

# Climate Control 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

- Guaranteed low oil carryover rate of less than 2 PPM
- Three year warranty on compressor pump
- Isolation pads
- Optional R134 dryer
- ASME tank
- UL listed controls

The AS-XXX Series Powerex Simplex Air Compressors have been designed, broken-in and tested to meet the most demanding specifications in the pneumatic climate control industry for low oil carryover and long life.

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. Oil entrainment is minimized by the use of lap joint piston rings, low compressor speeds and a special lubricating oil with a high flash point and low carbon content.

All 1/2 through 10 hp models are also equipped with an auxiliary cooling fan and air control shroud to achieve low head temperatures and further minimize oil carryover.

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



**Figure 1 - AS-XXX 1 Hp Simplex Air Compressor**

Specifications	
Product	AS-XXX Series Powerex Simplex Air Compressors
Performance Specifications	See Table 1
Models & Options	See Table 2
Lubrication	1/2 Through 10      Splash Lubrication System
Operating Voltages	1Ø      115 - 208/230 Volts, 60 Hz 3Ø      208-230/460 Volts, 60 Hz
Compression Cycle	1/2 Through 10 Hp Models      Single-Stage
Motor Overload Protection	1Ø      Built-In Thermal Overload (Standard) 3Ø      Magnetic Starter and Three Thermal Overload Switches (Optional)
Pressure Settings	Cut-In: Factory Set at Approximately 70 psig (490kPa) Cut-out: Factory Set at Approximately 90 psig (630 kPa)
Overpressure Protection	ASME Safety Valve Factory Set and Sealed at Approximately 115 psig (805 kPa)
Outlet Air Connections	1/2" NPT on 30, 60 and 80 Gallon Tanks; 1" 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	200 Page Service Manual Available

*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.*

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**TABLE 1: AS-XXX SERIES POWEREX SIMPLEX AIR COMPRESSORS  
PERFORMANCE SPECIFICATIONS**

Base Model	Actual Hp		Motor Rating		Compressor RPM	Compressor Capacity ACFM*		
	1Ø	3Ø	Hp	RPM		100% Runtime	50% Runtime	33% Runtime
AS-105	.54	—	—	1725	800	1.8	0.9	0.6
AS-005	—	.54	.54	1720				
AS-107	.73	—	—	1725	1040	2.5	1.25	0.83
AS-007	—	.73	.73	1725				
AS-110	1.07	—	—	1725	625	3.8	1.9	1.25
AS-010	—	1.07	1.07	1725				
AS-015	—	1.54	1.54	1750	955	6.4	3.2	2.11
AS-020	—	2.0	2.0	1750				
AS-030	—	3.1	3.1	1745	775	12.0	6.0	4.0
AS-050	—	5.6	5.6	1745				
AS-075	—	8.2	8.2	1745	795	28.5	14.3	9.44
AS-100	—	10.3	10.3	1750				

## 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 heaters.

### REFRIGERATED AIR DRYER

A factory mounted Model Hankinson HPR 5-10 Series refrigerated air dryer with automatic condensate drain trap assembly, bypass valve is available as an option on all 1/2 through 3 Hp Powerex Simplex air compressors. Piping for air dryer is done at the factory. Wiring to power source must be done in the field using integral cord and plug which fits into a standard 120 volt receptacle. Refer to Table 2 for ordering details.

### AUTOMATIC TANK DRAIN

Powerex air compressors are ordered with either a manual or electric type automatic tank drain. This unit is furnished with a manual drain attachment.

### 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 through the factory break-in and are tested for air delivery, leakage and power consumption.

Units are shipped with a proper fill of compressor oil in the crankcase and are furnished with an intake filter/silencer with a replaceable cartridge. This filter/silencer combination is designed to remove contaminants in the inlet air and provide quieter operation. The 5 through 10 Hp models are complimented by this design utilizing dual element filtration which consists of a pleated element and a foam element for filtration against larger particles from the atmosphere.

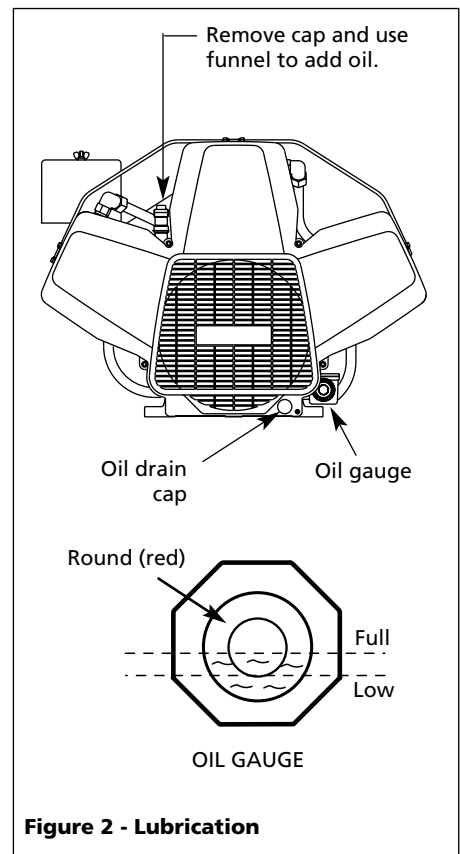
### LUBRICATION

Check lubricating oil level at gauge. Refill if necessary.

Change oil according to maintenance schedule. Before draining oil, remove oil supply cap and loosen oil drain cap

to release trapped air. Use Mobil Rarus 427® or Mobil DTE heavy oils.

**WARNING** Dispose of oil in accordance with state or local codes.



**Figure 2 - Lubrication**

## AUTO E-DRAIN ASSEMBLY (See Figure 3)

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

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

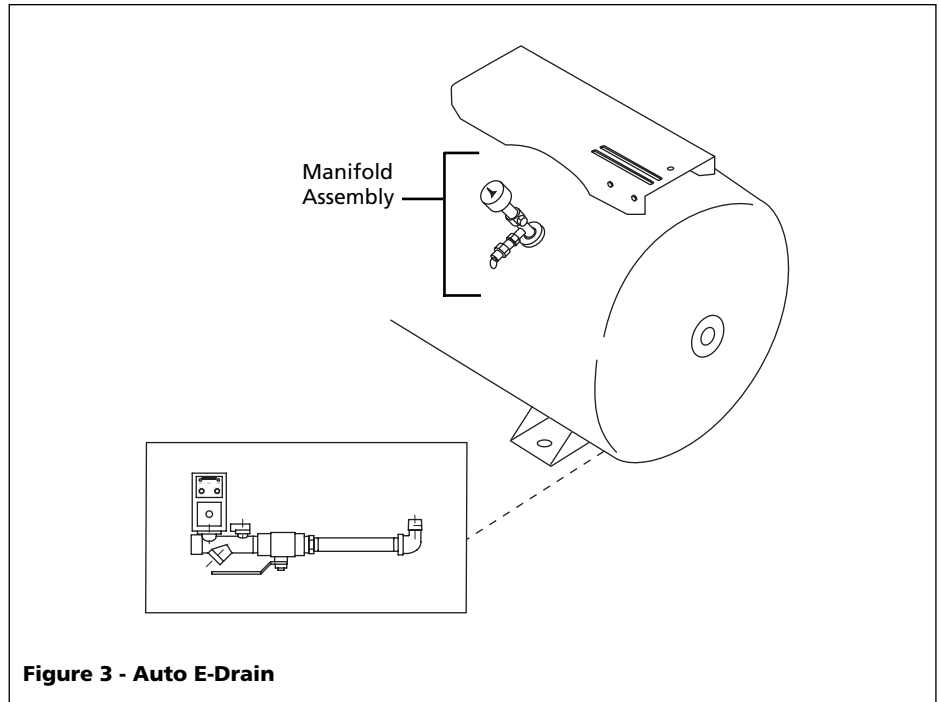
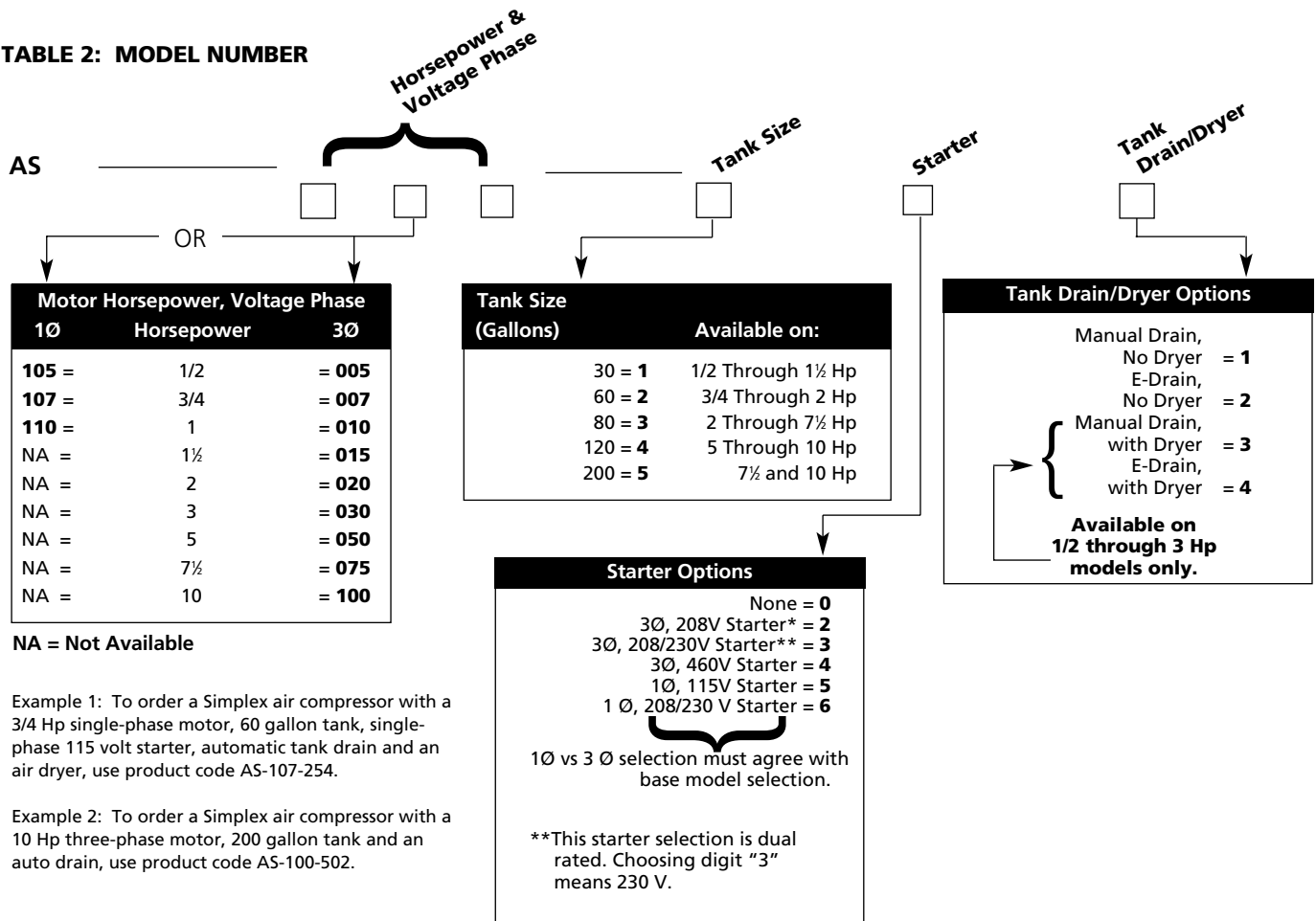
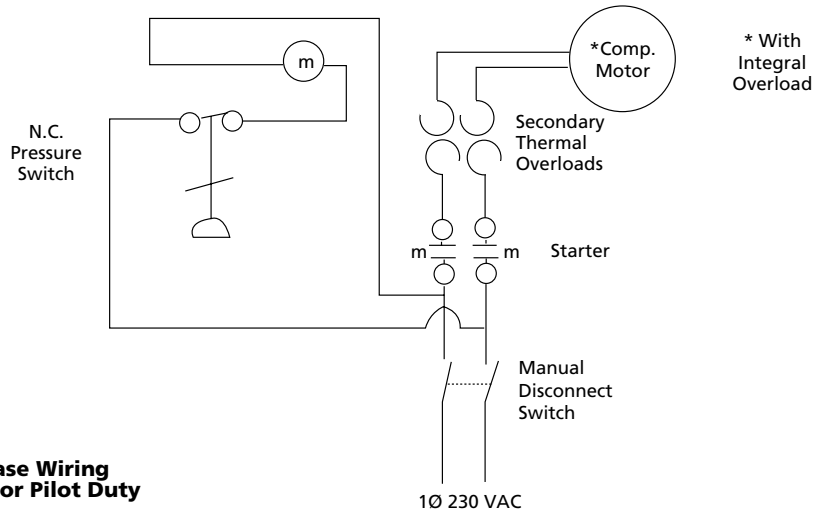


Figure 3 - Auto E-Drain

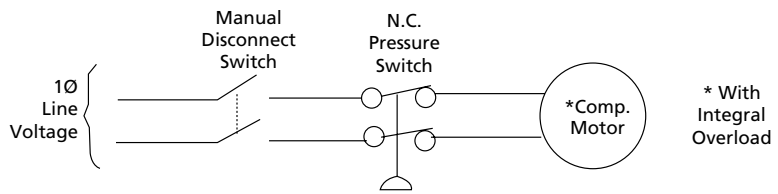
TABLE 2: MODEL NUMBER



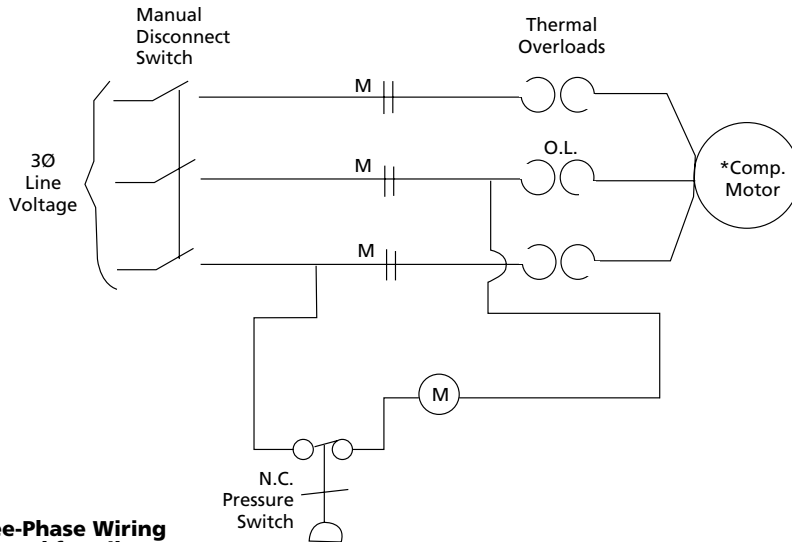
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**Figure 4 - AS-XXX Single-Phase Wiring With Pressure Switch Used for Pilot Duty**



**Figure 5 - AS-XXX Single-Phase Wiring With Pressure Switch Used as Contactor**



**Figure 6 - AS-XXX Three-Phase Wiring With Pressure Switch Used for Pilot Duty**

NOTE: "M" = Magnetic Contactor

Figure 7 - Dimensions  
(See Table 3)

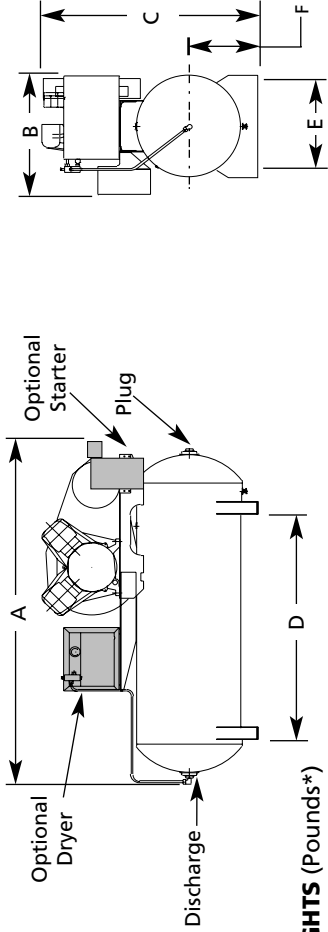


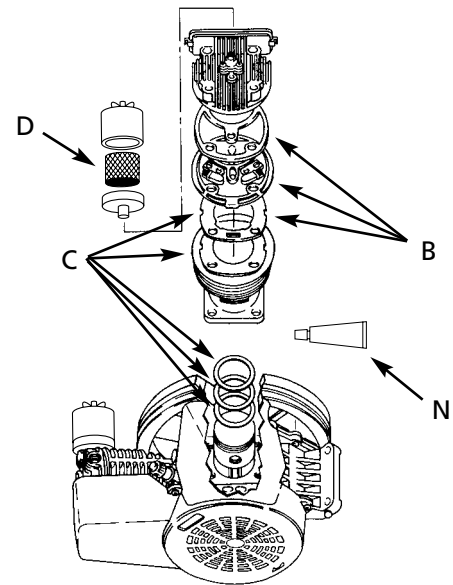
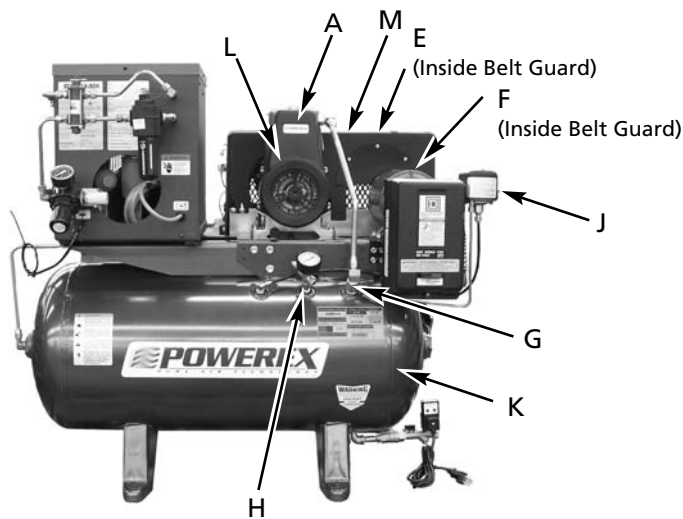
TABLE 3: DIMENSIONS (Inches\*) AND SHIPPING WEIGHTS (Pounds\*\*)

Base Model	A		B		C	D	E	F	Shipping Weight** with Starter	Shipping Weight** without Starter				
	w/Starter w/oDryer	w/Starter or Dryer	w/Starter w/o Dryer	w/Starter or Dryer							w/Starter and Dryer	w/Dryer		
AS-105-1XX	42 1/2	40	43 1/2	42	21 1/4	17 3/4	21 1/6	18 3/4	35 1/2	18	15 3/4	12 1/4	209	200
AS-005-1XX	42 1/2	40	43 1/2	42	21 1/4	17 3/4	21 1/6	18 3/4	36	18	15 3/4	12 1/4	209	200
AS-107-1XX	50 3/4	40	51 7/2	52 3/4	22 1/4	20	22 2/6	21	40	29	18	14	339	330
AS-007-2XX	42 1/2	40	43 1/2	42	21 1/4	17 3/4	21 1/6	18 3/4	36	18	15 3/4	12 1/4	219	210
AS-110-1XX	50 3/4	40	51 7/2	52 3/4	22 1/4	20	22 2/6	21	40	29	18	14	349	340
AS-010-2XX	42 1/2	40	43 1/2	42	21 1/4	17 3/4	21 1/6	18 3/4	36	18	15 3/4	12 1/4	219	210
AS-015-1XX	50 3/4	40	51 7/2	52 3/4	22 1/4	20	22 2/6	21	40	29	18	14	349	340
AS-015-2XX	51 1/2	50 3/4	52 1/2	52 3/4	23 3/4	20	23 3/6	21	42	29	18	14	349	340
AS-020-2XX	65	64	66 3/2	66	23 3/4	20	23 3/6	21	41	40	18 1/2	13	384	375
AS-020-3XX	65 1/2	64	66 3/2	66	23 3/4	20	23 3/6	21	41	40	18 1/2	13	509	500
AS-030-3XX	64	64	66 3/2	66	23 3/4	20	23 3/6	21	46	43 3/4	18 1/2	13	609	600
AS-050-3XX	70 3/4	70 3/4	70 3/4	70 3/4	26 1/4	24	26 1/4	24	49 1/4	42	22	15 3/4	714	705
AS-075-3XX	64	64	66 3/2	66	23 3/4	20	23 3/6	21	46	43 3/4	18 1/2	13	621	610
AS-075-4XX	70 3/4	70 3/4	70 3/4	70 3/4	26 1/4	24	26 1/4	24	49 1/4	42	22	15 3/4	725	714
AS-075-5XX	81 1/4	81 1/4	81 1/4	81 1/4	30	30	30	30	55 1/2	42	22	18 3/4	951	940
AS-100-4XX	79	76 1/2	76 1/2	76 1/2	27 1/4	24	27 1/4	24	51	42	22	15 3/4	915	904
AS-100-5XX	81 1/4	79 3/4	79 3/4	79 3/4	30	30	30	30	58	42	22	18 3/4	1141	1130

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

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

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## REPLACEMENT PARTS LIST

Item	Description	Quantity Required	Shipping Weight (lbs.)	Code Number	
A	<b>PUMP AND FLYWHEEL:</b> <b>Motor Hp</b>	1/2, 3/4	1	19.5	A-005-6001
		1, 1½	1	35	A-010-6001NP
		2	1	59	A-020-6001NP
		3	1	66	A-030-6001NP
		5	1	115	A-050-6001NP
		7½	1	121	A-075-6001NP
		10	1	180	A-100-6001NP
		B	<b>VALVE KIT:</b> Includes valve plate, spacer and head gasket <b>Motor Hp</b>	1/2	1
3/4	1			0.4	A-005-6002
1, 1½	1			0.5	A-010-6002NP
2	2			0.5	A-010-6002NP
3	2			0.7	A-030-6002NP
5	2			1.2	A-050-6002NP
7½	2			1.2	A-075-6002NP
10	3			1.2	A-075-6002NP
C	<b>RING/CYLINDER KIT:</b> Includes all compression rings, oil control rings, cylinder, gasket and sealant <b>Motor Hp</b>	1/2	1	3.6	A-005-6004
		3/4	1	3.6	A-005-6004
		1, 1½	1	4.8	A-010-6004NP
		2	2	4.8	A-010-6004NP
		3	2	5.5	A-030-6004NP
		5	2	10	A-050-6004NP
		7½	2	10	A-075-6004NP
		10	3	10	A-075-6004NP
D	<b>INTAKE FILTER ELEMENT:</b> <b>Motor Hp</b>	1/2	1	0.1	A-005-6023
		3/4	1	0.1	A-005-6023
		1, 1½	1	0.2	A-010-6023NP
		2	1	0.2	A-030-6023NP
		3	1	0.2	A-030-6023NP
		5	2	0.2	A-030-6023NP
		7½	2	0.2	A-030-6023NP
		10	3	0.2	A-030-6023NP
E	<b>BELT:</b> <b>Motor Hp</b>	<b>Size</b>			
		1/2	1	0.3	A-005-6006
		3/4	1	0.3	A-005-6006
		1	1	0.3	A-010-6006
		1½	1	0.3	A-015-6006NP
		2	1	0.4	A-020-6006NP
		3	1	0.4	A-030-6006NP
		5	2	1.6	A-050-6006NP
		7½ (120 gal tank)	2	2.0	A-075-6046NP
		7½ (200 gal tank)	2	2.0	A-075-6056NP
10	2	2.4	A-100-6006NP		

## REPLACEMENT PARTS LIST (Continued)

Item	Description	Quantity Required	Shipping Weight (lbs.)	Code Number
<b>F</b>	<b>MOTOR PULLEY:</b>			
	<b>Motor Hp</b>			
	1/2	1	3.8	A-005-6007
	3/4	1	3.9	A-007-6037
	1 (1 Ø)	1	3.2	A-110-6007
	1 (3 Ø)	1	3.2	A-010-6007
	1½	1	5.6	A-020-6007
	2	1	5.2	A-020-6007
	3	1	6.3	A-030-6007NP
	5	1	7.6	A-050-6007NP
	7½	1	12.5	A-075-6007NP
10	1	13.5	A-100-6007NP	
<b>G</b>	<b>IN-TANK CHECK VALVE:</b>			
	<b>Motor Hp</b>			
	1/2 Through 3	1	0.3	A-010-6008
5 Through 10	1	0.4	A-075-6008	
<b>H</b>	<b>SAFETY RELIEF VALVE:</b> Set at approximately 115 psig (805 kPa)			
	1/2 Through 5 Hp Models	1	0.1	A-050-6009
<b>J</b>	<b>PRESSURE ELECTRIC SWITCHES:</b> (For all models)			
	<b>Lead Switch:</b> Set at approximately 70 psig (490 kPa) cut-in and 90 psig (630 kPa) cut-out	1	0.9	A-100-6010
	<b>Lag Switch:</b> Set at approximately 60 psig (420 kPa) cut-in and 80 psig (560kPa) cut-out	1	0.9	A-100-6011
<b>K</b>	<b>TANK:</b>			
	<b>Motor Hp</b>			
	1/2 Through 1½	1	134.0	A-010-6030NP**
	1/2 Through 1½	1	175.0	A-010-6060NP
	2 & 3	1	184.0	A-020-6060NP
	1/2 Through 1½	1	235.0	A-010-6080NP**
	2 & 3	1	243.0	A-020-6080NP**
	2 & 3	1	398.0	A-020-6120NP**
5 & 7½	1	415.0	A-050-6120NP**	
5 Through 10	1	677.0	A-100-6200NP**	
<b>L</b>	<b>COOLING SHROUD:</b>			
	<b>Motor Hp</b>			
	1/2	1	1.0	A-005-6013
	3/4	1	1.0	A-005-6013
	2	1	1.7	A-020-6013NP
	3	1	1.7	A-030-6013NP
	5	1	1.9	A-050-6013NP
	7½	1	1.9	A-075-6013NP
10	1	4.5	A-100-6013NP	
<b>M</b>	<b>BELT GUARD:</b>			
	<b>Motor Hp</b>			
	1/2 Through 1½	1	2.4	A-010-6012
	2 & 3	1	12.5	A-020-6012
	5 & 7½	1	12.5	A-050-6012
10	1	18.5	A-100-6012	
<b>N</b>	<b>LIQUID GASKET:</b>			
	<b>Motor Hp</b>			
	1/2 Through 10	1	0.1	A-999-6000

\*\*This replacement tank is also the replacement tank used on duplex air compressors and will include mounting hardware for a second pump.

# Climate Control Simplex

## Maintenance Schedule

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)				
Oil change	Replace	(Every 1,500 hrs)						
Compression rings	Replace					▲		
Check oil	Inspect	Daily						
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)				

- (●) 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 initial start up and inspected every 1,500 hours afterwards. Proper belt tension for 1/2 to 3 HP units is 2-3 lbs./5" deflection; for 5 to 10 Hp units, 4-6 lbs./5" 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.

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.



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