



INDUSTRIAL ROTARY SCREW AIR COMPRESSOR TS-32

**200 through 600HP
150 through 450KW**

OPERATOR'S MANUAL AND PARTS LIST

Part Number 02250061-747
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Effective 8/94

STATEMENT OF WARRANTY

Sullair Corporation ("Sullair") warrants that, under normal use and service, if properly stored, handled, installed, operated and maintained, its portable and stationary air compressors ("Compressors") shall, for a period of twelve (12) months ("Warranty Period") (1) beginning at machine start-up if the registration card is returned within ten (10) days after start-up and the start-up occurs within twelve (12) months after shipment by Sullair from the factory, or (2) if not, beginning thirty (30) days after shipment by Sullair from the factory, be free of defects in materials and workmanship, under normal use and service; and that its rotary screw air-end ("Air-end") utilized in Compressors, shall, for a period of twenty-four (24) months ("Warranty Period"), (1) beginning at machine start-up if the registration card is returned within ten (10) days after start-up and the start-up occurs within twelve (12) months after shipment by Sullair from the factory, or (2) if not, beginning thirty (30) days after shipment by Sullair from the factory, be free of defects in materials and workmanship, under normal use and service. Should any such defect become apparent within such time, and written notice of each and every such defect is promptly provided to Sullair, and Sullair reasonably determines that any such Product is defective in material or workmanship, Sullair will, at its option, replace or repair such Product. Sullair's obligation with respect to such Product shall be limited to repair or replacement, F.O.B. Sullair's place of business, without any further expense to Sullair, and except as expressly provided herein, Sullair shall not in any event be liable for any other labor, transportation, installation, adjustment or other expenses which may arise in connection with such Product. Any misuse or abuse of the Product(s) voids this limited warranty.

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THE FOREGOING LIMITED WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

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PRODUCT SAFETY POLICY

JANUARY 1, 1992

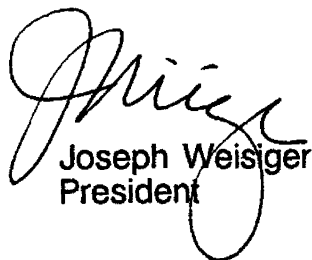
It is Sullair Corporation's policy to produce and market the best product available commensurate with safety and health needs of the customer.

Sullair's objective is to furnish a product that is safe for its designed and intended use. It is Sullair's corporate desire that no Sullair product be the direct cause of an accident when used for its intended application.

Product safety shall be assured through systematic application of sound engineering and management principles in the conception, design, development, testing, manufacturing, sale and servicing of all products.

Adequate instructions and cautionary labels shall be utilized.

This is a reaffirmation of a policy existing at Sullair since its origin.


Joseph Weisiger
President

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. 1816)

– Or Write –

Sullair Corporation
3700 E. Michigan Blvd.
Michigan City, IN 46360
Attn: Service Training Department

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1.1 GENERAL

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

The 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 may result in accidents and injuries.

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 OSHA regulations and/or any 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 OSHA regulations and/or 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 $\frac{1}{2}$ " (13mm) inside diameter is to be connected to the shut-off (throttle) valve, to reduce pressure in case of hose failure, per OSHA Standard 29 CFR

1926.302(b)(7) and/or any 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 $\frac{1}{2}$ " (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 $\frac{1}{2}$ " (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 device to prevent tools or hose ends from being accidentally disconnected and expelled.

G. Open fluid filter 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 per OSHA Standard 29 CFR 1910.242 (b) and/or any applicable Federal, State, and Local codes, standards and regulations.

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

1.4 FIRE AND EXPLOSION

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.

Section 1

SAFETY

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 Class BC or ABC 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 OSHA Standards 29 CFR 1910 and/or any applicable Federal, State or Local codes or regulations.

▲ DANGER

Death or serious injury can result from inhaling compressed air without using proper safety equipment. See OSHA standards and/or any applicable Federal, State, and Local codes, standards and regulations on 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 Material Safety Data Sheet for information pertaining to fluid of 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.

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 OSHA standards 29 CFR 1910 subpart N and/or any applicable Federal, State, and Local codes, standards and regulations.

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 the compressor 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.

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1.10 ENTRAPMENT

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

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

Section 2 INSTALLATION

2.1 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.

2.2 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:

<u>MODEL-HP/KW</u>	<u>WATER FLOW (GPM)</u>
TS-32 200HP/150KW	45
TS-32 250HP/187KW	54
TS-32 300HP/225KW	65
TS-32 400HP/300KW	87
TS-32 500HP/375KW	106
TS-32 600HP/450KW	129

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.

The table 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).

2.3 SERVICE AIR PIPING

Service air piping should be installed as shown in [Figure 2-11](#). 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.

2.4 COUPLING ALIGNMENT CHECK

In preparation for the factory test, the coupling supplied with your compressor is properly aligned for operation. However, due to shipping and handling, it is necessary to recheck the coupling alignment. Refer to Coupling Alignment procedure explained in the Maintenance section of this manual.

2.5 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 sight glass when the compressor is shutdown.

VENTILATION REQUIREMENTS

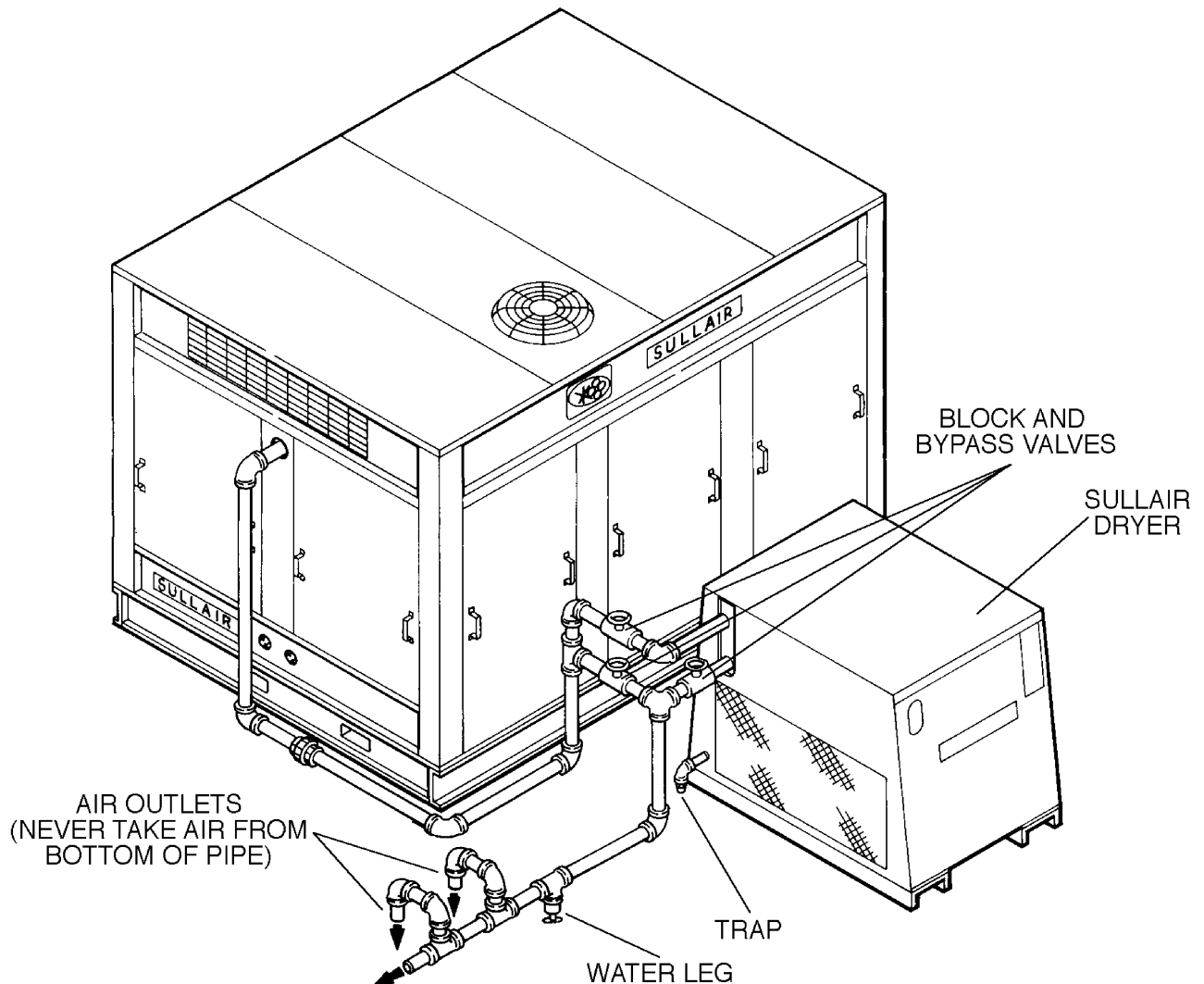
		COMPRESSOR PACKAGE		REMOTE AIR-COOLED (I) COOLING PACKAGE	
MODEL	MOTOR HP/KW	HEAT REJECTION BTU/HR	VENT FAN FLOW (II) CFM	HEAT REJECTION BTU/HR	AIR FLOW CFM
TS-32-200	200/150	47,620	4150	560,200	21,500
TS-32-250	250/187	57,360	4150	674,800	21,500
TS-32-300	300/225	64,170	4150	802,100	32,500
TS-32-400	400/300	81,360	8300	1,084,800	32,500
TS-32-500	500/375	85,900	8300	—	—
TS-32-600	600/450	104,440	8300	—	—

(I) Applicable to air-cooled models only.

(II) Applicable to compressors with enclosure.

Section 2 INSTALLATION

Figure 2–1 Service Air Piping (Typical Installation)



2.6 FLUID PIPING (AIR-COOLED ONLY)

To allow depressurization of the cooling package and connecting piping between the compressor and the cooling package upon shutdown of the compressor, a $\frac{1}{2}$ " (13 mm) depressurization 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 shall not exceed 10 PSIG (0.7 bar). 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 determin-

ing 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

2.7 ELECTRICAL PREPARATION

Interior electrical wiring is performed at the factory. Required customer wiring is minimal, but should be done 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.



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. Depress the PROG pad twice to get to AUTOMATIC/MANUAL mode selection and use the cursor pad to change to MANUAL mode.
5. Reconnect the three (3) motor leads and jog the motor for a direction of rotation check, as explained in Section 2.8.

2.8 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 ON/OFF pad twice 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 Models TS-32-200, 250, 500 and 600HP/150, 187, 375 and 450KW, and counterclockwise on Models TS-32-300, 400HP/225 and 300KW. 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 re-check rotation. A “Direction of Rotation” decal is located on the coupling guard between the motor and compressor to show proper motor/compressor rotation.

SULLAIR SERIES TS-32 SPECIFICATIONS

(50 Hz)

HP/KW	COOLING	CAPACITY (ACFM/M ³ /MIN)	LENGTH (IN/MM)	WIDTH (IN/MM)	HEIGHT (I) (IN/MM)	WEIGHT (II) (LB/KG)
200/150	Air	1125/31.9	159/4039	87/2210	80.5/2045	10,000/4536
200/187		1350/38.2	159/4039	87/2210	80.5/2045	11,500/5216
300/225		1650/46.7	159/4039	87/2210	80.5/2045	13,000/5897
400/300		2200/62.3	198/5029	96/2438	82.5/2096	15,500/7031
500/345		2600/73.6	198/5029	96/2438	82.5/2096	17,300/7847

200/150	Water	1125/31.9	159/4039	87/2210	80.5/2045	10,500/4763
250/187		1350/38.2	159/4039	87/2210	80.5/2045	12,000/5443
300/225		1650/46.7	159/4039	87/2210	80.5/2045	13,500/6124
400/300		2200/62.3	198/5029	96/2438	82.5/2096	16,000/7257
500/375		2600/73.6	198/5029	96/2438	82.5/2096	17,800/8074

(60 Hz)

200/150	Air	1125/31.9	159/4039	87/2210	80.5/2045	10,000/4536
250/187		1350/38.2	159/4039	87/2210	80.5/2045	11,500/5216
300/225		1650/46.7	159/4039	87/2210	80.5/2045	13,000/5897
400/300		2200/62.3	198/5029	96/2438	82.5/2096	15,500/7031
500/375		2600/73.6	198/5029	96/2438	82.5/2096	17,300/7847
600/450		3100/87.8	198/5029	96/2438	82.5/2096	19,300/8754

200/150	Water	1125/31.9	159/4039	87/2210	80.5/2045	10,500/4763
250/187		1350/38.2	159/4039	87/2210	80.5/2045	12,000/5443
300/225		1650/46.7	159/4039	87/2210	80.5/2045	13,500/6124
400/300		2200/62.3	198/5029	96/2438	82.5/2096	16,000/7257
500/375		2600/73.6	198/5029	96/2438	82.5/2096	17,800/8074
600/450		3100/87.8	198/5029	96/2438	82.5/2096	19,800/8981

(I) Add 7 in./18 cm for enclosure. Add 27.5 in./70 cm (200, 250, 300HP/150, 187, 225KW), and 31.5 in./80 cm (400, 500, 600HP/300, 375, 450KW) for servicing separator.

(II) Add 1500 lbs/ 681 Kg for enclosure (200-300HP/150-225KW). Add 2000 lbs/827 Kg for enclosure (400-600HP/300-450KW).

COMPRESSOR:

Type
Standard Operating Pressure (III)
Bearing Type
Ambient Temperature (Max.) (IV)
Cooling
Lubricant
Sump Capacity
Control

STANDARD MODELS

Rotary Screw
100 psig (6.9 bar)
Anti-Friction
104°F (40°C)
Pressurized Fluid
Sullube 32 or Equivalent
60 Gallons (227 Liters) (200 – 300HP/150 – 225KW)
80 Gallons (302 Liters) (400 – 600HP/300 – 450KW)
Electro-Pneumatic

(III) Special compressors are available for operating at higher pressures.

(IV) Special compressors are available for operation in higher ambient temperatures.

MOTOR (60 Cycle Compressors)

Size

Type

Speed

STANDARD MODELS

200-400HP/150 – 300KW – 460V
500-600HP/375 – 450KW – 2300V
Open Dripproof, Three Phase, 60 Cycles
105°F (41°C) Maximum Ambient Temperature,
Options Available: Other Voltages
TEFC also Available
1770 RPM

Section 3 SPECIFICATIONS

MOTOR (50 Cycle Compressors)

Size	STANDARD MODELS 200–400HP/150 – 300KW – 380V 500–600HP/375 – 450KW – 3300V
Type	Open Dripproof, Three Phase, 50 Cycles 104°F (40°C) Maximum Ambient Temperature Options Available: Other Voltages T.E.F.C. also Available
Speed	1500 RPM

LUBRICATION GUIDE – STANDARD COMPRESSORS

Sullair TS–32 Series standard compressors are filled with Sullube 32 fluid as factory fill. **MIXING OF OTHER FLUIDS WITHIN THE COMPRESSOR SHOULD BE AUTHORIZED BY THE FACTORY OTHERWISE THIS WILL VOID ALL WARRANTIES.**

Sullube 32 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.

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.

4.1 INTRODUCTION

Your compressor is equipped with a Supervisor I microprocessor controller. This section explains the functions and operation of the Supervisor control as well as how to program its features for your particular application.

4.2 INSTRUMENTATION, FUNCTIONAL DESCRIPTION

Refer to [Figure 4–1](#). The Supervisor I control panel consists of displays for pressure, temperature, time (run hours), and a status message. Default pressure is line pressure (P2) which is normally displayed with pad selections for sump pressure, fluid pressure, separator differential and fluid filter differential. Default temperature is unit discharge temperature (T1) which is normally displayed with a pad selection for injection fluid temperature. An LED map provides a graphic illustration of the points being monitored. Operator controls consist of EMERGENCY STOP, ON/OFF, monitor display pads and programming pads. All compressor control, pressure and temperature displays are provided in the Supervisor I.

- The **line (terminal) pressure transducer (P2)** is connected to the dry side of the receiver downstream from the check valve and continually monitors the plant air pressure.

- The **sump pressure transducer (P1)** monitors the sump/unit discharge pressure.

- **Injection oil pressure (P3)** monitors oil pressure at the point of injection into the compressor downstream of the oil filter.

- **Filter oil pressure (P4)** monitors oil pressure ahead of the oil filter and is used with P3 to calculate oil filter differential; $\Delta P_2 = P_4 - P_3$.

- The **discharge temperature probe (T1)** monitors the temperature of the air leaving the compressor unit. For both air-cooled and water-cooled compressors the normal reading is approximately 180°F (82°C) based on 80°F (27°C) ambient temperature.

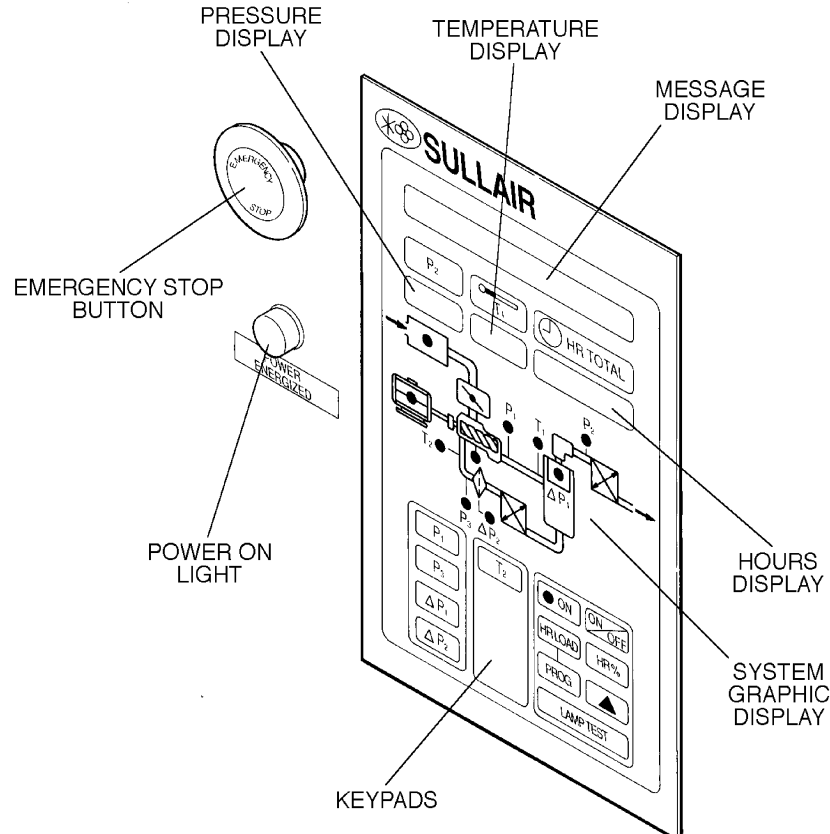
- The **injection temperature probe (T2)** monitors the temperature of the fluid just before it is injected into the unit.

- The **air filter maintenance switch** monitors the condition of the air intake filter. When the Supervisor displays the message “AIR FILTER MAINT RQD”, filter service is required.

- The **ON/OFF pad** turns the compressor on and off.

- The **hour display** records cumulative hours of operation for the compressor and is useful for planning and logging service operations. A selectable

Figure 4–1 Supervisor Control Panel



Section 4

SUPERVISOR

display of “load” hours or “load” as a percent of “run” hours is available by pressing “HR LOAD” or “HR%” respectively.

- **Separator differential pressure** can be displayed by pressing the “**ΔP1**” pad. When a differential of 10 PSID (0.7 bar) is reached, the message “SEPARATOR MAINT RQD” is displayed and the ΔP1 LED will flash.

- **Oil filter differential pressure** can be displayed by pressing the “**ΔP2**” pad. When a differential of 20 PSID (1.4 bar) is reached, the message “OIL FILTER MAINT RQD” will be displayed and the ΔP2 LED will flash.

- The “**ON**” LED indicates when the compressor is running.

- The **amber light** on the control panel indicates when power to the compressor is supplied.

- The **green message display** indicates the status of the compressor.

4.3 AUTOMATIC OPERATION

For applications with varied periods of time when there are no air requirements, Supervisor’s Automatic mode allows the compressor to stop (time delayed) when no compressed air requirement is present and restart as compressed air is needed. AUTOMATIC also incorporates the 10 second unloaded STOP MODE feature which allows the motor to stop from an unloaded condition when the ON/OFF pad is pressed or after the timed stop period. If immediate stop is required when operating in AUTOMATIC mode, press the EMERGENCY STOP button on the control panel.

4.4 SUPERVISOR I OUTPUT RELAYS

PARAMETERS	OPERATION
COMPRESSOR RUN	Initiates starter controls and all auxiliary contacts that operate simultaneously with the main starter. Supervisor assumes compressor is running if contact is closed and P1 discharge pressure is at a satisfactory level.
LOAD/UNLOAD SOLENOID VALVE	Controls regulator bypass solenoid valve to load or unload the compressor as demand varies.
COMMON FAULT ALARM	Initiates to provide a common signal for remote indication of a fault shutdown.
WYE–DELTA TRANSITION	Contact is used to control Wye–Delta starter transitions logic. This contact is controlled by the Wye to Delta timing function.
DRAIN SOLENOID VALVE	Controlled by the drain time and drain interval timers, this contact is used to control an optional condensate drain solenoid valve.

4.5 SUPERVISOR I SPECIAL FUNCTION INPUTS

PARAMETER	OPERATION
REMOTE STOP/START (J1/1–2)	Closing this contact initiates the STOP mode. Opening this contact permits a compressor start if permissives are satisfied. Please note that AUTOMATIC/MANUAL mode characteristics are maintained even though remote STOP/START is used. The RUN LED will flash if stopped with remote contact.
PARAMETERS SELECT (J1/15–16)	With this contact open, compressor operates within pressure range P2A. With this contact closed, compressor operates within pressure range P2B. Suitable for 2 compressor base/load sequencing.
RS 232 SERIAL PORT (J4)	Full 2–way communication and control that provides analog display transmission, signal status and compressor status indication, as well as remote STOP/START via computer. A great tool for preventive maintenance programs and customer DCS management packages. Baud rates are factory settable from 150 to 4800. Consult factory for communication protocol.

4.6 SUPERVISOR I AUXILIARY DIGITAL INPUTS

PARAMETERS	OPERATION
MOTOR/OVERLOAD (J1/7–8)	Monitors normally closed compressor motor overload contact. Will initiate compressor shutdown, flash the motor LED on the graphic map and display the message “MOTOR OVERLOAD” if the contact opens.
COOLING SYSTEM MONITOR (J1/9–10)	Monitors cooler fan overload (AC), water pressure switch (WC), and/or canopy fan motor overload. Normally closed signal when opened will initiate compressor shutdown and display the message “FAN OL/LOW WATER”
DRY–SIDE DISCHARGE TEMPERATURE (J1/11–12) (T3)	Separate electronic switch monitors discharge temperature on the dry side of the separator and will initiate a shutdown if greater than 235°F (113°C). Message display is “HIGH TEMP T3”.
INTERSTAGE TEMPERATURE (J1/13–14) (T4)	Only used on tandem compressors. Parameters are same as T3. Message display is “HIGH TEMP T4”.

4.7 OPTIONAL FACTORY CONFIGURATIONS

A. MULTIPLE PRESSURE RANGES

Supervisor I offers the convenience of programming 1, 2, or 3 UNLOAD/LOAD pressure ranges that can be enabled at the flip of a switch. The standard program offers “A” or “B” ranges that are selectable based on the status of the J1/15–16 terminals. With the terminals open, the “A” range is selected. With the terminals closed, the “B” range is

selected. With this modification range “C” is provided. To select the “C” range, close terminals 1–2 on additional input board. All ranges may be programmed irrespective of the range selected for operation.

B. AUXILIARY DRY CONTACTS

With the addition of an extra 8–relay output board, auxiliary dry contracts can be provided to remotely indicate each annunciation point as listed below.

**ON EXISTING RELAY BOARD
(J10 Slot #7)**

- K6 – Max Press P1 Prealarm
Indicates at 98% of Max Press P1 shutdown. Does not latch.
- K7 – Low Press P3 Prealarm
Indicates at 5 PSI above Min Press P3 shutdown. Does not latch.
- K8 – High Temp T1 Prealarm
Indicates at 225°F (107°C). Does not latch.

**ON ADDITIONAL 8 RELAY OUTPUT BOARD
(J11 Slot #8)**

- K1 – Max Press P1 shutdown, P1 or P2 sensor failure.
- K2 – Min Press P3 shutdown, P3 or P4 sensor failure.
- K3 – High Temp T1, T2, T3, T4 shutdown, T1 or T2 sensor failure.
- K4 – Compressor Motor Overload.
- K5 – Fan Overload/Low Water Pressure.
- K6 – Oil Filter Maintenance Required.
- K7 – Separator Maintenance Required.
- K8 – Inlet Filter Maintenance Required.

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4.8 SUPERVISOR I MICROCONTROLLER PROGRAMMING

Several display and operational functions are user programmable from the Supervisor keypad. Repeatedly pressing the "PROG" pad will scroll the

message display through the various programmable parameters. The cursor pad (▲) is used to change parameter values. A built-in timed delay feature returns the message display to operation mode after 5 seconds of inactivity.

PARAMETER (IN SEQUENTIAL ORDER)	OPERATION
LANGUAGE	Press the cursor pad for 2 seconds to change to next language for the message display. Languages in order are: French, German, Italian, Spanish and English.
AUTOMATIC/MANUAL	The controller default state is AUTOMATIC operation. If line pressure is adequate and/or the sump pressure is greater than 5 to 10 psig (0.3 to 0.7 bar), pressing the ON/OFF pad will put the control in STANDBY mode until line pressure drops to the programmed differential value and the sump pressure is low enough to permit a START. AUTOMATIC mode provides a timed STOP with automatic restart operation. Automatic restart after power failure is also included in AUTOMATIC mode. MANUAL mode ignores the line pressure permissive of AUTOMATIC and starts the compressor with ON/OFF as long as the minimum sump pressure and other fault conditions are satisfied. The compressor is only stopped manually with no time stop and no automatic restart after power failure.
PRESSURE UNITS	Selects bar or psig; use cursor key to select. 1 bar = 14.5 psig.
TEMPERATURE UNITS	°C OR °F; use cursor key to select.
MAXIMUM PRESSURE P2A	Use the cursor key to set the OFF LOAD pressure setting. Depressing the cursor pad for more than 2 seconds will initiate a fast scrolling mode to quickly reach the desired setpoint for all programmable setpoints. A wraparound feature (on all functions) returns the value to its lowest limit if scrolling exceeds the high limit. Typically set for 110 psig (7.6 bar).
PRESSURE DIFFERENTIAL P2A	Selects the ON LOAD setting by subtracting the differential from P2A. Normally set for 10 psig (0.7 bar).
MAXIMUM PRESSURE P2B	Same as P2A, but provides a second OFF LOAD setting for base/load operation.
PRESSURE DIFFERENTIAL P2B	Same as P2A, but provides a second ON LOAD setting for base/load operation.
UNLOAD TIME	Adjusts timed stop function if compressor is running unloaded for 0 to 60 minutes.
WYE TO DELTA TIME	Adjusts transition timer for Wye-Delta starters from 0 to 30 seconds. ON LOAD function is delayed by the value of Wye to Delta time. A separate relay contact is provided with this function. It is recommended that a transition time of 8 seconds not be exceeded.
DRAIN TIME AND DRAIN INTERVAL	A timed contact is furnished to control a condensate (OPTIONAL) removal solenoid valve. Both drain duration time (1 to 10 seconds) and time interval between drains (1 to 10 minutes) may be set from these modes.

4.9 CONTROL SYSTEM ADJUSTMENT

Refer to Figure 4-11. Before starting the compressor, but with power applied, press the PROG pad on the Supervisor panel three times to enter the PROGRAMMING mode. Continue pressing the PROG pad until "MAX PRESS P2A" is displayed. Use the cursor (UP arrow) pad to set the desired UNLOAD pressure (110 psig [7.6 bar]). Note that pressing the pad for over 2 seconds will initiate fast scrolling of the value being set.

Once the correct value is selected, press the PROG pad to proceed to the display "PRES DIF P2A". This value is used to set the LOAD pressure where the compressor will begin building pressure (10 PSID [0.7 bar]). This will provide LOAD/UNLOAD operation at 100 to 110 psig [6.7 to 7.6 bar]). These val-

ues will be entered when the display is returned to operating mode condition by continuing to press PROG through the end of the PROGRAMMING menu or allowing the display to automatically return to operating mode status after 5 seconds of inactivity. While scrolling with the PROG pad, all existing user programmable values will be displayed.

4.10 MESSAGE DISPLAY DEFINITIONS

In addition to programming prompts, the 20-character electro-luminescent display provides information regarding machine status and trouble conditions. These messages can be displayed in any one of five languages; English, French, Spanish, German or Italian. The following table explains what each message means as it relates to the compressor.

MESSAGE DISPLAY DEFINITIONS

MACHINE STATUS MESSAGES	EXPLANATION
MANUAL SHUTDOWN	The machine is ready to be started. Machine control is powered up; permissives are made; machine has been stopped via the ON/OFF pad, the remote start/stop contact (if the RUNNING LED is flashing), or a computer command through the RS232 port.
STANDBY	The machine is in AUTOMATIC mode and a start was initiated, but either the line pressure P2 is higher than the LOAD setpoint or sump pressure P1 is higher than 14.5 psig (1 bar). Machine start will occur when these pressures are satisfied.
ON LOAD	The compressor is running and P2 is less than the UNLOAD setpoint. The LOAD/UNLOAD solenoid valve relay (output J10/50-51) is energized. The compressor is attempting to meet the system air demand.
OFF LOAD	The compressor is running and P2 has exceeded UNLOAD setpoint, but has not dropped below the LOAD setpoint (DIFF PRESS P2). The UNLOAD solenoid valve relay is deenergized and the compressor is unloading.
STOP MODE	The machine is in AUTOMATIC mode and a stop command has been initiated either via the ON/OFF pad or the remote STOP/START contact (J1/1-2). This mode runs the compressor for 10 seconds with the LOAD/UNLOAD valve relay deenergized before stopping.

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4.11 TROUBLE INDICATION SETPOINTS

CONDITION/DISPLAY	CAUSE
P1 High Discharge Pressure Shutdown HIGH PRESSURE P1	Default is 135 psig (9.3 bar), factory settable for high pressure machines. 50 – 200 psig (3.5 – 13.8 bar) Machine will shut down and must be cleared and reset by pressing ON/OFF once before restart is possible.
P1 High Discharge Pressure Prealarm HIGH PRESSURE P1	Indicates at 98% of Max Press P1.
Failure to Run, P1 Pressure Loss PRESSURE LOSS	Since no run contact is used to indicate run status, the Supervisor examines P1 pressure to see if a minimum of 14.5 psig (1 bar) is being produced when the RUN output is energized. Reading is overridden for 1 minute at startup.
Low Oil Pressure P3 Shutdown (Injection Oil Pressure) LOW PRESSURE P3	Min Press P3 is factory preset at 10 psig (.7 bar). Factory adjustable 3 – 145 psig (.2 – 10 bar). Requires clearing of shutdown by pressing ON/OFF once to reset.
Low Oil Pressure P3 Prealarm LOW PRESSURE P3	Set for 5 psig (.3 bar) above Min Press P3. Not latching.
High Temperature T1 Shutdown (Compressor Discharge Temperature) HIGH TEMPERATURE T1	Pre-programmed shutdown at 235°F (113°C). Requires ON/OFF reset to clear.
High Temperature T1 Prealarm HIGH TEMPERATURE T1	Pre-programmed indication at 225°F (107°C). Not latching.
High Temperature T2 Shutdown (Injection Oil Temperature) HIGH TEMPERATURE T2	Pre-programmed shutdown at 235°F (113°C).
High Temperature T3 Shutdown (Dry-side Discharge Temperature) HIGH TEMPERATURE T3	Separate RTD controller board provides a digital input at J1/11–12. Preset at 235°F (113°C).
High Temperature T4 Shutdown (Tandem Interstage Temperature) HIGH TEMPERATURE T4	Second channel of RTD controller board provides a digital input at J1/13–14. Preset at 235°F (113°C). (Note: J1/13–14 must be jumpered if not a tandem compressor).
P1 – P4 Shorted Sensor Shutdown SHORT CIRC Px SENDER	Signal voltage > 4.82 volts (196 psig/13.5 bar).
P1 – P4 Open Sensor Shutdown OPEN CIRC Px SENDER	Signal voltage < 0.15 volts.
T1 – T2 Shorted Sensor Shutdown SHORT CIRC Tx SENDER	Resistance < 81 ohms (–45 C).
T1 – T2 Open Sensor Shutdown OPEN CIRC Tx SENDER	Resistance >176 ohms (200 C).
Inlet Filter Maintenance Required AIR FILTER MAINT RQD	Vacuum Switch connected to J1/5–6 and preset for 22" WC. Indicates when inlet filter is too dirty for proper air flow. Not latched and not a shutdown condition.
Separator Maintenance Required SEPARATOR MAINT RQD	Calculated: P1 – P2 – 2 psig (.14 bar) Preset to warn at 10 psig. Warnings will occur in unloading/unloaded states and should be ignored. Only valid at full load condition. Not latched and not a shutdown condition.

4.11 TROUBLE INDICATION SETPOINTS (Cont'd.)

CONDITION/DISPLAY	CAUSE
Oil Filter Maintenance Required OIL FILTER MAIN RQD	Calculated: P4 – P3. Preset at 20 psig (1.38 bar). P4 is located on the high pressure side of the oil filter. P3 is the injection oil pressure on the low pressure side of the oil filter. Not latched, not a shutdown condition.
Emergency Stop EMERGENCY SHUTDOWN	Indicates if Emergency Stop button is depressed or if optional sensors wired in series with the E–Stop button and its master control relay are open. Must be cleared and reset by pressing ON/OFF once.
Fan Overload/Low Water Pressure FAN OL/LOW WATER	Shutdown of canopy or cooler fan motor overload as well as water pressure switch for water–cooled machines. Normally closed contact wired to J1/9–10. (Water pressure switch is normally open and closes with 10 psig minimum water pressure. Fault must be cleared and reset by pressing ON/OFF pad once.

Section 5 COMPRESSOR SYSTEMS

5.1 INTRODUCTION

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.

5.2 DESCRIPTION OF COMPONENTS

Refer to Figure 5-1. The components and assemblies of the air compressors are clearly shown. The complete package includes **compressor, electric**

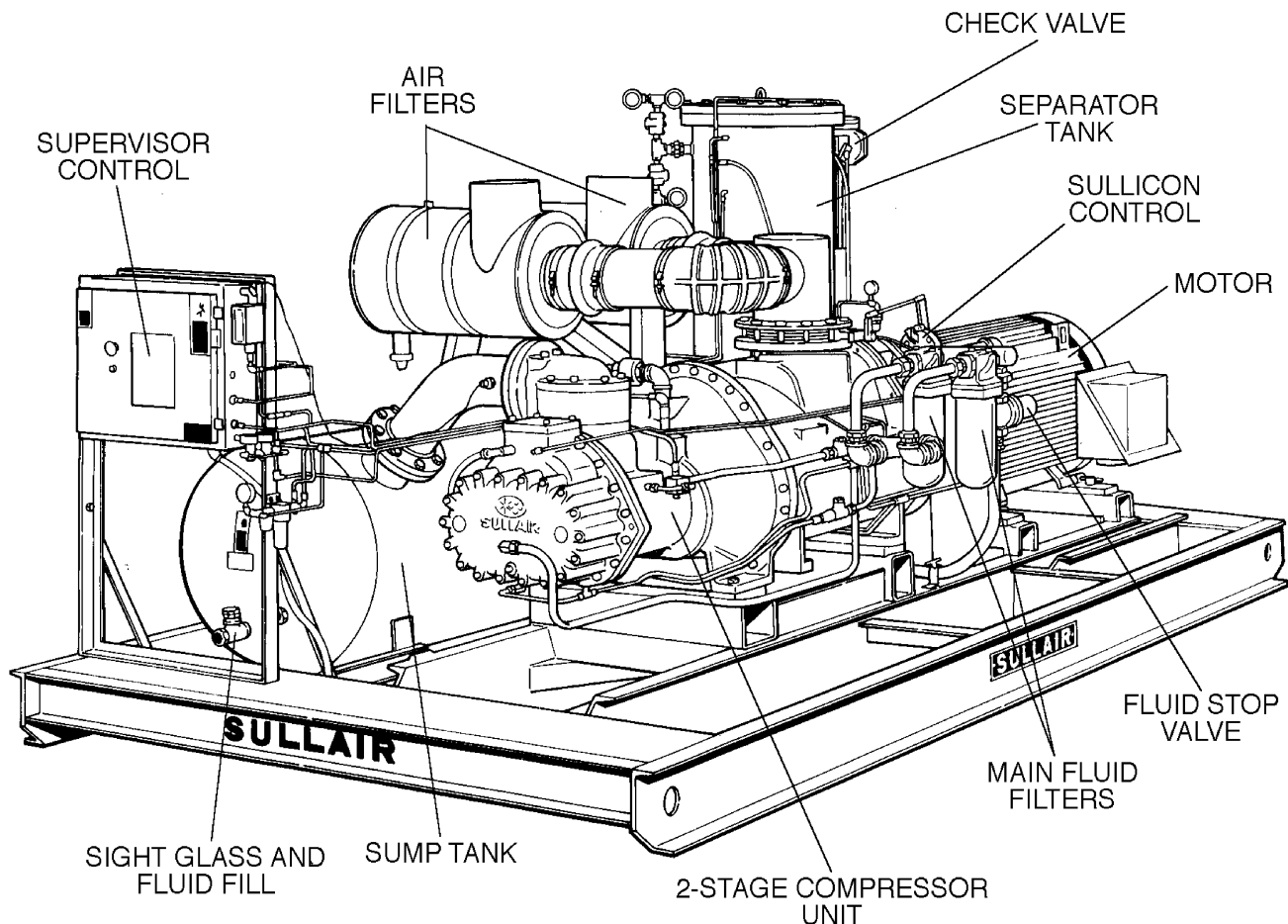
motor, compressor inlet system, compressor discharge system, compressor cooling and lubrication system, capacity control system and Supervisor Control System all mounted on a structural steel frame (optional starters mounted on 200 through 300HP/150 through 225KW).

On air-cooled models, the cooling package is remote-mounted and shipped as a separate unit. The separate motor-driven fan cooling package forces air through the coolers, 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. Two fans on 400 through 600HP/300 through 450KW (one fan on 200 through 300HP/150 through 225KW) are 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

Figure 5-1 Sullair Series TS-32 Rotary Screw Compressor (Air-cooled Version)



control valves. The inlet air filters are also mounted for easy access and servicing.

5.3 SULLAIR COMPRESSOR UNIT, FUNCTIONAL DESCRIPTION

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

Fluid is injected into the compressor unit in large quantities 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 leakage paths 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.

5.4 COMPRESSOR COOLING AND LUBRICATION SYSTEM, FUNCTIONAL DESCRIPTION

Refer to Figures 5-21, 5-31, 5-41 and 5-51. The cooling and lubrication system consists of a **fluid cooler, aftercooler, full flow fluid filter, fluid stop valve, thermal valve and a water regulating valve** (for water-cooled models only). For water-cooled models, a fluid cooler and aftercooler are mounted on the compressor package. For air-cooled models, they are mounted on separate cooling packages.

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 bottom of 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). 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), due to the heat of compression, the ther-

mal 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, (or filters) and on to the compressor unit. Each fluid filter has a replacement element and an integral pressure bypass valve.

The fluid stop valve prevents fluid from filling the compressor unit when the compressor is shut down. When the compressor is operating, the fluid stop valve is held open by air pressure from the compressor unit allowing a free flow of fluid from the receiver/sump back to the compressor unit. On shutdown, the compressor unit pressure is reduced, causing the fluid stop valve to close and isolate the compressor unit from the cooling system.

Water-cooled versions of the compressor have a water-flow regulating valve which operates to conserve water during periods of varying load on the compressor. This same valve automatically shuts off the water supply when the compressor is shut down. In addition, water-cooled models have a water pressure switch to prevent operation with inadequate water pressure.

5.5 COMPRESSOR DISCHARGE SYSTEM, FUNCTIONAL DESCRIPTION (200, 250 and 300HP/150, 187 AND 225KW)

Refer to Figures 5-21, 5-41 and 5-61. The compressor unit discharges the compressed air/fluid mixture through a discharge check valve into the combination receiver/sump. The discharge check valve prevents air/fluid in the receiver from returning to the compression chamber after the compressor has been shut down. 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 the ends of the tank. 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. By pressing the ΔP1 pad on the Supervisor, the operator can monitor the condition of the separator elements by reading the differential pressure on the digital display. At a differential of 10 PSID (0.7 bar), or greater, the operator will be told to service the separator elements. At this time, separator element replacement is necessary.

Section 5 COMPRESSOR SYSTEMS

Figure 5-2 Compressor Piping and Instrument Diagram (200, 250, 300HP/150, 187, 225KW)

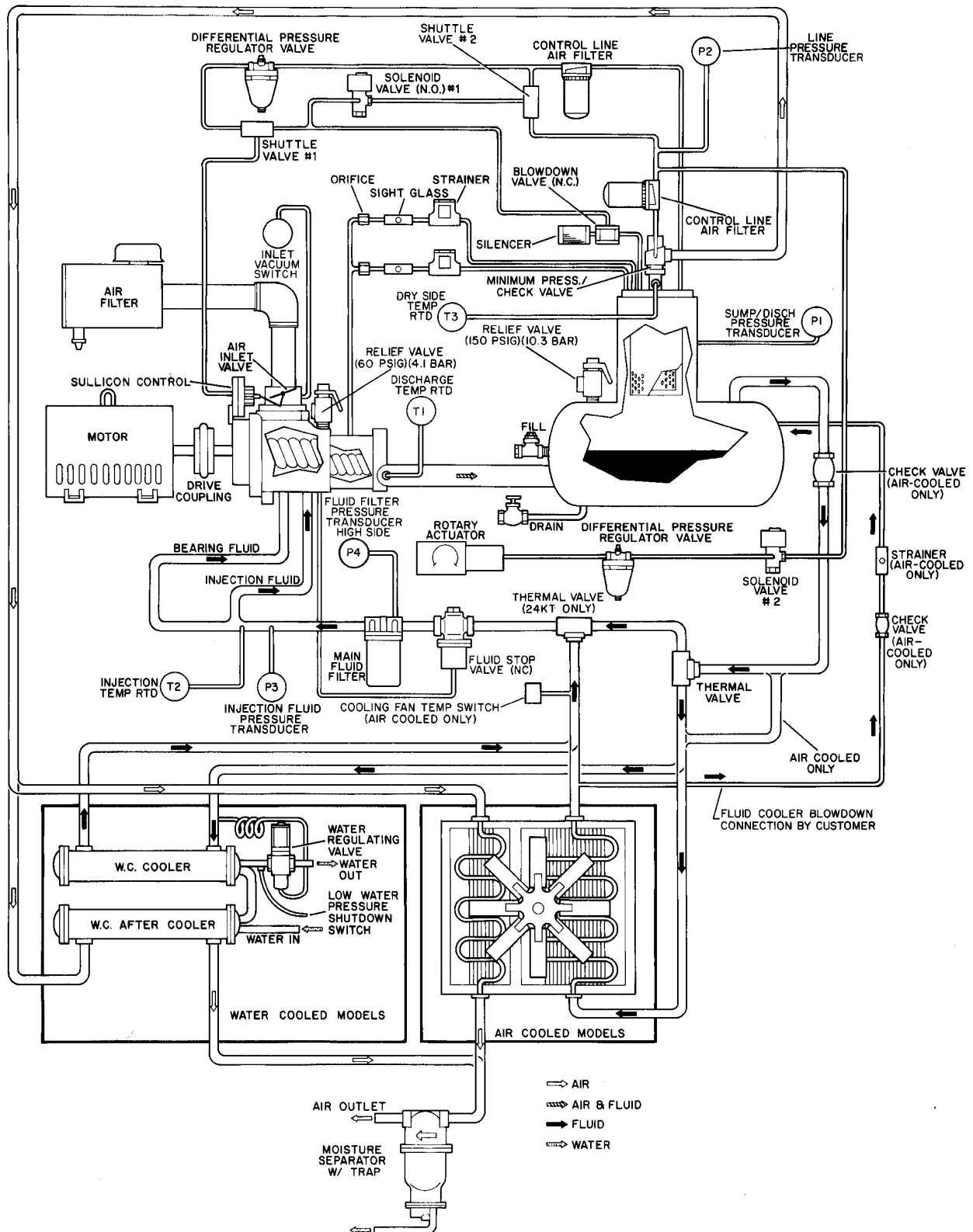
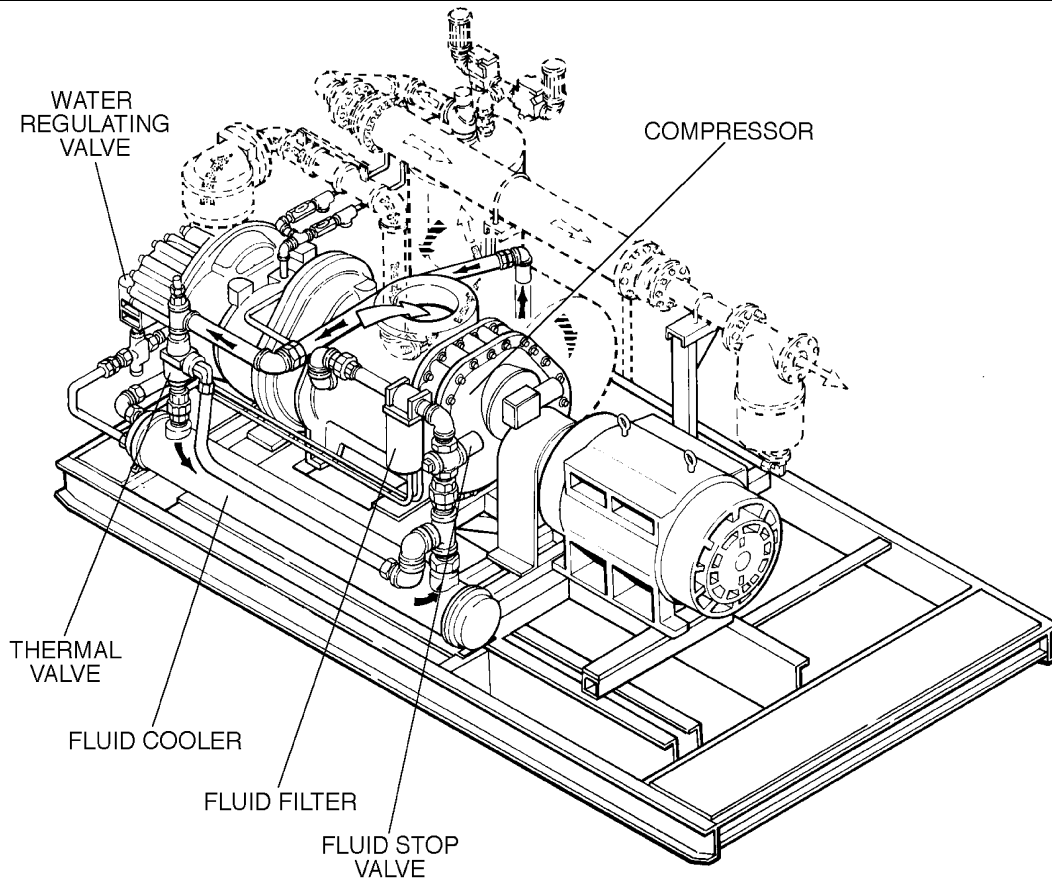


Figure 5–3 Compressor Cooling and Lubrication System (200, 250, 300HP/150, 187, 225KW Water-cooled)



The receiver(s) 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 on 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 150 PSIG (10.3 bar).

All Sullair compressor models are equipped with high pressure shutdown protection to shut down the compressor at 135 PSIG (9.3 bar). This prevents the pressure relief valve from opening under normal conditions, thereby preventing fluid loss through the pressure relief valve. A temperature switch 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.

Stop compressor and relieve all internal pressure before doing so.

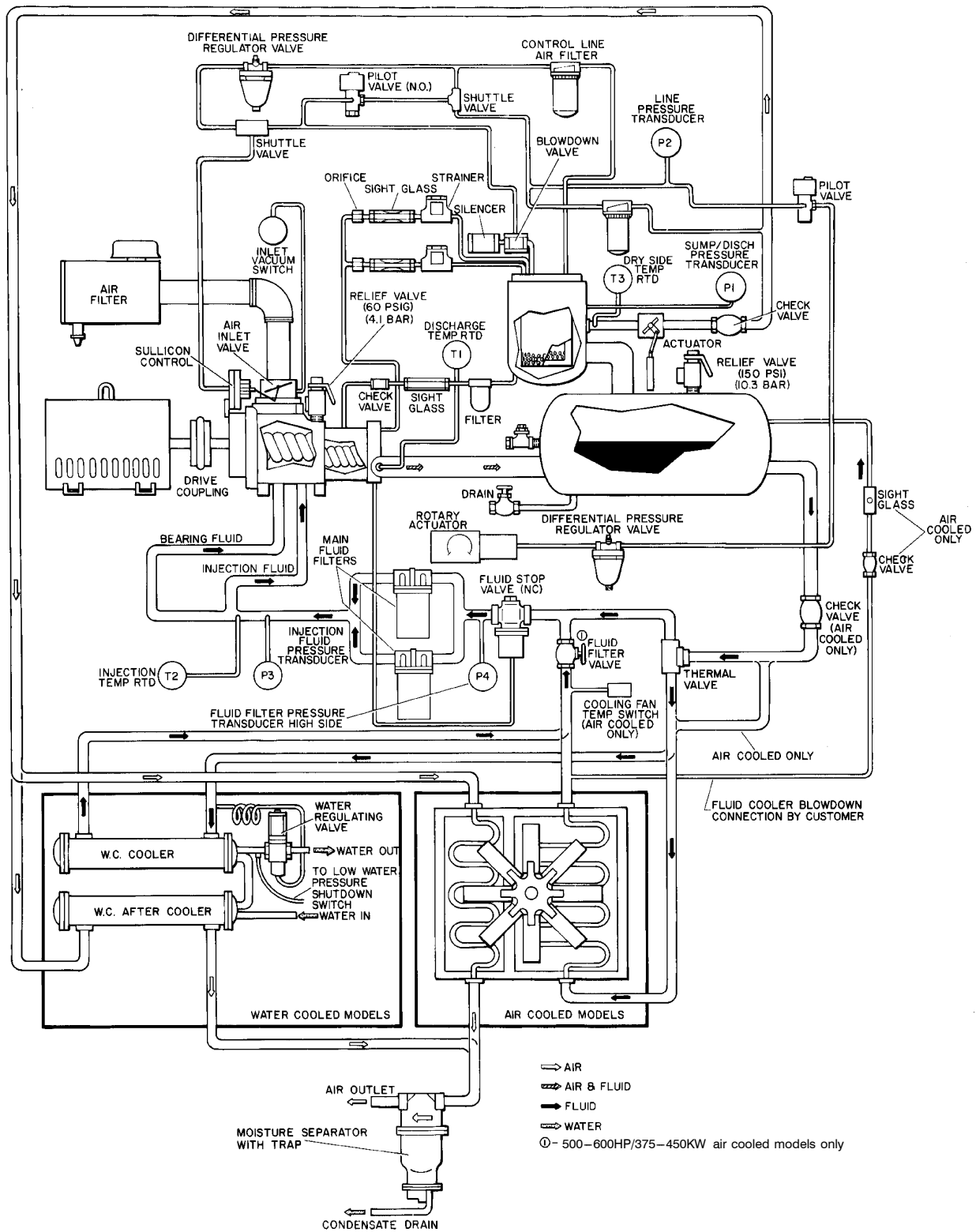
Fluid is added to the sump via a capped fluid filler opening, placed low on the receiver tank to prevent overfilling of the sump. A sight glass enables the operator to visually monitor the sump fluid level.

5.6 COMPRESSOR DISCHARGE SYSTEM, FUNCTIONAL DESCRIPTION (400, 500 AND 600HP/300, 375 AND 450KW)

Refer to Figures 5-4 and 5-7. The compressor unit discharges the compressed air/fluid mixture through a discharge check valve into the sump. The air/fluid mixture enters the sump and is directed against the tank. Its direction of movement is changed and its velocity significantly reduced, thus causing the large droplets of fluid to fall to the bottom of the tank. The compressed air with the remaining fluid enters the receiver. As the compressed air passes through nested separators (pri-

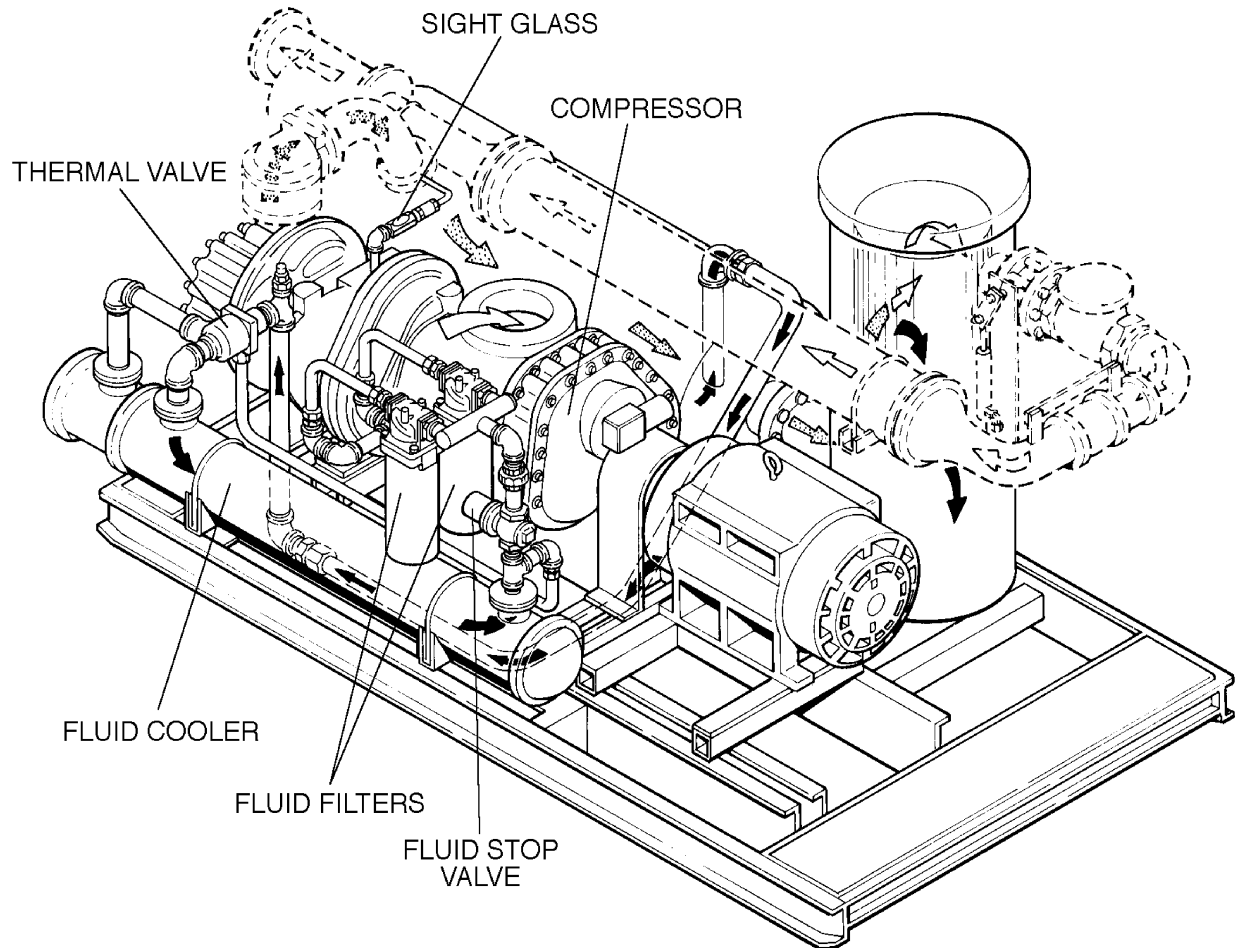
Section 5 COMPRESSOR SYSTEMS

Figure 5-4 Compressor Piping and Instrument Diagram (400, 500, 600HP/300, 375, 450KW)



Section 5 COMPRESSOR SYSTEMS

Figure 5–5 Compressor Cooling and Lubrication System (400, 500, 600HP/300, 337, 450KW Water-cooled)



mary and secondary), the remaining fluid is removed from the air. The fluid removed in the receiver in turn flows to the bottom of each separator which is in turn returned back to the compressor through two scavenger lines. Some fluid will drop to the bottom of the receiver prior to the air entering the separator elements. This fluid is also returned to the compressor via another scavenger tube. Sight glasses are provided in the scavenger lines to observe this fluid flow. There are also orifices on these lines (protected by strainers to assure proper flow). By pressing the $\Delta P1$ pad on the Supervisor, the operator may monitor the condition of the separator elements by reading differential pressure on the digital display. At a differential of 10 PSID (0.7 bar) or greater, the operator will be told to service the separator element. At this time, separator element replacement is necessary. All tanks, sump and receiver are ASME pressure vessels.

A minimum pressure valve is provided to assure minimum sump pressure of 50 PSIG (3.5 bar). This pressure is necessary for proper air/fluid separation and to assure proper fluid circulation while supplying air to the system. Also, a check valve is provided to prevent compressed air in the service line from bleeding back into the receiver during shutdown, as well as in the unload operation.

A pressure relief valve (located on the sump) is set to open if the sump pressure exceeds 150 PSIG (10.3 bar).

The compressor is also equipped with high pressure shutdown protection to shut down the compressor at 135 PSIG (9.3 bar). This prevents the relief valve from opening and dumping fluid under normal conditions. Also, a high discharge temperature switch with three (3) sensing probes is provided to shut down the compressor if the discharge temperature reaches 235°F (113°C).

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Figure 5-6 Compressor Discharge System (200, 250, 300HP/150, 187, 225KW)

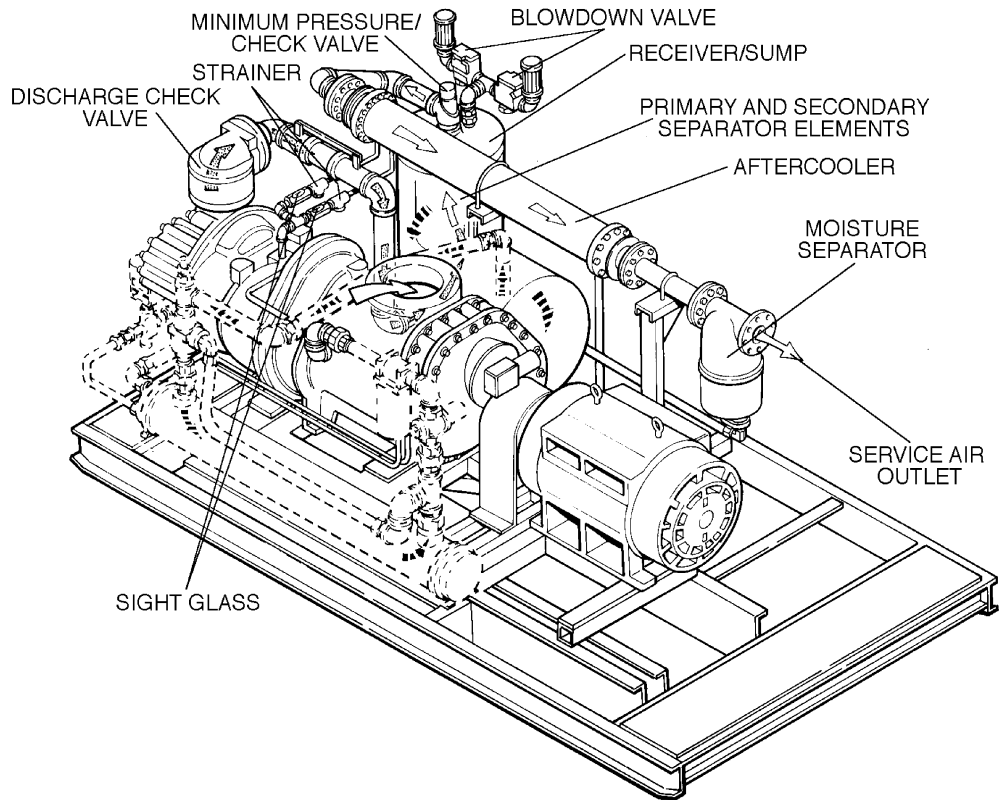
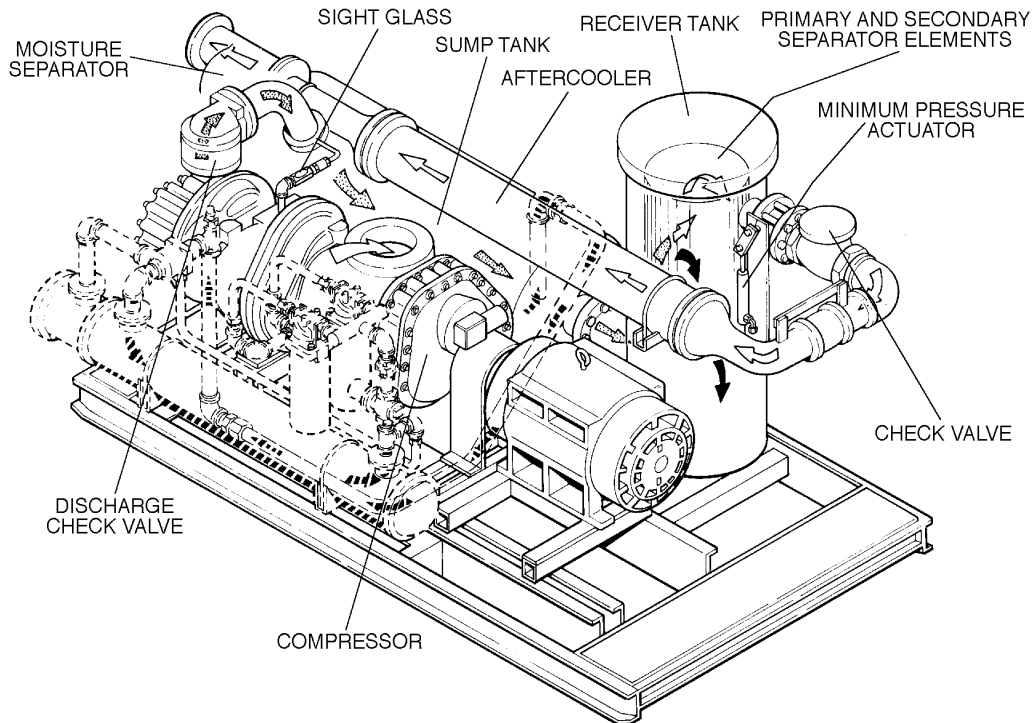


Figure 5-7 Compressor Discharge System (400, 500, 600HP/300, 375, 450KW)



▲ 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.

Fluid is added to the sump via a capped fluid filler opening, placed low on the receiver tank to prevent overfilling of the sump. A sight glass enables the operator to visually monitor the sump fluid level.

5.7 CONTROL SYSTEM, FUNCTIONAL DESCRIPTION

Refer to Figures 5-8 and 5-9. 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 spiral valve and an inlet butterfly valve. The functional description of the control system is described below in 4 distinct phases of compressor operation. The following applies to all TS-32 Series compressors ranging from 200 through 600HP/150 through 450KW models. 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/OFF pad is depressed, the sump pressure will quickly rise from 0 to 50 PSIG (0 to 3.4 bar). During this period, both of the pressure regulators and the solenoid valve are closed and the Sullicon Control and spiral valve are inoperative. The spring on the control holds the butterfly valve fully open while the spiral valve is fully closed (maximum) position and the compressor pumps 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. The pressure regulators and the solenoid valve remain closed during this phase, keeping the Sullicon Control and spiral valve inactive. Both the spiral valve as well as the inlet butterfly valve 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 a result, the differential pressure regulator for the spiral valve gradually opens, applying air pressure to the spiral valve actuator. Air pressure at the actuator expands the diaphragm. The rack, in turn, engages with the pinion mounted on the spiral valve shaft assembly. This results in a rotary motion. As the spiral valve rotates, it starts opening the bypass ports gradually. Excess air is then being returned back internally to suction end of compressor unit. Now the compressor is fully compressing only that amount of air which is being used. As air demand keeps dropping further, the spiral valve keeps opening more and more until all the bypass ports are fully open. At this point, the spiral valve has moved into the unload (minimum) position.

The spiral valve provides a modulation range from 100 to 50%. During this period, the pressure rises approximately from 100 to 108 PSIG (6.9 to 7.4 bar). As the air pressure exceeds 108 PSIG (7.4 bar), the differential pressure regulator controlling the Sullicon Control opens. This allows the air pressure to expand the diaphragm chamber of the Sullicon Control, which starts partially closing the inlet butterfly valve. The inlet butterfly valve provides modulation range from 50 to 40%. During this period, the pressure rises approximately from 108 to 110 PSIG (7.4 to 7.6 bar). During this range, the spiral valve remains in the unload position.

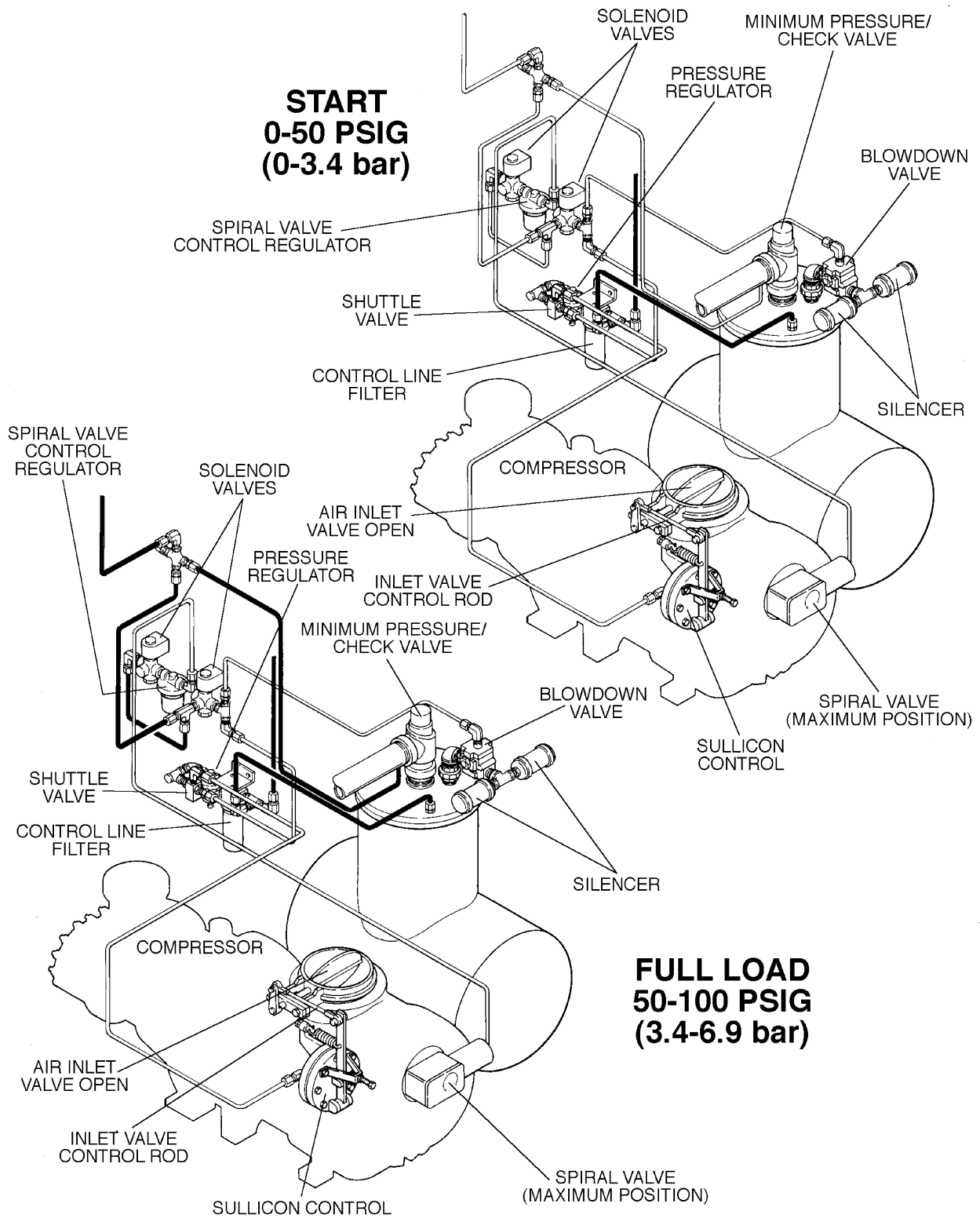
UNLOAD MODE – IN EXCESS OF 110 PSIG (7.6 bar)

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 de-energizes the solenoid valve allowing line pressure to be supplied directly to the Sullicon diaphragm keeping the inlet butterfly closed; the spiral valve is in the fully open (minimum) position. 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 30 (water-cooled) to 50 (air-cooled) PSIG (2.1 to 3.4 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. Both the spiral valve and the butterfly valve remain in the unload position.

When the line pressure drops back to 100 PSIG (6.9 bar) due to an increase in the air demand, Supervisor energizes the solenoid valve allowing the air pressure behind the Sullicon Control to be vented through the solenoid valve exhaust port. The blowdown valve closes, and the inlet butterfly valve opens. Also the air pressure at the spiral valve actuator diaphragm is reduced through a vent hole at the spiral valve differential pressure regulator,

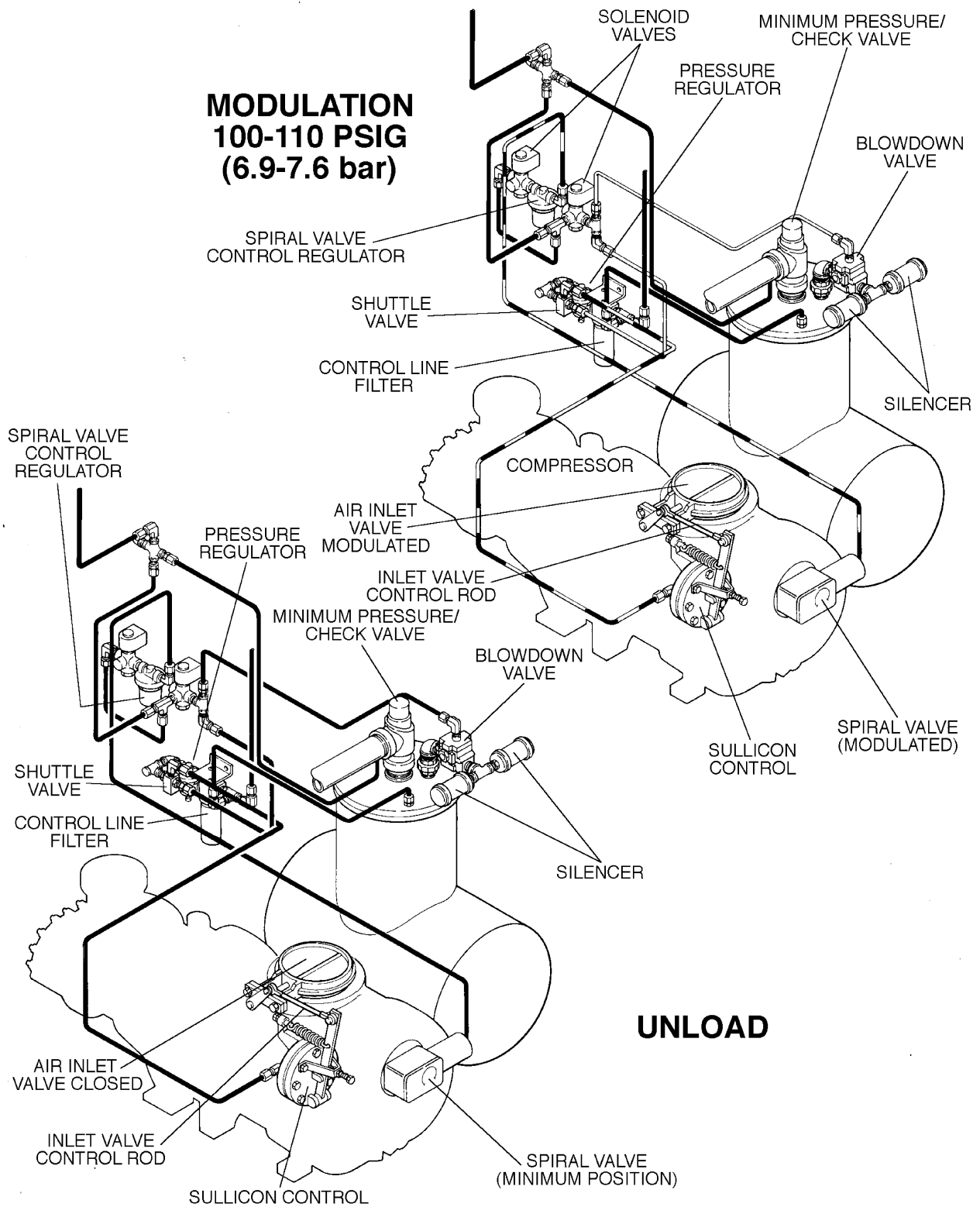
Section 5 COMPRESSOR SYSTEMS

Figure 5-8 Control System (200, 250, 300HP/150, 187, 225KW)



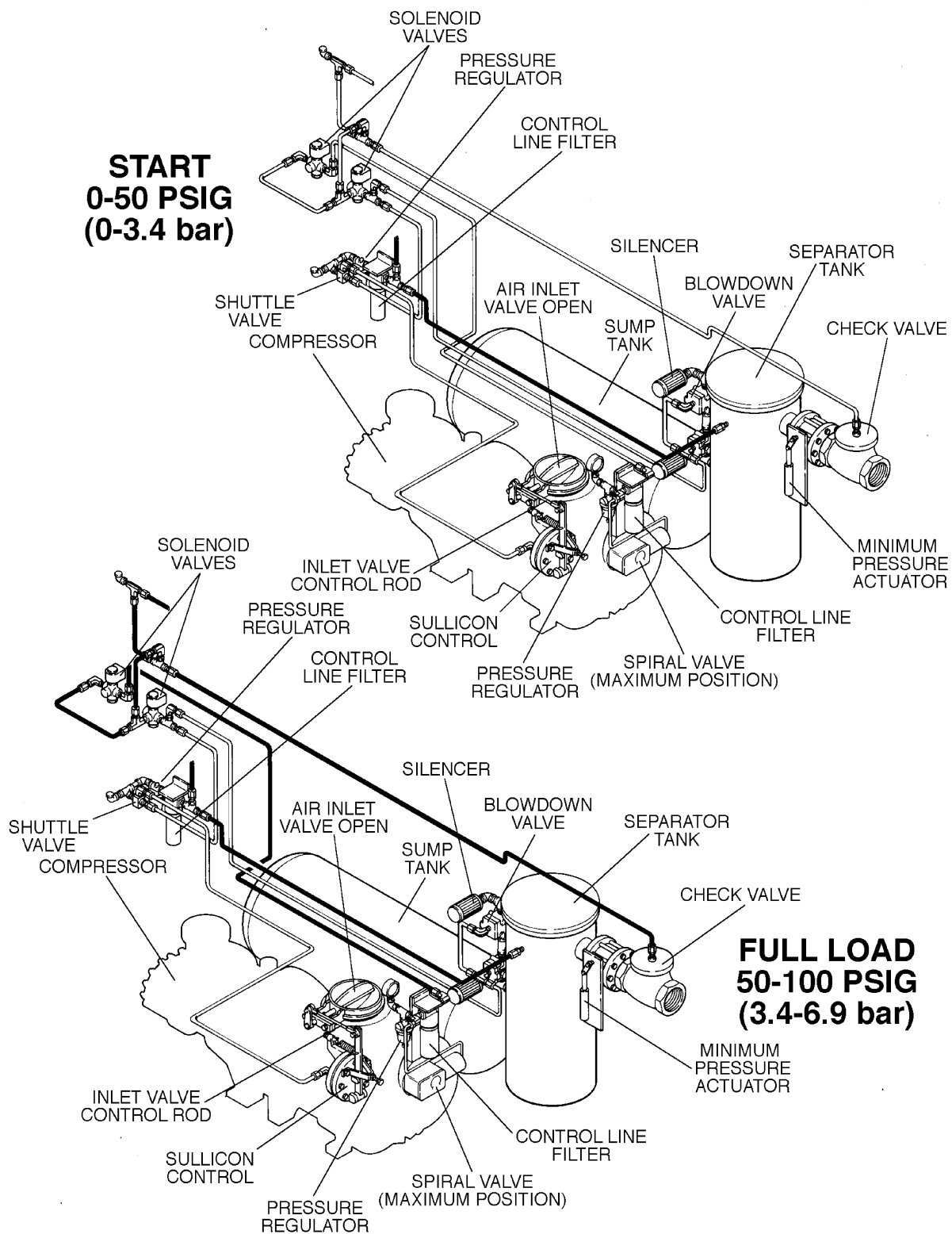
Section 5 COMPRESSOR SYSTEMS

Figure 5-8 Control System Diagram (200, 250, 300HP/150, 187, 225KW)



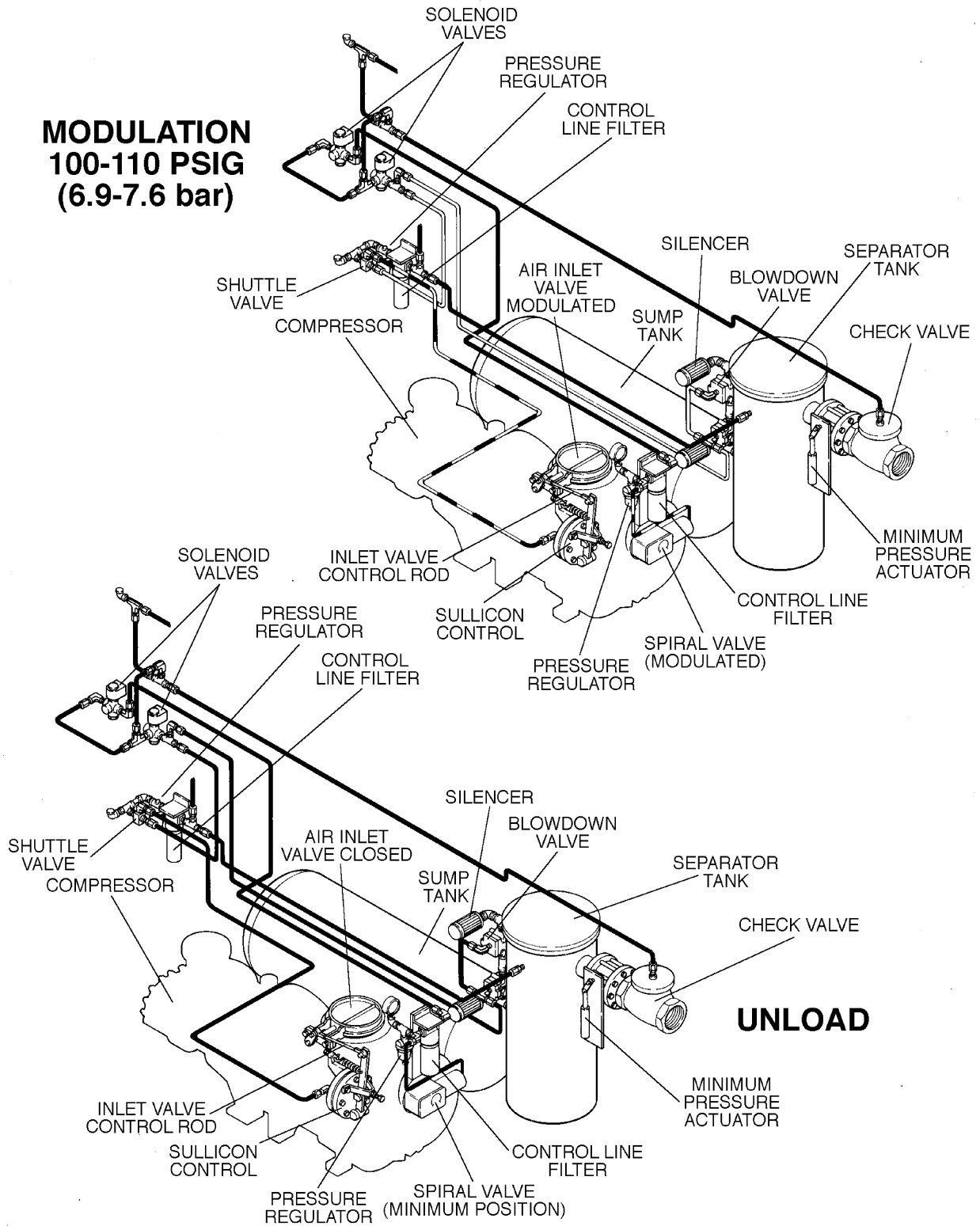
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Figure 5-9 Control System (400, 500, 600HP/300, 375, 450KW)



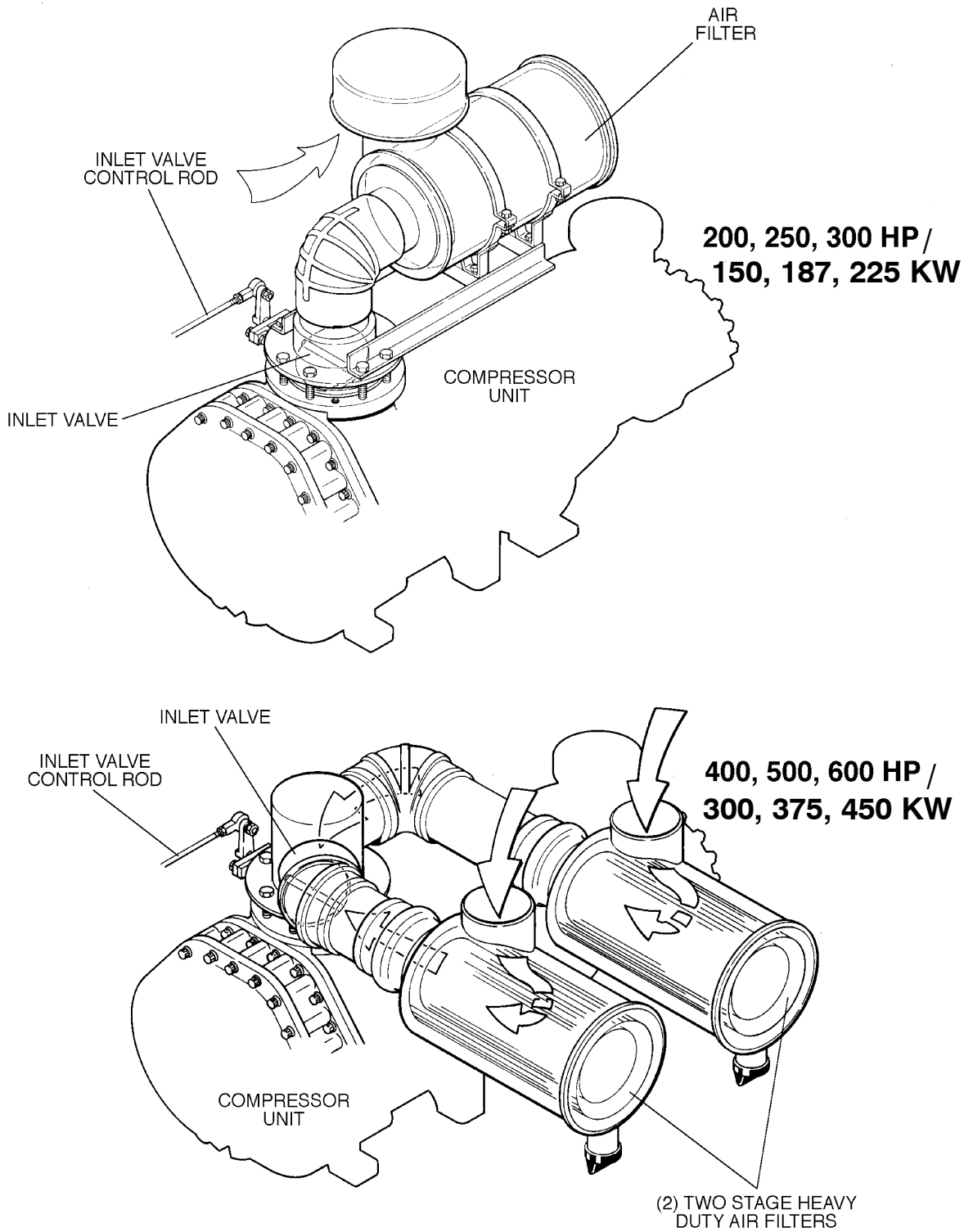
Section 5 COMPRESSOR SYSTEMS

Figure 5-9 Control System (400, 500, 600HP/300, 375, 450KW)



Section 5 COMPRESSOR SYSTEMS

Figure 5-10 Compressor Air Inlet System



and a spring in the actuator causes the spiral valve to return to the full load (maximum) position.

AUTOMATIC OPERATION

For applications with varied periods of time when there are no air requirements, Supervisor's Automatic mode allows the compressor to shut down (time delayed) when no compressed air requirement is present and restart as compressed air is needed. AUTOMATIC mode also incorporates the 60 second unloaded STOP mode feature which allows the motor to stop from an unloaded condition when the ON/OFF pad is pressed or after the timed stop period. If immediate stop is required when operating in AUTOMATIC mode, press the EMERGENCY STOP button on the control panel.

5.8 AIR INLET SYSTEM, FUNCTIONAL DESCRIPTION

Refer to [Figure 5-10](#). The compressor inlet system consists of **one or two dry-type air filters**, a **vacuum switch** and an **air inlet valve**.

The vacuum switch, located in the compressor Supervisor control system, indicates the condition of the air filter. When the message "AIR FILTER MAINT RQD" is displayed, maintenance is required.

The **butterfly-type air inlet valve** directly controls the amount of air intake to the compressor in response to the operation of the [Supply Control](#) ([Section 5.6](#)).

Section 6

COMPRESSOR OPERATION

6.1 GENERAL

While Sullair has built into this compressor a comprehensive array of controls and indicators to assure you that it is operating properly, you will want to recognize and interpret the reading which will

call for service or indicate the beginning of a malfunction. Before starting your Sullair compressor, read this section thoroughly and familiarize yourself with the controls and indicators – their purpose, location and use.

6.2 PURPOSE OF CONTROLS

CONTROL OR INDICATOR	PURPOSE
ON/OFF PAD	Depress to turn compressor ON. Depress again to turn compressor OFF. If a fault shutdown occurs, or EMERGENCY STOP, the ON/OFF button must be pressed once to acknowledge the fault and silence the alarm. Once the fault has been cleared, ON/OFF must be pressed once to return to MANUAL SHUT-DOWN in preparation for start.
HOUR DISPLAY	Displays accumulated hours of compressor operation; useful for planning and logging service schedules. Alternate displays by use of their respective touchpads are – hours ON LOAD and percentage of hours running when on LOAD.
PRESSURE DISPLAY	Continuously monitors service line air pressure (P2). Located on dry side of receiver downstream of minimum pressure/check valve. Selectable alternate displays via touchpad include: SUMP PRESSURE (P1) displays receiver/sump pressure at various ON LOAD and/or OFF LOAD conditions. SEPARATOR DIFFERENTIAL ($\Delta P1$) displays the differential pressure across the separator element/s. A preset limit of 10 PSID (0.7 bar) will trigger the $\Delta P1$ LED and a message will warn that a separator change is required. OIL FILTER DIFFERENTIAL ($\Delta P2$) displays the differential pressure across the fluid filter. A preset limit of 20 PSID (1.4 bar) will trigger the $\Delta P2$ LED and a message will warn that a filter change is required.
TEMPERATURE DISPLAY	Continuously monitors the temperature of the air leaving the compressor unit (T1). The normal readings should be approximately 180°F to 205°F (82°C to 96°C). An alternate display of injection fluid temperature (T2) is available from the touchpad. Normal readings should be approximately 130°F to 160°F (54°C to 71°C).
AIR FILTER MAINTENANCE	Indicates when the air filter change is required. The LED shown on the air filter of the graphic map will flash and a message of "AIR FILTER MAINT RQD" will be displayed.
"POWER ENERGIZED" LIGHT	Indicates when the control panel is receiving power.
"ON" LED	Indicates when the compressor is running. If the ON LED is flashing while the compressor is stopped, it is indicating that the compressor was stopped by a remote START/STOP contact and could be restarted without notice.

Section 6

COMPRESSOR OPERATION

6.2 PURPOSE OF CONTROLS

CONTROL OR INDICATOR	PURPOSE
FLUID LEVEL SIGHT GLASS	Monitors fluid level in the sump. Proper level should fill 1/2 of the sight glass when the compressor is shut down. Check the level when the compressor is shut down. DO NOT OVERFILL.
SEPARATOR RETURN LINE SIGHT GLASS	Used to indicate fluid flow in the return line. When the compressor is running at full load, fluid flow should be visible in this sight glass. There may be little or no flow when the compressor is running unloaded, but a sluggish flow at full load indicates a need to clean the return line strainers.
FLUID STOP VALVE	Cuts off flow of fluid to compressor unit at compressor shutdown and allows flow of fluid to the unit on start-up.
DISCHARGE CHECK VALVE	Cuts off the reverse flow of air/fluid mixture through compressor discharge system at compressor shutdown.
THERMAL VALVE	Regulates flow of fluid to and around the cooler. Designed to maintain a minimum operating temperature of 170°F (77°C); used for fast warm-up on start-up.
MINIMUM PRESSURE/CHECK VALVE (200–300HP/ 150–225KW)	Maintains minimum of 50 PSIG (3.4 bar) in the compressor sump. Valve piston restricts receiver air discharge from receiver/sump when pressure is below 40 PSIG (2.8 bar). Prevents line pressure backflow in sump during unload conditions and after shutdown.
COMPRESSOR DISCHARGE TEMPERATURE PROBE (T1)	The Supervisor will shut the compressor down when the discharge temperature reaches 235°F (113°C). The message displays “HIGH TEMP T1”.
SUMP PRESSURE TRANSDUCER (P1)	The Supervisor will shut the compressor down if the sump pressure becomes too high. This transducer is factory set per the designed operating range of the compressor; normally 135 PSIG (9.3 bar). P1 status in conjunction with the status of the “compressor run” output contact determines if compressor is running. If the run contact is closed, the compressor is ON LOAD, and P1 is below 14.5 PSIG (1 bar), the Supervisor will initiate a shutdown and display a “Pressure Loss” message.
INJECTION OIL PRESSURE TRANSDUCER (P3)	The Supervisor will initiate a protective shutdown and display a “Low Pressure P3” message if the fluid pressure goes below a factory set minimum value; approximately 10 PSIG (0.7 bar).
FLUID FILTER TRANSDUCER (P4)	Used in conjunction with P3 to calculate fluid filter differential pressure and warn of need for filter replacement.
WATER PRESSURE SWITCH (water-cooled compressors only)	Prevents compressor operation if water pressure is too low. Standard setting is 10 PSIG (0.7 bar). The message “FAN OL/LO WATER” will be displayed if pressure is too low.

Section 6

COMPRESSOR OPERATION

6.2 PURPOSE OF CONTROLS

CONTROL OR INDICATOR	PURPOSE
PRESSURE RELIEF VALVE	Opens sump pressure to the atmosphere should pressure inside the sump become too high (150 PSIG [10.3 bar]). Operation of this valve indicates that the high pressure switch is either faulty or out of adjustment.
SULLICON CONTROL	Regulates the amount of air allowed to enter the air inlet valve. This regulation is determined by the amount of air being used at the service line.
PRESSURE REGULATOR – SULLICON	Opens a pressure line between the sump and Sullicon Control allowing the Sullicon Control to regulate air delivery according to the air demand.
PRESSURE REGULATOR– SPIRAL VALVE	Opens a pressure line between the service line and the spiral valve actuator allowing the spiral valve to regulate air delivery according to air demand.
SOLENOID VALVE #1	Bypasses the pressure regulator valve causing the Sullicon Control to close the inlet valve when the compressor reaches maximum operating pressure.
SOLENOID VALVE #2 (spiral valve control)	Opens when the compressor starts; closes when the compressor is shut off. This prevents any air system loss when the compressor is shut off.
LINE PRESSURE TRANSDUCER (P2)	Senses service line pressure. When line pressure reaches maximum setting, the Supervisor signals the solenoid valve to OFF LOAD the compressor. The message “ON LOAD” or “OFF LOAD” will be displayed to indicate the status of the control. P2 is also used to calculate separator differential pressure $\Delta P1$.
BLOWDOWN VALVE	Vents sump pressure to the atmosphere during unload conditions and shutdown.
WATER REGULATING VALVE (water-cooled only)	Regulates the amount of cooling water used in the cooler to keep the compressor running at a normal operating temperature.

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. Be sure that all preparations and checks described in the Installation Section have been made.
3. Crack open the shut off valve to the service line.
4. Set the compressor in MANUAL mode and start the compressor by pressing the ON/OFF pad.
5. Check for possible leaks in piping.
6. Slowly close the shut-off valve and check that the maximum pressure (P2) and pressure differential (P2) are correctly programmed.
7. Observe the operating temperature. If the operating temperature exceeds 205°F (96°C), the cooling system or installation environment should be checked.
8. Observe return line sight glasses and maintenance indicators.
9. Open shut-off valve to service line.
10. Reinspect the compressor for temperature and leaks the following day.



Be sure that the depressurization line between the sump and the air-cooled cooler package is connected as explained in Section 4 (Part 4.6)

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 ON/OFF pad. When the compressor is running, observe the control panel for maintenance indications.

6.5 SHUTDOWN PROCEDURE

To shut the compressor down, simply press the ON/OFF pad. On MANUAL operation, shutdown is immediate; on AUTOMATIC operation, shutdown is preceded by a 10 second UNLOAD mode.

Section 7

MAINTENANCE

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 control, 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.



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. Lubricate the Sullicon Control linkage.
3. Replace the fluid filter element.

7.5 FLUID CHANGE

Standard models are filled with the long life lubricant Sullube 32.

Sullube 32 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 analysis at every 4000 hours is recommended. Return fluid to Sullair Corporation in Michigan City for free analysis. To facilitate this, a sample bottle is included with the compressor.

7.6 SEPARATOR MAINTENANCE

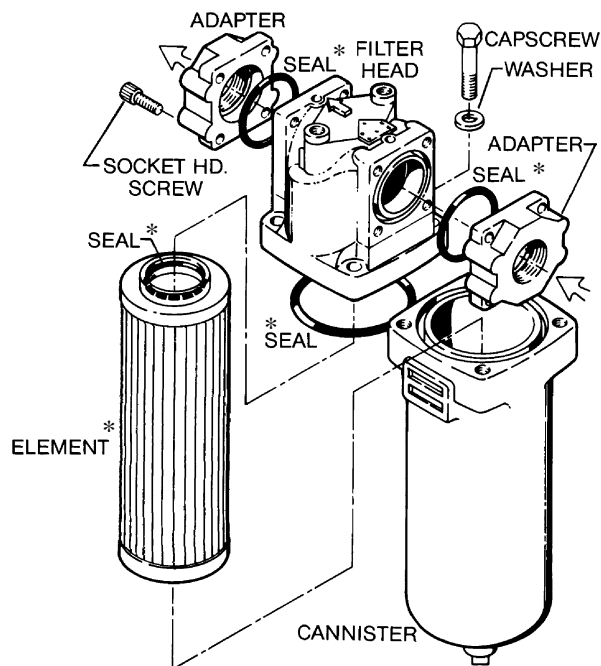
Replace the separator elements when a message is displayed or after one (1) year, whichever comes first. The separator elements must be replaced. **DO NOT** clean the separator elements.

7.7 PARTS REPLACEMENT AND ADJUSTMENT PROCEDURES

MAIN FILTER MAINTENANCE

Refer to Figure 7-1. The main filter (P/N 250007-219) is located schematically between the compressor and the fluid stop valve. When servicing the main filter, shut the compressor

Figure 7-1 Main Filter (P/N 250007-219)



* Repair Kit P/N 250008-956

down, be sure all pressure has been released, then follow the instructions below. For element replacement order kit number 250008–956.

1. Remove the four (4) capscrews which secure the filter head to the canister.
2. Pull the canister away from the filter head. The filter elements will be attached to the head.
3. Separate the upper element from the head. These elements are joined together with an adapter piece. Remove, clean and use to rejoin elements.
4. Remove the canister seal.
5. Thoroughly clean the filter head and canister in solvent.
6. Lubricate the new seals with the same type of fluid used in the compressor and position each seal in its appropriate place.
7. Carefully push the element back in position on the filter head.
8. Hold the canister in position under the housing and replace the capscrews, securing the canister and filter head.

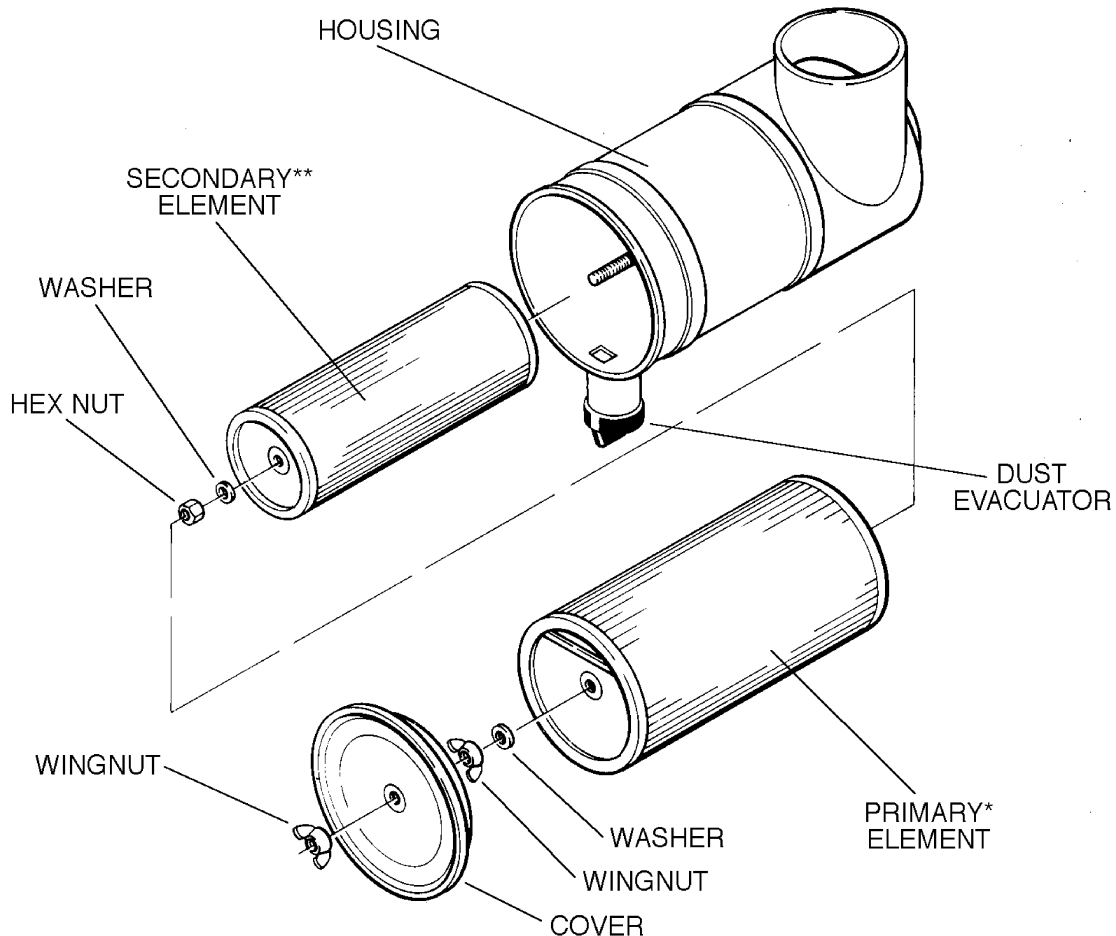
AIR FILTER MAINTENANCE

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.

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



* Replacement element P/N 250007–838 (primary)
 ** Replacement element P/N 250007–839 (secondary)

Section 7

MAINTENANCE

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.

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.

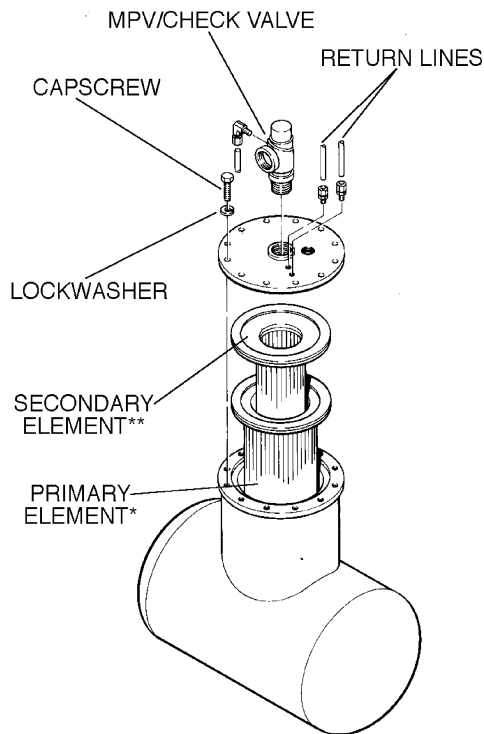
ELEMENT INSPECTION

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.

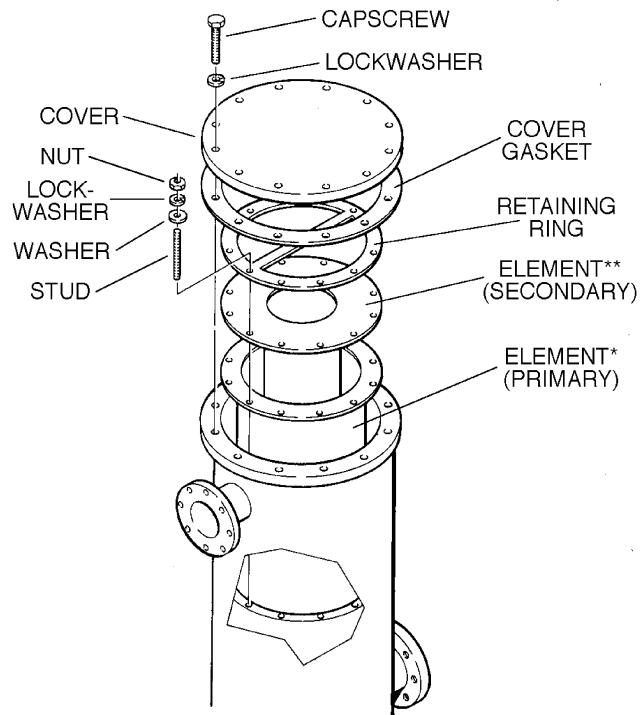
PRIMARY ELEMENT REPLACEMENT

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.

Figure 7–3 Separator Element Replacement



200, 250, 300HP
150, 187, 225KW



400, 500, 600HP
300, 375, 450KW

* Primary replacement element P/N 250034–124 (200, 250, 300HP/150 – 225K) and 250034–126 (400, 500, 600HP/300 – 450KW)

** Secondary replacement element P/N 250034–130 (200, 250, 300HP/150 – 225KW) and 250034–132 (400, 500, 600HP/300 – 450KW)

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.

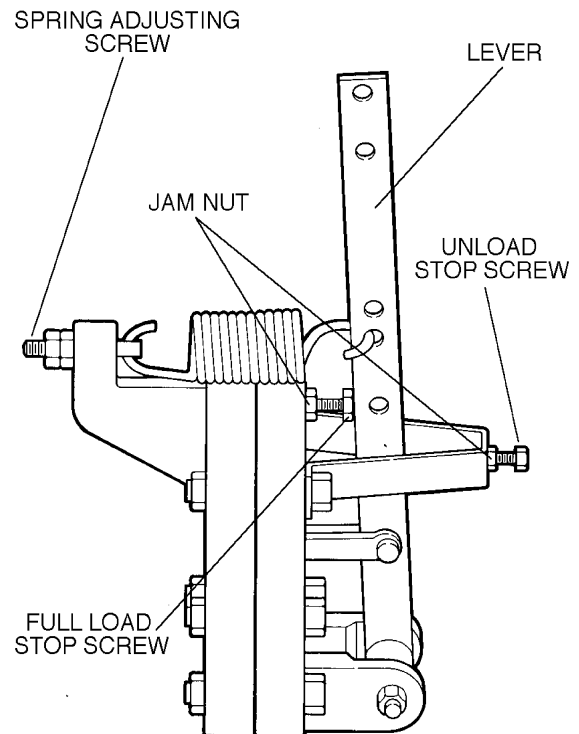
PROCEDURE FOR 200–300HP/150–225KW ELEMENT REPLACEMENT

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) $\frac{3}{4}$ " x 3" hex head capscrews from the cover plate.
4. Lift the cover plate from the separator.
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 compound on gaskets.
9. Clean the underside of the separator tank cover and remove any rust.
10. Replace the cover plate, washers and capscrews. Torque to 200 ft.-lbs. (271 Nm).
11. Reconnect all piping making sure return line tubes extend to the bottom or $\frac{1}{4}$ " (6mm) above the bottom of the separator element. This will assure proper fluid return flow to the compressor.
12. Check the return line strainer before restarting the compressor (order replacement kit P/N 241772 if required).

PROCEDURE FOR 400–600HP/300–450KW ELEMENT REPLACEMENT

1. Relieve all pressure from the separator and all compressor lines prior to disconnecting any pipes, tubing, etc.
2. Loosen and remove the twelve (12) $\frac{3}{4}$ " x 3" hex head capscrews from the cover plate.
3. Lift the cover plate from the separator.
4. Loosen and remove the twelve (12) nuts and washers from the retaining ring studs and remove the retaining ring.
5. Remove the gasket, and primary and secondary separator elements.
6. Scrape the old gasket material from the retaining ring 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 replacement separator elements into the sump taking care not to dent them against the tank opening. Reinsert retaining

Figure 7–4 Sullicon Control (P/N 011682–003)



* Repair Kit P/N 250020–353

ring, washers and nuts and resecure. Torque to 30 ft.-lbs. (41 Nm). Check between separator element flange and tank for continuity after torquing bolts. **DO NOT** use anti-seize compound on gaskets.

9. Clean the underside of the separator tank cover and remove any rust.
10. Replace the cover plate, washers and capscrews. Torque to 200 ft.-lbs. (271 Nm).
11. Reconnect all piping making sure return line tubes extend to the bottom or $\frac{1}{4}$ " (6mm) above the bottom of the separator element. This will assure proper fluid return flow to the compressor.
12. Check the return line strainer before restarting the compressor (order replacement kit P/N 241772 if required).

CONTROL SYSTEM ADJUSTMENT

Refer to Figure 7-4. Before starting the compressor, but with power applied, press the PROG pad on the Supervisor panel three times to enter the PROGRAMMING mode. Continue pressing the PROG pad until "MAX PRESS P2A" is displayed. Use the cursor (UP arrow) pad to set the desired

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UNLOAD pressure (110 psig [7.6 bar]). Note that pressing the pad for over 2 seconds will initiate fast scrolling of the value being set.

Once the correct value is selected, press the PROG pad to proceed to the display “PRES DIF P2A. This value is used to set the LOAD pressure where the compressor will begin building pressure (10 PSID [0.7 bar]). This will provide LOAD/UNLOAD operation at 100 to 110 psig [6.7 to 7.6 bar]). These values will be entered when the display is returned to operating mode condition by continuing to press PROG through the end of the PROGRAMMING menu or allowing the display to automatically return to operating mode status after 5 seconds of inactivity. While scrolling with the PROG pad, all existing user programmable values will be displayed.

FOR DIFFERENTIAL PRESSURE REGULATOR ADJUSTMENT:

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 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.

At approximately 108 psig (7.5 bar), the Sullicon regulator should allow pressure to flow into the control chamber of the Sullicon Control. The Sullicon Control level should start to move at this time. Cycle the Control System several times and recheck all pressure settings.

DRIVE COUPLING INSTALLATION AND ALIGNMENT (200, 250 and 300HP/150, 187 and 225KW)

Refer to Figures 7-5, 7-6 and 7-7. 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

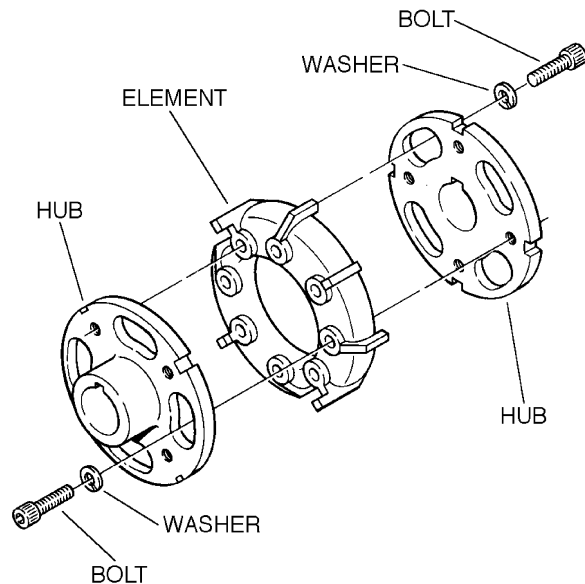
Disconnect all power at source, before attempting maintenance or adjustments.

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 1. Secure each hub with a set screw.

STEP 2 OFFSET ALIGNMENT – Clean any oil, grease, dirt or paint from coupling faces and the

Figure 7-5 Drive Coupling (200–300HP/150–225KW)



Element P/N 046999

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 1) 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 1. 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 1, 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 7-6. Slide the Terry 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 NAS 144 black oxide coated. 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.

DRIVE COUPLING INSTALLATION AND ALIGNMENT (400, 500 AND 600HP/300, 375 AND 450KW)

Refer to Figures 7-6, 7-7, 7-8, 7-9, 7-10 and 7-11 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, one set of standard socket wrenches, and a 17mm end wrench for shrink disc locking screws.

Figure 7-7 Parallel / Angular Offset Alignment

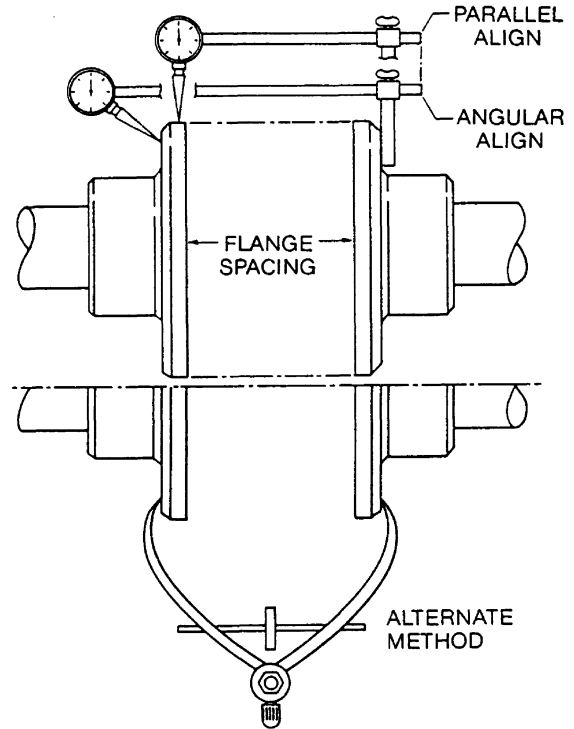
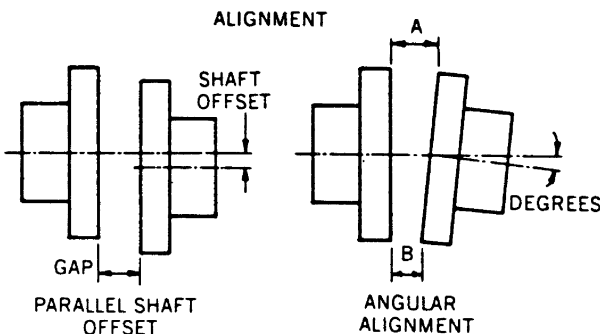


Figure 7-6 Drive Coupling Alignment



**TABLE 1
INSTALLATION DATA (200, 250 and 300HP/150, 187, 225KW)**

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

(I) Angular misalignment in inches equals maximum Allowable misalignment in degrees. See Figure 7-6. DO NOT exceed values in Table above.

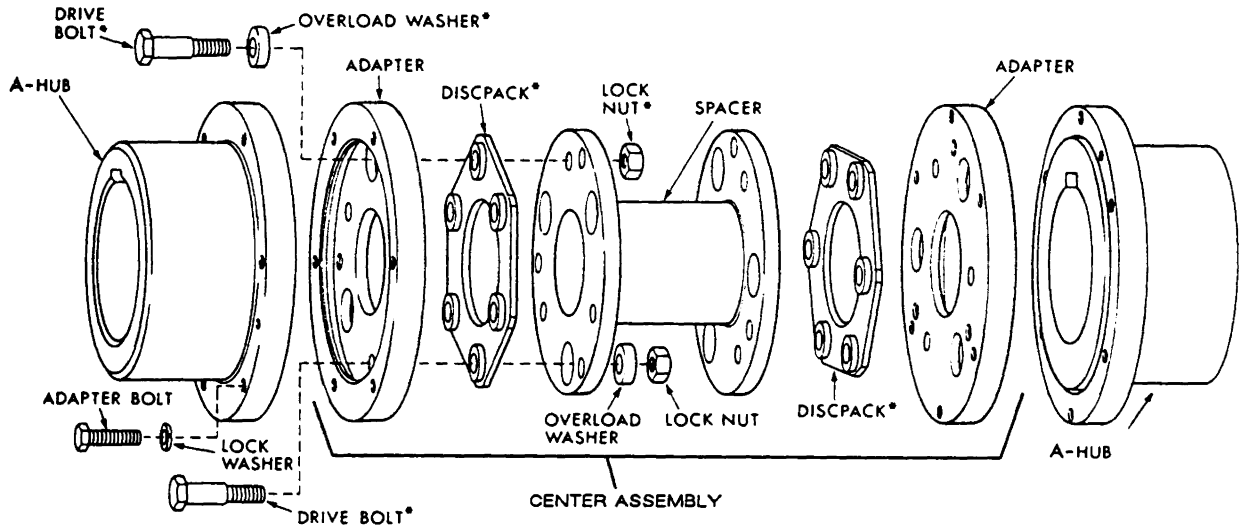
⚠ WARNING

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

Use the following procedure for proper maintenance and alignment of the coupling:

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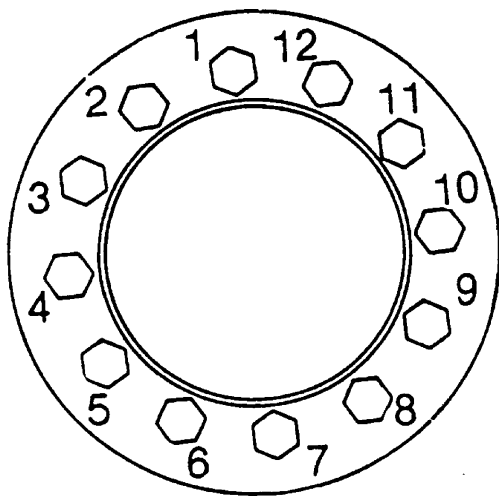
Figure 7-8 Drive Coupling (P/N 02250043-132 for 400HP/300KW, P/N 250039-660 for 500-600HP/375-450KW)



* Repair Kit P/N 02250044-346

1. Disassemble the coupling. Note arrangement of bolts, washers, and nuts as they must be replaced in the same order.

Figure 7-9 Bolt Tightening



2. Inspect both shafts and hub bores, making sure they are free of burrs. File if necessary. Be sure the key fits the motor shaft properly. For installation of the drive coupling, follow the steps below:

STEP 1 – MOUNT HUBS

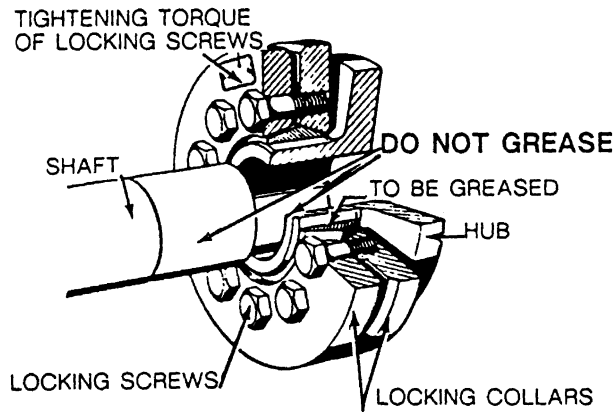
Motor Hub – This hub has an interference fit. Heat the hub using an oven, oil bath or an induction heater up to 300°F (149°C). Mount the hub to the motor shaft as quickly as possible. The hub face must be flush to the motor shaft. Allow hub to cool before proceeding.

Compressor Hub – This hub has a slide fit to the compressor. A special shrink disc hub is used to transmit power. Slide compressor hub and shrink disc assembly on to the compressor shaft. Shaft should be recessed $\frac{3}{8}$ " (9.5mm) from the face of the hub. Gradually tighten all shrink disc locking screws to 42 ft.-lbs. (57 Nm) (see Installation of Shrink Disc and Figure 7-9).

STEP 2 – CHECK ALIGNMENT

Angular – Take readings with an inside micrometer at 90° intervals between flange faces. If a dial indicator is used, compensate for sag and attach it on one shaft and rotate the hub 360° while taking readings on the flange face as shown. **DO NOT** exceed installation ANGULAR limit specified in Table 2. When using a dial indicator, the best results are achieved by rotating both driver and driven shafts together.

Figure 7-10 Compressor Hub Cutaway



⚠ CAUTION

Dial indicator face readings should not be used on journal bearing equipment due to the liberal end float inherent in such a design.

Parallel Offset - Refer to Figure 7-7. Lay a straight edge squarely across the top of the flanges of both shaft hubs as shown and also at a point 90° away. This value must not exceed the installation Parallel Offset indicated in Table 2. If a dial indicator is used, compensate for sag and attach it on one shaft and rotate the hub 360° while taking readings on the other hub male register outside diameter. **DO NOT** exceed the installation Parallel Offset limits as calculated in Table 2.

TABLE 2 – Refer to Figure 7-8
 INSTALLATION DATA (400, 500 and 600HP/300, 375 and 450KW)

Bolt Description	Tightening Torque ft.-lbs./Nm (oiled)	Coupling Gap (inches/cm)	Max. Operating Misalignment		
			Coupling Parallel Offset (inches/cm)	Angular	
				degrees	(I) inches/cm
Adaptor Bolt	28 in. 38 cm	7.0 ± .015 in. 17.8 ± .04 cm	.005 in. .01 cm	.5	.005 in. .01 cm
Drive Bolt	169 ft.-lbs. 229 Nm				

(I) Angular misalignment in inches equals maximum A minus minimum B as shown in Figure 7-6. **DO NOT** exceed values in Table above.

STEP 3 – INSTALLATION OF CENTER ASSEMBLY - Check the drive bolts (see Figure 7-8) of center assembly for proper torque per Table 2, before installation. Place the center assembly into position between the two (2) hubs. Dip adaptor bolts (see Figure 7-8) in SAE 30 oil and insert bolts with lockwashers through hub flange holes and engage tapped holes in each adaptor. Tighten adaptor bolts to recommended torque per Table 2. After torquing all adaptor bolts, recheck the alignment.

STEP 4 – INSTALLATION OF SHRINK DISC Refer to Figures 7-9 and 7-10. Shrink discs are supplied ready for installation. Therefore, they should not be disassembled prior to initial installation.

INSTALLATION SEQUENCE

1. Remove spacers placed between collars for protection during transportation.
2. Take any three locking screws forming the points of an equilateral triangle (e.g. screw 1, 5 and 9 in Figure 7-9) and tighten them slightly until the inner ring can still just be turned.
3. Slide shrink disc over the hub. The hub outside surface can be greased.

⚠ WARNING

Never tighten locking screws before shaft is inside the hub.

4. Degrease the hub bore and shaft seat.
5. Insert shaft or slide hub over the shaft.
6. Tighten all locking screws gradually and all the way around (not in diametrically opposite sequence; see Figure 7-10).

Several passes are required until all screws are torqued to specified tightening torque of 42 ft.-lbs. (57 Nm). Check tightening torque (42 ft.-lbs. [57 Nm]) with a torque wrench. Both collars must remain in equal distance.

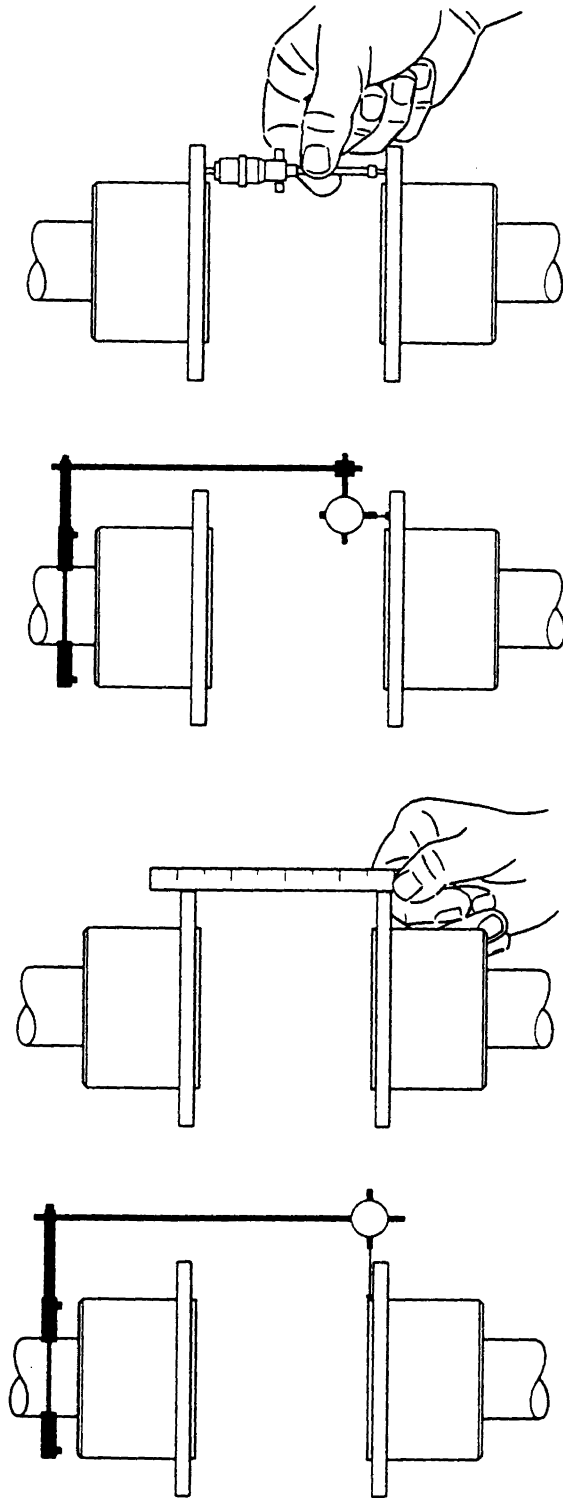
REMOVAL

Shrink disc removal procedure is similar to installation.

1. Gradually release locking screws all the way around. Initially each screw should be released

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Figure 7-11 Parallel Offset Alignment



about a quarter of a turn only. Thus tilting and jamming of collars will be avoided. **DO NOT** remove locking screws.

2. Remove shaft or pull hub from the shaft. Any rust formed on shaft in front of hub must first be removed.
3. Pull shrink disc from hub.

CLEANING AND LUBRICATION

Removed shrink discs need not to be taken apart or lubricated prior to reinstallation. Only a dirty shrink disc should be cleaned and lubricated.

For the tapered surfaces, one of the following lubricants should be used:

LUBRICANT (MoS ₂)	TYPE
Molykote 321 R (lube coat)	Spray
Molykote Spray (powder spray)	Spray
Molykote G Rapid Aemason MO 19 P	Spray or Paste
DIO-setral 57 N (lube coat)	Spray or Paste

Locking screws are lubricated with a multipurpose grease such as Molykote BR 2 or similar.

Damaged o-rings must be replaced.

CONTROL LINE FILTER MAINTENANCE

Refer to [Figure 7-12](#), Control Line Filter (P/N 408389) maintenance normally requires replacement of the filter element, strainer gasket and o-rings. Use repair kit number 001692 and follow the procedure explained below for proper installation.

1. Loosen the body from the bowl and unscrew the two assemblies.
2. At this time, unscrew the baffle, holding the filter element in place. Remove the element, louver and o-ring.
3. Discard the o-ring and element.
4. Replace the o-ring on the louver and reinsert into the body.
5. Insert the filter element and baffle and tighten.
6. Loosen and remove the nut on the bottom of the body.
7. Remove the automatic drain assembly and replace the internal gasket.
8. Replace the body o-ring at this time.
9. Reassemble the automatic drain assembly and place it back in the body. Tighten the nut.
10. Reconnect the body and bowl assemblies. Tighten 2½ turns.

MOTOR CONNECTION INSTRUCTIONS

1. Once a year while the equipment is disconnected from the power source and locked out for maintenance, remove the cover to the motor conduit box.
2. Inspect the rubber boots' or connections' insulating materials covering the motor connections for signs of thermal damage.

3. If boots or insulating material remain pliable and there is no sign of damage, connections are satisfactory.
4. If boot or insulating material show distress as mentioned above, then investigate to determine the source of thermal damage and repair the connection as necessary.
5. Replace the damaged boot(s) with new boot(s) as required or retape connections per National, State or Local codes.
6. Replace the conduit cover prior to reconnecting the power source.

⚠ WARNING

Electrical shock hazard. Disconnect all power at the source before attempting maintenance.

7.8 TROUBLESHOOTING

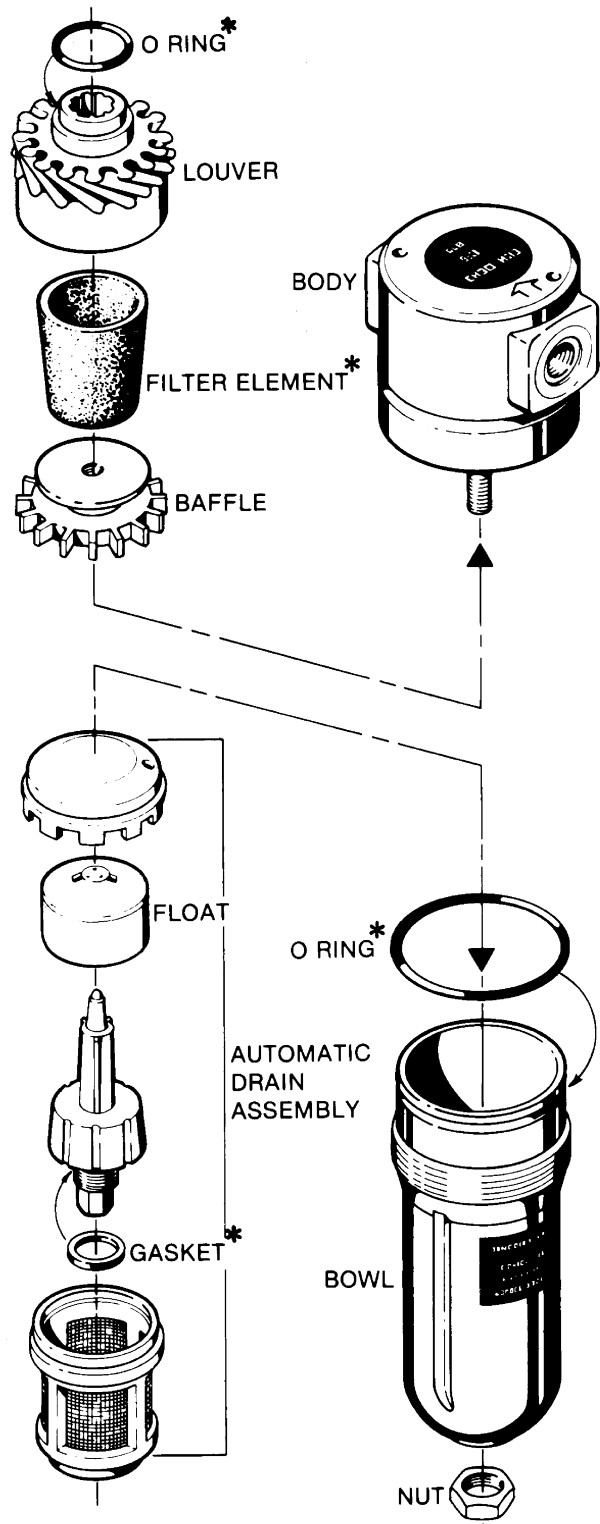
The information contained in the Troubleshooting chart is based upon both the actual applied situations and extensive testing at the factory. It contains symptoms and usual causes for the described problems. However **DO NOT** assume that these are the only problems that may occur. All available data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

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.

Figure 7-12 Control Line Filter (P/N 408389)



* Repair Kit P/N 001692

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TROUBLESHOOTING

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.
	Supervisor Panel Fuse is Blown	Replace fuse. Replace Supervisor controller if no display or erratic display.
COMPRESSOR SHUTS DOWN WITH AIR DEMAND PRESENT	Loss of Control Voltage	Check incoming power. Check control fuses and wiring.
	Low Incoming Voltage	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.
HIGH TEMP T1 or T3 Message Displayed	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 Sullicon Control lever to move to unload stop when the unload pressure setting P2A is exceeded. Repair if defective.
		Defective blowdown valve; blowdown valve should exhaust sump pressure to 30 to 50 psig (2.1 to 3.4 bar) when maximum operating pressure is reached. Repair if defective.
		Open or shorted P1, P2, P3 or P4 sender message; replace sender indicated.
		Operating lever of inlet butterfly valve is loose on valve shaft. Reposition the valve plate and tighten lever set screw.
		Cooling water temperature too high; increase water flow (water-cooled only).
	HIGH TEMP T1 or T3 Message Displayed	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 (water-cooled only).
		Cooling air flow restricted; clean cooler and check for proper ventilation.
		Ambient temperature is too high; provide sufficient ventilation.
HIGH TEMP T1 or T3 Message Displayed	Low fluid level; add fluid.	
	Clogged filter; change the fluid filter element as indicated by Supervisor control.	
	Thermal valve not functioning properly; replace element (air-cooled only).	
HIGH TEMP T1 or T3 Message Displayed	Water flow regulating valve not functioning properly; change (water-cooled only).	

TROUBLESHOOTING (continued)

SYMPTOM	PROBABLE CAUSE	REMEDY
COMPRESSOR SHUTS DOWN WITH AIR DEMAND PRESENT (cont'd.)	HIGH TEMP T1 or T3 Message Displayed (cont'd.)	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.
	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	Broken Sullicon Spring	Replace.
	Leak in Control System Causing Loss of Pressure Signals	Check for leaks.
	Defective Solenoid Valve	Check that Sullicon Control lever is moved to unload stop when Supervisor is in NO LOAD mode. Repair or replace if necessary (kit available).
	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).
	Ruptured Sullicon Control Diaphragm	Replace.
EXCESSIVE FLUID CONSUMPTION	Plugged Control Line Filter	Clean or repair if necessary.
	Clogged Return Line Strainer or Orifice	Clean strainer (screen and o-ring replacement kit available). Clean orifice.
	Separator Element Damaged or Not Functioning Properly	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.

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TROUBLESHOOTING (continued)

SYMPTOM	PROBABLE CAUSE	REMEDY
PRESSURE RELIEF VALVE OPENS REPEATEDLY	Defective Pressure Relief Valve	Replace pressure relief valve. Check Separator Differential (plugged) $\Delta P1$.
LIQUID WATER IN COMPRESSED AIR LINES	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

ILLUSTRATIONS 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 plate 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 CORPORATION
 Subsidiary of Sundstrand Corporation
 3700 East Michigan Boulevard
 Michigan City, Indiana 46360 U.S.A.
 Telephone: 1-800-SULLAIR or
 1-219-879-5451
 FAX: (219) 874-1273
 FAX: (219) 874-1835 (Parts)
 FAX: (219) 874-1805 (Service)

SULLAIR ASIA, LTD.
 ROOM 2304A
 Shartex Plaza Ctr.
 No. 88 Zun Yi Nan Rd.
 Shanghai, P.R.C.
 Telephone: 21-2192066
 FAX: 21-2196568

SULLAIR EUROPE, S.A.
 Chemin de Genas BP 639
 69800 Saint Priest, France
 Telephone: 33-72232425
 FAX: 33-78907168

8.2 RECOMMENDED SPARE PARTS LIST – 200, 250 and 300HP/150, 187 and 225KW

DESCRIPTION	KIT NUMBER	QUANTITY
repair kit for fluid stop valve 016742	001684	1
repair kit for thermal valve 041299	001084	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 regulator valve 406929	041742	1
repair kit for blowdown valve 409783	001667	1
repair kit for Sullicon Control 011682-003	250020-353	1
repair kit for control line filter 408389	001692	1
repair kit for fluid return strainer 241771	241772	1
element for 18" diameter air filter 250006-718 (primary)	250007-838	1
element for 18" diameter air filter 250006-718 (secondary)	250007-839	1
replacement kit for fluid filter 250007-219	250008-956	1
repair kit for 3" flexible coupling 040327	040523	1
repair kit for 4" flexible coupling 041085	041353	1
repair kit for solenoid valve 250038-668	250038-673 (valve)	1
	250031-738 (coil)	1
repair kit for solenoid valve 409067	250010-377	1
repair kit for regulator valve 408275	250028-693	1
repair kit for minimum pressure valve 250033-821	250018-262	1
repair kit for shaft seal	067329-001	1
element for drive coupling	046999	1
diaphragm repair kit for air cylinder 250016-183	608311-001	1
repair kit for 3" separator combination trap w/heater 250004-596	250033-036	1

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

ILLUSTRATIONS AND PARTS LIST

8.2 RECOMMENDED SPARE PARTS LIST – 200, 250 and 300HP/150, 187 and 225KW (Continued)

DESCRIPTION	KIT NUMBER	QUANTITY
heater replacement for separator combination trap w/heater 250004–596	245572	1
repair kit for 4" separator combination trap w/ heater 250004–597	250033–036	1
heater replacement for separator combination trap w/heater 250004–597	245572	1
repair kit for 4" separator combination trap 250000–511	250033–036	1

8.3 RECOMMENDED SPARE PARTS LIST – 400, 500 and 600HP/300, 375 and 450KW

repair kit for fluid stop valve 016742	001684	1
repair kit for thermal valve 041299	001084	1
element for separator with gaskets 250034–125 (primary)	250034–126	1
element for separator with gaskets 250034–131 (secondary)	250034–132	1
repair kit for regulator valve 406929	041742	1
repair kit for blowdown valve 409783	001667	1
repair kit for regulator valve 408275	250028–693	1
repair kit for Sullicon Control 011682–003	250020–353	1
repair kit for control line filter 408389	001692	1
repair kit for fluid return strainer 241771	241772	1
element for 18" diameter air filter 250006–718 (primary)	250007–838	1
element for 18" diameter air filter 250006–718 (secondary)	250007–839	1
replacement kit for fluid filter 250007–219 (400 – 600HP/300–450KW)	250008–956	2
repair kit for 4" flexible coupling 041085	041353	1
repair kit for drive coupling 02250043–132 (400HP/300KW)	02250044–346	1
repair kit for drive coupling 250039–660 (500, 600HP/375, 450KW)	02250044–346	1
repair kit for solenoid valve 250038–668	250038–673 (valve)	1
	250031–738 (coil)	1
repair kit for solenoid valve 409067	250010–377	1
repair kit for shaft seal	067329–001	1
repair kit for air cylinder 250016–183	608311–001	1
repair kit for separator combination trap w/heater 250004–597	250033–036	1
heater replacement for separator combination trap w/heater 250004–597	245572	1
repair kit for sight glass 036559	250021–312	1

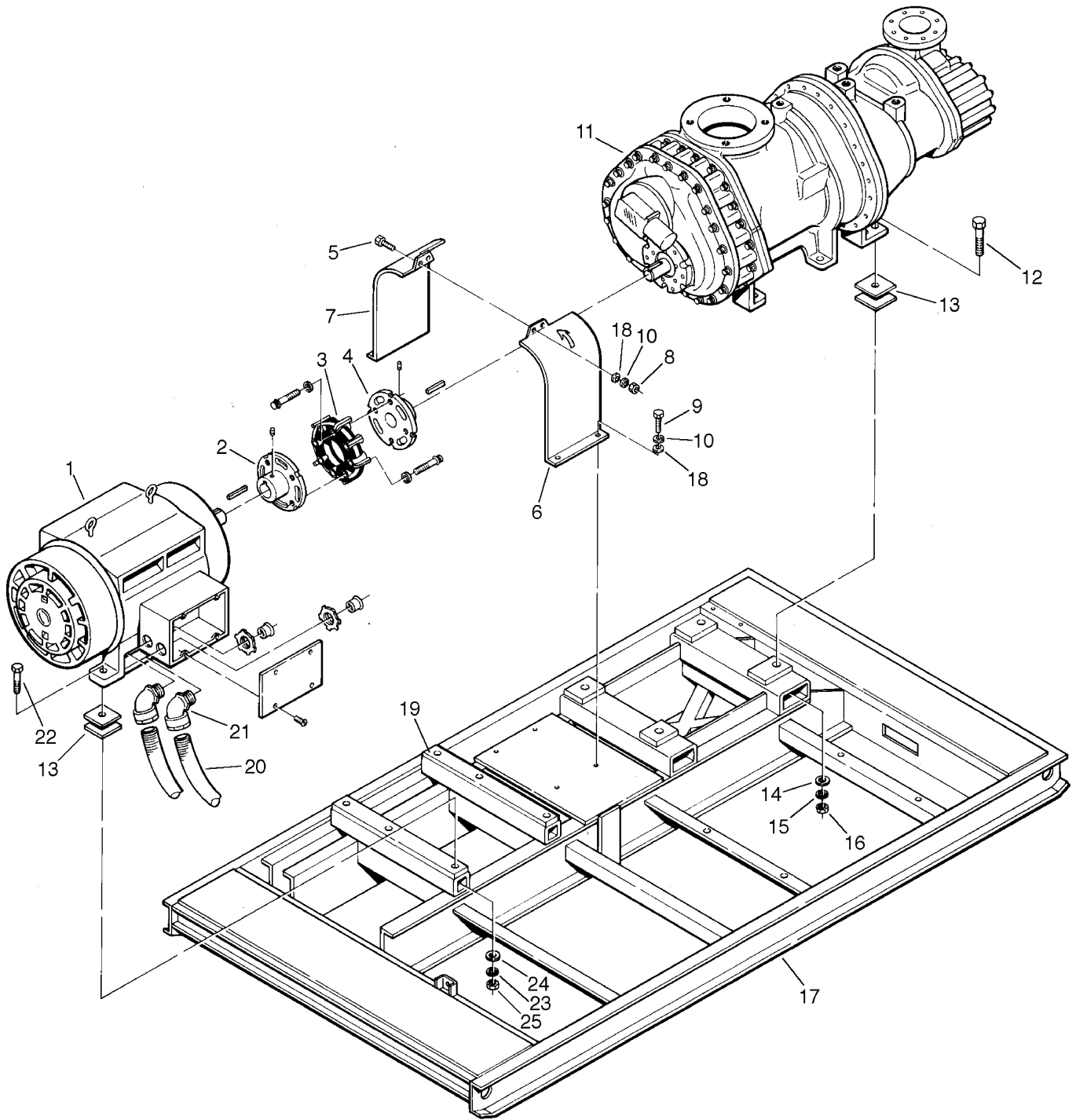
PLEASE NOTE: WHEN ORDERING PARTS, INDICATE SERIAL NUMBER OF COMPRESSOR

Section 8
ILLUSTRATIONS AND PARTS LIST

NOTES

Section 8
ILLUSTRATIONS AND PARTS LIST

8.4 MOTOR, COMPRESSOR, FRAME AND PARTS – 200HP – 300HP/150 – 225KW



Section 8

ILLUSTRATIONS AND PARTS LIST

8.4 MOTOR, COMPRESSOR, FRAME AND PARTS – 200 – 300HP/150 – 225KW

<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
1	motor, 200HP/150KW	050982	1
	• motor, 250HP/187KW	050401	1
	• motor, 300HP/225KW	250007–820	1
2	hub, coupling 2 3/4" x 5/8"	250004–635	1
3	element, drive coupling	046999	1
4	hub, coupling 3 1/4" x 3/4"	250005–091	1
5	capscrew, hex gr5 3/8"–16 x 3/4"	828606–075	2
6	guard, coupling – left hand	250025–105	1
7	guard, coupling – right hand	250025–104	1
8	nut, hex 3/8"–16	824206–337	5
9	capscrew, hex gr5 3/8"–16 x 1 1/4"	828606–125	3
10	washer, springlock 3/8"	837506–094	5
11	compressor unit (I)	–	1
12	capscrew, hex gr5 7/8"–9 x 3 1/2"	8286140–350	4
13	shim set, motor mounting 32E	022031	4
14	washer, plain 7/8"	837514–174	4
15	washer, springlock 7/8"	837514–219	4
16	nut, hex 7/8"–9	824214–776	4
17	frame, base	250024–571	1
18	washer, plain 3/8"	837206–071	8
19	support, motor	250007–215	2
20	conduit, 2"	846315–200	12
21	elbow, 90° 2"	846600–200	2
22	capscrew, hex gr5 5/8"–11	828610–300	4
23	washer, springlock 5/8"	837510–156	4
24	washer, regular 5/8"	837210–112	4
25	nut, hex 5/8"–11	824210–559	1
26	jacking block, short (not shown)	230450	2
27	jacking block, long (not shown)	222054	4
28	jacking screws (not shown)	241102	6

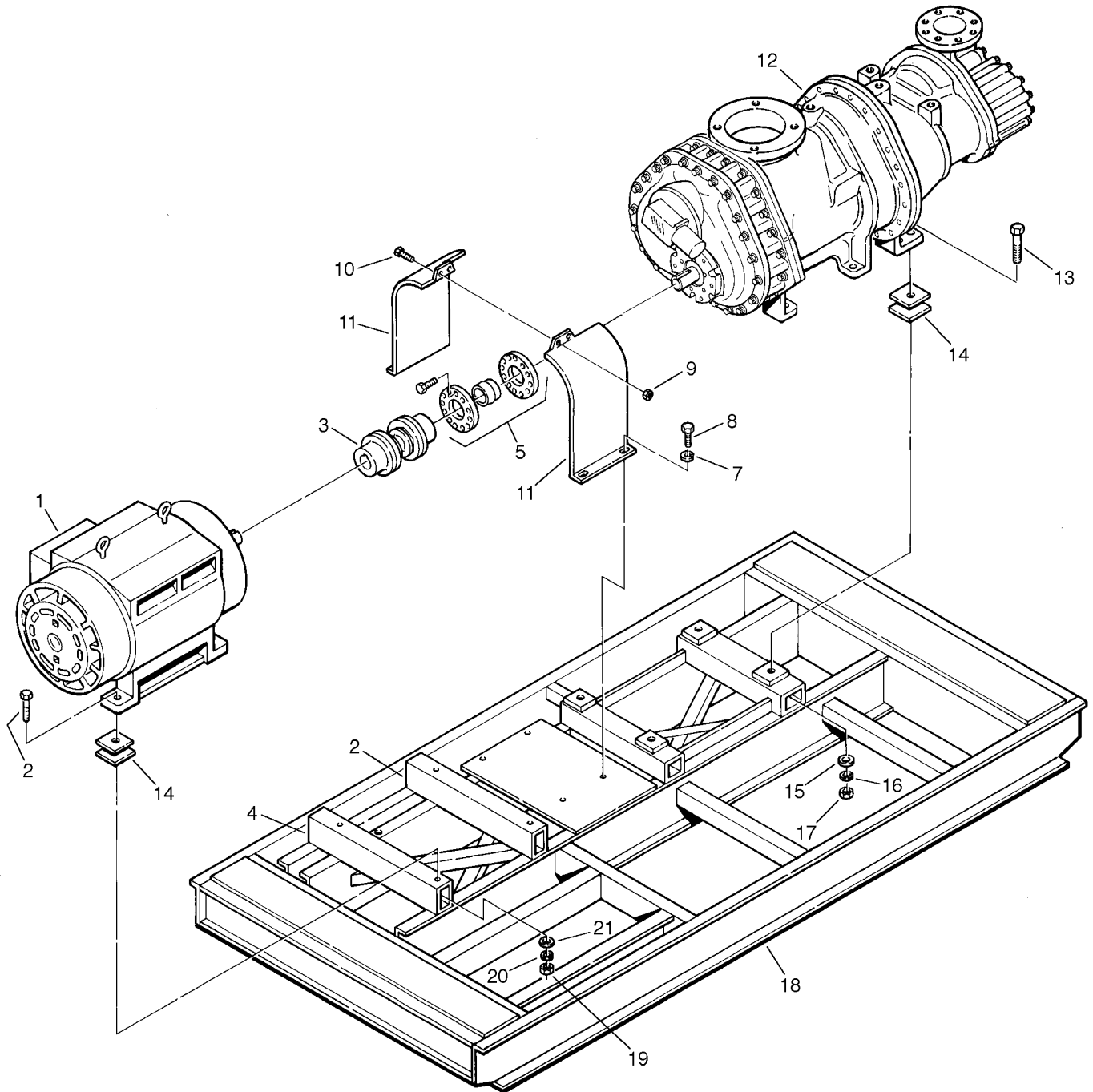
(I) There is an exchange program whereby a remanufactured compressor unit can be obtained from Sullair distributors or the factory at less cost than the owner could repair the unit. For information regarding the unit exchange program, contact your nearest Sullair representative or the Sullair Corporation.

The shaft seal is not considered part of the compressor unit in regard to the 2 year warranty. The normal Sullair parts warranty applies. For shaft seal repairs, order shaft seal repair kit No. 067329–001.

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

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8.5 MOTOR, COMPRESSOR, FRAME AND PARTS – 400HP/300KW



Section 8

ILLUSTRATIONS AND PARTS LIST

8.5 MOTOR, COMPRESSOR, FRAME AND PARTS – 400HP/300KW

<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
1	motor, 400HP/300KW	250022–787	1
2	capscrew, hex gr5 5/8"–11 x 3"	828610–300	4
3	coupling, assembly 2 3/8" diameter (I)	02250043–132	1
4	support, motor	250009–569	2
5	disc, shrink	250009–242	1
6	guard, coupling – left hand	250007–361	1
7	washer, regular 3/8"	837206–071	3
8	capscrew, hex gr5 3/8"–16 x 1 1/4"	828606–125	3
9	nut, hex 3/8"–16	824206–337	3
10	capscrew, hex gr5 3/8"–16 x 3/4"	828606–075	3
11	guard, coupling – right hand	250007–362	1
12	compressor unit (II)	–	1
13	capscrew, hex gr5 3/8"–9 x 4"	828614–400	4
14	shim set, motor mounting	022031	4
15	washer, regular 7/8"	837214–174	4
16	washer, springlock regular 7/8"	837514–219	4
17	nut, hex 7/8"–9	824214–776	4
18	frame, base	250024–572	1
19	nut, hex 5/8"–11	824210–559	4
20	washer, springlock 5/8"	837510–156	4
21	washer, regular 5/8"	837210–112	4
22	guard, coupling – left hand	250007–361	1

(I) For maintenance on coupling no. 02250043–132, order repair kit no. 02250044–346.

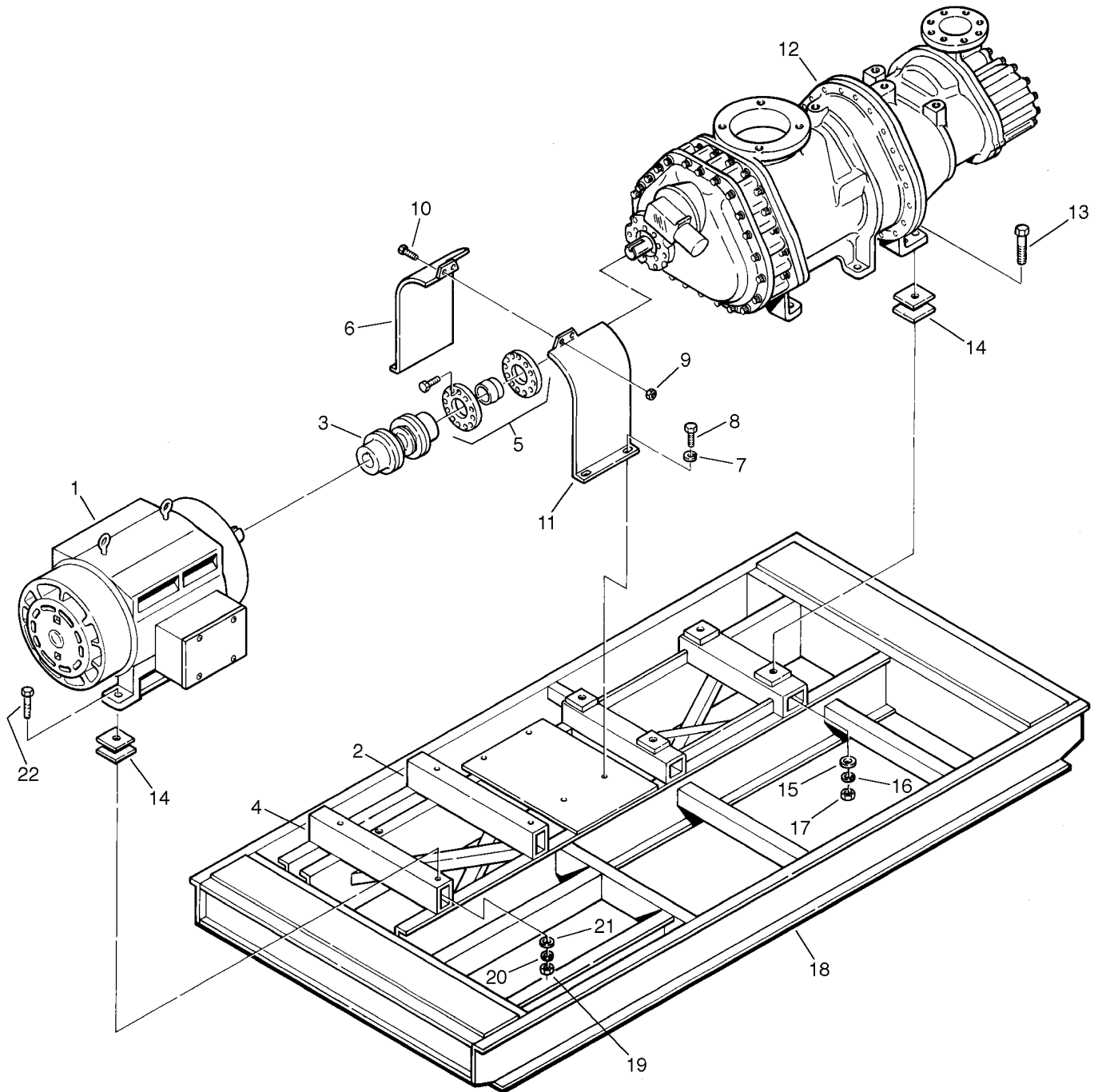
(II) There is an exchange program whereby a remanufactured compressor unit can be obtained from Sullair distributors or the factory at less cost than the owner could repair the unit. For information regarding the unit exchange program, contact your nearest Sullair representative or the Sullair Corporation.

The shaft seal is not considered part of the compressor unit in regard to the 2 year warranty. The normal Sullair parts warranty applies. For shaft seal repairs, order shaft seal repair kit No. 067329–001.

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

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8.6 MOTOR, COMPRESSOR, FRAME AND PARTS – 500 – 600HP/375 – 450KW



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ILLUSTRATIONS AND PARTS LIST

8.6 MOTOR, COMPRESSOR, FRAME AND PARTS – 500 – 600HP/375 – 450KW

<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
1	motor, 500HP/375KW • motor, 600HP/450KW	250007–822 250007–823	1 1
2	support, motor	250008–221	1
3	coupling, assembly 3 3/8" diameter (I)	250039–660	1
4	support, motor	250008–137	1
5	disc, shrink	250009–242	1
6	guard, coupling – left hand	250007–361	1
7	washer, regular 3/8"	837206–071	3
8	capscrew, hex gr5 3/8"–16 x 1 1/4"	828606–125	3
9	nut, hex 3/8"–16	824206–337	3
10	capscrew, hex gr5 3/8"–16 x 3/4"	828606–075	3
11	guard, coupling – right hand	250007–362	1
12	compressor unit (II)	–	1
13	capscrew, hex gr5 3/8"–9 x 4"	828614–400	4
14	shim set, motor mounting	022031	4
15	washer, regular 7/8"	837214–174	4
16	washer, springlock regular 7/8"	837514–219	4
17	nut, hex 7/8"–9	824214–776	4
18	frame, base	250024–572	1
19	nut, hex 5/8"–11	824210–559	4
20	washer, springlock 5/8"	837510–156	4
21	washer, regular 5/8"	837210–112	4
22	capscrew, hex gr5 5/8"–11 x 3"	828610–300	4

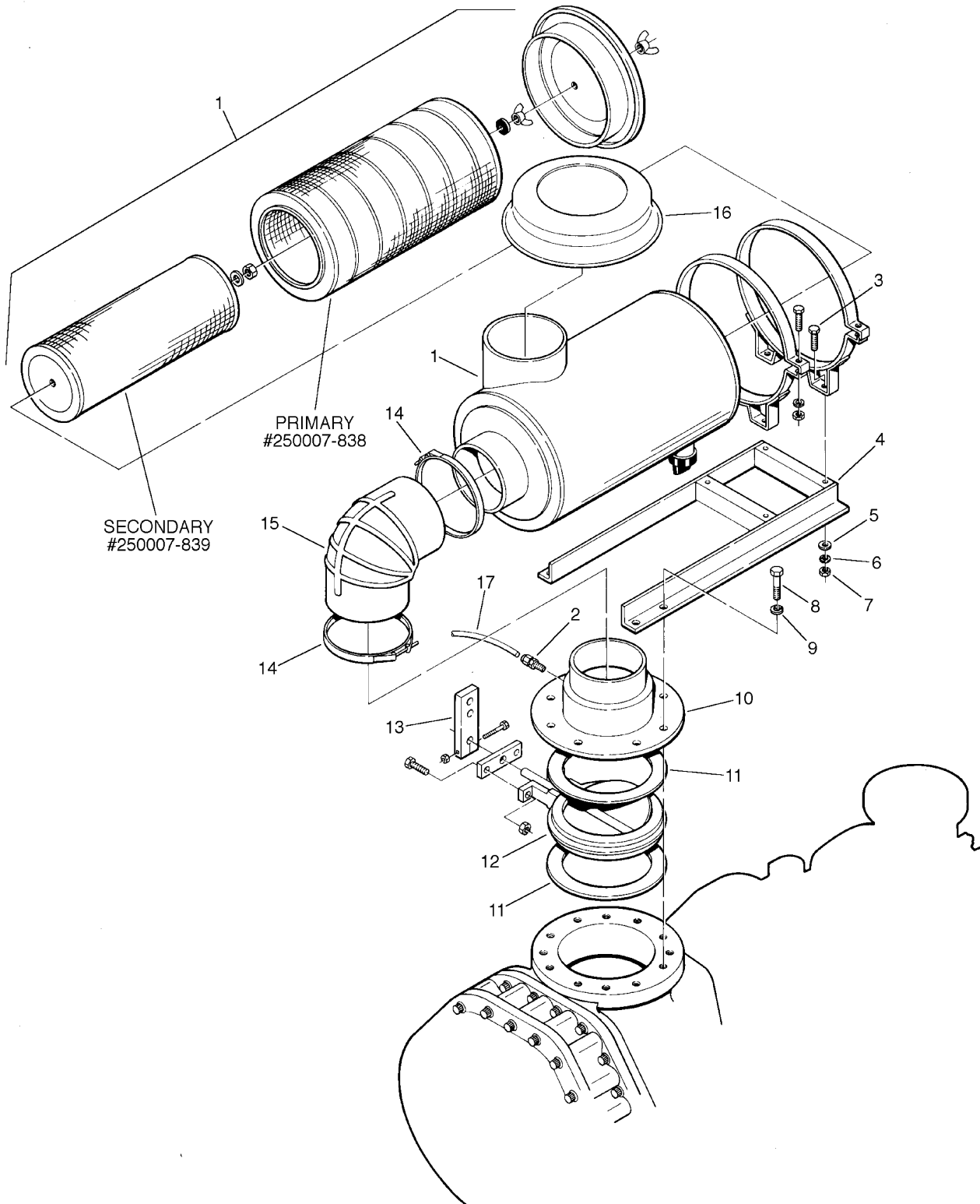
(I) For maintenance on coupling no. 250039–660, order repair kit no. 02250044–346.

(II) 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 2 year warranty. The normal Sullair parts warranty applies. For shaft seal repairs, order shaft seal repair kit No. 067329–001.

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

8.7 AIR INLET SYSTEM – 200 – 300HP/150 – 225KW



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ILLUSTRATIONS AND PARTS LIST

8.7 AIR INLET SYSTEM – 200 – 300HP/150 – 225KW

<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
1	filter, air 18" diameter (I)	250006–718	1
2	connector, tube–m 1/4" x 1/4"	813604–250	2
3	capscrew, hex gr5 3/8"x 1 1/4"	828606–125	4
4	support, 18" diameter air filter	250003–374	1
5	washer, plain 3/8"	837206–071	4
6	washer, springlock 3/8"	827506–094	4
7	nut, hex 3/8"	824206–337	4
8	capscrew, hex gr5 7/8" x 3 1/2"	828614–350	8
9	washer, springlock 7/8"	837514–188	8
10	adaptor, compressor inlet 10" to 8"	250003–378	1
11	gasket, 1/16" x 10 1/2" id x 13 1/4"od	041079	2
12	valve, butterfly – 200HP/150KW	250040–245	1
	• valve, butterfly – 250HP/187KW	250040–246	1
	• valve, butterfly – 350HP/225KW	250040–247	1
13	lever, inlet valve	250019–036	1
14	clamp, hose 8"	043598	2
15	elbow, rubber 90° 8"	043406	1
16	cap, air inlet 10"	250007–712	1
17	hose, nylon 1/4"	842215–004	10

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

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

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8.8 AIR INLET SYSTEM – 400 – 600HP/300 – 450KW

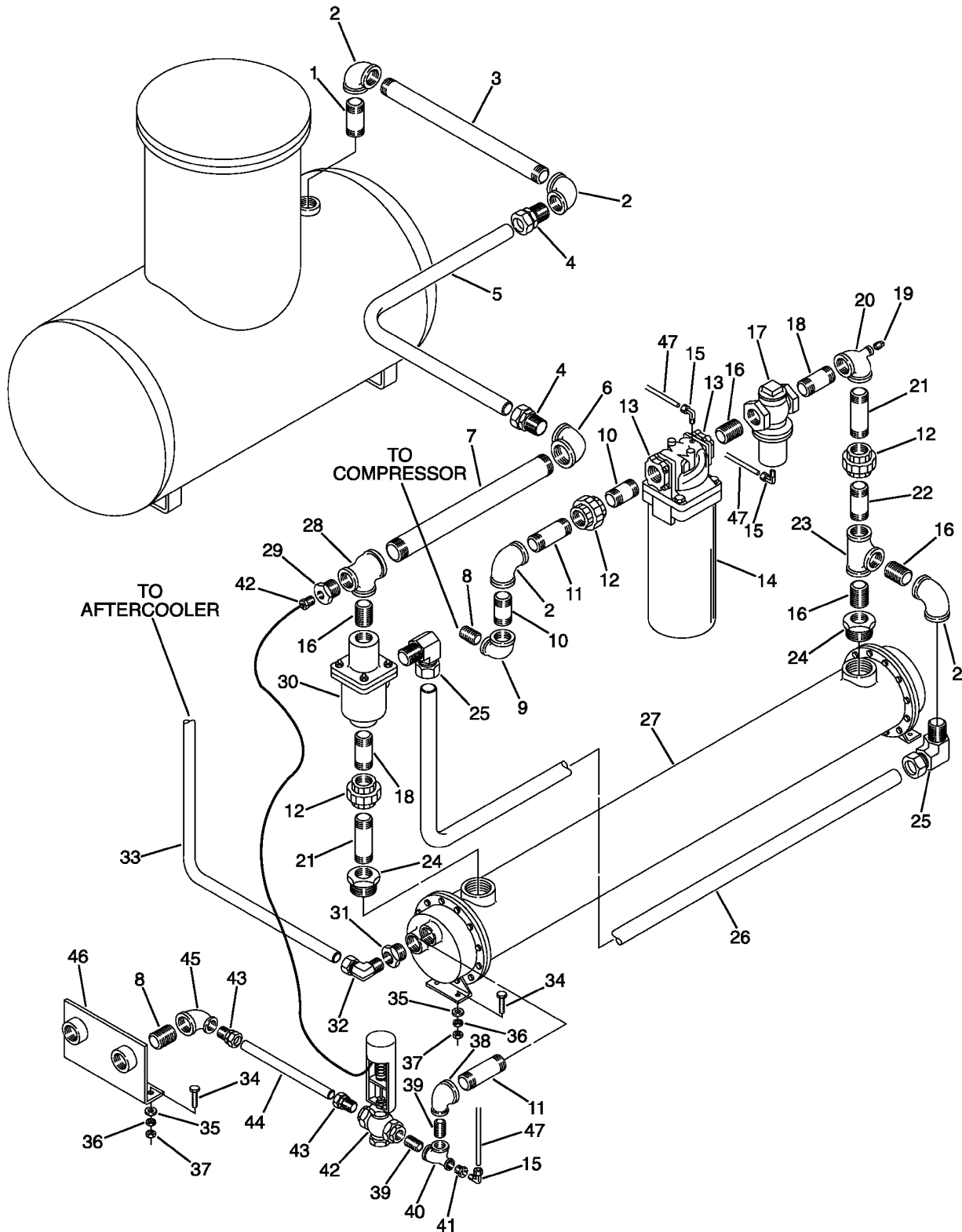
<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
1	gasket, 1/16" x 10 1/2" id x 13 1/4" od	041079	2
2	valve, butterfly – 400HP/300KW	250040–249	1
	• valve, butterfly – 500HP/375KW	250040–250	1
	• valve, butterfly – 600HP/450KW	250040–251	1
3	connector, tube–m 1/4" x 1/4"	813604–250	2
4	lever, inlet valve	250019–036	1
5	washer, springlock 7/8"	837514–219	8
6	capscrew, hex gr5 7/8"–9 x 3 1/2"	828614–350	8
7	adapter, compressor inlet 8"	250006–676	1
8	clamp, hose 8"	043598	8
9	elbow, rubber 90° 8"	043406	1
10	duct, air inlet 8" x 12"	250006–651	1
11	hose, hump 8" x 8"	044733	1
12	cap, air inlet 10"	250007–712	2
13	filter, air 18" diameter (I)	250006–718	2
14	capscrew, hex gr5 3/8"–16 x 1"	828606–100	8
15	washer, regular 3/8"	837206–071	8
16	washer, springlock 3/8"	837506–094	8
17	nut, hex 3/8"–16	824206–337	8
18	support, air filter	250006–658	1
19	capscrew, hex gr5 1/2"–13 x 1 1/2"	828608–150	4
20	washer, regular 1/2"	837208–112	4
21	washer, springlock 1/2"	837508–125	4
22	nut, hex 1/2"–13	824208–448	4
23	elbow, rubber 45° 8"	250005–776	1
24	duct, 8" x 8 1/2"	025068	1
25	valve, rubber	040705	2
26	hose, nylon 1/4"	842215–004	10 ft.

(I) For maintenance on air filter no. 250006–718, order replacement element no. 250007–838
 (B) – primary and 250007–839 (A) – secondary.

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

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8.9 FLUID COOLING SYSTEM – 200 – 300HP/150 – 225KW (WATER-COOLED)



Section 8

ILLUSTRATIONS AND PARTS LIST

8.9 FLUID COOLING SYSTEM – 200 – 300HP/150 – 225KW (WATER–COOLED)

<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
1	nipple, pipe 2" x 5"	822132–050	1
2	elbow, pipe 90° x 2"	801515–080	1
3	nipple, pipe 2" x 28"	822132–280	1
4	connector, tube–m 2" x 2"	810232–200	5
5	tube, 2"	02250058–447	1
6	elbow, pipe 2" x 2 1/2"	801610–080	1
7	nipple, pipe 2 1/2" x 23"	822140–023	1
8	nipple, pipe 1 1/2" x close	822224–000	1
9	elbow, pipe 1 1/2" x 2"	801608–060	1
10	nipple, pipe 2" x 3 1/2"	822132–035	1
11	nipple, pipe 2" x 6"	822132–060	1
12	union, pipe 2"	802515–080	3
13	adaptor, port 2"	250007–220	2
14	fliter, fluid (I)	250007–219	1
15	elbow, tube 1/4"t x 1/4" npt	810504–025	1
16	nipple, pipe 2" x close	822232–000	4
17	valve, fluid stop (II)	016742	1
18	nipple, pipe 2" x 4"	822132–040	1
19	plug, pipe 1/2"	807800–020	1
20	tee, pipe 2" x 1/2" x 2"	802208–028	1
21	nipple, pipe 2" x 7"	822132–070	1
22	nipple, pipe 2" x 4 1/2"	822132–045	1
23	tee, 2"	802415–081	1
24	bushing, reducing hex 2" x 3"	802112–080	2
25	elbow, tube–m 2" x 2"	810532–200	2
26	tube, 2"	02250058–445	1
27	cooler, fluid	041664	1
28	tee, pipe 2 1/2" x 2" x 2"	802210–088	1
29	bushing, reducing hex 2" x 1"	802108–040	1
30	valve, thermal 2" (III)	041299	1
31	bushing, reducing hex 2" x 1 1/2"	802108–040	1

(continued on Page 65)

(I) For maintenance on fluid filter no. 250007–219, order replacement kit no. 250008–956.

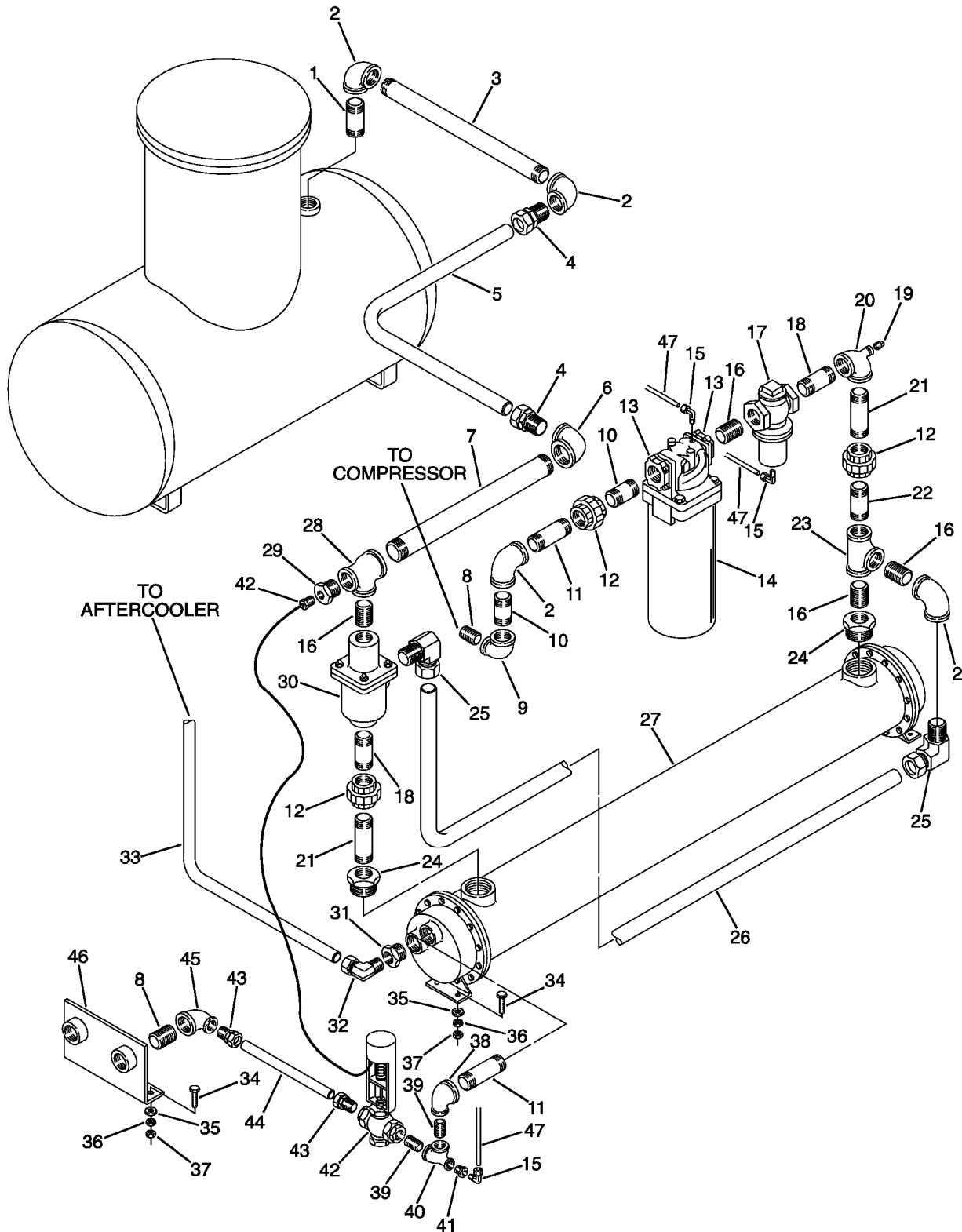
(II) For maintenance on fluid stop valve no. 016742, order repair kit no. 001684.

(III) For maintenance on thermal valve no. 041299, order repair kit no. 001084.

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

Section 8
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8.9 FLUID COOLING SYSTEM – 200 – 300HP/150 – 225KW (WATER-COOLED)



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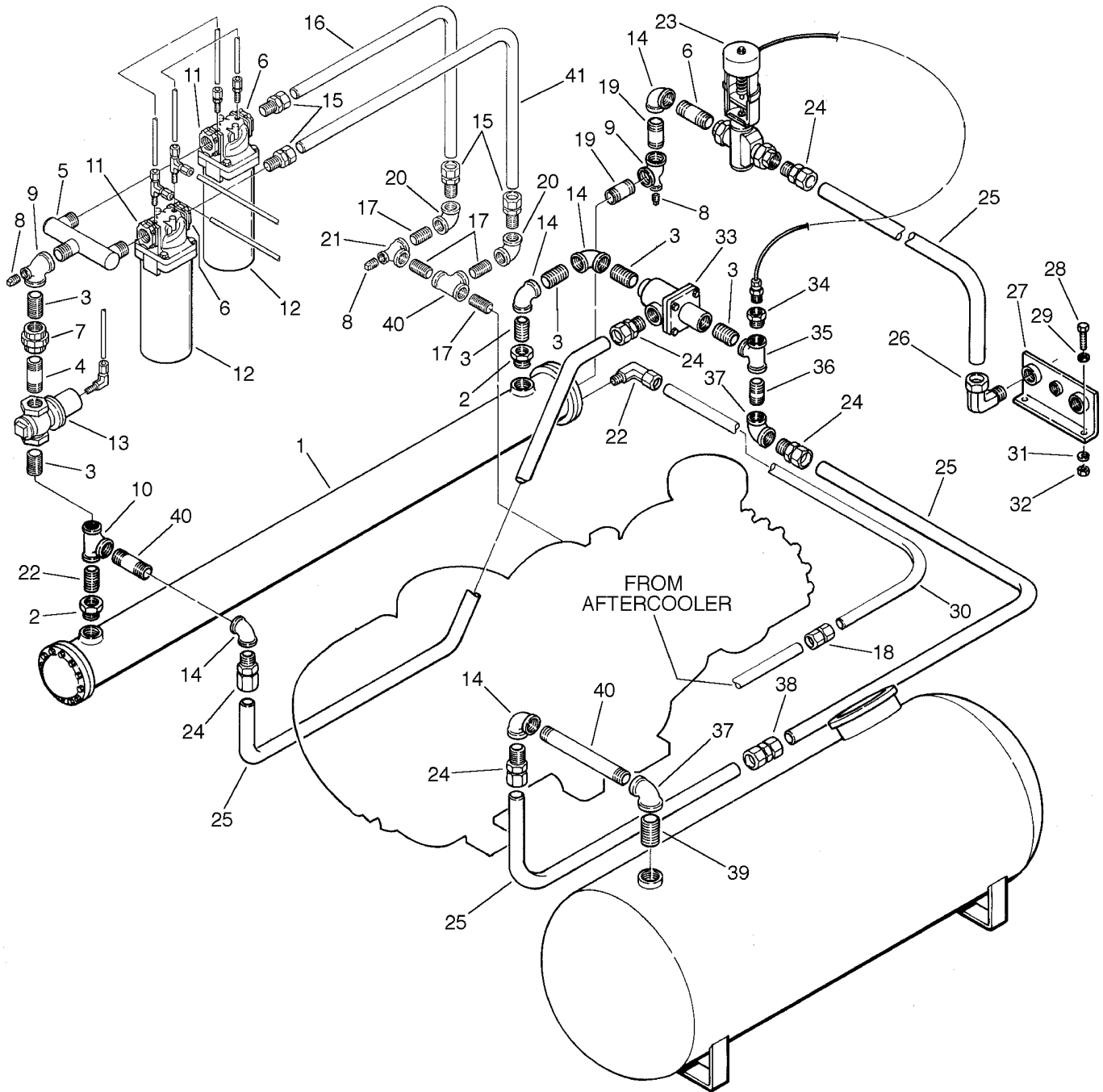
8.9 FLUID COOLING SYSTEM – 200 – 300HP/150 – 225KW (WATER–COOLED) (continued)

<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
32	elbow, tube 1 1/2" x 1 1/2"	810524–150	1
33	tube, 1 1/2"	02250058–451	1
34	capscrew, hex gr5 1/2" x 1 1/2"	828608–150	6
35	washer, plain 1/2"	837208–112	6
36	washer, springlock 1/2"	837508–125	6
37	nut, hex 1/2"	824208–448	1
38	elbow, pipe 2" x 1 1/4"	801608–050	1
39	nipple, pipe 1 1/4" x close	822220–000	2
40	tee, pipe 1 1/4" x 1/2" x 1 1/4"	802205–025	1
41	bushing, reducing hex 1/2" x 1 1/4"	802102–010	1
42	valve, water regulating	248743	1
43	connector, tube 1 1/4" x 1 1/4"	810220–125	2
44	tube, 1 1/4"	02250058–456	1
45	elbow, pipe 1 1/2" x 1 1/4"	801606–050	1
46	bracket, water in–out 1 1/2"	250007–710	1
47	tube, 1/4"	844115–004	15 ft.

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

Section 8
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8.10 FLUID COOLING SYSTEM – 400HP/300KW (WATER-COOLED)



Section 8

ILLUSTRATIONS AND PARTS LIST

8.10 FLUID COOLING SYSTEM – 400HP/300KW (WATER–COOLED)

<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
1	cooler, fluid	250007–802	1
2	bushing, reducing hex 3" x 2 1/2"	802112–080	2
3	nipple, pipe 2" x close	822132–040	9
4	nipple, pipe 2" x 4"	822232–000	1
5	manifold	02250055–260	1
6	adaptor, port	250007–221	2
7	union, pipe 2"	802515–080	1
8	plug, pipe 1/2"	807800–020	2
9	tee, reducing 2" x 1/2" x 2"	802208–028	3
10	tee, reducing 2 1/2" x 2" x 2"	802210–088	1
11	adaptor, port 2"	250007–220	4
12	filter, fluid (I)	250007–219	2
13	valve, fluid stop 2" (II)	016742	1
14	elbow, pipe 90° 2"	801515–080	4
15	connector, tube	810224–150	4
16	tube	02250058–225	2
17	nipple, pipe 1 1/2"x close	822224–000	1
18	union, tube hex 1 1/2" x 1 1/2"	811332–200	1
19	nipple, pipe 2" x 9"	822132–090	2
20	elbow, pipe 1 1/2"	801515–060	2
21	tee, reducing 1 1/2" x 1/2" x 1 1/2"	802206–026	1
22	nipple, pipe 2 1/2" x 4"	822140–040	1
23	valve, water regulating 2"	249970	1
24	connector, tube–m 2" x 2"	810232–200	7
25	tubing, steel 2"	02250057–724	24 ft.
26	elbow, tube–m 2" x 2"	810532–200	1
27	bracket, in–out 2"	250008–245	1
28	capscrew, hex gr5 1/2"–13 x 1 1/2"	828608–150	2
29	washer, regular 1/2"	837208–112	2
30	tubing, steel 1 1/2"	02250057–728	1 ft.
31	washer, springlock 1/2"	837508–125	2
32	nut, hex 1/2"–13	824208–448	2

(continued on Page 69)

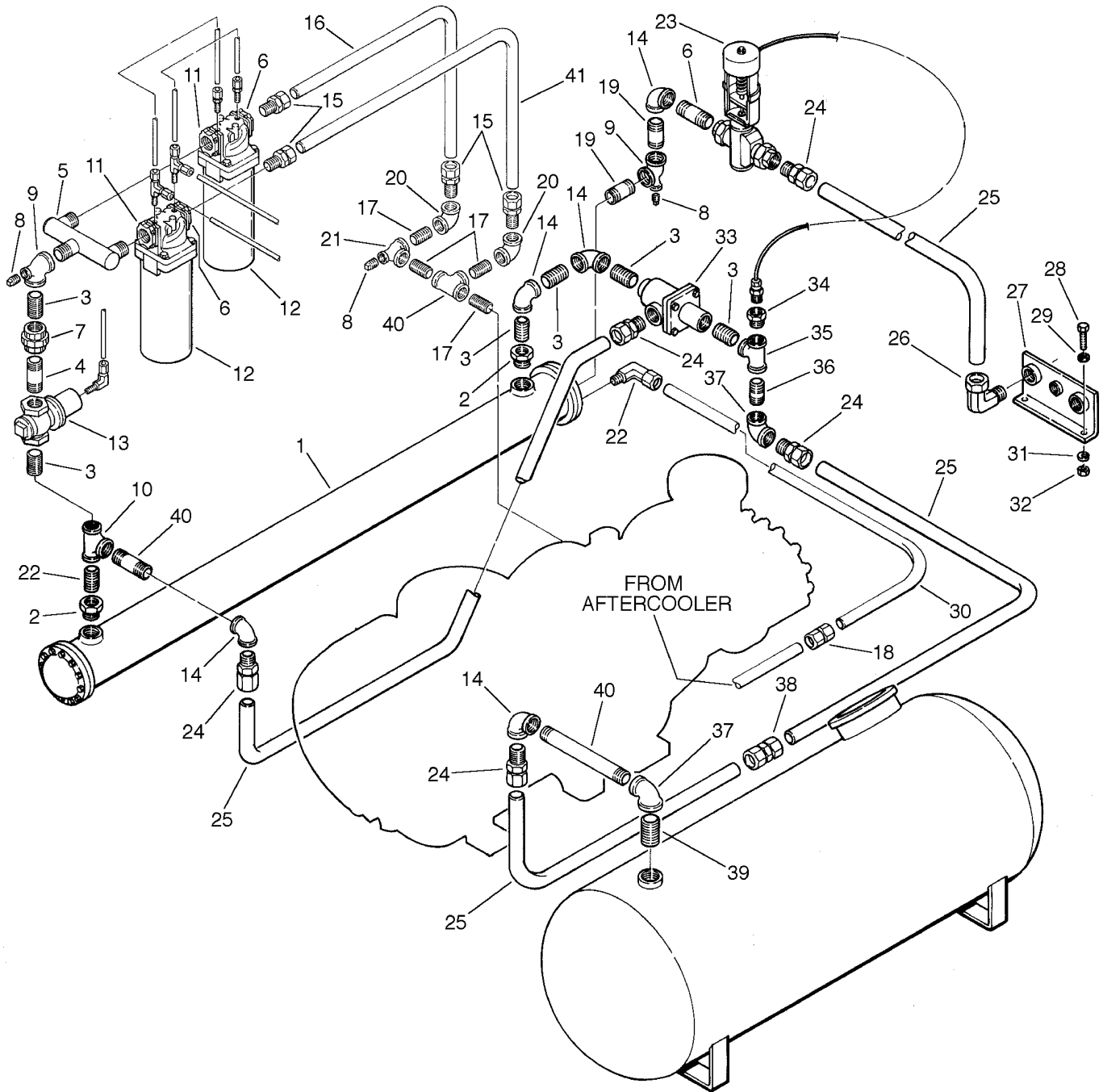
(I) For maintenance on fluid filter no. 250007–219, order replacement kit no. 250008–956.

(II) For maintenance on fluid stop valve no. 016742, order repair kit no. 001684.

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

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8.10 FLUID COOLING SYSTEM – 400HP/300KW (WATER-COOLED)



Section 8

ILLUSTRATIONS AND PARTS LIST

8.10 FLUID COOLING SYSTEM – 400HP/300KW (WATER–COOLED) (continued)

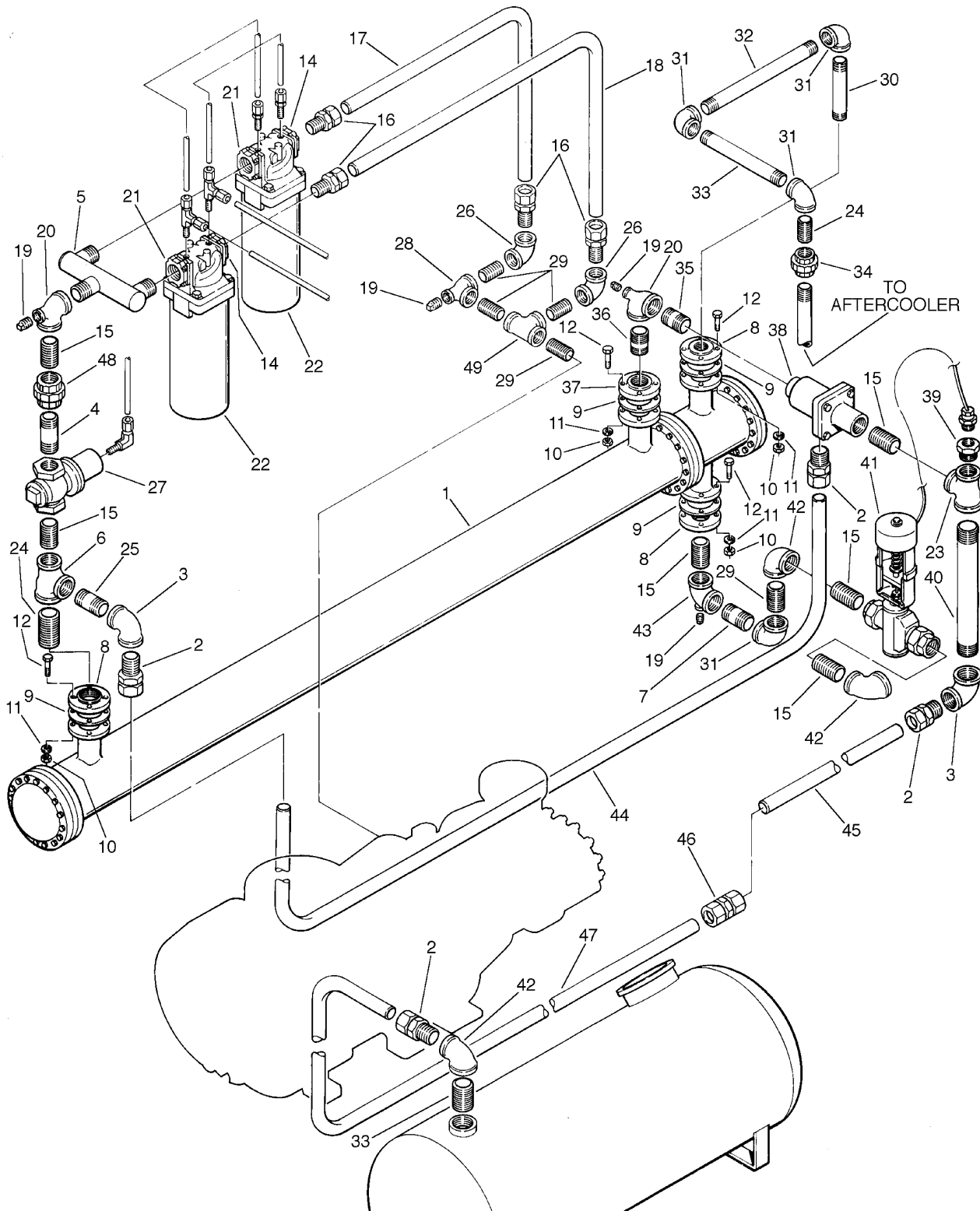
<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
33	valve, thermal 2" (III)	041299	1
34	bushing, reducing hex 2" x 1"	802108–040	1
35	tee, reducing 2 1/2" x 2" x 2"	802210–088	2
36	nipple, pipe 2 1/2" x 3 1/2"	822140–035	1
37	elbow, reducing 2 1/2" x 2"	801610–080	2
38	tube 2"	02250057–726	1
39	nipple, pipe 2 1/2" x close	822240–000	1
40	tee, pipe 1 1/2"	802415–060	1
41	tube 1 1/2"	02250057–723	1

(III) For maintenance on thermal valve no. 041299, order repair kit no. 001084.

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

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8.11 FLUID COOLING SYSTEM – 500 – 600HP/375 – 450KW (WATER-COOLED)



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ILLUSTRATIONS AND PARTS LIST

8.11 FLUID COOLING SYSTEM – 500 – 600HP/375 – 450KW (WATER–COOLED)

<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
1	cooler, fluid	250007–801	1
2	connector, tube–m 2" x 2"	810232–200	6
3	elbow, pipe 90° 2"	801515–080	3
4	nipple pipe 2" x 6"	822132–060	1
5	manifold	02250055–260	1
6	tee, pipe 2 1/2" x 2" x 2"	802210–088	1
7	nipple, pipe 2 1/2" x 4"	822140–040	2
8	flange, threaded reducing 2 1/2" x 7 1/2"	819540–075	3
9	gasket, flange	240621–8	4
10	nut, hex 5/8"–11	824210–559	16
11	washer, springlock 5/8"	837510–156	16
12	capscrew, hex gr5 5/8"–11 x 3"	828610–300	16
13	nipple, pipe 2 1/2" x 6"	822140–060	1
14	adaptor, port 1 1/2"	250007–221	1
15	nipple, pipe 2" x close	822232–000	7
16	connector, tube–m 1 1/2" x 1 1/2"	810224–150	1
17	tube, 1 1/2"	02250058–225	1
18	tee, 1 1/2"	802415–060	1
19	plug, pipe 1/2"	807800–020	3
20	tee, reducing 2" x 1/2" x 2"	802208–028	3
21	adaptor, port 2"	250007–220	4
22	filter, fluid (I)	250007–219	2
23	tee, pipe 2"	802415–080	1
24	nipple, pipe 2 1/2" x close	822240–000	1
25	nipple, pipe 2" x 4"	822132–040	2
26	elbow, pipe 1 1/2"	801515–060	2
27	valve, fluid stop 2" (II)	016742	1
28	tee, reducing 1 1/2" x 1/2" x 1 1/2"	802206–026	1
29	nipple, pipe 1 1/2" x close	82224–000	1
30	nipple, pipe 2 1/2" x 7"	822140–060	1
31	elbow, pipe 90° 2 1/2"	801515–100	3
32	nipple, pipe 2 1/2" x 14"	822140–140	1

(continued on Page 73)

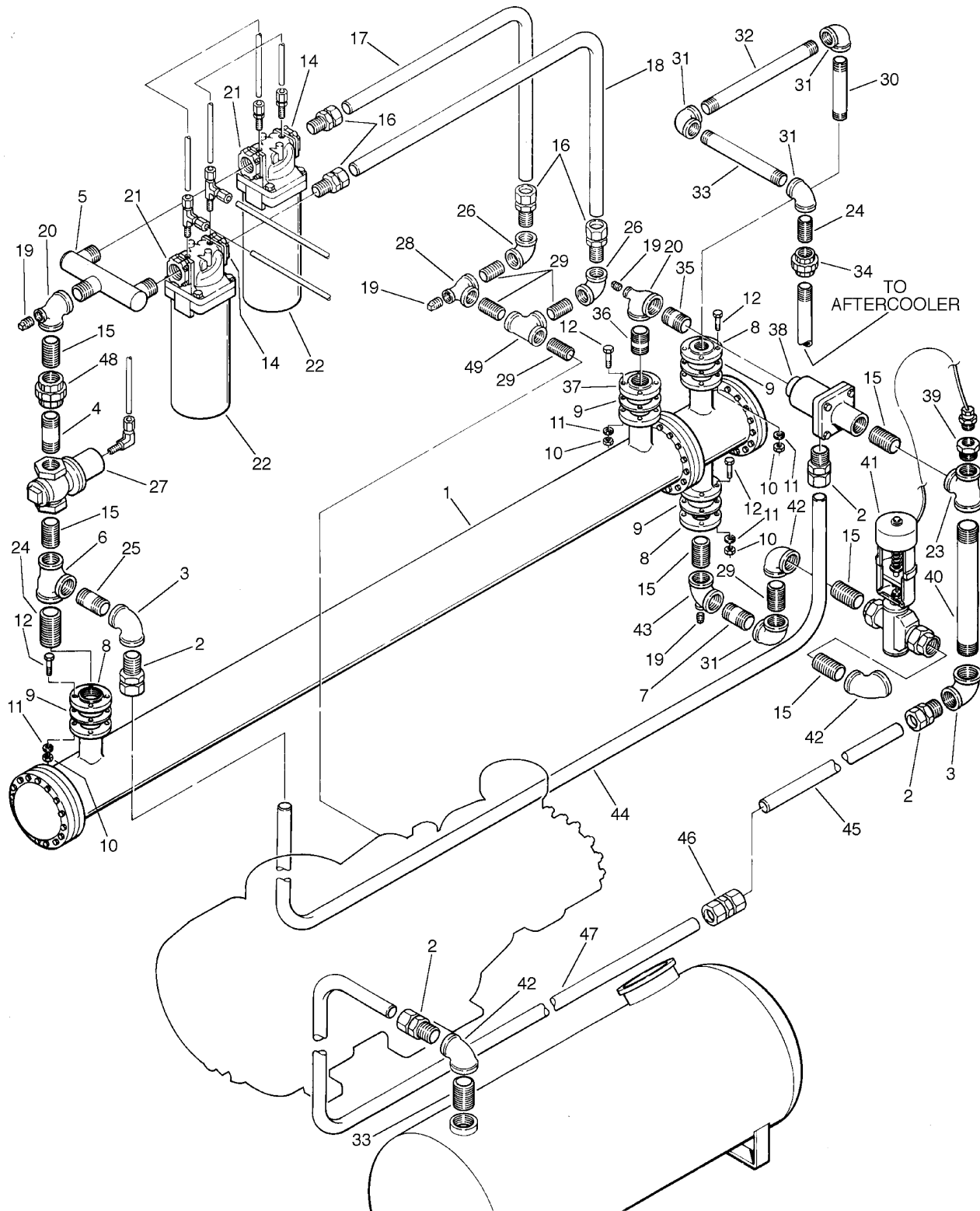
(I) For maintenance on fluid filter no. 250007–219, order replacement kit no. 250008–956.

(II) For maintenance on fluid stop valve no. 016742, order repair kit no. 001684.

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

Section 8
ILLUSTRATIONS AND PARTS LIST

8.11 FLUID COOLING SYSTEM – 500 – 600HP/375 – 450KW (WATER-COOLED)



Section 8
ILLUSTRATIONS AND PARTS LIST

8.11 FLUID COOLING SYSTEM – 500 – 600HP/375 – 450KW (WATER–COOLED) (continued)

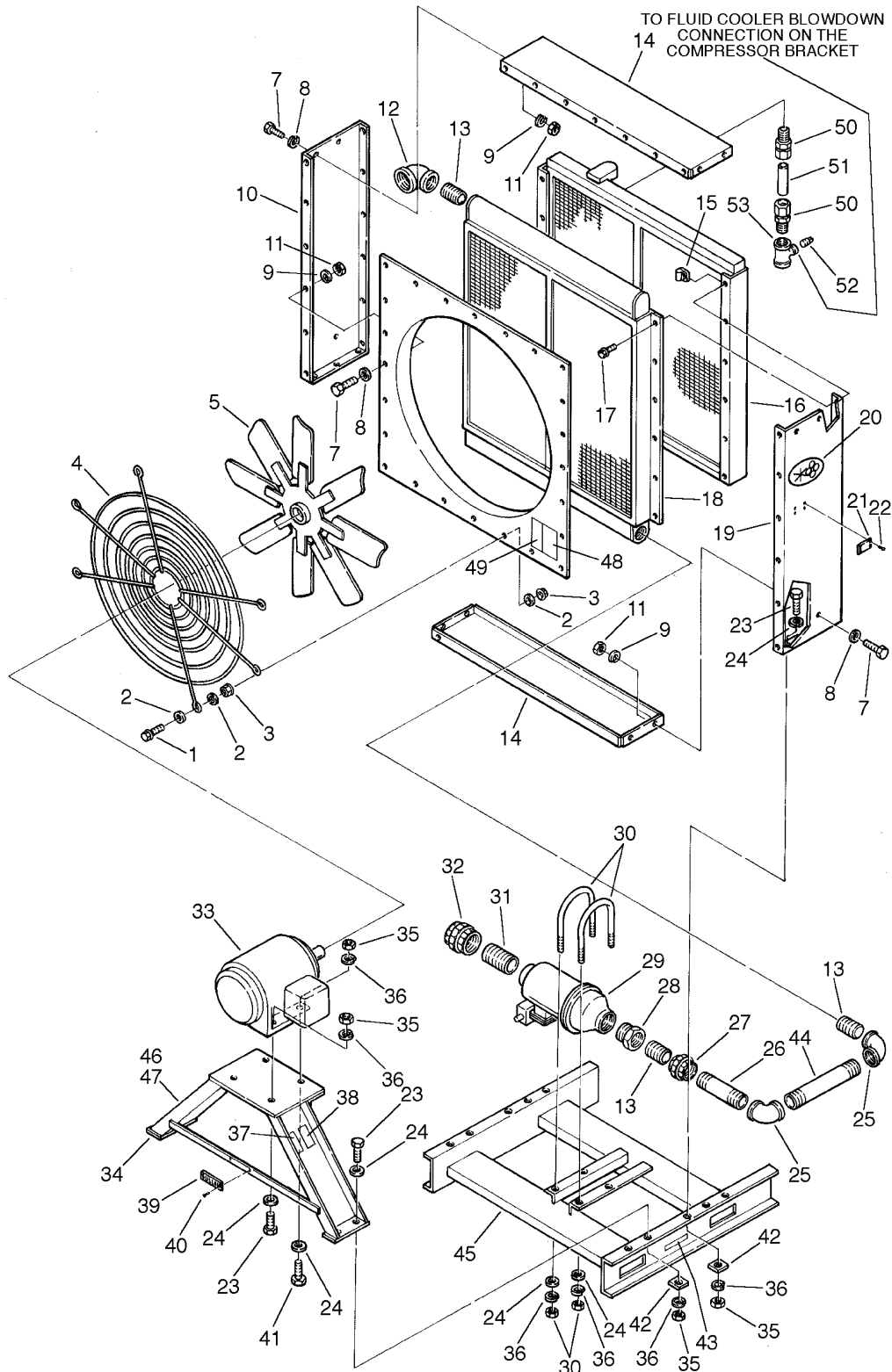
<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
33	nipple, pipe 2 1/2" x 9"	822140–090	1
34	union, pipe 2 1/2"	802515–100	1
35	nipple, pipe 2" x 3"	822232–030	1
36	nipple, pipe 2" x 3"	822132–030	1
37	flange, threaded reducing 2" x 7 1/2"	819532–075	1
38	valve, thermal 2" (III)	041299	1
39	bushing, reducing hex 2" x 1"	802108–040	1
40	nipple, pipe 2" x 16"	822132–160	1
41	valve, water regulating 2"	249970	1
42	elbow, reducing 2 1/2" x 2"	801610–080	2
43	tee, reducing 2 1/2" x 1/2" x 2 1/2"	802210–020	1
44	tube, fluid bypass 2"	250010–163	1
45	tube, thermal valve in 2"	250010–165	1
46	union, tube hex 2"	811332–200	1
47	tube, separator out 2"	250010–164	1
48	union, pipe 2"	802515–080	1

(III) For maintenance on thermal valve no. 041299, order repair kit no. 001084.

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

Section 8
ILLUSTRATIONS AND PARTS LIST

8.12 REMOTE COOLER FLUID COOLING SYSTEM – 200 – 250HP/150 – 187KW (AIR-COOLED)



Section 8

ILLUSTRATIONS AND PARTS LIST

8.12 REMOTE COOLER FLUID COOLING SYSTEM – 200 – 250HP/150 – 187KW (AIR–COOLED)

<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
1	screw, hex serrated washer 1/16" x 1 1/4"	829705–125	6
2	washer, pl–b regular unfinished 1/2"	837205–071	18
3	nut, hex flanged plated 1/16"–18	825305–283	12
4	guard, fan 42"	241283	1
5	fan, 42" diameter	406966	1
6	panel, Venturi	250001–202	1
7	capscrew, hex gr5 3/8"–16 x 1"	828606–100	26
8	washer, pl–b regular unfinished 3/8"	837206–071	52
9	washer, springlock regular 3/8"	837506–094	26
10	panel, left hand	250001–207	1
11	nut, hex unfinished 3/8"–16	824206–337	26
12	elbow, reducing 3" x 2" 150#	801612–080	1
13	nipple, pipe xs 2" x close	822232–000	3
14	panel, top and bottom	250001–209	2
15	nut, retainer 1/2"–18	860905–163	12
16	cooler, fluid	040961	1
17	screw, hex serrated washer 1/2" x 1"	829705–100	12
18	aftercooler	041807	1
19	panel, right hand	250001–203	1
20	tee, reducing 2"	802208–082	1
21	nameplate, serial aluminum	040052	1
22	rivet, pop 1/8" x 3/8"	843102–038	4
23	capscrew, hex gr5 1/2"–13 x 2"	828608–200	12
24	washer, pl–b regular unfinished 1/2"	837208–112	18
25	elbow, pipe 90° 2" 150#	801515–080	2
26	nipple, pipe 2" x 10"	822132–100	1
27	union, pipe brass seat 2" 150#	802515–080	1
28	bushing, reducer hex 3" x 2"	802112–080	1
29	separator, 3" combination trap/heater (I)	250004–596	1
30	u–bolt, 1/2" x 8" pipe	829008–800	2
31	nipple, pipe xs 3" x close	822248–000	1
32	union, pipe brass seat 3" 150#	802515–120	1
33	motor, 7.5 HP/5.6KW	050795	1
34	support, motor	250001–197	1

(continued on Page 29)

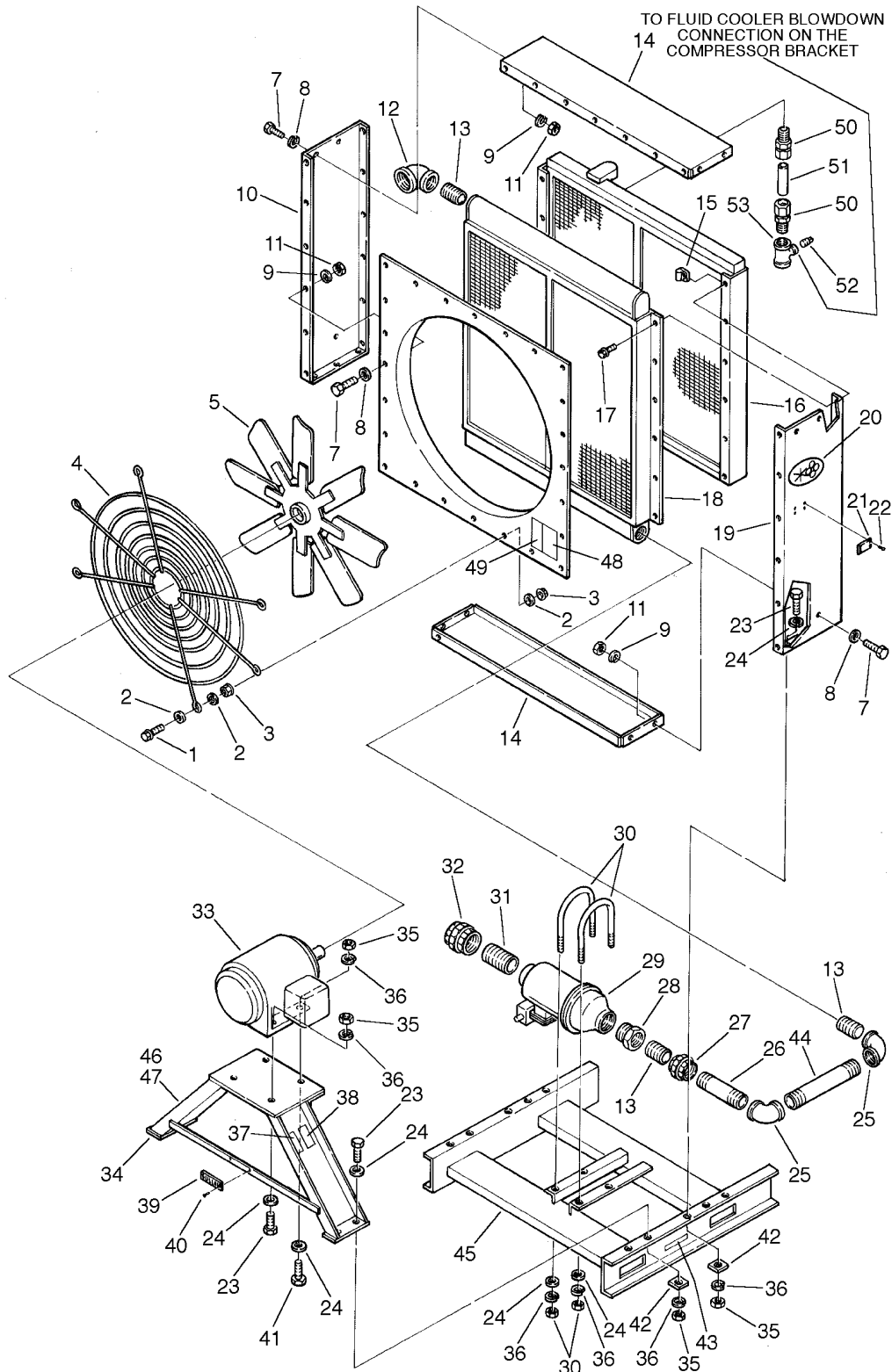
(I) For maintenance on combination trap with heater separator no. 250004–596, order repair kit no. 250033–036, and heater element replacement no. 245572.

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

Section 8

ILLUSTRATIONS AND PARTS LIST

8.12 REMOTE COOLER FLUID COOLING SYSTEM – 200 – 250HP/150 – 187KW (AIR-COOLED)



Section 8

ILLUSTRATIONS AND PARTS LIST

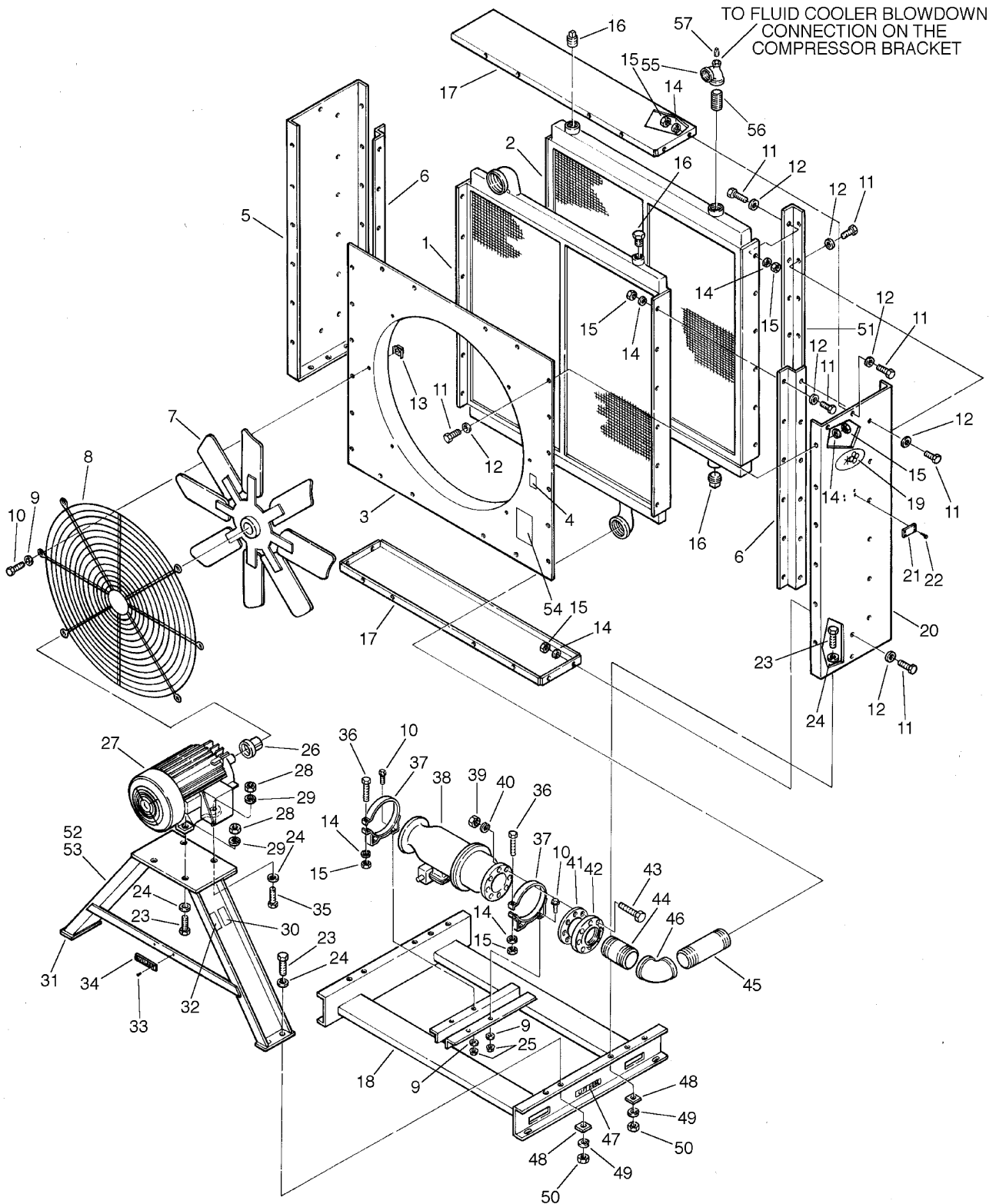
8.12 REMOTE COOLER FLUID COOLING SYSTEM – 200 – 250HP/150 – 187KW (AIR–COOLED) (continued)

<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
35	nut, hex unfinished 1/2"–13	824208–448	14
36	washer, springlock regular 1/2"	837508–125	18
37	sign, danger electrocution	049850	1
38	sign, warning compressor fluid fill cap	049685	1
39	plug, pipe 1/2"	807800–020	1
40	tube, 2"	841115–032	0.5 ft.
41	capscrew, hex gr5 5 1/2"–13 x 1 1/4"	828608–200	12
42	washer, bevel 1/2"	837008–125	10
43	decal, fork lifting	241814	2
44	nipple, pipe 2" x 16"	822132–160	1
45	frame, base	250001–191	1
46	decal, warning "food grade" lube	250003–144	1
47	decal, danger breath air	250007–935	1
48	decal, warning sever (fan)	049855	1
49	decal, warning sever fan port	049965	1
50	connector, tube 2"	810232–200	2

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

Section 8
ILLUSTRATIONS AND PARTS LIST

8.13 REMOTE COOLER FLUID COOLING SYSTEM – 300 – 350HP/225 – 261KW (AIR-COOLED)



Section 8

ILLUSTRATIONS AND PARTS LIST

8.13 REMOTE COOLER FLUID COOLING SYSTEM – 300 – 350HP/225 – 261KW (AIR–COOLED)

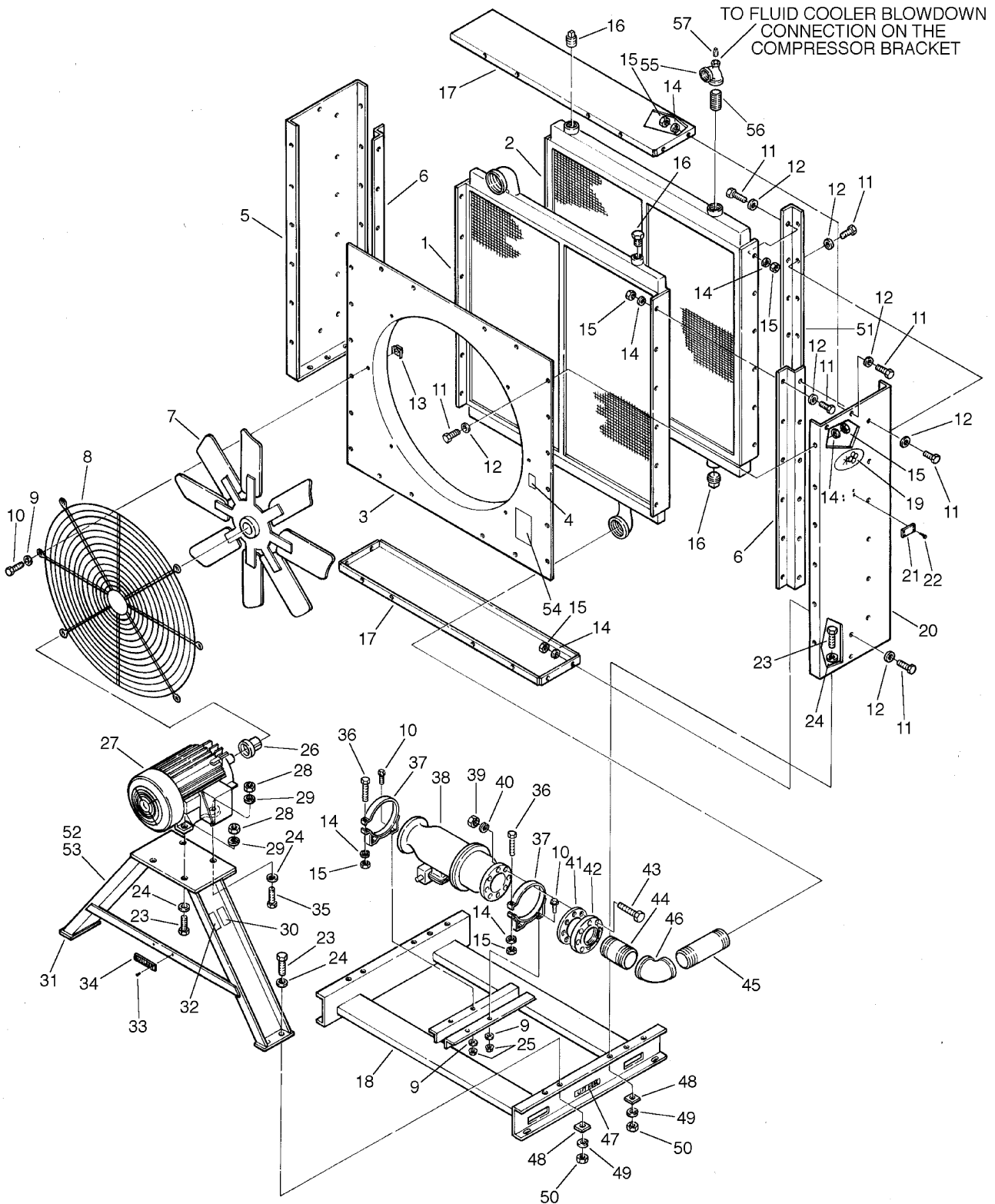
<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
1	core, aftercooler	049984	1
2	core, a/c fluid cooler	250004–201	1
3	shroud, fan	250000–467	1
4	sign, warning–sever (fan)	049855	1
5	panel, left hand	250000–468	1
6	bracket, ac	250000–475	2
7	fan, 48" 8 blade 35° pitch	049986	1
8	guard, fan 48"	241247	1
9	washer, pl–b regular unfinished 1/2"	837205–071	10
10	screw, hex serrated washer 1/2" x 3/4"	829705–075	10
11	capscrew, hex gr5 3/8"–16 x 1"	828606–100	76
12	washer, pl–b regular unfinished 3/8"	837206–071	96
13	nut, retainer 1/2"–18 .092	861405–092	1
14	washer, springlock regular 3/8"	837506–094	78
15	nut, hex unfinished 3/8"–16	824206–337	54
16	plug, pipe 2" 150#	802815–080	4
17	panel, top and bottom	250000–474	2
18	frame, ac base	250000–454	1
19	plug, pipe 1/2"	807800–020	1
20	panel, right hand	250000–472	1
21	nameplate, serial number aluminum	040052	1
22	rivet, pop 1/8" x 3/8"	843102–038	4
23	capscrew, hex gr5 1/2"–13 x 2"	828608–200	12
24	washer, pl–b regular unfinished 1/2"	837208–112	12
25	nut, hex flanged plated 1/2"–18	825305–283	4
26	bushing, taper	042520	1
27	motor, 15HP/11.2KW tefc	050387	1
28	nut, hex unfinished 1/2"–13	824208–448	14
29	washer, springlock regular 1/2"	837508–125	14
30	sign, warming–compressor fluid fill cap	049685	1
31	support, motor	250000–461	1
32	sign, danger electrocution	049850	1
33	nipple, pipe 2" x close	822232–000	1
34	tee, reducing 2" x 1/2" x 2"	802208–028	1
35	capscrew, hex gr5 1/2"–13 x 2 1/2"	828608–250	2
36	capscrew, hex gr5 3/8"–16 x 4"	828606–400	2
37	band, 9" air filter	049104	2

(continued on Page 33)

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

Section 8
ILLUSTRATIONS AND PARTS LIST

8.13 REMOTE COOLER FLUID COOLING SYSTEM – 300 – 350HP/225 – 261KW (AIR-COOLED)



Section 8
ILLUSTRATIONS AND PARTS LIST

8.13 REMOTE COOLER FLUID COOLING SYSTEM – 300 – 350HP/225 – 261KW (AIR–COOLED)
 (continued)

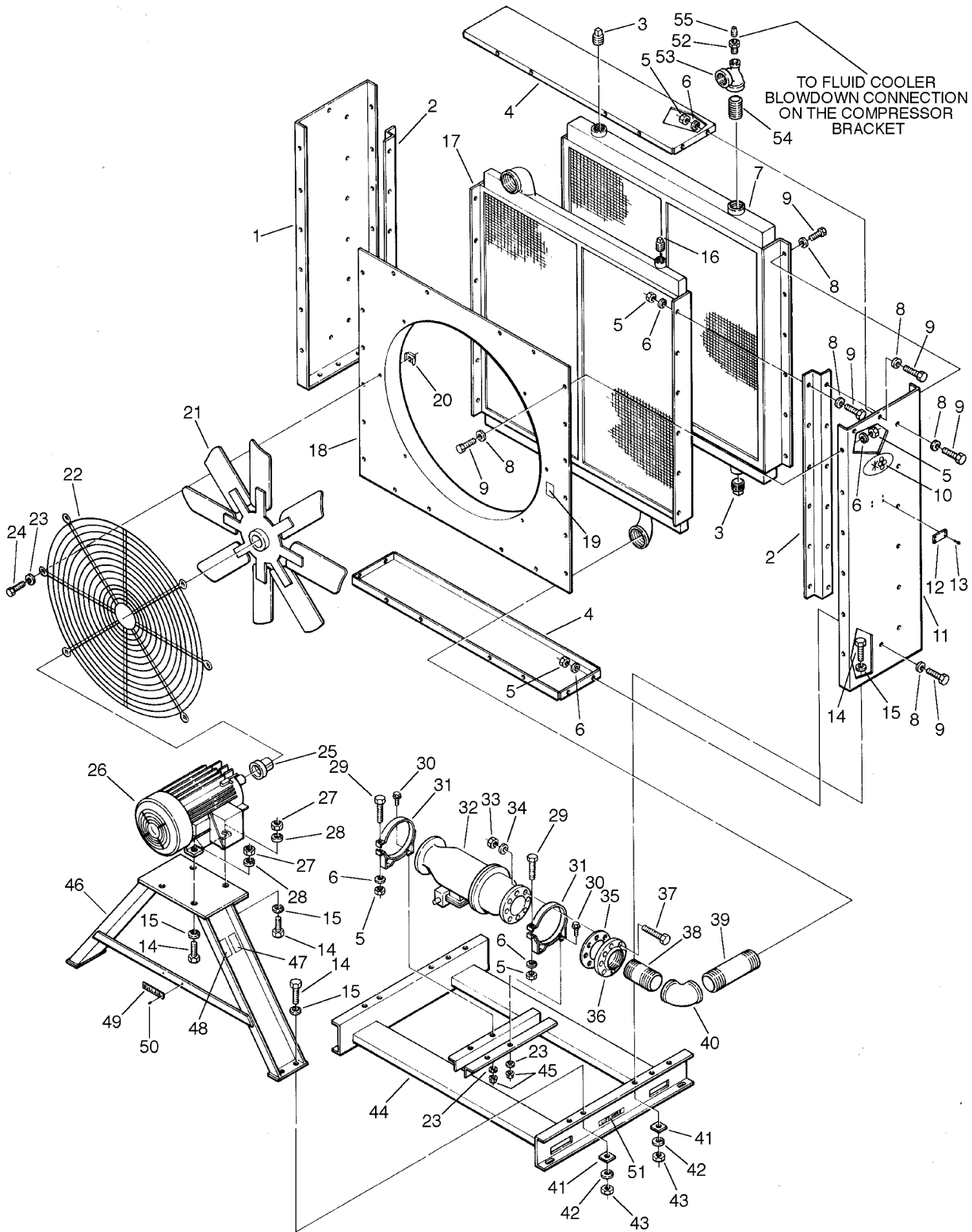
<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
38	separator, 4" combination trap/heater (I)	250004–597	1
39	nut, hex unfinished 5/8"–11	824210–559	8
40	washer, springlock regular 5/8"	837510–156	8
41	gasket, 4" 125# flange full force	242437–010	1
42	flange, threaded 4" 125#	818312–064	1
43	capscrew, hex gr5 5/8"–11 x 3"	828610–300	8
44	nipple, pipe 4" x 8"	822164–080	1
45	nipple, pipe 4" x 14"	822164–140	1
46	elbow, pipe 90° 4" 150#	801515–160	1
47	decal, fork lifting	241814	2
48	washer, bevel 1/2"	837008–125	10
49	washer, springlock regular 1/2"	837508–125	14
50	nut, hex unfinished 1/2"–13	824208–448	14
51	angle, 2" x 1 1/4" x 58"	250001–565	2
52	decal, warning "food grade" lube	250003–144	1
53	decal, danger breath air	250007–935	1
54	decal, warning–sever–fan–port	049965	1

(I) For maintenance on combination trap with heater separator no. 250004–597, order repair kit no. 250033–036, and heater element replacement no. 245572.

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

Section 8
ILLUSTRATIONS AND PARTS LIST

8.14 REMOTE COOLER FLUID COOLING SYSTEM – 400 – 450HP/300 – 337KW (AIR-COOLED)



Section 8

ILLUSTRATIONS AND PARTS LIST

8.14 REMOTE COOLER FLUID COOLING SYSTEM – 400 – 450HP/300 – 337KW (AIR–COOLED)

<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
1	panel, left hand	250000–468	1
2	bracket	250000–475	2
3	plug, pipe 3" 150#	802815–120	2
4	panel, top and bottom	250000–474	2
5	nut, hex unfinished 3/8"–16	824206–337	42
6	washer, springlock regular 3/8"	837506–094	66
7	core, cooler 64" x 62"	250007–856	1
8	washer, pl–b regular unfinished 3/8"	837206–071	84
9	capscrew, hex gr5 3/8"–16 x 1"	828606–100	64
10	plug, pipe 1/2"	807800–020	1
11	panel, right side	250000–472	1
12	nameplate, serial number aluminum	040052	1
13	rivet, pop 1/8" x 3/8"	843102–038	4
14	capscrew, hex gr5 5 1/2"–13 x 2"	828608–200	12
15	washer, pl–b regular unfinished 1/2"	837208–112	14
16	pipe, 2" 150#	802815–080	1
17	core, aftercooler	049984	1
18	panel, Venturi 48"	250000–467	1
19	sign, warning–sever (fan)	049855	1
20	nut, retainer 1/2"–18	861405–092	6
21	fan, 48" blade 35° pitch	049986	1
22	guard, fan 48"	241347	1
23	washer, pl–b regular unfinished 1/2"	837205–071	4
24	screw, hex serrated washer 1/2" x 3/4"	829705–075	10
25	bushing, taper	042520	1
26	motor, 15HP/11.2KW tefc	050387	1
27	nut, hex unfinished 1/2"–13	824208–448	14
28	washer, springlock regular 1/2"	837508–125	14
29	capscrew, hex gr5 3/8"–16 x 4"	828606–400	2
30	screw, hex serrated washer 1/2" x 3/4"	829705–075	10
31	band, 9" air filter	049104	2
32	separator, 4" combination trap/heater (I)	250004–597	1
33	nut, hex unfinished 5/8"–11	824210–559	8
34	washer, springlock regular 5/8"	837510–156	8

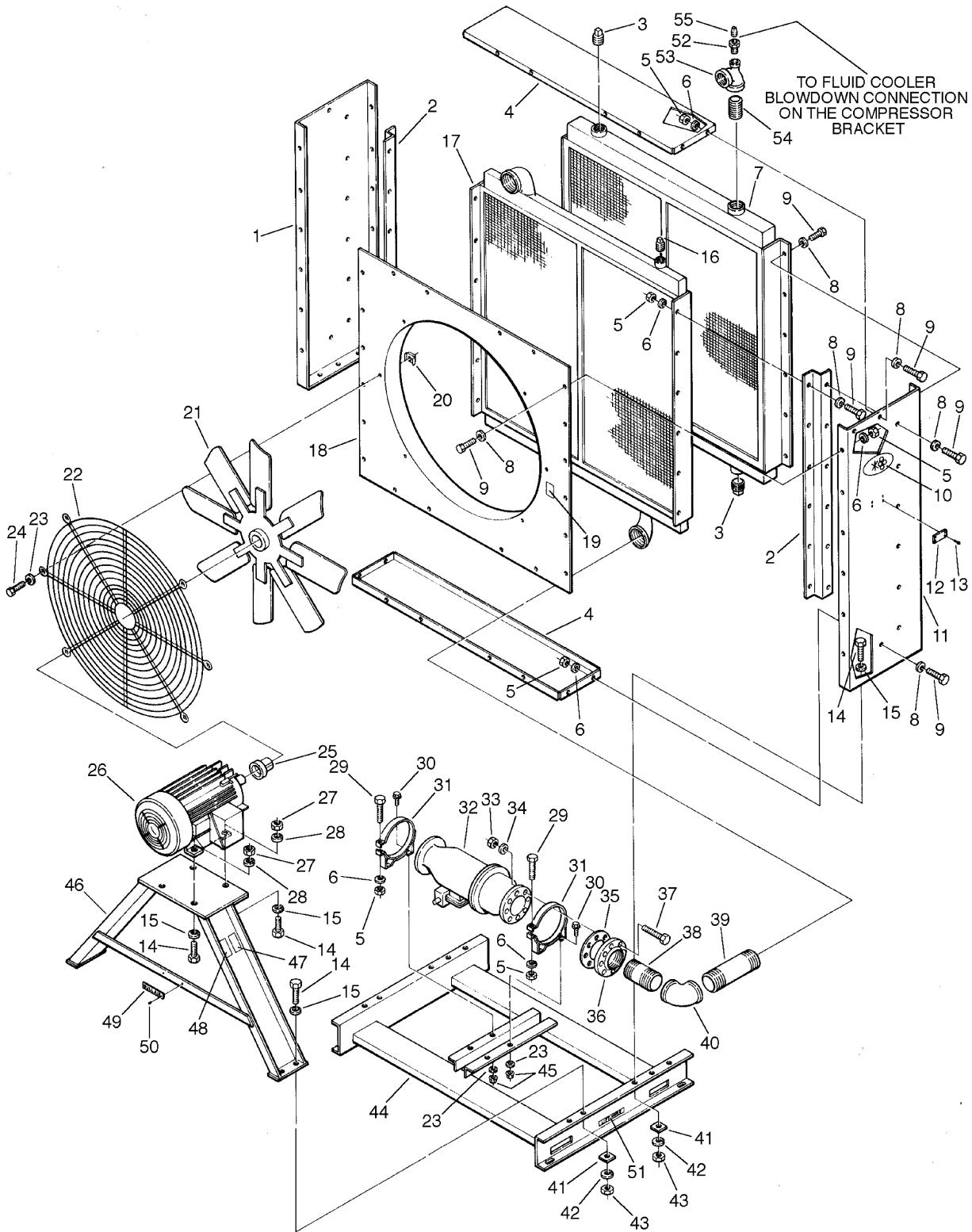
(I) For maintenance on combination trap with heater separator no. 250004–597, order repair kit no. 250033–036, and heater element replacement no. 245572.

(continued on Page 37)

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

Section 8
ILLUSTRATIONS AND PARTS LIST

8.14 REMOTE COOLER FLUID COOLING SYSTEM – 400 – 450HP/300 – 337KW (AIR-COOLED)



Section 8
ILLUSTRATIONS AND PARTS LIST

8.14 REMOTE COOLER FLUID COOLING SYSTEM – 400 – 450HP/300 – 337KW (AIR–COOLED)
 (continued)

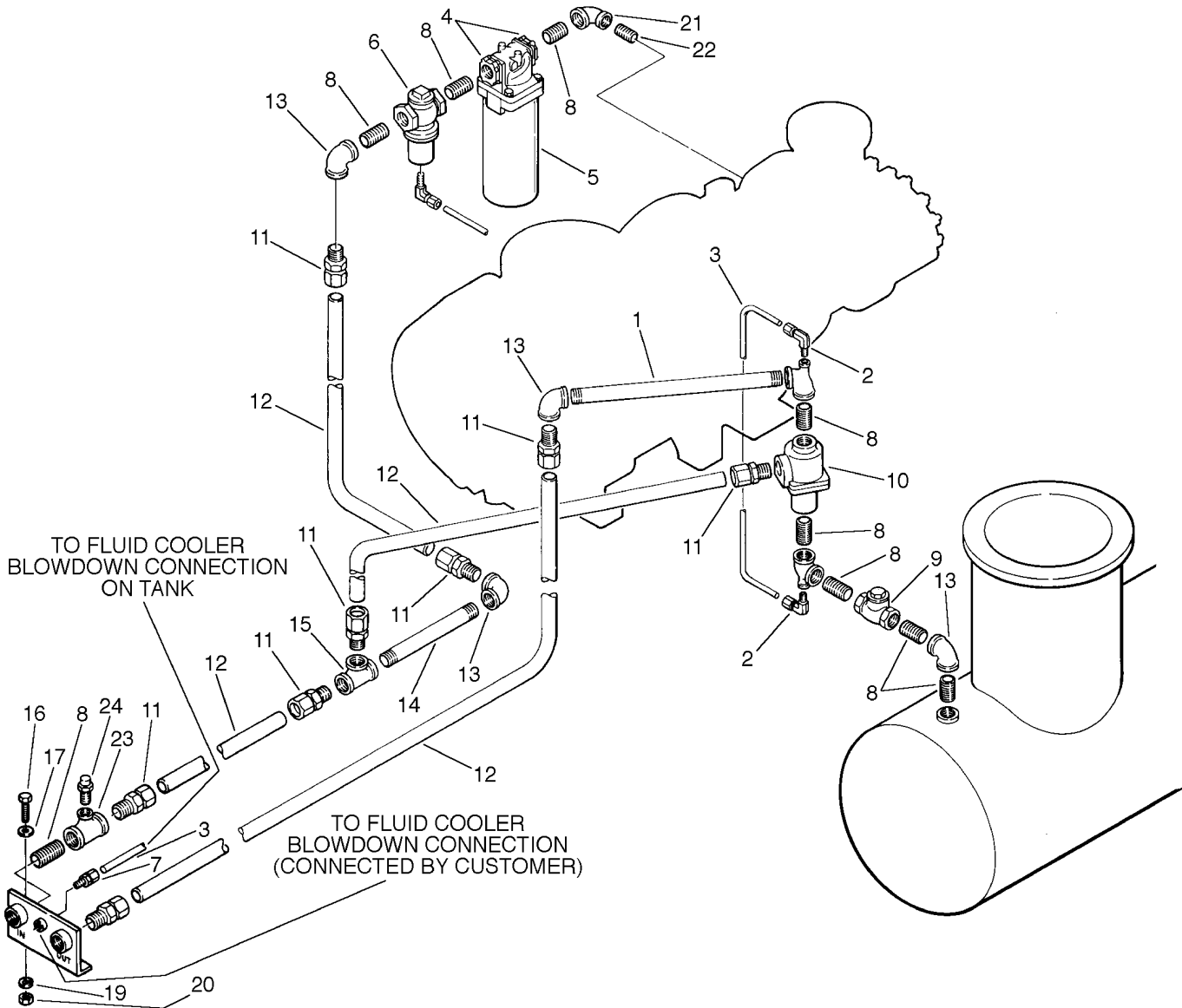
<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
35	gasket, 4" 125# flange full face	242437–010	1
36	flange, threaded 4" 125#	818312–064	1
37	capscrew, hex gr5 5/8"–11 x 3"	828610–300	8
38	nipple, pipe 4" x 8"	822164–080	1
39	nipple, pipe 4" x 16"	822164–140	1
40	elbow, pipe 90° 4" 150#	801515–160	1
41	washer, bevel 1/2"	837008–125	10
42	washer, springlock regular 1/2"	837508–125	14
43	nut, hex unfinished 1/2"–13	824208–448	14
44	frame	250000–454	1
45	nut, hex flanged plated 1/2"–18	825305–283	4
46	support, motor	250000–461	1
47	sign, warning compressor fluid fill cap	049685	1
48	sign, danger electrocution	049850	1
49	nipple, pipe 3" x close	822248–000	1
50	tee, reducing 3" x 1" x 3"	802212–042	1
51	decal, fork lifting	241814	2
52	bushing, reducing 1" x 1/2"	802104–020	1

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

Section 8

ILLUSTRATIONS AND PARTS LIST

8.15 REMOTE COOLER FLUID COOLING PIPING – 200 – 300HP/150 – 225KW (AIR-COOLED)



Section 8

ILLUSTRATIONS AND PARTS LIST

8.15 REMOTE COOLER FLUID COOLING PIPING – 200 – 300HP/150 – 225KW (AIR-COOLED)

<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
1	nipple, 2" X 24"	822132-240	1
2	elbow, tube 1/2"t x 1/2"mnpt	810508-050	2
3	tube, 1/2" steel	841115-008	12 ft.
4	adaptor, port 2"	250007-220	2
5	filter, fluid (I)	250007-219	1
6	valve, fluid stop 2" (II)	016742	1
7	connector, tube-m 1/2" x 1/2"	810208-050	2
8	nipple, pipe 2" close	822224-000	8
9	valve, check 2"	040671	1
10	valve, thermal 2" (III)	041299	1
11	connector, tube-m 2" x 2"	810232-200	8
12	tubing, steel 2"	841115-032	30 ft.
13	elbow, pipe 2" 90°	801515-080	3
14	nipple, pipe 2" x 16"	822132-160	1
15	tee, pipe 2"	802415-080	1
16	capscrew, hex gr5 1/2"-13 x 1 1/2"	828608-150	2
17	washer, pl-b regular unfinished 1/2"	837208-112	2
18	bracket, in-out 2"	250008-245	1
19	washer, springlock 1/2"	837508-125	2
20	nut, hex 1/2"-13	824208-448	2
21	elbow, pipe 2" x 1 1/2" 90°	801608-060	1
22	nipple, pipe 1 1/2" x close	822224-000	1
23	tee, reducing 2" x 2" x 1/2"	802208-082	1
24	switch, temp	043239	1

(I) For maintenance on fluid filter no. 250007-219, order repair kit no. 250008-956.

(II) For maintenance on fluid stop valve no. 016742, order repair kit no. 001684.

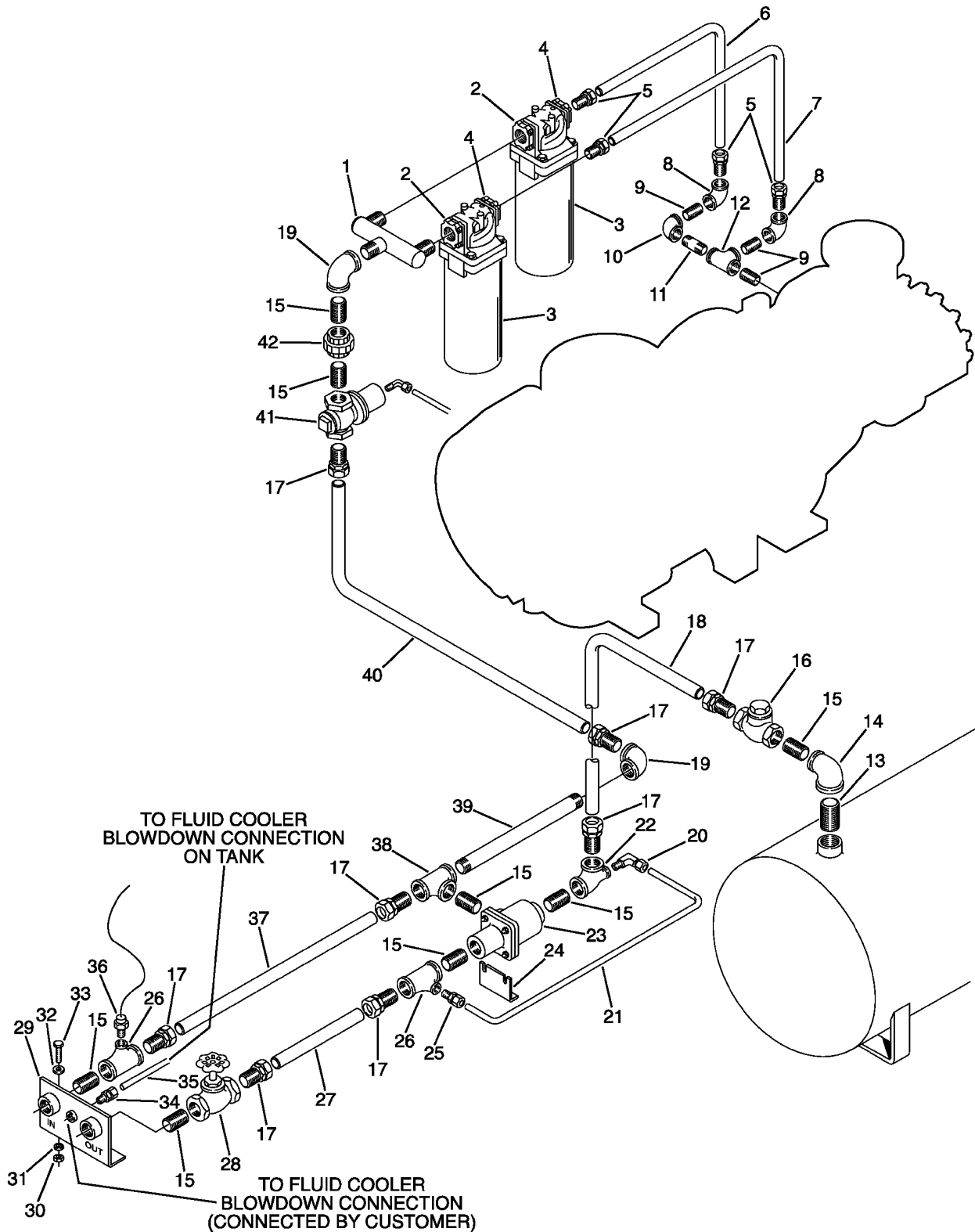
(III) For maintenance on thermal valve no. 041299, order repair kit no. 001084.

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

Section 8

ILLUSTRATIONS AND PARTS LIST

8.16 REMOTE COOLER FLUID COOLING PIPING – 400 – 600HP/300 – 450KW (AIR-COOLED)



Section 8

ILLUSTRATIONS AND PARTS LIST

8.16 REMOTE COOLER FLUID COOLING PIPING – 400 – 600HP/300 – 450KW (AIR–COOLED)

<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
1	manifold	02250055–260	1
2	adaptor, port 2"	250007–220	4
3	filter, fluid (I)	250007–219	2
4	adaptor, port 1 1/2"	250007–221	1
5	connector, tube–m 1 1/2" x 1 1/2"	810224–150	4
6	tube, 1 1/2"	02250058–185	2
7	nipple, pipe 2" x 24"	822132–240	1
8	elbow, pipe 1 1/2"	801515–060	3
9	nipple, 1 1/2" x close	822224–000	3
10	union, pipe 2"	802515–080	1
11	nipple, pipe 1 1/2" x 3"	822124–030	1
12	tee, pipe 1 1/2"	802415–060	1
15	nipple, pipe 2" x close	822232–000	1
16	valve, check 2"	040671	1
17	connector, tube–m 2" x 2"	810232–200	9
18	tube, 2"	02250058–184	1
19	elbow, pipe 90° 2"	801515–080	1
20	elbow, tube–m 1/2" x 1/2"	810508–050	2
21	tubing, steel 1/2"	841115–008	17 ft.
22	tee, reducing 2" x 1/2" x 2"	802208–028	1
23	valve, thermal 2" (II)	041299	1
24	bracket, valve support	250016–378	1
25	connector, tube–m 1/2" x 1/2"	810208–050	1
26	tee, reducing 2" x 2" x 3/4"	802208–083	1
27	tee, pipe 2"	802415–080	1
28	valve, gate 2"	041562	1
29	bracket, in–out 2"	250008–245	1
30	nut, hex 1/2"–13	824208–448	2
31	washer, springlock 1/2"	837508–125	2
32	washer, regular 1/2"	837208–112	2
33	capscrew, hex gr5 1/2"–13 x 1 1/2"	828608–150	2
34	valve, fluid stop 2" (III)	016742	1
35	switch, temp	043239	1

(I) For maintenance on fluid filter no. 250007–219, order repair kit no. 250008–956.

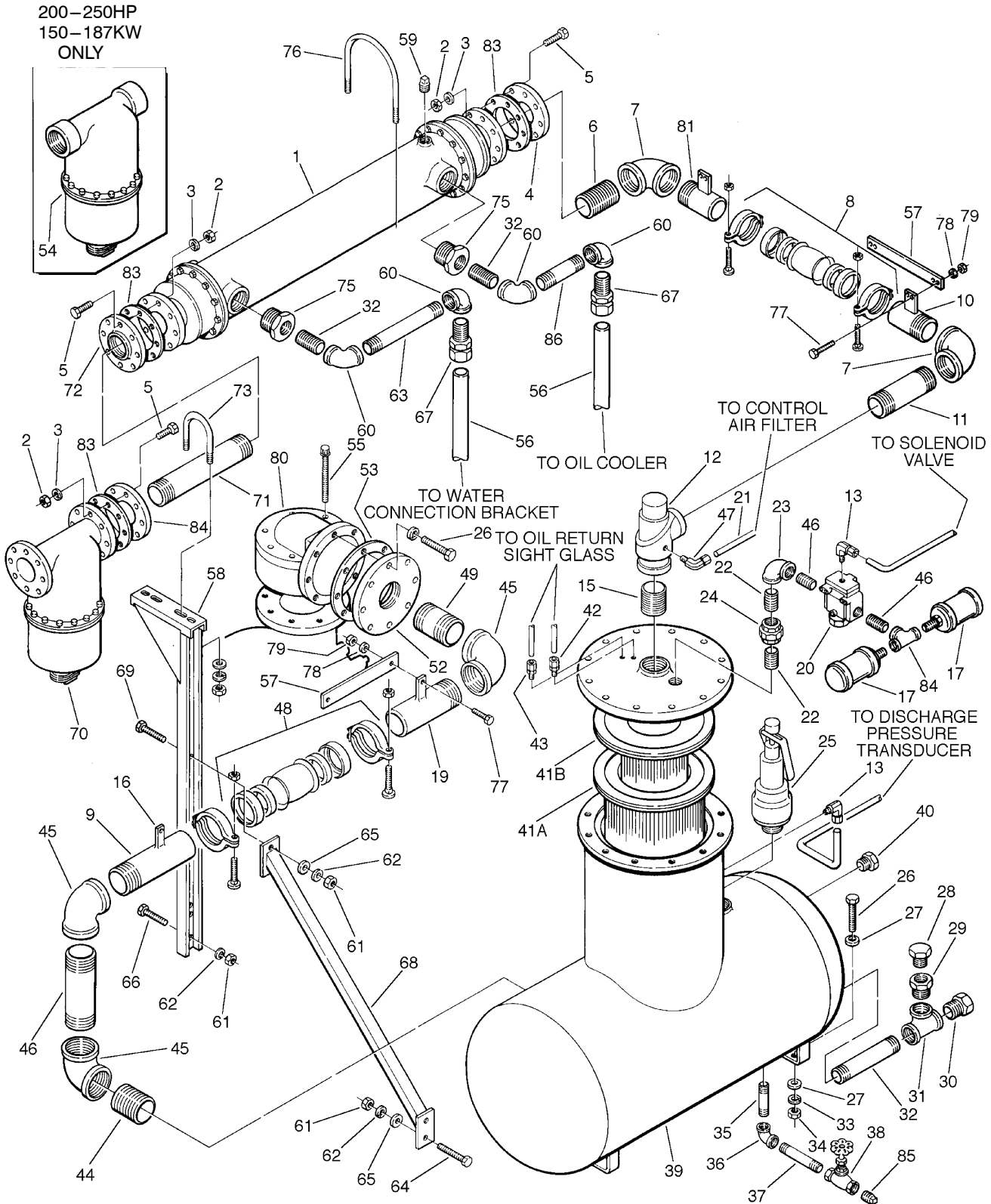
(II) For maintenance on thermal valve no. 041299, order repair kit no. 001084.

(III) For maintenance on fluid stop valve no. 016742, order repair kit no. 001684.

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

Section 8 ILLUSTRATIONS AND PARTS LIST

8.17 COMPRESSOR DISCHARGE SYSTEM – 200 – 300HP/150 – 225KW (WATER-COOLED)



Section 8

ILLUSTRATIONS AND PARTS LIST

8.17 COMPRESSOR DISCHARGE SYSTEM – 200 – 300HP/150 – 225KW (WATER–COOLED)

<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
1	aftercooler, water–cooled	042950	1
2	nut, hex 5/8"	829210–559	24
3	washer, springlock 5/8"	837510–156	24
4	flange, threaded reducing 3" x 9"	819548–090	1
5	capscrew, hex gr5 5/8" x 3"	828610–300	24
6	nipple, pipe 3" x 3"	822148–030	1
7	elbow, pipe 90° 3"	801515–120	2
8	coupling, flexible 3" (I)	040327	1
9	nipple, half pipe 4" x 15"	822864–150	1
10	nipple, half pipe 3" x 7 1/2"	822848–075	1
11	nipple, pipe 3" x 9"	822148–090	1
12	valve, minimum pressure check 3" npt (II)	250033–821	1
13	elbow, tube–m 1/4"x 1/4"	810504–025	1
14	tubing, steel 1/4"	841115–004	6 ft.
15	nipple, pipe 3" x close	822248–000	1
16	reinforcement, 3"	250035–136	8
17	silencer, air 3/4"	040758	1
18	bushing, reducing 1" x 3/4"	802104–030	1
19	nipple, half pipe	822864–140	1
20	valve, blowdown 1" ac 2–way (III)	409783	1
21	tubing, steel 3/8"	841115–006	10 ft.
22	nipple, pipe 1 1/4"x close	822220–000	2
23	elbow, pipe reducing 90° 1 1/4"x 1"	801605–040	1
24	union, pipe 1 1/4"	802515–050	1
25	valve, relief 1 1/2" 150 psig (10.3 bar)	407003	1
26	capscrew, hex gr5 3/4" x 2 1/2"	828612–250	8
27	washer, regular 3/4"	837212–112	4
28	plug, o–ring boss 1 1/4"	040029	1
29	adapter, filler	020044	1
30	glass, fluid level sight 1 1/2"	040279	1
31	tee, pipe 1 1/2" x 1 1/2" x 1 1/2"	802415–060	1
32	nipple, pipe 1 1/2" x close	822224–000	2

(continued on Page 93)

(I) For maintenance on flexible coupling no. 040327, order repair kit no. 040523.

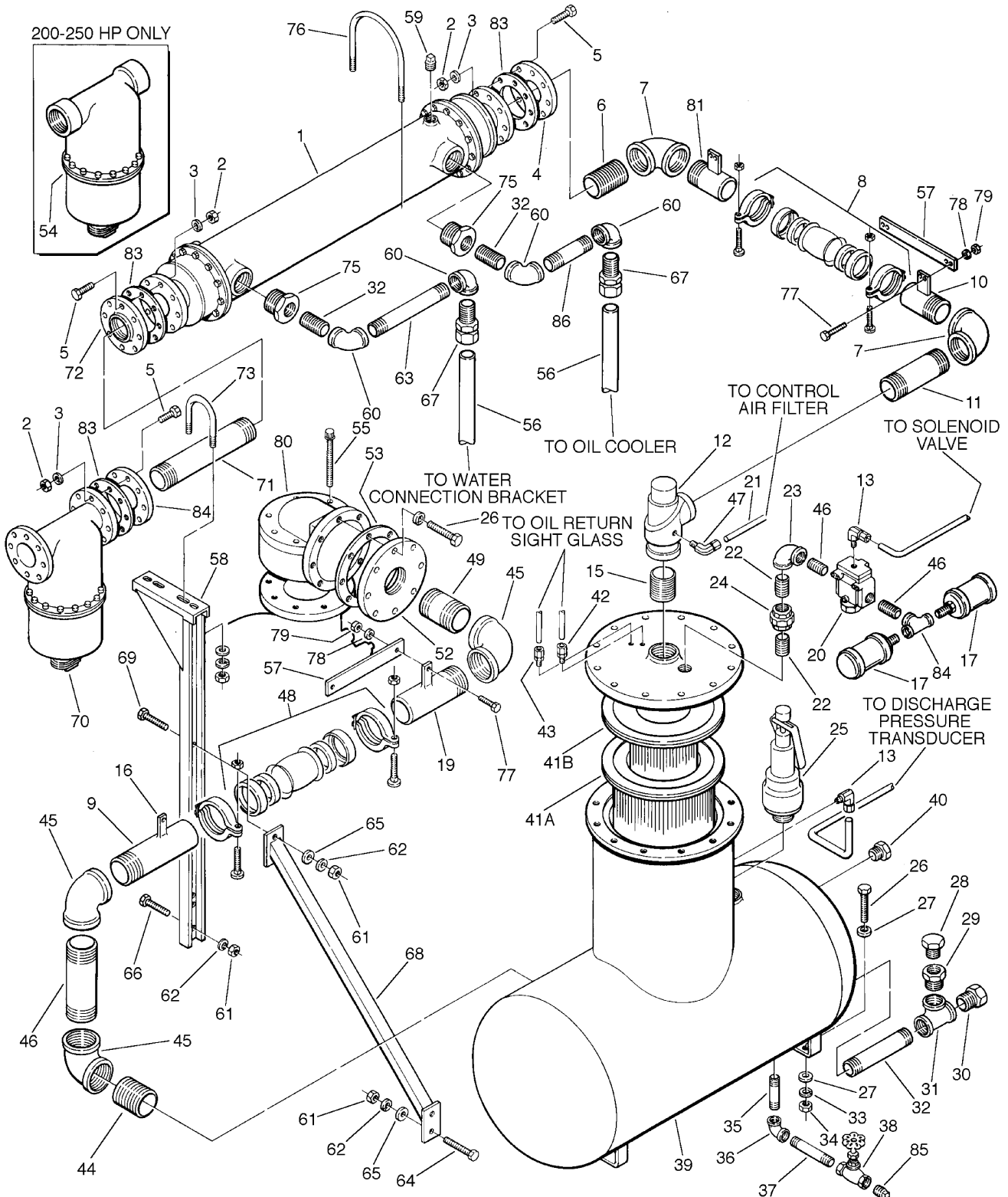
(II) For maintenance on minimum pressure/check valve no. 250033–821, order repair kit no. 250018–262.

(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 ILLUSTRATIONS AND PARTS LIST

8.17 COMPRESSOR DISCHARGE SYSTEM – 200 – 300HP/150 – 225KW (WATER-COOLED)



Section 8

ILLUSTRATIONS AND PARTS LIST

8.17 COMPRESSOR DISCHARGE SYSTEM – 200 – 300HP/150 – 225KW (WATER-COOLED) (continued)

<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
33	washer, springlock 3/4"	837512-188	12
34	nut, hex 3/4"	824212-665	4
35	nipple, pipe 3/4" x 31/2"	822112-035	1
36	elbow, pipe 90° 3/4"	801515-030	3
37	nipple, pipe 3/4" x 7"	822112-070	1
38	valve, globe 3/4"	040520	1
39	tank, sump fluid separator 30"	250002-038	1
40	plug, pipe 1 1/2"	802815-060	2
41A	element, separator (primary) (IV)	250034-123	1
41B	• element, separator (secondary) (V)	250034-129	1
42	connector, 1/4"x 1/4"	020169	1
43	fitting, tube-m 1/2" x 1/4"	020501	1
44	nipple, pipe 4" x close	822264-000	2
45	elbow, pipe 90° 4"	801515-160	3
46	nipple, pipe 1" x close	822224-000	1
47	elbow, tube-m 3/8" x 1/4"	810506-025	1
48	coupling, flexible (VI)	041085	1
49	nipple, pipe 4" x 61/2"	822164-065	1
50	capscrew, hex 3/4" x 3 1/2"	828612-035	4
51	washer, springlock 3/4"	837512-188	12
52	flange, threaded reducing 4" x 11"	818664-110	1
53	gasket, flange	240621-12	1
54	separator, 3" combination trap (VII)	250004-596	1
55	capscrew, ferry head 5/8" x 6"	828410-600	6
56	tubing, steel 1 1/2"	841115-024	20 ft.
57	reinforcement, 15 1/2"	250035-138	2
58	support, cooler	250005-041	2
59	plug, pipe 3/8"	802815-010	1
60	elbow, pipe 90° 1 1/2"	801515-060	2

(continued on Page 51)

(IV) For maintenance on primary separator element no. 250034-123, order replacement kit no. 250034-124.

(V) For maintenance on secondary separator element no. 250034-129, order replacement kit no. 250034-130.

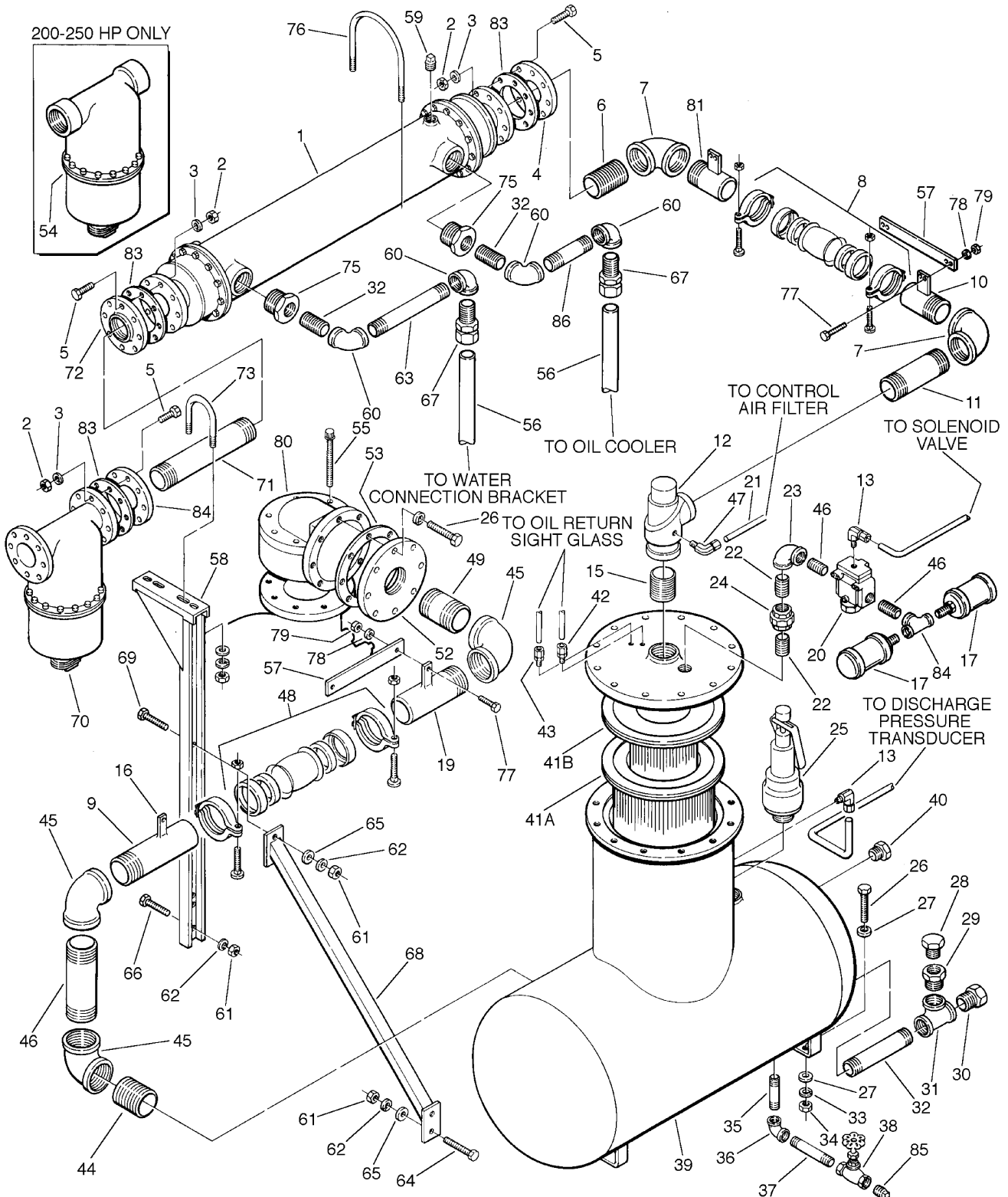
(VI) For maintenance on flexible coupling no. 041085, order repair kit no. 041353.

(VII) For maintenance combination trap w/heater no. 250004-596, order repair kit no. 250033-036 and heater element replacement no. 245572.

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

Section 8
ILLUSTRATIONS AND PARTS LIST

8.17 COMPRESSOR DISCHARGE SYSTEM – 200 – 300HP/150 – 225KW (WATER-COOLED)



Section 8

ILLUSTRATIONS AND PARTS LIST

8.17 COMPRESSOR DISCHARGE SYSTEM – 200 – 300HP/150 – 225KW (WATER-COOLED) (continued)

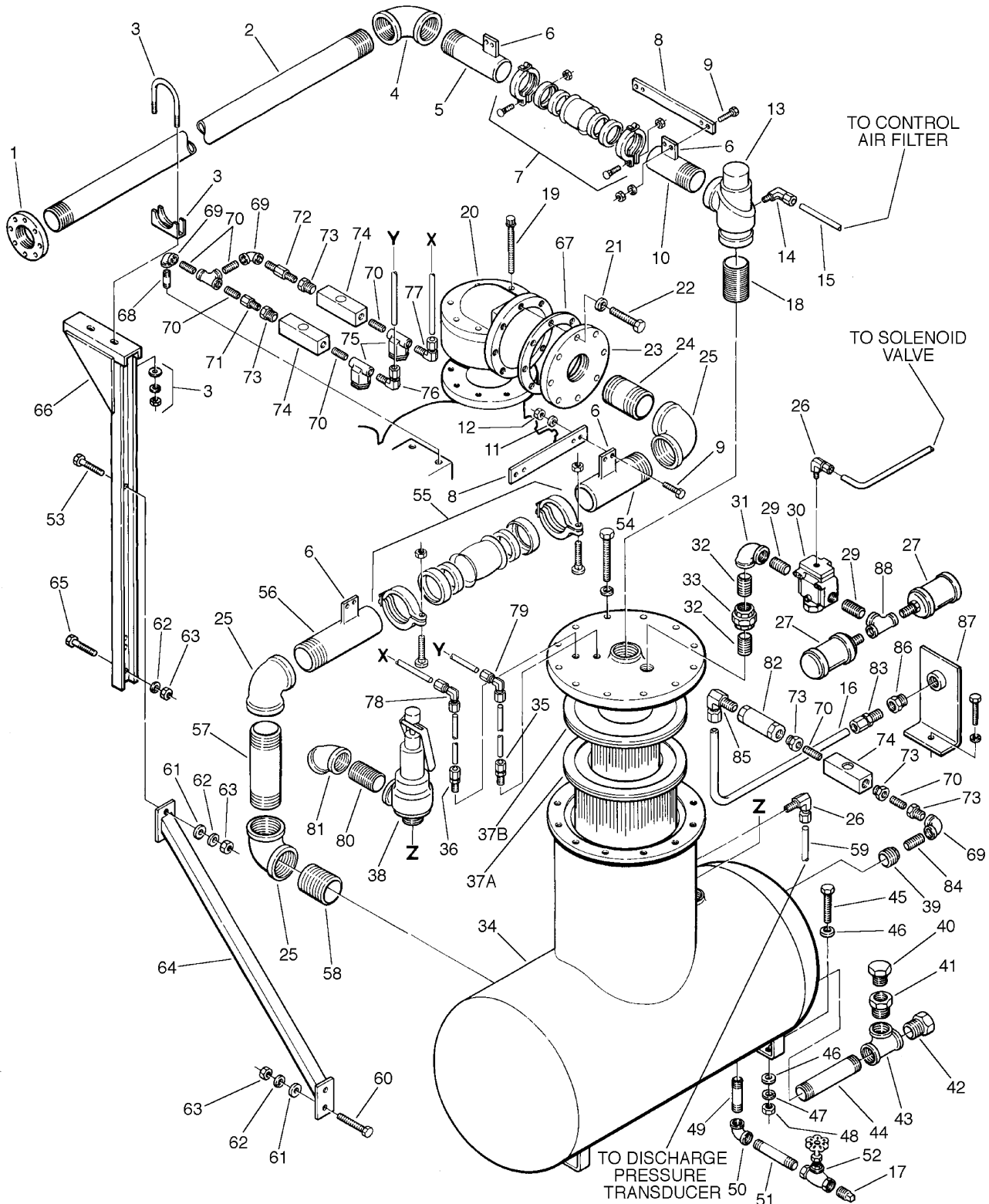
<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
61	nut, hex 1/2"	824208–385	4
62	washer, springlock 1/2"	837508–125	4
63	nipple, pipe 1 1/2" x close	822224–000	1
64	capscrew, hex 1/2" x 1 3/4"	828608–175	6
65	washer, regular 1/2"	837208–112	6
66	capscrew, hex 1/2" x 1 1/4"	828608–125	4
67	connector, tube–m 1 1/2" x 1 1/2"	810224–150	2
68	brace, aftercooler	250009–509	1
69	capscrew, hex 1/2" x 1 1/2"	828608–150	6
70	separator, 4" combination trap (VIII)	250000–511	1
71	nipple, pipe 3" x 22" (200 – 250HP/150 – 187KW)	822148–220	1
	•nipple, pipe 4" x 21" (300HP/225KW)	822164–210	1
72	flange, threaded reducing 3" x 9" (200 – 250HP/150 – 187KW)	819548–090	1
	•flange, threaded 4" 150# (300HP/225KW)	819315–064	1
73	u–bolt, 1/2" x 4" pipe	829008–400	1
74	flange, threaded 4" 125#	818312–064	1
75	bushing, reducing hex 3" x 1 1/2"	802112–060	2
76	u–bolt, 1/2" x 8" pipe	829008–800	1
77	capscrew, hex 3/8" x 1 1/4"	828606–125	2
78	washer, springlock 1/4"	837504–062	2
79	nut, hex 1/4"	824204–226	2
80	valve, discharge check	067339–001	1
81	nipple, half pipe 3" x 1 1/2"	822848–115	1
82	gasket, flange 6" 150#	241621–12	1
83	gasket, flange 4" 125#	242437–010	3
84	tee, reducing 3/4" x 3/4" x 1"	802203–034	1
85	plug, pipe 3/4"	807800–030	1
86	nipple, pipe 1 1/2" x close	822224–000	1

(VIII) For maintenance on combination trap no. 250000–511, order repair kit no. 250033–036.

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

Section 8
ILLUSTRATIONS AND PARTS LIST

**8.18 REMOTE COOLER COMPRESSOR DISCHARGE SYSTEM – 200 – 300HP/150 – 225KW
(AIR-COOLED)**



Section 8

ILLUSTRATIONS AND PARTS LIST

8.18 REMOTE COOLER COMPRESSOR DISCHARGE SYSTEM – 200 – 300HP/150 – 225KW (AIR-COOLED)

<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
1	flange, 3" threaded	819315-048	1
2	nipple, pipe 3" x 94"	822148-940	1
3	clamp, exhaust 3 1/2"	040284	1
4	elbow, pipe 90° 3"	801515-120	2
5	nipple, half 3" x 9"	822848-090	1
6	reinforcement 3" x 2 1/2"	250035-136	12
7	coupling, 3" (I)	040327	1
8	reinforcement, 15 1/2"	250035-138	3
9	capscrew, hex 1/4" x 5/8"	828604-088	4
10	nipple, half 3" x 7 1/2"	822848-075	1
11	washer, springlock 1/4"	837504-062	4
12	nut, hex 1/4"	824204-226	4
13	valve, minimum pressure/check 3" (II)	250033-821	1
14	elbow, tube-m 3/8" x 1/4"	810506-025	1
15	tubing, steel 3/8"	841115-006	6
16	tubing, steel 1/2"	841115-008	1
17	plug, pipe 3/4"	807800-030	1
18	nipple, pipe 3" x close	822248-000	1
19	capscrew, ferry head 5/8" x 6"	828410-600	6
20	valve, discharge check	067339-001	1
21	washer, springlock 3/4"	837512-188	12
22	capscrew, hex gr5 3/4" x 2 1/2"	828612-250	8
23	flange, threaded reducing 4" x 11"	818664-110	1
24	nipple, pipe 4" x 6 1/2"	822164-065	1
25	elbow, pipe 90° 4"	801515-160	3
26	elbow, tube-m 1/4" x 1/4"	810504-025	2
27	silencer, air 3/4"	040758	1
28	bushing, reducing 1" x 3/4"	802104-030	1
29	nipple, pipe 1" x close	822224-000	3
30	valve, blowdown 1" nc 2-way (III)	409783	2
31	elbow, pipe reducing 90° 1 1/4" x 1"	801605-040	1

(continued on Page 99)

(I) For maintenance on flexible coupling no. 040327, order repair kit no. 040523.

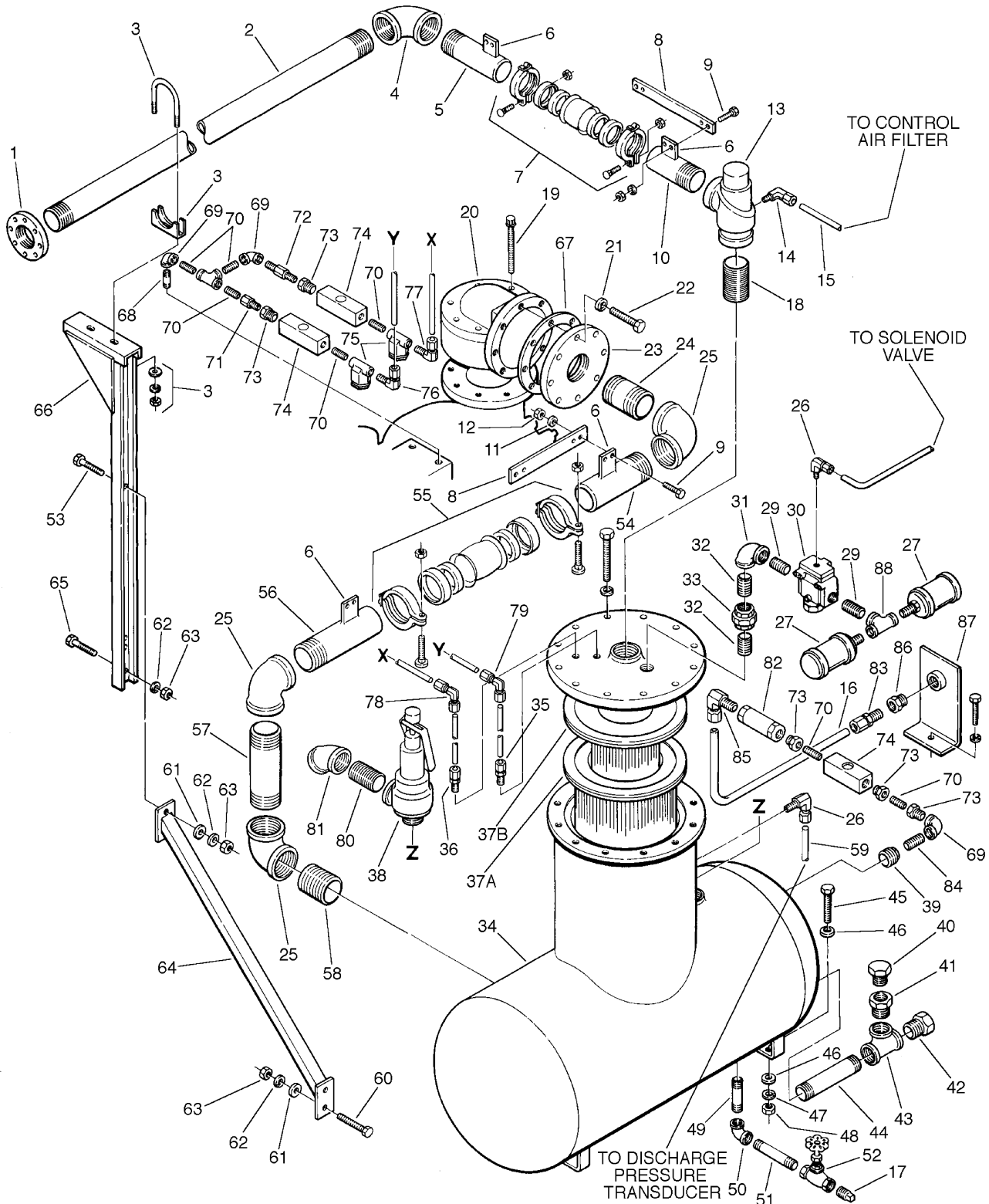
(II) For maintenance on minimum pressure/check valve no. 250033-821, order repair kit no. 250018-262.

(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
ILLUSTRATIONS AND PARTS LIST

**8.18 REMOTE COOLER COMPRESSOR DISCHARGE SYSTEM – 200 – 300HP/150 – 225KW
 (AIR-COOLED)**



Section 8

ILLUSTRATIONS AND PARTS LIST

8.18 REMOTE COOLER COMPRESSOR DISCHARGE SYSTEM – 200 – 300HP/150 – 225KW (AIR-COOLED) (continued)

<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
32	nipple, pipe 1 1/4"x close	822220-000	2
33	union, pipe 1 1/4"	802515-050	1
34	tank, sump fluid separator 30"	250002-038	1
35	connector, 1/4"x 1/4"	021069	1
36	fitting, 1/2" x 1/4"	020501	1
37A	element, separator (primary) (IV)	250034-123	1
37B	element, separator (secondary) (V)	250034-129	1
38	valve, relief 1 1/2" 150 psig (10.3 bar)	407003	1
39	bushing, reducing 1 1/2" x 1/2"	802106-020	1
40	plug, o-ring boss 1 1/4"	040029	1
41	adapter, filler	020044	1
42	glass, fluid level sight 1 1/2"	040279	1
43	tee, pipe 1 1/2" x 1 1/2" x 1 1/2"	802415-060	1
44	nipple, pipe 1 1/2" x close	822224-000	1
45	capscrew, hex gr5 3/4" x 2 1/2"	828612-250	4
46	washer, regular 3/4"	837212-112	4
47	washer, springlock 3/4"	837512-188	4
48	nut, hex 3/4"	824212-665	4
49	nipple, pipe 3/4" x 3 1/2"	822112-035	1
50	elbow, pipe 90° 3/4"	801515-030	1
51	nipple, pipe 3/4" x 7"	822112-070	2
52	valve, globe 3/4"	040520	1
53	capscrew, hex 1/2" x 1 1/2"	828608-150	1
54	nipple, half pipe 4" x 14"	822864-140	1
55	coupling, flexible 4" (VI)	041085	1
56	nipple, half pipe 4" x 15"	822864-150	1
57	nipple, pipe 1" x close	822224-000	1
58	nipple, pipe 4" x close	822264-000	1
59	tubing, steel 1/4"	841115-004	6 ft.
60	capscrew, hex 1/2" x 1 3/4"	828608-175	2

(continued on Page 101)

(IV) For maintenance on primary separator element no. 250034-123, order replacement kit no. 250034-124.

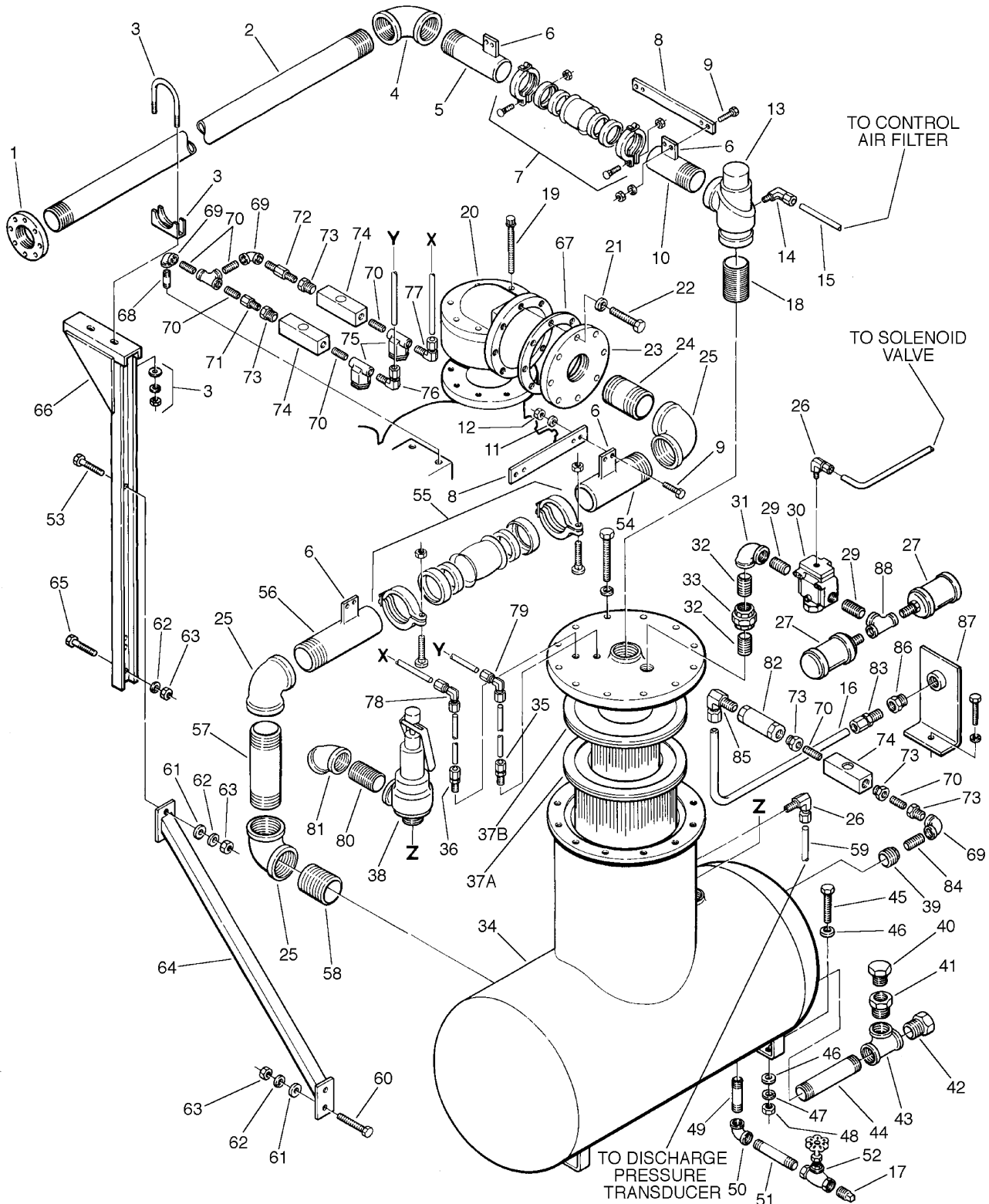
(V) For maintenance on secondary separator element no. 250034-129, order replacement kit no. 250034-130.

(VI) For maintenance on flexible coupling no. 041085, order repair kit no. 041353.

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

Section 8
ILLUSTRATIONS AND PARTS LIST

**8.18 REMOTE COOLER COMPRESSOR DISCHARGE SYSTEM – 200 – 300HP/150 – 225KW
 (AIR-COOLED)**



Section 8

ILLUSTRATIONS AND PARTS LIST

8.18 REMOTE COOLER COMPRESSOR DISCHARGE SYSTEM – 200 – 300HP/150 – 225KW (AIR-COOLED) (continued)

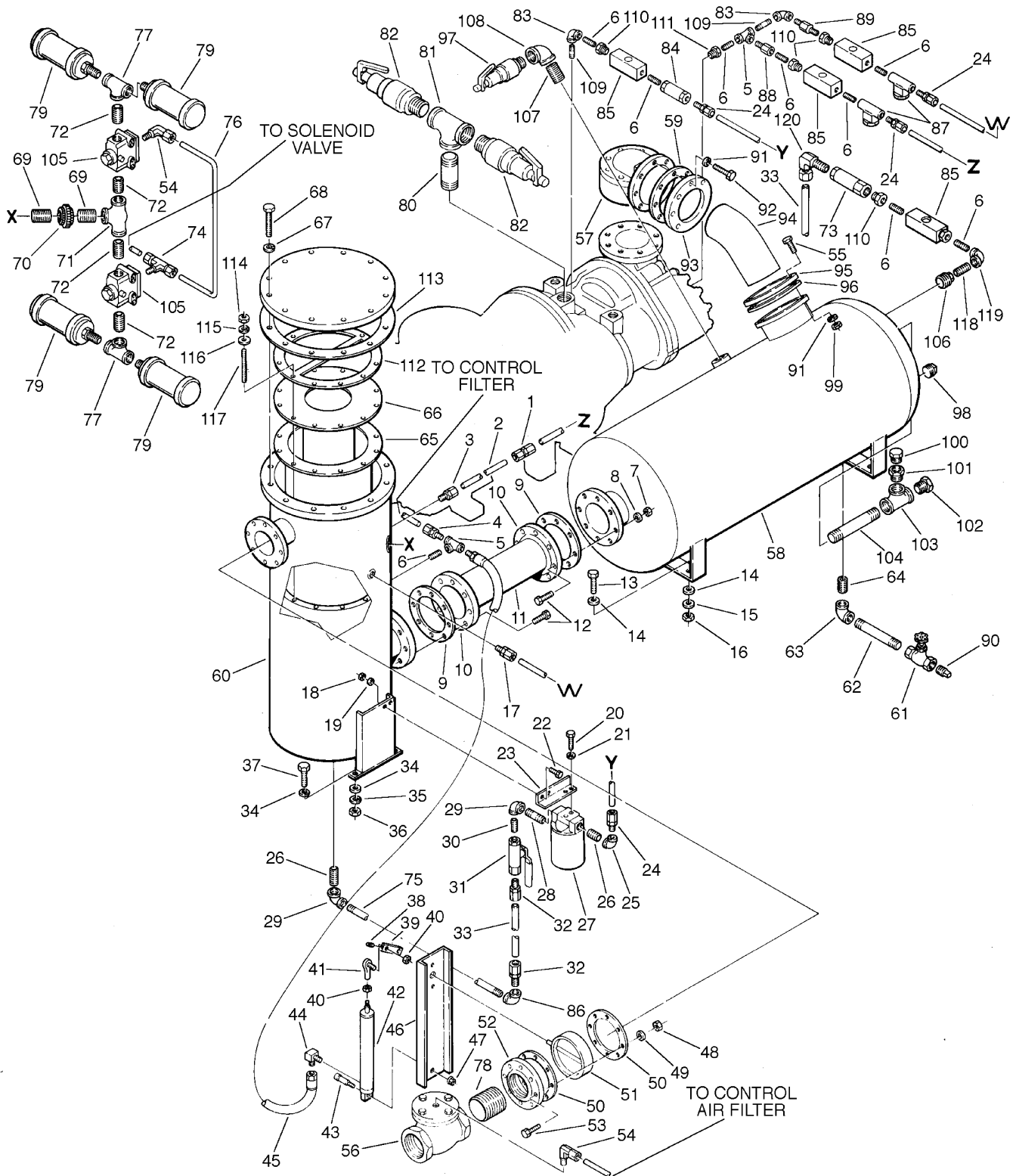
<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
61	washer, regular 1/2"	837208-112	2
62	washer, springlock 1/2"	837508-125	2
63	nut, hex 1/2"	824208-385	4
64	brace, aftercooler	250009-509	1
65	capscrew, hex 1/2" x 1 1/4"	828608-125	2
66	support, cooler	250005-041	2
67	gasket, flange 6" 150#	240621-12	1
68	nipple, pipe 1/4" x 1/2"	823104-015	1
69	elbow, pipe 90° x 1/2"	801515-020	1
70	nipple, pipe 1/4" x close	823204-000	5
71	orifice, 1/32"	040381	1
72	orifice, .062"	027443	1
73	bushing, reducing 1/2" x 1/4"	807602-010	2
74	glass, sight	046559	2
75	strainer, v-type (VII)	241771	2
76	elbow, tube 1/4"t x 1/4"mpt	810504-025	1
77	elbow, tube 1/2"t x 1/4"mpt	810505-025	1
78	elbow, tube union 1/2"	811205-031	1
79	elbow, tube union 1/4"	811204-025	1
80	nipple, pipe xs 2" x close	822232-000	1
81	elbow, pipe 45° 2" 150#	801415-080	1
82	valve, check 1/2"	042694	1
83	connector, tube 1/2"	810208-050	1
84	nipple, pipe sch 80 1/2" x close	822208-000	1
85	elbow, tube 1/2" npt x 1/2" tube	810508-050	1
86	reducer, bushing hex 3/4" x 1/2"	802103-020	1
87	connection, bracket	250008-245	1
88	tee, pipe	802203-034	1

(VII) For maintenance on v-type strainer no. 241771, order repair kit no. 241772.

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

Section 8
ILLUSTRATIONS AND PARTS LIST

8.19 REMOTE COOLER COMPRESSOR DISCHARGE SYSTEM – 400HP/300KW (AIR-COOLED)



Section 8

ILLUSTRATIONS AND PARTS LIST

8.19 REMOTE COOLER COMPRESSOR DISCHARGE SYSTEM – 400HP/300KW (AIR–COOLED)

<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
1	union, tube hex 1/4"	811304–025	3
2	tubing, steel 1/4"	841115–004	12 ft.
3	connector, 1/4"x 1/4"	020169	1
4	connector, tube–m 1/4" x 1/4"	810204–025	1
5	tee, pipe 1/4"	802415–010	3
6	nipple, pipe 1/4" x close	822204–000	8
7	nut, hex 3/4"–10	824212–665	32
8	washer, springlock 3/4"	837512–188	20
9	gasket, flange 6"	042790	2
10	flange, slip–on 6"	819215–096	2
11	pipe, discharge 6" x 24 1/2"	250006–671	1
12	capscrew, hex gr5 3/4"–10 x 3 1/2"	828612–350	24
13	capscrew, hex gr5 7/8"–9 x 2 1/2"	828614–250	4
14	washer, regular 7/8"	837214–219	8
15	washer, springlock 7/8"	837514–219	4
16	nut, hex 7/8"–9	824214–776	4
17	fitting, 1/2" x 1 1/4"	020501	1
18	nut, hex 1/2"–18	825305–283	2
19	washer, springlock 1/2"	837505–078	2
20	capscrew, hex gr5 1/4"–20 x 1/2"	828204–050	2
21	washer, springlock 1/4"	837504–062	2
22	capscrew, hex serrated washer 1/2" x 1"	829705–100	2
23	bracket	250000–025	1
24	connector, tube–m 1/2" x 1/4"	810205–025	4
25	elbow, reducing 3/4" x 1/4"	801603–010	1
26	nipple, pipe 3/4" x close	822212–000	2
27	filter, fluid (I)	250007–219	1
28	nipple, pipe 3/4" x 2"	822112–020	1
29	elbow, reducing 3/4" x 1/2"	801603–020	2
30	nipple, pipe 1/2" x close	822208–000	1
31	valve, ball 1/2"	047117	1
32	connector, tube–m 1/2" x 1/2"	810208–050	2
33	tubing, steel 1/2"	841115–008	3 ft.
34	washer, regular 7/8"	837214–219	8
35	washer, springlock 7/8"	837514–219	8

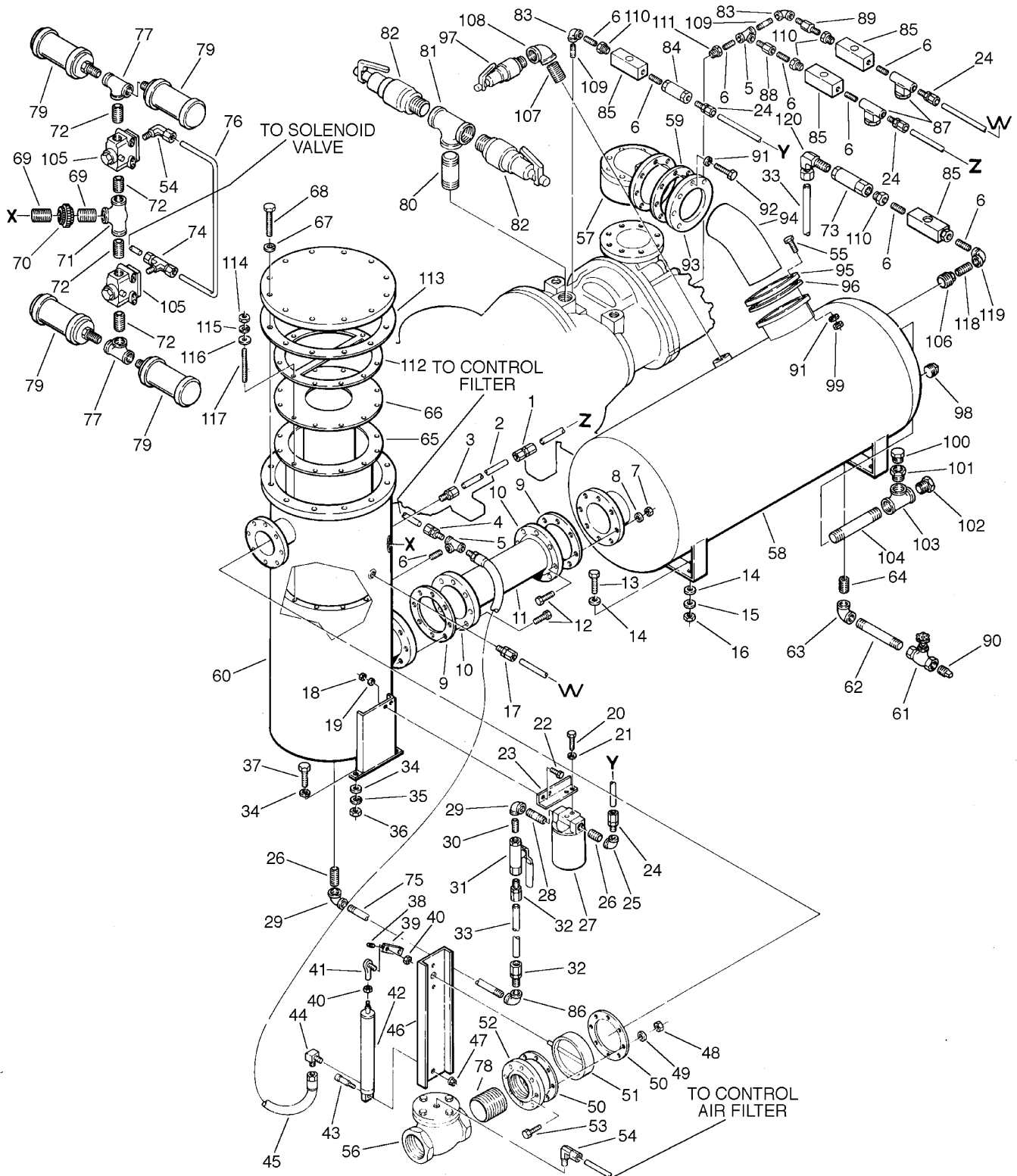
(continued on Page 61)

(I) For maintenance on fluid filter no. 250007–219, order repair kit no. 250008–956.

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

Section 8
ILLUSTRATIONS AND PARTS LIST

8.19 REMOTE COOLER COMPRESSOR DISCHARGE SYSTEM – 400HP/300KW (AIR-COOLED)



Section 8

ILLUSTRATIONS AND PARTS LIST

8.19 REMOTE COOLER COMPRESSOR DISCHARGE SYSTEM – 400HP/300KW (AIR–COOLED) (continued)

<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
36	nut, hex 7/8"–9	824214–776	4
37	capscrew, hex gr5 7/8"–9 x 2 1/2"	828614–250	4
38	screw, hex socket set 1/2"–18 x 1/2"	832205–050	1
39	lever, valve	250010–326	1
40	nut, hex locking 7/16"–20	825707–223	2
41	rod, end spherical 7/16"–20	250010–158	1
42	cylinder, air 1 1/2"	408825	1
43	screw, machine shoulder 3/8" x 2"	830506–200	1
44	elbow, pipe 90° 1/4"–18	860504–025	1
45	hose, hydraulic 1/4" x 64"	040413	1
46	bracket, actuator	019634	1
47	nut, hex 3/8"	824206–337	1
48	nut, hex 5/8"	824210–559	8
49	washer, springlock 5/8"	837510–156	8
50	gasket	242437–010	2
51	valve, butterfly 4"	049151	1
52	flange, threaded 4"	819315–064	1
53	capscrew, hex gr5 5/8"–11 x 5"	828610–500	8
54	elbow, tube–m 1/4" x 1/4"	810504–025	2
55	capscrew, hex gr5 3/4"–10 x 3 1/2"	828612–350	16
56	valve, check 4"	041076	1
57	valve, check assembly	part of unit	1
58	tank, fluid sump 30" x 84" horizontal	250005–579	1
59	gasket, flange	240621–12	1
60	tank, fluid separator 24" x 70" vertical	250005–582	1
61	valve, globe 3/4"	040520	1
62	nipple, pipe 3/4" x 9"	822112–090	1
63	elbow, pipe 90° 3/4"	801515–030	1
64	nipple, pipe 3/4" x 1 1/2"	822112–015	1
65	separator, air/fluid – primary (II)	250034–125	1
66	separator, air/fluid – secondary (III)	250034–131	1
67	washer, springlock regular plated 3/4"	838512–188	12

(continued on Page 107)

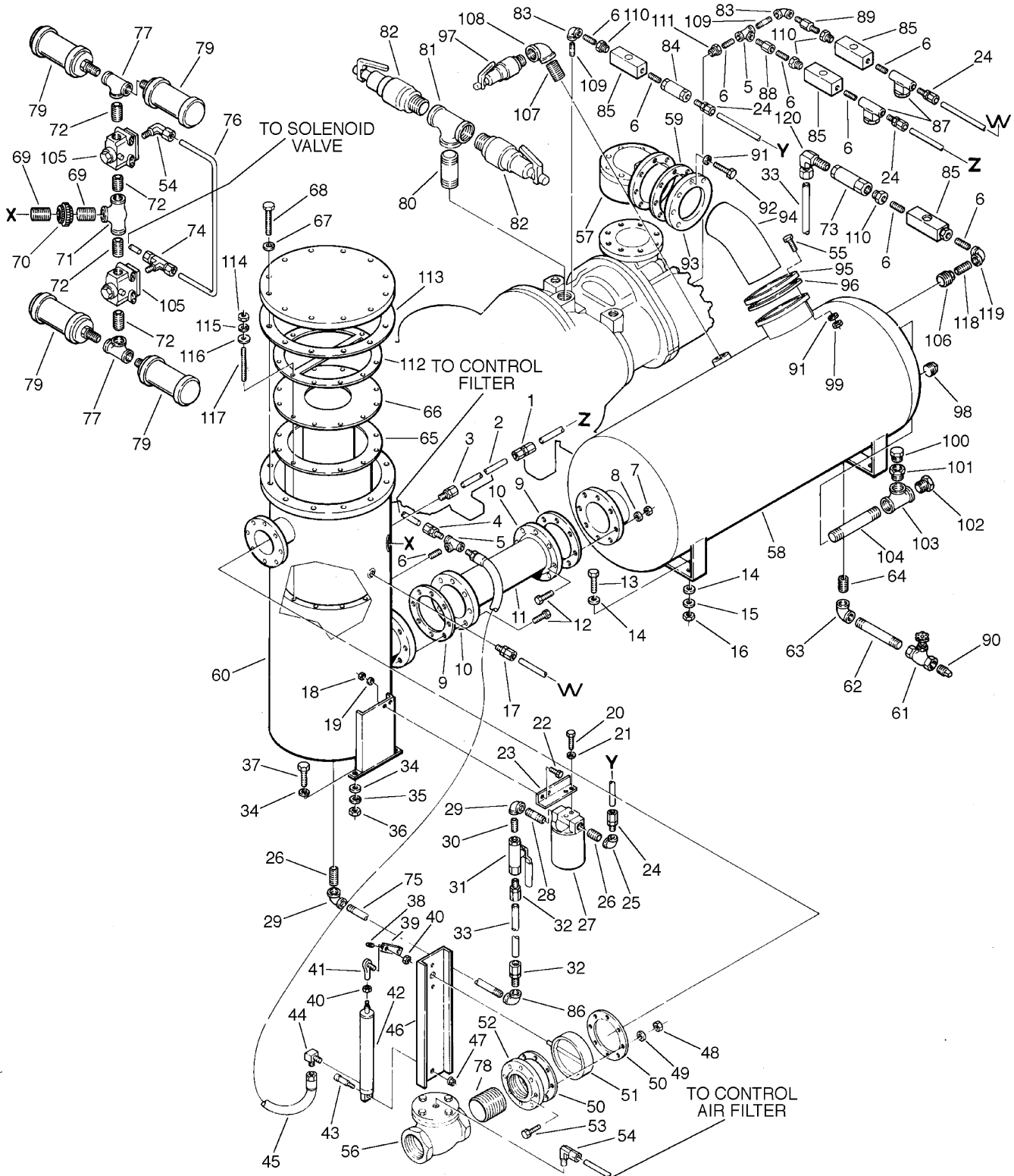
(II) For maintenance on primary air/fluid separator no. 250034–125, order repair kit no. 250034–126.

(III) For maintenance on secondary air/fluid separator no. 250034–131, order repair kit no. 250034–132.

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

Section 8
ILLUSTRATIONS AND PARTS LIST

8.19 REMOTE COOLER COMPRESSOR DISCHARGE SYSTEM – 400HP/300KW (AIR-COOLED)



Section 8

ILLUSTRATIONS AND PARTS LIST

8.19 REMOTE COOLER COMPRESSOR DISCHARGE SYSTEM – 400HP/300KW (AIR–COOLED) (continued)

<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
68	capscrew, hex gr8 3/4"–10 x 3"	828212–300	12
69	nipple, pipe 1 1/2" x close	822224–000	2
70	union, pipe 1 1/2"	802515–060	1
71	tee, reducing 1" x 1" x 1 1/2"	802204–046	1
72	nipple, pipe 1" x close	822216–000	9
73	valve, check 1/2"	042694	1
74	tee,tube 1/4" x 1/4" x 1/4"	810804–025	1
75	nipple, pipe 1/2" x 12" long	822108–120	1
76	tubing, steel 1/4"	841115–004	16 ft.
77	tee, pipe 3/4" x 3/4" x 1"	802203–034	2
78	nipple, pipe 4" x 4"	822164–040	1
79	silencer, air 3/4"	040758	4
80	nipple, pipe 2" x 4"	822232–040	1
81	tee, pipe 2"	802415–080	1
82	valve, relief	250009–241	2
83	elbow, pipe 90° 1/4"	801515–010	2
84	valve, check 1/4"	049905	1
85	glass, sight 24KT (IV)	046559	4
86	elbow, pipe 1/2"	801515–020	1
87	strainer, v–type (V)	241771	2
88	orifice, 0.94	022033	1
89	orifice, restrictor 1/32"	040381	1
90	plug, pipe 3/4"	807800–030	1
91	washer, springlock 3/4"	837512–188	12
92	capscrew, hex gr5 3/4"–10 x 2 1/2"	828612–250	8
93	flange, slip–on 6"	242319–012	1
94	pipe, discharge 6" 45°	250006–665	1
95	flange, slip–on 6"	819215–096	1
96	gasket, flange 6"	042790	1
97	valve, relief	250010–221	1
98	plug, pipe 1 1/2"	802815–060	1
99	nut, hex 3/4"–10	824212–665	32
100	plug, o–ring 1 1/4"	040029	1

(continued on Page 109)

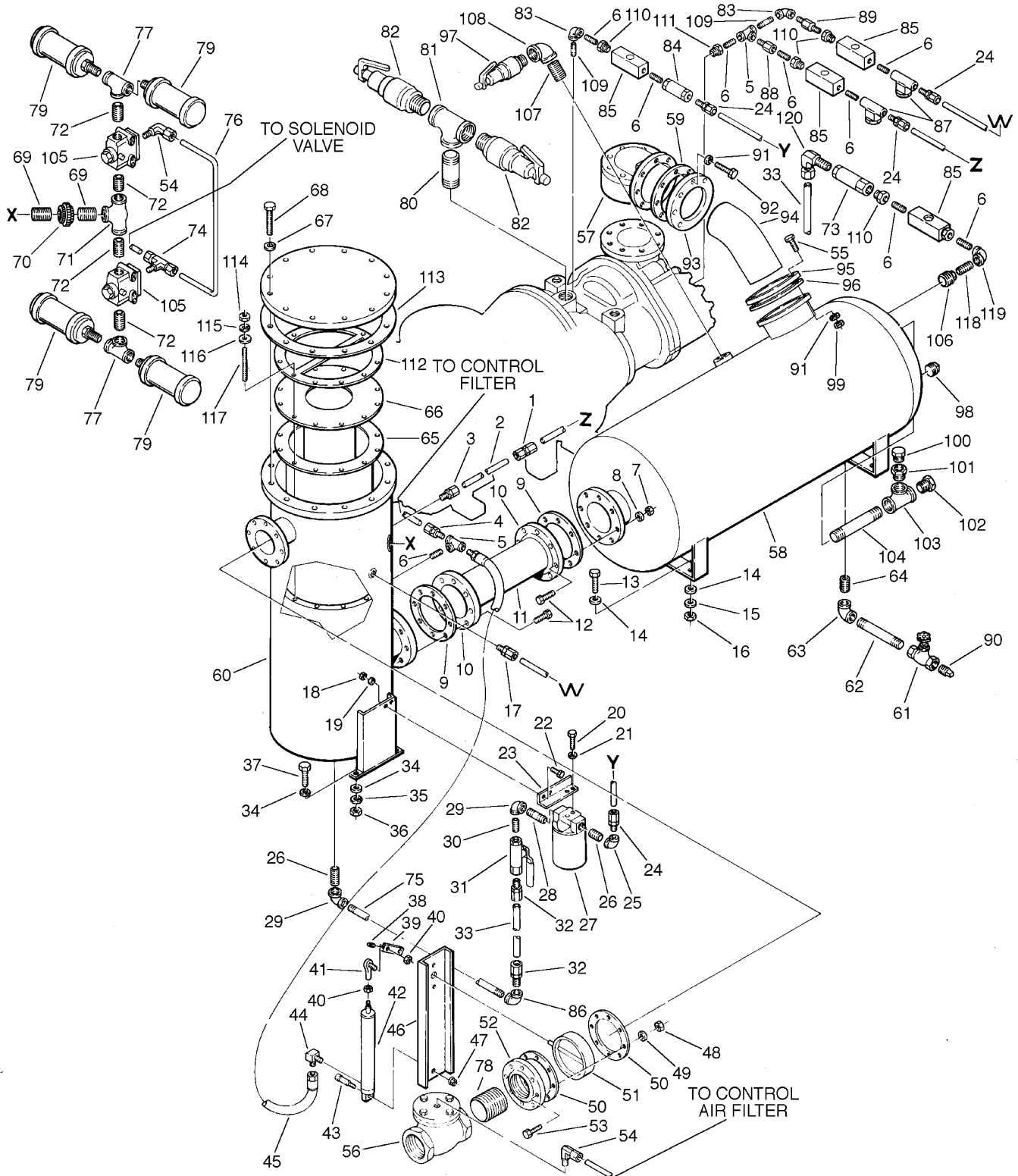
(IV) For maintenance on sight glass no. 036559, order repair kit no. 250021–312.

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

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

Section 8
ILLUSTRATIONS AND PARTS LIST

8.19 REMOTE COOLER COMPRESSOR DISCHARGE SYSTEM – 400HP/300KW (AIR-COOLED)



Section 8

ILLUSTRATIONS AND PARTS LIST

8.19 REMOTE COOLER COMPRESSOR DISCHARGE SYSTEM – 400HP/300KW (AIR–COOLED) (continued)

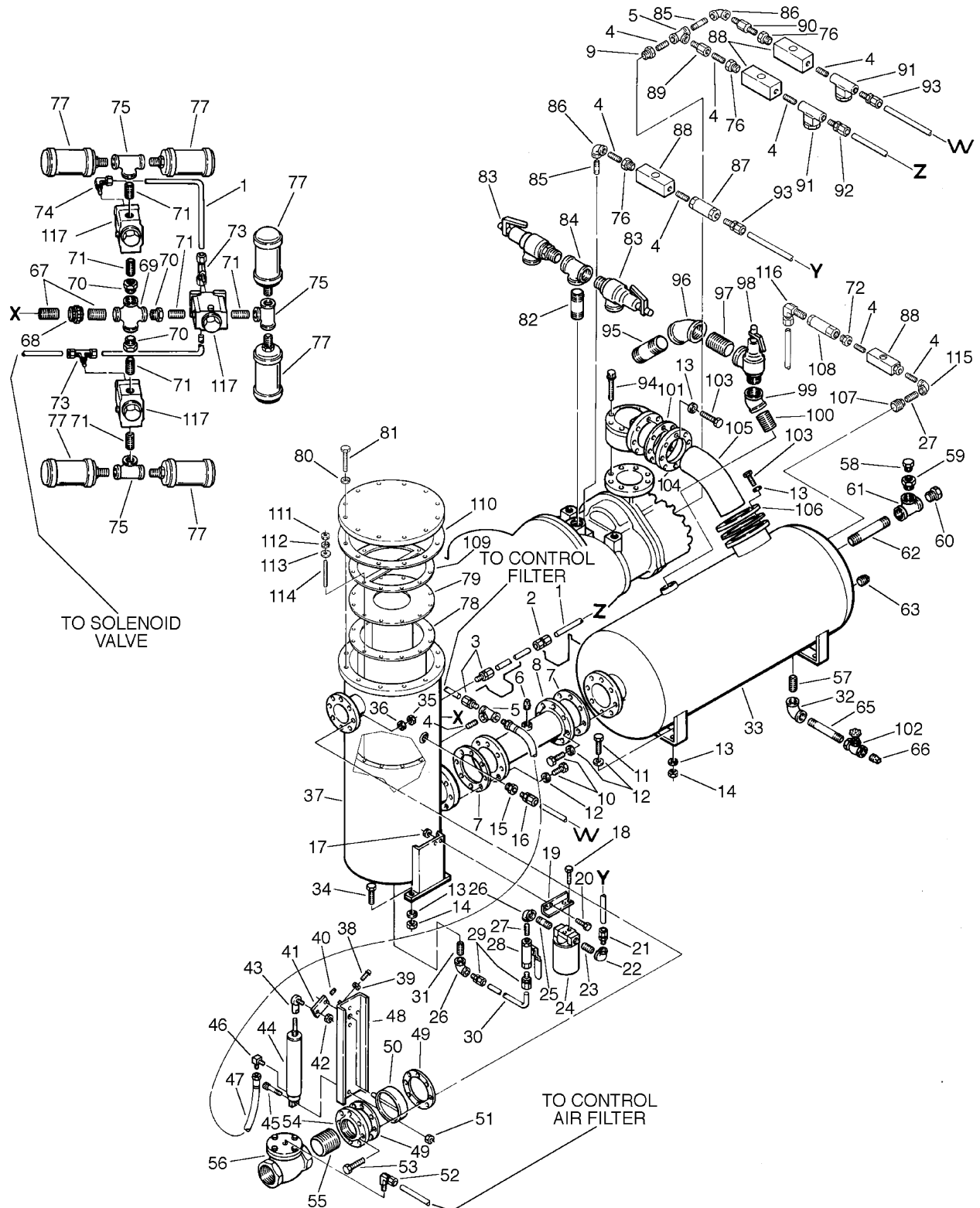
<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
101	adapter, filler	020044	1
102	glass, fluid level 1 1/2"	040279	1
103	tee, pipe 1 1/2"	802415–060	1
104	nipple, pipe 1 1/2" x 10"	822124–100	1
105	valve, blowdown 2–way (I)	409783	2
106	bushing, reducing 1 1/2" x 1/2"	802106–020	1
107	nipple, pipe 2" x 3" long	822132–030	1
108	elbow, pipe 2"	801515–080	1
109	nipple, pipe galvanized 1/4" x 1 1/2"	823104–015	2
110	bushing, reducing 1/2" x 1/4"	807602–010	4
111	bushing, reducing 3/4" x 1/4"	807603–010	1
112	flange, back–up 32E	221338	1
113	gasket, cover	049155	1
114	nut, hex unfinished 3/8"–16	824206–337	12
115	washer, springlock 3/8" regular unfinished	837506–094	12
116	washer, pl–b regular unfinished 3/8"	837206–071	12
117	stud, threaded 3/8"–16 x 2"	839406–020	12
118	nipple, pipe 1/2" x close	822208–000	1
119	elbow, pipe 1/2" x 1/4"	801602–010	1
120	elbow, tube 1/2"t x 1/4"npt	810508–025	1

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

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

Section 8
ILLUSTRATIONS AND PARTS LIST

**8.20 REMOTE COOLER COMPRESSOR DISCHARGE SYSTEM – 500 – 600HP/375 – 450KW
(AIR-COOLED)**



Section 8

ILLUSTRATIONS AND PARTS LIST

8.20 REMOTE COOLER COMPRESSOR DISCHARGE SYSTEM – 500 – 600HP/375 – 450KW (AIR-COOLED)

<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
1	tubing, steel 1/4"	841115-004	28 ft.
2	union, tube hex 1/4"	811304-025	3
3	connector, 1/4" x 1/4"	020169	1
4	nipple, pipe 1/4" x close	822204-000	9
5	tee, pipe 1/4"	802415-010	3
6	plug, pipe 1/2"	807800-020	1
7	gasket, flange	240621-12	2
8	flange, slip-on 6"	819215-096	2
9	bushing, reducing 3/4" x 1/4"	807603-010	1
10	capscrew, hex gr5 3/4"-10 x 3"	828612-300	16
11	capscrew, hex gr5 3/4"-10 x 2"	828612-200	4
12	washer, regular 3/4"	837212-112	16
13	washer, springlock 3/4"	837512-188	20
14	nut, hex 3/4"-10	824212-665	32
15	bushing, reducing 1/2" x 1/4"	807602-010	1
16	fitting, flex 1/2" x 1/4"	020501	1
17	nut, hex 1/2"-18	825305-283	2
18	capscrew, hex gr2 1/4"-20 x 1/2"	829104-050	2
19	bracket, strainer	250000-896	1
20	screw, hex serrated washer 1/2"-18 x 1"	829705-100	2
21	connector, tube 1/2" x 1/4"	810205-025	1
22	elbow, reducing 3/4" x 1/4"	801603-010	1
23	nipple, pipe 3/4" x close	822212-000	1
24	filter, fluid (I)	250007-219	1
25	nipple, pipe 3/4" x 3"	822112-030	1
26	elbow, reducing 3/4" x 1/2"	801603-020	2
27	nipple, pipe 1/2" x close	822208-000	2
28	valve, ball 1/2"	047117	1
29	connector, tube 1/2" x 1/2"	810208-050	2
30	tubing, steel 1/2"	841115-008	3 ft.
31	nipple, pipe 3/4" x close	822212-000	1
32	elbow, pipe 90° 3/4"	801515-030	1
33	tank, fluid sump 30" x 84" horizontal	250005-579	1
34	capscrew, hex gr5 3/4"-10 x 2 1/4"	828612-225	4

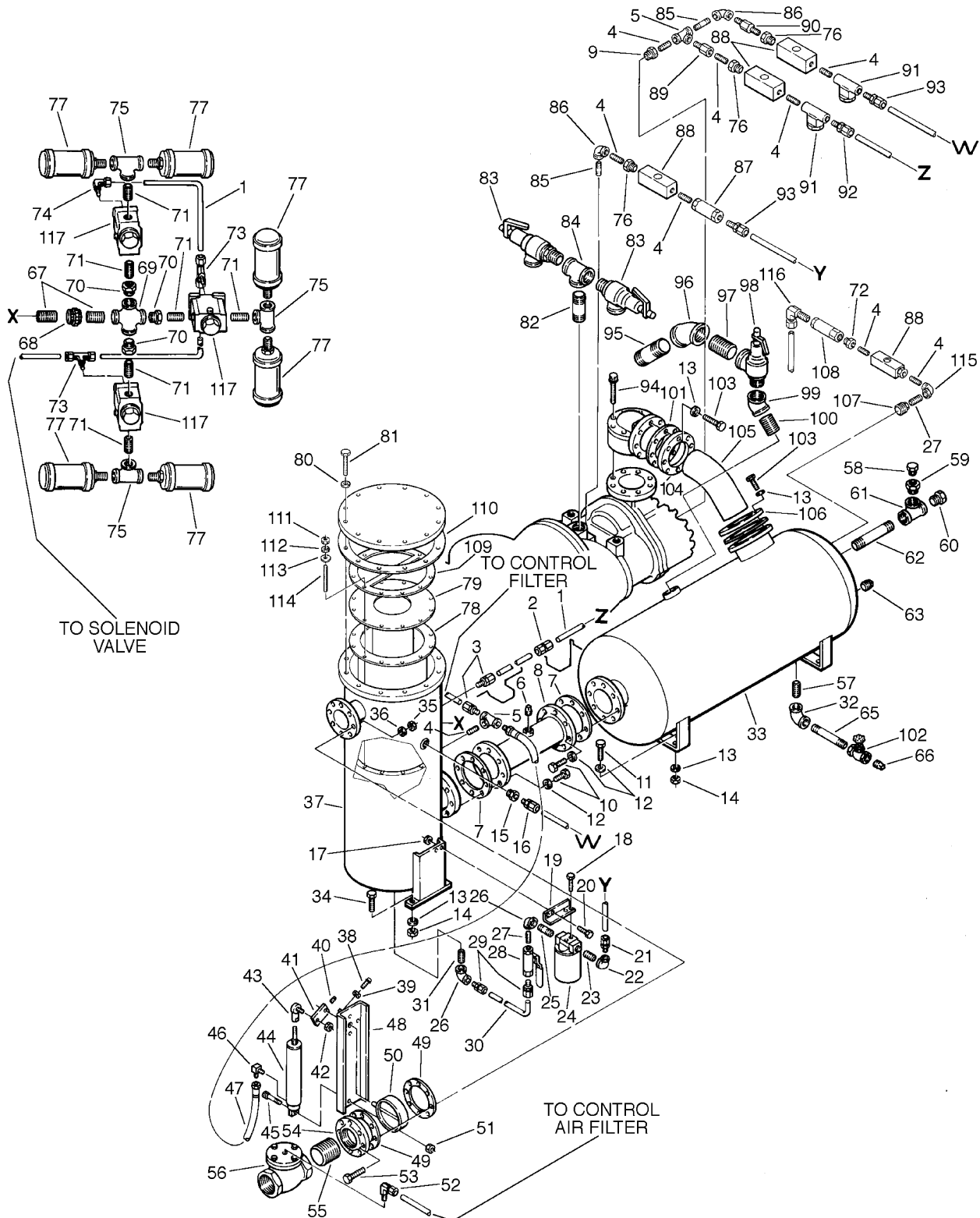
(continued on Page 113)

(I) For maintenance on fluid filter no. 250007-219, order repair kit no. 250008-956.

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

Section 8
ILLUSTRATIONS AND PARTS LIST

**8.20 REMOTE COOLER COMPRESSOR DISCHARGE SYSTEM – 500 – 600HP/375 – 450KW
(AIR-COOLED)**



Section 8

ILLUSTRATIONS AND PARTS LIST

8.20 REMOTE COOLER COMPRESSOR DISCHARGE SYSTEM – 500 – 600HP/375 – 450KW (AIR-COOLED)(continued)

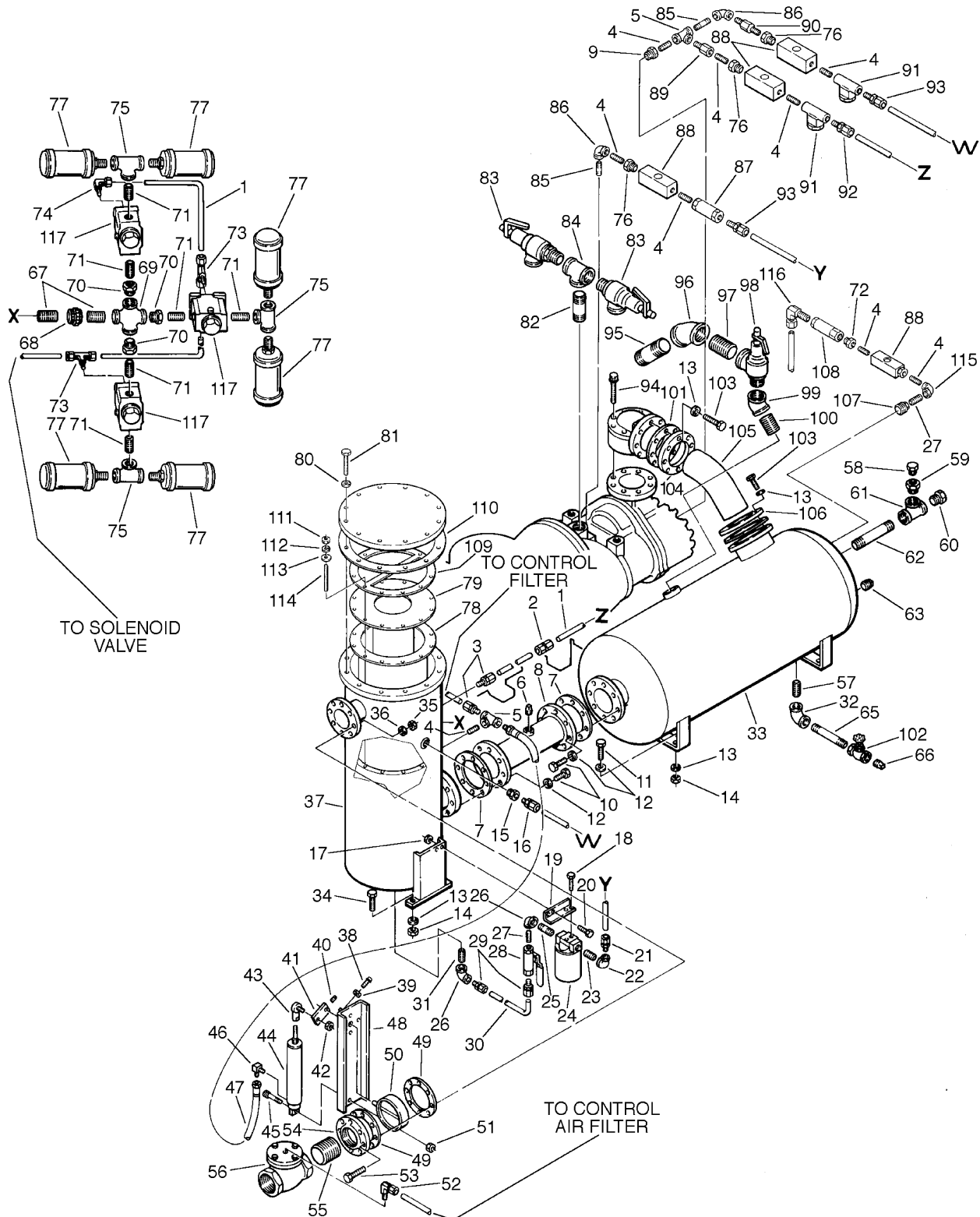
<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
35	nut, hex 5/8"–11	824210–559	8
36	washer, springlock 5/8"	837510–156	8
37	tank, fluid separator 24" x 70" vertical	250005–582	1
38	capscrew, ferry head 1/2"–18 x 1 1/2"	828405–150	1
39	nut, hex 1/2"–18	824205–273	1
40	screw, set, square head 1/2" x 3/4"–18	408383	1
41	lever, valve	250010–326	1
42	nut, hex locking 7/16"–20	825707–223	2
43	rod end, spherical 7/16"–20	250010–158	1
44	cylinder, air 1 1/2"	408825	1
45	screw, machine shoulder 3/8" x 2"	830506–200	1
46	elbow, tube 1/4" x 1/8"	860204–012	1
47	hose, hydraulic 1/4" x 64"	040413	1
48	bracket, actuator	019634	1
49	gasket, flange 4"	041645	2
50	valve, butterfly 4"	049151	1
51	nut, hex 3/8"–16	824206–337	1
52	elbow, tube–m 1/2" x 1/4"	810505–025	1
53	capscrew, hex gr5 5/8"–11 x 5"	828610–500	8
54	flange, threaded 4"	819315–064	1
55	nipple, pipe 4" x 4"	822164–040	1
56	valve, check 4"	041076	1
57	nipple, pipe 3/4" x 1 1/2"	822112–015	1
58	plug, o–ring 1 1/4"	040029	1
59	adapter, filler	020044	1
60	glass, fluid level 1 1/2"	040279	1
61	tee, pipe 1 1/2"	802415–060	1
62	nipple, pipe 1 1/2" x 10"	822124–100	1
63	plug, pipe 1 1/2"	802815–060	2
64	gasket, 6"	240621–12	1
65	nipple, pipe 3/4" x 9"	822112–090	1
66	plug, pipe 3/4"	802815–030	1
67	nipple, pipe 1 1/2" x close	822224–000	2
68	union, pipe 1 1/2"	802515–060	1
69	cross, pipe 1 1/2"	801315–060	1
70	bushing, reducing 1" x 1 1/2"	802106–040	3
71	nipple, pipe 1"	822216–000	13

(continued on Page 115)

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

Section 8 ILLUSTRATIONS AND PARTS LIST

8.20 REMOTE COOLER COMPRESSOR DISCHARGE SYSTEM – 500 – 600HP/375 – 450KW (AIR-COOLED)



Section 8

ILLUSTRATIONS AND PARTS LIST

8.20 REMOTE COOLER COMPRESSOR DISCHARGE SYSTEM – 500 – 600HP/375 – 450KW (AIR-COOLED) (continued)

<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
72	bushing, reducing 1/2" x 1/4"	802102-010	2
73	tee, tube 1/4" x 1/4" x 1/4"	810804-025	2
74	elbow, tube 1/4" x 1/4"	810504-025	2
75	tee. 3/4" x 3/4" x 1"	802203-034	3
76	bushing, reducing 1/2" x 1/4" steel	807602-010	3
77	silencer, air 3/4"	040758	6
78	separator, air/fluid – primary (II)	250034-125	1
79	separator, air/fluid – secondary (III)	250034-131	1
80	washer, springlock 3/4"	838512-188	12
81	capscrew, hex gr8 3/4" x 3"	838212-300	12
82	nipple, pipe 2" x 4"	822232-040	1
83	valve, relief 2" x 2 1/2" (400, 500HP/300,375KW) • valve, relief 2" x 2 1/2" (600HP/450KW)	250009-241 250029-330	2 2
84	tee, pipe 2"	802415-080	1
85	nipple, pipe 1/4"x 1 1/2"	823104-015	2
86	elbow, pipe 1/4"	801515-010	2
87	valve, check 1/4"	049905	1
88	glass, sight 24KT (IV)	046559	4
89	orifice, .094	022033	1
90	orifice, restrictor 1/32"	040381	1
91	strainer, v-type (V)	241771	2
92	connector, tube-m 1/4"x 1/4"	810204-025	2
93	connector, tube-m 1/2" x 1/4"	810205-025	2
94	capscrew, ferry head 3/4"-10 x 6"	828412-600	8
95	nipple, pipe 2 1/2" x 6"	822140-060	1
96	elbow, pipe 45° 2 1/2"	801415-100	1
97	nipple, pipe 2 1/2" x close	822240-000	1
98	valve, relief 2" x 2 1/2" (500HP/375KW) • valve, relief 2" x 2 1/2" (600HP/450KW)	250010-221 250026-785	1 1

(continued on Page 117)

(II) For maintenance on primary air/fluid separator no. 250034-125, order repair kit no. 250034-126.

(III) For maintenance on secondary air/fluid separator no. 250034-131, order repair kit 250034-132.

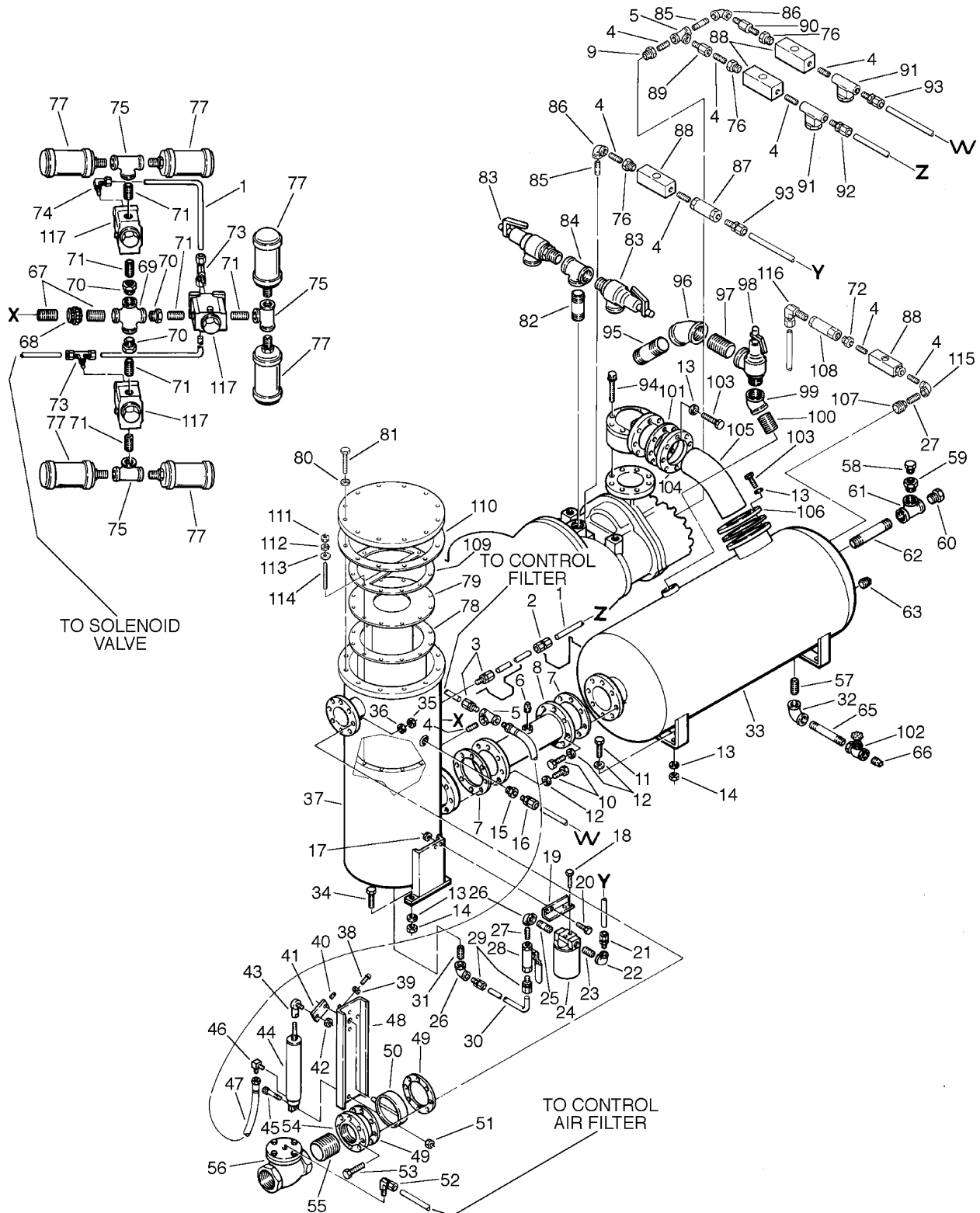
(IV) For maintenance on sight glass no. 036559, order repair kit no. 250021-312.

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

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

Section 8
ILLUSTRATIONS AND PARTS LIST

**8.20 REMOTE COOLER COMPRESSOR DISCHARGE SYSTEM – 500 – 600HP/375 – 450KW
(AIR-COOLED)**



Section 8

ILLUSTRATIONS AND PARTS LIST

8.20 REMOTE COOLER COMPRESSOR DISCHARGE SYSTEM – 500 – 600HP/375 – 450KW (AIR-COOLED) (continued)

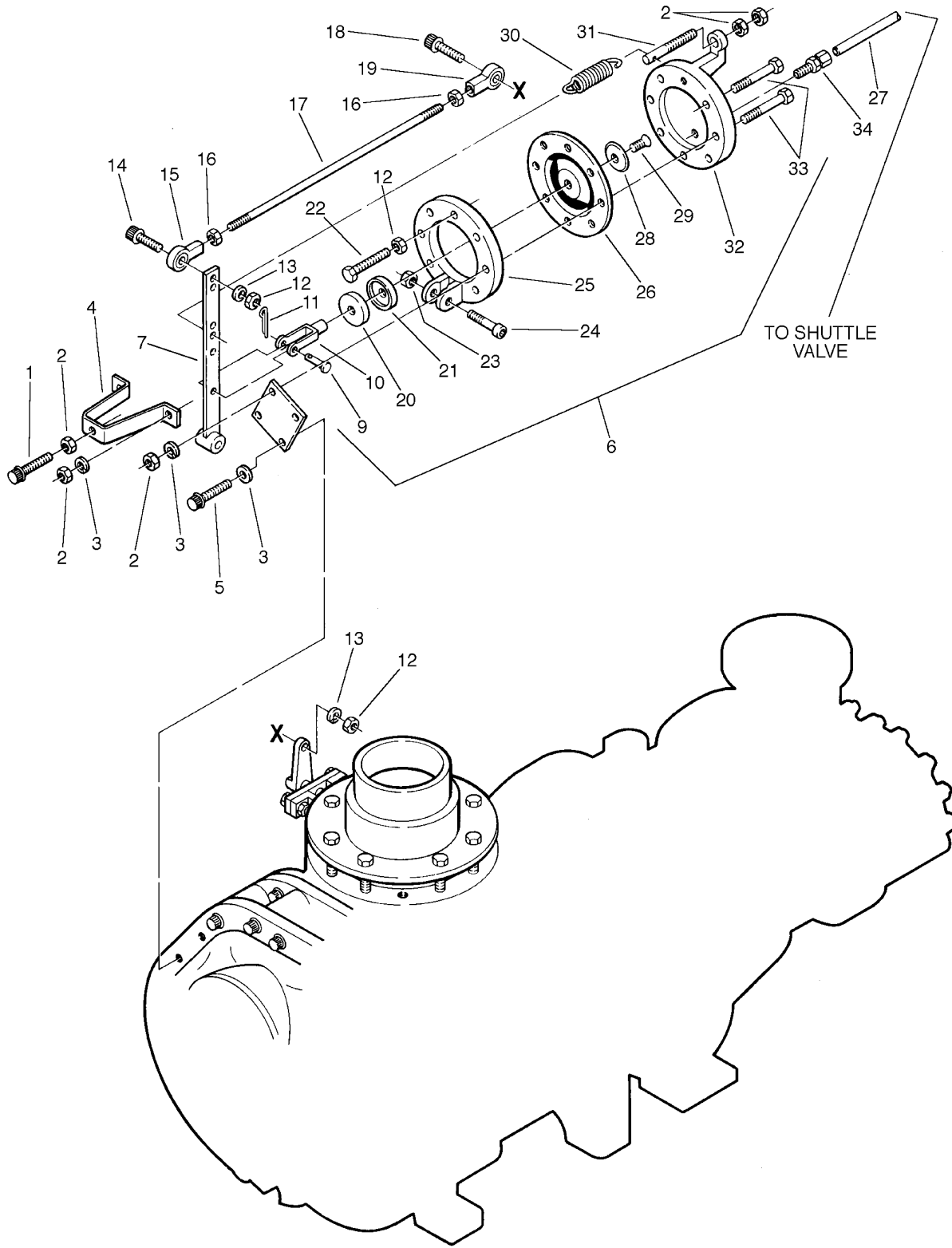
<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
99	elbow, pipe 45° 2"	801415-080	1
100	nipple, pipe 2" x close	822232-000	1
101	gasket, 6"	242437-012	1
102	valve, globe 3/4"	040520	1
103	capscrew, hex gr5 3/4"-10 x 2 1/2"	828612-250	8
104	flange, slip-on 6"	242319-012	1
105	pipe, discharge 45° 6"	250006-665	1
106	flange, slip-on 6"	819215-064	1
107	bushing, reducing 1 1/2" x 1/2"	802106-020	1
108	valve, check 1/2"	042694	1
109	flange, back-up 32E	221338	1
110	gasket, cover	049155	1
111	nut, hex unfinished 3/8"-16	824206-337	12
112	washer, springlock 3/8" regular unfinished	837506-094	12
113	washer, pl-b regular unfinished 3/8"	837206-071	12
114	stud, threaded 3/8"-16 x 2"	839406-020	12
115	elbow, pipe 1/2" x 1/4" 90°	801602-010	1
116	elbow, tube 1/2"t x 1/4" npt 90°	810508-025	1
117	valve, blowdown 2-way (I)	409783	3

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

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

Section 8
ILLUSTRATIONS AND PARTS LIST

8.21 SULLICON CONTROL – 200 – 600HP/150 – 450KW



Section 8

ILLUSTRATIONS AND PARTS LIST

8.21 SULLICON CONTROL – 200 – 600HP/150 – 450KW

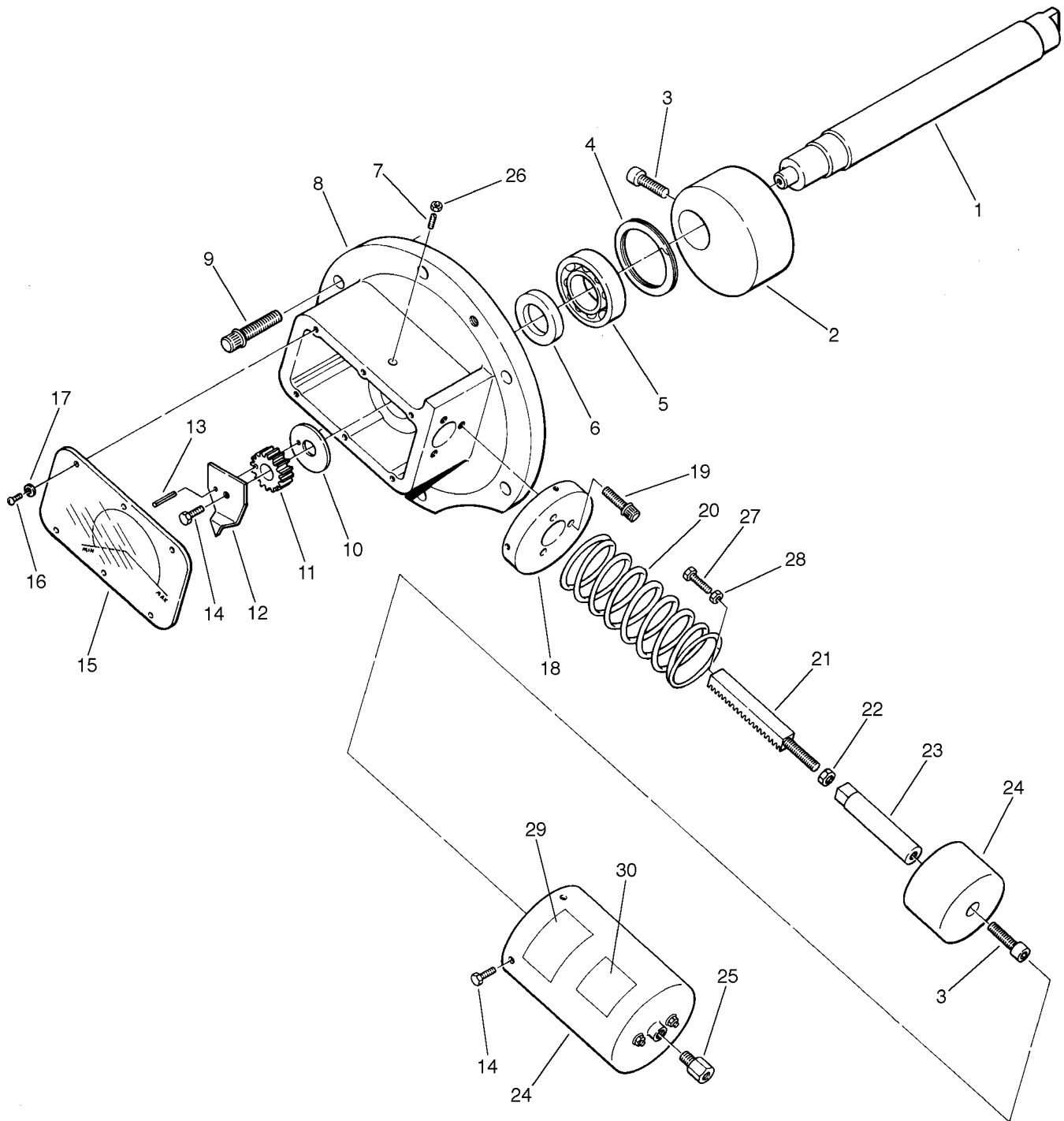
<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
1	capscrew, ferry head 3/8"–16 x 2"	828406–200	1
2	nut, hex 3/8"–16	824206–337	10
3	washer, springlock regular 3/8"	837506–094	10
4	bracket, cont. stop	020864	1
5	capscrew, ferry head 3/8"–16 x 1"	828606–100	2
6	control, Sullicon (I)	011682–003	1
7	lever, control	011084	1
8	bracket, control	250014–397	1
9	pin, yoke 1/4"	040065	1
10	yoke, rod end 1/4"–28	040138	1
11	pin, cotter 1/16" x 3/4"	827101–075	1
12	nut, hex jam unfinished 1/2"–24 – right hand	824605–195	2
13	washer, springlock regular 1/2"	837505–078	2
14	capscrew, ferry head 1/2"–18 x 1 1/4"	828405–125	1
15	rod end, spherical 1/2" – left hand	042004	1
16	nut, hex jam 1/2" – left hand	824705–195	2
17	rod, link 1/2"–24 x 9 1/2"	021287	1
18	capscrew, ferry head 1/2"–18 x 1 1/2"	838405–150	1
19	rod end, spherical 1/2" – right hand	040136	1
20	plunger	020094	1
21	seal, cup	042538	1
22	screw, machine hex head 1/2"–24 x 2"	831105–200	1
23	nut, hex locking plated 3/8"–16	825506–198	1
24	screw, machine shoulder 3/8" x 2"	830506–200	1
25	body, control	021635	1
26	diaphragm, external	041269	1
27	tubing, steel 1/4"	841115–004	16 ft.
28	washer, back–up	021172	1
29	screw, ferry head 1/4"–28 x 3/4"	041264	1
30	spring, control light	250006–526	1
31	bolt, adjustable Sullicon spring	250009–134	1
32	cover, control	021654	1
33	capscrew, hex gr2 3/8"–16 x 2 1/2"	828106–250	3
34	connector, tube 1/4"x 1/4"	810204–025	1

(I) For maintenance on Sullicon Control no. 011682–003, order repair kit no. 250020–353.

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

Section 8
ILLUSTRATIONS AND PARTS LIST

8.22 COMPRESSOR ACTUATOR – 200 – 600HP/150 – 450KW



Section 8

ILLUSTRATIONS AND PARTS LIST

8.22 COMPRESSOR ACTUATOR – 200 – 600HP/150 – 450KW

<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
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

Section 8

ILLUSTRATIONS AND PARTS LIST

8.23 ELECTRO-PNEUMATIC CONTROL SYSTEM – 200 – 600HP/150 – 450KW

<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
1	frame, control box support	250042-499	1
2	box, control	250038-777	1
3	block, terminal and track	041093	1
4	panduit	047322	1
5	snaptrack	250024-522	1
6	control, temperature dual	250039-911	1
7	pin, socket for 120V plug-in relay	045497	1
8	relay, control	045496	1
9	fuse	241957	1
10	holder, fuse	041147	1
11	transducer, pressure	250039-910	4
12	nipple, chase – conduit 1/2"	847815-050	2
13	locknut, conduit 1/2"	847200-050	1
14	switch, vacuum 22" wc	250014-656	1
15	switch, emergency stop	250028-588	1
16	block, contact	250027-125	1
17	light, power energized	250000-105	1
18	decal, power energized	249544-049	1
19	panel, control	250038-779	1
	gasket, panel (not shown)	02250048-821	1
20	grip, cord	250023-496	4
21	bulkhead, pipe 1/8"	841500-002	4
22	nipple, pipe 1/4" x close	822204-000	4
23	tee, pipe 1/4"	804415-010	4
24	elbow, pipe 90° x 1/4"	801515-010	2
25	connector, tube-m 1/4" x 1/4"	810204-025	8
26	filter, control line air 1/4" (I)	408389	2
27	elbow, tube-m 1/4" x 1/4"	810504-025	5
28	tubing, steel 1/4"	841015-004	62 ft.
29	connector, tube-m 1/4" x 1/8"	813604-125	1
30	tubing, plastic 1/4"	250024-745	16 ft.
31	valve, solenoid 1/4" 3-way 115V (II)	250038-668	1
32	tee, tube 1/4"	810904-025	1
33	valve, shuttle	408893	2

(continued on Page 125)

(I) For maintenance on control line filter no. 408389, order repair kit no. 001692.

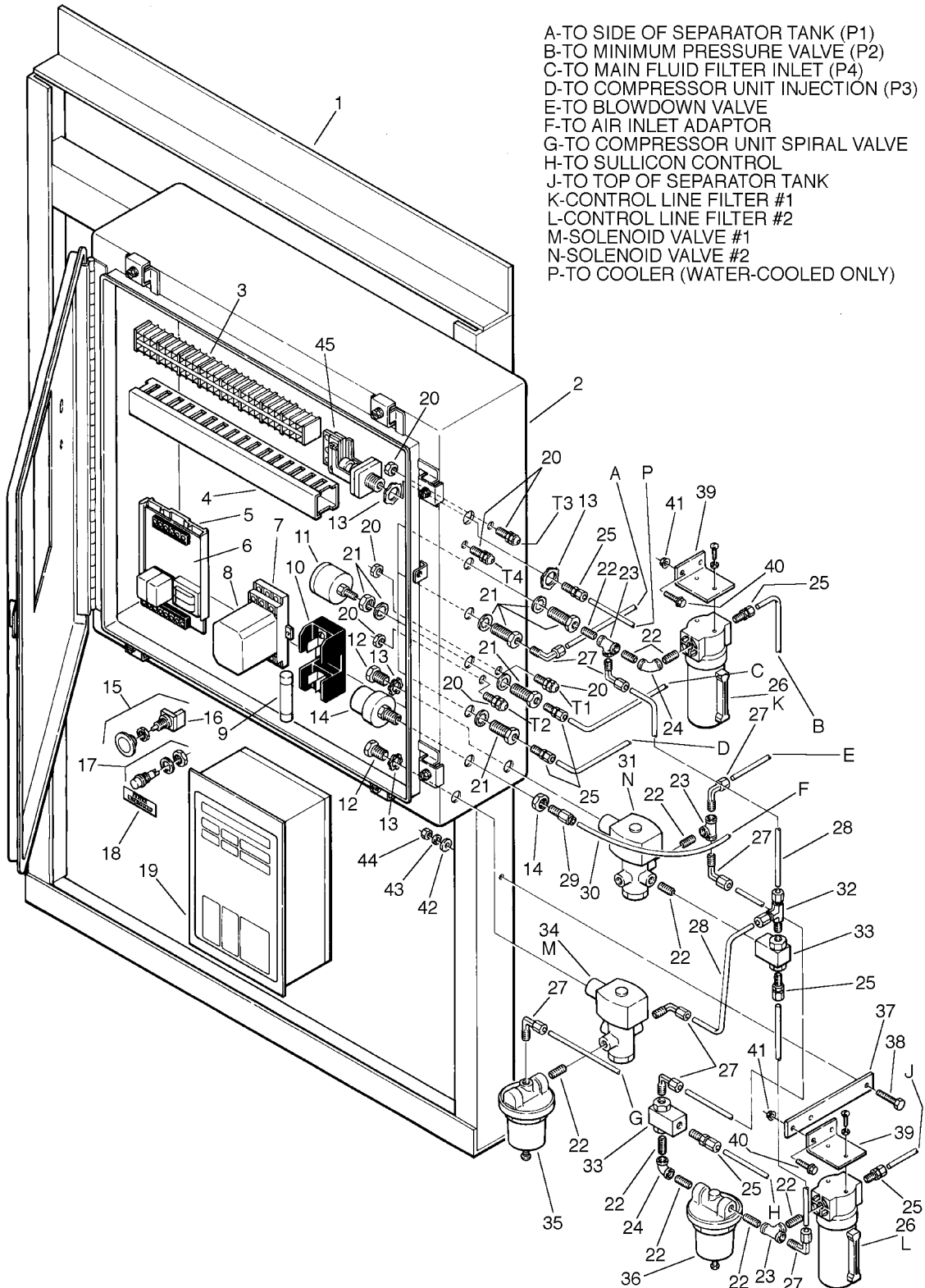
(II) For maintenance on solenoid valve no. 250038-668, order repair kit no. 250038-673 (valve) and no. 250031-738 (coil).

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

Section 8

ILLUSTRATIONS AND PARTS LIST

8.23 ELECTRO-PNEUMATIC CONTROL SYSTEM – 200 – 600HP/150 – 450KW



Section 8
ILLUSTRATIONS AND PARTS LIST

8.23 ELECTRO-PNEUMATIC CONTROL SYSTEM – 200 – 600HP/150 – 450KW (continued)

<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
34	valve, solenoid 1/4" 3-way 115V (II)	409067	1
35	valve, differential pressure regulator (spiral valve) (III)	408275	1
36	valve, differential pressure regulator 1/4"(IV)	406929	1
37	bracket, fluid stop valve support	231584	1
38	capscrew, hex gr5 1/2"–13 x 1 1/2"	828608–150	1
39	angle, pressure switch	230452	1
40	screw, hex serrated washer 1/2" x 3/4"	829705–075	1
41	nut, hex plated 1/2"	824815–005	2
42	washer, regular unfinished 1/2"	837208–112	1
43	washer, springlock regular 1/2"	837508–125	1
44	nut, hex unfinished 1/2"–13	824208–448	1
45	switch, water pressure	043428	1

(II) For maintenance on solenoid valve no. 409067, order repair kit no. 250010–377.

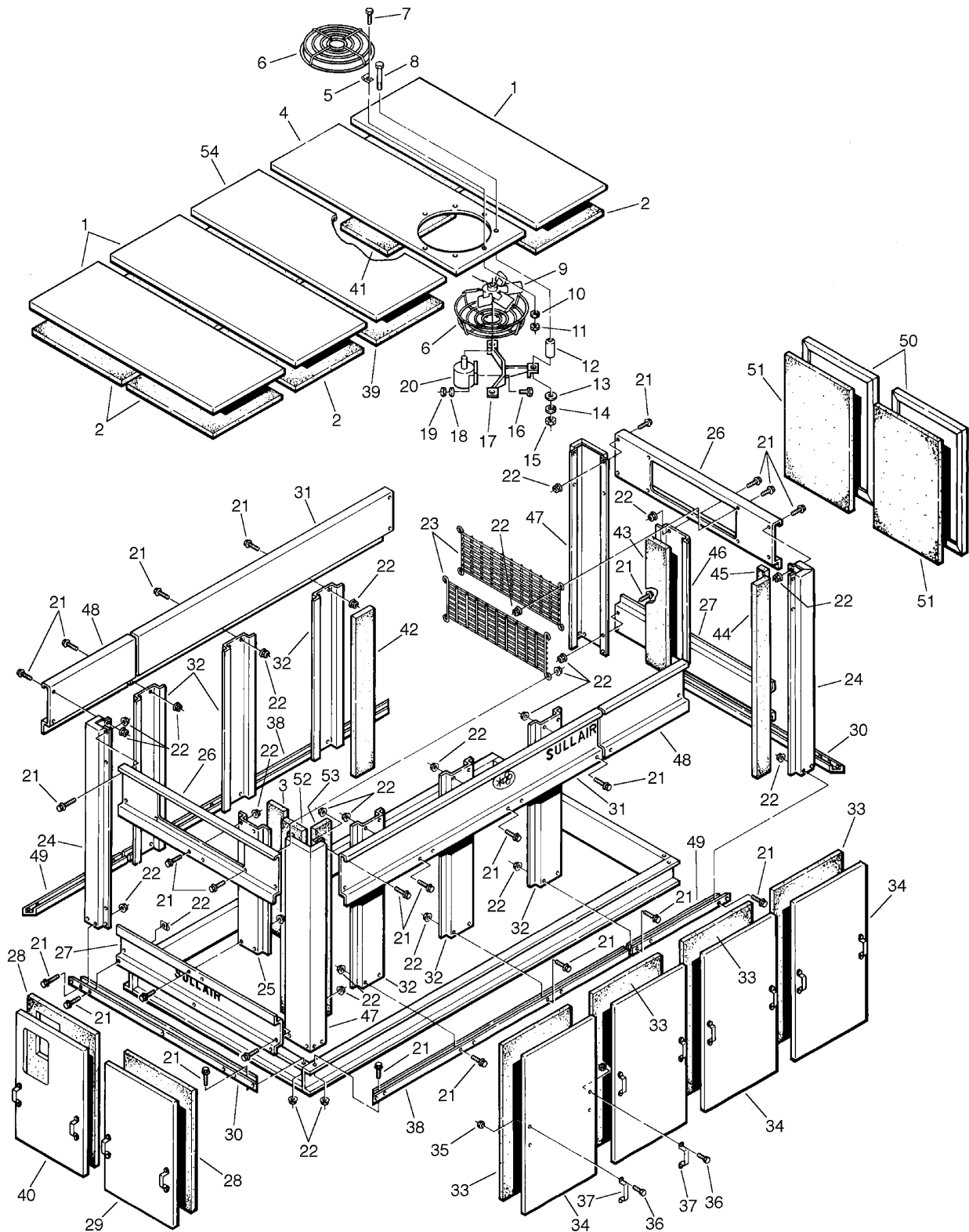
(III) For maintenance on differential pressure regulator no. 408275, order repair kit no. 250028–693.

(IV) 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
ILLUSTRATIONS AND PARTS LIST

8.24 ENCLOSURE – 200 – 300HP/150 – 225KW



Section 8

ILLUSTRATIONS AND PARTS LIST

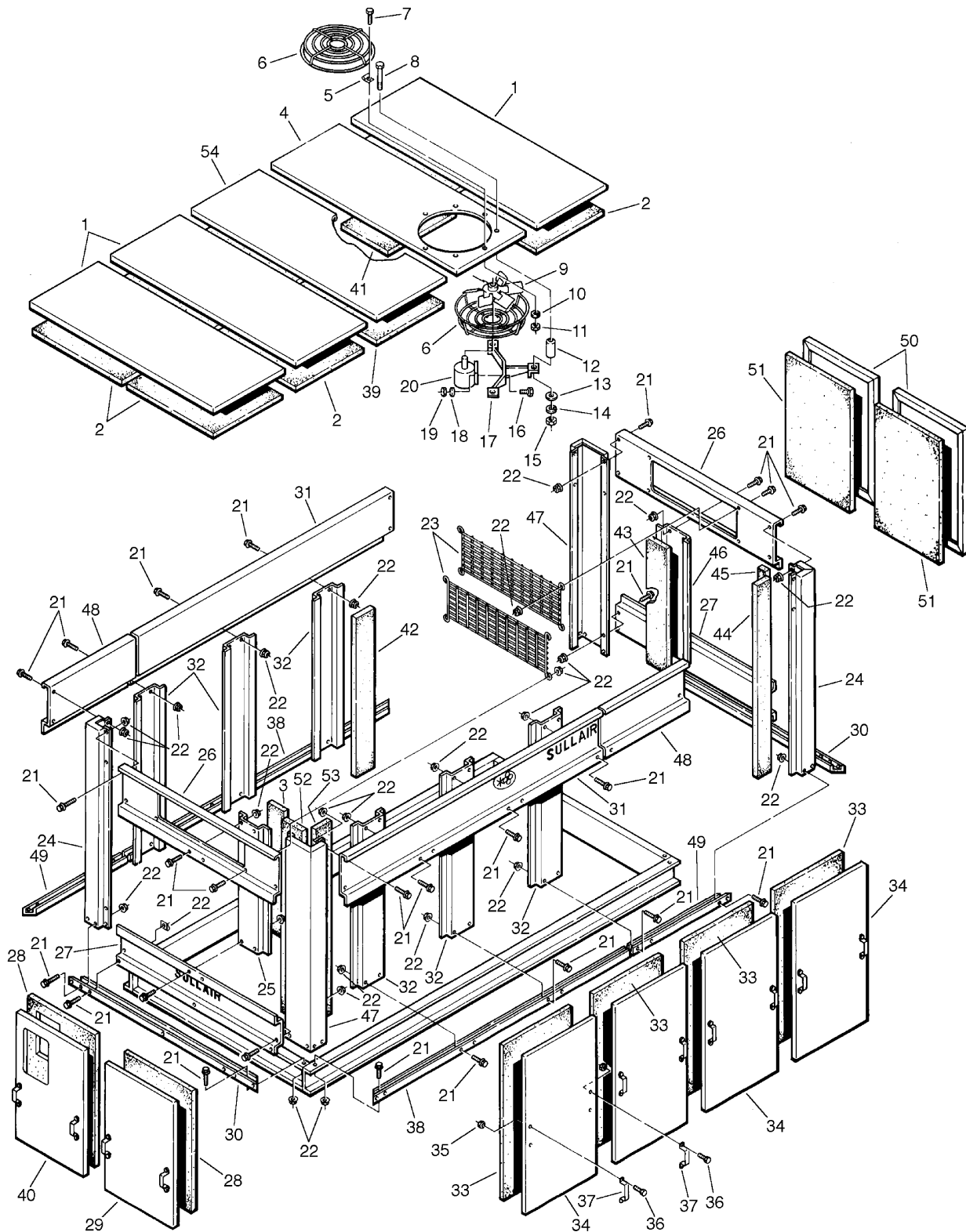
8.24 ENCLOSURE – 200 – 300HP/150 – 225KW

<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
1	panel, roof 30" x 87"	250007-112	3
2	panel, fiberglass 29.50" x 41.00" x 2M	047823-157	7
3	panel, fiberglass 8.50" x 52.00" x 2M	047823-162	1
4	panel, roof 30" x 87"	250007-113	7
5	clamp, speed tube 1/4"	043357	8
6	guard, fan 24"	041765	2
7	capscrew, hex gr5 1/2"-18 x 1"	828605-100	8
8	capscrew hex gr5 3/8"-16 x 3 1/2"	828606-350	6
9	fan, 20"	245748	1
10	washer, springlock regular 1/2"	837505-078	8
11	nut, hex unfinished 1/2"-18	824205-273	8
12	spacer, fan support	227267	6
13	washer, pl-b regular unfinished 3/8"	837206-071	6
14	washer, springlock regular 3/8"	837506-094	6
15	nut, hex unfinished 3/8"-16	824206-337	6
16	capscrew, hex gr5 3/8"-16 x 1 1/4"	828606-125	4
17	support, motor mount	014613	1
18	washer, pl-b regular unfinished 3/8"	837206-071	4
19	nut, hex unfinished 3/8"-16	824206-337	4
20	motor, .75HP/.5KW	050288	1
21	screw, hex serrated washer 1/2" x 3/4"	829705-075	150
22	nut, hex flange plated 1/2"-18	825305-283	150
23	grille, enclosure end	249651	2
24	post, corner 6"	250007-117	2
25	support, end 8 5/8"	250007-124	1
26	panel, end header	250007-126	2
27	panel, bottom end	250007-122	1
28	panel fiberglass 32.50" x 49.00" x 2M	047823-158	2
29	panel, access 33" x 50"	250007-123	1
30	channel, end sill	250007-121	2
31	panel, side header	250007-115	2
32	support, side 8 5/8"	250007-118	6
33	panel, fiberglass 29.50" x 60.00" x 2M	047823-154	8
34	panel, access	014661	8
35	nut, hex plated 1/4"-20	825204-226	40
36	capscrew, hex gr5 1/4"-20 x 1"	828604-100	40
37	handle, canopy	042262	28
38	channel, side sill	250007-131	2

(continued on Page 129)

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

8.24 ENCLOSURE – 200 – 300HP/150 – 225KW



Section 8
ILLUSTRATIONS AND PARTS LIST

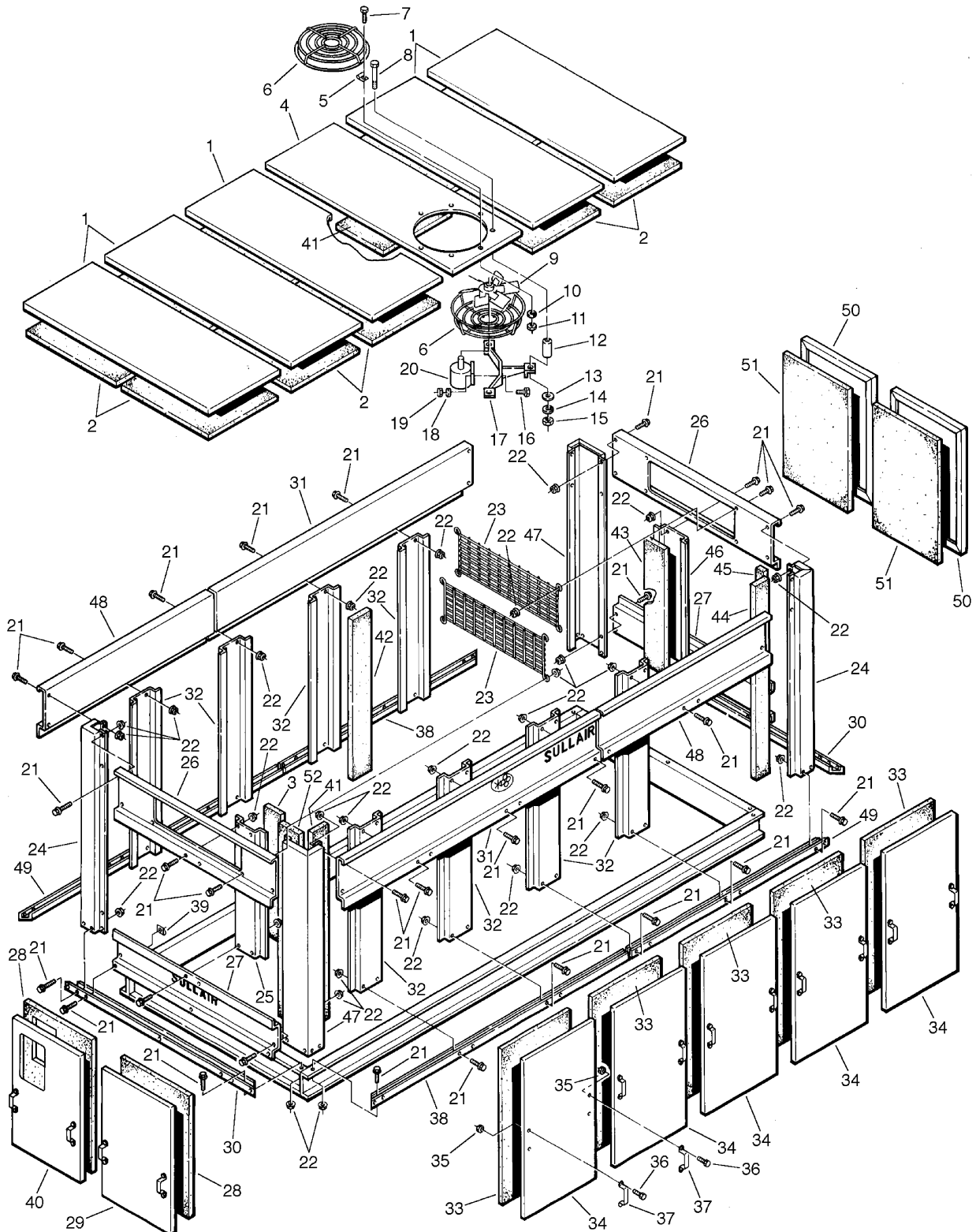
8.24 ENCLOSURE – 200 – 300HP/150 – 225KW (continued)

<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
39	nut, hex flanged plated 1/2" – 18	825305–283	16
40	panel, access 33" x 39.50"	250042–830	1
41	panel, fiberglass 38.25" x 41.00" x 2M	047823–163	2
42	panel, fiberglass 8.50" x 62.00" x 2M	047823–161	6
43	panel, fiberglass 8.50" x 52.00" x 2M	047823–162	1
44	panel, fiberglass 6.00" x 74.00" x 2M	047823–179	2
45	panel, fiberglass 4.50" x 74.00" x 2M	047823–180	2
46	support, end 8 5/8"	250007–124	1
47	post, corner 6" x 15"	250009–423	2
48	panel, side header	250007–130	2
49	channel, side sill	250007–133	2
50	panel, access 33" x 50"	250007–123	2
51	panel, fiberglass 32.50" x 49.00" x 2M	047823–158	2
52	panel, fiberglass 13.00" x 74.00" x 2M	047823–170	2
53	panel, fiberglass 5.50" x 74.00" x 2M	047823–169	2
54	panel, roof 38.75" x 87"	250007–114	1

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

Section 8
ILLUSTRATIONS AND PARTS LIST

8.25 ENCLOSURE – 400 – 600HP/300 – 450KW



Section 8

ILLUSTRATIONS AND PARTS LIST

8.25 ENCLOSURE – 400 – 600HP/300 – 450KW

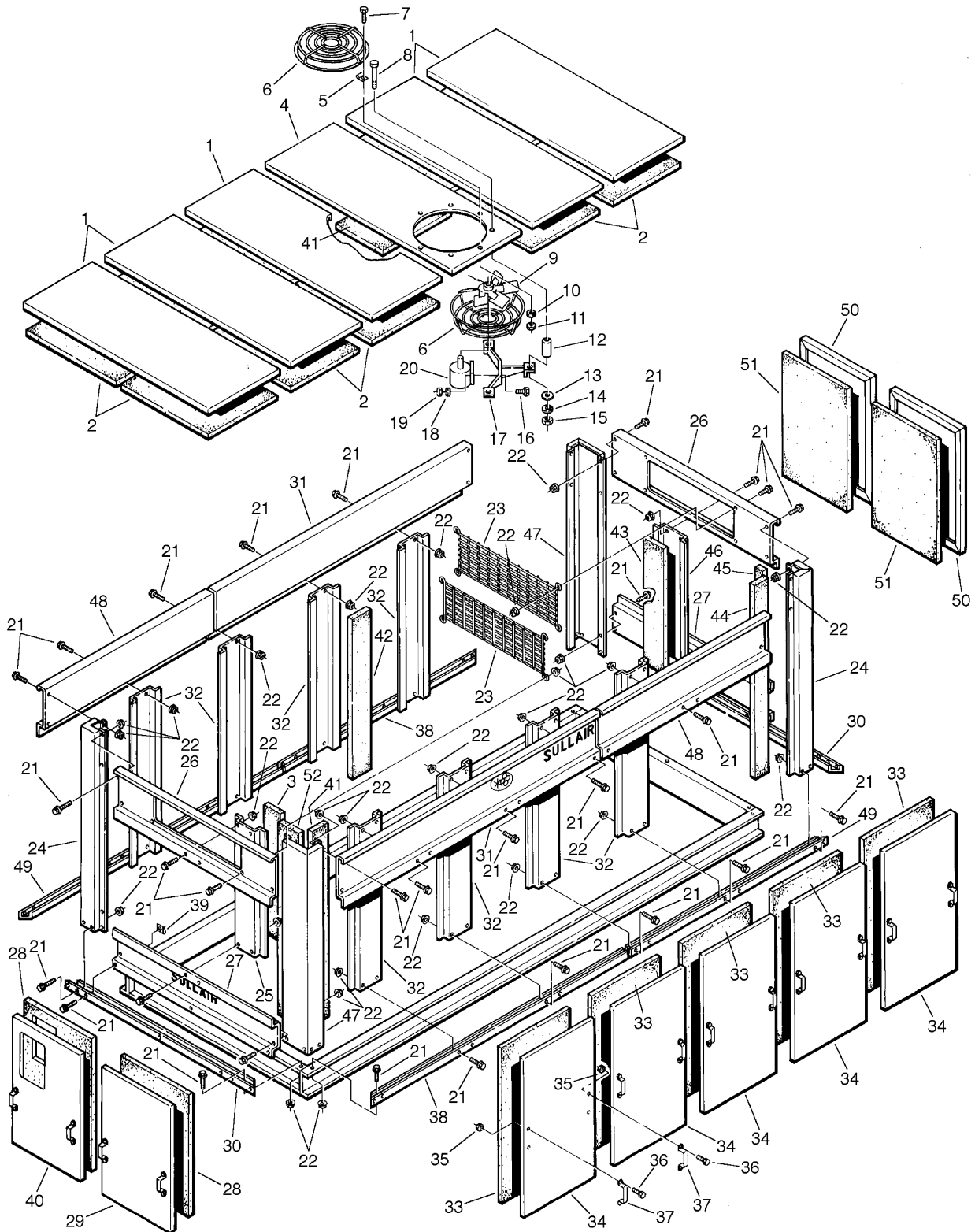
<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
1	panel, roof 33" x 96"	250009-421	5
2	panel, fiberglass 32.50" x 45.50" x 2M	047823-164	12
3	panel, fiberglass 11.50" x 52.00" x 2M	047823-167	1
4	panel, roof	250009-422	1
5	clamp, speed tube 1/4"	043357	8
6	guard, fan 24"	041765	2
7	capscrew, hex gr5 1/2"-18 x 1"	828605-100	8
8	capscrew hex gr5 3/8"-16 x 3 1/2"	828606-350	6
9	fan, 20"	245748	1
10	washer, springlock regular 1/2"	837505-078	8
11	nut, hex unfinished 1/2"-18	824205-273	8
12	spacer, fan support	227267	6
13	washer, pl-b regular unfinished 3/8"	837206-071	6
14	washer, springlock regular 3/8"	837506-094	6
15	nut, hex unfinished 3/8"-16	824206-337	6
16	capscrew, hex gr5 3/8"-16 x 1 1/4"	828606-125	4
17	support, motor mount	014613	1
18	washer, pl-b regular unfinished 3/8"	837206-071	4
19	nut, hex unfinished 3/8"-16	824206-337	4
20	motor, .75HP/.5KW	050288	1
21	screw, hex serrated washer 1/2" x 3/4"	829705-075	150
22	nut, hex flange plated 1/2"-18	825305-283	150
23	grille, enclosure end	249651	2
24	post, corner 6"	250007-117	2
25	support, end 11 5/8"	250009-916	1
26	panel, end header	250007-126	2
27	panel, bottom end	250007-122	1
28	panel fiberglass 29.50 x 49.00 x 2M	047823-168	2
29	panel, access 30" x 50"	250009-917	1
30	channel, end sill	250009-424	2
31	panel, side header	250009-494	2
32	support, side 8 5/8"	250007-118	6
33	panel, fiberglass 29.50" x 60.00" x 2M	047823-154	8
34	panel, access	014661	8
35	nut, hex plated 1/4"-20	825204-226	40
36	capscrew, hex gr5 1/4"-20 x 1"	828604-100	40
37	handle, canopy	042262	28
38	channel, side sill	250007-131	2

(continued on Page 133)

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

Section 8
ILLUSTRATIONS AND PARTS LIST

8.25 ENCLOSURE – 400 – 600HP/300 – 450KW



Section 8

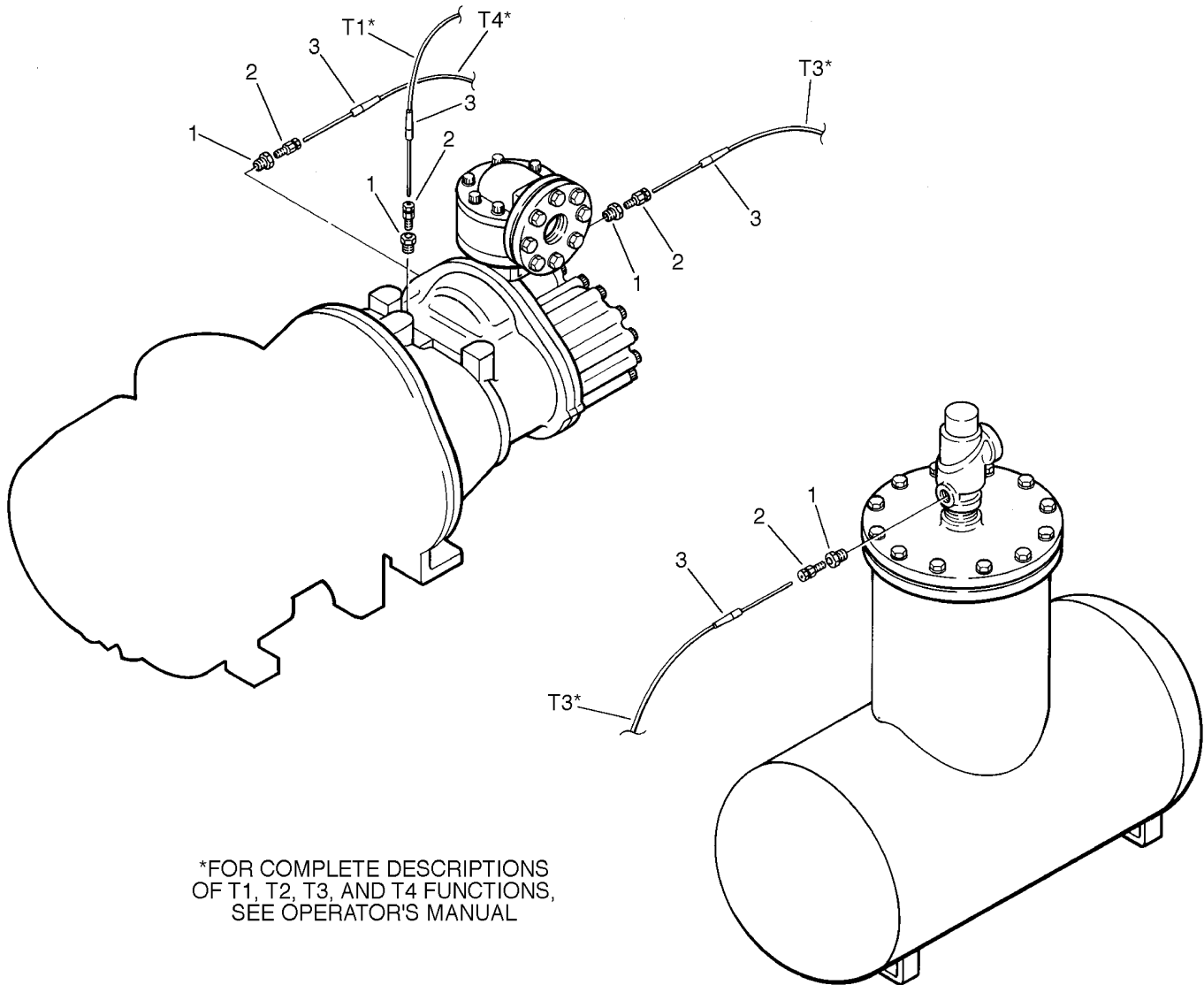
ILLUSTRATIONS AND PARTS LIST

8.25 ENCLOSURE – 400 – 600HP/300 – 450KW (continued)

<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
39	nut, hex flanged plated 1/2" – 18	825305–283	16
40	panel, access 33" x 39.50"	250042–830	1
41	panel, fiberglass 5.50" x 74.00" x 2M	047823–169	2
42	panel, fiberglass 8.50" x 62.00" x 2M	047823–161	6
43	panel, fiberglass 8.50" x 52.00" x 2M	047823–162	1
44	panel, fiberglass 6.00" x 74.00" x 2M	047823–179	2
45	panel, fiberglass 4.50" x 74.00" x 2M	047823–180	2
46	support, end 8 5/8"	250007–124	1
47	post, corner 6" x 15"	250009–423	2
48	panel, side header	250009–425	2
49	channel, side sill	250009–426	2
50	panel, access 33" x 50"	250007–123	2
51	panel, fiberglass 32.50" x 49.00" x 2M	047823–158	2
52	panel, fiberglass 13.00" x 74.00" x 2M	047823–170	2

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

8.26 RTD PROBES – 200 – 300HP/150 – 225KW



*FOR COMPLETE DESCRIPTIONS
OF T1, T2, T3, AND T4 FUNCTIONS,
SEE OPERATOR'S MANUAL

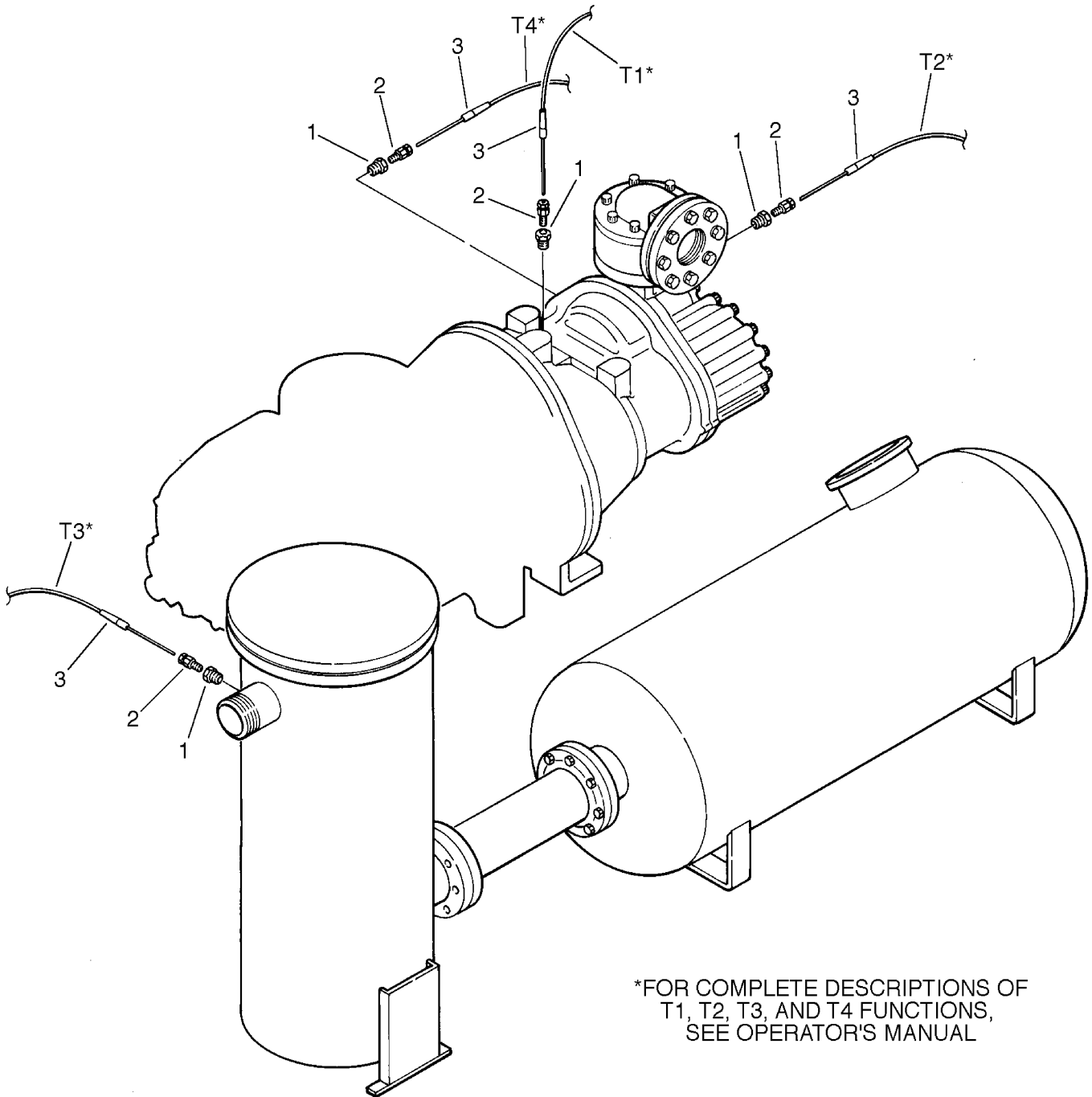
Section 8
ILLUSTRATIONS AND PARTS LIST

8.26 RTD PROBES – 200 – 300HP/150 – 225KW

<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
1	bushing, reducer 3/4" x 1/8"npt	802103–005	4
2	fitting, compression	250028–633	4
3	probe, RTD	250039–909	4

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

8.27 RTD PROBES – 400 – 600HP/300 – 450KW



*FOR COMPLETE DESCRIPTIONS OF
T1, T2, T3, AND T4 FUNCTIONS,
SEE OPERATOR'S MANUAL

Section 8
ILLUSTRATIONS AND PARTS LIST

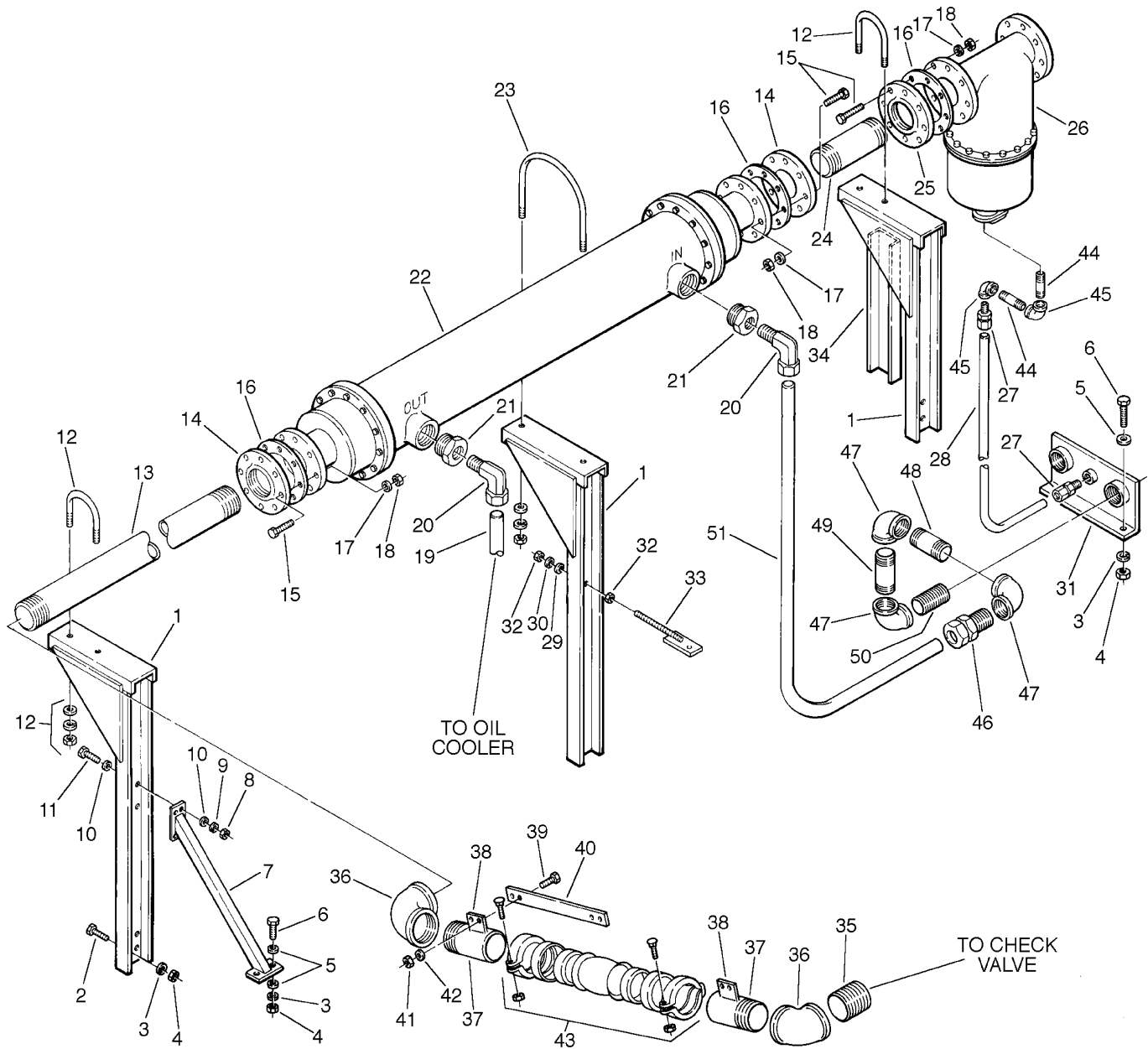
8.27 RTD PROBES – 400 – 600HP/300 – 450KW

<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
1	bushing, reducer 3/4" x 1/8"npt	802103–005	4
2	fitting, compression	250028–633	4
3	probe, RTD	250039–909	4

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

Section 8
ILLUSTRATIONS AND PARTS LIST

8.28 AFTERCOOLER – 400HP/300KW (WATER-COOLED)



Section 8

ILLUSTRATIONS AND PARTS LIST

8.28 AFTERCOOLER – 400HP/300KW(WATER–COOLED)

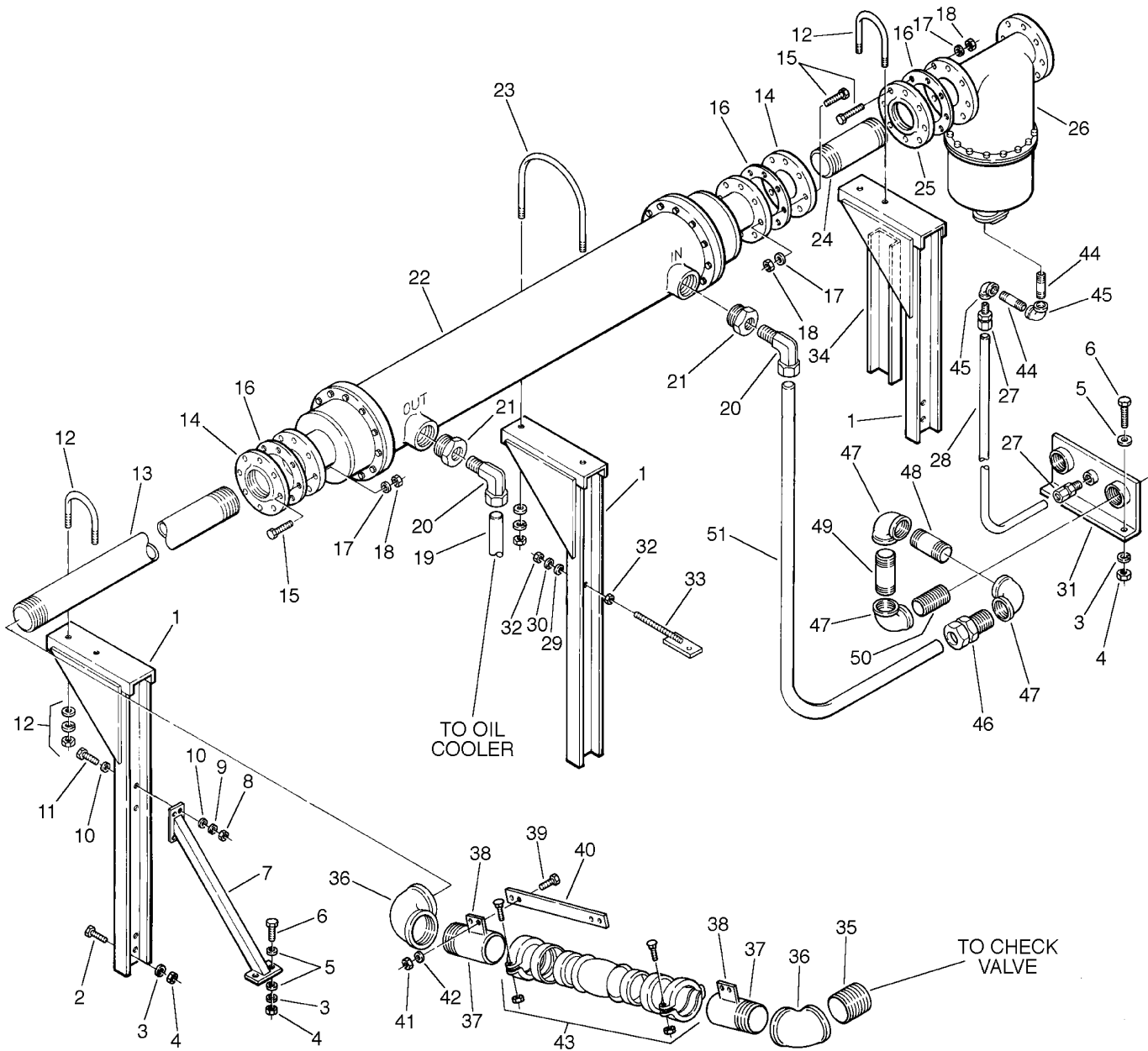
<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
1	support, cooler	250009–924	3
2	capscrew, hex gr5 1/2"–13 x 2"	828608–200	8
3	washer, springlock 1/2"	837508–125	6
4	nut, hex 1/2"–13	824208–448	6
5	washer, pl–b regular unfinished 1/2"	837208–112	6
6	capscrew, hex gr5 1/2"–13 x 1 1/2"	828608–150	2
7	brace, aftercooler	250009–920	1
8	nut, hex 3/8"–16	824206–337	4
9	washer, springlock 3/8"	837506–094	4
10	washer, pl–b regular unfinished 3/8"	837206–071	4
11	capscrew, hex gr5 3/8"–16 x 1 1/2"	828606–150	4
12	u–bolt, 1/2" x 4" pipe	829008–400	2
13	nipple, pipe 4" x 69 1/2"	822164–695	1
14	flange, threaded 4"	819315–064	2
15	capscrew, hex gr5 5/8"–11 x 3"	828610–300	24
16	gasket, 4" 125# flange full face	242437–010	3
17	washer, springlock 5/8"	837510–156	24
18	nut, hex 5/8"–11	824210–559	24
19	tubing, steel 2"	02250057–297	1
20	elbow, tube–m 2" x 2"	810532–200	3
21	bushing, reducing hex 3" x 2"	802112–080	2
22	aftercooler	042950	1
23	u–bolt, 1/2" x 8" pipe	829008–800	1
24	nipple, pipe 4" x 17 1/2"	822164–175	1
25	flange, threaded 4"	818312–064	1
26	separator, 4" combination trap (I)	250000–511	1
27	connector, tube 5/8" x 1/2"	810210–075	2
28	tubing, steel 3/4"	841115–012	7 ft.
29	washer, pl–b regular unfinished 3/4"	837212–112	24
30	washer, springlock 3/4"	837512–188	24
31	bracket, in–out 2"	250008–245	1
32	nut, hex 3/4"–10	824212–665	24
33	rod, stiffener 3/4" x 20"	250009–918	1
34	channel, 3" x 1 1/2" x 50"	250010–022	1
35	nipple, pipe 4" x 4"	822164–040	2
36	elbow, pipe 90° 4"	801515–160	2
37	nipple, half 4" x 8"	822864–080	2
38	reinforcement, 3"	227152	4

(continued on Page 97)

(I) For maintenance on combination separator trap no. 250000–511, order repair kit no. 250033–036.

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

8.28 AFTERCOOLER – 400HP/300KW(WATER-COOLED)



Section 8

ILLUSTRATIONS AND PARTS LIST

8.28 AFTERCOOLER – 400HP/300KW(WATER–COOLED) (continued)

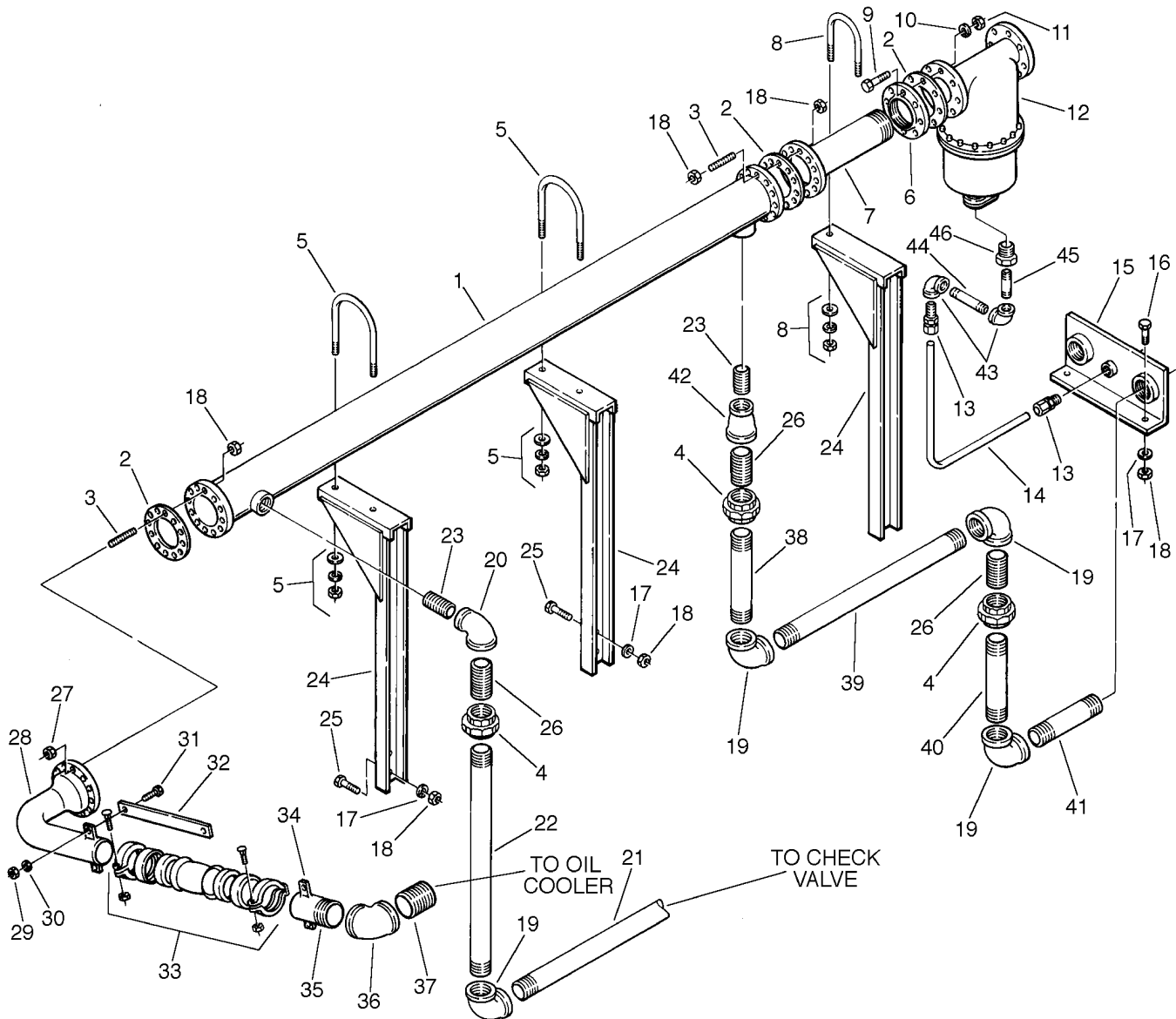
<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
39	capscrew, hex gr5 1/2"–18 x 1 1/2"	838605–150	4
40	reinforcement, 13"	227154	2
41	nut, hex 1/2"–18	824205–273	4
42	washer, springlock 1/2"	837505–078	4
43	coupling, flexible 4" (I)	041085	1
44	nipple, pipe 3/4" x 3"	822112–030	1
45	elbow, pipe 3/4"	801515–030	2
46	connector, tube–m 2" x 2"	810232–200	1
47	elbow, pipe 2"	801515–080	2
48	nipple, pipe 2" x 2 1/2" long	822132–035	1
49	nipple, pipe 2" x 3 1/2" long	822132–025	1
50	nipple, pipe 2" x close	822232–000	1
51	tube	02250057–725	1

(I) For maintenance on flexible coupling no. 041085, order repair kit no. 041353.

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

Section 8
ILLUSTRATIONS AND PARTS LIST

8.29 AFTERCOOLER – 500 – 600HP/375 – 450KW (WATER-COOLED)



Section 8

ILLUSTRATIONS AND PARTS LIST

8.29 AFTERCOOLER – 500 – 600HP/375 – 450KW (WATER-COOLED)

<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
1	aftercooler	250007-805	1
2	gasket, 5"	242437-011	2
3	stud, 1/2" x 4 1/4"	842708-042	24
4	union, pipe 2 1/2"	802515-100	3
5	u-bolt, 1/2" x 8" pipe	829008-800	2
6	flange, slip-on flat face 5"	242319-011	2
7	pipe, outlet 8" x 5"	250009-736	1
8	u-bolt, 1/2" x 5" pipe	829008-500	1
9	capscrew, hex gr5 3/4"-10 x 3"	828612-300	8
10	washer, springlock 3/4"	837512-188	8
11	nut, hex 3/4"-10	824212-665	8
12	separator, 5"	250007-799	1
13	connector, tube-m 1/2" x 1/2"	810208-050	2
14	tubing, steel 1/2"	841115-008	7 ft.
15	bracket, in-out	250016-803	1
16	capscrew, hex gr5 1/2"-13 x 1 1/2"	828608-150	2
17	washer, springlock 1/2"	837508-125	6
18	nut, hex 1/2"-13	824208-448	6
19	elbow, pipe 2 1/2"	801515-100	1
20	elbow, pipe reducing 2 1/2" x 1 1/2"	801610-060	2
21 <input type="checkbox"/>	nipple, pipe 2 1/2" x 132 3/4" <input type="checkbox"/>	Consult Factory <input type="checkbox"/>	1
22	nipple, pipe 2 1/2" x 43 3/4"	822140-437	1
23	nipple, pipe 1 1/2" x close	822240-000	2
24	support, cooler	250009-924	3
25	capscrew, hex gr5 1/2"-13 x 2"	828608-200	8
26	nipple, pipe 2 1/2" x close	822140-000	1
27	nut, hex 3/4"-10	824212-665	32
28	elbow, inlet 8" x 4" reducer	250009-737	1
29	nut, hex 3/8"-16	824206-337	4
30	washer, springlock 3/8"	837506-094	4
31	capscrew, hex gr5 3/8"-16 x 1 1/2"	828606-150	4
32	reinforcement, 13"	250035-138	2
33	coupling, flexible 4" (I)	041085	4
34	reinforcement, 3"	250035-136	4
35	nipple, half 4" x 8"	822864-080	1

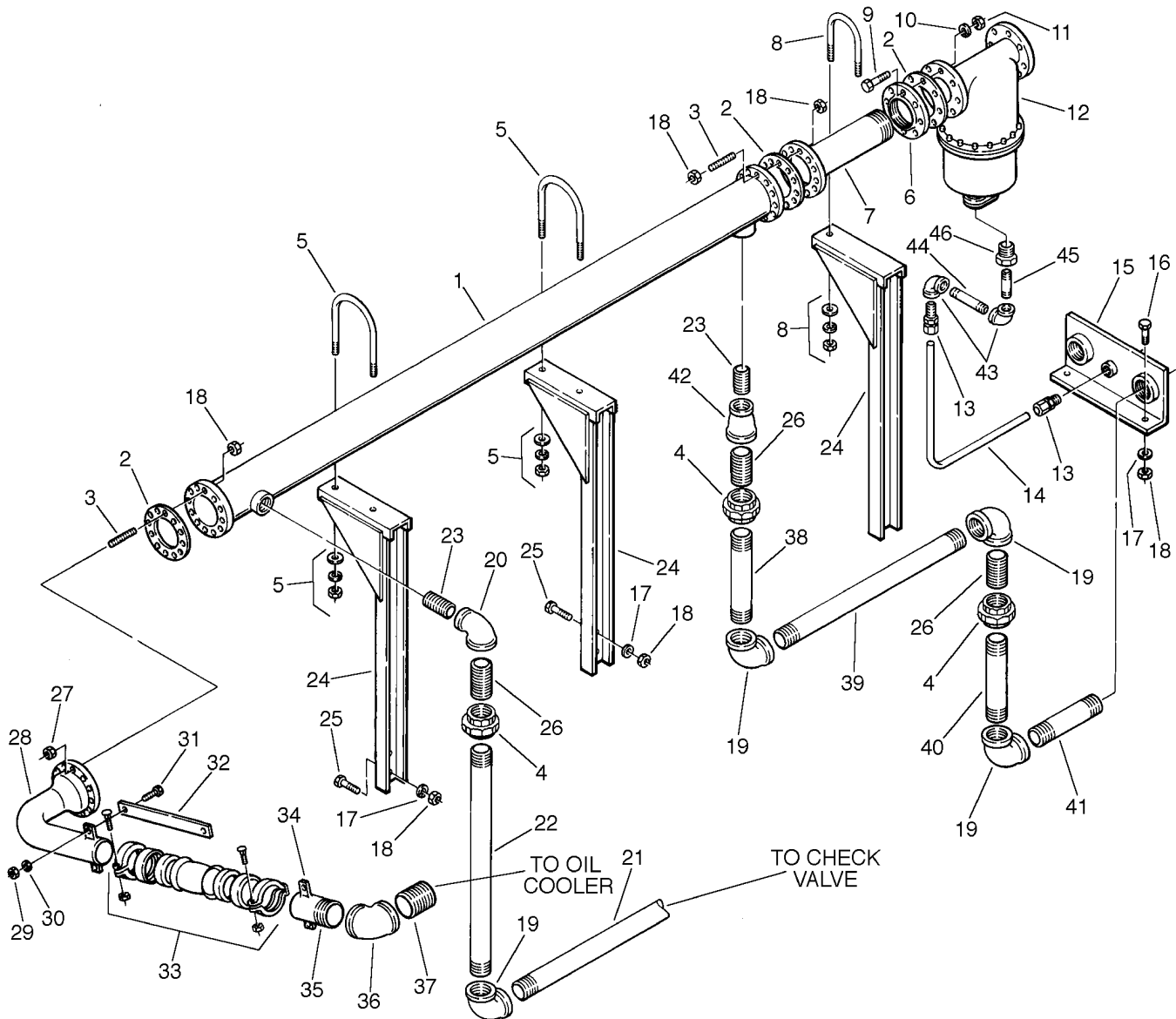
(continued on Page 145)

(I) For maintenance on Flexmaster coupling no. 041085, order repair kit no. 041353.

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

Section 8
ILLUSTRATIONS AND PARTS LIST

8.29 AFTERCOOLER – 500 – 600HP/375 – 450KW (WATER-COOLED)



Section 8

ILLUSTRATIONS AND PARTS LIST

8.29 AFTERCOOLER – 500 – 600HP/375 – 450KW (WATER–COOLED) (continued)

<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
36	elbow, pipe 90° 4"	801515–160	1
37	nipple, pipe 4" x 9"	822164–090	1
38	nipple, pipe 2 1/2" x 14 1/2"	822140–145	1
39	nipple, pipe 2 1/2" x 33"	822140–330	1
40	nipple, pipe 2 1/2" x 14"	822140–140	1
41	nipple, pipe 2 1/2" x 13"	822140–013	1
42	reducer, bell 2 1/2" x 1 1/2"	801020–012	1
43	elbow, pipe 1/2" 90°	801515–020	2
44	nipple, pipe 1/2" x 5"	822108–050	1
45	nipple, pipe 1/2" x 2"	822108–020	1
46	reducer, bushing 1/2" x 1"	802104–020	1

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

8.30 DECAL GROUP

⚠ WARNING



Do not operate without fan guard in place.

49965


⚠ WARNING



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

49055

ROTATION




ROTATION

4

5

6

ROTATION



ROTATION

THIS UNIT WIRED FOR 460 VOLT

SULLAIR COMPRESSOR FLUID
SULLUBE-32
 P/N -250009-396
 MIXING OF OTHER FLUIDS WILL VOID WARRANTY
 FILL CAP HAS AN O-RING SEAL
 DO NOT USE PIPE DOPE.

250023-361

⚠ DANGER



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

41510

⚠ DANGER



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

250027-935

9

7

8

SULLAIR COMPRESSOR FLUID
SRF 1/4000
 P/N -250019-661
 MIXING OF OTHER FLUIDS WILL VOID WARRANTY
 FILL CAP HAS AN O-RING SEAL
 DO NOT USE PIPE DOPE.

250022-830

10

POWER ENERGIZED

Section 8

ILLUSTRATIONS AND PARTS LIST

8.30 DECAL GROUP

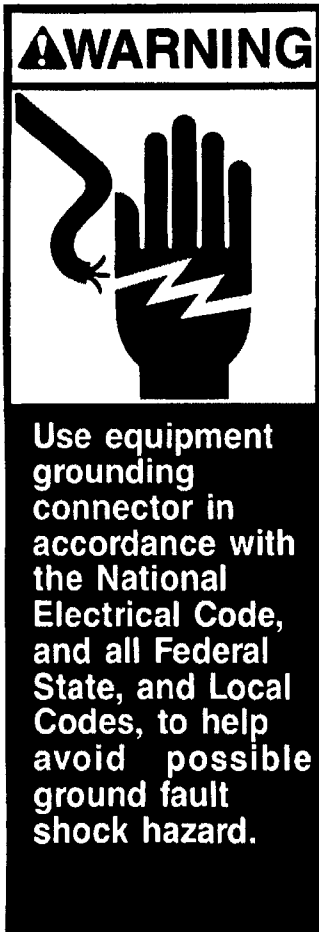
<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
1	sign, warning sever – fan	049855	2
2	sign, warning sever – fan port	049965	1
3	sign, danger electrocution	049850	1
4	decal, rotation	250021 – 286	1
5	decal, rotation	250021 – 564	1
6	decal, 460 volt	040631	1
	Sdecal, 380 volt (I)	241926	1
	Sdecal, 415 volt (I)	241927	1
	Sdecal, 525 volt (I)	02250047 – 898	1
	Sdecal, 575 volt (I)	041124	1
7	decal, compressor fluid Sullube – 32	250023 – 361	1
8	decal, compressor fluid SRF 1/4" 000	250022 – 839	1
9	sign, air breathing (danger)	250027 – 935	1
10	sign, power energized	249544 – 049	1

(continued on Page 149)

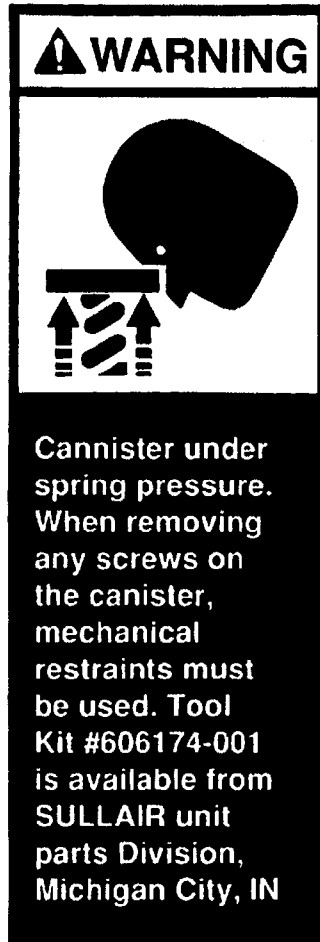
(I) Decal is for optional voltage (not shown).

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

8.30 DECAL GROUP

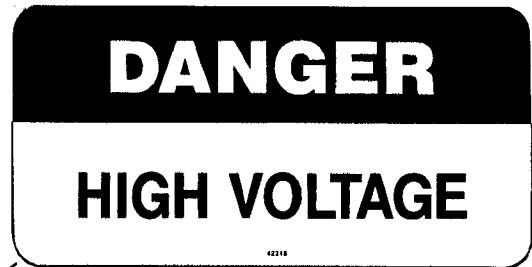


11



12

250029-836 REV. 01



13



14



15



16



17



19

18

TS-32

20



241814

Section 8
ILLUSTRATIONS AND PARTS LIST

8.30 DECAL GROUP (continued)

<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
11	sign, warning ground fault	049852	1
12	decal, warning actuator	250029-836	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
17	decal, water drain	250022-810	1
18	decal, TS-32	02250061-379	1
19	decal, fluid stop valve P/N 016742	410239	1
20	decal, fork lifting	241814	4

(continued on Page 151)

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

8.30 DECAL GROUP

This product was manufactured to the highest quality standards in an ISO 9001 certified facility.
Ce produit a été fabriqué selon les normes les plus strictes de qualité dans une usine certifiée ISO 9001.
Dieses Produkt wurde in einem mit ISO 9001 Zertifikat versehenen Werk hergestellt und entspricht den höchsten Qualitätsnormen.

ISO 9001

Este producto fue fabricado de acuerdo con las normas de calidad más estrictas, en una planta con la certificación ISO 9001.
Questo prodotto è stato fabbricato secondo i più alti standard qualitativi, in un impianto omologato ISO 9001.
本產品是由取得最高品質水準 ISO 9001 資格之製造廠所生產。

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21

25

23

⚠ WARNING

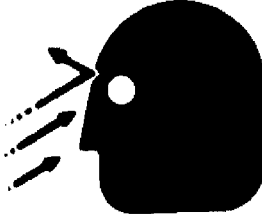


Do not permit air from this equipment to contact food stuff except in full compliance with FDA Standard 21CFR178.3570, and all other applicable federal, state and local, codes, standards and regulations.

250003-144

24

⚠ WARNING




Do not remove caps, plugs, or other components when compressor is running or pressurized.

Stop compressor and relieve all internal pressure before doing so.

44-103

⚠ WARNING



This Unit Is Equipped With An Auto Start Sequence That Will Start The Unit In The Event Of A Power Failure Automatically After The Sump Pressure Drops To 10 PSIG And The Power Is Restored.

When Performing Maintenance Follow Your Company's Prescribed Safety Practices for Electrical Equipment.

250017-903

Section 8
ILLUSTRATIONS AND PARTS LIST

8.30 DECAL GROUP (continued)

<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
21	decal, ISO 9001	Consult Factory	1
22	decal, compressor fluid 24KT (not shown)	02250061-022	1
23	sign, warning "food grade" lube	250003-144	1
24	sign, warning "compressor fluid fill cap"	049685	1
25	decal, warning auto start	250017-903	1

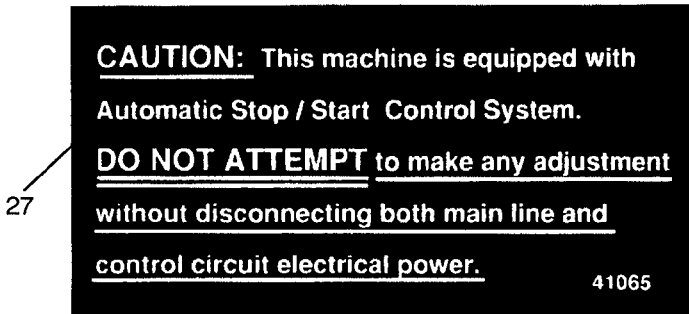
(continued on Page 153)

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

8.30 DECAL GROUP



26



27



28

MACH. S/N _____ MODEL # _____

CUST. NAME _____

ADDRESS _____

CITY / STATE _____ ZIP _____

CUST. PRODUCT _____

BRAND OF FLUID _____

HOURS ON MACH. _____ FLUID _____

DATE SAMPLE TAKEN: _____

DISCHARGE TEMP. _____ °F

AMBIENT TEMP. _____ °F

FLUID USAGE RATE - GAL / MO. _____

SAMPLE TAKEN FROM: _____

COMMENTS: _____

29



30

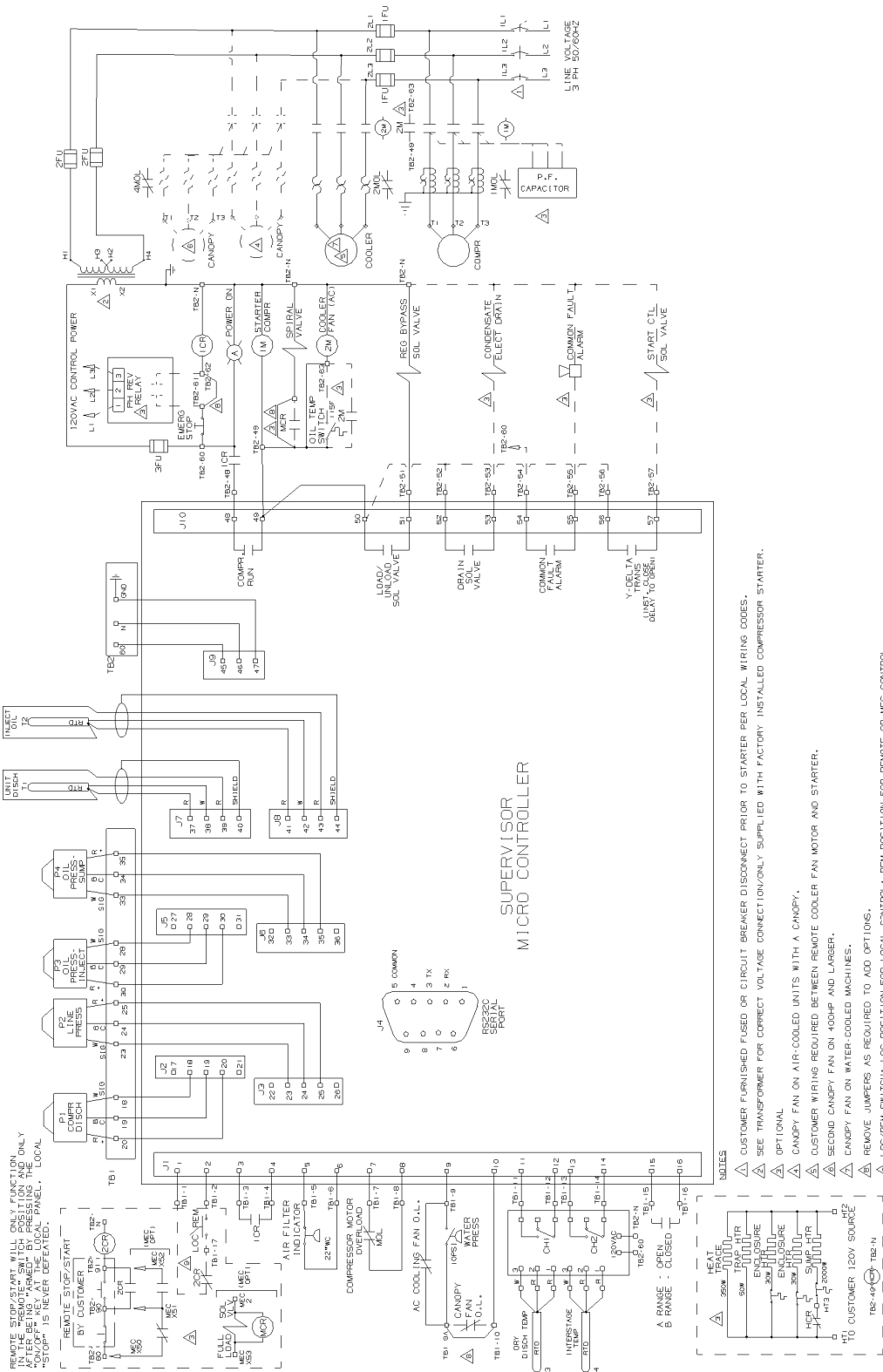
Section 8
ILLUSTRATIONS AND PARTS LIST

8.30 DECAL GROUP

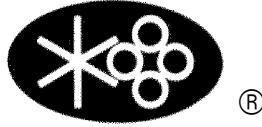
<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
26	decal, logo SRF 1/4"000	250021-483	1
27	decal, autostart	041065	1
28	decal, Sullair logo	02250059-048	2
29	decal, fluid sample	250022-675	1
30	decal, grounding lug	045433	1

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

8.31 WIRING DIAGRAM -- STANDARD FULL--VOLTAGE



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