

**VIAIR**<sup>®</sup>  
*Your Vital Air Source*

**VIAIR**  
**PLUG N PLAY**  
ON-DEMAND SYSTEMS

**20004 - 1.5 GALLON 120 PSI PLUG-N-PLAY ON-DEMAND AIR SYSTEM**  
**20006 - 2.0 GALLON 150 PSI PLUG-N-PLAY ON-DEMAND AIR SYSTEM**



PN 20004

**IMPORTANT:**

It is essential that you and any other operator of this product read and understand the contents of this manual before installing and using this product.

**SAVE THIS MANUAL FOR FUTURE REFERENCE**



**USER MANUAL**

# PLUG-N-PLAY ON-DEMAND AIR SYSTEM

## IMPORTANT SAFETY INSTRUCTIONS

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### CAUTION - To reduce risk of electrical shock:

- Do not disassemble or attempt to repair or modify unit while it is still connected to the vehicle.
- Do not use this product in an area where it can fall or be pulled into water or other liquids.
- Do not reach for this product if it has fallen into liquid.
- Use this compressor with 12-Volt DC systems only.
- This product should never be left unattended during use.

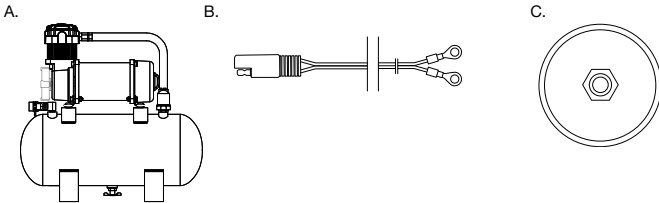
### WARNING - To prevent injury:

- Close supervision is necessary when this compressor is being used near children. Never allow a child to operate this compressor.
- This compressor will become very HOT during and immediately after use. Do not touch any parts with bare hands, other than the ON/OFF switch during and immediately after use.
- Do not use this product near flames or explosive materials or where aerosol products are being used.
- Do not operate this product where oxygen is being administered.
- Do not pump anything other than atmospheric air.
- Never use this product while sleepy or drowsy.
- Do not use any tools or attachments without first determining maximum air pressure for that tool or attachment.
- Never point any air nozzle or air sprayer toward another person or any part of the body.
- This air compressor is equipped with an Automatic Reset Thermal Protector, and can automatically restart after the thermal protector resets. Always cut off power source when thermal protector becomes activated.
- Use only in well ventilated areas.
- After use, always release excess pressure from the coil hose and tank. Turn off the unit and with the inflator still connected to the hose, pull the trigger to release excess pressure.

## PLUG-N-PLAY ON-DEMAND AIR SYSTEM COMPONENTS LIST:

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Please familiarize yourself with the components list in this manual before you begin to use your compressor.



- A. VIAIR PLUG-N-PLAY ON DEMAND AIR SYSTEM (PN 20004 - 120 PSI OR PN 20006 - 150 PSI)  
B. 2-Pin SAE connector attachment with Terminal Rings  
C. Air Filter housing with (2) replacement air filter elements

# PLUG-N-PLAY ON-DEMAND AIR SYSTEM

## INSTALLATION INSTRUCTIONS

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### CONNECTING TO THE BATTERY USING THE 2-PIN SAE TERMINAL RINGS

The Terminal Rings allow you to mount the compressor permanently to a vehicle and also provide a more practical way of using it as a portable. Do not connect the Red Terminal Ring to any power source other than the Positive (+) Terminal of your vehicle's battery.

- a. Make sure the vehicle's engine and ignition are off.
- b. Install the Red Terminal Ring on the Positive (+) terminal post of your battery, this can be done by removing the nut that holds the clamp in place, installing the terminal ring, and re-tightening the nut. Refer to your vehicle's owner's manual for help if needed.
- c. Install the Black Terminal Ring on the Negative (-) terminal post of your battery or other ground source.
- d. Connect compressor power cord to the 2-Pin SAE terminal.

#### **IMPORTANT NOTE:**

TO AVOID DIRT AND MOISTURE CONTAMINATION AS WELL AS SHORTING THE POWER WIRE, PLEASE REPLACE SAE TERMINAL COVER WHEN NOT IN USE.

## MOUNTING THE COMPRESSOR

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- a. Using the hardware provided, mount the tank on a FLAT, UPRIGHT, AND SECURE location.
- b. Route the compressor's power cord to the terminal rings and connect using the 2-Pin SAE plug.
- c. If it's necessary to mount the compressor in a place beyond the power cord's reach to the Terminal Ring attachment, refer to the amp draw chart on the last page of this manual and use appropriate gauge wire to extend your battery Terminal Ring attachments. When in doubt, always use the next larger wire size.

#### **IMPORTANT NOTES:**

- a. If mounting in the engine compartment, open your hood to allow maximum cooling of the compressor unit during prolonged use. The cooler the ambient temperature, the less chance the compressor will overheat.
- b. This compressor is moisture & dust resistant, but NOT DIRT OR WATERPROOF. Do not mount compressor in locations where the unit is likely to come in contact with the elements.

## OPERATING THE COMPRESSOR

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To avoid draining your battery and assure the compressor is getting the proper amperage, make sure your vehicle's engine is running during operation, especially if using for a prolonged period of time. Make sure the air filter is installed, as this is a vital component to the longevity of your compressor.

- a. Connect the Coil Hose Stud to the Quick Connect Coupler on your On Demand Air System (Coil Hose sold separately). This can be done by simply pushing the Stud into the Quick Connect Coupler.
- b. Connect the Tire Inflator Gun (sold separately) or Blow Gun (sold separately) to the other end of the Coil Hose.
- c. Turn on your On Demand Air System by flipping the switch to the ON (I) position.
- d. The compressor will start running and automatically shut off when the reservoir has been filled to max pressure, this can take up to 3 minutes depending on what model you have.
- e. You're now ready to perform your pneumatic tasks!
- f. When done using, turn OFF your system by flipping the switch to the OFF (O) position and simply disconnect the Coil Hose by pulling back on the Quick-Connect Coupler collar. Be sure to remove all the air inside the hose before disconnecting the coil hose, build up pressure may cause a slight burst during removal.

#### **RECOMMENDED COMPONENTS:**

- PN 00043 - Inflation Kit w/2.5" Mechanical Gauge Tire Gun, 160 PSI, 30' Hose, Carry Bag
- PN 00044 - Inflation Kit w/2.5" Digital Tire Gun, Reads Up to 180 PSI, 30' Hose, Carry Bag
- PN 00045 - Rubber-Tipped Blow Gun (1/4" Quick Connect Stud)
- PN 90150 - Pressure Regulator for Air Tools

# PLUG-N-PLAY ON-DEMAND AIR SYSTEM

## COMPRESSOR MAINTENANCE & REPAIRS

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- a. Drain Coil Hose and tank after each use.
- b. Replace compressor air filter element periodically. Replacement frequency depends on operating frequency and operating environment. For frequent use in dusty environment, we recommend that you replace air filter element at least once a month.
- c. Regularly clean dust and dirt from compressor cooling fins and/or motor housing.
- d. Your air compressor is equipped with a permanently lubricated, maintenance-free motor. Never try to lubricate the compressor.
- e. All repairs should be performed by Manufacturer or Manufacturer's Authorized Service Agencies only.
- f. For complete information regarding VIAIR Warranty, please visit: [www.viaircorp.com/warranty](http://www.viaircorp.com/warranty)

## SPECIFICATIONS

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### 20004 – 1.5 GALLON 120 PSI PLUG-N-PLAY ON-DEMAND AIR SYSTEM: (CE Certified)

Tank Size:	1.5 gallon
Motor Voltage:	12-Volts
Max. Current Consumption:	30-Amps
Recommended Fuse:	40-Amps
Motor Type:	Permanent Magnetic
Max. Working Pressure:	120 PSI*
Max. Duty Cycle (@72°F & 100 PSI):	33%
Minutes On/Off (@72°F & 100 PSI):	20 On / 40 Off
Max. Ambient Temperature:	158°F
Min. Ambient Temperature:	-40°F
Auto. Reset Thermal Protection:	Yes
Ingress Protection Rating:	IP54

### 20006 – 2.0 GALLON 150 PSI PLUG-N-PLAY ON-DEMAND AIR SYSTEM: (CE Certified)

Tank Size:	2.0 gallon
Motor Voltage:	12-Volts
Max. Current Consumption:	30-Amps
Recommended Fuse:	40-Amps
Motor Type:	Permanent Magnetic
Max. Working Pressure:	150 PSI*
Max. Duty Cycle (@72°F & 100 PSI):	33%
Minutes On/Off (@72°F & 100 PSI):	20 On / 40 Off
Max. Ambient Temperature:	158°F
Min. Ambient Temperature:	-40°F
Auto. Reset Thermal Protection:	Yes
Ingress Protection Rating:	IP54

\* Do not exceed compressor's max working pressure to prevent damage to the compressor.

# PLUG-N-PLAY ON-DEMAND AIR SYSTEM

## TROUBLESHOOTING GUIDE:

PROBLEM:	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
Tank pressure drops when compressor(s) shut off	<ol style="list-style-type: none"> <li>1. Loose drain cock</li> <li>2. Loose connections</li> </ol>	<ol style="list-style-type: none"> <li>1. Tighten drain cock</li> <li>2. Check all connections with soap and water solution and tighten</li> </ol>
Compressor runs continuously and air flow lower than normal	<ol style="list-style-type: none"> <li>1. Excessive air usage</li> <li>2. Loose connections</li> <li>3. Worn piston ring or inlet valve.</li> <li>4. Clogged air filter element</li> </ol>	<ol style="list-style-type: none"> <li>1. Decrease air usage</li> <li>2. Check all connections with soap and water solution and tighten.</li> <li>3. Replace compressor</li> <li>4. Replace air filter element</li> </ol>
Compressor runs continuously causing safety valve (if equipped) to open	<ol style="list-style-type: none"> <li>1. Defective pressure switch</li> <li>2. Defective safety valve</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace pressure switch</li> <li>2. Replace safety valve</li> </ol>
Excessive moisture in discharge	<ol style="list-style-type: none"> <li>1. Excessive water in air tank</li> <li>2. High humidity</li> </ol>	<ol style="list-style-type: none"> <li>1. Drain tank, tilt tank to drain. Drain tank more frequently</li> <li>2. Move compressor to area with less humidity, or use air line filter.</li> </ol>
Compressor will not run	<ol style="list-style-type: none"> <li>1. No power, or power switch in OFF position</li> <li>2. Blown fuse</li> <li>3. Motor overheats</li> <li>4. Pressure switch failure</li> </ol>	<ol style="list-style-type: none"> <li>1. Make sure compressor switch is ON</li> <li>2. Disconnect compressor(s) from power source, replace fuse. (Refer to Specifications section for correct amperage rating)</li> <li>3. Let compressors cool off for about 30 minutes to allow thermal overload switch to reset.</li> <li>4. Replace pressure switch</li> </ol>
Thermal overload protector cuts out repeatedly	<ol style="list-style-type: none"> <li>1. Lack of proper ventilation or ambient temperature is too high</li> <li>2. Compressor valves failed</li> </ol>	<ol style="list-style-type: none"> <li>1. Move compressor to well ventilated area, or area with lower ambient temperature</li> <li>2. Repair or replace compressor</li> </ol>
Excessive knocking or rattling	<ol style="list-style-type: none"> <li>1. Loose or damaged mounting feet</li> <li>2. Worn bearing on eccentric or motor shaft</li> <li>3. Cylinder or piston ring is worn</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace mounting feet</li> <li>2. Replace bearing or piston assembly</li> <li>3. Replace piston or compressor</li> </ol>

**CAUTION: NEVER DISASSEMBLE SYSTEM WHILE TANK AND COMPRESSOR IS PRESSURIZED.**

# PLUG-N-PLAY ON-DEMAND AIR SYSTEM

## ABOUT COMPRESSOR DUTY CYCLE:

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Duty cycle refers to the amount of time a compressor can be operated in a given time period at 100 PSI, and a standard ambient temperature of 72° F. It is commonly expressed in percentage format:  $\text{Compressor on time} \div (\text{on time} + \text{off time}) = \text{Duty Cycle \%}$ .

### ONE-HOUR DUTY CYCLE

(100 PSI @ 72°F)

9%  
10%  
15%  
20%  
25%  
30%  
33%  
50%  
100%

### MINUTES ON / MINUTES OFF

5 Min. On / 55 Min. Off  
6 Min. On / 54 Min. Off  
9 Min. On / 51 Min. Off  
12 Min. On / 48 Min. Off  
15 Min. On / 45 Min. Off  
18 Min. On / 42 Min. Off  
20 Min. On / 40 Min. Off  
30 Min. On / 30 Min. Off  
1 Hour Run Time

**NOTE:** All compressors, regardless of rated duty cycle, require sufficient rest time in between cycles to allow for partial or complete heat dissipation. Heat dissipation rates may vary depending on ambient temperatures and operating conditions.

### ABOUT RATED WORKING PRESSURE:

To ensure trouble free service life of your compressor, always operate compressor within rated working pressure of the compressor. Never use a pressure switch with a higher cut-off pressure than compressor's rated working pressure.

### WIRE GAUGE GUIDE 12-VOLT:

Amp Draw	Length of wire from battery to compressor (in feet)			
	5	10	15	20
5	16	16	16	14
10	16	14	12	10
15	16	12	10	10
20	14	10	10	8
25	14	10	8	6
30	12	10	8	6
40	12	8	6	6
50	10	6	6	4
60	10	6	4	4

# PLUG-N-PLAY ON-DEMAND AIR SYSTEM

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**USER MANUAL**

**LIMITED WARRANTY:**

VIAIR® Corporation warrants this product, when properly installed and under normal conditions of use, to be free from defects in workmanship and materials for a period of one year from its original date of purchase. To receive warranty service or repair, please contact VIAIR® Corporation.

Returns should be made within one year of the date of purchase, after a Return Goods Authorization (RGA) number has been assigned by VIAIR® Corporation. To obtain RGA, fax a copy of your receipt to (949) 585-0188. For complete warranty details, please visit: [www.VIAIRcorp.com/warranty](http://www.VIAIRcorp.com/warranty)

**PLEASE NOTE:**

THIS WARRANTY COVERS PRODUCT DEFECTS ONLY; IT DOES NOT COVER INCIDENTAL OR CONSEQUENTIAL DAMAGES AS RESULT OF MISUSE OR ABUSE.

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