



# On-Site Nitrogen Generators

1-2,000 scfm



## Boost Your Bottom Line

With quality and reliability built in, Ingersoll Rand's on-site nitrogen generators offer a wide variety of innovative solutions to meet your production needs and reduce operating costs compared to traditional nitrogen supply.

 [Learn More About Nitrogen Generators](#)

## The Benefits of On-Site Nitrogen Generation

The earth's atmosphere is composed of 78% nitrogen, making it one of the most readily available and economical inert gases. It is used to avoid combustion, corrosion and product spoilage. Many industries rely on nitrogen for their manufacturing processes, including food and beverage, electronics, petrochemicals, pharmaceutical and metal operations.

Ingersoll Rand offers a complete line of nitrogen generation solutions that allow you to forgo traditional nitrogen delivery, reduce operating expenses and simplify your operations.

On-site nitrogen generation with Ingersoll Rand helps your business realize the following benefits:

- Lower operating costs with year-over-year savings
- Simplify business processes with a single trusted partner for your nitrogen generation needs
- Reduce waste and operate more sustainably
- Avoid safety and footprint issues associated with storing nitrogen

**Let Ingersoll Rand be your trusted partner for your complete nitrogen generation system solution and service.**



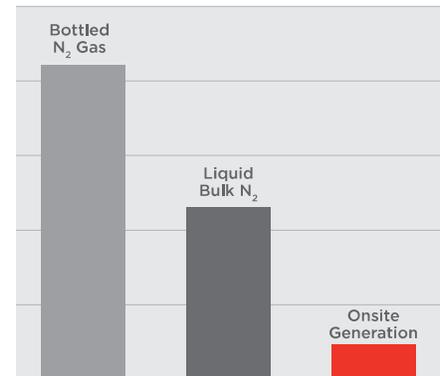
## Advantages of On-Site Nitrogen Generation

Our nitrogen generators eliminate the need for traditional nitrogen shipments and storage, providing you with real cost savings. With access to our entire portfolio of related products and services, you'll have a trusted partner for nitrogen solutions from start to finish. Choose from membrane technology for smaller applications requiring lower purities, and pressure swing adsorption (PSA) technology for lower operating costs and higher nitrogen purity above 99.5%.

### On-Site Nitrogen Generation with Ingersoll Rand:

- Lowers your operating cost by generating nitrogen at your facility from freely available air
- Maximizes system energy efficiency by providing a wide range of technologies, including nitrogen generators with industry-leading air-to-nitrogen ratio
- Provides N<sub>2</sub> purity tailored to your operation, whether you need 95% or 99.999%
- Ensures peace of mind with trained Ingersoll Rand technicians to provide local support

### Annual Operating Cost



Ingersoll Rand nitrogen generators typically provide a one-year payback. After year one, you'll realize year-over-year savings.

## KNOW THE FACTS

10-20% of bulk nitrogen is typically wasted through bleed off or failure to extract all N<sub>2</sub> from canisters.

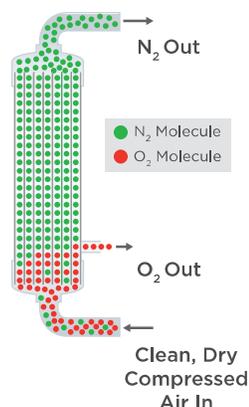


## Membrane Nitrogen Generators

For smaller applications requiring less purity, membrane nitrogen generators provide a reliable economical solution.

### How Membrane Nitrogen Generators Work

Compressed air passes through a separation membrane consisting of thousands of hollow tubes. Small holes in the walls of each tube allow smaller oxygen molecules to filter through, leaving a stream of high purity nitrogen at the membrane outlet. There are no moving parts to the membrane—simply controlling operating pressure, temperature and product nitrogen flow rate result in the desired purity.



- Designed to meet lower flow requirements and lower nitrogen purities up to 99.5%
- Simple design with no moving parts for a reliable solution
- Comes standard with air filtration needed for a simple plug and play design
- Smaller installed footprint, simpler to maintain and repair



## Pressure Swing Adsorption (PSA) Nitrogen Generators

Your success depends on safety and reliability—that's why it's built into all of our nitrogen generators. Each PSA system comes pre-assembled and tested at the factory for simple, plug-and-play installation at your site to maximize productivity and ensure out-of-box operation. Our robust design includes:

- Superior quality CMS media that extends product life, simplifies maintenance and reduces replacement costs
- Flow is directed to one adsorber or the other by precision switching valves with high cycle rating to improve durability
- Intelligent controls designed to optimize set points, improve performance, and protect your entire nitrogen generation system
- ASME-certified pressure vessels to ensure safe operation
- Standard extended warranties to keep you protected for 24/30 months

### How PSA Nitrogen Generators Work

PSA technology utilizes a twin tower design where nitrogen production and tower regeneration occur simultaneously.

#### N<sub>2</sub> Production

- 1 Compressed air enters the generator and
- 2 O<sub>2</sub> is adsorbed from the air by the carbon molecular sieve (CMS).
- 3 The remaining N<sub>2</sub> is recovered for use.

#### Regeneration

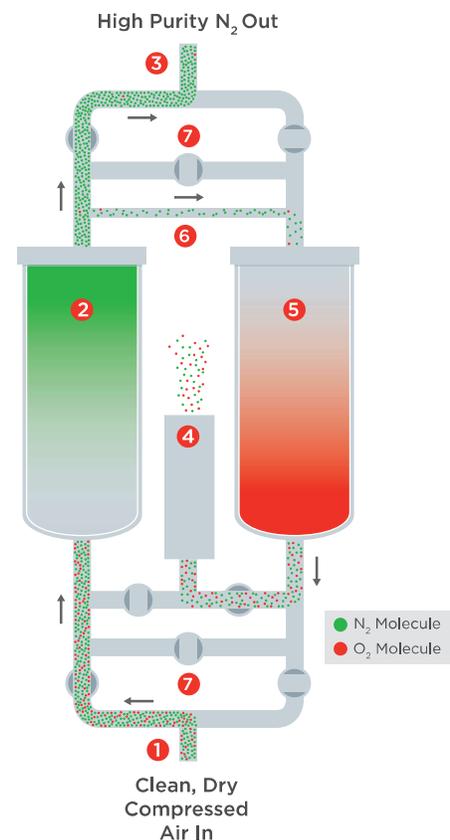
- 4 Pressure is released from the regeneration tower to the atmosphere.
- 5 The O<sub>2</sub> in the CMS is desorbed and leaves the tower at atmospheric pressure.
- 6 A small amount of N<sub>2</sub> is redirected to the tower to assist with CMS regeneration.

#### Pressure Equalization

- 7 After regeneration, the generator's inlet and outlet valves are closed and the two towers are opened to one another to equalize pressure.

#### Tower Switch

Once equalized, the freshly regenerated tower now becomes the production tower while the other tower is regenerated.



**Membrane Nitrogen Generation Performance, 77°F Ambient, 125 psig**

Model*	N2 Flow Rate at each Purity scfm			Inlet NPT	Outlet NPT	Dimensions	Weight
	95%	99%	99.5%				
NG1MP	1.0	0.4	0.3	1/4" FNPT	1/4" FNPT	21 x 4 x 45	25
NG4MP	3.0	1.2	0.9	1/4" FNPT	1/4" FNPT	21 x 4 x 45	35
NG8MP	5.4	2.2	1.6	1/4" FNPT	1/4" FNPT	21 x 4 x 45	35
NG9MP	8.4	3.1	2.3	3/8" FNPT	3/8" FNPT	21 x 4 x 45	46
NG12MP	8.7	3.5	2.6	3/8" FNPT	3/8" FNPT	21 x 7 x 69	117
NG18MP	17.0	6.6	4.9	1/2" FNPT	1/2" FNPT	21 x 7 x 69	142
NG35ME	33.9	13.1	9.7	1" FNPT	3/4" FNPT	31 x 20 x 63	327
NG76ME	74.8	29.1	26.9	1-1/2" FNPT	1-1/2" FNPT	49 x 24 x 77	873
NG115ME	112.3	43.6	40.3	1-1/2" FNPT	1-1/2" FNPT	49 x 24 x 77	950
NG153ME	149.7	58.1	53.7	1-1/2" FNPT	1-1/2" FNPT	49 x 24 x 77	1,027

**PSA Nitrogen Generation Performance, 77°F Ambient, 125 psig**

Model*	N2 Flow Rate at each Purity, scfm							Inlet NPT	Outlet NPT	Dimensions (LxWxH) in	Weight lb
	95%	99%	99.5%	99.9%	99.95%	99.99%	99.999%				
NG15LS	13.3	7.5	6.7	5.0	4.4	3.3	2.2	3/4" FNPT	1/2" FNPT	35 x 26 x 80	702
NG21LS	17.4	9.9	8.8	6.6	5.8	4.4	2.9	3/4" FNPT	1/2" FNPT	35 x 26 x 100	738
NG32LS	28.4	16.2	14.3	10.8	9.5	7.2	4.7	3/4" FNPT	1/2" FNPT	35 x 26 x 97	998
NG47LS	42.3	24.1	21.3	16.0	14.2	10.7	7.0	1" FNPT	3/4" FNPT	35 x 30 x 100	1,194
NG68LS	58.4	33.2	29.3	22.1	19.5	14.7	9.6	1" FNPT	3/4" FNPT	35 x 30 x 91	1,443
NG88LS	76.2	43.3	38.3	28.8	25.5	19.2	12.5	1" FNPT	3/4" FNPT	35 x 37 x 96	1,630
NG118LS	101.0	57.4	50.7	38.2	33.8	25.4	16.6	1-1/2" FNPT	1" FNPT	35 x 39 x 99	2,025
NG132HS	119.5	67.9	60.0	45.2	40.0	30.1	19.6	1-1/2" FNPT	1" FNPT	35 x 39 x 116	3,450
NG159HS	143.3	81.5	71.9	54.2	47.9	36.1	23.5	1-1/2" FNPT	1" FNPT	64 x 34 x 134	3,810
NG191HS	163.8	93.1	82.2	61.9	54.8	41.2	26.9	2" FNPT	1-1/2" FNPT	76 x 48 x 117	4,520
NG232HS	200.6	114.0	100.7	75.8	67.1	50.5	32.9	2" FNPT	1-1/2" FNPT	76 x 48 x 135	4,990
NG285HS	245.0	139.3	123.0	92.6	81.9	61.6	40.2	2" FNPT	1-1/2" FNPT	76 x 48 x 119	6,120
NG347HS	298.6	169.8	149.9	112.9	99.9	75.1	49.0	2" FNPT	1-1/2" FNPT	76 x 48 x 137	6,760
NG382HS	328.4	186.7	164.9	124.1	109.8	82.6	53.9	2" FNPT	1-1/2" FNPT	76 x 48 x 147	7,120
NG456HS	392.3	223.0	196.9	148.3	131.2	98.7	64.4	3" FNPT	2" FNPT	95 x 53 x 125	8,030
NG550HS	477.2	271.3	239.5	180.4	159.6	120.1	78.4	3" FNPT	2" FNPT	95 x 53 x 143	8,990
NG668HS	576.2	327.6	289.2	217.8	192.7	145.0	94.6	3" FNPT	2" FNPT	95 x 53 x 164	10,170
NG809HS	697.0	396.2	349.9	263.5	233.1	175.4	114.5	3" FNPT	2" FNPT	111 x 60 x 148	14,090
NG982HS	852.3	484.5	427.8	322.2	285.0	214.4	140.0	3" FNPT	2" FNPT	111 x 60 x 171	15,980
NG1176HS	1017.9	578.7	511.0	384.8	340.4	256.1	167.2	3" FNPT	3" FNPT	120 x 66 x 158	17,430
NG1306HS	1129.1	641.9	566.8	426.8	377.6	284.1	185.4	3" FNPT	3" FNPT	120 x 66 x 170	19,200
NG1588HS	1379.3	784.1	692.4	521.4	461.3	347.0	226.5	3" FNPT	3" FNPT	120 x 66 x 197	22,030
NG1765HS	1528.5	868.9	767.3	577.8	511.2	384.6	251.0	3" FNPT	3" FNPT	120 x 66 x 213	23,760
NG2130HS	1841.7	1047.0	924.5	696.2	615.9	463.4	302.4	4" FNPT	3" FNPT	135 x 76 x 204	30,650
NG2353HS	2034.5	1156.6	1021.3	769.1	680.4	511.9	334.1	4" FNPT	3" FNPT	135 x 76 x 220	32,950

\* Additional models available; contact your local Ingersoll Rand representative for more information.



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