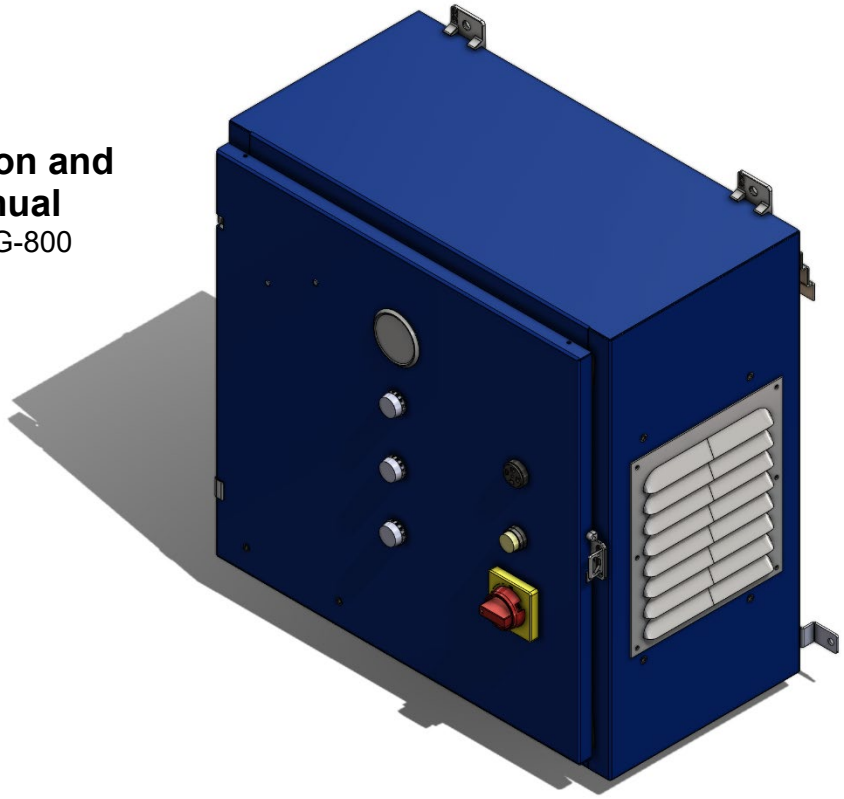
# STANDGUARD®

**Installation, Operation and Maintenance Manual**

MODELS SG-1500 & SG-800



| Model Number | 30 min. System Capacity | Dryer Maintenance Capacity | Compressor HP | Approx. Weight |
|---|---|---|---|---|
| SG-1500D | 1525 Gallons | 5400 Gallons | 1 | 146 lbs. |
| SG-800D | 840 Gallons | 2400 Gallons | 1/3 | 121 lbs. |

**For Technical Support, Call 1-800-345-8207**
**Hours of Operation: 8AM-5PM Eastern, Monday-Friday**

**Unit Serial Number:** _____

**Installation Date:** _____

Table of Contents

# 1 Safety & Warnings

## 1.1 General Safety Information

This manual contains information that is very important to know and understand. This information is provided for SAFETY and to PREVENT EQUIPMENT PROBLEMS. To help recognize this information, observe the following symbols.

**DANGER**

*Danger indicates an imminently hazardous situation which, if not avoided, WILL result in death or serious injury.*

**WARNING**

*Warning indicates a potentially hazardous situation which, if not avoided COULD result in death or serious injury.*

**CAUTION**

*Caution indicates a potentially hazardous situation which, if not avoided, MAY result in minor or moderate injury.*

**NOTICE**

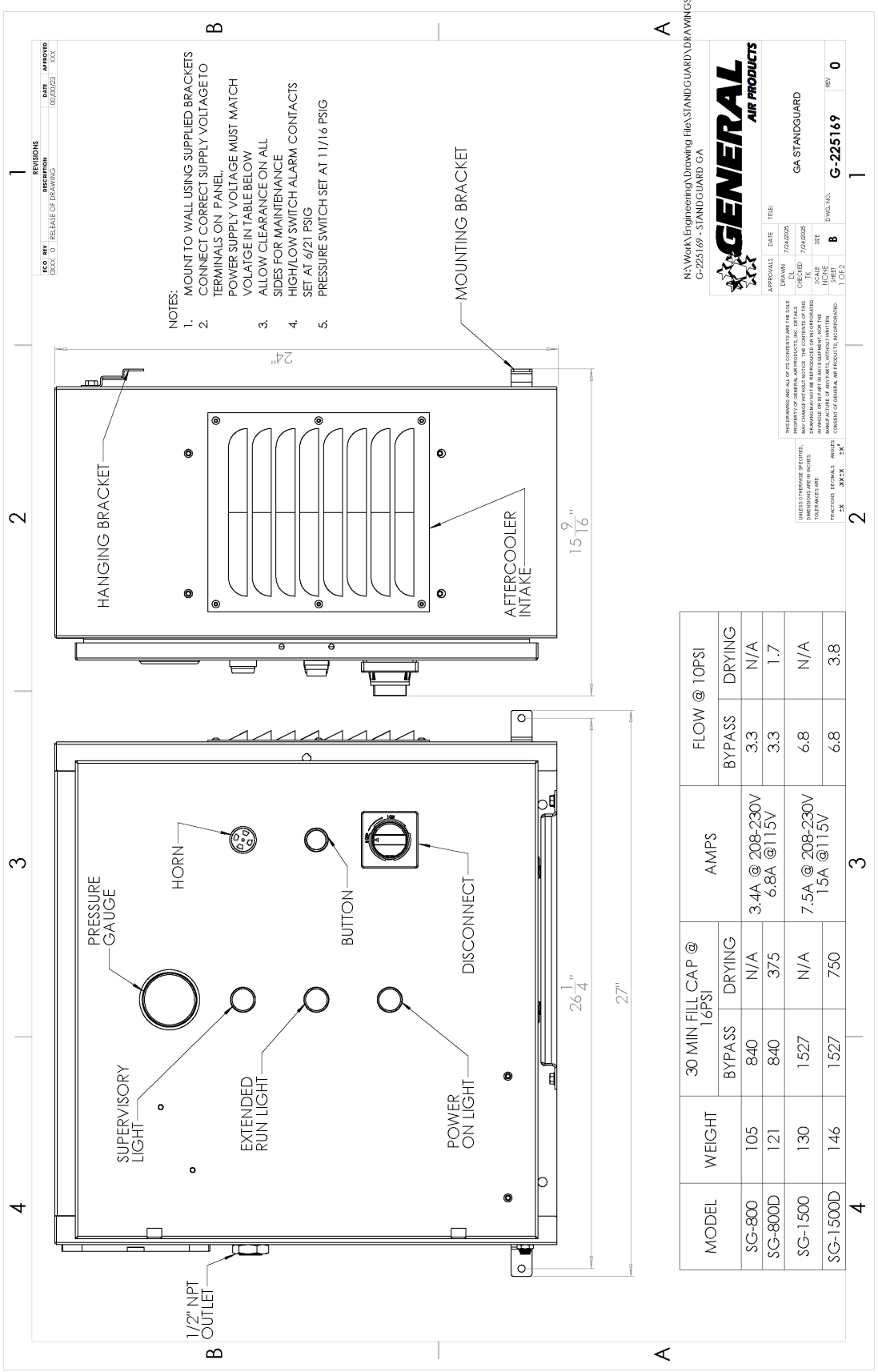
*Notice indicates important information, that if not followed may cause damage to equipment.*

# 2 Specifications

| Model | Weight (lbs) | 30 min Fill Capacity (gal @ 16 PSI) | | Amperage | Flow @ 10 PSI (SCFM) | |
|---|---|---|---|---|---|---|
| | | Bypass | Drying Mode | | Bypass Mode | Drying Mode |
| SG-800 | 105 | 840 | N/A | 3.4A @ 208-230, 6.8A @ 115V | 3.3 | N/A |
| SG-800D | 121 | 840 | 375 | | 3.3 | 1.7 |
| SG-1500 | 130 | 1525 | N/A | 7.5A @ 208-230, 15A @ 115V | 6.8 | N/A |
| SG-1500D | 146 | 1525 | 750 | | 6.8 | 3.8 |

*IF UNDER 50' RUN 12 GA CAN BE USED, HOWEVER, CHECK VOLTAGE WHILE RUNNING TO ENSURE NO UNDERVOLTAGE CONDITION EXISTS. FOR RUNS OVER 100' INCREASE WIRE SIZE TO CORRECT FOR VOLT DROPS.

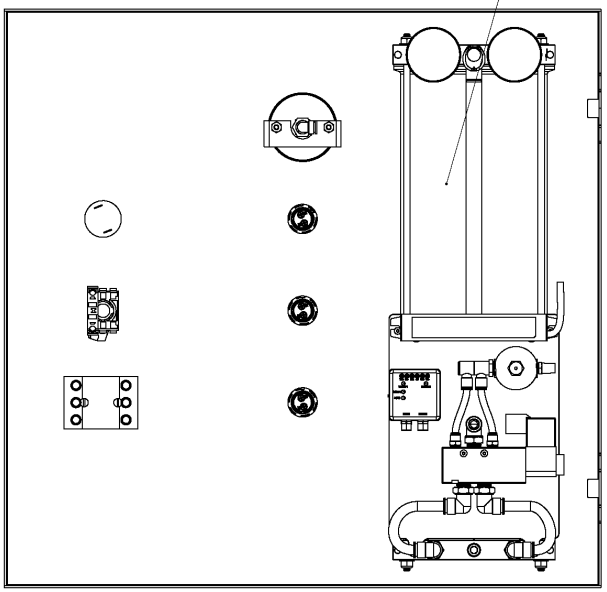
## 2.1 General Arrangement



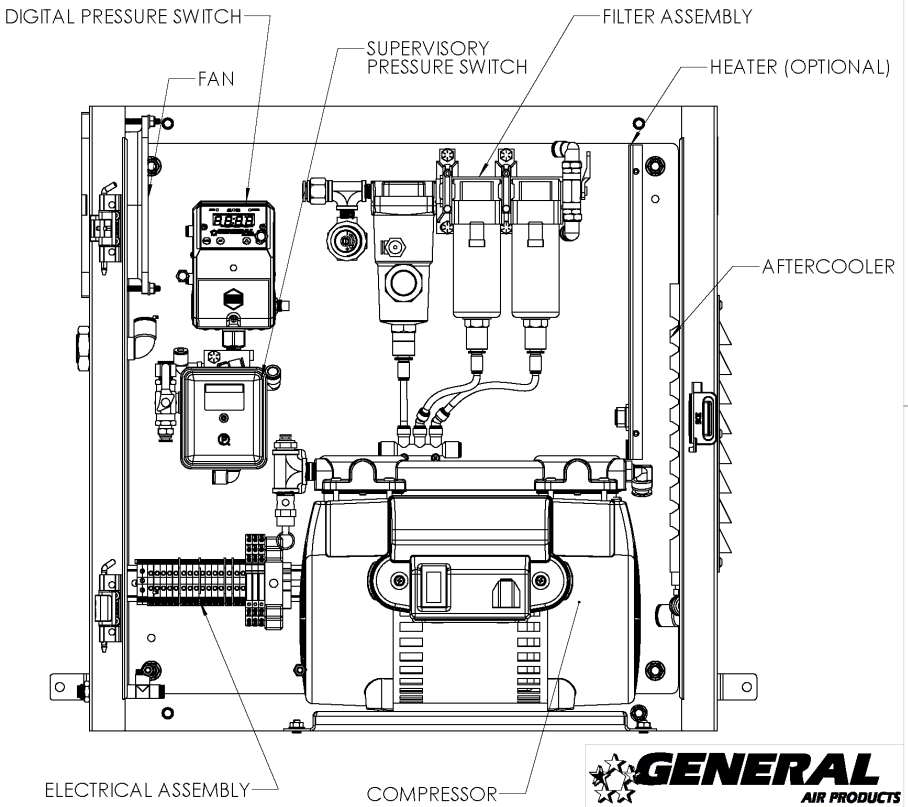

| MODEL | WEIGHT | 30 MIN FILL CAP @ 16PSI | | AMPS | FLOW @ 10PSI | |
|---|---|---|---|---|---|---|
| | | BYPASS | DRYING | | BYPASS | DRYING |
| SG-800 | 105 | 840 | N/A | 3.4A @ 208-230V 6.8A @115V | 3.3 | N/A |
| SG-800D | 121 | 840 | 375 | | 3.3 | 1.7 |
| SG-1500 | 130 | 1527 | N/A | 7.5A @ 208-230V 15A @115V | 6.8 | N/A |
| SG-1500D | 146 | 1527 | 750 | | 6.8 | 3.8 |

| REVISIONS | | | | |
|---|---|---|---|---|
| ECO | REV | DESCRIPTION | DATE | APPROVED |
| 0XXX | 0 | RELEASE OF DRAWING | 00/00/23 | XXX |

## INSIDE DOOR VIEW
(ENLCOSURE HIDDEN FOR CLARITY)




## FRONT VIEW
(DOOR HIDDEN FOR CLARITY)




N:\Work\Engineering\Drawing File\STANDGUARD\DRAWINGS\G-225169 - STANDGUARD GA

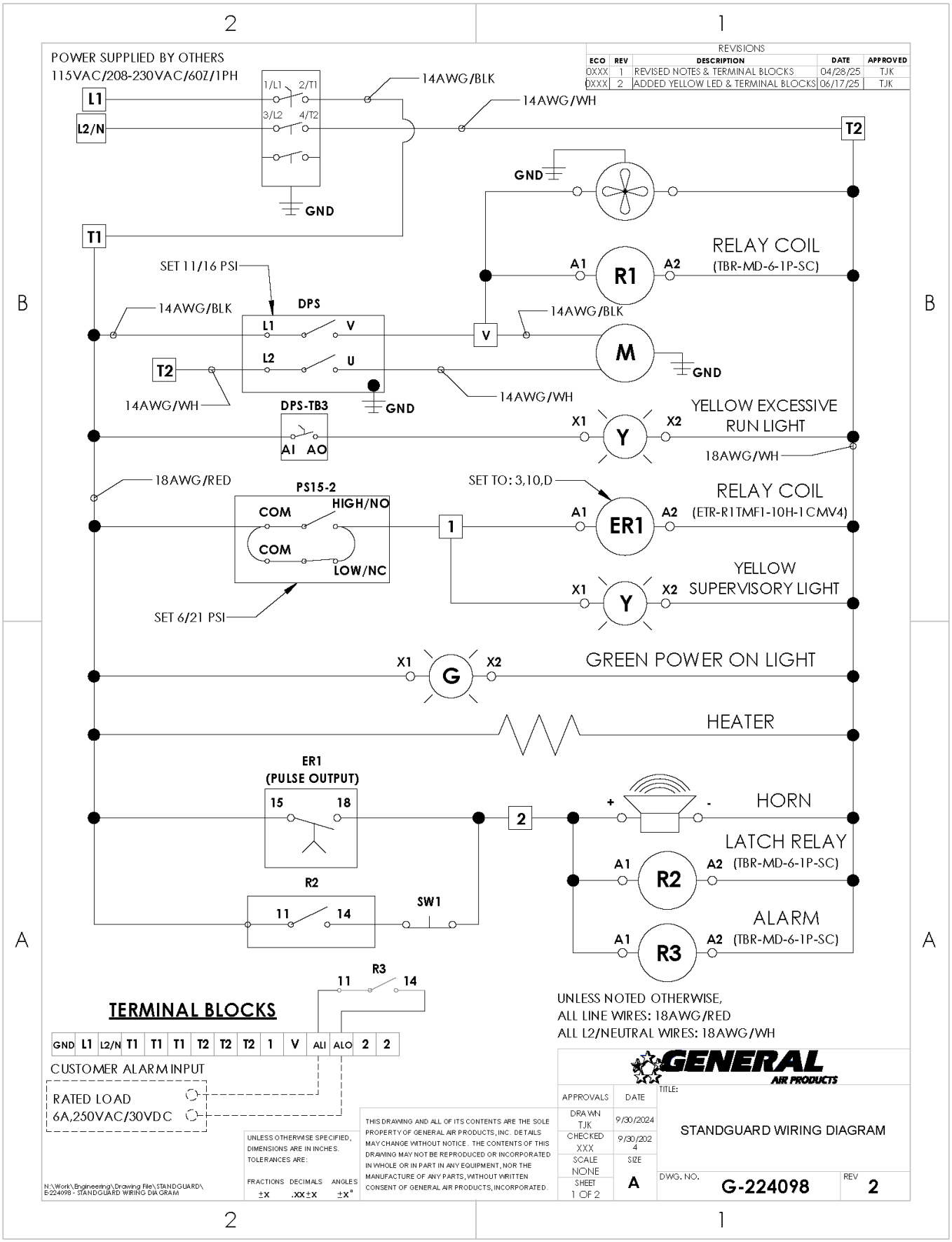
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. TOLERANCES ARE:
FRACTIONS DECIMALS ANGLES
±x .xx±.x ±x°



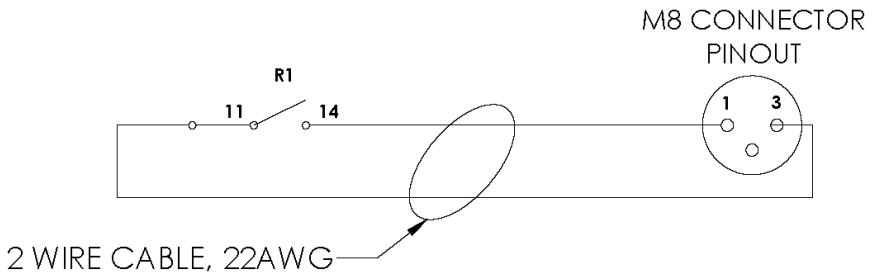
GENERAL AIR PRODUCTS

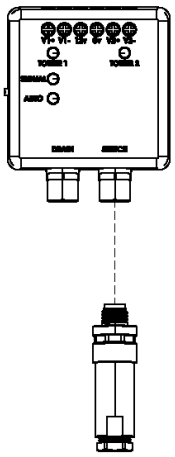
| APPROVALS | DATE | TITLE: |
|---|---|---|
| DRAWN DL | 7/24/2025 | GA STANDGUARD |
| CHECKED TK | 7/24/2025 | |
| SCALE NONE | SIZE B | DWG. NO. G-225169 REV 0 |
| SHEET 2 OF 2 | | |

## 2.2 Electrical Schematic – 100-240V, 1PH, 50-60Hz



| REVISIONS | | | | |
|---|---|---|---|---|
| ECO | REV | DESCRIPTION | DATE | APPROVED |
| 0XXX | 0 | RELEASE OF DRAWING | 00/00/23 | XXX |



| APPROVALS | DATE |
|---|---|
| DRAWN TJK | 9/30/2024 |
| CHECKED XXX | 9/30/2024 |
| SCALE NONE | SIZE A |
| SHEET 2 OF 2 | |

TITLE: **STANDGUARD WIRING DIAGRAM**

DWG. NO. **G-224098** REV **2**

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. TOLERANCES ARE:

FRACTIONS ±x DECIMALS .xx±x ANGLES ±x°



N:\Work\Engineering\Drawing File\STANDGUARD\E-224098 - STANDGUARD WIRING DIAGRAM

# 3 System Description

## 3.1 Description of Operation

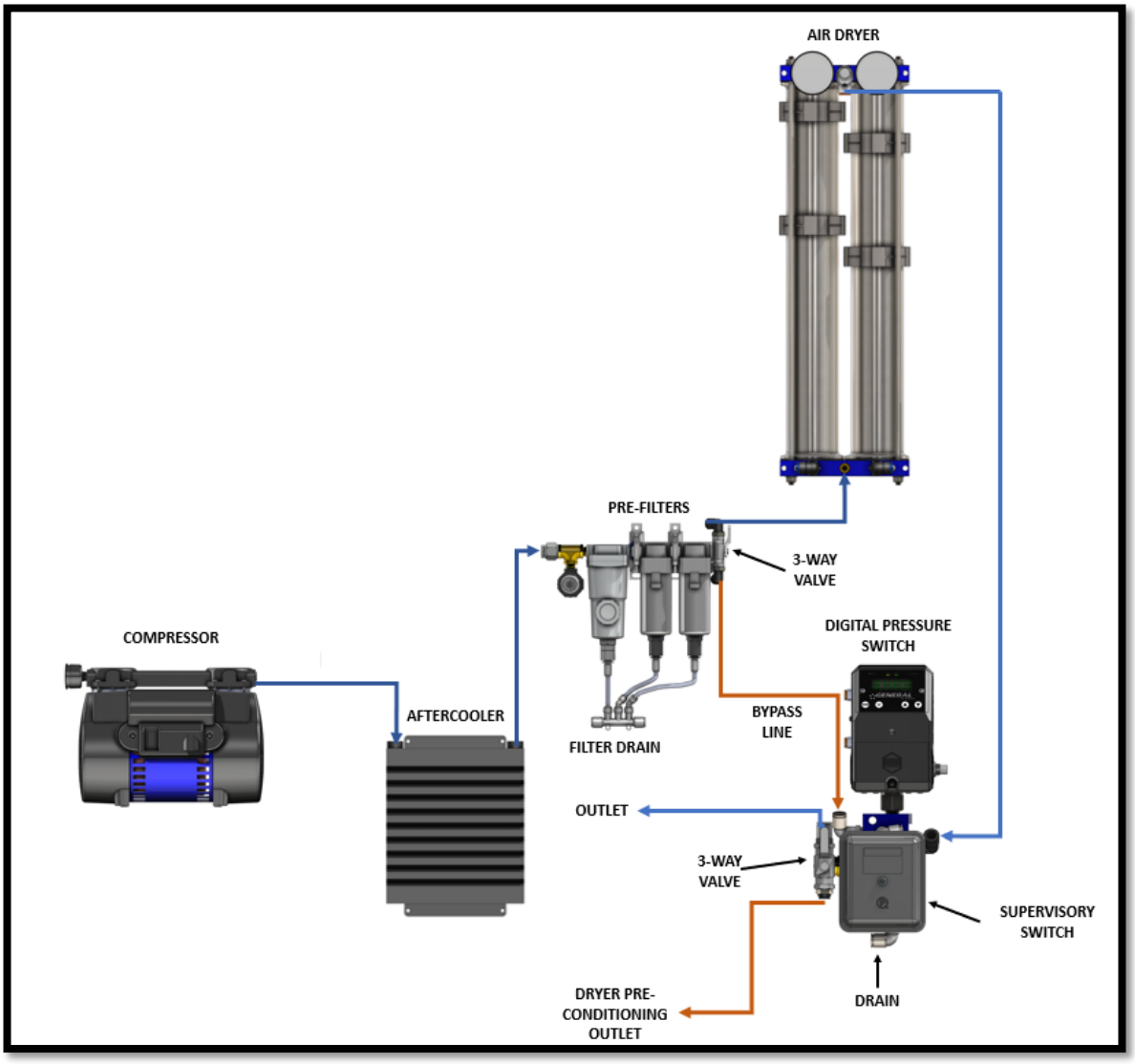



***Figure 1. Standguard Flow Diagram***

Air is drawn into the compressor intake and compressed through the compression cycle. The air then flows into the air-cooled aftercooler where ambient air pulled over the coil cools the hot compressed air.

Water in the compressed air condenses out of the air as it cools and flows through the pre-filters. A check valve in this line prevents back flow to the compressor. The water settles to the bottom of the filters and the filtered air is discharged into the optional desiccant air dryer. A 3-way valve is located at the outlet and must be utilized to pre-condition the desiccant within the air dryer. This 3-way valve should flow into the pre-conditioning direction for 20 minutes prior to filling the sprinkler system.

The air inside of the dryer is diverted to one drying vessel by way of a solenoid valve. The air travels upwards through the desiccant bed inside of the dryer vessel and exits through the outlet. A portion of the dried air is diverted to the opposite vessel by way of a fixed orifice.

To bypass the air dryer, an additional 3-way valve after the pre-filter assembly can be used. This will increase the 30-minute fill time, but will also add additional moisture into the system.

## 3.2 Dryer Operating Sequence

The dryer operates on a 3-minute total cycle. There is a 5 way/2 position solenoid valve on the inlet, and a single 2-way solenoid valve to control the dryer purge. A shuttle valve is used on the outlet to control air flow along with a fixed orifice to control flow for purging

The drying tower is indicated by a light on the dryer control box. The drying tower will show tower pressure and the opposite tower, when purging, will show no pressure. When repressurizing prior to switch over, it will rise to equal pressure. The dryer cycle timer runs only when the compressor is running and accumulates time so that the length of the cycle on each tower stays within the normal time cycle and does not saturate one desiccant bed. The purge valve is only open when the compressor runs.

The frequency of change for desiccant is highly dependent upon the following:

-Number of times the unit must operate to satisfy the system air requirement. The tighter the system, the less the unit will have to run.

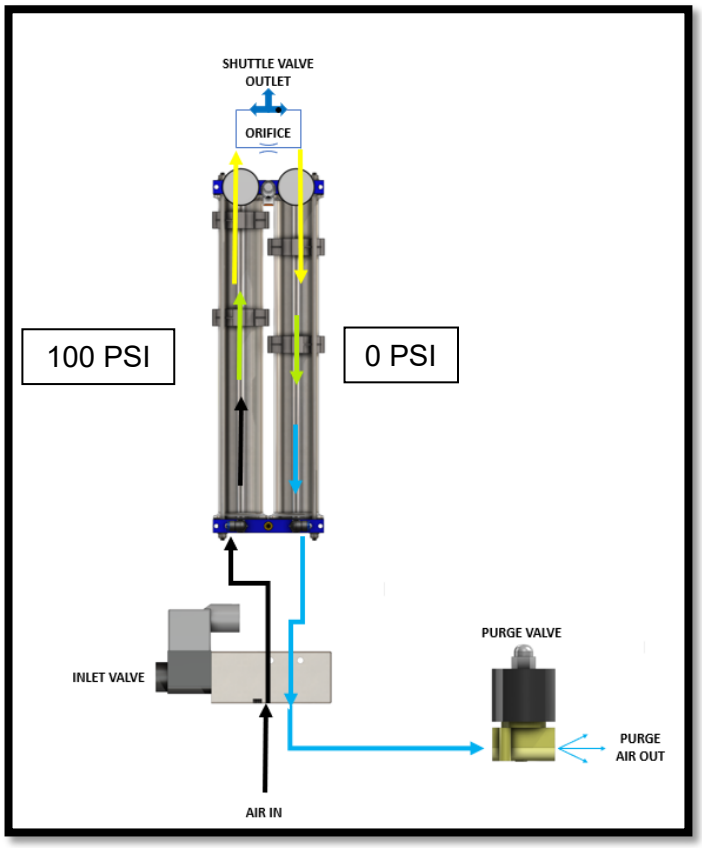
-Cleanliness of the environment in which the compressor is located.

-Maintenance schedule for the equipment.

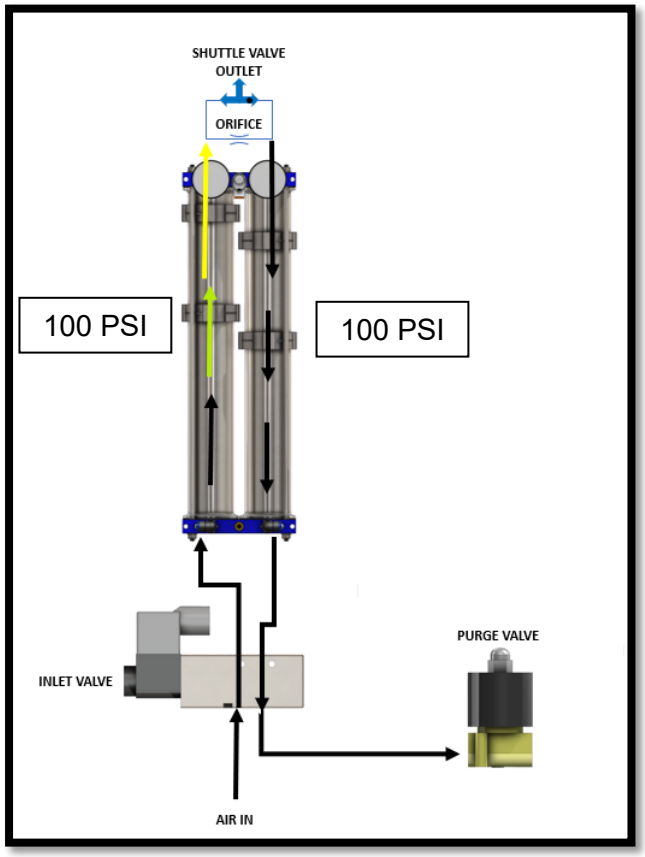
**NOTICE**

*When the desiccant is replaced, all filter elements should also be changed at that time if they have not been already. At a minimum the filters should be changed every 750 run hours.*

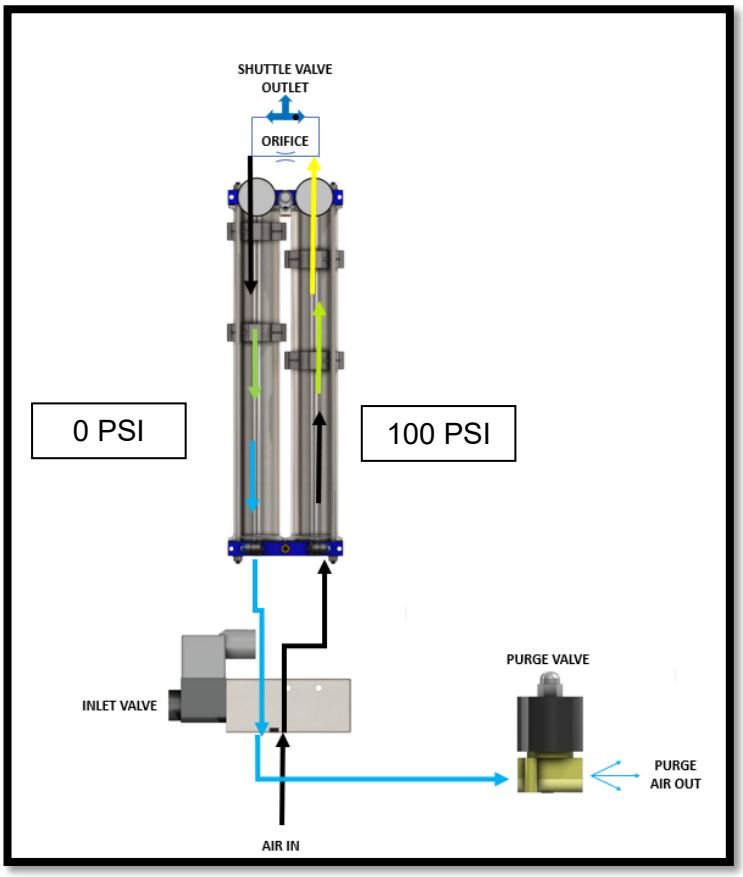
### 3.2.1 Scenario 1: Left Tower Drying Right Tower Purging. 0 - 1min. 10sec.



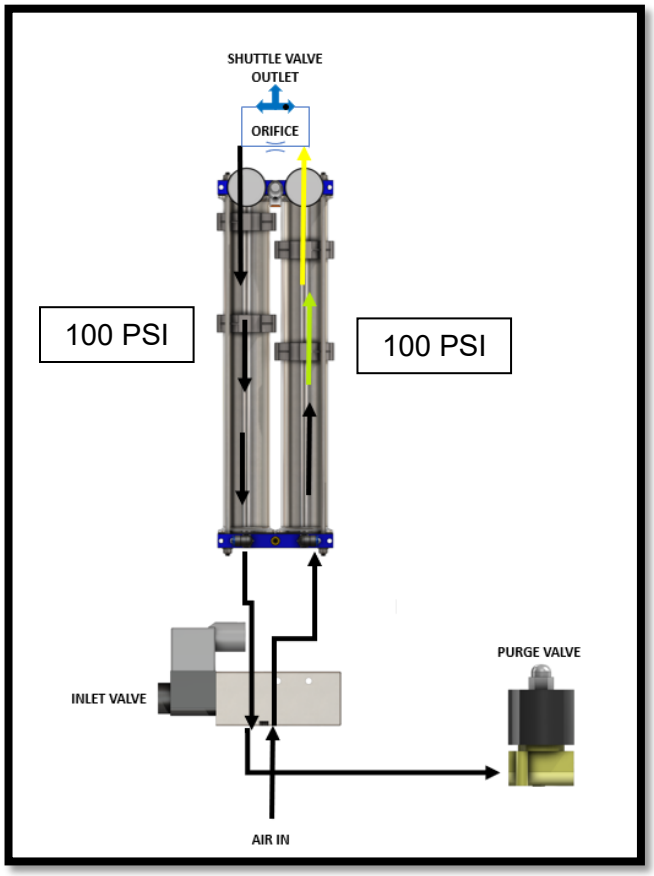

### 3.2.2 Scenario 2: Left Tower Drying Right Tower Repressurizing. 1min. 10sec. – 1min. 30sec.



### 3.2.1 Scenario 3: Right Tower Drying Left Tower Purging. 1min. 30sec. - 2min. 40sec.




### 3.2.2 Scenario 4: Right Tower Drying Left Tower Repressurizing. 2min. 40sec. – 3min.



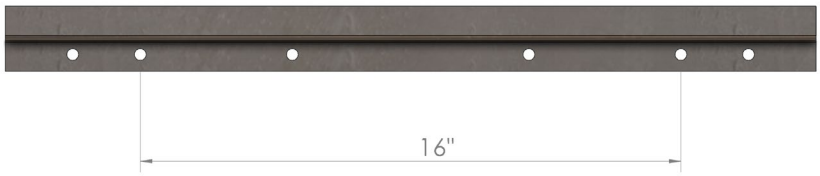
### 3.3 Filter Operation

The first in line filter is for bulk water removal. This is known as a water separator. The 2 following filters protect the desiccant dryer finer mist and dust particles. The filters have built-in automatic drains, which will expel accumulated moisture from the bottom of the bowl.

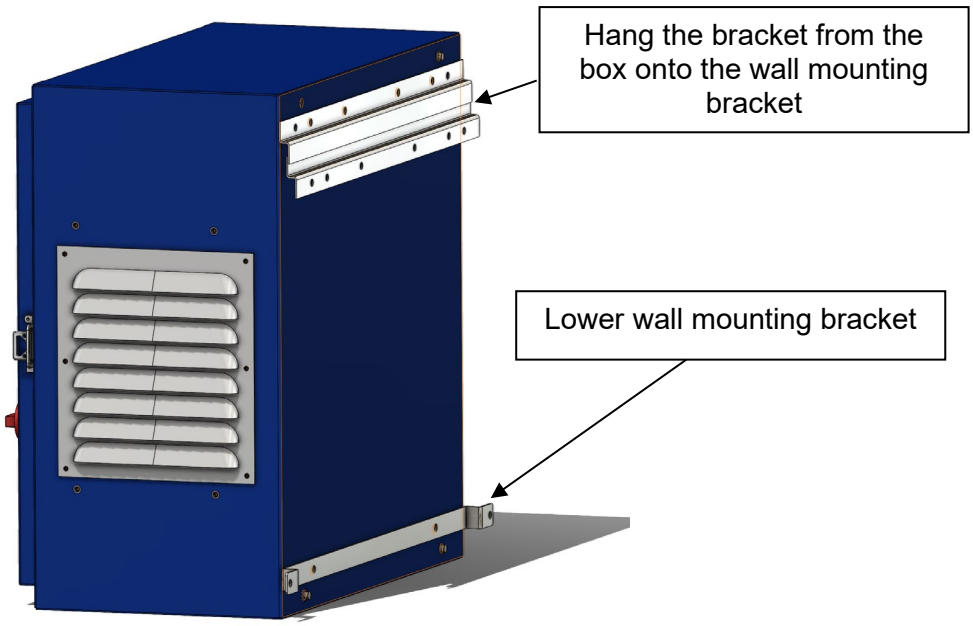
# 4 Installation Instructions

### 4.1 Location

Install the Standguard in a clean, dry location, adjacent to the standpipe system piping. The Standguard can also be mounted to the wall using the optional wall mounting brackets supplied with the unit.




*Use the 16" center hole distance to mount the optional wall mounting bracket to the wall in the orientation shown above.*




*Hang the Standguard onto the wall mounting bracket as shown. Secure the unit to the wall using the two screw holes on the lower wall mounting bracket.*

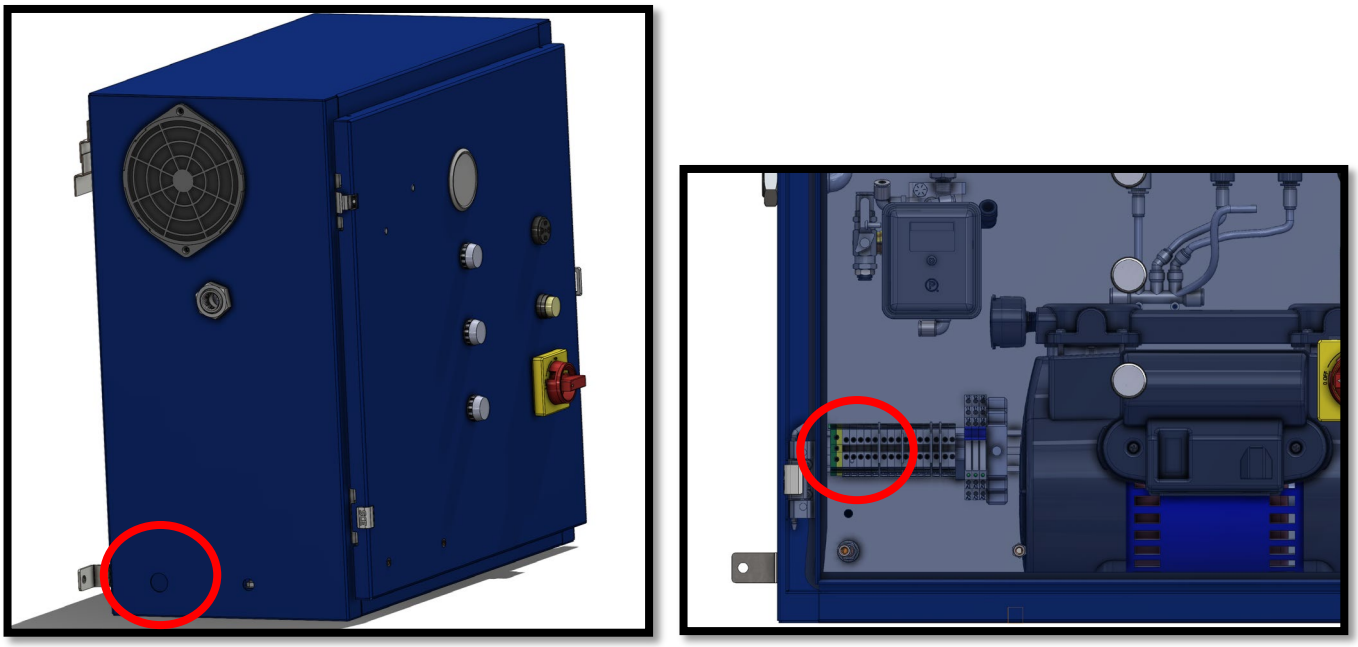
The unit must be accessible on all sides for air flow and servicing all major components. The unit must be leveled and anchored to the wall or floor.

**NOTICE**

*Do not install the Standguard in an area where ammonia vapors or similar contaminants exist. The equipment and desiccant can be damaged by ammonia and other vapors. Locate the Standguard to ensure no ammonia or other vapors are drawn into the intake.*

## 4.2 Connecting Voltage

The Standguard can be powered by 115V/208-230V/1PH/50-60Hz VAC. A pry out hole plug is supplied on the side of the Standguard enclosure. Use a flat head screwdriver or pliers to remove the hole plug.



*Remove the pry out hole plug to bring power into the enclosure.*

Connect supply voltage to separate line terminals L1, L2/N, and GND on the terminal blocks. The terminal blocks can use a max wire size of 10 AWG. All wiring must conform to the National Electrical Code (NEC) and any local or building codes.

**CAUTION**

*Wire size must be capable of carrying the unit load without dropping the voltage at the terminals below normal operating levels. Check incoming wire size; if there are any questions please contact us.*

**DANGER**

*Only qualified electrical personnel should connect the unit.*

## 4.3 Outlet Connection

The Standguard outlet is a ½" Female NPT bulkhead mounted on the side of the enclosure as shown below. Be sure to use a backup wrench when tightening connections to the outlet. Only connect ½" pipe to the outlet, smaller size pipe or tubing can result in pressure drop. Keep pipe length to a minimum, long lengths of ½" pipe can also result in pressure drop.

*Use a backup wrench when connecting to the Standguard ½" FNPT outlet bulkhead.*

## 4.4 Drain Valve

A system drain valve is installed on each unit. The drain valve can be used to release pressurized air from inside of the Standguard enclosure piping. The drain valve connects to the outlet port shown below and is also on the same line as the filter drain assembly. Use a ¼" tube to connect to the outlet bulkhead and plumb this to a drain.

**⚠ WARNING**

*Be sure to pipe the drain valve discharge to a location where the discharged air and water will not be a hazard to personnel. Follow local requirements for disposal of water and oil condensate.*

# 5 Start-Up Instructions

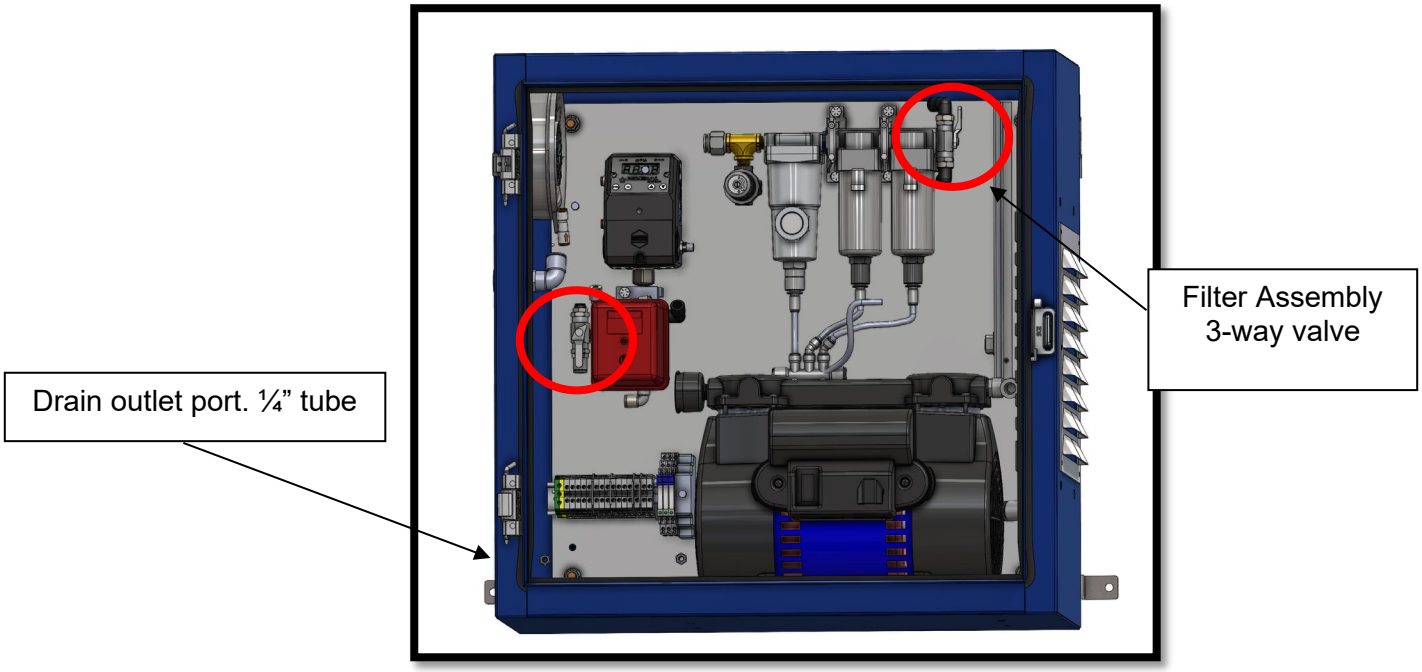
**NOTICE**

*Leaks in the piping system will affect the pump-up time of the system. The Standguard has been factory tested to produce the published capacity, for systems without leaks.*

With all the connections made as described in “Installation Instructions,” the unit is ready to start.

## 5.1 Pre-Conditioning the Desiccant (Air Dryer Option Only)

If the Standguard is equipped with an optional air dryer the desiccant inside of the air dryer towers requires pre-conditioning prior to filling the system. This will allow the desiccant to become conditioned to the proper dew point. Turn the unit on by turning the rotary disconnect on the door and ensure that the 3-way ball valves are positioned as shown below. Allow the unit to run for 20 minutes to complete the pre-conditioning process. The air will flow out of the drain outlet port during pre-conditioning.




*Note the position of the 3-way ball valve handles; the filter assembly valve handle is facing up and the other valve handle is facing down.*

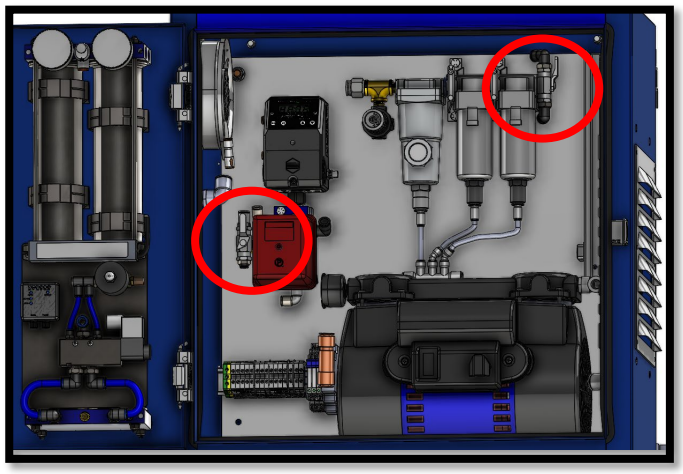
**NOTICE**

*The Standguard should not run for more than 45 minutes in any given hour.*

## 5.2 Filling the System (with and without dry air)

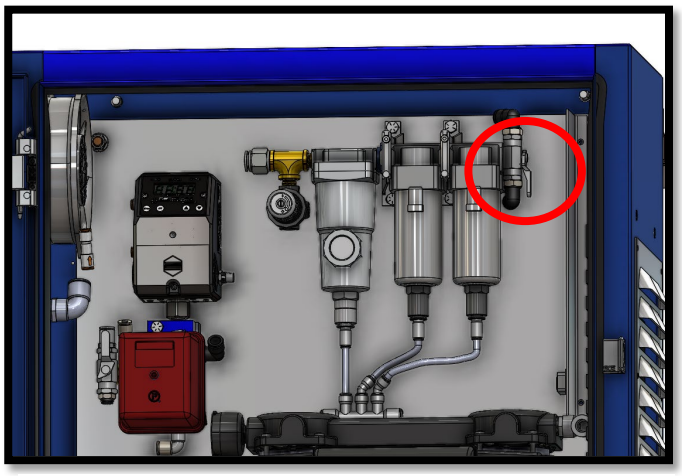
If the unit has the dryer option, then the system can be filled through a bypass valve to increase the 30-minute fill time capacity as published under Specifications in Section 2. To fill through the bypass, position the 3-way ball valves as shown below and to the right. To fill the system with dry air, position the 3-way ball valves as shown below to the left.

***Filling Through Dryer***



*The filter ball valve handle is facing **up** and the outlet valve handle is facing up when filling the system through the dryer.*

***Filling Through Bypass***



*The filter ball valve handle is facing **down** and the outlet valve handle is facing up when filling the system through the bypass.*

If filling the system through the bypass, and the Standguard unit is equipped with an air dryer, be sure to put the unit into drying mode after the system is filled by turning the filter assembly ball valve into the position shown for filling through the dryer.

**NOTICE**

*If a Standguard does not have an optional air dryer, there are no 3-way ball valves to turn.*

# 6 Maintenance

Service kits are available as detailed below. Model and serial numbers are required when ordering service kits.

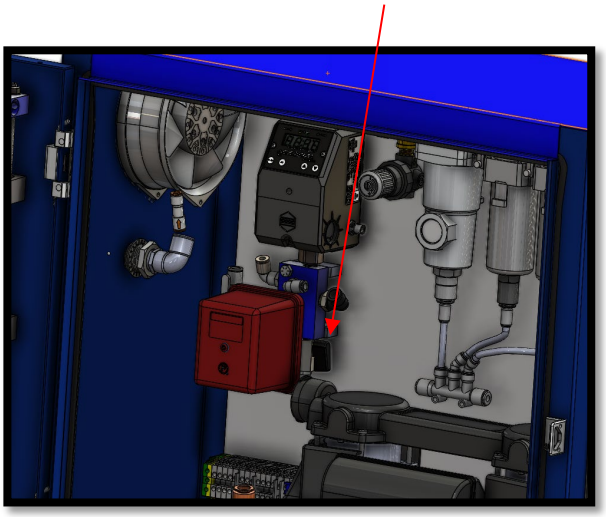
| | |
|---|---|
| SG-800-MK<br>SG-1500-MK | Compressor Intake Filter Element, 2 Coalescing Filter Elements. |
| SG-800D-MK<br>SG-1500D-MK | Compressor Intake Filter Element, 2 Coalescing Filter Elements, desiccant charge for both towers, gaskets |

## 6.1 Filter Cartridge Replacement

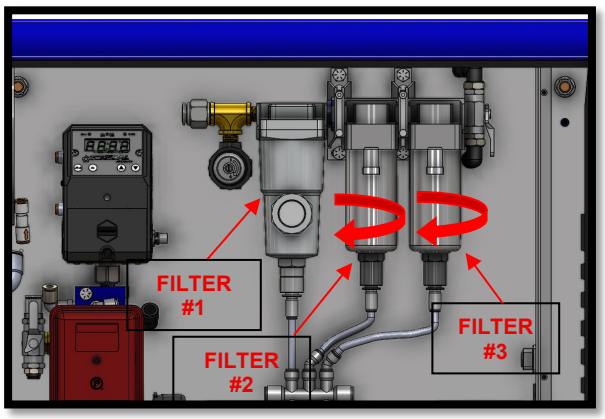
No tools needed.
Parts Needed: SG-800-MK or SG-1500-MK

The STANDGUARD with air dryer comes equipped with 2 pre-filters that require annual maintenance.

**1. TURN THE UNIT OFF BY TURNING THE ROATARY DISCONNECT TO OFF. DEPRESSURIZE THE STANDGUARD BY OPENING THE BALL VALVE SHOWN.**



**2. WHEN FULLY DEPRESSURIZED, THE FILTER CARTRIDGE BOWLS CAN BE REMOVED BY ROTATING THEM TO THE LEFT.**




**FILTER #1 DOES NOT REQUIRE MAINTENANCE**

**3. INSERT THE CORRECT CARTRIDGE INTO THE FILTER BOWL AS SHOWN BELOW.**

FILTER #2 CARTRIDGE

FILTER #3 CARTRIDGE

**4. REINSTALL FILTER #2 AND #3 BOWL. CLOSE THE BALL VALVE FROM STEP 1 AND POWER THE UNIT BACK ON.**

**CHECK FOR LEAKS.**

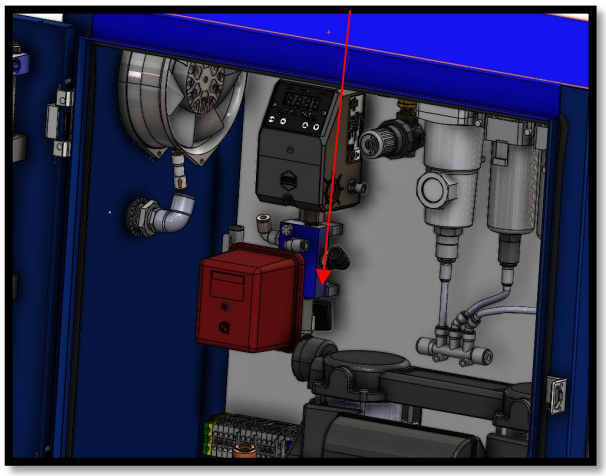
**DANGER** *Filters must be completely depressurized. Pressure left in the filters can result in risk of injury.*

## 6.2 Desiccant Replacement

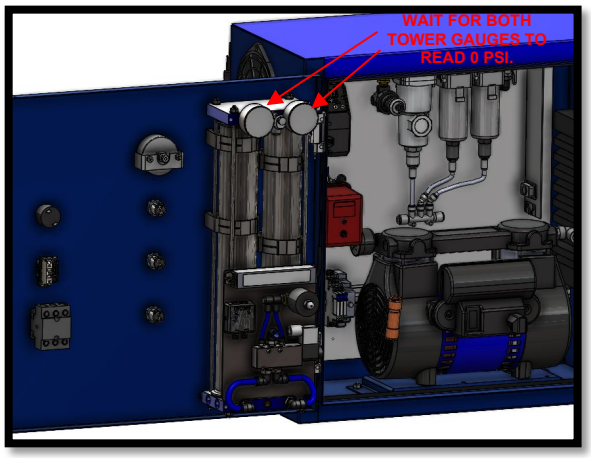
Tools Needed: Pliers
Parts Needed: SG-800D-MK or SG-1500D-MK

The Standguard dryer has 2 vessels containing desiccant to dry out the pressurized air. The desiccant must be serviced regularly to prevent wet air from travelling into the sprinkler system.

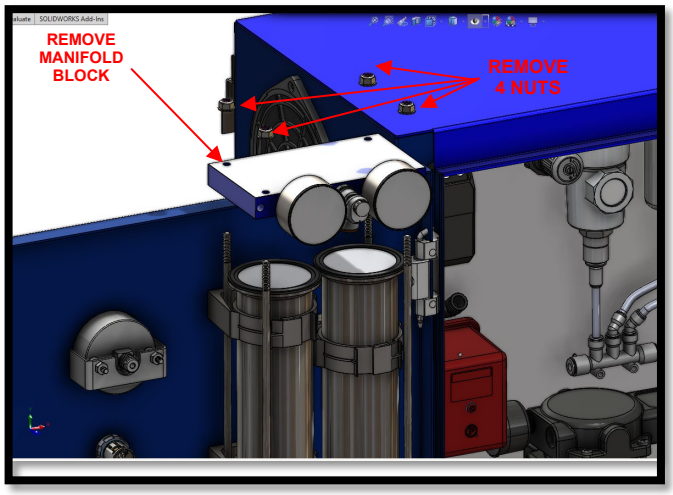
1. **TURN THE UNIT OFF BY TURNING THE ROATARY DISCONNECT TO OFF. DEPRESSURIZE THE STANDGUARD BY OPENING THE BALL VALVE SHOWN.**



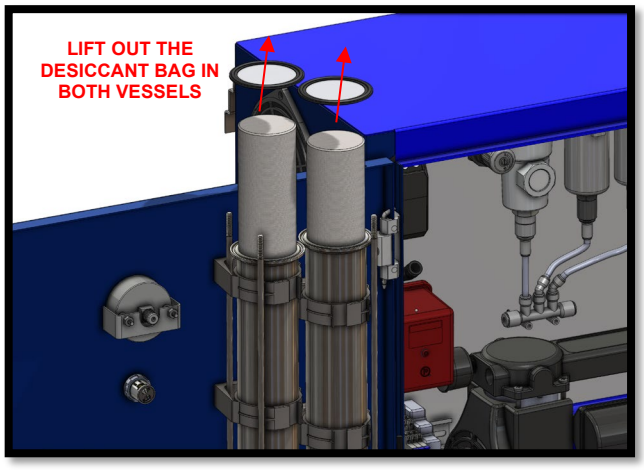
2. **WATCH THE TOWER PRESSURE GAUGES ON THE AIR DRYER AND WAIT FOR THEM TO REACH 0 PSI.**




3. **USE A 7/16” WRENCH TO LOOSEN THE 4 NUTS ON THE TOP OF THE DRYER. REMOVE THE MANIFOLD BLOCK.**




4. **REMOVE AND DISCARD THE FILTER/GASKET. LIFT OUT AND DISCARD THE OLD DESICCANT BAGS.**




5. **INSERT NEW BAGS AND FILTER/GASKETS INTO BOTH VESSELS. TIGHTEN THE x4 MANIFOLD BLOCK NUTS to 20 FT-LBS. TURN THE UNIT BACK ON AND CHECK FOR LEAKS.**

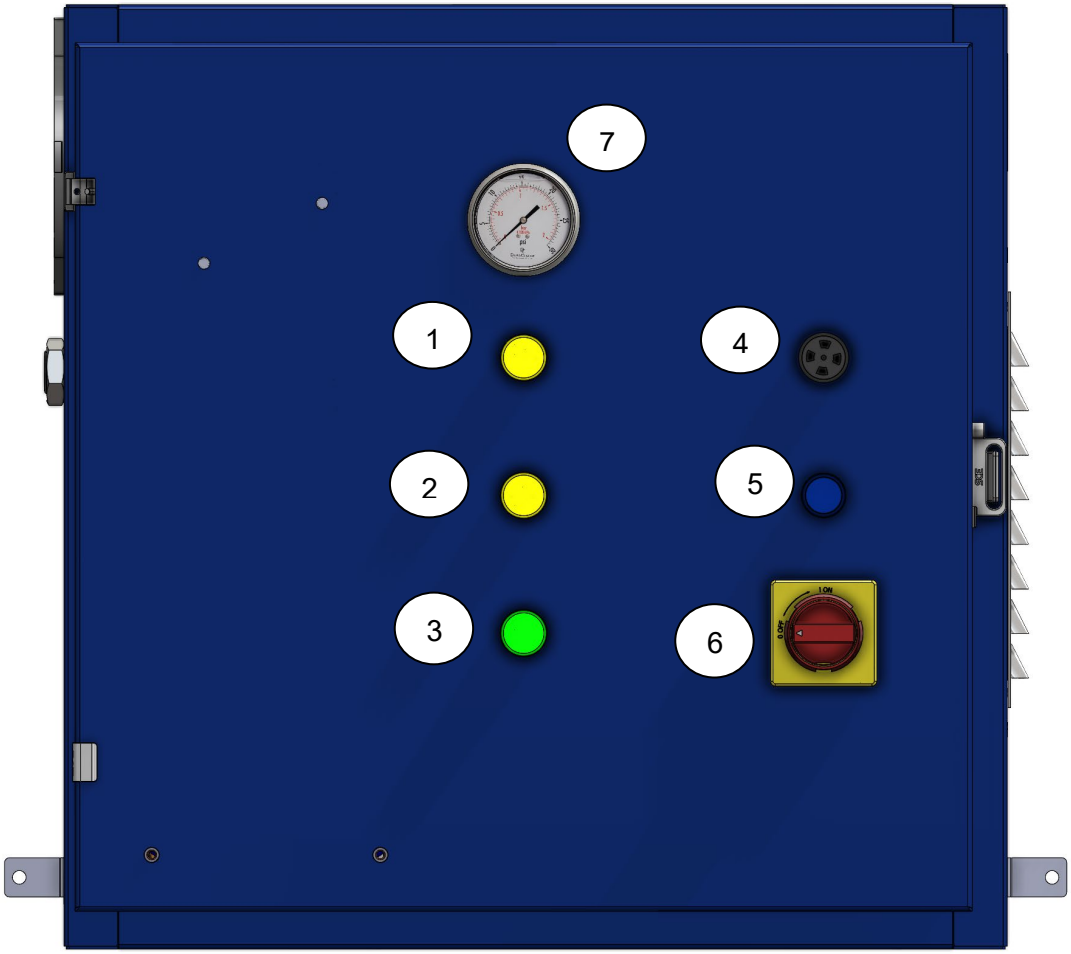
**⚠ DANGER**

*Towers must be completely depressurized. Pressure left in the towers can result in risk of injury.*

# 7 Control Panel

## 7.1 Front Panel Layout

When powering the unit on, the revision level of the firmware is displayed for a few seconds. The unit will then change to its default display as shown below.




*FRONT PANEL VIEW*

The table below is a description of the Standguard front panel layout.

| | | |
|---|---|---|
| **1** | **HIGH/LOW ALARM LED** | On when the system is above 21 PSI or below 6 PSI. |
| **2** | **COMPRESSOR ALARM LED** | On when the Digital Pressure Switch signals an alarm.<br>• Excess Cycles: the compressor cycled more than 6 cycles in 1 hour<br>• Excessive Run: the compressor ran for more than 45 minutes straight. |
| **3** | **POWER ON LED** | On when the unit has power and the rotary disconnect is on. |
| **4** | **HORN** | Active when the unit enters HIGH/LOW alarm. |
| **5** | **RESET BUTTON** | Push to silence the horn. |
| **6** | **ROTARY DISCCONECT** | Turn to power the unit ON or OFF. |
| **7** | **SYSTEM PRESSURE** | 0-30 PSIG gauge to indicate system pressure. |

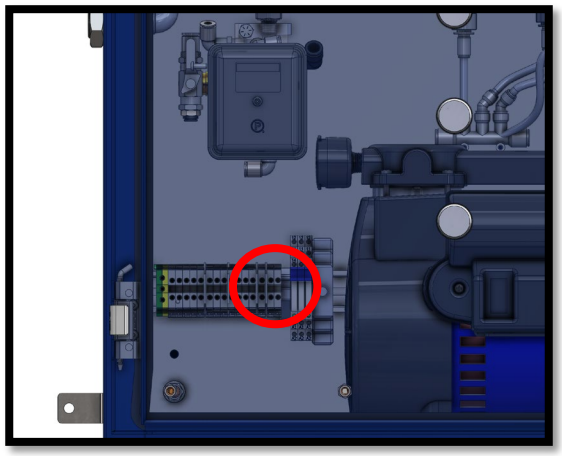
## 7.2 Control Panel Alarms/Dry Contacts

When an alarm becomes active on the Standguard, the horn and supervisory light may turn on or the maintenance light will turn on depending on the active alarm.

The table below is a description of each alarm.

| Alarm Descriptions | |
|---|---|
| **High Pressure** | The system pressure has exceeded the maximum allowable pressure of 21 PSI. Horn is on, supervisory light is on. Press the silence horn button and reduce the system pressure to rest. |
| **Low Pressure** | The system pressure has dropped below the allowable 6 PSI. Horn is on, supervisory light is on. Press the silence horn button and increase the system pressure to rest. |
| **Excessive Run** | The compressor exceeded its maximum allowable runtime of 45 minutes. Compressor alarm light is on. Press and hold the ENTER button on the Digital Pressure Switch located inside of the panel to reset. |
| **Excessive Cycles** | The compressor exceeded its maximum allowable cycles of 6 per hour. Compressor alarm light is on. Press and hold the ENTER button on the Digital Pressure Switch located inside of the panel to reset. |

Dry contacts are provided to receive a remote alarm signal from the Standguard. The contacts are rated for 6 Amps, 250VAC/30VDC and they are directly linked to the high/low supervisory pressure. They are labeled ALI and ALO and are located as shown below.



*Alarm dry contacts are labeled ALI and ALO*

# 8 Warranty Poilcy

GENERAL PROVISIONS & LIMITATIONS

General Air Products, Inc. (the "Company") warrants to each original purchaser ("Purchaser") of its new products from the Company or its Authorized Distributor that such products are, at the time of delivery to the Purchaser, made with good materials and workmanship. No warranty is made with respect to:

1. Any product, which has been repaired or altered in such a way, in the Companies judgment, as to affect the product adversely.
2. Any product, which has, in the Companies judgment been subjected to negligence, accident, improper storage, improper installation or application.
3. Any product, which has not been operated or maintained in accordance with the recommendations of the Company.
4. Components or accessories manufactured, warranted and serviced by others.
5. Any reconditioned or prior owned product.

Claims for items described in 4. above should be submitted directly to the manufacturer.

WARRANTY PERIOD

The Company's obligation under this Warranty is limited to repair or, at its option, replacing during normal business hours at the designated facility of the Company, any part that in its judgment proved not to be as warranted within the applicable Warranty Period as follows.

COMPONENTS

All non-consumable components are warranted for 12 months from the date of purchase. Consumables are not covered under warranty. The unit must have been installed by either a factory authorized distributor or agent in accordance with the factory recommendations taking into account all other local site conditions not originally noted to the factory. The unit must be operated and maintained in accordance with the Factory recommendations and original design conditions. Failure to provide such proof of the above may void warranty.

LABOR TRANSPORTATION & INSPECTION

The Company will repair or replace any product or part thereof which in the Companies judgment is proved to be not as warranted. Labor costs are not covered under warranty.

All costs of transportation of product, labor or parts claimed not to be as warranted and, of repaired or replaced parts to or from factory shall be borne by purchaser. The Company may require the return of any part claimed not to be as warranted to one of its facilities as designated by the Company, transportation prepaid by Purchaser, to establish a claim under this warranty.

Replacement parts provided under the terms of the warranty are warranted for the remainder of the Warranty Period of the product upon which installed to the same extent as if such parts were original components.

DISCLAIMER

THE FOREGOING WARRANTY IS EXCLUSIVE AND IT IS EXPRESSLY AGREED THAT, EXCEPT AS TO TITLE, THE COMPANY MAKES NO OTHER WARRANTIES, EXPRESSED OR IMPLIED OR STATUTORY, INCLUDING ANY IMPLIED WARRANTY OR MERCHANTABILITY.

THE REMEDY PROVIDED UNDER THIS WARRANTY SHALL BE THE SOLE, EXCLUSIVE AND ONLY REMEDY AVAILABLE TO THE PURCHASER AND IN NO CASE SHALL THE COMPANY BE SUBJECT TO ANY OTHER OBLIGATIONS OR LIABILITIES. UNDER NO CIRCUMSTANCES SHALL THE COMPANY BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES, EXPENSES, LOSSES OR DELAYS HOWSOEVER CAUSED.

No statement, representation, agreement, or understanding, oral or written, made by any agent, distributor, representative or employee of the Company which is not contained in this Warranty will be binding upon the company unless made in writing and executed by an officer of the Company.

This warranty shall not be effective as to any claim which is not presented within 30 days after the date upon which the product is claimed not to have been as warranted. Any action for breach of this warranty must be commenced within one year after the date upon which the cause of action occurred.

Any adjustment made pursuant to this warranty shall not be construed as an admission by the Company that any product was not as warranted.

PROMPT DISPOSITION & RETURNS POLICY

The Company will make a good faith effort for prompt correction or other adjustment with respect to any product, which proves to be defective within the warranty period. Before returning any product, write or call the distributor, agent or authorized company from which the product was purchased, describing defect and giving date and number of original invoice, a well as proof of Factory supplied consumables and proof of scheduled maintenance. No products will be accepted for return without the Company issuing a “Returned Goods Authorization” (RGA) to the Purchaser and unless accompanied by a properly authorized RGA request form initiated by the Purchaser. Return freight must be prepaid and each returned product must have the RGA number clearly marked on the product. Title and risk of loss pass to buyer upon delivery to the common carrier.

PRODUCT SUITABILITY

Many States, Localities and Countries have codes and regulations governing sales, construction, installation, and/or use of products for certain purposes, which may vary from those in neighboring areas. While General Air Products, Inc. attempts to assure that its products comply with such codes, it cannot guarantee compliance, and cannot be responsible for how the product is installed or used? Before purchase and use of a product, please review the product application, and national and local codes and regulations, and be sure that the product, installation, and use will comply with them.

**General Air Products, Inc.**
118 Summit Drive
Exton, PA 19341
P: 610-524-8950
F: 610-524-8965

## For Technical Support, Call 1-800-345-8207

**Hours of Operation: 8AM-5PM Eastern, Monday-Friday**