



**S 5500**

**IE** FILL STATIONS

**RI** **OWNER'S**

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**SE** **MANUAL**

**S**



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# **1 General Safety**

## **1.1 GENERAL SAFETY PROCEDURES**

- READ THE SAFETY MANUAL BEFORE INSTALLING AND/OR OPERATING THE FILL STATION!
- Be sure to read and follow all OSHA, NEMA, ASME and local regulations, laws and codes pertaining to the installation and operation of this fill station and accessories before operating this unit.
- Be sure to follow all recommended maintenance procedures outlined in this manual. Maintenance is simple, but must be executed regularly to achieve safe operation, maximum efficiency and long service life.
- The unit must be installed, operated, maintained and repaired only by authorized, trained and qualified personnel.
- Do not operate this unit in excess of its rated capacity, pressure, or temperature. Operation of this unit in excess of the conditions set forth in this manual will subject the unit to limits which it may not be designed to withstand.
- Limits (pressure valves, temperature valves, time settings, etc.) must be permanently marked.
- If any of the provisions contained in this list (especially concerning safety) do not comply with local provisions of law, the safer provision must be applied.
- Do not play with compressed air. Pressurized air can cause serious injuries.
- The operator is responsible for keeping the machine in safe operating condition. If parts and accessories are not considered to be reliable for safe operation, they must be replaced immediately.
- Periodically check all safety devices, temperature and pressure gauges to make sure the system is operating within the proper limits.
- Keep the operating manual available for the operators, and take care that operation and maintenance are performed according to the instruction. Enter all operating data, executed maintenance measures, etc.. in a log. Observe all relevant safety provisions.
- Failure to follow any of these warning may result in an accident causing personal injury or property damage.

## **1.2 OPERATING AND SAFETY PRECAUTIONS**

- The use of repair parts other than those recommended can create hazardous conditions over which Arctic Compressor has no control. Such hazardous conditions can lead to accidents that may be life threatening, cause substantial bodily injury and/or result in damage to the equipment. Therefore, Arctic Compressor can bear no responsibility for equipment in which non-approved repair parts are installed.



**Rotating Handle**



**Control Panel**



Figure 2.1: Identification of Operating Components



## 2.2 Description of terms

**Aux. control valve:** Used to control the auxiliary output on a fill station with a control panel. This may be used to fill a cascade system on a truck or for any high pressure application.

**Aux. output coupler:** Coupler for attaching to high pressure line.

**Bank controls:** Controls flow to and from high pressure air storage banks.

**Bank gauges:** Shows the pressure in the storage units to which they are attached.

**Fill valve:** Also called a shutoff valve. Used to control the flow of air to the cylinders being filled.

**Regulator gauge:** Shows the pressure set for the regulator control. Use this to set the desired fill pressure.

**Regulator Adjustment valve:** Valve used to control the pressure desired in your SCBA cylinder.

<b>General Specifications</b>		
	<b>With control panel</b>	<b>Without control panel</b>
Operating pressure	6,000 PSI	6,000 PSI
Number of fill positions	1, 2, or 3	1, 2, or 3
Ambient temperature range	32° - 105°F (0° - 40° C)	32° - 105°F (0° - 40°C)
Weight (approx.) triple	1040 lbs	985 lbs
Weight (approx.) double	650 lbs	600 lbs
Weight (approx.) single	445 lbs	400 lbs
Dimensions for double fill	30"W x 24"D x 55" H	30"W x 24"D x 38"H
Dimensions for single fill	21"W x 19"D x 56"H	21"W x 19"D x 41"H
Inlet connectors from cylinders, compressor, or cascade system	5	1
Auxiliary outlets	1	0
Input range	0 - 6,000 PSI	0 - 6,000 PSI
Output range	0 - 6,000 PSI	0 - 6,000 PSI
Standards Tested	NFPA 1901 24.9.6	NFPA 1901 24.9.6

### 2.3.1 Fill Station Basic Air Flow Diagram (No control panel)

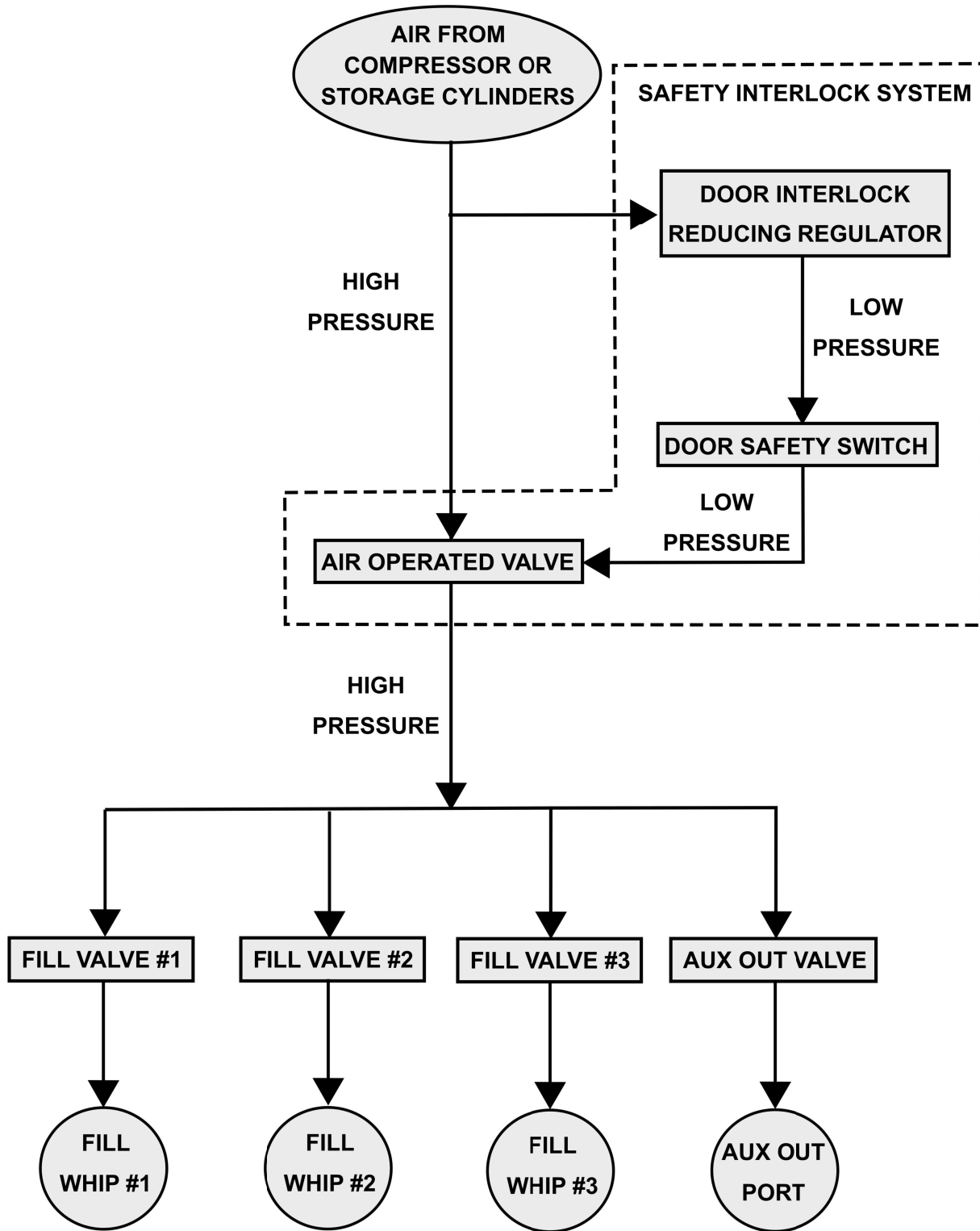


Figure 2.2: Fill Station Basic Plumbing Diagram (No control panel)

### 2.3.2 Fill Station With Control Panel Air Flow Diagram

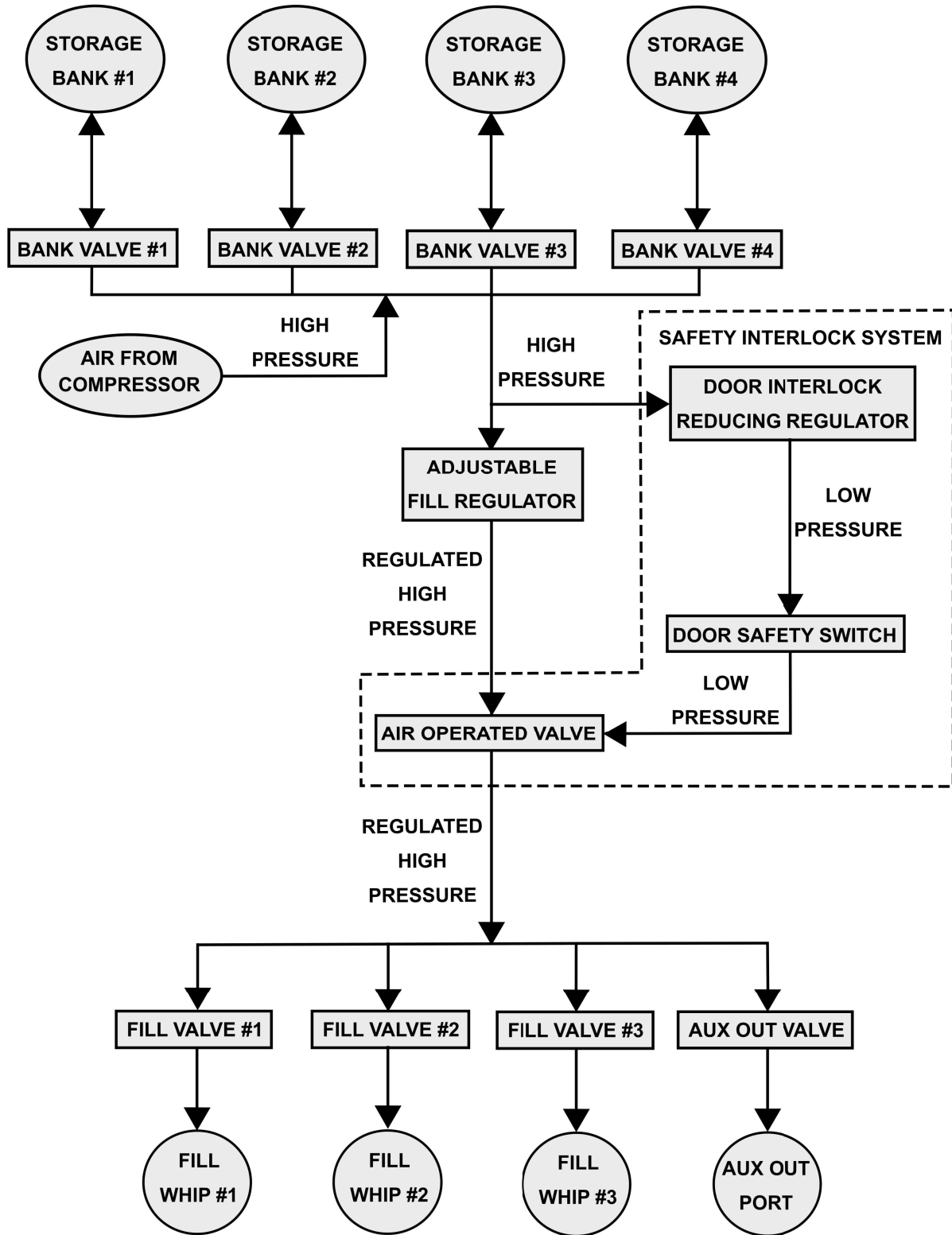


Figure 2.3: Fill Station With Control Panel Plumbing Diagram

### 2.3.3 Fill Station With Pneumatic Auto Cascade Panel Air Flow Diagram

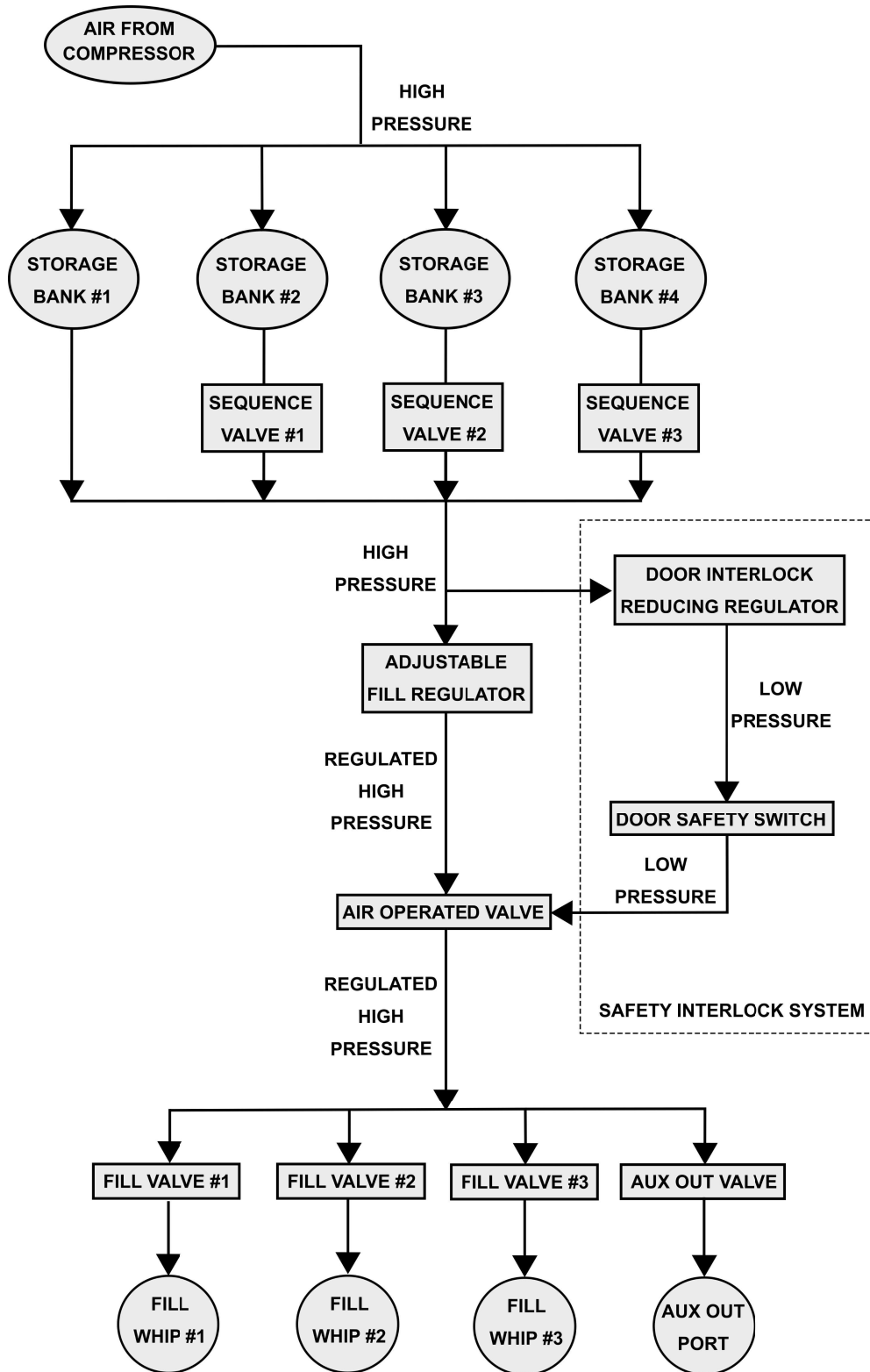


Figure 2.4: Fill Station With Pneumatic Auto Cascade Panel Plumbing Diagram

## 3 INSTALLATION

### 3.1 Handling and Unpacking

Upon receipt of the unit, remove the packing material and inspect for damage. Take photos and contact your sales representative immediately upon any sign of problems.

### 3.2 Installation Requirements

Before installation check to make sure of the following:

1. The floor is capable of handling the weight.
2. The floor is level.

**Fire station application:** Bolt the unit to the floor using four 1/2" x 6" sleeve anchors.

**Fire truck application:** Bolt unit to the floor using 1/2" bolts, washers and nuts.

This unit must be mounted at least 6 inches from the wall.

In the event of a bottle failure, a substantial amount of energy will be released.

**Bolting this unit to the floor is necessary to insure the safety of this unit.**

## 4 OPERATION

### 4.1 Before you fill your SCBA cylinders.

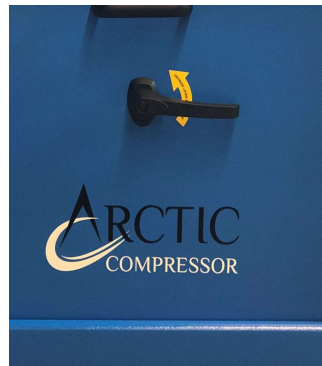
1. Filling SCBA cylinders is an immense responsibility. Only conscientious, reliable individuals should be allowed to do this important task.
2. Inspect your cylinders
  - a. Check the cylinder for maximum pressure
  - b. Check for inspection date. Do not fill cylinders with an outdated inspection stamp.
  - c. Check for signs of damage. Do not fill any cylinders that appear to be damaged. See DOT and ASME regulations. Make sure you follow the cylinder's manufacturer's instructions.
3. It is important not to overfill the bottles.
4. It is important not to fill bottles too fast. This will result in excess heat leading to lower pressures as bottles cool.

### 4.2 Instructions for filling SCBA or SCUBA cylinders

1. Locate and engage the spring loaded latch under the door handle.



2. Pivot the handle 90 degrees to the right, retracting the pins into the door locking mechanism.



3. Open the door.



4. Insert the SCBA cylinder.



5. Attach the fill adapter and seat the cylinder.



6. Close and latch the door.  
**(This unit will not operate unless the locking pins are in place.)**





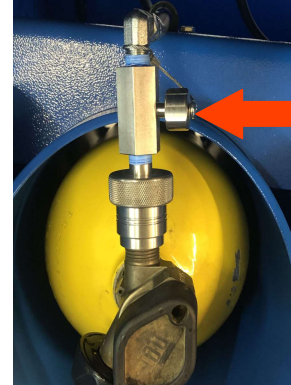
7. Open the fill (shut off) valve to fill cylinder to desired pressure.

8. When cylinder is full turn the fill valve off, depress the latch, rotate the handle 90 degrees, and open the door.

9. Close Cylinder Valve

10. Open the bleed valve.

11. Detach the fill adapter and remove your cylinder(s).



**For units with a control panel use steps 1 through 7, then substitute the following for step 8.**

8a. Open the “Bank” valve for the storage cylinder *from* which you want to draw air.



8b. Adjust the Regulator Adjustment (Reg. Adj.) valve to the correct pressure for your cylinder.



8c. Open the Fill valve for the slot(s) in which you have a cylinder.



As your air pressure goes down in one bank you may close that bank and open the next. When your cylinder has reached the desired pressure close the Fill valve and close the Bank valve. (Unless you have the compressor running to refill the storage cylinder. If you are re-filling the storage cylinder just close the Fill valve.) Lift the locking bar and open the door. You may then proceed to step 9 above.

#### 4.3 Instructions for units with a control panel for filling storage cylinders.

1. Open the Bank valve(s) for the cylinder(s) you desire to fill.
2. Turn on the compressor if it is not already on.

#### 4.4 Pneumatic Auto-cascade (Optional Equipment)



Fig A. Pressure Management System Panel

#### To fill cylinders or other auxiliary receptacles from cascade storage:

1. Follow directions in manual for attaching and detaching cylinders to fill whips and setting the regulator to desired fill pressure.
2. Set the regulator with all fill valves in the closed position.
3. To begin a cascading fill, open the desired fill valves (Fig A. #1) completely. If the valve is not open completely, cascading will not be as efficient. This will start the automatic cascade filling from storage cylinders. Once filling is complete close fill valves and bleed the lines, then disconnect as directed in user manual.

#### To fill cascade storage cylinders:

Check the bypass valve (Fig A. #2) knob located in the lower left of the control panel to ensure that it is in the open position. To open the valve, turn the knob counterclockwise. This valve may be left open unless direct filling from the compressor is desired.

#### To direct fill from compressor:

Close the bypass valve (Fig A. #2) located in the lower left corner of the control panel by turning it clockwise. Closing this valve will allow the compressed air produced by the compressor to flow directly to the fill whips and/or auxiliary out depending on which valves are open for filling.

## 5 Maintenance

### 5.1 Door Pins

The tubes which house the top locking door pins need to be re-greased annually. This can be done using white lithium grease and a grease gun outfitted with a needle attachment.



Figure 5.1: Location of grease points in top of fill door.

### 5.1 Pressure Gauges

Observe the pressure gauges with every use. If the readings become inaccurate replace damaged gauges immediately.

### 5.2 Tube Connections – Never tighten under pressure!

Pipe connections (swivel nuts): Tighten just firmly enough so that leakage is stopped finger tight plus up to an additional 1/2 turn as necessary). Please note that the compression type coupling fittings are capable of exerting extreme force on tubing and should not be tightened more than is required to seal the joint To improve the sealing of the pipe connections and to facilitate installation, the following should be observed

### 5.3 Pressure Hoses

Hoses should be inspected regularly for wear and damage. Replace immediately if integrity is questionable. Any bulging hoses should also be replaced immediately.

### 5.4 Sequence Valves in Pneumatic Auto Cascade

The Valve cartridges contained in the sequencing valves should be only be repaired or replaced by trained technicians in a clean environment. Debris and moisture accumulation will shorten the intervals between servicing for these valves, causing freezing and sticking in the valves. For this reason it is of utmost importance that compressor filters be changed on time and surrounding environments kept reasonably clean.



## **Limited Warranty** **Arctic Compressor, LLC**

### **1 Warranty Coverage**

Arctic Compressor, LLC (“Seller”) warrants to the original purchaser (“Buyer”) that all new equipment manufactured and delivered by Seller (“Product”) shall be free from defects in material or workmanship for a period of two (2) year from the date of delivery or for up to 500 hours of Product operation, whichever occurs first (“Warranty Period”). During the Warranty Period, Seller will at its option provide suitable repair or replacement of a defective Product. In the event Seller opts to repair the Product, Seller may use new or refurbished replacement parts. In the event Seller opts to replace the Product, Seller reserves the right to provide an equivalent product when unable to provide an exact replacement.

### **2 Limitations**

This warranty is valid to the Buyer only and is non-transferable. This warranty is contingent upon Buyer’s proper storage, installation, maintenance, and operation of the Product in accordance with standard industry practices, and Buyer’s compliance with any and all specific recommendations of Seller. Buyer’s failure to comply with any maintenance schedules provided in Product manuals shall void all coverage for defects under this warranty.

This limited warranty shall not apply to and Seller shall not be liable for:

- The effects of corrosion, erosion and normal wear and tear; or
- Damage due to fire, floods, acts of God, accidents, improper installation, abnormal or unattended operation, neglect or damage incurred in transit; or
- Repairs, replacements or adjustments to the Product performed by the Buyer or others without prior written approval from Seller; or
- Expendable materials, including but not limited to, filter cartridges, oil, and oil filters; or
- Products purchased or used outside of the United.

### **3 Warranty Service Claims**

Notice of any known defect shall be provided to Seller in writing by mail within thirty (30) days of discovery during the warranty period. Buyer’s written notification shall be mailed to the following address: Arctic Compressor, LLC, 431 Tower Avenue, Superior, WI 54880. Buyer’s written notification shall identify the known defect, as well as identify the serial number, model number, and delivery date of the Product requiring warranty services. If requested by the Seller, the defective Product or portion thereof must be promptly delivered to Seller for inspection at Buyer’s sole cost and expense. Buyer assumes all risk and liability that may arise from the use of the defective Product following the discovery of any alleged defect, and such use shall void this warranty.

### **4 Disclaimer**

This warranty is Seller’s sole warranty and any and all other warranties, expressed or implied, including any warranties of merchantability and fitness for particular purpose, are hereby specifically excluded, provided however, that Seller at its sole discretion may offer an extended warranty program, which the Buyer may purchase for additional warranty protection. Seller’s liability for any loss or damage arising out of, or resulting from, or in any way connected with the Product shall not exceed Buyer’s purchase price for the particular Product upon which such liability is based, regardless of whether such liability arises in contract, tort or otherwise. In no event shall the Seller be liable for incidental, consequential, indirect, special or punitive damages resulting from the use of the Product. Correction of any defect, in the manner and for the time period stated above, shall constitute fulfillment of all liabilities of Seller.



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