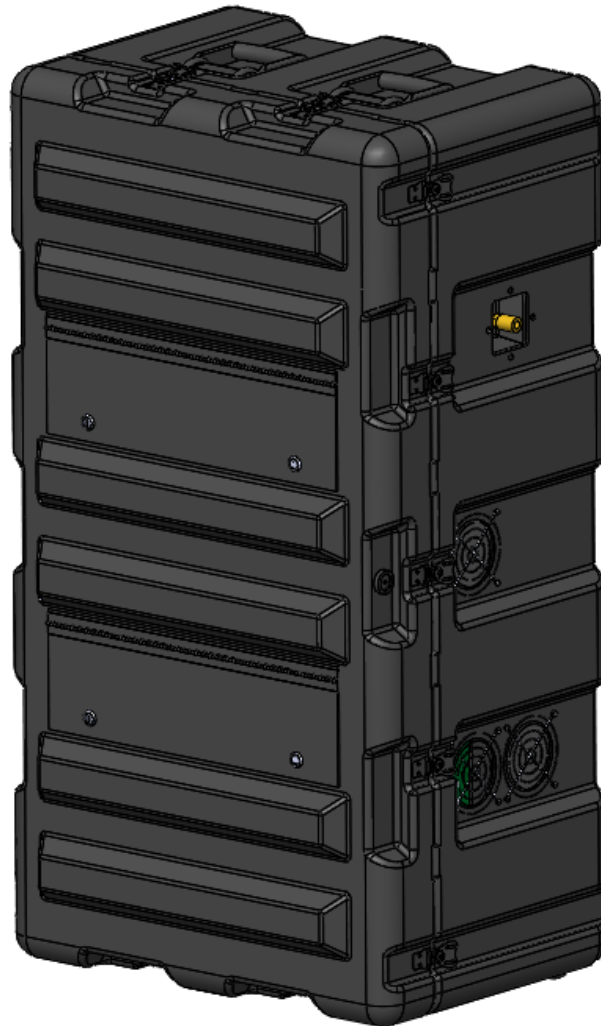


# **N2-GEN™ 4 DEPLOYABLE O&M MANUAL**

Revision 0

Date 5/18/2015



Note: This manual should be read in conjunction with TM 11-3655-250-13&P for reference to the N2 Gen-4 Nitrogen Generator

## VERSION HISTORY

Revision #	Implemented By	Revision Date	Approved By	Approval Date	Reason
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-----Notes-----

# 1 INTRODUCTION

## 1.1 PURPOSE

**Note: This manual should be read in conjunction with TM 11-3655-250-13&P for reference to the N2-Gen™ 4 Nitrogen Generator**

The N2-Gen™ 4 Deployable is a deployable Nitrogen Generator System. It is a N2-Gen™ 4 Nitrogen Generator enclosed inside a hard case for protection and mobility. Simply, set the unit in place, power up the system, hookup the Nitrogen Out gas connection accessory (STS Part # 800-571-M), and it's ready to deliver nitrogen.

South-Tek System's lines of N2-GEN™ products consist of an internal a) nitrogen separation filter and b) air compressor. Since air is comprised of 79% nitrogen, the N2-Gen™ 4 Nitrogen Generator was designed to be an easy to use and cost-effectively way to separate the nitrogen from the air. Nitrogen is an inert gas (non-combustible), which is even used to package food products for increased shelf life. The nitrogen is separated by means of the air compressor pushing air into the simple, safe membrane element, which in turn mechanically separates nitrogen molecules from other molecules found within air.

## 1.2 AUDIENCE

This manual is intended for Installers and Operators and should be read in its entirety prior to operation.

Please contact your local South-Tek Representative for any operation, maintenance, and/or other general questions.

## 1.3 IMPORTANT INFORMATION

***\*\*\* Read before installing and operating the N2-GEN™ \*\*\****

All personnel (and their supervisors) installing, operating, and maintaining the N2-Gen™ 4 Deployable must read and fully understand this manual prior to installing, operating, or performing maintenance on the system.

**Electrical Requirements:** Connect the N2-Gen™ 4 Deployable to an electrical supply following all local safety regulations. Ensure the unit is supplied with 110V/60 Hz power rated at 20-amp service. Ground electrical when available.

**Servicing the N2-Gen™ 4 Deployable.** Before personnel attempt to service the unit, ensure the power switch has been turned to the off position, then disconnect the unit's external power cord from the electrical power supply. Always follow specific manuals from STS when servicing your system.

## 2 SAFETY GUIDELINES

### 2.1 GENERAL

Correct use of the N2-Gen™ 4 Deployable is important for your personal safety and for trouble-free functioning of the N2-Gen™ 4 Deployable. Incorrect use can cause damage to the N2-Gen™ 4 Deployable or can lead to incorrect gas supply.

Do not puncture any part of the nitrogen storage tank; pressurized gas could burst the vessel and cause personal injury or death.

Do not remove, cut, or work on any hose inside or outside the nitrogen generator or tank without cutting off the power, turning off preinstalled valves, and removing pressure from the system.

Do not expose any pressurized vessel to excessive heat or fire; expanding gas could result in a vessel or hose burst. There are safety valves installed to keep pressures below all burst levels.

The N2-Gen™ 4 Deployable produces nitrogen (N<sub>2</sub>) at a low flow rate, which quickly dissipates into the air. Nitrogen gas is not poisonous but the gas should not be directly inhaled, since in high concentrations. Nitrogen can cause asphyxiation. **Ensure that the unit is installed within a well-ventilated room, one that is not sealed off from normal living space air changes.**

All personnel involved with installation, operations, and maintenance of the N2-Gen™ 4 Deployable must follow safe working practices, OSHA, and local health/safety code regulations during the installation, operation, and maintenance of the unit.

**Warning:**

- **This manual must be read in its entirety prior to installing and operating the N2-Gen™ 4 Deployable to prevent accidents and damage to the N2-Gen™ 4 Deployable.**
- **Contact your supplier if you detect a problem that you cannot solve with this manual.**
- **Only use the N2-Gen™ 4 Deployable in accordance with its designed purpose.**
- **Only service-engineers, that are qualified to work on electric and pneumatic equipment, are allowed to do the installation, maintenance, and repairs. Unqualified individuals should not attempt to repair the equipment.**
- **Do not tamper or experiment with the equipment or exceed the technical specifications.**



### 3 SYSTEM DESCRIPTION

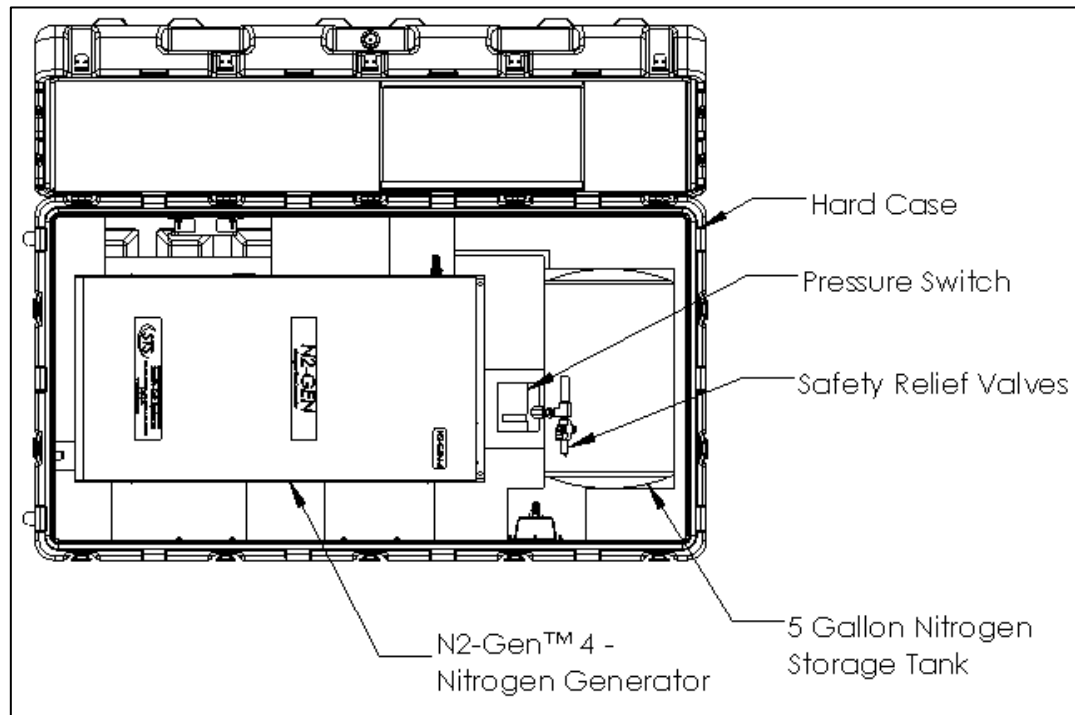
The N2-Gen™ 4 Deployable key features include the following:

- Mobile hard case with two accessory compartments
- N2-Gen™ 4 Nitrogen Generator with the following:
  - o Air compressor
  - o Air Filters
  - o Membrane
  - o Safety Relief Valves
- Nitrogen Storage Tank with built in pressure switch

#### 3.1 N2-GEN™ 4 DEPLOYABLE HARD CASE DETAILS

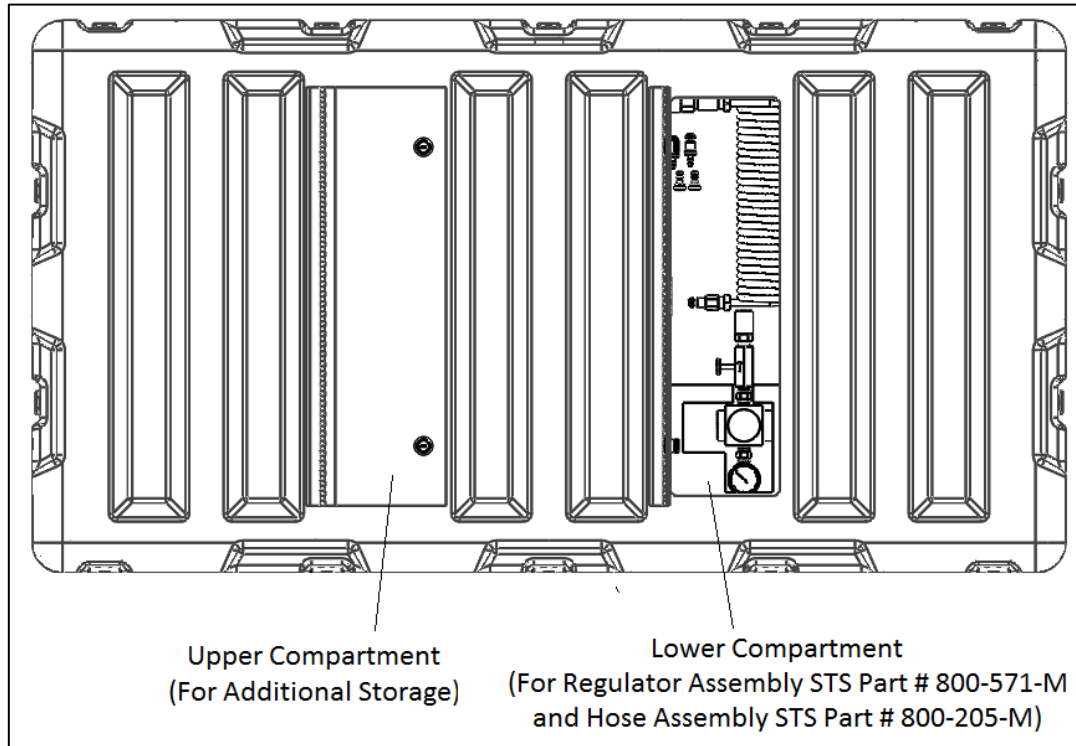
Mobile Hard case:

The N2-Gen™ 4 Nitrogen Generator is protected by a hard case equipped with handles and a set of wheels for mobility. The main door is secured with flip and turn latches, and when closed, it secures the N2-Gen™ 4 Nitrogen Generator and the storage tank inside. Both the N2-Gen™ 4 and storage tank are padded in place with high density foam.



*Figure 1: Mobile Hard Case Features*

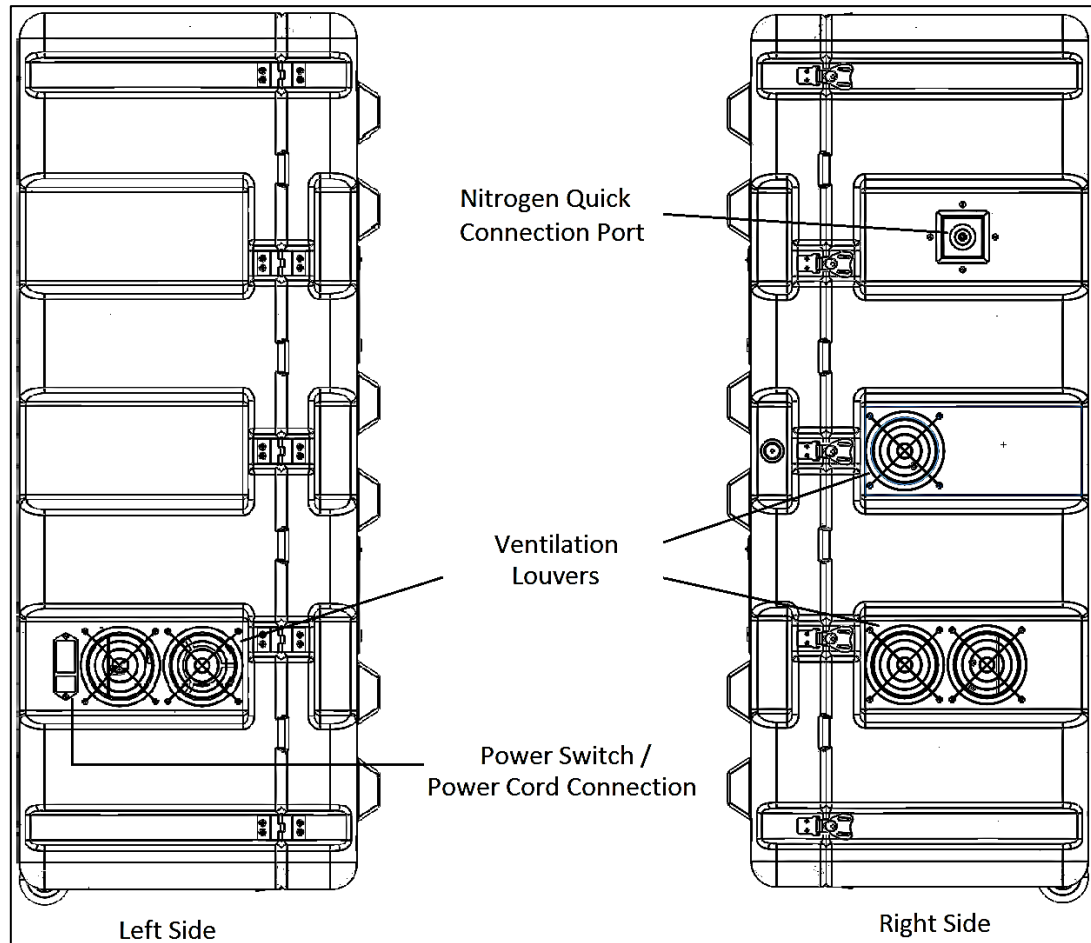
The front door also has two small compartments with quarter turn latches for storage of miscellaneous accessories for easy access. The lower compartment will house the hose assembly (STS Part # 800-205-M) and regulator output assembly (STS Part # 800-571-M). The upper compartment can be used for other small equipment and accessories such as the vacuum purge box and other tools. Opening and closing the compartments can be done by simply turning the coin latch a quarter turn.



*Figure 2: Mobile Hard Case Exterior Compartments*

### Ventilation, Quick Hose Connection, and System Power Switch:

The sides of the case are equipped with louvers and a fan to vent out the hot air produced by the internal air compressor. Always keep at least 12” on both sides of the hard case for proper ventilation. On the left side of the cabinet, there is a built in power entry module with an On/Off switch. The power cord connection is plugged into the power entry module and the On/Off can be controlled by the switch. On the upper right of the case is a nitrogen quick connect fitting to connect the N2 regulator assembly.



**Figure 3: Hard Case Exterior Details**

### 3.2 N2-GEN™ 4 NITROGEN GENERATOR DETAILS

**Note: Refer to TM 11-3655-250-13&P for further detail on the N2 Gen-4 Nitrogen Generator**

#### Air Compressor:

The air compressor is designed internally to the cabinet and features a dampening system to reduce vibration and noise throughout the cabinet. It is an oil-less compressor with a pre-filter attached to the air input. The recommended replacement on the pre-filter is 1000 run hours or 1 year (whichever comes first). Dirtier environments may require change-out's more frequently. Consult your supplier for a different filter maintenance schedule if you are using the generator in dirty environments.

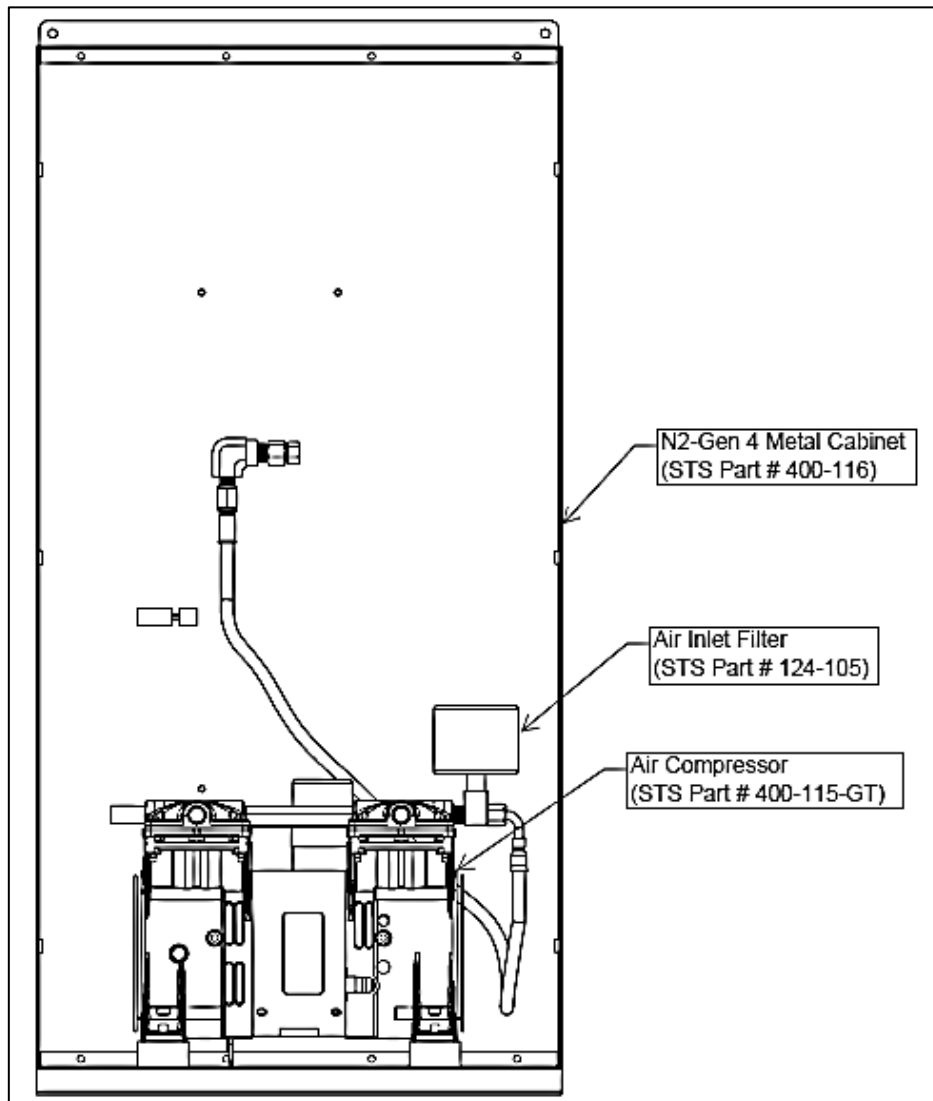
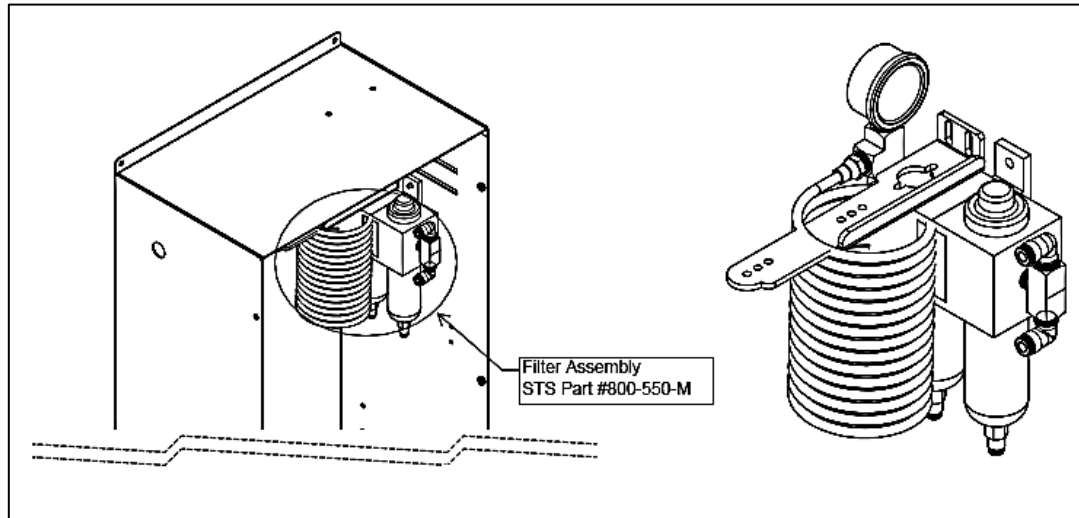


Figure 4: N2-Gen™ 4 Air Compressor

### Filters:

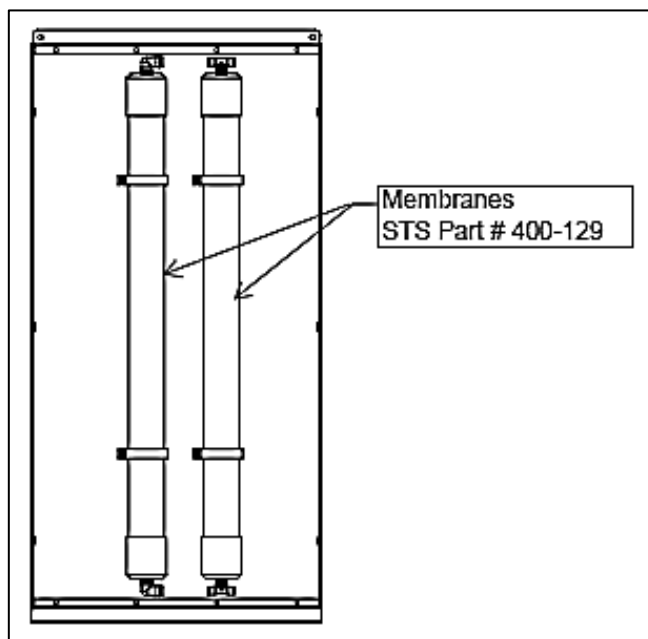
The generator has two filters after the air compressor: the particulate and coalescing. The particulate has a 0.5 micron filter that will catch any of the larger particles. The coalescing has a 0.01 micron filter that will catch the remaining smaller particles. Both filters feature an auto-drain that will drain the water captured after the air compressor. The drain is plumbed to the outside of the cabinet where the end-user can then connect ¼" OD tubing and drain to a safe location.



*Figure 5: N2-Gen™ 4 Filter Assembly*

### Membranes:

The N2-Gen™ 4 Nitrogen Generator houses membranes that are used to filter out the oxygen molecules from the compressed air. It is important to maintain the filter change-out schedule to extend the life of the membranes.



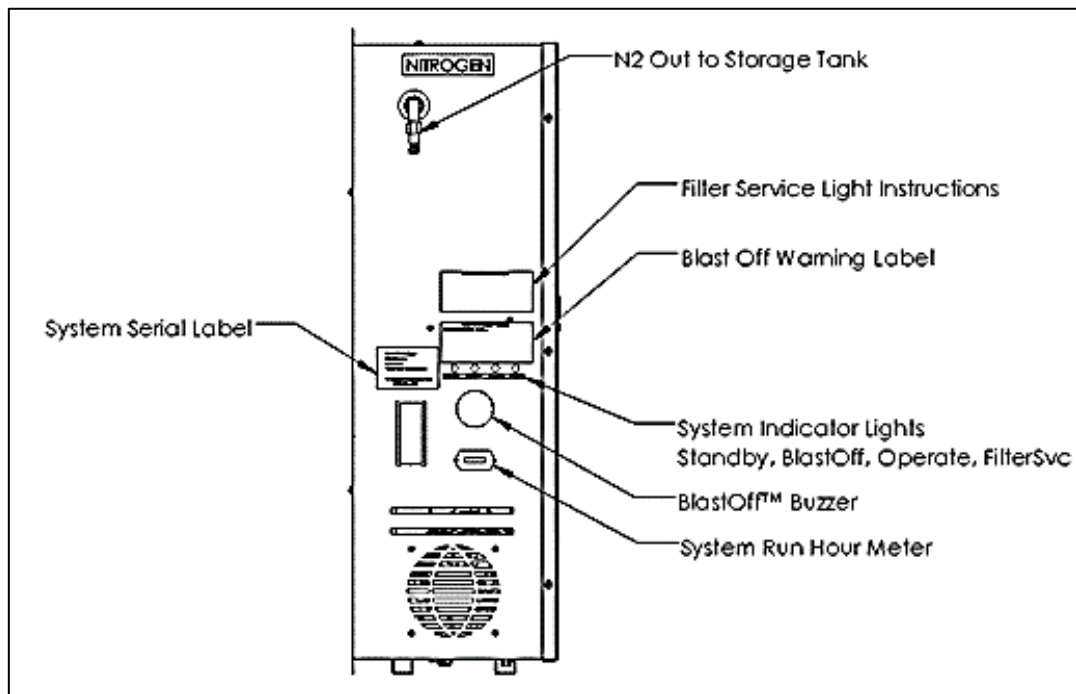
*Figure 6: N2-Gen™ 4 Membranes*

### Safety Relief Valves:

Safety Relief Valves have been placed in the system for safety purposes. They are designed and installed for protection of over-pressurization due to failure of other components. They are ASME approved.

### Exterior Functions and Indicators:

On the upper left side of the nitrogen generator, there is a “Nitrogen Out to Storage Tank” connection with a ¼” OD tube that runs up to the 5 gallon storage tank. The mid-section of the left panel has the power connection, system status indicators, system pressure gauge, and hour meter.

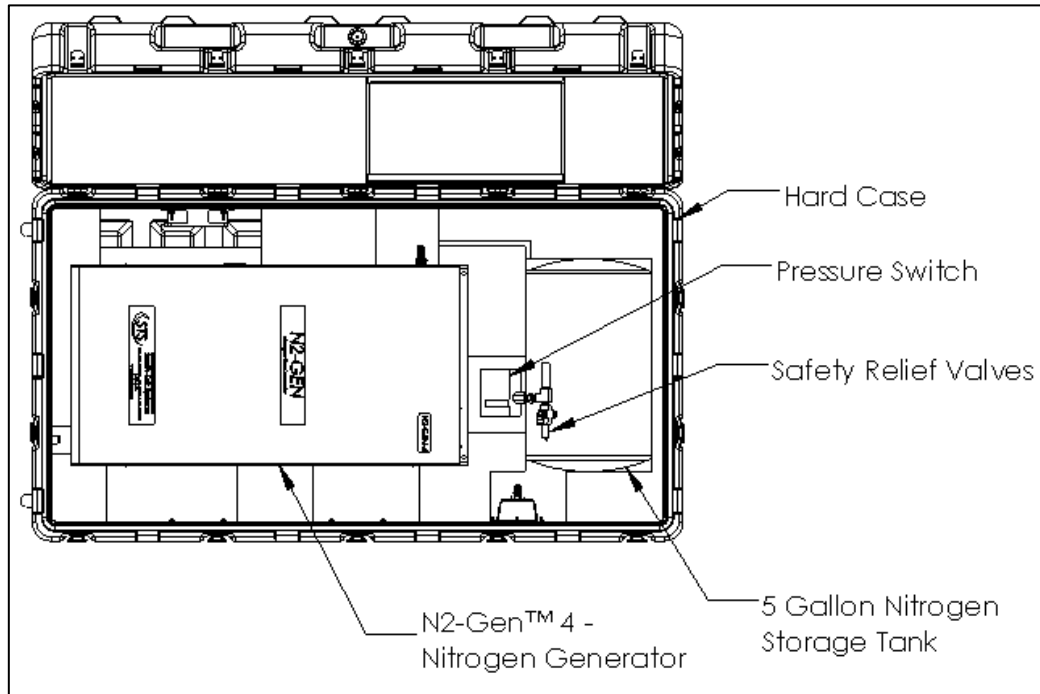


**Figure 7: N2-Gen™ 4 Exterior Cabinet Details**

### 3.3 NITROGEN STORAGE TANK DETAILS

#### Nitrogen Storage Tank with Built in Pressure Switch:

A 5 gallon storage tank (STS Part # 004-741) is housed inside the hard case above the N2-Gen™ 4 Nitrogen Generator. It has a pressure switch to automatically put the N2-Gen™ 4 into standby mode when the tank is full. It also has a safety relief valve to relieve excess pressure. It is plumbed to an exterior quick connect for easy nitrogen gas usage.



*Figure 8: Nitrogen Storage Tank in Hard Case*

The storage tank has a useful life period of 5 years from manufacture. It is stamped on the tank. The tank needs to be destroyed and replaced after that date. See section **6.1 Nitrogen Storage Tank Replacement** for instruction on changing out the storage tank.

### 3.4 SPECIFICATIONS

N2-GEN™ 4 Deployable – Specifications	
Nitrogen Purity	99+%
Installation	Floor standing
System Indicators	Run Hours / Run Status / Flt Alm / BlastOff Alm
N <sub>2</sub> Storage Pressure	30-80 PSIG
Nitrogen Out Port Connection	1/4" Quick Connect
Electrical	110V / 60Hz / 1Phase; 20 Amp Breaker
Compressor	Integral / Oil-Free
Ambient Temperature	40° to 90°F
Noise Level (dbA)	< 80 dbA
Size	28" W x 21.5" D x 52" H (Cabinet Dimensions)
Weight	Approx. 180 lbs

### 3.5 SYSTEM OPERATIONS

The system has two modes – Run and Standby. When the power switch is turned on, the system will automatically determine which mode to enter. The side of the N2-Gen™ 4 Nitrogen Generator has a run light indicator to specify that the unit is in “Run” mode. If it is not illuminated, the system is in “Standby” or “Off” mode.

“Run” mode is when the N2-Gen™ 4 Deployable is producing and delivering nitrogen to the storage tank. It will continue running until the nitrogen storage tank reaches the cutout pressure of approximately 80 PSIG. Once it reaches the cutout pressure, it will go into “Standby” mode until the tank pressure falls down to approximately 30 PSIG. At that point, the system will automatically turn back on and continue filling the storage tank back up to 80 PSIG.

The system will go into alarm mode and automatically shut off if the unit is equipped with the BlastOff™ option. The alarm is an indication that there’s a leak somewhere in the system and it should be addressed immediately. Refer to section “**4.4 Checking for Leaks**” for instruction on how to troubleshoot for leak(s).

To temporarily reset the alarm mode, power off the unit and power it back on, but this should only be used temporarily to return service. Ignoring the alarm for an extended period of time will shorten the life of the system.



## 4 PRODUCT INSTALLATION

### 4.1 UNPACKING AND PREPARATION

The N2-Gen™ 4 Deployable will be shipped strapped down on a wooden pallet with plastic wrap around the hard case. Upon receipt, remove plastic and band wrap to inspect all parts for damage. Take pictures upon arrival of damages done during shipping. Identify and verify that all parts listed on the packing list are present and undamaged. South-Tek Systems (STS) is not responsible for damages that have occurred during the shipping and handling of the N2-Gen™ 4 Deployable. Any visual damages should be immediately documented and reported to the shipping company responsible. Contact STS at (888)526-6284 to assess the damages only after the shipping company has been notified.

The manual will be placed inside the lower outside compartment with the regulator and hose assembly. Please read the manual in its entirety before operation.

#### **Until Installation:**

- The N2-Gen™ 4 Deployable can be stored on the wooden pallet until installation. For extended storage of over a month, open and insert desiccant bags as needed to prevent moisture buildup.
- Store the N2-Gen™ 4 Deployable in a dry, climate controlled (60-80°F) room.
- Do not connect the AC power cable until this manual has been read completely and all connections are made as stated within.
- Keep all gas lines dry to avoid moisture in the generator upon hookup.
- Never place/stack objects on top of the N2-Gen™ 4 Deployable.

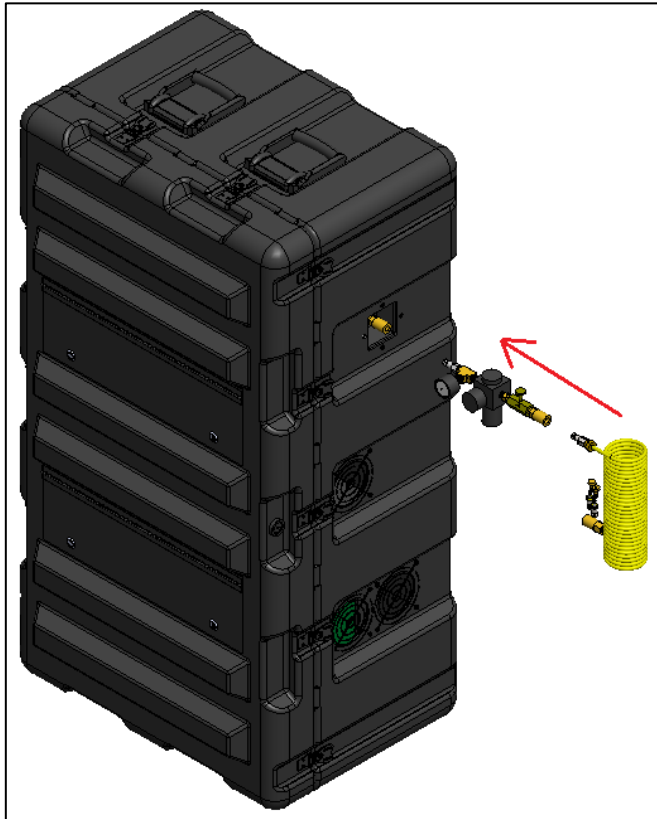
### 4.2 ELECTRICAL REQUIREMENTS

The N2-Gen™ 4 Deployable requires 110V / 60 Hz / 1Ph connection. It has a built in 20A circuit breaker and a standard 3-prong US power cord is provided for the electrical connection. Electrical schematic available upon request.

### 4.3 INSTALLATION

The N2-Gen™ 4 Deployable is designed for mobility and does not need to be installed in one fixed location. When ready to use, lift the hard case so that it stands vertical on a hard flat surface. It is recommended to keep moving objects away from the system so it doesn't fall over.

The back of the unit can be pushed all the way against the wall, but leave at least 12" on the left and right side of the case for ventilation. There is also a ¼" OD drain port on the bottom of the case (bottom relative to the upright position). This can be plumbed to the nearest site drain if needed (collection of moisture in the compressed air). Leave enough clearance room on the right side of the hard case for the nitrogen gas line connection.



*Figure 9: Nitrogen Out Regulator and Hose Installation*

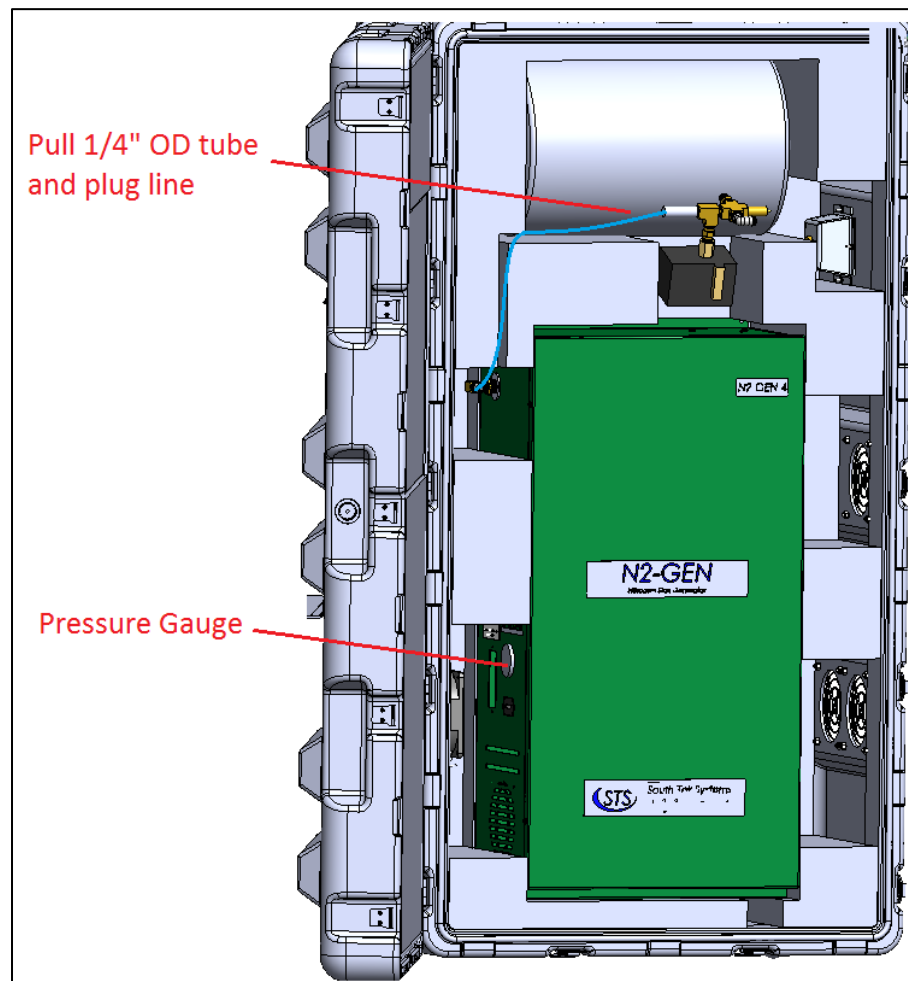
Once the connections are all secure, turn on the power (see **Figure 3: Hard Case Exterior Details**). The initial start-up will require up to 1 hour to fully pressurize the internal storage tank to the correct purity level. Once the tank is full, the system will automatically go into a standby mode and is ready for standard operation.

#### 4.4 CHECKING FOR LEAKS

When a leak is suspected, first try to listen for leaks around the connection ports. If a leak is found, isolate the area so that there's no pressure on it. Fix the leaking part and return the system back to operation. If no leak can be heard, turn off the unit and try isolating sections to see if there's a pressure loss. If the BlastOff™ option is included with your unit, the system will alarm indicating that there is a leak in the line. Consult with South-Tek if you cannot locate the leakage area.

To determine if the leak is within the cabinet:

1. Lift the hard case in the upright position and open the case.
2. Pull the 1/4" OD Tube off the storage tank (there's a check valve going into the storage tank, so no need to worry about pressure in the tank coming out of that port). Plug the 1/4" OD line with a push to connect ball valve or pinch the line so that no gas can flow through.



*Figure 10: Nitrogen Line to Storage Tank and Storage Tank Pressure Gauge*

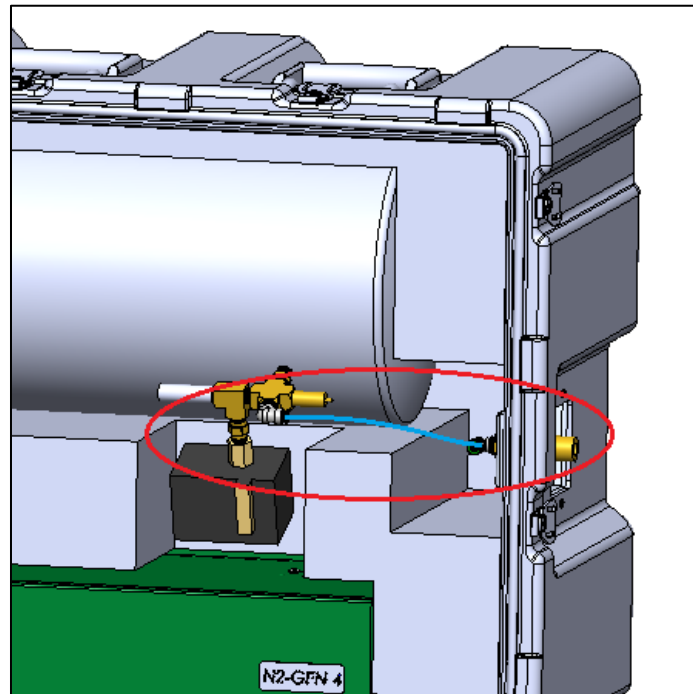
3. Once the 1/4" OD tube going into the tank is plugged off, turn on the generator and when the pressure gauge is above 50 PSIG, turn the system off (the line should still be plugged). Watch the pressure gauge

for 30-60 seconds and if there's no pressure loss, then the leak is outside the N2-Gen™ 4 Nitrogen Generator. If the pressure gauge starts to show a lost in pressure, the leak is internal. It is recommended to do this test 2-3 times to see if the results are the same.

4. If the leak is inside the N2-Gen™ 4 Nitrogen Generator, feel and/or listen inside for leaks. It's best to pressurize it up to 50-80 PSIG with the nitrogen out line plugged; once pressure is between 50-80 PSIG, turn the compressor off. Then feel and/or listen for the leaks while there's still pressure showing on the gauge. Repeat the process by turning on the compressor again and pressurizing the internal components to 50-80 PSIG until the leak is found.

To find the leak exterior to the cabinet:

1. With the tank pressurized (tank pressure can be viewed on the side of the N2-Gen™ 4 cabinet), feel and/or listen for leaks around the pressure switch assembly attached to the tank.



*Figure 11: Pressure Switch Assembly*

2. Feel and/or listen for leaks on the 1/4" OD line going to the exterior quick connect port.
3. Feel and/or listen for leaks on the regulator assembly prior to the flow control valve.
4. Fix any leaks found.

#### **4.5 STARTING / STOPPING THE SYSTEM**

To start the system, turn on the power switch and make sure the regulator assembly is attached to the output with the gas flow valve opened to the desired flowrate.

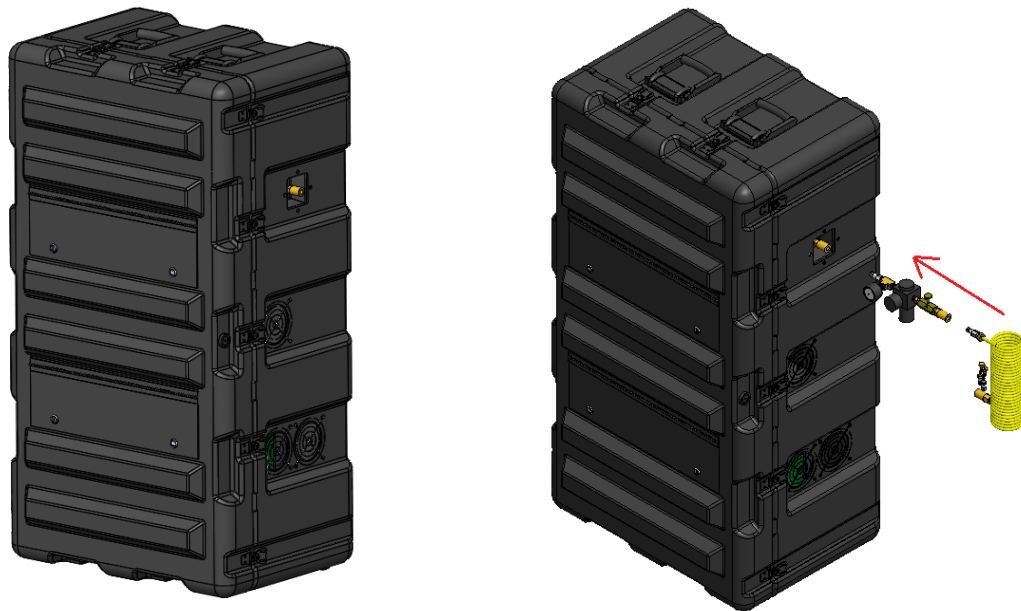
To stop the system, close off the gas flow valve on the regulator assembly or pull off the regulator assembly. Powering down the system is not necessary unless immediate nitrogen flow production must be stopped or if moving the N2-Gen™ 4 Deployable to another location.

## 5 SYSTEM USAGE

### 5.1 INSTRUCTIONS

The N2-Gen™ 4 Deployable is intended to be used to generate nitrogen. Follow the installation instructions from the section above.

When ready to use, lift the case so that it's standing upright (longest side should be vertical). Make sure to leave at least 12 inches on both sides for ventilation. The system is shipped ready for power – simply connect the provided power cord into a standard US 3-prong 110 VAC / 60 Hz / 1 Ph outlet and turn the power switch on. It will immediately start filling the internal storage tank with nitrogen and automatically go into “Standby” mode when the nitrogen storage tank reaches the design pressure.



*Figure 12: Left - Upright Position, Right - Regulator/Hose Connection*

Connect the nitrogen regulator/flow assembly to the upper right side of the hard case and the system is ready to deliver nitrogen.

Routine maintenance on the filters must be performed to keep the system in optimal performance range and to maximize the life of the N2-Gen™ 4 Nitrogen Generator. See section “**6. System Maintenance**” for detailed maintenance instructions.

## 5.2 ALARM NOTIFICATION

### Filter Alarm:

All N2-Gen™ 4 Deployable come standard with a “Filter Alarm” notification on the N2-Gen™ 4 exterior cabinet. The exterior cabinet has a “Flt Alm” light that will illuminate when the filter change is overdue. It is recommended that the filters be changed once every year or every 1000 hours, whichever comes first. See section “6. System Maintenance” for detailed maintenance instructions.

### BlastOff™ - Leak Detection System Alarm

An optional feature that can be included with the system is the BlastOff™ - Leak Detection System. It is a patented system that, when installed into the N2-Gen™ 4 Deployable, can detect line leaks within the system. These leaks are potential safety hazards. They can cause the nitrogen to deplete quickly and could cause your N2-Gen™ 4 Deployable to run in excess (decreasing the life of the unit).

Once a leak has been detected, the BlastOff™ will initiate the buzzer, and the BlastOff Light on the exterior cabinet of the N2-Gen™ 4 will illuminate. Both the buzzer and light will remain on until the problem has been remedied. To reset the BlastOff™, simply turn off the N2-Gen™ 4 Deployable and turn it back on. The N2-Gen™ 4 Deployable can be ordered with the BlastOff™ System Factory installed or the system can be retrofitted in the field. Some rewiring is required to field install.

Never reset repeatedly; if the BlastOff™ goes off daily, there is a real potential issue. Consult your installer for a solution. The label below and the Logo above will be on N2-GEN™ if factory installed.

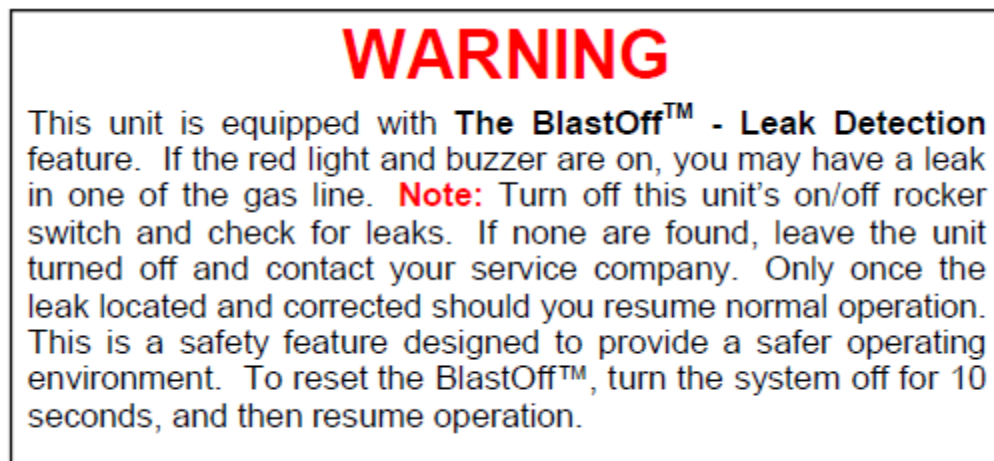


Figure 13: BlastOff™ Warning Label

## 6 SYSTEM MAINTENANCE

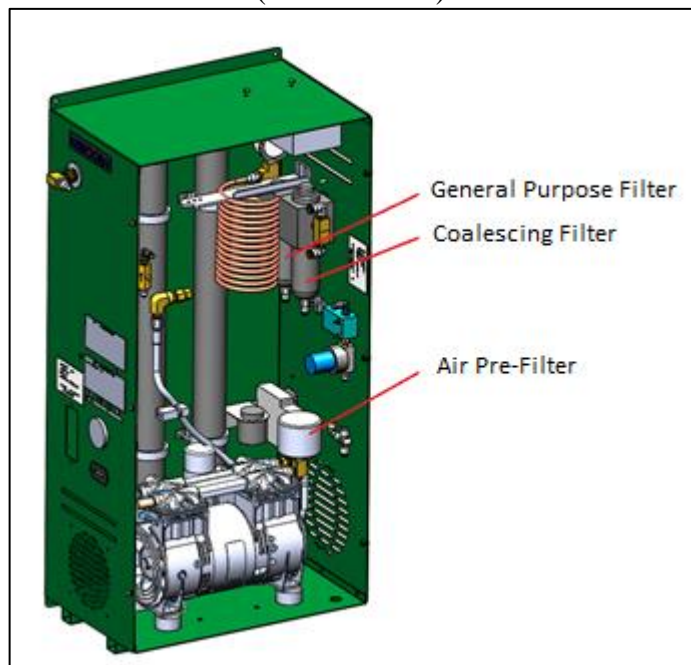
Whenever doing any maintenance to the system, make sure to power down the system. Remove the front cover to gain access to the filters. The N2-GEN™ 4 contains 3 filters that need to be changed out regularly. All filters should be changed out every 12 months or 1000 hours of runtime whichever comes first (there is an hour meter on the side panel).

### Electronic Filter Service Indicator

The N2-GEN™ 4 is equipped with a Filter that has an “Electronic Service Indicator” built-in. This can be used in the case of prolonged storage or when being used in a harsh environment. The “Service Indicator” can be used in conjunction with the filter change out schedule above. If the “FilterSvc” indicator illuminates and remains on, then the filter is saturated and all filters need to be changed immediately. Note: the light might come on briefly and turn off while the system is coming up to pressure (<5mins). If it remains on, perform the filter change. Do not use system with old filtration as the nitrogen producing media can be damaged beyond repair quickly.

Changing the 3 filters (all filter elements are included in STS Part # FRP-001).

1. Disconnect the power before servicing the unit.
2. Remove the cover and relieve all internal pressure.
3. Locate the 3 filters (shown below)



**Figure 14: Filter Locations**

- a. Pre-compressor filter, located on the top of the compressor.
- b. General purpose filter, on the right side, clear bowl, closer to the cabinet back, white and pink filter element.



- c. Coalescing filter, on the right closest to the front of the unit, green filter element.
4. Remove the pre-compressor filter cap by twisting clockwise. Remove the old filter and replace with the new one.
5. Remove the filter bowls on the General Purpose and Coalescing filters by pushing up on the bowls and twisting counter-clockwise 1/8 of a turn, then it will pull straight down.
  - a. Note: there is a rubber O-ring that may or may not come out with the bowl, if it does, make sure to reseal it before putting the bowl back on.
  - b. Remove the filter cartridges by unscrewing them from the housing. Replace with the new cartridges and reinstall the bowl. Make sure the white and pink filter goes in the rear filter and the green filter goes in the front just as they were removed.
6. Reinstall the filter bowls. Make sure the floats that are inside the bowls are in place when you reinstall the bowls. The system won't work without the auto-drain floats.
7. Reconnect the power and turn the system on. If the storage tank is full, you can relieve some of the pressure by pulling the safety relief ring inside the unit in the upper left corner. Once the pressure drops back down to 30 PSIG, the unit will turn back on. Feel and listen for any leaks on the filters.
8. Once the filters have been verified not to be leaking, replace the cover and allow the storage tank to fill back up.

**Annual Filter replacement kit part # FRP-001**

## 6.1 NITROGEN STORAGE TANK REPLACEMENT

The storage tank has a useful life period of 5 years from manufacture. It is stamped on the tank. The tank needs to be destroyed and replaced after that date.

To replace the tank:

1. Turn the unit off.
2. Unplug the pressure switch cable.
3. Drain the tank entirely.
4. Pull the tank out of the case.
5. Remove the pressure switch assembly from the existing (expired) tank and put it on the new tank (STS Part #004-741).
6. Install the new tank back in the hard case and plug the pressure switch cable back in.

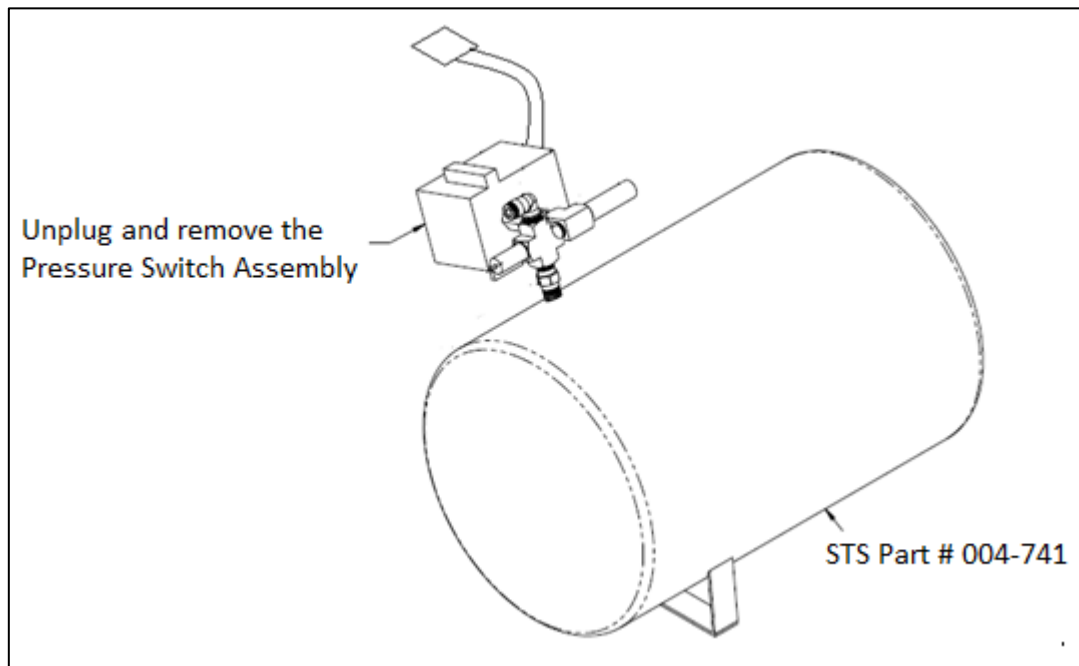


Figure 15: Removing N2 Tank

## **7 KEY CONTACTS**

Contact your local provider/installer for any questions with the performance and/or maintenance of the system. They will be best suited to answer your questions and your quickest solution on any issues you may have.

## 8 FAQs

### 8.1 POWER ISSUES

If the N2-Gen™ 4 Deployable does not have power, the production and storage of nitrogen will become apparent once the storage pressure drops. The system will stop flowing nitrogen.

1. Check the power cord
2. Has the building's circuit breaker or GFCI tripped? Locate the breaker and reset. If the breaker continues to trip, you may have that circuit overloaded.

### 8.2 PRESSURE ISSUES

The N2-Gen™ 4 Deployable will produce and store Nitrogen at 80 (+/-3) PSIG. Once the storage tank reaches 80 (+/-3) PSIG, the system will go into "Stand-By" mode. When the pressure drops down to about 30 PSIG, the system should go into "Run" mode and begin to refill the storage tank. If the system is out of specifications, contact the manufacturer or a factory trained technician.

#### Nitrogen Pressure Check:

Look at the pressure gauge on the side of the N2-Gen™ 4 Nitrogen Generator cabinet. It should be between 30 and 80 PSIG. If the pressure is low, a few things need to be checked.

- Check the power.
- Check for leaks throughout the system. Refer to section "**4.4 Checking for Leaks**".

If the N2-Gen™ 4 Deployable issues cannot be resolved, contact the manufacturer or factory trained technician.

## 9 BLASTOFF™ - LEAK DETECTION SYSTEM:

“There is an alarm sounding in the N2-Gen™ 4 Deployable and the control panel has Blast Off illuminated on the side panel of the unit.”



The BlastOff™ – Leak Detection System is a patented system that, when installed into a N2-GEN™ 4 Nitrogen Generator, will detect line leaks downstream or within the system. Line leaks could be due to a cut hose, a leaking fitting, etc. These leaks are potential safety hazards, they can cause the nitrogen to deplete quickly, and could cause your N2-GEN™ 4 Nitrogen Generator to run in excess (decreasing the life of the unit).

Once a leak has been detected, the BlastOff™ is factory set to initiate a buzzer, activate a red warning light (inserted into the N2-GEN™ 4 cabinet), and shut off the N2-GEN™ 4 until the problem has been remedied. To reset the BlastOff™, simply turn off the N2- GEN™ 4 power switch and turn it back on. The N2-GEN™ 4 can be ordered with the BlastOff™ System factory installed, or the system can be retrofitted in the field. Some rewiring and drilling required to field install.

Factory settings will give both an audible and visual alarm as well as shut the compressor down. The buzzer and light will continue until the system has been reset. Never reset over and over. If the BlastOff™ goes off, there is a real potential issue. Consult your installer or the factory for a solution.

The label below and the logo above will be on your N2-GEN™ 4 if factory installed.

### WARNING

This unit is equipped with **The BlastOff™ - Leak Detection** feature. If the red light and buzzer are on, you may have a leak in one of the gas line. **Note:** Turn off this unit's on/off rocker switch and check for leaks. If none are found, leave the unit turned off and contact your service company. Only once the leak located and corrected should you resume normal operation. This is a safety feature designed to provide a safer operating environment. To reset the BlastOff™, turn the system off for 10 seconds, and then resume operation.

## APPENDIX A: WARRANTY

The N2-GEN™ System is warrantied against any defects in workmanship and materials for 12 months from the date of commissioning or 18 months from shipment from South-Tek Systems, whichever comes first. The purchaser has the liability to ensure that the system is fully inspected upon delivery and shall contact the appropriate shipping company to make any claims on damaged goods due to transit within that shipping company's policies. All packages are fully insured through the shipping company during transit. If the packages are damaged in transit, the shipping (freight) company is responsible for all claims. If the system is received with missing parts that are not due to shipping, a written claim should be submitted to South-Tek Systems within 1 week of receiving the shipment. South-Tek Systems can deny all other claims at their discretion.

All warranty work shall be done at a South-Tek System facility. Only factory trained and authorized personnel are covered under warranty repairs. Any part that is returned/repaired/replaced under warranty may be remanufactured or changed to a different specification at the factory's option. Any work performed by an unauthorized person/company or usage of non-factory parts, may void all warranties to the product.

Any item not manufactured by South-Tek may carry its own warranty from its manufacturer and will be warrantied by that manufacturer. All parts that need to be returned should be announced. Any item(s) that is returned to South-Tek Systems without an RMA number (return authorization number) may be denied and returned to the sender. Contact the factory for RMA #'s, prior to return shipment. Customer will pay for return shipment to South-Tek Systems' factory in suitable packaging. If packaging is in question, please request factory packaging to be sent to you for sending back the RMA item. South-Tek Systems will pay for return service to the customer (UPS Ground or similar) within the United States.

South-Tek Systems is not liable for damages caused by normal wear and tear, water, fire, erosion, corrosion, explosion, misuse, oil/gas vapors or unauthorized modifications. South-Tek Systems is also not liable for any losses, damages, or cost of delays, including incidental or consequential damages. There are no warranties or guarantees, expressed or implied, including the warranties of merchantability or fitness for a particular purpose or use, other than those warranties expressed herein.

For Claims, contact South-Tek Systems LLC at:

tel (919) 847-3800 fax (919) 847-0255

Email: [support@southteksystems.com](mailto:support@southteksystems.com)

Or write to:

South-Tek Systems, Warranty Claims,  
2940 Orville Wright Way, Wilmington, NC 28405

## **APPENDIX B: WIRING SCHEMATIC**

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### APPENDIX C: N2-GEN™ 4 DEPLOYABLE ASSEMBLY

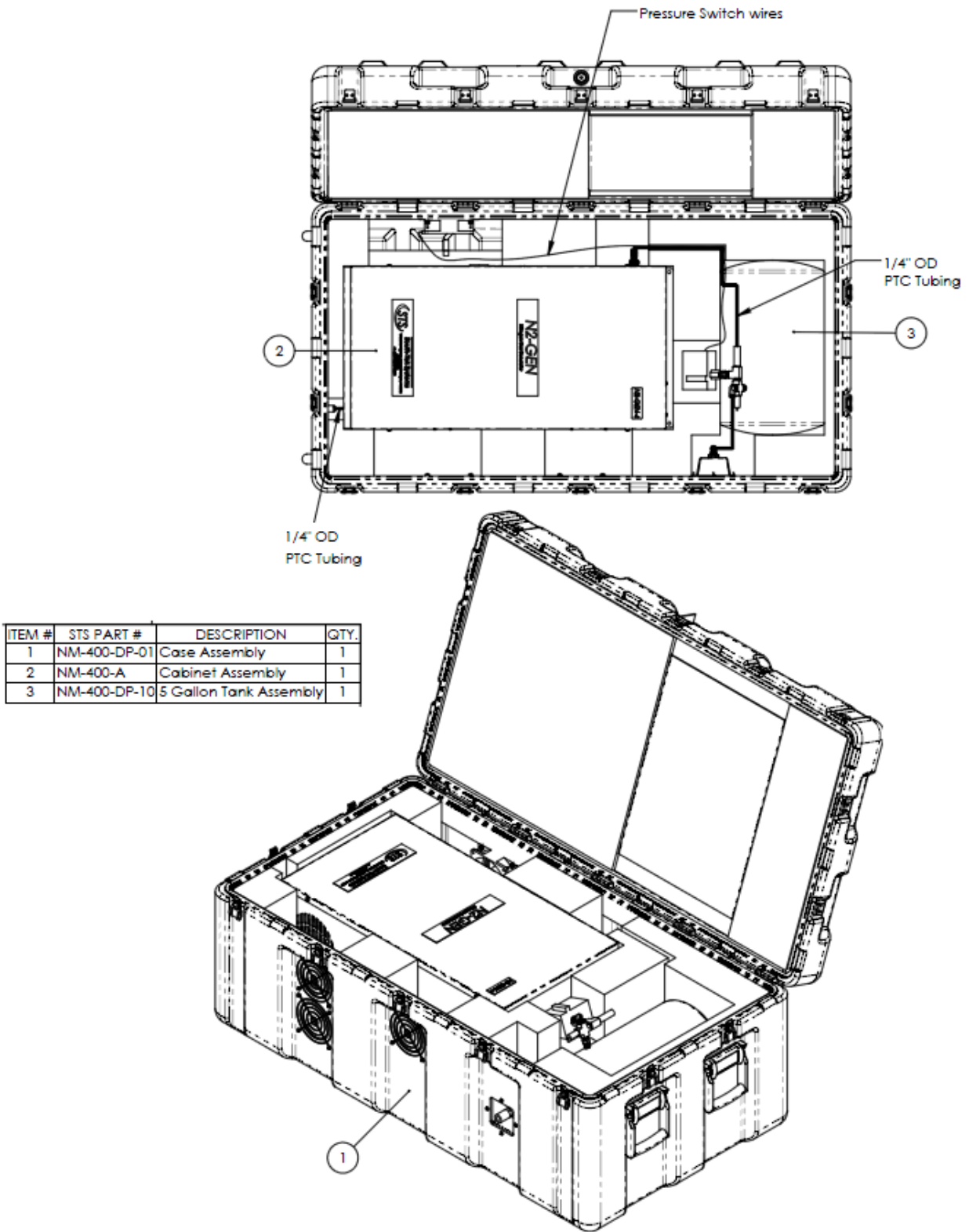
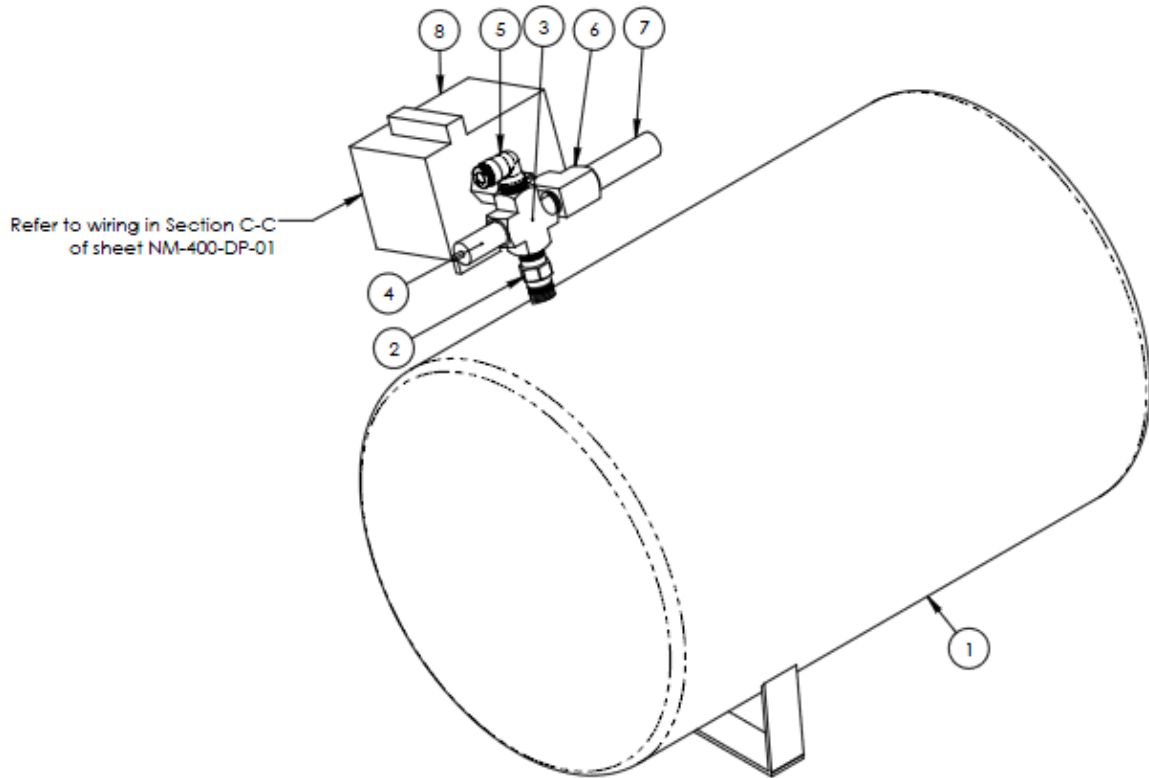


Figure 16: N2-Gen™ 4 Deployable Assembly



ITEM #	STS PART #	DESCRIPTION	QTY.
1	004-741	5 Gallon, 125 psi Tank	1
2	124-325-Brs	0.250" NPT Hex Nipple, Brass	2
3	124-330	0.250" NPT F Cross, Brass	1
4	800-116	0.250" NPT Safety Relief Valve, 150 psi	1
5	124-315	0.250" NPT x 0.250" OD PTC Swivel Elbow, Legris	1
6	124-380	0.250" NPT Street Tee, Brass	1
7	124-210	0.250" NPT Check Valve, Norgren	1
8	002-340	0.250" NPT Pressure Switch, Adj 35-150 PSI, Delta 30-40 PSI	1

Figure 17: NM-400-DP-10, Tank Assembly

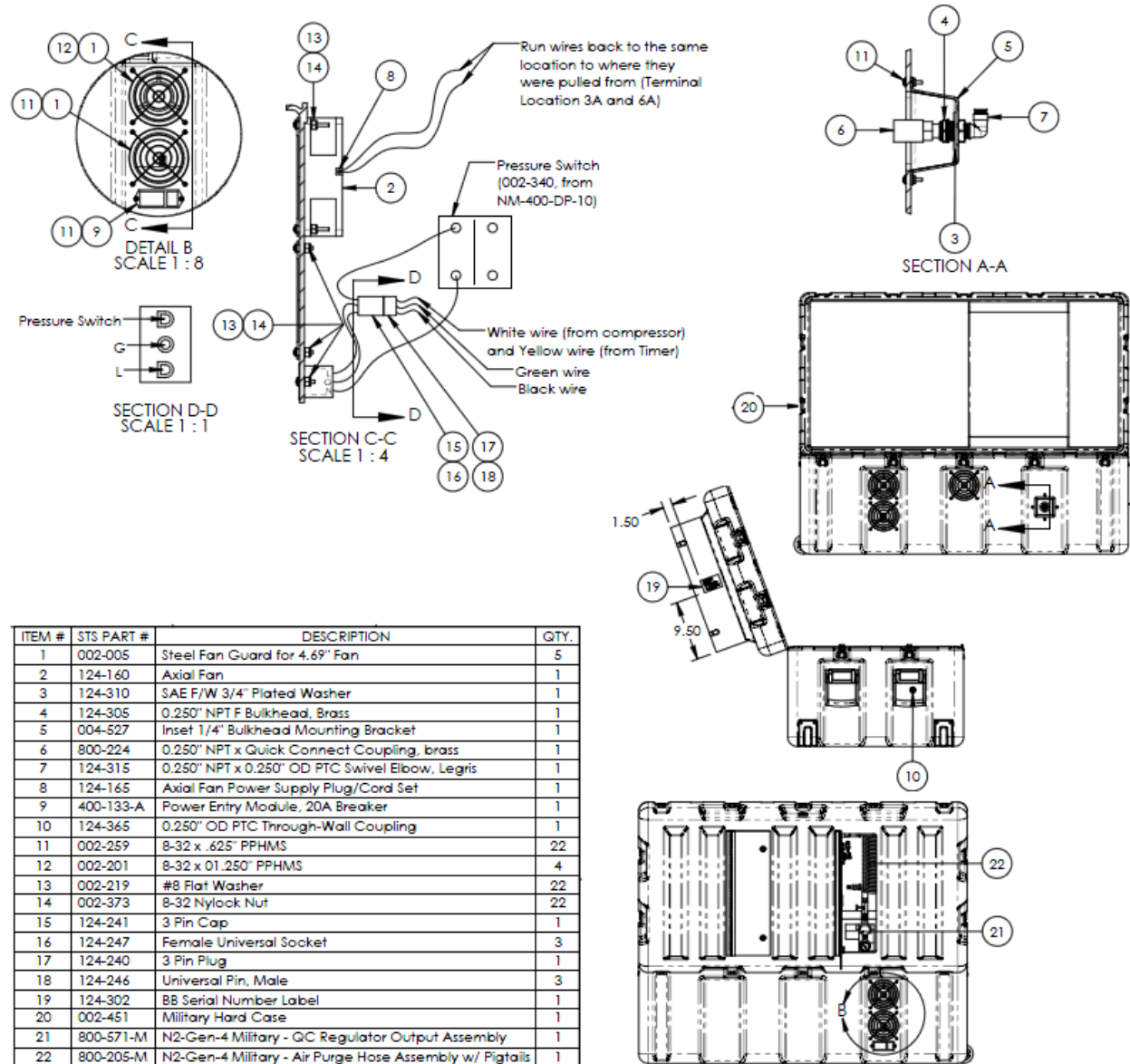


Figure 18: NM-400-DP-01, Hard Case Assembly

## APPENDIX D: N2-GEN™ 4 NITROGEN GENERATOR SUB-ASSEMBLIES

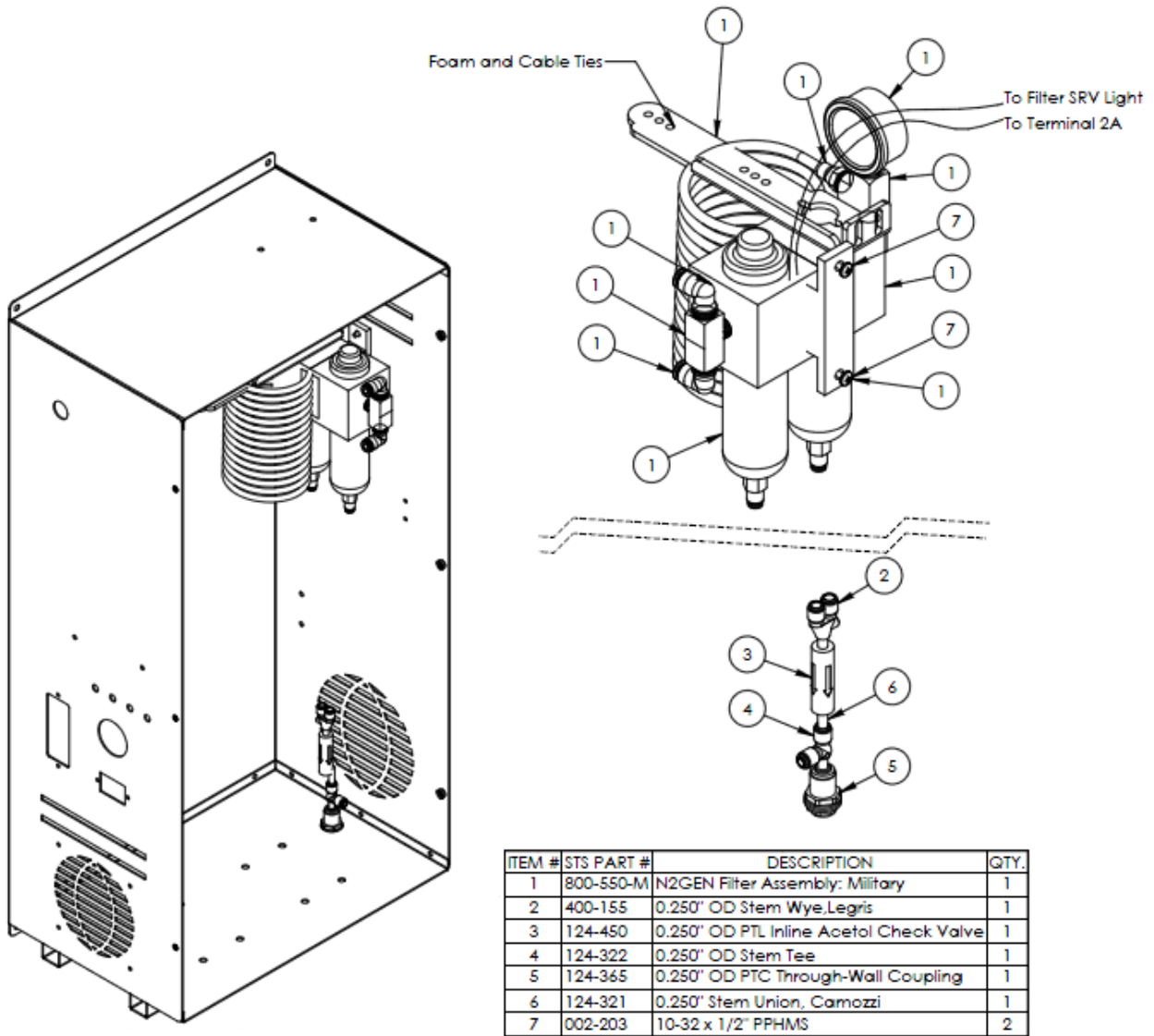


Figure 19: NM-400-04-A, Filter Assembly

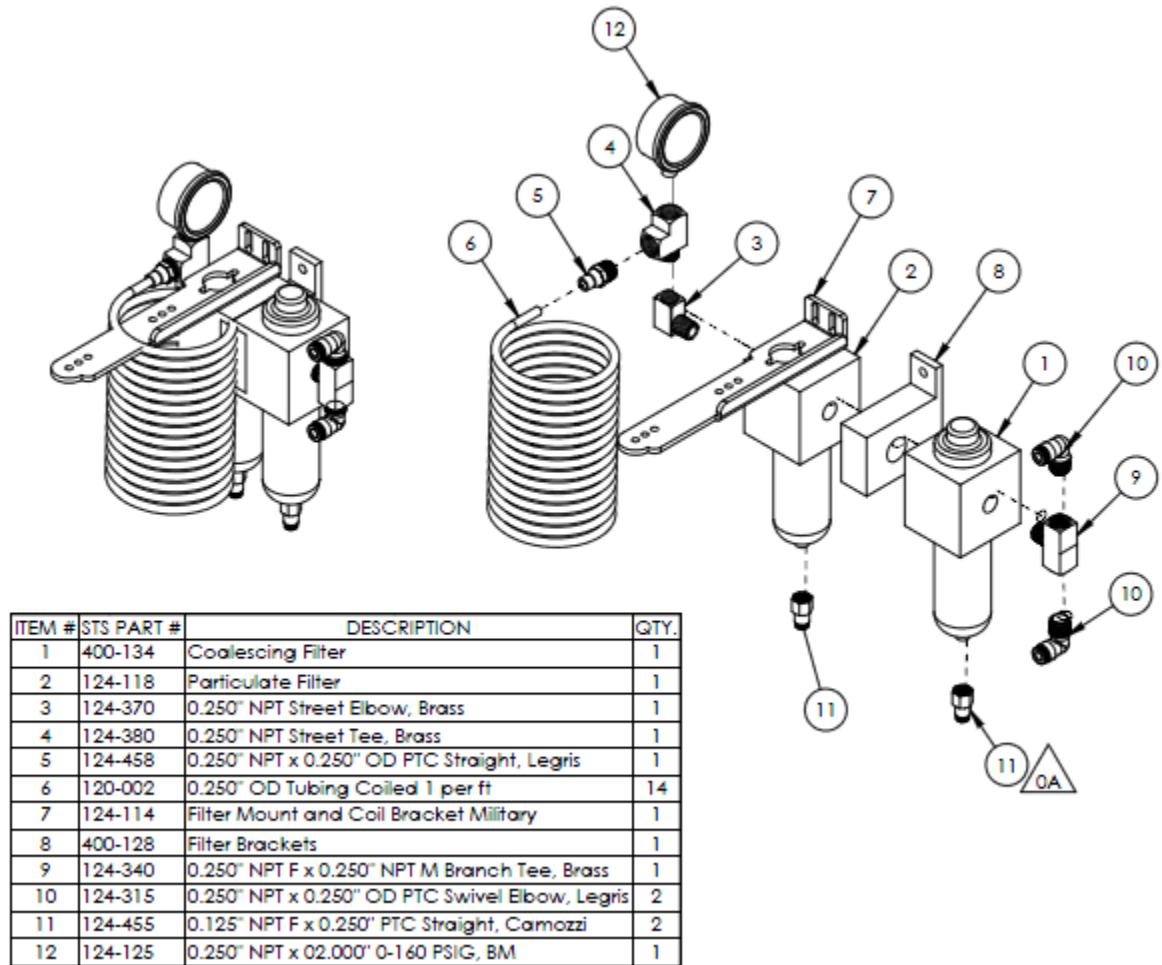


Figure 20: 800-550-M, Filter Assembly

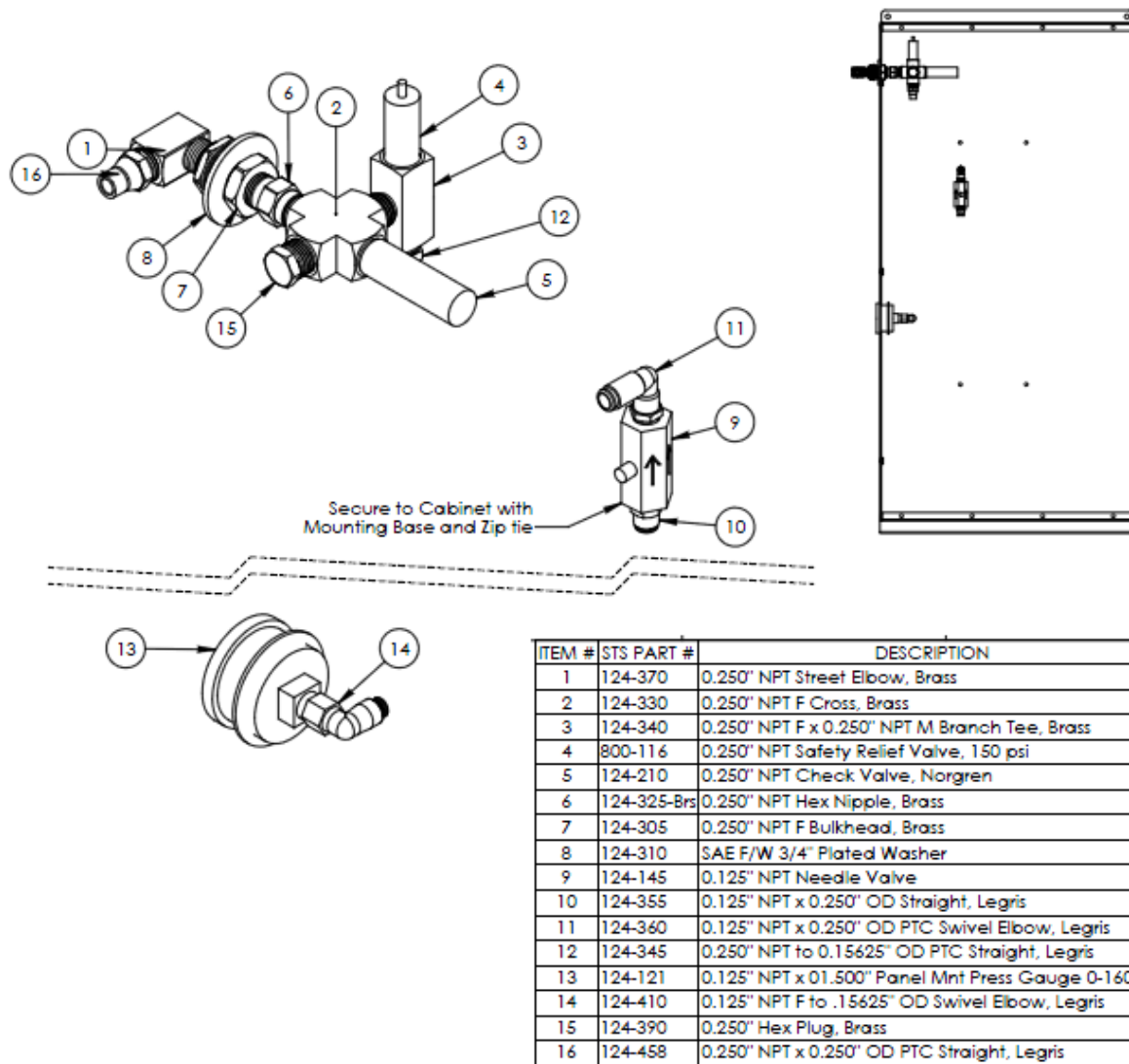
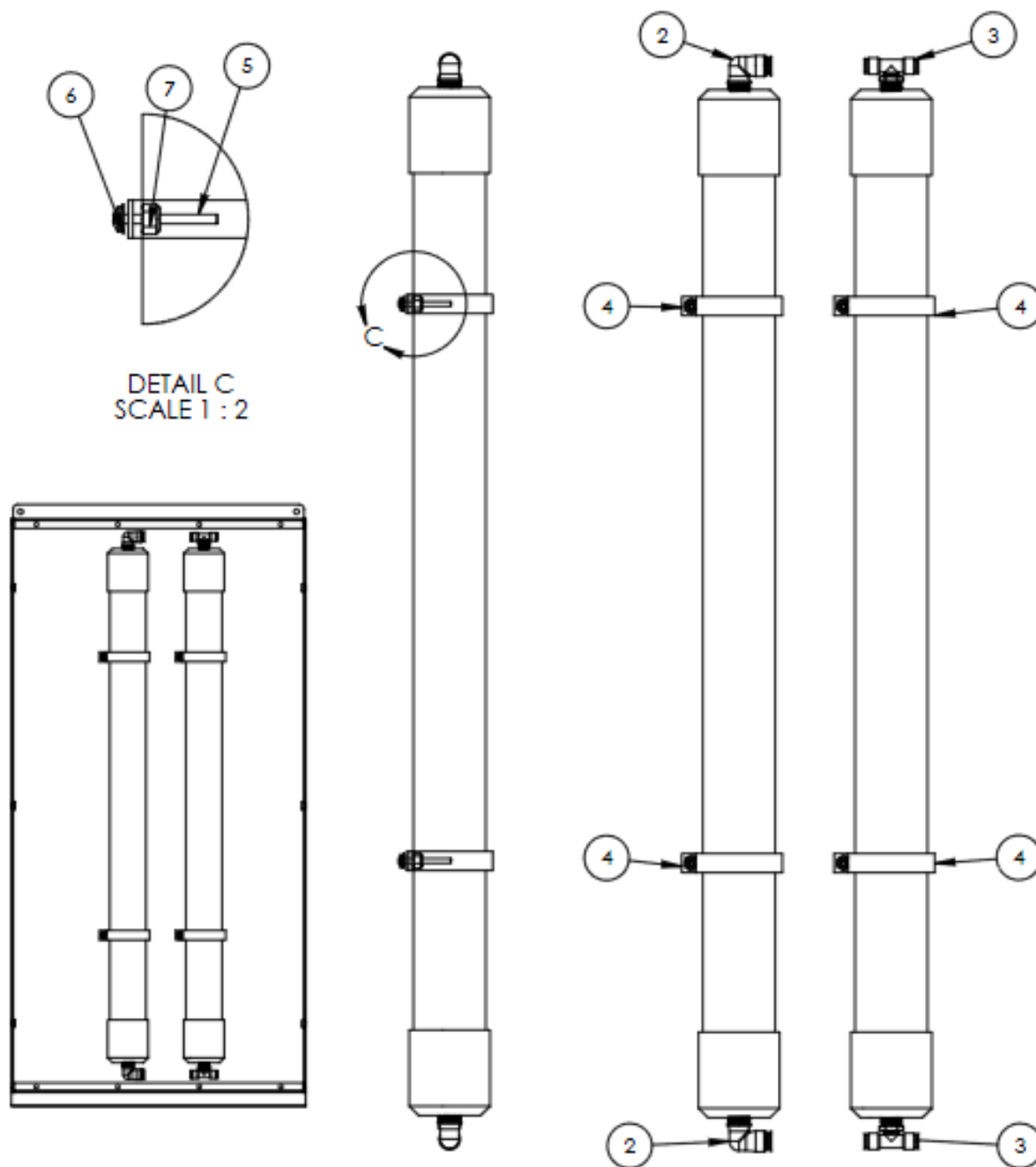


Figure 21: NM-400-04-A, Pressure Switch Assembly



ITEM #	STS PART #	DESCRIPTION	QTY.
1	124-430	BB S-100/200/400 N2 Membrane	2
2	124-435	0.250" NPT x 0.250" OD PTC Swivel Elbow, Low Profile, Camozzi	2
3	400-129	0.250" NPT to 0.250" OD PTL- Low Profile, Camozzi	2
4	124-117	Membrane Loop Strap	4
5	002-371	8-32 x 01.250" PPHMS	4
6	002-219	#8 Flat Washer	4
7	002-373	8-32 Nylock Nut	4

Figure 22: NM-400-05, Membrane Assembly

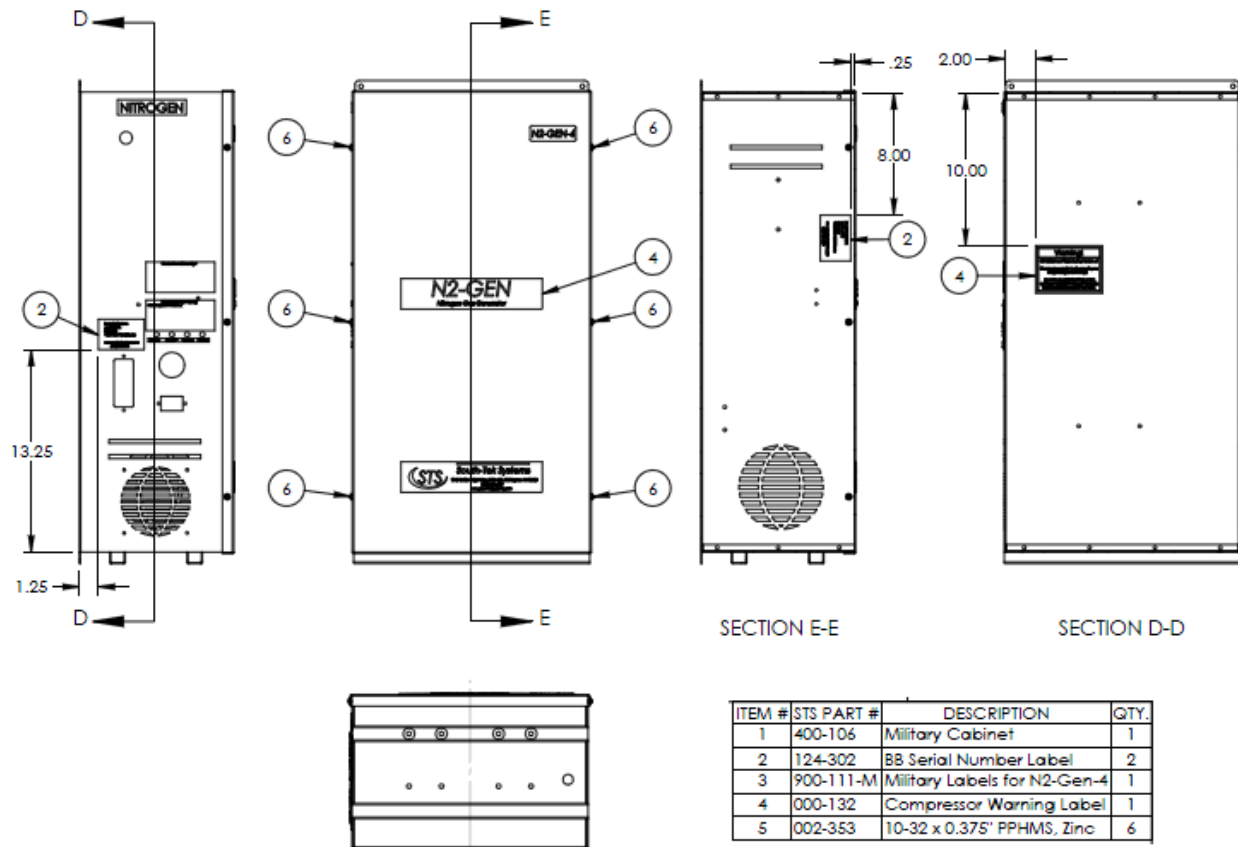


Figure 23: NM-400-06-A, Cabinet Assembly



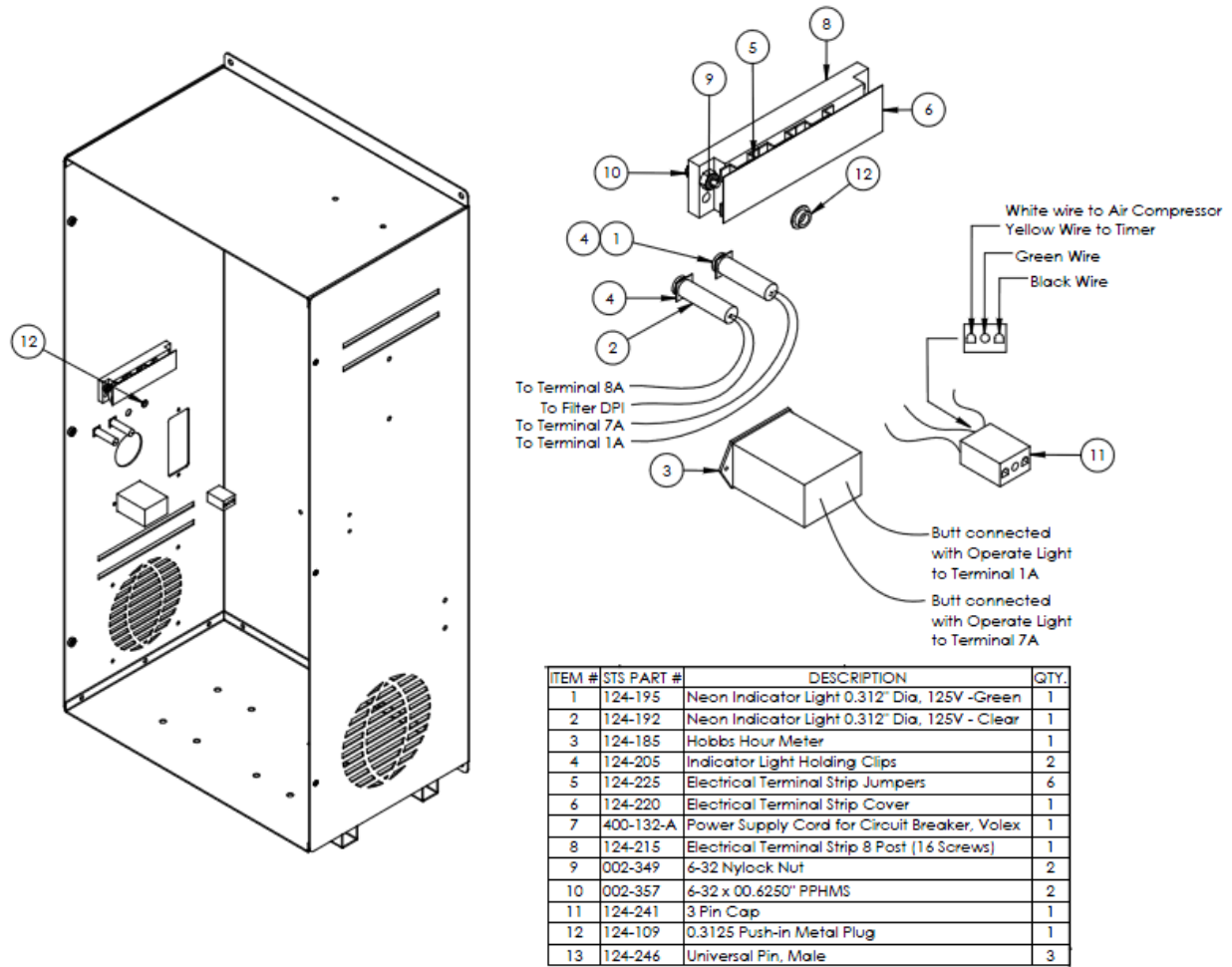


Figure 24: NM-400-07-A, Electrical Assembly

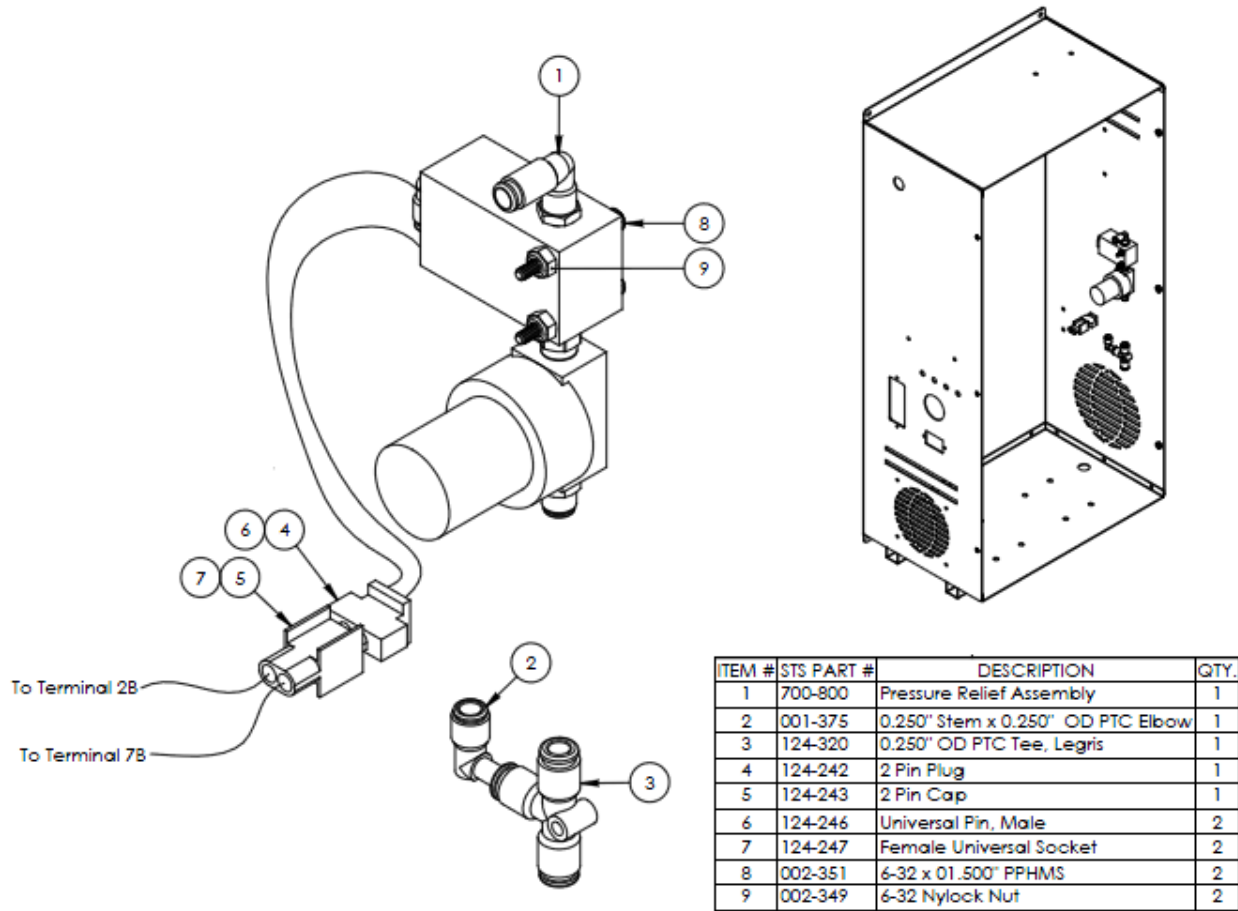


Figure 25: NM-400-08-01, Pressure Relief Assembly

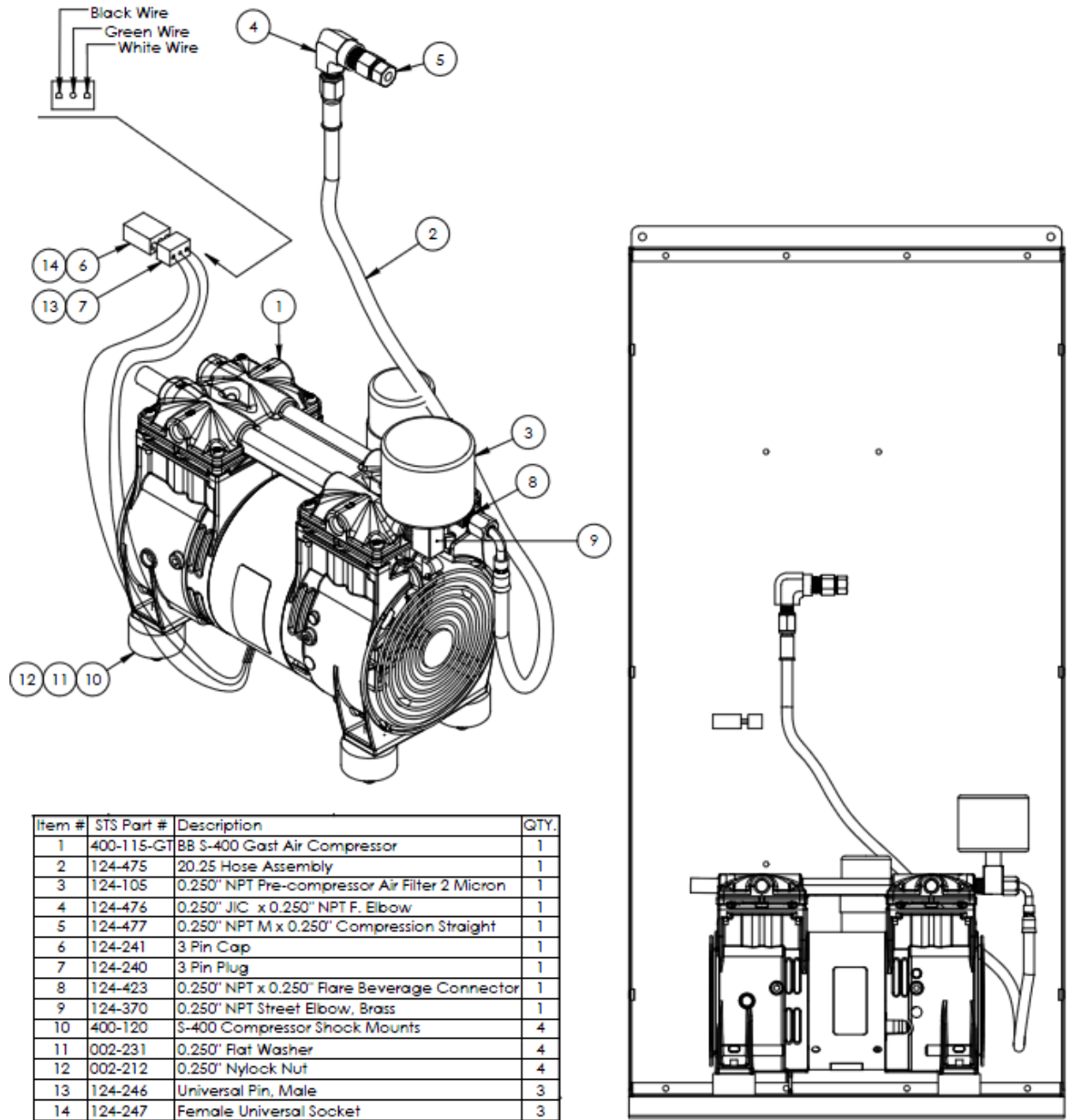


Figure 26: NM-400-09-A, Air Compressor Assembly

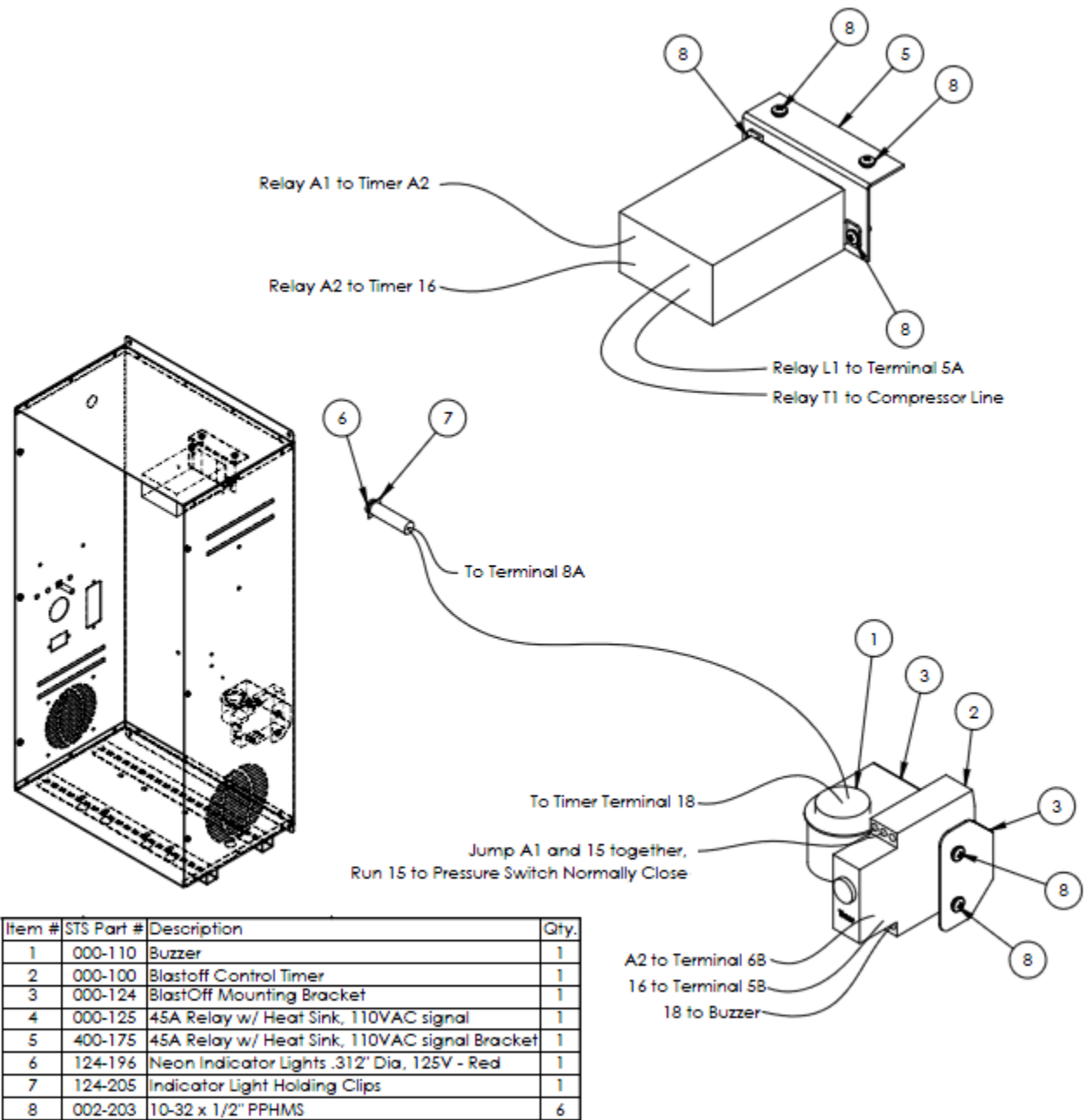


Figure 27: A00-NM-00-01, BlastOff™ Assembly

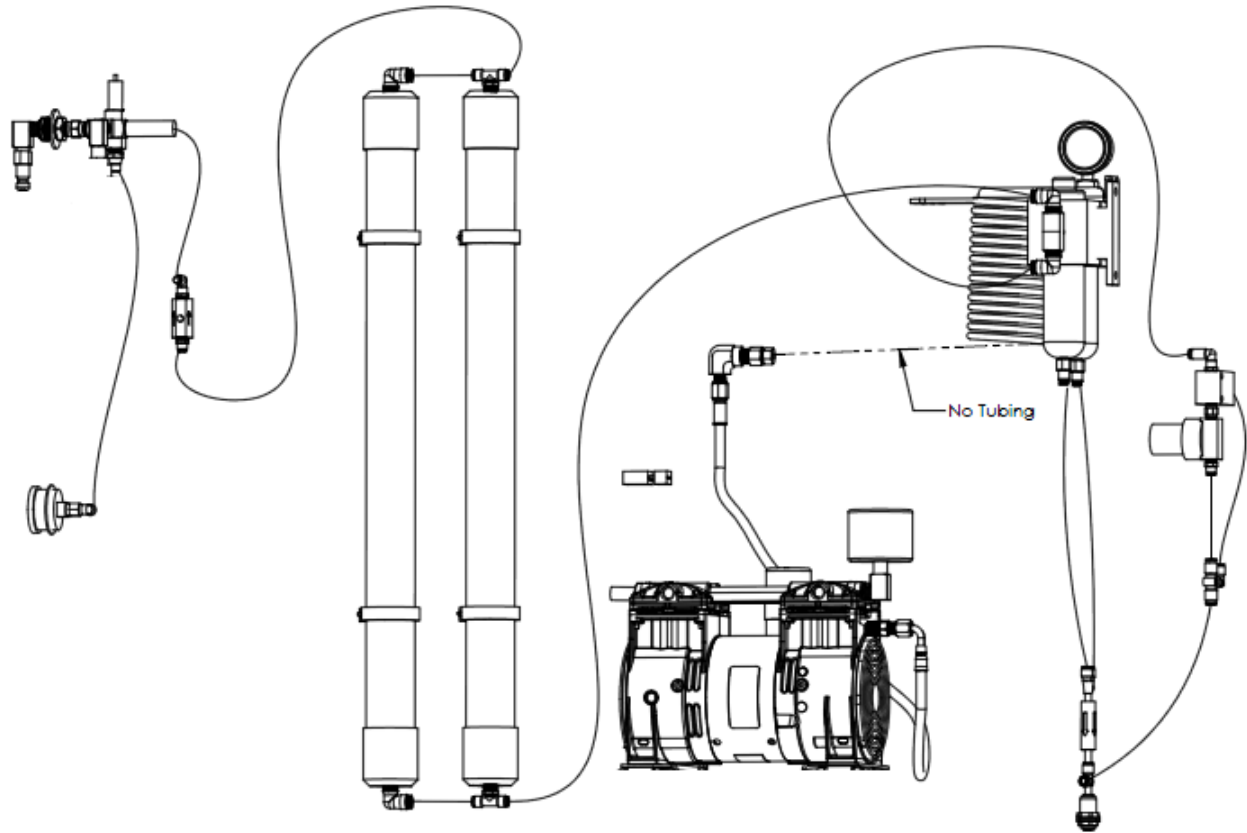


Figure 28: N2-Gen™ 4 Nitrogen Generator Plumbing

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