

# Nitrogen Advantage

NITROGEN TIRE INFLATION SYSTEM, 4/7/14 CFM

- ▶ Better Tire Pressure Retention
- ▶ Improved Fuel Economy
- ▶ Extended Tread Life
- ▶ Elimination of Oxidation
- ▶ Reduction in Tire Failures



**CHAMPION**<sup>®</sup>

A Gardner Denver Product

*Always be one.*

# Nitrogen Advantage

## NITROGEN INFLATION SYSTEM

Champion has been manufacturing air compressors since 1919. We understand and have supplied air compressors to the automotive and tire industries for over 85 years!

For tire inflation though, there is a dramatic movement occurring... and it is called NITROGEN.

The pneumatic tire has been filled with the same air we breathe—which is made up of 78% nitrogen, 21% oxygen and a small amount of trace gases. When it comes to tires however, moisture within oxygen causes oxidation and other heat related problems.

Nitrogen alone is a dry, non-flammable gas, with inert properties proven safe enough to be used for tire inflation by NASA, the U.S. military, NASCAR and the airline industry.

## Benefits of Nitrogen... the Champion Advantage

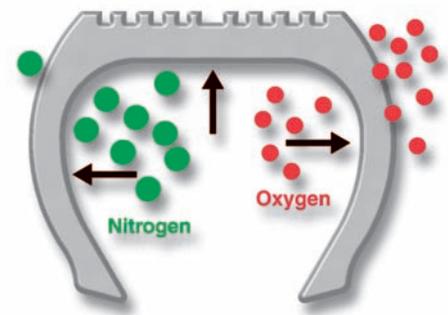
*Better Tire Pressure Retention* - Nitrogen migrates through a tire 3 to 4 times slower than air. It may take 6 months to lose 2 psi with nitrogen compared to less than a month with air, because nitrogen molecules are larger than oxygen molecules.

*Improved Fuel Economy* - maintaining the proper tire pressure reduces the rolling resistance, boosting potential fuel economy.

*Extended Tread Life* - tires inflated with nitrogen retain the optimum designed profile and run cooler than tires inflated with compressed air.

*Elimination of Oxidation* - oxygen in air is highly reactive at high pressures and temperatures. Replacing air with dry nitrogen helps eliminate oxidation that damages inner liners and belt packages.

*Reducing Road Hazard Issues Due to Tire Failures* - without the oxidation and excessive heat, tire failures can be significantly reduced.



*Note: Nitrogen generators require clean and dry compressed air to supply air pressure, air temperature or supply air flow will change the result of nitrogen purity.*



# Nitrogen Auto Fill Cart

Every nitrogen generator used in the automotive industry would benefit from an Auto Fill Cart. The Auto Fill Cart completes the Nitrogen Advantage offering. The cart is simple to use—the customer must connect the nitrogen generator to the inflation/purge cart. After the cart has been piped to the nitrogen generator, they will be able to connect the four discharge hoses to the vehicles tires, set the controller to the desired pressure, and start the system. The system automatically purges all four tires, refills them with nitrogen to the set pressure, purges the tires again, and then refills the tires again for the second time. The second purge and fill will be at the set pressure and at the purity levels desired, this will be between 95–98%.

## Standard Features

- ▶ The controller is a digital battery powered inflation/purge system mounted to the mobile inflation cart.
  - Battery operated and rechargeable
  - Accurate to  $\pm 0.3$  psig
- ▶ Program number of purge cycles (0–9)
- ▶ Four 24' hoses with clip on valve stem chucks are included on each side of the unit, an additional port is supplied in case the spare needs to be inflated at the same time. No hose is included for that function.
- ▶ The cart has two 8" thermoplastic rubber wheels
- ▶  $\frac{3}{8}$ " NPT inlet port
- ▶ 150 psig maximum inlet pressure
- ▶ Valve cap storage compartments
- ▶ Shelf for analyzer/charger
- ▶ Cart Dimensions: 22 $\frac{1}{8}$ " W x 15 $\frac{7}{8}$ " D x 49 $\frac{1}{2}$ " H



## SUGGESTED NITROGEN SYSTEM SIZING

Recommended Champion Compressor CFM @ 175 PSIG	Refrigerated Air Dryer CFM	Nitrogen Advantage Model	Use
10	15	NA 4-60	Automotive
16	25	NA 7-80	Automotive & Light Volume Truck
34	50	NA 14-80	Medium Volume Truck & OTR

## Warranty

Champion warrants each new Nitrogen Membrane to be free from defects in material and workmanship under normal use and service for a period of 60 months from the date of installation or 63 months from the date of shipment by Champion. This assumes proper pre-filter maintenance has been performed and no oil contaminants have been allowed into the membrane. The presence of any oil in the Nitrogen Membrane will void the manufacturers warranty.

Twenty four (24) months from date of delivery on oxygen/nitrogen analyzers.

Twelve (12) months from date of delivery on all other Nitrogen Product components.

This warranty does not cover defects in the product caused by ordinary wear and tear, abuse, misuse, overloading, accident (including shipping damage), improper maintenance, alteration, or any other cause not the result of defective materials or workmanship.

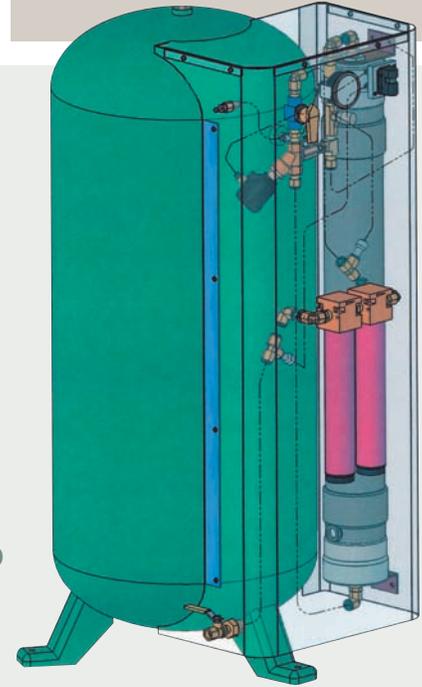
Unique features

- ▶ 95–99% Nitrogen Purity Guarantee
- ▶ 60 and 80 Gallon vertical 200 PSI working pressure ASME Code receivers are standard
- ▶ Industrial type receiver base
- ▶ (1) Coalescing and (1) Particulate Filter eliminate moisture and contaminants prior to entering the membrane. A carbon prefilter is **NOT** required
- ▶ Filter Replacement Indicators
- ▶ 40–150°F Operating Temperature Range
- ▶ Automatic Shut Off halts air consumption while unit is not in operation
- ▶ Dew point: -80°F @ atmosphere
- ▶ Hand Held Nitrogen/Oxygen Analyzer for Easy Testing of Nitrogen Purity in Tires
- ▶ Compact footprint for minimum space requirements
- ▶ Manual Tank Drain
- ▶ 24/7 Customer Service
- ▶ Easy to Install with Existing Air System
- ▶ Low Annual Maintenance

- ▶ No Electric Power Needed
- ▶ 5 Year Limited Membrane Warranty
- ▶ Compact Footprint for Minimum Space Requirements

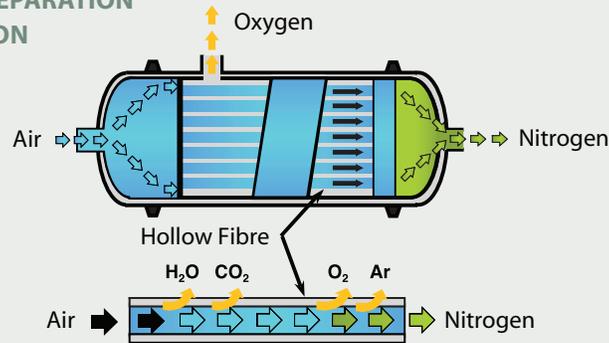
Optional equipment

- ▶ Promotional materials kit
- ▶ Hose reel (green hose)
- ▶ Valve stem caps (green)
- ▶ Kiosk units



NA 4-60

MEMBRANE SEPARATION BY PERMEATION



MEMBRANE COMPONENT



SPECIFICATIONS

Model Number	Min. Inlet CFM Required	Inlet PSIG	Nitrogen Output CFM	Receiver Tank	Dimensions L X W X H	Approx. Weight LBS
NA 4-60	8	175	4	60	32 x 32 x 55	279
NA 7-80	14	175	7	80	32 x 32 x 80	391
NA 14-80	28	175	14	80	32 x 32 x 80	416

GET NITROGEN™ INSTITUTE



A Gardner Denver Product

1301 North Euclid Avenue  
 Princeton, Illinois 61356 USA  
 Phone 888/436-5499  
 Fax 815/872-0421  
 E-mail: [Champion@championpneumatic.com](mailto:Champion@championpneumatic.com)  
[www.championpneumatic.com](http://www.championpneumatic.com)

