N2BLAST®

FPS-900

Fire Protection Systems - O&M Manual

Revision 1

Date 02/2018

UL 508A

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South-Tek Systems

VERSION HISTORY:

Revision #	Implemented By	Revision Date	Approved By	Approval Date	Reason
1	C. Cothran	02/2018	J. Nguyen	02/2018	Initial release

Notes: _____

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1 INTRODUCTION

1.1 GENERAL PURPOSE

This manual provides proper installation and use of South-Tek Systems ***N2-BLAST®*** FPS-900. South-Tek Systems is not responsible for damages when using this in manners not approved by South-Tek Systems. The user(s) of this document should confer any questions with a qualified South-Tek Systems representative on its commissioning and correct use.

Please contact South-Tek Systems with any question or concerns at:

South-Tek Systems, LLC
2940 Orville Wright Way Ste 600
Wilmington, NC, 28405

Tel: (888) 526-6284

Email: Info@southteksystems.com
http://www.southteksystems.com/

This document is based upon the R&D performed by the South-Tek Systems Engineering Team.

WARNING: Read the manual in its entirety before installing or using the equipment.

1.2 ABOUT SOUTH-TEK SYSTEMS

South-Tek Systems, founded in 1997, is a nitrogen generator manufacturer designing nitrogen generators for worldwide distribution. Why not produce nitrogen at your facility for a fraction of the cost versus endlessly paying for bulk liquid or delivered gas cylinders? We make a full line of nitrogen generator including:

- The N2 GEN® Series Nitrogen generators for use in various industrial and lab applications. 50,000 SCFH unit.
- The BeerBlast™ - Mixed Gas Dispense System Increases profits, removes over or under-carbonation, and improves all-around taste and draft beer quality.
- The ***N2-BLAST®*** - Corrosion Inhibiting System effectively arrests electrochemical, galvanic and micro-biologically influenced corrosion (MIC) by introducing 99.9995% pure nitrogen into dry and pre-action sprinkler systems.

With purities ranging from 95% up to 99.9995%, we provide nitrogen generators that are sure to suit your needs. For more information about our complete nitrogen generator capabilities, please visit our website at www.southteksystems.com.

1.3 AUDIENCE

This manual is for Installer/Supervisory Staff. Read the entire manual before operating. Please contact the local provider for any operation and maintenance questions before contacting the manufacturer.

1.4 IMPORTANT INFORMATION

All personnel (and their supervisors) installing, operating, and maintaining the ***N_2-BLAST®*** must read and fully understand this manual prior to installing, operating or performing maintenance.

The ***N_2-BLAST®*** produces nitrogen (N_2) at a low flow rate, which quickly dissipates into the air. N_2 gas is not poisonous, but do not directly inhale, since high concentrations can cause asphyxiation. Install the unit in a well-ventilated room that is not sealed off from normal living space air changes.

All personnel involved with the installation, operations, and maintenance of the ***N_2-BLAST®*** must follow safe working practices, including OHSA and local health/safety code regulations.

1.5 LIMITS OF LIABILITY

Buyer's exclusive remedy for all claims shall be for damages, and seller's total liability for any and all losses and damages arising out of any cause whatsoever including, without limitation, defects in or defective performance of the system, (whether such claim be based on contract, negligence, strictly liability, other tort or otherwise) shall in no event exceed the purchase price of the system in respect of which such cause arises or, at seller's option, the repair or replacement of such; and in no event shall seller be liable for incidental, consequential or punitive damages resulting from any such cause.

Seller shall not be liable for, and Buyer assumes all liability for, the suitability and the results of using nitrogen by itself or in any manufacturing or other industrial process or procedure, all personal injury and property damages connected with the possession, operation, maintenance, other use or resale of the System. Transportation charges for the return of the System shall not be paid unless authorized in advance by Seller.

NOTE: Any MODIFICATIONS made by the customer, without the written consent of South-Tek Systems, will void the product's warranty.

1.6 SERVICE RETURN POLICY

Follow these procedures to return the system when performing site repairs is not possible:

- The owner must get a Return Material Authorization number, which references the model and serial, from South-Tek Systems. South-Tek Systems will not accept any items for service or credit without written authorization from South-Tek Systems.
- Return all items within the original packaging material if possible. Package all items for safe return to South-Tek Systems. South-Tek Systems will not be responsible for damages, which occur in transit. Damages occurred from failing to adhere to these procedures will be the customer's responsibility. Contact South-Tek Systems for a return shipping address.
- Shipping charges must be prepaid on all returns.

2 SAFETY GUIDELINES

The following section outlines the basic safety considerations about installation and operation of the ***N2-BLAST®*** FPS-900. For other equipment used with the nitrogen generator, such as air compressors, and dryers, refer to the manufacturer's safety guidelines.

2.1 GENERAL

Using the ***N2-BLAST®*** FPS-900 correctly is important for safety and trouble-free operation. Wrong use can cause damages to the system or can lead to incorrect gas supply. The nitrogen generator produces nitrogen at a low flow rate, which quickly dissipates into the air. Nitrogen is not poisonous, but do not directly inhaled, since high concentrations, can cause asphyxiation.

Install the unit in a well-ventilated room, unsealed off from normal living space air changes.

Warning: Install the unit in a within a well-ventilated room, one that is not sealed off from normal living space air changes.

Read carefully and act accordingly before installing, operating, or repairing the unit:

- The operator must use safe working practices and rules when running the nitrogen generator.
- The owner is responsible for always keeping the unit in safe working conditions.
- Always use approved parts when performing maintenance and repairs. Make sure that replacement parts meet or exceed the original parts' specification.
- Only competent individuals, train and authorized, can install, operate, perform maintenance and repair.
- Isolate incoming and outgoing pressures to the generator, and depressurize the service or repair section before performing any mechanical work, including changing the filters. Vent the nitrogen generator's exhaust gas outside or to a large, well-ventilated room to avoid suffocation due to lack of oxygen.
- Wear safety glasses if the cabinet door is open while the machine is running.
- Use ear protection when the equipment is running.

WARNING: Components may experience pressure during operation. Pressurized gases are dangerous and may cause injury or death if handled or used inappropriately.

- **Never allow pressurized gas to exhaust from an unsecured hose. An unsecured hose may present a whipping action, which can cause serious injury. If a hose burst during use, immediately close all isolation valves if safe and turn off the unit.**
- **Never disable or bypass any safety relief valves.**
- **Always disconnect the nitrogen generator the supply power prior to performing electrical work.**

NOTE: Always following local and site safety regulations in conjunction with this manual. Correct use of the nitrogen generator is important for personal safety. Incorrect safety practices can cause damage to the individual and equipment.

Follow safe working practices, OSHA, and local health and safety regulation when installing and maintaining the ***N_2-BLAST®*** FPS-900.

WARNING: Read the manual before installing and operating the nitrogen generator to prevent accidents and damages.

- **Contact the supplier for questions not answered in this manual.**
- **Only use the FPS-900 for its designed purpose.**
- **Only qualified service-engineers may work on installation, maintenance and repairs.**
- **Unqualified people should not work on the equipment.**
- **Do not tamper or experiment with the equipment or exceed the technical specifications.**

3 RECEIVING, UNPACKING, AND STORAGE INSTRUCTIONS

3.1 UNPACKING AND PREPARATION

The ***N_2-BLAST®*** FPS-900 will arrive in a cardboard box. Open the box carefully, and identify and verify all parts listed on the packing list are present and undamaged. South-Tek Systems (STS) is not responsible for damages that occur during shipping and handling of the ***N_2-BLAST®***. Document any visual damages and report them to the responsible shipping company, and then, contact STS at (888) 526-6284 to assess the damages.

Until Installation:

- Store the ***N_2-BLAST®*** in a dry and climate controlled (60-80° F) room.
- Always keep ***N_2-BLAST®*** in an upright position / or, preferably, in the box as shipped.
- Read entire manual and make all connections (per instructions) before connecting power.
- Keep all gas lines dry so moisture does not enter generator upon hookup.
- Never place/stack objects on top of the ***N_2-BLAST®***.

Remove the nitrogen generator from the cardboard box by carefully lifting the unit out and setting it on the flat surface. Prepare the wall mounting bracket before moving it to the final location.

Note: Remove the 4 painted bolts below the cabinet to free up the compressor's vibration isolators.

Carefully, break down the cardboard box and store in a safe location. Reuse the cardboard box if returning for factory service.

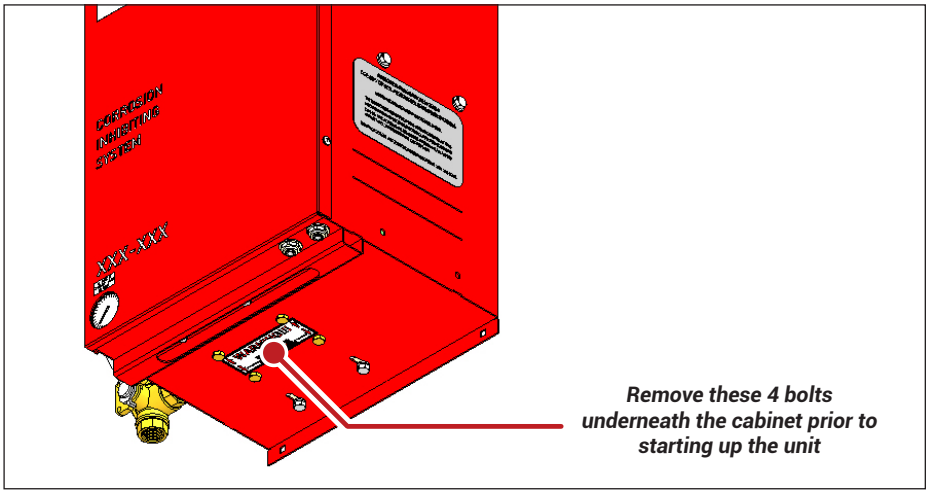


Figure 1: Remove shipping bolts

4 SITE AND UTILITY REQUIREMENTS

4.1 AIR SUPPLY

The ***N_2-BLAST®*** FPS-900 includes a built-in air compressor to supply gas to the nitrogen generator. It is not for performing quick fills. Please install a separate suitable air compressor for other needs.

4.2 ADDITIONAL PIPING AND HOSINGS

Sourcing and installing additional plumbing, supplied by other manufacturers, must meet all of the unit's flow, pressure, and temperature requirements. If piping length between any equipment is greater than 50 feet, consult with a piping contractor for proper line size.

4.3 ELECTRICAL REQUIREMENTS

The ***N_2-BLAST®*** FPS-900 requires 120VAC / 50-60hz / 1ph and draws < 8A. A 240VAC option is also available. It has a built-in 20A over-current protection device and comes with a standard 3-prong US power cord for the electrical connection (unless otherwise specified). It comes with UL 508A ICP certification, and the electrical schematics are available upon request.

4.4 SITE SPECIFICATIONS

Unless designed otherwise, install in a nonhazardous indoor location with temperatures between 40-100°F (4°- 38°C). For ease of maintenance, troubleshooting, and minimizing pressure drop, install the equipment in the same area. Leave enough space around the generator and other equipment for routine maintenance.

5 PRODUCT INSTALLATION

5.1 MOUNTING

Mount the ***N2-BLAST®*** FPS-900 on a weight-bearing wall that can support the system's weight as specified in this manual. Always install the FPS-900 indoors and upright away from accidental damage by water or moving equipment. Install it in an environment between 40° and 105° F. Leave at least 6" on the left side of the cabinet for ventilation. 36" of space is recommended for access to the control panel, tube/pipe connections, and the front cover. There is a ¼" OD tube drain port on the bottom right of the cabinet. Plumb this to the nearest site drain.

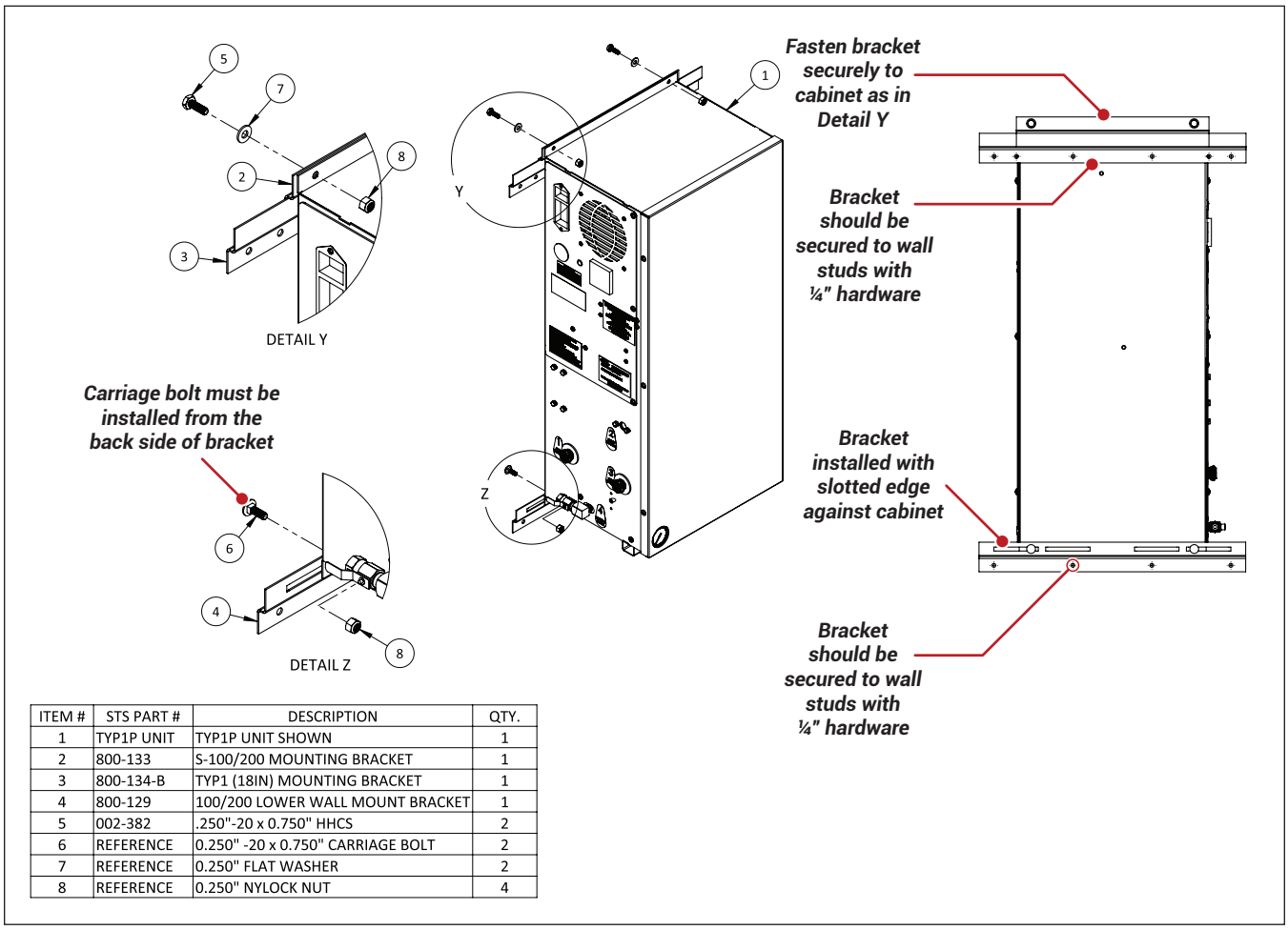
There is a wall mounting bracket kit (STS Part #: A05-TYP1-RD), that allows you to mount the system on a standard 16" wall stud width. Otherwise, use the mounting holes on the cabinet for mounting the FPS-900 securely and level, directly to wall or to existing rack.

Wall Mounting Bracket Kit Procedures:

1. All ***N2-BLAST®*** FPS-900 mounting holes and wall mounting bracket holes are for ¼" screws/anchors (not provided).
2. All brackets must be installed in orientation as shown to work correctly.
3. Install the cabinet-mounting brackets on the ***N2-BLAST®*** FPS-900 first with the provided bolts/lock nuts.
4. Optional: If wall studs are not 16" center to center, reinforce the mounting area with a ½" or thicker plywood prior to hanging the system. Use best general practices to ensure that the wood and system will secure the system at its full weight. Remember that it will be vibrating with the compressor running.
5. Locate the 18" wall-mounting bracket without the rectangular cutouts. Install it leveled on the wall at the desired height. Mount the bracket directly to the wall studs using the 16" center to center holes. See the figure below and use the appropriate hardware (not included) for the type of wall material (wood, sheet metal, masonry, etc.). Once securing the 18" wall bracket, hang the fastened 12" bracket on the cabinet's top flange (from step 3) to the 18" wall bracket. Reference the figure below to see how to orient the angles to the back of the cabinet in comparison to the wall.
    a. Use the supplied carriage bolts and nuts to attach the 18" lower bracket to the bottom flange, but do not tighten the nuts yet. After installing the system, position the unit using the rectangular slots. Once the final location is determined, tighten the nuts.

Cont.

6. Secure the bottom flange to the wall. Failure to do so could cause damage or bodily injury.



ITEM #	STS PART #	DESCRIPTION	QTY.
1	TYP1P UNIT	TYP1P UNIT SHOWN	1
2	800-133	S-100/200 MOUNTING BRACKET	1
3	800-134-B	TYP1 (18IN) MOUNTING BRACKET	1
4	800-129	100/200 LOWER WALL MOUNT BRACKET	1
5	002-382	.250"-20 x 0.750" HHCS	2
6	REFERENCE	0.250" -20 x 0.750" CARRIAGE BOLT	2
7	REFERENCE	0.250" FLAT WASHER	2
8	REFERENCE	0.250" NYLOCK NUT	4

Figure 2: Wall mounting instructions

Note: Install in a location where 4" minimum clearance is available on the sides. Leave 36" minimum on the front side for maintenance access. Do not install near a heat source or where steam or water is present. Improper installation may result in bodily harm or damage to the system, as well as voiding the system's warranty.

Warning: Secure the *N₂-BLAST®* FPS-900 to the wall at the top and bottom flanges. Failure to do so could cause damage or bodily injury.

5.2 INSTALLATION ARRANGEMENT

See below for basic setup. Refer to the general arrangement drawing for detail instructions included with the installation package.

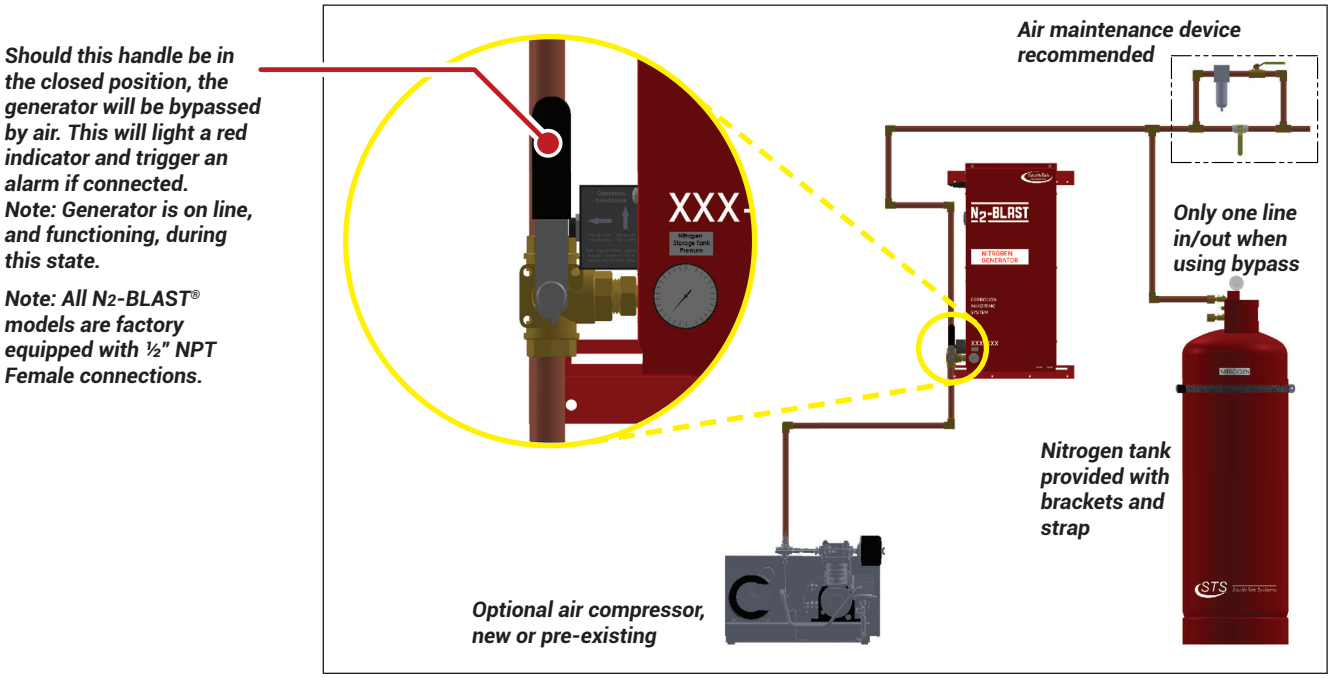
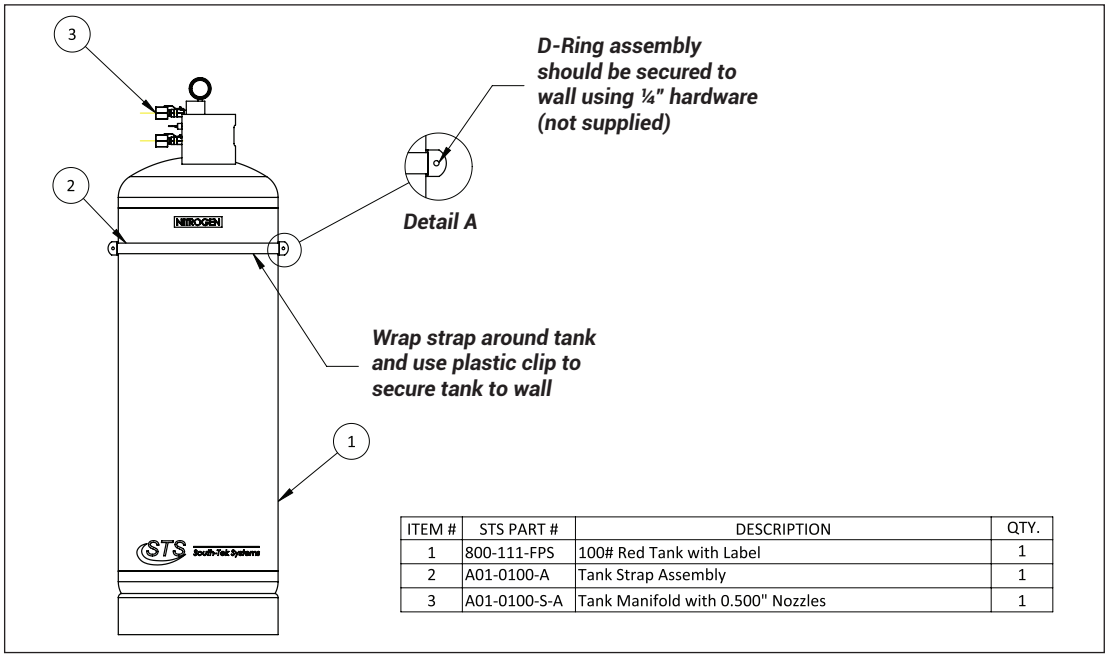


Figure 3: Nitrogen Generator Wall Mount Installation Setup

Note: Nitrogen generator dimensions: 12.75" W x 12" D x 27" H (Cabinet dimensions)
Nitrogen tank dimensions: 15" Diameter x 50" H (Recommend 55" for manifold clearance)

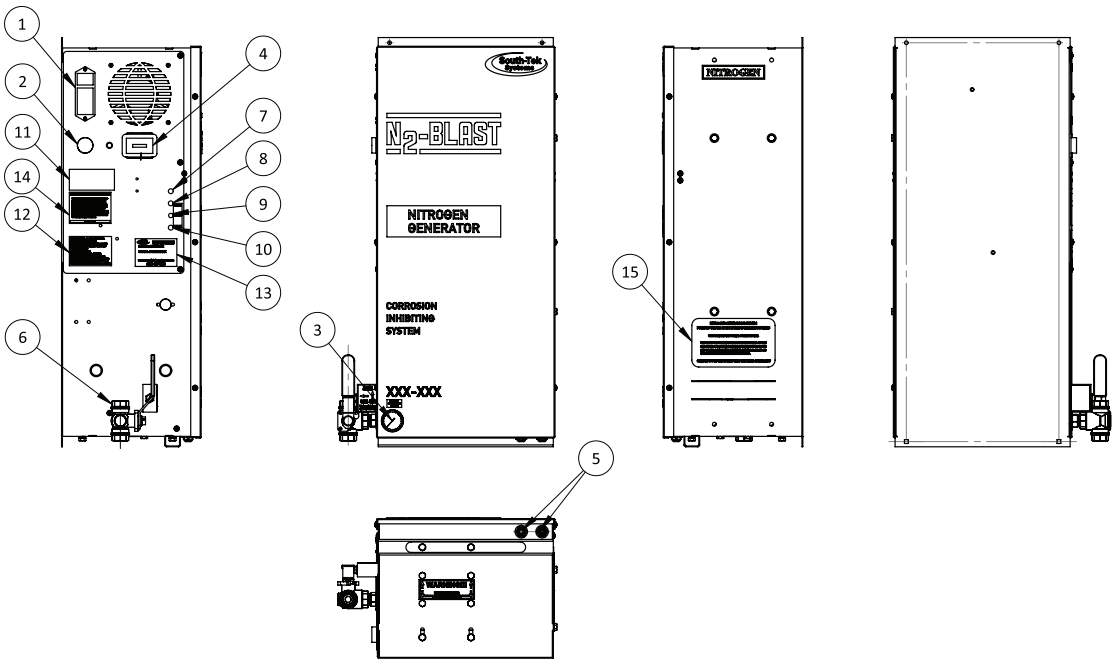


ITEM #	STS PART #	DESCRIPTION	QTY.
1	800-111-FPS	100# Red Tank with Label	1
2	A01-0100-A	Tank Strap Assembly	1
3	A01-0100-S-A	Tank Manifold with 0.500" Nozzles	1

Figure 4: FPS nitrogen tank details and connections

5.3 PANEL LAYOUT AND GAS CONNECTIONS

See figures below for panel layout and gas connections. Double-check all connection locations before turning on the system or opening any valves. Note: All ***N2-BLAST®*** models are factory equipped with ½" NPT Female connections.



EXTERNAL COMPONENTS		
ITEM #	DESCRIPTION	SERVICE
1	POWER ENTRY MODULE, 15 AMP	SYSTEM MAIN POWER SUPPLY
2	AUDIBLE ELECTRIC BUZZER	AUDIBLE ALARM
3	0-100 PSIG PRESSURE GAUGE	N2-STORAGE TANK PRESSURE GAUGE
4	TIMER	TOTAL RUN HOURS
5	1/4" OD THROUGH-WALL COUPLING	1/4" OD DRAIN
6	1/2" NPT 3 WAY BALL VALVE	N2 OUT
7	RED LIGHT	BYPASS INDICATOR
8	AMBER LIGHT	STANDBY INDICATOR
9	WHITE LIGHT	BLASTOFF INDICATOR
10	GREEN LIGHT	UNIT OPERATING INDICATOR
11	UL 508A OPEN INDUSTRIAL CONTROL PANEL CERTIFICATION LABEL	
12	ELECTRICAL PANEL AND TERMINAL BLOCK TORQUE SPECIFICATIONS LABEL	
13	PRODUCT SERIAL NUMBER LABEL	
14	BUZZER AND DISPLAY SCREEN WARNING INFORMATION LABEL	
15	NITROGEN GENERATOR INFORMATION LABEL	

(FRP-007) FILTER REPLACEMENT KIT		
STS PART #	**DESCRIPTION**	**QTY**
900-135	PRE COMPRESSOR FILTER	1
900-137-MB	PARTICULATE FILTER ELEMENT	1
900-140-MB	COALESCING FILTER ELEMENT	1
120-020-E	REPLACEMENT O-RINGS	2

DESIGN DATA	
N2 OUT PRESSURE	UP TO 70 PSI
ELECTRICAL OPTION 1	110V / 60Hz / 1PHASE, 4.3 AMPS
ELECTRICAL OPTION 2	240V / 50Hz / 1PHASE, 5 AMPS
NOISE LEVEL (dbA)	<60
WEIGHT	84 LBS

Figure 5: FPS-900 external components and connections

6 SYSTEM DESIGN

6.1 KEY FEATURES

The ***N_2-BLAST®*** FPS-900 key features include the following:

- Air Compressor
- Safety Relief Valves
- Air Filters
- Automatic Pressure Cut-in/Cut-out
- Control Timer
- N_2 Tank
- Pressure Swing Adsorption Beds
- STS Patented BlastOff®

6.1.1 Air Compressor

An oil-less internal air compressor has an engineered dampening system reducing vibration and noise throughout the cabinet. The air compressor has a pre-filter to catch small particulates that can cause damage. The recommended replacement for the pre-filter is 1000 run hours or 1-year, whichever comes first. Dirtier environments may need more frequent changes. Consult with the supplier for a different filter maintenance schedule if installing in a dirty environment.

6.1.2 Air Filters

The generator has an air inlet pre-filters and two filters between the compressed air and O_2 separation beds - the particulate and coalescing. The 5-micron particulate filter catches the bulk particles, and the 0.1 micron coalescing catches the remaining smaller particles. Both filters feature an auto-drain that drains any water buildup within the filter housing. These drain lines are on the cabinet's bottom right side. Connect these drain lines to a safe location.

6.1.3 Control Timer

An integrated control timer within the cabinet features smart timing to maximize the generator's performance. It controls the valve timing and sequencing to move compressed gas throughout the system. It also has a smart feature to automatically switch between different "modes" based on the current run stages (see Chapter 7: System Operation for more about the unit's functionality).

6.1.4 Safety Relief Valves

The installed ASME safety relief valves add additional safety to protect component failures.

6.1.5 Nitrogen Tank

A nitrogen tank inside the cabinet comes with ball valves, safety relief, and a gauge. The outlet gas connects to an external manual ball valve for easy plug and play connection.

Cont.

6.1.6 Automatic Cut-In and Cut-Out

The generator starts and stops based on a pressure switch. Do not adjust the factory preset cut-in and out pressure without first consulting with South-Tek Systems.

6.1.7 Patented BlastOff® – Leak Detection System

The "BlastOff® Leak Detection" is a patented feature which sends an alarm if it detects a possible gas leak. The alarm signal can be an audible, visual, and dry contact connection to the "Building Management System's (BMS)". Power cycle the unit to reset the alarm, but avoid doing this multiple times, without finding the cause, as it will shorten the generator's life.

6.2 SPECIFICATIONS

N_2-BLAST® FPS-900 – Specifications	
Nitrogen Purity	98.5+%
Installation	Wall Mounted (Optional floor mounting kit available)
Display	Hours/Power on/Operating
N_2 Storage Pressure	60-70 PSIG
Cabinet Port Connections	1/2" NPT Female
Electrical	110-220V / 50-60Hz / 1Phase; 20 Amp Breaker
Compressor	Integral / Oil-Free
Ambient Temperature	40° to 100°F
Noise Level (dbA)	< 90 dbA
Size	12.75" W x 12" D x 27" H (Cabinet Dimensions)
Weight	84 lbs

Table 1: FPS-900 Nitrogen Generator Specifications

7 SYSTEM OPERATION

7.1 GENERAL

The nitrogen generator uses valve sequencing to produce nitrogen. The design meets specifications of a fire protection system. Consult with South-Tek System for written approval before performing any field changes or customization. Unauthorized changes void all warranties and may cause damages or malfunctions to the system.

This section describes the major control functions and instrumentations associated with the nitrogen generators. All programs are proprietary and password protected from the factory. Do not alter any controls or instrumentations. Changes without South-Tek Systems' written consent voids the performance specifications.

Note: This section does not include the controls for supporting equipment, such as the compressor and dryer. Consult the original manufacturer's manual for further information.

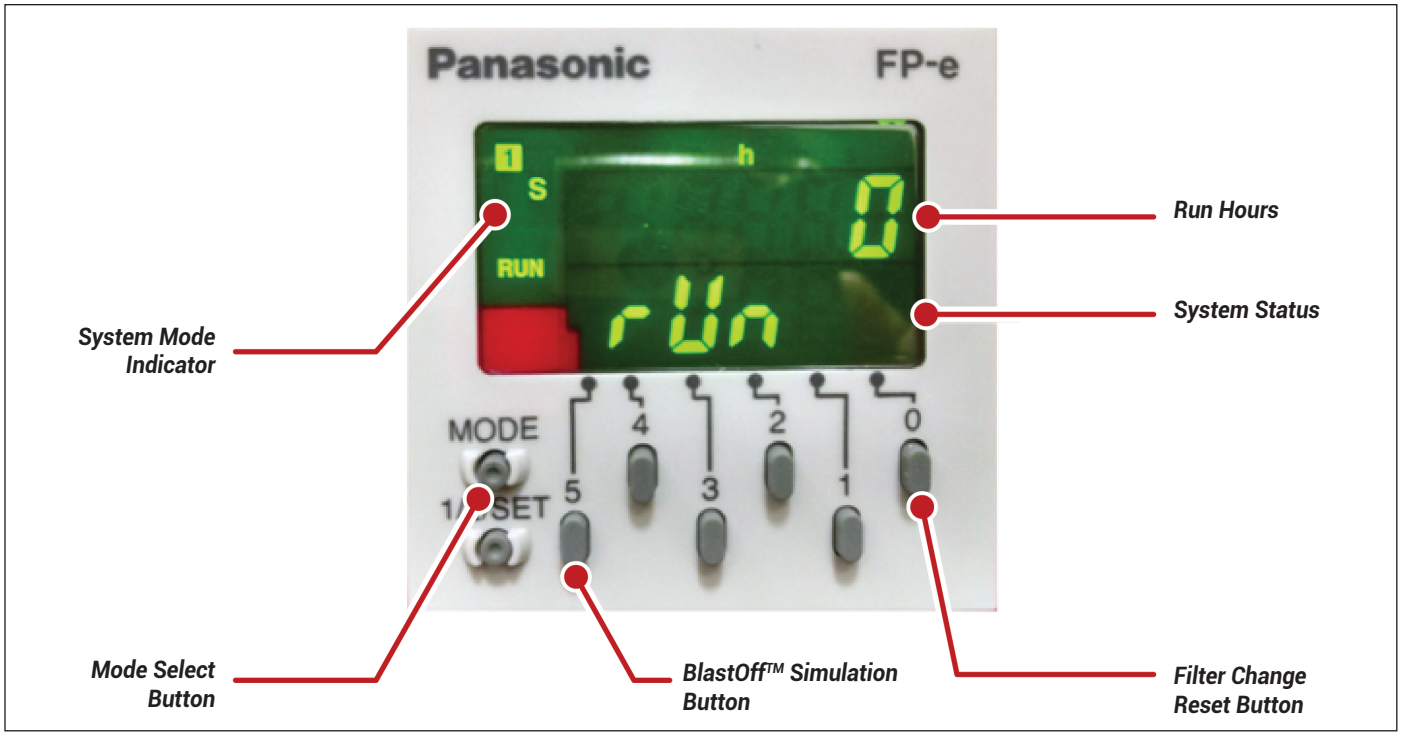


Figure 6: Controller Display

Note: Install the nitrogen generator per "Section 5: Product Installation" and perform the startup procedures in "Section 8: Startup Procedures" before performing normal operations.

7.2 NORMAL RUN/STANDBY MODE

"Run" mode is when the FPS-900 is producing nitrogen and supplies it to the storage tank. The system will automatically enter "Standby" mode when the tank is fully pressurized (65-75 psig). It will remain in "Standby" mode until the tank pressure falls 7-10 psig.

7.3 CONTROLLER MODES

To utilize the buttons on the front of the controller the unit must be in "**S**" or "**Switch**" mode and unlocked. If the system is displaying "**LOCK**" the Mode Select Button may be pressed and held to unlock the controller (repeat this step if a system lockout is desired). To change to Switch Mode, press the Mode Select Button when the controller is unlocked until the System Mode Indicator displays "**S**". This mode allows access to two features:

- Blastoff® Simulation (5) – Hold the Blastoff Simulation Button for 3 seconds to activate. This will simulate the Blastoff and trip the alarm dry contact in the unit (if installed) for 2 seconds so that proper functioning can be confirmed.
- Filter Change Reset (0) – When a new FRP (Filter Replacement Kit) is installed, the 1000-hour filter change time must be reset. After replacing the filter elements, press and hold the Filter Change Reset Button for 7 seconds. An audible beep will confirm that the time is reset and filter alarm will be reset.

To run the system in normal run mode:

1. Connect the correct power supply to the system.
2. Open the nitrogen generator's 3-way outlet ball valve (lower left side of the cabinet) to nitrogen out position.
3. On the nitrogen tank, open the gas inlet and outlet ball valve.
4. Push the On/Off toggle button on the upper left control panel to the "On" position (up) and the system will automatically turn on and start filling nitrogen to the storage tank.

7.4 STOPPING THE SYSTEM

To stop the system:

1. Close off the gas outlet valve on the nitrogen storage tank.
2. System will automatically stop once it reaches the cut-out pressure of approximately 65-75 PSIG.
3. In the case of an emergency shut off, push the On/Off toggle button on the upper left control panel to the "Off" position. The unit will shut down immediately.

7.5 BYPASS ALARM

During the 30-minute fire protection piping system fill test, the operator can put the system in manual bypass mode by turning the handle on the left side of the cabinet. With the handle in the "Bypass Mode", the bypass alarm triggers an audible and visual alarm light on the left side of the cabinet. A dry contact is also available for external notification such as the BMS (Building Monitoring System). The alarm will turn off once the hand is back to normal run position.

7.6 BLASTOFF® ALARM (Optional)

The system activates a BlastOff® Alarm when it detects potential leaks or nitrogen being overdrawn. The operation screen will appear and with a status notification in the upper right corner flashing "BlastOff". Press the red bell icon to temporarily silence the buzzer. Inspect and test the system for leaks and component failures. Contact South-Tek System or your local installer for further troubleshooting.

8 START-UP PROCEDURES

8.1 START-UP PROCEDURES

Use caution when working with pressurized gas, and install all fittings and gas lines correctly. Always leak check (see Checking for Leaks section) every line before using the system.

Note: Line leaks will cause the N2-BLAST® FPS-900 to run excessively, shortening its life and possibly causing excessive wear on the compressor.

The system documentation package comes with an installation layout drawings. For electronic copies, please contact your local distributor. Review and complete the installation the installation layout drawings. Ensure that you follow the correct installation drawing per your system's design. In some cases, a nitrogen bypass system for pre-filling is required to meet code.

If the system requirements are more complex, please consult the sales representative or equipment installer for more detailed instructions.

Note: The N2-BLAST® comes with ½" NPT Female inlet and outlet fittings. Use Teflon tape or similar on all fittings to prevent leakage. When connecting an external air compressor, complete the startup procedures per manufacturer before starting the nitrogen generator.

The following are standard installation instructions:

1. Complete the installation procedures in section 5.
2. Check the power connection is correct.
3. Turn the 3-way ball valve on the generator's left side to the "Nitrogen Out" position.
4. Open the inlet ball valve on the nitrogen storage tank.
5. Close the outlet ball valve on the nitrogen storage tank.
6. Push the power button on the left side to the "On" position (up). The air compressor will Also, check the wiring and power supply to the generator.
7. Once the system is running, close the tank's inlet ball valve and monitor the pressure gauge on the front lower left side of the generator. The pressure gauge will increase to 65-70 PSIG within 2 minutes or less.
    a. Once it reaches 65-70 PSIG, the system will enter "Standby" mode and automatically shuts off the internal air compressor. Check the "Standby light" on the control panel.
    b. Once in standby, note the pressure reading on the front panel. Monitor the pressure

Cont.

for the next minute for any loss in pressure. If there is a pressure drop, check for leaks around connection fittings, otherwise proceed to the next step.

8. Open the tank inlet ball valve and the system will turn on and fill nitrogen to the storage tank.
9. Completely fill the storage tank and allow the nitrogen generator to go into standby mode.
10. Once in standby mode, monitor the tank pressure gauge for 5 minutes and ensure no leaks are in the tank. Open the tank outlet ball valve after verifying that there are no significant leaks.

8.2 CHECKING FOR LEAKS

The Blast Off® provides early warning alarms for potential leakage. With a suspected leak, first, listen for leaks and spray soapy water around the connections. When a leak occurs, isolate the area and relieve pressure before working on it. Fix the leaking part and return the system back to operation. If no leak is heard (or bubbles visually seen with the soapy water), turn off the unit and try isolating sections to see if there's a pressure loss. Consult with your installer if you cannot find the leakage area.

8.2.1 To determine if the leak is between the Generator and the Nitrogen Tank:

1. With the unit powered on, close off both ball valves on the nitrogen tank. Note the storage tank pressure.
2. Allow the system to continue running. Within 10 minutes or less, the system should reach the "Standby" mode.
3. Wait 5 minutes and if the system remains in "standby" mode, then the leak is after the nitrogen generator. Read the nitrogen tank pressure and if the pressure has changed, the leak is within the storage tank fittings. If the nitrogen tank pressure did not change, check the pipelines in the building for leaks.
4. Returning to "run" mode indicates the leak is within the cabinet. Check lines back to the tank.

9 MAINTENANCE

WARNING: Whenever doing any maintenance on the system, make sure to power down the system. Remove the front cover to gain access to the filters.

Note: Annual Filter replacement kit part # FRP-007

9.1 AIR PRE-FILTER

The integrated air compressor, of the ***N2-BLAST®*** FPS-900, has an air intake pre-filter. It prevents particles from entering the compressor housing and damaging internal components. Replace this filter once per year or every 1000 hours, whichever comes first. To do so, remove the pre-compressor filter cap by twisting it clockwise. Remove the old element and use a clean dry cloth to clean the filter bowl before installing the new element.

9.2 AIR FILTER REPLACEMENT

The particulate and coalescing filters, after the air compressor, are designed to capture particulate and moisture prior to entering the rest of the system. These filters need to be replaced once per year or every 1000 hours, whichever comes first.

Follow these instructions to replace filters:

1. Turn off the unit and open the front cabinet door.
2. Locate the air filters on the bracket in the middle of the cabinet. See ***Figure 7***
3. Make sure the filters are completely depressurized by checking the pressure gauge.
4. Remove two filter bowls. Do so by turning them counter clockwise.
5. After removing the filter bowls, rinse debris out of the bowls with warm water.
6. Dry the bowls with a clean dry cloth and replace old O-rings with the ones with the kits.
7. Change the filter elements:
   a. Particulate Element - Pull the plastic element housing out of the filter bowl. Twist off the black plastic cover and pull off the particulate element. Install the new element in the reverse order..

Cont.

b. Coalescing Element - Twist the coalescing element counter-clockwise. Install the new element in the reverse order.

8. After replacing all elements and O-rings and cleaning the bowls, install the bowls back to their corresponding filter housings.

After replacing the filters, put the front cover back on and power on the unit. Once powered up, the air compressor will turn on and start producing nitrogen. Check the filter bowls for leaks.

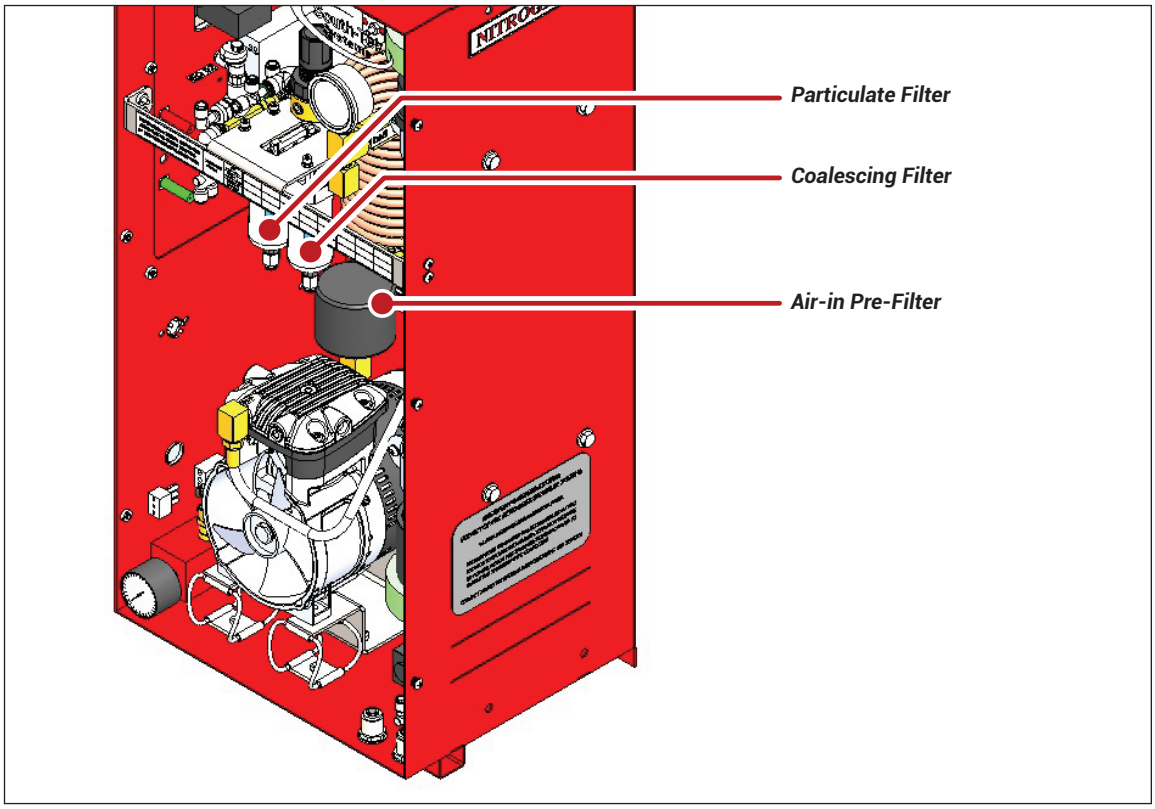


Figure 7: FPS-900 Filter locations

10 KEY CONTACTS

Contact your local provider/installer for any questions about 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.

If they can not be reached, contact the manufacturer at:

South-Tek Systems, LLC.

tel (888) 526-6284 fax (910) 332-4178

Email: info@southteksystems.com

11 FAQS

11.1 POWER ISSUES

If the ***N_2-BLAST®*** FPS-900 does not have power, the production and storage of nitrogen will become apparent once the storage pressure drops.

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

11.2 PRESSURE ISSUES

The ***N_2-BLAST®*** FPS-900 will produce and store Nitrogen (N_2) at 70 (+/-3) psig. Once the storage tank reaches 70 (+/-3) psig, the system will go into Standby Mode. When the pressure drops by about 7-10 psig, the system should go into Run Mode and begin to refill the storage. If you are out specifications, we need to determine where the issue is. Contact the manufacturer or factory trained technician.

Nitrogen Pressure Check:

The pressure gauge on the front of the cabinet should be between 60 and 70 psig. If the pressure is low, check the following:

- Check the power.
- Find out if fire protection system is being tested.
- Check leaks throughout system.

Refer to section **8.2 Checking for Leaks.**

11.3 GAS LEAKS

As with any gas system, only use a spray bottle on non-electrical equipment to find leaks. Fix or replace leaking fittings or old hose. Push-to-connect fittings will show bubbles and typically have up to a 5ccm acceptable leakage rate. Contact your local provider/installer for help.

APPENDIX A: WARRANTY

The ***N2-BLAST®*** FPS-900 systems are warrantied against any defects in workmanship and materials for 12 months (or 1000 hours) from the date of 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. If the system is received with defects 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 or at a ***N2-BLAST®*** FPS-900 Authorized Service Center. Only factory trained and authorized personnel is covered under warranty. 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. 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 (888) 526-6284 fax (910) 332-4178
Email: info@southteksystems.com

Or write to:

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