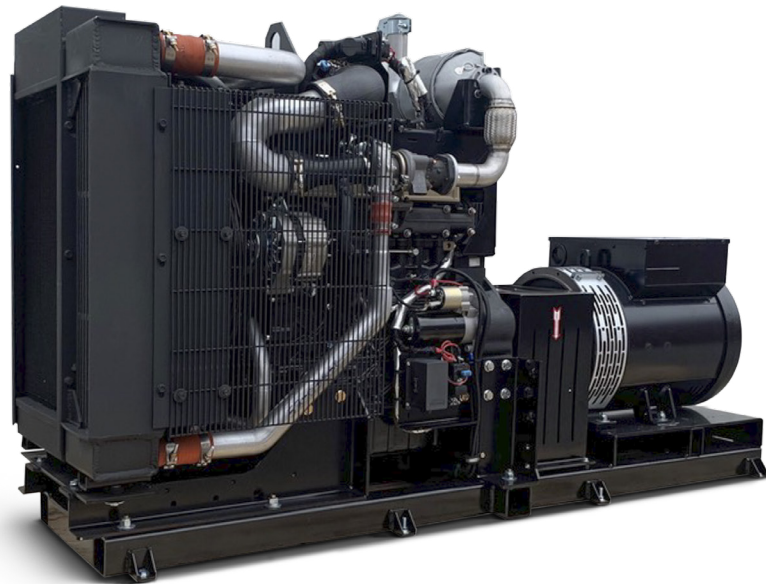


Compressor Generator Combination Packages

35-105 HP

Generator Packages 15-90 kW

Owners Manual



Always check www.compressed-air-systems.com for current manual and compressor service or technical information

CAUTION READ THIS MANUAL CAREFULLY before operating or servicing this air compressor, to familiarize yourself with the proper safety, operation, and standard operating procedures of this unit.

FAILURE TO COMPLY WITH INSTRUCTIONS IN THIS MANUAL COULD RESULT IN THE VOIDING OF YOUR WARRANTY, AND PERSONAL INJURY, AND/OR PROPERTY DAMAGE.

THE MANUFACTURER OF THIS AIR COMPRESSOR WILL NOT BE LIABLE FOR ANY DAMAGE BECAUSE OF FAILURE TO FOLLOW THE INSTRUCTIONS IN THIS MANUAL. By following the instructions and recommendations in this manual you will ensure a longer and safer service life of your air compressor.

If you have questions or need clarification about this manual or your compressor call 800-531-9656

For drive engine service to maintenance refer to the drive engine specific manual, for generator specific service or maintenance refer to the generator manual.

Do not operate this system outdoors in wet weather

Compressed Air Systems

Simplicity. It's What We Do.

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WARNING: Read all installation steps in install guide, and compressor package manual prior to uncrating or installing compressor package. Failure to do so can result in personal injury or damage to compressor package.

NOTICE: All compressor air receivers should be inspected by a certified pressure vessel technician at least once per year, to check for leaks, weak points in the metal or any other deformity of the air receiver. If at any time a receiver appears out of conformance with ASME/CRN certification or a deformity is believed to have developed no matter how minor it may appear the tank should be locked out of service immediately and replaced with a certified ASME/CRN certified air receiver immediately before the compressor can be put back into service. The receivers should have a general inspection weekly as part of normal service.

SAFETY PRECAUTIONS AND WARNINGS

Listed are some, but not all safety precautions that must be observed with compressors and compressed air systems. Failure to follow any of these warnings may result in severe personal injury, death, property damage and/or compressor damage.

Air from this compressor will cause severe injury or death if used for breathing or food processing. Air used for these processes must meet OSHA 29 CFR 1910 or FDA 21 178.3570 regulations.

This compressor is designed for use in the compression of normal atmospheric air only. No other gases, vapors or fumes should be exposed to the compressor intake, nor processed through the compressor.

Disconnect all power supplies to the compressor plus any remote controllers prior to servicing the unit.

Relieve all pressure internal to the compressor prior to servicing.

Do not depend on check valves to hold system pressure.

A properly sized safety valve must be installed in the discharge piping ahead (upstream) of any shut-off valve (block valve), heat exchanger, orifice or any potential blockage point. Failure to install a safety relief valve could result in rupturing or explosion of some compressor or safety component.

Do not change the pressure setting of the safety relief valve, restrict the function of the safety relief valve, or replace the safety valve with a plug.

Over pressurization of some system or compressor component can occur, resulting in severe personal injury, death and property damage.

Never use plastic pipe, rubber hose, or soldered joints in any part of the compressed air system. Failure to ensure system compatibility with compressor piping is dangerously unsound.

Never use a flammable or toxic solvent for cleaning the air filter or any parts.

Do not attempt to service any part while the compressor is operating.

Do not operate the compressor at pressures in excess of its rating.

Do not remove any guards while the compressor is operating.

Observe gauges daily to ensure compressor is operating properly.

Follow all maintenance procedures and check all safety devices on schedule.

Compressed air is dangerous, do not play with it.

Use the correct lubricant at all times.

Always wear proper safety equipment when using compressed air.

Always install compressor to all local applicable electric codes.

WARNING: Always wear proper protective eyewear, hearing protection and safety clothing when working around the compressor package. No loose or baggy clothing should be worn around compressor package at any time.

WARNING: On Electric motor powered air compressors make sure electrical system is up to National Electric Code (NEC) prior to installing compressor system. Failure to install a compressor with a proper NEC electrical system can cause personal injury, compressor package damage and void compressor package warranty

NOTICE: To ensure full compressor tank warranty all tank mounted compressor packages must be mounted on factory approved vibration isolation pads. A compressor should NEVER be installed while still on or in its original packaging. Failure to properly install the compressor system with approved vibration isolation pads will result in the compressor tank warranty being void.

WARNING: Compressed Air Systems compressors can operate at pressures from 0-250 psi depending on the compressor package design and build specifications. Always verify that the system the compressor is installed into can handle the maximum operational pressure the compressor. NEVER install a compressor in a system that can not handle the compressors maximum operating pressure.

WARNING: Compressed air is extremely dangerous when not properly used or installed. Always make sure a trained compressed air professional has looked over the air system prior to use. Improper installation or use of compressed air can cause bodily injury or death. NEVER pressurize an object that was not designed to be pressurized. Pressurizing objects not properly engineered for the maximum operating pressure of the compressor system can cause bodily injury or death.

WARNING: Never apply air pressure to compressor crank case, always make sure crank case vent is clear and free from obstructions. Adding pressure to the crank case can cause serious bodily injury or death.

WARNING: Never operate a compressor in a moving vehicle or towable object in motion. Doing so can damage the compressor, compressor drive components, or auxiliary parts on the compressor package. Operating the compressor in a moving vehicle or towable object can cause serious bodily injury or death.

WARNING: Check function of safety valves, weekly to insure proper function, replace immediately if faulty or damaged.

WARNING: (Compressors Packaged with NEMA 7 Components)

Compressed Air Systems, LLC certifies that the electric motor, electrical enclosure and electrical conduit are rated for NEMA7/hazardous locations. (Only for applicable packages with NEMA7 added components)

Air compressors have multiple moving parts and potential points of contact that could create an ignition source. The compressor pumps are manufactured with ferrous metals and in some cases multiple moving parts can come in contact with one another causing an ignition source. Compressed Air Systems LLC does not guarantee this will not occur. Lack of maintenance or care can result in conditions that could also cause ignition sources.

Compressed Air Systems, LLC only guarantees that the electric motor, electrical enclosure and electrical conduit are rated for NEMA7 hazardous location. Compressed Air Systems LLC accept no other responsibility for the rating of the package.

Cooling air flow requirements for compressor/generators and generator packages

Cooling air flow requirements are for applications where the package will be mounted in an enclosed trailer, box truck environment. If system is sitting outside in open air environment then additional cooling flow would not be required until ambient temperatures are greater than 105°F

Compressor/Generators	Cooling cfm Required
20 cfm/40 kW	7,000 cfm
30 cfm/40 kW	7,500 cfm
40 cfm/40 kW	8,500 cfm
30 cfm/50 kW	8,500 cfm
40 cfm/50 kW	9,500 cfm
40 cfm/75 kW	11,000 cfm

Generators	Cooling cfm Required
15 kW	3,500 cfm
20 kW	3,850 cfm
30 kW	4,750 cfm
40 kW	5,000 cfm
50 kW	5,500 cfm
75 kW	7,000 cfm

WARNING: If a package does not have the minimum recommended cooling air flow required the systems will shut down.

NEVER bypass and safety controls on a compressor/generator or generator system.

Troubleshooting Chart

NOTE: Troubleshooting problems may have similar causes and solutions

You should always contact an authorized service center before attempting to fix or repair your air compressor.

Always make sure electrical power is off before removing any inspection covers or plates or before servicing compressor.

Always make sure compressor drive engine key switch is off and removed from the compressor

Problem	Possible causes	Solutions
Compressor stalls and dies	Drive engine low on fuel Compressor check valve not functioning Compressor pilot valve not functioning Spark plug in engine bad Drive engine low on oil	Check fuel level in drive engine Inspect compressor check valve Check drive engine spark plug Check oil level on compressor drive engine Check oil on compressor pump
Compressor is running and is not compressing air	Compressor air filter is stopped up Compressor solenoid is malfunctioning Compressor intake valve is malfunctioning Compressor belts loose Compressor separator is loose	Check compressor air filter Replace compressor solenoid Check and clean compressor intake valve Check compressor belts Check compressor separator
Compressor does not idle up for compression	Throttle control valve (bullwhip) not engaging Throttle control valve cable broken Drive engine throttle linkage damaged	Check throttle control valve (bullwhip) for proper function Replace throttle control valve Check drive engine throttle linkage
Compressor air end bogs down while compressing air	Compressor belts loose Compressor pulley worn	Check belts for wear Check pulley for wear

Troubleshooting Chart (continued)

NOTE: Troubleshooting problems may have similar causes and solutions

You should always contact an authorized service center before attempting to fix or repair your air compressor.

Always make sure electrical power is off before removing any inspection covers or plates or before servicing compressor.

Always make sure compressor drive engine key switch is off and removed from the compressor

Problem	Possible causes	Solutions
Excessive oil discharge in air (all compressors have a small amount of oil carry over in compression)	Scavenge line stopped up Separator plugged or failed Oil Filter plugged or failed	Replace compressor separator Check unloaded time of compressor Check compressor scavenge line for blockage
Compressor overheating	Poor ventilation Dirty cooling surfaces Compressor is out of its operating duty cycle	Relocate compressor to any area with better ventilation (at least 18 inches from the nearest wall) Clean all cooling surfaces Reduce compressor duty cycle (repair leaks or add another unit to handle the excess demand)
Excessive belt wear	Pulley out of alignment Improper belt tension Pulley damaged or loose	Realign pulley with flywheel Re adjust belt tension
Compressor wont start in cold weather	Engine oil improper viscosity for temperature Control lines frozen	Check for proper viscosity for ambient temperature Move compressor to a warmer location
Compressor has excessive vibration	Compressor is not properly mounted on vibration isolation pads Compressor pulley is out of alignment Engine is low on fuel or throttle is out of adjustment	Properly mount compressor on vibration isolation pads Re-align pulleys Check drive engine oil and fuel level Re-adjust engine throttle control (bull whip)

WARNING: Operating Electrical equipment while the Compressor/Generator package is starting up and not a full function can damage electrical component

Start-up procedures for Compressor/Generator Package

1. Check fuel reservoir for proper fuel capacity
2. Verify proper oil level in drive engine
3. Verify proper oil level in compressor package
4. Check area around unit for debris or items that may be ingested or drawn into the unit once started. If items are found remove them from the area
5. Make sure compressor oil cooler is free of debris
6. Make sure drive engine radiator is free of debris
7. Make sure that compressor load/unload switch is in the unloaded position
8. Insert key into drive engine control panel and turn to power up control module
9. Once control module clears checks and is ready turn the engine on
10. Engine will idle for 0.5-5 minutes (depending on ambient air temperature) to heat up and come up to proper function
11. Once engine is at proper running temperature engage idle up for full system function
12. Once engine and system is at full function turn compressor load/unload switch to the loaded position
13. Once compressor is fully functioning you can now use the electrical power from the generator for other devices.
14. Do not turn on electrical equipment until the generator/compressor systems is up and running at full RPM and function

WARNING: Operating Electrical equipment while the Compressor/Generator package is being turned off electrical components can be damaged if not turned off prior to the generator powering down

Shutdown procedures for Compressor/Generator Package

1. Turn compressor load/unload switch to the unloaded position
2. Wait 1 minute for compressor system to unload sump pressure
3. If package is turned off prior to full unload of sump pressure aircend may discharge oil from the inlet valve/inlet filter
4. Turn off all electrical equipment that is running off the generator
5. Idle down drive engine
6. Turn off drive engine
7. Make sure hot parts of engine do not have any combustible items next to them
8. Wait for package to cool then check package over for any loose fittings, bolts, hoses or lines

Start-up procedures for Generator Only Package

WARNING: Operating Electrical equipment while the Compressor/Generator package is starting up and not a full function can damage electrical component

1. Check fuel reservoir for proper fuel capacity
2. Verify proper oil level in drive engine
3. Check area around unit for debris or items that may be ingested or drawn into the unit once started. If items are found remove them from the area
4. Make sure drive engine radiator is free of debris
5. Insert key into drive engine control panel and turn to power up control module
6. Once control module clears checks and is ready turn the engine on
7. Engine will idle for 0.5-5 minutes (depending on ambient air temperature) to heat up and come up to proper function
8. Once engine is at proper running temperature engage idle up for full system function
9. Once engine and generator are running at operational speed you can use electrical equipment
10. Don not use electrical equipment until generator is a full function and speed

Shutdown procedures for Generator Only Package

WARNING: Operating Electrical equipment while the Compressor/Generator package is being turned off electrical components can be damaged if not turned off prior to the generator powering down

1. Turn off all electrical equipment that is running off the generator
2. Idle down drive engine
3. Turn off drive engine
4. Make sure hot parts of engine do not have any combustible items next to them
5. Wait for package to cool then check package over for any loose fittings, bolts, hoses or lines

Controls

The RS series of units is equipped with a normally closed inlet valve. This means that when the unit is started, the inlet valve remains closed while the unit builds up pressure by means of a bypass line. After startup the inlet valve is controlled by a simple on/off action of a pressure switch working with a solenoid valve.

For instrumentation the unit has a discharge temperature gauge, air pressure gauge.

Installation

GENERAL

The standard RS series was designed for indoor applications. For outdoor applications consult the factory for modifications. Failure to obtain factory approval will void the warranty.

FOUNDATION

Your Compressed Air Systems rotary screw compressor does not require a special foundation. However, it is necessary that the mounting service be level and the frame adequately supported. Consult the SPECIFICATIONS section of this manual for the compressor weight and dimensions. We do recommend that the compressor be bolted to the floor. We recommend the compressor be mounted on vibration reduction pads

ROOM

The room should be of adequate size to provide full access to the machine for routine maintenance. It should have ventilation to keep the room as cool as possible. Operating at elevated temperatures will cause nuisance overload and temperature shutdowns. Room temperature should not exceed 105° F.

AIR INTAKE

To achieve the longest filter and lubricant life and the least maintenance you need to supply the compressor with the cleanest air possible. It must not contain any flammable or toxic gases. These will be concentrated by the compressor, and could result in personal injury or death and property damage.



CAUTION

Inlet containing reactive gases will cause the failure of the lubricant and compressor.

Insure an air supply that is well clear of any reactive gas source.

If it is necessary to take air from a remote source, the piping should be at least the diameter of the air filter inlet. For distance over twenty feet the diameter needs to be enlarged to reduce the restriction. This pipe should also be corrosion resistant and free from scale and dirt. The inlet should also be covered to prevent rain and small animals from entering.

Receiving and Uncrating of your Compressor

BEFORE UNCRATING THE COMPRESSOR THE FOLLOWING STEPS SHOULD BE TAKEN.

1. Immediately upon receipt of the equipment, it should be inspected for damage that may have occurred during shipment. If any damage is found, demand an inspection immediately by an inspector from the carrier. Ask him/her how to file a claim for damages. (Never attempt to move compressor without proper lifting equipment).
2. Insure that adequate lifting equipment is available for moving the machinery.
3. Read the compressor nameplate to be sure the compressor is the model and size ordered.
4. Read the motor nameplate to be sure the motor is compatible with your electrical conditions. (Volts-Phase-Hertz).

IMPORTANT: Compressor drive engine comes with its own manual refer to drive engine manual for any specifications or troubleshooting issues with the drive engine of the air compressor



CAUTION

Improper lifting can result in component or system damage or personal injury.

Follow good shop practices and safety procedures



CAUTION

Under no circumstances should a compressor be placed in an area that may be exposed to a flammable, toxic, volatile or corrosive atmosphere nor should flammable, toxic, volatile or corrosive agents be stored near the compressor.

Compressor Installation

LOCATION

Locate the compressor in an area that is clean, well ventilated with sufficient space for safe and proper inspection and maintenance. Ambient temperatures should not exceed 104°F or fall below 30°F unless an electric motor rated for a higher temperature is used. Inspection and maintenance checks are required daily, therefore, ample space is required around the compressor.

The compressor must not be installed closer than 24 inches from a wall or from another compressor to allow ample circulation of air across the compressor cylinders and head, and through the coolers if they are part of the system. Additional safety can be achieved by locating the pulley guard next to the wall.

INDUCTION SYSTEM

Do not locate the compressor where it could ingest or ignite toxic, explosive or corrosive vapors, ambient air temperatures exceeding 110°F, water or extremely dirty air. Ingestion of any of the above noted atmospheres by the compressor could jeopardize the performance of the equipment and all personnel exposed to the total compressed air system.

Destructive pulsations can be induced by reciprocating compressors that will damage walls and break windows. Pulsation can be minimized by adding a pulsation dampener on the inlet side of the compressor.

COOLING AIR DISCHARGE

The cooling air discharge must be restriction free. Any louvers or ducting must not exceed a quarter of an inch static head. Above this a booster fan will be required. Consult a local HVAC contractor for recommendations prior to installation. Excessive restriction to the cooling air discharge will cause the unit to operate at elevated temperatures that could result in high temperature shutdowns.

Ducting of cooling air to the unit is not generally recommended.

ELECTRICAL

A qualified electrician in compliance with standards and local codes should do all electrical wiring. Be sure to investigate the local requirements before installing the compressor.

The power supply should be adequate and free of parasitic loads that will cause an under voltage condition during the operation of the compressor, otherwise there will be nuisance electrical shutdowns. Always connect the compressor to its power source through a fusible disconnect and insure the unit is properly grounded.

UNPACKING AND HANDLING

Occasionally damage will occur during shipping. Be sure to carefully inspect the unit before unpacking. After unpacking before you sign the receiver, if anything damage has occurred, document it with the trucking firm immediately. Contact your Compressed Air Systems LLC representative for assistance.

To move your compressor to its installation site we recommend that you leave the unit on its shipping skid as long as possible. The forks should be extended the width of the compressor and padding should be placed between the compressor and the truck boom.

If it is necessary to lift the compressor with a crane, we recommend the use of the spreader bar and chains. The spreader bar should be greater than the width of the compressor and padding is placed on the edges to prevent chain damage. Consult the installation drawing at the end of this section for the center of gravity.

Installation Continued

STORAGE

In some cases it may be necessary to store the compressor for extended periods of several months before placing the unit in operation. When this is required do the following:

Cover and seal all machine openings to prevent the entrance of water and dirt.

Cover all openings in open drip proof motors to prevent the entrance of rodents.

If the storage conditions are below freezing; drain the after cooler, traps, water-cooled heat exchanges and attendant piping. We do not recommend outside storage.

Cover with a waterproof tarpaulin that can easily be removed for in-storage maintenance.

While in storage, every two or three months, rotate the compressor and motor by hand to prevent flat spots on the bearings that will lead to premature failure.

At the end of the storage period, follow the uncrating and start-up procedures. If the unit has been stored for more than eighteen months, you should contact Compressed Air Systems before restarting the compressor.

NOISE

Noise is a potential health hazard that must be considered. There are local and federal laws specifying maximum acceptable noise levels that must not be exceeded. Most of the noise from a reciprocating compressor originates from the air inlet point. Excessive noise can be greatly reduced by installing an intake noise silencer. Intake noise silencers are available from the compressor manufacturer.

PIPING FITUP

Care must be taken to avoid assembling the piping in a strain with the compressor. It should line up without having to spring or twist into position. Adequate expansion loops or bends should be installed to prevent undue stresses at the compressor resulting from the changes between hot and cold conditions. Pipe support should be mounted independently of the compressor and anchored as necessary to limit vibration and prevent expansion strains.



Safety valves are to protect system integrity in accordance with ASME Codes and ANSI B19.3 safety standards. Failure to use safety valves of the proper capacity and pressure will cause severe personal injury or death.

NOTE: Standard motors are open drip proof with a maximum ambient temperature rating of 104 degrees F. They are not suitable for salt laden, corrosive, dirty, wet, or explosive environments.

SAFETY VALVES: Safety valves are pressure relief valves and should be sized and purchased with a pressure setting to protect the weakest link in the system. Never change the pressure setting, only the safety valve manufacturer is qualified to make a change. Safety valves are to be placed ahead of any potential blockage point which included but is not limited to, shutoff valves, heat exchangers, pulsation dampeners, and discharge silencers.

Failure to properly size, set and install pressure relief valves can be fatal.

**CAUTION**

ASME coded pressure vessels must not be modified, welded, repaired, reworded or subjected to operation conditions outside the nameplate ratings. Such actions will negate code status, affect insurance status and may cause severe personal injury, death, and property damage.

PRESSURE VESSELS


Air receiver tanks and other pressure containing vessels such as, but not limited to, pulsation bottles, heat exchangers, moisture separators and traps, shall be in accordance with ASME Boiler and Pressure Vessel Code Section VIII and ANSI B19.3 Safety Standards.

**CAUTION**

The installation, wiring, and all electrical controls must be in accordance with ANSI C1 National Electric Code, ANSE C2 National Electric Safety Code, state and local codes. All electrical work should be performed by a qualified electrician. Failure to abide by the national, state and local codes may result in physical and/or property damage.


ELECTRICAL

Before installation, the electrical supply should be checked for adequate wire size, breaker size, transformer and capacity. During installation a suitable fused or circuit breaker disconnect switch should be provided. Where a 3 phase motor is used to drive a compressor, any unreasonable voltage unbalance between the legs must be eliminated and any low voltage corrected to prevent excessive current draw. Compressors must be equipped with a properly wired magnetic motor starter or a pressure switch rated to carry the full motor current load. The coil which engages and disengages the contact points in the motor starter is controlled by the pressure switch. Never attempt to bypass the pressure switch or adjust it past the factory set pressure range. Improper installation of the electrical system can cause the motor to overheat or a short circuit to occur.

	<p>Electric power always exists inside the pressure switch when there is electric power at the compressor package. Either a qualified electrician should make the pressure adjustments or the electric power supply should be disconnected and locked out before making any adjustment.</p> <p>NEVER exceed the designed pressure for the system or overload the motor beyond its service factor.</p> <p>FAILURE TO HEED THESE WARNINGS MAY RESULT IN SERIOUS INJURY OR DEATH, PROPERTY DAMAGE AND/OR MECHANICAL FAILURE</p>
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PRESSURE SWITCH

The pressure switch is automatic in operation and is adjusted to start and stop the unit at the minimum and maximum desired air receiver pressure by cutting in and out the power to the electric motor. On some models, the pressure switch incorporates a release valve, which releases air between the check valve located in the receiver and discharge valve in the head of the compressor.

	<p>Relieve compressor and system air pressure by opening the appropriate manual relief valve prior to servicing.</p> <p>Failure to relieve all system pressure may result in severe personal injury, death and property damage.</p>
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MANUAL RELIEF AND SHUTOFF VALVES

Install a manual relief valve to vent the compressor to atmosphere. In those instances where the air receiver tank services a single compressor, the manual relief valve can be installed on the receiver. When a manual shut-off valve, and a safety relief valve installed upstream from the manual relief valve. These valves are to be designed and installed as to permit maintenance to be performed in a safe manner. Never substitute a check valve for a manual shut-off valve (block valve) if the purpose is to isolate the compressor from a system for servicing.



CAUTION

Guards must be fastened in place before starting the compressor and never removed before cutting off and locking out the main power supply.

GUARDS

All mechanical action or motion is hazardous in varying degrees and needs to be guarded. Guarding shall be in compliance with OSHA Safety and Health Standards 29 CFR 1910.219 in OSHA manual 2206 and any state or local code.



CAUTION

Excessive speed of the compressor or driver can be lethal. Never operate the compressor beyond the manufacturer's recommendation.

Bursting of the flywheel may be the greatest threat because the normal guard may not contain all the pieces.

Crankshaft and connecting rod breakage is a possibility and compressor efficiency, valve life and bearing life will be abnormally reduced.

DRIVES

It is important that the compressor and motor pulleys are aligned properly and the V belt is correctly tensioned. Improper pulley alignment and belt tension are causes for motor overloading, excessive vibration, and premature belt and/or bearing failure.

Removal or painting over safety labels will result in uninformed conditions. This may result in personal injury or property damage. Warnings signs and labels shall be provided with enough light to read, conspicuously located and maintained for legibility. Do not remove any warning, caution, or instructional material attached!

Provisions should be made to have the instruction manual readily available to the operator and maintenance personnel. If for any reason any part of the manual becomes illegible or if the manual is lost, have it replaced immediately. The instruction manual should be periodically read to refresh one's memory, it may prevent a serious or fatal accident.



DANGER

Hot oil under pressure will cause severe injury, death, or property damage.

Be sure the compressor is shutdown and pressure relieved before attempting to remove the oil filter, separator, oil fill, or change the oil.

Normal Operation

AIR FILTER

The air filter is the primary protection of the compressor from harmful dirt being ingested into the oil system. It needs to be looked at periodically for clogging or holes. The period for these inspections is dependent on the environment the machine is in. For optimum life it is recommended that an air filter restriction indicator be used. Service simply based on hours is not recommended.

ELEMENT INSPECTION AND REPLACEMENT

Switch off the unit and disconnect the power to prevent accidental starting.

Allow one minute after stopping for the system to settle and the pressure to be relieved.

Loosen the nut that secures the cover and remove the cover.

Remove the element.

Place a bright light inside the element to inspect for damage or leak holes.

Inspect all gaskets and gasket contact surfaces of the housing. Correct any faulty conditions immediately.

Clean the housing with a damp cloth. Do not attempt to blow out dirt with compressed air.

Place a new element in the housing.

Replace the cover and tighten the nut.

Reset the filter indicator and the machine will be ready for operation.

If the compressor is turned off before being fully unloaded it can cause the unit to discharge oil into the air filter housing causing it to stop up or become contaminated.

OIL FILTER

The oil filter in the compressor system is a full flow replaceable canister type. This element protects the compressor bearings from grit and dirt ingress throughout the system. A dirty filter will cause an oil flow restriction that can result in high oil temperature and a unit shutdown.

OIL FILTER REPLACEMENT

1. Switch off the unit and disconnect the power to prevent accidental starting.
2. Allow one minute after stopping for the system to settle and the pressure to be relieved.
3. Using a strap wrench, remove the old element and gasket.
4. Clean the gasket surface with a clean rag.
5. Apply a light film of oil to the new gasket.
6. Hand tighten the new element until the new gasket is seated in the gasket groove.
7. Continue tightening by hand an additional $\frac{1}{2}$ to $\frac{3}{4}$ turn.
8. Reconnect power and restart the machine to check for leaks.

AIR/OIL SEPARATOR

The air/oil separator should be changed every 2000 hours, or when there is excessive oil vapor in the discharge air.

SEPARATOR ELEMENT REPLACEMENT

1. Switch off the unit and disconnect the power to prevent accidental starting.
2. Allow one minute after stopping for the system to settle and the pressure to be relieved.
3. Using a strap wrench, remove the old element and gasket.
4. Clean the gasket surface with a clean rag.
5. Apply a light film of oil to the new gasket.
6. Hand tighten the new element until the new gasket is seated in the gasket groove.
7. Continue tightening by hand and additional $\frac{1}{2}$ to $\frac{3}{4}$ turn.
8. Reconnect power and restart the machine to check for leaks

CHECKING OIL LEVEL AND ADDING COMPRESSOR OIL

1. Switch off the unit and disconnect the power to prevent accidental restarting.
2. Allow one minute after stopping the compressor for settling and the pressure to relieve.
3. Remove any dirt from around the fill cap, then remove the fill cap.
4. Inspect the o-ring in the cap for damage and cleanliness. Replace if necessary.
5. The oil should be between the bottom of the neck and the o-ring groove or 1/2 full in sight glass.
6. Replace the cap securely. Never put the cap on without tightening immediately.

CHANGING COMPRESSOR OIL

Regular maintenance of the oil filter and the air filter will help prolong the life of the lubricant.

1. Switch off the unit and disconnect the power to prevent accidental restarting.
2. Allow one minute after stopping the compressor for settling and the pressure to relieve.
3. Remove any dirt from around the fill cap, and then remove the fill cap. If the lubricant appears dirty or has a foul smell, it should be replaced.
4. Drain the lubricant from the bottom of the air/oil receiver. Oil will drain more quickly and completely if is warm from operation.
5. Close all drains and replace with fresh CAS RS8000 to the proper level.
6. Replace the fill cap and run the unit.
7. Switch off the unit and disconnect the power to prevent accidental restarting.
8. Allow one minute after stopping the compressor for settling and the pressure to relieve.
9. Remove the fill cap to see if more lubricant should be added and to insure that there are no leaks.

OIL RETURN SIGHT GLASS

During loaded operation there should be a visible flow in the sight glass. If there are no droplets visible then the orifice in this line needs to be checked for plugging. Oil not returned ends up in the plant air system.

MINIMUM PRESSURE VALVE

This minimum pressure valve is a non-adjustable spring biased check valve. It has been designed to maintain a minimum sump pressure of 85 psig. If the pressure is allowed to get too low, the oil carryover rate will increase and the separator could be damaged.

TO CHECK THE BELTS

1. Switch off the unit and disconnect the power to prevent accidental restarting.
2. Allow one minute after stopping the compressor for settling and the pressure to relieve.
3. Remove the belt guard.
4. Inspect for any fraying or cracking of the belts. If there is any, replace the belts.
5. Check the tension. It should be about 1/64" per inch of span between the sheaves
6. To Change the Belts
7. Switch off the unit and disconnect the power to prevent accidental restarting.
8. Allow one minute after stopping the compressor for settling and the pressure to relieve.
9. Remove the belt guard.
10. Loosen the motor hold down bolts and the puller bolt and slide the motor toward the air end.
11. Remove the belt.
12. Replace with new belt.
13. Set the initial by sliding the motor back to its original position using the puller bolt and tighten the motor hold down bolts.

FAN

Check the fan for cracking, loose rivets, and bent or loose blades. Make sure that it is securely mounted and tighten the mounting screws if loose. Replace a damaged fan immediately.

Compressor Maintenance

WARNING: To avoid personal injury, always shut OFF the main power supply and disconnects to the compressor, relieve all air pressure from the system, and check electrical system with electrical probe before starting any service or maintenance on the compressor.

Daily:

Check Airend Oil Level: remove oil fill cap and check for proper level. Oil should be half way up the at the bottom or half way up the threads on the oil fill

Drain the Receiver: condensation will accumulate in the tank daily, and should be drained at least once a day. This is done to reduce corrosions of the tank from the inside. Always wear protective eyewear when draining the tank.

Check Oil Cooler: check cooler for proper air flow to keep unit cool clean if necessary

Check unit for any unusual noise or vibrations

Weekly:

Clean air filter: this will ensure that no dirt or heavy particulate makes its way into the compressors valve assemblies

Clean external parts of compressor and electric motor: this helps to ensure proper cooling and prevents rust and corrosion on critical parts

Check safety Valves: this is don't to ensure they are not stuck in place and operating properly

Monthly:

Inspect complete air system for leaks: this is done to make sure the compressor does not get out of its duty cycle due to air leak in the system

Inspect Oil for Contamination: this is done to ensure that harmful deposits do not build up in the oil

Check belt tension: this is done to ensure the belt do not fail pre-maturely, tighten them as needed to ensure they do not slip

Every 3 months (every 500 hrs):

Change oil filter: this is done to ensure that the compressor has proper oil level and that the oil in the machine does not deteriorate past factory specifications

Check airend filter and change as needed.

Yearly (every 2000 hrs)

Change oil: change with only CAS RS 8000

Clean Oil Cooler: this is done to ensure adequate cooling for the compressor air end.

Storage of Compressor:

Before storing the compressor for a prolonged period of time, use a blow gun to clean all debris from compressor. Shut OFF main power and turn OFF disconnect. Drain tank pressure, clean air filter, drain old oil and replace with new oil. Cover the unit to prevent dust and moisture from collecting on the unit.

Maintenance Procedures Review

SAFETY PROCEDURES.

Adherence to safe working procedures are important to Service personnel at the time of servicing and to those who may, at a later date be around the compressor and the system it serves. Routine maintenance insures trouble free operation and protects your investment. All warranties are void if maintenance is neglected.

Weekly:

CHECK THE OIL.

If the oil appears contaminated by moisture or dirt, change immediately.

CHECK THE BELTS.

Turn off the compressor and inspect the belts for damage, excessive wear, and correct tension. Replace if necessary.

TEST THE SAFETY VALVE.

Pull the ring on the safety valve. Air should escape and then reset. In the event the compressor ran over pressure, the safety valve would reduce the tank pressure to a safe level. Never run the unit without this safety valve or attempt to adjust it.

GENERAL INSPECTION.

Check the overall operation of the unit. Tighten any loosen bolts, inspect for air leaks and inspect for any unusual noises or vibrations.

INSPECT COMPRESSOR INTAKE.

NEVER use gasoline, thinners or other flammable solutions to clean valves or related parts. Check to be sure the valves are seated against the sealing surface around each port. If the valves are not sealing, compressor capacity will be severely reduced.

WARNING: Always wear proper protective eye ware, hearing protection and safety clothing when working around the compressor package. No loose or baggy clothing should be worn around compressor package at any time.

WARNING: On Electric motor powered air compressors make sure electrical system is up to National Electric Code (NEC) prior to installing compressor system. Failure to install a compressor with a proper NEC electrical system can cause personal injury, compressor package damage and void compressor package warranty

NOTICE: To ensure full compressor tank warranty all tank mounted compressor packages must be mounted on factory approved vibration isolation pads. A compressor should NEVER be installed while still on or in its original packaging. Failure to properly install the compressor system with approved vibration isolation pads will result in the compressor tank warranty being void.

WARNING: Compressed Air Systems compressors can operate at pressures from 0-250 psi depending on the compressor package design and build specifications. Always verify that the system the compressor is installed into can handle the maximum operational pressure the compressor. NEVER install a compressor in a system that can not handle the compressors maximum operating pressure.

WARNING: Compressed air is extremely dangerous when not properly used or installed. Always make sure a trained compressed air professional has looked over the air system prior to use. Improper installation or use of compressed air can cause bodily injury or death. NEVER pressurize an object that was not designed to be pressurized. Pressurizing objects not properly engineered for the maximum operating pressure of the compressor system can cause bodily injury or death.

Additional Information

For compressor pump information see pump specific manual.

For installation instructions see Install Guide.

For compressor package wiring diagram contact manufacturer.

For compressor parts breakdown see website (compressed-air-systems.com) or contact compressor manufacturer.

On electric driven compressors always follow NEC (National Electric Code) on any local applicable code that exceeds NEC guidelines.

On gas/diesel engine driven packages follow engine manufacturer guide for proper placement and installation of engine driven equipment.

Gas-Diesel Engine Reciprocating Installation Sheet

Date of Installation _____ Compressor Model# _____

Installation Company _____ Compressor Serial # _____

Installation Technician _____

Drive Engine: Gasoline Diesel Natural GasLocation of Install: Truck Body Open Van Trailer Box Truck Other _____

Auxiliary fuel Tank needed _____ Auxiliary Fuel pump needed _____

Wiring extension added: Yes No

Wiring extension Technician _____

Compressor package inspected for air leaks : Yes NoCompressor tank drain checked for function: Yes NoUnit install location in weather proof enclosure: Yes No

Unit tank fill time 0-125 psi _____ (Put N/A if pressure not applicable to installed unit)

Unit tank fill time 0-150 psi _____ (Put N/A if pressure not applicable to installed unit)

Unit tank fill time 0-175 psi _____ (Put N/A if pressure not applicable to installed unit)

Belt tension checked after startup: Yes No _____Vibration Pads properly installed: Yes NoAll installation steps completed: Yes No If no, reason: _____

Send copy of completed installation sheet to manufacture to begin warranty

Compressed Air Systems, LLC

2626 Skyway Drive

Grand Prairie, TX, 75052

Certificate of Limited Warranty

Rotary Screw Compressors

All component parts on this compressor installed by the manufacturer are warranted to be free of defects, workmanship and material for a period of one year. Transportation charges are the responsibility of the purchaser. This warranty extends to the original purchaser of the compressor only.

There are NO express warranties except other than those contained in this limited warranty statement.

Covered in the one year period of the warranty are defective parts due to defects in the original part only.

The compressor warranty is void in the cases of abuse, lack of proper service, in correct application, in correct installation, and neglect.

Standard compressor warranty covers defective parts and labor for the one year period.

Industrial electric stationary compressors may be repaired on site as long as the compressor is not located further than 50 miles from the service center. The purchaser is responsible for any additional travel expense past 50 miles from the service center.

Gas/Diesel engine driven compressors **must be repaired at the closest service center to the compressor.** The purchaser is responsible for any travel expense if they do not wish to bring the compressor to the service center.

ALL "SPECIALTY COMPRESSOR" WARRANTY SERVICE MUST BE PERFORMED AT THE CLOSEST SERVICE CENTER TO THE COMPRESSOR

Specialty compressor -any compressor package with options other than those that apply to the standard model number in the catalog.

Airend - the rotors and bearings of the compressor.

The compressor "airend" is covered by a 2 year warranty to be free from defects from manufacturing. This does not cover abuse, neglect, improper service, misapplication, or improper installation. An oil sample must be submitted with any airend warranty claim for verification. The purchaser must use only Compressed Air Systems synthetic rotary screw oil in the compressor for the duration of the warranty.

ALWAYS CONTACT MANUFACTURER TECH SUPPORT FOR FASTEST SOLUTION BEFORE WARRANTY SERVICE IS PERFORMED.

WARRANTY LABOR FOR THE FIRST YEAR IS ONLY COVERED FOR WORK PERFORMED MONDAY-FRIDAY 8AM-5PM EXCLUDING ALL MAJOR US HOLIDAYS.

Optional 5 year "airend" warranty

To be applicable for this option the purchaser must purchase a Full year Rotary Screw compressor service kit at the same time as the compressor and a subsequent kit every year afterwards for a total of 5 kits during the compressor warranty period. The purchaser must use only Compressed Air Systems synthetic rotary screw oil in the compressor for the duration of the warranty.

The warranty covers the "airend" of the compressor for a period of 5 years parts replacement only, from any defect due to manufacturing. The warranty does not cover wear and tear, abuse, neglect, improper service, misapplication, or improper application.

Important

Always contact manufacturer tech support for fastest solution before warranty service is performed.

Before warranty service can be performed on a unit the servicing company must contact the manufacture to get a warranty procedure verification number. Without a warranty verification number work may not be covered by the manufacturer under warranty. A warranty verification number does not guarantee a part or piece of the product is warrantable but guarantees it will be reviewed for warranty credit.

All warranty replacement parts must be Compressed Air Systems OEM part unless authorization is given from Compressed Air Systems factory representative.



Compressed Air Systems, LLC

2626 Skyway Drive
Grand Prairie, TX, 75052

1-800-531-9656

Fax 972-352-6364

Simplicity. It's What We Do.