

Please read and save these instructions. Read carefully before attempting to assemble, install, operate or maintain the product described. Protect yourself and others by observing all safety information. Failure to comply with instructions could result in personal injury and/or property damage! Retain instructions for future reference.

Descriptions

GENERAL

The Powerex oilless reciprocating air compressor has advanced compressor technology through the development of a completely oilless unit. The Powerex reciprocating compressor is available in single and two stage models. Continuously lubricated, sealed bearings provide oil-free compressed air and long compressor life. The on board fan, finned flywheel and temperature reducing composite piston create lower operating temperatures.

DRY TYPE INLET FILTER

The inlet filter on the oilless compressor assures 99% of particulate free air is admitted to the unit. Change every 2500 hours or more often in dirty locations.

PISTON AND PISTON RINGS

The Powerex oilless reciprocating compressor pistons are made of a high-strength, self-lubricating composite using the most advanced technology available. These heat reducing pistons eliminate the effect of excessive grease leakage at the wrist pin bearing. PTFE rings reduce wear and provide self-lubrication. Piston and piston rings should be replaced every 10,000 hours of operation.

Safety Guidelines

This manual contains information that is very important to know and understand. This information is provided for SAFETY and to PREVENT EQUIPMENT PROBLEMS. To help recognize this information, observe the following symbols.

▲ DANGER Danger indicates an imminently hazardous situation which, if not avoided, WILL result in death or serious injury.

▲ WARNING Warning indicates a potentially hazardous situation which, if not avoided, COULD result in death or serious injury.

▲ CAUTION Caution indicates a potentially hazardous situation which, if not avoided, MAY result in minor or moderate injury.

NOTICE Notice indicates important information that, if not followed, MAY cause damage to equipment.

Unpacking

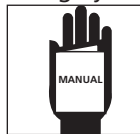
After unpacking the unit, inspect carefully for any damage that may have occurred during transit. Make sure to tighten fittings, bolts, etc., before putting unit into service.

▲ WARNING Do not operate unit if damaged during shipping, handling or use. Damage may result in bursting and cause injury or property damage.

General Safety Information

The following safety precautions must be observed at all times:

1. Read all manuals included with this product carefully. Be thoroughly familiar with the controls and the proper use of the equipment.
2. Follow all local electrical and safety codes, as well as in the United States, the National Electrical Codes (NEC) and Occupational Safety and Health Act (OSHA).
3. Only persons well acquainted with these rules of safe operation should be allowed to use the equipment.



▲ DANGER

Breathable Air Warning

This compressor/pump is NOT equipped and should NOT be used "as is" to supply breathing quality air. For any application of air for human consumption, you must fit the compressor/pump with suitable in-line safety and alarm equipment. This additional equipment is necessary to properly filter and purify the air to meet minimal specifications for Grade D breathing as described in Compressed Gas Association Commodity Specification G 7.1 - 1966, OSHA 29 CFR 1910. 134, and/or Canadian Standards Associations (CSA).

DISCLAIMER OF WARRANTIES

In the event the compressor/pump is used for the purpose of breathing air application and proper in-line safety and alarm equipment is not simultaneously used, existing warranties are void, and Powerex disclaims any liability whatsoever for any loss, personal injury or damage.

4. Keep visitors away and NEVER allow children in the work area.
5. Wear safety glasses and use hearing protection when operating the unit.
6. Do not stand on or use the unit as a handhold.
7. Before each use, inspect compressed air system and electrical components for signs of damage, deterioration, weakness or leakage.

Installation

Oilless Reciprocating Air Compressor Pumps

⚠️ WARNING

Disconnect, tag and lock out power source then release all pressure from the system before attempting to install, service, relocate or perform any maintenance.



⚠️ CAUTION

Do not lift or move unit without appropriately rated equipment. Be sure the unit is securely attached to lifting device used. Do not lift unit by holding onto tubes or coolers. Do not use unit to lift other attached equipment

In existing air systems, contamination may be downstream of the dryer system. If necessary, clean air lines prior to installation and use of the dryer system to ensure proper operation.

INSTALLATION SITE

1. The oilless compressor must be located in a clean, well lit and well ventilated area.
2. The area should be free of excessive dust, toxic or flammable gases and moisture.
3. Never install the compressor where the ambient temperature is higher than 105o F or where humidity is high.
4. Clearance must allow for safe, effective inspection and maintenance.
5. If necessary, use metal shims or leveling pads to level the compressor. Never use wood to shim the compressor.

VENTILATION

1. If the oilless compressor is located in a totally enclosed room, an exhaust fan with access to outside air must be installed.
2. Never restrict the cooling fan exhaust air.
3. Never locate the compressor where hot exhaust air from other heat generating units may be pulled into the unit.

WIRING

Minimum Clearances

Above	24"
Drive belt side	12"
Other sides	20"

⚠️ WARNING

All wiring and electrical connections must be performed by a qualified electrician. Installations must be in accordance with local and national codes.

⚠️ CAUTION

Overheating, short circuiting and fire damage will result from inadequate wiring.

Wiring must be installed in accordance with National Electrical Code and local codes and standards that have been set up covering electrical apparatus and wiring. These should be consulted and local ordinances observed. Use solderless terminals to connect the electric power source. Be certain that adequate wire sizes are used, and that:

1. Service is of adequate ampere rating.
2. The supply line has the same electrical characteristics (voltage, cycles and phase) as the device.
3. Provide 12" flex conduit to control box to allow for motion during operation.

GROUNDING

⚠️ DANGER

Improperly grounded electrical components are shock hazards. Make sure all the components are properly grounded to prevent death or serious injury.



This product **MUST** be grounded. Grounding reduces the risk of electrical shock by providing an escape wire for the electric current if short circuit occurs.

PIPING

⚠️ WARNING

Never use plastic (PVC) pipe for compressed air. Serious injury or death could result.

Any tube, pipe or hose connected to the unit must be able to withstand the temperature generated and retain the pressure. All pressurized components of the air system must have a pressure rating higher than or equal to the ASME safety value setting. Incorrect selection and installation of any tube, pipe or hose could result in bursting and injury.

⚠️ WARNING

Never install a shut-off valve between the compressor pump and the tank without an appropriate safety valve. Personal injury and/or equipment damage may occur. Never use reducers in discharging piping.

Refer to the general product manual.

1. Make sure the piping is lined up without being strained or twisted when assembling the piping for the scroll compressor.
2. Appropriate expansion loops or bends should be installed at the compressor to avoid stresses caused by changes in hot and cold conditions.
3. Piping supports should be anchored separately from the compressor to reduce noise and vibration.
4. Never use any piping smaller than the compressor connection.
5. Use flexible hosing to connect the outlet of the compressor to the piping so that the vibration of the compressor does not transfer to the piping.

SAFETY VALVES

Tank mounted compressors are shipped from the factory with safety valves installed in the tank manifold. The flow capacity of the safety valve is equal to or greater than the capacity of the compressor.

1. The pressure setting of the safety valve must be no higher than the maximum working pressure of the tank.
2. Safety valves should be placed ahead of any possible blockage point in the system, i.e. shutoff valve.
3. Avoid connecting the safety valve with any tubing or piping.
4. Manually operate the safety valve every six months to avoid sticking or freezing.

Operation

Powerex oilless single stage compressors operate at a maximum pressure of 125 PSIG. Two stage compressors operate at a maximum of 150 PSIG and are equipped for continuous duty.

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Compressor RPM's are established by Powerex based on horsepower and operating pressure.

BEFORE START UP

1. Make sure all safety warnings, labels and instructions have been read and understood before continuing.
2. Remove any shipping materials, brackets, etc.
3. Confirm that the electric power source and ground have been firmly connected.
4. Be sure all pressure connections are tight.
5. Check to be certain all safety relief valves, etc., are correctly installed.
6. Check that all fuses, circuit breakers, etc., are the proper size.
7. Make sure the inlet filter is properly installed.
8. Confirm that the drain valve is closed.
9. Visually check the rotation of the compressor pump. If the rotation is incorrect, have a qualified electrician correct the motor wiring.

START-UP AND OPERATION

1. Follow all the procedures under "Before Start-Up" before attempting operation of the compressor.
2. Switch the electric source breaker on.
3. Open the tank discharge valve completely.

4. Check that the compressor operates without excessive vibration, unusual noises or leaks.
5. Close the discharge valve completely.
6. Check the discharge pressure. Also make sure the air pressure rises to the designated pressure setting by checking the discharge pressure gauge.
7. Check the operation of the pressure switch or the pilot valve for continuous run units by opening the stop valve and confirming the compressor starts or reloads as pressure drops. Switch the breaker off if the compressor is not to be used for a long period of time.

NOTICE *Two stage units are equipped with head unloaders for continuous operation.*

8. Check all fasteners at frequent intervals for proper tightness.

WARNING *Electrical equipment and controls can cause electrical arcs that will ignite a flammable gas or vapor. Never operate or repair in or near a flammable gas or vapor. Never store flammable liquids or gases in the vicinity of the compressor.*



WARNING *An ASME code safety relief valve with a setting no higher than the tank maximum allowable working pressure MUST be installed in the air lines or in the tank. The ASME safety valve must have sufficient flow and pressure ratings to protect the pressurized components from bursting. The flow rating can be found in the parts manual.*

CAUTION *Do not operate with pressure switch or pilot valves set higher than the tank maximum allowable working pressure.*

9. Never attempt to adjust ASME safety valve. Keep safety valve free from paint and other accumulations.

DANGER *Never attempt to repair or modify a tank! Welding, drilling or any other modification will weaken the tank resulting in damage from rupture or explosion. Always replace worn, cracked or damaged tanks.*

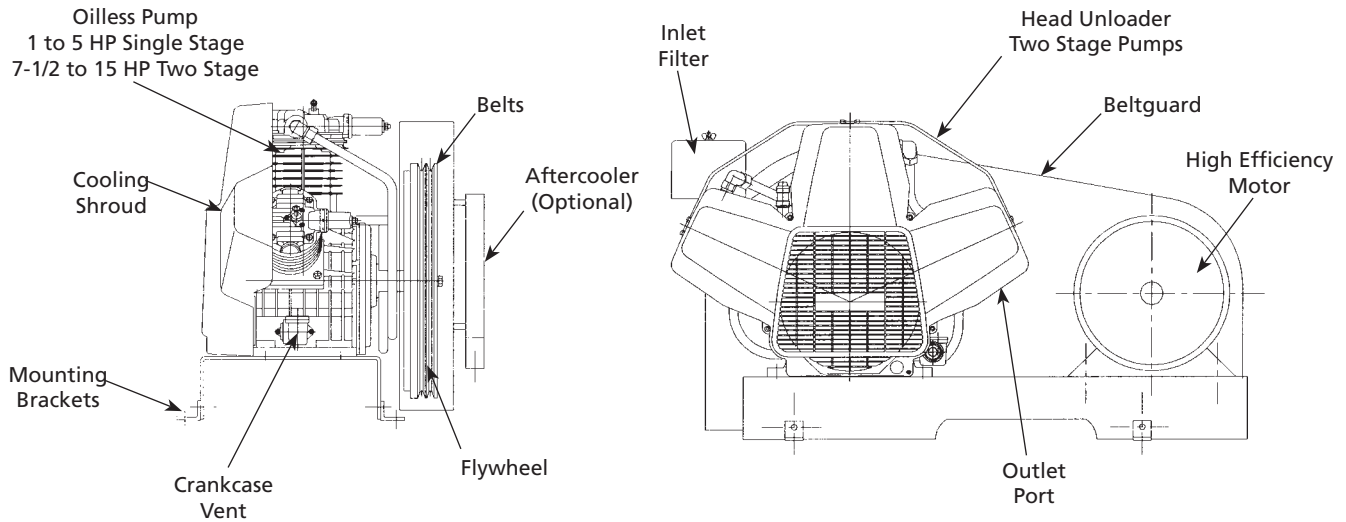


NOTICE *Drain liquid from tank daily.*

10. Tanks rust from moisture build-up, which weakens the tank. Make sure to drain tank regularly and inspect periodically for unsafe conditions such as rust formation and corrosion.
11. Fast moving air will stir up dust and debris which may be harmful. Release air slowly when draining moisture or depressurizing.

Model	HP	Phase	SCFM@ 50 PSIG	SCFM@ 100 PSIG	RPM	Voltage	Full Load Amp/Motor	Gal. Tank	Dimension L x W x H	Shp.WT (lbs.)
OBS0107	1	3	3.6	3.4	620	208 / 230 / 460	3.6 / 3.4 / 1.7	Basemount	21 x 11 x 17	95
OBS0157	1.5	3	5.3	5.0	980	208 / 230 / 460	5.0 / 4.8 / 2.4	Basemount	21 x 11 x 17	120
OBS0207	2	3	6.7	6.5	680	208 / 230 / 460	6.3 / 6.4 / 3.2	Basemount	32 x 17 x 19	120
OBS0307	3	3	11.1	10.1	970	208 / 230 / 460	8.5 / 8.0 / 4.0	Basemount	32 x 17 x 20	160
OBS0507	5	3	18.1	16.7	760	208 / 230 / 460	17.4 / 16.5 / 8.2	Basemount	35 x 20 x 33	270
OBS0757	7.5	3	28.4	26.1	870	208 / 230 / 460	23.4 / 22 / 11	Basemount	40 x 21 x 26	305
OBS1007	10	3	37.2	35	1070	208 / 230 / 460	33 / 29 / 16.5	Basemount	49 x 26 x 27	350

Oilless Reciprocating Air Compressor Pumps



Maintenance Schedule

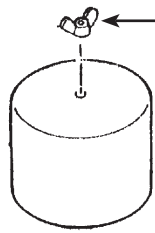
● Inspect ▲ Replace

Item	Action needed	Operating Hours						Remarks
		500	2500	5000	10,000	15,000	20,000	
Tank	Drain moisture	Daily	2500					
Inlet air filter	Replace	●	▲	(Every 2,500 hrs or less)				
Blower fan	Clean			●	●	●	●	
Fan Duct	Clean			●	●	●	●	
Compressor Fins	Clean		●	(Every 2,500 hrs or less)				
Bearings	Replace				●	●	▲	
Compression rings	Replace				▲		▲	
Wrist pin bearing	Regrease				▲		▲	
Piston set	Replace				▲		▲	
V-belt	Inspect, replace	*Note 3	●	▲	▲	▲	▲	
Pressure Switch	Confirm operation				●		●	
Magnetic starter	Inspect				●		●	Replace if contact points deteriorated
Safety valve	Confirm operation		●	(Every 2,500 hrs or less)				
Pressure gauge	Inspect		●	(Every 2,500 hrs or less)				

NOTES:

1. Inspect and perform maintenance periodically according to maintenance schedule.
2. The maintenance schedule relates to the normal operating conditions. If the circumstances and load condition are adverse, shorten the cycle time and do maintenance accordingly.
3. * The tension of the V-belt should be adjusted during the initial stage and inspected every 1,500 hours afterwards. Proper belt tension for 3/4 to 3 HP units is 2-3 lbs./1/5" deflection; for 5 to 20 HP units, 4-6 lbs./1/5" deflection.

Air Filter Replacement



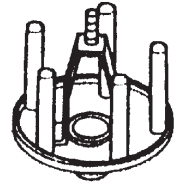
1. Remove wing nut.

2. Remove canister and wipe inside clean with dry cloth.

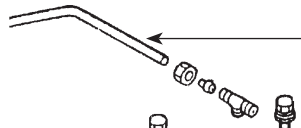


3. Remove and discard filter cartridge.
4. Install new filter cartridge. **Do not attempt to clean and reuse filter cartridge.**

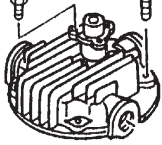
5. Wipe inside clean with dry cloth.



Ring and Piston Set Replacement 10,000 Hours



1. Remove unloader line (Two-stage pumps only).



2. Remove cylinder head bolts on each cylinder.



3. Remove and discard form seal. Replace with new form seal.



4. Replace form seal.

5. Remove valve plate and clean with dry cloth.



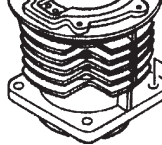
6. Remove and discard spacer gasket. Replace with the new gasket.



7. Remove and discard cylinder seal. Replace with the new seal.



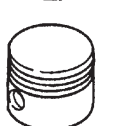
8. Remove and discard valve wear pad. Replace with new pad.



9. Remove cylinder bolts and cylinder. Note the cylinder orientation. Wipe cylinder with dry cloth.

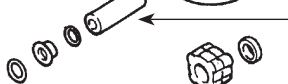


10. Remove piston ring or rings.



11. Remove wrist pin and piston. Replace with new piston and wrist pin set.

12. Replace ring or rings.



13. Install cylinder. Be careful of orientation. Torque cylinder bolts to 300 in-lb.

14. Install valve set with new seals.

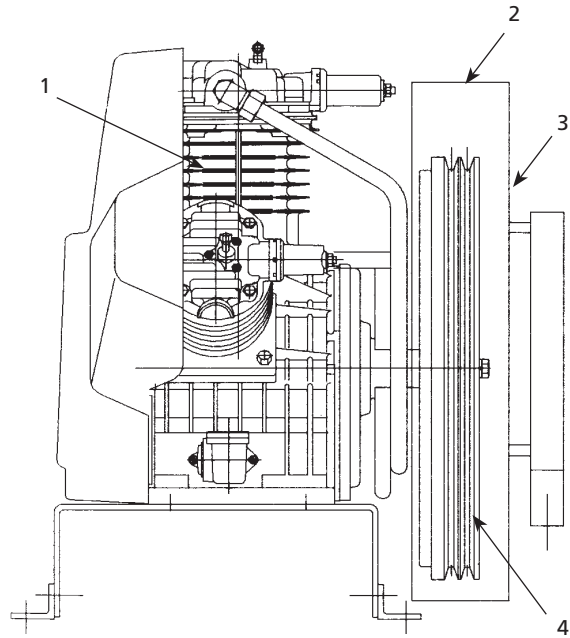
15. Install head and cylinder head bolts. Torque head bolts to 156 in-lb.

16. Reconnect unloader tubing.

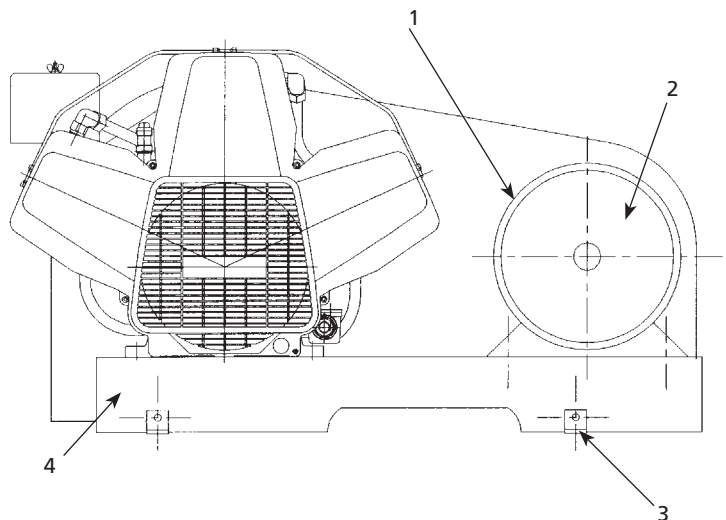
17. Unit is ready for full operation. No break-in is required.

Oilless Reciprocating Air Compressor Pumps

Ref. No.	Description	Part Number	Qty.
1	Pump		
	1 to 1-1/2 HP	OPS010	1
	2 to 3 HP	OPS030	1
	5 HP	OPS075	1
	7-1/2 HP	OPT100	1
	10 HP	OPT100	1
	15 HP	OPT150	1
2	Bracket Beltguard	TP004000AV	1
3	Beltguard	TR001800AJ	1
4	Belt		
	7-1/2 HP	BT010100AV	2
	10 HP	BT010400AV	2
	15 HP	BT009200AV	2



Ref. No.	Description	Part Number	Qty.
1	Motor Pulley		
	7-1/2 HP	PU009728AV	1
	10 HP	PU009716AV	1
	15 HP	PU009758AV	1
2	Motor		
	7-1/2 HP	MC022370AV	1
	10 HP	MC022375AV	1
	15 HP	MC022376AV	1
3	Mounts	ISO41600AV	4
4	Baseplate	BA060101AV	1



Powerex Limited Warranty

Powerex 3 Year / 10,000 Hour Extended Parts Limited Warranty - Powerex warrants each Compressor Pump or Scroll Air-End against defects in material or workmanship from the date of purchase for a period of **Three years or 10,000 hours**, whichever may occur first. This warranty applies to the exchange of part(s) of the compressor pump or air-end found to be defective by an Authorized Powerex Service Center.

Powerex 1 Year / 5,000 Hour Inlet to Outlet Limited Warranty - Powerex warrants each Compressor Unit, System, Pump, or Air-End against defects in material or workmanship from the date of purchase for a period of **One Year or 5,000 Hours**, whichever may occur first. This warranty applies to the exchange of defective component part(s) and labor performed by an Authorized Powerex Service Center.

The above mentioned warranty applies to POWEREX manufactured units or systems only.

Items listed in the operator's manual under routine maintenance are not covered by this or any other warranty.

THERE IS NO OTHER EXPRESS WARRANTY. IMPLIED WARRANTIES, INCLUDING THOSE OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED TO ONE YEAR FROM THE DATE OF PURCHASE: AND TO THE EXTENT PERMITTED BY LAW, ANY AND ALL IMPLIED WARRANTIES ARE EXCLUDED. THIS IS THE EXCLUSIVE REMEDY AND LIABILITY FOR CONSEQUENTIAL DAMAGES UNDER ANY AND ALL WARRANTIES IS EXCLUDED TO THE EXTENT EXCLUSION IS PERMITTED BY LAW.

All claims pertaining to the merchandise in this schedule, with the exception of warranty claims, must be filed with POWEREX within 6 months of the invoice date, or they will not be honored. Prices, discounts and terms are subject to change without notice or as stipulated in specific product quotations. All agreements are contingent upon strikes, accidents, or other causes beyond our control. All shipments are carefully inspected and counted before leaving the factory. Please inspect carefully any receipt of merchandise noting any discrepancy or damage on the carrier's freight bill at the time of delivery. Discrepancies or damage which obviously occurred in transit are the carrier's responsibility and related claims should be made promptly directly to the carrier. Returned merchandise will not be accepted without prior written authorization by POWEREX and deductions from invoices for shortage or damage claims will not be allowed.

UNLESS OTHERWISE AGREED TO IN WRITING, THESE TERMS AND CONDITIONS WILL CONTROL IN ANY TRANSACTION WITH POWEREX any different or conflicting terms as may appear on any order form now or later submitted by the buyer. All orders are subject to acceptance by POWEREX.