HiFluxx ST304

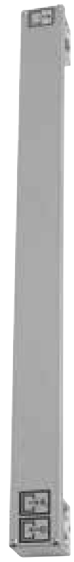
Nitrogen Membrane Module

Product Information Sheet

Parker hollow-fibre membrane modules produce nitrogen gas from compressed air to offer a cost-effective, reliable and safe alternative to traditional cylinder or liquid nitrogen gas supplies.

Nitrogen is used as a clean, dry, inert gas primarily for removing oxygen from products and/or processes.

Parker modules can be built into a custom-made nitrogen generator or can be integrated with your (production) process to provide an on-demand, continuous source of nitrogen gas. Gas which can be used in a wide range of industries including food, beverage, pharmaceutical, laboratory, chemical, heat treatment, electronics, transportation, oil & gas, mining and marine.



Benefits:

- **Less membrane modules needed per nitrogen system**
  More nitrogen per fibre is produced from Parker hollow-fibre membranes than any other in the world
- **Use of low pressure standard industrial compressor**
  No high pressure compressor needed to obtain required nitrogen flow
- **Energy savings**
  Operation at a low pressure requires less energy
- **Reduced CO_2 emissions**
  No heater required to open polymer membrane structure, thus reducing the energy consumption
- **Robust fibre**
  Most tolerant fibre to particle contamination
- **Large membrane diameter**
  Lowest membrane module pressure drop
- **Factory membrane ageing, pre-delivery**
  No performance decrease over time due to fibre ageing
- **Quick start-up time**
  Required nitrogen purity is produced instantly, no time needed to heat-up
- **Flexible mounting arrangements**
  Can be mounted horizontal or vertical
- **Low noise operation**
  Radiated noise generated by membrane technology is extremely low
- **No maintenance required**
  No user serviceable parts
- **Small system footprint**
  Less modules needed to produce nitrogen requirements

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Performance data

Performance data is based on 20°C feed-air temperature and 1013 mbar ambient pressure

Nitrogen purity %[1]	Typical[1)] Nitrogen flow rate in m^3/hr[2)] (SCFM)				
	99	98	97	96	95
4 bar g	0.15	0.27	0.39	0.50	0.62
5 bar g	0.19	0.34	0.48	0.62	0.78
6 bar g	0.25	0.45	0.62	0.80	0.98
7 bar g	0.29	0.52	0.73	0.93	1.14
8 bar g	0.33	0.60	0.83	1.06	1.31
9 bar g	0.39	0.70	0.95	1.23	1.52
10 bar g	0.41	0.75	1.04	1.33	1.64
11 bar g	0.43	0.82	1.15	1.48	1.83
12 bar g	0.45	0.89	1.25	1.63	2.02

Nitrogen purity %	Typical Feed-air consumption at nitrogen flow rate in m^3/hr[2)] (SCFM)				
	99	98	97	96	95
4 bar g	1.16	1.29	1.43	1.54	1.69
5 bar g	1.44	1.61	1.78	1.92	2.11
6 bar g	1.73	1.98	2.18	2.39	2.65
7 bar g	2.02	2.31	2.55	2.79	3.09
8 bar g	2.31	2.64	2.91	3.19	3.53
9 bar g	2.70	3.06	3.33	3.69	4.10
10 bar g	2.89	3.30	3.64	3.99	4.42
11 bar g	3.45	3.85	4.24	4.58	4.94
12 bar g	3.60	4.17	4.63	5.04	5.46

Maximum pressure drop <0.3 bar.
Maximum nitrogen flow rate = minimum flow rate + 30%

1. Parker membranes separate oxygen from pressurised air. The composition of the product is determined by measuring the residual oxygen content. The nitrogen content is calculated by subtracting the residual oxygen content from 100%. Air is composed of nitrogen (78.1%), oxygen (20.9%), Argon (0.9%), CO_2 (0.03%), and some trace inert gases. Therefore it should be born in mind that the value that is normally called the nitrogen content actually is the inert gas content.
2. m^3/hr refers to conditions at 1013 mbar(a) and 20°C

Ambient Conditions

Ambient temperature	+2°C to +45°C*
Ambient pressure	atmospheric
Air quality	clean air without contaminants

*Maximum inlet temperature, 35˚C when operating at 13 bar g.

Feed-air Conditions

Maximum operating pressure	13.0 bar g**
Min. / Max. operating temperature	+2°C / +45°C*
Maximum oil vapour content	<0.01 mg/m³
Particles	filtered at 0.01 µm cut off
Relative humidity	<100% (non condensing)

*Maximum inlet temperature, 35˚C when operating at 13 bar g.
**Maximum inlet pressure, 10 bar g when operating at 45˚C.

Flow Rate Corrections

Nitrogen flow rate at feed temperatures other than 20ºC	Use bulletin S3.1.059*
Feed-air consumption at feed-air temperatures other than 20ºC	Use bulletin S3.1.059*

*version number may vary, make sure to use the most recent version

Material

Housing	Aluminum

Weight, Dimensions and Connections

Dimensions H x W x D	386 x 80 x 63 mm
Weight	2.3 kg
Connection inlet / outlet	G 3/8" female
Vent	G 3/8" female
Dimensional drawing	Refer to K3.1.348

Note
Parker membrane systems produce both nitrogen and oxygen enriched air. Nitrogen enriched air can cause suffocation and oxygen enriched air causes increased fire hazards. The oxygen enriched air is available at ambient pressure and pressure build-up of enriched oxygen at the outlet must be prevented, otherwise a serious (reversible) decrease in performance will result. The nitrogen enriched air produced should be treated as pressurised air.

For more information please contact your local sales office or visit **www.parker.com/gsfe**

Parker has a continuous policy of product development and although the company reserves the right to changes specifcations, it attemps to keep customers informed of any alterations.

Catalogue: S3.1.060f 01/23

EMEA Product Information Centre
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