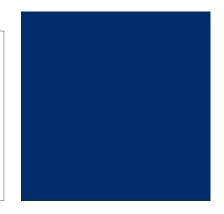
HiFluxx ST504

Nitrogen Membrane Module



Parker hollow-fibre membrane modules produce nitrogen gas from compressed air to offer a costeffective, 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 CO₂ 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



Performance data

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

Nitrogen	Minimum nitrogen flow rate in m³/hr ²				
purity %1	99	98	97	96	95
4 bar g	0.20	0.33	0.47	0.61	0.75
5 bar g	0.27	0.46	0.65	0.84	1.03
6 bar g	0.36	0.60	0.83	1.07	1.31
7 bar g	0.41	0.71	1.01	1.29	1.57
8 bar g	0.48	0.83	1.18	1.52	1.86
9 bar g	0.55	0.95	1.35	1.75	2.14
10 bar g	0.62	1.07	1.52	1.96	2.39
11 bar g	0.68	1.19	1.69	2.17	2.65
12 bar g	0.75	1.30	1.86	2.38	2.90
13 bar g	0.81	1.42	2.04	2.59	3.15

Nitrogen	Feed-air consumption at minimum nitrogen flow rate in m³/hr ²				
purity %1	99	98	97	96	95
4 bar g	1.57	1.70	1.84	2.01	2.17
5 bar g	1.94	2.12	2.37	2.63	2.82
6 bar g	2.38	2.56	3.00	3.31	3.53
7 bar g	2.78	3.06	3.54	3.81	4.17
8 bar g	3.24	3.55	4.13	4.45	4.91
9 bar g	3.73	4.06	4.72	5.12	5.66
10 bar g	4.23	4.60	5.33	5.77	6.35
11 bar g	4.78	5.19	5.97	6.46	7.06
12 bar g	5.39	5.83	6.64	7.21	7.78
13 bar g	6.07	6.55	7.36	8.03	8.53

Maximum pressure drop <0.3 bar.

Maximum nitrogen flow rate = minimum flow rate + 30%.

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 bar g**
Min. / Max. operating temperature	+2°C to +45°C*
Maximum oil vapour content	<0.01 mg/m ³
Particles	filtered at 0.01 µm cut off
Relative humidity	<100% (non condensing)

^{*}Maximum inlet temperature, 35°C when operating at 13 bar g.

Flow Rate Corrections

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

 $[\]ensuremath{^{^{*}}}\xspace\ensuremath{\text{version}}\xspace$ number may vary, make sure to use the most recent version.

Material

Housing	Steel
Tube	Aluminum
Coating (housing)	ESPC to RAL 7035 (Light Grey)
Coating (tube)	None

Services Available on Request

3D model CAD STEP file	
Test Report	

Weight, Dimensions and Connections

Dimensions H x W x D	520 x 80 x 63 mm
Weight	2.6 kg
Connection feed-air	G ³ /8" female to ISO 228
Connection nitrogen enriched air	G ³ /8" female to ISO 228
Connection oxygen enriched air at atmospheric pressure	G ³ / ₈ " female to ISO 228
Dimensional drawing	Refer to K3.1.380

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 change specifications, it attemps to keep customers informed of any alterations.

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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%), CO₂ (0.03%), and some trace inert gases. Remember that the value that is normally called the nitrogen content actually is the inert gas content.

² m³/hr refers to conditions at 1013 mbar(a) and 20°C.

^{**}Maximum inlet pressure, 10 bar g when operating at 45°C.