

## Oilless Tankmount Simplex

**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.**

### Features

- Oilless reciprocating compressor pump
- High efficiency ODP tri-voltage motors
- Three year, warranty on compressor pump
- Isolation pads
- Optional R134 dryer
- ASME tank
- UL listed controls

The OTS Series Powerex Simplex Air Compressors have been designed and tested to meet the most demanding specifications in the pneumatic oil free industry for reliability.

All Powerex air compressors have reliable operation and feature high quality construction and components. An unloading feature is included on all compressors to provide loadless starting. Powerex oilless pump uses composite piston technology, low compressor speeds and PTFE compression ring(s) at low maintenance costs.

All 1 through 15 hp models are also equipped with an auxiliary cooling fan and air control shroud to achieve low head temperatures and further minimizing ring wear.

Powerex compressor motors are NEMA Class B design. Single-phase 1HP motors have built-in overload protection and a DPST disconnect switch. Three-phase motors require a manual or magnetic starter and adjustable overload which may be ordered as a factory mounted and wired option.

#### CALIFORNIA PROPOSITION 65

#### ⚠ WARNING

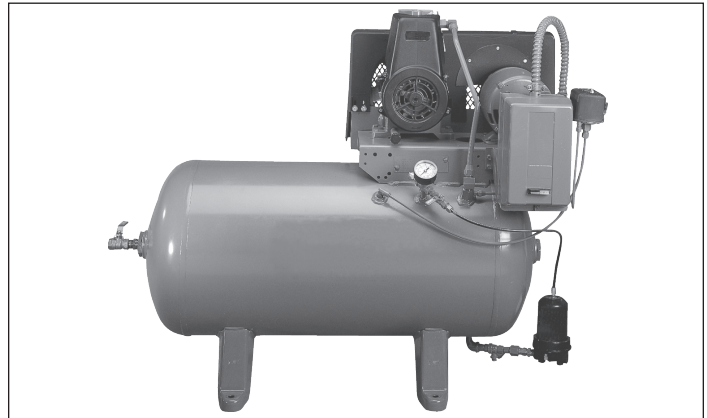
***This product or its power cord may contain chemicals known***

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

### Mounted and Connected Options

#### MAGNETIC MOTOR STARTER

An optional magnetic motor starter which has been selected and wired for the intended input voltage is available for all units. All starters are furnished with properly sized overload.



### Specifications

Product	OTS Series Powerex Simplex Air Compressors
Performance Specifications	See Table 1
Models and Options	See Table 2
Lubrication	1 Through 15 HP Models: Sealed Bearings
Operating Voltages	1Ø 1 to 1-1/2 HP 115 - 208 / 230 Volts, 60 Hz 2 to 5 HP 115 - 208 / 230 Volts, 60 Hz 3Ø 208-230/460 Volts, 60 Hz
Compression Cycle	1 Through 3 HP Models: Single-Stage 5 Through 15 HP Models: Two-Stage
Motor Overload Protection	1Ø Built-In Thermal Overload (Only 1 HP) 3Ø Magnetic Starter and Three Thermal Overload Switches (Optional)
Pressure Settings	Cut-In: Factory Set at Approximately 90 psig Cut-out: Factory Set at Approximately 120 psig
Overpressure Protection	ASME Safety Valve Factory Set and Sealed at Approximately 140 psig
Outlet Air Connections	1/2 inch NPT on 30, 60 and 80 Gallon Tanks; 1 inch NPT on 120 and 200 Gallon Tanks
Tank Sizes	See Table 2
California Ordinance 462 (L) (2)	Meets Requirements of this Ordinance
Tank Isolation	Standard All Units
Manuals	Unit Service and Parts Manual

*The performance specifications are nominal and conform to acceptable industry standards. For application at conditions beyond these specifications, consult the local Powerex office. Powerex shall not be liable for damages resulting from misapplication or misuse of its products.*

## Oilless Tankmount Simplex

### Performance Specifications

Model	HP	Phase	SCFM @100 psig	RPM	Voltage	Full Load AMP / Motor	Gallon Tank	Dimensions (inches)			Ship Weight (lbs.)
								L	W	H	
OTS110	1	1	3.6	625	115/208/230	13.4/7.4/6.7	30/60	42 51	21 22	35 40	231 312
OTS010	1	3	3.6	625	208/230/460	3.6/3.4/1.7	30/60	42 51	21 22	35 40	231 312
OTS115	1.5	1	5.3	885	115/208/230	4.8/15.1/12.4	30/60	42 51	21 22	35 40	230 327
OTS015	1.5	3	5.3	885	208/230/460	5.0/4.8/2.4	30/60	42 51	21 22	35 40	230 317
OTS120	2	1	6.5	845	115/208/230	28.4/16.7/14.2	60	51	22	40	350
OTS020	2	3	6.5	845	208/230/460	6.3/6.4/3.2	60	51	22	40	343
OTS130	3	1	10.1	1115	208/230	23.3/20.1	80	64	23	41	485
OTS030	3	3	10.1	1115	208/230/460	8.5/8.0/4.0	80	64	23	41	479
OTS151	5	1	17.9	860	208/230	29.0/26.4	80/120	64 71	23 26	46 49	550 716
OTS050	5	3	17.9	860	208/230/460	14.8/14.0/7.0	80/120	64 71	23 26	46 49	536 702
OTS075	7.5	3	26.1	855	208/230/460	23/22/11	80/120	64 71	23 26	46 49	599 765
OTS100	10	3	35.0	1090	208/230/460	30/28/14	120/200	79 82	27 30	51 58	790 1045
OTS150	15	3	54.2	1140	208/230/460	43/41.4/20.7	120/200	79 82	31 30	59 64	910 1130

TABLE 1: Oilless Tankmount Simplex - Model OTS

### Mounted and Connected Options (Continued)

#### REFRIGERATED AIR DRYER

A factory mounted refrigerated air dryer with automatic condensate drain trap assembly, bypass valve is available as an option on all 1 through 3 HP Powerex Simplex air compressors. The air dryer is piped to the compressor at the factory; power wiring to the dryer is done in the field using the integral cord and plug which fits into a standard 120 volt receptacle.

#### AUTOMATIC TANK DRAIN

Powerex air compressors are ordered with either a manual, float or electric type automatic tank drain. This unit is furnished with a manual drain attachment and must be mounted to the compressor in the field.

If an automatic drain is ordered, an electric drain is considered standard. A float drain or no-loss are optional equipment.

#### VIBRATION DAMPENING PADS

Waffle type design vibration pads are provided as standard equipment.

### Operation

Factory calibrated snap-acting DPST pressure electric switches provide automatic cut-in and cut-out. Overpressure protection is provided by an ASME safety relief valve. Receiver tanks have a condensate drain valve with an extension for easy access. All mounting bases are slotted for V-belt tension adjustment to aid in maintaining proper compressor and motor alignment.

All units are run and tested for air delivery, leakage and power consumption.

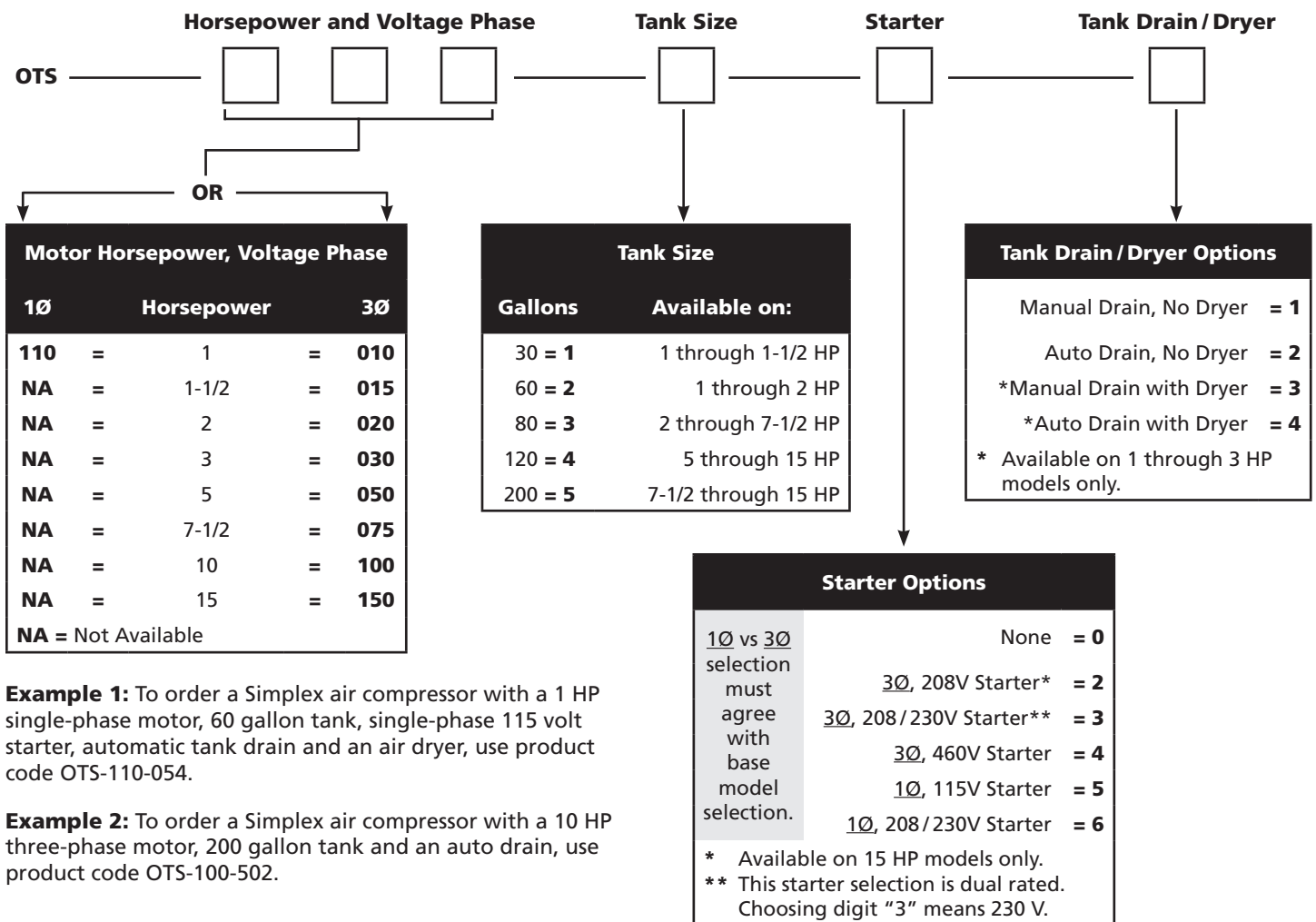
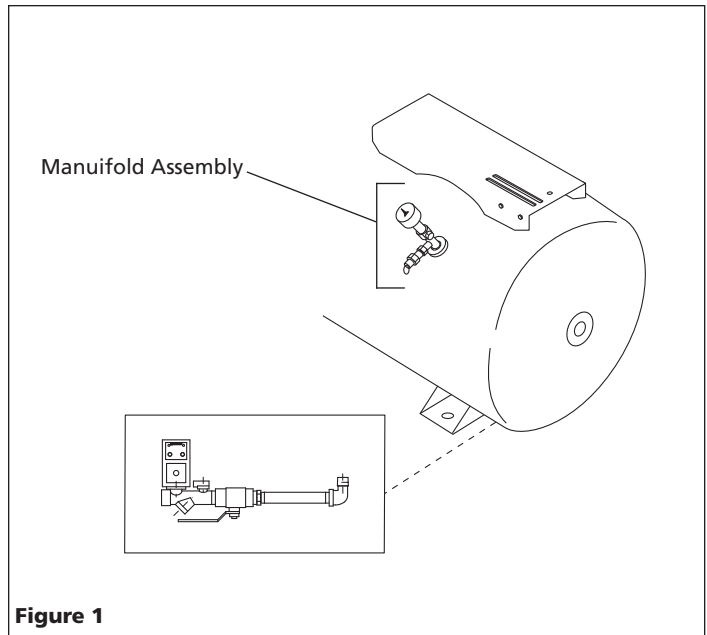
Units are furnished with an 5 micron intake filter/ silencer(s) with a replaceable cartridge. This filter/ silencer combination is designed to remove contaminants in the inlet air and provide quieter operation.

## Operation (Continued)

### AUTO E-DRAIN ASSEMBLY (See Figure 1)

**NOTE:** The automatic E-drain is assembled to tank.

1. Plug E-drain into 115V power outlet supply.
2. Adjust times accordingly.



**Example 1:** To order a Simplex air compressor with a 1 HP single-phase motor, 60 gallon tank, single-phase 115 volt starter, automatic tank drain and an air dryer, use product code OTS-110-054.

**Example 2:** To order a Simplex air compressor with a 10 HP three-phase motor, 200 gallon tank and an auto drain, use product code OTS-100-502.

TABLE 2: MODEL NUMBER

# Oilless Tankmount Simplex

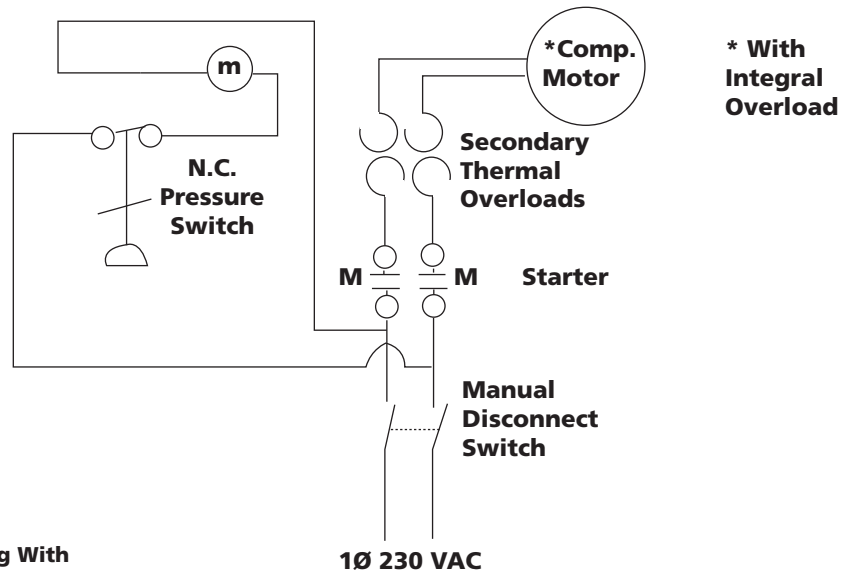


Figure 2 - OTS-XXX Single-Phase Wiring With Pressure Switch Used for Pilot Duty

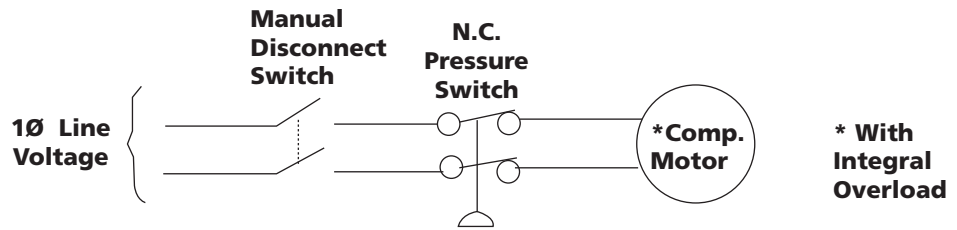


Figure 3 - OTS-XXX Single-Phase Wiring With Pressure Switch Used as Contactor (1 HP only)

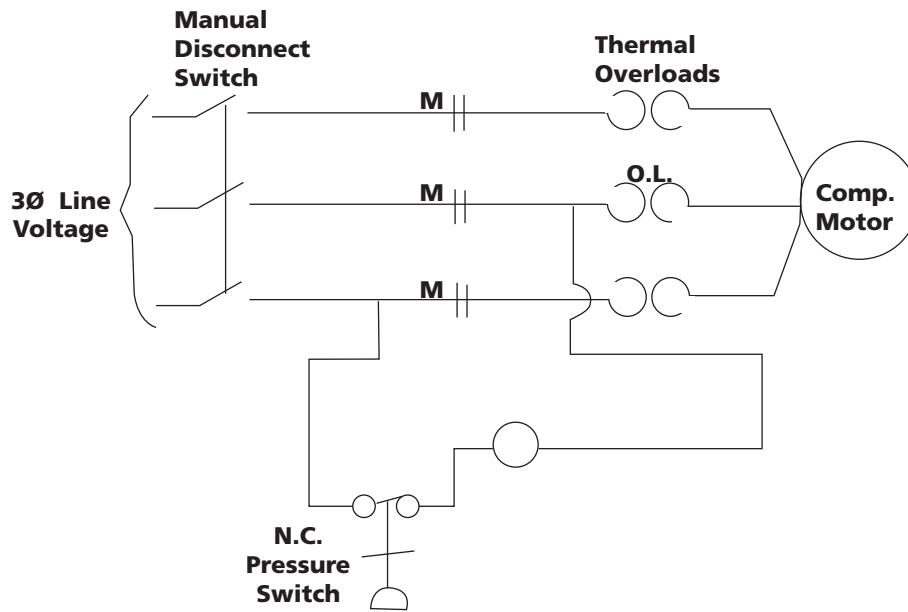


Figure 4 - OTS-XXX Three-Phase Wiring With Pressure Switch Used for Pilot Duty

NOTE: In figures above, "M" = Magnetic Contactor

Figure 5 - Dimensions

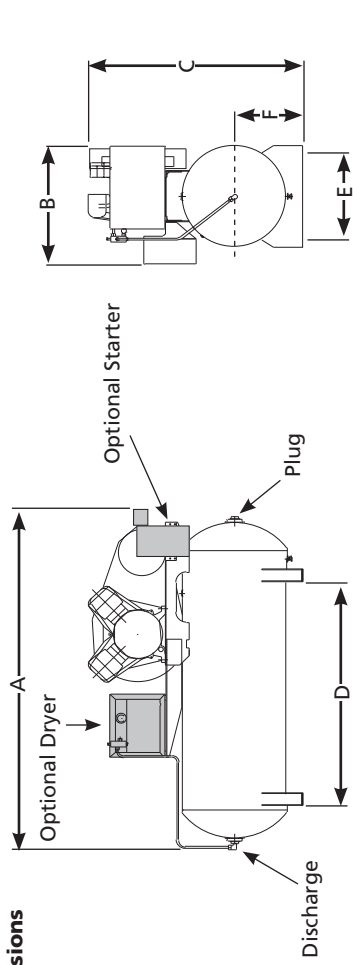


TABLE 3: Dimensions (Inches\*) and Shipping Weights (Pounds\*)

Base Model	A				B				Shipping Weight **				
	w/ Starter w/o Dryer	w/ Starter w/o Dryer	w/ Starter w/ Dryer	w/ Starter w/ Dryer	w/ Starter w/o Dryer or Dryer	w/ Starter w/ Dryer	w/ Starter w/ Dryer	C	D	E	F	With Starter	Without Starter
OTS-110-1XX	42-1/2	40	43-19/32	42	21-1/4	21-13/16	18-3/4	36	18	15-3/4	12-1/4	219	210
OTS-010-1XX													
OTS-110-2XX	50-3/4	50-3/4	51-27/32	52-3/4	22-1/4	22-5/16	21	40	29	18	14	349	340
OTS-010-2XX													
OTS-015-1XX	42-1/2	40	43-19/32	42	21-1/4	21-13/16	18-3/4	36	18	15-3/4	12-1/4	219	210
OTS-115-1XX													
OTS-015-2XX	50-3/4	50-3/4	51-27/32	52-3/4	22-1/4	22-5/16	21	40	29	18	14	349	340
OTS-115-2XX													
OTS-020-1XX	51-1/2	50-3/4	52-19/32	52-3/4	23-1/4	23-5/16	21	42	29	18	14	349	340
OTS-120-2XX													
OTS-020-3XX	65	64	66-23/32	66	23-1/4	23-5/16	21	41	40	18-1/8	13	384	375
OTS-120-3XX													
OTS-030-3XX	65-1/2	64	66-23/32	66	23-1/4	23-5/16	21	41	40	18-1/2	13	509	500
OTS-130-3XX													
OTS-050-3XX	64	64	—	—	23-1/4	—	—	46	43-3/4	18-1/2	13	609	600
OTS-151-3XX													
OTS-050-4XX	70-3/4	70-3/4	—	—	26-1/4	—	—	49-1/4	42	22	15-3/4	714	705
OTS-151-4XX													
OTS-075-3XX	64	64	—	—	23-1/4	—	—	46	43-3/4	18-1/2	13	621	610
OTS-075-4XX	70-3/4	70-3/4	—	—	26-1/4	—	—	49-1/4	42	22	15-3/4	714	714
OTS-075-5XX	81-3/4	81-1/3	—	—	30	—	—	55-1/2	42	22	18-3/4	951	940
OTS-100-4XX	79	76-1/2	—	—	27-1/4	—	—	51	42	22	15-3/4	915	904
OTS-100-5XX	81-3/4	79-1/4	—	—	30	—	—	58	42	22	18-3/4	1141	1130
OTS-150-4XX	79	76-1/2	—	—	27-1/4	—	—	51	42	22	15-3/4	915	904
OTS-150-5XX	76	76	—	—	35	—	—	64-1/2	42	22	18-3/4	1653	1640

\* Inches x 2.54 = Centimeters, Pounds x 0.454 = Kilograms

\*\* Add 60.0 lbs. for units equipped with a factory mounted air dryer

**Air Filter Replacement**

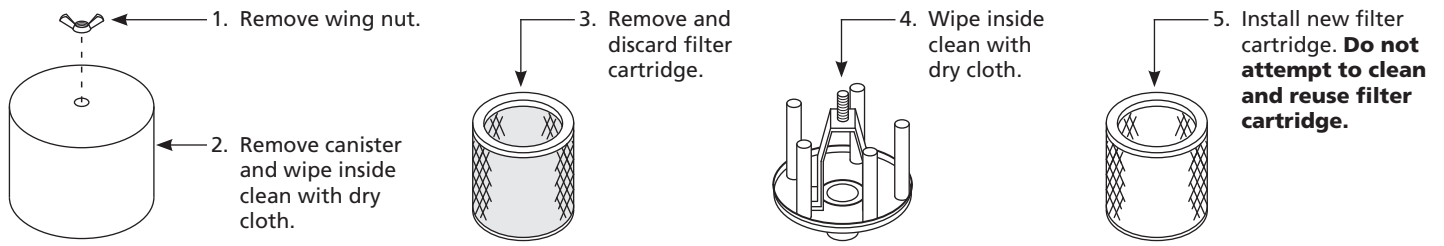
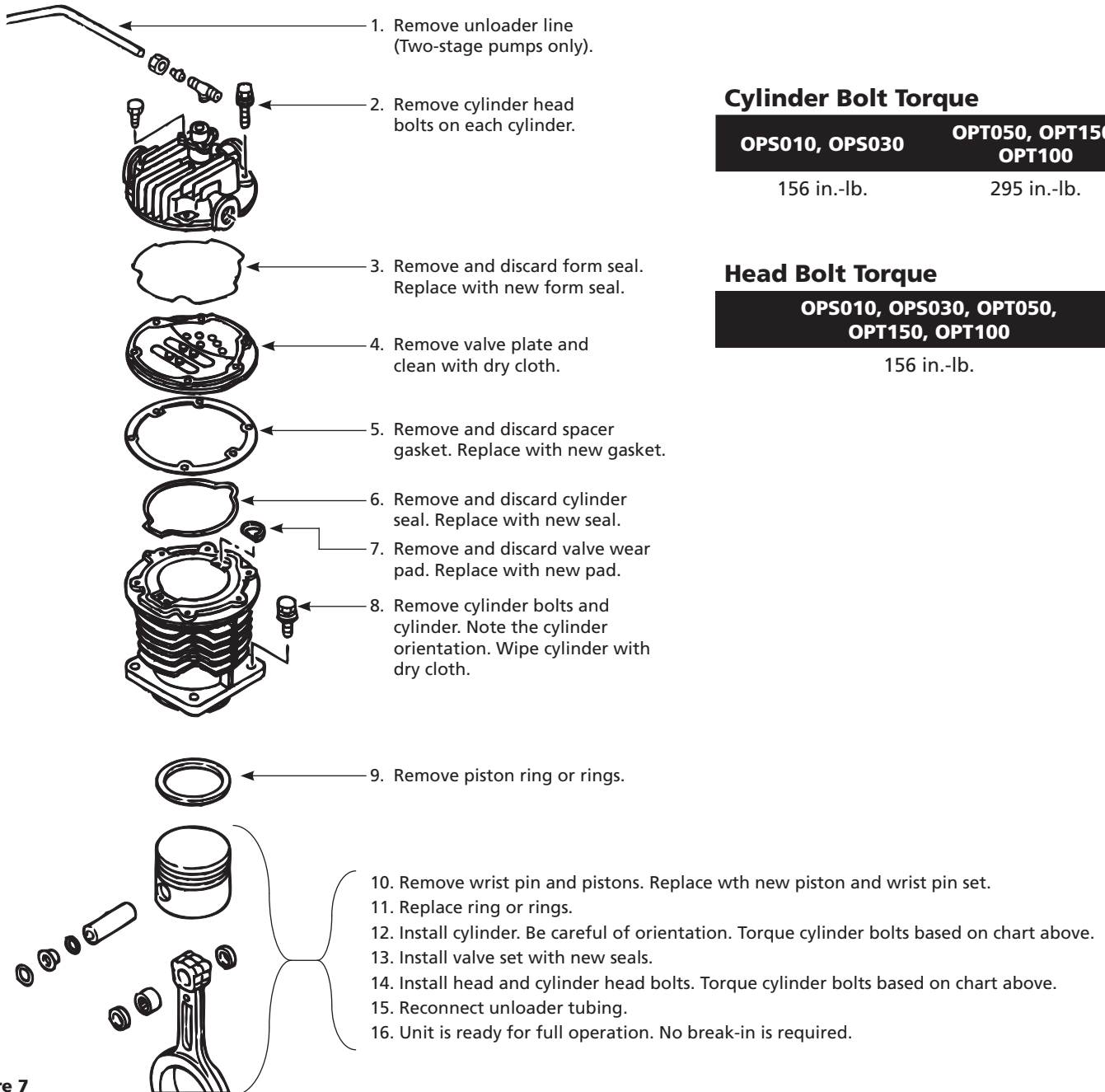


Figure 6

**Ring and Piston Set Replacement (every 10,000 Hours)**



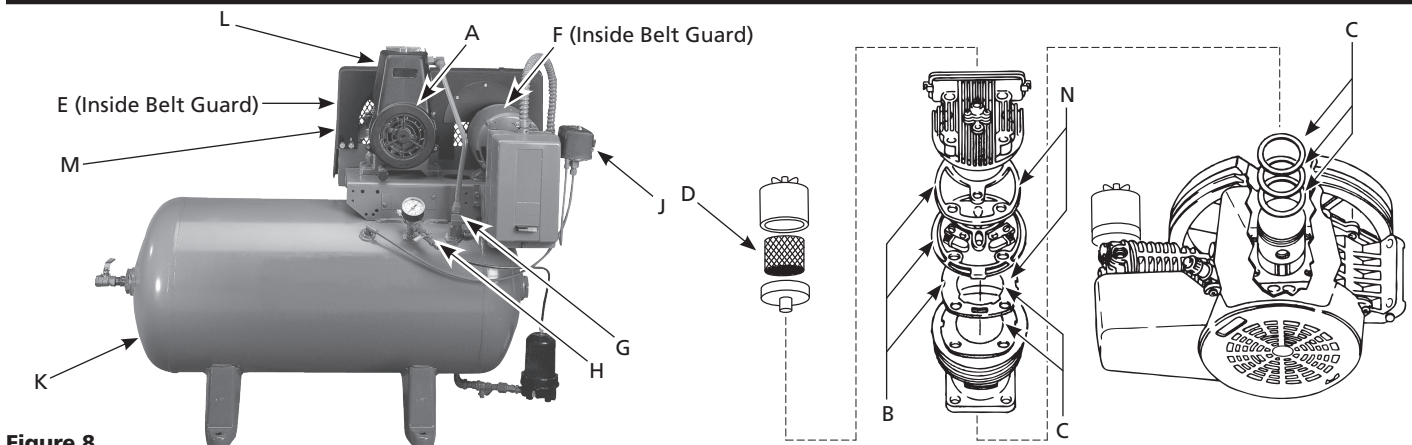
**Cylinder Bolt Torque**

<b>OPS010, OPS030</b>	<b>OPT050, OPT150, OPT100</b>
156 in.-lb.	295 in.-lb.

**Head Bolt Torque**

<b>OPS010, OPS030, OPT050, OPT150, OPT100</b>
156 in.-lb.

Figure 7



**Figure 8**

## Replacement Parts List

Item	Description	Quantity Required	Shipping Weight (lbs.)	Code Number	
A	<b>Pump and Flywheel:</b>	<b>Motor HP</b>			
		1, 1-1/2	1	34.0	OPS010
		2, 3	1	65.0	OPS030
		5	1	95.0	OPT050
		7-1/2, 10	1	134.0	OPT100
	15	1	137.0	OPT150	
B	<b>Valve Kit:</b> Includes valve plate and seals	<b>Motor HP</b>			
		1, 1-1/2	1	0.5	91933640
		2, 3	2	0.7	91933640
		5 (High pressure)	1	1.0	91934683
		5 (Low pressure)	2	1.2	91933681
		7-1/2, 10 (High pressure)	1	1.2	91934681
		7-1/2, 10 (Low pressure)	2	1.2	91934691
		15 (High Pressure)	1	1.0	91934681
15 (Low Pressure)	2	1.2	91933681		
C	<b>Ring Kit:</b> Includes all compression rings, oil control ring(s)	<b>Motor HP</b>			
		1, 1-1/2	1	0.1	91246640
		2, 3	2	0.1	91246640
		5 (High pressure)	1	0.1	91946680
		5 (Low pressure)	1	0.1	91236681
		7-1/2, 10 (High pressure)	1	0.1	91946680
		7-1/2, 10 (Low pressure)	2	0.1	91236671
		15 (High pressure)	1	0.1	91946680
15 (Low pressure)	2	0.1	91236681		
D	<b>Intake Filter Element:</b>	<b>Motor HP</b>			
		1, 1-1/2	1	0.2	91348550
		2, 3	2	0.2	91353660
		5	1	0.3	91353660
		7-1/2, 10	1	0.3	91353690
	15	1	0.3	91353690	

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### Replacement Parts List

Item	Description			Quantity Required	Shipping Weight (lbs.)	Code Number
E	<b>Belt:</b>	<b>Motor HP</b>	<b>Size</b>			
		1 (1 Ø)	A-43	1	0.3	BT009400AV
		1 (3 Ø)	AX-41	1	0.3	BT023300AV
		1-1/2	A-45	1	0.3	BT009500AV
		2	A-62	1	0.4	BT009700AV
		3	BX-66	1	0.4	BT008500AV
		5 (80, 120 gal tank)	B-69	2	1.6	BT006000AV
		5 (200 gal tank)	B-80	2	2.0	BT010400AV
		7-1/2	B-84	2	2.0	BT011200AV
		10	B-87	2	2.4	BT009200AV
		15	B-92	2	4.0	BT010200AV
F	<b>Motor Pulley:</b>	<b>Motor HP</b>	<b>Type</b>			
		1 (1 Ø) 4.0 Pd x 7/8	1A-3.2 inch P.D., 5/8 inch Bore	1	3.2	PU009723AV
		1 (3 Ø) 2.0 Pd x 5/8	1A-3.2 inch P.D., 7/8 inch Bore	1	3.2	PU202617AV
		1-1/2	1A-5.5 inch P.D., 7/8 inch Bore	1	5.6	PU009725AV
		2 (1 Ø)	1A-6.4 inch P.D., 1.125 inch Bore	1	5.2	PU009787AV
		2 (3 Ø)	1A-6.4 inch P.D., 7/8 inch Bore	1	5.2	PU009778AV
		3	1B-8.4 inch P.D., 11/8 inch Bore	1	6.3	PU009777AV
		5	2B-8.0 inch P.D., 11/8 inch Bore	1	7.6	PU009747AV
		7-1/2	2B-8.6 inch P.D., 13/8 inch Bore	1	12.5	PU009775AV
		10	2B-11.0 inch P.D., 15/8 inch Bore	1	13.5	PU009772AV
15	2B-13.6 inch P.D., 15/8 inch Bore	1	13.5	PU009758AV		
G	<b>In-Tank Check Valve:</b>	<b>Motor HP</b>	<b>Size</b>			
		1 Through 3	1/2 inch MPT x 1/2 inch FPT	1	0.3	CV003204AV
		5 Through 15	3/4 inch MPT x 3/4 inch FPT	1	0.4	CV003205AV
H	<b>Safety Relief Valve:</b> Set at approximately 140 psig (1/2 Through 15 HP Models)			1	0.1	V-215100AV
J	<b>Pressure Electric Switches:</b> (For all models) <b>Lead Switch:</b> Set at approximately 90 psig cut-in and 120 psig cut-out			1	0.9	CW207558AV
K	<b>Tank:</b>	<b>Motor HP</b>	<b>Tank Size</b>			
		3/4 Through 1-1/2	30 gallon	1	134.0	AR022100AJ
		3/4 Through 1-1/2	60 gallon	1	175.0	AR022200AJ
		2	60 gallon	1	184.0	AR022500AJ
		3	80 gallon	1	243.0	AR022300AJ
		5	80 gallon	1	398.0	AR023400AJ
		5	120 gallon	1	415.0	AR022400AJ
		7-1/2	80 gallon	1	398.0	TP003600AJ
		7-1/2 Through 15	120 gallon	1	419.0	TQ003201AJ
10 Through 15	200 gallon	1	677.0	JP000600AV		



## Replacement Parts List

Item	Description	Quantity Required	Shipping Weight (lbs.)	Code Number
L	<b>Cooling Shroud:</b>			
	Motor HP			
	2, 3	1	11.7	91134560
	5	1	1.7	91134660
	7-1/2, 10	1	1.9	91134690
	15	1	1.9	91134690
M	<b>Belt Guard:</b>			
	Motor HP			
	3/4 Through 1-1/2 (Whole Assembly - ZZ000605AJ)	1	2.4	BG012400AV
	2 and 3	1	12.5	BG012802AV
	5	1	12.5	BG012802AV
	7-1/2, 10 (Whole Assembly - ZZ000620AJ)	1	18.5	BG218400AV
	15 (Whole Assembly - ZZ000620AJ)	1	26.5	BG218400AV
N	<b>Gasket Set:</b>			
	Motor HP			
	1 (1 Ø)	1	.1	MC022371AV
	3 (1 Ø)	1	.1	MC301561AV
	1-1/2 (1 Ø)	1	.1	MC022320AV
	1-1/2 (3 Ø)	1	.1	MC022388AV
	2 (1 Ø)	1	.1	MC022317AV
	2 (3 Ø)	1	.1	MC022373AV
	3	1	.1	MC022374AV
	5	1	.1	MC022307AV
	7-1/2	1	.1	MC022370AV
	10	1	.1	MC022375AV
	15	1	.1	MC022376AV

## Oilless Tankmount Simplex

### Maintenance Schedule

Item	Action needed	Operating Hours						Remarks
		500	2500	5000	10,000	15,000	20,000	
Tank	Drain moisture	Daily						Drain tank daily
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	Inspect				●		●	
V-belt	Inspect, Replace		●	▲	▲	▲	▲	<b>Note 3</b>
Pressure Switch	Confirm operation				●		●	
Magnetic Starter	Inspect				●		●	Replace if contact point 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 (500H) and inspected every 2,500 hours afterwards. Proper belt tension for 1 to 3 HP units is 2-3 lbs./0.5 inch deflection; for 5 to 15 HP units, 4-6 lbs./0.5 inch deflection.



## **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.

**Coverage.** 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. Failure to complete maintenance as stated in the maintenance schedule will void this 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.

**Limitation of Liability.** To the extent allowable under applicable law, Powerex's liability for consequential and incidental damages is expressly disclaimed. 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 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.