OPERATION MANUAL

NBP SERIES

EXTERNALLY HEATED BLOWER PURGE

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EXTERNALLY HEATED REGENERATIVE AIR DRYERS
OPERATION MANUAL

Introduction

Thank you for purchasing a nano Externally Heated Desiccant Air Dryer. You are now the proud owner of one of the finest desiccant dryers in the market. nano dryers are engineered and manufactured to provide you with many years of trouble free service. To ensure that you get the get first class service from this equipment, we recommend you take some time and read the contents of this manual.

This manual contains all the information required for installing and maintaining your new equipment. It also includes the safety procedures and corresponding drawings. We strongly suggest that all personnel involved with the machine read the entire contents of the manual before proceeding with the installation or maintenance activities.

Dryer Type	**Heated/Blower Purge**
Dryer Model Number	**NBP3000ES-SF**
Dryer Serial Number	**BPPJBBATC145**
Dryer Year of Manufacture	**OCT-2018**

The manufacturer reserves the right to make changes without any prior notification and is not obligated in any manner. Information in this manual is deemed current at the time of publication and nano disclaims all liability for any errors resulting in any loss or damage.

If you have questions or need additional copies or would like to schedule a nano serviceman visit, contact your local distributor.

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Safety Instructions

Safety symbols used in the manual

 This represents Important Information. Readers of the manual must pay extra attention to instructions and information succeeding this symbol.

 This is a Warning symbol. It indicates that it is dangerous and could result in physical injury and death if the instructions are not followed correctly.

 Electrical Danger High Voltage symbol. This means that there is a risk of electric shock and only authorized personnel with proper gear must approach it

 High Noise Area - All personnel are required to wear ear protectors before approaching the vicinity of the equipment

 Hazardous Fumes and gases – Personnel must wear protective gear to prevent inhaling of the gases and fumes

 Suspension points – look for these symbols before making any attempt to move or relocate your equipment

 This represents valuable tips and suggestions. Following these tips can make your work easier

 This indicates that there might be possible risk of material damage and personnel are advised to exercise extra caution

General Safety Instructions

What you must do:

1. Certified/authorized electricians must perform electrical work.
2. Electrical work must conform to the specifications indicated by nano and the local state laws and Power Company.
3. Personnel must wear appropriate safety gear before working on any electrical or mechanical aspects of the machine.
4. Appropriate tools have to be used for all installation and maintenance work. If special tools are required and are not available to the installation crew, contact the factory or your nano representative.
5. A copy of the Operation Manual must be made available to all personnel involved with the installation, operation and maintenance of the equipment.
6. Before performing any maintenance operations on the equipment, the unit must be halted and completely depressurized.
7. To ensure compatibility and continued trouble-free operation, only genuine nano parts must be used.

What you must not do:

1. Do not make constructional changes to the unit. Only nano or its authorized representatives with the prior approval can perform any constructional work on the machine.
2. Do not use foreign parts. For any reason if you wish to use non-original parts, you are required to contact the factory for approval.
3. Compressed air from the dryers is not to be used for breathing purposes – install a breathing air package to ensure conformance with OSHA regulations
4. Do not disable or disengage any protective equipment used on the machine.

Safe operating procedures:

1. Pressurize and depressurize compressed air SLOWLY! Always open air valves slowly when pressurizing the air line system or equipment. Replace air slowly when depressurizing your air system or equipment.
2. Circuit breakers, fusible disconnects, and wiring should conform to national and/or local electrical codes. Make certain that the electrical installation for this unit is performed by qualified electrical personnel.

3. Only use original fuses for the rated voltage and current.
4. Shut down the unit in the correct recommended procedure. Depressurize the unit and remove all electrical connections.
5. After shut down, put up warning notice to prevent the unit from being switched "ON" accidentally.
6. Inspect all piping, hoses and connections. Make sure that all hoses are in good condition and are rated for the correct working pressure. Do not allow hoses to come into contact with oil, chemicals, or sharp objects.

7. Secure condensate drain lines. Unsecured flexible drain lines may whip violently under pressure and may cause bodily harm.

nano air dryers do not remove carbon monoxide and is not safe for human respiration (breathing). Breathing air must be at least grade D quality as described in compressed air and gas association (CAGI) commodity specifications 67.1-1966. User may refer to OSHA 29 CFI 1910.134 for special precautions and equipment suitable for breathing air applications. nano disclaims any liability what so ever for loss, injury or damage.

Unpacking and Inspection:

All nano dryers are tested and operated before shipment. However, during shipment it can get damaged or certain parts might come loose. To ensure you have a smooth installation we recommend –

Immediately upon receipt of the unit, check carefully for external damage that may have occurred in shipping. In the event of any damage, immediately file a claim with the carrier and notify your nano Distributor or the factory (704-897-2182) of the nature of the damage. The carrier is legally responsible for all damages.

After you are assured that the unit has not sustained any external shipping damage –

1. Make sure you have received all the crates/packages that are indicated in the packing slip.
2. Remove the crate and packaging.
3. Inspect the unit for any internal damages. If you notice anything, follow the same procedure as above and notify the shipping agency and factory.
4. Check the nano nameplate and make sure that it is the correct model that you had ordered.
5. Note the equipment capacity and power supply requirements and ensure that they are in accordance with your specifications. The rated conditions of the dryer are indicated on the data plate. If you notice any discrepancy, contact the nano representative or the factory at (704) 897-2182.

Vibration during shipping can loosen the connections. So inspect all pipe and tubing and make sure they are all tightened and secured.

Product Description

Why we need compressed air dryers

Untreated compressed air contains many contaminants such as water, compressor oil, pipe scale and contamination from ambient air. All these contaminants cause excessive corrosion, erosion, freezing and product contamination to all components that come in contact with the untreated compressed air. A regenerative type dryer system with all recommended filtration will remove these contaminants to harmless levels. The end result is that instruments that come in contact with the dry compressed air stay clean and do not corrode, therefore lasting much longer. Products that may come in contact with clean dry compressed air is virtually unaffected, hence rejection rates are reduced.

nano regenerative desiccant air dryers dry compressed air to -40°F below PDP (pressure dew point). The compressed air stream is passed through a desiccant bed, which removes the moisture through the process of adsorption. Twin towers filled with the desiccant alternate between drying and regeneration either based on dew point or a fixed time cycle. nano® manufactures various types of desiccant air/gas dryers. These dryers offer fail-safe design in the event of power interruption, along with tower operating status lights and the highest quality non-lubricated air/gas inlet valves that ensure reliable operation for many years to come.

Standard Features:

- Optimal tower size for low velocities, high contact time and minimal desiccant fluidization.
- Tower pressure relief valves.
- Purge adjustment valve to control purge flow.
- Purge flow indicator indicates rate.
- Purge exhaust mufflers for quiet operation.
- Tower pressure gauges.
- Stainless steel desiccant supports and air diffusers to prevent channeling.
- Counter-current reactivation.
- Advanced PLC controls.
- Controlled repressurization.
- Fail safe design: failure of power and/or pilot air causes the purge exhaust valves to close.
- Control pilot air filter.
- Desiccant towers are designed and fabricated according to ASME code.
- Desiccant fill and drain ports for ease of desiccant replacement.
- Structural steel frame complete with floor stand.
- Reliable non-lubricated air inlet valves equipped with standard position indicator.
- Angle seat design of these valves allows for high flow rate with minimal obstructions. High quality soft seat check valves.
- Tower operating status lights.
- ON/OFF switch and power ON light.
- Failure to shift alarm.
- Tower and heater insulation.
- Oversized heater for better dew point.

Optional Features:

- NEMA 4/12 electrical construction.
- NEMA 7 (Explosion Proof) electrical construction.
- -65°F pressure dew point.
- Failure to shift alarm.
- High inlet temperature alarm.
- Dew point monitor.
- Demand cycle control with dew point monitor.
- Pre-piped filters and by-pass valve package.
- Visual moisture indicator.
- High inlet pressure up to 5000 psig.

Technical Specifications

How does it work?

Fully automatic, dual-tower externally heated desiccant dryers continuously adsorb water vapor from compressed air. The air is dried as it passes through the desiccant bed of one tower while the bed in a second tower is being reactivated. Reactivation of the saturated desiccant is accomplished with the use of heat and ambient air. NBP Series have a desiccant bed which is reactivated by injecting atmospheric air via a blower through the external heater then into the tower being regenerated. This hot low-pressure ambient air is passed into the chamber being reactivated in a direction counter to drying circuit. As it passes through the desiccant, the hot air adsorbs all the moisture from the surface of the desiccant and is vented into the atmosphere. Dryer operation is performed automatically on a solid state timing module or PLC. To prevent line surge and to minimize desiccant attrition, switching from one chamber to the other is carried out only when both desiccant chambers are at equal pressure. The tower being reactivated will be re-pressurized at the end of its reactivation cycle before switch-over takes place. Purge flow and depressurization are in an upward direction, counter to the drying flow.

Design parameters of the Dryer:

Type of Dryer: Externally Heated Blower purge
Model Number: NBP-3000-SF
Power Supply: 460-3-60
Pressure vessel:

Rated Pressure in PSIG:100 psig
Design Pressure in PSIG:200 psig
MIN Temperature in Deg. -20F
MAX Temperature in Deg. 400F

Timer Setting:

Adsorption Time in minutes:240
Regeneration Time in minutes: 230
Re-pressurization Time in minutes:10

Inlet and Outlet Size in Inches: 6" FLG
Purge line Connection: 6" FLG

Desiccant:

Type of Desiccant: F-200-316
Size of Desiccant in inches:3/16"
Chemical composition: Activated Alumina

Parameter Description	Optimum	Maximum	Minimum
Air Flow in SCFM	**3000**	**3500**	**500**
Air Pressure in PSIG	**100**	**125**	**80**
Air Inlet Temperature in Degrees F	**90**	**120**	**35**
Ambient Temperature in Degrees F	**70**	**120**	**35**
Purge Air Flow in SCFM (dry air cooling) Average	**210**	**400**	**100**

Pre-requisites for Installation:

To ensure a safe and smooth installation, we recommend you go through the steps indicated below:

- Make sure that all personnel involved have read this operation manual thoroughly. If you have any questions, feel free to contact your nano representative or the factory and we will be glad to assist you. If you need help with the installation and commissioning, we will be glad to schedule a factory serviceman to visit your site and perform the entire process of installation for a nominal fee.
- Have extra copies of the operation manual – you can print it directly from this program.
- Special care must be taken while transporting the unit to the installation site.
- Dryer must not be moved or lifted by the attached piping

Location:

- Careful consideration should be given to the location of the dryer in order to assure optimum results. Ensure that the load bearing weight of the floor is adequate for the weight of the dryer.
- The dryer should be located in an open area and a level ground. Dryer can be bolted to the floor to eliminate vibrations.
- The ambient temperature should be between 40 Deg.F and 100 Deg.F. Low temperature could affect the dryer process and result in high outlet dew point.
- In conditions where the ambient drops below freezing, nano recommends the use of heat trace for the equipment. For a nominal price, this feature will ensure that you have trouble free operation during the winter months (the dewpoint of the outlet air will be consistent)
- Dryer and accompanying filters should be installed with at least 2~5 feet clearance from the adjoining walls to provide easy access for routine maintenance.

Installation Procedure

Only Qualified personnel should make electrical and mechanical connections.

Foundation:

Dryer should be mounted on a suitably structured flat and level floor or base that is free from vibration. Special care must be used when lifting the dryer to prevent tip-over

Mounting:

Bolt dryer to the foundation using the boltholes provided in the frame.

Piping:

Connect the inlet of the dryer to the moist gas from the compressor/receiver/inlet filter. Install the inlet piping and the inlet shutoff valve. Install the Outlet piping and the outlet shutoff valve (a union with a valve by-pass can be installed at the inlet and outlet valves to accommodate isolation of the dryer for maintenance). Compressed air piping has to be at least the same size as that of the inlet and outlet connections of the dryer. Larger pipe sizes can be used with reducers.

Back Pressure regulators:

Install backpressure regulator to prevent any possibility of fluidization of the desiccant bed. When there is a sudden increase in the demand for compressed air downstream of the dryer, a huge pressure drop develops and can affect the performance of the life of the dryer and the drying material (desiccant).

Desiccant:

Make sure that the dryer towers are filled with desiccant. Larger dryers may have desiccant shipped separately – in which case, the media has to be filled into the pressure vessels from the desiccant fill ports. Care must be taken when filling the media and it must be done gradually to prevent powdering.

Muffler:

In the event that mufflers have been shipped loose, they must be installed and secured

By-pass:

If the dryer is not supplied with optional block and by-pass valve system it is highly recommended that a block and by-pass valve system be installed around the dryer and filters. This block and by-pass valve system will permit the dryer and filters to be removed from the compressed air system for servicing without shutting down the entire compressed air system. Ensure that the bypass valves are rated for more than 250 Deg. F.

Electrical:

Make all electrical connections to the dryer as shown on the wiring diagram. Special care must be taken in connecting the proper voltage as indicated on the specification sheet and wiring schematic.

Exhaust:

If you intend to vent your exhaust with additional piping, the discharge piping from the exhaust should not be piped upward without an arrangement for removing trapped condensate. Make sure that you do not apply any back pressure on this exhaust system.

Note:

It is mandatory that dryer be grounded. Use of your plants frame as a ground may cause problems with the control.
A fused disconnect is not supplied with this equipment therefore one must be supplied by customer. All electrical fuses, breakers, etc. should be correctly sized .

nano is not liable for any code violations; component damage, downtime or consequential damage related to customer supplied electrical components and connections.

Equipment for Installation

This dryer does not need any special tools for installation.

Start-up procedure

At any point during the process of startup or shutdown, if you notice anything unusual; we recommend you refer to the operation manual immediately. If you cannot find the answer in the troubleshooting section, contact your nano representative or the factory at once.

(NOTE: REFER TO THE ELECTRICAL, FLOW & MECHANICAL DWGS AND PANELVIEW DISPLAY SCREEN LAYOUT)

1. **MAKE CERTAIN THE CORRECT VOLTAGE IS SUPPLIED TO THE DRYER.**
2. **MAKE CERTAIN AIR INLET AND AIR OUTLET ARE PIPED CORRECTLY.**
3. **THE DRYER OFF/ON SWITCH INITIALLY SHOULD BE IN THE OFF POSITION**
4. **MAKE CERTAIN THE INLET COALESCING PREFILTER DRAIN ISOLATION MANUAL VALVE IS OPEN.**
5. **IF THERE ARE BLOCK AND BYPASS VALVES MAKE CERTAIN THE OUTLET BLOCK VALVE IS CLOSED AND THE BYPASS VALVE IS OPEN. THE INLET BLOCK VALVE SHOULD BE OPEN. (ALWAYS OPEN VALVES SLOWLY).**
6. **SLOWLY PRESSURIZE THE DRYER VESSELS TO OPERATING PRESSURE, ONE DRYER VESSEL WILL PRESSURIZE SLOWER THAN THE OTHER. IF THE OTHER VESSEL DOES NOT PRESSURIZE OPEN THE PURGE ADJUSTMENT VALVE TO PRESSURIZE.**
7. **MAKE CERTAIN THE CONTROL AIR PRESSURE IS SET FOR 100 PSIG. ADJUST VIA THE CONTROL AIR PRESSURE REGULATOR LOCATED AT FRONT OR REAR OF DRYER.**
8. **THE DRYER CAN NOW BE TURNED ON VIA THE POWER OFF/ON SWITCH.**
9. **AFTER DRYER IS ON AND OPERATING ONE TOWER WILL SOON DEPRESSURIZE TO ATMOSPHERIC PRESSURE. THE PURGE ADJUSTMENT VALVE CAN NOW BE ADJUSTED TO 60-65 PSIG READ ON THE PURGE PRESSURE GAUGE. INCREASE OR DECREASE PURGE PRESSURE VIA PURGE ADJUSTMENT VALVE.**
10. **NOW OPEN THE OUTLET BLOCK VALVE SLOWLY. THEN CLOSE THE BYPASS VALVE. THE AIR WILL NOW FLOW THROUGH THE DRYER THEN TO THE CUSTOMER PROCESS AIR SYSTEM.**

(CONTINUED NEXT PAGE)

11. WHEN UNIT IS IN OPERATION THE PANELVIEW DISPLAY ON THE ENCLOSURE DOOR WILL SHOW THE DRYER STATUS AND ANY ALARM CONDITIONS.

12. WHEN AN ALARM CONDITION IS ACTIVE THE PANELVIEW DISPLAY WILL DISPLAY THE ALARM CONDTION ACTIVE, ALSO THE COMMON ALARM LIGHT WILL BE ON WHEN AN ALARM IS ACTIVE AND THE COMMON ALARM RELAY INSIDE THE ENCLOSURE WILL DE-ENERGIZE. AFTER PROBLEM HAS BEEN CORRECTED THE ALARM CONDITION WILL RESET AUTOMATICALLY.

(NOTE: A SET OF DRY COMMON ALARM CONTACTS FOR REMOTE INDICATION ARE AVAILABLE INSIDE THE ENCLOSURE SEE ELECTRICAL DWG. FOR TERMINAL NUMBERS)

13. HEATER TEMPERATURE CONTROLS ARE ALL FACTORY SET AND NOT ADJUSTABLE.

14. THE DRYER CYCLE TIME IS:

4 HOURS DRYING
3 HOURS HEATING
50 MINUTES COOLING
10 MINUTES REPRESSURIZATION

Shut-down procedure

Note: this type of dryer operates best if left on whenever possible with air supplied to the unit.
The unit can be left pressurized after the dryer is switched off.
If the dryer needs to be turned off and depressurized, do the following:

1. Slowly OPEN the by-pass valve.
2. Slowly CLOSE the Inlet and outlet "shut-off" valves.
3. Slowly open the purge exhaust valves and the dryer system starts to depressurize. Switch off electrical power after both towers have been depressurized.(The Dryer can also be depressurized through the valve on the After Filter drain and through the Inlet Filter drain.)

Operating procedure

After the initial startup, the dryer operation is completely automatic. To understand the details of the operation, we recommend you use the flow diagram and the timing sequence of the dryer.

Fully automatic, dual-tower externally heated desiccant dryers continuously adsorbs water vapor from compressed air. The air is dried as it passes through the desiccant bed of one tower while the bed in a second tower is being reactivated. Reactivation of the saturated desiccant is accomplished with the use of heat and atmospheric air via a blower. Dryer operation is performed automatically on a solid state timing module or PLC. In order to prevent line surge and to minimize desiccant attrition, switching from one chamber to the other is carried out only when both desiccant chambers are at equal pressure. The tower being reactivated will be re-pressurized at the end of its reactivation cycle before switch-over takes place. Purge flow and depressurization are in an upward direction, counter to the drying flow.

Maintenance

Prior to performing any maintenance on the dryer, all personnel are strongly advised to familiarize themselves with the equipment by reading the entire contents of this operation manual. nano strongly recommends the strict adherence of all the safety procedures prior to any performing any maintenance activity on the dryer.

A. The pressure differential indicator referred to as the "Delta-P" is a very good indicator of the state of the filter elements. Maintenance personnel must pay attention to these to keep the dryer running with full efficiency.
B. The useful life of a filter element depends on the quality of air.
C. Powdered desiccant can accumulate in the muffler and increase the backpressure in the regenerating tower.
D. Oil and oil vapor can drastically reduce the life of the desiccant. Take precautions to eliminate all traces of oil from the airflow

Weekly checklist:

1. Check all drain valves, prefilter, after filter and separators.
2. Check the pressure differential indicators (Delta-P) on the pre-filter and afterfilter.
3. Check all control panel lights.
4. Verify purge flow indicator. The purge flow depends on the set dewpoint (PDP)
5. Check the dewpoint monitor to ensure that the dewpoint is being achieved.

Semi-annual checklist:

1. Remove and inspect all filters for excessive particulate loading and physical damage – if required replace prefilters, afterfilters, pilot air filter and mufflers
2. Check pressure differential indicator and if it turns red, replace the element.
3. Remove exhaust mufflers. Knock out excess particulate and back flow with dry compressed air. If particulate cannot be removed completely change the exhaust mufflers.
4. Check desiccant condition. Powder in the mufflers is an indication of the status of the desiccant
5. Check all solenoid valves – check valve seating, coil condition and control circuit

Annual checklist:

1. Replace prefilters, afterfilters, pilot air filter and mufflers.
2. Recalibrate dew point analyzer probe and monitor and send back to factory for recalibration.

Troubleshooting

The following section briefly discusses the various faults that can occur in the dryer, the reason of the fault and how it can be rectified. If you do not find the solution to your problem, contact your nano representative or the factory. All necessary safety and precautionary steps must be followed before attempting to perform any of the recommended measures to resolve any faults in the air dryer.
Before any attempt is made to undertake any action, the machine must be shut down. Follow the shut down procedures.

1. Depressurize the unit
2. Check to make sure if the unit has been damaged externally or if any part is missing.
3. Check if there is proper power supply and if it corresponds to that mentioned on the data plate.
4. Check to see if there is power at all the electrical connections in the machine and if it's the required amount.
5. Check if control air is available for all pneumatically operated components.
6. Make sure all shut-off valves are in the correct position.
7. Check the air flow, inlet temperature and pressure and make sure it falls within the operating range.

Problem/Reaction of the Unit	Possible Cause	Measure to be taken
High dew point	High inlet air flow.	Reduce inlet air flow.
	Inlet air temperature above design spec.	Reduce inlet air temperature to design spec.
	Poor pre-filtration.	Check pre-filter element.
	Inlet air pressure below design spec.	Increase pressure to the dryer.
	Desiccant contaminated.	Replace desiccant.
	Purge flow shut off or not properly adjusted.	Set purge flow to correct setting using purge adjustment valve.
	Back pressure in regenerating chambers.	Mufflers are clogged, install new mufflers.
	Re-pressurization valve not closing or leaking.	Clean and re-pack valve.

High dew point	Exhaust valve(s) not fully opening or closing.	Clean and re-pack exhaust valve(s).
	Outlet check valve leaking.	Clean and re-pack check valve.
	Purge check valves leaking.	Clean and re-pack both check valves.
	Low heater temperature or heater not working.	Check heater temperature controller adjust if necessary. Check thermocouples. Check PLC. Checks fuses
High-pressure drop	High inlet flow rate.	Reduce inlet flow rate to meet dryer spec.
	Inlet prefilter dirty.	Inspect and replace as needed.
	Low inlet pressure.	Increase inlet pressure to design pressure.
	Desiccant dusting.	High inlet flow velocities due to high flow.
Dryer fails to switch towers	Inlet valve not operating.	Check for pilot air signal.
	No input power.	Check to assure that dryer is being on with correct voltage.
	Exhaust valves(s) not functioning.	Check exhaust solenoid valve.
	Pilot air supply restricted.	Check pilot filter, and pilot tubing restriction.
	Controller malfunction	Reset controller. If it does not reset, replace.
Purge Failure	Purge flow control valve or orifice clogged	Remove orifice and clean
	Purge exhaust valve fails to close	Check solenoid actuator, purge exhaust valve and control module
	Purge muffler clogged	Remove and clean, replace if necessary
	Pressure switch failure	Rest or replace pressure switch
Pressurization Failure	Repressurization failure	Check orifice, check valve and regulator

High back pressure	Purge muffler clogged	Clean and replace if required
	Restrictive purge exhaust piping	Clean and replace with larger pipe if required
	Check valve leakage	Clean, repair or replace

Note: To test outlet check valves, by-pass and depressurize dryer, shut off purge adjustment valve, pressurize outlet to the dryer. Tower should remain depressurized. If one or both chambers pressurize, clean and re-pack corresponding outlet check valve.

nano Warranty

nano products are warranted to be free from defective material and workmanship for a period of one year from the date of shipment. Any equipment, material or part proving so defective will be replaced free of charge, provided that within a reasonable time for inspection after delivery, the seller is notified of such defects and the equipment, material, or part claimed to be defective is delivered prepaid to the factory with evidence that it has been properly maintained and used in accordance with instructions and specifications.

This is the only authorized nano warranty and is in lieu of all other expressed or implied warranties or representations, including any implied warranties or merchantability or fitness, or any other obligations on the part of nano. Warranty claims must be submitted and shall be processed in accordance with nano's established warranty claim procedure. In no event will nano be liable for business interruptions, loss of profit, personal injury, costs of delay or for any other special, indirect, incidental or consequential losses, costs or damages.

Note: Routine maintenance and minor adjustments to nano equipment is not covered under this warranty.

Prior to performing any possible warranty service or replacing a possible warranted part, nano must be notified. Failure to comply with this procedure will result in denial of warranted claim. Overseas shipments are excluded from this warranty. The warranty card accompanying each dryer should be mailed to the factory to activate the warranty. nano maintains a policy of ongoing development and improvement. We therefore reserve the right to change dimensions, specifications, and design without prior notice.

nano purification solutions

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Charlotte, NC 28269

Tel: (704)897-2182
Fax: (704)897-2183

CUSTOMER FORM

YOUR NAME: _____

COMPANY NAME: _____

ADDRESS: _____

CITY: _____ **STATE:** _____

ZIP: _____

TELEPHONE: _____ **FAX:** _____

E-MAIL: _____

REMARKS:

_____

_____