Industrial Nitrogen Gas Applications

There are thousands of applications for industrial gases. Nitrogen is generally used for three main functions:

- It prevents microbial growth or acts as a filler gas in food applications
- It prevents slow oxidization of products such as chemicals and metals during processing or heating
- It prevents rapid oxidization of products that are flammable or explosive

Pharmaceutical

Whether in primary or secondary pharmaceutical product manufacture or as a centralised QA laboratory supply; within research establishments or universities and colleges, Parker can offer a solution to suit the critical demands of this industry sector.

For blanketing of pharmaceutical product ingredients and pressure transfer within reactor vessels, to micronising powders to prevent oxidisation or explosion, Parker nitrogen generators can cut costs, reduce risk and improve productivity.

Centralised laboratory systems remove the need to have high pressure cylinders within the working environment and the possibility of running out of gas during a QA analysis procedure. Parker nitrogen gas generators are typically used for analytical equipment such as LC/MS, GC, reaction blanketing within fume cupboards, solvent evaporation, ICP, ELSD, NMR and circular dichroism.

Food and Beverage

Most food products start to deteriorate from the moment they are harvested or prepared for packaging, being under attack from a multitude of spoilage mechanisms. By flushing, storing and/or packing with nitrogen, oxygen that many of these micro-organisms need in order to survive and multiply, is removed and the spoilage process is significantly reduced.

Prepared salads and vegetables, fresh chilled ready meals, meat, poultry, fish, dairy produce (including cheese), breads, coffee as well as snack foods such as potato chips and nuts can all benefit from 'modified atmosphere packaging' (or MAP as it is often referred to). By using nitrogen gas from a Parker generator, the product shelf life is increased and the appearance and quite often taste, is also improved.

Nitrogen is also used for 'controlled atmosphere storage' of fresh fruits and vegetables, sparging and blanketing food oils as well as bulk powders, cereals and liquid ingredients.

Alcoholic and non-alcoholic drinks and ingredients can suffer similar spoilage mechanisms to food, however one of the most significant threats to product quality is oxidisation which adversely affects product taste. Beer and wine can absorb unwanted dissolved oxygen throughout the production process. Oxygen can also reduce the effectiveness of natural or added vitamin C which maybe used in fruit juices.

Nitrogen gas generators provide an ideal cost effective solution for all of the processes involved in beverage production.

Lasers

Laser Cutting
By far the largest use of nitrogen gas within this industry sector is for laser cutting. Nitrogen gas is used as an 'assist gas' to prevent oxidisation or discolouration and to blow away the molten material from the cut edge.

It is also used in certain types of laser cutting machine as a 'purge gas' to ensure the laser beam guide path from the resonator (where the beam is generated), to the cutting head, is free of contamination that could otherwise affect the power or alter the shape of the beam.

Laser Sintering
Laser sintering or rapid prototyping uses a laser to form a solid 3D structure within a plastic powder material. Complex shapes and patterns can be constructed and modelled with ease. Nitrogen is used to blanket and prevent oxidisation of the powder material while it melts and solidifies to shape under the heat generated by the laser beam.

Laser Ablation
Nitrogen is used to expel fumes and blanket delicate electronic circuits where a laser beam is used to erode pathways on micro printed circuit boards.

Laser Eye Surgery
Nitrogen is used as a beam purge and pneumatics gas on Eximer laser machines which are used in the corrective treatment of eyesight defects.

Heat Treatment

Nitrogen gas is commonly used to exclude oxygen from heat treatment furnaces and ovens. Parker can supply nitrogen gas generation systems to replace expensive bulk vessel liquid supplies for many heat treatment processes.

Typical applications include:

- Belt furnaces
- Batch furnaces
- Vacuum ovens
- Brazing
- Carburising
- Tempering
- Annealing
- Gas quenching
- Neutral hardening
- Normalising
- Sintering

Fire Prevention and Archive Protection

From the preservation of treasures for the generations after us, to preventing essential data destruction due to fire, Parker nitrogen generators provide a unique solution.

Oxygen depleted air can be pumped into buildings that house treasures and archives or computer stored data to help prevent total loss caused by fire. Museum pieces, paintings, artefacts, furniture and valuable fabrics can all be protected.

In general, only a modest reduction in normal ambient oxygen levels is enough to prevent fire. At 16% oxygen content, archives are protected whilst intermittent human exposure to these levels will have no adverse effects.

What Nitrogen Quality Do I Need?

Traditional gas companies generally provide gas that is of high purity regardless of whether the application or process needs it. This is as a result of the ASU manufacturing process. Typically cylinder and liquid nitrogen has a maximum remaining oxygen content of between 5ppm to 20ppm v/v.

The majority of applications do not need such high purity gas and the benefit of using a higher oxygen content Parker generated gas is that less energy is used to produce it, so the unit gas cost will be more competitive.

For example using nitrogen with a maximum remaining oxygen content of 5% uses 5 times less energy to generate than with a maximum remaining oxygen content of 10ppm.

Providing customers with ultra-high purity nitrogen in all instances is an unnecessary waste of money and energy.

What do we mean by 'purity'?

By purity Parker means the maximum remaining oxygen content in the output nitrogen gas. Parker nitrogen technology when combined with Parker compressed air pre-treatment, guarantees the nitrogen gas to be commercially sterile, oil-free, dry and particulate free. (Within the specifications defined in the product information data contained in this catalogue.)

The maximum remaining oxygen content required will vary with every application.
Maximum cost and energy savings = maximum oxygen level permissible

High Purity
10 ppm to 1000ppm (99.999% to 99.9%)

Laser cutting
50ppm to 500ppm

Heat treatment
10ppm to 1000ppm

Electronics soldering
50ppm to 500ppm

Pharmaceutical
10ppm to 5000ppm

Mid Purity
0.1% to 1% (99.9% to 99%)

Food MAP
0.1% to 1%

Food processing
0.1% to 1%

Beer dispense
0.5%

Wine blanketing
0.5%

Oil sparging
0.5%

Brazing
0.5%

Injection molding
0.5% to 1%

Wire annealing
0.5%

Aluminium sparging
0.5%

Low Purity
1% to 5% (99% to 95%)

Fire prevention
5%

Explosion prevention
2% to 5%

Pressure testing
5%

Gas seal blanketing
5%

Chemical blanketing
1% to 5%

Pigging
5%

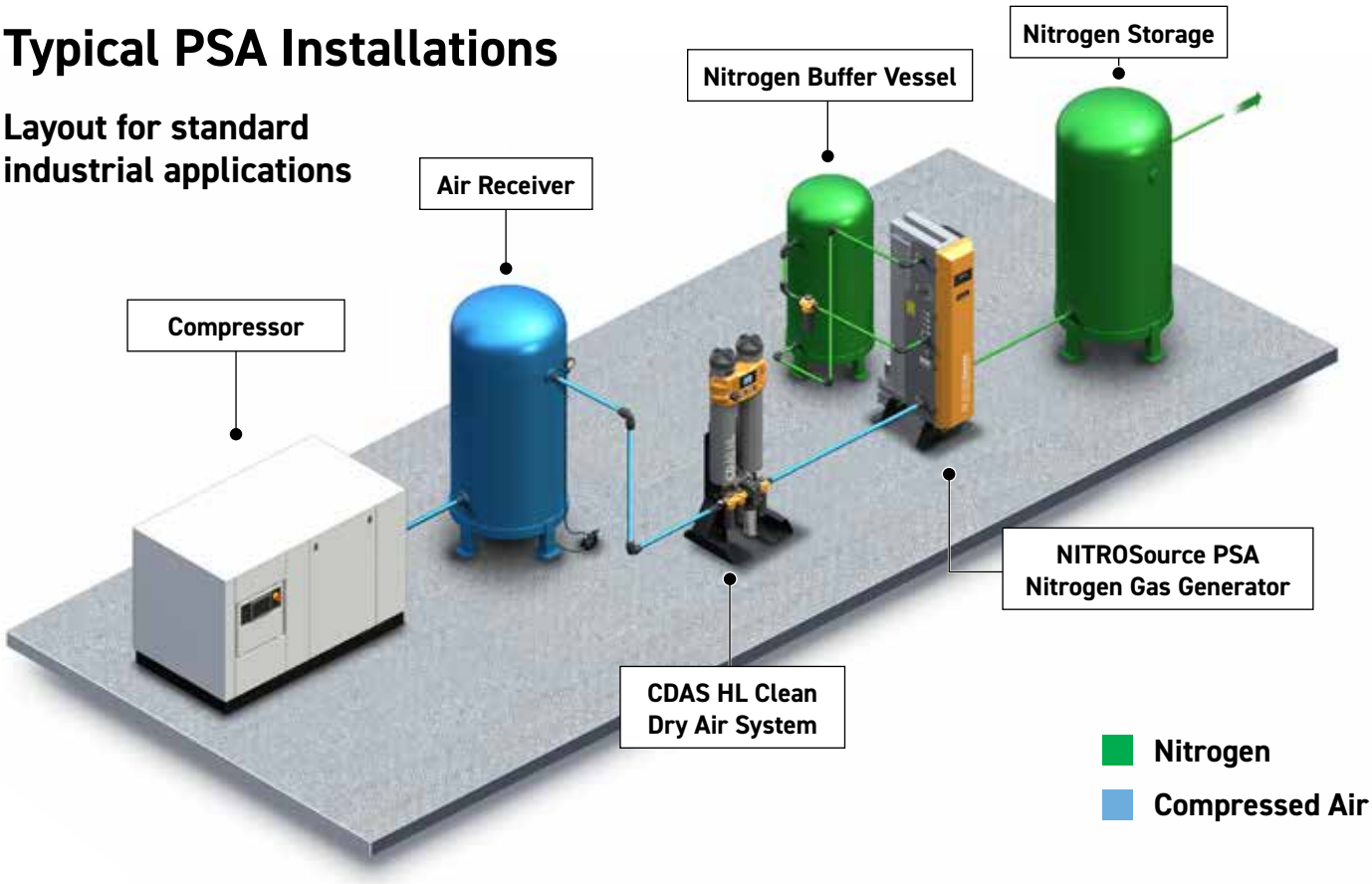
Autoclaves
5%

Laser sintering
2%

Dry boxes
2%

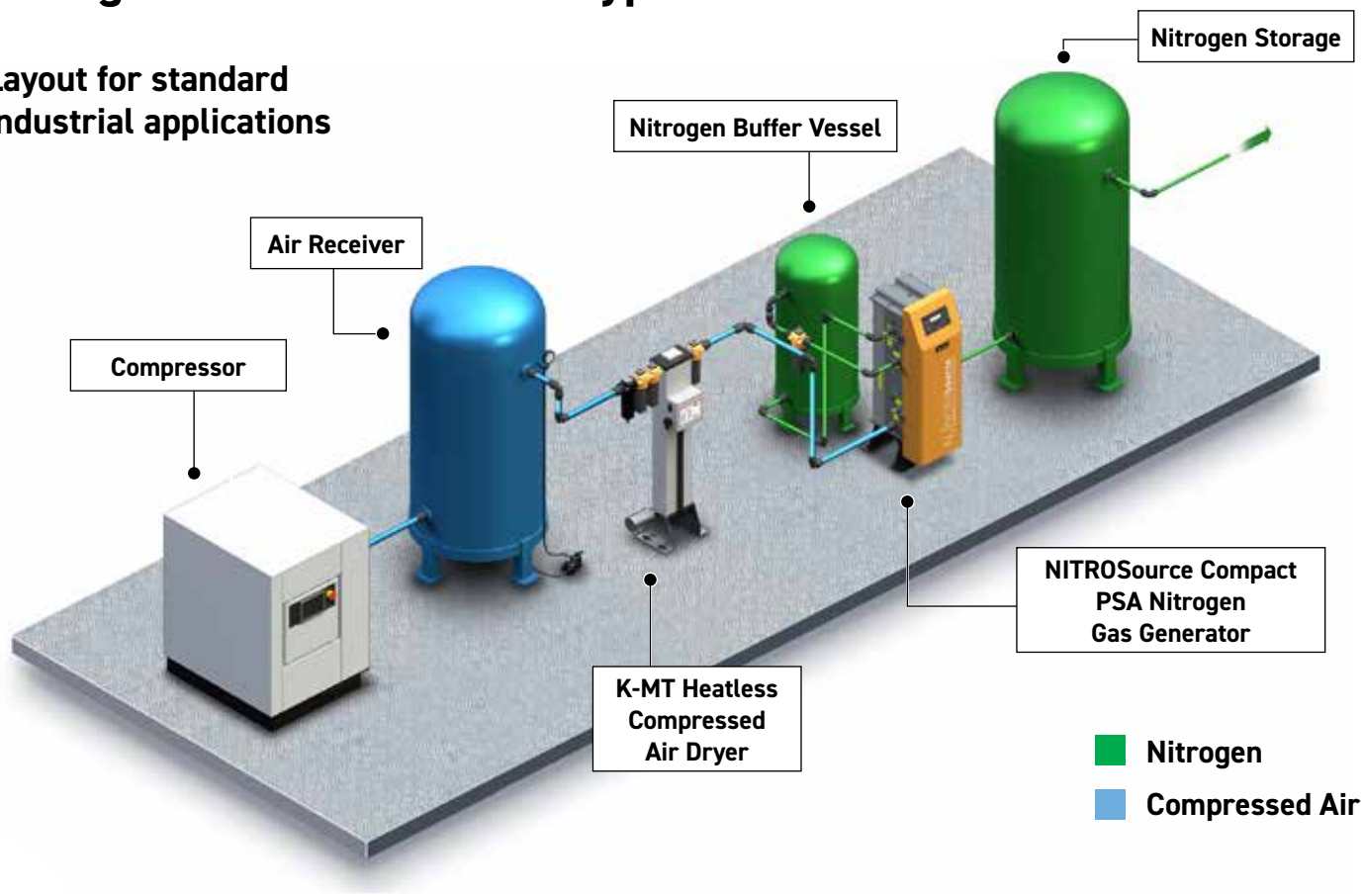
Typical PSA Installations

Layout for standard industrial applications

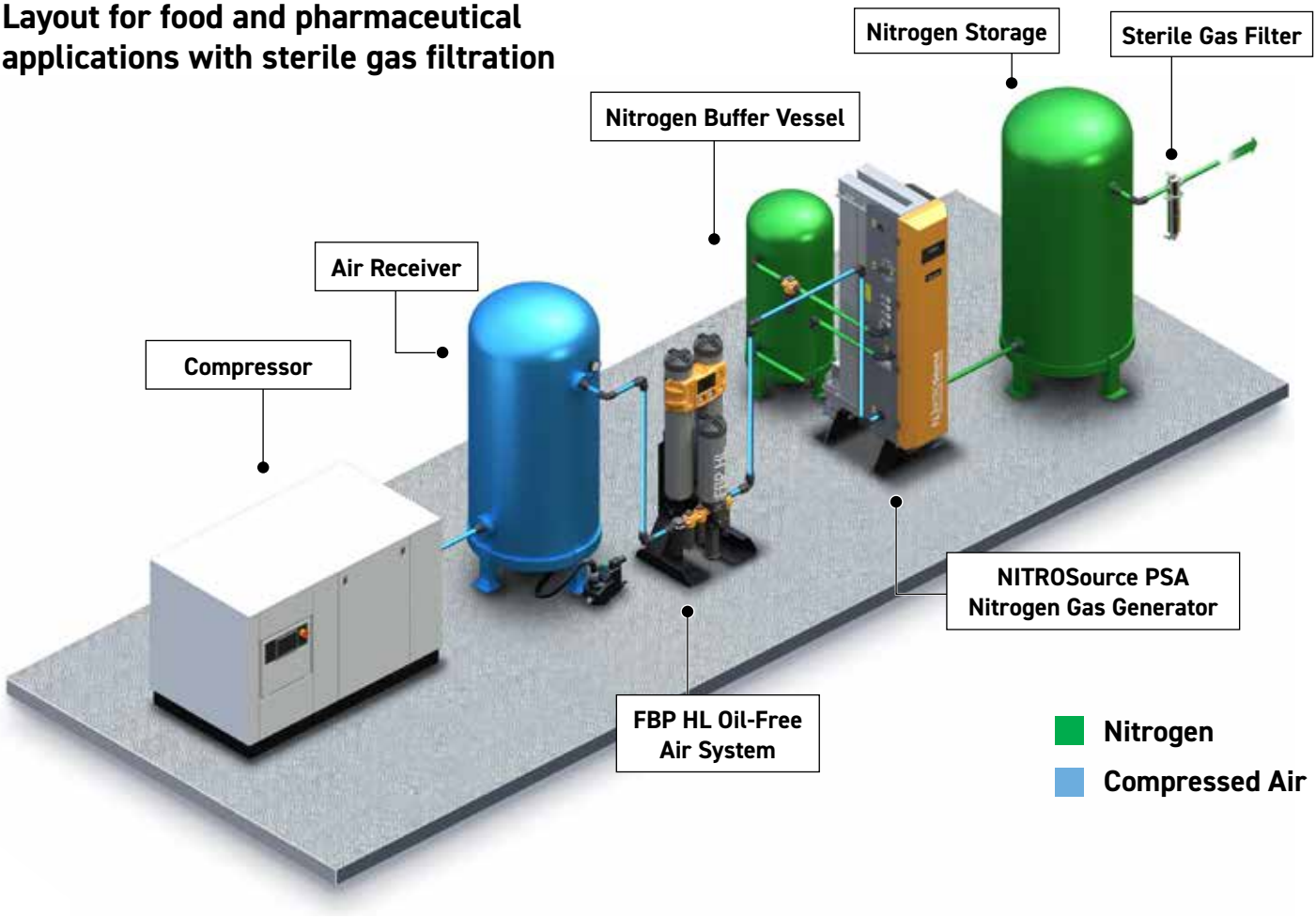


Nitrogen Gas Generation - Typical PSA Installations

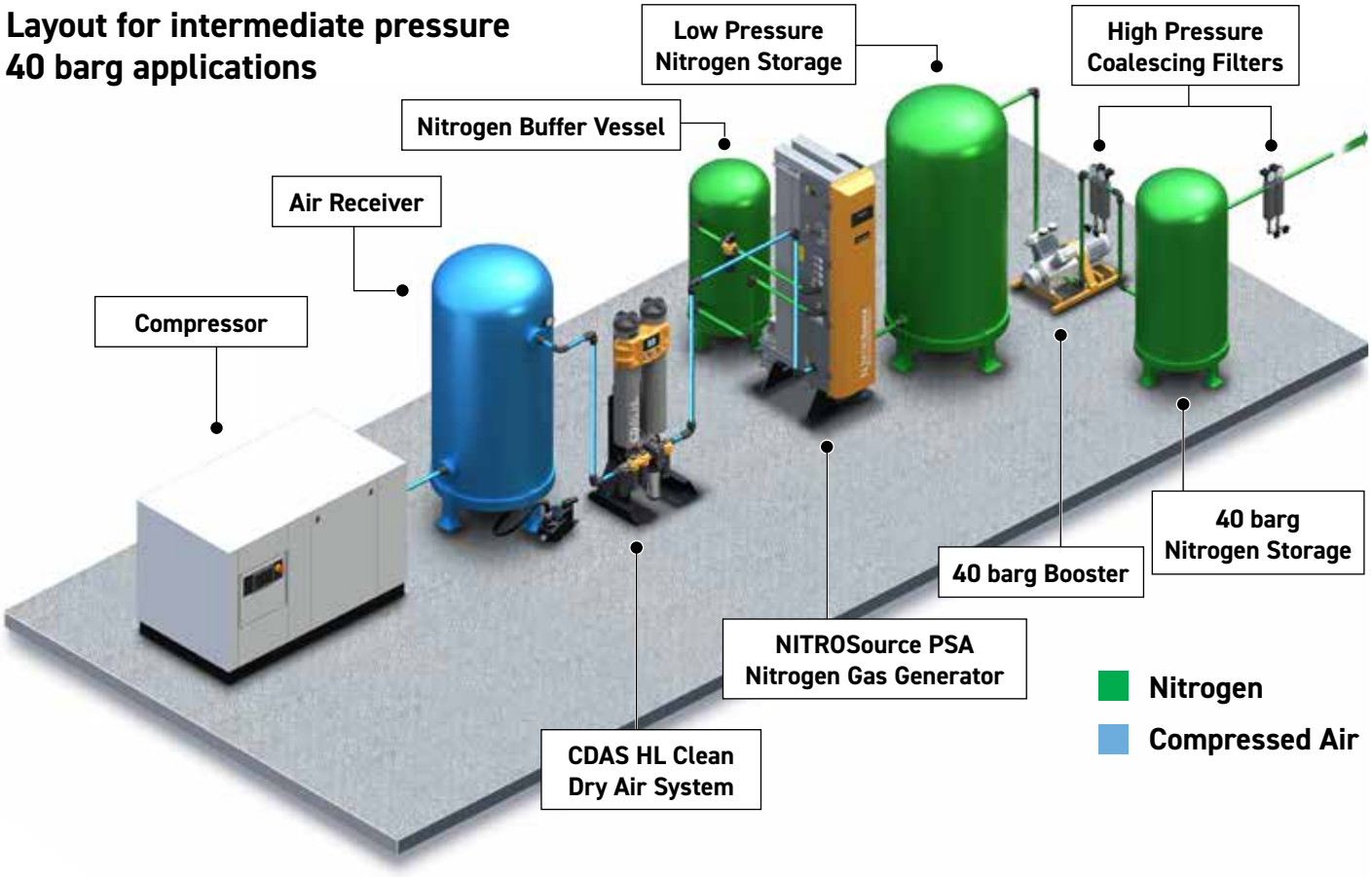
Layout for standard industrial applications



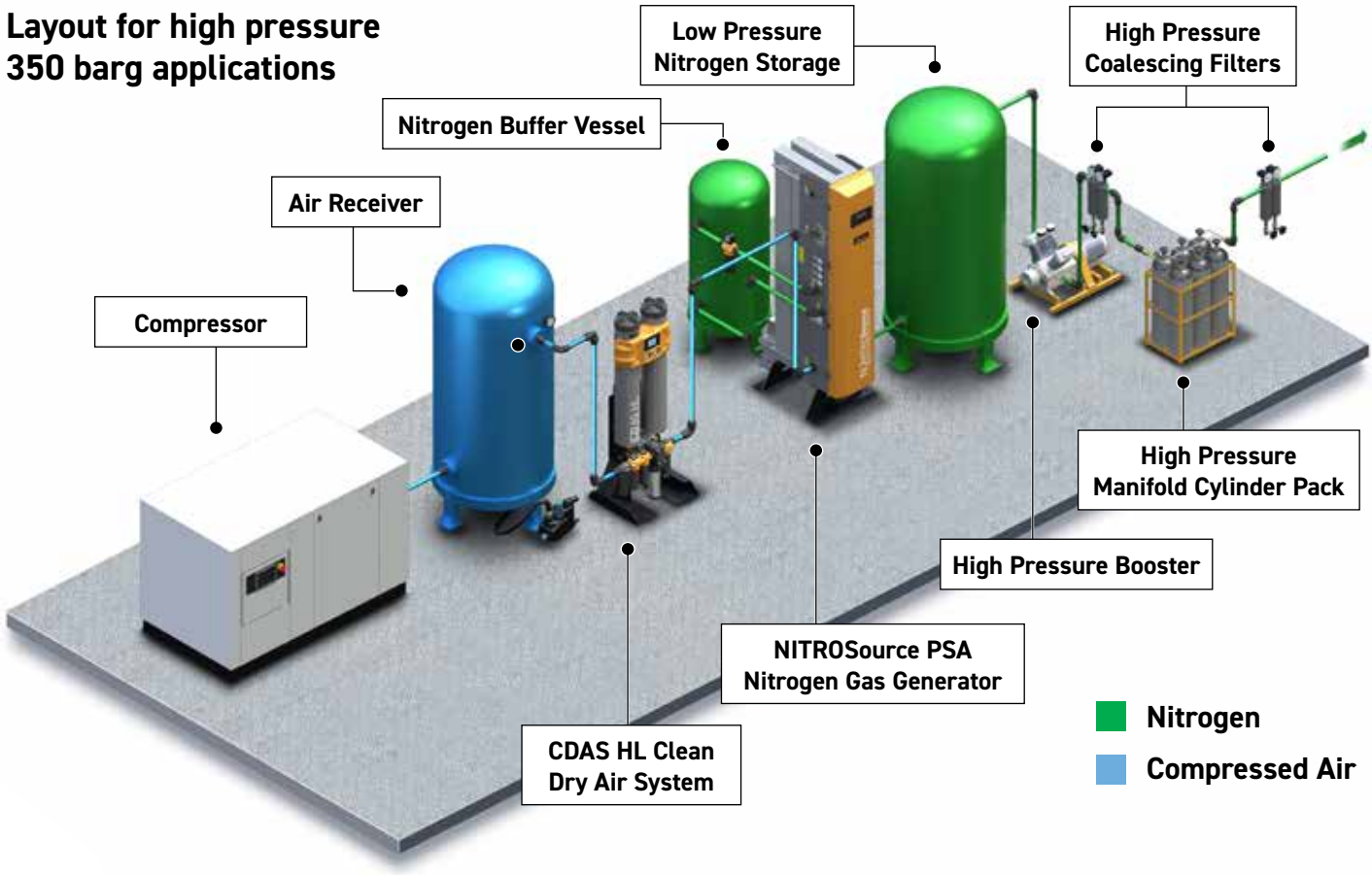
Layout for food and pharmaceutical applications with sterile gas filtration



Layout for intermediate pressure 40 barg applications



Layout for high pressure 350 barg applications

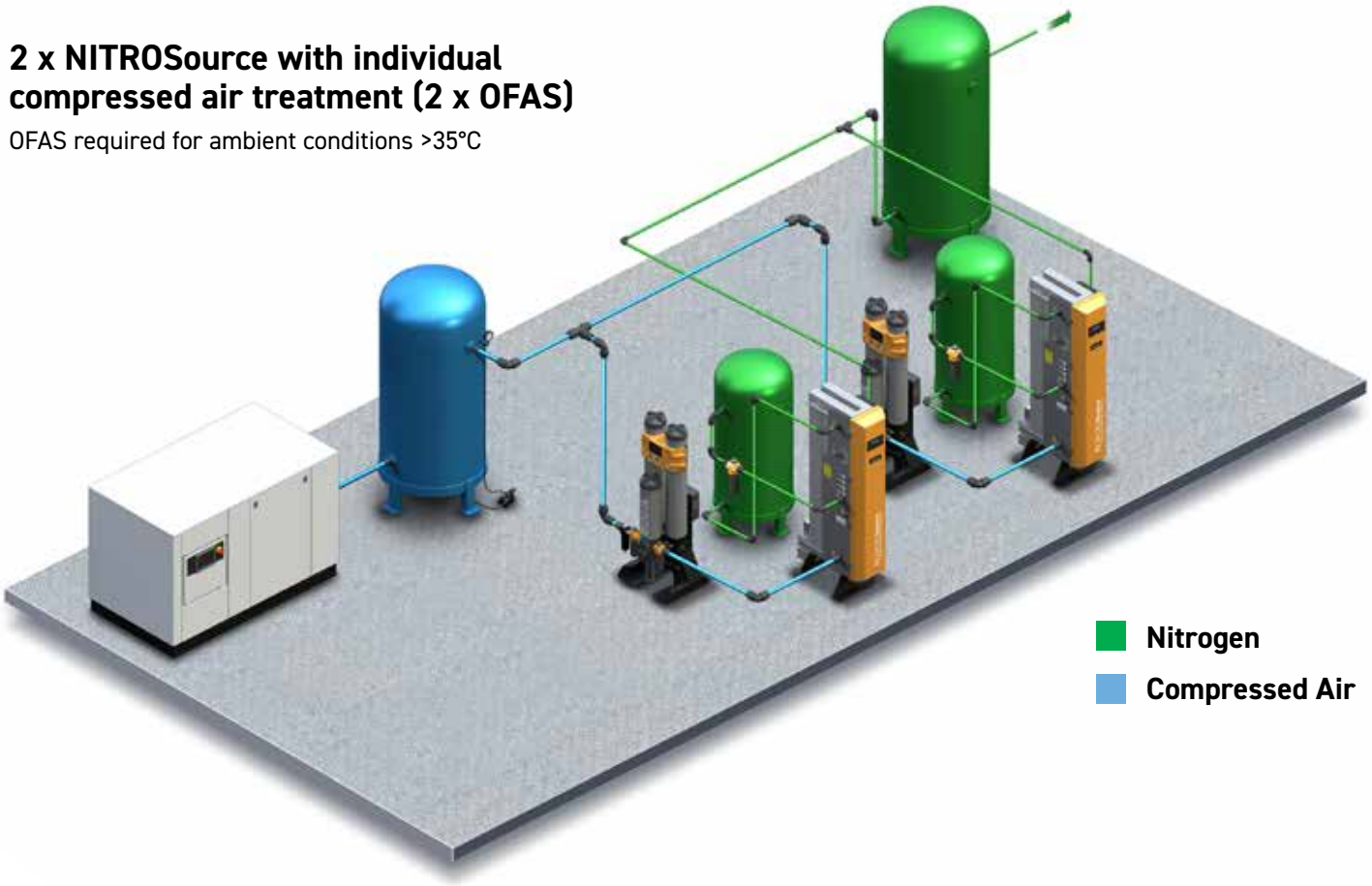


Nitrogen Gas Generation - Typical Multi-bank Installations

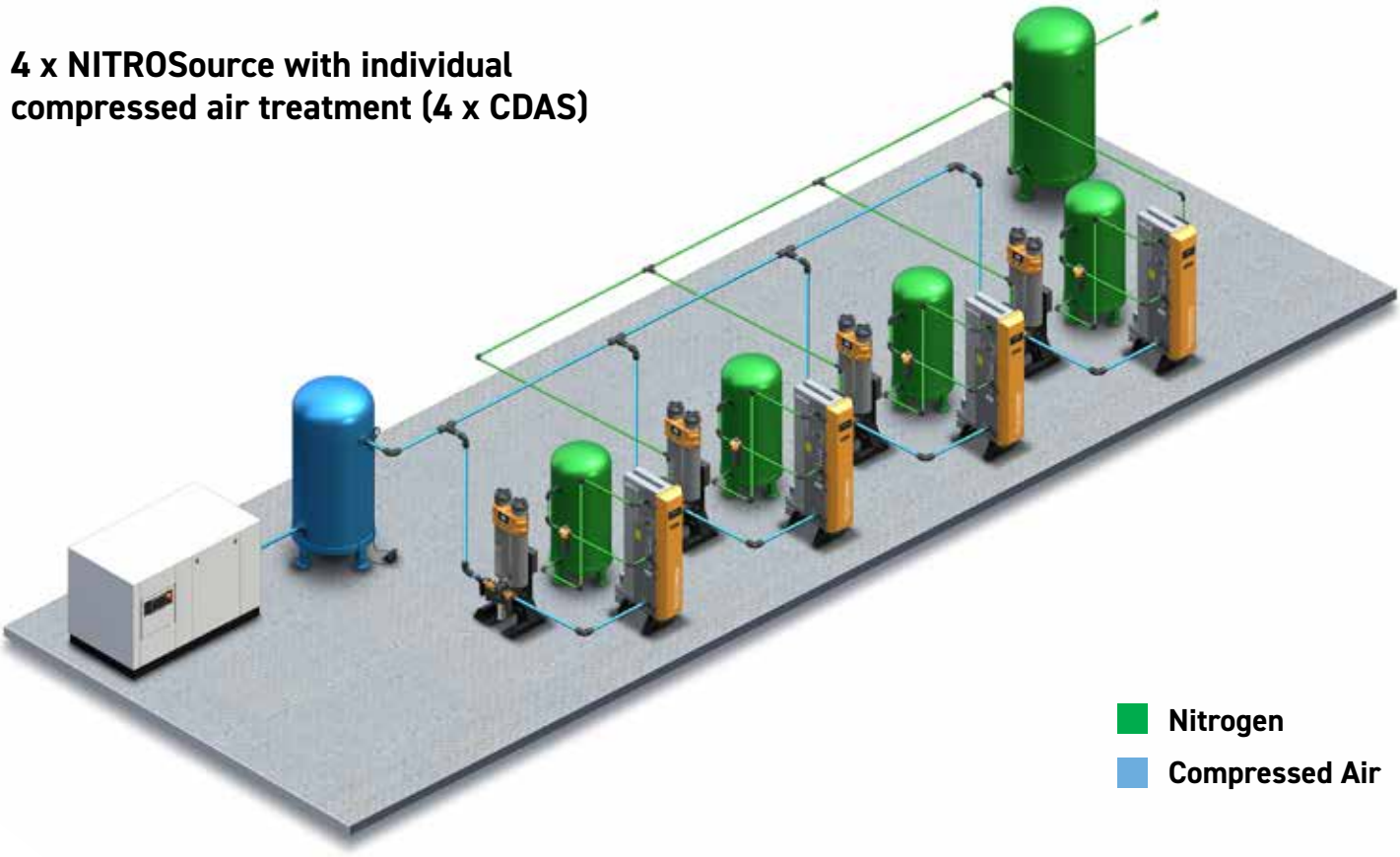
Unlike traditional designs, NITROSource PSA models can be multi-banked to provide extra nitrogen capacity should demand increase in the future. There is no need to replace the generator with a larger unit, additional capacity can be covered by simply adding extra bank(s).

2 x NITROSource with individual compressed air treatment (2 x OFAS)

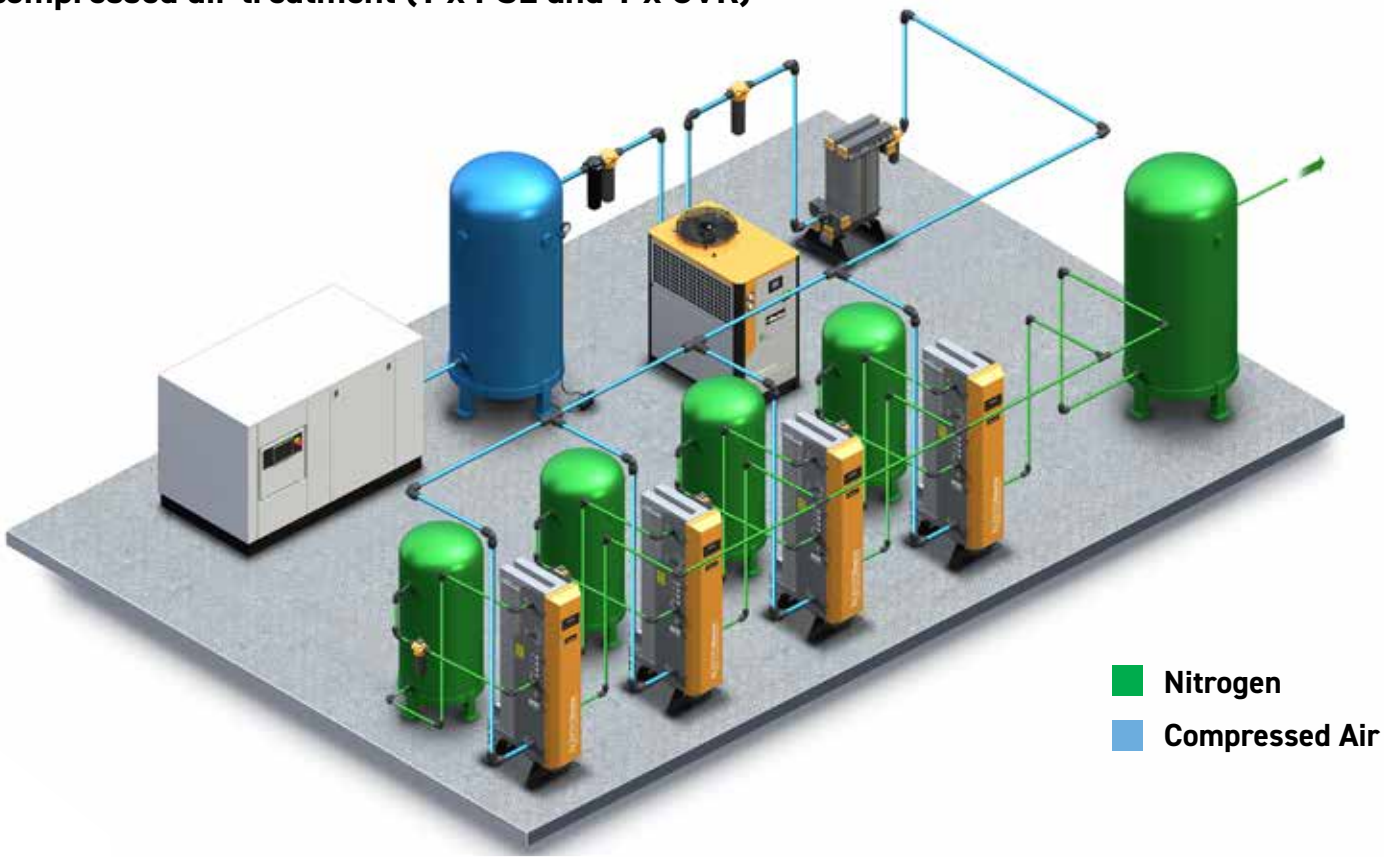
OFAS required for ambient conditions >35°C



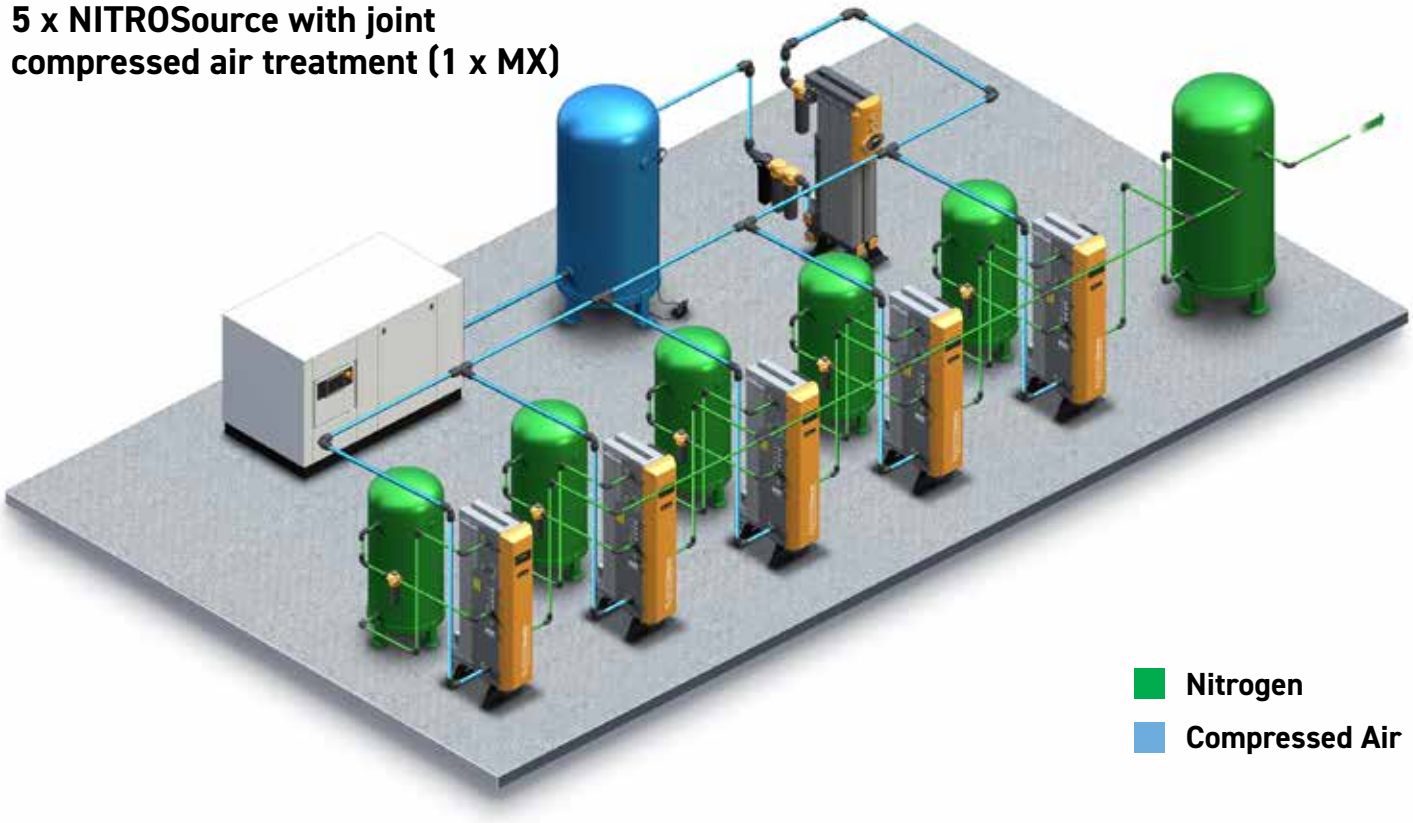
4 x NITROSource with individual compressed air treatment (4 x CDAS)



4 x NITROSource with joint compressed air treatment (1 x PSE and 1 x OVR)



5 x NITROSource with joint compressed air treatment (1 x MX)



NITROSource PSA Nitrogen Gas Generator

Technical Data

Model	Nitrogen Flow Rates m³/hr vs Purity (Oxygen Content)													
	Parts Per Million (ppm)						Percent (%)							
	5	10	50	100	250	500	0.10	0.40	0.50	1	2	3	4	5
N2-20P	3.5	4.5	6.7	8.0	9.7	11.1	12.4	16.7	17.7	21.3	25.3	29.8	30.9	33.7
N2-25P	5.3	6.8	10.1	12.0	14.6	16.7	18.6	25.1	26.6	32.0	38.0	44.7	46.4	50.6
N2-35P	7.0	9.0	13.4	16.0	19.4	22.2	24.8	33.4	35.4	42.6	50.6	59.6	61.8	67.4
N2-45P	8.8	11.3	16.8	20.0	24.3	27.8	31.0	41.8	44.3	53.3	63.3	74.5	77.3	84.3
N2-55P	10.5	13.5	20.1	24.0	29.1	33.3	37.2	50.1	53.1	63.9	75.9	89.4	92.7	101.1
N2-60P	11.6	15.0	22.3	26.6	32.3	36.9	41.2	55.5	58.9	70.8	84.1	99.1	102.7	112.1
N2-65P	13.3	17.1	25.5	30.4	36.9	42.2	47.1	63.5	67.3	80.9	96.1	113.2	117.4	128.1
N2-75P	14.5	18.6	27.7	33.1	40.2	46.0	51.3	69.1	73.3	88.2	104.7	123.4	127.9	139.5
N2-80P	16.1	20.7	30.8	36.8	44.6	51.1	57.0	76.8	81.4	98.0	116.4	137.1	142.1	155.0

Performance data is based on 7 bar g air inlet pressure and 20°C - 25°C ambient temperature. Consult Parker for performance under specific conditions.

m³ reference standard 20°C, 1013 millibar(a), 0% relative water vapour pressure.

Inlet Parameters

Inlet Air Quality	ISO 8573-1: 2010 Class 2.2.2 (2.2.1 with high oil vapour content)
Inlet Air Pressure Range	5 - 13 bar g (72.5 - 217 psi g)

Electrical Parameters

Generator Supply	100 - 240 +/- 10% Vac 50/60Hz
Generator Power	55 W
Fuse	3.15 A (Anti Surge (T), 250v, 5 x 20mm HBC, Breaking Capacity 1500A @ 250v, IEC 60127, UL R/C Fuse)

Environmental Parameters

Ambient Temperature	5 - 50°C (41 - 122°F)
Humidity	50% @ 40°C (80% @ MAX @ 31°C)
IP Rating	IP20 / NEMA 1
Pollution Degree	2
Installation Category	II
Altitude	< 2000 m (6562 ft)
Noise	<80 dB (A)

Port Connections

Air Inlet	G1
N2 Outlet to Buffer	G1
N2 Inlet from Buffer	G½
N2 Outlet	G½

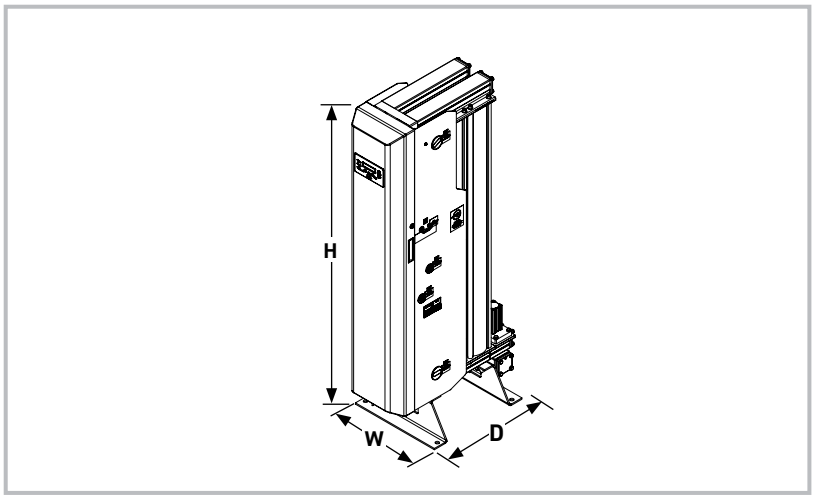
Part Number Breakdown / Product Key

Product Code	-	Model	Technology	O_2 Purity	Flow @ 5 bar g	Energy Saving Technology (EST)
N2	**-**	**20**	**P**	**X**	**L**	**N**
		25		**A**	**M**	**Y**
		35		**B**	**H**	
		45				
		60				
		55				
		65				
		75				
		80				

- **N2 = NITROSource**
- **P = Pressure Swing Adsorption (PSA)**
- **X = Ultra High Purity (≤10ppm)**
- **A = High Purity (ppm)**
- **B = Low Purity (%)**
- **L = Low Flow (0-60 m³/hr)**
- **M = Medium Flow (60-120 m³/hr)**
- **H = High Flow (120-300 m³/hr)**
- **N = Does Not Include EST**
- **Y = Includes EST**

Buffer Vessel Sizes

Model	Size (litres)
N2-20P	250
N2-25P	500
N2-35P	500
N2-45P	750
N2-55P	750
N2-60P	750
N2-65P	1000
N2-75P	1000
N2-80P	1000



Weights and Dimensions

Model	Unpacked								Packed							
	Height (H)		Width (W)		Depth (D)		Weight		Height		Width		Depth		Weight	
	mm	ins	mm	ins	mm	ins	kg	lbs	mm	ins	mm	ins	mm	ins	kg	lbs
N2-20P	1894	74.6	550	21.7	881	34.7	299	658	729	28.7	2000	78.7	1090	42.9	398.4	876
N2-25P					1050	41.3	384	845					1260	49.6	495.4	1090
N2-35P					1219	48.0	469	1032					1430	56.3	580.4	1277
N2-45P					1388	54.6	553	1217					1600	63.0	686.4	1510
N2-55P					1557	61.3	638	1404	832	32.8			1770	69.7	782.4	1721
N2-60P					1726	68.0	722	1588					1935	76.2	897.4	1974
N2-65P					1895	74.6	807	1775					2100	82.7	997.4	2194
N2-75P					2064	81.3	892	1962					2275	89.6	1093.4	2405
N2-80P					2233	87.9	976	2147					2445	96.3	1186.4	2610

Preventative Maintenance Kits

	High Purity Generators (ppm)		Low Purity Generators (%)	
Model	**Without EST (Model Nos. N2XXPAXN)**	**With EST (Model Nos. N2XXPAXY)**	**Without EST (Model Nos. N2XXPBXN)**	**With EST (Model Nos. N2XXPBXY)**
Kit Part Numbers	M12.NONEST.0001 M24.PPM.0002 M36.STD.0001 M60.STD.0001	M12.EST.0001 M24.PPM.0002 M36.STD.0001 M60.STD.0001	M12.NONEST.0001 M24.PCT.0002 M36.STD.0001 M60.STD.0001	M12.EST.0001 M24.PCT.0002 M36.STD.0001 M60.STD.0001

Kit Contents

Part Number	Description / Service Interval	Contents
M12.NONEST.0001	12 Month Non EST Service Kit (Every 12 Months)	Exhaust Silencer P025AO Dust Filter Element
M12.EST.0001	12 Month EST Service Kit (Every 12 Months)	Exhaust Silencer P025AO Dust Filter Element In-Line Filter
M24.PPM.0002	24 Month PPM Service Kit (Every 24 Months)	PPM Cell c/w Wiring
M24.PCT.0002	24 Month Percentage Service Kit (Every 24 Months)	% Cell c/w Wiring
M36.STD.0001	36 Month Standard Service Kit (Every 36 Months)	8 Bank Solenoid Valve
M60.STD.0001	60 Month Standard Service Kit (Every 24 Months)	40 x 25mm Stroke Cylinders (x6) Over Moulded Valve Discs and Guides (x6) 50 x 100mm Stroke Cylinders (x2) Valve Discs (x2 Sets) Valve Bonnets (x2) Assorted O-Rings Fixing Screws

NITROSource Compact PSA Nitrogen Gas Generator

Please contact Parker for NITROSource Compact performance data or visit parker.com/gsfe.

Inlet Parameters

Inlet Air Quality	ISO 8573-1: 2010 Class 2.2.2 (2.2.1 with high oil vapour content)
Inlet Air Pressure Range	6 - 10 bar g (87 - 145 psi g)

Electrical Parameters

Generator Supply	100 - 240 +/- 10% Vac 50/60Hz
Generator Power	55 W
Fuse	3.15 A (Anti Surge (T), 250v, 5 x 20mm HBC, Breaking Capacity 1500A @ 250v, IEC 60127, UL R/C Fuse)

Environmental Parameters

Ambient Temperature	5 - 50°C (41 - 122°F)
Humidity	50% @ 40°C (80% @ MAX @ 31°C)
IP Rating	IP20 / NEMA 1
Pollution Degree	2
Installation Category	II
Altitude	< 2000 m (6562 ft)
Noise	<80 dB (A)

Port Connections

Air Inlet	G1
N2 Outlet to Buffer	G1
N2 Inlet from Buffer	G½
N2 Outlet	G½

Flowrate

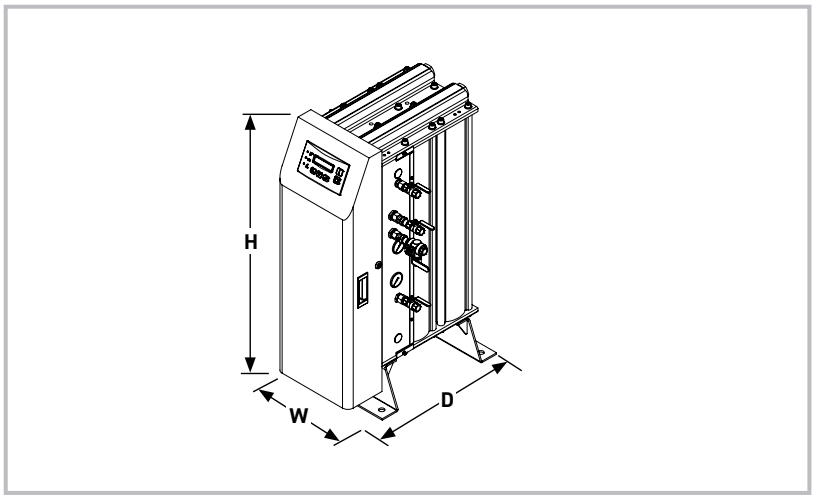
Model	Units	10PPM	50PPM	100PPM	250PPM	500PPM	0.1%	0.5%	1%	2%	3%	4%	5%
N2C-2	m³/hr	0.81	1.24	1.54	1.77	2.09	2.48	3.69	4.39	6.11	7.73	9.13	10.29
	cfm	0.5	0.7	0.9	1.0	1.2	1.5	2.2	2.6	3.6	4.5	5.4	6.1
N2C-4	m³/hr	1.73	2.38	2.94	3.52	4.21	4.96	7.58	9.12	12.95	15.89	18.38	20.57
	cfm	1.0	1.4	1.7	2.1	2.5	2.9	4.5	5.4	7.6	9.4	10.8	12.1
N2C-6	m³/hr	2.41	3.91	4.46	5.66	6.50	7.59	11.06	13.32	18.64	22.68	26.06	29.04
	cfm	1.4	2.3	2.6	3.3	3.8	4.5	6.5	7.8	11.0	13.3	15.3	17.1
N2C-8	m³/hr	3.38	5.01	5.89	7.35	8.68	10.24	14.86	18.01	24.02	29.33	33.93	37.81
	cfm	2.0	2.9	3.5	4.3	5.1	6.0	8.7	10.6	14.1	17.3	20.0	22.3

Stated flows are for operation at 7 bar g (100 psi g / 0.7 MPa g) with reference to 25 °C

Part Number Breakdown / Product Key

Product Code	-	Model	Technology	Flow Control	O_2 Purity	Maximum Design Pressure	Outlet Version
N2C	-	2	N	C	A	L	N
		4			B		A
		6					
		8					

- N2C = NITROSource Compact
- N = Non Equalising
- C = Constant
- A = High Purity (ppm)
- B = Low Purity (%)
- L = Low Pressure (6 - 10 bar g)
- N = No Analyser
- A = Analyser



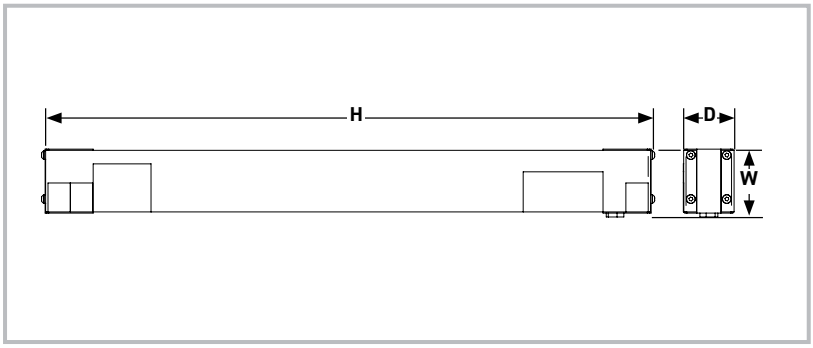
Weights and Dimensions

Model	Unpacked								Packed							
	Height (H)		Width (W)		Depth (D)		Weight		Height		Width		Depth		Weight	
	mm	ins	mm	ins	mm	ins	kg	lbs	mm	ins	mm	ins	mm	ins	kg	lbs
N2C-2	1034	41	450	18	471	19	98	216	1490	59	612	24	950	38	174	383
N2C-4					640	26	145	320							221	487
N2C-6					809	33	196	432							272	597
N2C-8					977	38	249	549							303	668

Preventative Maintenance Kits

Part Number	Description / Service Interval	Contents
606280162	12 Month MIST–X Silencer Kit (Every 12 Months)	MIST–X 150 Silencer
P010AO	12 Month Filter Element Kit (Every 12 Months)	P001AO Dust Filter Element
M24.PPM.0002	24 Month PPM Service Kit (Every 24 Months)	PPM Cell c/w Wiring
M24.PCT.0002	24 Month Percentage Service Kit (Every 24 Months)	% Cell c/w Wiring
606510003	24 Month Valve Overhaul Kit - Generator With Analyser (Every 24 Months)	Air Inlet Valves (x2) Exhaust Valves (x2) Outlet Valves (x2)
606510005	24 Month Valve Overhaul Kit - Generator Without Analyser (Every 24 Months)	Air Inlet Valves (x2) Exhaust Valves (x2) Outlet Valve

SmartFluxx SA604



Performance data

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

Purity %	Typical Nitrogen[1] flow rate in m³/hr[2] (SCFM)					
	99.5	99.0	98.0	97.0	96.0	95.0
4 bar g (58 psi g)	0.20 (0.12)	0.32 (0.19)	0.50 (0.29)	0.73 (0.43)	0.84 (0.49)	1.04 (0.61)
5 bar g (72.5 psi g)	0.28 (0.16)	0.46 (0.27)	0.73 (0.43)	0.92 (0.54)	1.17 (0.69)	1.54 (0.91)
6 bar g (87 psi g)	0.44 (0.21)	0.60 (0.35)	0.92 (0.54)	1.20 (0.71)	1.53 (0.9)	1.75 (1.03)
7 bar g (101.5 psi g)	0.44 (0.26)	0.71 (0.42)	1.16 (0.68)	1.49 (0.88)	1.90 (1.12)	2.10 (1.24)
8 bar g (116 psi g)	0.54 (0.32)	0.85 (0.5)	1.31 (0.77)	1.75 (0.77)	2.17 (1.28)	2.60 (1.53)
9 bar g (130.5 psi g)	0.59 (0.35)	0.97 (0.57)	1.54 (0.91)	2.08 (1.22)	2.50 (1.47)	3.00 (1.77)
10 bar g (145 psi g)	0.67 (0.39)	1.11 (0.65)	1.78 (1.05)	2.29 (1.35)	2.80 (1.65)	3.40 (2)
11 bar g (159.5 psi g)	0.73 (0.43)	1.25 (0.74)	1.95 (1.15)	2.57 (1.51)	3.20 (1.88)	3.90 (2.3)
12 bar g (174 psi g)	0.79 (0.46)	1.39 (0.82)	2.17 (1.28)	2.80 (1.65)	3.40 (2)	4.20 (2.47)
13 bar g (188.5 psi g)	0.89 (0.52)	1.49 (0.88)	2.40 (1.41)	3.10 (1.82)	3.80 (2.24)	4.80 (2.83)

Purity %	Typical Feed-air consumption at nitrogen flow rate in m³/hr[2] (SCFM)					
	99.5	99.0	98.0	97.0	96.0	95.0
4 bar g (58 psi g)	1.9 (1.1)	1.8 (1.1)	1.9 (1.1)	2.3 (1.4)	2.3 (1.4)	2.5 (1.5)
5 bar g (72.5 psi g)	2.2 (1.3)	2.3 (1.4)	2.6 (1.5)	2.7 (1.6)	3.0 (1.8)	3.6 (2.1)
6 bar g (87 psi g)	2.5 (1.5)	2.8 (1.6)	3.2 (1.9)	3.4 (2)	3.9 (2.3)	4.0 (2.4)
7 bar g (101.5 psi g)	3.0 (1.8)	3.3 (1.9)	3.9 (2.3)	4.2 (2.5)	4.8 (2.8)	4.7 (2.8)
8 bar g (116 psi g)	3.5 (2.1)	3.8 (2.2)	4.4 (2.6)	4.9 (2.9)	5.4 (3.2)	5.8 (3.4)
9 bar g (130.5 psi g)	3.7 (2.2)	4.3 (2.5)	5.1 (3)	5.8 (3.4)	6.3 (3.7)	6.7 (3.9)
10 bar g (145 psi g)	4.1 (2.4)	4.8 (2.8)	5.9 (3.5)	6.3 (3.7)	7.0 (4.1)	7.5 (4.4)
11 bar g (159.5 psi g)	4.4 (2.6)	5.3 (3.1)	6.3 (3.7)	7.1 (4.2)	7.9 (4.6)	8.5 (5)
12 bar g (174 psi g)	4.6 (2.7)	5.9 (3.5)	7.0 (4.1)	7.7 (4.5)	8.4 (4.9)	9.3 (5.5)
13 bar g (188.5 psi g)	5.5 (3.2)	6.4 (3.8)	7.9 (4.6)	8.7 (5.1)	9.5 (5.6)	10.7 (6.3)

Maximum pressure drop <0.1 bar.
Values between brackets are indicative imperial values

[1] The above data represents the typical performance of a single membrane module. Actual performance can vary depending on factors such as feed air pressure and temperature. Please contact your Parker go to person for actual performance information to meet your application's requirements.
[2] m³/hr refers to conditions at 1013 mbar(a) and 20°C.
For higher purities please contact Parker

Ambient Conditions

Ambient temperature	+2°C to +50°C (+36°F to 122°F)
Ambient pressure	atmospheric
Air quality	clean air without contaminants

Feed-air Conditions

Maximum operating pressure	13.0 bar g (190 psi g)
Min. / Max. operating temperature	+2°C to +50°C (+36°F to 122°F)
Maximum oil vapour content	<0.01 mg/m³ (<0.01 ppm (w))
Particles	filtered at 0.01 µm cut off
Relative humidity	<100% (non condensing)

Flow Rate Corrections

Nitrogen flow rate at feed-air temperatures other than 20°C	Use bulletin S3.1.240*
Feed-air consumption at feed-air temperatures other than 20°C	Use bulletin S3.1.240*

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

Material

Housing	Steel
Tube	Aluminum
Coating (housing)	ESPC to RAL 7039 (Quartz Grey)
Coating (tube)	none

Services on Request

3D model CAD STEP file

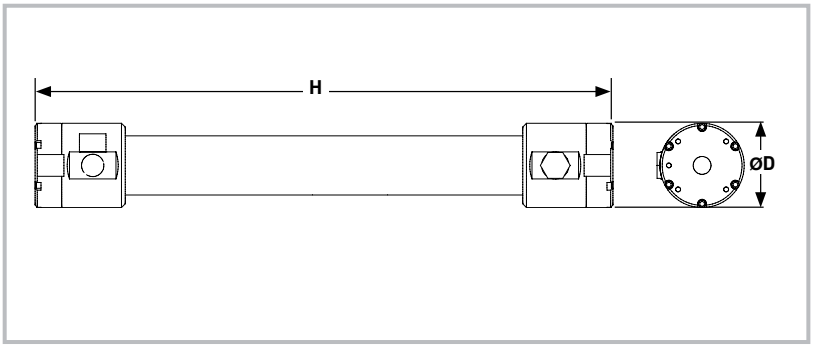
Weight, Dimensions and Connections

Dimensions H x W x D	758 x 80 x 63 mm (29.84" x 3.15" x 2.48")
Weight	3.2 kg (7.05 lb)
Connection feed-air	G¾ female to ISO 228
Connection nitrogen enriched air	G¾ female to ISO 228
Connection oxygen enriched air at atmospheric pressure	G¾ female to ISO 228
Dimensional drawing	Refer to K3.1.344

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.

SmartFluxx SA708



Performance data

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

Purity %	Typical Nitrogen[1] flow rate in m³/hr[2] (SCFM)							
	99.5	99	98	97	96	95	93	90
4 bar g (58 psi g)	0.90 (0,53)	1.44 (0,85)	2.20 (1,3)	2.91 (1,71)	3.63 (2,14)	4.36 (2,57)		
5 bar g (72.5 psi g)	1.3 (0,77)	2.06 (1,21)	3.09 (1,82)	4.05 (2,38)	5.10 (3)	6.15 (3,62)		
6 bar g (87 psi g)	1.71 (1)	2.67 (1,57)	3.99 (2,35)	5.18 (3,05)	6.56 (3,86)	7.94 (4,67)	11.3 (6,62)	18.2 (10,7)
7 bar g (101.5 psi g)	2.11 (1,24)	3.27 (1,93)	4.90 (2,89)	6.46 (3,8)	8.12 (4,78)	9.78 (5,76)	13.8 (8,1)	22.1 (13)
8 bar g (116 psi g)	2.50 (1,47)	3.87 (2,28)	5.82 (3,42)	7.73 (4,55)	9.67 (5,69)	11.6 (6,84)	16.4 (9,63)	26.6 (15,7)
9 bar g (130.5 psi g)	2.81 (1,66)	4.46 (2,62)	6.77 (3,98)	9.03 (5,32)	11.27 (6,63)	13.5 (7,95)	19.0 (11,2)	30.8 (18,1)
10 bar g (145 psi g)	3.12 (1,84)	4.94 (2,91)	7.64 (4,5)	10.3 (6,08)	12.9 (7,57)	15.4 (9,06)	21.7 (12,8)	35.6 (21)
11 bar g (159.5 psi g)	3.41 (2)	5.46 (3,21)	8.49 (5)	11.5 (6,78)	14.5 (8,51)	17.3 (10,2)		
12 bar g (174 psi g)	3.68 (2,16)	5.96 (3,51)	9.32 (5,49)	12.5 (7,38)	15.9 (9,35)	19.1 (11,2)		
13 bar g (188.5 psi g)	3.93 (2,32)	6.45 (3,8)	10.1 (5,92)	13.6 (7,98)	17.1 (10,1)	20.9 (12,3)		

Purity %	Typical Feed-air consumption at nitrogen flow rate in m³/hr[2] (SCFM)							
	99.5	99	98	97	96	95	93	90
4 bar g (58 psi g)	7.5 (4,4)	8.6 (5,1)	9.0 (5,3)	9.5 (5,6)	10.4 (6,1)	11.2 (6,6)		
5 bar g (72.5 psi g)	10.1 (6)	11.5 (6,7)	11.7 (6,9)	12.6 (7,4)	14.0 (8,2)	15.2 (8,9)		
6 bar g (87 psi g)	12.3 (7,2)	13.8 (8,1)	14.2 (8,4)	15.3 (9)	17.1 (10,1)	18.8 (11,1)	22.6 (13,3)	29.9 (17,6)
7 bar g (101.5 psi g)	14.7 (8,6)	16.2 (9,6)	17.1 (10)	18.7 (11)	20.8 (12,2)	22.7 (13,4)	27.1 (16)	36.0 (21,2)
8 bar g (116 psi g)	16.5 (9,7)	18.5 (10,9)	19.7 (11,6)	21.9 (12,9)	24.4 (14,4)	26.5 (15,6)	31.8 (18,7)	42.8 (25,2)
9 bar g (130.5 psi g)	18.5 (10,9)	21.1 (12,4)	22.7 (13,4)	25.6 (15,1)	28.3 (16,7)	30.6 (18)	36.8 (21,6)	49.4 (29,1)
10 bar g (145 psi g)	20.4 (12)	23.2 (13,7)	25.5 (15)	29.2 (17,2)	32.1 (18,9)	34.8 (20,5)	42.0 (24,7)	57.2 (33,7)
11 bar g (159.5 psi g)	22.1 (13)	25.5 (15)	28.3 (16,6)	32.4 (19,1)	36.1 (21,2)	39.0 (23)		
12 bar g (174 psi g)	24.1 (14,2)	27.9 (16,4)	31.3 (18,4)	35.5 (20,9)	39.8 (23,4)	43.3 (25,5)		
13 bar g (188.5 psi g)	25.9 (15,3)	30.9 (18,2)	34.3 (20,2)	38.8 (22,8)	43.2 (25,5)	47.8 (28,1)		

Maximum pressure drop at Purity <0.2 bar
Values between brackets are indicative of imperial values

[1] The above data represents the typical performance of a single membrane module. Actual performance can vary depending on factors such as feed air pressure and temperature. Please contact your Parker go to person for actual performance information to meet your application's requirements.
[2] m³/hr refers to conditions at 1013mbar(a) and 20°C.
For purities >99.5% please contact Parker

Ambient Conditions

Ambient temperature	+2°C to +50°C (+36°F to 122°F)
Ambient pressure	atmospheric
Air quality	clean air without contaminants

Feed-air Conditions

Maximum operating pressure	13.0 bar g (190 psi g)
Min. / Max. operating temperature	+2°C / +50°C (+36°F to 122°F)
Maximum oil vapour content	<0.01 mg/m³ (<0.01 ppm (w))
Particles	filtered at 0.01 µm cut off
Relative humidity	<100% (non condensing)

Flow Rate Corrections

Nitrogen flow rate at feed-air temperatures other than 20°C	Use bulletin S3.1.240*
Feed-air consumption at feed-air temperatures other than 20°C	Use bulletin S3.1.240*

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

Mechanical Design Housing

Design pressure	15 bar g[4] (217 psi g)[4]
Design temperature	65°C[4] (149°F)[4]

[4] Membrane ambient and operating conditions are lower

Material

Housing	Aluminum
Coating	ESPC to RAL 7039 (Quartz Grey) Dry Film Thickness: 60 micron

Services on Request

3D model CAD STEP file

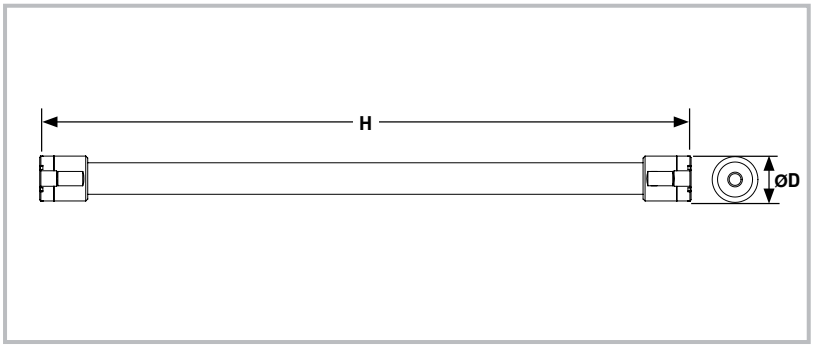
Weight, Dimensions and Connections

Dimensions H x Ø D	782 x 114 mm (30.79" x 4.49")
Weight	5.5 kg (12.1 lb)
Connection feed-air	G¾ female to ISO 228
Connection nitrogen enriched air	G¾ female to ISO 228
Connection oxygen enriched air at atmospheric pressure enriched air	G1 female to ISO 228
Dimensional drawing	Refer to K3.1.383

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.

SmartFluxx SA1508



Performance data

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

Purity %	Typical Nitrogen[1] flow rate in m³/hr[2] (SCFM)					
	99.5	99.0	98.0	97.0	96.0	95.0
4 bar g (58 psi g)	2.8 (1.6)	4.0 (2.4)	5.7 (3.4)	7.1 (4.2)	9.5 (5.6)	10.9 (6.4)
5 bar g (72.5 psi g)	3.7 (2.2)	5.3 (3.1)	7.9 (4.6)	10.2 (6)	12.8 (7.5)	15.2 (8.9)
6 bar g (87 psi g)	4.7 (2.8)	7.0 (4.1)	10.2 (6)	13.0 (7.7)	15.7 (9.2)	20.5 (12.1)
7 bar g (101.5 psi g)	6.1 (3.6)	8.5 (5)	12.3 (7.2)	16.5 (9.7)	19.5 (11.5)	24.3 (14.3)
8 bar g (116 psi g)	6.9 (4.1)	9.7 (5.7)	14.3 (8.4)	20.2 (11.9)	23.3 (13.7)	28.1 (16.5)
9 bar g (130.5 psi g)	7.8 (4.6)	11.1 (6.5)	17.0 (10)	22.2 (13.1)	27.0 (15.9)	32.2 (19)
10 bar g (145 psi g)	8.6 (5.1)	12.6 (7.4)	18.5 (10.9)	24.2 (14.2)	30.2 (17.8)	37.4 (22)
11 bar g (159.5 psi g)	9.6 (5.7)	14.2 (8.4)	20.7 (12.2)	27.3 (16.1)	33.0 (19.4)	41.0 (24.1)
12 bar g (174 psi g)	10.5 (6.2)	15.2 (8.9)	22.9 (13.5)	29.5 (17.4)	36.6 (21.5)	45.6 (26.8)
13 bar g (188.5 psi g)	11.3 (6.7)	16.3 (9.6)	24.9 (14.7)	32.0 (18.8)	39.5 (23.2)	48.8 (28.7)

Maximum pressure drop at Purity <0.2 bar
Values between brackets are indicative of imperial values

[1] The above data represents the typical performance of a single membrane module. Actual performance can vary depending on factors such as feed air pressure and temperature. Please contact your Parker go to person for actual performance information to meet your application's requirements.
[2] m³/hr refers to conditions at 1013 mbar(a) and 20°C
For purities >99.5% please contact Parker

Purity %	Typical Feed-air consumption at nitrogen flow rate in m³/hr[2] (SCFM)					
	99.5	99.0	98.0	97.0	96.0	95.0
4 bar g (58 psi g)	21 (12)	21 (12)	22 (13)	22 (13)	26 (15)	27 (16)
5 bar g (72.5 psi g)	24 (14)	26 (15)	29 (17)	31 (18)	34 (20)	36 (21)
6 bar g (87 psi g)	29 (17)	33 (19)	36 (21)	38 (22)	41 (24)	48 (28)
7 bar g (101.5 psi g)	36 (21)	38 (22)	41 (24)	48 (28)	50 (29)	56 (33)
8 bar g (116 psi g)	38 (22)	42 (25)	47 (28)	56 (33)	58 (34)	63 (37)
9 bar g (130.5 psi g)	44 (26)	48 (28)	55 (32)	62 (36)	67 (39)	72 (42)
10 bar g (145 psi g)	50 (29)	56 (33)	61 (36)	68 (40)	75 (44)	84 (49)
11 bar g (159.5 psi g)	51 (30)	60 (35)	66 (39)	74 (44)	80 (47)	91 (54)
12 bar g (174 psi g)	57 (34)	65 (38)	76 (45)	83 (49)	92 (54)	103 (61)
13 bar g (188.5 psi)	66 (39)	72 (42)	85 (50)	92 (54)	101 (59)	113 (67)

Mechanical Design Housing

Design pressure	15 bar g[4] (217 psi g)[4]
Design temperature	65°C[4] (149°F)[4]

[4] Membrane ambient and operating conditions are lower

Ambient Conditions

Ambient temperature	+2°C to +50°C (+36°F to 122°F)
Ambient pressure	atmospheric
Air quality	clean air without contaminants

Material

Housing	Aluminum
Coating	ESPC to RAL 7039 (Quartz Grey) Dry Film Thickness: 60 micron

Feed-air Conditions

Maximum operating pressure	13.0 bar g (190 psi g)
Min. / Max. operating temperature	+2°C / +50°C (+36°F to 122°F)
Maximum oil vapour content	<0.01 mg/m³ (<0.01 ppm (w))
Particles	filtered at 0.01 µm cut off
Relative humidity	<100% (non condensing)

Services on Request

Material certificates EN10204-3.1 on housing material (for Stainless Steel only)
3D model CAD STEP file

Flow Rate Corrections

Nitrogen flow rate at feed-air temperatures other than 20°C	Use bulletin S3.1.240*
Feed-air consumption at feed-air temperatures other than 20°C	Use bulletin S3.1.240*

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

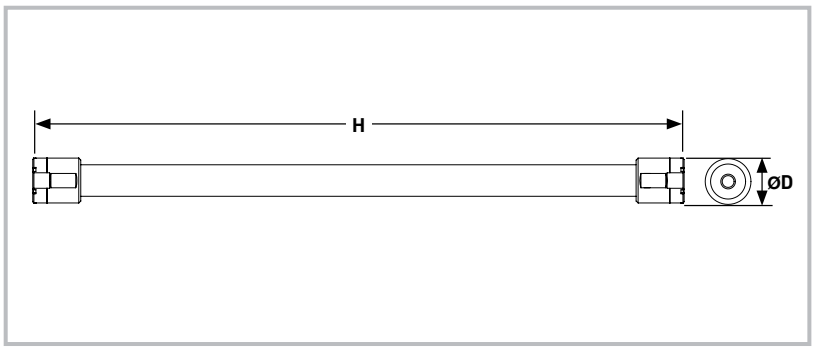
Weight, Dimensions and Connections

Dimensions H x Ø D	1655 x 114 mm (65.12" x 4.49")
Weight	6.8 kg (15 lb)
Connection feed-air	G¾ female to ISO 228
Connection nitrogen enriched air	G¾ female to ISO 228
Connection oxygen enriched air at atmospheric pressure	G1 female to ISO 228
Dimensional drawing	Refer to K3.1.330

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.

SmartFluxx SA1508SS



Performance data

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

Purity %	Typical Nitrogen[1] flow rate in m³/hr[2] (SCFM)					
	99.5	99.0	98.0	97.0	96.0	95.0
4 bar g (58 psi g)	2.8 (1.6)	4.0 (2.4)	5.7 (3.4)	7.1 (4.2)	9.5 (5.6)	10.9 (6.4)
5 bar g (72.5 psi g)	3.7 (2.2)	5.3 (3.1)	7.9 (4.6)	10.2 (6)	12.8 (7.5)	15.2 (8.9)
6 bar g (87 psi g)	4.7 (2.8)	7.0 (4.1)	10.2 (6)	13.0 (7.7)	15.7 (9.2)	20.5 (12.1)
7 bar g (101.5 psi g)	6.1 (3.6)	8.5 (5)	12.3 (7.2)	16.5 (9.7)	19.5 (11.5)	24.3 (14.3)
8 bar g (116 psi g)	6.9 (4.1)	9.7 (5.7)	14.3 (8.4)	20.2 (11.9)	23.3 (13.7)	28.1 (16.5)
9 bar g (130.5 psi g)	7.8 (4.6)	11.1 (6.5)	17.0 (10)	22.2 (13.1)	27.0 (15.9)	32.2 (19)
10 bar g (145 psi g)	8.6 (5.1)	12.6 (7.4)	18.5 (10.9)	24.2 (14.2)	30.2 (17.8)	37.4 (22)
11 bar g (159.5 psi g)	9.6 (5.7)	14.2 (8.4)	20.7 (12.2)	27.3 (16.1)	33.0 (19.4)	41.0 (24.1)
12 bar g (174 psi g)	10.5 (6.2)	15.2 (8.9)	22.9 (13.5)	29.5 (17.4)	36.6 (21.5)	45.6 (26.8)
13 bar g (188.5 psi g)	11.3 (6.7)	16.3 (9.6)	24.9 (14.7)	32.0 (18.8)	39.5 (23.2)	48.8 (28.7)

Purity %	Typical Feed-air consumption at nitrogen flow rate in m³/hr[2] (SCFM)					
	99.5	99.0	98.0	97.0	96.0	95.0
4 bar g (58 psi g)	21 (12)	21 (12)	22 (13)	22 (13)	26 (15)	27 (16)
5 bar g (72.5 psi g)	24 (14)	26 (15)	29 (17)	31 (18)	34 (20)	36 (21)
6 bar g (87 psi g)	29 (17)	33 (19)	36 (21)	38 (22)	41 (24)	48 (28)
7 bar g (101.5 psi g)	36 (21(	38 (22)	41 (24)	48 (28)	50 (29)	56 (33)
8 bar g (116 psi g)	38 (22)	42 (25)	47 (28	56 (33)	58 (34)	63 (37)
9 bar g (130.5 psi g)	44 (26)	48 (28)	55 (32)	62 (36)	67 (39)	72 (42)
10 bar g (145 psi g)	50 (29)	56 (33)	61 (36)	68 (40)	75 (75)	84 (44)
11 bar g (159.5 psi g)	51 (30)	60 (35)	66 (39)	74 (44)	80 (47)	91 (54)
12 bar g (174 psi g)	57 (34)	65 (38)	76 (45)	83 (49)	92 (54)	103 (61)
13 bar g (188.5 psi g)	66 (39)	72 (42)	85 (50)	92 (54)	101 (59)	113 (67)

Maximum pressure drop at Purity <0.2 bar
Values between brackets are indicative of imperial values

[1] The above data represents the typical performance of a single membrane module. Actual performance can vary depending on factors such as feed air pressure and temperature. Please contact your Parker go to person for actual performance information to meet your application's requirements.
[2] m³/hr refers to conditions at 1013 mbar(a) and 20°C
For purities >99.5% please contact Parker

Ambient Conditions

Ambient temperature	+2°C to +50°C (+36°F to 122°F)
Ambient pressure	atmospheric
Air quality	clean air without contaminants

Feed-air Conditions

Maximum operating pressure	13.0 bar g (190 psi g)
Min. / Max. operating temperature	+2°C to +50°C (+36°F to 122°F)
Maximum oil vapour content	<0.01 mg/m³ (<0.01 ppm (w))
Particles	filtered at 0.01 µm cut off
Relative humidity	<100% (non condensing)

Flow Rate Corrections

Nitrogen flow rate at feed-air temperatures other than 20°C	Use bulletin S3.1.240*
Feed-air consumption at feed-air temperatures other than 20°C	Use bulletin S3.1.240*

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

Mechanical Design Housing

Design pressure	15 bar g[4] (217 psi g)[4]
Design temperature	65°C[4] (149°F)[4]

[4] Membrane operating limits are lower

Material

Housing	Stainless Steel
Coating	None

Services on Request

Material certificates EN10204-3.1 on housing material (for Stainless Steel only)
3D model CAD STEP file

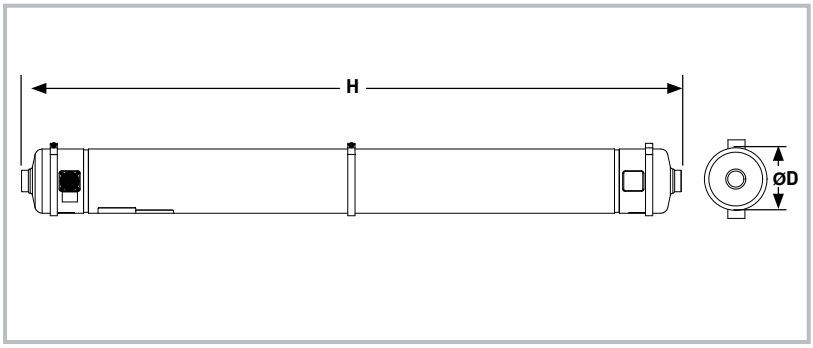
Weight, Dimensions and Connections

Dimensions H x Ø D	1654 x 114 mm (65.12" x 4.49")
Weight	18 kg (40 lb)
Connection feed-air	G¾ female to ISO 228
Connection nitrogen enriched air	G¾ female to ISO 228
Connection oxygen enriched air at atmospheric pressure	G1 female to ISO 228
Dimensional drawing	Refer to K3.1.330

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.

SmartFluxx SA15015



Performance data

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

Purity %	Typical[1] Nitrogen flow rate in m³/hr [2] (SCFM)				
	99	98	97	96	95
4 bar g (58 psi g)	21.8 (12.8)	29.6 (17.4)	37.4 (22.0)	48.4 (28.5)	59.5 (35.0)
5 bar g (73 psi g)	29.5 (17.3)	42.5 (25.0)	55.5 (32.7)	69.4 (40.8)	83.2 (49.0)
6 bar g (87 psi g)	36.8 (21.7)	54.6 (32.1)	72.3 (42.6)	89.1 (52.5)	105.9 (62.4)
7 bar g (102 psi g)	43.9 (25.8)	65.8 (38.8)	87.8 (51.7)	107.8 (63.4)	127.7 (75.2)
8 bar g (116 psi g)	50.7 (29.8)	76.3 (44.9)	102.0 (60.0)	125.3 (73.7)	148.6 (87.5)
9 bar g (130 psi g)	57.2 (33.6)	86.0 (50.6)	114.8 (67.6)	141.6 (83.4)	168.5 (99.2)
10 bar g (145 psi g)	63.3 (37.3)	94.8 (55.8)	126.4 (74.4)	156.9 (92.3)	187.4 (110.3)
11 bar g (160 psi g)	69.2 (40.7)	102.9 (60.6)	136.6 (80.4)	171.0 (100.6)	205.4 (120.9)
12 bar g (174 psi g)	74.8 (44.0)	110.1 (64.8)	145.5 (85.6)	183.9 (108.3)	222.4 (130.9)
13 bar g (189 psi g)	80.1 (47.1)	116.6 (68.6)	153.1 (90.1)	195.8 (115.2)	238.5 (140.3)

Purity %	Typical Feed-air consumption at nitrogen flow rate in m³/hr [2] (SCFM)				
	99	98	97	96	95
4 bar g (58 psi g)	116 (68)	116 (69)	120 (71)	141 (83)	155 (91)
5 bar g (73 psi g)	152 (90)	164 (96)	176 (104)	198 (116)	211 (124)
6 bar g (87 psi g)	186 (109)	206 (121)	226 (133)	249 (147)	262 (154)
7 bar g (102 psi g)	216 (127)	244 (143)	270 (159)	296 (174)	299 (176)
8 bar g (116 psi g)	244 (144)	278 (163)	309 (182)	338 (199)	347 (204)
9 bar g (130 psi g)	271 (159)	308 (181)	342 (201)	376 (221)	392 (231)
10 bar g (145 psi g)	298 (175)	334 (197)	371 (218)	410 (241)	431 (254)
11 bar g (160 psi g)	325 (191)	360 (212)	396 (233)	445 (262)	472 (278)
12 bar g (174 psi g)	352 (207)	386 (227)	422 (248)	478 (281)	511 (301)
13 bar g (189 psi g)	376 (222)	408 (240)	444 (261)	509 (300)	548 (323)

Maximum pressure drop at Purity: ≤0.2 bar
Values between brackets are indicative imperial values

[1] The above data represents the typical performance of a single membrane module. Actual performance can vary depending on factors such as feed air condition and is depending on temperature see Flow Rate Correction below.

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

[3] Performance certificates available up to 11 barg.

Ambient Conditions

Ambient temperature	+2°C to +60°C (+36°F to 140°F)
Ambient pressure	atmospheric
Air quality	clean air without contaminants

Operating Conditions Feed-air

Maximum operating pressure	13 bar g (190 psi g)
Min. / Max. operating temperature	+2°C / +60°C (+36°F to 140°F)
Maximum oil vapour content	<0.01 mg/m³ (<0.01 ppm (w))
Particles	filtered at 0.01 µm cut off
Relative humidity	<100% (non condensing)

Flow Rate Corrections

Nitrogen flow rate at feed-air temperatures other than 20°C	Use bulletin S3.1.240[3]
Feed-air consumption at feed-air temperatures other than 20°C	Use bulletin S3.1.240[3]

[3] Revision number may vary, make sure to use the most recent revision

Mechanical Design Housing

Design pressure	15 bar g (217 psi g)[4]
Design temperature	65°C (149°F)[4]

[4] Membrane operating limits are lower

Material

Housing	Aluminum
Coating	Sulfuric Acid Anodizing [MIL-A-8625F, Type II]

Services Available on Request

Material certificates EN10204-2.2 on request
3D model CAD STEP file

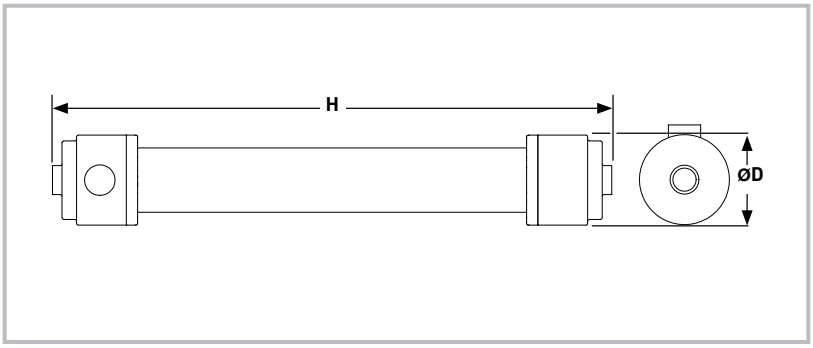
Weight, Dimensions and Connections

Dimensions H x Ø D	1750 x 256/198 mm (68.9" x 10.1/7.8")
Weight	22.2 kg (48.9 lb)
Connection feed-air	G1½" female to ISO 228
Connection nitrogen enriched air	G1½" female to ISO 228
Connection oxygen enriched air at atmospheric pressure	Dual Hose Connection 1¾" (Adapter OD = 45mm)
Dimensional drawing	Refer to K3.1.415

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.

SmartFluxx SA15020



Performance data

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

Purity %	Typical Nitrogen[1] flow rate in m³/hr[2] (SCFM)					
	99.5	99.0	98.0	97.0	96.0	95.0
4 bar g (58 psi g)	17 (10)	25 (15)	36 (21)	47 (28)	57 (34)	70 (41)
5 bar g (72.5 psi g)	23 (14)	33 (19)	49 (29)	66 (39)	82 (48)	93 (55)
6 bar g (87 psi g)	29 (17)	43 (25)	63 (37)	83 (49)	102 (60)	120 (71)
7 bar g (101.5 psi g)	37 (22)	53 (31)	78 (46)	100 (59)	125 (74)	154 (91)
8 bar g (116 psi g)	44 (26)	62 (36)	90 (53)	117 (69)	144 (85)	178 (105)
9 bar g (130.5 psi g)	49 (29)	72 (42)	103 (61)	133 (78)	165 (97)	216 (127)

Purity %	Typical Feed-air consumption at nitrogen flow rate in m³/hr[2] (SCFM)					
	99.5	99.0	98.0	97.0	96.0	95.0
4 bar g (58 psi g)	127 (75)	126 (74)	135 (79)	145 (85)	155 (91)	169 (99)
5 bar g (72.5 psi g)	144 (85)	155 (91)	171 (101)	194 (114)	216 (127)	218 (128)
6 bar g (87 psi g)	170 (100)	191 (112)	214 (126)	239 (141)	261 (154)	276 (162)
7 bar g (101.5 psi g)	202 (119)	223 (131)	258 (152)	281 (165)	315 (185)	348 (205)
8 bar g (116 psi g)	232 (137)	255 (150)	293 (172)	323 (190)	361 (212)	399 (235)
9 bar g (130.5 psi g)	264 (155)	298 (175)	335 (197)	369 (217)	413 (243)	485 (285)

Maximum pressure drop at Purity: ≤0.2 bar
Values between brackets are indicative imperial values"

[1] The above data represents the typical performance of a single membrane module. Actual performance can vary depending on factors such as feed air pressure and temperature. Please contact your Parker go to person for actual performance information to meet your application's requirements.
[2] m³/hr refers to conditions at 1013 mbar(a) and 20°C
For higher purities please contact Parker

Ambient Conditions

Ambient temperature	+2°C to +50°C (+36°F to 122°F)
Ambient pressure	atmospheric
Air quality	clean air without contaminants

Operating Conditions Feed-air

Maximum operating pressure	9.0 bar g (130.5 psi g)
Min. / Max. operating temperature	+2°C to +50°C (+36°F to 122°F)
Maximum oil vapour content	<0.01 mg/m³ (<0.01 ppm (w))
Particles	filtered at 0.01 µm cut off
Relative humidity	<100% (non condensing)

Flow Rate Corrections

Nitrogen flow rate at feed-air temperatures other than 20°C	Use bulletin S3.1.240[3]
Feed-air consumption at feed-air temperatures other than 20°C	Use bulletin S3.1.240[3]

[3] Revision number may vary, make sure to use the most recent revision

Mechanical Design Housing

Design pressure	14 bar g[4] (203 psi g)[4]
Design temperature	65°C[4] (149°F)[4]

[4] Membrane operating limits are lower

Material

Housing	Aluminum
Coating	ESPC to RAL 7039 (Quartz Grey) Dry Film Thickness: 60 micron

Services Available on Request

3D model CAD STEP file

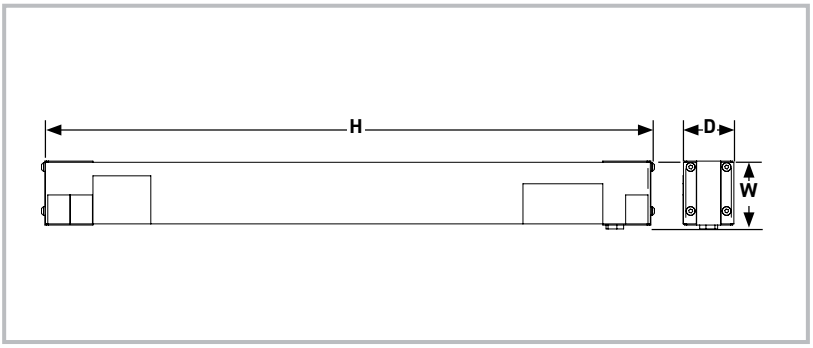
Weight, Dimensions and Connections

Dimensions H x Ø D	1740 x 280 mm (68.50" x 11.02")
Weight	46 kg (102 lb)
Connection feed-air	G2½ female to ISO 228
Connection nitrogen enriched air	G2½ female to ISO 228
Connection oxygen enriched air at atmospheric pressure	100mm (3.94") OD
Dimensional drawing	Refer to K3.1.339

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.

HiFluxx ST304



Purity %[1]	Typical[1)] Nitrogen flow rate in m³/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

Purity %	Typical Feed-air consumption at nitrogen flow rate in m³/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. m³/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 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 20°C	Use bulletin S3.1.059*
Feed-air consumption at feed-air temperatures other than 20°C	Use bulletin S3.1.059*

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

Material

Housing	Aluminum

Services on Request

3D model CAD STEP file

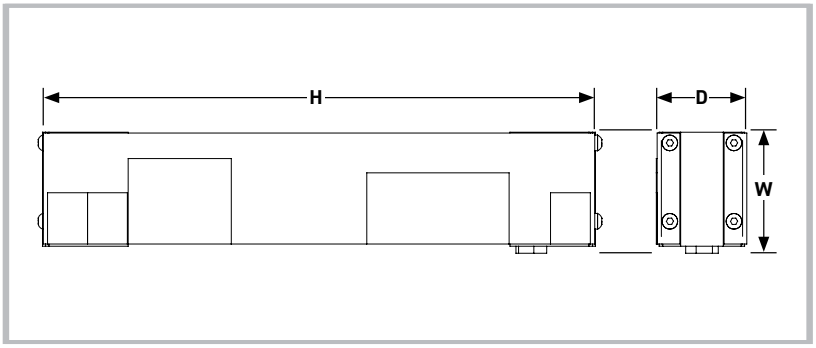
Weight, Dimensions and Connections

Dimensions H x W x D	386 x 80 x 63 mm
Weight	2.3 kg
Connection inlet / outlet	G⅜ female
Vent	G⅜ 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.

HiFluxx DT304



Performance data

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

Purity %[1]	Typical[1)] Nitrogen flow rate in m³/hr[2)] (SCFM)					
	99.5	99	98	97	96	95
4 bar g	0.29	0.47	0.75	1.00	1.26	1.55
5 bar g	0.36	0.59	0.94	1.25	1.57	1.94
6 bar g	0.47	0.75	1.19	1.61	2.00	2.43
7 bar g	0.55	0.88	1.39	1.87	2.33	2.84
8 bar g	0.62	1.00	1.59	2.14	2.67	3.24
9 bar g	0.71	1.14	1.79	2.44	3.03	3.68
10 bar g	0.78	1.25	1.99	2.68	3.33	4.05
11 bar g	0.83	1.35	2.14	2.89	3.63	4.44
12 bar g	0.89	1.46	2.30	3.11	3.94	4.83

Purity %	Typical Feed-air consumption at nitrogen flow rate in m³/hr[2)] (SCFM)					
	99.5	99	98	97	96	95
4 bar g	2.56	2.78	3.16	3.41	3.77	4.03
5 bar g	3.20	3.47	3.95	4.26	4.72	5.04
6 bar g	3.93	4.29	4.89	5.30	5.80	6.32
7 bar g	4.58	5.00	5.70	6.18	6.76	7.37
8 bar g	5.24	5.72	6.52	7.06	7.73	8.43
9 bar g	5.93	6.53	7.33	8.05	8.78	9.57
10 bar g	6.55	7.14	8.15	8.83	9.66	10.5
11 bar g	7.50	8.13	9.22	10.1	10.9	11.5
12 bar g	7.99	8.73	9.89	10.9	11.8	12.5

Maximum pressure drop <0.8 bar.
Maximum nitrogen flow rate = minimum flow rate + 10%

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. m³/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 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 20°C	Use bulletin S3.1.059*
Feed-air consumption at feed-air temperatures other than 20°C	Use bulletin S3.1.059*

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

Material

Housing	Aluminum

Services on Request

3D model CAD STEP file

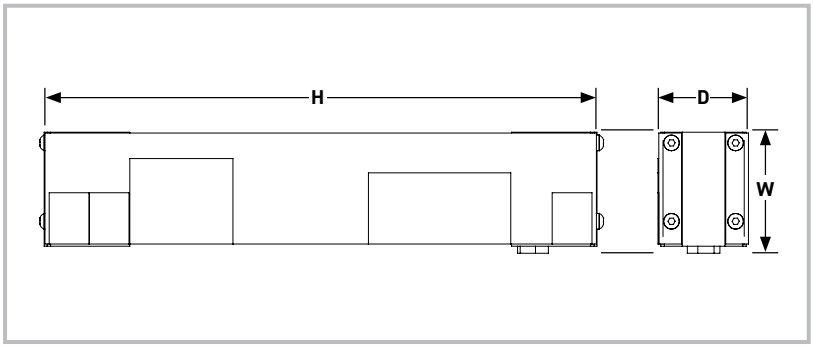
Weight, Dimensions and Connections

Dimensions H x W x D	386 x 145 x 63 mm
Weight	4.0 kg
Connection inlet / outlet	G⅜ female
Vent	G⅜ female
Dimensional drawing	Refer to K3.1.349

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.

HiFluxx TT304



Performance data

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

Purity %[1]	Minimum nitrogen flow rate in m³/hr [2]					
	99.5	99	98	97	96	95
4 bar g	0.50	0.74	1.13	1.49	1.79	2.28
5 bar g	0.62	0.93	1.41	1.86	2.24	2.85
6 bar g	0.77	1.17	1.78	2.36	2.93	3.55
7 bar g	0.90	1.37	2.08	2.75	3.41	4.14
8 bar g	1.03	1.57	2.37	3.14	3.90	4.73
9 bar g	1.16	1.73	2.66	3.54	4.45	5.39
10 bar g	1.28	1.96	2.97	3.93	4.88	5.92
11 bar g	1.36	2.07	3.19	4.25	5.32	6.48
12 bar g	1.43	2.18	3.41	4.57	5.77	7.05

Purity %	Feed-air consumption at minimum nitrogen flow rate in m³/hr					
	99.5	99	98	97	96	95
4 bar g	3.82	4.17	4.63	5.06	5.37	5.92
5 bar g	4.78	5.21	5.79	6.33	6.71	7.40
6 bar g	5.93	6.46	7.12	7.78	8.48	9.23
7 bar g	6.92	7.53	8.30	9.07	9.90	10.8
8 bar g	7.91	8.61	9.49	10.4	11.3	12.3
9 bar g	9.01	9.71	10.9	11.7	12.9	14.0
10 bar g	10.0	11.0	12.2	13.0	14.1	15.4
11 bar g	11.6	12.4	13.7	14.9	16.0	17.5
12 bar g	12.2	13.1	14.7	16.0	17.3	19.0

Maximum pressure drop < 0.8 bar.
Maximum nitrogen flow rate = minimum flow rate + 10%

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. m³/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 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 20°C	Use bulletin S3.1.059*
Feed-air consumption at feed-air temperatures other than 20°C	Use bulletin S3.1.059*

*Revision number may vary, make sure to use the most recent revision.

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

Material

Housing	Aluminum

Services on Request

3D model CAD STEP file

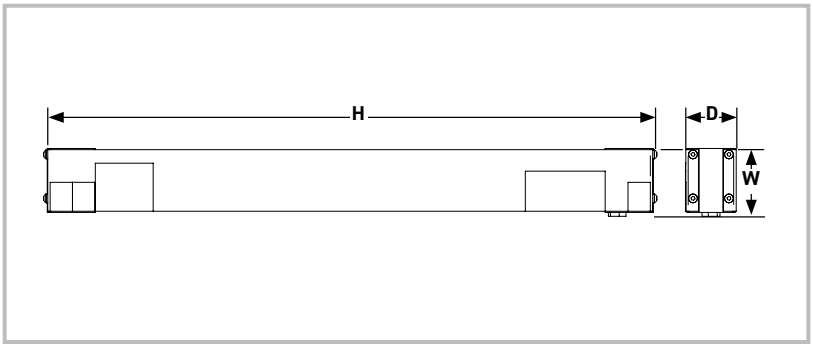
Weight, Dimensions and Connections

Dimensions H x W x D	388 x 200 x 63 mm
Weight	5.7 kg
Connection inlet / outlet	G¾ female
Vent	G¾ female
Dimensional drawing	Refer to K3.1.352

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.

HiFluxx ST504



Performance data

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

Purity %[1]	Minimum nitrogen flow rate in m³/hr [2]				
	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

Purity %[1]	Feed-air consumption at minimum nitrogen flow rate in m³/hr [2]				
	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%.

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.

Material

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

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/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.

Services Available on Request

3D model CAD STEP file
Test Report

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*

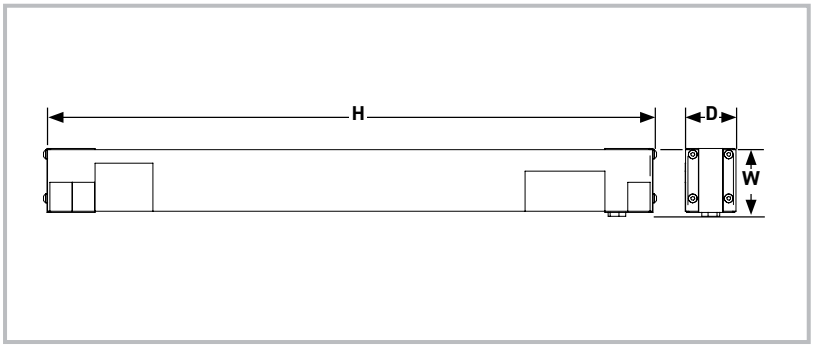
Weight, Dimensions and Connections

Dimensions H x W x D	520 x 80 x 63 mm
Weight	2.6 kg
Connection feed-air	G⅜ female to ISO 228
Connection nitrogen enriched air	G⅜ female to ISO 228
Connection oxygen enriched air at atmospheric pressure	G⅜ 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.

HiFluxx ST604



Performance data

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

Purity %[1]	Minimum nitrogen flow rate in m³/hr [2]				
	99	98	97	96	95
4 bar g	0.39	0.65	0.88	1.11	1.40
5 bar g	0.48	0.81	1.10	1.39	1.74
6 bar g	0.61	1.05	1.42	1.80	2.19
7 bar g	0.72	1.22	1.66	2.10	2.56
8 bar g	0.82	1.39	1.90	2.40	2.92
9 bar g	0.93	1.61	2.19	2.77	3.39
10 bar g	1.02	1.74	2.37	3.00	3.65
11 bar g	1.12	1.91	2.62	3.33	4.07
12 bar g	1.22	2.09	2.87	3.66	4.48

Purity %	Feed-air consumption at minimum nitrogen flow rate in m³/hr [2]				
	99	98	97	96	95
4 bar g	2.47	2.80	3.09	3.34	3.63
5 bar g	3.08	3.50	3.86	4.17	4.53
6 bar g	3.81	4.39	4.83	5.21	5.70
7 bar g	4.44	5.12	5.64	6.08	6.65
8 bar g	5.08	5.86	6.44	6.95	7.60
9 bar g	5.86	6.74	7.46	8.04	8.82
10 bar g	6.45	7.32	8.06	8.69	9.50
11 bar g	7.41	8.42	9.16	9.98	10.6
12 bar g	8.05	9.18	10.0	11.0	11.7

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. m³/hr refers to conditions at 1013mbar(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 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 20°C	Use bulletin S3.1.059*
Feed-air consumption at feed-air temperatures other than 20°C	Use bulletin S3.1.059*

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

Material

Housing	Aluminum

Services on Request

3D model CAD STEP file

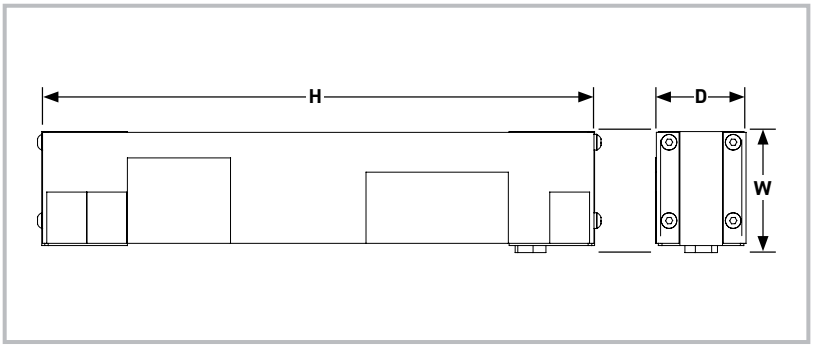
Weight, Dimensions and Connections

Dimensions H x W x D	757 x 80 x 63 mm
Weight	3.2 kg
Connection inlet / outlet	G⅜ female
Vent	G⅜ female
Dimensional drawing	Refer to K3.1.344

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.

HiFluxx DT604



Performance data

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

Purity %[1]	Minimum nitrogen flow rate in m³/hr [2]					
	99.5	99	98	97	96	95
4 bar g	1.05	1.55	2.32	3.06	3.75	4.49
5 bar g	1.32	1.94	2.90	3.83	4.69	5.62
6 bar g	1.62	2.41	3.64	4.82	6.02	7.20
7 bar g	1.89	2.81	4.25	5.62	7.02	8.40
8 bar g	2.16	3.22	4.85	6.42	8.02	9.60
9 bar g	2.41	3.60	5.54	7.23	8.97	11.1
10 bar g	2.71	4.02	6.07	8.03	10.0	12.0
11 bar g	2.89	4.31	6.62	8.80	10.9	13.2
12 bar g	3.07	4.60	7.17	9.58	11.8	14.3

Purity %	Feed-air consumption at minimum nitrogen flow rate in m³/hr [2]					
	99.5	99	98	97	96	95
4 bar g	8.21	8.68	9.51	10.4	11.2	12.1
5 bar g	10.3	10.8	11.9	13.0	14.1	15.2
6 bar g	12.5	13.5	14.9	16.4	17.4	18.7
7 bar g	14.6	15.8	17.4	19.1	20.4	21.8
8 bar g	16.7	18.0	19.9	21.8	23.3	25.0
9 bar g	19.3	20.5	22.7	24.6	26.9	28.8
10 bar g	21.6	22.9	24.9	27.3	30.1	31.2
11 bar g	24.6	26.3	28.5	30.8	33.8	35.6
12 bar g	26.1	28.1	30.8	33.5	36.5	38.7

Maximum pressure drop <0.8 bar.
Maximum nitrogen flow rate = minimum flow rate + 10%

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 1013mbar(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 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*

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

Material

Housing	Aluminum

Services on Request

Material certificates EN10204-3.1 on housing material (for Stainless Steel only)
3D model CAD STEP file

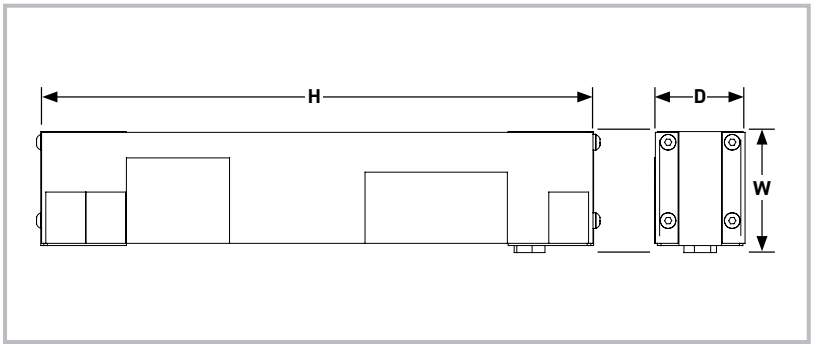
Weight, Dimensions and Connections

Dimensions H x W x D	758 x 145 x 63 mm
Weight	6.0 kg
Connection inlet / outlet	G⅜ female
Vent	G⅜ female
Dimensional drawing	Refer to K3.1.350

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.

HiFluxx TT604



Performance data

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

Purity %[1]	Minimum nitrogen flow rate in m³/hr [2]					
	99.5	99	98	97	96	95
4 bar g	1.05	1.55	2.32	3.06	3.75	4.49
5 bar g	1.32	1.94	2.90	3.83	4.69	5.62
6 bar g	1.62	2.41	3.64	4.82	6.02	7.20
7 bar g	1.89	2.81	4.25	5.62	7.02	8.40
8 bar g	2.16	3.22	4.85	6.42	8.02	9.60
9 bar g	2.41	3.60	5.54	7.23	8.97	11.1
10 bar g	2.71	4.02	6.07	8.03	10.0	12.0
11 bar g	2.89	4.31	6.62	8.80	10.9	13.2
12 bar g	3.07	4.60	7.17	9.58	11.8	14.3

Purity %	Feed-air consumption at minimum nitrogen flow rate in m³/hr [2]					
	99.5	99	98	97	96	95
4 bar g	8.21	8.68	9.51	10.4	11.2	12.1
5 bar g	10.3	10.8	11.9	13.0	14.1	15.2
6 bar g	12.5	13.5	14.9	16.4	17.4	18.7
7 bar g	14.6	15.8	17.4	19.1	20.4	21.8
8 bar g	16.7	18.0	19.9	21.8	23.3	25.0
9 bar g	19.3	20.5	22.7	24.6	26.9	28.8
10 bar g	21.6	22.9	24.9	27.3	30.1	31.2
11 bar g	24.6	26.3	28.5	30.8	33.8	35.6
12 bar g	26.1	28.1	30.8	33.5	36.5	38.7

Maximum pressure drop < 0.8 bar.
Maximum nitrogen flow rate = minimum flow rate + 10%

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. m³/hr refers to conditions at 1013mbar(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 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 20°C	Use bulletin S3.1.059*
Feed-air consumption at feed-air temperatures other than 20°C	Use bulletin S3.1.059*

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

Material

Housing	Aluminum

Services on Request

3D model CAD STEP file

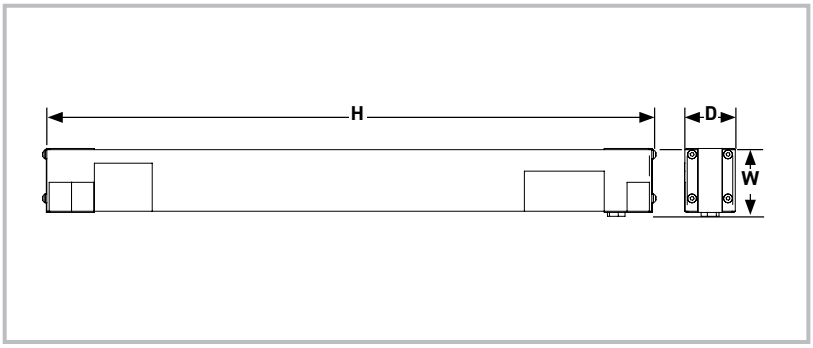
Weight, Dimensions and Connections

Dimensions H x W x D	758 x 200 x 63 mm
Weight	8.3 kg
Connection inlet / outlet	G⅜ female
Vent	G⅜ female
Dimensional drawing	Refer to K3.1.353

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.

HiFluxx ST606



Performance data

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

Purity %[1]	Minimum nitrogen flow rate in m³/hr [2]				
	99	98	97	96	95
4 bar g	0.77	1.25	1.71	2.13	2.63
5 bar g	0.96	1.56	2.14	2.66	3.28
6 bar g	1.20	1.98	2.70	3.41	4.19
7 bar g	1.40	2.31	3.15	3.98	4.89
8 bar g	1.60	2.64	3.60	4.55	5.59
9 bar g	1.80	3.00	4.08	5.17	6.41
10 bar g	2.00	3.30	4.49	5.69	6.99
11 bar g	2.10	3.56	4.87	6.18	7.61
12 bar g	2.20	3.82	5.24	6.68	8.23

Purity %	Feed-air consumption at minimum nitrogen flow rate in m³/hr [2]				
	99	98	97	96	95
4 bar g	4.85	5.37	5.99	6.39	6.83
5 bar g	6.07	6.72	7.49	7.99	8.54
6 bar g	7.45	8.52	9.44	10.24	10.9
7 bar g	8.69	9.94	11.0	11.9	12.7
8 bar g	9.93	11.4	12.6	13.6	14.5
9 bar g	11.3	12.9	14.3	15.5	16.7
10 bar g	12.6	14.2	15.7	17.1	18.2
11 bar g	14.5	16.0	17.5	19.2	20.5
12 bar g	15.2	17.2	18.9	20.7	22.2

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

Ambient Conditions

Ambient temperature	+2°C to +50°C
Ambient pressure	atmospheric
Air quality	clean air without contaminants

Material

Connection block	Aluminium
Tube	PVC

Feed-air Conditions

Maximum operating pressure	13.0 bar g
Min. / Max. operating temperature	+2°C / +50°C
Maximum oil vapour content	<0.01 mg/m³
Particles	filtered at 0.01 µm cut off
Relative humidity	<100% (non condensing)

Services on Request

3D model CAD STEP file

Flow Rate Corrections

Nitrogen flow rate at feed 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*

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

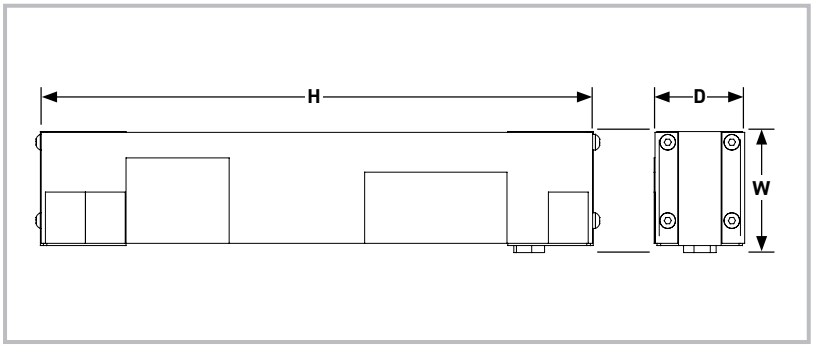
Weight, Dimensions and Connections

Dimensions H x W x D	751 x 110 x 84 mm
Weight	6.4 kg
Connection inlet / outlet	G½ female
Vent	G½ female
Dimensional drawing	Refer to K3.1.345

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.

HiFluxx TT606



Performance data

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

Purity %[1]	Minimum nitrogen flow rate in m³/hr [2]					
	99.5	99	98	97	96	95
4 bar g	1.90	2.74	4.12	5.40	6.70	8.07
5 bar g	2.38	3.42	5.15	6.75	8.38	10.1
6 bar g	2.93	4.34	6.53	8.64	10.6	12.8
7 bar g	3.42	5.06	7.62	10.1	12.4	15.0
8 bar g	3.91	5.78	8.71	11.5	14.2	17.1
9 bar g	4.48	6.63	10.1	13.3	16.4	19.5
10 bar g	4.89	7.23	10.9	14.4	17.7	21.4
11 bar g	5.27	7.88	12.0	15.8	19.7	23.8
12 bar g	5.65	8.54	13.1	17.2	21.6	26.2

Purity %	Feed-air consumption at minimum nitrogen flow rate in m³/hr [2]					
	99.5	99	98	97	96	95
4 bar g	15.0	15.9	17.7	18.9	20.1	21.8
5 bar g	18.8	19.9	22.1	23.6	25.1	27.2
6 bar g	22.9	24.7	26.8	29.4	31.9	33.4
7 bar g	26.7	28.8	31.2	34.3	37.3	39.0
8 bar g	30.5	33.0	35.7	39.2	42.6	44.5
9 bar g	35.0	37.8	41.2	45.1	49.3	52.6
10 bar g	38.2	41.2	44.6	49.0	53.2	57.8
11 bar g	44.8	47.3	51.6	55.4	61.0	64.3
12 bar g	48.0	51.2	56.5	60.3	66.9	70.7

Maximum pressure drop <0.8 bar.
Maximum nitrogen flow rate = minimum flow rate + 10%

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

Ambient Conditions

Ambient temperature	+2°C to +50°C
Ambient pressure	atmospheric
Air quality	clean air without contaminants

Material

Connection block	Aluminum
Tube	PVC

Feed-air Conditions

Maximum operating pressure	13.0 bar g
Min. / Max. operating temperature	+2°C / +50°C
Maximum oil vapour content	<0.01 mg/m³
Particles	filtered at 0.01 µm cut off
Relative humidity	<100% (non condensing)

Services on Request

3D model CAD STEP file

Flow Rate Corrections

Nitrogen flow rate at feed 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*

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

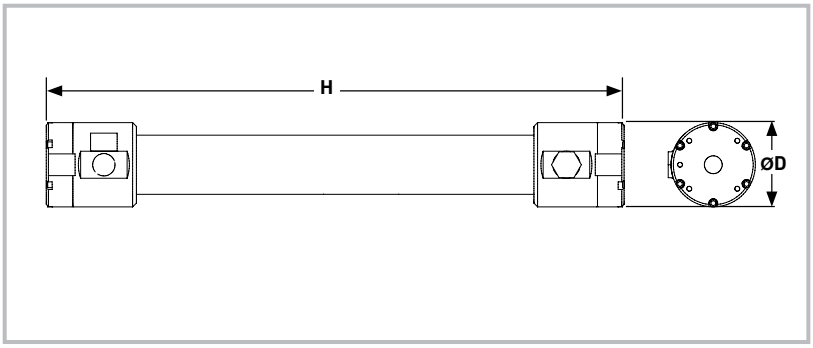
Weight, Dimensions and Connections

Dimensions H x W x D	751 x 270 x 83 mm
Weight	15 kg
Connection inlet / outlet	G½ female
Vent	G½ female
Dimensional drawing	Refer to K3.1.354

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.

HiFluxx ST608



Performance data

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

Purity %[1]	Minimum nitrogen flow rate in m³/hr [2]				
	99	98	97	96	95
4 bar g	1.34	2.25	3.07	3.87	4.82
5 bar g	1.67	2.81	3.84	4.84	6.02
6 bar g	2.14	3.72	4.99	6.48	7.91
7 bar g	2.49	4.34	5.82	7.56	9.23
8 bar g	2.85	4.96	6.65	8.65	10.6
9 bar g	3.36	5.81	7.85	10.0	12.2
10 bar g	3.56	6.21	8.32	10.8	13.2
11 bar g	4.01	6.96	9.46	12.2	14.9
12 bar g	4.46	7.71	10.6	13.5	16.6

Purity %	Feed-air consumption at minimum nitrogen flow rate in m³/hr [2]				
	99	98	97	96	95
4 bar g	9.08	10.1	11.1	12.0	13.0
5 bar g	11.4	12.7	13.8	15.0	16.3
6 bar g	14.1	16.0	17.5	19.5	20.6
7 bar g	16.5	18.7	20.4	22.7	24.0
8 bar g	18.8	21.3	23.3	25.9	27.4
9 bar g	21.8	25.0	27.5	30.0	31.8
10 bar g	23.2	26.7	29.1	32.4	34.3
11 bar g	27.7	31.3	34.1	36.5	40.2
12 bar g	30.8	34.7	38.2	40.6	44.9

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

Ambient Conditions

Ambient temperature	+2°C to +50°C
Ambient pressure	atmospheric
Air quality	clean air without contaminants

Feed-air Conditions

Maximum operating pressure	13.0 bar g
Min. / Max. operating temperature	+2°C / +50°C
Maximum oil vapour content	<0.01 mg/m³
Particles	filtered at 0.01 µm cut off
Relative humidity	<100% (non condensing)

Flow Rate Corrections

Nitrogen flow rate at feed 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*

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

Material

Housing	Aluminum

Services on Request

3D model CAD STEP file

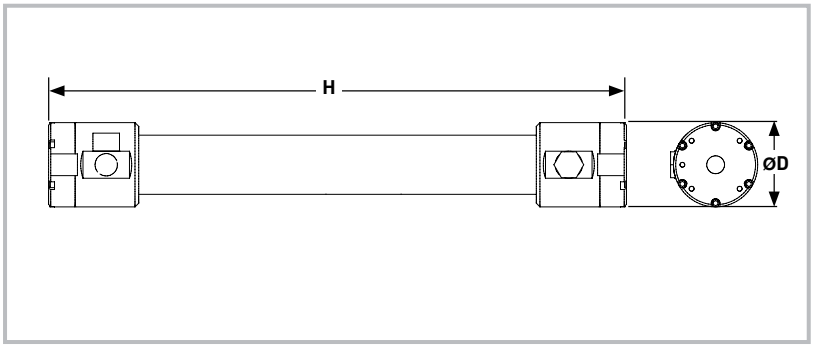
Weight, Dimensions and Connections

Dimensions H x Ø D	736 x 114 mm
Weight	5.3 kg
Connection inlet / outlet	G¾ female
Vent	G1 female
Dimensional drawing	Refer to K3.1.346

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.

HiFluxx ST6010



Performance data

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

Purity %[1]	Minimum nitrogen flow rate in m³/hr [2]				
	99	98	97	96	95
4 bar g	2.21	3.61	4.92	6.28	7.76
5 bar g	2.76	4.52	6.15	7.85	9.70
6 bar g	3.39	5.92	8.02	10.2	12.8
7 bar g	3.96	6.90	9.35	12.0	14.9
8 bar g	4.52	7.89	10.7	13.7	17.1
9 bar g	5.39	9.01	12.3	15.7	19.2
10 bar g	5.66	9.86	13.4	17.1	21.3
11 bar g	6.24	10.8	14.8	18.9	23.6
12 bar g	6.83	11.7	16.2	20.8	25.8

Purity %	Feed-air consumption at minimum nitrogen flow rate in m³/hr [2]				
	99	98	97	96	95
4 bar g	14.4	16.3	17.7	19.5	21.0
5 bar g	17.9	20.3	22.1	24.3	26.2
6 bar g	22.4	25.4	28.1	30.7	33.3
7 bar g	26 .1	29.7	32.7	35.9	38.8
8 bar g	29.9	33.9	37.4	41.0	44.4
9 bar g	35.1	39.6	43.0	47.0	51.9
10 bar g	36.8	43.4	46.8	51.2	57.6
11 bar g	43.7	49.7	54.7	58.7	63.6
12 bar g	47.8	54.0	60.0	64.5	69.6

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

Ambient Conditions

Ambient temperature	+2°C to +50°C
Ambient pressure	atmospheric
Air quality	clean air without contaminants

Mechanical Design Housing

Design pressure	15 bar g
Design temperature	50°C

membrane operating limits are lower

Feed-air Conditions

Maximum operating pressure	13.0 bar g [3]
Min. / Max. operating temperature	+2°C / +50°C [3]
Maximum oil vapour content	<0.01 mg/m³
Particles	filtered at 0.01 µm cut off
Relative humidity	<100% (non condensing)

[3] combination of high operating pressure and high operating temperature can reduce the life time expectancy of the membrane module

Material

Housing	Aluminum

Services on Request

3D model CAD STEP file

Flow Rate Corrections

Nitrogen flow rate at feed 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*

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

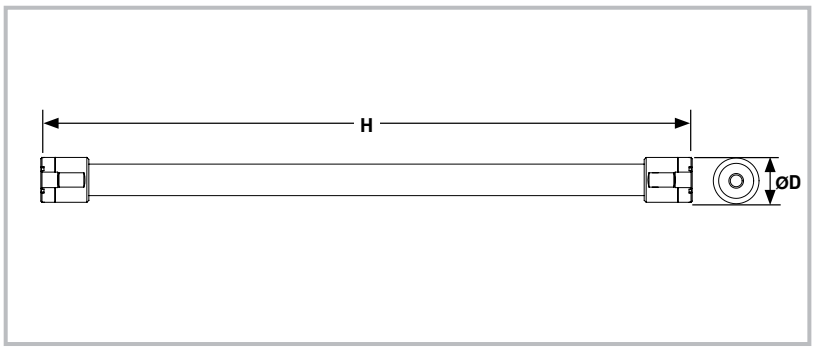
Weight, Dimensions and Connections

Dimensions H x Ø D	736 x 139 mm
Weight	8.1 kg
Connection inlet / outlet	G1 female
Vent	G1 female
Dimensional drawing	Refer to K3.1.347

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.

HiFluxx ST1506



Performance data

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

Purity %[1]	Minimum nitrogen flow rate in m³/hr [2]					
	99.5	99	98	97	96	95
4 bar g	1.06	1.45	2.29	3.17	4.05	5.02
5 bar g	1.56	2.15	3.38	4.68	5.98	7.41
6 bar g	2.04	2.81	4.42	6.12	7.82	9.69
7 bar g	2.40	3.30	5.20	7.20	9.20	11.4
8 bar g	2.88	3.96	6.24	8.64	11.0	13.7
9 bar g	3.36	4.62	7.28	10.1	12.9	16.0
10 bar g	3.84	5.28	8.32	11.5	14.7	18.2
11 bar g	4.32	5.94	9.36	13.0	16.6	20.5
12 bar g	4.80	6.60	10.4	14.4	18.4	22.8
13 bar g	5.04	6.93	10.9	15.1	19.3	23.9

Purity %	Feed-air consumption at minimum nitrogen flow rate in m³/hr [2]					
	99.5	99	98	97	96	95
4 bar g	8.98	9.15	9.84	11.1	12.1	13.0
5 bar g	13.3	13.5	14.5	16.4	17.9	19.3
6 bar g	17.3	17.7	19.0	21.4	23.5	25.2
7 bar g	20.4	20.8	22.4	25.2	27.6	29.6
8 bar g	24.5	24.9	26.8	30.2	33.1	35.6
9 bar g	28.6	29.1	31.3	35.3	38.6	41.5
10 bar g	32.6	33.3	35.8	40.3	44.2	47.4
11 bar g	36.7	37.4	40.2	45.4	49.7	53.4
12 bar g	40.8	41.6	44.7	50.4	55.2	59.3
13 bar g	42.8	43.7	47.0	52.9	58.0	62.2

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

Ambient Conditions

Ambient temperature	+2°C to +50°C
Ambient pressure	atmospheric
Air quality	clean air without contaminants

Mechanical Design Housing

Design pressure	15 bar g
Design temperature	65°C

membrane operating limits are lower

Feed-air Conditions

Maximum operating pressure	13.0 bar g
Min. / Max. operating temperature	+2°C / +50°C
Maximum oil vapour content	<0.01 mg/m³
Particles	filtered at 0.01 µm cut off
Relative humidity	<100% (non condensing)

Material

Housing	Aluminum

Services on Request

Material certificates EN10204-3.1 on housing material (for Stainless Steel only)
3D model CAD STEP file

Flow Rate Corrections

Nitrogen flow rate at feed 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*

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

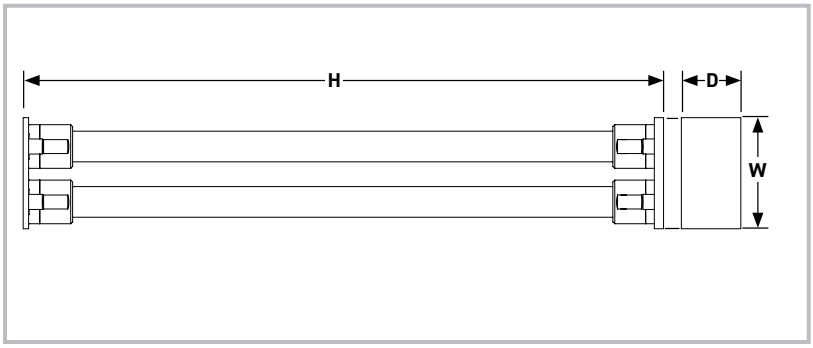
Weight, Dimensions and Connections

Dimensions H x Ø D	1655 x 100 mm
Weight	5.7 kg
Connection inlet / outlet	G¾ female
Vent	G1 female
Dimensional drawing	Refer to K3.1.334

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.

HiFluxx DT1506-8



Performance data

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

Purity %[1]	Minimum nitrogen flow rate in m³/hr [2]					
	99.5	99	98	97	96	95
4 bar g	2.31	3.63	6.25	8.58	10.9	13.2
5 bar g	3.41	5.36	9.23	12.7	16.1	19.5
6 bar g	4.46	7.01	12.1	16.6	21.0	25.5
7 bar g	5.25	8.25	14.2	19.5	24.7	30.0
8 bar g	6.30	9.90	17.0	23.4	29.6	36.0
9 bar g	7.35	11.6	19.9	27.3	34.6	42.0
10 bar g	8.40	13.2	22.7	31.2	39.5	48.0
11 bar g	9.45	14.9	25.6	35.1	44.5	54.0
12 bar g	10.5	16.5	28.4	39.0	49.4	60.0
13 bar g	11.0	17.3	29.8	41.0	51.9	63.0

Purity %	Feed-air consumption at minimum nitrogen flow rate in m³/hr[2]					
	99.5	99	98	97	96	95
4 bar g	19.6	22.9	26.9	30.0	32.6	34.3
5 bar g	29.0	33.8	39.7	44.4	48.2	50.7
6 bar g	37.9	44.2	51.9	58.0	63.0	66.3
7 bar g	44.6	52.0	61.1	68.3	74.1	78.0
8 bar g	53.6	62.4	73.3	81.9	88.9	93.6
9 bar g	62.5	72.8	85.5	95.6	104	109
10 bar g	71.4	83.2	97.7	109	119	125
11 bar g	80.3	93.6	110	123	133	140
12 bar g	89.3	104	122	137	148	156
13 bar g	93.7	109	128	143	156	164

Maximum pressure drop <0.8 bar.
Maximum nitrogen flow rate = minimum flow rate + 10%

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

Ambient Conditions

Ambient temperature	+2°C to +50°C
Ambient pressure	atmospheric
Air quality	clean air without contaminants

Feed-air Conditions

Maximum operating pressure	13.0 bar g
Min. / Max. operating temperature	+2°C / +50°C
Maximum oil vapour content	<0.01 mg/m³
Particles	filtered at 0.01 µm cut off
Relative humidity	<100% (non condensing)

Flow Rate Corrections

Nitrogen flow rate at feed 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*

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

Mechanical Design Housing

Design pressure	13 bar g
Design temperature	50°C

membrane operating limits are lower

Material

Housing	Aluminum

Services on Request

Material certificates EN10204-3.1 on housing material (for Stainless Steel only)
3D model CAD STEP file

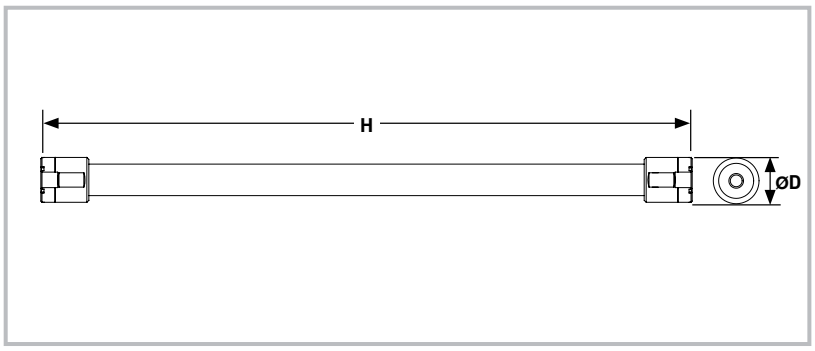
Weight, Dimensions and Connections

Model	4 - 8 bar g	9 - 13 bar g
Dimensions H x W x D (mm)	1705 x 296 x 208	1732 x 296 x 208
Weight	15 kg	15 kg
Connection inlet / outlet	G¾ female	G¾ female
Vent	G1 female	2 x G1 female
Dimensional drawing	Refer to K3.1.356	Refer to K3.1.357

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.

HiFluxx ST1508



Purity %[1]	Minimum nitrogen flow rate in m³/hr [2]					
	99.5	99	98	97	96	95
4 bar g	2.07	2.95	4.84	6.60	8.8	11.0
5 bar g	3.06	4.36	7.15	9.75	13.0	16.3
6 bar g	4.00	5.70	9.35	12.8	17.0	21.3
7 bar g	4.70	6.70	11.0	15.0	20.0	25.0
8 bar g	5.17	7.37	12.1	16.5	22.0	27.5
9 bar g	6.11	8.71	14.3	19.5	26.0	32.5
10 bar g	6.58	9.38	15.4	21.0	28.0	35.0
11 bar g	7.52	10.7	17.6	24.0	32.0	40.0
12 bar g	7.99	11.4	18.7	25.5	34.0	42.5
13 bar g	8.46	12.1	19.8	27.0	36.0	45.0

Purity %	Feed-air consumption at minimum nitrogen flow rate in m³/hr [2]					
	99.5	99	98	97	96	95
4 bar g	17.6	18.6	20.8	23.1	26.4	28.6
5 bar g	26.0	27.4	30.7	34.1	39.0	42.3
6 bar g	34.0	35.9	40.2	44.6	51.0	55.3
7 bar g	40.0	42.2	47.3	52.5	60.0	65.0
8 bar g	43.9	46.4	52.0	57.8	66.0	71.5
9 bar g	51.9	54.9	61.5	68.3	78.0	84.5
10 bar g	55.9	59.1	66.2	73.5	84.0	91.0
11 bar g	63.9	67.5	75.7	84.0	96.0	104
12 bar g	67.9	71.8	80.4	89.3	102.0	111
13 bar g	71.9	76.0	85.1	94.5	108.0	117

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

Ambient Conditions

Ambient temperature	+2°C to +50°C
Ambient pressure	atmospheric
Air quality	clean air without contaminants

Feed-air Conditions

Maximum operating pressure	13.0 bar g
Min. / Max. operating temperature	+2°C / +50°C
Maximum oil vapour content	<0.01 mg/m³
Particles	filtered at 0.01 µm cut off
Relative humidity	<100% (non condensing)

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*

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

Mechanical Design Housing

Design pressure	15 bar g
Design temperature	65ºC

membrane operating limits are lower

Material

Housing	Aluminum

Services on Request

Material certificates EN10204-3.1 on housing material (for Stainless Steel only)
3D model CAD STEP file

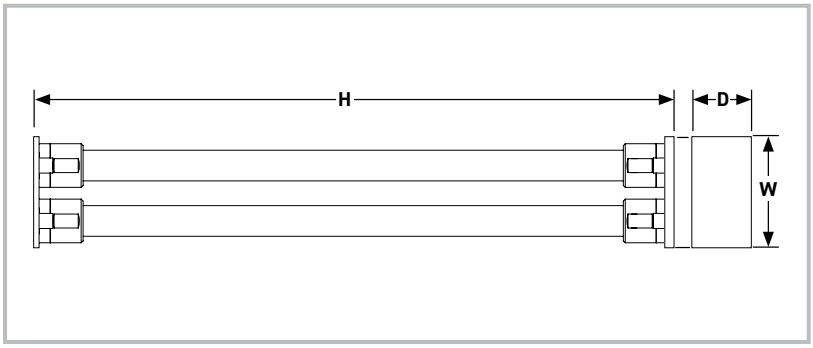
Weight, Dimensions and Connections

Dimensions H x Ø D	1655 x 114 mm
Weight	6.8 kg
Connection inlet / outlet	G¾ female
Vent	G1 female
Dimensional drawing	Refer to K3.1.330

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.

HiFluxx DT1508



Performance data

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

Performance data

Nitrogen Purity %	Minimum nitrogen[1] flow rate in m³/hr [2] (CFM)[2]					
	99.5	99	98	97	96	95
4 bar g (58 psi g)	3.08 (1.81)	4.84 (2.85)	8.36 (4.92)	11.4 (6.71)	14.5 (8.53)	17.6 (10.4)
5 bar g (72.5 psi g)	4.55 (2.68)	7.15 (4.21)	12.4 (7.3)	16.9 (9.95)	21.5 (12.7)	26.0 (15.3)
6 bar g (87 psi g)	5.95 (3.5)	9.35 (5.5)	16.2 (9.53)	22.1 (13)	28.1 (16.5)	34.0 (20)
7 bar g (101.5 psi g)	7.00 (4.12)	11.0 (6.47)	19.0 (11.2)	26.0 (15.3)	33.0 (19.4)	40.0 (23.5)
8 bar g (116 psi g)	8.40 (4.94)	13.2 (7.77)	22.8 (13.4)	31.2 (18.4)	39.6 (23.3)	48.0 (28.3)
9 bar g (130.5 psi g)	9.80 (5.77)	15.4 (9.06)	26.6 (15.7)	36.4 (21.4)	46.2 (27.2)	56.0 (33)
10 bar g (145 psi g)	11.2 (6.59)	17.6 (10.4)	30.4 (17.9)	41.6 (24.5)	52.8 (31.1)	64.0 (37.7)
11 bar g (159.5 psi g)	12.6 (7.42)	19.8 (11.7)	34.2 (20.1)	46.8 (27.5)	59.4 (35)	72.0 (42.4)
12 bar g (174 psi g)	14.0 (8.24)	22.0 (12.9)	38.0 (22.4)	52.0 (30.6)	66.0 (38.8)	80.0 (47.1)
13 bar g (188.5 psi g)	14.7 (8.65)	23.1 (13.6)	39.9 (23.5)	54.6 (32.1)	69.3 (40.8)	84.0 (49.4)

Nitrogen Purity %	Feed-air consumption at minimum nitrogen flow rate in m³/hr [2] (CFM)[2]					
	99.5	99	98	97	96	95
4 bar g (58 psi g)	26.2 (15.4)	30.5 (18)	35.9 (21.1)	40.0 (23.5)	43.6 (25.7)	45.8 (27)
5 bar g (72.5 psi g)	38.7 (22.8)	45.0 (26.5)	53.1 (31.3)	59.2 (34.8)	64.4 (37.9)	67.6 (39.8)
6 bar g (87 psi g)	50.6 (29.8)	58.9 (34.7)	69.4 (40.8)	77.4 (45.6)	84.2 (49.6)	88.4 (52)
7 bar g (101.5 psi g)	59.5 (35)	69.3 (40.8)	81.7 (48.1)	91.0 (53.6)	99.0 (58.3)	104 (61.2)
8 bar g (116 psi g)	71.4 (42)	83.2 (49)	98.0 (57.7)	109 (64.2)	119 (70)	125 (73.6)
9 bar g (130.5 psi g)	83.3 (49)	97.0 (57.1)	114 (67.1)	127 (74.7)	139 (81.8)	146 (85.9)
10 bar g (145 psi g)	95.2 (56)	111 (65.3)	131 (77.1)	146 (85.9)	158 (93)	166 (97.7)
11 bar g (159.5 psi g)	107 (63)	125 (73.6)	147 (86.5)	164 (96.5)	178 (105)	187 (110)
12 bar g (174 psi g)	119 (70)	139 (81.8)	163 (95.9)	182 (107)	198 (117)	208 (122)
13 bar g (188.5 psi g)	125 (73.6)	146 (85.9)	172 (101)	191 (112)	208 (122)	218 (128)

Maximum pressure drop <0.8 bar (12 psi)
Maximum nitrogen flow rate = minimum flow rate + 10%.
Values between brackets are indicative imperial values

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. Therefore it should be born in mind that the value that is normally called the nitrogen content actually is the inert gas content.
2. m³/hr (CFM) refers to conditions at 1013 mbar(a) (14.7 psi a) and 20°C (68°F).

Ambient Conditions

Ambient temperature	+2°C to +50°C (+36°F to +122°F)
Ambient pressure	atmospheric
Air quality	clean air without contaminants

Feed-air Conditions

Maximum operating pressure	13.0 bar g (189 psi g)
Min. / Max. operating temperature	+2°C to +50°C (+36°F to +122°F)
Maximum oil vapour content	<0.01 mg/m³ (<0.01 ppm (w))
Particles	filtered at 0.01 µm cut off
Relative humidity	<100% (non condensing)

Flow Rate Corrections

Nitrogen flow rate at feed temperatures other than 20°C (68°F)	Use bulletin S3.1.059*
Feed-air consumption at feed-air temperatures other than 20°C (68°F)	Use bulletin S3.1.059*

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

Mechanical Design Housing

Design pressure	13 bar g (189 psi g)
Design temperature	50°C (122°F)

Material

Housing	Aluminum

Services on Request

Material certificates EN10204-3.1 on housing material (for Stainless Steel only)
3D model CAD STEP file

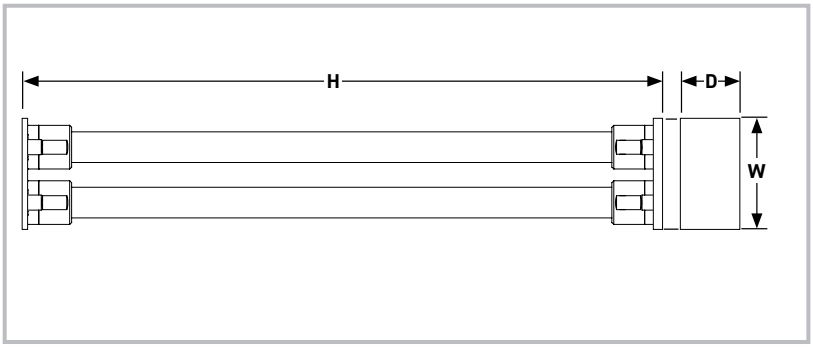
Weight, Dimensions and Connections

Model	4 - 8 bar g (58 - 116 psi g)	9 - 13 bar g (117 - 190 psi g)
Dimensions H x W x D	1705 x 296 x 201 mm (67.1" x 11.7" x 7.9")	1705 x 296 x 145 mm (67.1" x 11.7" x 5.7")
Weight	16 kg (35.3 lb)	16 kg (35.3 lb)
Connection inlet / outlet	G¾ female to ISO 228	G¾ female to ISO 228
Vent	G1 female to ISO 228	2 x G1 female to ISO 228
Dimensional drawing	Refer to K3.1.335	Refer to K3.1.336

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.

HiFluxx DT1508SS



Performance data

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

Purity %[1]	Minimum nitrogen flow rate in m³/hr [2]					
	99.5	99	98	97	96	95
4 bar g	3.08	4.84	8.36	11.4	14.5	17.6
5 bar g	4.55	7.15	12.4	16.9	21.5	26.0
6 bar g	5.95	9.35	16.2	22.1	28.1	34.0
7 bar g	7.00	11.0	19.0	26.0	33.0	40.0
8 bar g	8.40	13.2	22.8	31.2	39.6	48.0
9 bar g	9.80	15.4	26.6	36.4	46.2	56.0
10 bar g	11.2	17.6	30.4	41.6	52.8	64.0
11 bar g	12.6	19.8	34.2	46.8	59.4	72.0
12 bar g	14.0	22.0	38.0	52.0	66.0	80.0
13 bar g	14.7	23.1	39.9	54.6	69.3	84.0

Purity %	Feed-air consumption at minimum nitrogen flow rate in m³/hr[2]					
	99.5	99	98	97	96	95
4 bar g	26.2	30.5	35.9	40.0	43.6	45.8
5 bar g	38.7	45.0	53.1	59.2	64.4	67.6
6 bar g	50.6	58.9	69.4	77.4	84.2	88.4
7 bar g	59.5	69.3	81.7	91.0	99.0	104
8 bar g	71.4	83.2	98.0	109	119	125
9 bar g	83.3	97.0	114	127	139	146
10 bar g	95.2	111	131	146	158	166
11 bar g	107	125	147	164	178	187
12 bar g	119	139	163	182	198	208
13 bar g	125	146	172	191	208	218

Maximum pressure drop <0.8 bar.
Maximum nitrogen flow rate = minimum flow rate + 10%

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

Ambient Conditions

Ambient temperature	+2°C to +50°C
Ambient pressure	atmospheric
Air quality	clean air without contaminants

Feed-air Conditions

Maximum operating pressure	13.0 bar g
Min. / Max. operating temperature	+2°C / +50°C
Maximum oil vapour content	<0.01 mg/m³
Particles	filtered at 0.01 µm cut off
Relative humidity	<100% (non condensing)

Flow Rate Corrections

Nitrogen flow rate at feed 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*

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

Mechanical Design Housing

Design pressure	15 bar g
Design temperature	65°C

membrane operating limits are lower

Material

Housing	Stainless Steel

Services on Request

Material certificates EN10204-3.1 on housing material (for Stainless Steel only)
3D model CAD STEP file

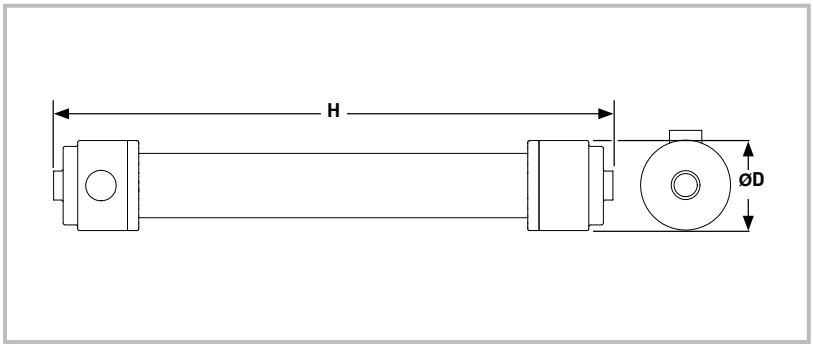
Weight, Dimensions and Connections

Model	
Dimensions H x W x D (mm)	1734 x 296 x 145
Weight	39 kg
Connection inlet / outlet	G¾ female
Vent	2 x G1 female
Dimensional drawing	Refer to K3.1.362

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.

HiFluxx ST15020-1



Performance data

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

Purity %[1]	Typical nitrogen flow rate in m³/hr[2]				
	99	98	97	96	95
4 bar g	24.0	39.0	53.0	71.0	89.0
5 bar g	35.0	58.0	78.0	105	131
6 bar g	46.0	75.0	103	137	171
7 bar g	54.0	89.0	121	161	201
8 bar g	59.0	97.0	133	177	221

Purity %	Feed-air consumption at typical nitrogen flow rate in m³/hr[2]				
	99	98	97	96	95
4 bar g	161	175	191	220	239
5 bar g	238	259	283	324	353
6 bar g	289	324	359	411	445
7 bar g	340	381	423	483	523
8 bar g	374	419	465	531	576

Maximum pressure drop <0.3 bar.

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

Above tables reflect nominal flow rates. The nitrogen output of each individual module can vary +/- 15%. For selection purposes, calculation should be done based on nominal conditions without taking the variation into account. When ordering modules, it is necessary that the total modules needed for each individual project are clearly mentioned per order-line on the order-intake-form. Parker will assure that the total output flow rate (sum of the individual selected membranes flow rates) will be minimum the total nominal flow rate. The compressor selection can be done on the total calculated nominal flow rate without taking any variation into account.

Example:
Your project requires 1515 Nm³/hr nitrogen at 8 bar g inlet pressure, 95% purity and 20°C inlet temperature. You will need 7 modules. Parker will ensure a minimum total product flow of 1515 Nm³/hr. However, individual module performance can still vary +/-15%. The compressor should be selected on a total air consumption of 7 x 576 = 4032 Nm³/hr.

Ambient Conditions

Ambient tempera ture	+2°C to +50°C
Ambient pressure	atmospheric
Air quality	clean air without contaminants

Feed-air Conditions

Maximum operating pressure	9.0 bar g
Min. / Max. operating temperature	+2°C / +50°C
Maximum oil vapour content	<0.01 mg/m³
Particles	filtered at 0.01 µm cut off
Relative humidity	<100% (non condensing)

Flow Rate Corrections

Nitrogen flow rate at feed 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*

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

Mechanical Design Housing

Design pressure	14 bar g
Design temperature	65°C

membrane operating limits are lower

Material

Housing	Aluminum

Services on Request

3D model CAD STEP file

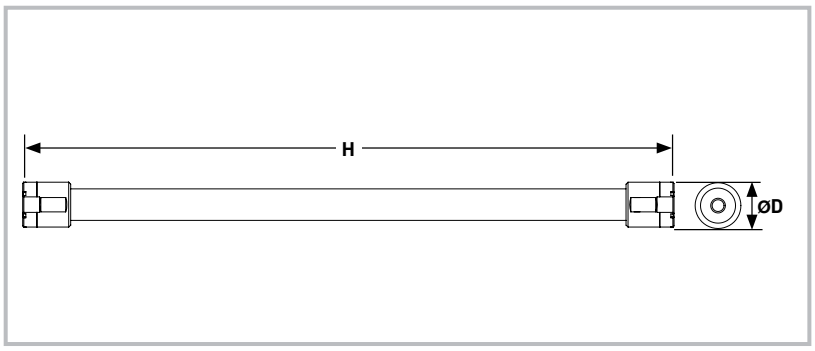
Weight, Dimensions and Connections

Dimensions H x Ø D	1740 x 280 mm
Weight	46 kg
Connection inlet / outlet	G2½ female
Vent	100 mm OD
Dimensional drawing	K3.1.339*

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.

HiFluxx ST1508SS



Performance data

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

Purity %[1]	Minimum nitrogen flow rate in m^3/hr^2					
	99.5	99	98	97	96	95
4 bar g	2.07	2.95	4.84	6.60	8.8	11.0
5 bar g	3.06	4.36	7.15	9.75	13.0	16.3
6 bar g	4.00	5.70	9.35	12.8	17.0	21.3
7 bar g	4.70	6.70	11.0	15.0	20.0	25.0
8 bar g	5.17	7.37	12.1	16.5	22.0	27.5
9 bar g	6.11	8.71	14.3	19.5	26.0	32.5
10 bar g	6.58	9.38	15.4	21.0	28.0	35.0
11 bar g	7.52	10.7	17.6	24.0	32.0	40.0
12 bar g	7.99	11.4	18.7	25.5	34.0	42.5
13 bar g	8.46	12.1	19.8	27.0	36.0	45.0

Purity %	Feed-air consumption at minimum nitrogen flow rate in m^3/hr^2					
	99.5	99	98	97	96	95
4 bar g	17.6	18.6	20.8	23.1	26.4	28.6
5 bar g	26.0	27.4	30.7	34.1	39.0	42.3
6 bar g	34.0	35.9	40.2	44.6	51.0	55.3
7 bar g	40.0	42.2	47.3	52.5	60.0	65.0
8 bar g	43.9	46.4	52.0	57.8	66.0	71.5
9 bar g	51.9	54.9	61.5	68.3	78.0	84.5
10 bar g	55.9	59.1	66.2	73.5	84.0	91.0
11 bar g	63.9	67.5	75.7	84.0	96.0	104
12 bar g	67.9	71.8	80.4	89.3	102.0	111
13 bar g	71.9	76.0	85.1	94.5	108.0	117

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 %), CO2 (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 1013mbar(a) and 20°C

Ambient Conditions

Ambient temperature	+2°C to +50°C
Ambient pressure	atmospheric
Air quality	clean air without contaminants

Feed-air Conditions

Maximum operating pressure	13.0 bar g
Min. / Max. operating temperature	+2°C / +50°C
Maximum oil vapour content	<0.01 mg/m^3
Particles	filtered at 0.01 µm cut off
Relative humidity	<100% (non condensing)

Flow Rate Corrections

Nitrogen flow rate at feed 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*

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

Mechanical Design Housing

Design pressure	15 bar g
Design temperature	65°C

membrane operating limits are lower

Material

Housing	Stainless Steel

Services on Request

Material certificates EN10204-3.1 on housing material (for Stainless Steel only)
3D model CAD STEP file

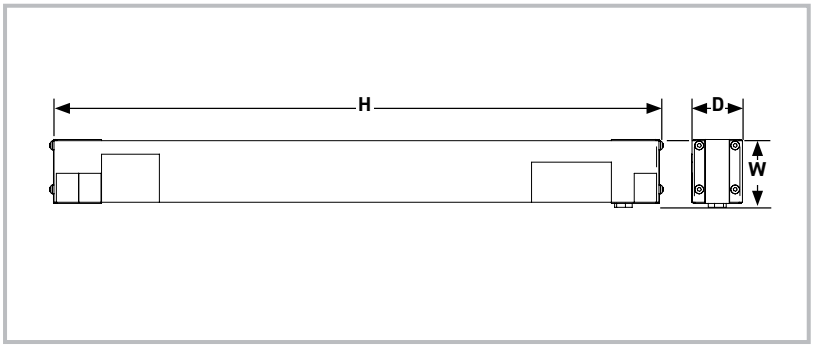
Weight, Dimensions and Connections

Dimensions H x Ø D	1654 x 114 mm
Weight	18 kg
Connection inlet / outlet	G¾ female
Vent	G1 female
Dimensional drawing	Refer to K3.1.358

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.

EnOxy 304



Performance data

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

Purity %	Minimum enriched oxygen flow rate in l/min [1]						
	28	30	32	34	36	38	40
4 bar g	16.9	17.3	17.7	18.1	18.4	18.8	-
5 bar g	21.5	22	22.5	23.0	23.5	24.0	24.5
6 bar g	26.3	26.9	27.5	28.1	28.7	29.3	29.9
7 bar g	31.1	31.9	32.6	33.3	34.0	34.7	35.4
8 bar g	36.1	37.0	37.8	38.6	39.4	40.2	41.1
9 bar g	41.3	42.2	43.1	44.1	45.0	45.9	46.9
10 bar g	46.5	47.5	48.6	49.7	50.7	51.8	52.8
11 bar g	51.9	53	54.2	55.4	56.6	57.8	58.9
12 bar g	57.3	58.6	59.9	61.3	62.6	63.9	65.2

Purity %	Feed-air consumption at minimum enriched oxygen flow rate in l/min [1]						
	28	30	32	34	36	38	40
4 bar g	24.5	28.4	33.4	41.3	54.2	77.1	-
5 bar g	31.2	35.5	41.1	49.5	61.7	80.6	139
6 bar g	38.1	43.3	50.2	58.1	72.8	92.2	138
7 bar g	45.1	51.2	59.5	68.8	83.1	104	149
8 bar g	52.4	59.4	69.0	79.9	96.5	120	166
9 bar g	59.8	67.8	78.8	91.2	111	137	187
10 bar g	67.4	76.6	88.8	103	125	158	219
11 bar g	75.7	85.7	99.6	116	143	182	261
12 bar g	83.7	95.0	110	129	160	208	310

Enriched oxygen flow exits at atmospheric pressure
Maximum pressure drop over nitrogen enriched flow <0.3 bar.
Maximum enriched oxygen flow rate = minimum flow rate + 30%
[1] l/min 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.

Material

Housing	Steel
Tube	Aluminium
Coating (housing)	ESPC to Ral 7035 (Light Grey)
Coating (tube)	None

Feed-air Conditions

Maximum operating pressure	13 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.

Weight, Dimensions and Connections

Dimensions H x W x D	386 x 80 x 63 mm
Weight	2.3 kg
Connection feed-air	G3/8" female to ISO 228
Connection nitrogen enriched air	G3/8" female to ISO 228
Connection oxygen enriched air at atmospheric pressure	G3/8" female to ISO 228
Dimensional drawing	Refer to K3.1.348

Flow Rate Corrections

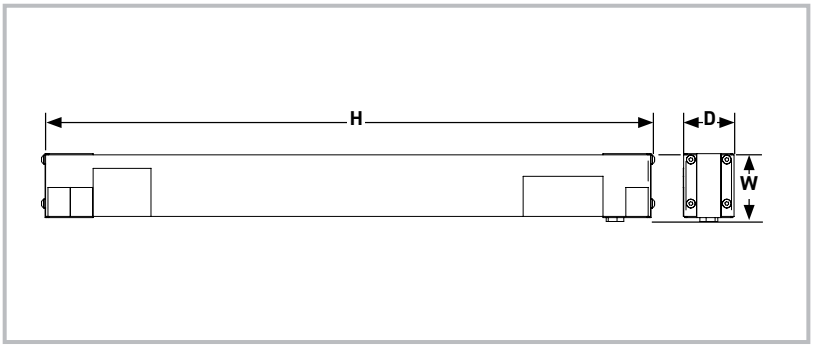
Nitrogen flow rate at feed temperatures other than 20°C	Use bulletin S3.1.085*
Feed-air consumption at feed-air temperatures other than 20°C	Use bulletin S3.1.085*

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

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.

EnOxy 604



Performance data

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

Oxygen purity %	Minimum enriched oxygen flow rate in l/min [1]						
	28	30	32	34	36	38	40
4 bar g	35.7	36.6	37.4	38.2	39.0	39.8	-
5 bar g	45.5	46.6	47.6	48.6	49.7	50.7	51.7
6 bar g	55.6	56.8	58.1	59.3	60.6	61.9	63.1
7 bar g	65.9	67.4	68.9	70.4	71.8	73.3	74.8
8 bar g	76.4	78.1	79.9	81.6	83.4	85.1	86.8
9 bar g	87.2	89.2	91.2	93.2	95.2	97.2	99.1
10 bar g	98.3	101	103	105	107	109	112
11 bar g	110	112	115	117	120	122	125
12 bar g	121	124	127	130	132	135	138

Oxygen purity %	Feed-air consumption at minimum enriched oxygen flow rate in l/min [1]						
	28	30	32	34	36	38	40
4 bar g	49.3	57.2	67.3	83.2	109	155	-
5 bar g	62.8	71.6	82.8	99.7	124	162	279
6 bar g	76.7	87.1	101	117	147	186	278
7 bar g	90.9	103	120	139	167	209	299
8 bar g	105	120	139	161	194	243	334
9 bar g	120	136	159	184	223	277	377
10 bar g	136	154	179	208	252	318	441
11 bar g	152	172	201	233	287	366	525
12 bar g	169	191	222	259	321	419	624

Enriched oxygen flow exits at atmospheric pressure
Maximum pressure drop over nitrogen enriched flow <0.3 bar.
Maximum enriched oxygen flow rate = minimum flow rate + 30%
[1] l/min refers to conditions at 1013mbar(a) and 20°C

Ambient Conditions

Ambient temperature	+2°C to +50°C
Ambient pressure	atmospheric
Air quality	clean air without contaminants

Material

Housing	Steel
Tube	Aluminium
Coating (housing)	ESPC to Ral 7035 (Light Grey)
Coating (tube)	None

Feed-air Conditions

Maximum operating pressure	13.0 bar g
Min. / Max. operating temperature	+2°C / +50°C
Maximum oil vapour content	<0.01 mg/m³
Particles	filtered at 0.01 µm cut off
Relative humidity	<100% (non condensing)

Weight, Dimensions and Connections

Dimensions H x W x D	757 x 80 x 63 mm
Weight	3.2 kg
Connection feed-air	G3/8" female to ISO 228
Connection nitrogen enriched air	G3/8" female to ISO 228
Connection oxygen enriched air at atmospheric pressure	G3/8" female to ISO 228
Dimensional drawing	Refer to K3.1.344

Flow Rate Corrections

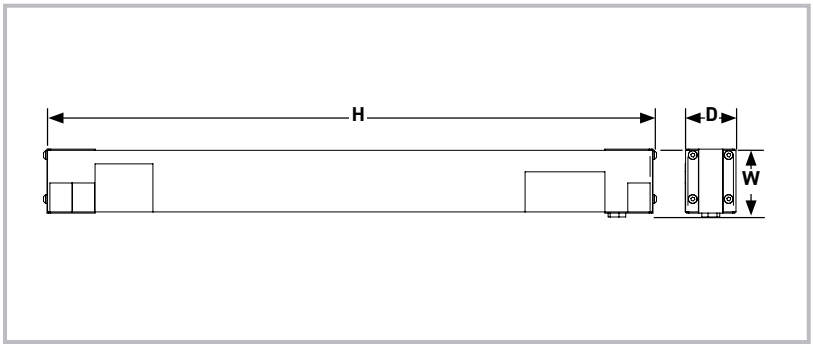
Nitrogen flow rate at feed temperatures other than 20ºC	Use bulletin S3.1.085*
Feed-air consumption at feed-air temperatures other than 20ºC	Use bulletin S3.1.085*

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

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.

EnOxy 606



Performance data

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

Oxygen purity %	Minimum enriched oxygen flow rate in l/min [1]						
	28	30	32	34	36	38	40
4 bar g	69.2	70.8	72.3	74.0	75.5	77.2	-
5 bar g	88.2	90.2	92.2	94.2	96.2	98.2	100
6 bar g	108	110	113	115	118	120	122
7 bar g	128	131	133	136	139	142	145
8 bar g	148	151	155	158	162	165	168
9 bar g	168	173	177	180	185	188	192
10 bar g	190	195	198	203	208	212	217
11 bar g	212	217	222	227	232	237	242
12 bar g	235	240	245	252	257	262	267

Oxygen purity %	Feed-air consumption at minimum enriched oxygen flow rate in l/min [1]						
	28	30	32	34	36	38	40
4 bar g	95.6	111	130	161	212	301	-
5 bar g	122	139	160	193	241	314	541
6 bar g	149	169	196	227	284	360	538
7 bar g	176	200	232	269	324	405	580
8 bar g	204	232	269	312	376	470	648
9 bar g	233	264	307	356	431	536	730
10 bar g	263	299	347	403	488	615	855
11 bar g	295	334	389	452	556	710	1018
12 bar g	327	371	430	502	623	811	1208

Enriched oxygen flow exits at atmospheric pressure
Maximum pressure drop over nitrogen enriched flow <0.3 bar.
Maximum enriched oxygen flow rate = minimum flow rate + 30%
[1] l/min refers to conditions at 1013mbar(a) and 20°C

Ambient Conditions

Ambient temperature	+2°C to +50°C
Ambient pressure	atmospheric
Air quality	clean air without contaminants

Material

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

Feed-air Conditions

Maximum operating pressure	13.0 bar g
Min. / Max. operating temperature	+2°C / +50°C
Maximum oil vapour content	<0.01 mg/m³
Particles	filtered at 0.01 µm cut off
Relative humidity	<100% (non condensing)

Weight, Dimensions and Connections

Dimensions H x W x D	751 x 110 x 84 mm
Weight	6.4 kg
Connection feed-air	G1/2" female to ISO 228
Connection nitrogen enriched air	G1/2" female to ISO 228
Connection oxygen enriched air at atmospheric pressure	G1/2" female to ISO 228
Dimensional drawing	Refer to K3.1.345

Flow Rate Corrections

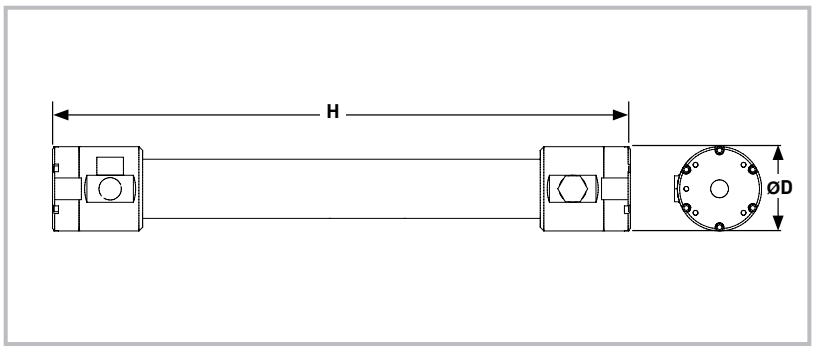
Nitrogen flow rate at feed temperatures other than 20°C	Use bulletin S3.1.085*
Feed-air consumption at feed-air temperatures other than 20°C	Use bulletin S3.1.085*

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

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.

EnOxy 608



Performance data

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

Oxygen purity %	Minimum enriched oxygen flow rate in l/min [1]						
	28	30	32	34	36	38	40
4 bar g	128	131	134	137	140	143	-
5 bar g	163	167	170	174	178	181	185
6 bar g	199	203	207	212	216	221	225
7 bar g	235	240	246	251	256	261	267
8 bar g	273	279	285	291	297	303	309
9 bar g	311	318	325	332	339	346	353
10 bar g	351	358	366	374	382	390	397
11 bar g	391	400	408	417	426	435	443
12 bar g	432	442	452	461	471	481	490

Oxygen purity %	Feed-air consumption at minimum enriched oxygen flow rate in l/min [1]						
	28	30	32	34	36	38	40
4 bar g	177	206	242	299	392	557	-
5 bar g	225	256	296	357	444	580	998
6 bar g	274	311	361	417	523	662	991
7 bar g	324	368	427	494	597	745	1066
8 bar g	376	426	495	573	692	864	1190
9 bar g	429	487	565	654	793	985	1340
10 bar g	484	550	637	741	897	1130	1569
11 bar g	543	615	715	830	1022	1304	1869
12 bar g	601	682	791	923	1145	1490	2219

Enriched oxygen flow exits at atmospheric pressure
Maximum pressure drop over nitrogen enriched flow <0.3 bar.
Maximum enriched oxygen flow rate = minimum flow rate + 30%
[1] l/min refers to conditions at 1013mbar(a) and 20°C

Ambient Conditions

Ambient temperature	+2°C to +50°C
Ambient pressure	atmospheric
Air quality	clean air without contaminants

Material

Housing	Aluminum

Feed-air Conditions

Maximum operating pressure	13.0 bar g
Min. / Max. operating temperature	+2°C / +50°C
Maximum oil vapour content	<0.01 mg/m³
Particles	filtered at 0.01 µm cut off
Relative humidity	<100% (non condensing)

Weight, Dimensions and Connections

Dimensions H x ø D	736 x 114 mm
Weight	5.3 kg
Connection feed-air	G3/4" female to ISO 228
Connection nitrogen enriched air	G3/4" female to ISO 228
Connection oxygen enriched air at atmospheric pressure	G1" female to ISO 228
Dimensional drawing	Refer to K3.1.346

Flow Rate Corrections

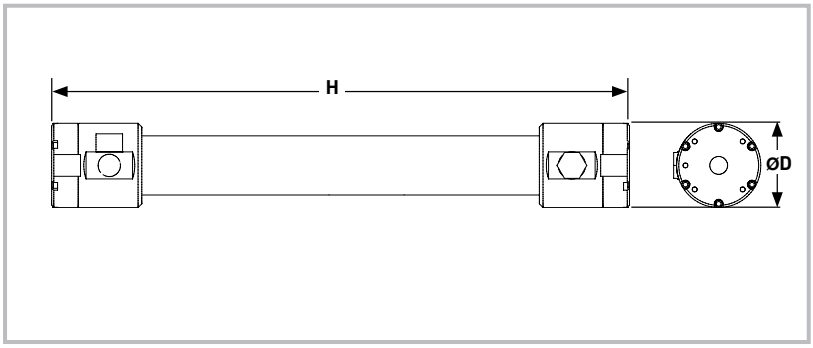
Nitrogen flow rate at feed temperatures other than 20°C	Use bulletin S3.1.085*
Feed-air consumption at feed-air temperatures other than 20°C	Use bulletin S3.1.085*

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

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.

EnOxy 6010



Performance data

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

Oxygen purity %	Minimum enriched oxygen flow rate in l/min [1]						
	28	30	32	34	36	38	40
4 bar g	250	256	262	268	274	280	-
5 bar g	318	325	333	341	348	356	364
6 bar g	387	396	406	415	425	434	443
7 bar g	458	470	481	492	503	514	525
8 bar g	532	545	558	571	584	596	609
9 bar g	607	622	637	652	666	681	696
10 bar g	685	701	718	735	751	768	784
11 bar g	764	783	801	820	838	857	875
12 bar g	846	866	887	907	928	948	969

Oxygen purity %	Feed-air consumption at minimum enriched oxygen flow rate in l/min [1]						
	28	30	32	34	36	38	40
4 bar g	345	401	472	585	768	1093	-
5 bar g	438	500	579	698	871	1139	1964
6 bar g	534	608	706	818	1027	1302	1950
7 bar g	633	718	836	969	1172	1465	2101
8 bar g	734	833	970	1124	1360	1700	2346
9 bar g	838	952	1108	1284	1559	1941	2644
10 bar g	945	1076	1249	1455	1765	2227	3097
11 bar g	1062	1204	1402	1632	2012	2571	3691
12 bar g	1176	1336	1552	1814	2254	2939	4385

Enriched oxygen flow exits at atmospheric pressure
Maximum pressure drop over nitrogen enriched flow <0.3 bar
Maximum enriched oxygen flow rate = minimum flow rate + 30%
[1] l/min refers to conditions at 1013mbar(a) and 20°C

Ambient Conditions

Ambient temperature	+2°C to +50°C
Ambient pressure	atmospheric
Air quality	clean air without contaminants

Material

Housing	Aluminum

Feed-air Conditions

Maximum operating pressure	13.0 bar g [2]
Min. / Max. operating temperature	+2°C / +50°C [2]
Maximum oil vapour content	<0.01 mg/m³
Particles	filtered at 0.01 µm cut off
Relative humidity	<100% (non condensing)

[2] combination of high operating pressure and high operating temperature can reduce the life time expectancy of the membrane module.

Weight, Dimensions and Connections

Dimensions H x ø D	736 x 139 mm
Weight	8.1 kg
Connection feed-air	G 1" female to ISO 228
Connection nitrogen enriched air	G 1" female to ISO 228
Connection oxygen enriched air at atmospheric pressure	G 1" female to ISO 228
Dimensional drawing	Refer to K3.1.347

Flow Rate Corrections

Nitrogen flow rate at feed temperatures other than 20°C	Use bulletin S3.1.085*
Feed-air consumption at feed-air temperatures other than 20°C	Use bulletin S3.1.085*

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

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.

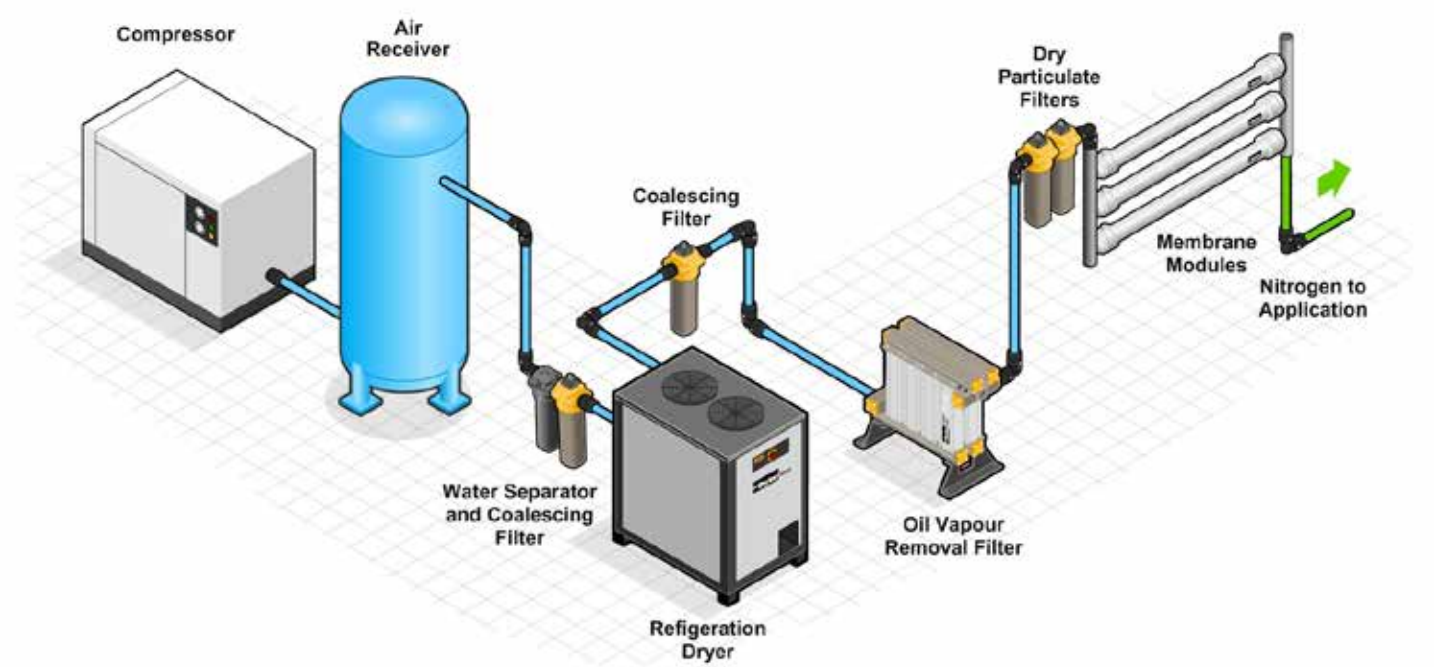
Required Filtration for Parker Membrane Modules

To ensure a long life for Parker membranes modules, feed-air needs to comply with the following specifications:

Particles:	filtered at 0.01 µm cut off ISO8573-1:2010 Solid Particulate class 1
Residual oil content:	< 0.01 mg/m³ ISO8573-1:2010 Oil class 1
Relative humidity:	< 100% (non condensing)
Air quality:	clean air treated by an active carbon bed type absorber to remove solvents, hydrocarbons, ozone etc.

Generally to ISO8573.1:2010 class 1.4.1. If ambient temperature is below 8°C then a desiccant dryer is recommended.

To reach this feed-air quality the following system set-up is advised:



Compressor

Due to varying nitrogen or oxygen enriched-air demands, the feed-air requirements will also vary. Parker advises to use a variable speed screw compressor to get the highest efficiency and best working conditions for the compressor. At pressures of 7 to 8 barg, standard industrial screw compressors have their highest efficiency which is also the most optimal pressure with the lowest energy use for the Parker membranes modules.

Air receiver

In case a variable speed screw compressor is used, it is not necessary to use an air receiver. When a non-variable speed compressor is used with an air receiver, the receiver must be
of such a size that the compressor will not switch on and off
at a high frequency as this will cause increased oil carryover.

Water separator

A water separator is recommended when it is unsure whether liquid water can be carried over. The downstream coalescing filters are not designed to remove bulk water. In case that pipework between air receiver - dryer is short and pipework is indoors a water separator can be void.

Refrigerant dryer

A refrigerant dryer is sufficient to lower the dew point to an acceptable level. When a nitrogen or oxygen enriched-air system is located in an environment where the temperature cannot drop below 8°C a refrigerant dryer that creates a dew point of 3°C is sufficient. Should the feed-air temperature drop below 8°C, another drying method is required, for example an adsorption dryer. The refrigerant dryer should be sized correctly and should be equipped with sufficient condensate removal.

Filtration

To filter the feed-air to the specified quality the following filters are needed:

Coarse coalescing filter
A coarse coalescing filter for 1 Micron particles.

This filter is normally located before the refrigerant dryer or the fine coalescing filter.

Fine coalescing filter
A fine coalescing filter for 0.01 Micron particles. This filter is normally located after the refrigerant dryer or the coarse coalescing filter.

Carbon absorber, bed-type
An activated carbon absorber, bed-type filled with carbon granulates.

Filters with an active carbon element are not sufficient for the protection of nitrogen membrane modules.

Dust filter
Because a carbon bed can cause dust, particulate filtration is needed. Dependent of the dust carry-over of the bed, one fine filter, or coarse and fine filter are needed, whichever is appropriate to meet the requirements.

General
All filters should be sized correctly for the application.

Maintenance and filter element change must be carried out following the applicable instructions and in line with the application.

Depending on the system requirements Parker has a wide range of compressed air pre-filtration products to select from.

Membrane Temperature Correction Factors

Temperature has influence on the performance of the Parker membranes. As the temperature changes so does the membrane performance. As a consequence the capacity and feed-air factor differ from the ones at nominal temperature (20°C).

Hereafter are the tables with correction factors for temperatures differing from 20°C for the HiFluxx/Smartfluxx and Enoxy membrane modules.

HiFluxx

Table 1

Temperature	Nitrogen flow rate correction factor for HiFluxx at various product concentrations[1]					
	99.5%	99%	98%	97%	96%	95%
5°C (41°F)	0.9	0.9	0.9	0.9	0.9	0.9
10°C (50°F)	0.9	0.9	0.9	0.9	0.9	0.9
30°C (86°F)	1.0	1.0	1.0	1.0	1.0	1.0
40°C (104°F)	0.6	0.8	1.0	1.0	1.1	1.1
50°C (122°F)	0.6	0.8	1.0	1.1	1.1	1.2

Table 2

Temperature	Feed-Air consumption correction factor for HiFluxx at various product concentrations[1]					
	99.5%	99%	98%	97%	96%	95%
5°C (41°F)	0.8	0.8	0.8	0.8	0.8	0.8
10°C (50°F)	0.9	0.9	0.9	0.9	0.9	0.9
30°C (86°F)	1.1	1.1	1.1	1.1	1.1	1.1
40°C (104°F)	1.2	1.2	1.2	1.2	1.2	1.2
50°C (122°F)	1.3	1.3	1.3	1.3	1.3	1.3

Example

Sizing conditions	
Inlet pressure	7 bar_g
Nitrogen purity	97%
Feed-air temperature	50°C
N2 correction factor	1.1 (table 1)
Feed-air correction factor	1.3 (table 2)
Module	HiFluxx ST1508
N2 flow rate HiFluxx ST1508	15 m^3/hr (at 20°C)
Feed-air consumption HiFluxx ST1508	52.5 m^3/hr (at 20°C)

[1] These numbers are indicative and may vary by +/- 0.1

Corrected Nitrogen Flow Calculation at 50°C and 97%
Corrected nitrogen flow: 15 m^3/hr x 1.1 = 16.5 m^3/hr

Corrected Feed-Air Calculation at 50°C and 97%
Corrected feed-air flow: 52.5 m^3/hr x 1.3 = 68.3 m^3/hr

SmartFluxx

Table 1

Temperature	Nitrogen flow rate correction factor for SmartFluxx (SA) at various product concentrations[1]					
	99.5%	99%	98%	97%	96%	95%
5°C (41°F)	-	-	0.90	0.90	0.90	0.90
10°C (50°F)	-	-	0.95	0.95	0.95	0.95
20°C (68°F)	1.00	1.00	1.00	1.00	1.00	1.00
30°C (86°F)	1.00	1.03	1.05	1.05	1.05	1.05
40°C (104°F)	1.00	1.05	1.10	1.10	1.10	1.10
50°C (122°F)	1.00	1.05	1.10	1.10	1.15	1.15
60°C (140°F)	1.10	1.15	1.20	1.20	1.25	1.20

[1] These numbers are indicative and may vary by +/- 0.1

Table 2

Temperature	Feed-Air consumption correction factor for SmartFluxx (SA) at various product concentrations[1]					
	99.5%	99%	98%	97%	96%	95%
5°C (41°F)	-	-	0.90	0.90	0.90	0.90
10°C (50°F)	-	-	0.95	0.95	0.95	0.95
20°C (68°F)	1.00	1.00	1.00	1.00	1.00	1.00
30°C (86°F)	1.10	1.10	1.10	1.10	1.10	1.10
40°C (104°F)	1.25	1.20	1.15	1.15	1.10	1.10
50°C (122°F)	1.35	1.30	1.25	1.20	1.15	1.15
60°C (140°F)	1.60	1.60	1.55	1.55	1.50	1.50

EnOxy

Table 1

Temperature	Oxygen flow rate correction factor for EnOxy at various product concentrations[1)]						
	28%	30%	32%	34%	36%	38%	40%
5°C (41°F)	0.76	0.76	0.76	0.76	0.76	0.76	0.76
10°C (50°F)	0.84	0.84	0.84	0.84	0.84	0.84	0.84
15°C (59°F)	0.91	0.91	0.91	0.91	0.91	0.91	0.91
25°C (77°F)	1.09	1.09	1.09	1.09	1.09	1.09	1.09
30°C (86°F)	1.19	1.19	1.19	1.19	1.19	1.19	1.19
35°C (95°F)	1.30	1.30	1.30	1.30	1.30	1.30	1.30
40°C (104°F)	1.42	1.42	1.42	1.42	1.42	1.42	*
45°C (113°F)	1.54	1.54	1.54	1.54	1.54	1.54	*
50°C (122°F)	1.68	1.68	1.68	1.68	1.68	*	*

[1)] These numbers are indicative
[*)] No enriched oxygen can be generated at this temperature / oxygen% combination

Table 2

Temperature	Feed-Air consumption correction factor for EnOxy at various product concentrations[1)]						
	28%	30%	32%	34%	36%	38%	40%
5°C (41°F)	0.76	0.76	0.76	0.76	0.76	0.76	0.76
10°C (50°F)	0.84	0.84	0.84	0.84	0.84	0.84	0.84
15°C (59°F)	0.91	0.91	0.91	0.91	0.91	0.91	0.91
25°C (77°F)	1.09	1.09	1.09	1.09	1.09	1.09	1.09
30°C (86°F)	1.19	1.19	1.19	1.19	1.19	1.19	1.19
35°C (95°F)	1.30	1.30	1.30	1.30	1.30	1.30	1.30
40°C (104°F)	1.42	1.42	1.42	1.42	1.42	1.42	*
45°C (113°F)	1.54	1.54	1.54	1.54	1.54	1.54	*
50°C (122°F)	1.68	1.68	1.68	1.68	1.68	*	*

Example

Sizing conditions	
Inlet pressure	7 $barg_g$
Nitrogen purity	34%
Feed-air temperature	30°C
N_2 correction factor	1.19 (table 1)
Feed-air correction factor	1.25 (table 2)
Module	EnOxy 608
N_2 flow rate EnOxy608	251 l/hr (at 20°C)
Feed-air consumption EnOxy608	494 l/hr (at 20°C)

Corrected Nitrogen Flow Calculation at 30°C and 34%
Corrected oxygen flow: 251 l/hr x 1.19 = 298.7 l/hr

Corrected Feed-Air Calculation at 30°C and 34%
Corrected feed-air flow: 494 l/hr x 1.25 = 617.5 l /hr