

Containerized Systems

Market Application Publication



Background:

The demand for nitrogen generated non-cryogenically on location continues to grow, fueled in part by creative custom designs for targeted applications where conventional cryogenic nitrogen supply schemes are expensive, impractical, or non-existent. These applications include:

- Portable or stationary high flow N2 systems, typically at moderate N2 purities of 93-97%
- Packaged systems, sometimes including compression, for harsh or remote environments
- Offshore systems, where compactness and inherent safety and reliability are critical
- Efficient high purity systems to 99.5+% for the same demanding applications



Features and benefits:

- Provides continuous on site production of dry, inert N2 to meet your purity, flow, and pressure specifications
- Generates high flow capacities in a compact, easily transportable container with membranes or PSAs
- Avoids the transportation logistics and costs associated with cryogenic-based N2 supply
- Can process low pressure air from conventional lubricated or oil-free compressors
- Built-in membrane air dryer is available to process saturated feed air without electrical power
- Simple process controls with N2 flow, purity and pressure readouts and signal outputs
- Rapid set-up, start-up, and derigging on location

Application/Case Study:

Parker containerized systems are equipped with our own air-filtration components to provide the highest assurance of clean air to the air separation system. If the feed air is saturated, Parker Balston membrane air dryers are available to dehydrate the air for optimum

system performance. System controls are easy to use, and only the highest quality process instruments are specified.

A wide range of product gas N2 purities can be generated from any containerized system, but most are matched with dedicated feed air compressors, and some

with high pressure boosters compressors to meet nitrogen product requirements. Depending on the system capacities, Parker nitrogen systems can be built inside standard shipping containers from 10 to 40 ft in length, or custom enclosures can be provided as specified by our clients.

Principal Specifications

All Models

Nominal Conditions - All Models

Feed Pressure	100-190 psig
Feed Temperature	80°F (26°C)
Ambient Pressure	1 Atmosphere

Compressed Air Specifications

Maximum Pressure	190 psig membranes, 150 psig PSA
Temperature Range	60°F to 120°F (16°C to 49°C)

Recommended Dew point	-40°F pressure dp or lower
Residual Oil Content	Trace
Particles	<.01 micron

Ambient Conditions

Temperature	40°F to 110°F (4°C to 43°C)
Ambient Pressure	Atmospheric
Air Quality	Clean air without contaminants



Performance Chart

Low pressure models shown - pressures to 190 psig available

Parker HiFlux[®] Containerized Membrane or PSA Systems, Model FB-C Membrane Series or CPSA Series

Type	N2 purity design basis	Flow Rate (scfm)	Feed Pressure	Delivery Pressure	Dimensions (L x W x H, ft)	Weight (lbs)
Membrane	95	300-750	100-190	75-170	10 x 8 x 8.5	7500
Membrane	95	750-1200	100-190	75-170	(10-15) x 8 x 8.5	10,000
Membrane	95	1500-2000	80-190	60-170	20 x 8 x 8.5	15,000
Membrane	95	2000-3000+	80-115	60-100	(20-40) x 8 x 8.5	15K-25K
PSA	99+	50-200	100-150	60-110	(20-40) x 8 x 8.5	10K-30K

Notes:

Pressures in psig. Performance based on actual feed air flow, pressure, temperature and required N2 purity. Consult factory for higher N2 purities, flow rates, or delivery pressures.



Container equipped with built-in Parker membrane air dryers