

**Industrial Gases** 







# O<sup>2</sup> & N<sup>2</sup> GENERATORS



At Ash Air, it isn't just about the products. We're passionate about performance and service, with more than 40 qualified engineers working throughout the country providing unsurpassed compressed air solutions.

# Broad product portfolio of robust compressors & tools

Decades of experience & innovation since 1979

24/7 service support with back up and hire equipment

"We are committed to being the easiest company to deal with in the air compressor and vacuum industry. Anywhere, Anytime. 24/7."

#### **Energy Saving Solution**



10,200 serviceable units

2.1 MWh potential yearly energy savings identified by leak detection



6015 kW combined power of VSD compressors installed

50.4 km AIRnet piping installed

6 MWh saved with AIRnet and VSD each year

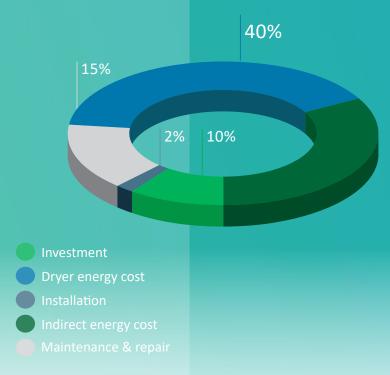
4.2 MTon CO2 emissions eliminated each year

# **Control and Monitor your Dryer**

The Purelogic<sup>™</sup> Central Controller is the ideal complement to your Pneumatech Nitrogen Generator This state-of-the-art control solution will provide optimal control and monitoring of your machines, increased reliability and reduced energy use.



# Potential Energy Savings with Purelogic<sup>™</sup> Controller







# **Gas Generators**

Pneumatech designs and manufactures both standard and engineered on-site gas generator products. Nitrogen and oxygen generators are available with Pressure Swing Adsorption (PSA) technology, resulting in nitrogen purities up to 99.999% and oxygen purities up to 95%. Membrane technology is also offered for nitrogen purity levels up to 99.5%.

Pre-defined high-pressure nitrogen skids have been developed as a plug-and-play solution for various applications like laser-cutting. Our engineering department hence becomes your best partner for all kinds of special requests.

# What are the Advantages of On-Site Gas Generation?

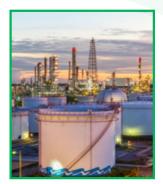
Gases are non-stop available

- Lower operational costs: no rental charges, transport expenses and evaporation losses
- No safety hazards when handling high-pressure cylinders
- Easy integration within existing compressed air installations
- The right purity for the right application
- Returns on investment often less than two years

# Applications of Oxygen and Nitrogen Gas Generators

Gas generators can be used in a wide range of applications mainly in aquaculture, medical oxygen in hospitals, modified atmosphere packaging, inerting, blanketing, purging, tire filling, food and beverage packaging, gold mining, coal mines, ozone and wastewater treatment, marine, laser cutting, electronics, laboratories, and many more.













### PPNG 6 - 68 HE - Nitrogen Generator with Pressure Swing Adsorption Technology

## **Features & Benefits**

- Advanced energy saving control
  - Reduced air consumption at low nitrogen demand
  - Also compensates for altering ambient conditions and purity settings
- No compressed air use when no nitrogen is consumed
- Outstanding air factors thanks to back-flow pressurization
- High-quality, high-efficient Carbon Molecular Sieves selected for the right application
- Guaranteed purity
- Automatically regulates to the requested nitrogen pressure and purity
- Zirconia sensors for reliable purity measurement
- Designed & tested for cyclic load
- Optimal control and monitoring thanks to Purelogic<sup>™</sup> Controller
  - Self-protective monitoring of the feed air quality
  - Feed-air blow-off in case of contamination
  - Nitrogen flow, purity and pressure measured and controlled
- Automatic start-up

## **General Specifications**

- Pressure Swing Adsorption (PSA) nitrogen generators - extruded profile design
- Nitrogen purity achievable: 95% - 99.9% (PCT Variant) & 99.95%-99.999% (PPM variant)
- Inlet pressure range: 4-13 barg /60-189 psig
- Inlet temperature range: 5-60°C/41-140°F
- Required inlet air quality: 1-4-1 according to ISO 8573-1:2010



#### Options



AshAir



The PPNG6-68HE series is Pneumatech's premium on-site nitrogen solution for low to medium flows, with best-in-class performance and the most complete scope of supply.

The generator has outstanding air factors at full load thanks to the use of highly efficient Carbon Molecular Sieves (CMS) and back-flow pressurization.

The air consumption is also optimized at reduced nitrogen flow or pressure demands, thanks to the advanced energy saving algorithm, which automatically adjusts the cycle times of the generator.

The control and monitoring capabilities of the PPNG6-68 HE are truly impressive. Purity is guaranteed at all times by opening the consumer valve only at the requested purity level and flushing nitrogen when purity is not reached. Feed air quality is controlled by monitoring temperature, pressure and PDP. The feed air is blown off in case of contamination. All risks of possible CMS damage are eliminated thanks to the automatic start-up feature.

Technical spe	cificati	ons for	PPNG 6 - PF	PNG 68 H	E												
Specifications	Units	Variant	Product→ Purity ↓	PPNG 6 HE	PPNG 7 HE	PPNG 9 HE	PPNG 12 HE	PPNG 15 HE	PPNG 18 HE	PPNG 22 HE	PPNG 28 HE	PPNG 30 HE	PPNG 37 HE	PPNG 41 HE	PPNG 50 HE	PPNG 63 HE	PPNG 68 HE
		РСТ	95	18.4	23.4	28.8	36.4	46.8	57.2	70.2	86.0	93.6	114.8	128.9	157.7	NA	NA
Nominal free nitrogen	m³/hr	(%)	99.9	5.8	7.2	9.0	11.5	14.8	18.0	22.0	26.6	29.2	35.6	40.7	49.7	61.9	66.6
delivery <sup>{1}</sup>		PPM (%)	99.999	1.9	2.5	2.9	4.0	5.0	6.1	7.9	9.7	10.4	13.0	15.8	19.4	22.7	25.9
		РСТ	95	33.8	43.6	53.3	67.7	87.1	106.6	130.7	159.8	174.2	213.1	243.7	298.1	NA	NA
Nominal air consumption	m³/hr	(%)	99.9	18.0	23.4	28.4	36.4	46.8	56.9	69.8	85.7	93.2	114.1	135.7	166.0	196.9	221.0
		PPM (%)	99.999	12.2	15.5	19.1	24.1	31.3	38.2	44.3	54.0	59.0	72.4	88.6	108.4	124.2	144.4
		РСТ	95	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.89	2	NA	NA
Air Factor	-	(%)	99.9	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.33	3.33	3.18	3.33
		PPM (%)	99.999	6.3	6.3	6.3	6.3	6.3	6.3	5.6	5.6	5.6	5.6	5.6	5.6	5.5	5.6
Pressure dew- point outlet	°C /°F			-40	-40	-40	-40	-40	-40	-40	-40	-40	-40	-40	-40	-40	-40
		РСТ	95	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.9	0.9	NA
Maximum pres- sure drop		(%)	99.9	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.5	0.5	0.6	0.6
		PCT (%)	99.999	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3
Length	mm			775	775	775	775	775	775	1400	1400	1400	1400	1400	1400	1400	1400
Length	Inch			31	31	31	31	31	31	55	55	55	55	55	55	55	55
Width	mm			840	840	840	840	840	840	840	840	840	840	840	840	840	970
Width	Inch			33	33	33	33	33	33	33	33	33	33	33	33	33	38
Height	mm			2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015
	Inch			79	79	79	79	79	79	79	79	79	79	79	79	79	79
Mass	Kg			264	277	290	326	359	380	619	647	683	736	865	1038	1211	1211
Inlet and outlet connections	Lbs G/NPT			582	611 1"	639 1"	719 1"	791 1"	838	1365 1"	1426 1"	1506 1"	1623 1"	1907 1"	2288 1"	2670 1"	2670 1"

1. Flow is measured at Reference Conditions: 1 bara and 20°C at operating pressure of 7 barg, inlet temperature 20°C & Air Inlet Quality of ISO 8573-1:2010 class 1-4-1

### PPNG 6 - 68 S - Nitrogen Generator with Pressure Swing Adsorption Technology

### **Features & Benefits**

- Energy saving control
- Outstanding air factors thanks to backflow pressurization
- High-quality, high-efficient Carbon Molecular Sieves selected for the right application
- Guaranteed purity
  - Zirconia sensors for reliable purity measurement
  - Dedicated high purity variants
  - Purity certificates
- Designed & tested for cyclic load
- Reliable, efficient and low-maintenance angle seat valves
- Carefully designed exhaust silencers resulting in quiet and safe operation of the generator
- Optimal control and monitoring thanks to Purelogic<sup>™</sup> Controller



# **General Specifications**

- Pressure Swing Adsorption (PSA) nitrogen generators extruded profile design
- Nitrogen purity achievable: 95% - 99.9% (PCT Variant) & 99.95%-99.999% (PPM variant)
- Inlet pressure range: 4-13 barg /60-189 psig
- Inlet temperature range: 5-60°C/41-140°F
- Required inlet air quality: 1-4-1 according to ISO 8573-1:2010

#### Options



Wooden



Flow meter







The PPNG 6-68s series provides an efficient source of nitrogen for use in various industries like food and beverage, pharma, electronics and plastics. PPNG nitrogen generators use Pressure Swing Adsorption technology to extract nitrogen molecules from the compressed air; and can reach purities from 95% up to 99,999%. Nitrogen pressures can go up to 12 barg without the need for an additional booster. The air factors of the PPNG6-68s range are outstanding, making the return on investment very attractive compared to traditional gas supply. With its PPNG 6-68s series, Pneumatech follows the plug and play philosophy. Pressure vessels, valves, exhaust system, sensors and controls are all integrated within a compact canopy, designed for easy transport, installation and service.

The Purelogic<sup>™</sup> is the central brain of the nitrogen generator. It optimizes operating costs thanks to the availability of the energy saving control; ensures maximum reliability by keeping track of the most important parameters of the generator; and offers impressive control and monitoring capabilities.

Technical specifica	tions fo	or PPNG	6-68 S														
Specifications	Units	Variant	Product→ Purity ↓	PPNG 6S	PPNG 7S	PPNG 9S	PPNG 12S	PPNG 15S	PPNG 18S	PPNG 22S	PPNG 28S	PPNG 30S	PPNG 37S	PPNG 41S	PPNG 50S	PPNG 63S	PPNG 68S
Naminal for a situation		РСТ	95	22.3	28.8	35.2	44.7	57.5	70.3	86.3	105.5	115.0	140.7	159.7	NA	NA	NA
Nominal free nitrogen delivery <sup>{1}</sup>	m³/hr	(%)	99.9	5.9	7.6	9.3	11.8	15.2	18.6	22.8	27.9	30.4	37.2	45.6	55.8	59.1	64.7
		PPM (%)	99.999	1.7	2.2	2.7	3.4	4.4	5.3	7.1	8.7	9.5	11.6	14.3	17.4	20.5	23.3
Nominal air		РСТ	95	43.1	55.5	67.9	86.3	111.0	135.8	166.5	203.7	222.0	271.5	308.3	NA	NA	NA
consumption <sup>{1}</sup>	m³/hr	(%)	99.9	23.9	30.8	37.7	47.9	61.6	75.3	92.4	113.0	123.2	150.7	182.5	223.3	226.8	258.6
		PPM (%)	99.999	11.5	14.8	18.1	22.9	29.5	36.1	47.4	58.0	63.2	77.3	93.4	114.2	122.4	152.3
Air Factor		РСТ	95	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93	NA	NA	NA
	-	(%)	99.9	4.05	4.05	4.05	4.05	4.05	4.05	4.05	4.05	4.05	4.05	4.00	4.00	3.84	4.00
		PPM (%)	99.999	6.8	6.8	6.8	6.8	6.8	6.8	6.7	6.7	6.7	6.7	6.6	6.6	6.0	6.6
Pressure dewpoint outlet	°C/°F			-40	-40	-40	-40	-40	-40	-40	-40	-40	-40	-40	-40	-40	-40
	barg	РСТ	95	0.8	0.8	0.8	1	1	1.1	1.2	1.2	1.2	1.2	1.4	NA	NA	NA
Maximum pressure drop	barg	5	99.9	0.5	0.5	0.5	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.9	0.9	0.9	1
	barg	PCT (%)	99.999	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.5	0.6	0.6	0.6	0.7	0.7	0.7
Length	mm			798	798	798	798	798	798	1422	1422	1422	1422	1422	1422	1422	1422
Length	Inch			31	31	31	31	31	31	56	56	56	56	56	56	56	56
Width	mm			840	840	840	840	840	840	840	840	840	840	970	970	970	970
	Inch			33	33	33	33	33	33	33	33	33	33	38	38	38	38
Height	mm			2022	2022	2022	2022	2022	2022	2022	2022	2022	2022	2022	2022	2022	2022
	Inch			80	80	80	80	80	80	80	80	80	80	80	80	80	80
Mass	Kg			244	257	270	306	339	360	599	627	663	716	805	1018	1191	1191
111000	Lbs			538	567	595	675	747	794	1321	1382	1462	1579	1775	2244	2626	2626
Inlet and outlet connections	G/NPT			1"	1"	1"	1"	1"	1"	1"	1"	1"	1"	1"	1"	1"	1"

Technical specifications for PPNG 6-68 S

1. Flow is measured at Reference Conditions: 1 bara and 20°C at operating pressure of 7 barg, inlet temperature 20°C & Air Inlet Quality of ISO 8573-1:2010 class 1-4-1

### **PPNG SKID - High-Pressure Nitrogen Skid**

#### Are you looking for a true plugand-play solution that delivers on-site nitrogen at the lowest cost?

Pneumatech has developed compact and pre-commissioned skids in two pressure versions.

The 40 barg version offers high-pressure nitrogen for direct use; with the 300 barg version you can fill the skidmounted cylinders to create your own supply. These bottles can serve as your nitrogen back-up supply, but also allow you to downsize your system in case of fluctuating demand. With its supreme efficiency and reliability, ease of use and small footprint, the high-pressure skid is the ideal solution for laser cutting applications.

# Standard solution does not fit for your needs?

Do not worry. We at Pneumatech understand that every case is unique especially with high pressure Nitrogen applications. Therefore Pneumatech offers a tailor made solution just for your application.

Please consult with your local Pneumatech contact for more details.

#### PPNGs nitrogen generator

- 1. Guaranteed purity
- 2. Outstanding air factors
- 3. Energy saving control
- Optimal control and monitoring thanks to Purelogic<sup>™</sup> controller

#### 4-stage filter train for guaranteed purity and

- 1. General-purpose and high-efficient oilcoalescing filters, activated carbon tower and high-efficient particle filter
- 2. Guaranteed air quality of class 1:4:1 (according to ISO8573-1:2010) at the inlet of the nitrogen generator

#### Variable speed compressor with integrated

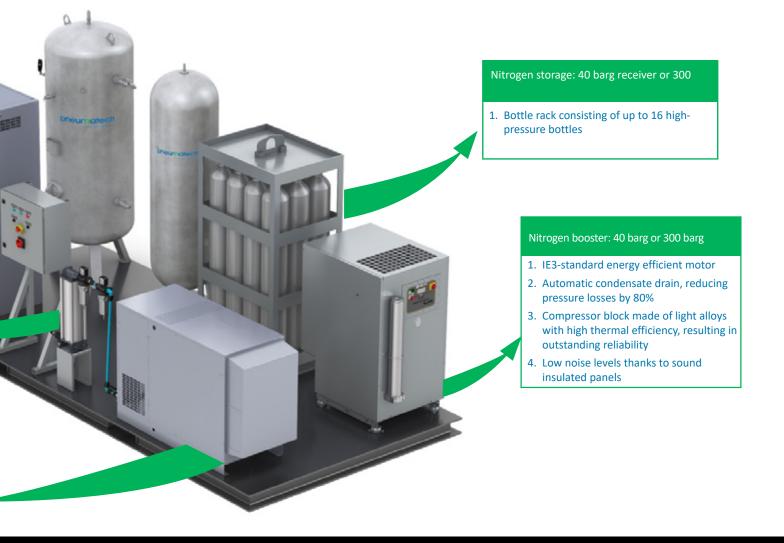
- 1. Closely follow the air demand by automatic adjustment of the motor speed
- 2. Direct driven transmission for outstanding energy efficiency and reliability
- 3. Very quiet operation due to improved noise insulation
- 4. Compact design, also thanks to integrated refrigerant dryer



#### Technical specifications for PPNG skid

Pneumatech variant		PPNG SKID 1	PPNG SKID 2	PPNG SKID 3	PPNG SKID 4	PPNG SKID 5	PPNG SKID 6	PPNG SKID 7	PPNG SKID 8				
N <sub>2</sub> Pressure		40 barg	40 barg	40 barg	40 barg	300 barg	300 barg	300 barg	300 barg				
N Connectual $(1)$ $(m^3/hr)$	99.90%	10.5	21	42	73.1	13.4	21	42	73.1				
N <sub>2</sub> Capacity <sup>(1)</sup> (m <sup>3</sup> /hr)	99.99%	5.3	10.5	22.1	41.1	6.7	10.5	22.1	41.1				
Compressor with Integrated Dryer		8kW	11kW	22kW	36kW	8kW	11kW	22kW	36kW				
Filter train		G-C-VT-D	G-C-VT-D	G-C-VT-D	G-C-VT-D	G-C-VT-D	G-C-VT-D	G-C-VT-D	G-C-VT-D				
Air receiver		500L 11Bar CE Vessel	500L 11Bar CE Vessel	1000L 11Bar CE Vessel	1500L 11Bar CE Vessel	500L 11Bar CE Vessel	500L 11Bar CE Vessel	1000L11Bar CE Vessel	1500L 11Bar CE Vessel				
N <sub>2</sub> Generator		PPNG9S PPM IEC	PPNG18S PPM IEC	PPNG37S PPM IEC	PPNG68S PPM IEC	PPNG12S PPM IEC	PPNG18S PPM IEC	PPNG37S PPM IEC	PPNG68S PPM IEC				
N <sub>2</sub> Receiver		500L 11Bar CE Vessel	500L 11Bar CE Vessel	1000L 11Bar CE Vessel	1500L 11Bar CE Vessel	500L 11Bar CE Vessel	500L 11Bar CE Vessel	1000L 11Bar CE Vessel	1500L 11Bar CE Vessel				
Particulate Filter		D	D	D	D	D	D	D	D				
N <sub>2</sub> Booster		15 hp 40 barg	15 hp 40 barg	15 hp 40 barg	15 hp 40 barg	10 hp 300 barg	10 hp 300 barg	15 hp 300 barg	2 x 15 hp 300 barg				
HP Storage		500L/45 barg	500L/45 barg	1000L/45 barg	1000L/45 barg	2 cylinder 300 barg	12 cylinder rack 300 barg	12 cylinder rack 300 barg	16 cylinder rac 300 barg				

1. Flow specified is at the outlet of the PPNGs Generator measured at Reference Conditions: 1 bara and 20°C at operating pressure of 7 barg, inlet temperature 20°C & Air Inlet Quality of ISO 8573-1:2010 class 1-4-1



### PPNG 150 - 800 HE - Nitrogen Generators with Pressure Swing Adsorption

## **Features & Benefits**

- Advanced energy saving control
  - Reduced air consumption at low nitrogen demand
  - Also compensates for altering ambient conditions and purity settings
  - No compressed air use when no nitrogen is consumed
- Outstanding air factors thanks to backflow pressurization
- High-quality, high-efficient Carbon Molecular Sieves selected for the right application
- Guaranteed purity
  - Automatically regulates to the requested nitrogen pressure and purity
  - Zirconia sensors for reliable purity measurement
- Designed & tested for cyclic load
- Optimal control and monitoring thanks to Purelogic<sup>™</sup> Controller
  - Self-protective monitoring of the feed air quality
  - Feed-air blow-off in case of contamination

## **General Specifications**

- Nitrogen purity achievable: 95%-99.9% (PCT Variant) & 99.95%-99.999% (PPM variant)
- Inlet pressure range: 5-10 barg/72-150 psig
- Ambient temperature range: 5-50°C/41-122°F
- Required inlet air quality: 1-4-1 according to ISO 8573-1:2010
- Power supply: 230VAC/50-60Hz



Options





Outlet PDP sensor



The PPNG150-800 HE series is Pneumatech's premium on-site nitrogen solution for high flows, with best-in-class performance and the most complete scope of supply.

The generator has outstanding air factors at full load thanks to the use of highly efficient Carbon Molecular Sieves (CMS) and back-flow pressurization. nitrogen flow or pressure demands, thanks to the advanced energy saving algorithm, which automatically adjusts the cycle times of the generator.

The control and monitoring capabilities of the PPNG150-800 HE are truly impressive. Purity is guaranteed at all times by opening the consumer valve only at the requested purity level and flushing nitrogen when purity is not reached.

Technical specifications for PPNG150 - 800 HE   Product → PPNG   PPNG PPNG   PPNG PPNG													
Specifications	Units	Variant	Product → Purity ↓	PPNG 150 HE	PPNG 200 HE	PPNG 250 HE	PPNG 300 HE	PPNG 350 HE	PPNG 400 HE	PPNG 500 HE	PPNG 650 HE	PPNG 800 HE	
		5 67(4)	95%	469	604	734	865	1063	1244	1607	2038	2592	
Nominal free Nitrogen deliv-	m³/hr	PCT(%)	99.9%	169	218	265	312	384	449	580	735	935	
ery <sup>{1}</sup>		PPM	99.999%	75	96	117	138	169	198	253	321	408	
		DCT(0/)	95%	886	1142	1387	1635	2010	2351	3036	3852	4898	
Nominal air consumption <sup>{1}</sup>	m³/hr	PCT(%)	99.9%	549	708	859	1013	1245	1456	1881	2386	3034	
		PPM	99.999%	377	486	590	695	854	999	1303	1653	2102	
		PCT(%)	95%	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	
Air factor		PC1(70)	99.9%	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	
		PPM	99.999%	5.1	5.1	5.1	5.1	5.1	5.1	5.2	5.2	5.2	
Pressure dewpoin outlet (°C)	it	°C/°F		-40	-40	-40	-40	-40	-40	-40	-40	-40	
Maximum		PCT(%)	95-99.9%	1,5 - 1	1,5 - 1	1,5 - 1	1,5 - 1	1,5 - 1	1,5 - 1	1,5 - 1	1,5 - 1	1,5 - 1	
pressure drop (barg)		PPM	99.95% - 99.999%	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
Longth	Length			1800	1800	1800	2300	2300	2300	3120	3120	3120	
Length	Inch			70.9	70.9	70.9	90.6	90.6	90.6	122.8	122.8	122.8	
Width	mm			2230	2570	2650	2720	2850	2900	3660	3760	3860	
Width	Inch			87.8	101.2	104.3	107.1	112.2	114.2	144.1	148.0	152.0	
Height	mm			2610	2640	2625	3020	3050	3040	3970	4175	4405	
	Inch			102.8	103.9	103.3	118.9	120.1	119.7	156.3	164.4	173.4	
Mass	Kg			3200	3800	4800	6400	7000	7700	10300	12000	14200	
	lbs			7054.8	8377.6	10582.2	14109.6	15432.3	16975.6	22707.6	26455.4	31305.6	
N2 & Air Receiv- er size	liters			3000	4000	5000	6000	8000	8000	12000	16000	20000	
Nitrogen to buf- fer connection	DN			80	80	80	80	80	80	100	100	100	
Nitrogen from	DN	PCT(%)	95-99.9%	50	50	50	80	80	80	100	100	100	
buffer connec- tion	DN	PPM	99.95% - 99.999%	40	40	40	40	40	40	50	50	50	
Nitrogen outlet	DN	PCT(%)	95-99.9%	50	50	50	80	80	80	100	100	100	
connection	DN	PPM	99.95% - 99.999%	50	50	50	50	50	50	50	50	50	
Waste gas blow-off	mm			315	315	315	400	400	400	600	600	600	

The air consumption is also optimized at reduced

### **PMNG 1-3 - Nitrogen Generator with Membrane Technology**

### **Features & Benefits**

- High Quality membrane separator
  - Superior membrane constructed from high quality Aluminum with technically advance fiber.
  - N<sub>2</sub> Generation is achieved without any moving part
  - Outstanding performance for 90-99,5% Nitrogen separation
- Simple, reliable and user friendly
  - All-in-one plug & play solution
  - All filters integrated in enclosed canopy design
  - Instant supply of nitrogen
  - No specialist installation or commissioning
- 3-stage pre-filtration integrated in the canopy
- No power supply required thanks to Pneumatic controlled valves & batterypowered nitrogen analyzer
- Guaranteed purity
  - Nitrogen analyzer (battery powered) with auto-calibration button (optional)
  - Purity controller to ensure constant N<sub>2</sub> purity at all times
- Compressed Air savings when desired purity is reached

# **General Specifications**

- Membrane Nitrogen Generators
- Nitrogen purity achievable: 90%-99.5%
- Inlet pressure range: 4-13 bar/60-189 PSI
- Inlet temperature range: 5-50°C/41-122°C
- Required inlet air quality: 1-4-1 according to ISO 8573-1:2010



#### Options



Fconomizer





Nitrogen analyser





Pneumatech's new smaller range of PMNG nitrogen generators utilizes proprietary membrane separation technology. Membrane generators are an excellent choice in low (90%) to medium (99.5%) purity applications such as tire inflation, fire prevention, tank blanketing and pipeline drying. Nitrogen pressures can go up to 12 bar (g) without the need for an additional booster. use make the PMNG what we believe to be the most user friendly unit in the market. All prefilters and controls are included inside the canopy. Only a supply of dry compressed air is needed to get nitrogen at the outlet of the generator. Also the start-up procedure of the PMNG is made so straightforward that it does not require any specialist.

Engineered for simplicity, durability and ease of

Technical specifications for PMNG 1-3					
Specifications	Units	Product→ Purity ↓	PMNG 1	PMNG 2	PMNG 3
		90%	15.48	30.96	46.44
		95%	9.72	19.44	29.16
		96%	9	18	27
Nominal air consumption	Nm³/hr	97%	7.56	15.12	22.68
		98%	6.84	13.68	16.92
		99%	6.12	12.24	18.36
		99.5%	5.76	11.52	17.28
		90%	10.08	20.16	30.24
		95%	4.68	9.36	14.04
		96%	3.96	7.92	11.88
lominal free nitrogen delivery	Nm³/hr	97%	3.24	6.48	9.72
		98%	2.52	5.04	7.56
		99%	1.8	3.6	5.4
		99.5%	1.44	2.88	4.32
		90%	1.5	1.5	1.5
		95%	2.1	2.1	2.1
		96%	2.3	2.3	2.3
ir factor		97%	2.3	2.3	2.3
		98%	2.7	2.7	2.7
r factor		99%	3.4	3.4	3.4
		99.5%	4.0	4.0	4.0
ressure dewpoint outlet	°C /°F		-40	-40	-40
	mm		560.0	560.0	560.0
ength	Inch		22.0	22.0	22.0
	mm		285.0	285.0	285.0
Vidth	Inch		11.0	11.0	11.0
leicht	mm		1150.0	1150.0	1150.0
leight	Inch		45.0	45.0	45.0
	Кg		60.0	62.0	65.0
Aass .	Lbs		132.3	136.7	143.3
nlet connections	G		G1/2"	G1/2"	G1/2"
Dutlet connections	G		G1/2"	G1/2"	G1/2"

1. Flow is measured at reference conditions: 1 Bar(a) and 20°C at operating pressure of 8 bar (g), inlet temperature 20°C & Air Inlet Quality of ISO 8573-1:2010 class1-4-1.

## **PMNG 5 - 75 S - Nitrogen Generator with Membrane Technology**

### **Features & Benefits**

- Energy-saving control
- Proprietary membrane technology ensuring lasting performance
  - No aging
  - No heater
- Guaranteed purity
  - Reliable purity measurement
  - Easy to set up the device for purity levels between 95% and 99.5%
- All-in-one plug & play solution
  - All filters integrated in enclosed canopy design
  - No buffer vessels required
  - Instant supply of nitrogen
  - No specialist installation or commissioning
- Optimal control and monitoring thanks to Purelogic<sup>™</sup> Controller

# **General Specifications**

- Membrane Nitrogen Generators
- Nitrogen purity achievable: 95%-99.5%
- Inlet pressure range: 4-13 barg/60-189 psig
- Inlet temperature range: 5-50°C/41-122°F
- Required inlet air quality: 1-4-1 according to ISO 8573-1:2010
- Power supply: 115-230VAC/50-60Hz



#### Options







PDP sensor kit







 $\smallsetminus$ 

Flow sensor

Permeate vent kit





Pneumatech's PMNG nitrogen generators utilize proprietary membrane separation technology. Membrane generators are an excellent choice in low (95%) to medium (99,5%) purity applications such as tire inflation, fire prevention, tank blanketing and pipeline drying. Nitrogen pressures can go up to 12 barg without the need for an additional booster.

With the PMNG, on-site nitrogen supply becomes exceptionally convenient. All pre-filters and controls are included inside the canopy. Only a supply of dry compressed air and electricity is needed to get nitrogen at the outlet of the generator. An outlet buffer vessel is not required, which results in significant space savings and easy installation. Also the start-up procedure of the PMNG is made so straightforward that it does not require any specialist.

Thanks to the Purelogic<sup>™</sup> controller, the PMNG offers impressive control and monitoring capabilities. Various pressure and temperature sensors ensure that the membranes are used in the right working conditions.

Specification	Linit	Product $\rightarrow$	PMNG5	PMNG10s	PMNG15s	PMNG30s	PMNG45s	PMNG60s	PMNG75s
	Offic	Purity 🗸	11111053		11010103	111110503			1101100755
pecificationUnitPurity ↓PUNKUSSNominal free nitrogen lelivery <sup>(1)</sup> 95%11.996%9.796%9.797%7.698%5.498%5.499%3.699.5%99.5%31.096%99.5%31.096%99.5%23.496%29.297%96%29.297%26.698%23.499%22.099.5%21.699.5%21.699.5%21.699.5%21.699.5%3.598%3.598%3.699.5%3.699.5%3.699.5%3.598%3.598%3.598%3.598%3.598%3.598%3.598%3.699.5%3.598%3.598%3.598%3.598%3.598%3.699.5%3.699.5%3.598%3.699.5%3.598%3.598%3.598%3.699.5%3.699.5%3.699.5%3.699.5%3.699.5%3.699.5%3.699.5%3.699.5%3.699.5%3.699.5%3.699.5%	11.9	24.1	42.1	83.9	126.0	168.1	209.9		
		96%	9.7	19.4	34.6	69.5	104.0	138.6	173.2
Nominal free nitrogen delivery <sup>(1)</sup>	m³/hr	97%	7.6	15.1	27.4	54.7	82.1	109.1	136.4
,	,	98%	5.4	10.8	19.8	40.0	59.8	79.9	99.7
		99%	3.6	6.8	11.5	23.0	34.6	46.1	57.6
		99.5%	2.5	5.0	7.2	14.8	22.0	29.5	36.7
		95%	31.0	62.3	109.1	218.5	327.6	436.7	546.1
		96%	29.2	58.0	104.0	208.1	311.8	415.8	519.8
Nominal air consumption <sup>(1)</sup>	m³/hr	97%	26.6	52.9	95.4	191.2	286.6	382.3	477.7
		98%	23.4	47.2	85.7	171.7	257.4	343.1	428.8
		99%	22.0	43.6	72.7	145.4	218.2	291.2	364.0
		99.5%	21.6	42.8	62.6	124.9	187.6	249.8	312.5
		95%	2.6	2.6	2.6	2.6	2.6	2.6	2.6
		96%	3	3	3	3	3	3	3
Airfactor		97%	3.5	3.5	3.5	3.5	3.5	3.5	3.5
		98%	4.3	4.3	62.6     124.9     187.6     249.8       2.6     2.6     2.6     2.6       3     3     3     3	4.3			
99%     22.0     43.6     72.7     145.4     218.2     29.2       99.5%     21.6     42.8     62.6     124.9     187.6     249.8 $A_{A}$ 42.8     62.6     2.6 <td>6.3</td> <td>6.3</td>	6.3	6.3							
		99.5%	8.5	8.5	8.5	8.5	8.5	8.5	8.5
Pressure dewpoint outlet	°C /°F		-40	-40	-40	-40	-40	-40	-40
Longth	mm		820	820	820	820	820	820	820
Lengui	inch		32.3	32.3	32.3	32.3	32.3	32.3	32.3
Width	mm		772	772	772	1470	1470	1470	1470
witti	inch		30.4	30.4	30.4	57.9	57.9	57.9	57.9
lloicht	mm		2090	2090	2090	2090	2090	2090	2090
neight	inch		82.3	82.3	82.3	82.3	82.3		82.3
	Kg		259	268	285	445	497	535	571
Mass	Lbs		571	590	628	981	1096	1179	1259
Inlet connections	G/NPT		1/2"	1/2"	1/2"	1 1/2"	1 1/2"	1 1/2" - 1"	1 1/2" - 1"
Outlet Connections	G/NPT		1/2"	1/2"	1/2"	1"	1"	1"	1"

Technical specifications for PMNG 5-75 S

1. Flow is measured at Reference Conditions: 1 bara and 20°C at operating pressure of 8 barg, inlet temperature 20°C & Air Inlet Quality of ISO 8573-1:2010 class 1-4-1

### PPOG 1 - 120 - Oxygen Generator with Pressure Swing Adsorption Technology

## **Features & Benefits**

- Energy saving control
- High-quality, high-efficient zeolite, selected for the right application
- Guaranteed purity
  - Zirconia sensors for reliable purity measurement
- Designed & tested for cyclic load
- Optimal control and monitoring thanks to Purelogic<sup>™</sup> Controller

## **General Specifications**

- Pressure Swing Adsorption (PSA) Oxygen Generators - welded vessels
- Oxygen purity achievable: 90%-95%
- Inlet pressure range: 4-7.5 barg /58-109 psig
- Inlet temperature range: 5-45°C/41-113 psig
- Required inlet air quality: 1-4-1 according to ISO 8573-1:2010



#### Options









Oxygen





Pneumatech gives oxygen to your business. With the PPOG range, Pneumatech offers an attractive replacement for traditional oxygen supply with very interesting returns on investment. The PPOG1-120 series uses Pressure Swing Adsorption technology to extract oxygen from compressed air, resulting in oxygen purity levels up to 95%.

The PPOG1-120 range is a welded vessel design, designed and tested for cyclic load. The Purelogic<sup>™</sup> is the central brain of the generator. It optimizes operating costs thanks to the availability of the energy saving control; ensures maximum reliability by monitoring the most important parameters of the generator; and offers impressive control and monitoring capabilities.

The calibrated flow meters are part of the standard scope of supply, in order to facilitate the start-up process and to provide transparency of the actual oxygen consumption. The optional oxygen buffer vessel is equipped with a pressure regulator, manometer and dust filter. Each of these components is approved for high-purity oxygen use. The optional inlet pressure dew point sensor provides additional security in case the upstream dryer would fail.

Technical s	pecifica	ations for	PPOG	1-120																		
Specifications	Units	Product→ Purity ↓	PPOG 1	PPOG 1.5	PPOG 2	PPOG 3	PPOG 4	PPOG 5	PPOG 6	PPOG 8	PPOG 11	PPOG 12	PPOG 14	PPOG 17	PPOG 20	PPOG 26	PPOG 33	PPOG 39	PPOG 50	PPOG 63	PPOG 93	PPOG 120
		90%	2.0	3.1	3.8	4.6	6.6	7.9	9.7	14.2	18.5	20.3	23.4	29.3	35.1	45.3	56.0	66.1	85.5	106.8	157.7	203.5
Nominal free oxygen delivery <sup>(1)</sup>	m³/hr	93%	1.6	2.5	3.5	4.3	5.6	7.3	9.0	13.4	18.3	19.3	21.4	27.6	33.0	42.7	51.9	64.1	79.4	101.7	154.6	188.2
delivery		95%	1.5	2.3	3.4	4.0	5.4	6.9	8.3	12.2	15.4	18.3	20.3	26.3	31.6	39.2	48.8	57.0	74.3	93.6	143.4	175.0
		90%	22.6	30.5	36.6	54.9	73.3	103.8	103.8	157.5	192.3	219.8	256.4	329.6	366.3	518.9	634.8	799.6	982.8	1245.3	1867.9	2246.3
Nominal air consumption	m³∕hr	93%	22.0	29.9	36.0	53.7	67.1	100.7	102.6	146.5	189.2	213.6	244.2	319.9	355.3	512.8	604.3	781.3	964.5	1220.8	1953.3	2228.0
		95%	21.4	28.7	35.4	51.9	65.9	97.7	102.6	140.4	170.9	207.5	238.1	313.1	347.9	500.5	586.0	763.0	915.6	1159.8	1892.3	2197.5
		90%	11.1	10.0	9.7	12.0	11.1	13.1	10.7	11.1	10.4	10.8	11.0	11.3	10.4	11.5	11.3	12.1	11.5	11.7	11.8	11.0
Average air / oxygen ratio		93%	13.5	11.8	10.4	12.6	12.0	13.8	11.5	10.9	10.3	11.1	11.4	11.6	10.8	12.0	11.6	12.2	12.2	12.0	12.6	11.8
		95%	14.0	12.3	10.5	13.1	12.2	14.1	12.3	11.5	11.1	11.3	11.7	11.9	11.0	12.8	12.0	13.4	12.3	12.4	13.2	12.6
Pressure dew- point outlet (°C)	°C /°F		-40	-40	-40	-40	-40	-40	-40	-40	-40	-40	-40	-40	-40	-40	-40	-40	-40	-40	-40	-40
Oxygen outlet quality											15	608573-:	1:2010 C	lass 1-2-:	1							
Length	mm		600.0	600.0	750.0	750.0	850.0	850.0	1120.0	1120.0	1190.0	1230.0	1230.0	1640.0	1765.0	1960.0	1960.0	1960.0	2470.0	2920.0	2470.0	2920.0
Lengen	Inch		23.6	23.6	29.5	29.5	33.5	33.5	44.1	44.1	46.9	48.4	48.4	64.6	69.5	77.2	77.2	77.2	97.2	115.0	97.2	115.0
Width	mm		757.0	757.0	770.0	770.0	848.0	848.0	875.0	875.0	924.0	943.0	947.0	1108.0	1135.0	1175.0	1175.0	1175.0	1305.0	1440.0	2610.0	2880.0
	Inch		29.8	29.8	30.3	30.3	33.4	33.4	34.4	34.4	36.4	37.1	37.3	43.6	44.7	46.3	46.3	46.3	51.4	56.7	102.8	113.4
Height	mm		1467.0	1489.0	1801.0	1801.0	1630.0	1630.0	1962.0	1962.0	2252.0	2278.0	2678.0	2450.0	2492.0	3094.0	3094.0	3592.0	3097.0	3280.0	3097.0	3280.0
	Inch		57.8	58.6	70.9	70.9	64.2	64.2	77.2	77.2	88.7	89.7	105.4	96.5	98.1	121.8	121.8	141.4	121.9	129.1	121.9	129.1
Mass	Kg		193.8	226.8	324.8	330.6	412.6	412.6	723.0	735.0	1009.3	1192.3	1321.2	2359.3	2632.7	3150.0	3150.0	3681.0	4908.0	6489.0	9746.0	12470.0
	Lbs		427.3	500.0	716.1	728.9	909.6	909.6	1593.9	1620.3	2225.1	2628.5	2912.7	5201.4	5804.1	6944.6	6944.6	8115.2	10820.3	14305.8	21486.2	27491.6
Inlet connections	G/NPT		G1/2"	G1/2"	G1/2"	G1/2"	G1/2"	G1/2"	G 3/4"	G 3/4"	G1"	G1"	G1"	G1 1/2"	G1 1/2"	DN50	DN50	DN50	DN50	DN50	2xDN50	2xDN50
Outlet connections	G/NPT		G3/8"	G3/8"	G3/8"	G3/8"	G3/8"	G3/8"	G1/2"	G1/2"	G1/2"	G1/2"	G1/2"	G 3/4"	2xG3/4"	2xG3/4"						

1. Flow is measured at Reference Conditions: 1 bara and 20°C at operating pressure of compressed air of 6 barg and oxygen pressure at the outlet 4.5 barg, inlet temperature 20°C & Air Inlet Quality of ISO 8573-1:2010 class 1-4-1

### **Oxygen solutions**

Pneumatech offers packaged solutions for on-site oxygen generation, which guarantee peace-of-mind and quick returns compared to traditional oxygen supply.

A typical lineup consists of a compressor, a refrigerant dryer, filters, buffer vessels and a PPOG oxygen generator; and can be completed with a high-pressure oxygen booster and a bottle filling station. These can be containerized or skid-mounted, depending on the application and the needs.



Our boosters are available in 3 kW to 15 kW models and can safely and reliably boost oxygen, nitrogen, helium or argon up to 200 barg / 2900 psig. By boosting a gas to these high pressures, you can bottle the gas you generate. This is particularly interesting to cover peak demand or as emergency back-up.



Pneumatech's on-site oxygen systems generate oxygen from 90% up to 95% purity, and are thus compliant with European pharmacopeia and United States Pharmacopeia (USP). Our production locations are moreover certified according to ISO 13485, the international quality management system for medical devices.

# **Globally present. Globally certified.**

Pneumatech was founded in Kenosha, Wisconsin, USA in 1966 and has grown continuously. At the start of this century Pneumatech expanded into compressed air and gas treatment and industrial nitrogen generation markets. It currently has production sites in the USA, Europe and China. In 2010 Pneumatech received ISO 9001 and ISO14001 certification, and OHSAS 18001 certification in 2011.





Piston Compressors



Ash Air: Compressed Air Solutions Specialists

The team at Ash Air is passionate about the performance of their products and services, with more than 40 gualified engineers working throughout the country providing unsurpassed compressed air solutions. We look after New Zealand's air compressors and vacuum pumps, from the smallest to largest companies. 9,500+ businesses have trust us to set-up, upgrade, and look after their compressed air systems.

We are available 24/7 when and where you need us, with 13 strategically located service centres in New Zealand, so you'll never be caught without the back up you need.



