Sullivan Palatek®

OPERATING AND PARTS MANUAL

FOR

INDUSTRIAL ELECTRIC AIR COMPRESSORS
125, 150, 200 AND 250UD MODELS
WITH T1 MICRO PROCESSOR CONTROL
AND YASKAWA DRIVE

PALATEK, INC. dba SULLIVAN-PALATEK MICHIGAN CITY, IN 46360

04/01/2011

P/N OPM-125250T1V-010

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SECTION 1 SAFETY

1.1 GENERAL

SULLIVAN-PALATEK designs all its compressors so they can be operated safely despite the fact that operating a motor driven air compressor is inherently hazardous. Responsibility for continued safe operation rests with those who install, use and maintain the equipment. The precautions offered in this section will minimize the inherent hazards and reduce the likelihood of accidental damage or injuries.

The operation of air compressors should be limited to personnel who have been so trained and specifically assigned to do so, and who have read and understand this Operator's Manual. Failure to follow the instructions and safety precautions in this manual may increase the possibility of accidents or injuries.

Never start this compressor unless it is safe to do so. Do not attempt to operate the air compressor with an unsafe condition relative to the compressor, the electrical system or the air piping, filtering, regulating, preparation, conditioning, valving, hosing or air-using components. Open the main disconnect switch or circuit breaker, then lock it out and tag it to prevent anyone else from starting the compressor until the unsafe condition has been corrected.

Operate compressors only in full compliance with all applicable Federal, State and local codes and requirements such as OSHA, NEC, NFPA, CSA, etc.

WARNING: Do not modify this compressor without specific written approval from the factory.

1.2 PRESSURE RELEASE

Operate manually the pressure relief valve(s) periodically to be sure there is no blockage, obstruction, or inability to operate.

Shut machine off by use of 'stop' button on micro processor. Open and lock-out disconnect switch, and vent all pressure before opening or removing any filter element, line, tube, fitting, valve, plug, cover, connection, or any other component on the air compressor or in the plant's compressed air system. Remove Oil Filler Cap (Caution: Hot oil is present.) only; when compressor has been turned off, the disconnect switch locked open, and there is no pressure in the oil separation tank! Bleed off any residual pressure by opening the pressure relief valve. **WARNING: compressors may re-start AUTOMATICALLY if not properly taken off the power line!**

Do not use accessories such as tools, valves, filters, hoses, piping, dryers, etc. that are rated lower than the maximum pressure or temperature rating of this compressor. Do not exceed the accessory component manufacturers rated safe, continuous working pressure or temperature.

Install appropriate velocity-limiting valves (rated by pipe size and CFM) whenever air hose larger than ½ inch (12.5 mm) inside diameter is used anywhere in the system. This will reduce pressure in case of hose or connection failure. Install additional velocity limiting valves, in series, whenever 75 feet (22.8m) of hose length is exceeded. These valves must comply with pertinent OSHA requirements.

Do not use air pressure greater than 30 PSI (207 kPa) for blow-off or cleaning purposes, and then only with effective chip guarding and personal protective equipment as required by OSHA.

Compressed air filters or lubricators with plastic bowls may be affected by lubricant and should not be used. Steel bowls are recommended.

Keep personnel out of line with, and away from, the discharge opening of airlines, or tools, or other areas of direct, or deflected, compressed air discharge.

Do not allow anyone to engage in horseplay with air hoses, as serious bodily injury or death may result.

Do not substitute bolts with material or marking different from original equipment.

Do not over-tighten any bolt, nut, fitting, connection, or spin-off filter element.

1.3 FIRES/EXPLOSIONS

Clean up any spilled oil or oil leakage, and repair oil leaks as soon as they are discovered.

Do not allow oil to accumulate on, in, or around acoustic noise material. Immediately replace any oil-soaked material after cleaning enclosure surface with nonflammable solvent.

Do not operate compressor when there is a possibility of its ingesting flammable, toxic or explosive fumes, mists or particles.

Do not operate compressor with the temperature sensor inoperative or its Pressure Switch inoperative or incorrectly connected.

Keep conductive objects away from exposed live electrical parts, such as terminals, to avoid sparks that may serve as a source of ignition.

Replace the air/oil separator element only with factory original equipment replacement parts to be certain that anti-static provisions are present.

Ground the machine in accordance with National Electrical Code (NEC) requirements.

Do not use plastic pipe for compressed air.

1.4 MOVING PARTS

WARNING: Do not operate the compressor with its Fan Guard removed.

Keep clothing, hands, arms, and other parts of the body, away from the fan and drive coupling.

Wear snug-fitting protective clothing (no neckties) and confine long hair when working around compressor.

1.5 PHYSICAL DANGERS

Wear OSHA approved personal protective gear including gloves, safety shoes, safety glasses, head covering, and ear protection when working on or around the compressor.

Avoid bodily contact with hot oil, hot surfaces, sharp edges and corners.

Keep all parts of the body away from all potential points of air discharge, including pressure relief valve ports.

Keep an adequate first-aid kit nearby. Obtain medical assistance promptly in case of injury. Do not ignore small cuts, burns or minor eye injuries as they may lead to infection.

Perform repairs and maintenance in well lighted conditions. Clean and dry components prior to servicing.

1.6 TOXICITY

WARNING: Air from this compressor should not be used for breathing air, unless you adhere to specific OSHA standards.

Operate the compressor only in open or well-ventilated areas.

Carefully analyze the compressor inlet conditions to be certain that the compressor is ingesting no dangerous levels of contaminants.

Do not permit air from this compressor to contact foodstuff except in compliance with FDA Standard 21 CFR 178.3570 and other applicable regulations. (Use food grade lubricant for such applications.)

1.7 ELECTRIC SHOCK

Remove watches & rings, and keep all parts of the body, tools, or other conductive objects away from exposed live parts of the electrical system. Maintain dry footing, stand on insulating surface and do not contact any other portion of the compressor when making adjustments.

Turn compressor off, open main disconnect and lock it out and tag it prior to opening the Starter Enclosure or when testing or replacing any electrical component such as: switches, wiring, terminals, transformer, starter, timer, coil, relay, contact, interlock, fuse, overload heater, etc.

Be certain that the equipment is properly grounded in accordance with NEC and all other applicable state & local codes.

Initial installation and wiring must be done by a trained and qualified electrician and be in accordance with all Federal, State and local codes, standards, and regulations. Improper installation or unsafe servicing could result in serious bodily injury or death.

Should a breaker trip for any reason, be sure to check for the cause that produced the trip. Fix the root cause if possible prior to resetting and operating the compressor. When restarting, check for maximum current being drawn by the circuit.

If a fuse should blow, for any reason, always replace it with one of the same size, type, and ampere rating.

1.8 LIFTING

Lift or move the compressor only with equipment of sufficient load capacity that has been inspected and is in good condition.

Keep personnel out from under and away from the area when lifting or moving the compressor.

Lift no higher than necessary. Carry as low as possible when moving.

Keep lifting operator in attendance whenever compressor is suspended.

Set compressor down only on level surface capable of supporting several times the machine weight.

Do not lift entire machine by motor lifting eyes, as they are intended only for lifting the motor.

1.9 AUTOMATIC START AND/OR RESTART

Do not assume that any air compressor is ready for maintenance, service, or trouble-shooting if it is not running. It may be in the “Automatic-Start” mode “Sleep” mode, or was not shut down properly prior to power having been shut off, then when power is re-applied the compressor may suddenly re-start, thereby creating a hazardous condition!

Close discharge air valves and shut off machine. Open main disconnect; lock it out and tag it to prevent others from inadvertently re-closing it.

1.10 NOISE

Working near an open-air compressor, or an enclosed machine with doors and/or access panels open or removed, can prove hazardous even during short-term exposure. The noise may interfere with hearing verbal warnings or other sounds of impending dangers.

WARNING: For prolonged exposure to machinery noise, hearing protection is recommended and may be required by OSHA.

1.11 HAZARD WARNING SIGNS

SULLIVAN-PALATEK compressors are all equipped with brightly colored, weather-resistant, pictorial/verbal self-adhesive decals. These are designed to warn the operator against potential hazards in order to minimize risk of property damage, bodily injury or death. All operators must be aware of the Warning Signs and follow the instructions thereon.

If any Warning Signs are missing, damaged or painted over, or located in such a position as to be unreadable in a given installation, new Warning Signs must be ordered. Be sure they are properly positioned and installed correctly.

WARNING: If any operators are not fully conversant with the English language and/or cannot comprehend the intended pictorial warnings, it becomes incumbent upon the owner, lesser or other responsible administrator to be sure the operator is properly trained and also made aware of, and understands, the meaning of all Warning Signs.

WARNING SIGN	LOCATION
HIGH VOLTAGE/MOVING PARTS	VFD
COMPRESSED AIR	INSTRUMENT PANEL
HOT OIL/PRESSURIZED AIR	SEPARATOR TANK

SECTION 2 SPECIFICATIONS

MODEL	125UD	150UD	200UD	250UD
MOTOR SIZE (HP)	125	150	200	250
CFM AIR DELIVERY @ 100PSI	600	730	935	1130
CFM AIR DELIVERY @ 115PSI	575	685	880	1065
CFM AIR DELIVERY @ 125PSI	550	680	825	1010
CFM AIR DELIVERY @ 150PSI	505	590	765	970
COOLANT CAP.–GAL. SYST/TANK	33/25	33/25	33/25	33/25
MIN. FULL LOAD PRESSURE	70	70	70	70

DIMENSIONS:	OPEN	ENCLOSED
LENGTH	96	96
WIDTH	58	58
HEIGHT	66 3/8	67

NOTE: SEE INSTALLATION DRAWINGS IN SECTION 9 OF THIS MANUAL

2.1 DATA AND DIMENSIONS

SULLIVAN-PALATEK reserves the right to change the design or construction of the above compressors, or to offer them with options which will cause subject equipment to differ from the above specifications, without reference to any descriptions in this manual.

2.2 LUBRICATION GUIDE

SULLIVAN-PALATEK recommends using Palasyn 45 synthetic lubricoolant for normal plant-air service. For compressors running two or three shift operations, extended life lubricants such as Pallube 32p, or Pal-extra 44 are offered as factory fill. Also, where incidental food contact may happen, we offer a Food Grade 32FLL.

For extreme environments (i.e. fine particulate, caustic, acidic, or oxidant atmospheres) contact the factory for lubricant recommendations. Also, for such conditions we would suggest oil analysis every 1000 hours.

Mixing of these or any other type of oil or synthetic fluid will void the 5-year compressor unit warranty and could result in greatly increased maintenance and service expenses.

2.3 APPLICATION GUIDE

Ambient Temperature Range: +35° to +104° F (+1° to +40° C). The lower temperature limit is to prevent freeze-up of condensate in the aftercooler and/or control lines. When operating these compressors for plant air in food or beverage processing industries, contact the factory for a lubricant that is FDA approved for “incidental contact with foodstuffs." For instrument-grade air, contact the factory for recommendations related to specialized compressed air preparation accessories.

Whenever a SULLIVAN-PALATEK rotary screw compressor is installed in parallel with a reciprocating type of compressor, it is imperative that the SULLIVAN-PALATEK be the “lead” machine and the reciprocating the “lag” machine. That is, the SULLIVAN-PALATEK should be the first to start and the last to stop when being operated in the “automatic stop/start” mode, or the first to load and the last to unload, when in the “continuous run” mode. It should require the least electrical power consumption for the combination. The variable frequency drive will allow up to 20 starts per hour for all models.

SECTION 3 DESCRIPTION

3.1 INTRODUCTION

SULLIVAN-PALATEK Plant Air Compressors are electric motor driven, single-stage rotary screw type, continuous-duty compressor. They are designed and constructed to offer the greatest value and lowest life cycle cost of operation. The compressor package includes: a direct-connected electric motor-driven compressor, air intake/capacity control system, air-cooled cooling system (including a standard air-cooled aftercooler), discharge system, instrument panel and electrical system. They are available base mounted, with or without enclosures. These machines are intended for indoor installation, or protected outdoor operation in moderate climates.

3.2 COMPRESSOR UNIT

All SULLIVAN-PALATEK compressors feature direct-connected, single-stage, positive displacement, flood-lubricated rotary screw compressor units with heavy-duty long-life rolling element bearings. The lubricoolant fluid is injected directly into the compressor unit and mixes with the air as the rotors compress it. The lubricoolant lubricates the rotors, bearings and shaft seal, cools the compressor by absorbing much of the heat of compression and acts to block slippage of compressed air through the compressor's internal clearances.

3.3 MOTOR

The electric motor used to power each SULLIVAN-PALATEK UD Series 125/250 horsepower compressor is a NEMA special inverter duty 3 phase motor, fitted with a C-face register at the compressor drive end to assure proper coupling alignment at all times. The main compressor motor is connectable for 460 volts. All air cooled compressors utilize a separate TEFC fan motor. Contact the factory for any other requirements, such as TEFC main drive motor.

3.4 INTAKE/CONTROL SYSTEM

The intake/control system consists of: an air filter, connecting rubber elbow, a combination compressor inlet valve/reverse-flow check valve, blow-down valve, and control pressure transducer. (See Intake Control Schematic.) The air filter is a multi-stage dry-type with a high efficiency cleanable/replaceable cellulose element. The element should be cleaned periodically, depending upon the amount of particles in the air, and replaced annually, of if a high delta-p fault is shown. If remote air intake is desired, consult the factory for a special intake option.

The VFD controls the capacity or air delivery of the compressor in direct response to the plant air system demand via a varying signal from the line pressure transducer, or an unload control signal. During periods of very low or zero air usage the inlet valve is held shut by an air signal from the blow-down valve. This air signal simultaneously reduces the pressure in the oil separation tank, allowing the compressor to run unloaded with a minimum of power consumption. Upon shutdown the intake valve checks shut to eliminate blowback.

CONTROL OPERATION - STARTING:

When the compressor start key is pressed, or starts automatically (signal from BLT or sequencer), it will run for approximately 10 seconds unloaded. After this interval, the pressure will rise quickly to 60 PSIG (415 KPA) which is the minimum pressure valve opening pressure. Until the controller pressure setting is reached, the compressor inlet valve is wide open and the compressor will deliver its full rated capacity.

NORMAL FULL LOAD MODE:

From 60 psi to the control pressure setting the minimum pressure valve is open and the compressor delivers its full rated capacity to the air receiver and/or the plant air piping system.

VARIABLE SPEED OPERATION:

The compressor will operate @ varying speeds depending on the signal from the line pressure transducer. This operating speed will vary from a maximum speed (set at the factory), and will try to maintain a constant line pressure (this is the control pressure setting on the T1 micro processor control). If air usage is very low, once the unload pressure setting is reached, the compressor will shut off. When the line pressure drops again, the compressor will re-start after a specified set time interval.

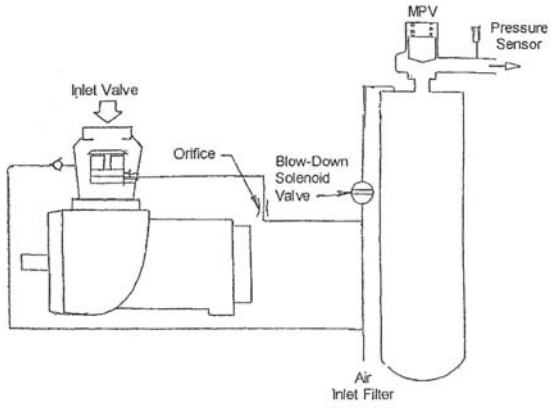
UNLOADED AND/OR SHUTDOWN MODES:

When little or no air is being used, the service line pressure will rise to the "unload" setting of the micro processor which will interrupt the voltage to the control solenoid to open and allow air pressure to close the inlet valve. This same air pressure which is holding the inlet valve shut is also venting the pressure in the separator tank to reduce the power required.

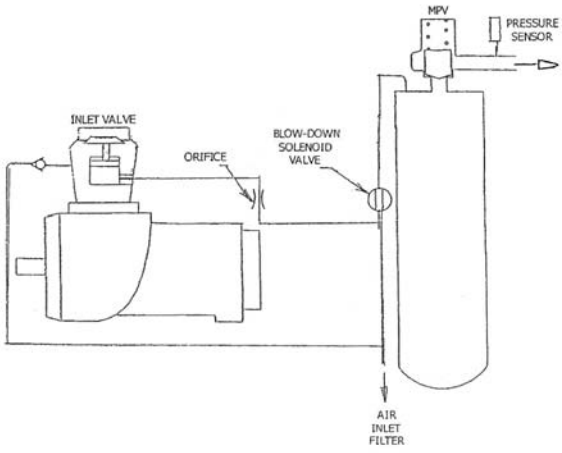
If the micro processor determines that the compressor has been unloaded for 3 minutes, then the compressor goes into a "sleep" mode which shuts off the drive motor. When air is being used again, the compressor will re-start (provided that it has been off for a least a minute).

Note that the micro processor is programmed to limit the number of starts per hour (depending on motor size) for motor protection. If the compressor is starting too often, thus causing the compressor to be off when air is required; please contact the factory for adjustments to be made to the controls to avoid this problem.

Control Schematic - Loaded Operation



Control Schematic - Unloaded Operation

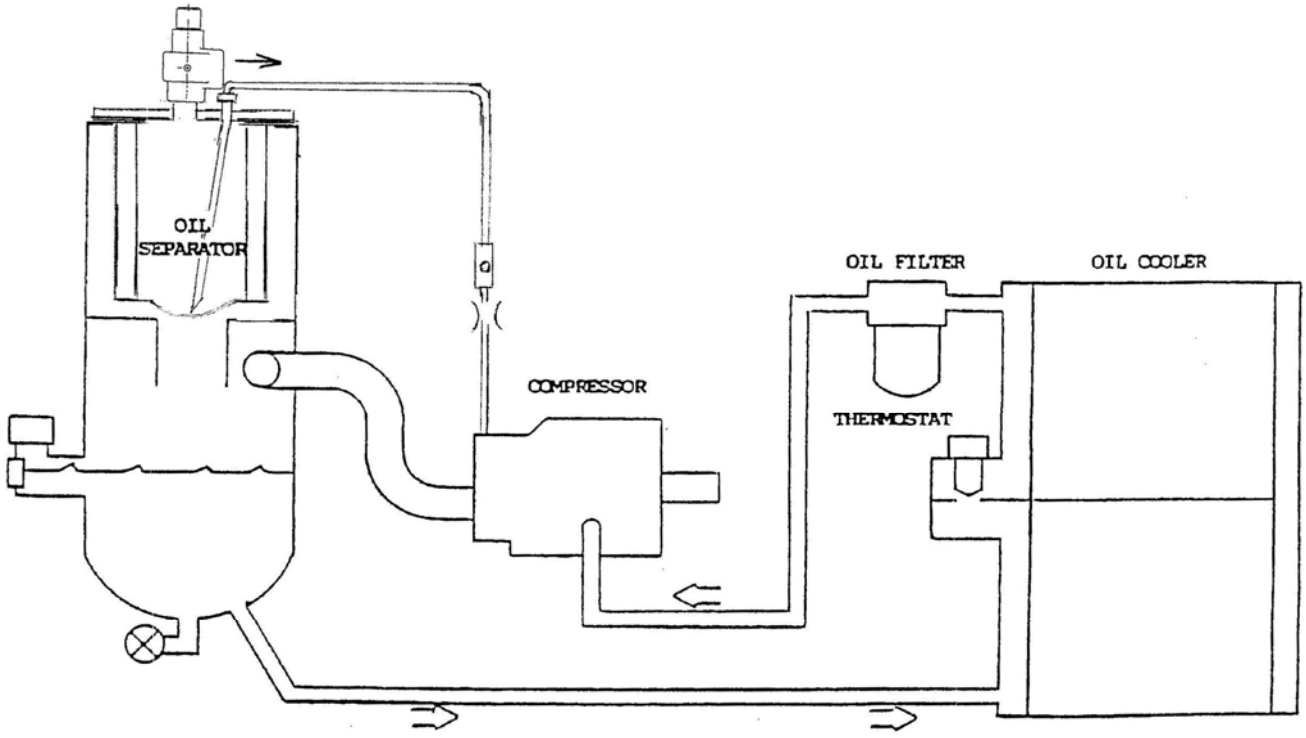


3.5 COMPRESSOR LUBRICATION/COOLING SYSTEM

The cooling system consists of a fan, variable speed fan motor, finned-tube radiator-type fluid cooler, & thermovalve to accelerate warm-up, a full-flow filter, a drain valve and interconnecting tubing.

Pressure in the oil separation tank utilizes air pressure over oil which causes the lubricoolant to flow from this region of relatively high pressure through the system to an area of lower pressure at the compressor unit. Fluid flows from the oil separation tank to the cooler; from the cooler to the filter, and from the filter to the compressor. During cold starts, the thermovalve is open allowing the fluid to by-pass the oil cooler and go directly to the filter. While warming up, a gradual change occurs where the fluid flow is split - partial flows being shared by both the oil cooler and thermovalve. When fully warmed up, fan motor will operate at a speed to control the sensed compressor discharge temperature.

The fluid filter is of the spin-on replacement element type. The element should be changed in accordance with the Maintenance Schedule.



Cooling System Schematic

3.6 COMPRESSOR DISCHARGE SYSTEM

The compressor unit discharges a mixture of compressed air and lubricoolant directly into the oil separation tank where it accomplishes the following three functions:

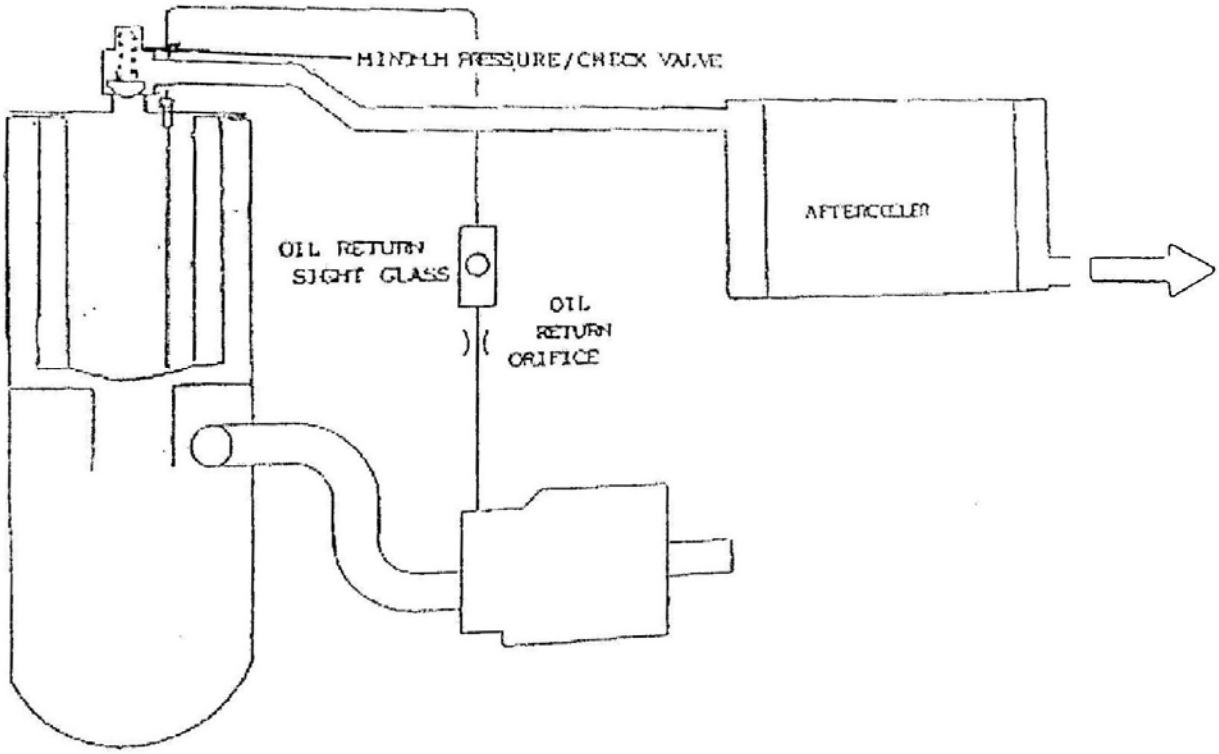
A) Primary separation - by change of direction and reduction of velocity, this allows the heavier droplets of lubricoolant to drop out of the air stream.

B) Serves as the lubricoolant sump - by collecting the hot lubricoolant prior to re-circulation through the cooling system.

C) Houses the final oil separation element: a replaceable, multi-layered, multi-media coalescing element with pleated initial stage for reduced velocity, improved separation performance and extended service life. Separated oil is returned to the compressor oil system via a small diameter return line, or scavenger tube.

A sight gauge is provided to monitor the lubricoolant level in the oil separation tank, and a capped oil fill port is provided to keep the oil the proper level and to refill the system after changing the lubricoolant.

WARNING: Do not remove caps, plugs or other components or connections while the compressor is running or pressurized. Shut the compressor off, open and lock out the electrical disconnect switch, and relieve all sump pressure before doing so.



The oil separation tank is ASME rated for 200 psig (1380 kPa) maximum working pressure. A combination minimum-pressure/check valve in the separator cover assures a minimum pressure of 60 psig (415 kPa) for proper lubricoolant circulation and separation. At the same time it prevents a reverse flow of compressed air from an auxiliary air receiver and/or the plant air-main back through the compressor at shutdown or during periods of unloaded operation.

A pressure relief valve (located upstream, or on the "wet" side of the separator) is set to open if a control malfunction would allow the pressure to exceed 200 psig (1380 kPa). However, since the opening of this valve is noisy and results in hot oil being expelled, a sensor which reads sump pressure will shut the motor off at its set point (normally set at factory.

The panel-mounted micro processor shows the pressure at the discharge of the MPV. (i.e. line pressure). Additionally, a differential pressure switch across the oil filter will indicate too high fault signal. The difference between the sump pressure signal and the line pressure signal will indicate a separator fault. A vacuum switch will indicate an air filter fault.

The compressor discharge temperature is also displayed on the micro processor screen. Normal discharge temperature should be approximately 170-190° F, or about 100° F (38° C) above ambient.

The micro processor is programmed to shut off the compressor should the discharge temperature exceed 240° F. Should this occur, check for adequate lubricant, cooling fan operation, dirty cooler, or varnish in oil & cooler.

3.7 VARIABLE FREQUENCY DRIVE AND ELECTRICAL PARTS

The three-phase electric motor drive supplied with the SULLIVAN-PALATEK Plant Air Compressor has a NEMA-1 rated enclosure. A separate control box contains: the control power transformer, the 24 volt power supply for the micro processor control, the control pressure transducers, and fan motor disconnect fuses.

The variable speed drive is amp-rated to match the motor amp draw at the customer's voltage. The drive is programmed to shut down if excessive amperage is drawn.

The control power transformer converts power from one phase of the incoming line power to a 120v control voltage. This is to minimize the potential for arcing at the contact points of switches, or relays. The primary (high voltage) incoming power and the secondary (control voltage) circuits are both provided with breakers to minimize the potential for damage due to overloading or short-circuit faults. In addition a 24 volt output transformer is needed to supply the proper operating voltage for the micro processor control.

3.8 INSTRUMENTATION

Each SULLIVAN-PALATEK Plant Air Compressor is equipped with a micro processor control. This control normally displays line pressure and compressor discharge temperature. In addition, the micro processor will indicate faults due to motor overloads, high differential pressures on; oil filter, air/oil separator, and inlet filter. In addition, the micro processor will display a code signal for exceeding the following maintenance service intervals; oil filter change, oil change, air filter change & air/oil separator change. When this service is performed, the appropriate service timer (menu PO4) must be re-set using service access code 0100.

SECTION 4 INSTALLATION

4.1 RECEIVING

Carefully inspect for any signs of possible shipping damage.

4.2 WELDING

WARNING: Do not weld on compressor package.

4.3 LOCATION

The standard compressor is designed for indoor operation or protected outdoor site with an ambient temperature range of 35° to 104° F (2° to 40° C). It is important that there be sufficient unobstructed ventilating airflow to prevent re-circulation of hot air. The compressor should be in a clean, dry, lighted area with ample space for maintenance and servicing. Duct the hot air outside if necessary to prevent excessively high ambient temperatures. Below is a listing of heat loads and fan air volumes that must be accommodated to keep machines operating normally. It is possible to utilize this heat for space heating, combustion air pre-heating, product drying, etc., --providing that no additional restriction is imposed upon the compressor cooling fan. Consult the factory for assistance if heat recovery is desired.

MODEL	125UD	150UD	200UD	250UD
MAX. AIRFLOW (CFM)	12,500	15,000	18,500	20,000
MAX. HEAT REJECTION (BTU/HR)	330,000	418,500	550,000	600,000

Locate compressor as close as practical to where the compressed air is to be utilized. This saves piping and reduces power requirements necessary to transmit compressed air long distances. The compressor should be piped into a receiver tank prior to any filters or dryer. It is recommended that a moisture separator be placed between compressor and receiver tank.

4.4 SUPPORT

The compressor may be mounted on any level surface capable of supporting its weight. It is recommended that the machine be mounted on isolation pads and secured to prevent movement.

4.5 ELECTRICAL

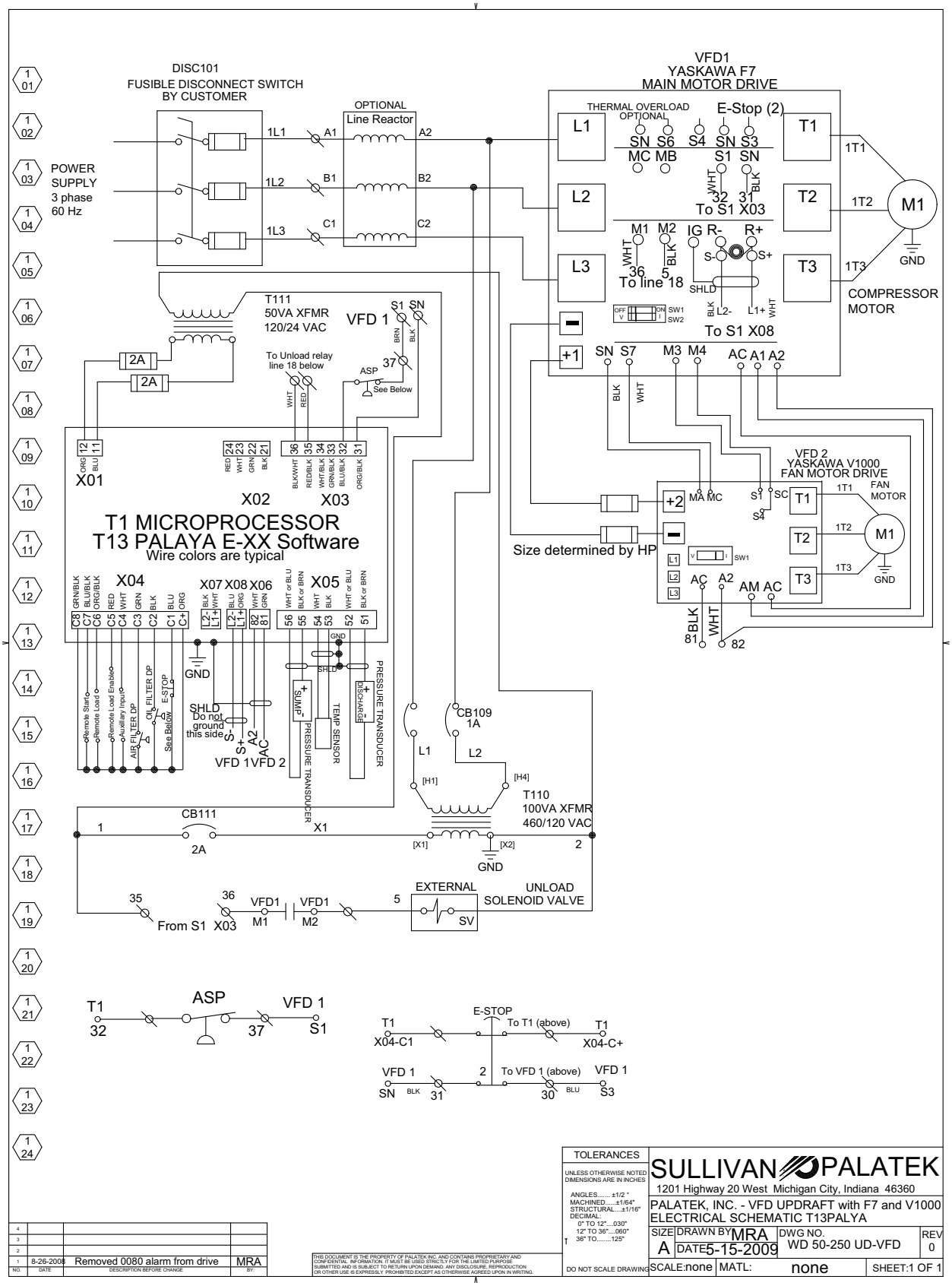
A trained qualified electrician must do electrical wiring to the VFD with all pertinent Federal, State and local codes concerning isolation switches, short circuit protection, grounding, etc.

Check all electrical connections for tightness.

Check for proper incoming voltage!

Insure proper grounding has been made.

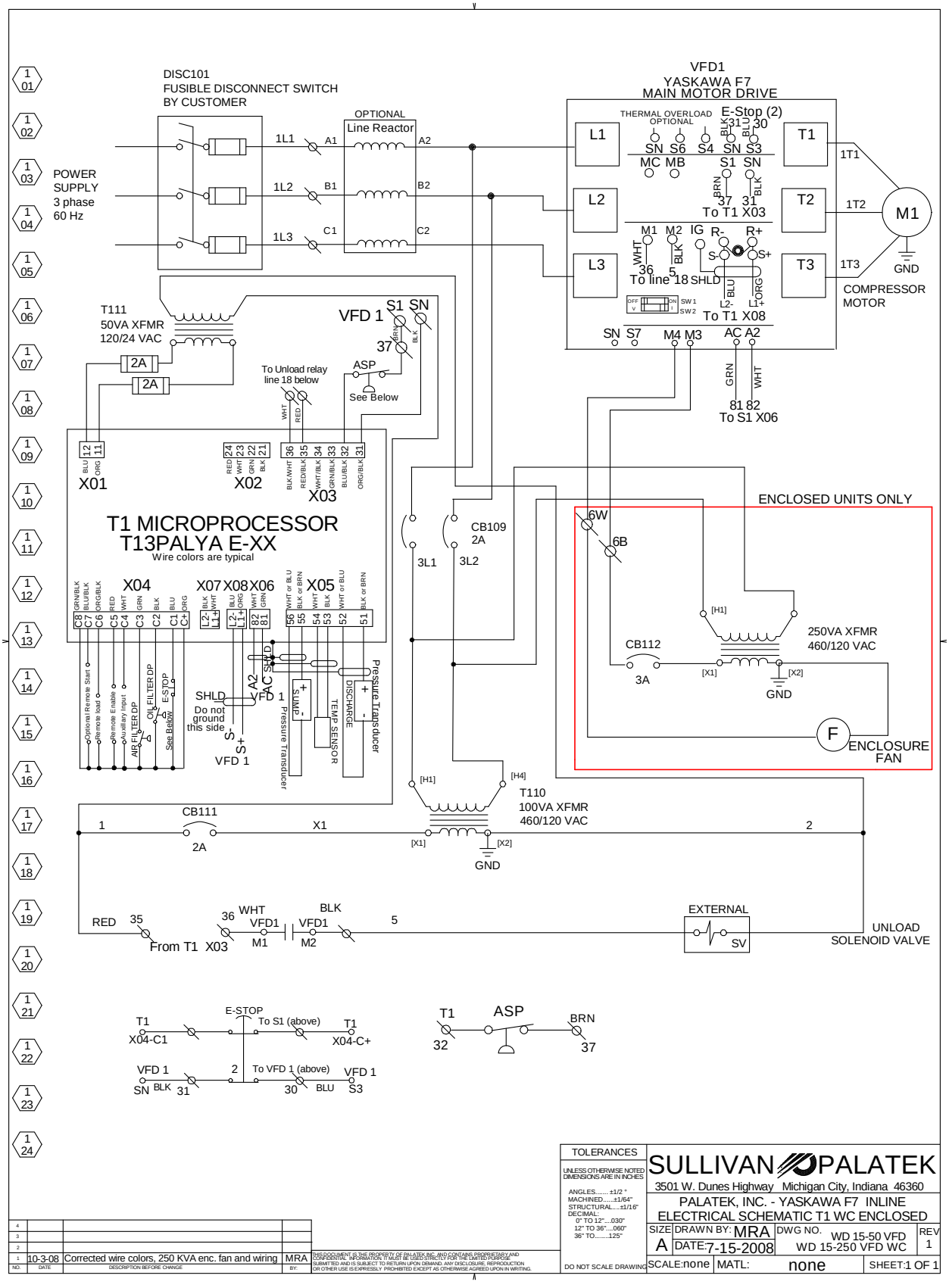
4.6 WIRING DIAGRAM, YASKAWA F7 UPDRAFT AIR COOLED



TOLERANCES	SULLIVAN PALATEK		
UNLESS OTHERWISE NOTED DIMENSIONS ARE IN INCHES ANGLES..... ±1/2 " MACHINED.....±1/64" STRUCTURAL.....±1/16" DECIMAL: 0" TO 12"....030" 12" TO 36"....060" 36" TO.....125"	1201 Highway 20 West Michigan City, Indiana 46360		
	PALATEK, INC. - VFD UPDRAFT with F7 and V1000 ELECTRICAL SCHEMATIC T13PALYA		
DO NOT SCALE DRAWING	SIZE A	DRAWN BY MRA	DWG NO. WD 50-250 UD-VFD
	DATE 5-15-2009		REV 0
	SCALE:none	MATL: none	SHEET:1 OF 1

NO.	DATE	DESCRIPTION BEFORE CHANGE	BY
1	8-26-2008	Removed 0080 alarm from drive	MRA

4.7 WIRING DIAGRAM, YASKAWA F7 UPDRAFT WATER COOLED



TOLERANCES	SULLIVAN PALATEK
UNLESS OTHERWISE NOTED DIMENSIONS ARE IN INCHES ANGLES.....±1/2 ° MACHINED.....±1/64" STRUCTURAL.....±1/16" DECIMAL: 0" TO 12"....030" 12" TO 36"....060" 36" TO.....125" DO NOT SCALE DRAWING	3501 W. Dunes Highway Michigan City, Indiana 46360 PALATEK, INC. - YASKAWA F7 INLINE ELECTRICAL SCHEMATIC T1 WC ENCLOSED SIZE A | DRAWN BY: MRA | DATE: 7-15-2008 | DWG NO. WD 15-50 VFD WD 15-250 VFD WC | REV 1 SCALE:none | MATL: none | SHEET:1 OF 1

NO.	DATE	DESCRIPTION BEFORE CHANGE	BY:
4			
3			
2			
1	10-3-08	Corrected wire colors, 250 KVA enc. fan and wiring	MRA

4.8 DIRECTION OF ROTATION

Once the control circuit has been checked, all piping installed, and compressors is filled with lubricoolant, push the 'run' key (green) and observe the direction of rotation. If rotation direction is incorrect, push the emergency stop button. Change two motor leads if rotation is incorrect. Incorrect rotation is only possible if the motor was disconnected.

4.9 COMPRESSED AIR PIPING

Connect the compressor to the plant air system with a flexible connector rated for at least 200 psi (1380 kPa) and 275° F (135° C). Support the piping to insure that no pipe stress is transmitted to any compressor component.

Compressor should be piped into a receiver tank prior to any filters or dryer. A moisture separator may be placed between the compressor and receiver tank.

Piping should be as large as possible to minimize transmission losses. Piping should be in a "closed loop" configuration, sloping to drain points, with service air outlets taken from the side or, preferably, the top of the pipe. Point-of-use filters, coalescers, regulators and/or lubricators are often required. (Note: Never use plastic air piping or plastic bowls on filters or lubricators. See Section 1.) Inspect piping and air hoses frequently for leaks.

4.10 ADDITIONAL HELP

By making the cleanest, coolest air available to the compressor inlet, maintenance and power consumption will be minimized. The standard air filter is locally mounted. For a remote inlet an optional filter must be fitted.

When connecting to a remote air inlet, use a flexible connector at the filter inlet. Keep the piping as short and as straight as possible. Intake duct must be the same size as filter inlet, or larger, to accommodate long runs and several bends creating no restrictions to air flow.

Support intake ducting properly to prevent its weight being transmitted to the compressor air filter.

For multiple machine installation, contact the factory for special sequencing controls that can reduce power cost during part-load operation.

Fan air ducted outside will reduce the machine noise somewhat, but care must be taken not to impose additional restriction to the fan air flow. With proper attention to the ducting, this fan air can also be utilized for heating purposes.

SECTION 5 OPERATION

5.1 INTRODUCTION

Read this entire Operator's Manual to be familiar with the SULLIVAN-PALATEK Plant Air Compressor, giving special attention to the SECTION 1 - SAFETY.

5.2 INITIAL START

1. Open main disconnected to be sure there is no power to the compressor.
2. Review all the steps covered in SECTION 4 – INSTALLATION to be sure all instructions have been complied with.
3. Inspect the compressor for any visible signs of damage that may have occurred during installation.
4. Check the compressor oil level. Check that the oil fill cap is tight.
5. Make sure the starter door is closed and latched.

WARNING: Do not power up the compressor starter with the starter door open!

6. Close the main disconnect; the compressor starter will now have power. The microprocessor will boot, connect to the drive, then the display will illuminate and indicate line pressure.

WARNING: Reverse rotation will cause damage that is not covered by warranty. Rotation must be checked whenever the motor has been disconnected.

7. Start the compressor by pushing the green "run" button.
8. With the service valve open, allow machine to pump up to normal operating pressures and observe operation of automatic controls. Check for any possible leaks.
9. Check operation throughout the range of pressures, observing operating temperatures.
10. Push red "stop" button and check compressor oil level after it has been allowed to settle for a few minutes. If it is necessary to add oil, be sure to open the main power disconnect, lock it out, and relieve all oil separation tank pressure prior to removing fill cap to top off the tank.
11. If the control or unload pressures are incorrect, adjust the pressures in the microprocessor. Do NOT raise the pressure without consulting the factory!

5.3 MICRO-PROCESSOR PROGRAMMING; GENERAL INSTRUCTIONS

The operational menus normally addressed are P01 (operations), P02 (fault history), and P04 (maintenance setting). Access codes which are required to change settings are:

0009 for operational settings (P01), fault history (P02), real-time clock and pressure schedule (P11)

0100 for service (P04) and everything else a service technician would need

The general procedures for accessing and changing parameters in the microprocessor are:

1. Simultaneously press the 'up' (+) & 'down' (-) keys. The access code screen will appear.
2. Press 'enter' to move forward a digit. Use 'clear' (C) to move back a digit.
3. Use 'up' (+) or 'down' (-) keys to select the correct number.
4. Once the correct access code is shown press 'enter' to access the menu pages.
5. Use the 'up' (+) and 'down' (-) keys to move through the menu pages.
6. Press 'enter' to view the list of corresponding parameters for the selected menu page.
7. Use the 'up' (+) and 'down' (-) keys to scroll through the parameters.
8. Press 'enter' to select the parameter to change.
9. Use the 'up' (+) and 'down' (-) keys to change the value of the parameter.
10. Press 'enter' to save the new value.
11. Press 'clear' (C) to move back to the previous page, or press and hold 'reset' (//) to return to the main screen.

5.4 NORMAL OPERATION

1. Open and lock out main power disconnect.
2. Check lubricoolant level. Refill if necessary.
3. Re-close disconnect switch. Micro processor will illuminate indicating compressor is ready to start.
4. Fully open service air valve.
5. Start machine by pressing 'run' button on micro processor.

Observe pressure and temperature. If temperature is incorrect, refer to SECTION 6.7 – TROUBLE SHOOTING. Observe pressure and temperature. If temperature is incorrect, refer to SECTION 6.7 – TROUBLE SHOOTING.

5.5 SHUTDOWN

To stop compressor, press 'stop' key on micro processor.

5.6 RESTARTS

After a power failure, open and lock out the main disconnect, check all fuses and breakers. Close disconnect switch and follow Normal Operation start-up procedure.

Following a shutdown caused by either of the protective devices (i.e. temperature or R.O.P.), open and lock out the main disconnect switch, correct the cause of shutdown, reset electrical controls, then close the disconnect and follow Normal Operation start-up procedure.

Check lubricoolant level. Refill if necessary.

Re-close disconnect switch.

Start machine by pressing 'run' key on micro processor.

Fully open service air valve.

Observe pressure and temperature displayed by micro processor.

SECTION 6 MAINTENANCE

6.1 MAINTENANCE SCHEDULE

DAILY

- ✓ Check lubricoolant level prior to start-up
- ✓ Check micro processor for any fault or alarm codes (see 5.2 instructions).
- ✓ Keeping a daily log of all operating parameters is recommended.

FIRST 50 HOURS

- ✓ Change compressor lubricoolant filter elements.

EVERY 1,000 HOURS

- ✓ Change compressor lubricoolant filter elements.
- ✓ If operated in an extreme environment, take sample of lubricoolant and submit for analysis. (Ex: Chemical Fumes, Oxidizing elements, Fine Dust.)

PALASYN 45 LUBRICANT:

Every 4,000 hours or once a year, whichever occurs first -

Drain Palasyn 45 lubricoolant and replace with a fresh charge. Inspect interior of tank - clean if any build-up of deposits present. (This may have to be done sooner, depending upon results of lubricoolant analysis.)

Replace air and oil filter elements and air/oil separator element (sooner if excessive lubricoolant loss is experienced).

FOOD GRADE – LONG LIFE:

Every 4,000 hours – (If using Food Grade – Long Life)

Change Food Grade – Long Life lubricoolant and inspect tank interior. Replace lubricant filters and air/oil separator element.

PALLUBE 32P LUBRICANT:

Every 8,000 hours - (If using Pallube 32p)

Change Pallube 32p lubricoolant and inspect tank interior.

Replace lubricant filters and air/oil separator element.

PAL-EXTRA 44 LUBRICANT:

Every 10,000 hours - (If using Pal-Extra 44)

Change Pal-Extra 44 lubricoolant and inspect tank interior.

Replace lubricant filters and air/oil separator element.

AS REQUIRED:

1. Clean or replace air filter element.
2. Clean exterior surfaces of oil cooler/aftercooler.
3. Lubricate motor (refer to motor manufacturer's instructions.)
4. Clean & grease MPV with Lithium Grease ex: Lubriplate 630-2 or Mobil SHCPM.
5. Rebuild inlet valve every two years.
6. Check electrical connections for tightness. Ensure disconnect switch is locked open.

6.2 OIL FILTER

Replace if differential pressure exceeds 15psid (fault, H6 signal is shown) or every 1000 Hrs.

1. Open and lock-out main disconnect.
2. Relieve all internal system pressure.
3. Using a strap wrench, remove spin-on oil filter element
4. Spread a thin film of grease on the gasket.
5. Install element by hand until gasket touches the filter head.
6. Tighten 2/3 to one more turn.
7. Replace element every 1000 hrs.

6.3 AIR FILTER

Inspect every 1000 hours or sooner in severe dust conditions Change if fault signal is shown on micro processor (H3)

1. Open and lock out main disconnect.
2. Remove rear cover from housing.
3. Remove air filter element, taking care to prevent dirt that has collected on the outer surface of element from falling into the air filter housing. **NOTE:** To minimize down time it is recommended that a spare element be kept on hand.
4. Replace element as needed. **NOTE:** An optional HD filter with safety element is available for severe dust conditions.
5. Snap the end cover back on once the filter element has been replaced.

6.4 AIR/OIL SEPARATOR

Replace annually or if differential pressure exceeds 8psid i.e. fault signal is shown on micro processor, (H5)

1. Open and lock out main disconnect.
2. Disconnect main air line to aftercooler.
3. Disconnect control air tubing.
4. Unbolt cover in a diagonal criss-cross pattern.
5. Remove cover, oil pick-up tube, and separator element.
6. Drain lubricoolant and clean interior of oil separation tank if element appears dirty.
7. Clean flange and cover surfaces.
8. Coat surfaces of gaskets lightly with high-temperature or lithium grease.
9. Install new element. Check for proper grounding of separator element to the tank.
10. Replace cover and re-install oil pick-up tube.
11. Tighten all cover bolts progressively in a diagonal criss-cross pattern until all bolts are properly torqued to 75 ft. pounds. These separator cover bolts are a special high-strength alloy, designated “SAE GRADE 8”. No substitution is allowed.
12. Remove oil return sightglass assembly from scavenger line then remove filter and clean. Check and clean orifice.
13. Re-install oil return sightglass assembly.
14. Reconnect all tubing.

Note: Maintenance kits are available which provide the items required for normal annual maintenance.

6.5 PRESSURE ADJUSTMENT

To change the load and unload pressures, or to see the fault history press the + and - keys simultaneously. Use the + or - keys to set the code to 0009. Use the ENTER key to move forward a digit and to enter when complete. This will allow access to P-01 and P-02, operation and fault history menus. Use + or - to scroll through the menu pages, ENTER to select a page, + or - to scroll through the parameters, ENTER to select the one to change. Use + or - to change the value, ENTER to store, and C to move back out.

The load pressure setting on the T1 microprocessor controls the set pressure. It will speed the motor or slow it down to maintain this pressure. Once the motor is running at the minimum pressure, pressure will creep up to the unload pressure where the compressor will unload. To change the control pressure setting, load setting, access P-01 above, and scroll to Pl parameter. Press ENTER. Raise or lower the setting using the up or down arrow keys. It will increase or decrease the pressure as you move the setting, but will not store the value until you press ENTER. It will still vary between the load and unload pressures unless you also change the unload pressure. The T1 will keep a minimum of 3 PSI between the load and unload pressures. Do not bring the control set point up as this may increase the current to levels the drive will fault on. Consult the factory if there are any questions.

If the pressure reading is cycling up and down between load and unload rapidly, you can decrease the load pressure to help it gain control. Don't go above the factory setting. There are also some additional control parameters in the microprocessor which can further smooth the operation. These P and I control functions are in the P-08 menu. It is best to have a surge tank after the compressor.

6.6 SERVICE/MAINTENANCE PROCEDURES

After changing the air filter element, oil, separator, or oil filter, the service timer on the microprocessor must be reset.

Use the + key to scroll to P04. Press ENTER. H3 will be in the parameter field. Press ENTER to change. Use the + key to set the time until the next service of the oil filter. Press ENTER to save. Press the + or – to scroll to the next timer you want to reset. Press ENTER to select, and ENTER again to change. After changing with the + or – keys, press ENTER to save. When finished, press the C button to exit to the P04 menu and C again to exit to the main screen. If there were any alarms for the service timers, they may now be reset with the RESET key. When finished, press the C button to exit to the P04 menu. Press C again to exit back to the operations screen. Please note these are countdown hours until the next service is needed.

H3 is Air filter life

H4 is Oil service life

H5 is Separator life

H6 is Oil filter service life

6.7 TROUBLESHOOTING

SYMPTOM	PROBABLE CAUSES AND REMEDIES
A. MACHINE WILL NOT START	1. Main disconnect open. Close switch.
	2. Line fuse(s) blown. Replace Fuse(s).
	3. Control circuit breaker tripped. Reset circuit breaker.
	4. Fault condition. See microprocessor for fault. Press reset to clear faults.

SYMPTOM	PROBABLE CAUSES AND REMEDIES
B. MACHINE SHUTS DOWN WITH AIR DEMAND PRESENT	1. Loss of control voltage. Reset. If trouble persists, check that line pressure does not exceed the operating pressure of your machine as specified on the nameplate.
	2. Fault condition. See microprocessor for fault. Press reset to clear faults.
	3. Monitor temperature at micro processor: normal discharge temperature should be 100-110° F (37-43° C) above ambient; control is set to trip at 235-245°F (112-118°C). a. Cooling air flow restricted. Clean cooler and check for proper ventilation. b. Ambient temperature is too high. Provide sufficient ventilation. c. Low lubricoolant level. Add lubricoolant. d. Clogged oil filter. Change the oil filter element. e. Thermostat not working properly. Replace. f. Check for proper cooling fan operation. Fan should always be running between 165° to 190°F.

6.7 TROUBLESHOOTING (CONTINUED…)

SYMPTOM	PROBABLE CAUSES AND REMEDIES
C. MACHINE WILL NOT BUILD UP FULL DISCHARGE PRESSURE	1. Air demand too great. Repair system air leaks. Add compressor capacity to satisfy demand.
	2. Dirty air filter. Change or clean element if required.
	3. Micro processor control setting off. See 6.5 for adjustment procedure.

SYMPTOM	PROBABLE CAUSES AND REMEDIES
D. LINE PRESSURE RISES ABOVE CUT-OUT PRESSURE	1. Leak in control system causing loss of pressure signal. Replace tubing/repair leak.
	2. Defective blow-down valve. Check that sump pressure is exhausted to the atmosphere when unload solenoid opens. Replace if necessary.
	3. Faulty inlet valve. Repair or replace.

SYMPTOM	PROBABLE CAUSES AND REMEDIES
E. EXCESSIVE LUBRICOOLANT CONSUMPTION	1. Clogged oil return line. Clean strainer and/or orifice.
	2. Separator element is damaged or not functioning properly. Change separator
	3. Defective inlet valve. Repair inlet valve
	4. Operating pressure below 60 psig. Repair minimum pressure valve.

SYMPTOM	PROBABLE CAUSES AND REMEDIES
F. LINE PRESSURE VENTING THROUGH BLOWDOWN	1. Defective Check Valve portion of Minimum Pressure/Check Valve. Repair or replace check valve.
	2. Unload solenoid open.

NOTES:

PARTS LISTING

SCREW COMPRESSOR AIR-END EXCHANGE PROGRAM

After the warranty period has expired a factory re-manufactured air-end can be purchased on an exchange basis. All bearings and seals have been replaced. All other parts not meeting our quality standards are also replaced. The air-end is then factory tested prior to shipment. A re-manufactured air-end has a warranty which is 12 months from start up date or 18 months from date of shipment in accordance with the terms set forth in the new air-end warranty found in SECTION 8.

SECTION 7 PARTS LIST

7.1 PARTS ORDERING

Parts should be ordered from the nearest full-service Distributor or Factory Authorized Compressor Center. If parts cannot be obtained locally, contact the factory directly.

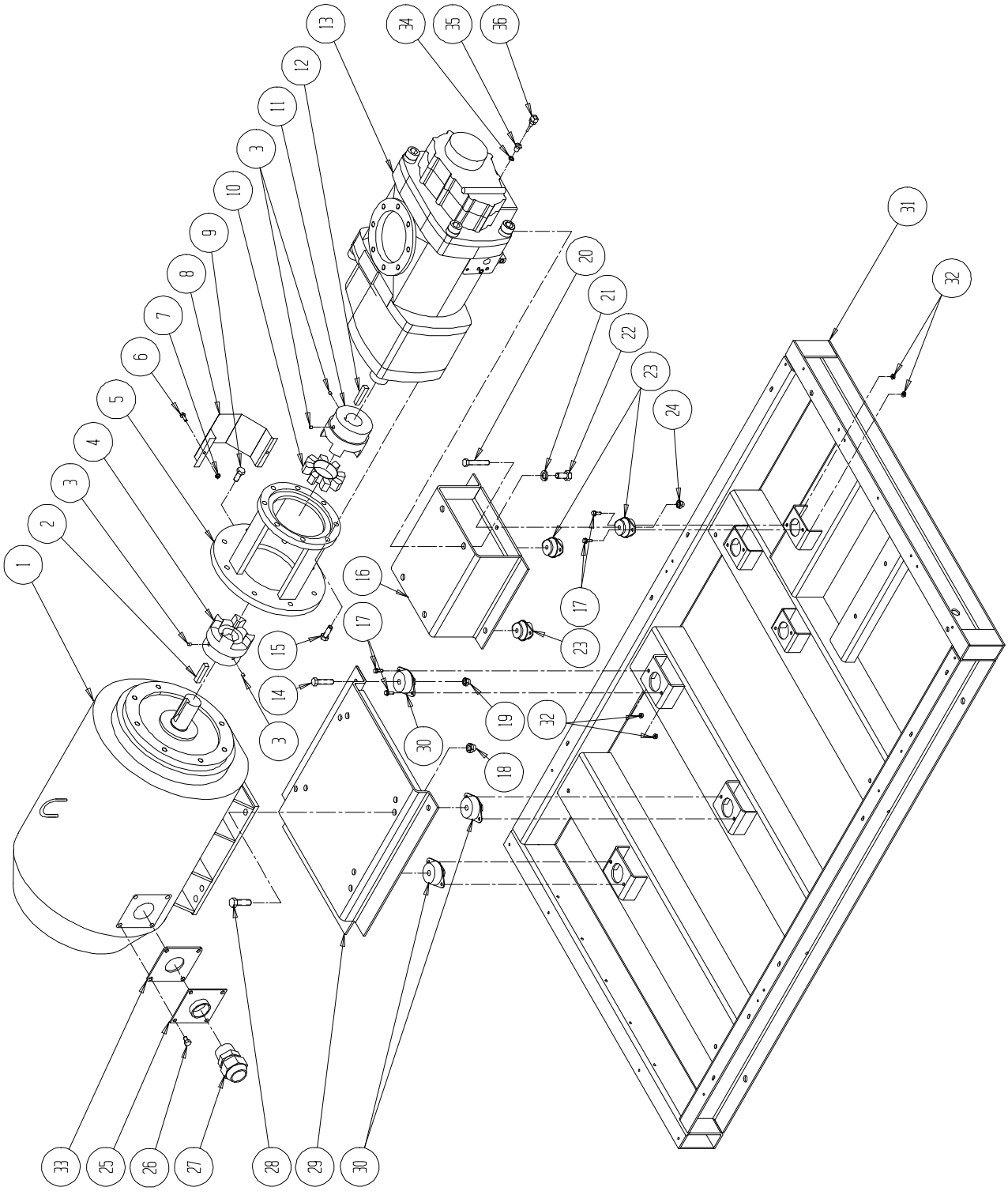
SULLIVAN-PALATEK
1201 West U.S. Highway 20
Michigan City, IN 46360
Telephone: 219-874-2497 Fax: 219-872-5043
E-mail: info@palatek.com

When ordering parts, be prepared to indicate the Model and Serial Number of the machine(s). This can be obtained from the Bill of Lading or the Serial Number Plate.

7.2 RECOMMENDED SPARE PARTS

ITEM	DESCRIPTION	PART NUMBER	QTY
1	ELEMENT, AIR FILTER	00521-112	1
2	ELEMENT, OIL FILTER	00520-016	2
3	ELEMENT, AIR/OIL SEPARATOR	KB08000-024	1
4	ELEMENT, COUPLING SPIDER	08516-065	1
5	KIT, SHAFT SEAL	31-CC1029-547	1
6	KIT, TOOLS FOR SHAFT SEAL	KTB31CC1029-547	1
7	KIT, REPAIR INLET VALVE	K09790-005	1
8	KIT, REPAIR MINIMUM PRESSURE VALVE	K09610-005	1
9	KIT, REPAIR SOLENOID VALVE	K40529-011A	1
10	VALVE, SOLENOID UNLOAD	40529-011	1
11	VALVE, THERMOSTAT 165/185	09505-008	1
12	VALVE, PRESSURE RELIEF	03100-066	1
13	SENSOR, TEMPERATURE	69677-004	1
14	TRANSDUCER, PRESSURE	69676-006	1
15a	LUBRICANT (5 GALLON), PALASYN 45	00061-005	5
15b	LUBRICANT (5 GALLON), FOOD GRADE	00062-005	5
15c	LUBRICANT (5 GALLON), PALLUBE 32	00064-005	5
15d	LUBRICANT (5 GALLON), PAL-EXTRA 44	00066-005	5
16	LUBRICANT (5 GALLON), FLUSH	00065-005	5
17	KIT, OIL ANALYSIS	K00031-005	1

DRIVE AND BASE ASSEMBLY – 125-250UD



7.3 DRIVE AND BASE ASSEMBLY – 125-250UD

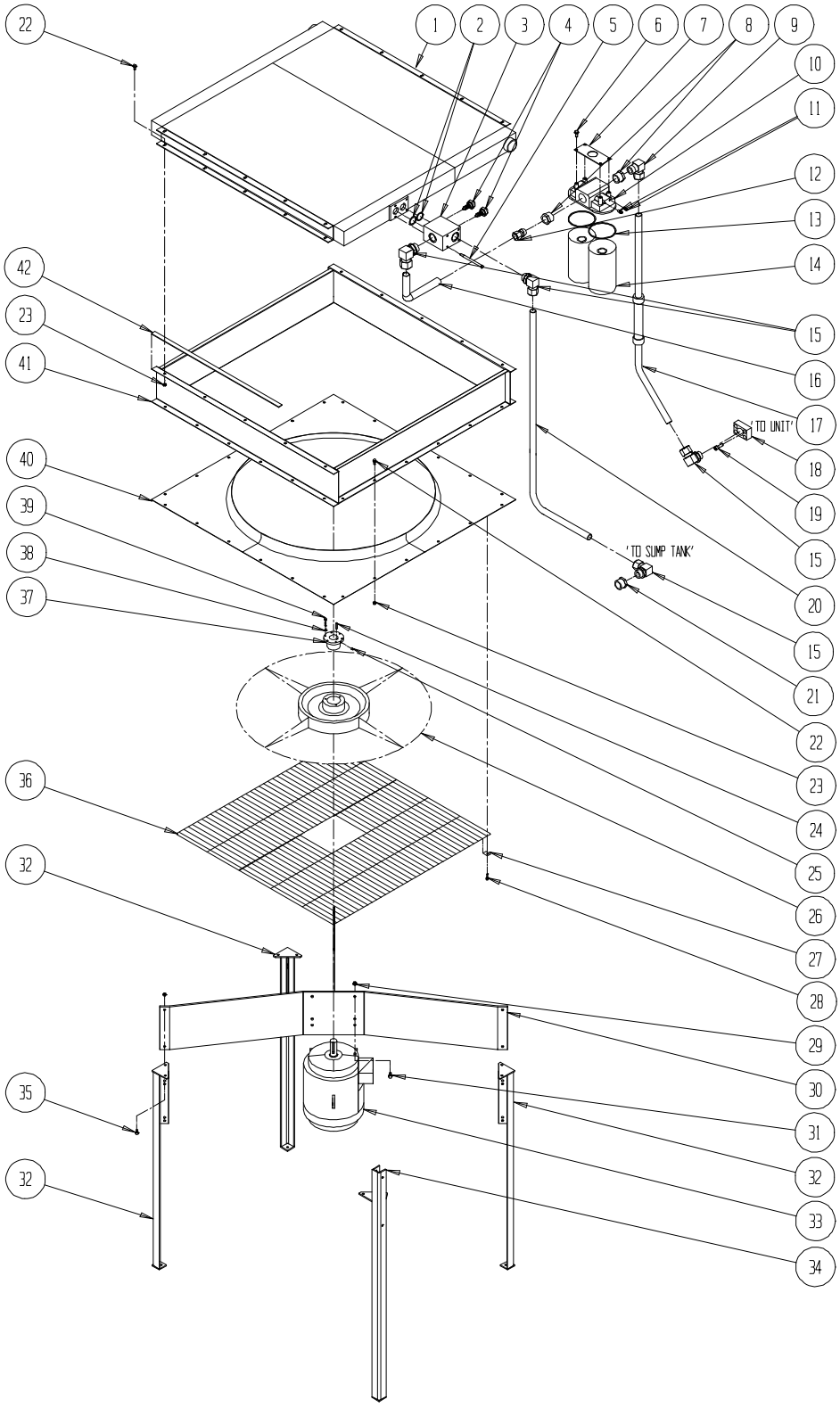
	125hp	150/250hp		
ITEM#	PART NUMBER	PART NUMBER	DESCRIPTION	QTY.
**1	VARIOUS P/N	VARIOUS P/N	MOTOR, 150hp(SEE BILL)	1
*2	90947-286	90947-329	KEY, 5/8" X 3"	1
3	90502-062	90502-062	SET SCREW-3/8" X 1/2'	4
***4	08516-074	08516-077	HUB, DRIVE-2 3/4" BORE	1
5	01240-125	01240-150	ADAPTER, MTR/COMPR	1
6	93115-012	93115-012	BOLT, WHIZ-5/16" X 1'	2
7	93165-003	93165-003	NUT, WHIZ-5/16"	2
8	00697-014	00697-014	GUARD, COUPLING-HALF	2
9	90115-055	90115-055	BOLT, HEX-5/8" X 2"	8
10	08516-065	08516-065	SPIDER, COUPLING-RED	1
***11	08516-574	08516-574	HUB, DRIVEN-65MM BORE	1
12	00858-006	00858-006	KEY, SPCL-METRIC-65MM	1
**13	------	------	UNIT, AIR-END-150hp	1
14	90115-115	90115-115	BOLT, HEX-5/8"X3 1/2"	3
15	95201-324	95201-324	BOLT, HEX-M16X50MM	8
16	28339-004	28339-004	SUPPORT, UNIT	1
17	93115-013	93115-013	BOLT, WHIZ-3/8" X 1"	12
18	99988-012	99988-012	NUT, NYLOK-3/4'	4
19	99988-010	99988-010	NUT, NYLOK-5/8'	3
20	90115-104	90115-104	BOLT, HEX-1/2"X3 1/4"	3
21	92581-200	92581-200	WASHER, LOCK-M20	4
22	95201-419	95201-419	BOLT, HEX-M20X30M	4
23	08182-010	08182-010	ISOLATOR, VIB-1.5X570#	3
24	99988-008	99988-008	NUT, NYLOK-1/2"	3
25	03000-117	03000-117	ADAPTER, CONDUIT-2"	1
*26	---------	---------	BOLT, HEX-1/2"X3/4"	4
27	91432-032	91432-032	CONNECTOR, CONDUIT-2'	1
28	90115-056	90115-056	BOLT, HEX-3/4"X2'	4
29	28339-005	28339-005	SUPPORT, MOTOR	1
30	08182-011	08182-011	ISOLATOR, VIB-2X650#	3
31	20144-202	20144-202	FRAME, BASE	1
32	93165-004	93165-004	NUT, WHIZ-3/8"	12
*33	---------	---------	GASKET, FOAM	1
34	34-30050-250	34-30050-250	WASHER, SEALING-14MM	1
35	31-30957-278	31-30957-278	ADAPTER, 14MM X 1/8"BSPP	1
36	31-89529-679	31-89529-679	TEMP SENSOR (KTY)	1

* SUPPLIED WITH MOTOR

**CONTACT FACTORY FOR CORRECT PART NUMBER.

***COUPLING ASSEMBLY PART NUMBER IS #18516-074 FOR THE 125HP AND FOR THE 150/250 #18516-075. HUBS MARKED WITH AN ASTERISK CAN NOT BE SOLD SEPERATELY. WHEN ORDERING ANY OF THESE PARTS USE THE ASSEMBLY PART NUMBER LISTED ABOVE.

LUBRICATION AND COOLING SYSTEM – AIR COOLED – 125-250UD



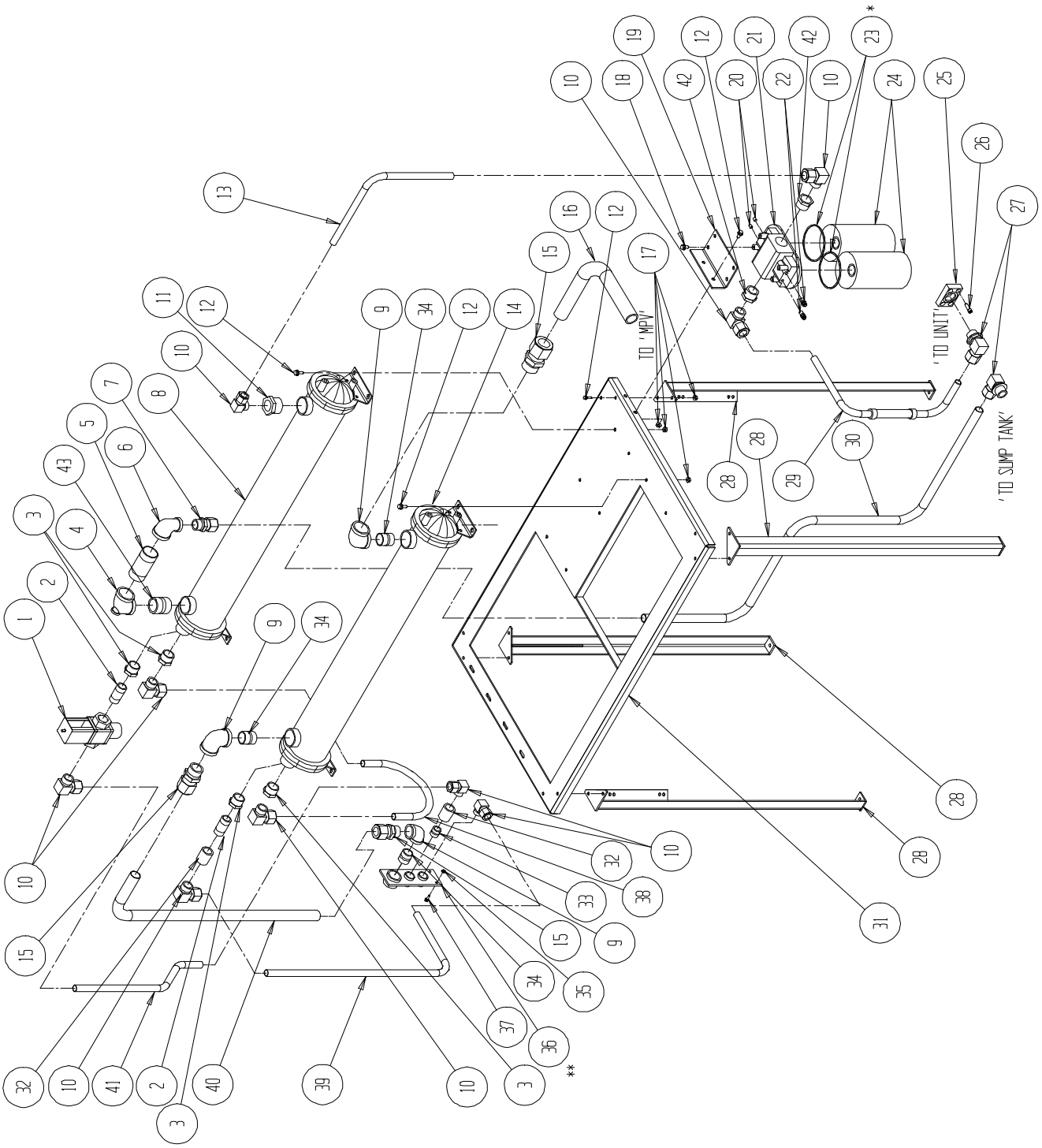
7.4 LUBRICATION AND COOLING SYSTEM – AIR COOLED – 125-250UD

ITEM	125/150UD	200/250UD	DESCRIPTION	QTY
1	07711-016	07711-015	COOLER, OIL/AIR	1
2	90659-131	90659-131	O-RING, VITON	2
3	08207-009	08207-009	HOUSING, BY-PASS	1
4	09505-008	09505-008	VALVE, THERMOSTAT 165-185	2
5	90115-113	90115-113	BOLT, HEX 3/8 X 3.500	4
6	93115-013	93115-013	BOLT, WHIZ 3/8 X 1.000	4
7	00520-008	00520-008	SUPPORT, OIL FILTER	1
8	91161-021	91161-021	BUSHING, REDUCING 1.500 X 1.250	2
9	96390-202	96390-202	ELBOW, TUBE 1.250 X 1.250	1
10	08415-005	08415-005	HEAD, OIL FILTER DUAL	1
11	91553-044	91553-044	CONNECTOR, .250 NT X .250 NPT	2
12	96363-202	96363-202	CONNECTOR, TUBE 1.250	1
13			GASKET, OIL FILTER (SUPPLIED WITH FILTER)	2
14	00520-016	00520-016	ELEMENT, OIL FILTER	2
15	80220-020	80220-020	ELBOW, 90° ORB 1.250	3
16	99600-020	99600-020	TUBING, STEEL 1.250 O.D. (UOM = FT)	1.5
17	09620-032	09620-032	TUBE, FILTER TO AIR END	1
18	03000-014	03000-014	PLATE, OIL INJECTION	1
19	95206-122	95206-122	BOLT, SOCKET M12 X 40	4
20	09620-028	09620-028	TUBE, 1.250 O.D. SUMP TO THERMOSTAT	1
21	90624-188	90624-188	REDUCER, STRAIGHT THREAD 1.500 X 1.250	1
22	93115-002	93115-002	BOLT, WHIZ 5/16 X .750	28
23	93165-003	93165-003	NUT, WHIZ 5/16	42
24	90947-022	90947-022	KEY, FAN MOTOR 5/16	1
25	90502-016	90502-016	SCREW, SET .250 X .313	1
26	08080-040	08080-040	FAN, 40"	1
27	92906-008	92906-008	CLIP, FAN GUARD 3/16	14
28	94302-032	94302-032	SCREW, SELF DRILL #8	14
29	93165-004	93165-004	NUT, WHIZ 3/8	4
30	01528-074	01528-074	SUPPORT, FAN MOTOR MOUNTING	1
31	93115-023	93115-023	BOLT, WHIZ 3/8 X 1.250	4
32	01528-069	01528-069	SUPPORT, COOLER ASSEMBLY	3
33	08747-005	08747-005	MOTOR, 5hp TEFC 6P	1
34	01528-068	01528-068	SUPPORT, COOLER ASSEMBLY	1
35	93115-012	93115-012	BOLT, WHIZ 5/16 X 1.000	14
*36	03216-125	03216-125	GUARD, FAN BLADE 40"	1
37	34-20100-138	34-20100-138	HUB, TAPERLOCK 1.375	1
38	90305-001	90305-001	WASHER, LOCK .250	3
39	90115-011	90115-011	BOLT, GR5 1/4 X 1.000	3
40	01680-009	01680-009	VENTURI, FAN 40"	1
41	10992-006	10992-006	PLENUM, COOLER	1
42	09870-004	09870-004	WEATHERSTRIP, .125T X 1.000W (UOM = FT)	16

* USE (4) WIRE TIES PART NUMBER 98432-400 FOR SUPPORT BETWEEN BOTH HALVES OF FAN GUARD.

NOTE: ITEM #7 OIL FILTER SUPPORT MOUNTS TO BOTTOM FLANGE OF PLENUM ITEM #41.

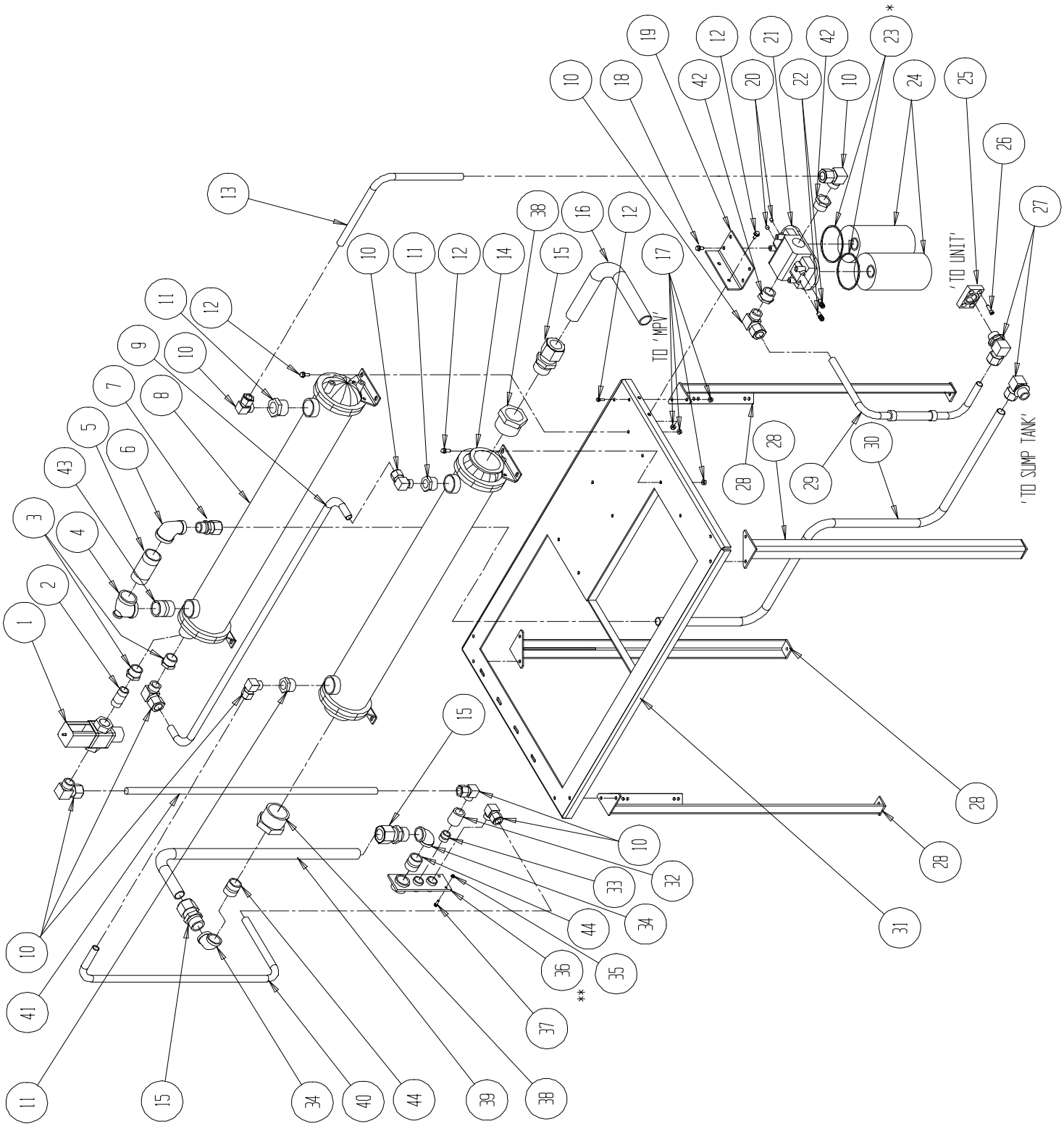
LUBRICATION AND COOLING SYSTEM – WATER COOLED – 125-150UD



7.5 LUBRICATION AND COOLING SYSTEM – WATER COOLED – 125-150UD

ITEM	PART NUMBER	DESCRIPTION	QTY
1	18338-020	VALVE, WATER REGULATING	1
2	92469-133	NIPPLE, PIPE - 1-1/4 X 4"	2
3	91163-021	BUSHING, REDUCING GALV 1.5 X 1.25	4
4	95329-055	TEE, REDUCING 2 X 1/2 X 2 BLK	1
5	92466-153	NIPPLE, 2 X 4-1/2	1
6	94182-019	ELBOW, RDCR 2 X 1-1/4 BLK	1
7	96363-202	CONN, CMS. 1-1/4 X 1-1/4	1
8	00549-006	HEAT EXCHANGER (OIL CLR)	1
9	91027-032	ELBOW, PIPE 90 GALV 2"	3
10	96390-202	ELBOW, CMS 1-1/4 X 1-1/4"	9
11	91165-025	BUSHING, RDC 2 X 1-1/4	1
12	93115-013	BOLT, WHIZ - 3/8 X 1"	18
13	09620-005	TUBE, 1 1/4" CLR TO FLTR	1
14	00549-007	HEAT EXCHANGER (AFTERCLR)	1
15	96363-252	CONN, CMS. 2 X 2	3
16	09632-205	TUBE, AIR 2" (REF.)	1
17	93165-004	NUT, WHIZ - 3/8"	18
18	93115-003	BOLT, WHIZ - 3/8 X 3/4"	4
19	08339-020	SUPPORT, OIL FILTER	1
20	91928-004	PLUG, PIPE - 1/4" HEX	2
21	08415-005	HEAD, FILTER(DUAL)125-200	1
22	91553-044	CONN, NT 1/4 X 1/4 MPT	2
23		GASKET, OIL FILTER	2
24	00520-016	ELEMENT, OIL FILTER (150)	2
25	03000-014	PLATE, OIL INJECTION	1
26	95206-122	BOLT, SOC. - M12 X 40MM	4
27	80220-020	ELBOW, CMS ORB 1-1/4	2
28	01528-066	SUPPORT, CLR LEGS 75-100U	4
29	09620-032	TUBE, 1-1/4" ISO 125/250	1
30	09620-003	TUBE, 1 1/4" SUMP TO CLR	1
31	01528-007	SUPPORT,CLRS WC 125/200HP	1
32	91285-020	COUPLING, 1 1/4" GALV	2
33	92469-097	NIPPLE, PIPE - 1-1/4 X 3"	1
34	91176-032	NIPPLE, CL BLK SCH80 2"	3
35	93165-003	NUT, WHIZ - 5/16"	2
36	00216-042	BRKT, REMOTE MT CLR CONN.	1
37	93115-012	BOLT, WHIZ 5/16 X 1"	2
38	09620-006	TUBE, 1-1/4" C-CL 125/150	1
39	09620-004	TUBE, 1 1/4" W IN TO ACLR	1
40	09632-206	TUBE, 2" ACLR TO BRKT	1
41	09620-007	TUBE, 1-1/4" V-BR 125/150	1
42	91161-021	BUSHING, RDC 1.50 X 1.25"	2
43	92469-099	NIPPLE, GALV 2 X 3	1

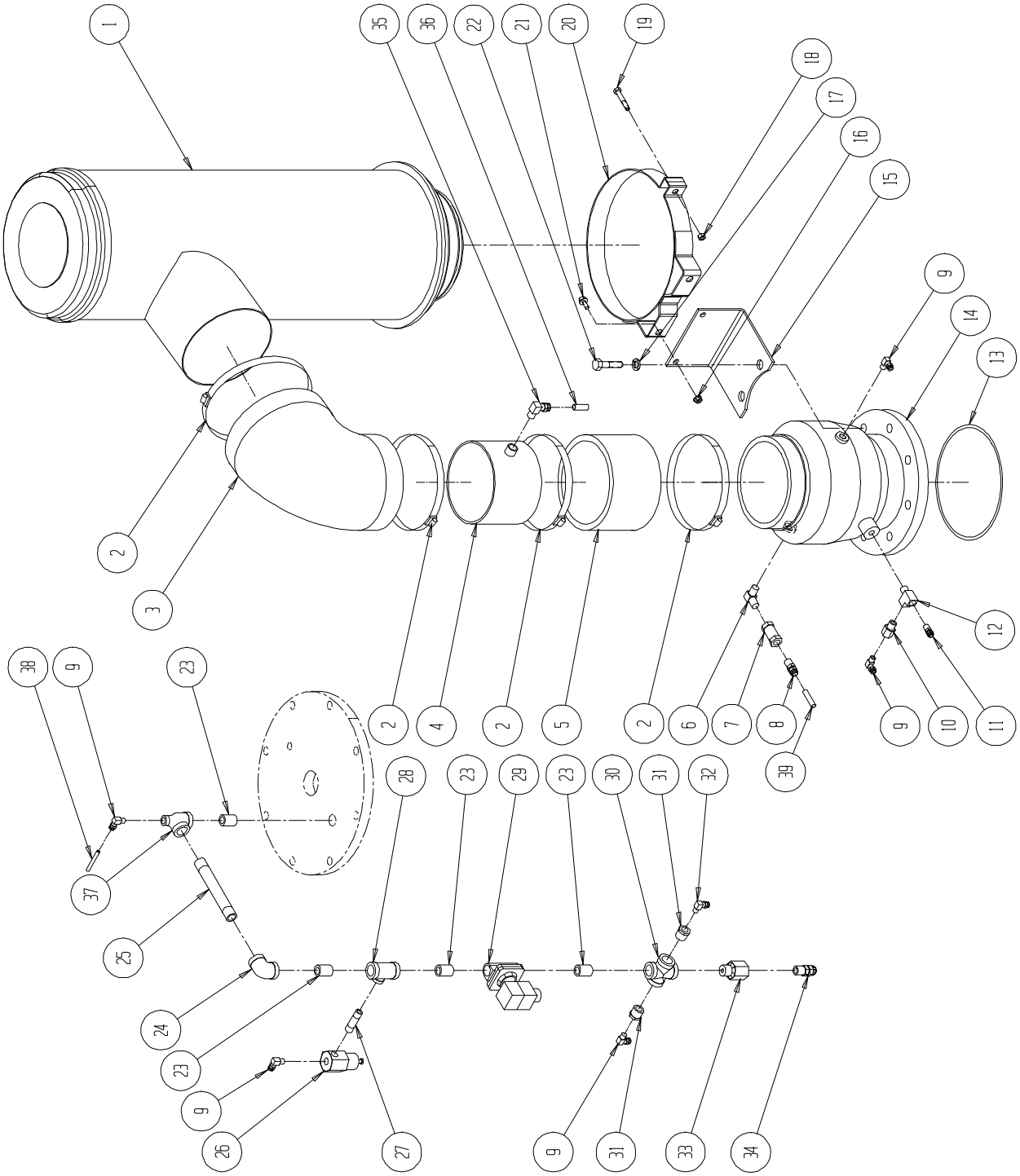
LUBRICATION AND COOLING SYSTEM – WATER COOLED – 200-250UD



7.6 LUBRICATION AND COOLING SYSTEM – WATER COOLED – 200-250UD

ITEM	200UD	250UD	DESCRIPTION	QTY
1	18338-020	18338-020	VALVE, WATER REGULATING	1
2	92469-097	92469-097	NIPPLE, PIPE - 1-1/4 X 3"	2
3	91163-021	91163-021	BUSHING, REDUCING GALV 1.5 X 1.25	4
4	95329-055	95329-055	TEE, REDUCING 2 X 1/2 X 2 BLK	1
5	92466-153	92466-153	NIPPLE, 2 X 4-1/2	1
6	94182-019	94182-019	ELBOW, RDCR 2 X 1-1/4 BLK	1
7	96363-202	96363-202	CONN, CMS. 1-1/4 X 1-1/4	1
8	00549-016	00549-022	HEAT EXCHANGER (OIL CLR)	1
9	91027-032	91027-032	ELBOW, PIPE 90 GALV 2"	3
10	96390-202	96390-202	ELBOW, CMS 1-1/4 X 1-1/4"	9
11	91165-025	91165-025	BUSHING, RDC 2 X 1-1/4	1
12	93115-013	93115-013	BOLT, WHIZ - 3/8 X 1"	18
13	09620-005	09620-005	TUBE, 1 1/4" CLR TO FLTR	1
14	00549-010	00549-021	HEAT EXCHANGER (AFTERCLR)	1
15	96363-252	96363-252	CONN, CMS. 2 X 2	3
16	09632-205	09632-205	TUBE, AIR 2" (REF.)	1
17	93165-004	93165-004	NUT, WHIZ - 3/8"	18
18	93115-003	93115-003	BOLT, WHIZ - 3/8 X 3/4"	4
19	08339-020	08339-020	SUPPORT, OIL FILTER	1
20	91928-004	91928-004	PLUG, PIPE - 1/4" HEX	2
21	08415-005	08415-005	HEAD, FILTER(DUAL)125-200	1
22	91553-044	91553-044	CONN, NT 1/4 X 1/4 MPT	2
23			GASKET, OIL FILTER (SUPPLIED WITH #24)	2
24	00520-016	00520-016	ELEMENT, OIL FILTER (150)	2
25	03000-014	03000-014	PLATE, OIL INJECTION	1
26	95206-122	95206-122	BOLT, SOC. - M12 X 40MM	4
27	80220-020	80220-020	ELBOW, CMS ORB 1-1/4	2
28	01528-066	01528-066	SUPPORT, CLR LEGS 75-100U	4
29	09620-032	09620-032	TUBE, 1-1/4" ISO 125/250	1
30	09620-003	09620-003	TUBE, 1 1/4" SUMP TO CLR	1
31	01528-007	01528-007	SUPPORT,CLRS WC 125/200HP	1
32	91285-020	91285-020	COUPLING, 1 1/4" GALV	2
33	92469-097	92469-097	NIPPLE, PIPE - 1-1/4 X 3"	1
34	91176-032	91176-032	NIPPLE, CL BLK SCH80 2"	3
35	93165-003	93165-003	NUT, WHIZ - 5/16"	2
36	00216-042	00216-042	BRKT, REMOTE MT CLR CONN. (BOLTED TO FRAME)	1
37	93115-012	93115-012	BOLT, WHIZ 5/16 X 1"	2
38	91161-021	91161-021	BUSHING, REDUCING - 3 X 2"	2
39	09632-206	09632-206	TUBE, 2" ACLR TO BRKT	1
40	09620-004	09620-004	TUBE, 1 1/4" W IN TO ACLR	1
41	99600-020	99600-020	TUBING, STL - 1-1/4"	4'
42	91161-021	91161-021	BUSHING, RDC 1.50 X 1.25"	2
43	91176-032	91176-032	NIPPLE, PIPE - 2" X CLOSE	1
44	91177-032	91177-032	NIPPLE, PIPE - 2" X CLOSE - GALV.	2

INLET AND CAPACITY CONTROL SYSTEM – 125-250UD



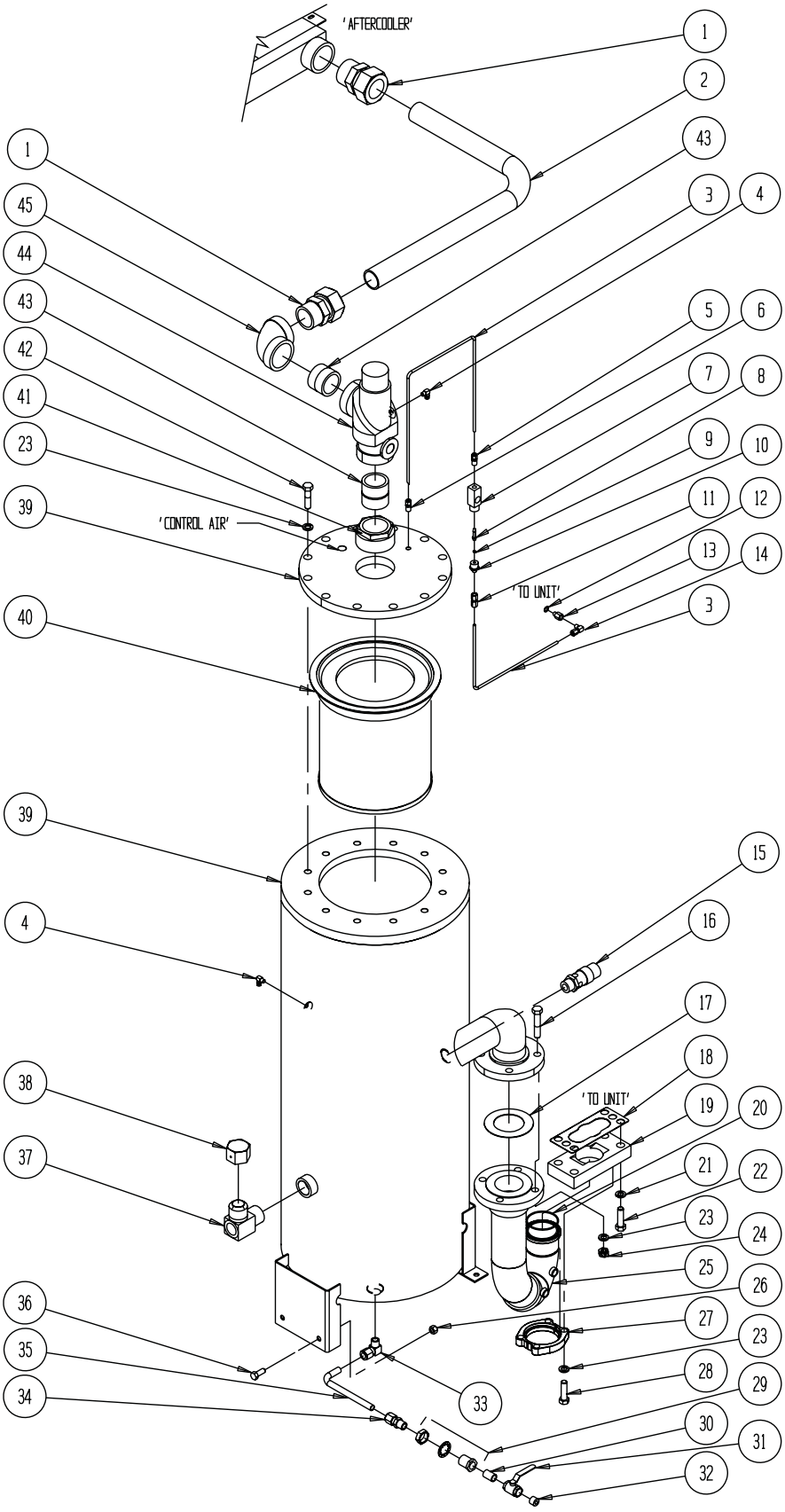
7.7 INLET AND CAPACITY CONTROL SYSTEM – 125-250UD

ITEM#	PART NUMBER	DESCRIPTION	DWG. SIZE	QTY.
* 1	18174-111	FILTER, AIR INTAKE	SS	1
2	92320-368	CLAMP, HOSE-7.50"	SS	4
3	91411-077	ELBOW, RUBBER-7" X 7"	SS	1
4	00496-014	DUCT, AIR INTAKE-7" OD X 5.00"LG	B	1
5	00077-770	SLEEVE, HOSE-7" X 3.50"	SS	1
6	96399-004	ELBOW, 90° MALE-1/4"	HW	1
7	91299-044	VALVE, CHECK-1/4" TEFLON	SS	1
8	91553-064	CONNECTOR, NT-3/8" X 1/4"	HW	1
9	91557-044	ELBOW, 90° NT-1/4" X 1/4"	HW	5
10	03001-063	ORIFICE, .063-1/4" X 1/4"	SS	1
11	91553-044	CONNECTOR, NT-1/4" X 1/4"	HW	1
12	95510-004	TEE, MALE RUN-1/4" BRASS	HW	1
13	90659-265	O-RING, VITON	HW	1
14	09790-005	VALVE, INLET-6"	SS	1
15	00520-007	SUPPORT, AIR FILTER	B	1
16	93165-003	NUT, WHIZ-5/16"	HW	2
17	90305-064	WASHER, LOCK-5/8"	HW	8
18	90165-003	NUT, HEX-5/16"	HW	1
19	90115-052	BOLT, HH-5/16" X 2"	HW	1
20	00131-110	BAND, MOUNTING-11"DIA.	SS	1
21	93115-002	BOLT, WHIZ-5/16" X 3/4"	HW	2
22	95201-324	BOLT, HHC M16 X 50MM	HW	8
23	91177-008	NIPPLE,PIPE-1/2"XCLOSE SCH.80	HW	4
24	91027-008	ELBOW, PIPE 90°-1/2"	HW	1
25	91182-238	NIPPLE, PIPE GALV.-1/2" X 8"	HW	1
26	09661-002	VALVE, REGULATOR-1/4"	SS	1
27	92469-056	NIPPLE, BRASS-1/4"X2"	SS	1
28	95330-078	TEE, GALV-1/2"X1/2"X1/4"	HW	1
29	40529-011	VALVE, SOLENOID-2-W-1/4"	SS	1
30	92190-008	CROSS, PIPE GALV.-1/2"	HW	1
31	91163-005	BUSHING, RED-1/2"X1/4"	HW	2
32	91157-064	ELBOW, 90° NT-3/8"X1/4"	HW	1
33	03001-250	ORIFICE-.25" X1/2"	SS	1
34	91553-088	CONN. NT 1/2" X 1/2" MPT	HW	1
35	91557-088	ELBOW, NT 1/2" X 1/2" 90°	HW	1
36	90082-008	TUBING, NYLON 1/2" O.D. BLK	HW	4
37	95330-008	TEE, RED. GALV 1/2 X1/4 X1/2	HW	1
38	90082-004	TUBING, NYLON 1/4" O.D. BLK	HW	72
39	90082-006	TUBING, NYLON 3/8" O.D. BLK	HW	4

* REPLACEMENT AIR FILTER ELEMENT P/N 00521-112

*Item #14 – Recommend Rebuilding Inlet Valve with K09790-005 Kit every 2 Years.

DISCHARGE SYSTEM – 125-150UD



7.8 DISCHARGE SYSTEM – 125-150UD

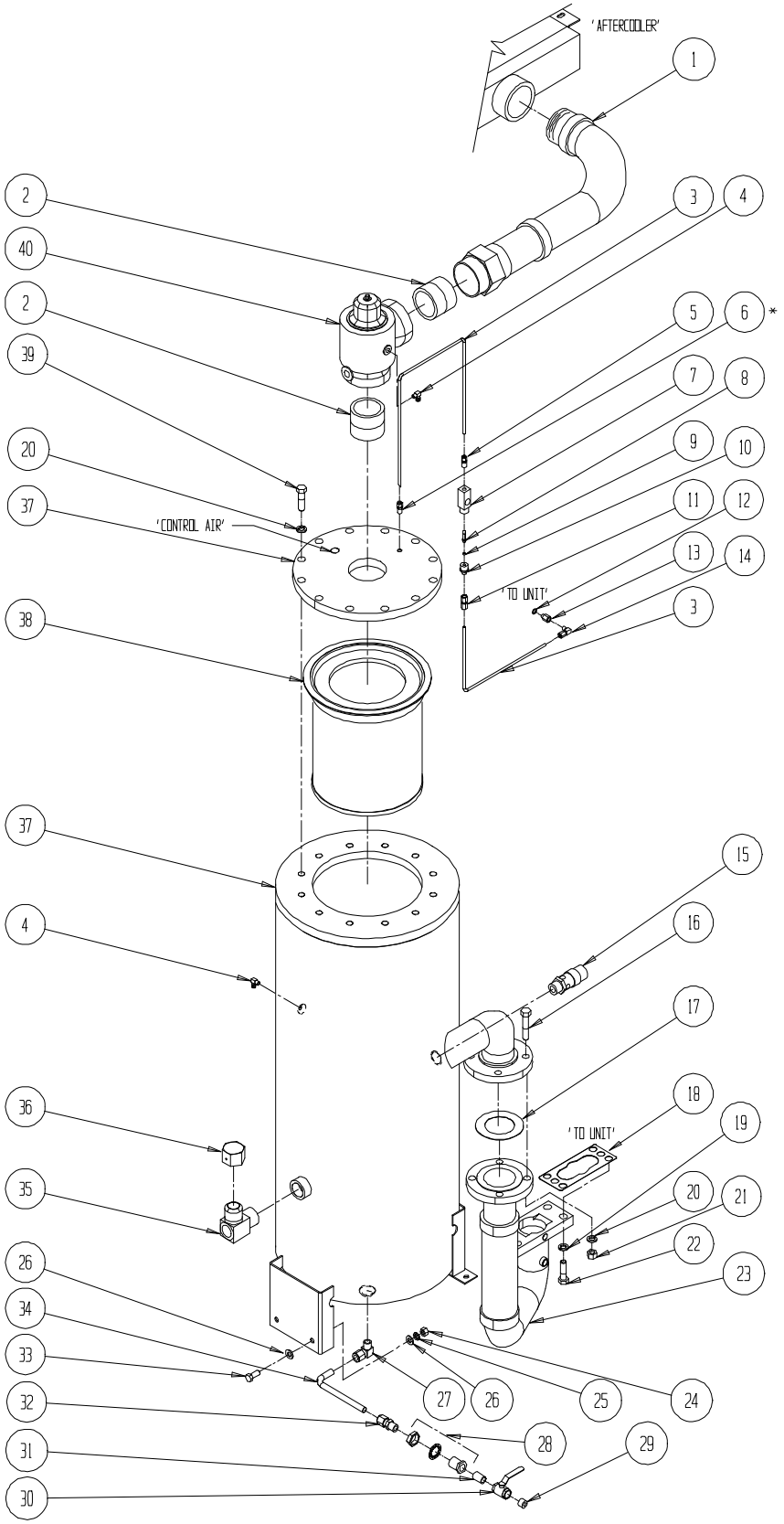
ITEM	PART NUMBER	DESCRIPTION	QTY
1	96363-252	CONNECTOR, 2.000 TUBE X 2.000 NPT	2
2	09632-205	TUBE, 2.000 MPV TO TV	1
3	99600-004	TUBING, STEEL .250 O.D. X .028 WALL	5
4	91557-042	ELBOW, 90° .250 NT X .125 NPT	2
5	96363-044	CONNECTOR, CFS .250 TUBE X .250 NPT	1
6	03286-003	FITTING, SIPHON .250	1
	00547-001	SEAL, RUBBER (REPLACEABLE)	1
*7	09349-001	SIGHTGLASS, OIL RETURN	1
8	18577-001	INSERT, STRAINER	1
9	03001-078	ORIFICE, INSERT	1
10	00023-001	ADAPTER, SIGHTGLASS	1
11	95550-042	CONNECTOR, CFS .250 TUBE X .125 NPT	1
12	34-30050-125	GASKET, STEEL AND RUBBER .125 BSPPT	1
13	94855-022	ADAPTER, .125 MBSPPT X .125 FNPT	1
14	96390-042	ELBOW, CMS .250 TUBE X .125 MNPT	1
15	03100-066	VALVE, RELIEF 1.000 200PSI	1
16	90042-095	BOLT, GR8 5/8 X 3.000	4
17	90708-008	GASKET, 150# RF 3.000 FLANGE	1
18	00633-018	GASKET, E75 AIR END TO DISCHARGE	1
19	03000-125	ADAPTER, UNIT TO DISCHARGE PIPE	1
20	00910659 0237	O-RING, SEAL TO ADAPTER	1
21	92581-200	WASHER, LOCK 20MM	4
22	95201-449	BOLT, HHC 20MM X 60MM	4
23	90305-064	WASHER, LOCK .625	20
24	90169-006	NUT, HEX 5/8 GR8	4
25	19600-065	PIPE, DISCHARGE 3.000	1
26	93165-006	NUT, WHIZ HEX 1/2-13	4
27	00909753 0048	FLANGE, ASSEMBLY 3.000 CODE 61	1
28	90042-432	BOLT, HH 5/8 X 1.625 GR8	4
29	92141-005	FITTING, BULKHEAD .625 TUBE X .500 NPT	1
30	91177-008	NIPPLE, PIPE .500 NPT X CLOSE	1
31	95785-008	VALVE, DRAIN .500	1
32	94561-004	PLUG, PIPE .500 NPT	1
33	96391-108	ELBOW, CMS .625 TUBE X .500 NPT	1
34	96363-108	CONNECTOR, CMS .625 TUBE X .500 NPT	1
35	99600-010	TUBING, STEEL .625 O.D.	2
36	93115-034	BOLT, WHIZ HH 1/2 X 1.500 GR5	4
37	17254-024	ELBOW, OIL FILL	1
38	07255-016	CAP, VENTED OIL FILL	1
39	03448-203	TANK, SUMP/SEPARATOR 20.000	1
40	08000-024	ELEMENT, SEPARATOR	1
41	9115-032	BUSHING, REDUCING 3.000 X 2.000 GALV.	1
42	90042-065	BOLT, GR8 HEX 5/8 X 2.250	12
43	91177-032	NIPPLE, PIPE 2.000 NPT X CLOSE	2
44	09610-005	VALVE, MINIMUM PRESSURE 2.000 SET 60PSI	1
45	91027-032	ELBOW, 90° 2.000 NPT GALV.	1

* SIGHTGLASS ASSEMBLY FOR PARTS IS #29349-064

Item # 44 Use Lithium Grease to Service MPCV.

REPAIR KIT FOR MINIMUM PRESSURE VALVE K09610-005 2”

DISCHARGE SYSTEM – 200-250UD



7.9 DISCHARGE SYSTEM – 200-250UD

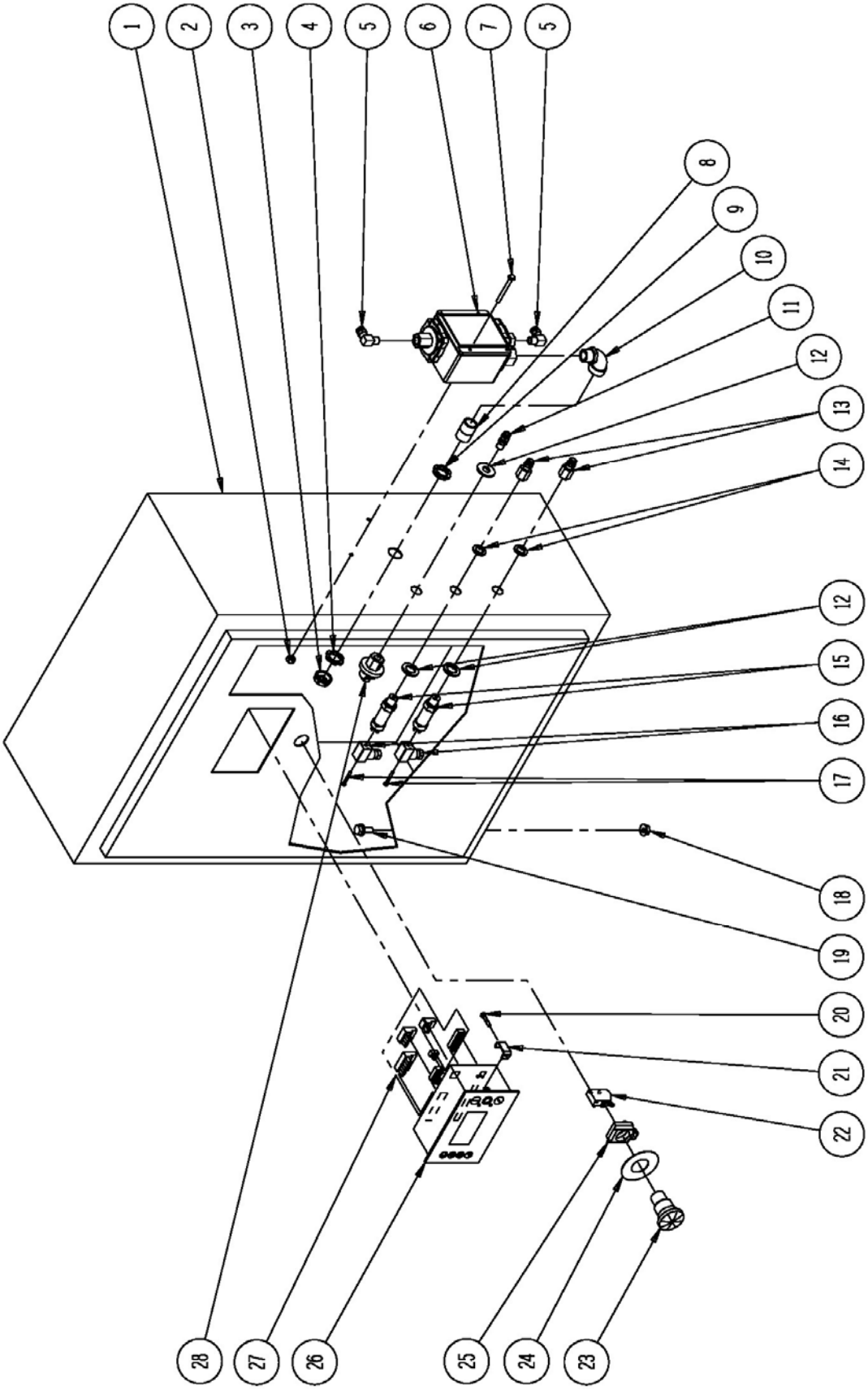
ITEM	PART NUMBER	DESCRIPTION	QTY
1	09648-115	PIPE, ISOLATED 3.000	1
2	91177-048	NIPPLE, PIPE 3.000 NPT X CLOSE GALV	2
3	99600-004	TUBING, STEEL .250 O.D. X .028 WALL	5
4	91557-042	ELBOW, 90° .250 NT X .125 NPT	2
5	96363-044	CONNECTOR, CFS .250 TUBE X .250 NPT	1
6	03286-003	FITTING, SIPHON .250	1
	00547-001	SEAL, RUBBER (REPLACEABLE)	1
*7	09349-001	SIGHTGLASS, OIL RETURN	1
8	18577-001	INSERT, STRAINER	1
9	03001-078	ORIFICE, INSERT	1
10	00023-001	ADAPTER, SIGHTGLASS	1
11	95550-042	CONNECTOR, CFS .250 TUBE X .125 NPT	1
12	34-30050-125	GASKET, STEEL AND RUBBER .125 BSPPT	1
13	94855-022	ADAPTER, .125 MBSPPT X .125 FNPT	1
14	96390-042	ELBOW, CMS .250 TUBE X .125 MNPT	1
15	03100-066	VALVE, RELIEF 1.000 200PSI	1
16	90042-095	BOLT, GR8 5/8 X 3.000	4
17	90708-008	GASKET, 150# RF 3.000 FLANGE	1
18	00633-018	GASKET, E75 AIR END TO DISCHARGE	1
19	92581-200	WASHER, LOCK 20MM	4
20	90305-064	WASHER, LOCK .625	16
21	90169-006	NUT, HEX 5/8 GR8	4
22	95201-426	BOLT, HHC 20MM X 60MM	4
23	19600-041	PIPE, DISCHARGE 3.000	1
24	90165-005	NUT, HEX 1/2-13	4
25	90305-004	WASHER, LOCK .500	4
26	90321-005	WASHER, USS FLAT .500	8
27	96391-108	ELBOW, CMS .625 TUBE X .500 NPT	1
28	92141-005	FITTING, BULKHEAD .625 TUBE X .500 NPT	1
29	94561-004	PLUG, PIPE .500 NPT	2
30	95785-008	VALVE, DRAIN .500	1
31	91177-008	NIPPLE, PIPE .500 NPT X CLOSE	1
32	96363-108	CONNECTOR, CMS .625 TUBE X .500 NPT	1
33	90115-034	BOLT, HH 1/2 X 1.500 GR5	4
34	99600-010	TUBING, STEEL .625 O.D.	2
35	17254-024	ELBOW, OIL FILL	1
36	07255-016	CAP, VENTED OIL FILL	1
37	03448-203	TANK, SUMP/SEPARATOR 20.000	1
38	08000-024	ELEMENT, SEPARATOR	1
39	90042-065	BOLT, GR8 HEX 5/8 X 2.250	12
40	09610-007	VALVE, MINIMUM PRESSURE 3.000 SET 60PSI	1

* SIGHTGLASS ASSEMBLY FOR PARTS IS #29349-064

Item # 40 Use Lithium Grease to Service MPCV.

REPAIR KIT FOR MINIMUM PRESSURE VALVE K09610-007 2”

MICROPROCESSOR CONTROL – OPEN – 125-250UD

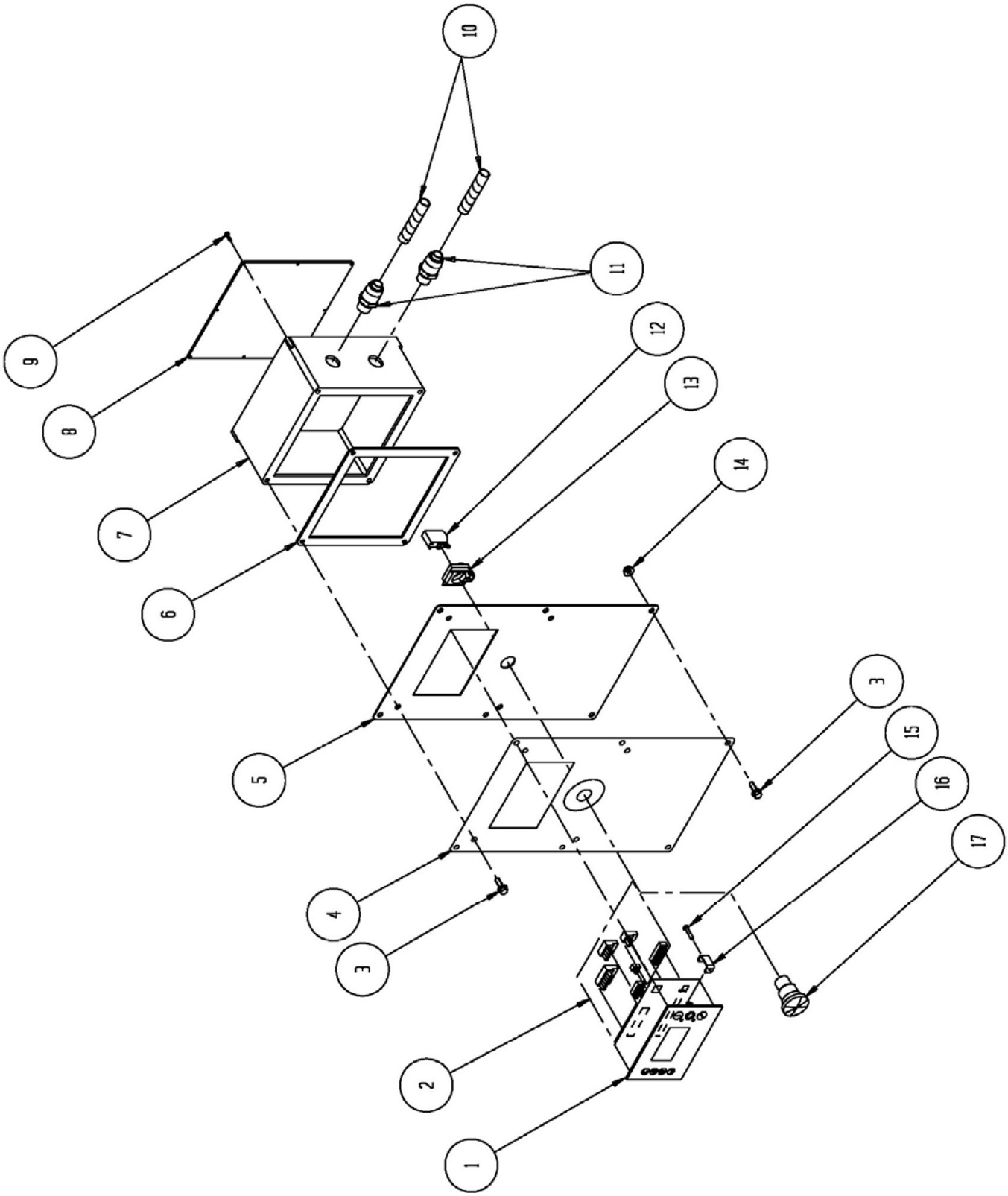


7.10 MICROPROCESSOR CONTROL – OPEN – 125-250UD

ITEM#	PART NUMBER	DESCRIPTION	QTY.
* 1	10543-XXX	BOX, ELECTRICAL CONTROL	1
2	93164-001	LOCKNUT, SELF SEALING-10X32	2
3	91424-001	BUSHING, CONDUIT ISULATED-1/2"	1
4	91401-001	NUT, CONDUIT-1/2"	3
5	91157-044	ELBOW, NT 1/4"X1/4"	2
6	00345-012	SWITCH, PRESSURE	1
7	90362-223	SCREW, PAN HD. PHILLIPS #10X32X2 ZINC	2
8	91177-016	NIPPLE, PIPE-GALV-1/2 X CLOSE	1
9	91405-001	NUT, CONDUIT SEALING- 1/2	1
10	91438-001	ELBOW, STREET- 90° X 1/2" CONDUIT THRD	1
11	91553-042	CONNECTOR, NT-1/4"X1/8"	1
12	90321-004	WASHER, FLAT-3/8" ZINC	2
13	91550-044	CONNECTOR, NT 1/4"X1/4"	1
14	96361-007	WASHER, SEALING-16/12 BP	2
15	69676-006	SENSOR, PRESSURE	2
16	--------	SUPPLIED WITH ITEM #24	--
17	---------	SUPPLIED WITH ITEM #24	--
18	93165-003	NUT, WHIZ-5/16"	4
19	93115-012	BOLT, WHIZ-5/16" X 1"	4
20	---------	SUPPLIED WITH ITEM #31	--
21	00216-108	CLIPS, MTG S1 MPC (PAIR)	1
22	31-85153-379	SWITCH, E-STOP (NC)	1
23	31-89528-259	OPERATOR, E-STOP BUTTON	1
24	00350-011	LABEL, EMERGENCY STOP BUTTON	1
25	31-85152-649	BASE, PUSH BUTTON	1
26	69671-010	MICRO PROCESSOR, CTL T1	1
27	69674-006	CONNECTOR SET-MPC	1
28	31-85196-699	SWITCH, VACUUM DIFF.	1

* PLEASE CONSULT FACTORY FOR CORRECT P/N

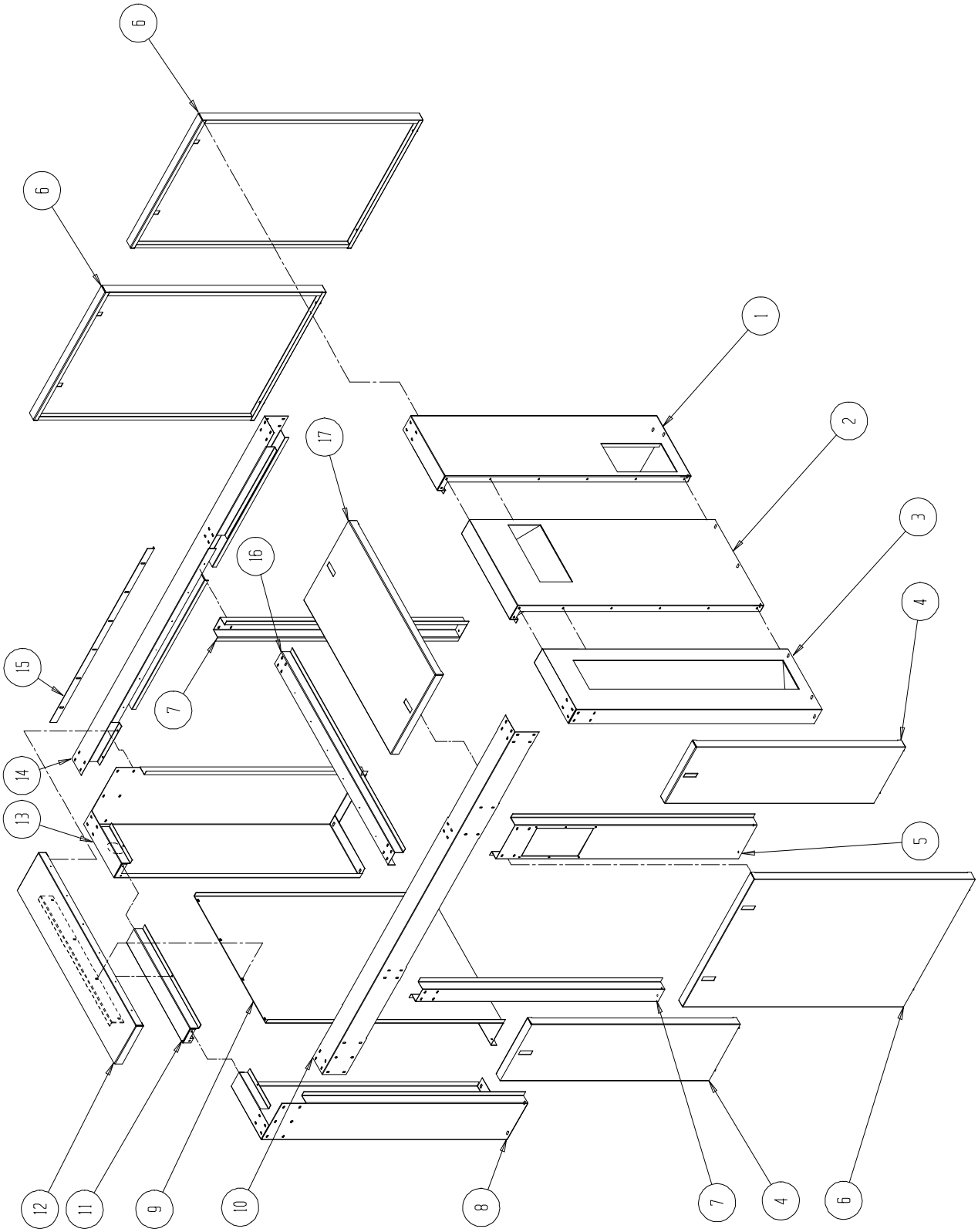
MICROPROCESSOR CONTROL – ENCLOSED – 125-250UD



7.11 MICROPROCESSOR CONTROL – ENCLOSED – 125-250UD

ITEM	DESCRIPTION	PART NUMBER	QTY
1	MICROPROCESSOR, CONTROL T1	69671-010	1
2	CONNECTOR SET, MICROPROCESSOR	69674-006	1
3	BOLT, SERRATED HEAD 1/4 X .500	93115-387	10
4	DECAL, INSTRUCTION MICROPROCESSOR	08378-053	1
5	PANEL, INSTRUMENT 40-400UD NRM	00944-027	1
6	WEATHERSTRIP, 1.000 X .125 (UOM = FT)	09870-004	2
7	ENCLOSURE, 8 X 8 X 4	00543-088	1
8	COVER, ENCLOSURE SUPPLIED WITH ITEM #7		1
9	SCREW, COVER SUPPLIED WITH ITEM #7		1
10	CONDUIT, FLEX .500 (UOM = FT)	96701-008	14
11	CONNECTOR, CONDUIT .500	91432-001	4
12	SWITCH, E-STOP (NC)	31-85153-379	2
13	BASE, E-STOP PUSH BUTTON	31-85152-649	1
14	NUT, HEX SERRATED 1/4	93165-002	6
15	SCREW, SUPPLIED WITH ITEM #16		1
16	CLIP, MOUNTING MICROPROCESSOR (PAIR)	00216-108	1
17	OPERATOR, E-STOP BUTTON	31-89528-259	1

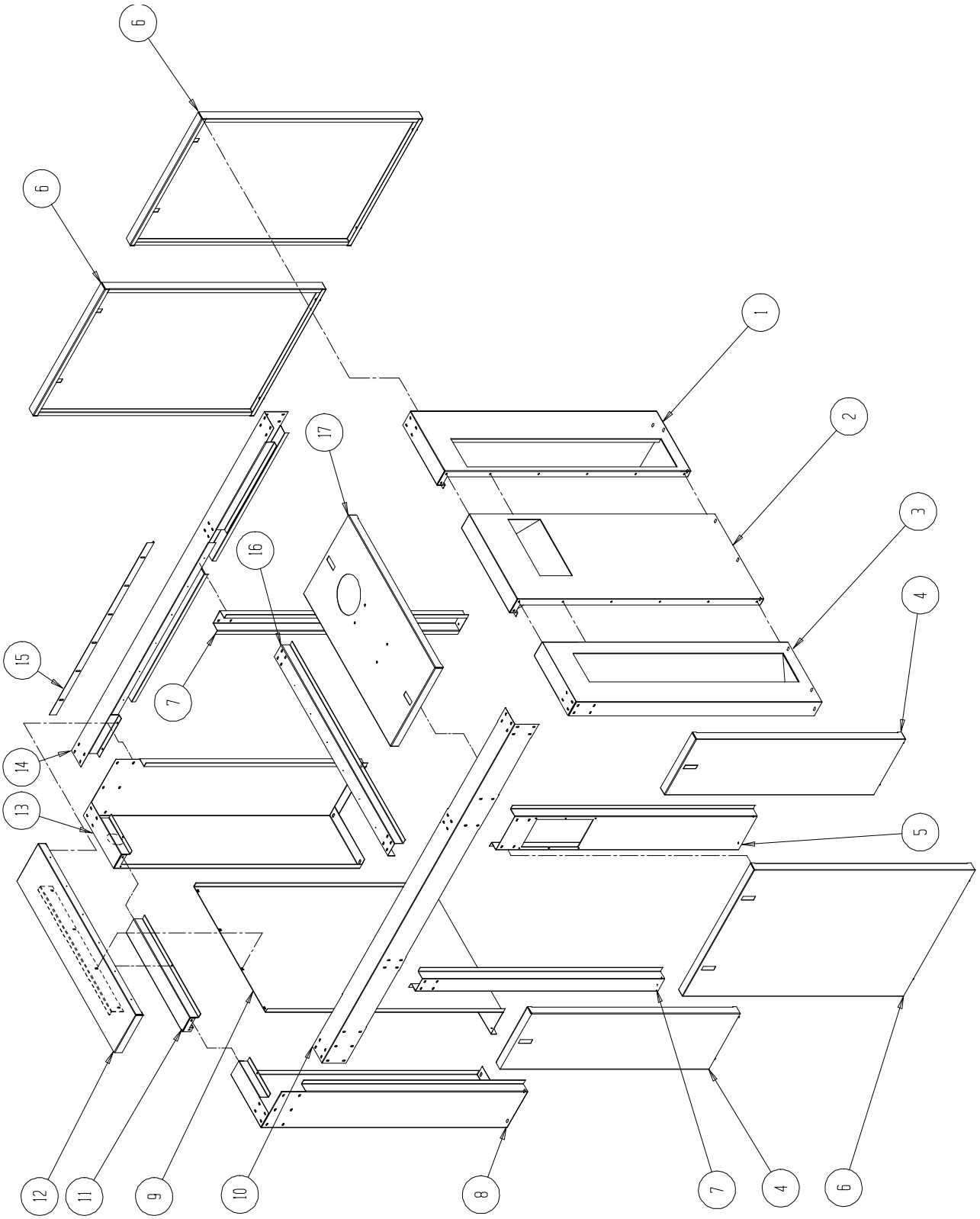
ENCLOSURE – AIR COOLED – 125-250UD



7.12 ENCLOSURE – AIR COOLED – 125-250UD

ITEM	PART NUMBER	DESCRIPTION	QTY
1	10947-044	PANEL, SUMP END RH	1
2	10947-046	PANEL, SUMP END CENTER	1
3	10947-043	PANEL, SUMP END LH	1
4	00488-026	DOOR, ENCL SIDE	2
5	10947-081	PANEL, SIDE SUPPORT/INST	1
6	00488-025	DOOR, ENCL SIDE	3
7	10947-041	PANEL, SIDE SUPPORT	2
8	10947-039	PANEL, CORNER MOTOR END	1
9	10947-048	PANEL, BAFFLE	1
10	00947-028	PANEL, END TOP FRONT	1
11	10947-045	PANEL, CENTER TOP	1
12	00947-030	PANEL, TOP MOTOR END	1
13	10947-042	PANEL, CORNER BACK	1
14	00947-029	PANEL, ENCL TOP BACK	1
15	00935-010	ANGLE, SEAL STRIP-CLR	4
16	10947-047	PANEL, SUPPORT TOP	1
17	00488-027	DOOR, ACCESS TOP	1

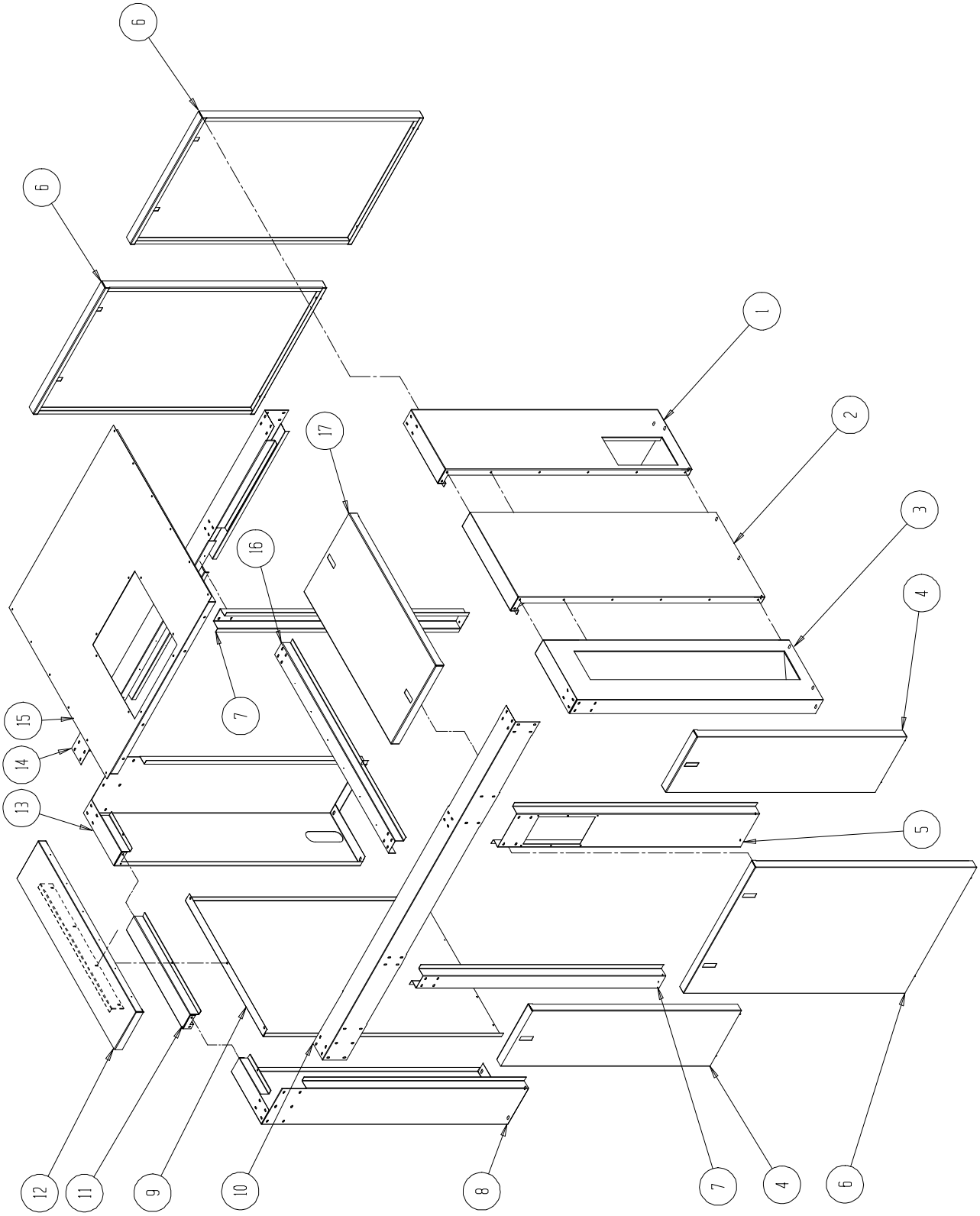
ENCLOSURE – AIR COOLED – 200-250UD



7.13 ENCLOSURE – AIR COOLED – 200-250UD

ITEM	PART NUMBER	DESCRIPTION	QTY
1	10947-058	PANEL, SUMP END RH	1
2	10947-046	PANEL, SUMP END CENTER	1
3	10947-043	PANEL, SUMP END LH	1
4	00488-026	DOOR, ENCL SIDE	2
5	10947-081	PANEL, SIDE SUPPORT/INST	1
6	00488-025	DOOR, ENCL SIDE	3
7	10947-041	PANEL, SIDE SUPPORT	2
8	10947-039	PANEL, CORNER MOTOR END	1
9	10947-048	PANEL, BAFFLE	1
10	00947-028	PANEL, END TOP FRONT	1
11	10947-045	PANEL, CENTER TOP	1
12	00947-030	PANEL, TOP MOTOR END	1
13	10947-047	PANEL, CORNER BACK	1
14	00947-029	PANEL, ENCL TOP BACK	1
15	00935-009	ANGLE, SEAL STRIP-CLR	4
16	10947-047	PANEL, SUPPORT TOP	1
17	00488-028	DOOR, ACCESS TOP	1

ENCLOSURE – WATER COOLED – 125-250UD



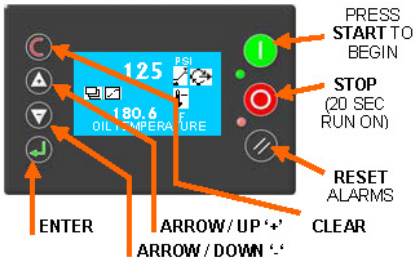
7.14 ENCLOSURE – WATER COOLED – 125-250UD

ITEM	PART NUMBER	DESCRIPTION	QTY
1	10947-044	PANEL, SUMP END RH	1
2	10947-052	PANEL, SUMP END CENTER	1
3	10947-043	PANEL, SUMP END LH	1
4	00488-026	DOOR, ENCL SIDE	2
5	10947-081	PANEL, SIDE SUPPORT/INST	1
6	00488-025	DOOR, ENCL SIDE	3
7	10947-041	PANEL, SIDE SUPPORT	2
8	10947-039	PANEL, CORNER MOTOR END	1
9	10947-053	PANEL, BAFFLE W.C.	1
10	00947-028	PANEL, END TOP FRONT	1
11	10947-045	PANEL, CENTER TOP	1
12	00947-030	PANEL, TOP MOTOR END	1
13	10947-056	PANEL, CORNER BACK W.C.	1
14	00947-029	PANEL, ENCL TOP BACK	1
15	10947-072	PANEL, TOP - FAN MOUNTING	1
16	10947-047	PANEL, SUPPORT TOP	1
17	00488-027	DOOR, ACCESS TOP	1

7.15 DECAL, T1 INSTRUCTIONS YASKAWA

Sullivan Palatek®

AIRCON – T1 YASKAWA



Do not change P01 – USER SETTINGS without consulting the factory as this may void the warranty.

- RS485 CONTROL
- REMOTE LOAD
- REMOTE START / STOP
- ACCESS LOCK / UNLOCK
- GENERAL FAULT

PARAMETER MENU PAGES

P00 – USER VIEW

P01 - USER SETTINGS
- Pu: UNLOAD • Pl: LOAD • St: STOP TIME
- Bt: BLOWDOWN TIME • Rt: RUN ON TIME
- So:MINI SEQUENCER • Bl: BACKLIGHT
- L>: LANGUAGE

P02 - FAULT LOG
- LAST FIFTY ERRORS (NEWEST FIRST)

P03 – SHUTDOWNS

P04 – ALARM & SERVICE TIMERS

P05 – RUN INHIBITS

P06 – DIAGNOSTICS

P07 – SERVICE SETTINGS

P08 – SPEED CONTROL

P09 – CALIBRATION

P11 – PRESSURE SCHD AND CLOCK

P22 - MOTOR SETUP (read)

P23 - DRIVE SETUP

0009 – OPERATOR ACCESS
P00, P01, P02 and P11 ONLY

CALL 219-874-2497 EXT. 2 FOR SERVICE

P/N 08379-035Y

TROUBLESHOOTING GUIDE

The microprocessor reports both alarms and shutdown errors. These are cleared by pressing the **RESET** button after the fault is cleared. The text describes the alarm or error. In the case of over temperature or over pressure shutdowns, you will see the alarm precede the fault, and indicates a real over pressure or over temperature condition existed. Contact your distributor to find the cause and correct it.

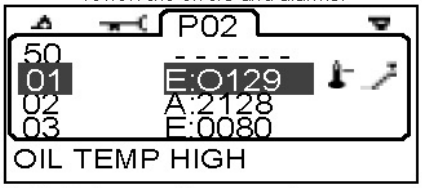
(A) Alarms will not shut down the unit,
(E) Faults will shutdown.

0d06 and 0080 faults will also be recorded in the drive. U2 on the drive will have the drive readings when the last fault happened. The readings are accessible on the drive keypad by pressing the **RESET** button so U1 flashes, then press the up arrow to get to U2. Press **RESET** again and the 01 will flash on U2-01. Scroll through for the various drive readings. U3 has the drive fault history and hour readings when the fault occurred. **MENU** to operation, then **ENTER** will return to the main menu.

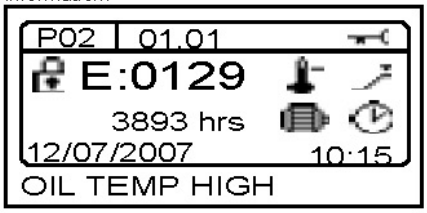
When the faults are cleared, press the **RESET** button on the microprocessor. You will be ready to start the machine again.

P02 – FAULT LOG
READING THE FAULT HISTORY

Enter the access code 0009. Press **ENTER**, **ENTER**, **ENTER**, **ARROW/DOWN**, **ENTER**. P00 flashes. Press **ARROW/DOWN** twice and P02 flashes, press **ENTER**. Use the **ARROW/UP** or the **ARROW/DOWN** key to scroll through the list of the last 50 faults to review the errors and alarms.



To highlight a specific error or alarm press **ENTER** to get the details. Press **CLEAR** to go back to the listing to scroll to the next alarm and repeat for each alarm. Record the information.



For drive errors, (0d06 and 2d07), it will flash between the error and the drive reported error. All information is important to us in troubleshooting the system.

SECTION 8 WARRANTY

2011 Standard Warranty

New Industrial Compressors - 15 and greater Horsepower

Sullivan-Palatek warrants its new stationary industrial air compressor products to be free from defects in material and workmanship and against loss of capacity due to wear, subject to the following provisions:

Warranty Duration: The warranty period for applicable Sullivan-Palatek products is as follows

Compressor Package: 12 months from the date of start-up by authorized distributor or 18 months from date of shipment by Sullivan-Palatek; whichever is the first to occur.

Compressor unit (excluding shaft seal) and Coupling Assembly (excluding elements): 24 months from the date of start-up by an authorized distributor or 30 months from date of shipment by Sullivan-Palatek; whichever is the first to occur.

Parts replaced under warranty: Remainder of the original warranty period for the replaced part.

Parts, accessories and attachments sold separately from machines, excluding warranty replacement parts: the first to expire; 6 months from shipment by Sullivan-Palatek or 3 months from delivery to the first user.

Registration and Obtaining Warranty Service: The purchaser, or authorized Sullivan-Palatek distributor on his behalf, must complete and return the warranty registration form within 10 days of start-up and before the end of 18 months from shipment from Sullivan-Palatek to initiate the warranty. If the warranty registration is not initiated in this manner the warranty effective date will be deemed to be the date of shipment from Sullivan-Palatek. Service under this warranty is obtained by contacting the authorized Sullivan-Palatek distributor before the expiration of the warranty.

Sullivan-Palatek's Obligations: Sullivan-Palatek will repair or replace, at Sullivan-Palatek option, any defective part, pay the reasonable labor cost of making the repair or installing the replacement part, pay ground freight for the return of defective parts and shipment of replacement parts.

Purchaser's Responsibility: Performance of proper maintenance as indicated in the Operation Manual furnished with the compressor, a copy of which is made a part of this contract. Provide any claim for warranty in writing to Sullivan-Palatek within the warranty period. The purchaser is also responsible for the following: the cost of normal maintenance and maintenance items, the consequences of service performed by someone other than a party authorized to perform warranty service if such service, in the judgment of Sullivan-Palatek, has adversely affected the performance of the compressor, the consequences of negligence, misuse, accident, installation, or storage. The consequences of compressor lubrication neglect as manifested by varnishing, pitting, erosion of the rotors or stator or both. Any premium for overtime labor requested by purchaser to make warranty repairs and any premium freight cost to ship warranty replacement parts. Costs incurred in gaining access to the compressor such as overcoming barriers such as walls, fences or similar structures or the construction of ramps or lifts necessary for removal or reinstallation of the compressor, incidental travel costs such as tolls, meals, lodging and similar.

Exclusions and Limitations: Oil leaks except oil leaks that require no more than tightening joints will be covered under warranty for a period of 60 days from start up. Including but not limited to electric motors, drives and driers unless specifically and otherwise identified in this warranty Sullivan-Palatek's obligation shall not apply to components not of its own manufacture and is only to extend to the purchaser the warranty provided to Sullivan-Palatek by the component supplier. Disassembly of the air compressor air end will void the compressor air end warranty and render the air end ineligible for exchange. The attachment of accessories or service parts not supplied or recommended by Sullivan-Palatek may void the warranty of the product.

THIS WARRANTY IS SULLIVAN-PALATEK'S ONLY WARRANTY OF ITS STATIONARY INDUSTRIAL AIR COMRESSOR PRODUCTS AND IS IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED. ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE ARE EXCLUDED. SULLIVAN-PALATEK HAS NO OBLIGATION UNDER THIS WARRANTY OR OTHERWISE (REGARDLESS OF THE FORM OF ACTION) FOR SPECIAL, INDIRECT, CONSEQUENTIAL OR INCIDENTAL DAMAGES, INCLUDING WITHOUT LIMITATION, LOSS OF USE, LOST PROFITS, LOST INCOME, WHETHER SUFFERED BY THE BUYER OR A THIRD PARTY. THE TOTAL RESPONSIBILITY OF SULLIVAN PALATEK FOR CLAIMS, LOSSES, LIABILITIES OR DAMAGES, WHETHER IN CONTRACT OR TORT ARISING OUT OF OR RELATED TO ITS PRODUCTS SHALL NOT EXCEED THE PURCHASE PRICE OF THE COVERED PRODUCT.

This warranty applies to all Sullivan-Palatek stationary industrial air compressors of 15 horsepower or greater shipped after April 1, 2011 and supersedes previous warranty policies. In the event of any conflict between this warranty and earlier warranty statements, the terms of this warranty will prevail.

2011 Platinum and Platinum-Plus Warranty

New Industrial Compressors - 15 and greater Horsepower

Sullivan-Palatek hereby offers the following Platinum Extended Warranty to the first retail purchaser of an industrial compressors of 15 HP or larger, excluding XH high pressure models designed to operate at 250 psi or more. The Platinum Extended Warranty is limited and applies to specific components as detailed below. ***The terms, conditions and limitations contained in the Sullivan-Palatek standard warranty, which is printed on the reverse, apply to the Platinum Warranty and that warranty is herein incorporated by reference.***

Component Coverage:

Platinum Warranty: Parts and labor to repair or replace as deemed necessary solely by Sullivan-Palatek, Inc. the Compressor Air End, Compressor Motor, VFD Drive, Fan Motor (if installed) Air and Oil Coolers, Sump Tank, and Drive Coupling Assembly (excluding elements).

Platinum Plus Warranty: Compressor Air End (stator and rotor assembly) repair or replacement, parts only. Labor, freight, travel and other costs are expressly excluded.

Duration:

Platinum Warranty: 60 months from the date of start-up as evidenced by the required warranty registration documents.

Platinum Plus Warranty Duration: 120 months from date of start-up as evidenced by the required warranty registration documents.

The Platinum and Platinum-Plus Extended Warranties are an extension of the standard Sullivan-Palatek, Inc. warranty and begin upon expiration of that warranty and continue to the time limit measured from the delivery and start up of the compressor to the original retail purchaser. Parts repaired or replaced under warranty are warranted for the remainder of the warranty period applicable to the replaced part.

Registration and Obtaining Warranty Service: The platinum warranty registration and startup card supplied with the compressor must be completed and returned within 10 days of delivery and start up to register the compressor in to the Platinum program. Eligibility for the Platinum warranty will expire 180 days after shipment of the product from the factory and can only be reestablished by application to the Sullivan-Palatek Product Support department, which may require a paid on-site inspection before granting. Service under this warranty is obtained by contacting the authorized Sullivan-Palatek distributor before the expiration of the warranty.

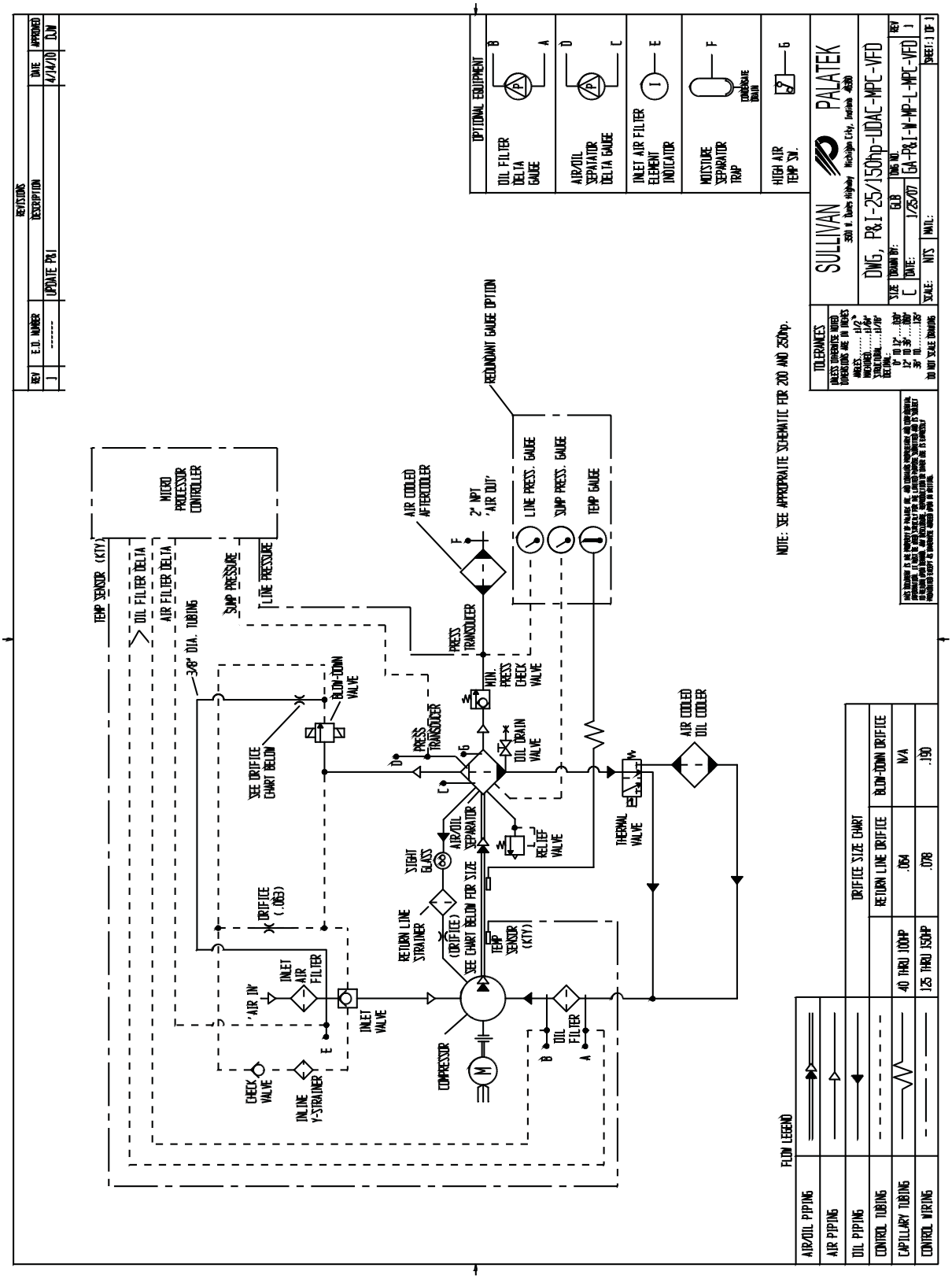
Sullivan-Palatek's Obligations: Sullivan-Palatek, Inc. will repair or replace, at Sullivan-Palatek option any defective part, pay the reasonable labor cost of making the repair or installing the replacement part when coverage includes labor, pay ground freight for the return of defective parts and shipment of replacement parts.

Purchaser's Responsibility: In addition to the responsibilities detailed in the standard Sullivan-Palatek, Inc. warranty the Platinum Extended Warranty requires that the purchaser use Sullivan-Palatek brand compressor lubricant, filters and service parts obtained from Sullivan-Palatek or one of its authorized distributors or service outlets. Proof of compliance with these terms must be available and rendered upon request in the event of a claim under this warranty. To facilitate and ensure purchaser's compliance with the service requirements of the Platinum and Platinum Plus extended warranties purchaser will be required to buy one annual maintenance kit per year during the period of the extended warranty and advise the model and serial number of the compressor for which the kit is purchased.

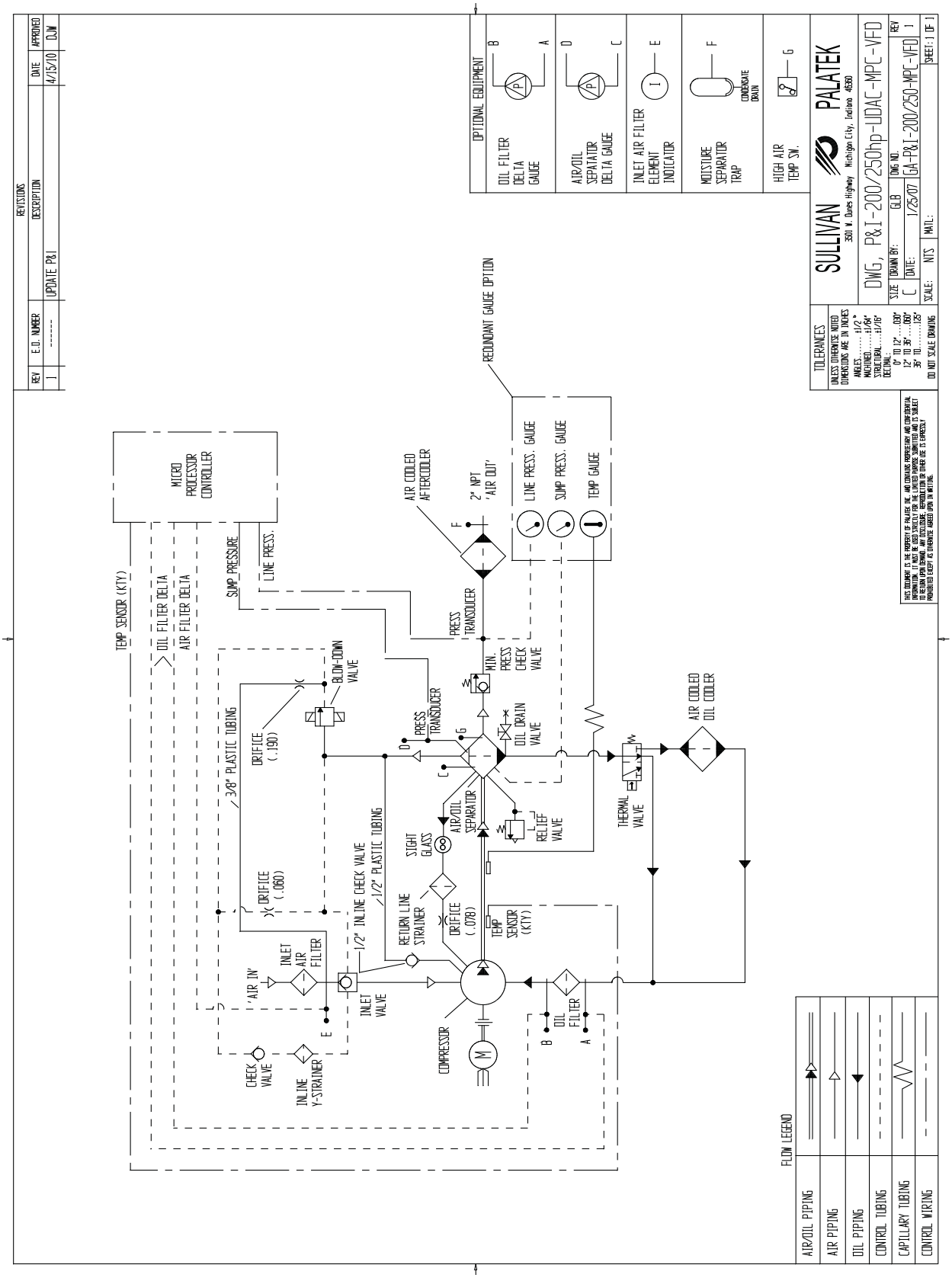
This warranty applies to all Sullivan-Palatek stationary industrial air compressors of 15 horsepower or greater, **excluding XH models** designed to operate at 250 psi or more shipped after April 1, 2011 and supersedes previous warranties. In the event of any conflict between this warranty and earlier warranty statements, the terms of this warranty will prevail.

SECTION 9 GENERAL ARRANGEMENT DRAWING

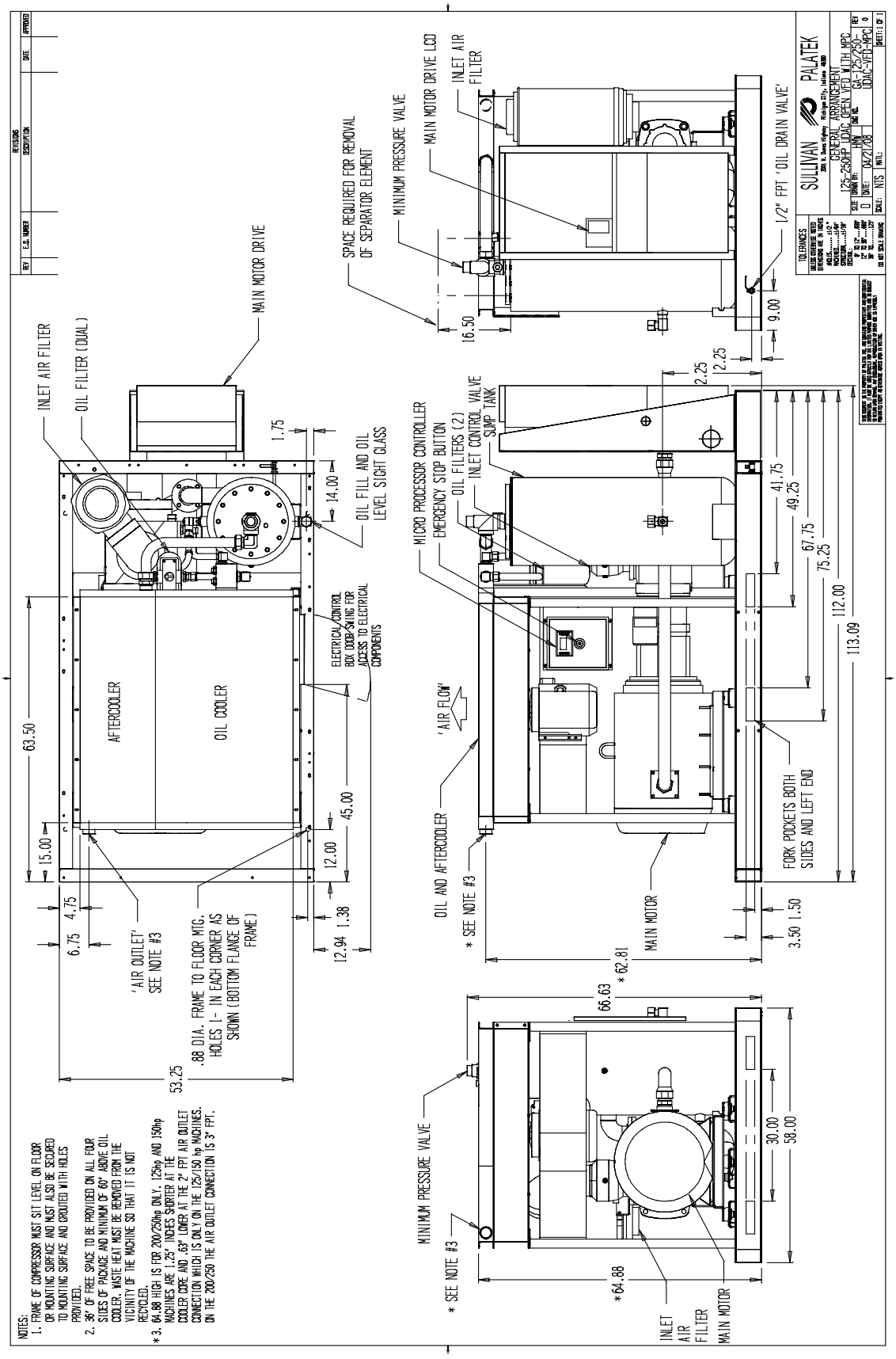
9.1 PIPING AND INSTALLATION DIAGRAM – 125-150UD



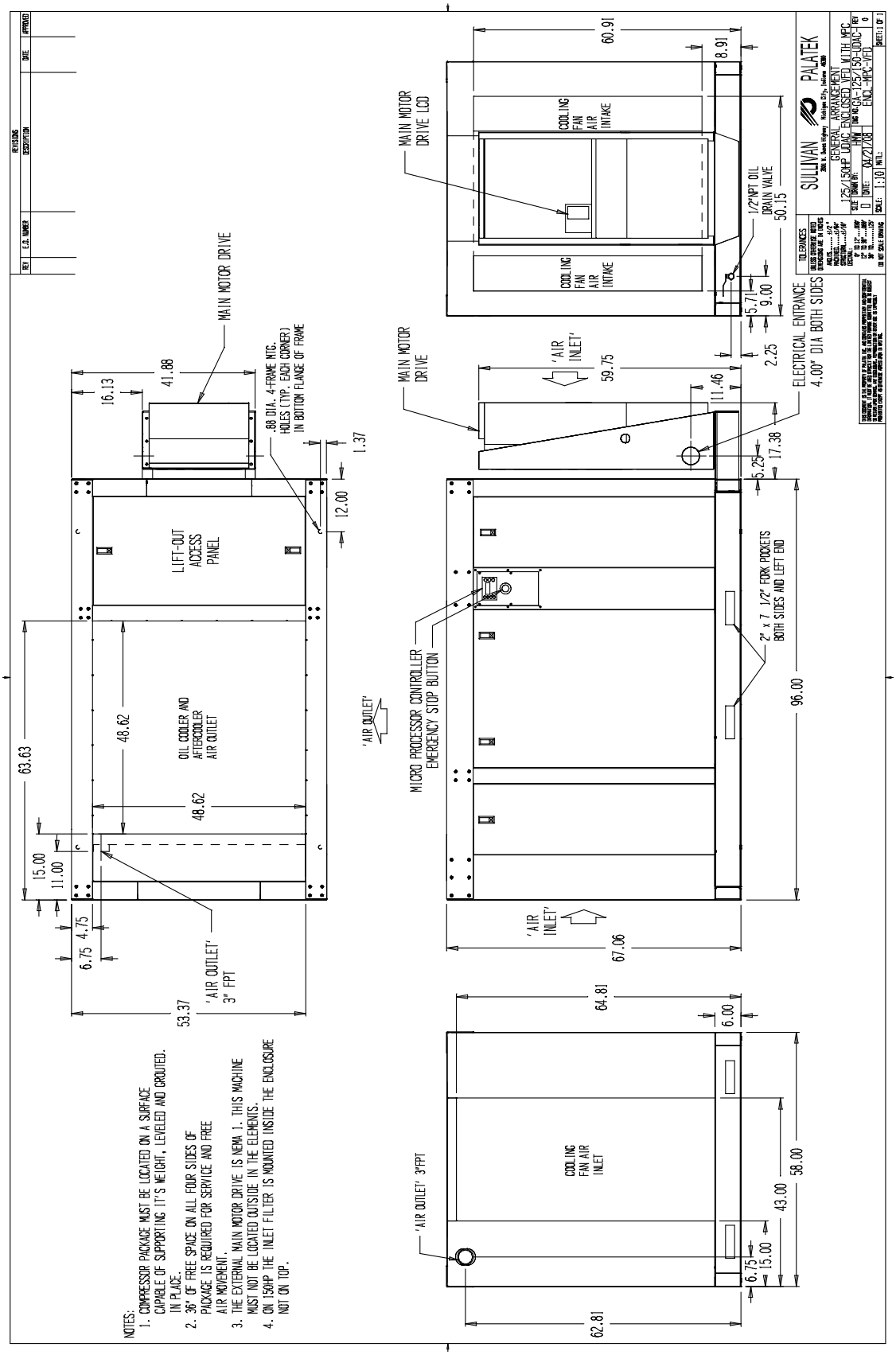
9.2 PIPING AND INSTALLATION DIAGRAM – 200-250UD



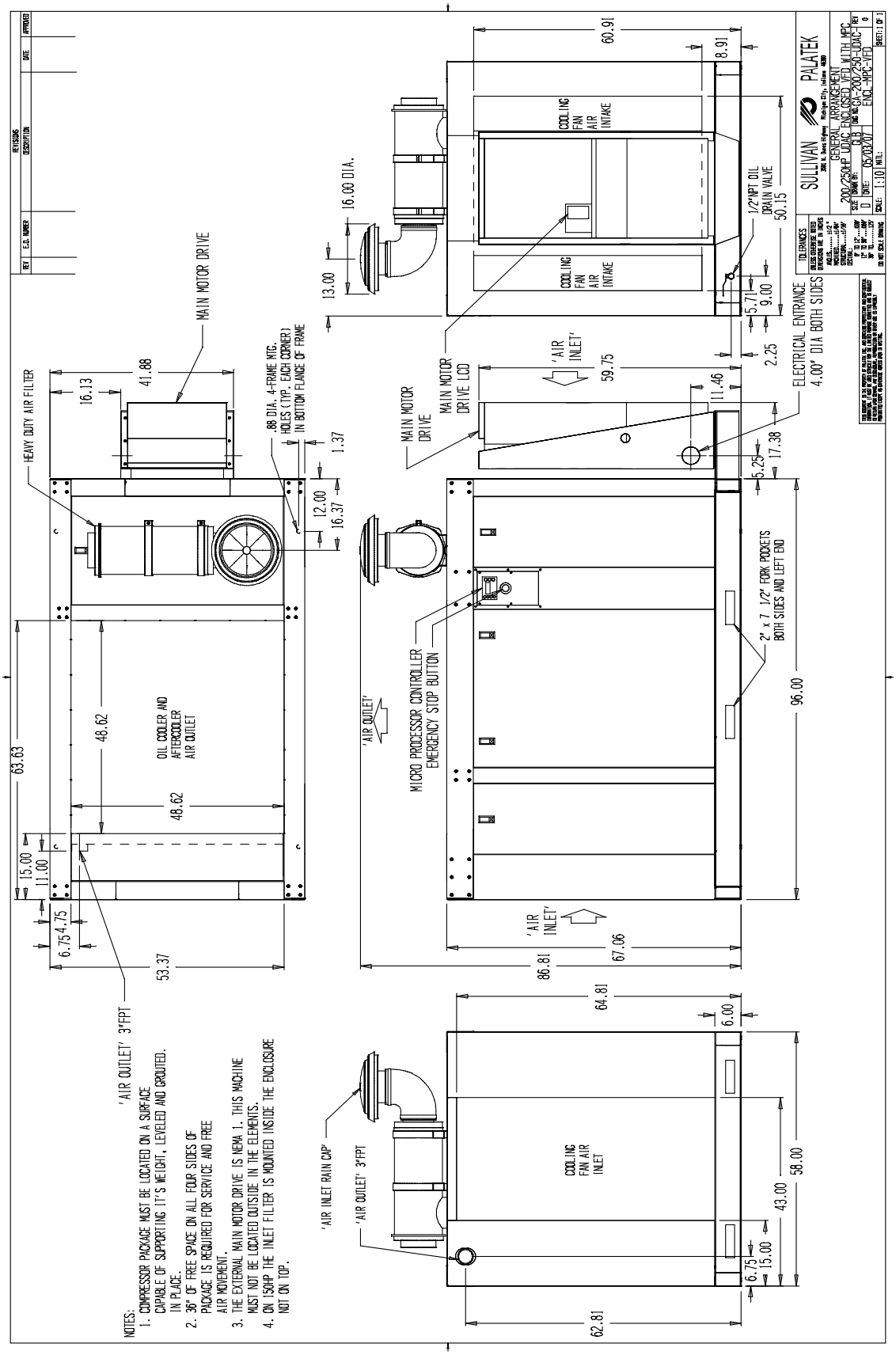
9.3 GENERAL ARRANGEMENT – AIR COOLED – OPEN – 125-250UD



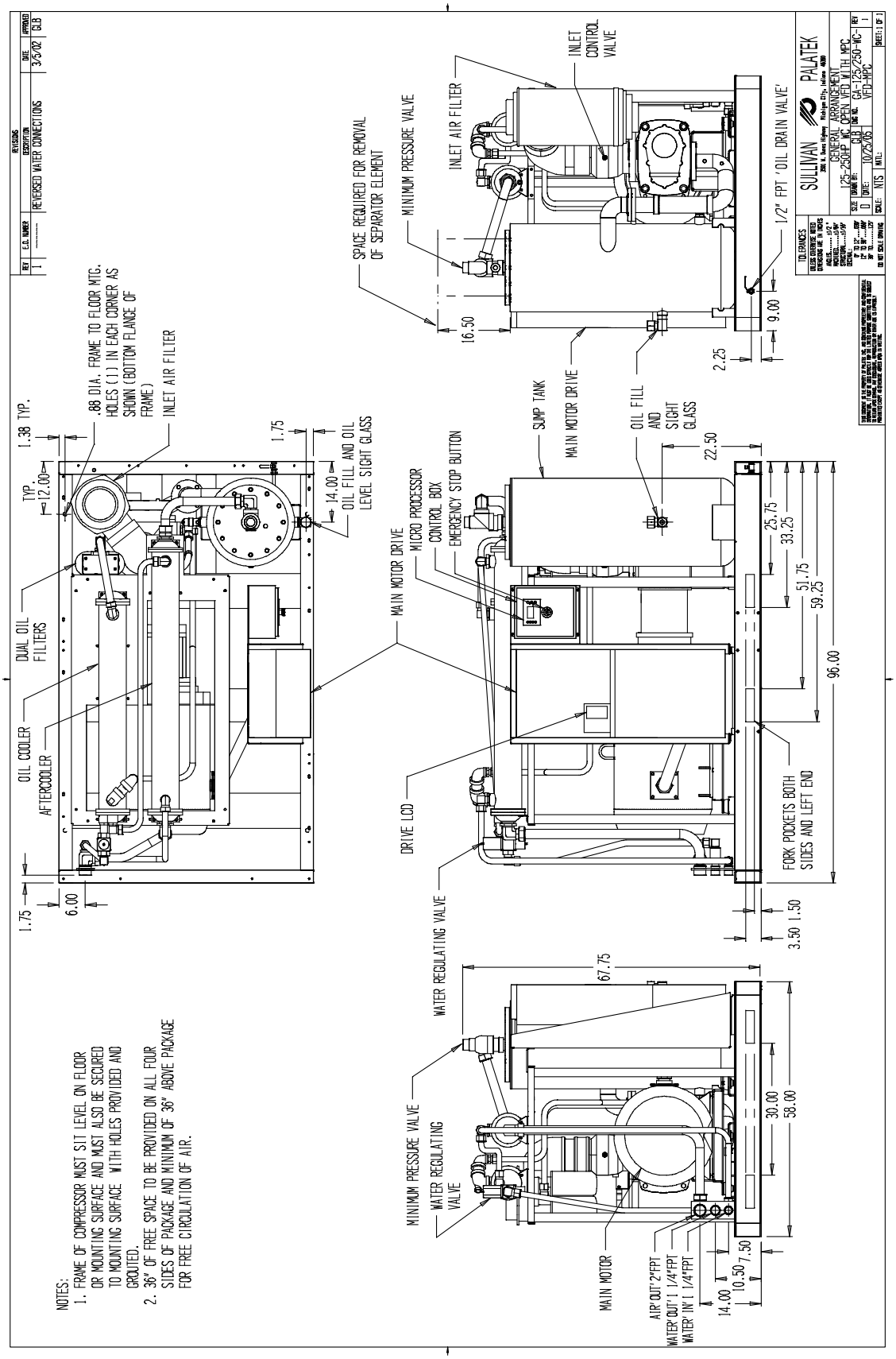
9.4 GENERAL ARRANGEMENT – AIR COOLED – ENCLOSED – 125-150UD



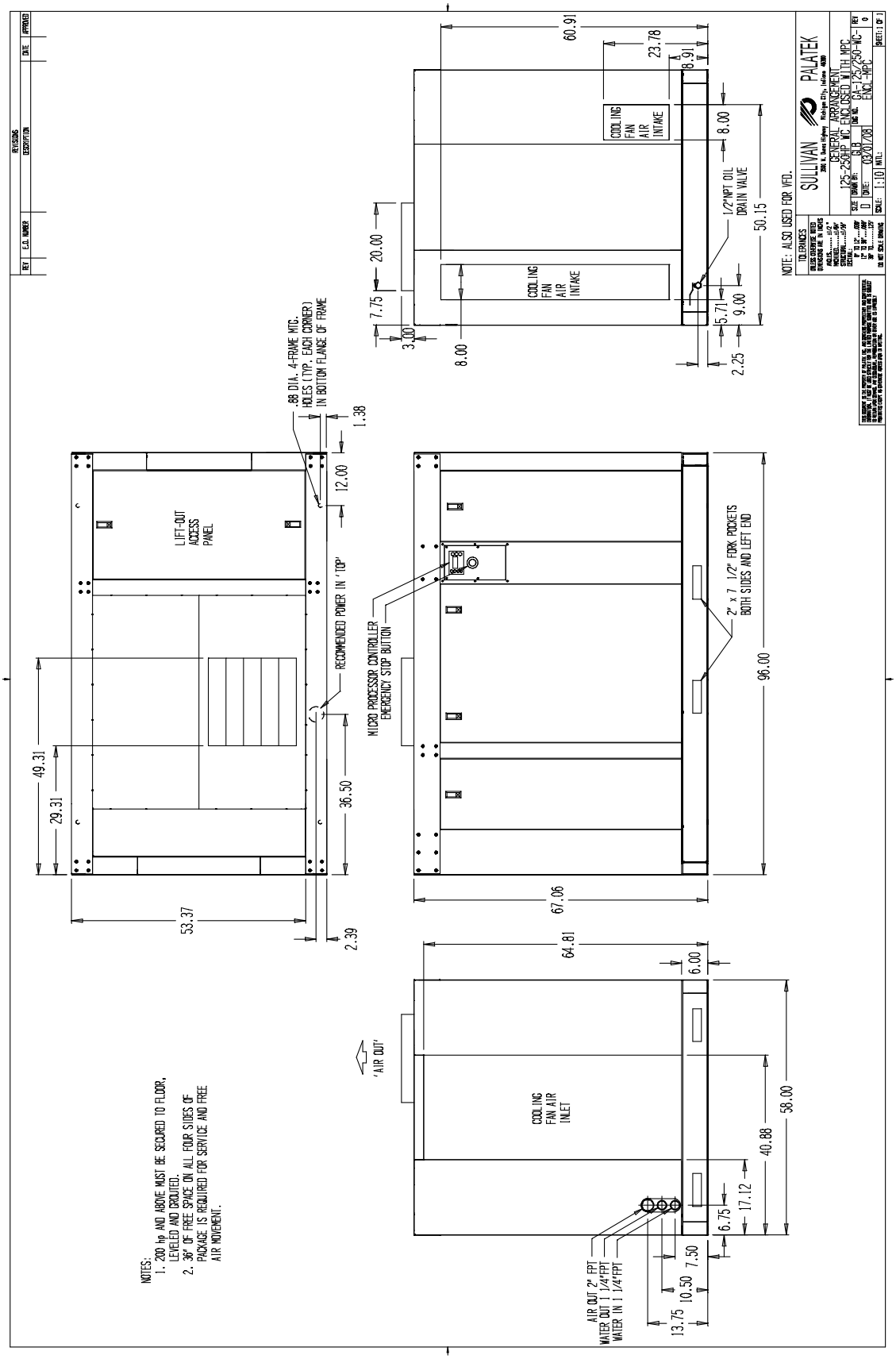
9.5 GENERAL ARRANGEMENT – AIR COOLED – ENCLOSED – 200-250UD



9.6 GENERAL ARRANGEMENT – WATER COOLED – OPEN – 125-250UD



9.7 GENERAL ARRANGEMENT – WATER COOLED – ENCLOSED – 125-250UD



SULLIVAN - PALATEK COMPRESSOR MAINTENANCE LOG

S/N: _____ SERVICE DIST: _____

FILL OUT FOR EACH SERVICE OR REPAIR. MORE THAN ONE LINE MAY BE USED PER EACH SERVICE OR REPAIR. THIS FORM MAY BE PHOTOCOPIED AS NEEDED.

DATE	HOURS	TEMP	LINE PRESS	OIL RET. CLEAR	OIL LEVEL	SERVICE CHANGE			CHANGED PART NUMBER	SERVICE BY
						AIR/OIL FILTER	SEP ELE	OIL		