

Oiless Basemount Air Compressor

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.

Description

GENERAL

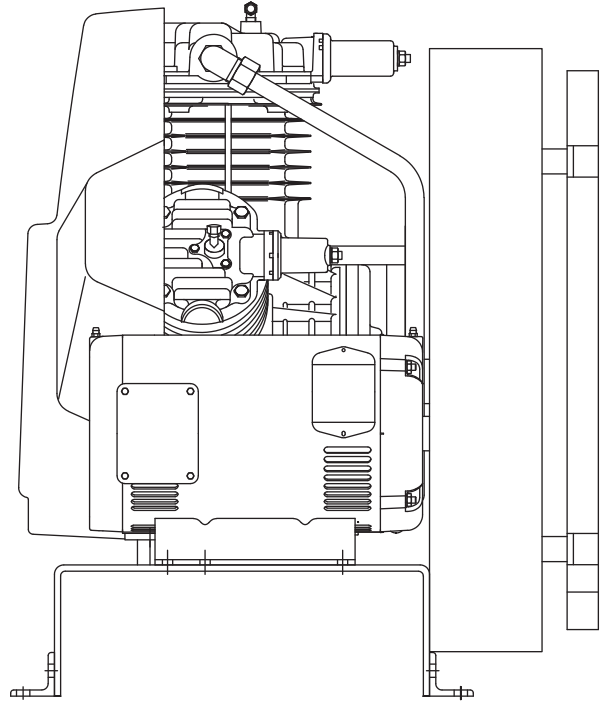
The Powerex oiless reciprocating air compressor has advanced compressor technology through the development of a completely oiless unit. The Powerex reciprocating compressor is available in single and two stage models. Continuously lubricated, sealed bearings provide oil-free compressed air and long compressor 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 Powerex compressor assures 99% of particulate free air is admitted to the unit. Change every 2,500 hours or more often in dirty locations.

PISTON RINGS AND CYLINDERS

The Powerex oiless 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 minor or moderate injury.

NOTICE

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

NOTE: Information that requires special attention.

⚠ 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.

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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

CALIFORNIA PROPOSITION 65


⚠ WARNING

This product or its power cord may contain chemicals known

to the State of California to cause cancer and birth defects or other reproductive harm. Wash hands after handling.

GENERAL

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.
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

⚠ 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 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, moisture, water, and direct sunlight.
3. Never install the compressor where the ambient temperature is higher than 104° 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.

MINIMUM CLEARANCES

MINIMUM CLEARANCES	
Above	24 inches
Drive belt side	12 inches
Other sides	20 inches

Specifications

Model	HP	Phase	SCFM @ 50 psig	SCFM @ 100 psig	RPM	Voltage	Motor FLA @			Gal. Tank	Dimension L x W x H	Weight (lbs.)
							208V	230V	460V			
OBS0107	1.0	3	3.6	3.4	620	208/230/460	4.1	3.6	1.8	Basemount	21 x 16 x 20	95
OBS0157	1.5	3	5.3	5.0	980	208/230/460	4.5	4.4	2.2	Basemount	21 x 16 x 20	120
OBS0207	2.0	3	6.7	6.5	680	208/230/460	5.95	5.8	2.9	Basemount	32 x 19 x 23	120
OBS0307	3.0	3	11.1	10.1	970	208/230/460	8.98	8.12	4.06	Basemount	32 x 19 x 23	160
OBS0507	5.0	3	18.1	16.7	760	208/230/460	14.2	12.8	6.41	Basemount	36 x 22 x 27	270
OBS0757	7.5	3	28.4	26.1	870	208/230/460	20	18.1	9.03	Basemount	46 x 24 x 28	305
OBS1007	10.0	3	37.2	35.0	1070	208/230/460	27	24.4	12.2	Basemount	26 x 24 x 28	350
OBS1507	15.0	3	57.0	54.2	1250	208/230/460	41.1	37.2	18.6	Basemount	48 x 27 x 28	410

NOTE: For system electrical information, see the wiring diagram shipped with the unit.

Installation (Continued)

WIRING

⚠ 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 inch 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 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 hose 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.

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.

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Operation (Continued)

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.

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.

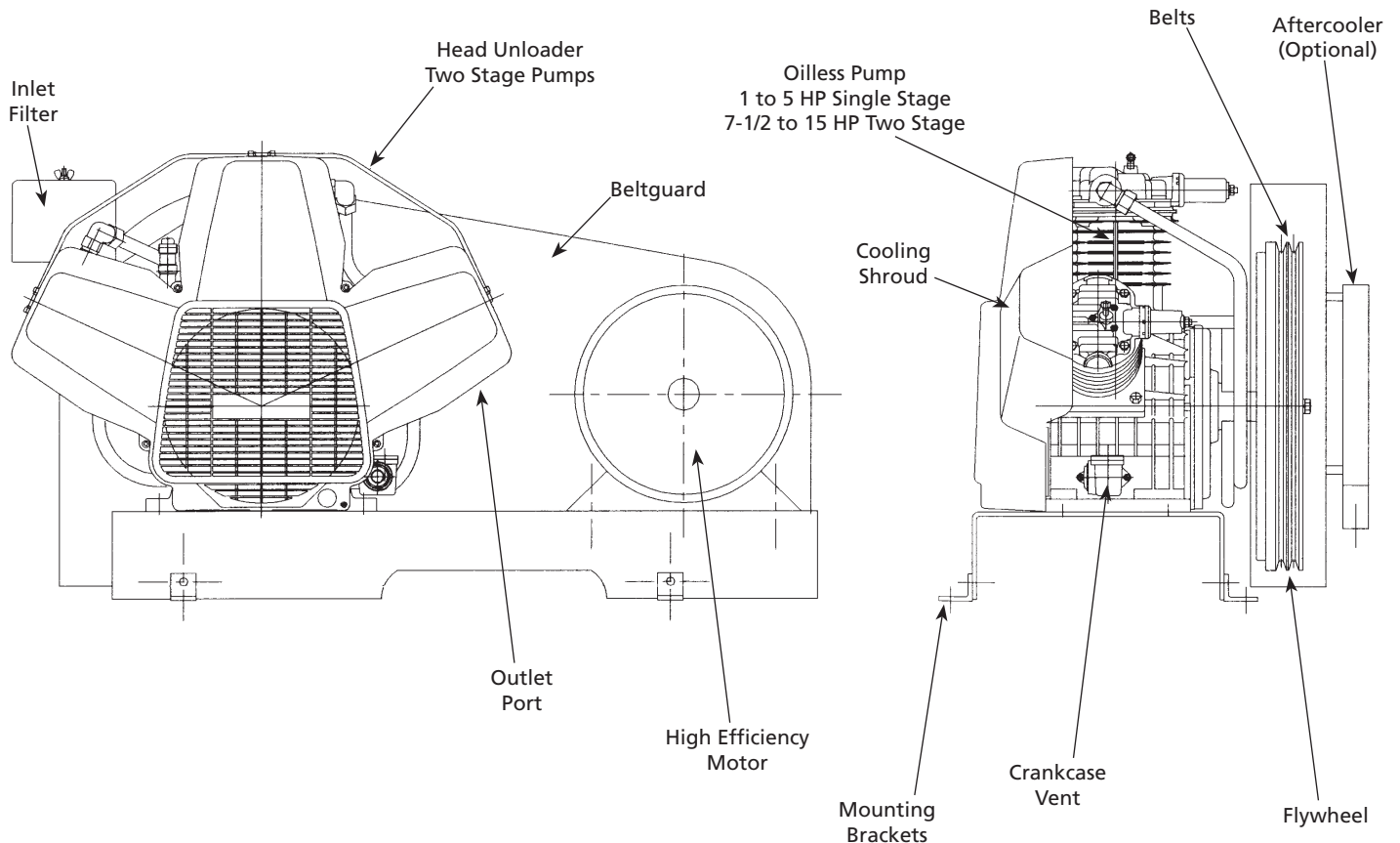
DANGER Never attempt to repair or modify a tank! Welding, drilling or any other modification will weaken the tank resulting in damage from rupture or explosion. Always replace worn, cracked or damaged tanks.



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.

Component Identification



Maintenance Schedule

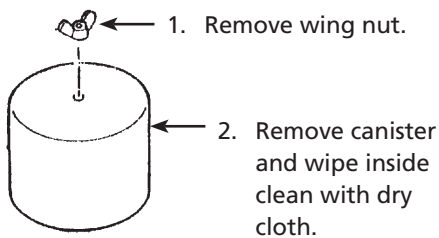
Item	Action needed	Operating Hours							Remarks
		Daily	500	2500	5000	10,000	15,000	20,000	
Tank	Drain moisture	●		●					
Inlet air filter	Replace		●	▲					Every 2500 hours or less
Blower fan	Clean				●	●	●	●	
Fan Duct	Clean				●	●	●	●	
Compressor Fins	Clean			●					Every 2500 hours or less
Bearings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

- Inspect
- ▲ Replace

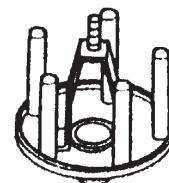
NOTES:

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./0.5 inch deflection; for 5 to 20 HP units, 4-6 lbs./0.5 inch deflection.

Air Filter Replacement



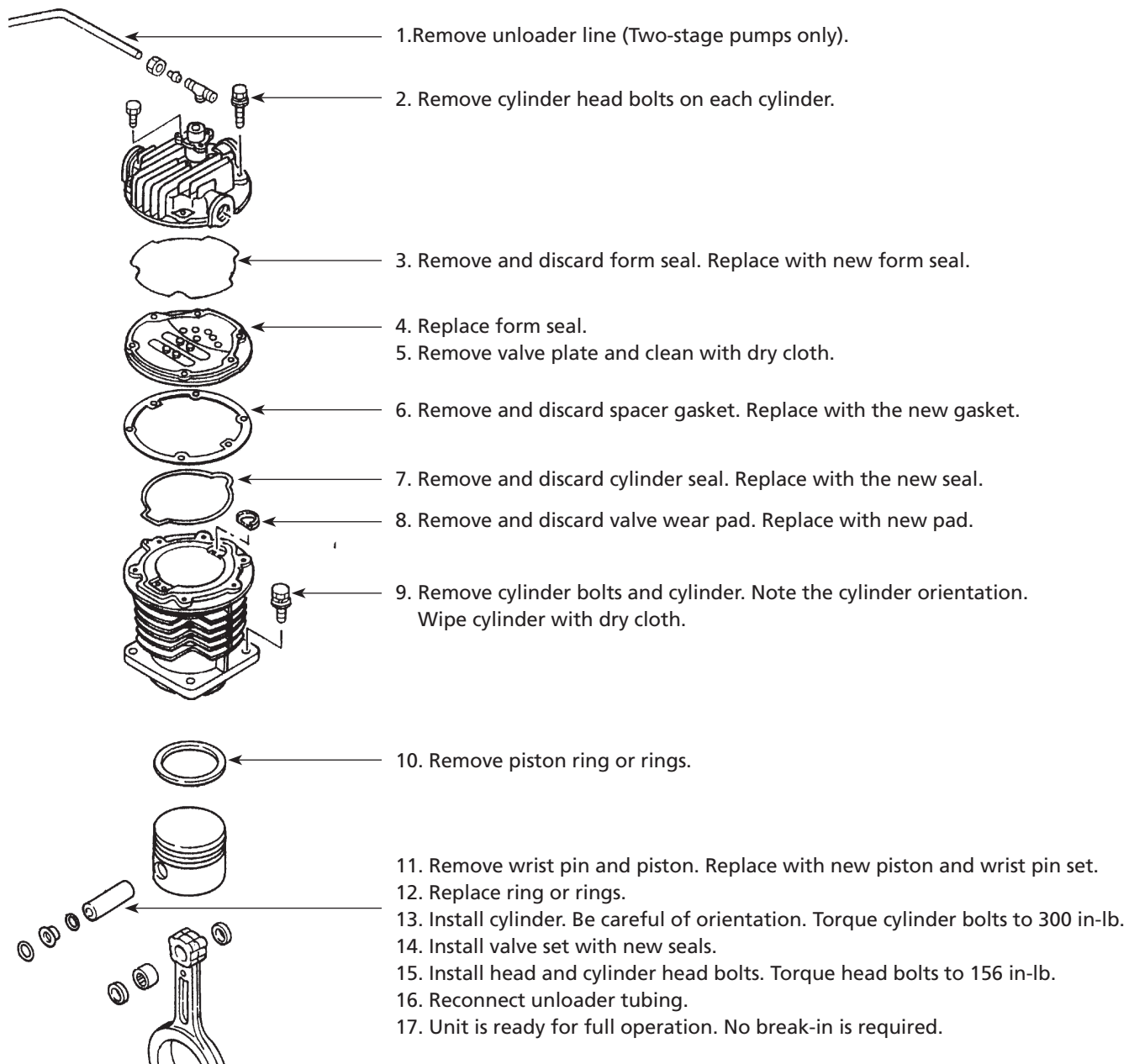
3. Remove and discard filter cartridge.
4. Install new filter cartridge. **Do not attempt to clean and reuse filter cartridge.**



5. Wipe inside clean with dry cloth.

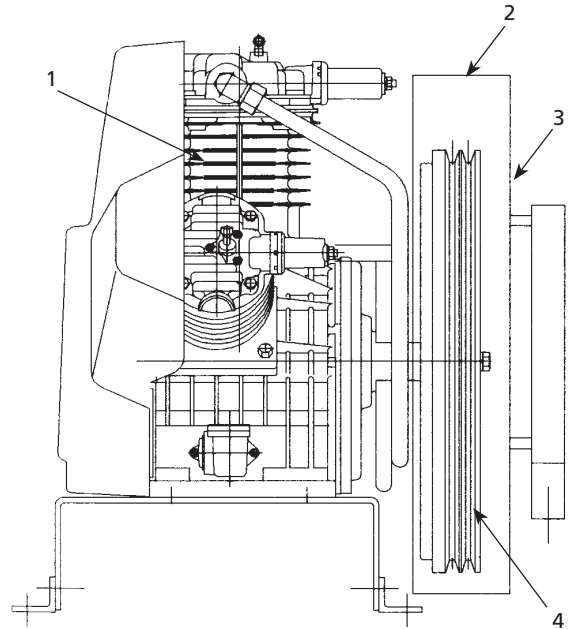
Maintenance

RING AND PISTON SET REPLACEMENT (10,000 Hours)

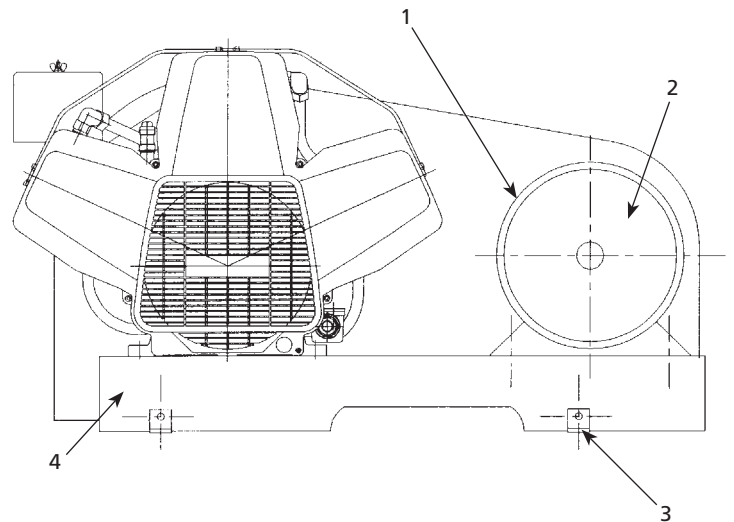


Replacement Parts List

Ref. No.	Description	Part Number	Qty.
1	Pump		
	1 - 1-1/2 HP	OPS010	1
	2 - 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		
	1 - 1-1/2 HP	JP001100AV	1
	2 - 3 HP	JP014500AV	1
	5 HP	JP014300AV	1
3	Beltguard		
	1 - 1-1/2 HP	BG012400AV	1
	2 - 5 HP	BG012802AV	1
4	Belt		
	1 HP	BT023300AV	1
	1-1/2 HP	BT009500AV	1
	2 HP	BT011300AV	1
	3 HP	BT008500AV	1
	5 HP	BT006000AV	2
	7-1/2 HP	BT011200AV	2
	10 HP	BT009200AV	2
	15 HP	BT010200AV	2



Ref. No.	Description	Part Number	Qty.
1	Motor Pulley		
	1 HP	PU202617AV	1
	1-1/2 HP	PU009725AV	1
	2 HP	PU009778AV	1
	3 HP	PU009777AV	1
	5 HP	PU009747AV	1
	7-1/2 HP	PU009775AV	1
	10 HP	PU009772AV	1
	15 HP	PU009758AV	1
2	Motor		
	1 HP	MC301561AV	1
	1-1/2 HP	MC022388AV	1
	2 HP	MC022373AV	1
	3 HP	MC022374AV	1
	5 HP	MC022307AV	1
	7-1/2 HP	MC022370AV	1
	10 HP	MC022375AV	1
15 HP	MC022376AV	1	
3	Mounts		
	1 - 1-1/2 HP	JP009100AV	4
	2 - 5 HP	ISO41600AV	4
4	Baseplate		
	1 - 1-1/2 HP	BA000200AV	1
	2 - 3 HP	BA000301AV	1
	5 HP	BA000401AV	1
7-1/2 - 15 HP	BA060101AV	1	



Powerex Limited Warranty

Warranty and Remedies.

(a) General. Powerex warrants each Compressor System, Vacuum System, Vacuum Pump, Compressor Air-End, or Powerex branded Accessory (collectively "Products", individually each a "Product") to be free from defects in material and workmanship ("Defects") at the date of shipment. EXCEPT AS SET FORTH BELOW, NO OTHER WARRANTY, WHETHER EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, SHALL EXIST IN CONNECTION WITH THE SALE OR USE OF SUCH PRODUCTS. TO THE EXTENT PERMITTED BY LAW, ANY AND ALL IMPLIED WARRANTIES ARE EXCLUDED. All claims under this warranty must be made in writing and delivered to Powerex, or such claim shall be barred. Upon timely receipt of a claim, Powerex shall inspect the Product claimed to have a Defect, and Powerex shall repair, or, at its option, replace, free of charge, any Product which it determines to have had a Defect at the time of shipment from Powerex; provided, however, that if circumstances are such as to preclude the remedying of Defect by repair or replacement, Powerex shall, upon return of the Product, refund to buyer any part of the purchase price of such Products paid to Powerex. Freight for returning Products to Powerex for inspection shall be paid by buyer. The warranties and remedies herein are the sole and exclusive remedy for any breach of warranty or for any other claim based on any Defect, or non-performance of the Products, whether based upon contract, warranty or negligence.

(b) Initial Period of Warranty – Parts and Labor. Powerex warrants and represents all Products shall be free from Defects for the first twelve (12) months from the date of shipment by Powerex, or five thousand (5,000) hours of use, whichever occurs first. During such warranty period, Powerex shall be fully liable for all Defects in the Products (the "Product Defects"), i.e., all costs of repair or replacement, which may include "in and out" charges, so long as the Products are located in the continental United States, and the Products are reasonably located and accessible by service personnel for removal. "In and out" charges include the costs of removing a Product from buyer's equipment for repair or replacement.

(c) Additional Period of Warranty – Parts Only (No Labor). In addition to the above, Powerex warrants each Powerex branded Compressor Air-End, and Vacuum Pump shall be free of Defects for a period of thirty-six months from the date of shipment of Product, or 10,000 hours of use, whichever occurs first. Supplier's repair or replacement of any Product shall not extend the period of any warranty of any Product. This warranty applies to the exchange of part(s) found to be defective by an Authorized Powerex Service Center only.

(d) Coverage. The above mentioned warranty applies to Powerex manufactured units or systems only.

(e) Exceptions. Notwithstanding anything to the contrary herein, Powerex shall have no warranty obligations with respect to Products:

- (i) that have not been installed in accordance with Powerex's written specifications and instructions;
- (ii) that have not been maintained in accordance with Powerex's written instructions;
- (iii) that have been materially modified without the prior written approval of Powerex; or
- (iv) that experience failures resulting from operation, either intentional or otherwise, in excess of rated capacities or in an otherwise improper manner.

(f) The warranty provided herein shall not apply to: (i) any defects arising from corrosion, abrasion, use of insoluble lubricants, or negligent attendance to or faulty operation of the Products; (ii) ordinary wear and tear of the Products; or (iii) defects arising from abnormal conditions of temperature, dirt or corrosive matter; (iv) any OEM component which is shipped by Powerex with the original manufacturer's warranty, which shall be the sole applicable warranty for such component.

Limitation of Liability. TO THE EXTENT ALLOWABLE UNDER APPLICABLE LAW, NOTWITHSTANDING ANYTHING TO THE CONTRARY HEREIN, UNDER NO CIRCUMSTANCES SHALL POWEREX BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL, PUNITIVE, SPECULATIVE OR INDIRECT LOSSES OR DAMAGES WHATSOEVER ARISING OUT OF OR IN ANY WAY RELATED TO ANY OF THE PRODUCTS OR GOODS SOLD OR AGREED TO BE SOLD BY POWEREX TO BUYER. TO THE EXTENT ALLOWABLE UNDER APPLICABLE LAW, POWEREX'S LIABILITY IN ALL EVENTS IS LIMITED TO, AND SHALL NOT EXCEED, THE PURCHASE PRICE PAID.

Warranty Disclaimer. Powerex has made a diligent effort to illustrate and describe the Products in this literature accurately; however, such illustrations and descriptions are for the sole purpose of identification, and do not express or imply a warranty that the Products are merchantable, or fit for a particular purpose, or that the Products will necessarily conform to the illustrations or descriptions.

Product Suitability. Many jurisdictions have codes and regulations governing sales, construction, installation, and/or use of Products for certain purposes, which may vary from those in neighboring areas. While Powerex attempts to assure that its Products comply with such codes, it cannot guarantee compliance, and cannot be responsible for how the product is installed or used. Before purchase and use of a Product, please review the Product applications, and national and local codes and regulations, and be sure that the Product, installation, and use will comply with them.

Claims. Claims pertaining to the Products, 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 Products 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 Products 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.