Sullivan Palatek®

OPERATING AND PARTS MANUAL

FOR

INDUSTRIAL ELECTRIC AIR COMPRESSORS
75UDS AND 100UDS HP MODELS

10/03

Part Number: OPM7510-006S

TABLE OF CONTENTS

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 can be 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.

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

1.2 PRESSURE RELEASE

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

Remove Oil Filler Cap only when compressor has been turned off, the disconnect switch locked open and there is no pressure in the air separation tank. Bleed off any residual pressure by opening the pressure relief valve. WARNING, compressors may re-start AUTOMATICALLY if the power to the compressor is not properly taken off line!

Shut machine off, open and lock-out disconnect switch and vent all pressure before opening or removing any filter element, line, tube, fitting, valve, plug, cap cover, connection or any other component on the air compressor or in the plant's compressed air system.

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. Also do not exceed the accessory component manufacturer's 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 to 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. 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 should not be used. Steel bowls are recommended.

Keep personnel out of line with, and away from, the discharge opening of air lines, 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-on 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 particulates.

Do not operate compressor with its Temperature Switch or any of its three Pressure Switches inoperative or incorrectly connected.

Keep conductive objects away from exposed, live electrical parts such as terminals, to avoid sparks which might 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

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 only in clean, dry conditions, in a well-lighted and ventilated area.

1.6 TOXICITY

Do not use air from this compressor for breathing, as it may contain colorless, odorless yet lethal gases. Severe injury or death may result.

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

Carefully analyze the compressor inlet conditions to be certain that no dangerous levels of contaminants are being ingested by the compressor.

Monitor the point-of-use location for adequate ventilation.

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

1.7 ELECTRIC SHOCK

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 before 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.

Initial installation and wiring must be done by a trained and qualified electrician. It also must 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.

If a fuse should blow for any reason, always replace it with one of the same size, type and ampere rating. Doing otherwise may result in an unsafe condition.

1.8 LIFTING

Lift or move the compressor only with equipment of sufficient load capacity which 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 the compressor down only on a 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

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 of its dual-control system and suddenly re-start, thereby creating a hazardous condition.

Close air valves and shut the machine off. 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.

For prolonged exposure to machinery noise, hearing protection is recommended and may be required by OSHA. Consult your OSHA Manual.

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 to minimize risk of injury or death. All operators must be aware of the Warning Signs and follow the instructions thereon. If the 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 properly positioned and installed.

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, lessor 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.

SIGN	***LOCATION***
WARNING -	
HIGH VOLTAGE/MOVING PARTS	***MOTOR STARTER***
WARNING -	
COMPRESSED AIR	***INSTRUMENT PANEL***
WARNING -	
HOT OIL/PRESSURIZED AIR	***SEPARATOR TANK***

SECTION 2 - SPECIFICATIONS

MODEL	**75G**	**100G**	**100D**
MOTOR SIZE (HP)	75	100	100
AIR DELIVER (CFM)	344	440	420
MAX. FULL LOAD PRESSURE	125	125	125
MIN. FULL LOAD PRESSURE	70	70	40
LUBRICANT CAPACITY GAL.	12	12	12

DIMENSIONS: OPEN	LENGTH	80
	WIDTH	45
	HEIGHT	57
DIMENSIONS: CLOSED		
	LENGTH	80
	WIDTH	45
	HEIGHT	64

2.1 DATA AND DIMENSIONS

SULLIVAN-PALATEK reserves the right to change the design or construction of the above compressor, 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 single shaft plant-air service. For compressors running two or three shift operations, extended life lubricants such as Pallube 32p or AFX 32 are offered as factory fill options. Note, mixing of these or any other type of oil can cause serious problems and will void the unit warranty.

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

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 Lubricoolant 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 machine 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. This will result in extending the life of the reciprocating machine with no adverse effect on the life of the rotary machine. It should require the least electrical power consumption for the combination. Recommended maximum number of starts per hour:

Motor HP	75	100
Starts/Hr	4	4

SECTION 3 – DESCRIPTION

3.1 INTRODUCTION

SULLIVAN-PALATEK Plant Air Compressors are electric motor driven, single-stage rotary screw type, continuous-duty compressors. They are designed and constructed to offer the greatest value and lowest life cycle cost. 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), instrument panel and control system. They are available with or without enclosures. These machines are intended for indoor installation, or protected outdoor operation in moderate climates. Consult factory for other in climate weather related options.

3.2 COMPRESSOR UNIT

All SULLIVAN-PALATEK compressors feature a direct-connected, single-stage, positive displacement, flood-lubricated rotary screw compressor unit with heavy-duty long-life rolling element bearings. The lubricoolant fluid is injected directly into the compressor unit and mixes directly with the air as it is compressed by the rotors. The lubricoolant lubricates the rotors, bearings and cools the compressor by absorbing the heat of compression.

3.3 MOTOR

The standard motor used to power the SULLIVAN-PALATEK 75 and 100 H.P. compressor is a C-face ODP E-pack premium efficiency motor. Other motors such as TEFC are available upon request. The fan drive motor is a separate TEFC motor which is powered by the same supply as the drive motor.

3.4 INTAKE/CONTROL SYSTEM

The intake/control system consists of: an air filter, inlet control valve with a reverse flow check valve incorporated, a modulating or regulating signal pressure control valve, a control pressure switch, a combination unloading/blowdown solenoid valve, and a reverse rotation switch. The arrangement of these components area shown on the diagrams on the opposite page.

The air filter is a dry-type, high efficiency unit. The life expectancy of the air filter is directly dependent upon the immediate environment of the compressor. Areas that have high amounts of airborne dust and dirt will significantly reduce the air filters life service. Replacement interval for the air filter can best be determined by the amount of pressure drop across the filter (a pres-sure drop in excess of 8 inches of water will adversely affect compressor capacity.)

The inlet control valve will control the amount of air the compressor delivers to the plant air system. From the full capacity of the compressor, the inlet valve can throttle the delivered air to approximately 30% of full capacity by means of correct adjustment of the modulating control valve. Once the plant air usage falls below this 30% figure, then the compressor will fully unload and then re-load by means of the pressure control switch and the unloading solenoid valve. If air demand drops to zero for any length of time (i.e. >15 min.), it is wise to turn the selector switch to the “auto” position. This will allow the compressor motor to shut off during these periods of no air demand. When the compressor does operate in the “unloaded” mode, the amount of power is minimized because the sump pressure is reduced by blowing the sump tank down to a much lower pressure (typically 30-40 psig).

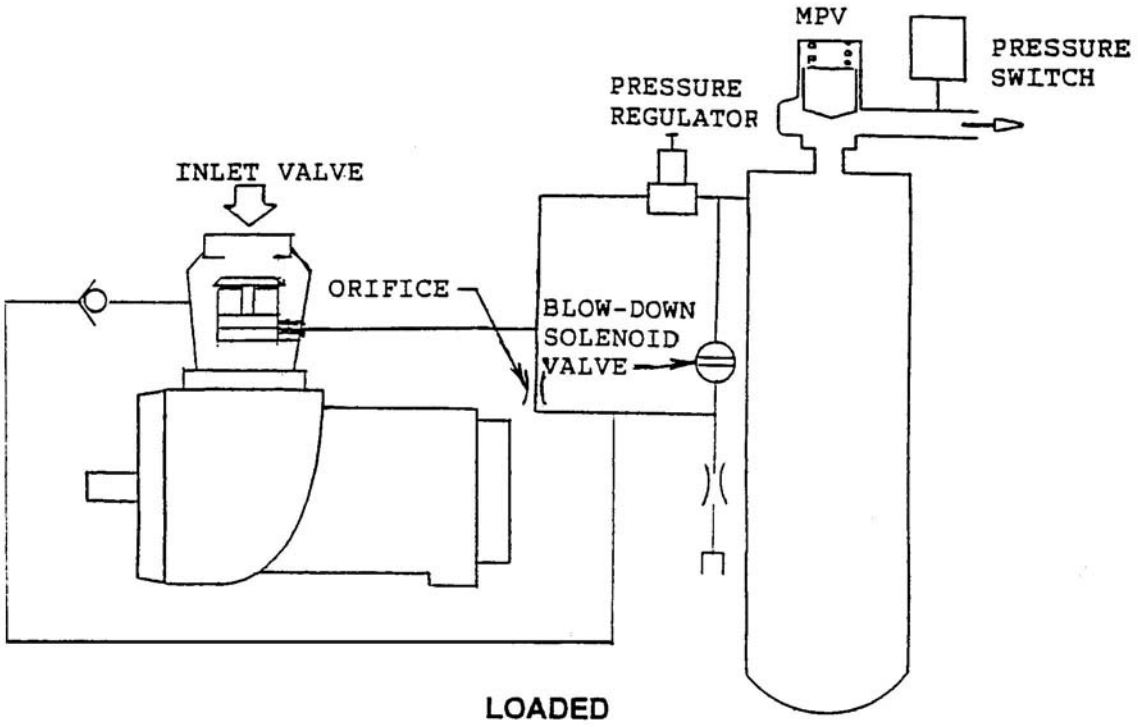
Control Operation

When the compressor is started, the intake valve opens immediately allowing the sump pressure to rise quickly building up the sump pressure until the setting of the minimum pressure valve is reached (60-75 psig.). Once this setting has been reached, the compressor delivers its full capacity downstream until the setting of the pressure regulator has been reached. The pressure regulator will then cause the inlet valve to restrict the compressor’s capacity. The regulator will, in effect, attempt to balance the compressor’s output to the system’s requirements.

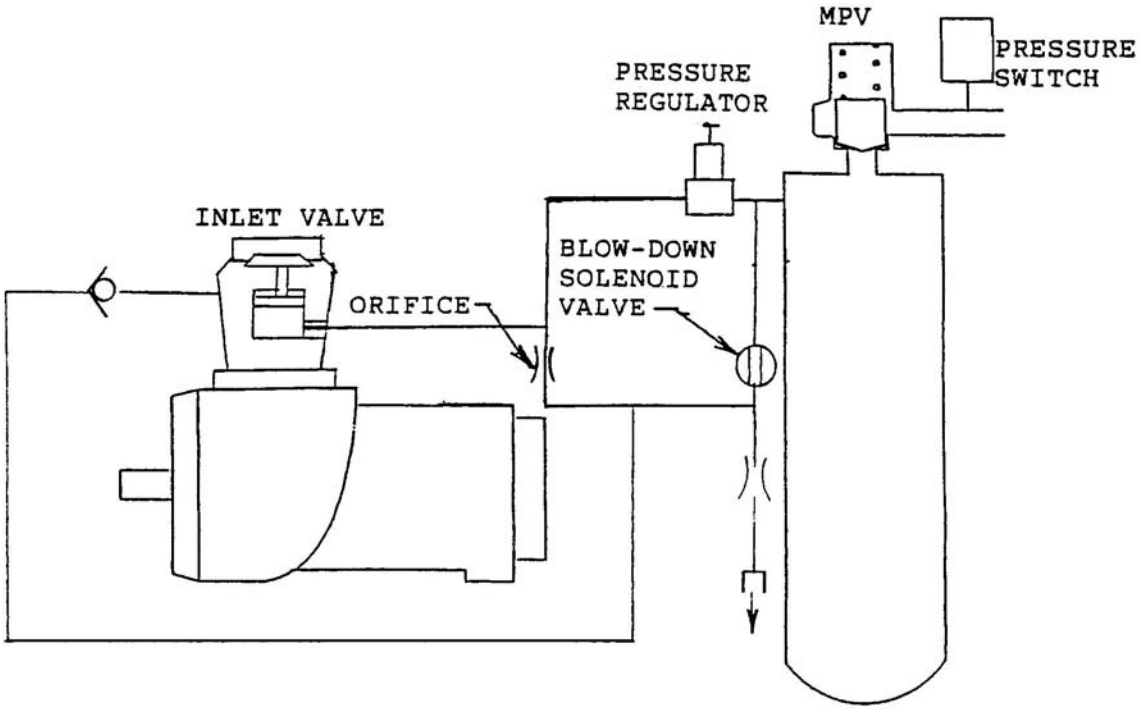
If no air is being used in the system, the system pressure should rise until the set point of the control pressure switch is reached. Once the switch set point has been reached, the inlet valve will be fully closed and the sump pressure is relieved down to 30-40 psig., saving on power drawn. If the line pressure does not reach the control pressure switch set point, either the switch must be set lower or the regulating valve must be adjusted upward. If the compressor runs fully unloaded for 15 minutes it will shut off, provided the selector switch is in the ”Auto” mode. When system pressure drops to the lower set point of the control switch, the compressor will automatically re-start. WARNING – This machine can automatically restart after a power failure occurs.

When the compressor is shut off, the inlet valve closes immediately trapping air in the compressor and sump. This pressure is slowly bled off through an orifice back to the air inlet filter.

CONTROL SCHEMATIC



LOADED



UNLOADED

3.5 COMPRESSOR LUBRICATION/COOLING SYSTEM

The cooling system consists of a fan, finned-tubed radiator-type fluid cooler, cooler by-pass valve to accelerate warm-up, a full-flow fluid filter, a drain valve and interconnecting tubing.

Pressure in the oil separation tank 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 fluid filter, and from the fluid filter to the compressor. During cold starts, the fluid will by-pass the oil cooler and go directly to the fluid filter. While warming up, gradual change occurs where the fluid flow is split, flowing between both the oil cooler and by-pass valve. When fully warmed up, the by-pass valve is closed and all lubricoolant flows through the cooler. The fluid filter is of the spin-on replacement element type. The element should be changed according to the Maintenance Schedule.

A drain valve is provided to periodically drain any condensate from the separation tank, to extract fluid samples for periodic oil analysis, and drain the lubricoolant at change-out intervals recommended in the maintenance section.

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, which allows the heavier droplets of lubricoolant to drop out.
B) Serves as the lubricoolant sump - by collecting the hot lubricoolant, prior to re-circulation through the cooling system.
C) Houses the final air, oil separation element: a replaceable, multi-layered, multi-stage coalescing element with pleated initial stage for reduced velocity, improved separation performance and extended service life. Separated oil that goes beyond the separator 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. 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 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 70 psig (485 kPa) for proper lubricoolant circulation and separation. It also prevents a reverse flow of compressed air from the auxiliary air receiver and/or the plant air-main system from blowing back through the compressor at shutdown or during periods of unloaded operation. Lubrication of this valve is periodically recommended. Consult the maintenance section for intervals and proper lubricants.

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 pressure switch has been installed to shut the motor off at 170 psig (1173 kPa).

There are two panel-mounted pressure gauges; one shows the pressure in the oil separation tank, the other shows the pressure downstream of the M.P.C. valve or line pressure.

The compressor discharge temperature gauge is also panel-mounted for ease of record-keeping and trouble-shooting. Normal discharge temperature should be approximately 180-220° F (100-105° C), or about 100° F (55° C) above ambient. Two ΔP gauges are supplied for indicating the pressure drop across the oil filter and the separator element. It is recommended to change the separator at 8 – 10 PSID while the oil filter should be changed at 15 - 20 psid.

A switch is provided to shut the motor off if the compressor discharge temperature exceeds 240° F (115° C) in the event of gradual reduction in cooling system efficiency coupled with unattended operation. However, the reaction time of the switch is not rapid enough to stop the compressor in event of a sudden or complete loss of lubricoolant.

3.7 STARTER AND ELECTRICAL PARTS

The three-phase electric motor starter supplied with the SULLIVAN-PALATEK Plant Air Compressor has a NEMA-1 rated enclosure. This enclosure is also the location of: the control power transformer, the Run-Off/Reset-Auto Start selector switch, a control relay, the control pressure switch, the over-pressure shutdown switch, anti-restart pressure switch, stater/overload, and related components

The starter is amp-rated to match the motor power at 460 volts (standard). The overload relay must be to match the motor full load amp rating.

The selector switch allows the operator to select “Run” for continuous operation mode wherein the motor runs continuously while the compressor loads and unloads, as required, to match air demand. This mode should be used when there is insufficient compressed air storage capacity relative to air usage, which would cause frequent starts if operating in the “Auto Start” mode.

The “Off-Reset” position is used to shut the compressor off and to reset the electrical control system following an automatic shutdown due to an over-temperature or over-pressure condition.

The “Auto-Start” position allows the compressor to shut down automatically whenever the plant air demand is low. This relays a signal to the control pressure switch, which cuts off power to the control relay, thus releasing the motor starter pull-in coil and the motor stops. The motor restarts as soon as the plant air pressure drops to the “cut-in” setting on the pressure switch, provided that the oil separation tank pressure has been relieved via the blowdown valve so that the anti-restart switch is in its normally-closed mode. (This control mode saves power during periods of little or no air usage. A timer is utilized to limit the number of motor starts.) WARNING – This machine can automatically restart after a power failure in this mode. The over-pressure shutdown switch acts to stop the compressor if there is a control malfunction or improper control adjustment. This will prevent the pressure relief valve on the oil separation tank from suddenly opening.

The control relay is used to prevent heavy surges of current from passing through the contacts of the temperature and pressure switches, thereby greatly improving their reliability.

The control power transformer converts power from the incoming motor power to a lower voltage. This is done to minimize the potential for arcing at the contact points of switches and relays, or in the case of accidental contact with live control voltage terminal. The primary (high voltage) incoming power and the secondary (control voltage) circuits are both provided with circuit breakers to minimize the potential for damage due to overloading or short-circuit faults.

3.8 INSTRUMENTATION

Each SULLIVAN-PALATEK Plant Air Compressor is equipped with an hourmeter and five gauges. There is one pressure gauge to monitor the oil separation tank pressure, another to monitor line pressure, and a temperature gauge which senses compressor discharge temperature. In addition, two differential pressure gauges are supplied; one for oil filter pressure drop and another for separator pressure drop. These latter two gauges are an aid to proper maintenance. An optional air filter restriction monitor is available from the factory.

SECTION 4 - INSTALLATION

4.1 RECEIVING

Carefully inspect for any signs of possible shipping damage.

4.1a Welding

Do not weld on compressor package.

4.2 LOCATION

The compressor is designed for indoor operation or protected outdoor site with an ambient temperature range of 35° to 104° F (1° to 40° C). It is important that there be sufficient unobstructed ventilating airflow to prevent re-circulation of hot fan 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	75G	100G	100D
AIRFLOW (CFM)	7,500	9,500	9500
HEAT REJECTION (BTU/HR)	220,000	300,000	300,000

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.

4.3 SUPPORT

The compressor may be mounted on any level surface capable of supporting its weight. It is recommended that the machine be set on rubber isolation pads then secured to the floor to prevent movement due to external forces, which could result in damage to electrical wiring and/or compressed air piping.

4.4 ELECTRICAL

Electrical wiring to the motor starter must be done by a qualified electrician in accordance with all pertinent Federal, State and local codes concerning isolation switches, short circuit protection, **grounding**, etc. Under no circumstances is any welding to be performed on compressor without proper grounding. Serious damage to compressor components can occur which will void warranties.

Check all electrical connections for tightness.

Check incoming voltage to be sure the motor is properly connected to match, and the starter is properly sized and the overload relay is properly adjusted to match the motor nameplate full load amps. Removing one wire from the normally-closed temperature switch will simulate an over-temperature condition, i.e., open contacts, and the starter coil should not pull in.

4.5 DIRECTION OF ROTATION

Once the control circuit has been checked, all piping installed, and compressor is filled with lubricoolant, connect the three motor leads, momentarily move the selector switch to “Run” then immediately back to “Off/Reset” to check for proper direction of rotation. Rotation should be clockwise when standing at the oil separation tank end, and counter-clockwise from the motor end. (Also note that the ASP switch 09344-001 will prevent incorrect rotation.) In all cases, the fan air blows upwards.

4.6 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.

Piping should be as large as possible to provide extra air storage capacity and 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.) Inspect piping and air hoses frequently for leaks.

4.7 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 remote air intake a special inlet filter option can be ordered.

For multiple machine installation, contact the factory for optional 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 familiarize yourself with the SULLIVAN-PALATEK Plant Air Compressor, giving special attention to the Section 1 - SAFETY.

5.2 INITIAL START

1. Open main disconnect to be sure there is no power to the compressor.
2. Review all the steps covered in Section 4 - INSTALLATION to be certain all instructions have been complied with.
3. Inspect for any visible signs of damage that could have occurred during installation.
4. Check lubricoolant level. Tighten oil-fill cap.
5. Close main disconnect.
6. Jog motor (move selector switch to the "Run" position momentarily, then immediately back to "Off-Reset") to check direction of rotation - which should be counter-clockwise from the motor end. If rotation is wrong, open main disconnect and then exchange any two of the three incoming leads L1, L2, L3 to correct rotation.

CAUTION: Reverse rotation will cause damage that is not covered by warranty. Rotation must be checked whenever the compressor has been moved to a new location, or after any change or reconnection of the main electrical wiring

7. After closing and latching the starter cover door, close the main disconnect and start the compressor in either "Run" or "Auto Start/Stop" mode.
8. With service air valve closed, allow machine to pump up to normal operating pressures and observe operation of automatic controls, and look for any possible leaks.
9. Open service air valve and check operation throughout a range of pressures, observing operating temperatures.
10. Turn selector switch to "Off/Reset" and check lubricoolant level after it has been allowed to settle for a few minutes. If it is necessary to add lubricoolant, be sure to relieve all air/ oil separation tank pressure prior to removing fill cap. Filler cap is vented.
11. If unloaded pressure is incorrect, readjust regulator and control pressure switch settings as required.

5.3 NORMAL OPERATION

1. Open and lock out main power disconnect.
2. Check lubricoolant level. Refill if necessary.
3. Re-close disconnect switch
4. Start machine in either “Run” or “Auto Start/Stop” mode.
5. Fully open service air valve.
6. Observe pressures and temperature. If temperature is incorrect, refer SECTION 6.8 - TROUBLE SHOOTING.

5.4 SHUTDOWN

To stop compressor, move selector switch to “Off-Reset” position. If motor does not stop, open disconnect switch, then repair as necessary.

5.5 RESTARTS

After a power failure, open and lock out the main disconnect, check all fuses, and move selector switch to “Off-Reset” position. Close disconnect switch and follow Normal Operation start-up procedure. WARNING – Machine may automatically restart after power failure in automatic mode.

Following a shutdown caused by either of the protective switches, open and lock out the main disconnect switch, correct the cause of shutdown and reset electrical controls. Then close the disconnect and follow Normal Operation start-up procedure.

If the overload has tripped the motor off, first open and lock out the disconnect, then push the starter overload reset button and check O.L. settings to be sure it is correctly adjusted.

Note: Never adjust O.L. higher than indicated by starter manufacturer to match motor nameplate amperage rating, as an unsafe operating condition will result!

SECTION 6 – MAINTENANCE

6.1 MAINTENANCE SCHEDULE

Daily -

1. Check lubricoolant level prior to start-up.
2. Observe the instrument panel gauges.
3. Keeping a daily log of all operating parameters is recommended.

First 50 hours

1. Change compressor lubricoolant filter element.

Every 1000 hours -

1. Change compressor oil filter element. (or if ΔP gauge is operating above 15 PSID)
2. Take sample of lubricoolant and submit for analysis if operatine in severe environment. (Ex: Chemical Fumes, Oxidizing Elements, Fine Dust)
3. Inspect air filter.

When using PALASYN 45: Every 4000 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 filter element and air/oil separator element (sooner if excessive lubricoolant loss is experienced, or if ΔP gauge is above 8 PSID).

When using PALLUBE 32p: Every 8,000 hours

1. Change Pallube 32p and inspect separator tank.
2. Replace air/oil separator.

When using AFX 32: Every 10,000 hours

1. Change AFX Ideal 32 lubricoolant and inspect tank interior.
2. Replace air/oil separator.

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 and grease MPV with a Lithium Grease ex: Lubriplate 630-2 or Mobil SHCPM, annually
5. Rebuild inlet valve every two years.

6.2 OIL FILTER (Replace element if differential pressure exceeds 15 PSID or every 1000 hours.)

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. Fill new element #00520-016 with lubricoolant and 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. Check for leaks after compressor is up to temperature.

6.3 AIR FILTER (Inspect every 1000 hrs or sooner in severe dust conditions.)

1. Open and lock out main disconnect.
2. Remove air filter element . Blow dust from inside towards outside with low pressure air (less than 30 psi/200 kPa). When reinstalling element be sure it is seated squarely so that dust cannot bypass the filter media.
   NOTE: Do not use compressed air to dry a wet element. To minimize down time it is recommended that a spare element be kept on hand.
3. Carefully inspect element by shining a light through filter media to check for cracks and holes.
4. Replace element as needed. Ex: if it cannot be cleaned or media has been punctured.
5. When optional heavy-duty remote filter is used, element # 00521-075 is required for primary element. When secondary element is changed use #00521-075S in addition to primary element. Finer micron elements are also available.

6.4 AIR/OIL SEPARATOR (Replace annually or if differential pressure exceeds 8 psid.)

1. Open and lock out main disconnect.
2. Unbolt cover in a diagonal criss-cross pattern.
3. Remove cover.
4. Clean gasket surfaces of tank and cover.
5. Remove retainer and separator element.
6. Remove rubber sealing ring from inside of separator element prior to installation.
7. Install new element. Check for proper grounding of element to the tank.
8. Coat surfaces of gasket with a light grease to allow for proper seating.
9. Replace cover
10. Tighten all cover bolts progressively in a diagonal criss-cross pattern until all bolts are properly torqued. These separator cover bolts are a special high-strength alloy, designed “GRADE 8”. No substitution is allowed.
11. Reconnect all tubing.

6.5 BOLT TORQUE SPECS

SIZE	GRADE	TORQUE
1/2	8	100 FT LBS

NOTE : Maintenance Kits are available to provide annual amounts of change out of lubricant, separator and filter elements.

6.6 PRESSURE ADJUSTMENT

Only the throttling and unload or cut-out/automatic stop pressure can be adjusted. If the plant air service main pressure falls when the compressor is running at full load, more air is being used than the compressor can supply.

To raise the pressure at which intake throttling occurs, loosen jam nut on control regulator valve and turn adjustment screw clockwise. To lower, turn counter-clockwise. Re-tighten jam nut when pressure is satisfactory.

If no throttling is desired, that is to achieve strictly “Full Load/Shut-Off” in the “Auto” mode, merely continue to raise the throttling pressure until it is just higher than the cut-out setting of the pressure switch (where it will act as a back-up).

Unload or shut-off pressure settings are modified by adjustments of the pressure switch. Turn upper adjusting screw in (CW) to raise settings; turn out to reduce. Turn lower adjusting screw counter-clockwise to increase differential.

NOTE: For “Continuous Run” mode, it is best to keep control settings as low as possible consistent with plant air requirements. Higher settings for the “Auto” mode should result in longer shut off periods (to save kilowatts) and fewer starts (to minimize motor “inrush” currents; reducing power consumption).

6.7 TROUBLESHOOTING

SYMPTON	PROBABLE CAUSES AND REMEDY
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. Motor starter overload tripped. Reset. Should trouble persist, check sizing and adjustment of overloads. Check motor starter contacts are functioning properly.
	5. Low incoming line voltage. Check voltage. Should voltage check low, consult your power company.
	6. Defective discharge temperature switch. See Section B.
	7. Defective control relay. Replace.
	8. Faulty selector switch. Repair or replace.
	9. Power failure; see start-up.
	10. Unit locked up:
	a. Filled with oil - leaking inlet valve. Replace inlet valve.
	b. Unit failure - replace unit.

SYMPTOM	PROBABLE CAUSES AND REMEDY
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. Low incoming voltage. Consult your power company.
	3. Excessive operating pressure. (O.L. Trips)
	a. Improperly adjusted or defective pressure switch. Readjust, repair or replace. Check pressure at which pressure switch opens.
	b. Separator requires maintenance. Check restriction under full load conditions. (i.e. Difference between line pressure and sump pressure should not exceed 15 psi.
	c. High pressure shutdown switch is set too low. Adjust or replace switch.
	d. Defective blowdown valve. Blowdown valve should exhaust when maximum operating pressure is reached.

Trouble Shooting Cont.

SYMPTOM	PROBABLE CAUSES AND REMEDY
B. MACHINE SHUTS DOWN WITH AIR DEMAND PRESENT	4. Discharge temperature switch open. Monitor temperature gauge readings: normal discharge temperature should be

	100-110° F (55-61° C) above ambient; switch 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. Thermostatic not functioning.
	f. Defective discharge temperature switch. Replace. Also check for a short or open circuit and correct wiring.

SYMPTOM	**PROBABLE CAUSES AND REMEDY**
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. Control pressure regulator out of adjustment. Adjust regulator.
	4. Control pressure switch defective or out of adjustment.
	5. Defective control regulator. Check diaphragm and replace if necessary.
	6. Blowdown valve open. Repair or replace.
	7. Faulty over pressure switch. Replace
	8. Failed coupling. Replace coupling hubs and center element

Troubleshooting Cont.

SYMPTOM	**PROBABLE CAUSES AND REMEDY**
D. LINE PRESSURE RISES ABOVE CUT-OUT PRESSURE	
	1. Leak in control system causing loss of pressure signal. Replace tubing/repair leak.
	2. Defective pressure switch. Replace switch.

	3. Improperly adjusted or defective regulator. Readjust or replace if necessary.
	4. Defective blowdown valve. Check that sump pressure is exhausted to the atmosphere when unloader pilot valve opens. Replace if necessary.
	5. High pressure shutdown switch is defective. Replace.
	6. Faulty inlet valve. Repair or replace.

SYMPTOM	PROBABLE CAUSES AND REMEDY
E. EXCESSIVE LUBRICOOLANT CONSUMPTION	1. Clogged return line. Clean strainer and/or orifice.
	2. Separator element is damaged or not functioning properly. Change separator.
	3. Leak in lubrication system. Check all pipes, connections and components.
	4. Defective inlet valve. Repair inlet valve
	5. Operating pressure below 60 psig. Repair minimum pressure valve

SYMPTOM	PROBABLE CAUSES AND REMEDY
F. PRESSURE RELIEF VALVE OPENS REPEATEDLY	1. High pressure shutdown switch is defective. Replace.
	2. Faulty Pressure Relief Valve. Replace.
	3. Incorrect control settings. Readjust/replace control regulator and/or control pressure switch.

SYMPTOM	PROBABLE CAUSES AND REMEDY
G. LINE PRESSURE VENTING THROUGH BLOWDOWN	1. Defective Check Valve portion of Minimum Pressure/Check Valve. Repair or replace check valve

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, seals and substandard parts have been replaced. All other parts are inspected to meet our quality standards. 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 in accordance with the terms set forth in the current air-end warranty.

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
3501 W. DUNES HWY.
MICHIGAN CITY, IN 46360
TELEPHONE: 219-874-2497 FAX: 219-872-5043
E-mail: jrissman@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.

Standard commercial hardware items such as fasteners or fittings may not be listed since it is usually more convenient and economical to obtain such items locally.

7.2 RECOMMENDED SPARE PARTS

ITEM	DESCRIPTION	PART NO.	QTY.
1*	ELEMENT, AIR FILTER	28174-113	1
2	ELEMENT, OIL FILTER	00520-016	1
3	ELEMENT, OIL SEPARATOR	KB8000-025	1
4	VALVE, REGULATING	09661-002	1
4A	KIT, REGUL. VALVE REPAIR	K09661-002	1
5	VALVE, SOLENOID BLOWDOWN	40529-011	1
5A	KIT, SOLENOID VALVE DIAPHRAM	K40529-011A	1
6	VALVE, PRESSURE RELIEF	03100-006	1
7	SWITCH, CONTROL PRESSURE	09345-006	1
8	SWITCH, TEMPERATURE, 120 VOLT	00438-008	1
9	SWITCH, ANTI RE-START	09344-001	1
10	SWITCH, OVERPRESSURE	09344-003	1
11A*+	SEAL KIT, COMPRESSOR SHAFT	K09147-163V	1
12A	PALASYN 45 LUBRICOOLANT (5 GALLON)	00061-005A	2
12B	AFX IDEAL 32 LUBRICOOLANT (5 GALLON)	00051-005	2
	PALLUBE 32p LUBRICOOLANT (5 GALLON)	00064-005	2
13	ELEMENT COUPLING (RED)	08516-055	1

ELEMENT, AIR FILTER QTY = 1 #28174-110 - Used w/metal canister filter (opt.)
ELEMENT, COUPLING (RED) QTY = 1 #08516-055
SHAFT SEAL KIT QTY = 1 #K09147-163V

7.3 LUBRICATION AND COOLING SYSTEM UDS

	75hp	100hp		
ITEM#	PART NUMBER	PART NUMBER	DESCRIPTION	QTY.
1	07711-012	07711-013	COOLER, OIL/A.C. 100hp	1
2	90659-121	90659-121	O-RING, VITON	2
3	08207-011	08207-011	HOUSING, BY-PASS 60-100	1
4	98390-016	98390-016	ELBOW, 90° ORB/ORB-1"	1
5	90115-113	90115-113	BOLT, HH-3/8" X 3 1/2"	2
6	08415-016	08415-016	HEAD, FILTER-OIL	1
* 7	------	------	GASKET, OIL FILTER	1
8	80220-016	80220-016	ELBOW, CMS/ORB-1" X 1"	3
9	09616-051	09616-051	TUBE, FLEX-1" 'OIL LINE'	1
10	80120-016	80120-016	CONNECTOR,-CMS/ORB-1"	1
11	00520-016	00520-016	ELEMENT, OIL FILTER	1
12	95206-019	95206-019	BOLT, SOC. M10-1.5X30	4
13	03000-018	03000-018	PLATE, OIL INLET-E25	1
14	09600-112	09600-112	TUBE, 1" THERMO VLV TO SUMP	1
15	93115-002	93115-002	BOLT, WHIZ- 5/16" X 3/4"	30
16	93165-003	93165-003	NUT, WHIZ-5/16"	30
17	90947-001	90947-001	KEY, FAN MOTOR-1/4" X 1 1/8"	1
18	08080-075	08080-100	FAN, COOLING	1
19	90502-032	90502-032	SCREW, SET-5/16" X 3/8"	2
20	03216-011	03216-016	GAURD, FAN	1
21	92906-008	92906-008	CLIP, FAN GUARD-3/16"	12
22	94302-032	94302-032	SCREW, SELF DRILL #8 X 3/4"	12
23	01528-064	01528-062	SUPPORT, FAN MOTOR-100hp	1
24	08747-002	08747-003	MOTOR, FAN 230/460V TEFC	1
25	01528-063	01528-063	SUPPORT, COOLER ASS'Y-SIDE	1
26	01528-066	01528-066	SUPPORT, COOLER ASS'Y-SIDE	3
27	93115-012	93115-012	BOLT, WHIZ-5/16" X 1"	10
28	01680-008	01680-007	VENTURI, FAN-26"	1
29	10992-005	10992-007	PLENUM, COOLER-100hp	1
30	09870-004	09870-004	WEATHERSTRIP, 1" X 1/8"	12
31	09505-006	09505-006	VALVE, THERMOSTAT 165/185	2

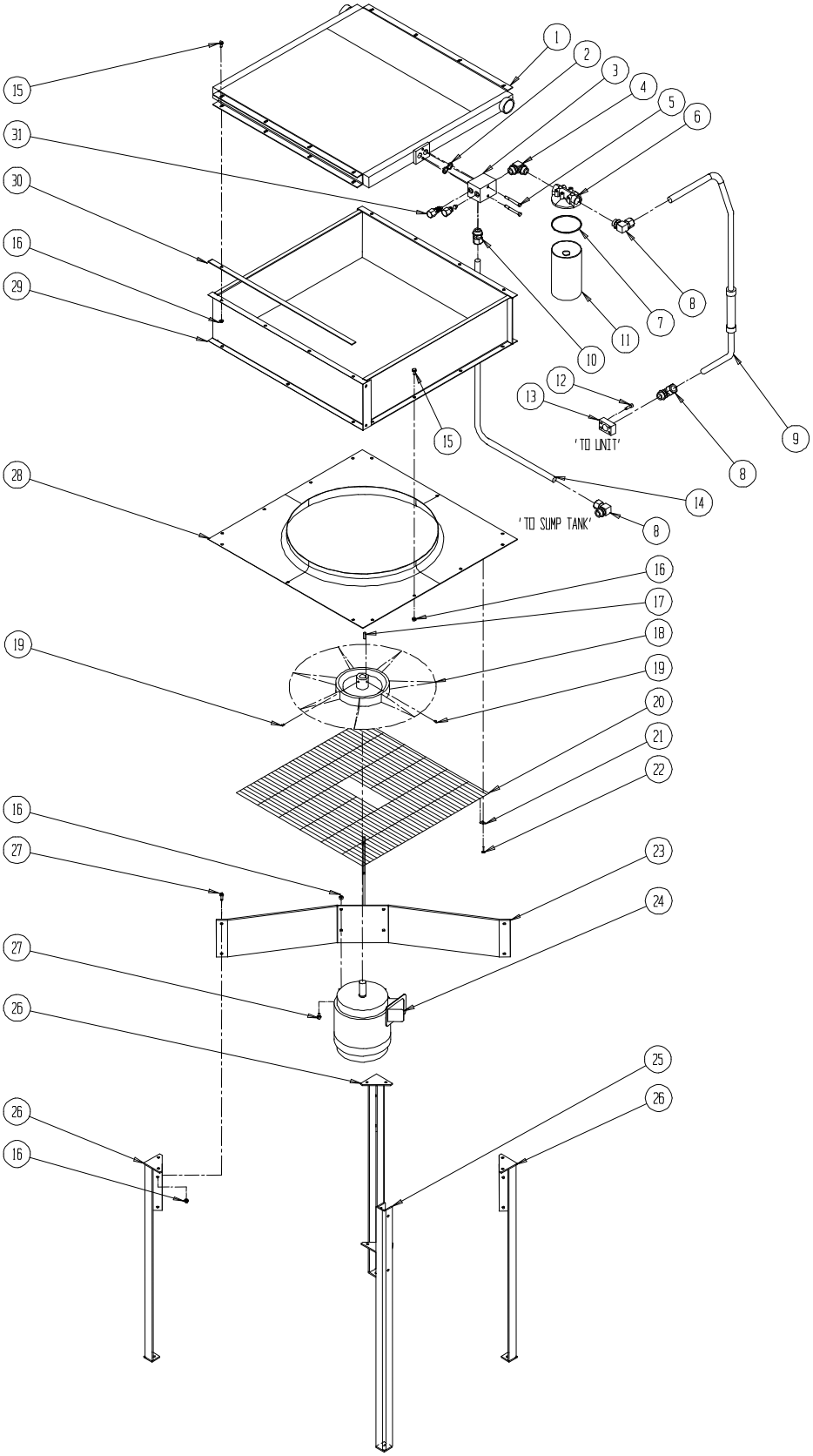
* GASKET SUPPLIED WITH OIL FILTER AND CAN'T BE ORDERED SEPERATELY.

*REQUIRED FOR ENCLOSED COMPRESSOR PACKAGE ONLY.

Water Cooled Machines:

75 hp		100 hp	
Oil Cooler	#00549-004	Oil Cooler	#00549-005
After Cooler	#00549-005	After Cooler	#00549-008
Water Reg. Valve	#18338-020	Water Reg. Valve	#18338-020

LUBRICATION AND COOLING SYSTEM UDS



7.4 MOTOR, COMPRESSOR AND MOUNTING PARTS - BASE MOUNTED UDS

	75hp	100hp		
ITEM#	PART NUMBER	PART NUMBER	DESCRIPTION	QTY.
1	VARIOUS P/N	VARIOUS P/N	MOTOR, MAIN (SEE BOM)	1
**2	90947-286	90947-286	KEY, MOTOR-1/2" X 1/2" X2.75"	2
* 3	90502-062	90502-062	SET SCREW-3/8" X1/2"	4
4	08516-072	08516-073	HUB, DRIVE	1
5	08516-055	08516-055	SPIDER, RED	1
6	08516-580	08516-580	HUB, DRIVEN-2.00"	1
7	93115-387	93115-387	BOLT, WHIZ-1/4" X 1/2"	4
8	00697-007	00697-007	GAURD, COUPLING	1
9	90305-064	90305-064	WASHER, LOCK-5/8"	7
10	90115-035	90115-035	BOLT, HH-5/8" X 1 1/2"	7
***11	80163-170	80163-222	AIR END	1
12	90115-065	90115-065	BOLT, HH-5/8" X 2 1/4"	2
13	90321-006	90321-006	WASHER, FLAT-5/8"	2
14	01419-002	01419-002	SPACER-1/8"	2
15	99988-010	99988-010	NUT, NYLOK-5/8"	2
16	10144-009	10144-009	BASE, FRAME 75/100hp	1
17	93165-003	93165-003	NUT, WHIZ-5/16"	8
18	99988-008	99988-008	NUT, NYLOK-1/2"	4
19	08182-009	08182-009	ISOLATOR, VIBRATION	4
20	93115-002	93115-002	BOLT, WHIZ-5/16" X 3/4"	8
21	28339-006	28339-006	SUPPORT, COMP/MTR-GSA	1
22	99988-010	99988-012	NUT, NYLOK	4
23	90321-005	90321-005	WASHER, FLAT-1/2"	4
24	90115-094	90115-094	BOLT, HH-1/2" X 3"	4
25	01419-001	01419-002	SPACER, MOTOR	4
26	96701-032	96701-032	CONDUIT, FLEX-2"	2
27	91432-032	91432-032	CONNECTOR, CONDUIT-2"	2
**28	90115-004	90115-004	BOLT, HH-1/2" X 3/4"	4
29	03000-113	03000-117	ADAPTER, CONDUIT-2"	1
30	90321-006	---------	WASHER, FLAT	4
31	90115-095	90115-056	BOLT, MOTOR MTG.	4

NOTE: SHIMS MAY BE REQUIRED BETWEEN MOTOR
AND SPACER.

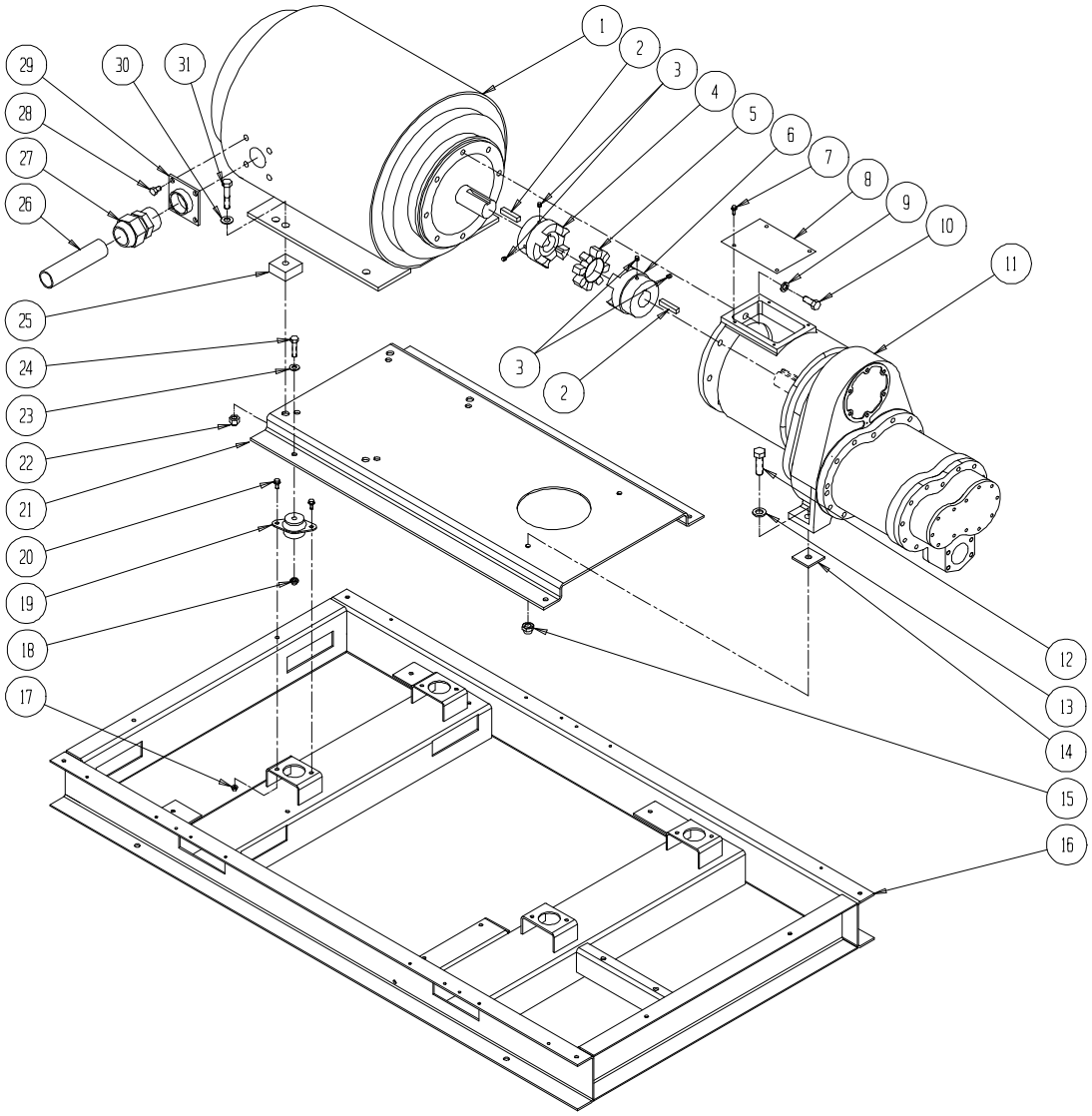
* SUPPLIED WITH COUPLING HUB

** SUPPLIED WITH MOTOR

*** SHAFT SEAL REPAIR KIT: K09147-163S

75HP MOTOR	100HP MOTOR
ODP #08741-075	ODP #08741-100
TEFC #08747-075	TEFC #08747-100

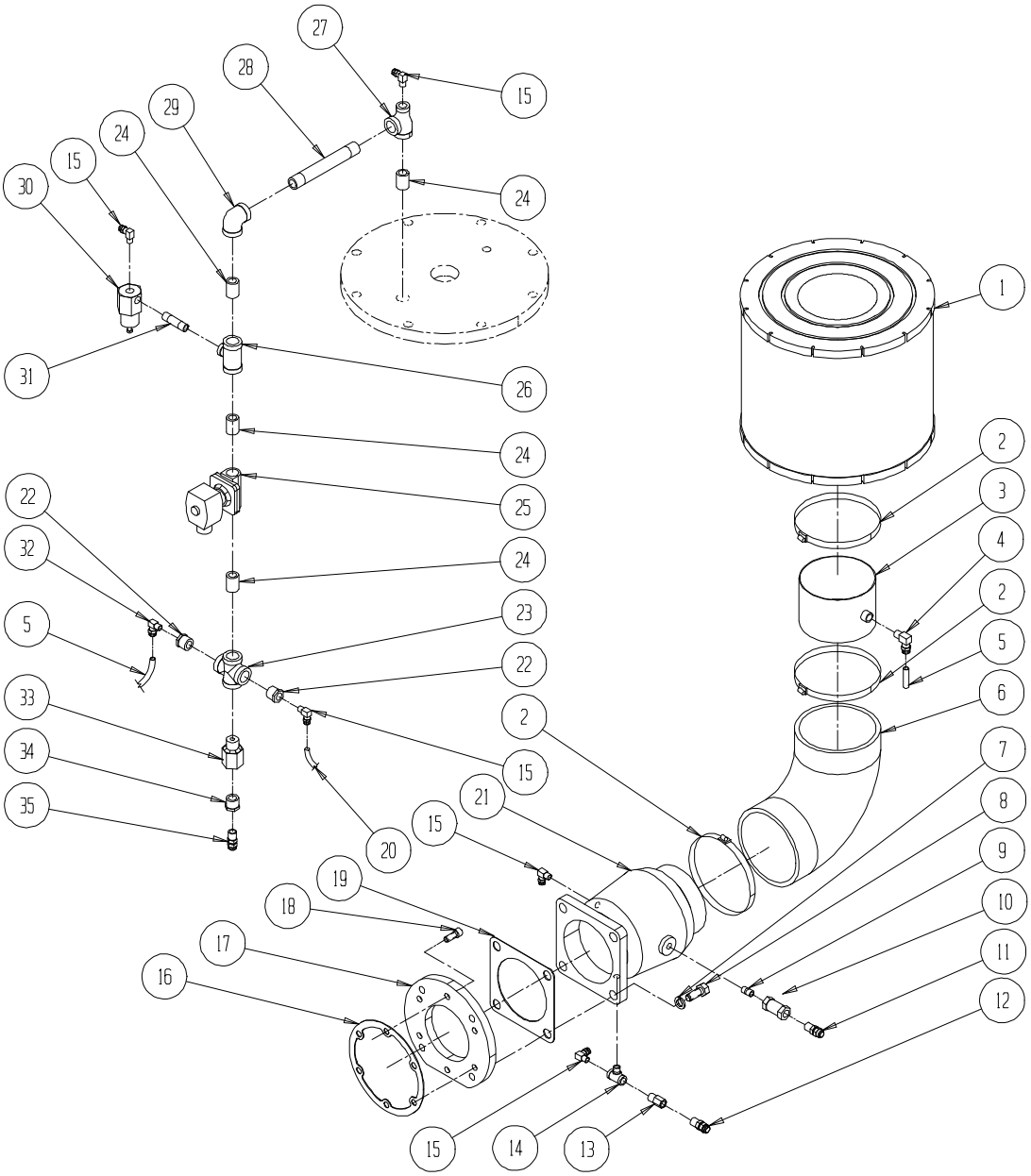
MOTOR, COMPRESSOR AND MOUNTING PARTS – BASE MOUNTED UDS



7.5 INTAKE AND CAPACITY CONTROL SYSTEM UDS

ITEM#	PART NUMBER	DESCRIPTION	QTY.
1	28174-113	FILTER, AIR INTAKE	1
2	92320-176	CLAMP, HOSE-5 1/2"	3
3	00496-013	DUCT, INLET/3/8" FPT TAP	1
4	91557-066	ELBOW, NT-3/8" X 3/8" MPT	1
5	90082-006	TUBE, NYLON-3/8"	5
6	91411-050	ELBOW, RUBBER-5" X 5"-90°	1
7	90305-004	WASHER, LOCK-1/2"	4
8	90115-024	BOLT, HH-1/2" X 1 1/4"	4
9	91182-000	NIPPLE, PIPE-1/4" X CLOSE	1
10	91299-044	VALVE, CHECK-1/4"	1
11	91553-064	CONN. NT-3/8" X 1/4"MPT	1
12	91553-044	CONN. NT-1/4" X 1/4"MPT	1
13	03001-063	ORIFICE, .063" X 1/4"	1
14	96425-004	TEE, PIPE MALE BRANCH-1/4"	1
15	91557-044	ELBOW, NT-1/4" X 1/4" MPT	5
16	00633-163	GASKET, INLET-163 SULL	1
17	03000-114	ADAPTER, INLET-SULL	1
18	92224-071	BOLT, SOC-3/8" X 1"	6
19	00633-021	GASKET, INLET VLV TO ADAPTER	1
20	90082-004	TUBING, NYLON-1/4"	55
21	09790-010	VALVE, INTAKE-4"	1
22	91167-005	BUSHING, RED-1/2" X 1/4"	2
23	92190-008	CROSS, PIPE-GALV-1/2"	1
24	91177-008	NIPPLE, PIPE-GALV-1/2" X CLOSE	4
25	40529-011	VALVE, SOLENOID-2W-1/2"	1
26	95330-078	TEE, GALV-1/2" X 1/2" X 1/4"	1
27	95330-008	TEE, GALV-1/2" X1/4" X 1/2"	1
28	91177-166	NIPPLE, PIPE-GAL-1/2" X 5"	1
29	91027-008	ELBOW, PIPE-90° GALV.-1/2"	1
30	09661-002	VALVE, REGULATOR-1/4"	1
31	92469-056	NIPPLE, BRASS-1/4" X 2"	1
32	91557-064	ELBOW, 90° NT-3/8" X 1/4"M	1
33	03001-250	ORIFICE, .250-1/2"	1
34	91163-006	BUSHING, RED-1/2" X 3/8"	1
35	91553-066	CONNECTOR, NT-3/8" X 3/8"MPT	1

INTAKE AND CAPACITY CONTROL SYSTEM UDS



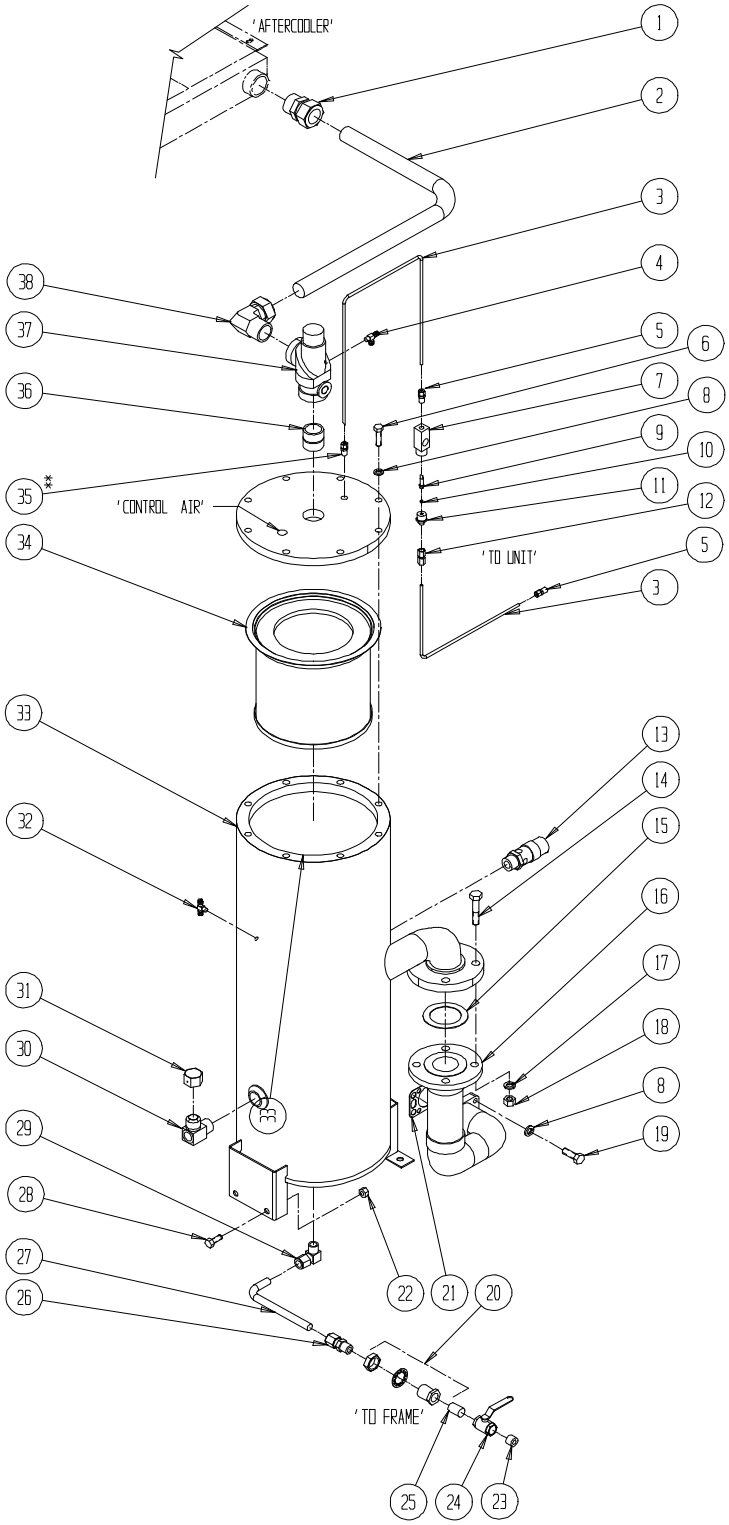
7.6 DISCHARGE SYSTEM UDS

ITEM#	PART NUMBER	DESCRIPTION	QTY.
1	96363-242	CONNECTOR-TUBE-1 1/2X1 1/2	1
2	99600-024	TUBE, STEEL-1 1/2"	3
3	99600-004	TUBE, STEEL-1/4"	4
4	91564-042	TEE, MALE RUN- NT 1/4" X 1/8"MPT	1
* 5	96363-044	CONN. CFS 1/4" X 1/4"	2
6	90042-044	BOLT, 1/2" X 1 3/4" GR8	8
* 7	19349-001	SIGHT GLASS-OIL RTN	1
8	90305-004	WASHER, LOCK-1/2"	12
* 9	18577-001	INSERT, STRAINER	1
* 10	03001-064	ORIFICE, INSERT	1
* 11	00023-001	ADAPTER, SIGHT GLASS	1
* 12	95550-042	CONN. CFS-1/4" X 1/8"FPT	1
13	03100-066	VALVE, RELIEF-1"-150PSIG	1
14	90115-095	BOLT, HH-5/8"-11 X 3"	4
15	90708-007	GASKET, 150#RF-2 1/2" FLG.	1
16	19600-024	PIPE, DISCHARGE-75/100 GSA	1
17	90305-064	WASHER, LOCK-5/8"	4
18	90165-006	NUT, HEX-5/8"	4
19	90115-034	BOLT, HH-1/2" X 1 1/2"	4
20	92141-005	BULKHEAD, BRASS-1/2"	1
21	00633-017	GASKET, OUTLET-GSA UNIT	1
22	93165-006	NUT, WHIZ-1/2"	4
23	91928-008	PLUG, PIPE HEX SOCKET-1/2"	1
24	95785-008	VALVE, DRAIN-1/2"	1
25	91177-008	NIPPLE, PIPE-1/2" X CLOSE	1
26	96363-108	CONN. CMS-5/8" X 1/2"	1
27	99600-010	TUBING, STEEL-5/8"	1'
28	93115-034	BOLT, WHIZ-1/2" X 1 1/2"	4
29	96391-108	ELBOW, CMS-5/8" X 1/2"	1
30	17254-016	ELBOW, OIL-FILL/SIGHT	1
31	07255-016	CAP, VENTED (OIL FILL)	1
32	91584-042	TEE, MALE BRANCH-1/8" X 1/4"	1
33	03448-104	TANK, SUMP/SEPARATOR	1
34	08000-025	ELEMENT, SEPARATOR-75/100hp	1
35	03286-003	FITTING, SIPHON	1
36	91177-024	NIPPLE, PIPE-1 1/2" X CLOSE	1
**37	09610-004	VALVE, MPC-1 1/2"	1
38	96390-242	ELBOW, CMS-1 1/2" X 1 1/2"	1

* OIL RETURN SIGHT GLASS REPLACEMENT ASSEMBLY #29349-064
** REPLACEABLE RUBBER SEAL #00547-001

~ Use Lithium Grease to Service MPC.

DISCHARGE SYSTEM UDS



7.7 GAUGE PANEL AND ELECTRICAL PARTS UDS

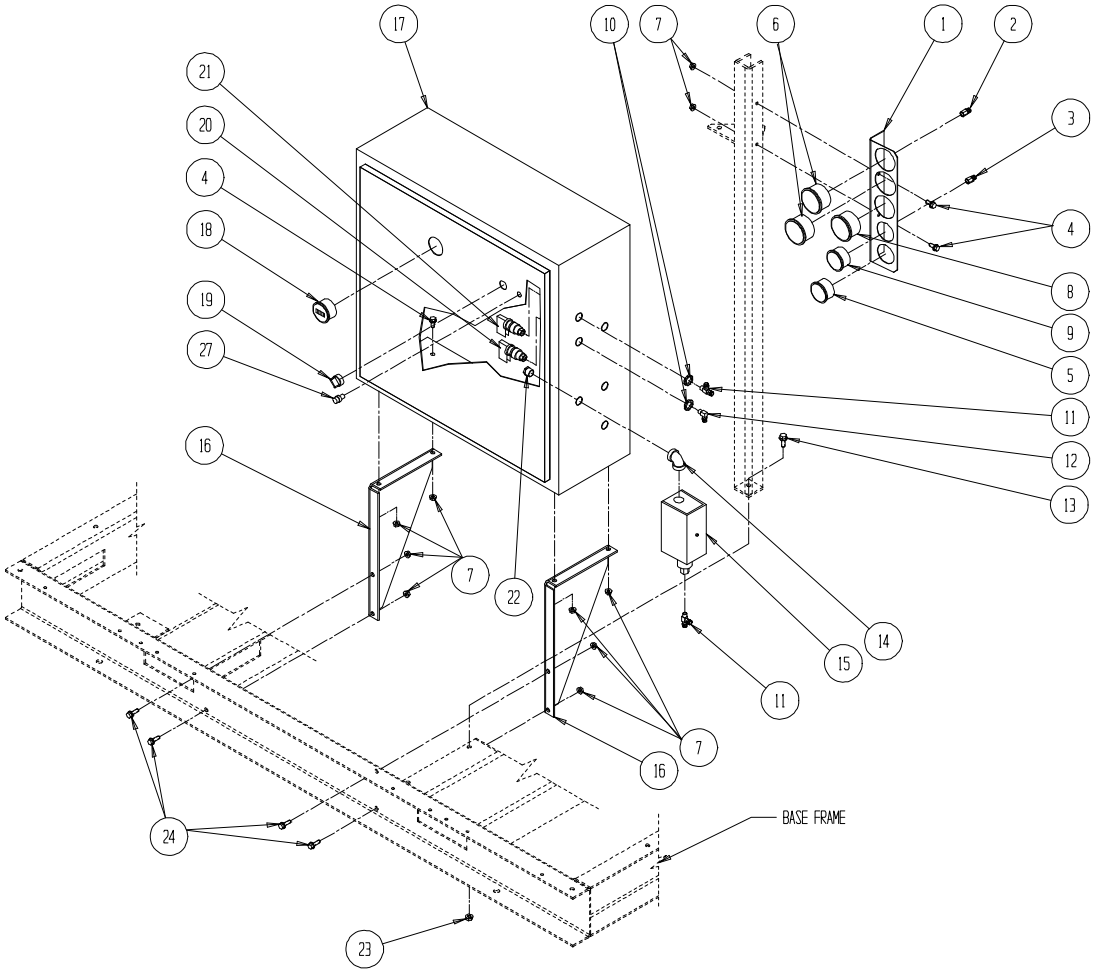
ITEM#	PART NUMBER	DESCRIPTION	QTY.
1	00944-010	PANEL, 5-GAUGE-DELUX	1
2	91550-042	FITTING, PTUBE-1/8X1/4	4
3	91550-044	FITTING, PTUBE-1/4X1/4	2
4	93115-002	BOLT, WHIZ 5/16 X 3/4	6
5	09175-030	GAUGE, DELTAP 0-30PSIG	1
6	09174-325	GAUGE, PRESSURE-2.5"	2
7	93165-003	NUT, WHIZ 5/16	10
8	08312-025G	GAUGE, TEMP-2.5"	1
9	09175-001	GAUGE, DELTAP 0-15PSIG	1
10	91401-001	NUT, CONDUIT-1/2"	2
11	91565-042	TEE, M-RUN 1/4 X 1/8	2
12	91557-042	ELBOW, NT 1/4 X 1/8	1
13	93115-013	BOLT, WHIZ-3/8 X 1	1
14	60650-009	ELBOW, RIGID COND-1/2	1
**15	09345-006	SWITCH, PRESSURE	1
16	09355-007	SUPPORT, STRT BOX	2
*17	VARIOUS	ENCLOSURE,STARTER ASSY	1
18	00735-120	GAUGE, HOURMETER	1
19	00701-795	SWITCH, SELECTOR	1
20	09344-001	SWITCH, ANTI-RESTART	1
21	09344-003	SWITCH, ROP	1
22	62469-008	NIPPLE, CHASE-1/2"	2
23	93165-004	NUT, WHIZ-3/8"	1
24	93115-012	BOLT, WHIZ-5/16 X 1"	4
25	00438-008	SWITCH, CDT (N.I.)	1
26	00438-009	SWITCH, HAT (N.I.)	1
27	00347-004	AMBER 'POWER ON' LIGHT	1

#25 MOUNTED IN COMPRESSOR DISCHARGE HOUSING OR DISCHARGE PIPE.
#26 MOUNTED IN THE DRY SIDE OF THE SEPARATOR TANK.
* SEE BILL OF MATERIAL FOR CORRECT P/N
** 09345-008 SWITCH, PRESSURE NEMA-4

* FOR HIGH PRESSURE MACHINES (OVER 150 PSIG., USE 09345-012)

** FOR LOW PRESSURE MACHINES (I.E.<75PSIG) 09344-000

GAUGE PANEL AND ELECTRICAL PARTS UDS

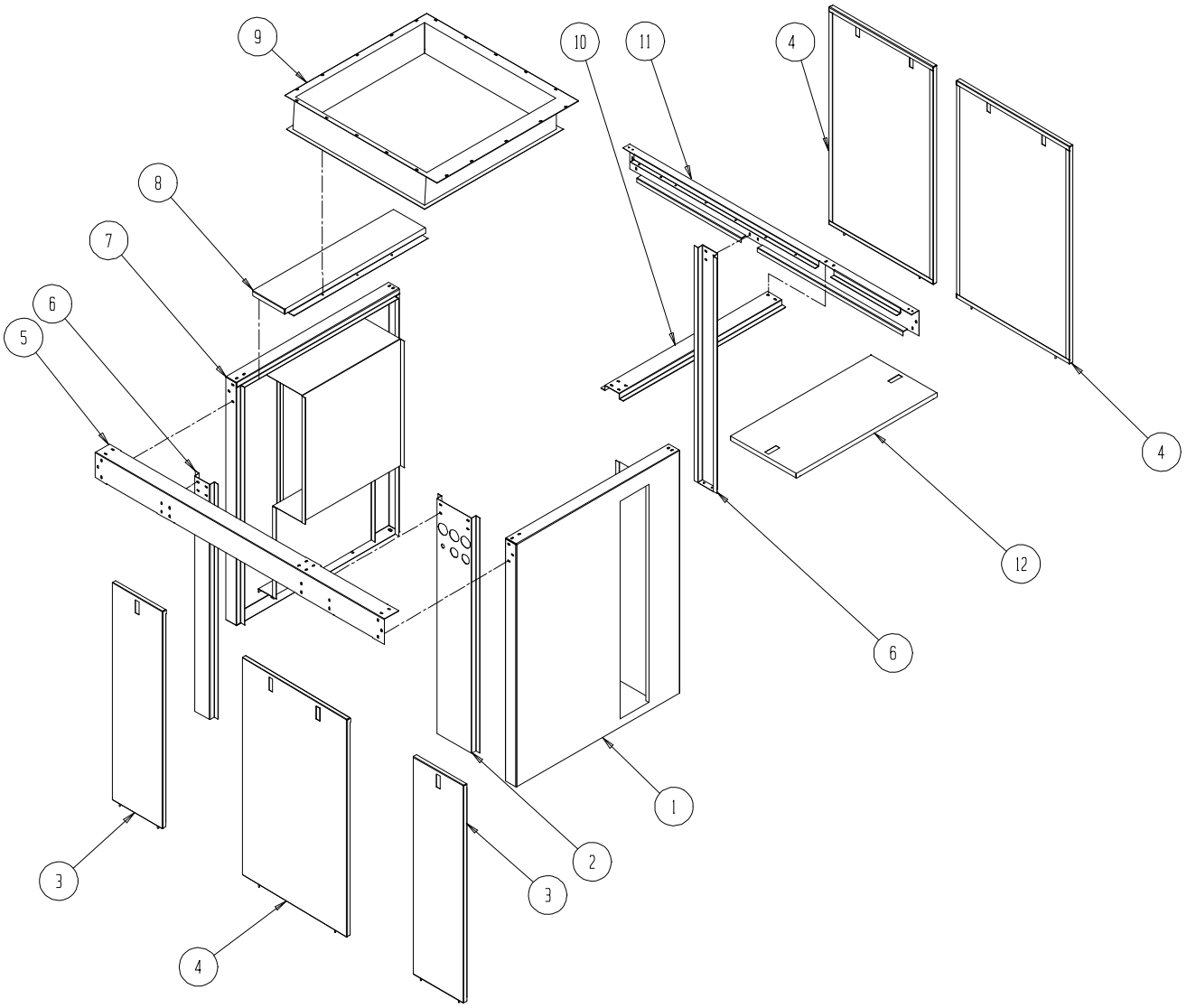


7.8 ENCLOSURE – AIR COOLED UDS

AIR COOLED ENCLOSURE ASSEMBLY PARTS LIST

	75hp	100hp		
ITEM#	PART NUMBER	PART NUMBER	DESCRIPTION	QTY
1	10947-031	10947-031	PANEL, TANK END BAFFLE	1
2	10947-036	10947-036	PANEL, SIDE SUPPORT-INST	1
3	00488-004	00488-004	DOOR, ACCESS SIDE-12"	2
4	00488-006	00488-006	DOOR, ACCESS SIDE-34"	3
5	00947-013	00947-013	PANEL, TOP-LH	1
6	10947-037	10947-037	PANEL, SIDE SUPPORT	2
7	10947-032	10947-032	PANEL, MOTOR END BAFFLE	1
8	00947-024	00947-024	PANEL, TOP-MOTOR END	1
9	10947-034	10947-033	PANEL, TOP AIR OUTLET	1
10	10947-015	10947-015	PANEL, SUPPORT TOP	1
11	00947-012	00947-012	PANEL, TOP-RH	1
12	00488-018	00488-018	DOOR, ACCESS-TOP-18.25"	1

ENCLOSURE – AIR COOLED UDS



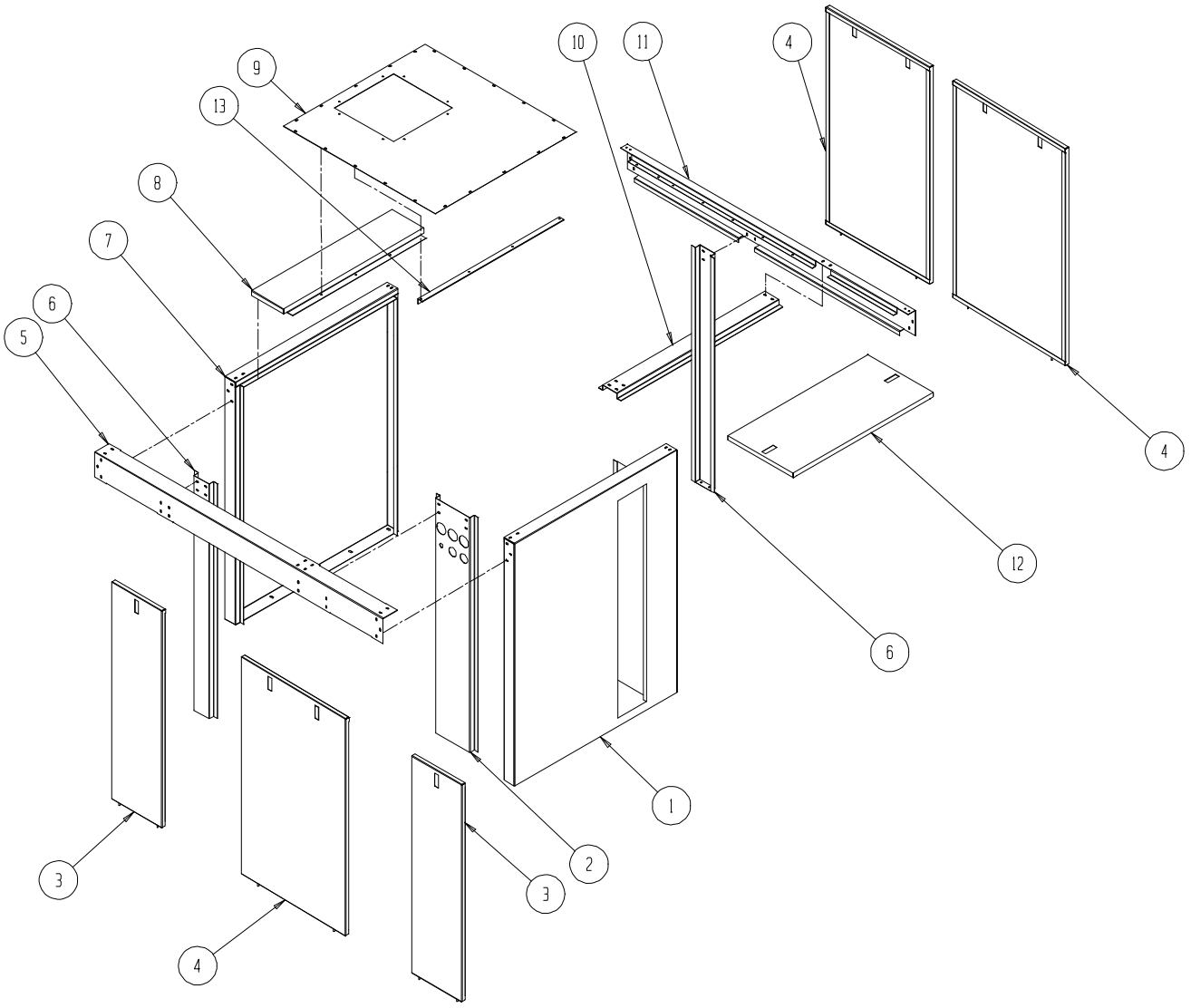
7.9 ENCLOSURE – WATER COOLED UDS

WATER COOLED ENCLOSURE PARTS LIST

ITEM#	PART NUMBER	DESCRIPTION	QTY
1	10947-031	PANEL, TANK END BAFFLE	1
2	10947-036	PANEL, SIDE SUPPORT-INST	1
3	00488-004	DOOR, ACCESS SIDE-12"	2
4	00488-006	DOOR, ACCESS SIDE-34"	3
5	00947-013	PANEL, TOP-LH	1
6	10947-037	PANEL, SIDE SUPPORT	2
7	10947-035	PANEL, MOTOR END-WC	1
8	00947-024	PANEL, TOP-MOTOR END	1
9	10947-021	PANEL, TOP FAN SUPPORT	1
10	10947-015	PANEL, SUPPORT TOP	1
11	00947-012	PANEL, TOP-RH	1
12	00488-018	DOOR, ACCESS-TOP-18.25"	1
13	00935-007	ANGLE, SUPPORT-FAN MTG.	1

*WATER COOLED VENT FAN P.N. 18080-016 1 QUANTITY NOT SHOWN ON DRAWING.

ENCLOSURE – WATER COOLED UDS



7.10 DECAL AND IDENTIFICATION

ITEM	DESCRIPTION	QTY	MODEL 75 UD	MODEL 100UD
1	PLATE, NAME/S.N.	1	03832-043	03832-043
2	DECAL, VOLTAGE 460	1	08377-001	08377-001
3	DECAL, WARNING	1	08377-043	08377-043
4	DECAL, WARNING	1	08377-045	08377-045
5	DECAL, WARNING	1	08377-046	08377-046
6	DECAL, 3-POSITION SWITCH	1	08378-048	08378-048
7	DECAL, INSTRUCTIONS	1	08379-011	08379-011
8	DIAGRAM, WIRING	1	12288-003	12288-005

SECTION 8 – WARRANTY

Sullivan-Palatek

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 Registration: The purchaser shall complete and return the warranty registration form within 10 days of start-up to validate the warranty. Failure to submit the warranty registration will cause the warranty effective date to be the Sullivan-Palatek ship date.

Warranty Period: The warranty period for applicable Sullivan-Palatek products is as follows (subject to the Exclusions and Limitations noted below):

- **Compressor unit and Coupling:** 60 months (5 years) from the date of start-up by authorized distributor or 66 months from date of shipment by Sullivan-Palatek, whichever occurs first.
- **Compressor Shaft Seal and Coupling Element:** Warranted for 12 months from date of start-up or 18 months from date of shipment by Sullivan-Palatek, whichever occurs first.
- **Components not manufactured by Sullivan-Palatek:** Sullivan-Palatek's warranty obligation with regard to equipment and components not of its own manufacture is limited to the warranty actually extended to the company by its supplier.
- **Oil Leaks:** Oil leaks will be covered under warranty for a period of 60 days from start up, but not longer than 90 days after shipment from Sullivan-Palatek.

Warranty replacement parts: Remainder of the original warranty period of the replaced part.

Sullivan-Palatek's Obligations: Sullivan-Palatek's exclusive obligations with respect to breach of warranty are (I) to repair or replace (at Sullivan-Palatek option and subject to return of defective parts) any defective part, (ii) to pay the reasonable cost of making the repair, or installing the replacement part (iii) to pay ground freight for the return of defective parts and shipment of replacement parts.

Customer Responsibility: As a condition to Sullivan-Palatek's obligations under this warranty, customer shall; (I) give Sullivan-Palatek written notice of warrantable failure of the Sullivan-Palatek product within the applicable warranty period, (ii) make the product available for repair; (iii) return defective parts to Sullivan-Palatek; (iv) pay reasonable travel expenses for field repairs performed at customer's request, (v) pay the costs of investigating performance complaints that are not covered by this warranty; and (vi) pay costs of air freight or other expedited delivery made at customer's request.

Exclusions and Limitations: Disassembly of the air compressor unit will void this warranty and the unit exchange policy. Sullivan-Palatek has no obligation for product failures or defects resulting from overload, misuse, neglect, accident, failure to comply with Sullivan-Palatek's product manual or failure to install product improvements provided by Sullivan-Palatek Attachment of accessories or service parts not supplied or recommended by Sullivan-Palatek may void the warranty of the product.

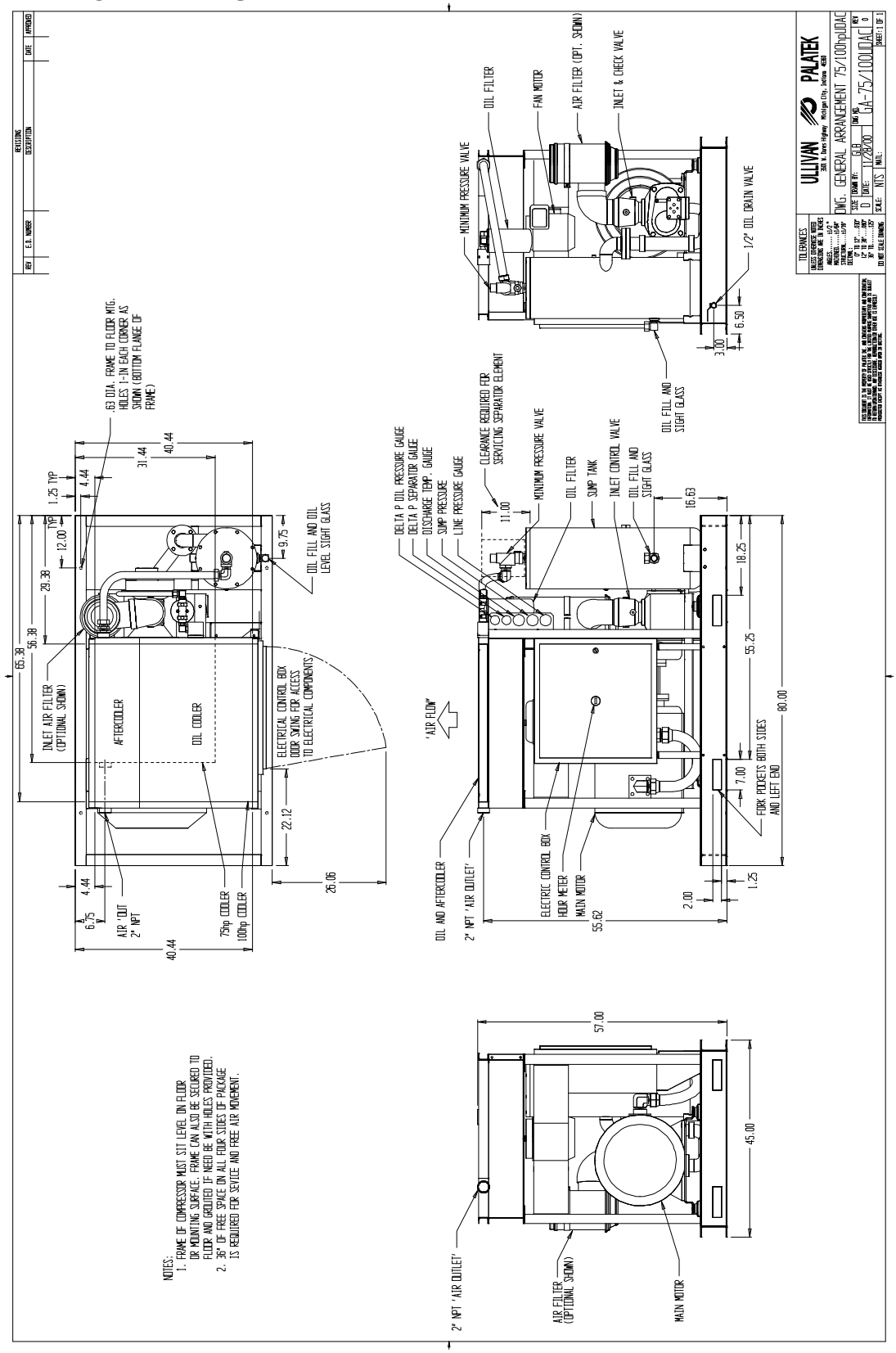
THIS WARRANTY IS SULLIVAN-PALATEK'S ONLY WARRANTY OF ITS STATIONARY INDUSTRIAL AIR COMRESSOR PRODUCTS AND IS IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED. ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE ARE EXCLUDED. SULLIVAN-PALATEK HAS NO OBLIGATION UNDER THIS WARRANTY OR OTHERWISE (REGARDLESS OF THE FORM OF ACTION) FOR SPECIAL, CONSEQUENTIAL OR INCIDENTAL DAMAGES, INCLUDING WITHOUT LIMITATION LOST PROFITS OR LOST INCOME.

This warranty applies to all Sullivan-Palatek stationary industrial air compressors of 15 horsepower or greater shipped after April 1, 2003 superseding previous warranty policies, except to the extent expressly superseded by a later warranty. In the event of any conflict between this warranty and earlier warranty statements, the terms of this warranty will control.

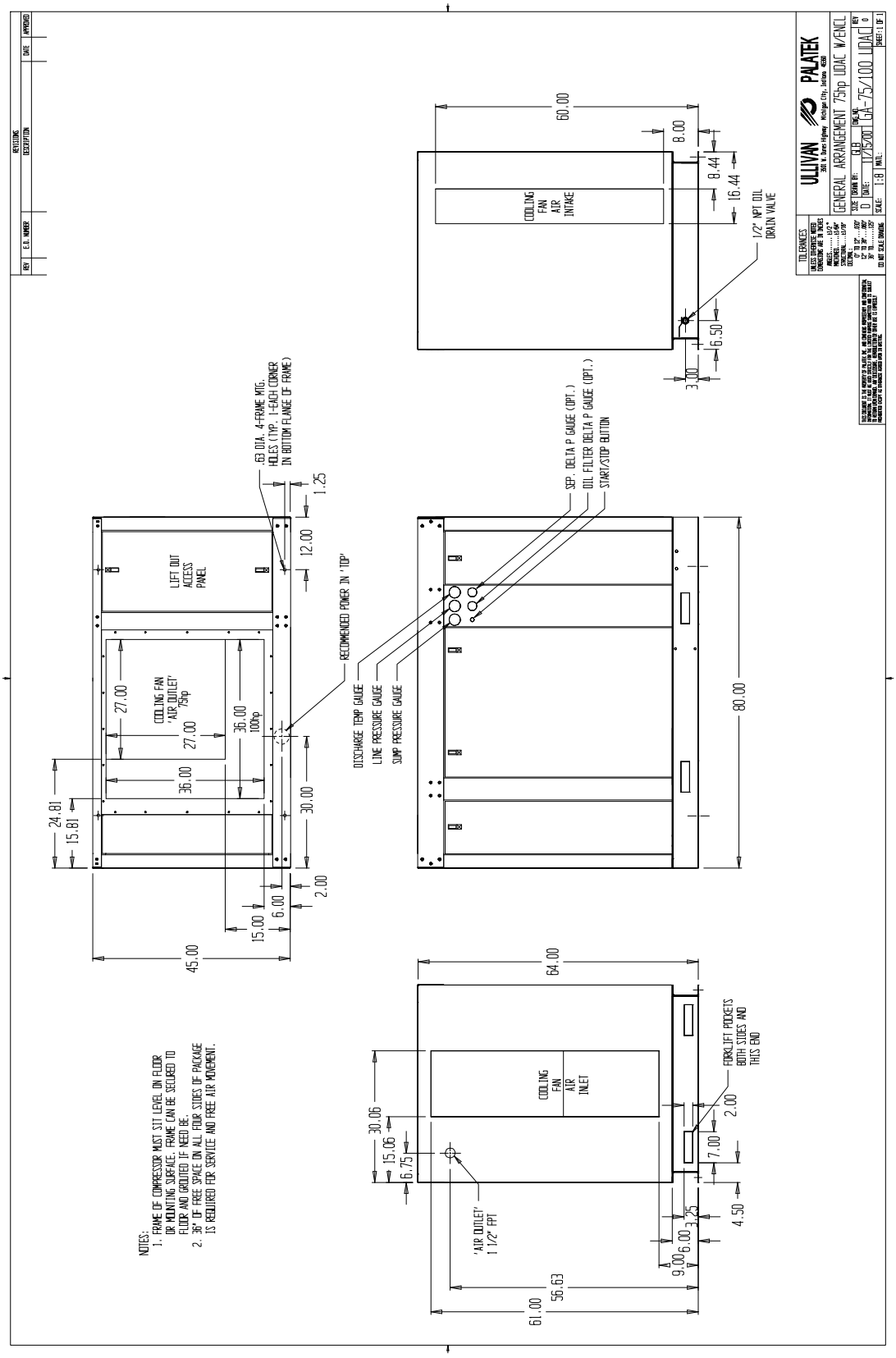
MAINTENANCE LOG

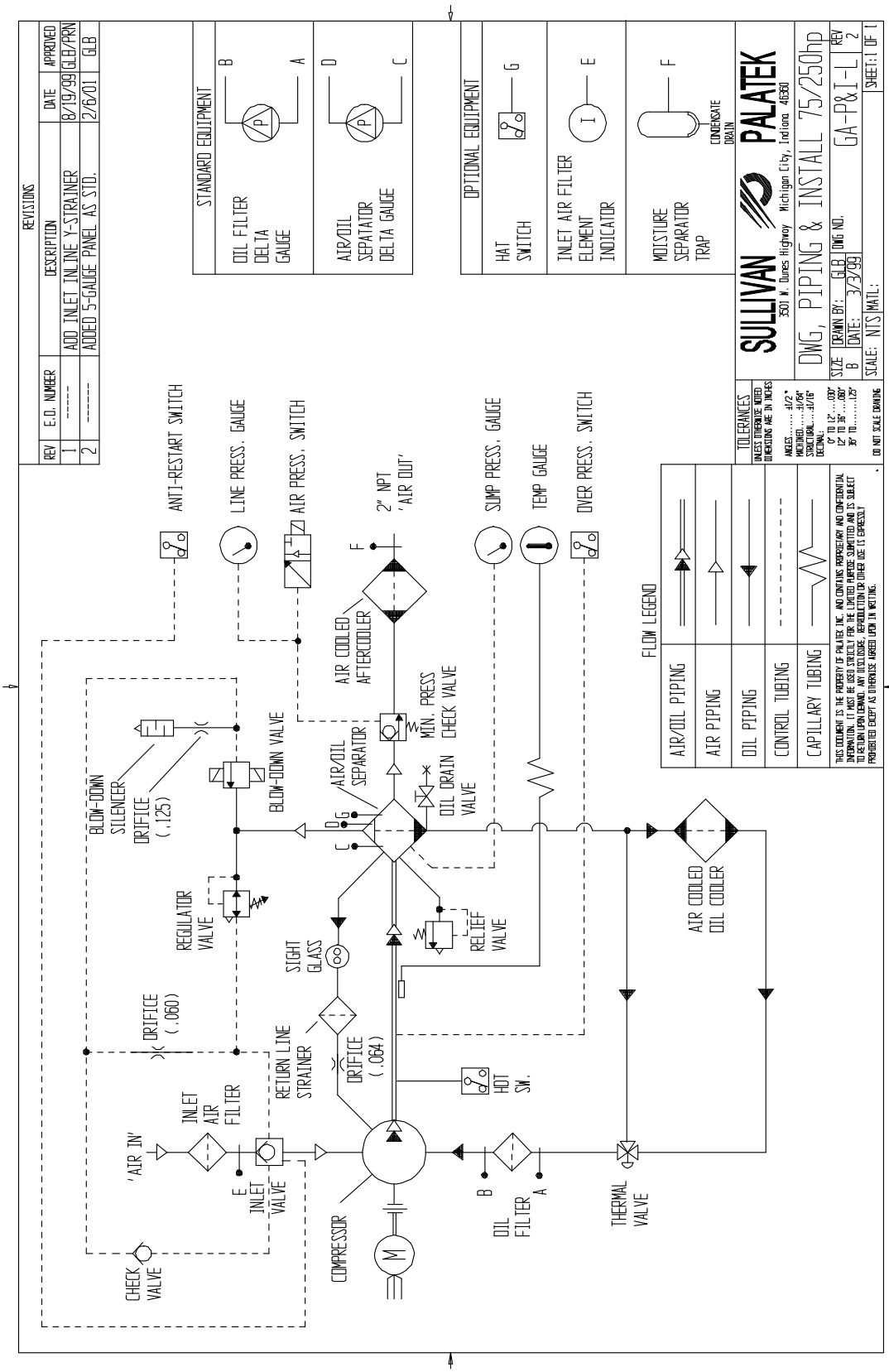
DATE	BY	HOURMETER READING	AIR-OIL TEMP.	LINE PRES.	SUMP PRES.	OIL RETURN CLEAR FULL	OIL LEVEL	OIL FILTER	AIR/OIL SEP.	AIR FILTER	SERVICED BY

INSTALL – OPEN - DWG



INSTALL – ENCLOSED – DWG




REVISIONS
REV | E.O. NUMBER | DESCRIPTION | DATE | APPROVED
1 | ----- | ADD INLET INLINE Y-STRAINER | 8/19/99 | GLB/PRN
2 | ----- | ADDED 5-GAUGE PANEL AS STD. | 2/6/01 | GLB
STANDARD EQUIPMENT
OIL FILTER DELTA GAUGE
AIR/OIL SEPARATOR DELTA GAUGE
OPTIONAL EQUIPMENT
HAT SWITCH
INLET AIR FILTER ELEMENT INDICATOR
MOISTURE SEPARATOR TRAP
CONDENSATE DRAIN
ANTI-RESTART SWITCH
LINE PRESS. GAUGE
AIR PRESS. SWITCH
2" NPT 'AIR OUT'
SUMP PRESS. GAUGE
TEMP GAUGE
OVER PRESS. SWITCH
AIR COOLED AFTERCOOLER
MIN. PRESS CHECK VALVE
OIL DRAIN VALVE
AIR/OIL SEPARATOR
BLOW-DOWN SILENCER
ORIFICE (.125)
BLOW-DOWN VALVE
REGULATOR VALVE
SIGHT GLASS
RELIEF VALVE
AIR COOLED OIL COOLER
ORIFICE (.060)
INLET AIR FILTER
RETURN LINE STRAINER
ORIFICE (.064)
HOT SW.
'AIR IN'
INLET VALVE
COMPRESSOR
OIL FILTER
THERMAL VALVE
CHECK VALVE
FLOW LEGEND
AIR/OIL PIPING
AIR PIPING
OIL PIPING
CONTROL TUBING
CAPILLARY TUBING
TOLERANCES
UNLESS OTHERWISE NOTED DIMENSIONS ARE IN INCHES
ANGLES.....±1/2°
MACHINED.....±1/64"
STOCK DIAM.....±1/16"
DECIMAL
0" TO 12".....±.030"
12" TO 36".....±.060"
36" TO.....±.125"
THIS DOCUMENT IS THE PROPERTY OF PALATEK, INC. AND CONTAINS PROPRIETARY AND CONFIDENTIAL INFORMATION. IT MUST BE USED STRICTLY FOR THE LIMITED PURPOSE SUBMITTED AND IS SUBJECT TO RETURN UPON DEMAND. ANY DISCLOSURE, REPRODUCTION OR OTHER USE IS EXPRESSLY PROHIBITED EXCEPT AS OTHERWISE AGREED UPON IN WRITING.
DO NOT SCALE DRAWING
SULLIVAN PALATEK
3501 W. Dunes Highway Michigan City, Indiana 46360
DWG, PIPING & INSTALL 75/250hp
SIZE B
DRAWN BY: GLB
DATE: 3/3/99
DWG NO. GA-P&I-L
REV 2
SCALE: NTS
MATL:
SHEET: 1 OF 1