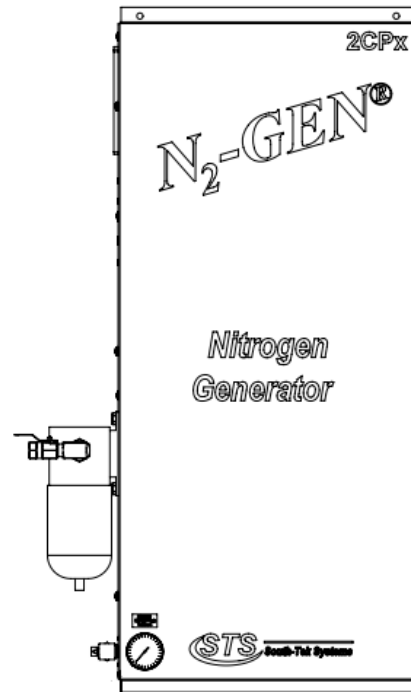


**N2-GEN™ 2CPI(X) &
N2-GEN™ 4CPI(X)
O&M MANUAL**

Revision 1
Date 12/15/14



VERSION HISTORY

Revision #	Implemented By	Revision Date	Approved By	Approval Date	Reason
0	K. Mellott	8/14/17	J. Nguyen	8/16/17	Initial Release
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-----Notes Page-----

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1 INTRODUCTION

1.1 PURPOSE

South-Tek Systems welcomes you to the exciting world of nitrogen generators! We provide leading edge technologies in Pressure Swing Adsorption (PSA) nitrogen generators that produce nitrogen on demand. The technology can reduce nitrogen gas costs by as much as 90% versus purchasing from a gas supplier. We develop PSA systems worldwide that are utilized in industrial, lab, restaurants, fire-protection, educational, and military facilities. We pride ourselves in our abilities to communicate and engineer nitrogen generation systems to meet specific requirements of our customers!

At South-Tek Systems, we engineer simple, turn-key generators to provide cost-effective means of producing nitrogen gas. The technology is based on years of continuous R&D on how to most effectively utilize carbon molecular sieve (CMS) to filter the nitrogen from oxygen in compressed air. We use the highest quality CMS provided to the market which goes through extensive in-house quality testing procedures. Our design principles require clean dry compressed air alternating through two adsorption pressure vessels packed with CMS. We have engineered our nitrogen generator with minimum maintenance and care requirements to provide our customers with years of confidence and reliability.

The nitrogen generator comes individually tuned, tested, and certified to meet the customer's specified nitrogen flow rate and purity using our Data Acquisition System (DAS). The certification and data analysis provides the necessary criteria to replicate a successful field installation. The systems are turn-key with detailed installation drawings, instruction manual, and phone/text support. We have field service, commissioning, and other engineering services available to provide support any way we can.

**The installer and the user should read this manual in its entirety.

1.2 AUDIENCE

This manual is intended for Installer/Equipment Operator/Supervisory Staff and should be read in its entirety prior to operation. Please contact South-Tek Systems for any operation and maintenance questions.

1.3 ABOUT SOUTH-TEK SYSTEMS

South-Tek Systems, founded in 1997, is a nitrogen generator manufacturer, designing and producing nitrogen generating systems for worldwide distribution.

Why not generate nitrogen at your own facility for a fraction of the cost versus endlessly paying for bulk liquid or delivered gas cylinders? We manufacture a full line of nitrogen generating equipment including:

- [The N2 GEN® Series](#) with generators ranging from the compact 1 LPM table top lab generator on up to the 50,000 SCFH unit
- [The BeerBlast™ Mixed Gas Dispense System](#) for restaurants and bars seeking the perfect draft pour
- [The TireBlast™ Nitrogen Tire Filling System](#) for automotive and tire shops seeking optimal tire pressure maintenance and fuel economy
- [The N2-Blast™ Corrosion Inhibiting Systems](#) for Fire Protection Industries seeking solutions to preventing corrosion within the piping system

With purities ranging from 95% up to 99.999%, we provide nitrogen generators that are sure to suit your needs. For more information about our complete nitrogen generator capabilities, please visit www.southteksystems.com.

1.4 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 in 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 design specifications.

1.5 SERVICE RETURN POLICY

If the system cannot be repaired at the site, and it is necessary to return a system for service, the following procedures must be followed:

- The owner must obtain a written **Return Material Authorization** number, which references the model and serial number, from South-Tek Systems. No items will be accepted for service or credit unless prior written authorization has been issued by South-Tek Systems.
- All items are to be returned with the original packaging material if possible. Make sure that all items are packaged for safe return to South-Tek Systems. South-Tek Systems will not be responsible for damages, which occur in transit. Any damage that occurs to the system because of failure to adhere to this procedure will be the sole responsibility of the customer. Contact South-Tek Systems for a return shipping address.
- Shipping charges must be prepaid on all returns.

2 SAFETY GUIDELINES

2.1 GENERAL SAFETY PRACTICES

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

- Operator must use safe working practices and rules when operating the nitrogen generator.
- The owner is responsible for keeping the unit in safe operating condition at all times.
- Always use approved parts when performing maintenance and repairs. Make sure that replacement parts meet or exceed the original parts' specification.
- Only authorized, trained, and competent individuals can perform installation, operation, maintenance, and repair.
- Completely isolate incoming and outgoing pressures to the generator, and make sure to depressurize the service/repair section prior to performing any mechanical work, including changing the filters. The nitrogen generator's exhaust gas and/or any venting gas must be vented to the outside or to a large, well-ventilated room to avoid suffocation due to lack of oxygen.
- Safety glasses should be worn if the cabinet door is open while the machine is operating.
- Use ear protection when the equipment is operating.

WARNING: Pressurized gases are contained within the generator, the receiver, and product tanks. 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 exhibit a whipping action, which can cause serious injury. If a hose should burst during use, immediately close all isolation valves if it is safe to do so and power down the unit.
- Never disable or bypass any safety relief valves.
- Always make certain that the nitrogen generator is disconnected from the supply power prior to performing any electrical work.

NOTE: Always following local and site safety regulations in conjunction with this manual.

Correct use of the nitrogen generator is important for your personal safety. Incorrect safety practices can cause damage to yourself and/or to the equipment.

2.2 SAFETY INFORMATION

Nitrogen is not poisonous but it should not be directly inhaled, since in high concentrations, it 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 nitrogen generator must follow safe working practices, OSHA, and local health/safety code regulations during the installation, operation, and maintenance of the unit.

Warnings:

- This manual shall be read in its entirety before installing and operating the nitrogen generator to prevent accidents and damage.
- Contact South-Tek Systems if there is a problem that you cannot solve with this manual.
- Use the nitrogen generator in accordance with its designed purpose.
- Qualified personnel are permitted to perform installation, maintenance, and repairs. Work performed by unqualified persons shall result in a voided warranty.
- Do not tamper with, experiment on, or exceed the technical specifications of the equipment.

3 SYSTEM DESCRIPTION

3.1 KEY FEATURES

The BeerBlast™ 14KPH / N2-GEN™ 14KPH key features include the following:

- Air Compressor
- Air Filters
- Programmable Logic Controller (PLC)
- Pressure Swing Adsorption Beds
- Safety Relief Valves
- N₂ Storage Tank
- Automatic Pressure Cut-in/Cut-out
- STS Patented Blast-Off (optional)
- Pressure Transducer (2CPx & 4CPx only)

Air Compressor:

The air compressor is designed internally to the cabinet and features engineered 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 be required to be changed out more frequently. Consult your supplier for a different filter maintenance schedule if you are installing the generator in dirty environment.

Air Filters:

2CPi & 4CPi

The generator has two filters after the air compressor: the particulate and coalescing. The Particulate has a 5-micron filter that will catch any of the larger particles. The Coalescing has a 0.1-micron filter that will catch the remaining smaller particles. Both filters feature and autodrain 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" tubing and drain to a safe location.

2CPx & 4CPx

The nitrogen generator includes (3) filters, a 5-micron particulate, 0.01-micron coalescing, and a 0.003-micron activated carbon absorber filter for the incoming compressed air source. The particulate filter element meets or exceeds ISO Class 3 for maximum particle size and concentration of solid contaminants. The coalescing filter element exceeds ISO Class 1 for maximum particle size and concentration of solid contaminants, and exceed Class 1 on maximum oil content (ppm/wt). The absorber filter element exceeds ISO Class 1 on maximum oil content (ppm/wt).

Most nitrogen generators will include a built-in air pressure regulator to regulate incoming air. Depending on the incoming air pressure to the regulator, it may need to be re-adjusted at site. If the unit is not receiving the designed incoming air pressure, check issues with the air compressor and/or restrictions in the pipe line to the nitrogen generator. If the issue cannot be resolved, please contact South-Tek Systems for further assistance.

Programmable Logic Controller (PLC):

There is an integrated PLC mounted on the control panel. It features smart and efficient coding to maximize the performance of the generator. It controls the timing and sequencing of the valves to effectively move compressed gas throughout the system. It also has a smart feature to automatically go into different "modes" based on the current run stages. It comes with a visual screen that will display run hours, run modes, and alarms.

Pressure Swing Adsorption Beds:

Every unit is equipped with a pair of pressurized vessels containing carbon molecular sieve. These vessels are referred to as "Adsorption Beds or Sieve Beds". They each contain a safety relief valve and pressure gauge. Larger adsorption beds (16" diameter and larger) will also contain manual ball valves to relieve the pressure from the beds. Beds over 10" in diameter will come certified ASME. Please contact South-Tek systems if ASME is required on smaller beds or if others certification(s) is required.

Safety Relief Valves:

Safety Relief Valves have been placed throughout the system for maximum safety. They are designed and put in place to minimize failure of other components. They all come with an ASME stamp.

N₂ Storage Tank:

On the 4CP models, N₂ Storage Tank is housed inside the cabinet with manual ball valves and gauge. It is plumbed to an external manual ball valve so that the end-user will not have to do any plumbing within the cabinet. On 2CP model's lines must be run to and from the storage tank in accordance with general arrangement drawings.

Automatic Cut-In/Out:

The generator comes with a built-in pressure switch that is tied into the PLC. This will provide a low voltage signal back to the PLC to put the system in a "Standby Mode" when the tank is full of Nitrogen.

Patented Blast-Off Detection (optional):

The Blast-Off Leak Detection will provide the end-user with an alarm when it detects characteristics of a leak somewhere on the system. It will trigger an audible alarm, display it on the screen, and the end-user can tie into the dry contact so that the alarm can be relayed back to the Building Management System (BMS).

3.2 SPECIFICATIONS (N₂-GEN™ 2CPI)

N ₂ -GEN™ 2CPI – Specifications	
Nitrogen Purity	95%-99.999% (Factory set per customer spec)
Installation	Wall Mounted
Display	Run Hours / Run Status / Alarm Status
N ₂ Storage Pressure	60-70 PSIG
Cabinet Port Connections	1/4" NPT Female
Electrical	110-220V / 50-60Hz / 1Phase; 20 Amp Breaker
Compressor	Integral / Oil-Free
Ambient Temperature	40° to 90°F
Noise Level (dbA)	< 75 dBa
Size	12.75" W x 12" D x 27" H (Cabinet Dimensions)
Weight	Appx. 100 lbs

SPECIFICATIONS (N₂-GEN™ 2CPX)

N ₂ -GEN™ 2CPx – Specifications	
Nitrogen Purity	95%-99.999% (Factory set per customer spec)
Installation	Wall Mounted
Display	Run Hours / Run Status / Alarm Status
N ₂ Storage Pressure	60-70 PSIG
Cabinet Port Connections	1/4" NPT Female
Electrical	110-220V / 50-60Hz / 1Phase; 20 Amp Breaker
Compressor	External
Ambient Temperature	40° to 90°F
Noise Level (dbA)	< 75 dBa
Size	26" W x 18" D x 59" H (Cabinet Dimensions)
Weight	Appx. 72 lbs

3.3 SPECIFICATIONS (N₂-GEN™ 4CPi)

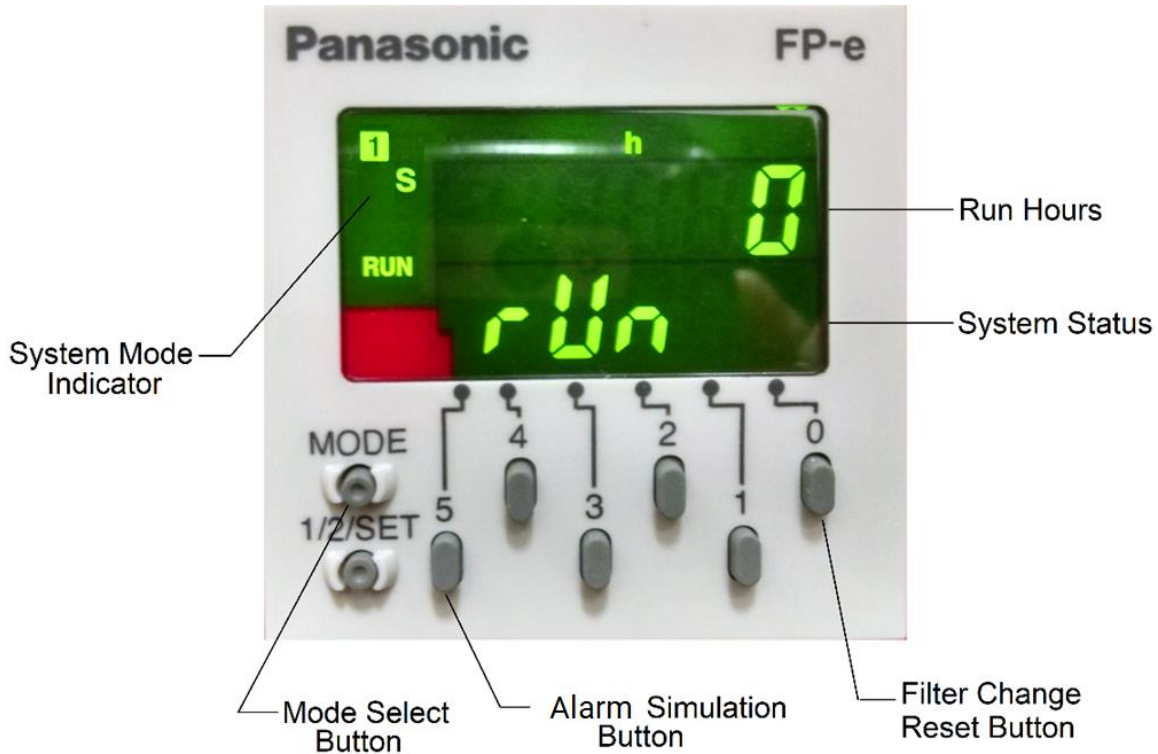
N ₂ -GEN™ 4CPi – Specifications	
Nitrogen Purity	95%-99.999% (Factory set per customer spec)
Installation	Floor standing
Display	Run Hours / Run Status / Alarm Status
N ₂ Storage Pressure	60-70 PSIG
Cabinet Port Connections	1/4" NPT Female
Electrical	110-220V / 50-60Hz / 1Phase; 20 Amp Breaker
Compressor	Integral / Oil-Free
Ambient Temperature	40° to 90°F
Noise Level (dbA)	< 75 dbA
Size	12.75" W x 12" D x 27" H (Cabinet Dimensions)
Weight	Appx. 265 lbs

3.4 SPECIFICATIONS (N₂-GEN™ 4CPx)

N ₂ -GEN™ 4CPx – Specifications	
Nitrogen Purity	95%-99.999% (Factory set per customer spec)
Installation	Floor standing
Display	Run Hours / Run Status / Alarm Status
N ₂ Storage Pressure	60-70 PSIG
Cabinet Port Connections	1/4" NPT Female
Electrical	110-220V / 50-60Hz / 1Phase; 20 Amp Breaker
Compressor	External
Ambient Temperature	40° to 90°F
Noise Level (dbA)	< 75 dbA
Size	26" W x 18" D x 59" H (Cabinet Dimensions)
Weight	Appx. 245 lbs

3.5 SYSTEM OPERATIONS

The system has two standard run modes – Run and Standby. When the power switch is turned on, the controller will automatically determine which mode to enter and will display the current run mode on the screen – “Run” in Green and “StdbY” in Yellow. The layout of the controller can be seen below.



System Status

“Run” mode is when the BeerBlast™ 14KPH / N2-GEN™ 14KPH is producing nitrogen and feed 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.

Lock and Unlock Controller

To utilize the buttons on the front of the controller the unit must be 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). Unlocking the controller allows access to two features:

- Alarm Simulation (5) – Hold the Alarm Simulation Button for 3 seconds to activate. This will simulate an alarm condition 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.

4 SITE AND UTILITY REQUIREMENTS

4.1 AIR SUPPLY (FOR CPX MODELS ONLY)

(Note: CPi models have integrated compressor with adequate air filtration.)

Air supplied to the generator must be between 40-100°F (4-38°C) (unless specially designed – refer to unit specific design details), with a water dew point of 40°F (4°C) or better. Air at temperatures higher or lower than this may cause damage not covered by warranty. Moisture content higher than specified may damage the adsorbent material and void the warranty. Other auxiliary equipment such as the air dryer, air and nitrogen pressure vessels must be sized correctly to the generator to meet full design specifications.

The nitrogen generators require 100 PSIG minimum / 125 PSIG max (unless otherwise configured) incoming air pressure, but must be set per the design incoming air pressure to meet the purity and nitrogen production specifications. Operation at higher or lower pressures will result in a nitrogen production/purity above or below design. Operation at higher pressures than 125 PSIG may damage the components within the generator. Air consumption depends on nitrogen product purity and flow rate. Please consult South-Tek Systems for specific details.

4.2 ADDITIONAL PIPING AND HOSINGS

The air supply piping components, supplied and installed by others, must be able to supply the required amount of max feed air at the required pressure measured at the generator inlet connection. It is safe to assume that the max feed air flowrate can be up to 3 times the specified average feed air flowrate (all incoming feed air flowrate references in any documentation regarding the nitrogen generator is considered average feed air unless otherwise noted). If the length of piping from the air receiver is greater than 50 feet, consult with a piping contractor for appropriate line size to still deliver the required air flow and pressure to the nitrogen generator.

4.3 ELECTRICAL REQUIREMENTS

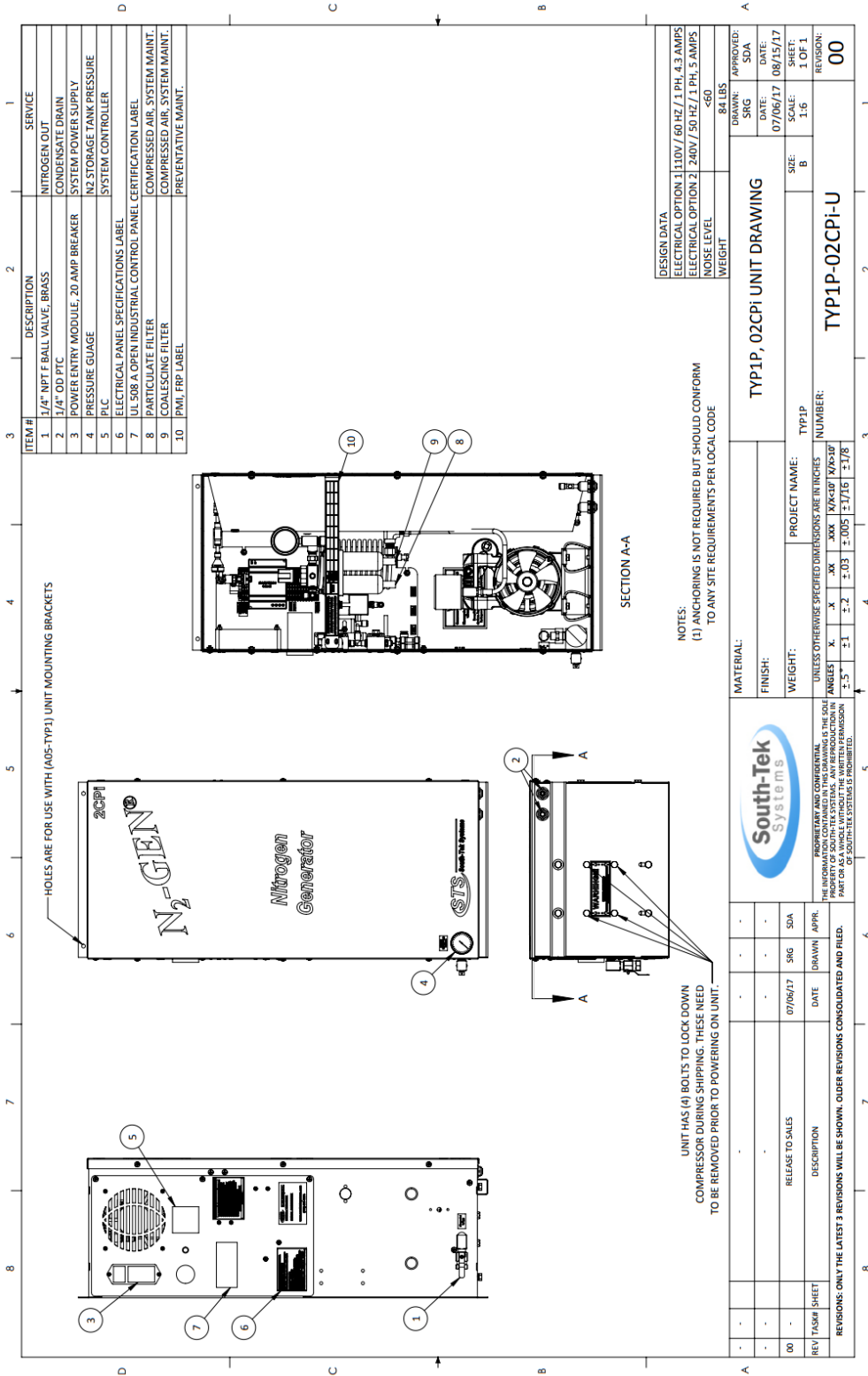
The N₂-GEN™ 2CPi(x)-Plus & N₂-GEN™ 4CPi(x)-Plus requires 110–220V / 50-60hz / 1ph connection. Amperage draw is less than 20A. They have built in 20A overcurrent protection device and a standard 3-prong US power cord is provided for the electrical connection (unless otherwise specified). The system has a UL 508A ICP approved certification. Electrical schematic available upon request.

4.4 SITE SPECIFICATIONS

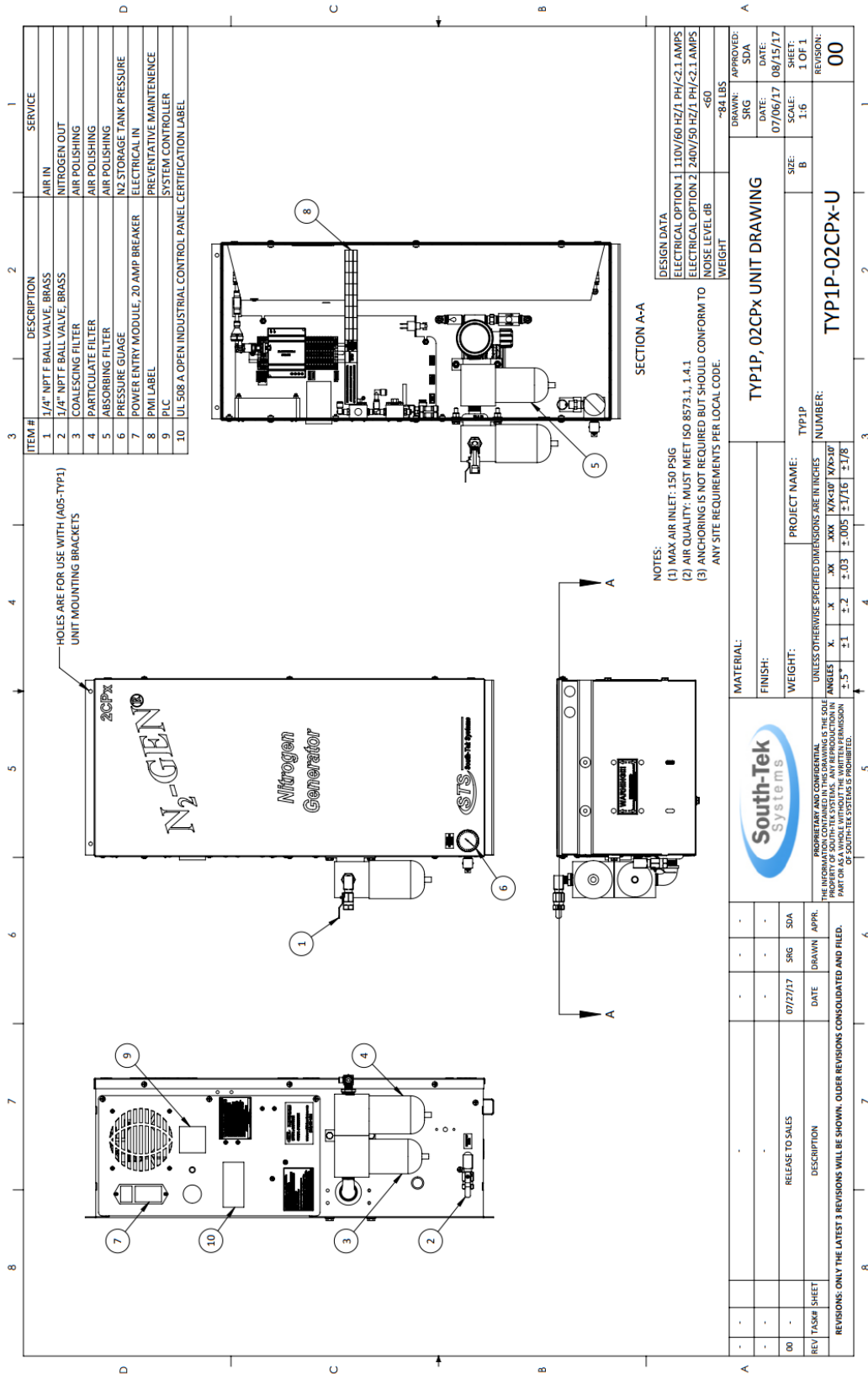
Select a non-hazardous area indoors (unless the unit was specifically design for other areas) for installation which remains above 40 °F / 4°C and below 100 °F / 38 °C. Adequate space should be provided around the generator for access and routine maintenance. Ensure that there is enough space for the air receiver and product receiver skid next to the unit.

5 SYSTEM LAYOUT

5.1 BEERBLAST™ 14KPH / N2-GEN™ 14KPH



5.2 BEERBLAST™ 14KPH / N2-GEN™ 14KPHX



5.3 BEERBLAST™ 14KPH / N2-GEN™ 14KPHI

ITEM#	DESCRIPTION	SERVICE
1	1/4" FNPT	NITROGEN OUT
2	0 - 160 PSIG PRESSURE GAUGE	INTERNAL STORAGE TANK PRESSURE
3	1/4" OOD PTC COUPLING	FILTERS DRAIN LINE CONNECTION
4	PLC	SYSTEM CONTROLLER
5	POWER ENTRY MODULE, 20 AMP	SYSTEM MAIN POWER CONNECTION
6	FAN	UNIT COOLING
7	UL 508A OPEN INDUSTRIAL PANEL	ELECTRICAL CONNECTIONS
8	UL 508A OPEN INDUSTRIAL CONTROL PANEL CERTIFICATION LABEL	ELECTRICAL CONNECTIONS
9	ELECTRICAL PANEL AND TERMINAL BLOCK TORQUE SPECIFICATIONS LABEL	ELECTRICAL CONNECTIONS
10	PRODUCT SERIAL NUMBER LABEL	
11	BUZZER AND DISPLAY SCREEN WARNING INFORMATION LABEL	
12	PARTICULATE FILTER	COMPRESSED AIR FILTRATION, SYSTEM MAINTENANCE ITEM
13	COALESCING FILTER	COMPRESSED AIR FILTRATION, SYSTEM MAINTENANCE ITEM

THERE ARE (4) SHIPPING LOCK BOLTS THAT WILL NEED TO BE REMOVED PRIOR TO UNIT OPERATION. THESE BOLTS HOLD THE COMPRESSOR IN PLACE DURING SHIPPING.

GENERAL NOTES:
 (1) ANCHORING IS NOT REQUIRED BUT SHOULD CONFORM TO ANY SITE REQUIREMENTS PER LOCAL CODE.

DESIGN DATA	
N2 OUT PRESSURE	UP TO 80 PSi
WEIGHT	140 LBS
ELECTRICAL	110-240V / 60-50Hz / 1PHASE / 7.1 AMPS
DRAWN:	SDA
DATE:	07/06/17
APPROVED:	SDA
DATE:	08/02/17
SCALE:	1:10
SHEET:	1 OF 1
REVISION:	00

MATERIAL:	FINISH:	WEIGHT:	PROJECT NAME:	TYP4P	NUMBER:
			TYP4P, 04CPi UNIT DRAWING		TYP4P-04CPi-U
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES					
ANGLES	X	X	X	X	X
±.5"	±.1	±.2	±.03	±.005	±.1/16 ±.1/8

REV	TASK	SHEET	DATE	DRAWN	APPR.
00	RELEASE TO CUSTOMER	DESCRIPTION	07/28/17	SIG	SDA

REVISIONS: ONLY THE LATEST 3 REVISIONS WILL BE SHOWN. OLDER REVISIONS CONSOLIDATED AND FILED.

6 PRODUCT INSTALLATION

6.1 UNPACKING AND PREPARATION (BEERBLAST™ 14KPH / N2-GEN™ 14KPH)

The BeerBlast™ 14KPH / N2-GEN™ 14KPH's cardboard box should be carefully opened and all parts should be inspected for damage upon receipt. 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 BeerBlast™ 14KPH / N2-GEN™ 14KPH. Any visual damages should be immediately documented and reported to the shipping company responsible. Then, contact STS at (888)526-6284 to assess the damages only after the shipping company has been notified.

Until Installation:

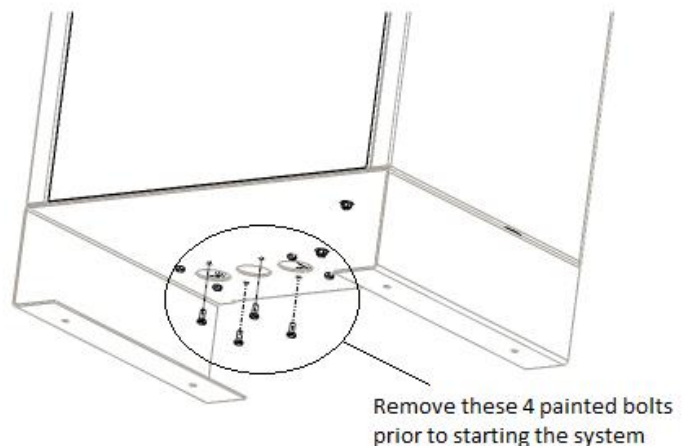
- Store the BeerBlast™ 14KPH / N2-GEN™ 14KPH in a dry and climate controlled (60-80°F) room.
- Always keep BeerBlast™ 14KPH / N2-GEN™ 14KPH in an upright position / or in box as shipped.
- Do not connect the AC power cable until this manual has been read completely and all connections are made as stated within.
- Keep all gas lines dry so moisture does not enter generator upon hookup.
- Never place/stack objects on top of the BeerBlast™ 14KPH / N2-GEN™ 14KPH.

6.2 UNPACKING AND PREPARATION (BEERBLAST™ 14KPH / N2-GEN™ 14KPH)

The BeerBlast™ 14KPH / N2-GEN™ 14KPH will arrive in a wooden crate. Open the side noted, "Open this side". Once the crate is opened, inspect all parts for any damage upon receipt. Take any pictures upon arrival of the crate, 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 BeerBlast™ 14KPH / N2-GEN™ 14KPH. Any visual damages should be immediately documented and reported to the shipping company responsible. Then, contact STS at (888)526-6284 to assess the damages only after the shipping company has been notified.

Until Installation:

- The BeerBlast™ 14KPH / N2-GEN™ 14KPH can be stored inside the wooden crate until installation. For extended storage of over a month, open and insert desiccant bags as needed to prevent moisture buildup.
- Store the BeerBlast™ 14KPH / N2-GEN™ 14KPH in a dry and climate controlled (60-80°F) room, preferably.
- Always keep the BeerBlast™ 14KPH / N2-GEN™ 14KPH in an upright position.
- 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 so you don't get moisture in the generator upon hookup.
- Never place/stack objects on top of the BeerBlast™ 14KPH / N2-GEN™ 14KPH.



To remove the BeerBlast™ 14KPH / N2-GEN™ 14KPH from the crate, unbolt the cabinet base from the crate. Carefully, lift the unit from the crate and set it on the floor. The use of a floor jack is advisable to move it to the final location. Once in place, unbolt the 4 colored bolts at the bottom of the cabinet.6

Carefully, break down the crate and store in a safe location in the case that it may need to be sent back to the factory for service.

6.3 MOUNTING (BEERBLAST™ 14KPH / N2-GEN™ 14KPH)

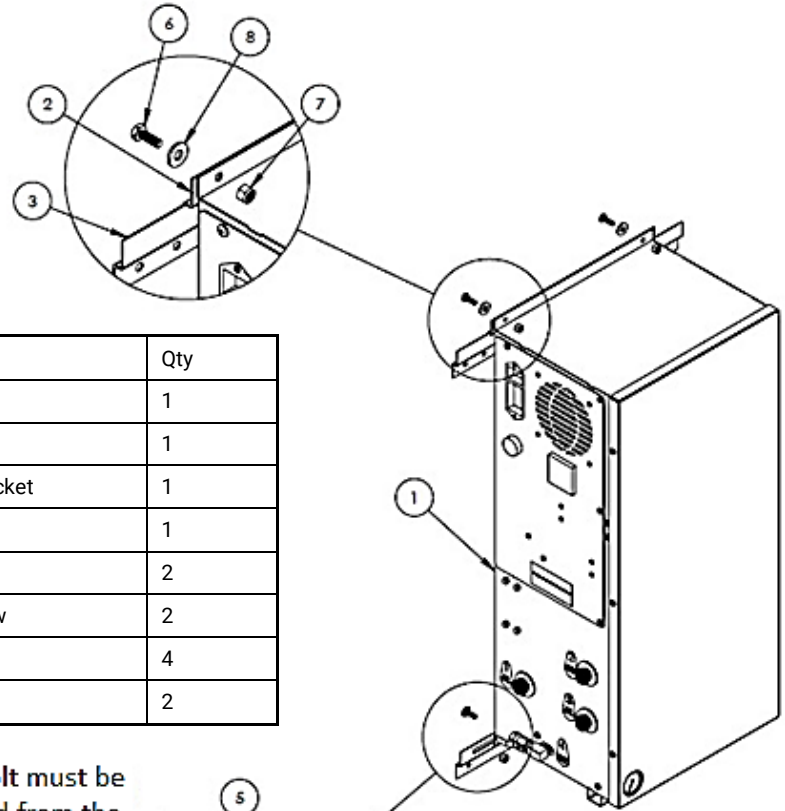
The BeerBlast™ 14KPH / N2-GEN™ 14KPH can be mounted to a wall or placed on a floor. It is recommended that the BeerBlast™ 14KPH / N2-GEN™ 14KPH be mounted to a weight-bearing wall that can support its weight as specified in Specifications (N2-GEN™ 2CPi). If placed on the floor, it should still be fastened in place so that it cannot move due to vibration or damaged from falling over. The N2-GEN™ 2CPi(x) should always be installed indoors in an environment between 40° and 90° F in the upright position where it will not be damaged by water or moving equipment. Leave at least 6" on the left side of the cabinet for ventilation, but 36" 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. This can be plumbed to the nearest site drain.

There is an optional mounting bracket kit (STS Part #: A05-TYP1-WH), 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 N2-GEN™ 2CPi(x) securely and level, directly to the wall.

Optional Mounting Bracket Kit Procedures

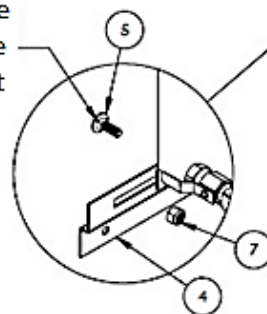
1. All N2-GEN™ 2CPi(x) mounting holes and optional mounting bracket holes are for ¼" screws/anchors.
2. All brackets must be installed in orientation as shown to work correctly.
3. Install the cabinet-mounting brackets on the N2-GEN™ 2CPi(x) first with the bolts/lock nuts that are provided.
4. Locate the wall-mounting bracket. It is an 18" bracket without the rectangular cutouts and will need to be installed on the wall at the desired height and level. The bracket has 16" center to center holes so the unit can be mounted directly to studs. This bracket will need to be mounted per the diagram below using appropriate for your type of wall material (wood, sheet metal, masonry, etc....). Once the 18" bracket has been wall-mounted, this will allow the 12" bracket that is fastened to the top flange of the cabinet a fixed anchor to hang from. See diagram as to how the angles are to be oriented on the back of the cabinet vs the wall.
 - a. Use the supplied nuts and bolts to attach the upper 12" bracket onto the top flange per the diagram.
 - b. Use the supplied carriage bolts and nuts to attach the 18" lower bracket to the bottom flange, don't overtighten the nuts yet. After installing the system, you may want to offset the bracket slightly, hence the rectangular slots.
5. Optional: if wall studs are not 16" center to center or you have the need to reinforce mounting area, a ½" or thicker plywood is recommended to be installed prior to hanging the system. Use best general practices to ensure that the wood and system will be secure at its full weight and remember that it will be vibrating from compressor running.
6. Once the mounting brackets are all in place, hang the N2-GEN™ 2CPi(x) cabinet from the top bracket making sure it is centered.
 - a. The cabinet should have at least 4" on either side for breathing/cooling purposes.
 - b. Do not install near heat source or where steam or water is present. Damage to system or bodily harm may result as well as voiding warranty.

Warning: Secure the N2-GEN™ 2CPi(x) to the wall at the top and bottom flanges. Failure to do so could cause damage or bodily injury.



Item #	STS Part #	Description	Qty
1	N2-GEN™ 2CPi(x)	Compact PSA	1
2	800-133	S-100/200 12" Mounting Bracket	1
3	800-134-B	S-100/200/400 18" Mounting Bracket	1
4	800-129	Type 1 Lower Wall Mount Bracket	1
5	Misc	0.250" -20 x 0.750" Carriage Bolt	2
6	Misc	0.250" -20 x 0.750" Hex Cap Screw	2
7	Misc	0.250" Nylock Nut	4
8	Misc	0.250" Flat Washer	2

Carriage Bolt must be installed from the back side of bracket



6.4 INSTALLATION (BEERBLAST™ 14KPH / N2-GEN™ 14KPH)

It is necessary to use caution when working with pressurized gas, making sure that all fittings and gas lines are installed correctly. Always leak check every line before using the system.

Note: Line leaks will cause the N2-GEN™ 2CPi(x) to run excessively, shortening its life.

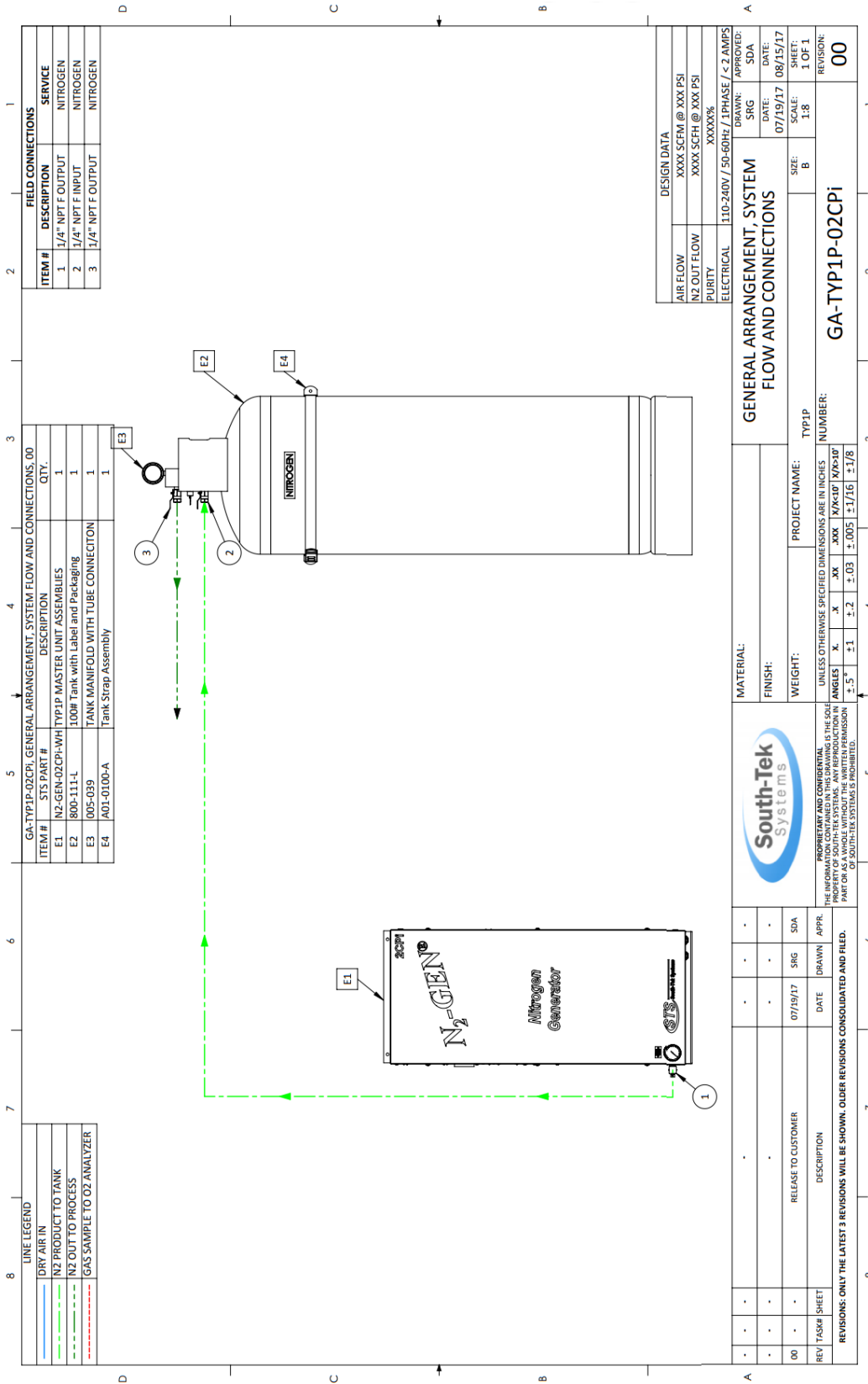
The N2-GEN™ 2CPi(x) utilizes a single nitrogen tank output. This line can be split after the output of the tank to provide the correct purity nitrogen to any equipment needed provided the system stays within flow requirements. Use only quality tubing and fittings for all connections. Keep in mind the temperature and pressure requirements when selecting them.

Always install a valve (on/off) on each individual line. This will help troubleshoot the system and maintenance. Never detach a line with pressure on it before closing the valve; this could cause damage to the equipment or bodily injury.

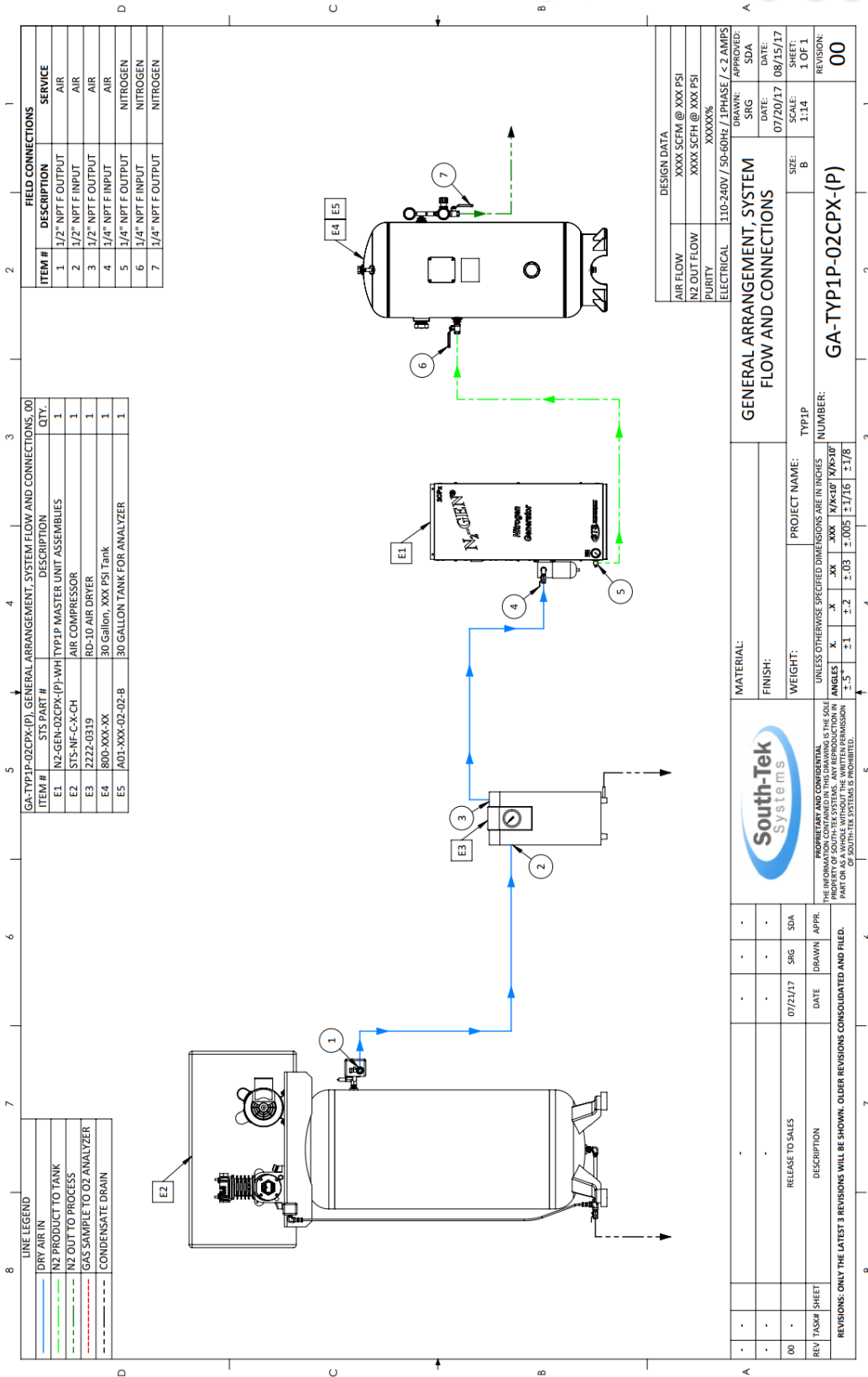
Two condensate drains for the generator are located on the bottom right of the cabinet. It is the responsibility of the installer to plumb these drains to an area where standing water is trapped or a drain is located. Failure to do so can cause a slipping hazard on the floor below the generator.

If your system requirements are more involved, please consult with South-Tek Systems for a customized installation drawing.

6.4.1 N2-GEN™ 2CPi General Arrangement



6.4.2 N2-GEN™ 2CPx General Arrangement



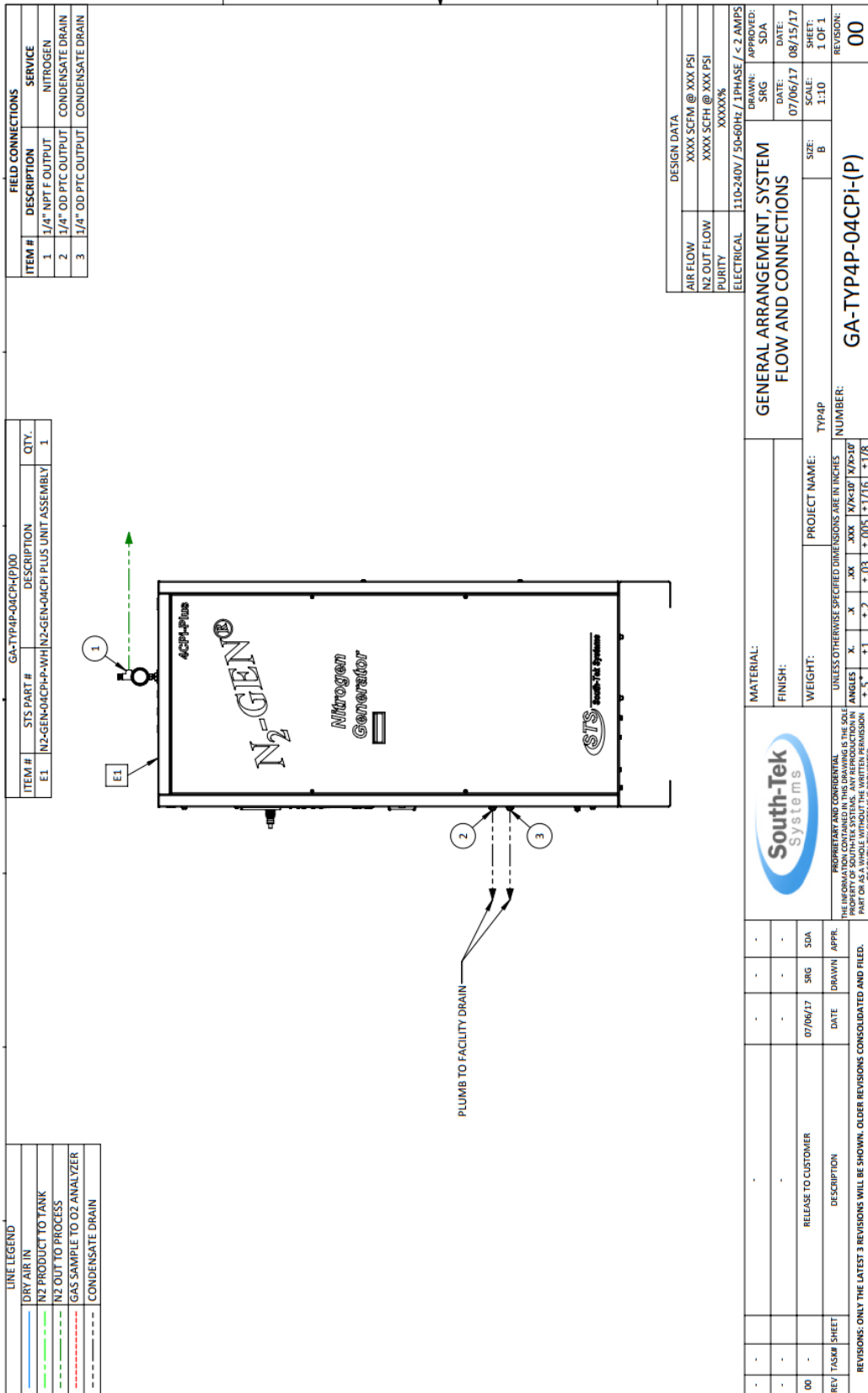
6.5 INSTALLATION (BEERBLAST™ 14KPH / N2-GEN™ 14KPH)

The BeerBlast™ 14KPH / N2-GEN™ 14KPH needs to be installed on a hard, flat surface capable of supporting 300+ lbs. There are (4) anchor bolt holes on the support legs that can be used to secure the unit to the floor. It is not required to be anchored, but always follow any site/local codes regarding securing equipment. The unit's back side and right side can be pushed all the way against the wall. Leave at least 6" on the left side of the cabinet for ventilation, but 36" is recommended for access to the control panel (otherwise, the unit will need to be pulled out to read the display). There are also two ¼" OD drain ports are on the left side of the cabinet for the N2-GEN™ 4CPi. The N2-GEN™ 4CPx will have red drain attachments on the bottom of each filter bowl, run the drain lines down through the bottom of the cabinet. These both can be plumbed to the nearest site drain. The front side of the cabinet requires 36" minimum to gain access to the front door and perform routine maintenance. Leave enough clearance room on the top of the cabinet for gas line connections.

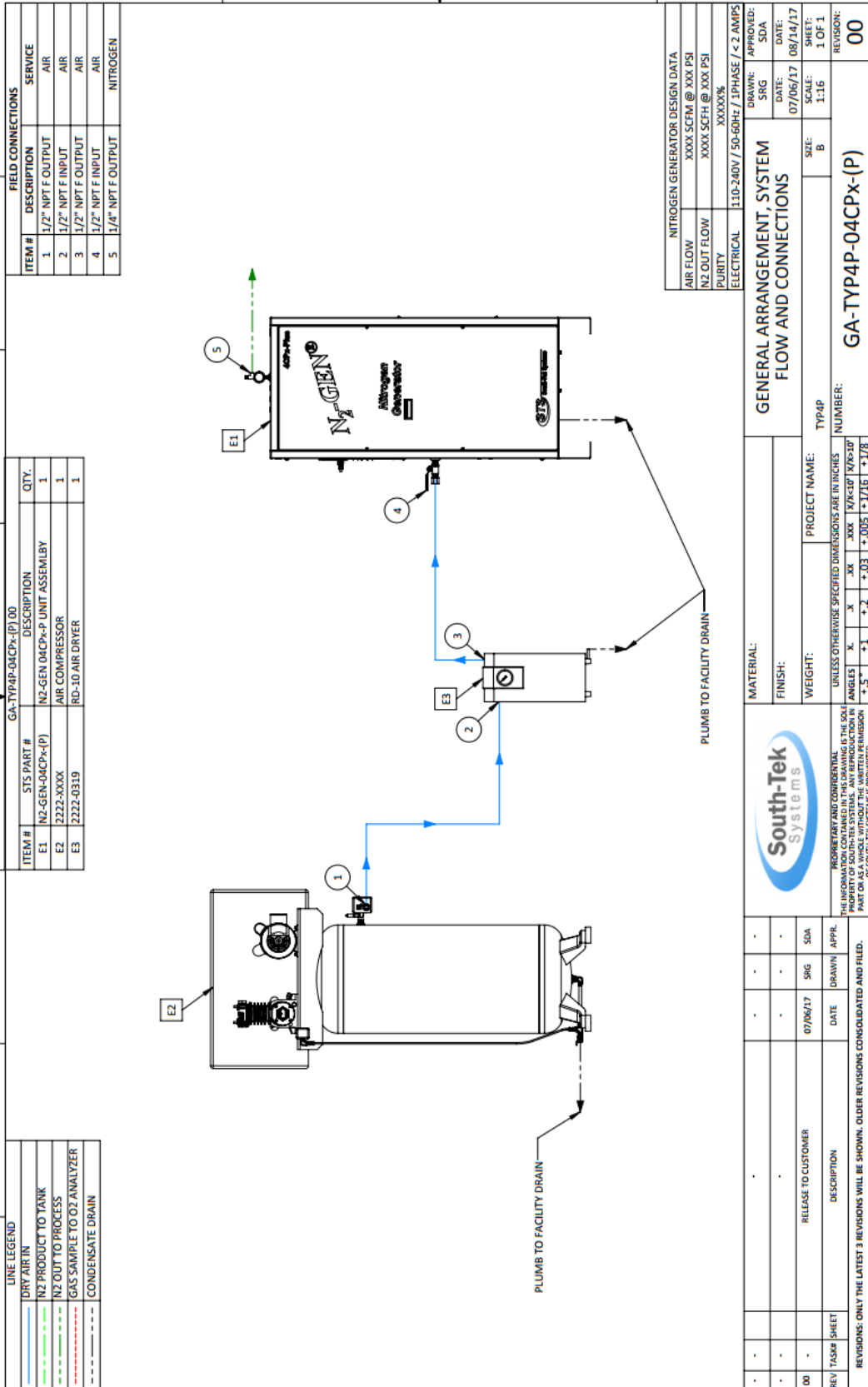
First-time use will require an initial pressurization of the internal storage tank. To perform this task, make sure that all gas connections are properly made. All gas connection ports are ¼" NPT female.

Once the connections are all secure, turn on the power (switch is located externally on the upper left side of the cabinet on the control panel). The initial start-up will require up to 1 hour to fully pressurize the internal storage tank to the correct level. External pressure gauge (at the top coming off the 4th port from the left) can be viewed to verify that the internal storage tank has been filled to 60-75 psig. Once the tank is full, the system will automatically go into a standby mode and is ready for standard operation.

6.5.1 N2-GEN™ 4CPi General Arrangement



6.5.2 N2-GEN™ 4CPx General Arrangement



6.6 START-UP PROCEDURES (N2-GEN™ 2CPi(X) & N2-GEN™ 4CPi(X))

It is necessary to use caution when working with pressurized gas, making sure that all fittings and gas lines are installed correctly. Always leak check every line before using the system.

Note: Line leaks will cause the N2-GEN™ 2CPi(x) & N2-GEN™ 4CPi(x) to run excessively, shortening its life and cause excess wear on the compressor.

The installation layout drawings are provided with your system in the documentation package of the system. For electronic copies, please contact your local distributor. Review and make sure the setup installation is followed per the installation layout drawings. Ensure that you follow the correction installation drawing per your system's design. In some cases, a N₂ Bypass system for pre-filling is required in the installations to meet code.

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

1. The N2-GEN™ 2CPi(x) & N2-GEN™ 4CPi(x) is supplied with ½" NPT Female inlet (CPx models) and ¼" NPT Female outlet fittings. Make sure to use Teflon tape or similar sealant on all fittings to ensure they do not leak.
2. Connect the N2-GEN™ 2CPi(x) & N2-GEN™ 4CPi(x) to the storage tank and then to the system.
3. Once connections are made, slowly open the System's On/Off Valve.
 - A. You will hear air rushing through the system and N₂ filling the N2-GEN™ 2CPi(x) & N2-GEN™ 4CPi(x) storage tank.
 - B. If you hear a leak or have a bad connection, shut the valve off and make the correction.
 - C. If there is a leak within the unit, remove the cover and locate the issue. If you must replace any parts, only use factory parts supplied from your distributor or South-Tek Systems. Consult the factory if there are any questions.
4. Once the N2-GEN™ 2CPi(x) & N2-GEN™ 4CPi(x) fills the storage tank to 70 PSIG, the system will enter standby – the system's green N2 Production light will change to orange indicating that the system is in standby. This will shut the air flow off through the generator and eventually shutting off the air compressor once it reaches air tank cutout pressure.
 - A. This will save air and time on your compressor's motor.
 - B. This also prolongs life of nitrogen generator's media and filter life.
 - i. Lesser quality systems have a constant purge flow through their systems which decreases system life and increases the need for maintenance.
5. When you draw N₂ off the system and the tank pressure falls below cut-in pressure (approximately 60 PSIG), the pressure switch will trigger the system back into run mode and start recharging the storage tank automatically. The pressure switch is preset at the factory – no field adjustment is required.

6.7 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 your installer if you cannot locate the leakage area.

To determine if the leak is within the cabinet:

1. With the unit powered on, close off all output gas. If no ball valve is installed on the output ports, it is recommended to remove the gas lines and install a plug.
2. Allow the system to continue running. Within 1 hour, the system should reach the "Standby" mode.
3. Wait for 5 minutes and if the system remains in the "standby" mode, then the leak is after this point. Check the gas lines exterior to the cabinet all the way to the process.
4. If the unit goes back into "run" mode, the leak is within the cabinet. Check all the lines going back to the tank.

To find the leak within the cabinet:

1. Open the front cabinet door and locate the N₂ storage tank.
2. Close off the output ball valve from the tank (upper ball valve on the red manifold).
3. Watch the exterior gauge above the cabinet for 60 seconds. If you see the pressure dropping, the leak is somewhere between the output ports and the closed off ball valve on the tank. Fill and/or listen for leaks and fix them once found. If the pressure is not dropping go to the next step.
4. With the unit still running, close off the input ball valve to the tank (lower ball valve on the red manifold).
5. Within 5 minutes, the system should go into "Standby" Mode. If it doesn't, contact your local provider/installer for further assistance.
6. Once in "Standby" mode, wait 60 seconds. After 60 seconds, the system should remain in "standby" mode. If it doesn't, leak is somewhere between the check valve and the output ball valve on the tank.
7. If the system remains in standby, contact South-Tek Systems for further assistance.

6.8 ACCESS CONTROLS

The built-in controller is fully programmed to function without requiring the user to input any values. Do not attempt to modify the program or the warranty will be voided. In case of the program failure, first attempt to cycle the power to the system. If that does not work, please contact your provider for further instructions.

6.9 STARTING THE SYSTEM

To start the system, turn on the power switch and make sure any valves to the gas lines are in the open position.

6.10 STOPPING THE SYSTEM

To stop the system, close off any valves on the gas lines. Powering down the system is not necessary.

7 SYSTEM USAGE

7.1 INSTRUCTIONS

The BeerBlast™ 14KPH / N2-GEN™ 14KPH is intended to be used to generate Nitrogen. Follow the installation instructions above and only use in an approved environment. Make sure that proper regulators, temperature, and line ratings are maintained. Please consult with South-Tek Systems for questions not answered in this manual.

The system is design for 24-hour operation, but routine maintenance on the filters must be performed. See section "System Maintenance" for detail maintenance instructions.

7.2 ALARM NOTIFICATION

Filter Alarm:

All BeerBlast™ 14KPH / N2-GEN™ 14KPH comes standard with a “Filter Alarm” notification. The controller will display a “FILtr” message in red 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 “System Maintenance” for detail 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 when installed into the BeerBlast™ 14KPH / N2-GEN™ 14KPH detects line leaks within the downstream gas lines from the N₂ Generator to the process. Line leaks could be due to improper seals, broken fittings, wear, etc. These leaks are potential safety hazards, they can cause your BeerBlast™ 14KPH / N2-GEN™ 14KPH to run in excess (decreasing the life of the unit).

Once a leak has been detected, the BlastOff™ set to initiate a buzzer, displays “b OFF” in red on the controller screen, and shuts off the BeerBlast™ 14KPH / N2-GEN™ 14KPH until the problem has been remedied. To reset the BlastOff™, simply turn off the BeerBlast™ 14KPH / N2-GEN™ 14KPH and turn it back on. The BeerBlast™ 14KPH / N2-GEN™ 14KPH can be ordered with the BlastOff™ System Factory installed or the system can be retrofitted in the field.

Never reset repeatedly; if the BlastOff™ goes off daily, there is a real potential issue. Consult South-Tek Systems for a solution. The label below will be on your BeerBlast™ 14KPH / N2-GEN™ 14KPH if factory installed.

Buzzer or Red Light Warning Indicator

This N2-BLAST® is equipped with **The BlastOff® Leak Detection Feature**. If the light on the PLC screen is blinking “b OFF” in red and buzzer is on, you may have a leak in your fire protection system piping. **Protocol:** Power off the N2 Blast® and check for a leak. If none are found leave the unit turned off and contact your service company. Only once the leak has been located and corrected should you resume normal operation.

Blastoff®

SYSTEM MAINTENANCE

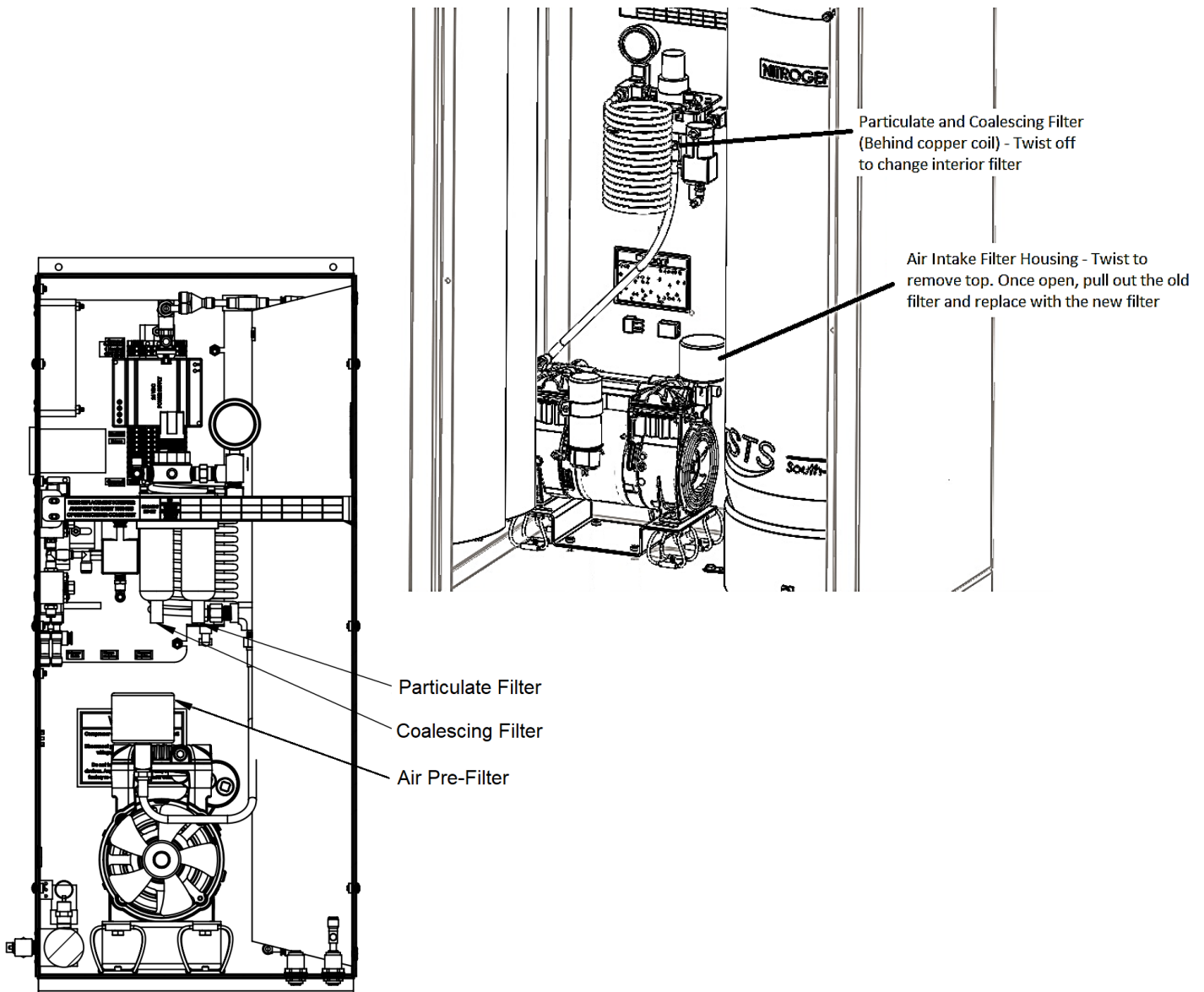
7.3 BEERBLAST™ 14KPH / N2-GEN™ 14KPH

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

Annual Filter replacement kit part # FRP-001 (CPi Models Only)

Air Pre-Filter

The integrated Air Compressor has an air intake pre-filter. It is designed to prevent particles from entering the compressor housing and damaging internal components. This filter needs to be replaced 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.



Particulate and Coalescing Filter

The particulate and coalescing filter after the air compressor is 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. To do so,

1. Make sure there is no pressure on the filter bowls. The gauge after the filter bowl will read 0 PSIG to indicate that there is no pressure on the bowl.
2. Unscrew the filter bowls by turning them counterclockwise.
3. Once the filter bowls have been removed, rinse any debris out of the bowls with warm water.
4. Dry the bowls with a clean dry cloth and replace the old O-rings with the ones provided in the kit.
5. Using a Philips-Head screwdriver, remove the particulate element and replace.
6. The coalescing element can be removed by turning it counterclockwise with your hand; then replaced with the new element in the reverse order.
7. Once both elements have been replaced, bowls have been cleaned and O-rings replaced, the bowls can be screwed back into their corresponding filter housings.

Once all the filters have been replaced, press and hold the filter reset button on the electrical panel, an audible beep will confirm the reset. To use the Filter Change Reset Button on the face of the controller, the controller must be unlocked (press and hold Mode button to lock and unlock). Put the front cover back on the cabinet and power the unit back on. Once powered up, you should hear the air compressor turn on, the BeerBlast™ 14KPH / N2-GEN™ 14KPH will be producing nitrogen. Be sure to check the filter bowls for leaks.

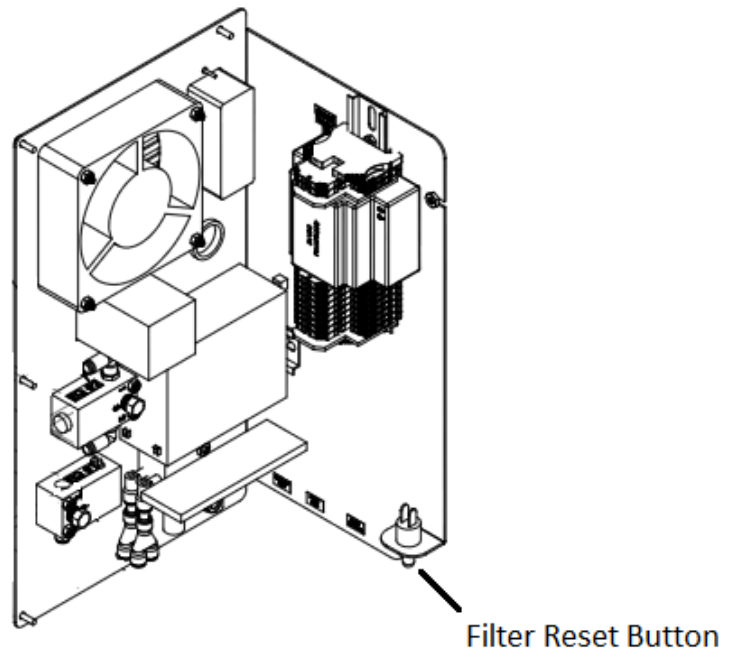
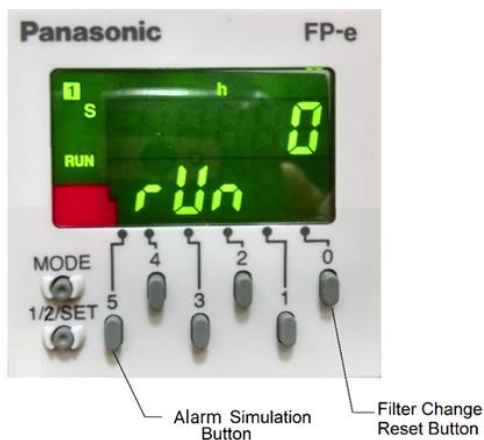


Figure 1: Filter Reset Button

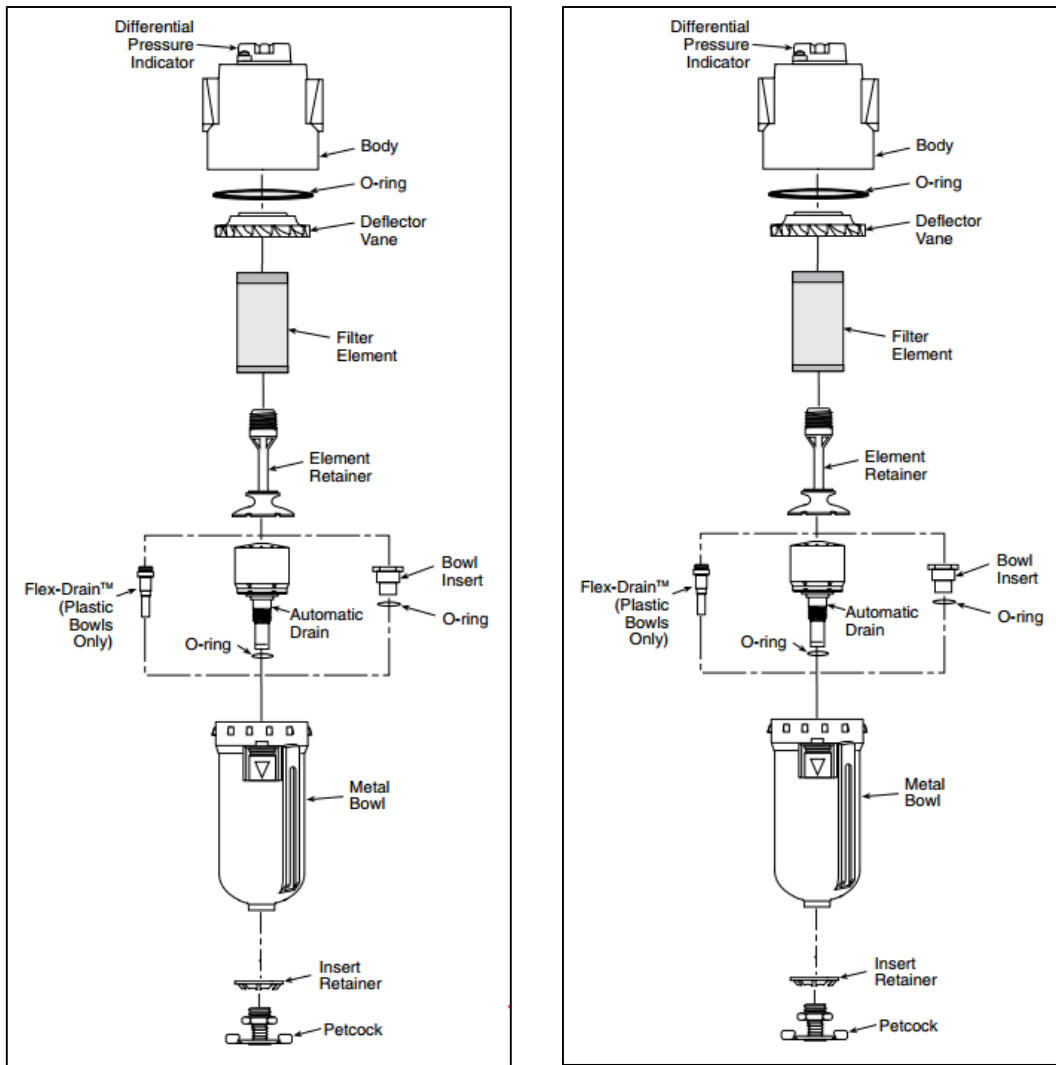
7.4 BEERBLAST™ 14KPH / N2-GEN™ 14KPHX

All units come equipped with a standard filter set that includes a particulate, coalescing, and adsorber filter. Clean filter elements are important for good system performance. Factory recommendation on filter change out schedule are as follows:

- Particulate every 3 months (4x per year)
- Coalescing every 6 months (2x per year)
- Adsorber every 12 months (1 per year) (not needed for CPi models)

Annual Filter replacement kit part # FRP-1-1 (CPx Models Only)

See figure below for illustration of how to remove a typical filter bowl and replace the filter element.

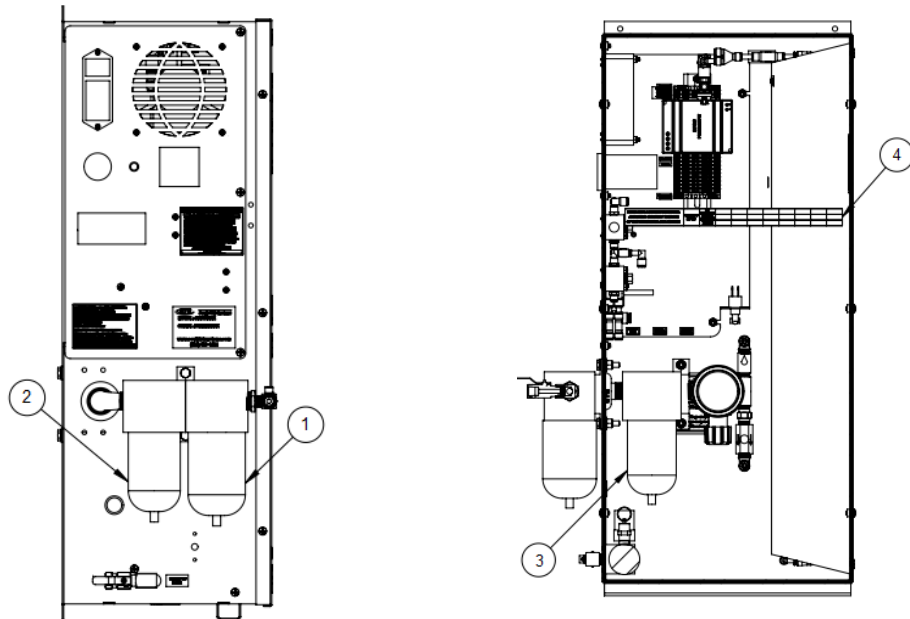


WARNING: Do not try to remove filter bowls unless both the air supply gauge clearly read zero psig. Valve off the incoming air supply. Relieve system pressure by opening the wedge valve after the filters.

1. Disconnect the tubes from the bottom of the bowls (if tied into condensate drain system).
2. To remove the bowls from the TS and some CS models, push the bowl latch down and rotate the bowl while pulling down. To remove the bowls from some CS and S Series models, remove the screws holding the bowl to the cover, and pull the bowl off.
3. Inspect the bowls. If the drain system is working properly, the bowls should not be full of water.
4. Remove the filter element by unscrewing it off. Take notice of how the element looks. If the element is excessively dirty, more frequent filter changes is recommended.

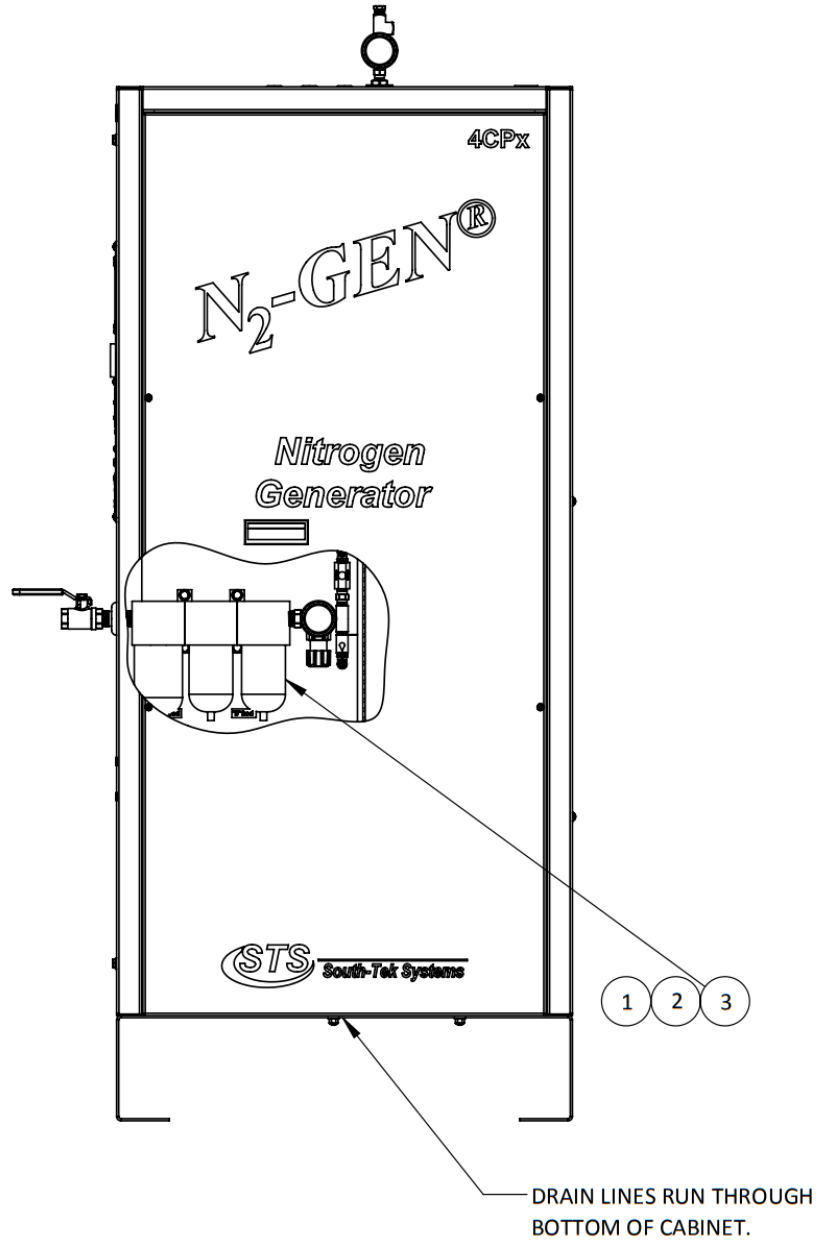
NOTE: A plugged drain system will cause water and oil to carry over into the adsorber, which will cause permanent damage to the media inside the nitrogen generator. Such damage is not covered by the manufacturer's warranty. Use of filters other than those specified by South-Tek Systems could result in damages not covered by the warranty.

5. Wash the bowls in soapy water and rinse thoroughly as needed. Use of light air gun to remove debris is also acceptable. Make sure to always clean and dry with a clean and dry cloth.
6. Install new filter element and replace O-rings as needed.
7. Put the filter bowl back on the system opposite of how it was removed making sure the bowl is seated in place correctly.
8. Reconnect the drain tubes.
9. Slowly open the air inlet valve to pressurize the bowls and examine for any leaks.



FILTER REPLACEMENT LEGEND (N2-GEN™ 2CPX)		
ITEM #	DESCRIPTION	SERVICE
1	PARTICULATE FILTER	AIR POLISHING
2	COALESCING FILTER	AIR POLISHING
3	ABSORBER FILTER	AIR POLISHING

4	PMI LABEL	PREVENTATIVE MAINTENANCE
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FILTER REPLACEMENT LEGEND (N2-GEN™ 4CPX)		
ITEM #	DESCRIPTION	SERVICE
1	PARTICULATE FILTER	AIR POLISHING
2	COALESCING FILTER	AIR POLISHING
3	ABSORBER FILTER	AIR POLISHING

8 KEY CONTACTS

For any questions with the performance and/or maintenance of the system, contact:

South-Tek Systems

2940 Orville Wright Way, Wilmington, NC 28409

Phone: 1-(888)-526-6284

Email: services@southteksystems.com

Visit: www.southteksystems.com

9 FAQs

9.1 POWER ISSUES

If the BeerBlast™ 14KPH / N2-GEN™ 14KPH does not have power, the production and storage of nitrogen will become apparent once the storage pressure drops. The taps will begin to pour slowly or not at all.

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.

9.2 PRESSURE ISSUES

The BeerBlast™ 14KPH / N2-GEN™ 14KPH will produce and store nitrogen at 60-70 (+/-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 of these specifications, we need to determine where the issue is. Contact the manufacturer or factory-trained technician.

Nitrogen Pressure Check:

Look at the pressure gauge on the top of the cabinet. It should be between 50 and 80 psig. If the pressure is low, a few things need to be checked:

- Supply power.
- Leaks throughout the system. Refer to section on **Checking for Leaks**.
- Broken or damaged parts

9.3 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.

9.4 BLASTOFF™ - LEAK DETECTION SYSTEM:

"There is an alarm sounding in the BeerBlast™ 14KPH / N2-GEN™ 14KPH and the control panel has "b OFF" illuminated on the side panel of the unit."



If you hear the alarm and the "b OFF" is displayed on your unit, it means that it is equipped with "The BlastOff™ - Leak Detection" feature. If the buzzer is on, there may be a leak in one of the lines, regulators, or fittings. Note: Turn off this unit's on/off power switch and check for leaks. If none are found, leave the unit turned off and contact South Tek Systems. Once the leak has been fixed, turn the BeerBlast™ 14KPH / N2-GEN™ 14KPH on/off rocker switch back "On" to resume normal operation. By turning the system power off, then back on, this will reset the BlastOff™ automatically.

APPENDIX A: WARRANTY

The BeerBlast™ 14KPH / N2-GEN™ 14KPH System is 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 BeerBlast™ 14KPH / N2-GEN™ 14KPH Authorized Service Center. Only factory trained and authorized personnel are 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 (including CO₂), 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 (910) 332-4173 or toll free (888) 526-6284, fax (919) 847-0255

Email: services@southteksystems.com

Or write to:

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

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