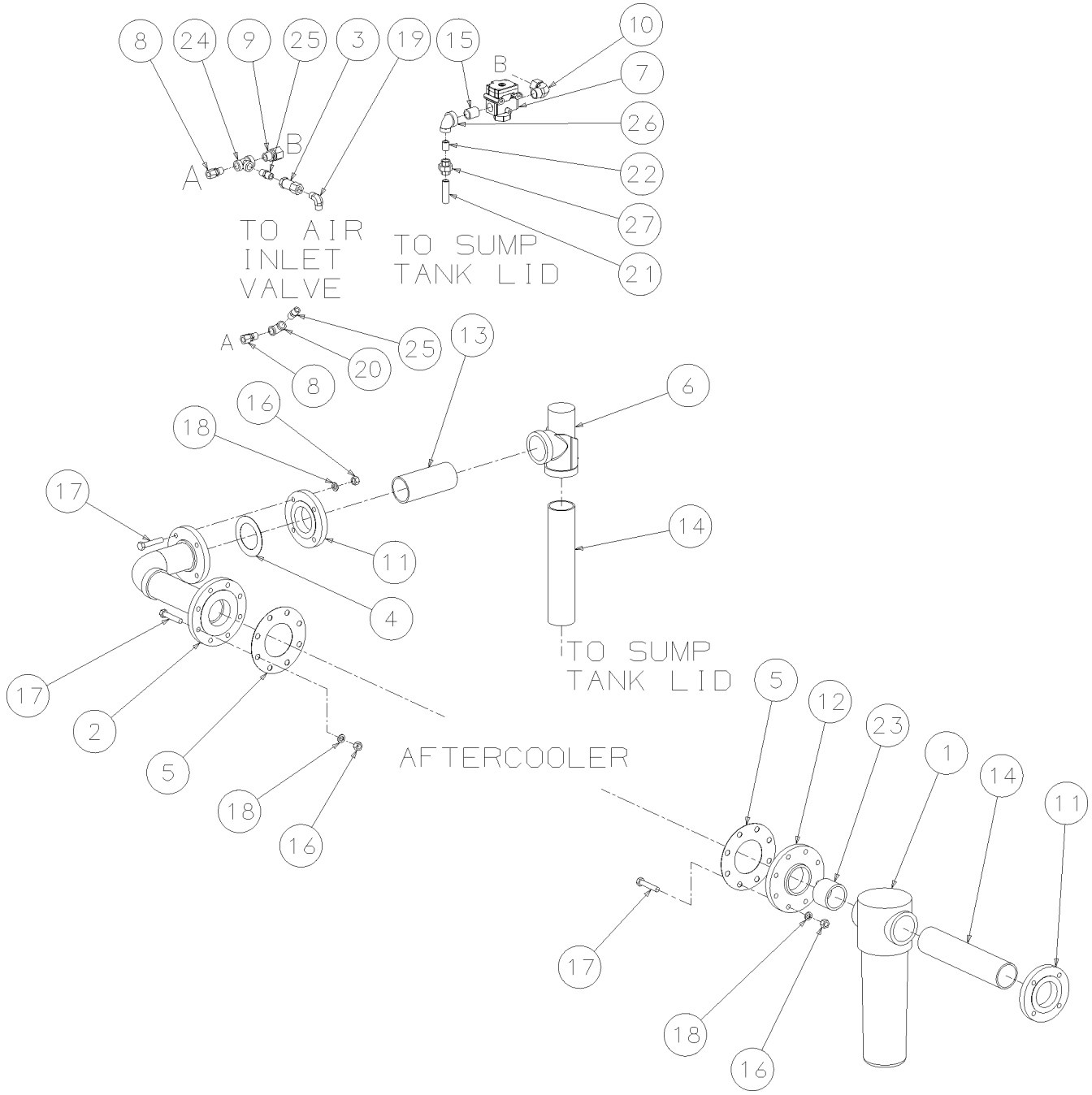
8.10 AIR PIPING SYSTEM- AIR-COOLED 200-250HP/ 149-186K (CONTINUED)

key number	*description*	*part number*	*quantity*
30	nipple, pipe pltd 1/2 x 3	866308-030	1
31	nipple, pipe-xs plt 1/2 x cl	866408-000	1
32	tee, reducing pltd 3/4 x 1/2 x 1/2	867503-022	1
33	u-bolt, 1/2” x 3” pipe pltd	868308-300	1
34	nipple, pipe-hx pltd 1/2 x 1/2	868508-050	2
35	elbow, red 1 x 1/2 150# plt	869204-020	1
36	union, pipe-brs seat 1/2 150#	871615-020	1

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

Section 8
ILLUSTRATION AND PARTS LIST

8.11 AIR PIPING SYSTEM- WATER-COOLED 200-250HP/ 149-186KW



8.11 AIR PIPING SYSTEM- WATER-COOLED 200-250HP/ 149-186KW

key number	*description*	*part number*	*quantity*
1	separator, water dh ws800 3”npt **(I)**	02250111-105	1
2	joint, expansion mpv to aftclr 3” dia.	02250124-433	1
3	valve, check 1/2”	042694	1
4	gasket, asa flange 150# 3”	240621-008	1
5	gasket, 4” 125# flg full face	242437-010	2
6	valve, min press check 3” (spl) **(II)**	250033-821	1
7	valve, blwdwn 1”nc 2way #c6654 **(III)**	409783	1
8	connector, tube-m 5/8 x 1/2	810210-050	2
9	connector, tube-m 1 x 3/4	810216-075	1
10	elbow, tube 90 deg m 1 x 1	810516-100	1
11	flange, thrd 3” 150# rf	819315-048	2
12	flange, thrd red 3 x 9”	819548-090	1
13	nipple, pipe 3 x 8	822148-080	1
14	nipple, pipe 3 x 16	822148-160	2
15	nipple, pipe-xs 1 x cl	822216-000	1
16	nut, hex pltd 5/8-11	825210-559	20
17	capscr, hex gr5 5/8-11 x 3 1/4	829110-325	20
18	washer, spr lock reg pltd 5/8	837810-156	20
19	elbow, pipe-90m 1/2 x 1/2	860508-050	1
20	elbow, pipe 90 deg plt 1/2”	866215-020	1
21	nipple, pipe pltd 1/2 x 3	866308-030	1
22	nipple, pipe-xs plt 1/2 x cl	866408-000	1
23	nipple, pipe-xs plt 3 x cl	866448-000	1
24	tee, reducing pltd 3/4 x 1/2 x 1/2	867503-022	1
25	nipple, pipe-hx pltd 1/2 x 1/2	868508-050	2
26	elbow, red 1 x 1/2 150# plt	869204-020	1
27	union, pipe-brs seat 1/2 150#	871615-020	1

(I) For maintenance on water separator no. 02250111-105, consult factory for replacement parts.

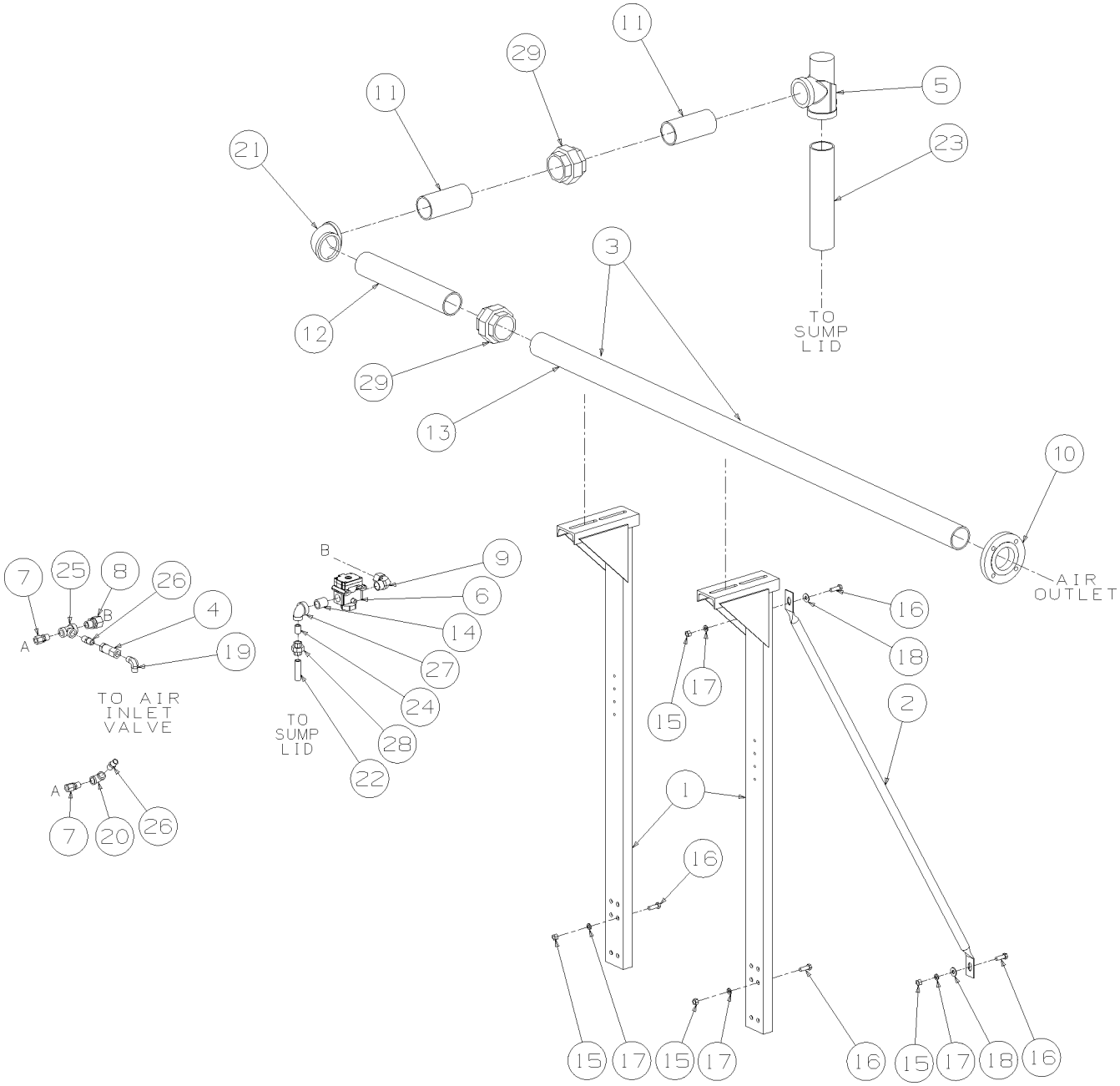
(II) For maintenance on minimum pressure check valve no. 250033-821, order repair kit no. 250018-262.

(III) For maintenance on blowdown valve no. 409783, order repair kit no. 001667.

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

Section 8
ILLUSTRATION AND PARTS LIST

8.12 AIR PIPING SYSTEM- REMOTE-COOLED 200-250HP/ 149-186KW



8.12 AIR PIPING SYSTEM- REMOTE-COOLED 200-250HP/ 149-186KW

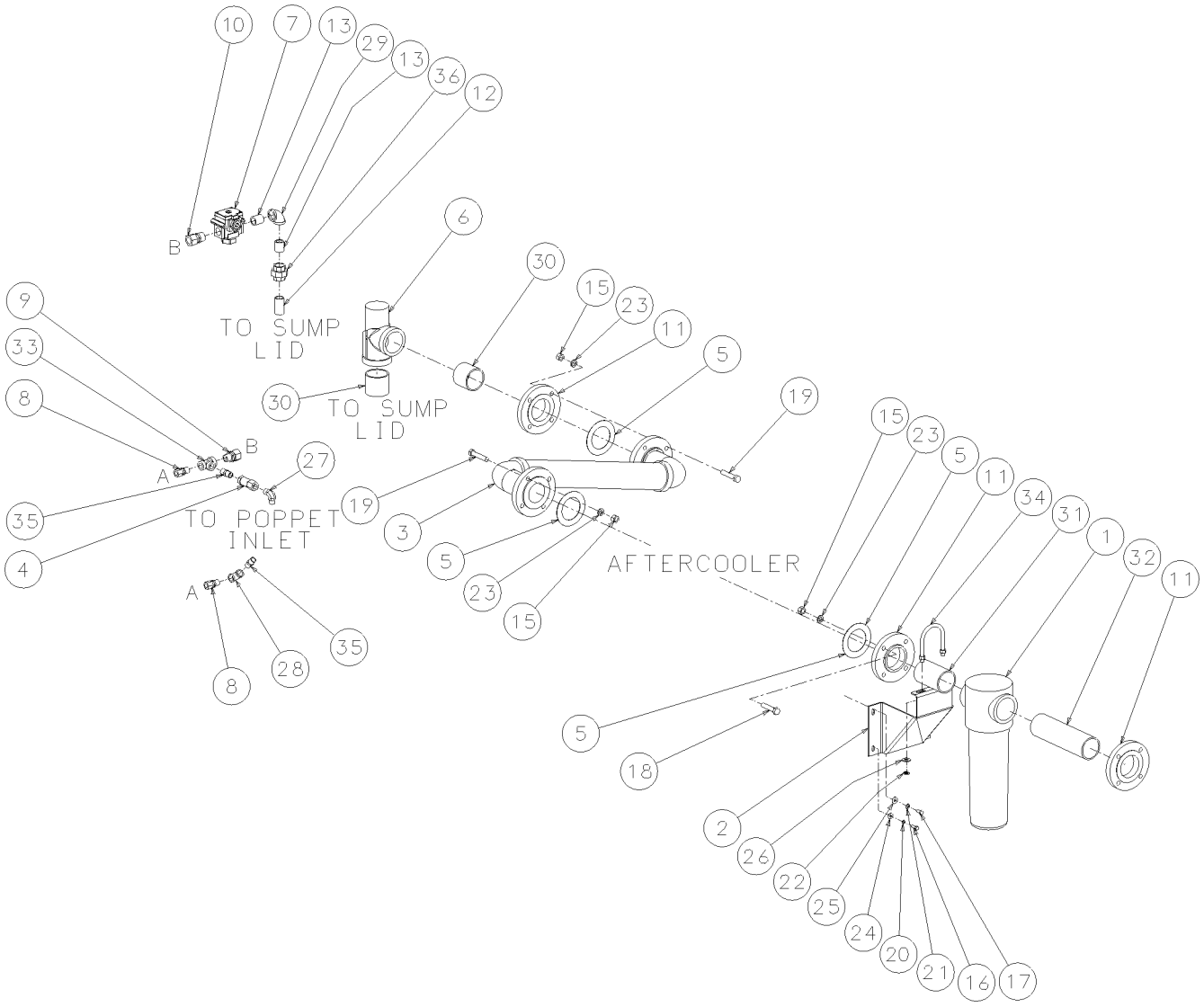
key number	*description*	*part number*	*quantity*
1	support, aftercooler	02250124-430	2
2	support, wc aftclr/ac discharge pipe	02250128-850	1
3	clamp, exhaust 3 1/2”	040284	2
4	valve, check 1/2”	042694	1
5	valve, min press check 3” (spl) **(I)**	250033-821	1
6	valve, blwdwn 1”nc 2way #c6654 **(II)**	409783	1
7	connector, tube-m 5/8 x 1/2	810210-050	2
8	connector, tube-m 1 x 3/4	810216-075	1
9	elbow, tube 90 deg m 1 x 1	810516-100	1
10	flange, thrd 3” 150# rf	819315-048	1
11	nipple, pipe 3 x 7 1/2	822148-075	2
12	nipple, pipe 3 x 20	822148-200	1
13	nipple, pipe 3 x 96	822148-960	1
14	nipple, pipe-xs 1 x cl	822216-000	1
15	nut, hex pltd 1/2-13	825208-448	10
16	capscr, hex gr5 1/2-13 x 1 1/2	829108-150	10
17	washer, spr lock reg pltd 1/2	837808-125	10
18	washer, pl-b reg pltd 1/2	838208-112	2
19	elbow, pipe-90m 1/2 x 1/2	860508-050	1
20	elbow, pipe 90 deg plt 1/2”	866215-020	1
21	elbow, pipe 90 deg plt 3”	866215-120	1
22	nipple, pipe pltd 1/2 x 3	866308-030	1
23	nipple, pipe pltd 3 x 15 1/2	866348-155	1
24	nipple, pipe-xs plt 1/2 x cl	866408-000	1
25	tee, reducing pltd 3/4 x 1/2 x 1/2	867503-022	1
26	nipple, pipe-hx pltd 1/2 x 1/2	868508-050	2
27	elbow, red 1 x 1/2 150# plt	869204-020	1
28	union, pipe-brs seat 1/2 150#	871615-020	1
29	union, pipe-brs seat 3 150#	871615-120	2

(I) For maintenance on minimum pressure check valve no. 250033-821, order repair kit no. 250018-262.

(II) For maintenance on blowdown valve no. 409783, order repair kit no. 001667.

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

8.13 AIR PIPING SYSTEM- AIR-COOLED 300-350HP/ 224-261KW



8.13 AIR PIPING SYSTEM- AIR-COOLED 300-350HP/ 224-261KW

key number	*description*	*part number*	*quantity*
1	separator, water dh ws800 3”npt **(I)**	02250111-105	1
2	bracket, seperator mount	02250121-831	1
3	joint, expansion ts32a-300/350 mpv/intac	02250123-836	1
4	valve, check 1/2”	042694	1
5	gasket, asa flange 150# 3”	240621-008	3
6	valve, min press check 3” (spl)**(II)**	250033-821	1
7	valve, blwdwn 1”nc 2way #c6654 **(III)**	409783	1
8	connector, tube-m 5/8 x 1/2	810210-050	2
9	connector, tube-m 1 x 3/4	810216-075	1
10	connector, tube-m 1 x 1	810216-100	1
11	flange, thrd 3” 150# rf	819315-048	3
12	nipple, pipe 1 x 2 1/2	822116-025	1
13	nipple, pipe-xs 1 x cl	822216-000	2
14	nut, hex pltd 1/2-13	825108-448	2
15	nut, hex pltd 5/8-11	825210-559	12
16	capscr, hex gr5 5/16-18 x 1	829105-100	2
17	capscr, hex gr5 3/8-16 x 3/4	829106-075	2
18	capscr, hex gr5 5/8-11 x 3	829110-300	4
19	capscr, hex gr5 5/8-11 x 3 1/4	829110-325	8
20	washer, spr lock reg pltd 5/16	837805-078	2
21	washer, spr lock reg pltd 3/8	837806-094	2
22	washer, spr lock reg pltd 1/2	837808-125	2
23	washer, spr lock reg pltd 5/8	837810-156	12
24	washer, pl-b reg pltd 5/16	838205-071	2
25	washer, pl-b reg pltd 3/8	838206-071	2
26	washer, pl-b reg pltd 1/2	838208-112	2
27	elbow, pipe-90m 1/2 x 1/2	860508-050	1
28	elbow, pipe 90 deg plt 1/2”	866215-020	1
29	elbow, pipe 90 deg plt 1”	866215-040	1
30	nipple, pipe pltd 3 x 3	866348-030	2

(Continued on page 93)

(I) For maintenance on water separator no. 02250111-105, consult factory for replacement parts.

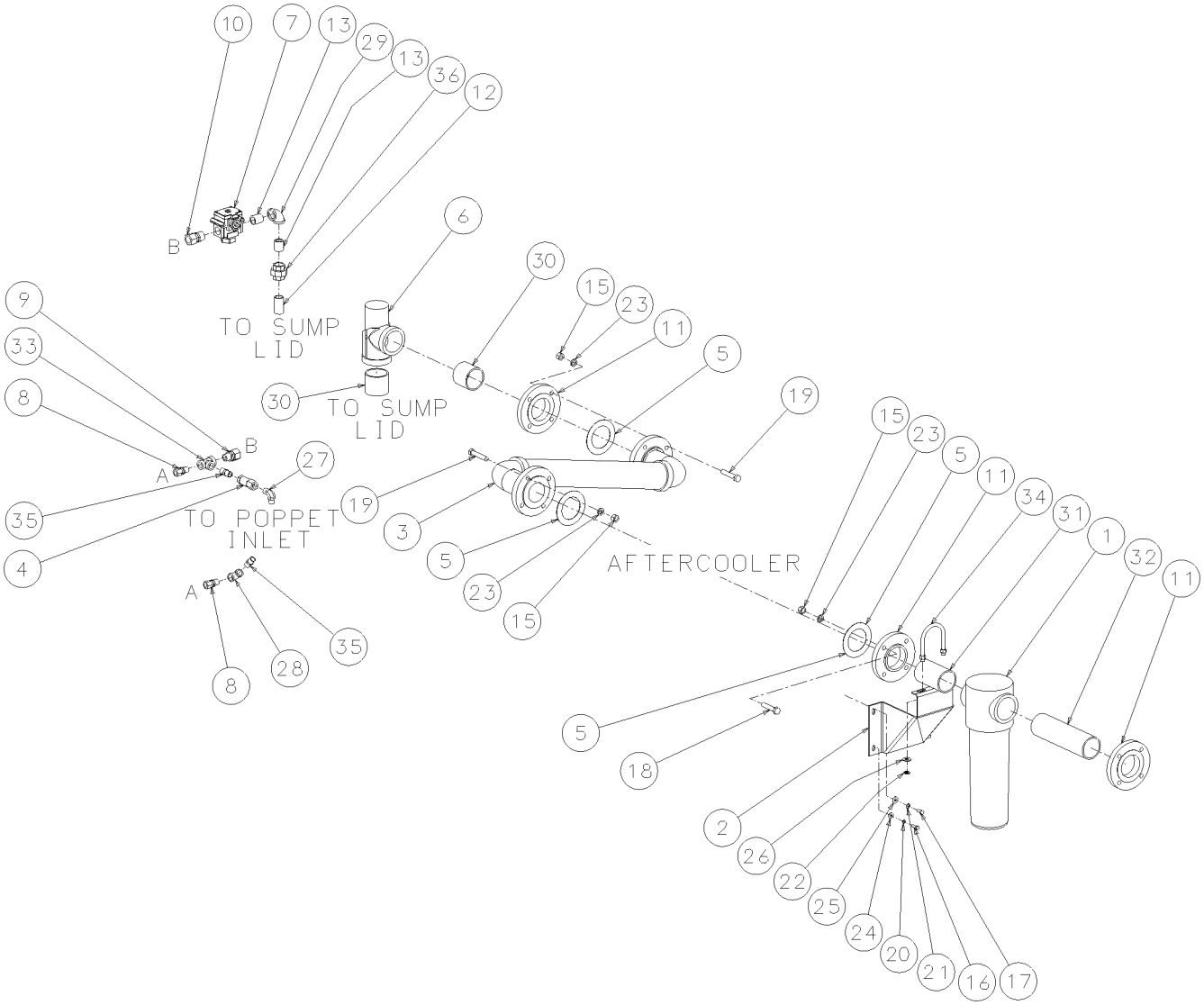
(II) For maintenance on minimum pressure check valve no. 250033-821, order repair kit no. 250018-262.

(III) For maintenance on blowdown valve no. 409783, order repair kit no. 001667.

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

Section 8
ILLUSTRATION AND PARTS LIST

8.13 AIR PIPING SYSTEM- AIR-COOLED 300-350HP/ 224-261KW



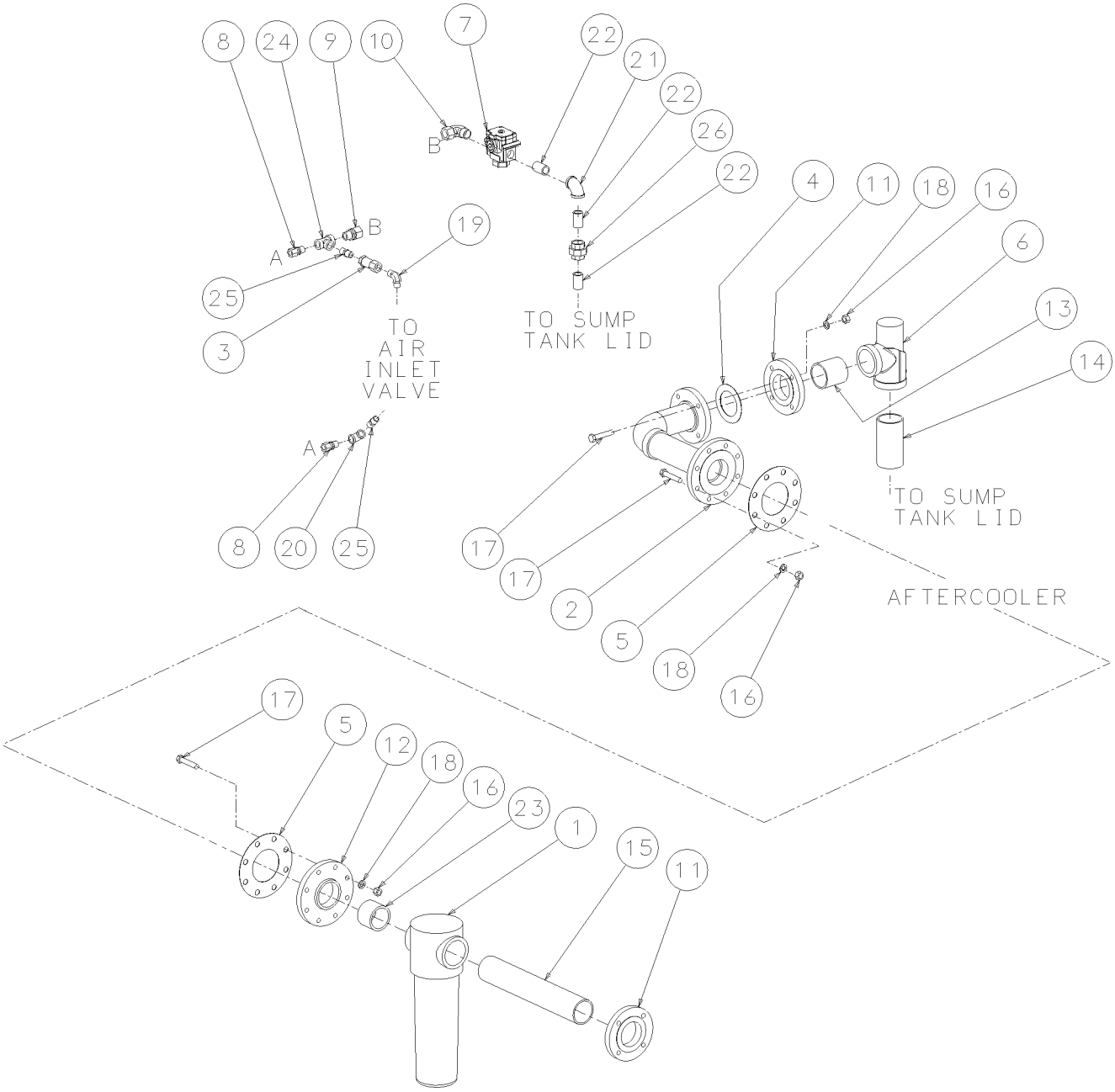
8.13 AIR PIPING SYSTEM- AIR-COOLED 300-350HP/ 224-261KW (CONTINUED)

key number	*description*	*part number*	*quantity*
31	nipple, pipe pltd 3 x 5 1/2	866348-055	1
32	nipple, pipe pltd 3 x 12	866348-120	1
33	tee, reducing pltd 3/4 x 1/2 x 1/2	867503-022	1
34	u-bolt, 1/2” x 3” pipe pltd	868308-300	1
35	nipple, pipe-hx pltd 1/2 x 1/2	868508-050	2
36	union, pipe-brs seat 1 150#	871615-040	1

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

Section 8
ILLUSTRATION AND PARTS LIST

8.14 AIR PIPING SYSTEM- WATER-COOLED 300-350HP/ 224-261KW



8.14 AIR PIPING SYSTEM- WATER-COOLED 300-350HP/ 224-261KW

key number	*description*	*part number*	*quantity*
1	separator, water dh ws800 3”npt **(I)**	02250111-105	1
2	joint, expansion mpv to aftclr 3” dia.	02250124-433	1
3	valve, check 1/2”	042694	1
4	gasket, asa flange 150# 3”	240621-008	1
5	gasket, 4” 125# flg full face	242437-010	2
6	valve, min press check 3” (spl) **(II)**	250033-821	1
7	valve, blwdwn 1”nc 2way #c6654 **(III)**	409783	1
8	connector, tube-m 5/8 x 1/2	810210-050	2
9	connector, tube-m 1 x 3/4	810216-075	1
10	elbow, tube 90 deg m 1 x 1	810516-100	1
11	flange, thrd 3” 150# rf	819315-048	2
12	flange, thrd red 3 x 9”	819548-090	1
13	nipple, pipe 3 x 3 1/2	822148-035	1
14	nipple, pipe 3 x 6 1/2	822148-065	1
15	nipple, pipe 3 x 20	822148-200	1
16	nut, hex pltd 5/8-11	825210-559	20
17	capscr, hex gr5 5/8-11 x 3 1/4	829110-325	20
18	washer, spr lock reg pltd 5/8	837810-156	20
19	elbow, pipe-90m 1/2 x 1/2	860508-050	1
20	elbow, pipe 90 deg plt 1/2”	866215-020	1
21	elbow, pipe 90 deg plt 1”	866215-040	1
22	nipple, pipe-xs plt 1 x 2	866416-020	3
23	nipple, pipe-xs plt 3 x cl	866448-000	1
24	tee, reducing pltd 3/4 x 1/2 x 1/2	867503-022	1
25	nipple, pipe-hx pltd 1/2 x 1/2	868508-050	2
26	union, pipe-brs seat 1 150#	871615-040	1

(I) For maintenance on water separator no. 02250111-105, consult factory for replacement parts.

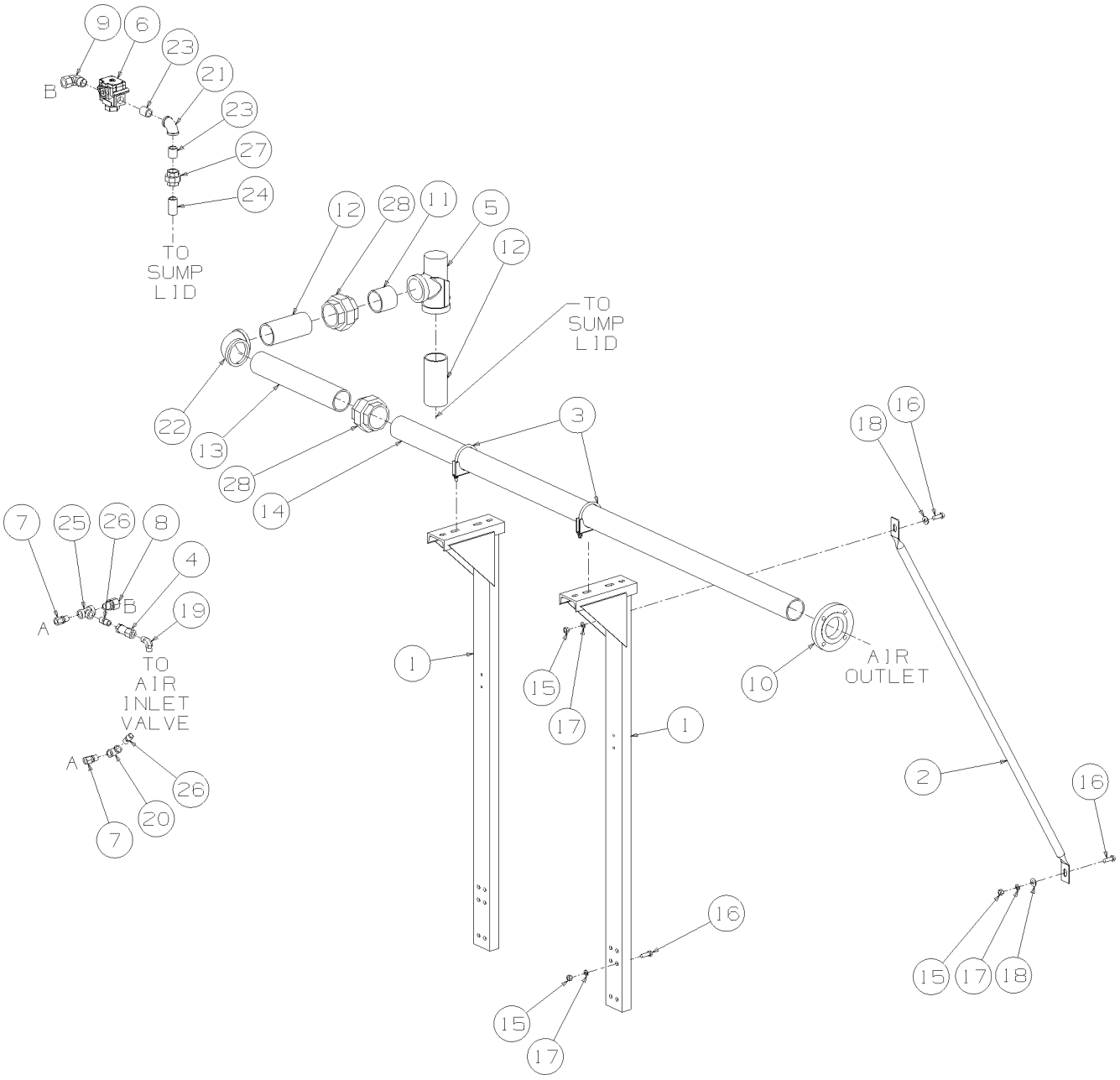
(II) For maintenance on minimum pressure check valve no. 250033-821, order repair kit no. 250018-262.

(III) For maintenance on blowdown valve no. 409783, order repair kit no. 001667.

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

Section 8
ILLUSTRATION AND PARTS LIST

8.15 AIR PIPING SYSTEM- REMOTE-COOLED 300-350HP/ 224-261KW



8.15 AIR PIPING SYSTEM- REMOTE-COOLED 300-350HP/ 224-261KW

key number	*description*	*part number*	*quantity*
1	support, aftercooler	02250124-430	2
2	support,wc aftclr/ac discharge pipe	02250128-850	1
3	clamp, exhaust 3 1/2”	040284	2
4	valve, check 1/2”	042694	1
5	valve, min press check 3” (spl) **(I)**	250033-821	1
6	valve, blwdwn 1”nc 2way #c6654 **(II)**	409783	1
7	connector, tube-m 5/8 x 1/2	810210-050	2
8	connector, tube-m 1 x 3/4	810216-075	1
9	elbow, tube 90 deg m 1 x 1	810516-100	1
10	flange, thrd 3” 150# rf	819315-048	1
11	nipple, pipe 3 x 3	822148-030	1
12	nipple, pipe 3 x 7 1/2	822148-075	2
13	nipple, pipe 3 x 20	822148-200	1
14	nipple, pipe 3 x 96	822148-960	1
15	nut, hex pltd 1/2-13	825208-448	10
16	capscr, hex gr5 1/2-13 x 1 1/2	829108-150	10
17	washer, spr lock reg pltd 1/2	837808-125	10
18	washer, pl-b reg pltd 1/2	838208-112	2
19	elbow, pipe-90m 1/2 x 1/2	860508-050	1
20	elbow, pipe 90 deg plt 1/2”	866215-020	1
21	elbow, pipe 90 deg plt 1”	866215-040	1
22	elbow, pipe 90 deg plt 3”	866215-120	1
23	nipple, pipe-xs plt 1 x cl	866416-000	2
24	nipple, pipe-xs plt 1 x 2 1/2	866416-025	1
25	tee, reducing pltd 3/4 x 1/2 x 1/2	867503-022	1
26	nipple, pipe-hx pltd 1/2 x 1/2	868508-050	2
27	union, pipe-brs seat 1 150#	871615-040	1
28	union, pipe-brs seat 3 150#	871615-120	2

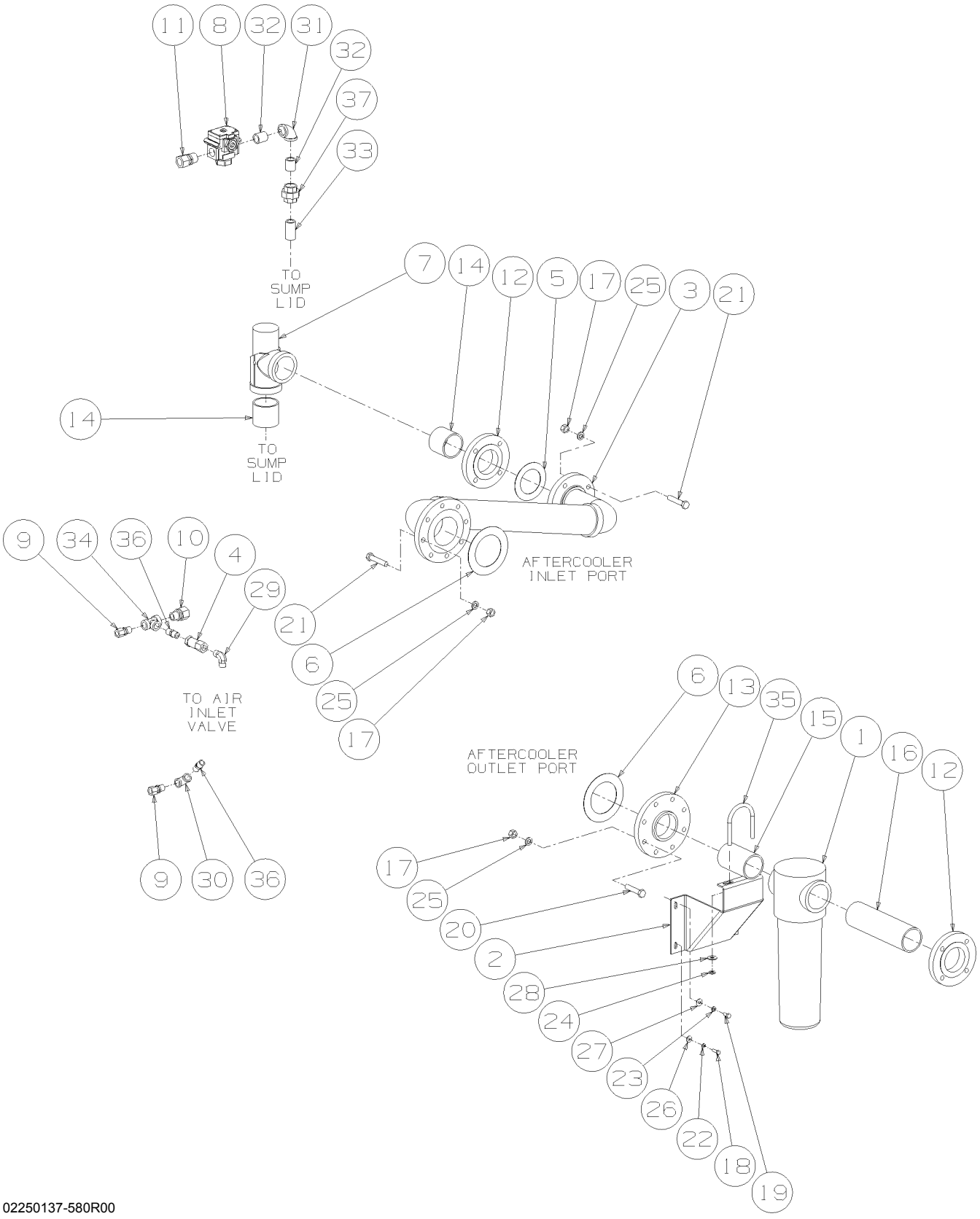
(I) For maintenance on minimum pressure check valve no. 250033-821, order repair kit no. 250018-262.

(II) For maintenance on blowdown valve no. 409783, order repair kit no. 001667.

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

Section 8
ILLUSTRATION AND PARTS LIST

8.16 AIR PIPING SYSTEM- 24KT 350HP/261KW



02250137-580R00

8.16 AIR PIPING SYSTEM- 24KT 350HP/261KW

key number	*description*	*part number*	*quantity*
1	separator, water dh ws800 3”npt **(I)**	02250111-105	1
2	bracket, seperator mount	02250121-831	1
3	joint, expansion 3” x 4” ts32a-350/400hp	02250131-110	1
4	valve, check 1/2”	042694	1
5	gasket, asa flange 150# 3”	240621-008	1
6	gasket, asa flange 150# 4”	240621-010	2
7	valve, min press check 3” (spl) **(II)**	250033-821	1
8	valve, blwdwn 1”nc 2way #c6654 **(III)**	409783	1
9	connector, tube-m 5/8 x 1/2	810210-050	2
10	connector, tube-m 1 x 3/4	810216-075	1
11	connector, tube-m 1 x 1	810216-100	1
12	flange, thrd 3” 150# rf	819315-048	2
13	flange, thrd red 3 x 9”	819548-090	1
14	nipple,pipe 3 x 3	822148-030	2
15	nipple,pipe 3 x 5 1/2	822148-055	1
16	nipple,pipe 3 x 12	822148-120	1
17	nut,hex pltd 5/8-11	825210-559	20
18	capscr, hex gr5 5/16-18 x 1	829105-100	2
19	capscr, hex gr5 3/8-16 x 3/4	829106-075	2
20	capscr, hex gr5 5/8-11 x 3	829110-300	8
21	capscr, hex gr5 5/8-11 x 3 1/4	829110-325	12
22	washer, spr lock reg pltd 5/16	837805-078	2
23	washer, spr lock reg pltd 3/8	837806-094	2
24	washer, spr lock reg pltd 1/2	837808-125	2
25	washer, spr lock reg pltd 5/8	837810-156	20
26	washer, pl-b reg pltd 5/16	838205-071	2
27	washer, pl-b reg pltd 3/8	838206-071	2
28	washer, pl-b reg pltd 1/2	838208-112	2
29	elbow, pipe-90m 1/2 x 1/2	860508-050	1
30	elbow, pipe 90 deg plt 1/2”	866215-020	1

(Continued on page 101)

(I) For maintenance on water separator no. 02250111-105, consult factory for replacement parts.

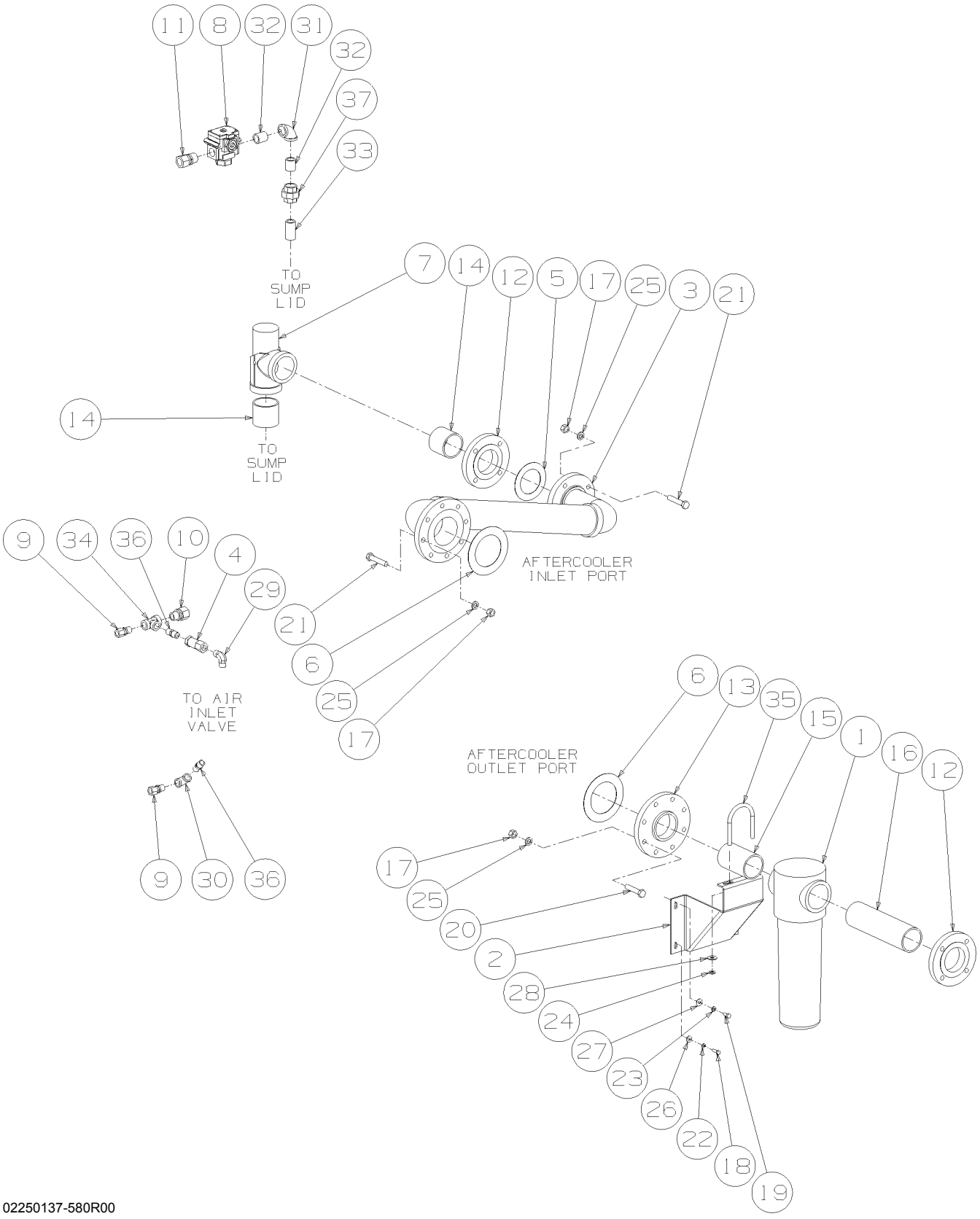
(II) For maintenance on minimum pressure check valve no. 250033-821, order repair kit no. 250018-262.

(III) For maintenance on blowdown valve no. 409783, order repair kit no. 001667.

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

Section 8
ILLUSTRATION AND PARTS LIST

8.16 AIR PIPING SYSTEM- 24KT 350HP/261KW



02250137-580R00

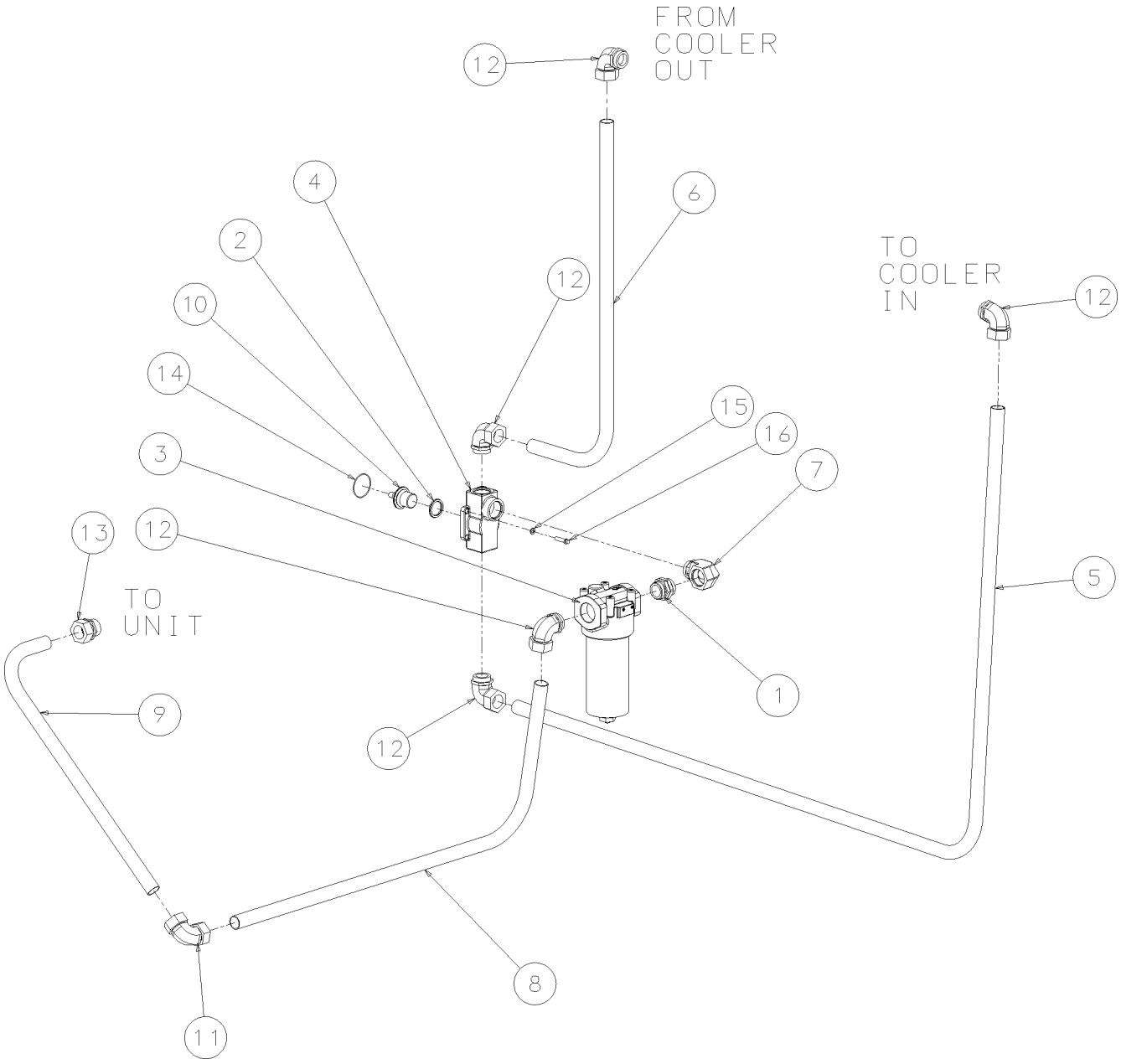
8.16 AIR PIPING SYSTEM- 24KT 350HP/261KW (CONTINUED)

key number	*description*	*part number*	*quantity*
31	elbow, pipe 90 deg plt 1”	866215-040	1
32	nipple,pipe-xs plt 1 x cl	866416-000	2
33	nipple,pipe-xs plt 1 x 2 1/2	866416-025	1
34	tee, reducing pltd 3/4 x 1/2 x 1/2	867503-022	1
35	u-bolt,1/2” x 3” pipe pltd	868308-300	1
36	nipple,pipe-hx pltd 1/2 x 1/2	868508-050	2
37	union,pipe-brs seat 1 150#	871615-040	1

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

Section 8
ILLUSTRATION AND PARTS LIST

8.17 FLUID PIPING SYSTEM- AIR-COOLED 200-250HP/ 149-186KW



02250135-894R01

8.17 FLUID PIPING SYSTEM- AIR-COOLED 200-250HP/ 149-186KW

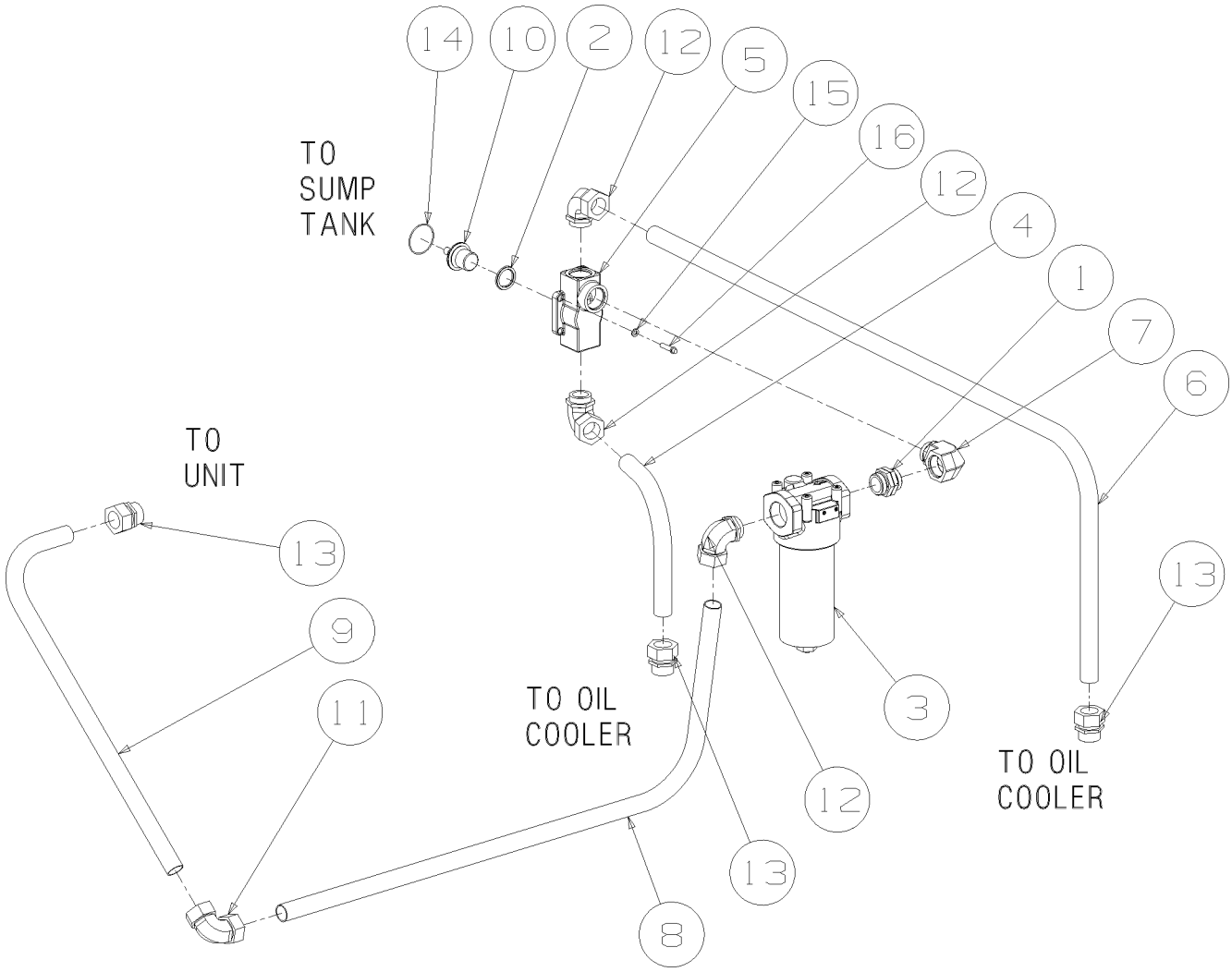
key number	*description*	*part number*	*quantity*
1	adapter, sae 1 7/8-12 x 1 7/8-12	02250055-014	1
2	seal, u-cup therm vlv	02250101-372	1
3	filter, 1 7/8-12 sae coreless **(I)**	02250121-658	1
4	housing, therm vlv 1 7/8”-12 conn w/ ext **(II)**	02250127-119	1
5	tube, 1-1/2” thrmvlv/clr TS32A-200/25	02250127-347	1
6	tube, 1-1/2” clr/thrmvlv TS32A-200/25	02250127-349	1
7	elbow, sae 90 1 7/8m x 1 7/8f	02250136-054	1
8	tube, filter-elbow LS25SC-200	02250136-055	1
9	tube, elbow/unit LS25SC-200	02250136-056	1
10	element, thermal vlv	049542	1
11	elbow, tube union 1 1/2	811224-150	1
12	elbow, tube str thrd 1 1/2 x 1 7/8	811624-188	5
13	connector, tube str thd 1 1/2 x 1 7/8	811824-188	1
14	o-ring, viton 2 1/2 x 3/32”	826502-144	1
15	washer, spr lock reg pltd 3/8	837806-094	4
16	capscrew, ferry head hd pltd 3/8-16 x 1 1/2	867306-150	4

(I) For maintenance on coreless filter no. 02250121-658, order replacement filter no. 02250139-995.

(II) For maintenance on thermal valve (175ºF), order repair kit no. 02250105-553.

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

8.18 FLUID PIPING SYSTEM- WATER-COOLED 200-250HP/ 149-186KW



8.18 FLUID PIPING SYSTEM- WATER-COOLED 200-250HP/ 149-186KW

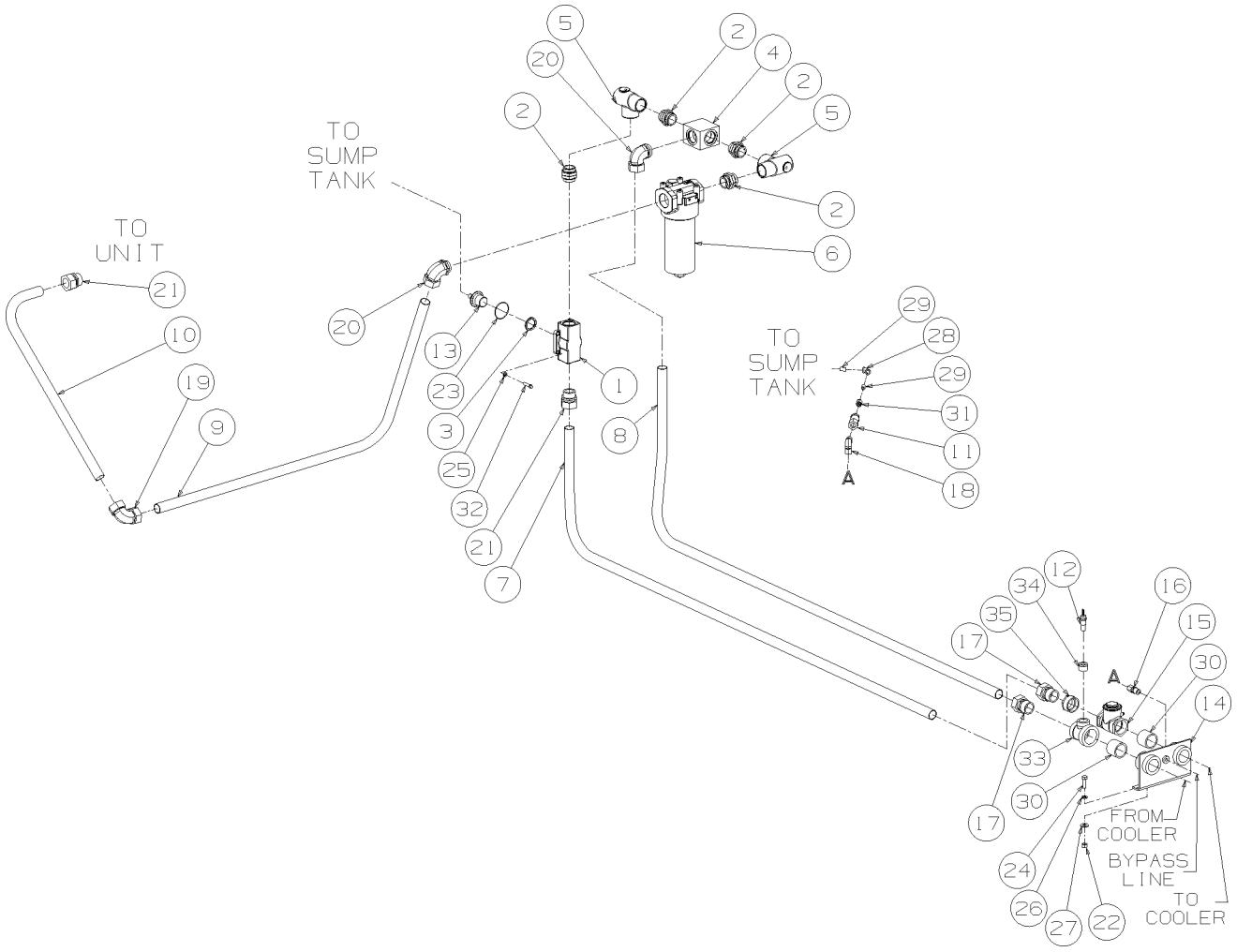
key number	*description*	*part number*	*quantity*
1	adapter, sae 1 7/8-12 x 1 7/8-12	02250055-014	1
2	seal, u-cup therm vlv	02250101-372	1
3	filter, 1 7/8-12 sae coreless	02250121-658	1
4	tube, thermal valve to oil cooler	02250126-426	1
5	housing, therm vlv 1 7/8”-12 conn w/ ext **(I)**	02250127-119	1
6	tube, oc/thrmvlvTS32-200/250 1-1/2”w	02250134-340	1
7	elbow, sae 90 1 7/8m x 1 7/8f	02250136-054	1
8	tube, oilfltr/elbow LS25SC-200	02250136-055	1
9	tube, elbow/unit LS25SC-200	02250136-056	1
10	element, thermal vlv	049542	1
11	elbow, tube union 1 1/2	811224-150	1
12	elbow, tube str thrd 1 1/2 x 1 7/8	811624-188	3
13	connector, tube str thd 1 1/2 x 1 7/8	811824-188	3
14	o-ring, viton 2 1/2 x 3/32”	826502-144	1
15	washer, spr lock reg pltd 3/8	837806-094	4
16	capscrew, ferry head hd pltd 3/8-16 x 1 1/2	867306-150	4

(I) For maintenance on thermal valve (175ºF), order repair kit no. 02250105-553.

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

Section 8
ILLUSTRATION AND PARTS LIST

8.19 FLUID PIPING SYSTEM- REMOTE-COOLED 200-250HP/ 149-186KW



8.19 FLUID PIPING SYSTEM- REMOTE-COOLED 200-250HP/ 149-186KW

key number	*description*	*part number*	*quantity*
1	housing, therm vlv 1 7/8”-12 sae ports **(I)**	02250054-601	1
2	adapter, sae 1 7/8-12 x 1 7/8-12	02250055-014	4
3	seal, u-cup therm vlv	02250101-372	1
4	tee, sae str. thrd 1-7/8 x 12	02250113-549	1
5	valve, oil stop **(II)**	02250113-668	2
6	filter,1 7/8-12 sae coreless	02250121-658	1
7	tube, thermal valve/oil out	02250134-554	1
8	tube, oil in/tee block	02250134-556	1
9	tube, 1-1/2” oilfltr/tube elbow	02250134-558	1
10	tube, elbow/unit LS25SC-200	02250136-056	1
11	valve, check 1/2”	042694	1
12	switch, temp n.o. 115f	043239	1
13	element, thermal vlv	049542	1
14	bracket, 2” npt oil in/out	250008-245	1
15	valve, check-swing 2” npt	40671	1
16	connector, tube-m 1/2 x 1/2	810208-050	1
17	connector, tube-m 1 1/2 x 1 1/2	810224-150	2
18	elbow, tube 90 deg m 1/2 x 1/2	810508-050	1
19	elbow, tube union 1 1/2	811224-150	1
20	elbow, tube str thrd 1 1/2 x 1 7/8	811624-188	2
21	connector, tube str thd 1 1/2 x 1 7/8	811824-188	2
22	nut, hex pltd 1/2-13	825208-448	2
23	o-ring, viton 2 1/2 x 3/32”	826502-144	1
24	capscr, hex gr5 1/2-13 x 1 1/2	829108-150	2
25	washer, spr lock reg pltd 3/8	837806-094	4
26	washer, spr lock reg pltd 1/2	837808-125	2
27	washer, pl-b reg pltd 1/2	838208-112	2
28	elbow, pipe 90 deg plt 1/4”	866215-010	1
29	nipple, pipe-xs plt 1/4 x cl	866404-000	2
30	nipple, pipe-xs plt 2 x cl	866432-000	2
31	bushing, red pltd 1/2 x 1/4	867102-010	1

(Continued on page 109)

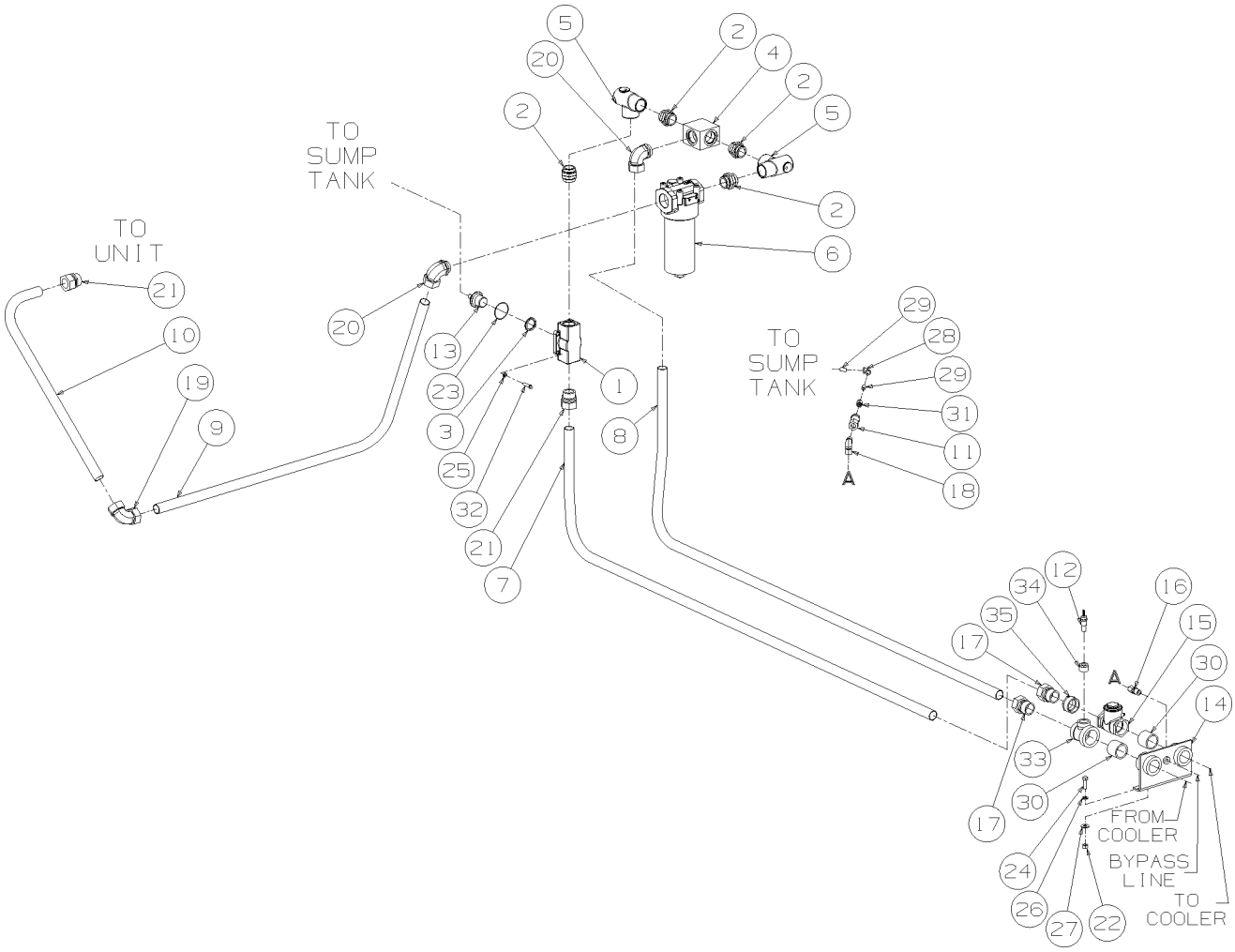
(I) For maintenance on thermal valve (175ºF), order repair kit no. 02250105-553.

(II) For mainteinance on fluid stop vavle no. 02250113-668, order repair kit no. 02250116-697.

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

Section 8
ILLUSTRATION AND PARTS LIST

8.19 FLUID PIPING SYSTEM- REMOTE-COOLED 200-250HP/ 149-186KW



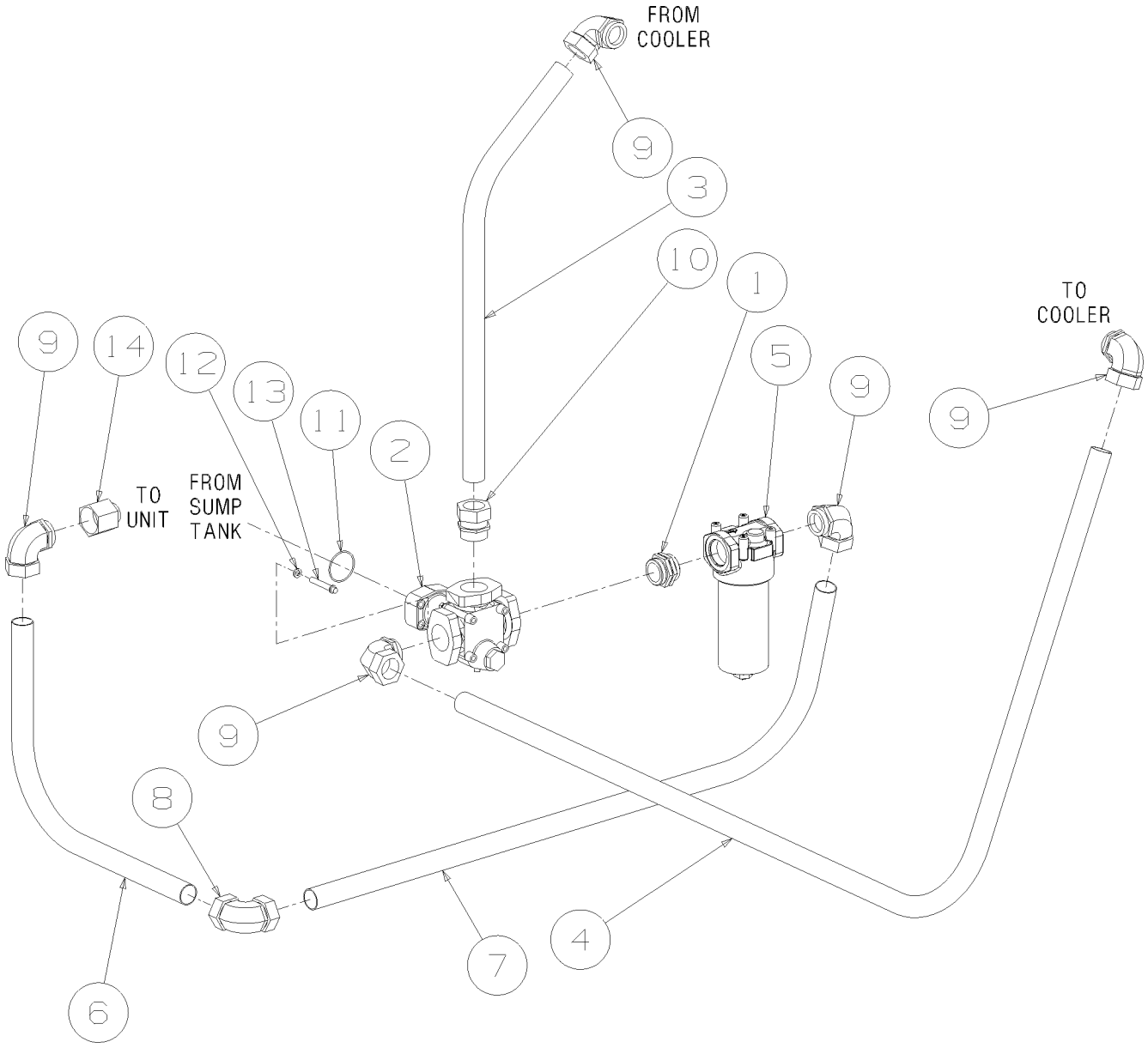
8.19 FLUID PIPING SYSTEM- REMOTE-COOLED 200-250HP/ 149-186KW (CONTINUED)

key number	*description*	*part number*	*quantity*
32	capscrew, ferry head hd pltd 3/8-16 x 1 1/2	867306-150	4
33	tee, reducing pltd 2 x 1 1/2 x 1	867508-064	1
34	bushing, red hex pltd 1 x 1/2	868904-020	1
35	bushing, red hex pltd 2 x 1 1/2	868908-060	1

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

Section 8
ILLUSTRATION AND PARTS LIST

8.20 FLUID PIPING SYSTEM- AIR-COOLED 300-350HP/ 224-261KW



8.20 FLUID PIPING SYSTEM- AIR-COOLED 300-350HP/ 224-261KW

key number	*description*	*part number*	*quantity*
1	adapter, sae 2-1/2-12 x 2-1/2-12	02250110-661	1
2	valve, thermal 2.5” sae 170deg **(I)**	02250120-955	1
3	tube, thrmvlv/intac 2” o.d.	02250124-662	1
4	tube,intac/thrmvlv 2” o.d.	02250124-663	1
5	filter, 2-1/2 sae coreless 80cn-1**(II)**	02250128-717	1
6	tube, oil elbow/unit ls25sc-300	02250135-660	1
7	tube, oil flt-el ls25sc-300	02250136-890	1
8	elbow, tube union 2	811232-200	1
9	elbow, tube str thrd 2 x 2 1/2	811632-250	5
10	connector, tube str thd 2 x 2 1/2	811832-250	1
11	o-ring, viton 2 3/4 x 1/8”	826502-232	1
12	washer, spr lock reg pltd 1/2	837808-125	4
13	capscrew, ferry head hd pltd 1/2-13 x 3	867308-300	4
14	reducer, str thrd viton 1 1/2 x 2	870024-032	1

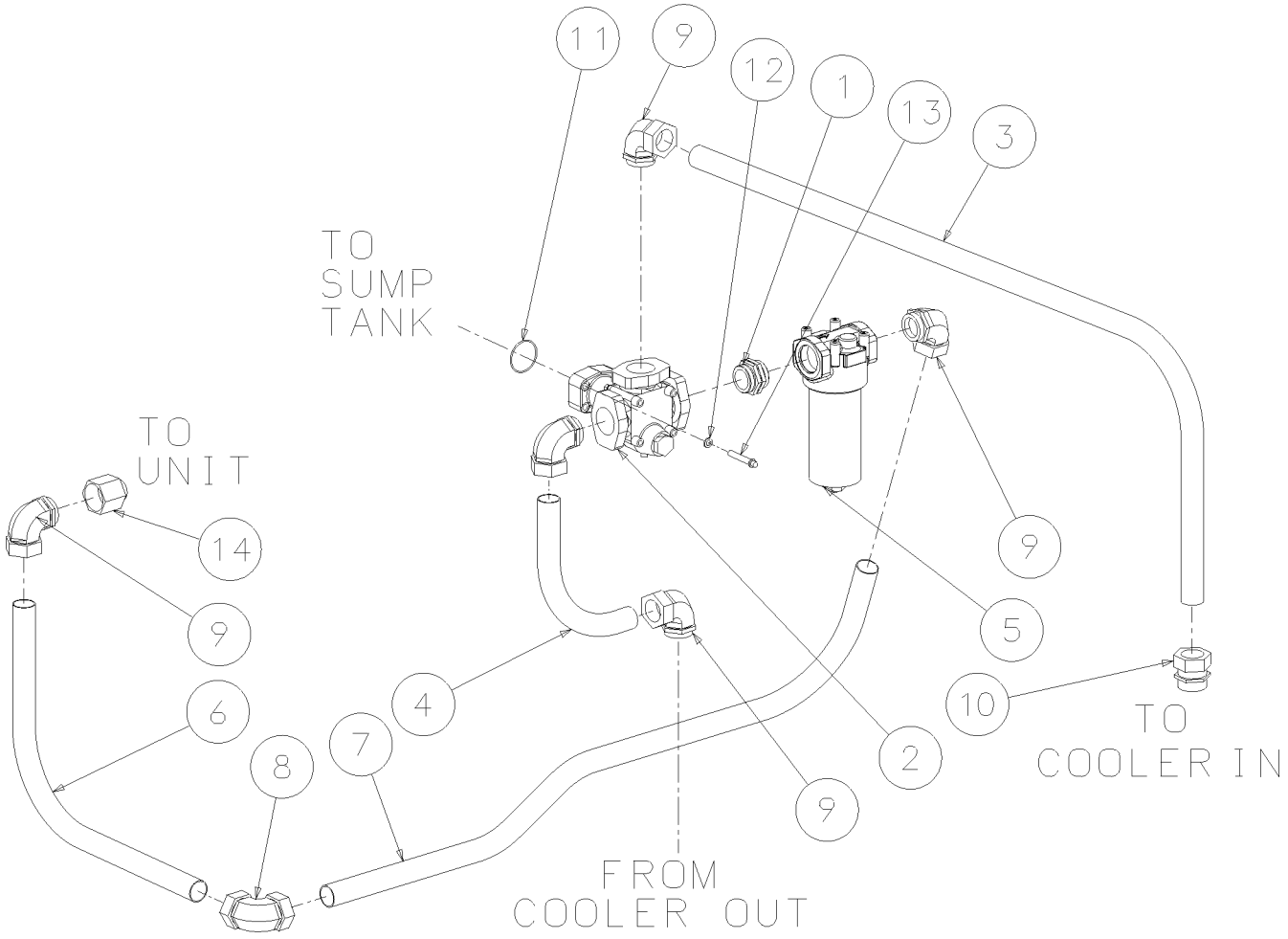
(I) For maintenance on thermal valve (170ºF) no. 02250120-955, order repair kit no. 02250120-957.

(II) For maintenance on coreless filter no. 02250128-717, order replacement kit no. 02250121-657.

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

Section 8
ILLUSTRATION AND PARTS LIST

8.21 FLUID PIPING SYSTEM- WATER-COOLED 300-350HP/ 224-261KW



8.21 FLUID PIPING SYSTEM- WATER-COOLED 300-350HP/ 224-261KW

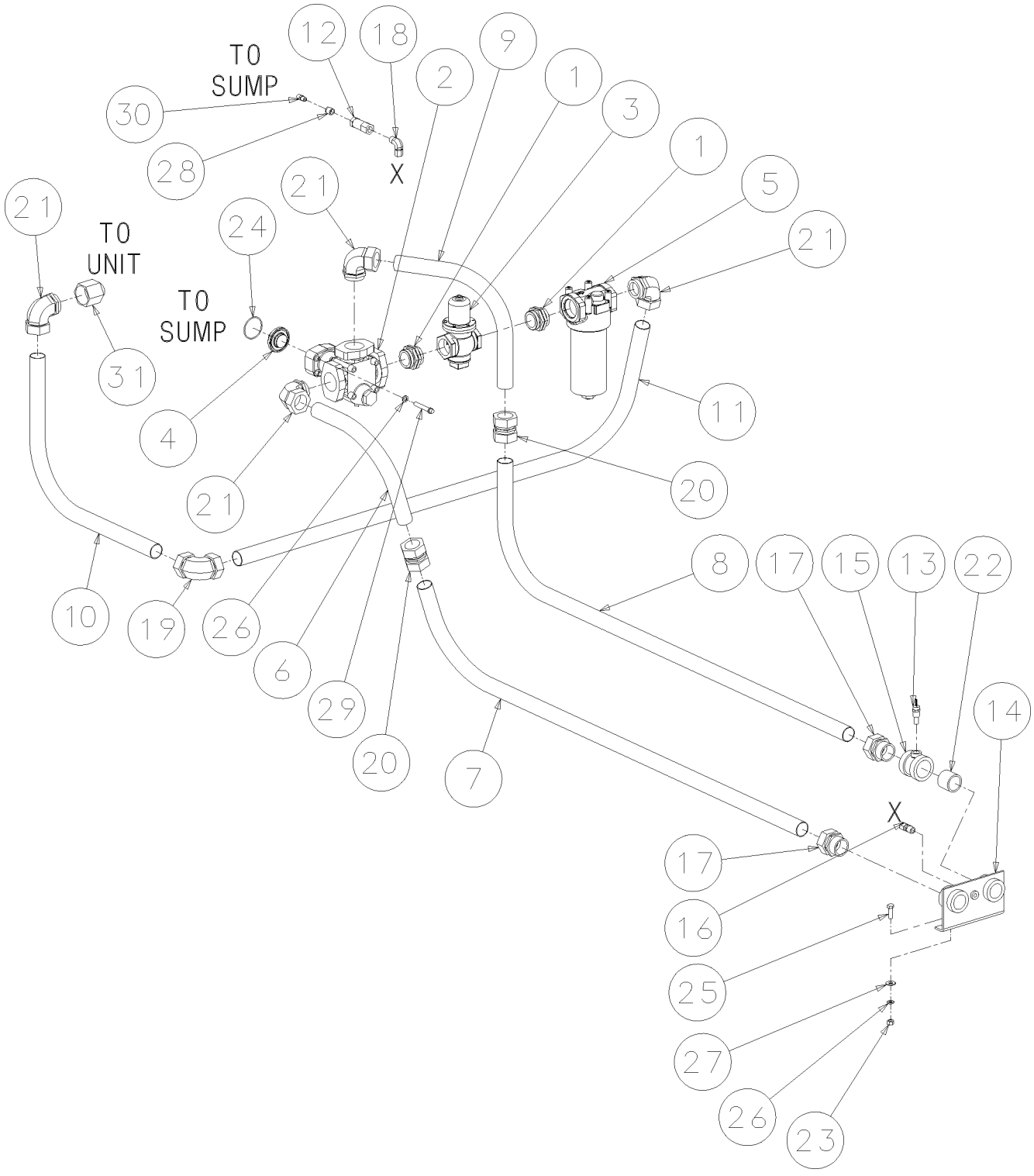
key number	*description*	*part number*	*quantity*
1	adapter, sae 2-1/2-12 x 2-1/2-12	02250110-661	1
2	valve, thermal 2.5” sae 170deg **(I)**	02250120-955	1
3	tube, oilclr/thrmvlv 2” o.d.	02250124-633	1
4	tube, thrmvlv/oilclr 2” o.d.	02250124-634	1
5	filter. 2-1/2 sae coreless 80cn-1	02250128-717	1
6	tube, oil elbow/unit LS25SC-300	02250135-660	1
7	tube, oil fltr-elb LS25SC-300wc	02250136-900	1
8	elbow, tube union 2	811232-200	1
9	elbow, tube str thrd 2 x 2 1/2	811632-250	5
10	connector, tube str thd 2 x 2 1/2	811832-250	1
11	o-ring, viton 2 3/4 x 1/8”	826502-232	1
12	washer, spr lock reg pltd 1/2	837808-125	4
13	capscrew, ferry head hd pltd 1/2-13 x 3	867308-300	4
14	reducer, str thrd viton 1 1/2 x 2	870024-032	1

(I) For maintenance on thermal valve (170ºF) no. 02250120-955, order repair kit no. 02250120-957.

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

Section 8
ILLUSTRATION AND PARTS LIST

8.22 FLUID PIPING SYSTEM- REMOTE-COOLED 300-350HP/ 224-261KW



02250135-879R01

8.22 FLUID PIPING SYSTEM- REMOTE-COOLED 300-350HP/ 224-261KW

key number	*description*	*part number*	*quantity*
1	adapter, sae 2-1/2-12 x 2-1/2-12	02250110-661	2
2	valve, thermal 2.5” sae 170deg **(I)**	02250120-955	1
3	valve, oil stop 2.5” sae **(II)**	02250122-004	1
4	2-1/2” sae check valve insert	02250125-617	1
5	filter. 2-1/2 sae coreless 80cn-1	02250128-717	1
6	tube, 2”dia TS32-300rc thrmvlv to un	02250129-215	1
7	tube, 2”dia TS32-300rc union to oil	02250129-219	1
8	tube, 2”dia TS32-300rc oil in to uni	02250129-221	1
9	tube, 2”dia TS32-300rc union to thrm	02250129-223	1
10	tube, oil elbow/unit LS25SC-300	02250135-660	1
11	tube, oil fltr-elb LS25SC-300rc	02250136-893	1
12	valve, check 1/2”	042694	1
13	switch, temp n.o. 115f	043239	1
14	bracket, 2” npt oil in/out	250008-245	1
15	tee, reducing 2 x 2 x 1/2	802208-082	1
16	connector, tube-m 1/2 x 1/2	810208-050	1
17	connector, tube-m 2 x 2	810232-200	2
18	elbow, tube 90 deg m 1/2 x 1/2	810508-050	1
19	elbow, tube union 2	811232-200	1
20	union, tube hex 2”	811332-200	2
21	elbow, tube str thrd 2 x 2 1/2	811632-250	4
22	nipple, pipe-xs 2 x cl	822232-000	1
23	nut, hex pltd 1/2-13	825208-448	2
24	o-ring, viton 2 3/4 x 1/8”	826502-232	1
25	capscr, hex gr5 1/2-13 x 1 1/2	829108-150	2
26	washer, spr lock reg pltd 1/2	837808-125	6
27	washer, pl-b reg pltd 1/2	838208-112	2
28	bushing, red pltd 1/2 x 1/4	867102-010	1
29	capscrew, ferry head hd pltd 1/2-13 x 3	867308-300	4
30	nipple, pipe-hx pltd 1/4 x 1/4	868504-025	1
31	reducer, str thrd viton 1 1/2 x 2	870024-032	1

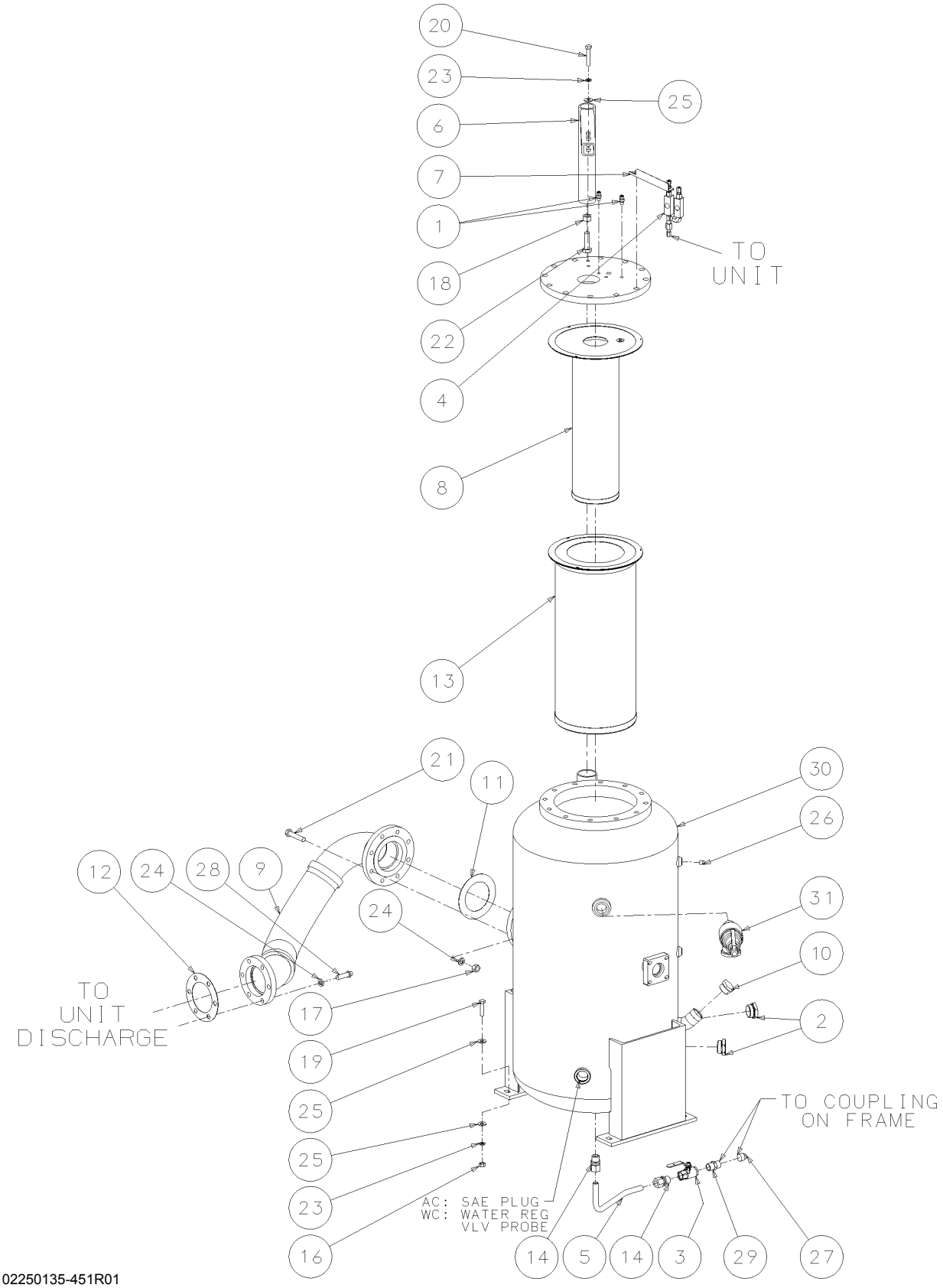
(I) For maintenance on (170ºF) thermal valve no. 02250120-955, order repair kit no. 02250120-957.

(II) For maintenance on oil stop valve no. 02250122-004, order repair kit no. 001684.

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

Section 8
ILLUSTRATION AND PARTS LIST

8.23 SUMP AND PARTS 200-250HP/ 149-186KW



02250135-451R01

8.23 SUMP AND PARTS 200-250HP/ 149-186KW

key number	*description*	*part number*	*quantity*
1	connector, flex 1/4t x 1/4p	020169	2
2	plug, sight glass 1-7/8" sae	02250097-611	2
3	valve, ball 3/4"sae x 3/4"npt	02250125-221	1
4	sub assembly, oil return/sightglass line **(I)**	02250126-164	1
5	tube, sump drain 3/4"	02250126-483	1
6	boom, lid lifting	02250127-249	1
7	support, oil rtn sight glass TS32A-200/	02250129-872	1
8	element, secondary separator **(II)**	02250131-223	1
9	joint, expansion LS25SC 200/250	02250135-447	1
10	plug, o-ring boss sae 1 1/4	040029	1
11	gasket, asa flange 150# 4"	240621-010	1
12	gasket, discharge flange 4" n.p.t.	250002-379	1
13	element, primary 25-200 **(II)**	250034-121	1
14	connector, tube str thd 3/4 x 1 1/16	811812-106	2
15	flange, slp-on 4" 150#	819215-064	2
16	nut, hex pltd 1/2-13	825208-448	4
17	nut, hex pltd 5/8-11	825210-559	8
18	nut, hex pltd 3/4-10	825212-665	1
19	capscr, hex gr5 1/2-13 x 2	829108-200	4
20	capscr, hex gr5 1/2-13 x 2 3/4	829108-275	2
21	capscr, hex gr5 5/8-11 x 3 1/4	829110-325	8
22	capscr, hex gr5 3/4-10 x 2 1/2	829112-250	1
23	washer, spr lock reg pltd 1/2	837808-125	6
24	washer, spr lock reg pltd 5/8	837810-156	14
25	washer, pl-b reg pltd 1/2	838208-112	10
26	plug, pipe 1/4" 3000# stl plt	866900-010	1
27	plug, pipe 3/4" 3000# stl plt	866900-030	1
28	capscrew, ferry head hd pltd 5/8-11 x 2	867310-200	6
29	nipple, pipe-hx pltd 3/4 x 3/4	868512-075	1
30	tank, oil sump 24" vert std **(III)**	-	1
31	valve, relief 1-1/2" 1950cfm viton s **(III)**	-	1

(I) Consult Oil Return Sight Glass Maintenance information in Section 7, and Figure 7-4 for maintenance and repair kit on oil return/sight glass sub-assembly.

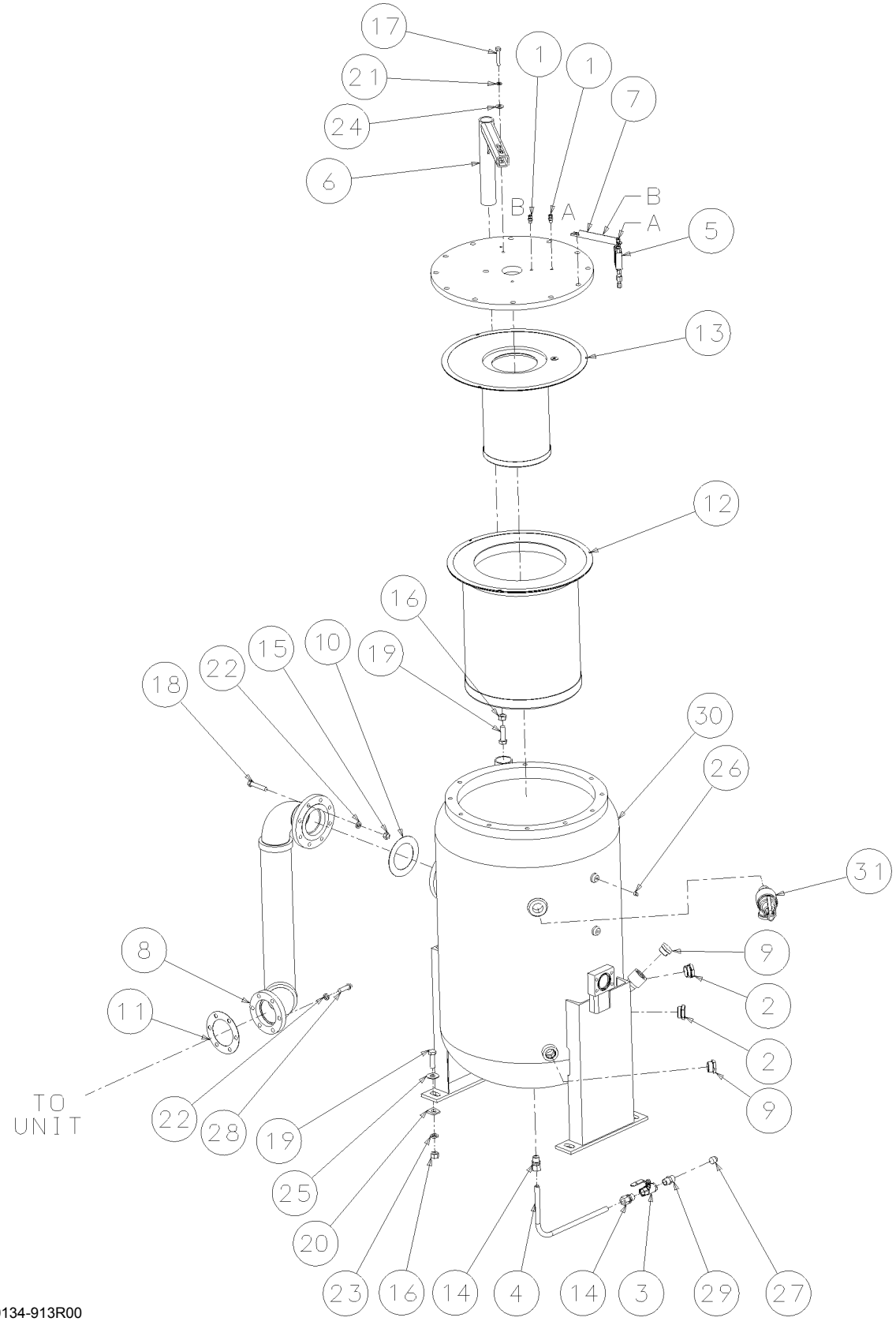
(II) For maintenance on separator elements, order (primary) replacement kit no. 250034-122, and (secondary) replacement kit no. 02250131-225.

(III) This item may vary with machine. Consult factory with machine serial number.

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

Section 8
ILLUSTRATION AND PARTS LIST

8.24 SUMP AND PARTS 300-350HP/ 224-261KW



02250134-913R00

8.24 SUMP AND PARTS 300-350HP/ 224-261KW

key number	*description*	*part number*	*quantity*
1	connector, flex 1/4t x 1/4p	020169	2
2	plug, sight glass 1-7/8” sae	02250097-611	2
3	valve, ball 3/4”sae x 3/4”npt	02250125-221	1
4	tube, 3/4” sump drain	02250125-918	1
5	sub assembly, oil return/sightglass line **(I)**	02250126-164	1
6	boom, lid lifting	02250127-249	1
7	support, oil rtn sight glass TS32A-200/	02250129-872	1
8	joint, expansion LS25SC 300/350	02250134-912	1
9	plug,o-ring boss sae 1 1/4	040029	2
10	gasket, asa flange 150# 4”	240621-010	1
11	gasket, discharge flange 4” n.p.t.	250002-379	1
12	element, sep/pri **(II)**	250034-123	1
13	element, sep/sec **(II)**	250034-129	1
14	connector, tube str thd 3/4 x 1 1/16	811812-106	2
15	nut, hex pltd 5/8-11	825210-559	8
16	nut, hex pltd 3/4-10	825212-665	5
17	capscr, hex gr5 1/2-13 x 2 3/4	829108-275	2
18	capscr, hex gr5 5/8-11 x 3 1/4	829110-325	8
19	capscr, hex gr5 3/4-10 x 2 1/2	829112-250	5
20	washer, bevel 3/4	837012-150	2
21	washer, spr lock reg pltd 1/2	837808-125	2
22	washer, spr lock reg pltd 5/8	837810-156	14
23	washer, spr lock reg pltd 3/4	837812-188	4
24	washer, pl-b reg pltd 1/2	838208-112	2
25	washer, pl-b reg pltd 3/4	838212-112	6
26	plug, pipe 1/4” 3000# stl plt	866900-010	1
27	plug, pipe 3/4” 3000# stl plt	866900-030	1
28	capscrew, ferry head hd pltd 5/8-11 x 2	867310-200	6
29	nipple, pipe-hx pltd 3/4 x 3/4	868512-075	1
30	tank, oil separator 30”dia	-	1
31	valve, relief 1-1/2” 1950cfm viton s **(III)**	-	1

(I) Consult Oil Return Sight Glass Maintenance information in Section 7, and Figure 7-4 for maintenance and repair kit on oil return/sight glass sub-assembly.

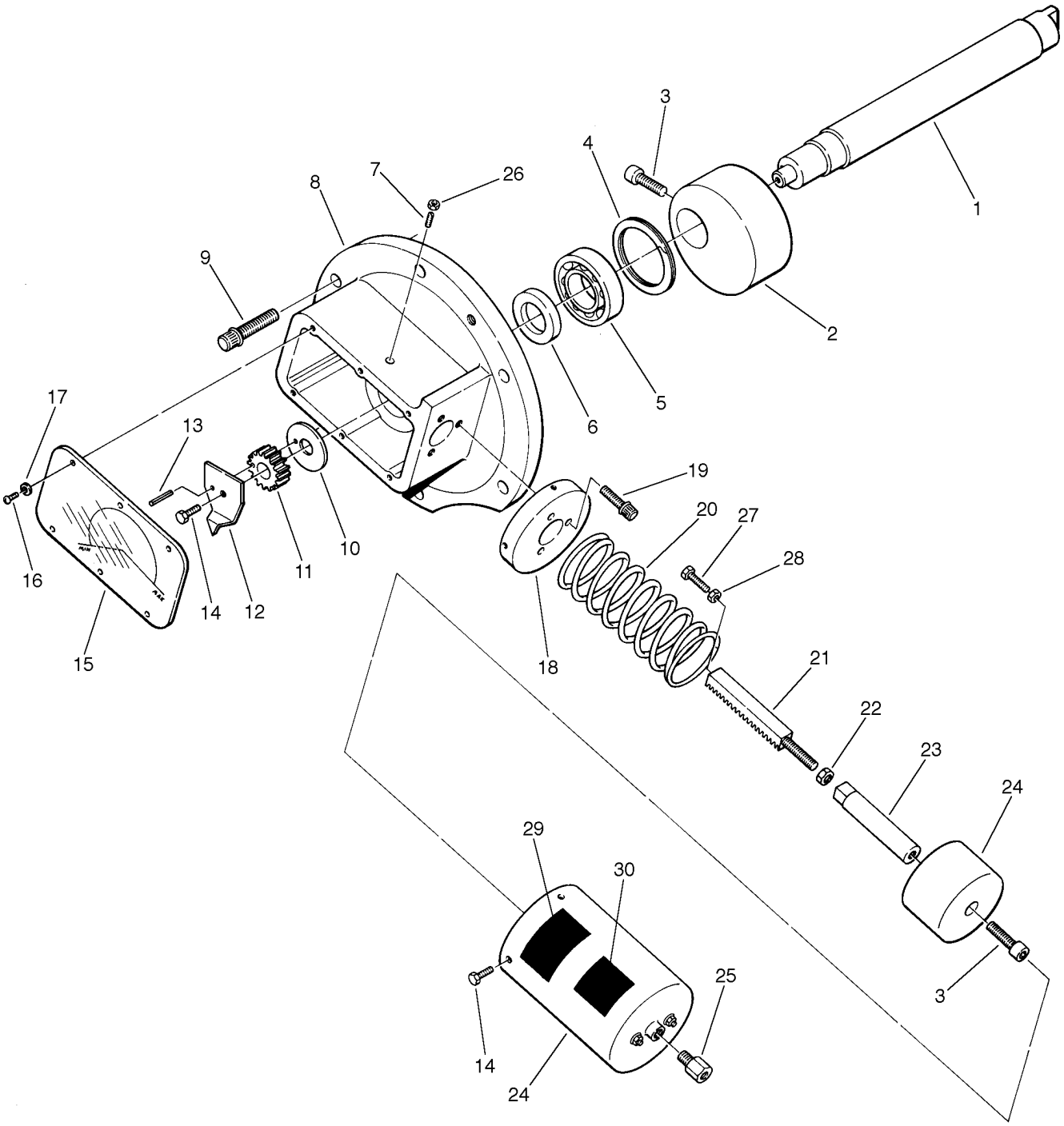
(I) For maintenance on separator elements, order (primary) replacement kit no. 250034-124, and (secondary) replacment kit no. 250034-130.

(II) This item may vary with machine. Consult factory with machine serial number.

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

Section 8
ILLUSTRATION AND PARTS LIST

8.25 COMPRESSOR SPIRAL VALVE ACTUATOR (OPTIONAL)



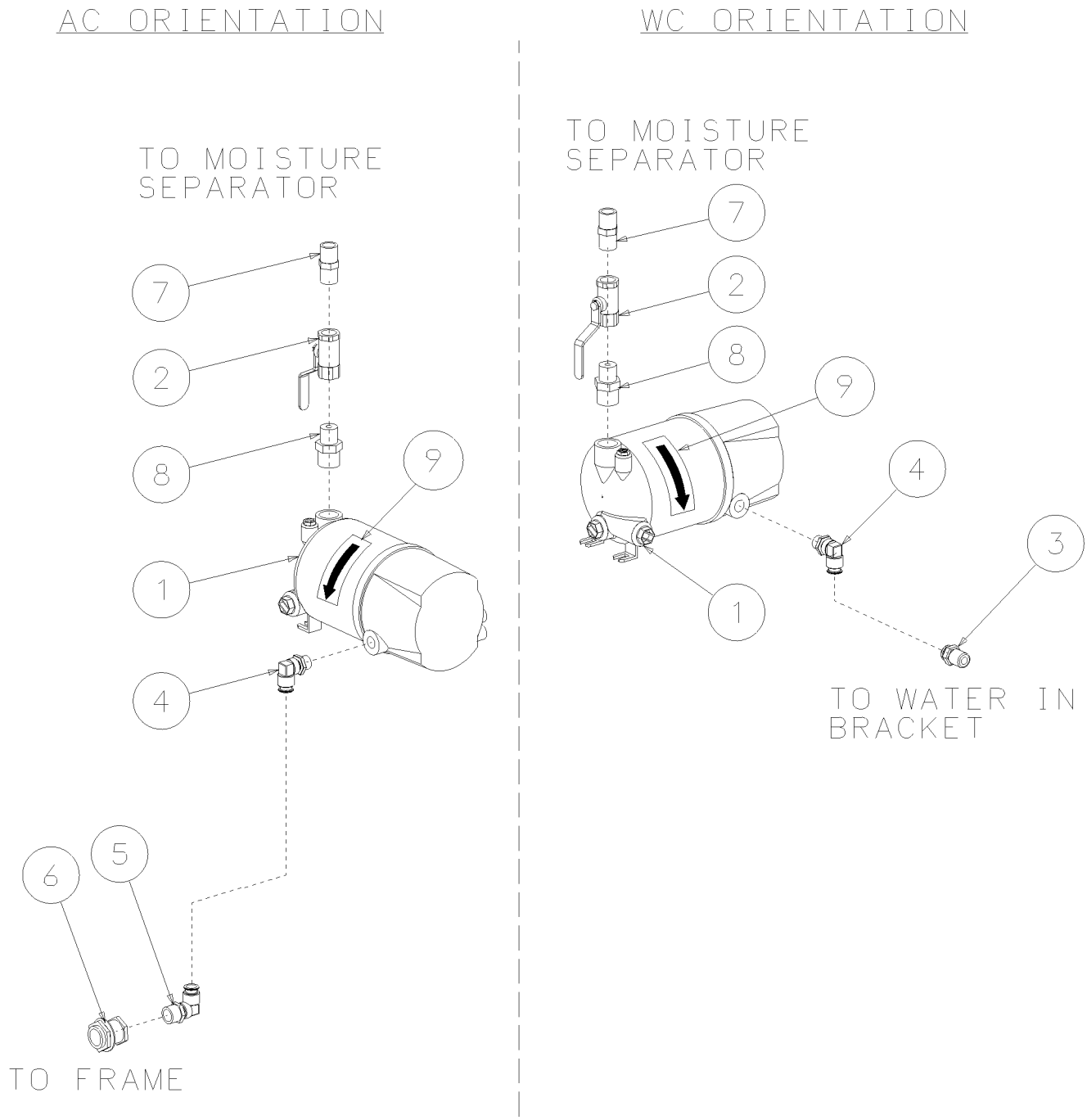
8.25 COMPRESSOR SPIRAL VALVE ACTUATOR (OPTIONAL)

key number	*description*	*part number*	*quantity*
1	shaft, valve - direct	250030-981	1
	•shaft, valve - geared	250030-982	1
2	valve, weight counterbalance	250016-193	1
3	capscrew, socket 3/8”-16 x 1”	828906-100	2
4	ring, retaining	499068-005	1
5	bearing, ball	499002-207	1
6	seal, lip	250016-200	1
7	screw, set 1/2”-13 x 1.62 br	250024-465	1
8	adapter, air cylinder	250016-182	1
9	capscrew, ferry head 1/2”-13 x 1 1/2”	828408-150	6
10	guide, rack	250016-199	1
11	gear, pinion	250016-196	1
12	indicator, actuator	250030-983	1
13	pin, roll unfinished 1/4”x 1”	827404-100	1
14	capscrew, hex head gr8 1/4”-20 x 1/2”	828204-050	4
15	cover, adapter	250016-195	1
16	washer, regular #8	838201-045	6
17	screw, machine rod #8-32 x 1/2”	831601-050	6
18	mount, air cylinder	250016-188	1
19	capscrew, ferry head 1/2”-18 x 1 1/4”	828405-125	3
20	spring, seal 2 1/4”	250016-394	1
21	rack, gear	250016-197	1
22	nut, hex jam 3/8”-16	824906-227	1
23	shaft, air cylinder	250016-194	1
24	cylinder, air **(I)**	250016-183	1
25	orifice, .062 x .25m x .25f	028831	1
26	nut, hex unfinished 1/2”-13	824208-448	1
27	screw, machine hex 1/4”-20 x 1 3/4”	830104-175	1
28	nut, hex jam 1/4”-20	824904-164	1
29	decal, warning actuator	250029-836	1
30	decal, actuator valve positioning	250029-784	1

(I) For maintenance on air cylinder no. 250016-183, order diaphragm repair kit no. 608311-001.

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

8.26 ZERO-LOSS MOISTURE DRAIN (OPTIONAL)



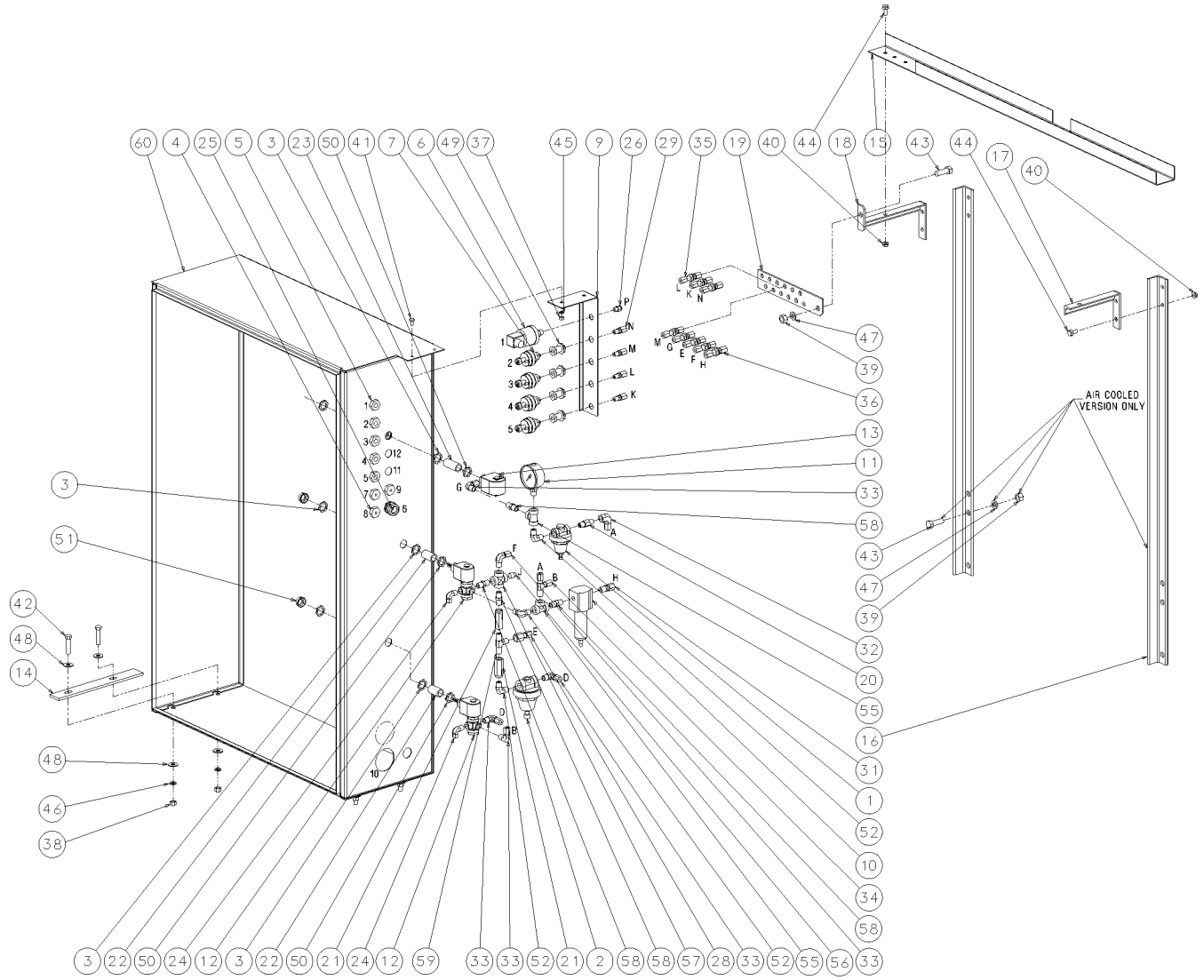
8.26 ZERO-LOSS MOISTURE DRAIN (OPTIONAL)

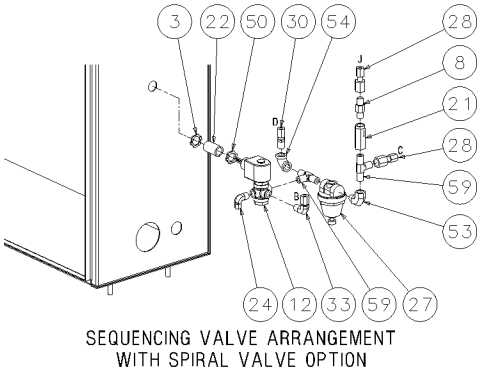
key number	*description*	*part number*	*quantity*
1	drain, electric condensate - scd300	02250130-866	2
2	valve, ball 1/2”npt	047117	2
3	connector, tube-strt 1/2”mnpt x 1/2”tube	250024-695	1
4	connector, tube-el 3/8”npt x 1/2”tube	250024-713	2
5	connector, tube-el 1/2”npt x 1/2”tube	250024-714	1
6	bulkhead, pipe 1/2” npt	841500-008	1
7	nipple, pipe-hx pltd 1/2 x 1/2	868508-050	2
8	nipple, pipe-hx pltd 3/4 x 1/2	868512-050	2
9	decal, water drain	250022-810	1

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

Section 8
ILLUSTRATION AND PARTS LIST

8.27 PNEUMATIC CONTROLS





SEQUENCING VALVE ARRANGEMENT
WITH SPIRAL VALVE OPTION

CONTROL TUBING LEGEND:
- A – INTERNAL TO CONTROLS
- B – INTERNAL TO CONTROLS
- C – SPIRAL VALVE
- D – INTERNAL TO CONTROLS
- E – UNLOAD PORT ON POPPET INLET VALVE
- F – BLOWDOWN VALVE
- G – LOAD PORT ON POPPET INLET VALVE
- H – DRY AIR/SUMP TANK LID PRESSURE
- J – INTERNAL TO CONTROLS
- K – HIGH OIL PRESSURE-OIL FILTER DIFFERENTIAL
- L – LOW OIL PRESSURE-OIL FILTER DIFFERENTIAL
- M – MOISTURE SEPARATOR OUT
- N – HIGH SUMP/WET SIDE OIL SEPARATOR
- P – INLET AIR FILTER

ELECTRICAL LEGEND:
- 1 – INLET FILTER VACUUM SWITCH
- 2 – PRESSURE TRANSDUCER: P1
- 3 – PRESSURE TRANSDUCER: P2
- 4 – PRESSURE TRANSDUCER: P3
- 5 – PRESSURE TRANSDUCER: P4
- 6 – AIR COOLED FAN MOTOR (WATER COOLED WATER PRESSURE SWITCH)
- 7 – T1 RTD-UNIT DISCHARGE TEMPERATURE
- 8 – T2 RTD-DRY SIDE SUMP TEMPERATURE
- 9 – T3 RTD-UNIT INJECTION OIL TEMPERATURE
- 10 – MAIN MOTOR WIRE CONNECTOR (ADDITIONAL HOLE/CONNECTOR FOR Y-DELTA)
- 11 – INTEGRAL COOLER EES LOUVER CONTROL
- 12 – INTEGRAL COOLER EES TEMPERATURE SWITCH

NOTES:
1. STARTER MOUNTS TO FRAME.
2. CONTROL TUBING CHANNEL SUPPORT MOUNTS TO ANGLE UPRIGHTS FOR INTAC APPLICTION AND TO AFTCLR/DISCHARGE PIPE SUPPORT FOR WC & RC APPLICATIONS. (ANGLE UPRIGHTS ARE NOT REQUIRED FOR WC & RC APPLICATIONS).

02250138-038R01

8.27 PNEUMATIC CONTROLS

key number	*description*	*part number*	*quantity*
1	regulator, reducing 1/4 npt **(I)**	02250046-568	1
2	regulator, back press control 1/4" **(II)**	02250052-358	1
3	locknut, n4 conduit sealing	02250071-362	6
4	grip, cord n4 .125-.187 x 1/2"	02250071-379	3
5	grip, cord n4 .250-.375 x 1/2"	02250071-381	5
6	switch, vacuum 22"wc n4 6ft cable 5a	02250078-249	1
7	transducer, pressure 0-25psi 1-5vdc n4	02250078-933	4
8	orifice, .031" x .25m x .25m nptf	02250101-191	1
9	support, bracket transducer mounting	02250110-132	1
10	filter, control air 1/4"npt **(III)**	02250112-032	1
11	gage, air press 2 1/2" 0-200 psi	02250117-009	1
12	valve, solenoid 3wno 1/4 235# n4 **(IV)**	02250125-657	2
13	valve, solenoid 2wno 1/4 130# n4 **(V)**	02250125-667	1
14	support, str box LS20S ac	02250127-380	2
15	channel, ctl tubing supt	02250127-559	3
16	angle, support	02250133-550	2
17	bracket, support	02250133-551	3
18	bracket, supt	02250133-552	3
19	bracket, tubing manifold	02250133-564	3
20	orifice, .070 brass 1/4 npt	02250137-477	1
21	valve, inline check(1/4"npt)dc	045244	3
22	nipple, conduit 1/2 x 1.5"	250007-169	2
23	nipple, conduit 1/2" x 2"	250007-170	1
24	elbow, 90 1/4t pls x 1/4 npt m	250018-430	2
25	grip, cord so 12/4 st 1/2"	250018-495	1
26	connector, tube-strt 1/8"mnpt x 1/4"tube	250024-684	1

(Continued on page 127)

(I) For maintenance on reducing pressure regulator no. 02250046-568, order repair kit no. 02250055-911.

(II) For maintenance on back pressure control regulator no. 02250052-358, order repair kit no. 048409.

(III) For maintenance on control air filter no. 02250112-032, order repair kit no. 02250112-031.

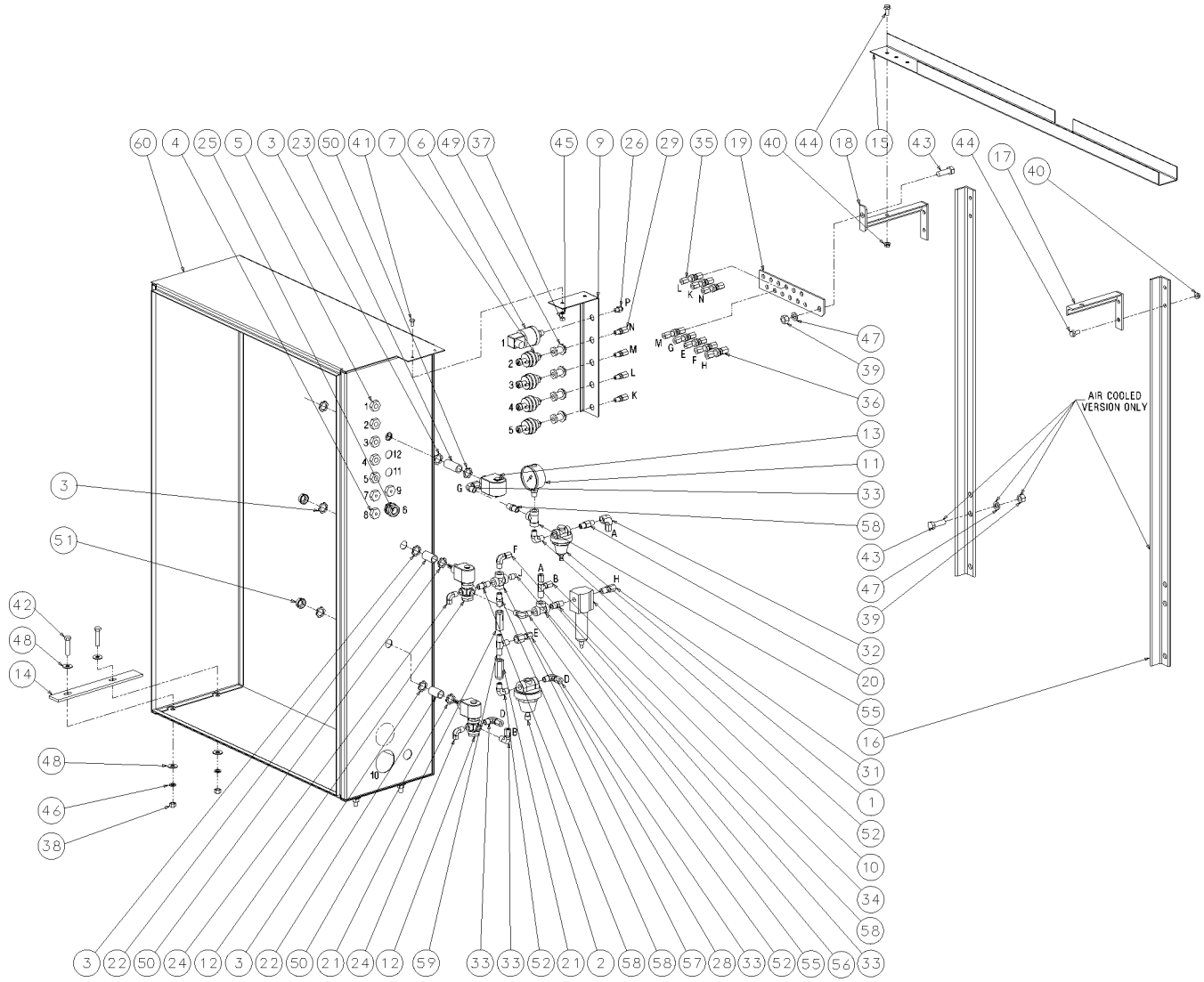
(IV) For maintenance on solenoid valve no. 02250125-657, order repair kit no. 02250125-829(valve), and replacement coil no. 02250125-861.

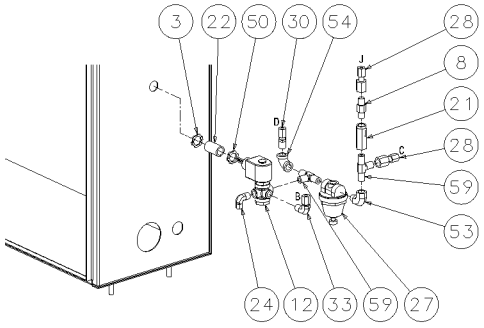
(V) For maintenance on solenoid valve no. 02250125-667, order repair kit no. 02250125-826(valve), and replacement coil no. 02250125-858.

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

Section 8
ILLUSTRATION AND PARTS LIST

8.27 PNEUMATIC CONTROLS





SEQUENCING VALVE ARRANGEMENT
WITH SPIRAL VALVE OPTION

CONTROL TUBING LEGEND:
- A – INTERNAL TO CONTROLS
- B – INTERNAL TO CONTROLS
- C – SPIRAL VALVE
- D – INTERNAL TO CONTROLS
- E – UNLOAD PORT ON POPPET INLET VALVE
- F – BLOWDOWN VALVE
- G – LOAD PORT ON POPPET INLET VALVE
- H – DRY AIR/SUMP TANK LID PRESSURE
- J – INTERNAL TO CONTROLS
- K – HIGH OIL PRESSURE-OIL FILTER DIFFERENTIAL
- L – LOW OIL PRESSURE-OIL FILTER DIFFERENTIAL
- M – MOISTURE SEPARATOR OUT
- N – HIGH SUMP/WET SIDE OIL SEPARATOR
- P – INLET AIR FILTER

ELECTRICAL LEGEND:
- 1 – INLET FILTER VACUUM SWITCH
- 2 – PRESSURE TRANSDUCER: P1
- 3 – PRESSURE TRANSDUCER: P2
- 4 – PRESSURE TRANSDUCER: P3
- 5 – PRESSURE TRANSDUCER: P4
- 6 – AIR COOLED FAN MOTOR (WATER COOLED WATER PRESSURE SWITCH)
- 7 – T1 RTD-UNIT DISCHARGE TEMPERATURE
- 8 – T2 RTD-DRY SIDE SUMP TEMPERATURE
- 9 – T3 RTD-UNIT INJECTION OIL TEMPERATURE
- 10 – MAIN MOTOR WIRE CONNECTOR (ADDITIONAL HOLE/CONNECTOR FOR Y-DELTA)
- 11 – INTEGRAL COOLER EES LOUVER CONTROL
- 12 – INTEGRAL COOLER EES TEMPERATURE SWITCH

NOTES:
1. STARTER MOUNTS TO FRAME.
2. CONTROL TUBING CHANNEL SUPPORT MOUNTS TO ANGLE UPRIGHTS FOR INTAC APPLICTION AND TO AFTCLR/DISCHARGE PIPE SUPPORT FOR WC & RC APPLICATIONS. (ANGLE UPRIGHTS ARE NOT REQUIRED FOR WC & RC APPLICATIONS).

02250138-038R01

8.27 PNEUMATIC CONTROLS (CONTINUED)

key number	*description*	*part number*	*quantity*
27	valve, diff press reg 1/4”npt **(VI)**	406929	1
28	connector, tube-f 1/4 x 1/4	810104-025	3
29	connector, tube-m 1/4 x 1/8	810204-012	4
30	connector, tube-m 1/4 x 1/4	810204-025	1
31	connector, tube-m 5/16 x 1/4	810205-025	1
32	elbow, tube -f 1/4 x 1/4	810404-025	1
33	elbow, tube 90 deg m 1/4 x 1/4	810504-025	5
34	tee, tube-male run 1/4 x 1/4	810904-025	1
35	union, tube bhd 1/4”	811104-025	21
36	union, tube bhd 5/16”	811104-031	3
37	nut, hex pltd 1/4-20	825204-226	2
38	nut,hex pltd 3/8-16	825206-337	4
39	nut, hex pltd 1/2-13	825208-448	7
40	nut, hex f pltd 5/16-18	825305-283	18
41	capscr, hex gr5 1/4-20 x 1/2	829104-050	2
42	capscr, hex gr5 3/8-16 x 1 3/4	829106-175	4
43	capscr, hex gr5 1/2-13 x 1 1/2	829108-150	7
44	screw, hex ser washer 5/16-18 x 3/4	829705-075	18
45	washer, spr lock reg pltd 1/4	837804-062	2
46	washer, spr lock reg pltd 3/8	837806-094	4
47	washer, spr lock reg pltd 1/2	837808-125	7
48	washer, pl-b reg pltd 3/8	838206-071	8
49	bulkhead, pipe 1/8” npt	841500-002	4
50	locknut, conduit 1/2	847200-050	3
51	bushing, conduit plastic 1/2	848815-050	3
52	elbow, pipe-90m 1/4 x 1/4	860504-025	3
53	elbow, pipe 90m/f 1/4 x 1/4	860704-025	1
54	elbow, pipe 90 deg plt 1/4”	866215-010	1
55	tee, pipe 150# plt 1/4	866815-010	2
56	plug, pipe 1/4” 3000# stl plt	866900-010	1
57	cross, pipe 1/4” plt	867615-010	1
58	nipple, pipe-hx pltd 1/4 x 1/4	868504-025	4

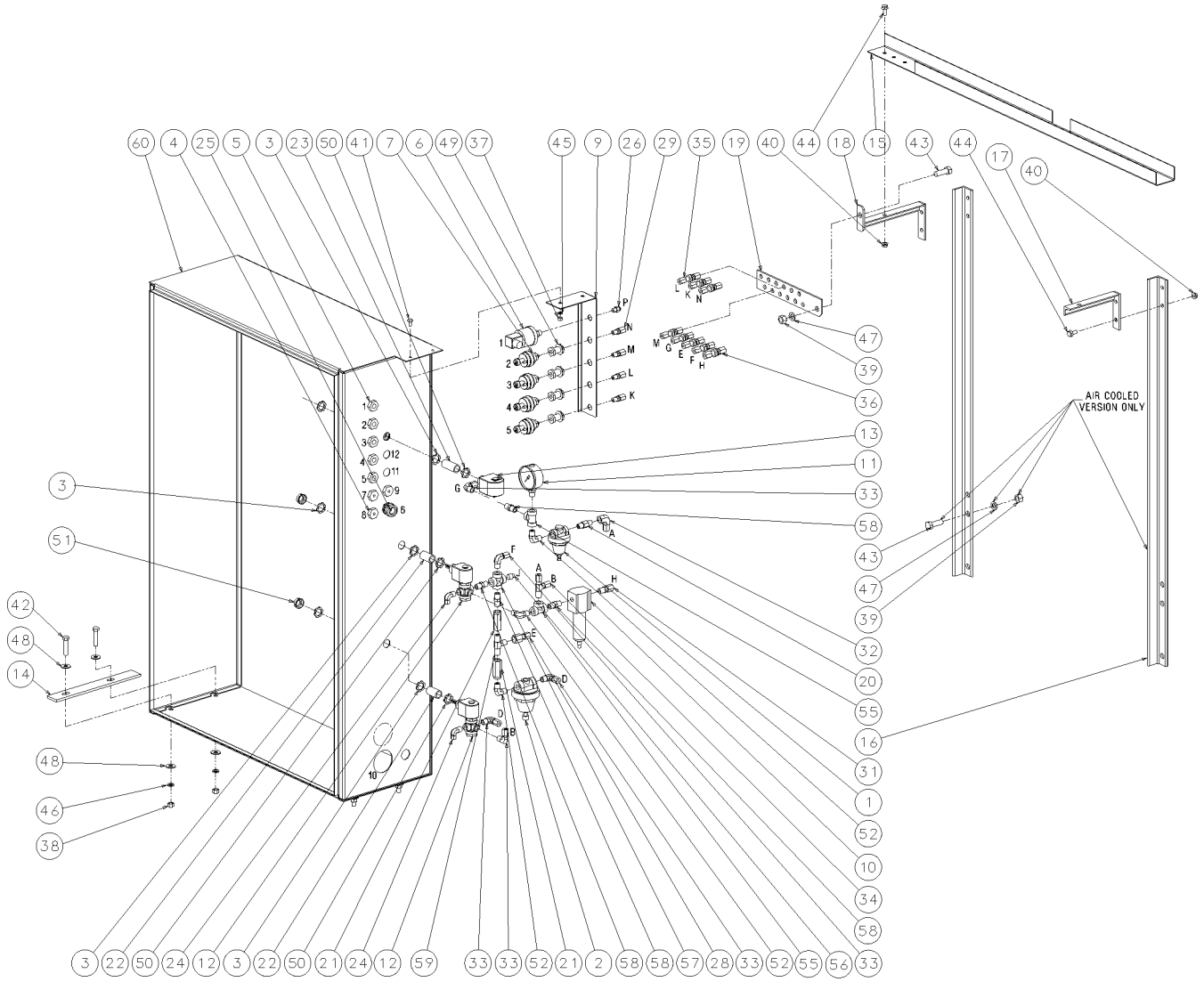
(Continued on page 129)

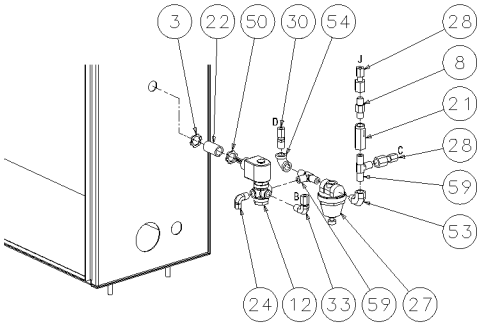
(VI) For maintenance on differential pressure regulator no. 406929, order repair kit no. 041742.

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

Section 8
ILLUSTRATION AND PARTS LIST

8.27 PNEUMATIC CONTROLS





SEQUENCING VALVE ARRANGEMENT
WITH SPIRAL VALVE OPTION

CONTROL TUBING LEGEND:
- A – INTERNAL TO CONTROLS
- B – INTERNAL TO CONTROLS
- C – SPIRAL VALVE
- D – INTERNAL TO CONTROLS
- E – UNLOAD PORT ON POPPET INLET VALVE
- F – BLOWDOWN VALVE
- G – LOAD PORT ON POPPET INLET VALVE
- H – DRY AIR/SUMP TANK LID PRESSURE
- J – INTERNAL TO CONTROLS
- K – HIGH OIL PRESSURE-OIL FILTER DIFFERENTIAL
- L – LOW OIL PRESSURE-OIL FILTER DIFFERENTIAL
- M – MOISTURE SEPARATOR OUT
- N – HIGH SUMP/WET SIDE OIL SEPARATOR
- P – INLET AIR FILTER

ELECTRICAL LEGEND:
- 1 – INLET FILTER VACUUM SWITCH
- 2 – PRESSURE TRANSDUCER: P1
- 3 – PRESSURE TRANSDUCER: P2
- 4 – PRESSURE TRANSDUCER: P3
- 5 – PRESSURE TRANSDUCER: P4
- 6 – AIR COOLED FAN MOTOR (WATER COOLED WATER PRESSURE SWITCH)
- 7 – T1 RTD-UNIT DISCHARGE TEMPERATURE
- 8 – T2 RTD-DRY SIDE SUMP TEMPERATURE
- 9 – T3 RTD-UNIT INJECTION OIL TEMPERATURE
- 10 – MAIN MOTOR WIRE CONNECTOR (ADDITIONAL HOLE/CONNECTOR FOR Y-DELTA)
- 11 – INTEGRAL COOLER EES LOUVER CONTROL
- 12 – INTEGRAL COOLER EES TEMPERATURE SWITCH

NOTES:
1. STARTER MOUNTS TO FRAME.
2. CONTROL TUBING CHANNEL SUPPORT MOUNTS TO ANGLE UPRIGHTS FOR INTAC APPLICTION AND TO AFTCLR/DISCHARGE PIPE SUPPORT FOR WC & RC APPLICATIONS. (ANGLE UPRIGHTS ARE NOT REQUIRED FOR WC & RC APPLICATIONS).

02250138-038R01

8.27 PNEUMATIC CONTROLS (CONTINUED)

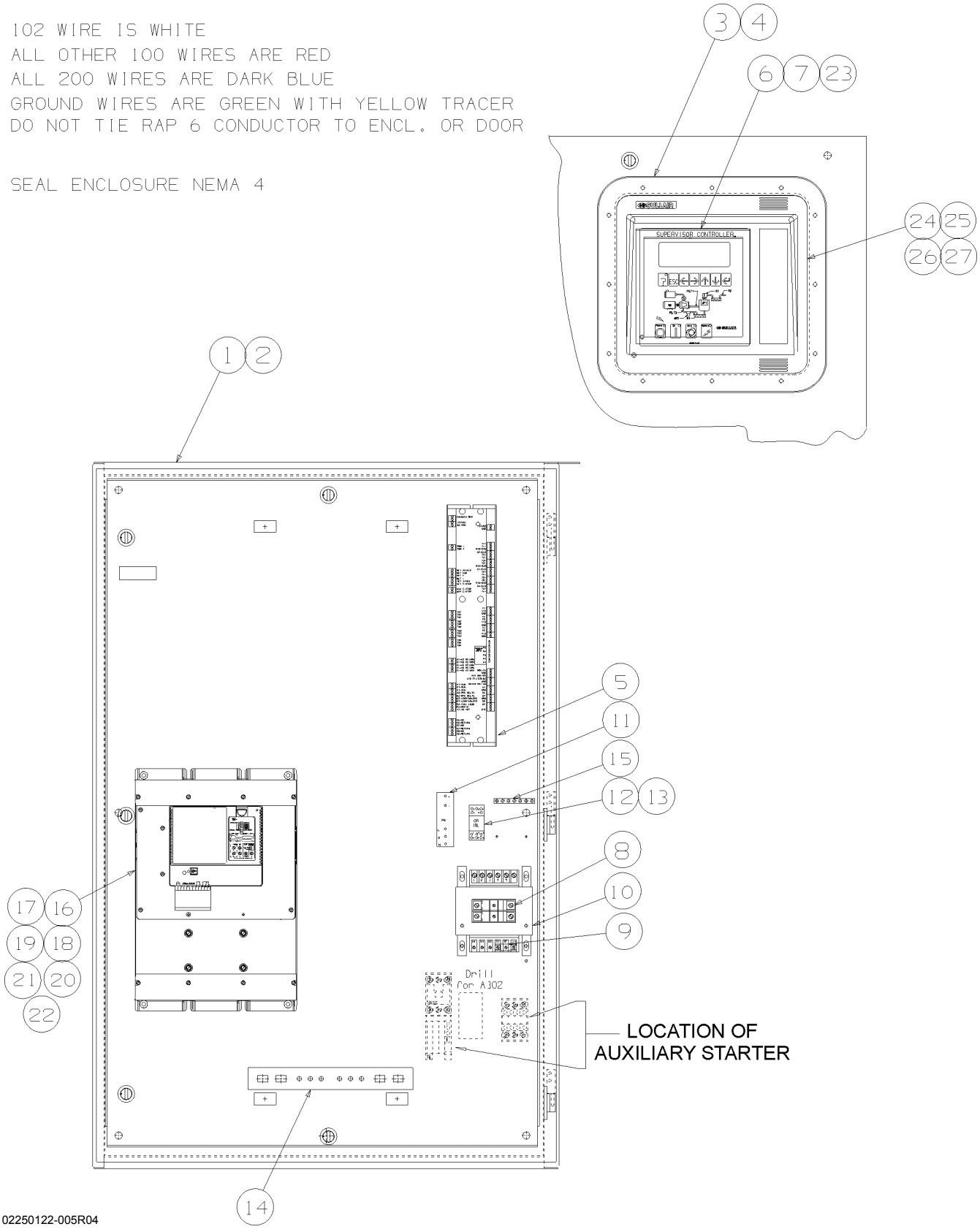
key number	*description*	*part number*	*quantity*
59	tee, male pipe brass 1/4	869825-025	3
60	starter, assy TS32A **(VII)**	**-**	1

(VII) This item may vary with machine. Consult factory with machine serial number.

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

Section 8
ILLUSTRATION AND PARTS LIST

8.28 CONTROL BOX- SOLID STATE



02250122-005R04

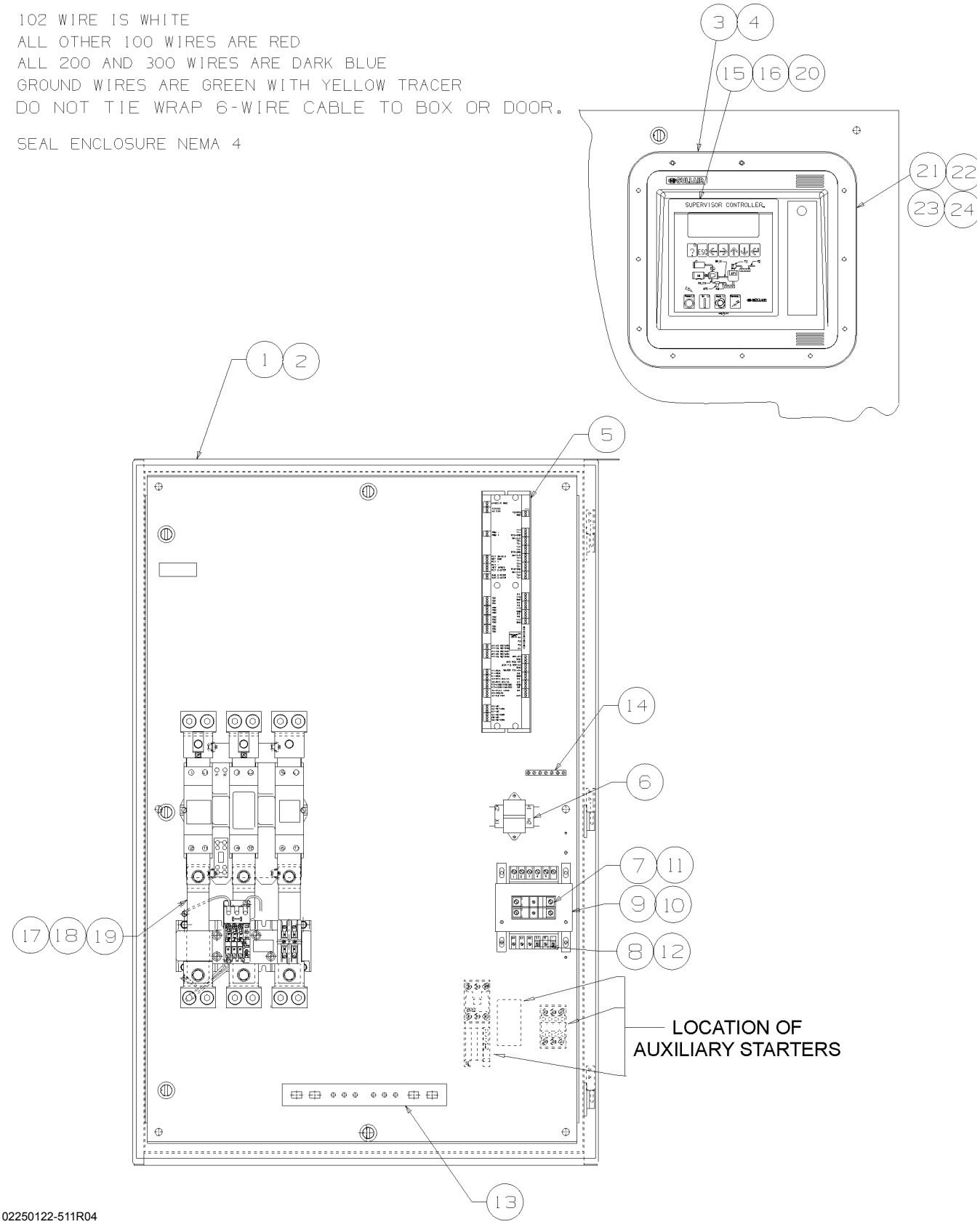
8.28 CONTROL BOX- SOLID STATE

key number	*description*	*part number*	*quantity*
1	enclosure	02550108-859	1
2	door	02550109-465	1
3	bezel	02250089-302	1
4	beze; gasket	02550090-872	1
5	I/0 module	02250141-089	1
6	display module	02250119-330	1
7	display gasket	02250048-822	2
8	primary fuse 305 amp	250026-648	1
9	secondary fuse 5 amp	250019-751	1
10	univ. 250 va trans	02250083-189	1
11	power supply 24v	0250120-644	1
12	relay	45496	1
13	relay base	46467	1
14	ground bus	02550110-334	1
15	ground bar	02550101-721	1
16	240A IT starter	02250122-042	1
17	304A IT starter	02250120-789	-
18	360A IT starter	02250120-792	-
19	420A IT starter	02250122-043	-
20	500A IT starter	02250122-044	-
21	650A IT starter	02250120-645	-
22	850A IT starter	02250122-046	-
23	display label	02250130-344	1
24	E-stop decal	02550086-259	1
25	E-stop operator	02550085-504	1
26	contact block	250027-125	1
27	plate	02550086-265	1

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

Section 8
ILLUSTRATION AND PARTS LIST

8.29 CONTROL BOX- FULL VOLTAGE



02250122-511R04

8.29 CONTROL BOX- FULL VOLTAGE

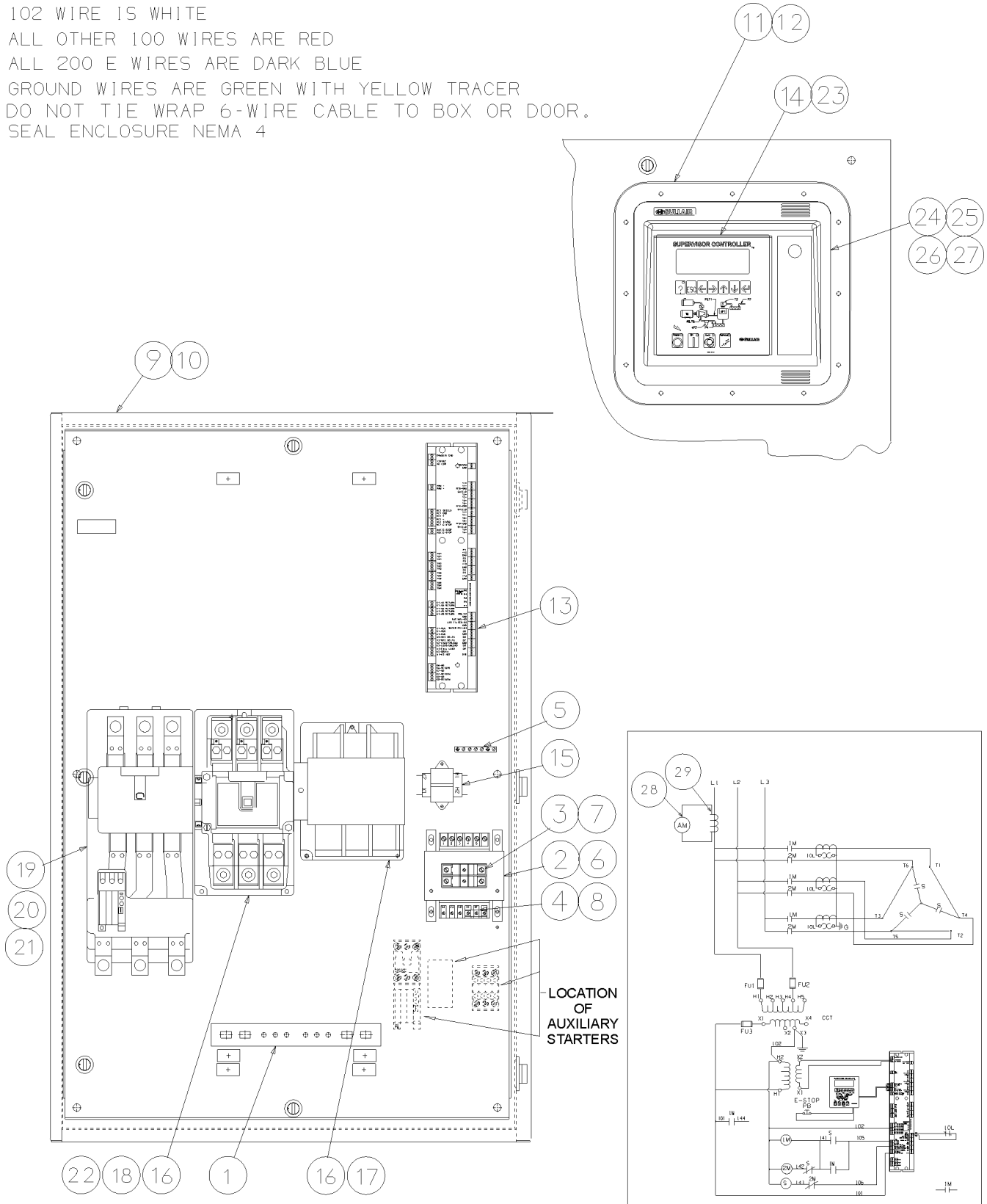
key number	*description*	*part number*	*quantity*
1	enclosure	02550108-859	1
2	door	02550109-465	1
3	bezel	02250129-958	1
4	bezel gasket	02550090-872	1
5	I/O module	02550141-089	1
6	transformer 24v	02250135-283	1
7	primary fuse 3.5 amp	250026-648	2
8	secondary fuse 5 amp	250019-751	1
9	univ. 250 va trans	02250083-188	1
10	univ. 350 va trans	02250083-190	-
11	primary fuse 4 amp	250026-649	-
12	secondary fuse 6 a	250019-762	-
13	ground bus	02550110-334	1
14	ground bar	02550101-721	1
15	display module	02550119-330	1
16	display label	02550130-344	1
17	starter9 size 5	250038-284	1
18	starter9 size 5dp	02250113-513	-
19	starter9 size 6	250038-285	-
20	display module gasket	02250048-822	2
21	E-stop operator	02250085-504	1
22	contact block I-NC	250027-125	1
23	E-stop decal	02250086-259	1
24	plate	02250086-265	1

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

Section 8
ILLUSTRATION AND PARTS LIST

8.30 CONTROL BOX- WYE-DELTA

102 WIRE IS WHITE
ALL OTHER 100 WIRES ARE RED
ALL 200 E WIRES ARE DARK BLUE
GROUND WIRES ARE GREEN WITH YELLOW TRACER
DO NOT TIE WRAP 6-WIRE CABLE TO BOX OR DOOR.
SEAL ENCLOSURE NEMA 4



02250122-516R08

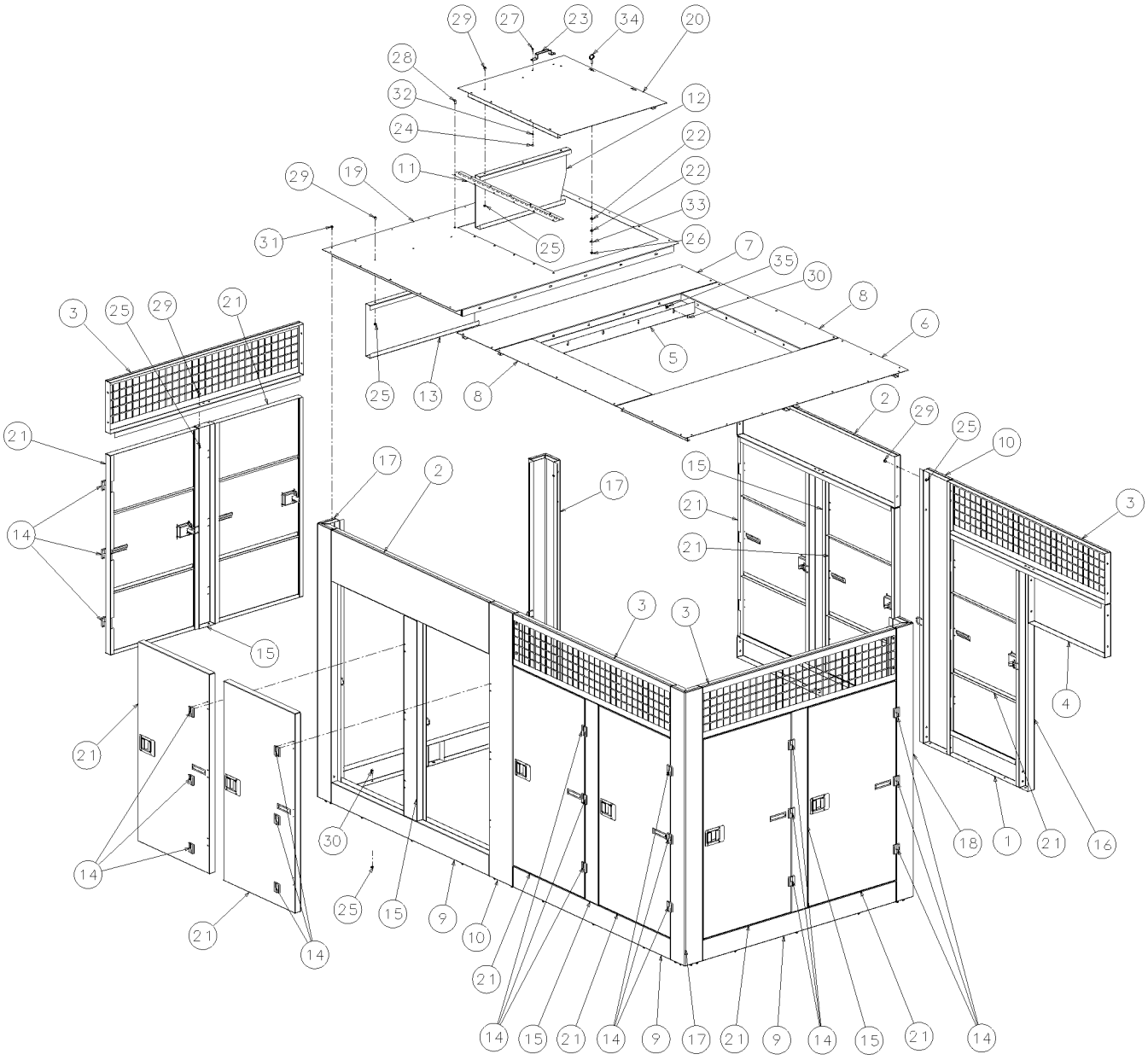
8.30 CONTROL BOX- WYE-DELTA

key number	*description*	*part number*	*quantity*
	1	ground bus	02550110-334
2	univ. 250 va trans	02250083-188	-
3	primary fuse 2.5 amp	250026-646	-
4	secondary fuse 3 amp	250019-758	-
5	ground bar	02550101-721	1
6	univ. 350 va trans	02250083-190	1
7	primary fuse 3.5 amp	250026-648	2
8	secondary fuse 5 amp	250019-761	1
9	door	02550109-465	1
10	enclosure	02550108-859	1
11	bezel	02250089-302	1
12	bezel gasket	02550090-872	1
13	I/O module	02550141-089	1
14	display module	02550119-330	1
15	transformer 24v	02250135-283	1
16	size 5 contactor	02250083-824	1
17	size 4 contactor	02550083-823	1
18	size 5dp contactor	02550113-514	-
19	size 5dp starter	02550113-513	-
20	starter size 5	250038-284	1
21	starter size n	250038-283	-
22	rev contactors size n	250041-589	-
23	display label	02550130-344	1
24	E-stop operator	02550085-504	1
25	contact block	250027-125	1
26	plate	02550086-265	1
27	E-stop decal	02550086-259	1
28	current transformer (optional)	-	1
29	ammeter (optional)	-	1

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

Section 8
ILLUSTRATION AND PARTS LIST

8.31 ENCLOSURE- AIR-COOLED 200-250HP/ 149-186KW



8.31 ENCLOSURE- AIR-COOLED 200-250HP/ 149-186KW

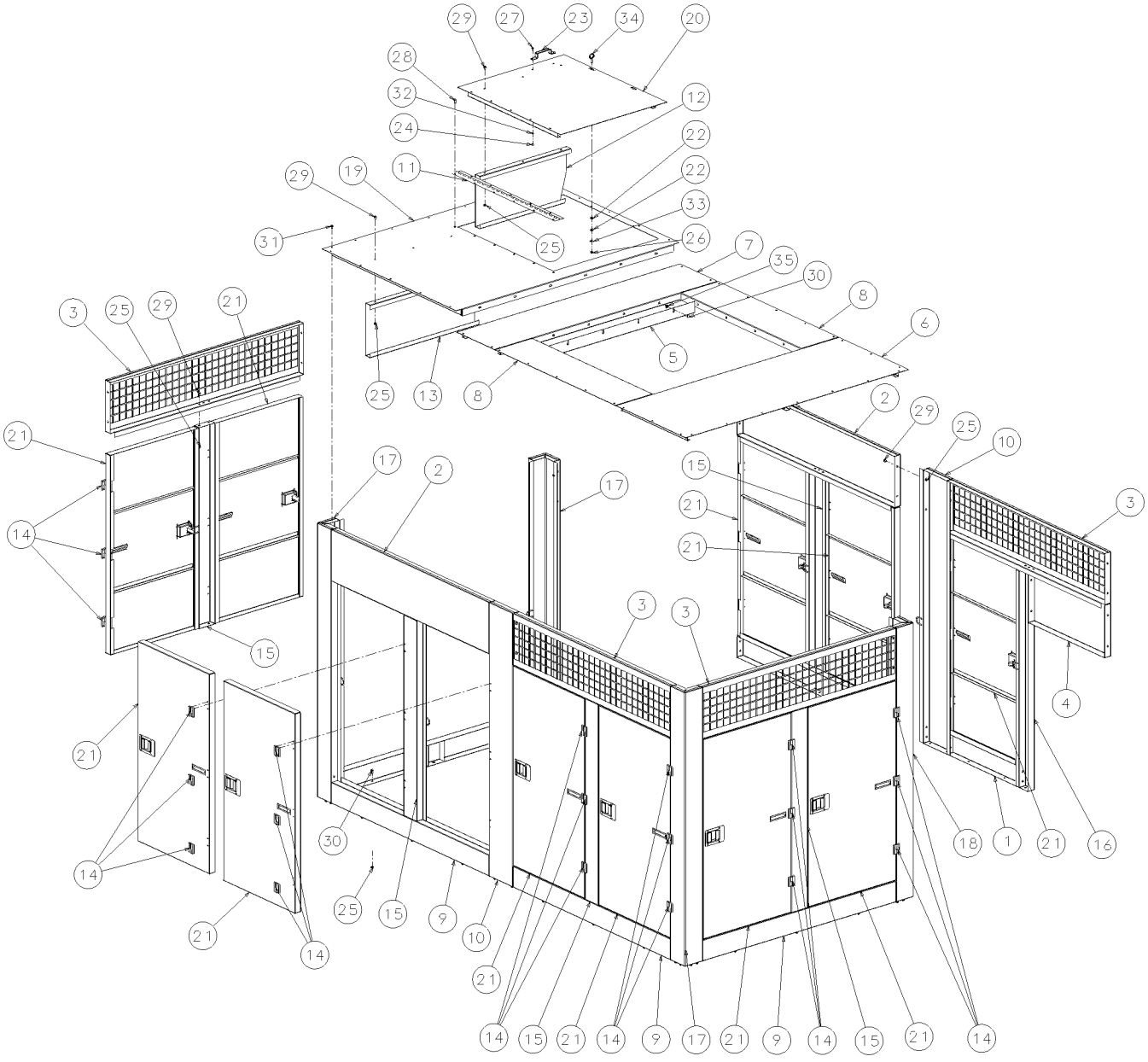
key number	*description*	*part number*	*quantity*
1	panel, sill short TS32A	02250124-938	1
2	panel, header side TS32A	02250124-939	2
3	panel, header end TS32A	02250124-940	4
4	panel, header 60” str ts32 encl	02250124-942	1
5	angle, roof seal TS32A-200/250ac	02250125-070	4
6	panel, roof end TS32A-200/250ac	02250126-923	1
7	panel, roof mid TS32A-200/250ac	02250126-924	1
8	panel, roof side TS32A-200/250ac	02250126-925	2
9	panel, sill TS32A	02250129-475	5
10	support, center TS32A	02250129-478	2
11	hinge, separator access door	02250129-761	1
12	panel, baffle sep access door TS32A	02250129-762	1
13	panel, baffle unit end TS32A	02250129-838	1
14	hinge, 180deg. screw-on lift-off rh	02250129-863	33
15	support, canopy TS32A	02250130-219	5
16	support, starter side TS32A	02250130-221	1
17	support, corner TS32A	02250130-222	3
18	support, corner spcl TS32A	02250130-223	1
19	panel, roof sump end TS32A	02250130-224	1
20	cover, separator access	02250130-226	1
21	panel, access assy 30” x 57”	02250130-227	11
22	grommet, rubber	040125	4
23	handle, canopy	042262	1
24	nut, hex pltd 1/4-20	825104-226	2
25	nut, hex f pltd 5/16-18	825305-283	13
26	nut, hex locking 5/16-18	825505-166	2
27	capscr, hex gr8 1/4-20 x 3/4	827904-075	2
28	capscr, hex gr5 5/16-18 x 3/4	829105-075	6
29	screw, hex ser washer 5/16-18 x 1/2	829705-050	94
30	screw, hex ser washer 5/16-18 x 3/4	829705-075	60
31	screw, self-drill 1/4 x 1/2	834504-050	44

(Contiued on page 139)

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

Section 8
ILLUSTRATION AND PARTS LIST

8.31 ENCLOSURE- AIR-COOLED 200-250HP/ 149-186KW



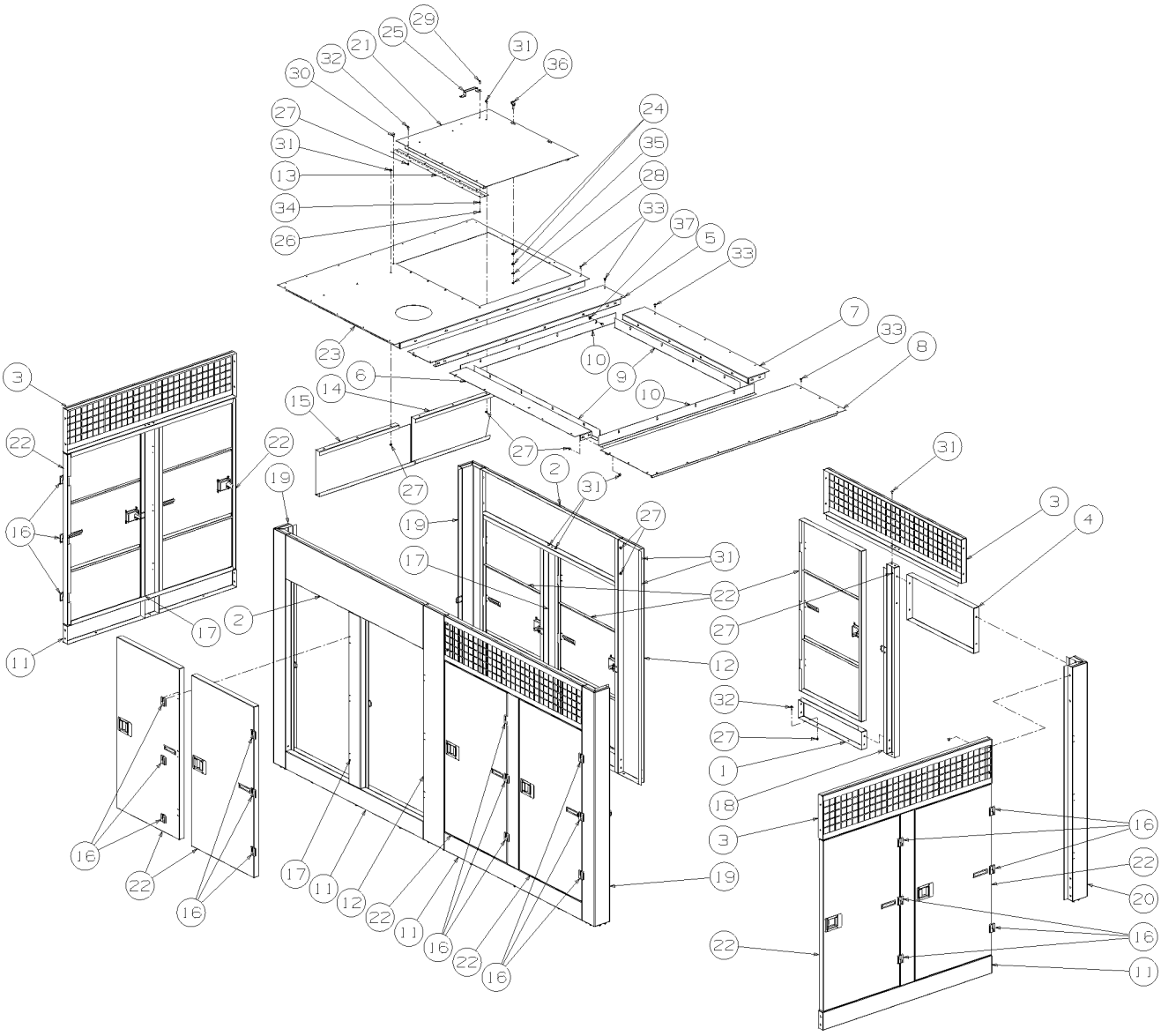
8.31 ENCLOSURE- AIR-COOLED 200-250HP/ 149-186KW (CONTINUED)

key number	*description*	*part number*	*quantity*
32	washer, spr lock reg pltd 1/4	837804-062	2
33	washer, pl-b reg pltd 5/16	838205-071	2
34	eyebolt, 5/16-18 x 1 1/8” pltd	839105-112	2
35	nut, retainer 5/16-18 .092	861405-092	16

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

Section 8
ILLUSTRATION AND PARTS LIST

8.32 ENCLOSURE- AIR-COOLED 300-350HP/ 224-261KW



8.32 ENCLOSURE- AIR-COOLED 300-350HP/ 224-261KW

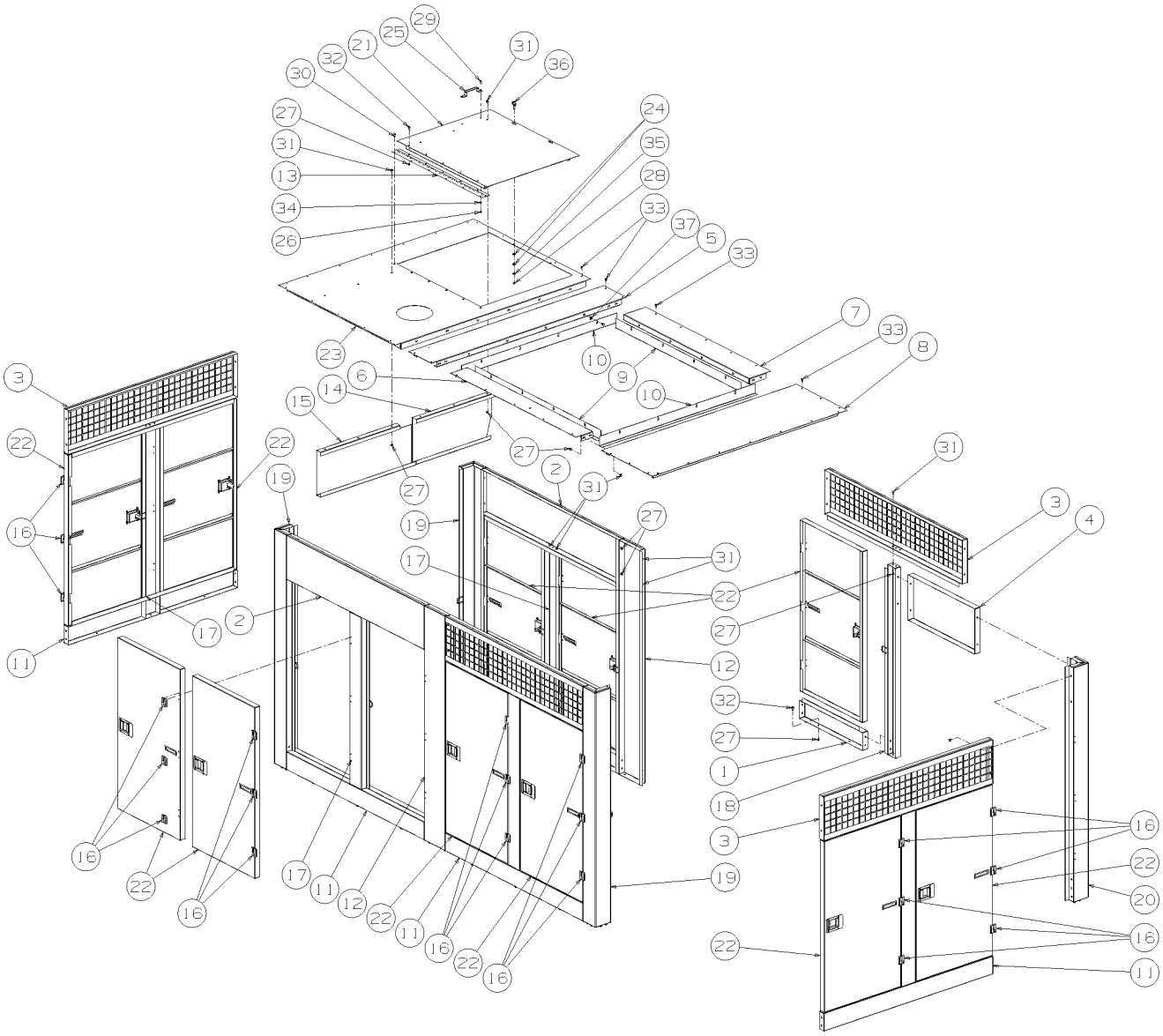
key number	*description*	*part number*	*quantity*
1	panel, sill short TS32A	02250124-938	1
2	panel, header side TS32A	02250124-939	2
3	panel, header end TS32A	02250124-940	4
4	panel, header 60” str TS32 encl	02250124-942	1
5	panel, roof center TS32A-300/350ac	02250127-099	1
6	panel, roof motor side TS32A-300/350ac	02250127-100	1
7	panel, roof starter side TS32A-300/350	02250127-101	1
8	panel, roof end TS32A-300/350ac	02250127-102	1
9	angle, roof seal TS32A-300/350ac	02250127-103	2
10	angle, roof seal TS32A-300/350ac	02250127-104	2
11	panel, sill TS32A	02250129-475	5
12	support, center TS32A	02250129-478	2
13	hinge, separator access door	02250129-761	1
14	panel, baffle sep access door TS32A	02250129-762	1
15	panel, baffle unit end TS32A	02250129-838	1
16	hinge, 180deg. screw-on lift-off rh	02250129-863	33
17	support, canopy TS32A	02250130-219	5
18	support, starter side TS32A	02250130-221	1
19	support, corner TS32A	02250130-222	3
20	support, corner spcl TS32A	02250130-223	1
21	cover, separator access	02250130-226	1
22	panel, access assy 30” x 57”	02250130-227	11
23	roof, TS32-350 intclr rmtinl	02250133-148	1
24	grommet, rubber	040125	4
25	handle, canopy	042262	1
26	nut, hex pltd 1/4-20	825104-226	2
27	nut, hex f pltd 5/16-18	825305-283	13
28	nut, hex locking 5/16-18	825505-166	2
29	capscr, hex gr5 1/4-20 x 3/4	829104-075	2
30	capscr, hex gr5 5/16-18 x 3/4	829105-075	6
31	screw, hex ser washer 5/16-18 x 1/2	829705-050	94

(Continued on page 143)

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

Section 8
ILLUSTRATION AND PARTS LIST

8.32 ENCLOSURE- AIR-COOLED 300-350HP/ 224-261KW



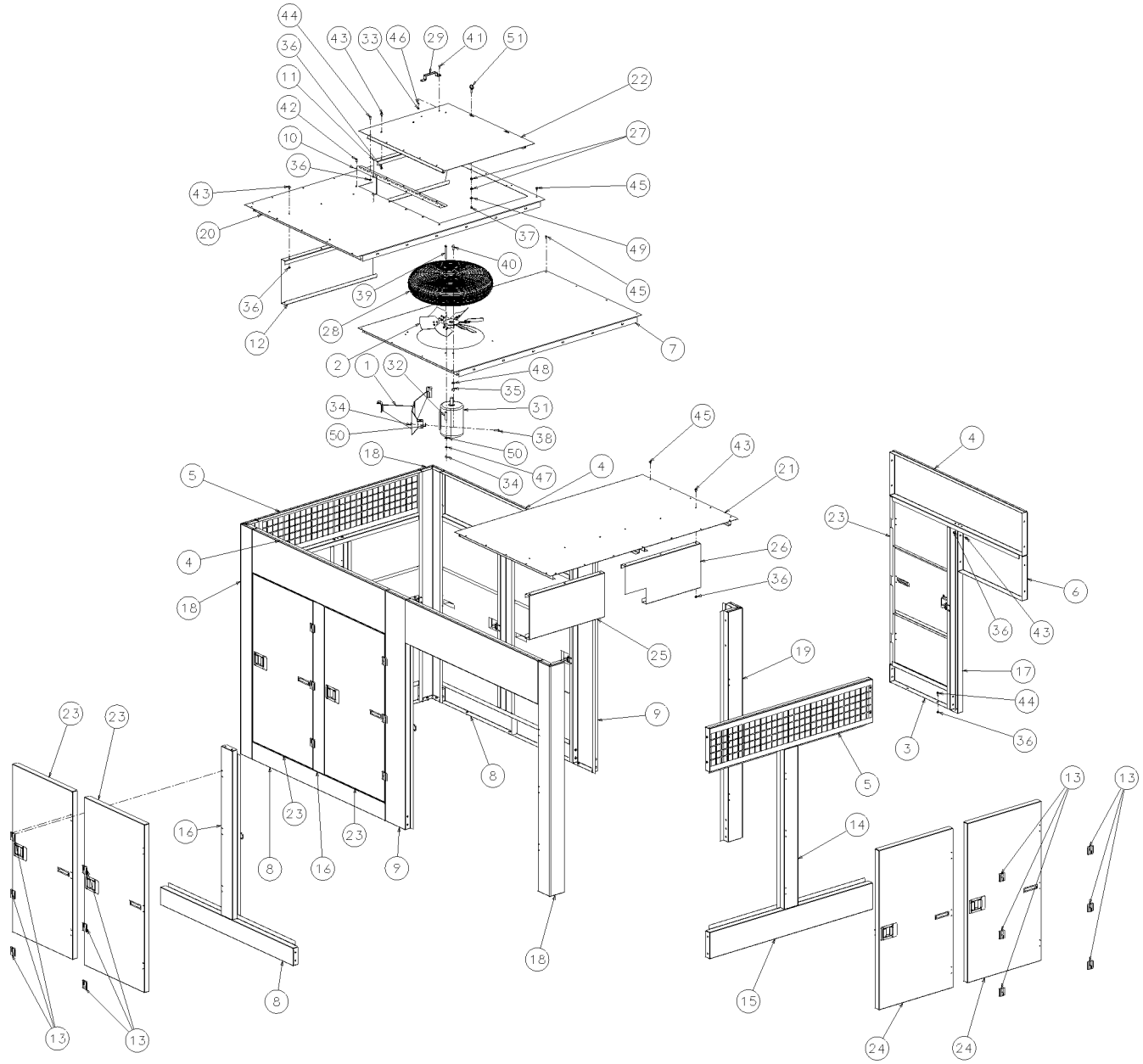
8.32 ENCLOSURE- AIR-COOLED 300-350HP/ 224-261KW (CONTINUED)

key number	*description*	*part number*	*quantity*
32	screw, hex ser washer 5/16-18 x 3/4	829705-075	60
33	screw, self-drill 1/4 x 1/2	834504-050	44
34	washer, spr lock reg pltd 1/4	837804-062	2
35	washer, pl-b reg pltd 5/16	838205-071	2
36	eyebolt, 5/16-18 x 1 1/8” pltd	839105-112	2
37	nut, retainer 5/16-18 .092	861405-092	16

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

Section 8
ILLUSTRATION AND PARTS LIST

8.33 ENCLOSURE- WATER-COOLED 200-350HP/ 149-261KW



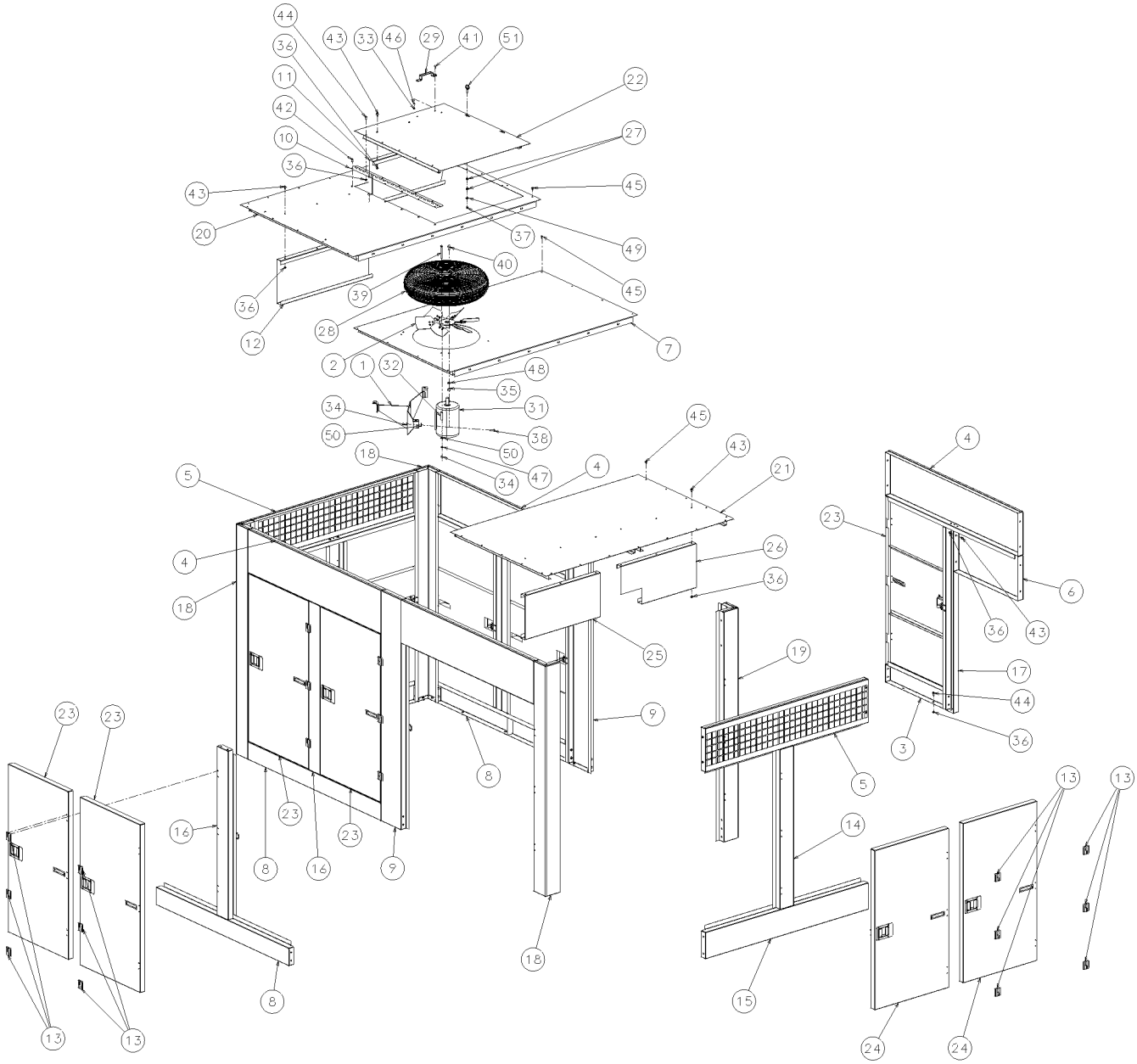
8.33 ENCLOSURE- WATER-COOLED 200-350HP/ 149-261KW

key number	*description*	*part number*	*quantity*
1	support, fan motor	014613	1
2	fan, blower 20”-30 deg 185q8f	02250107-474	1
3	panel, sill short TS32A	02250124-938	1
4	panel, header side TS32A	02250124-939	4
5	panel, header end TS32A	02250124-940	2
6	panel, header 60” str TS32 encl	02250124-942	1
7	panel, roof center TS32A-200/350 wc	02250126-834	1
8	panel, sill TS32A	02250129-475	4
9	support, center TS32A	02250129-478	2
10	hinge, separator access door	02250129-761	1
11	panel, baffle sep access door TS32A	02250129-762	1
12	panel, baffle unit end TS32A	02250129-838	1
13	hinge, 180deg. screw-on lift-off rh	02250129-863	33
14	support, canopy spcl TS32A	02250129-995	1
15	panel, sill spcl TS32A-200/350 wc & rc	02250130-216	1
16	support, canopy TS32A	02250130-219	4
17	support, starter side TS32A	02250130-221	1
18	support, corner TS32A	02250130-222	3
19	support, corner spcl TS32A	02250130-223	1
20	panel, roof sump end TS32A	02250130-224	1
21	panel, roof mtr end TS32A-200/350 wc	02250130-225	1
22	cover, separator access	02250130-226	1
23	panel, access assy 30” x 57”	02250130-227	9
24	panel, access assy 30” x 54”	02250130-228	2
25	panel, baffle mtr end TS32A-200/350wc	02250131-583	1
26	panel, baffle mtrend-r TS32C-200/350wc	02250138-258	1
27	grommet, rubber	040125	4
28	guard, fan 24”	041765	1
29	handle, canopy	042262	1
30	clamp, speed tube 1/4”	043357	1
31	motor, .75hp 230/460v tefc	050288	1
32	spacer, fan support	227267	3
33	nut, hex pltd 1/4-20	825104-226	2

(Continued on page 147)

Section 8
ILLUSTRATION AND PARTS LIST

8.33 ENCLOSURE- WATER-COOLED 200-350HP/ 149-261KW



8.33 ENCLOSURE- WATER-COOLED 200-350HP/ 149-261KW (CONTINUED)

key number	*description*	*part number*	*quantity*
34	nut, hex pltd 3/8-16	825106-337	7
35	nut, hex pltd 1/2-13	825108-448	4
36	nut, hex f pltd 5/16-18	825305-283	14
37	nut, hex locking 5/16-18	825505-166	2
38	capscr, hex gr5 3/8-16 x 1 1/4	828606-125	4
39	capscr, hex gr5 3/8-16 x 4	828606-400	3
40	capscr, hex gr5 1/2-13 x 1	828608-100	4
41	capscr, hex gr5 1/4-20 x 3/4	829104-075	2
42	capscr, hex gr5 5/16-18 x 3/4	829105-075	6
43	screw, hex ser washer 5/16-18 x 1/2	829705-050	94
44	screw, hex ser washer 5/16-18 x 3/4	829705-075	44
45	screw, self-drill 1/4 x 1/2	834504-050	42
46	washer, spr lock reg pltd 1/4	837804-062	2
47	washer, spr lock reg pltd 3/8	837806-094	3
48	washer, spr lock reg pltd 1/2	837808-125	4
49	washer, pl-b reg pltd 5/16	838205-071	2
50	washer, pl-b reg pltd 3/8	838206-071	7
51	eyebolt, 5/16-18 x 1 1/8” pltd	839105-112	2

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

8.34 DECAL GROUP

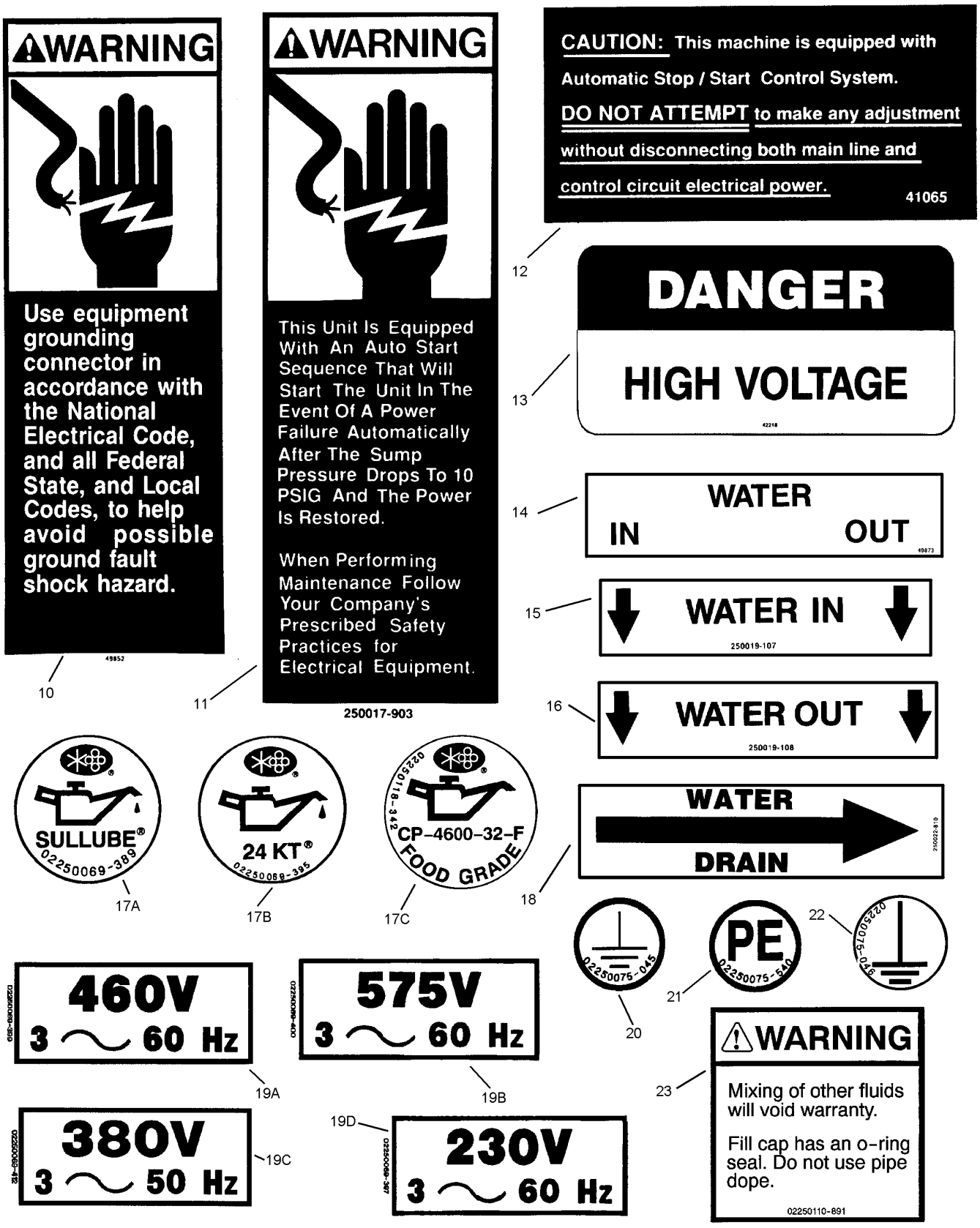
8.34 DECAL GROUP

key number	*description*	*part number*	*quantity*
1	sign, warning sever-fan port	049965	1
2	sign, warning hot surfaces	407408	1
3	sign, warning sever - fan	049855	2
4	sign, danger electrocution	049850	1
5	sign, warning “food grade” lube	250003-144	1
6	decal, warning actuator	250029-836	1
7	sign, warning “compressor fluid fill cap”	049685	1
8	sign, air breathing (danger)	250027-935	1
9	decal, Sullair logo	02250059-048	2

(Continued on page 151)

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

8.34 DECAL GROUP



8.34 DECAL GROUP (CONTINUED)

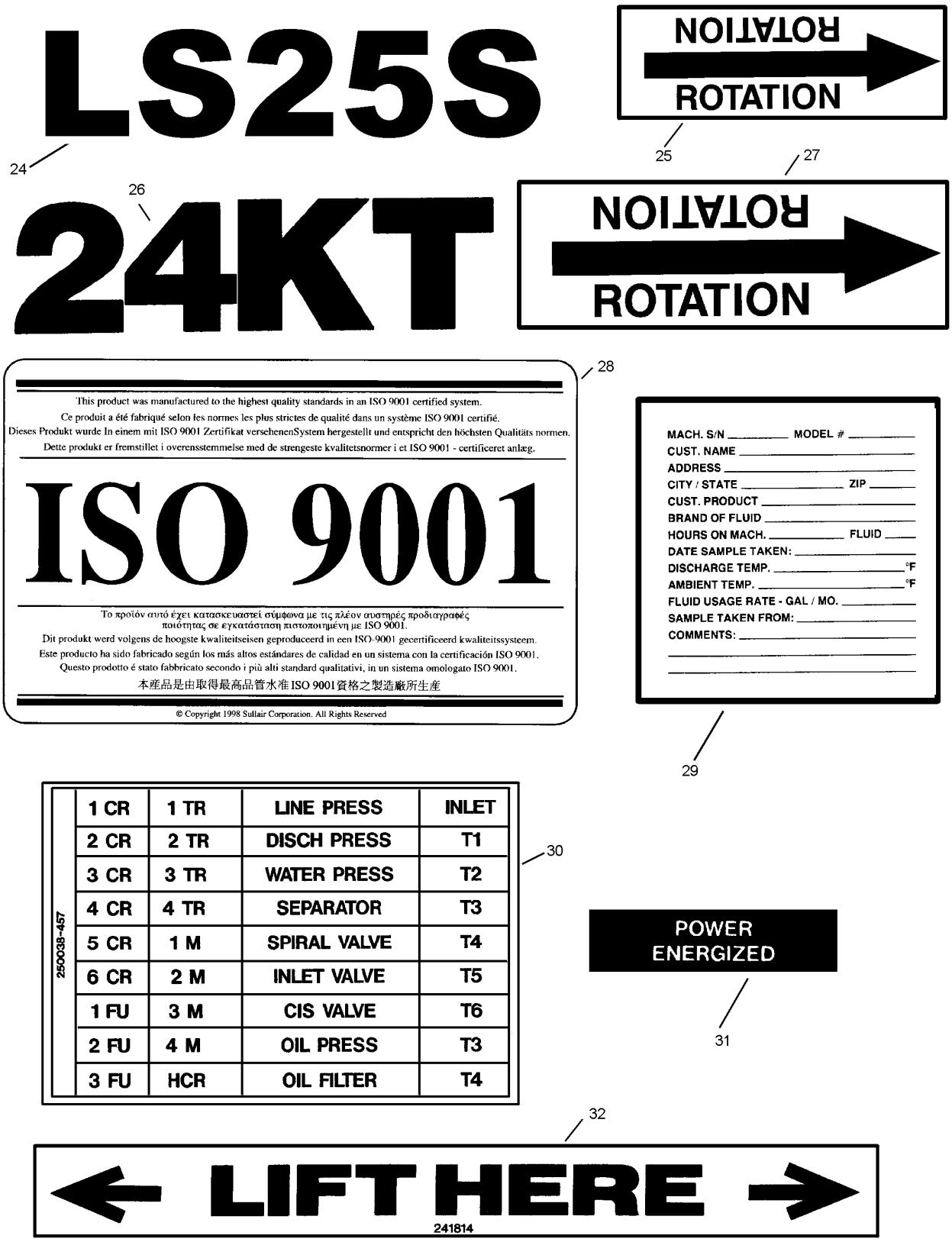
key number	*description*	*part number*	*quantity*
10	sign, warning ground fault	049852	1
11	decal, warning auto start	250017-903	1
12	decal, autostart	041065	1
13	decal, danger high voltage	042218	1
14	decal, water inlet-outlet	049873	1
15	decal, water in	250019-107	1
16	decal, water out	250019-108	1
17A	decal, fluid Sullube	02250069-389	1
17B	decal, fluid 24KT	02250069-395	1
17C	decal, fluid CP-4600-32-F	02250118-342	1
18	decal, water drain	250022-810	1
19A	decal, V 460/3/60 international	02250069-399	1
19B	decal, V 575/3/60 international	02250069-400	1
19C	decal, V 380/3/50 international	02250069-412	1
19D	decal, V 230/3/60 international	02250069-397	1
20	decal, protective earth ground	02250075-045	1
21	decal, PE designation	02250075-540	1
22	decal, earth ground	02250075-046	1
23	decal, warning mixing fluids	02250110-891	1

(Continued on page 153)

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

Section 8
ILLUSTRATION AND PARTS LIST

8.34 DECAL GROUP



1 CR	1 TR	LINE PRESS	INLET
2 CR	2 TR	DISCH PRESS	T1
3 CR	3 TR	WATER PRESS	T2
4 CR	4 TR	SEPARATOR	T3
5 CR	1 M	SPIRAL VALVE	T4
6 CR	2 M	INLET VALVE	T5
1 FU	3 M	CIS VALVE	T6
2 FU	4 M	OIL PRESS	T3
3 FU	HCR	OIL FILTER	T4

8.34 DECAL GROUP (CONTINUED)

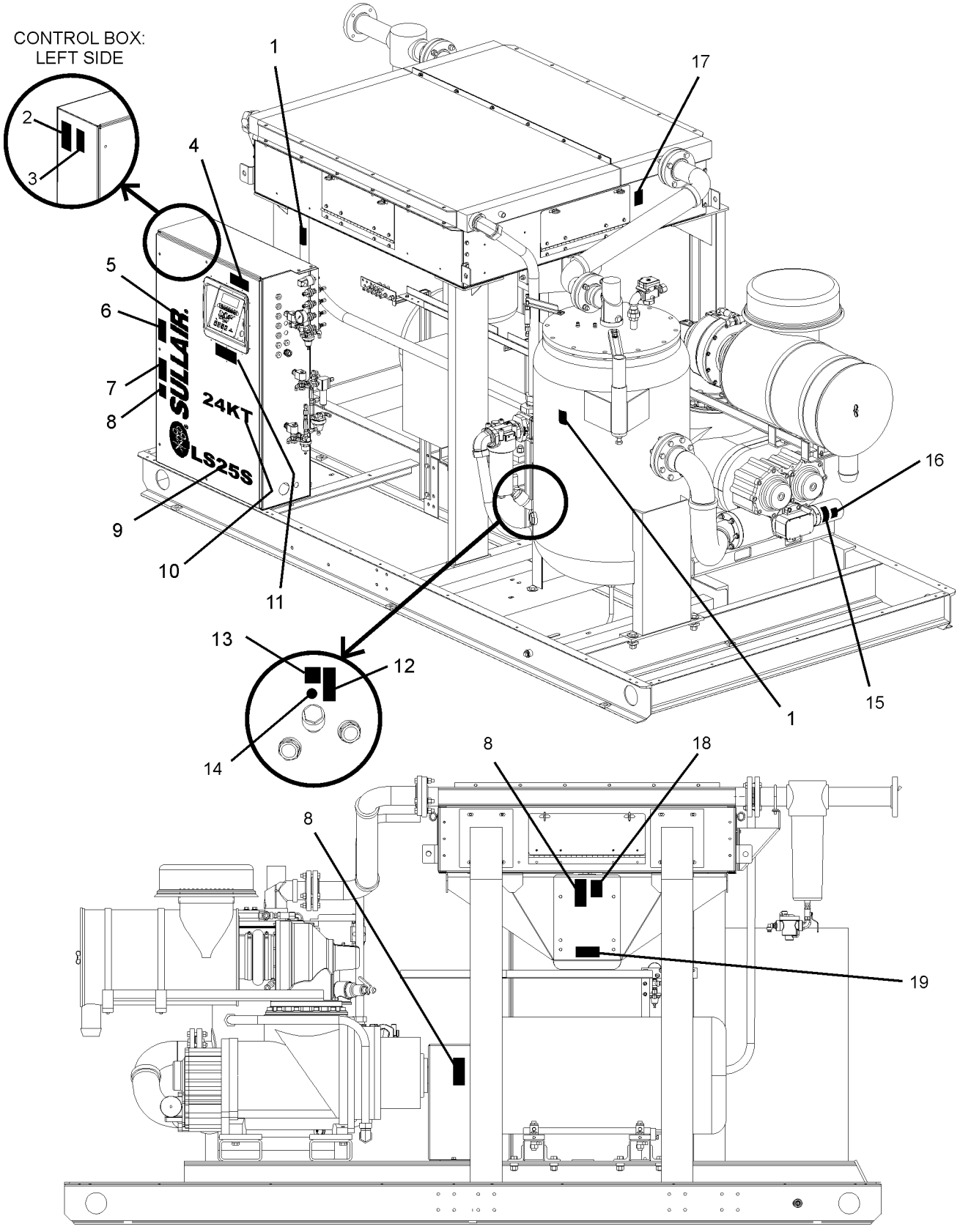
key number	*description*	*part number*	*quantity*
24	decal, LS25S	02250061-363	1
25	decal, compressor fluid 24KT	02250061-022	1
26	decal, rotation	250021-564	1
27	decal, rotation	250021-286	1
28	decal, ISO 9001 **(I)**	-	1
29	decal, fluid sample	250022-675	1
30	decal, electrical component ID	250038-457	1
31	sign, power energized	249544-049	1
32	decal, fork lifting	241814	4

(I) ISO decal may vary per machine. To determine the proper part number of this decal, consult factory with machine serial number.

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

Section 8
ILLUSTRATION AND PARTS LIST

8.35 DECAL LOCATIONS- AIR-COOLED/OPEN



8.35 DECAL LOCATIONS- AIR-COOLED/OPEN

key number	*description*	*part number*	*quantity*
1	sign, warning hot surfaces	407408	2
2	sign, warning “food grade” lube	250003-144	1
3	sign, air breathing (danger)	250027-935	1
4	decal, autostart	041065	1
5	decal, Sullair logo	02250057-603	2
6	sign, danger electrocution	049850	1
7	decal, warning auto start	250017-903	1
8	sign, warning sever - fan	049855	3
9	decal, LS25S	02250061-363	1
10	decal, 24KT **(I)**	02250061-022	1
11	decal, ISO 9001 **(II)**	-	1
12	sign, warning “compressor fluid fill cap”	049685	1
13	decal, warning mixing fluids	02250110-891	1
14	decal, fluid **(III)**	-	1
15	decal, warning-actuator **(IV)**	250029-836	1
16	decal, actuator- valve positioning **(IV)**	250029-784	1
17	sign, warning sever fan door closed	02250131-539	2
18	sign, warning sever-fan port	049965	1
19	decal, rotation	250021-564	1

(I) This decal is used with 24KT fluid option fill only.

(II) ISO decal may vary per machine. To determine the proper part number of this decal, consult factory with machine serial number.

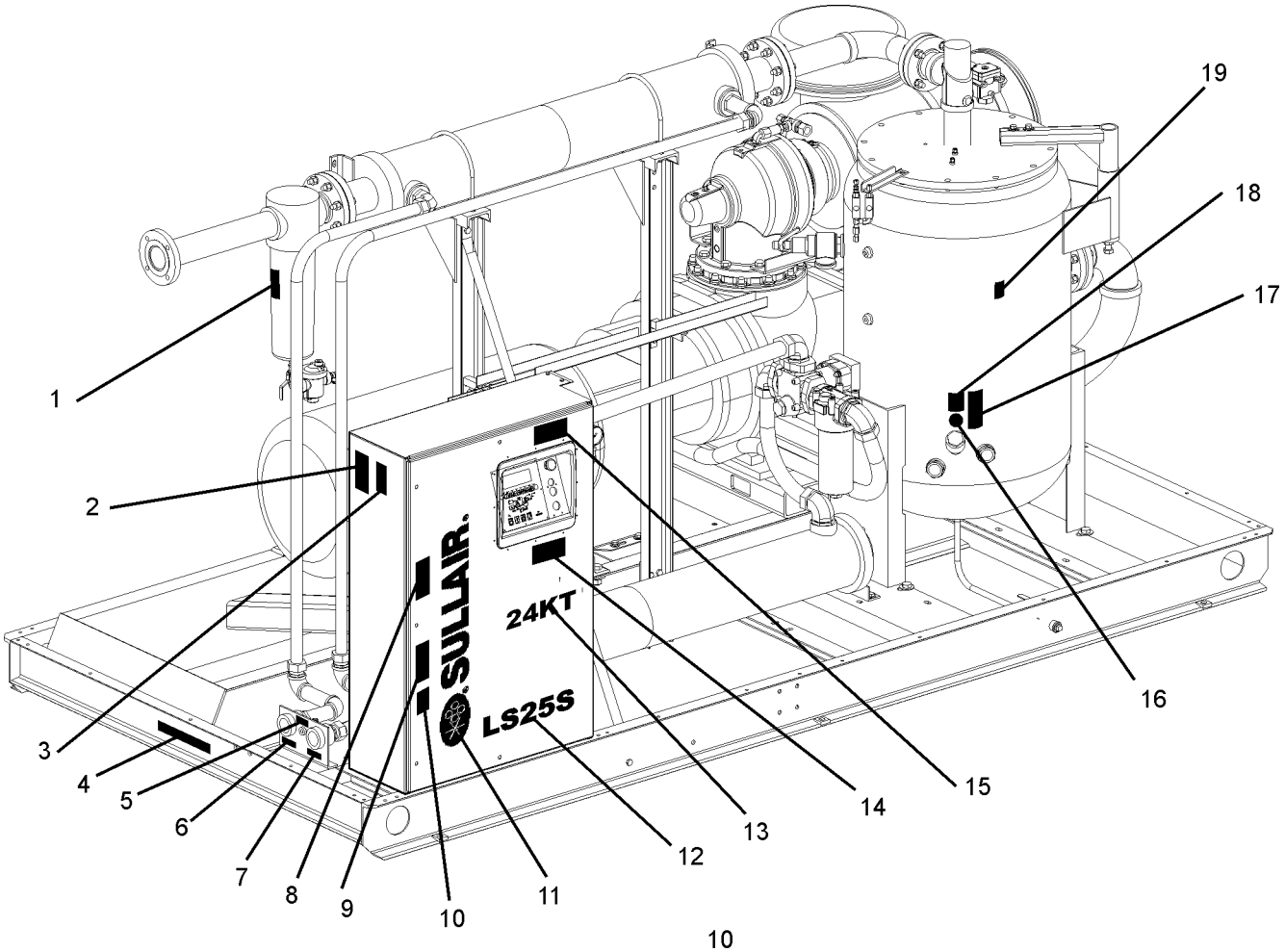
(III) Fluid decal will vary per machine fill. To determine the compressor’s proper fill decal, consult factory with machine serial number.

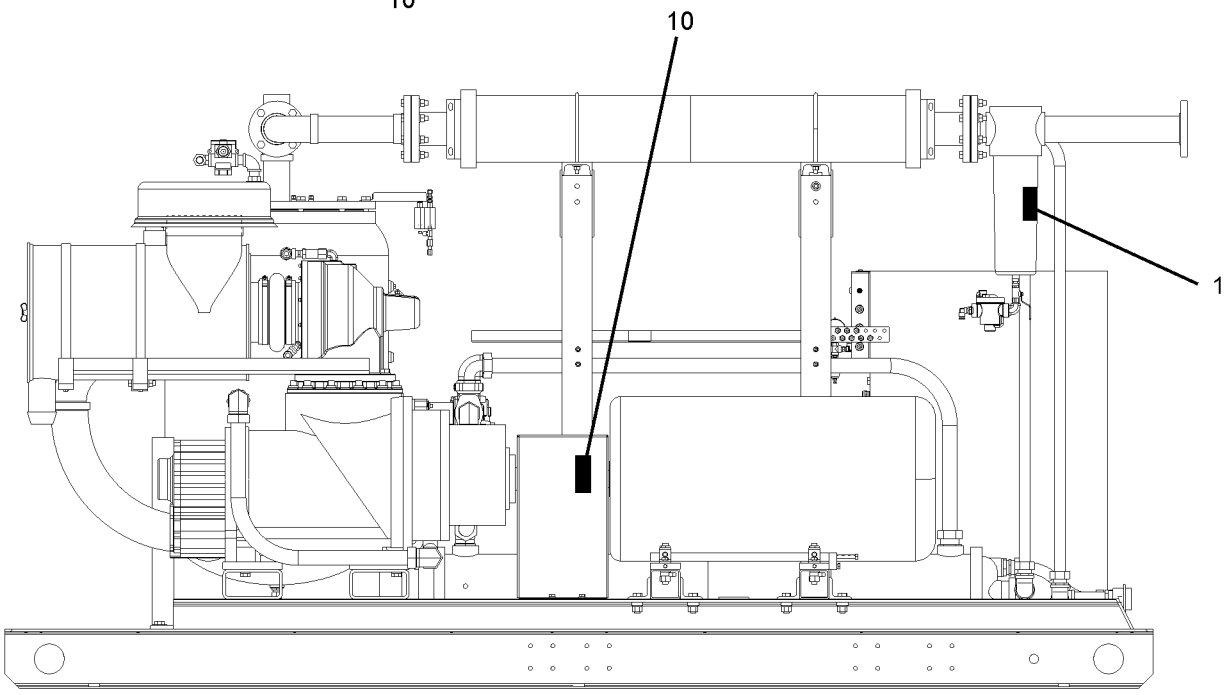
(IV) This decal is used with actuator option only.

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

Section 8
ILLUSTRATION AND PARTS LIST

8.36 DECAL LOCATIONS- WATER-COOLED/OPEN





8.36 DECAL LOCATIONS- WATER-COOLED/OPEN

key number	*description*	*part number*	*quantity*
1	decal, water drain	250022-810	1
2	sign, warning “food grade” lube	250003-144	1
3	sign, air breathing (danger)	250027-935	1
4	decal, fork lifting	241814	2
5	decal, water inlet-outlet	049873	1
6	decal, water in	250019-107	1
7	decal, water out	250019-108	1
8	sign, danger electrocution	049850	1
9	decal, warning auto start	250017-903	1
10	sign, warning sever - fan	049855	2
11	decal, Sullair logo	02250057-603	2
12	decal, LS25S	02250061-363	1
13	decal, 24KT **(I)**	02250061-022	1
14	decal, ISO 9001 **(II)**	-	1
15	decal, autostart	041065	1
16	decal, fluid **(III)**	-	1
17	sign, warning “compressor fluid fill cap”	049685	1
18	decal, warning mixing fluids	02250110-891	1
15	decal, warning-actuator **(IV)**	250029-836	1
16	decal, actuator- valve positioning **(IV)**	250029-784	1
17	sign, warning sever fan door closed	02250131-539	2
18	sign, warning sever - fan	049855	2
19	sign, warning hot surfaces	407408	2

(I) This decal is used with 24KT fluid option fill only.

(II) ISO decal may vary per machine. To determine the proper part number of this decal, consult factory with machine serial number.

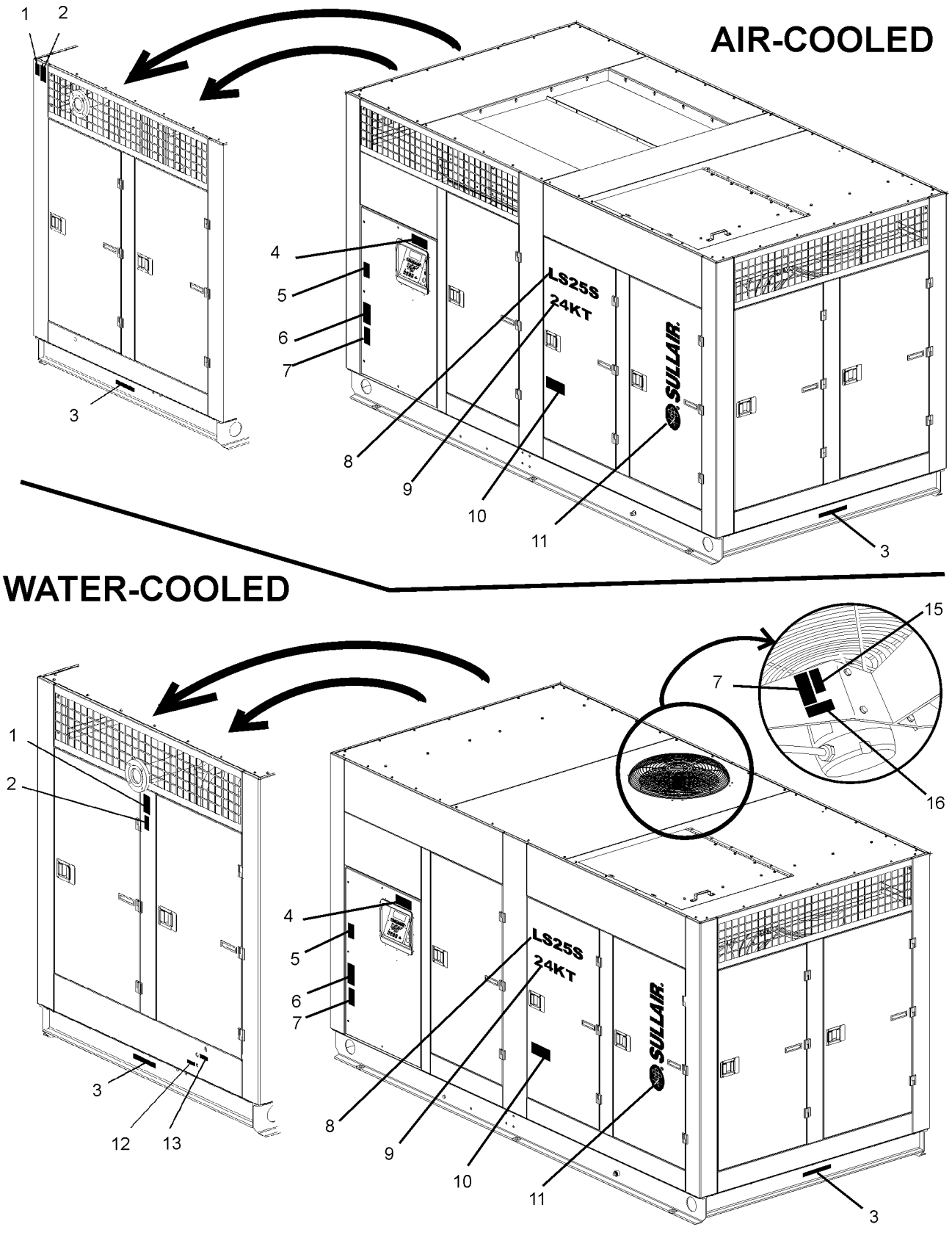
(III) Fluid decal will vary per machine fill. To determine the compressor’s proper fill decal, consult factory with machine serial number.

(IV) This decal is used with actuator option only.

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

Section 8
ILLUSTRATION AND PARTS LIST

8.37 DECAL LOCATIONS- ENCLOSURES



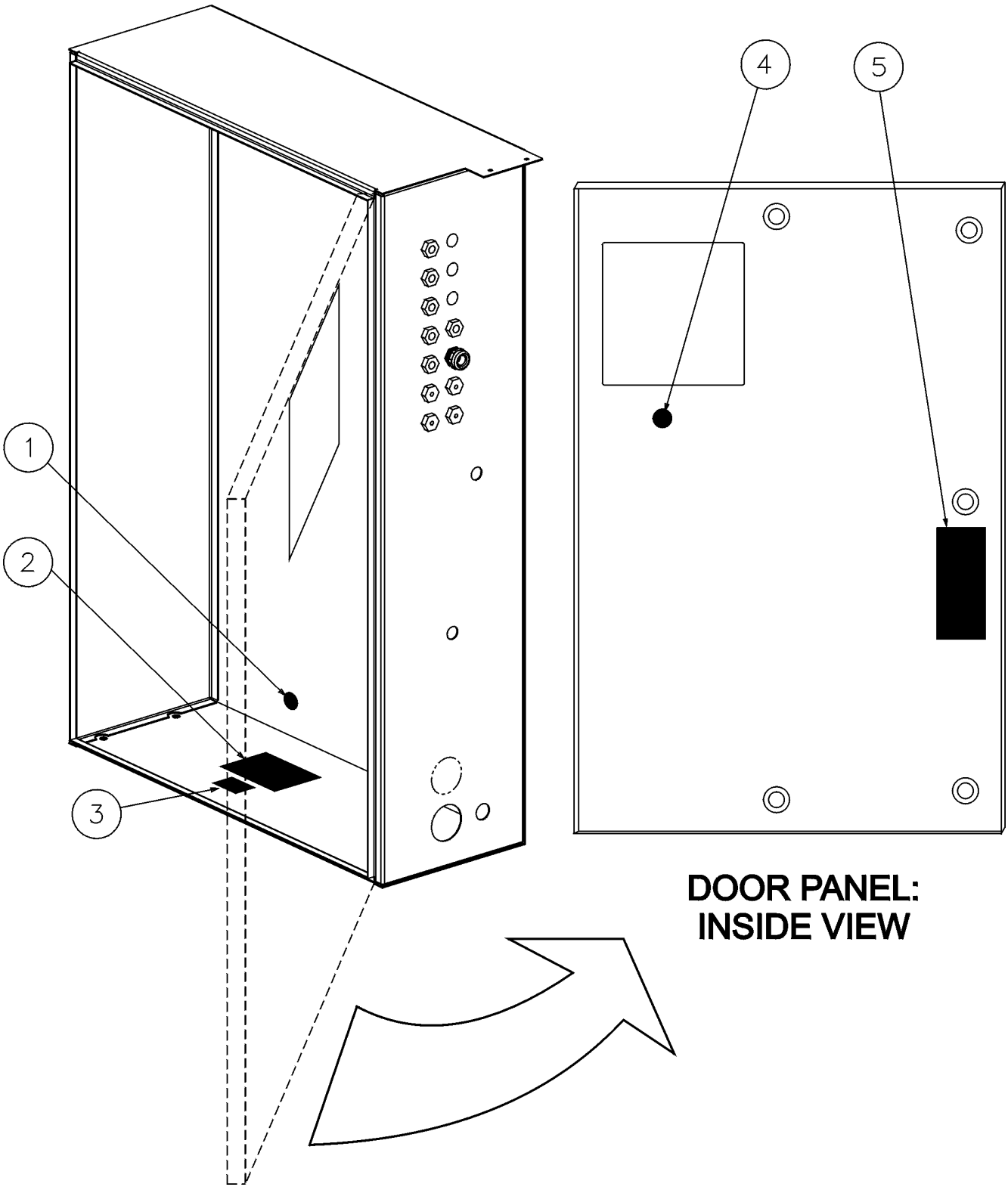
8.37 DECAL LOCATIONS- ENCLOSURES

key number	*description*	*part number*	*quantity*
1	sign, air breathing (danger)	250027-935	1
2	sign, warning “food grade” lube	250003-144	1
3	decal, fork lifting	241814	2
4	decal, autostart	041065	1
5	sign, danger electrocution	049850	1
6	decal, warning auto start	250017-903	1
7	sign, warning sever - fan	049855	2
10	decal, ISO 9001 **(I)**	-	1
11	decal, Sullair logo	02250057-603	2
12	decal, water drain	250022-810	1
13	decal, water inlet-outlet	049873	1
14	sign, warning sever-fan port	049965	1
15	decal, rotation	250021-564	1

(I) ISO decal may vary per machine. To determine the proper part number of this decal, consult factory with machine serial number.

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

8.38 DECAL LOCATIONS- CONTROL BOX INTERIOR



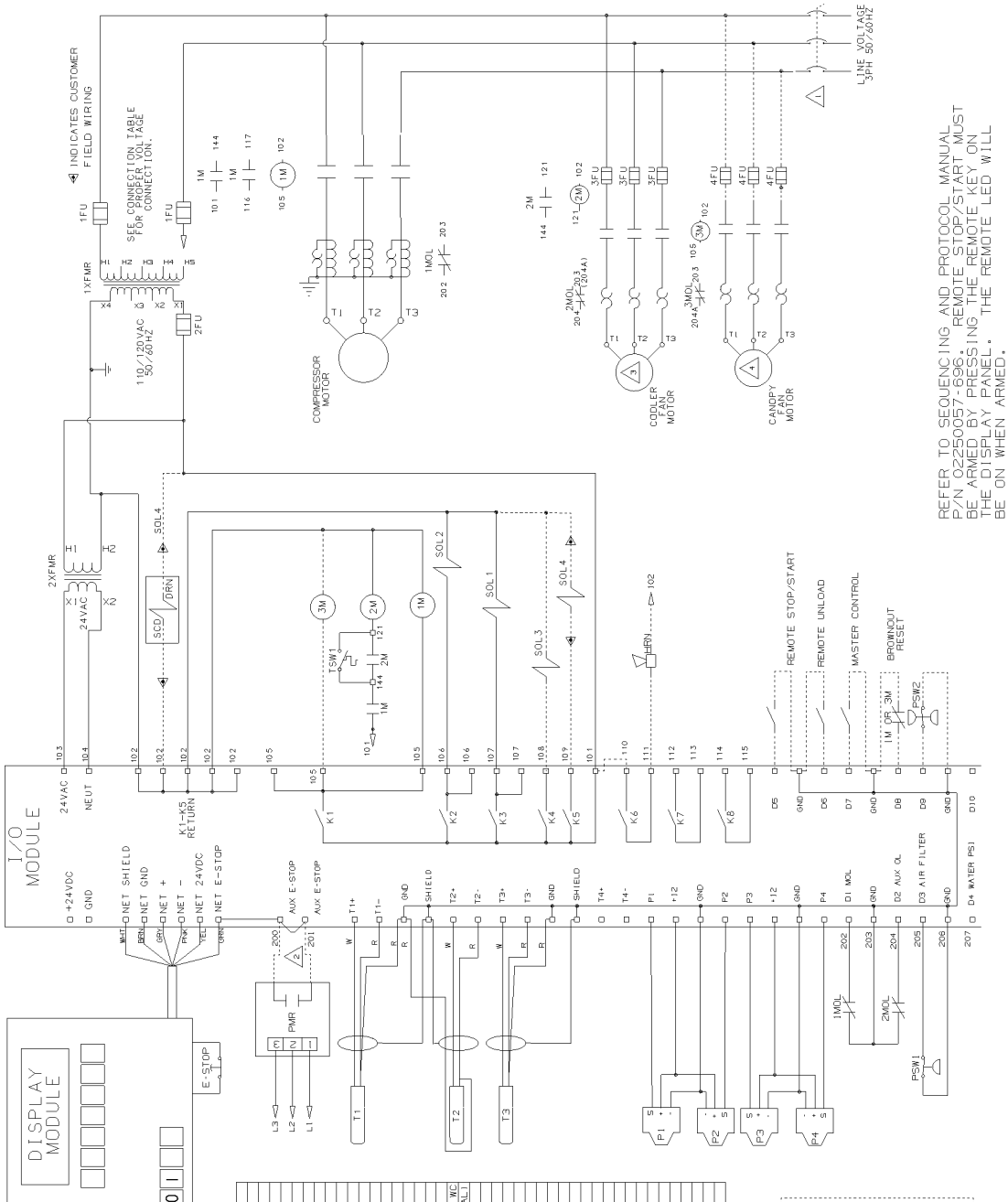
8.38 DECAL LOCATIONS- CONTROL BOX INTERIOR

key number	*description*	*part number*	*quantity*
1	decal, protective earth ground	02250075-045	2
2	decal, danger high voltage	042218	1
3	decal, V 460/3/60 international	02250069-399	1
	•decal, V 575/3/60 international	02250069-400	1
	•decal, V 380/3/50 international	02250069-412	1
	•decal, V 230/3/60 international	02250069-397	1
4	decal, PE designation	02250075-540	1
5	sign, warning ground fault	049852	1

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

Section 8
ILLUSTRATION AND PARTS LIST

8.39 WIRING DIAGRAM- AIR-COOLED FULL VOLTAGE WITH SUPERVISOR CONTROLLER



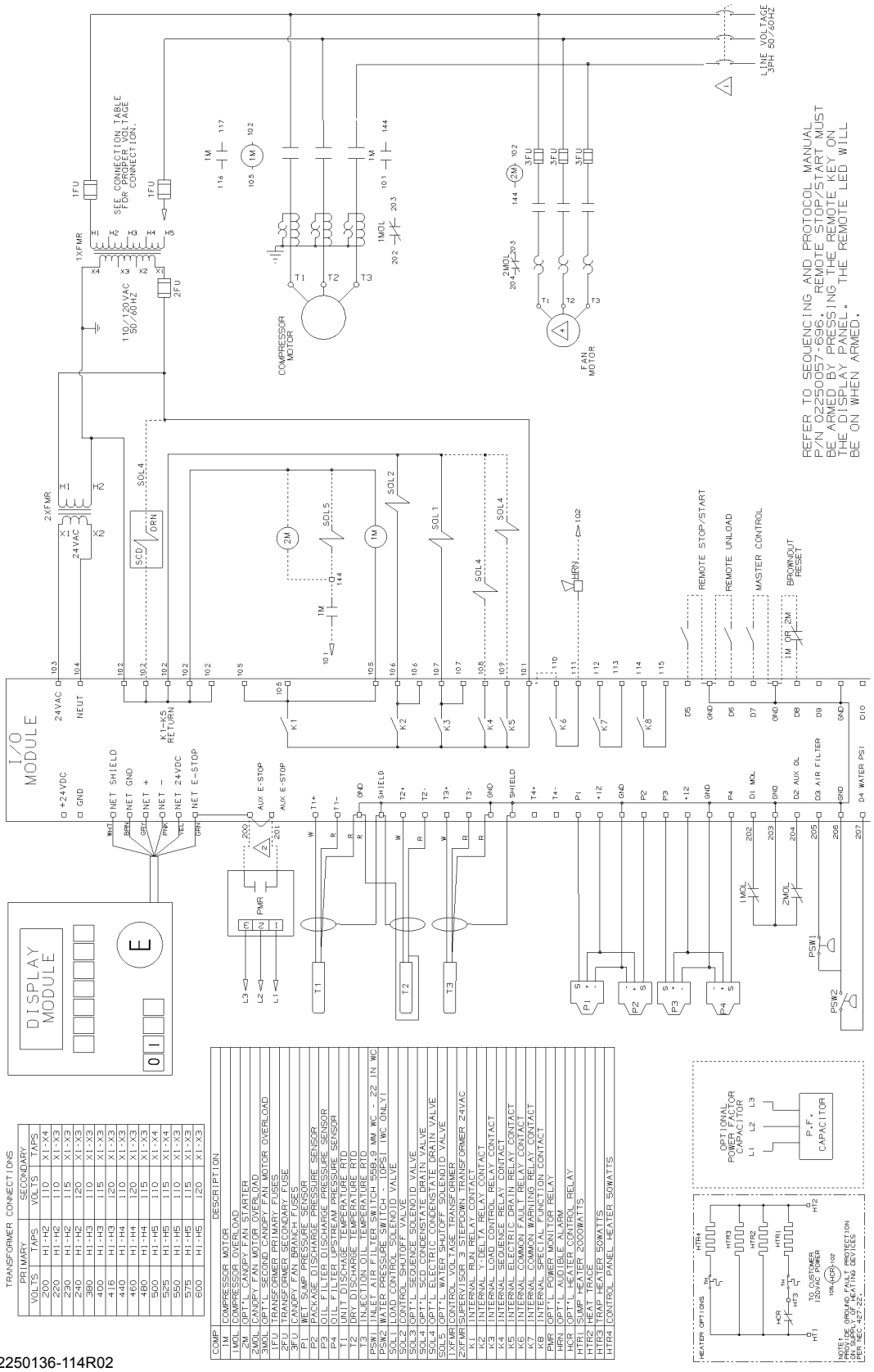
TRANSFORMER CONNECTIONS

PRIMARY VOLTS	PRIMARY TAPS	SECONDARY VOLTS	SECONDARY TAPS
200	H1-H2	X1-X4	
220	H1-H2	110	X1-X3
230	H1-H2	115	X1-X3
240	H1-H2	120	X1-X3
380	H1-H3	110	X1-X3
400	H1-H3	115	X1-X3
416	H1-H3	120	X1-X3
440	H1-H4	110	X1-X3
460	H1-H4	120	X1-X3
480	H1-H4	115	X1-X3
500	H1-H5	110	X1-X4
525	H1-H5	115	X1-X4
550	H1-H5	110	X1-X3
575	H1-H5	115	X1-X3
600	H1-H5	120	X1-X3

COMP	DESCRIPTION
1M	COMPRESSOR MOTOR
1MOL	COMPRESSOR OVERLOAD
2M	COOLER FAN STARTER
2MOL	COOLER FAN MOTOR OVERLOAD
3M	OPT'L CANOPY FAN STARTER
3MOL	CANOPY FAN MOTOR OVERLOAD
4M	OPT'L TRANSFORMER PRIMARY FUSES
1FU	TRANSFORMER PRIMARY FUSES
2FU	TRANSFORMER SECONDARY FUSE
3FU	COOLER FAN BRANCH FUSES
4FU	CANOPY FAN BRANCH FUSES
P1	WET SUMP PRESSURE SENSOR
P2	PACKAGE DISCHARGE PRESSURE SENSOR
P3	OIL FILTER DISCHARGE PRESSURE SENSOR
P4	OIL FILTER DIFF PRESS SWITCH 20PSID (OPTIONAL)
PSW1	INLET AIR FILTER SWITCH 568.9 MM WC - 22 IN WC
PSW2	OIL FILTER DIFF PRESS SWITCH 20PSID (OPTIONAL)
TSW1	OIL TEMPERATURE SWITCH - 115F
SOL1	LOAD CONTROL SOLENOID VALVE
SOL2	UNLOAD CONTROL SOLENOID VALVE
SOL3	OPT'L SEQUENCE SOLENOID VALVE
SOL4	OPT'L SCD CONDENSATE DRAIN VALVE
T1	UNIT DISCHARGE TEMPERATURE RTD
T2	DRY DISCHARGE TEMPERATURE RTD
T3	INJECTION OIL TEMPERATURE RTD
1XFMR	CONTROL VOLTAGE TRANSFORMER
2XFMR	SUPERVISOR 3 STEPDOWN TRANSFORMER 24VAC
K1	INTERNAL RUN RELAY CONTACT
K2	INTERNAL LOAD CONTROL RELAY CONTACT
K3	INTERNAL LOAD CONTROL RELAY CONTACT
K4	INTERNAL SEQUENCE RELAY CONTACT
K5	INTERNAL ELECTRIC DRAIN RELAY CONTACT
K6	INTERNAL COMMON FAULT RELAY CONTACT
K7	INTERNAL COMMON WARNING RELAY CONTACT
K8	INTERNAL SPECIAL FUNCTION CONTACT
PWR	OPT'L POWER MONITOR RELAY
HAR	OPT'L REMOTE ALARM RELAY
HCR	OPT'L HEATER CONTROL RELAY
HTR1	SUMP HEATER 200WATTS
HTR2	HEAT TRACE
HTR3	TRAP HEATER 50WATTS
HTR4	CONTROL PANEL HEATER 50WATTS

02250136-109R03

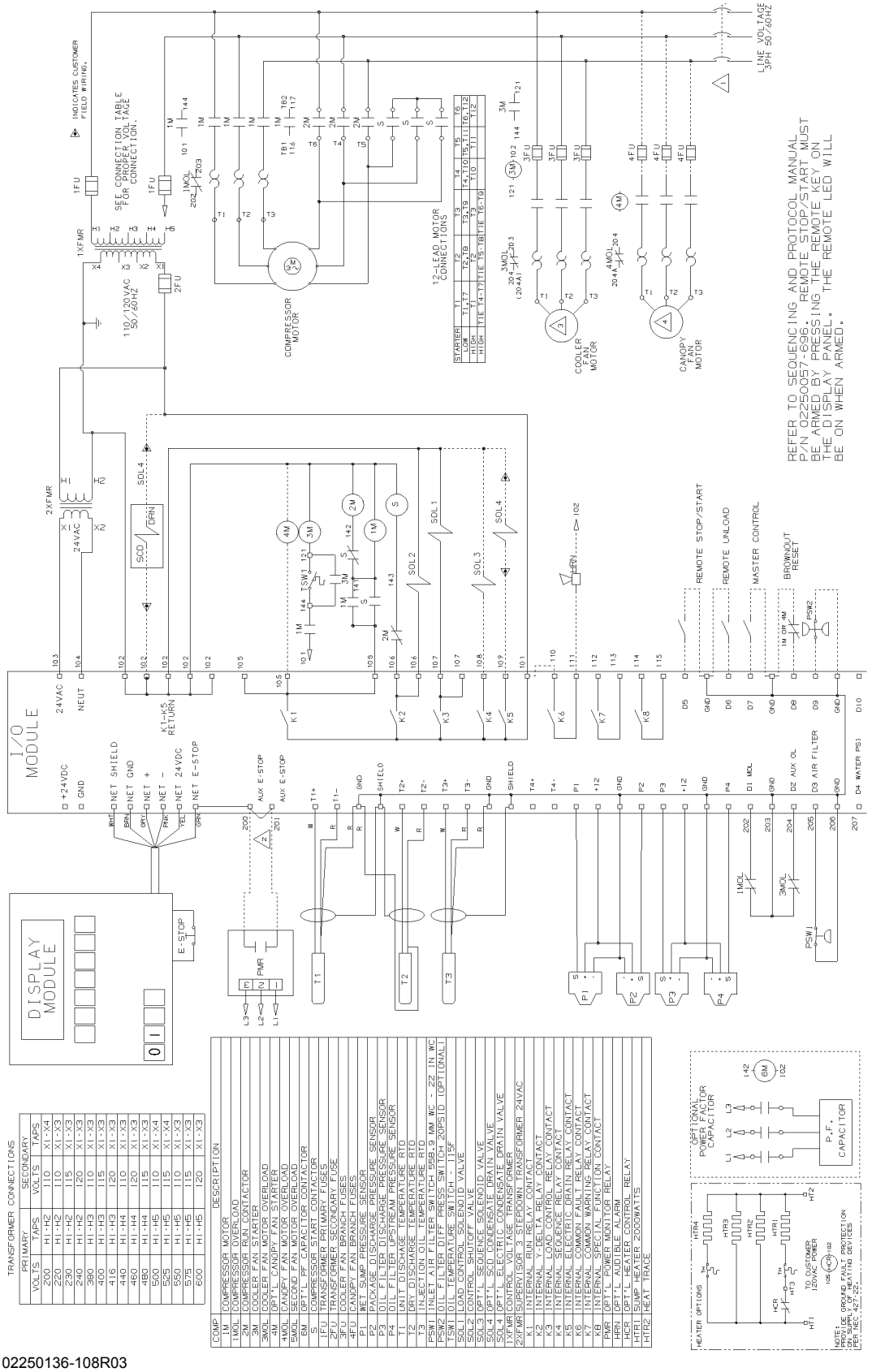
8.40 WIRING DIAGRAM- WATER-COOLED FULL VOLTAGE WITH SUPERVISOR CONTROLLER



02250136-114R02

Section 8
ILLUSTRATION AND PARTS LIST

8.41 WIRING DIAGRAM- WYE-DELTA AIR- AND REMOTE-COOLED WITH SUPERVISOR CONTROLLER



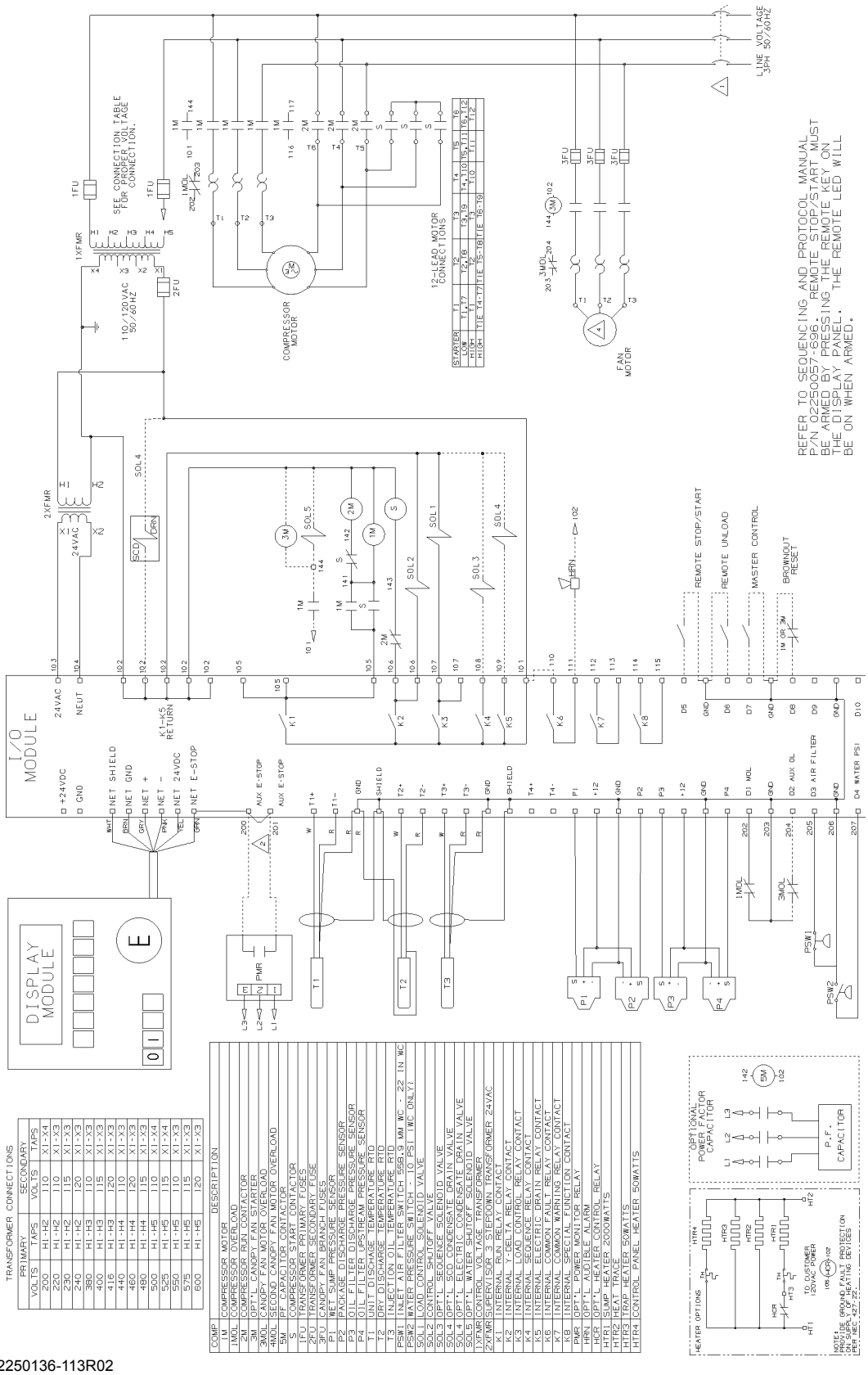
TRANSFORMER CONNECTIONS

PRIMARY VOLTS	PRIMARY TAPS	SECONDARY VOLTS	SECONDARY TAPS
200	H1-H2	110	X1-X4
220	H1-H2	110	X1-X3
230	H1-H2	115	X1-X3
240	H1-H2	120	X1-X3
380	H1-H3	110	X1-X3
400	H1-H3	115	X1-X3
416	H1-H3	120	X1-X3
440	H1-H4	110	X1-X3
460	H1-H4	120	X1-X3
480	H1-H4	115	X1-X3
500	H1-H5	110	X1-X4
525	H1-H5	115	X1-X4
550	H1-H5	110	X1-X3
575	H1-H5	115	X1-X3
600	H1-H5	120	X1-X3

COMP	DESCRIPTION
1M	COMPRESSOR MOTOR
1MOL	COMPRESSOR OVERLOAD
2M	COMPRESSOR RUN CONTACTOR
3M	COMPRESSOR START CONTACTOR
3MOL	COOLER FAN MOTOR OVERLOAD
4M	OPT'L CANOPY FAN STARTER
4MOL	CANOPY FAN MOTOR OVERLOAD
5MOL	SECOND FAN MOTOR OVERLOAD
6M	OPT'L PF CAPACITOR CONTACTOR
1FU	COMPRESSOR START CONTACTOR
2FU	TRANSFORMER PRIMARY FUSE
3FU	TRANSFORMER SECONDARY FUSE
4FU	COOLER FAN BRANCH FUSES
P1	CANOPY FAN BRANCH FUSES
P2	WET SUMP PRESSURE SENSOR
P3	PACKAGE DISCHARGE PRESSURE SENSOR
P4	OIL FILTER DISCHARGE PRESSURE SENSOR
T1	UNIT DISCHARGE TEMPERATURE RTD
T2	DRY DISCHARGE TEMPERATURE RTD
T3	INJECTION OIL TEMPERATURE RTD
PSW1	INLET AIR FILTER SWITCH 558.9 MM WC - 22 IN WC
PSW2	OIL FILTER DIFF PRESS SWITCH 20PSID (OPTIONAL)
TSW1	OIL TEMPERATURE SWITCH - 115F
SOL1	CONTROL SHUTOFF VALVE
SOL2	UNLOAD SOLENOID VALVE
SOL3	OPT'L SEQUENCE SOLENOID VALVE
SOL4	OPT'L SCD CONDENSATE DRAIN VALVE
SOL4	OPT'L ELECTRIC CONDENSATE DRAIN VALVE
1XFMR	CONTROL VOLTAGE TRANSFORMER 24VAC
2XFMR	SUPERVISOR 3 STEPDOWN TRANSFORMER 24VAC
K1	INTERNAL RUN RELAY CONTACT
K1-K2	INTERNAL PUMP RELAY CONTACT
K3	INTERNAL LOAD CONTROL RELAY CONTACT
K4	INTERNAL SEQUENCE RELAY CONTACT
K5	INTERNAL ELECTRIC DRAIN RELAY CONTACT
K6	INTERNAL COMMON FAULT RELAY CONTACT
K7	INTERNAL COMMON WARNING RELAY CONTACT
PWR	OPT'L SPECIAL FUNCTION RELAY
HRN	OPT'L AUDIBLE ALARM
HCR	OPT'L HEATER CONTROL RELAY
HTR1	SUMP HEATER 2000WATTS
HTR2	HEAT TRACE

02250136-108R03

8.42 WIRING DIAGRAM- WYE-DELTA WATER-COOLED WITH SUPERVISOR CONTROLLER



TRANSFORMER CONNECTIONS

PRIMARY VOLTS	PRIMARY TAPS	SECONDARY VOLTS	SECONDARY TAPS
200	H1-H2	110	X1-X4
220	H1-H2	110	X1-X3
230	H1-H2	115	X1-X3
240	H1-H2	120	X1-X3
380	H1-H3	110	X1-X3
400	H1-H3	115	X1-X3
416	H1-H3	120	X1-X3
440	H1-H4	110	X1-X3
460	H1-H4	120	X1-X3
480	H1-H4	115	X1-X3
500	H1-H4	115	X1-X4
525	H1-H5	115	X1-X4
550	H1-H5	110	X1-X3
575	H1-H5	115	X1-X3
600	H1-H5	120	X1-X3

COMP	DESCRIPTION
1M	COMPRESSOR MOTOR
1MOL	COMPRESSOR OVERLOAD
2M	COMPRESSOR RUN CONTACTOR
3M	OPT'L CANOPY FAN STARTER
3MOL	CANOPY FAN MOTOR OVERLOAD
4MOL	SECOND CANOPY FAN MOTOR OVERLOAD
5M	PF CAPACITOR CONTACTOR
S	COMPRESSOR START CONTACTOR
1FU	CONTROL TRANSFORMER FUSES
2FU	TRANSFORMER SECONDARY FUSE
3FU	CANOPY FAN BRANCH FUSES
P1	WET SUMP PRESSURE SENSOR
P2	PACKAGE DISCHARGE PRESSURE SENSOR
P3	OIL FILTER DISCHARGE PRESSURE SENSOR
P4	OIL FILTER DISCHARGE PRESSURE SENSOR
T1	DISCHARGE TEMPERATURE RTD
T2	DRY DISCHARGE TEMPERATURE RTD
T3	INJECTION OIL TEMPERATURE RTD
PSW1	INLET AIR FILTER SWITCH 559.9 MM WC - 22 IN WC
PSW2	WATER PRESSURE SWITCH - 10 PSI (WC ONLY)
SOL1	LOAD CONTROL SOLENOID VALVE
SOL2	OPT'L CONDENSATE SOLENOID VALVE
SOL3	OPT'L SCD CONDENSATE DRAIN VALVE
SOL4	OPT'L ELECTRIC CONDENSATE DRAIN VALVE
SOL5	OPT'L WATER SHUTOFF SOLENOID VALVE
1XFMR	CONTROL VOLTAGE TRANSFORMER
2XFMR	SUPERVISOR 3 STEPDOWN TRANSFORMER 24VAC
K1	INTERNAL RUN RELAY CONTACT
K2	INTERNAL UNLOAD RELAY CONTACT
K3	INTERNAL LOAD CONTROL RELAY CONTACT
K4	INTERNAL SEQUENCE RELAY CONTACT
K5	INTERNAL ELECTRIC DRAIN RELAY CONTACT
K6	INTERNAL COMMON FAULT RELAY CONTACT
K7	INTERNAL COMMON WARNING RELAY CONTACT
K8	INTERNAL POWER MONITOR RELAY
PWR	OPT'L AUDIBLE ALARM
HRN	OPT'L HEATER CONTROL RELAY
HCR	OPT'L HEATER 2000WATTS
HTR1	SUMP HEATER 500WATTS
HTR2	HEAT TRACE
HTR3	TRAP HEATER 500WATTS
HTR4	CONTROL PANEL HEATER 50WATTS

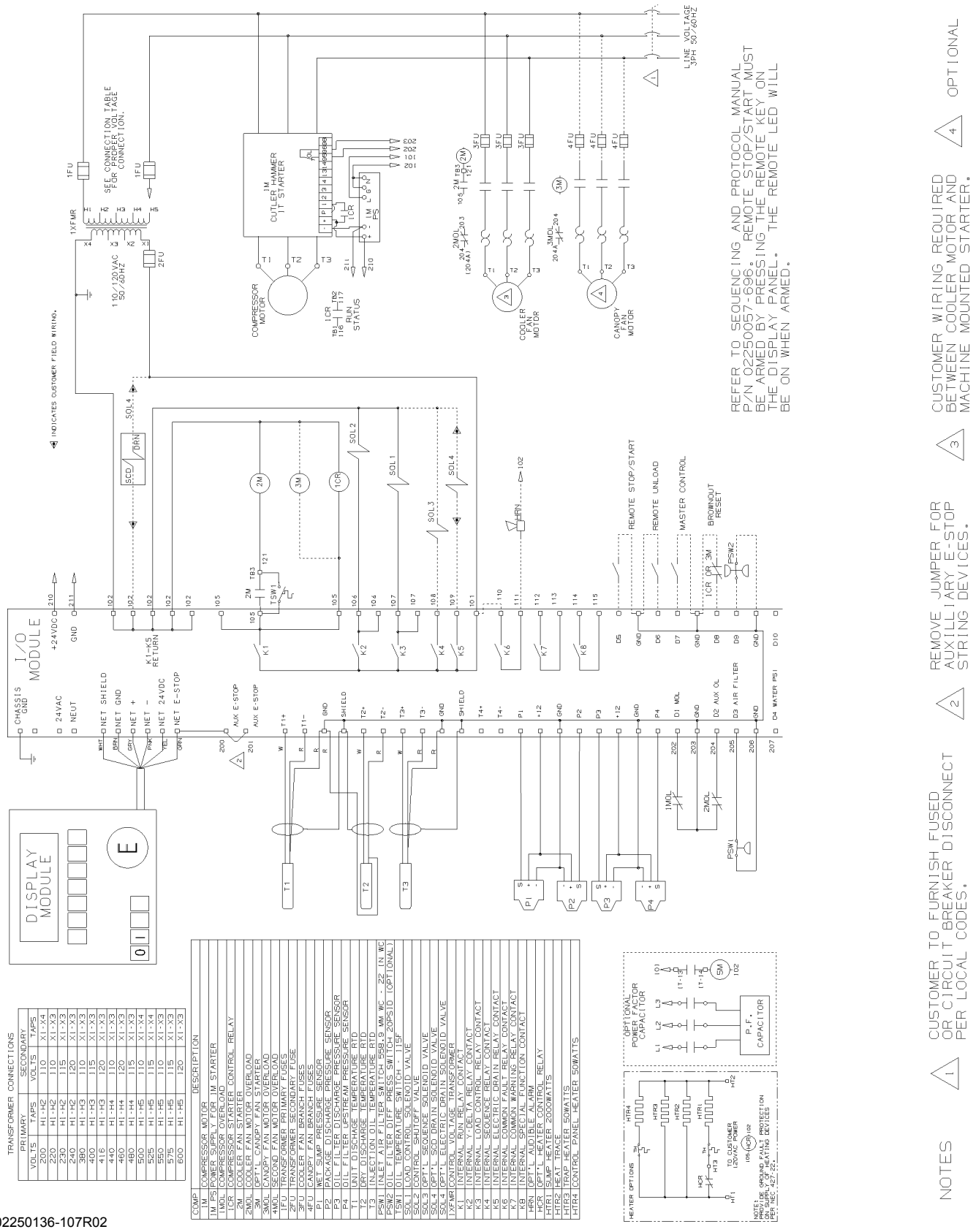
NOTES

1. CUSTOMER TO FURNISH FUSED OR CIRCUIT BREAKER DISCONNECT PER LOCAL CODES.
2. REMOVE JUMPER FOR AUXILLIARY E-STOP STRING DEVICES.
4. OPTIONAL ON WC

02250136-113R02

Section 8
ILLUSTRATION AND PARTS LIST

8.43 WIRING DIAGRAM- SOLID STATE AIR- AND REMOTE-COOLED WITH SUPERVISOR CONTROLLER



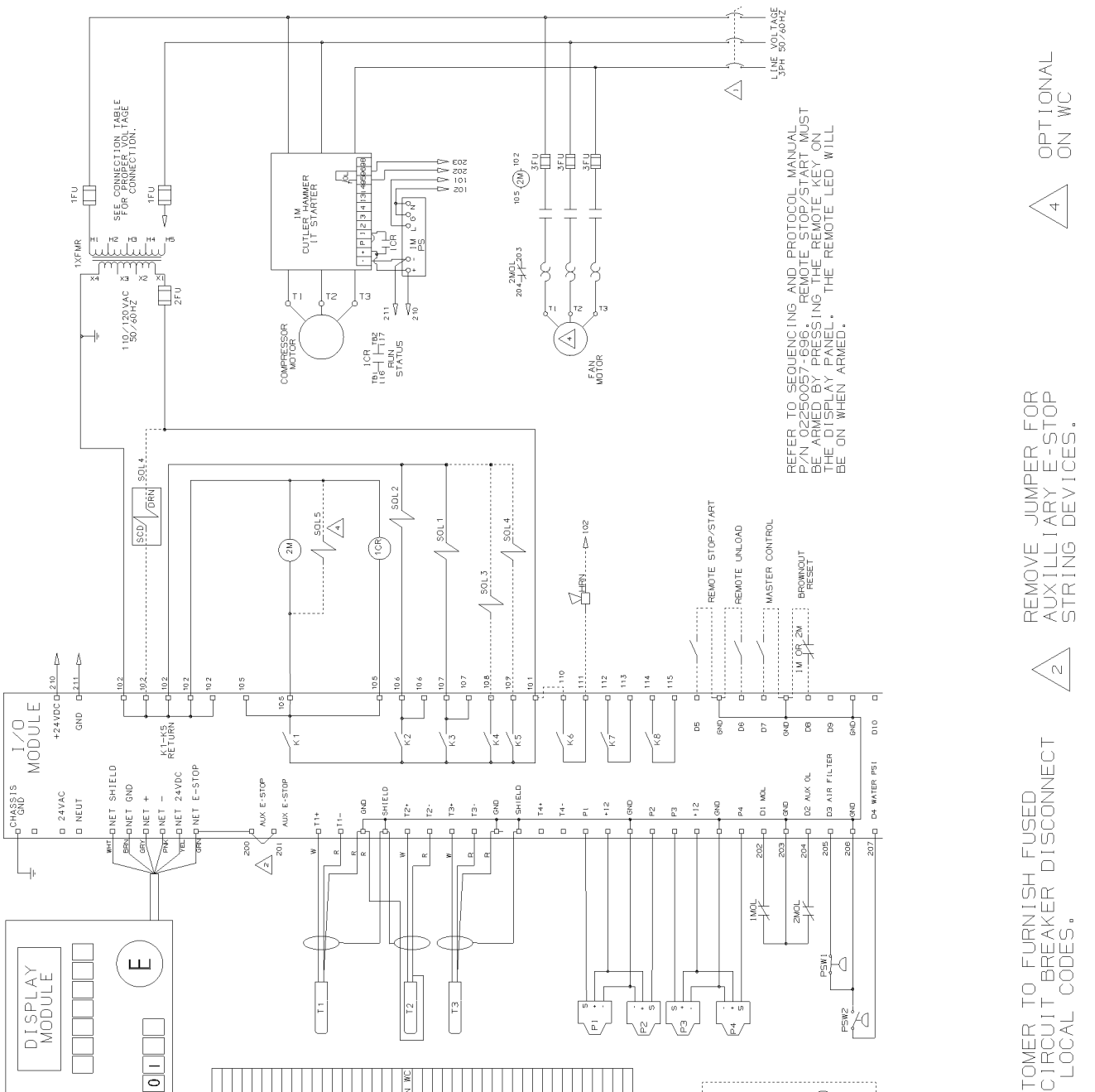
TRANSFORMER CONNECTIONS

PRIMARY VOLTS	PRIMARY TAPS	SECONDARY VOLTS	SECONDARY TAPS
200	H1-H2	110	X1-X4
220	H1-H2	110	X1-X3
230	H1-H2	115	X1-X3
240	H1-H2	120	X1-X3
380	H1-H3	110	X1-X3
400	H1-H3	115	X1-X3
416	H1-H3	120	X1-X3
440	H1-H4	110	X1-X3
460	H1-H4	120	X1-X3
480	H1-H4	115	X1-X3
500	H1-H5	110	X1-X4
550	H1-H5	115	X1-X3
575	H1-H5	115	X1-X3
600	H1-H5	120	X1-X3

COMP	DESCRIPTION
1M	COMPRESSOR MOTOR
1M-PS	COMPRESSOR 1M STARTER
1CR	COMPRESSOR OVERLOAD
1CR	COMPRESSOR STARTER CONTROL RELAY
2M	COOLER FAN STARTER
2MOL	COOLER FAN MOTOR OVERLOAD
3M	OPT'L CANOPY FAN STARTER
3MOL	CANOPY FAN MOTOR OVERLOAD
4MOL	SECOND FAN MOTOR OVERLOAD
1FU	TRANSFORMER PRIMARY FUSE
2FU	TRANSFORMER SECONDARY FUSE
3FU	COOLER FAN BRANCH FUSES
4FU	CANOPY FAN BRANCH FUSES
P1	WET SUMP PRESSURE SENSOR
P2	PACKAGE DISCHARGE PRESSURE SENSOR
P3	OIL FILTER DISCHARGE PRESSURE SENSOR
P4	OIL FILTER DIFF PRESS SWITCH 598.9 MM WC - 22 IN WC
PSW1	INLET AIR FILTER SWITCH 598.9 MM WC - 22 IN WC
PSW2	OIL FILTER DIFF PRESS SWITCH 20PSID (OPTIONAL)
TSW1	OIL TEMPERATURE SWITCH - 115F
SOL1	CONTROL/HOT GAS SOLENOID VALVE
SOL2	OPT'L SEQUENCE SOLENOID VALVE
SOL3	OPT'L SCD DRAIN SOLENOID VALVE
SOL4	OPT'L ELECTRIC DRAIN SOLENOID VALVE
1XFMR	CONTROL VOLTAGE TRANSFORMER
K1	INTERNAL RUN RELAY CONTACT
K2	INTERNAL LOAD CONTROL RELAY CONTACT
K3	INTERNAL UNLOAD CONTROL RELAY CONTACT
K4	INTERNAL SEQUENCE RELAY CONTACT
K5	INTERNAL ELECTRIC DRAIN RELAY CONTACT
K6	INTERNAL COMMON FAULT RELAY CONTACT
K7	INTERNAL COMMON WARNING RELAY CONTACT
K8	INTERNAL SPECIAL FUNCTION CONTACT
HRN	OPT'L AUDIBLE ALARM
4SPR	OPT'L HEATER CONTROL RELAY
HTR1	SUMP HEATER 200WATTS
HTR2	HEAT TRACE
HTR3	TRAP HEATER 50WATTS
HTR4	CONTROL PANEL HEATER 50WATTS

02250136-107R02

8.44 WIRING DIAGRAM- SOLID STATE WATER-COOLED WITH SUPERVISOR CONTROLLER



TRANSFORMER CONNECTIONS

PRIMARY		SECONDARY	
VOLTS	TAPS	VOLTS	TAPS
200	H1-H2	110	X1-X4
220	H1-H2	110	X1-X3
230	H1-H2	115	X1-X3
240	H1-H2	120	X1-X3
380	H1-H3	110	X1-X3
400	H1-H3	115	X1-X3
416	H1-H3	120	X1-X3
440	H1-H4	110	X1-X3
460	H1-H4	120	X1-X3
480	H1-H4	115	X1-X3
500	H1-H5	110	X1-X4
525	H1-H5	115	X1-X4
550	H1-H5	110	X1-X3
575	H1-H5	115	X1-X3
600	H1-H5	120	X1-X3

COMP	DESCRIPTION
1M	COMPRESSOR MOTOR
1M PS	POWER SUPPLY FOR 1M STARTER
1M OR 2M	COMPRESSOR STARTER CONTROL RELAY
2M	OPT'L CANOPY FAN STARTER
2MOL	COOLER FAN MOTOR OVERLOAD
3MOL	SECOND CANOPY FAN MOTOR OVERLOAD
4M	OPT'L PF CAPACITOR CONTACTOR
1FU	TRANSFORMER PRIMARY FUSES
2FU	TRANSFORMER SECONDARY FUSE
3FU	CANOPY FAN MOTOR FUSE
P1	INET SUMP PRESSURE SENSOR
P2	PACKAGE DISCHARGE PRESSURE SENSOR
P3	OIL FILTER DISCHARGE PRESSURE SENSOR
P4	OIL FILTER UPSTREAM PRESSURE SENSOR
T1	UNIT DISCHARGE TEMPERATURE RTD
T2	DRY DISCHARGE TEMPERATURE RTD
T3	WET DISCHARGE TEMPERATURE RTD
PSW1	INLET AIR FILTER SWITCH 568.9 MM WC - 22" IN WC
PSW2	WATER PRESSURE SWITCH - 10PSI (WC ONLY)
SOL1	LOAD CONTROL SOLENOID VALVE
SOL2	CONTROL SHUTOFF VALVE
SOL3	OPT'L SEQUENCE SOLENOID VALVE
SOL4	OPT'L SCD DRAIN SOLENOID VALVE
SOL5	OPT'L WATER SIDE DRAIN SOLENOID VALVE
1XFMR	CONTROL VOLTAGE TRANSFORMER
K1	INTERNAL RUN RELAY CONTACT
K2	INTERNAL Y-DELTA RELAY CONTACT
K3	INTERNAL LOAD CONTROL RELAY CONTACT
K4	INTERNAL SEQUENCE RELAY CONTACT
K5	INTERNAL ELECTRIC DRAIN RELAY CONTACT
K6	INTERNAL GROUND FAULT RELAY CONTACT
K7	INTERNAL COMMON WARNING RELAY CONTACT
K8	INTERNAL SPECIAL FUNCTION CONTACT
HRN	OPT'L AUDIBLE ALARM
HCR	OPT'L HEATER CONTROL RELAY
HTR1	SUMP HEATER 2000WATTS
HTR2	HEAT TRACE
HTR3	COMPRESSOR 50WATTS
HTR4	CONTROL PANEL HEATER 50WATTS

NOTES

1. CUSTOMER TO FURNISH FUSED OR CIRCUIT BREAKER DISCONNECT PER LOCAL CODES.
2. REMOVE JUMPER FOR AUXILLIARY E-STOP STRING DEVICES.
3. REFER TO SEQUENCING AND PROTOCOL MANUAL P/N 02250057-696. REMOTE STOP/START MUST BE ARMED BY PRESSING THE REMOTE KEY ON THE DISPLAY PANEL. THE REMOTE LED WILL BE ON WHEN ARMED.
4. OPTIONAL ON WC

02250136-112R02

WORLDWIDE SALES AND SERVICE

SULLAIR ASIA, LTD.

Sullair Road, No. 1
Chiwan, Shekou
Shenzhen, Guangdong PRV.
PRC POST CODE 518068
Telephone: 755-6851686
Fax: 755-6853473
www.sullair-asia.com

SULLAIR EUROPE, S.A.

Zone Des Granges BP 82
42602 Montbrison Cedex, France
Telephone: 33-477968470
Fax: 33-477968499
www.sullaireurope.com

SULLAIR CORPORATION

3700 East Michigan Boulevard
Michigan City, Indiana 46360 U.S.A.
www.sullair.com
Telephone: 1-800-SULLAIR (U.S.A. Only)
or 1-219-879-5451
Fax: (219) 874-1273

PARTS DEPARTMENT

Fax: (219) 874-1835
www.sullair.com/parts.shtm

SERVICE DEPARTMENT

Fax: (219) 874-1205
www.sullaircompressors.com

Printed in the U.S.A.

Specifications Subject To
Change Without Prior Notice
E03SF