

Technical data of Nitrogen Generation Membrane Module

Model : MN2-01400

1. Product : Hollow fiber membrane type module

2. Use : Nitrogen generation

3. Dimensions and Weight

Length	Dimension	Weight
856 mm	110 mm	6 kg

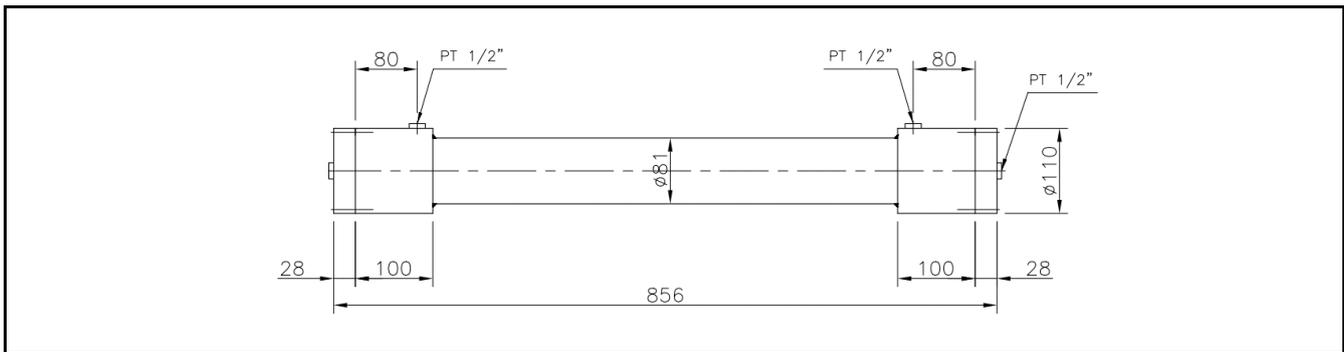
4. Fittings

Air inlet	N2 product outlet	O2 enriched air outlet
Rc1/2" (PT)	Rc1/2" (PT)	Rc1/2" (PT)

5. Components

Cap / Casing	Hollow fiber	Potting materials	Sealing O-Ring
Aluminium	Polysulfone	Epoxy	NBR

6. Module Configuration



7. Operating Conditions

Item	Unit	Condition
Operation Pressure	barg	Max. 20
Temperature(Min/Max)	°C	5 / 55
Relative humidity	%	Less than 60 (at Operating pressure and temperature, Remove moisture with air drier)
Particles	mg/m ³ (0 °C, 101.3 kPa)	Less than 0.1 (Remove particles with 3µm gas filter and 0.01µm mist separator)
Residual oil		Less than 0.01 (Remove oil with 3µm gas filter and 0.01µm mist separator)
Hydrocarbons		Less than 0.01 (Remove hydrocarbons with activated carbon if necessary)

8. Performance

Operating Temperature : 25 °C

Pressure	MN2-01400	Nitrogen product flow rate and Air feed required (Nm ³ /hr)					
	Oxygen density (%)	0.5	1	2	3	4	5
5 barg	Nitrogen	0.58	0.81	1.19	1.57	1.97	2.38
	Air	3.24	3.56	4.00	4.43	4.94	5.45
7 barg	Nitrogen	1.01	1.40	2.05	2.70	3.38	4.05
	Air	5.08	5.51	6.32	7.13	7.80	8.48
9 barg	Nitrogen	1.40	2.00	2.92	3.83	4.78	5.72
	Air	6.32	7.13	8.64	9.45	10.48	11.50
11 barg	Nitrogen	1.86	2.59	3.78	4.97	6.18	7.40
	Air	8.32	9.07	10.80	12.04	13.28	14.74
13 barg	Nitrogen	2.29	3.19	4.64	6.10	7.59	9.07
	Air	10.15	11.02	12.96	14.58	16.23	17.90
15 barg	Nitrogen	2.72	3.78	5.51	7.24	8.99	10.75
	Air	11.88	13.01	15.23	17.17	19.01	21.06
17 barg	Nitrogen	3.14	4.37	6.37	8.37	10.40	12.42
	Air	13.61	15.01	17.50	19.82	21.87	24.30
19 barg	Nitrogen	3.57	4.97	7.24	9.50	11.80	14.09
	Air	15.34	17.01	19.82	22.46	24.84	27.59
20 barg	Nitrogen	3.78	5.27	7.67	10.07	12.50	15.28
	Air	16.25	18.04	21.01	23.81	26.24	29.86

Operating Temperature : 35 °C

Pressure	MN2-01400	Nitrogen product flow rate and Air feed required (Nm ³ /hr)					
	Oxygen density (%)	0.5	1	2	3	4	5
5 barg	Nitrogen	0.62	0.86	1.26	1.66	2.09	2.52
	Air	3.56	3.92	4.40	4.87	5.44	6.00
7 barg	Nitrogen	1.07	1.49	2.18	2.86	3.58	4.29
	Air	5.58	6.06	6.95	7.84	8.58	9.33
9 barg	Nitrogen	1.49	2.12	3.09	4.06	5.07	6.07
	Air	6.95	7.84	9.50	10.40	11.52	12.65
11 barg	Nitrogen	1.97	2.75	4.01	5.27	6.55	7.84
	Air	9.15	9.98	11.88	13.25	14.61	16.22
13 barg	Nitrogen	2.43	3.38	4.92	6.47	8.04	9.62
	Air	11.17	12.12	14.26	16.04	17.85	19.69
15 barg	Nitrogen	2.88	4.01	5.84	7.67	9.53	11.39
	Air	13.07	14.32	16.75	18.89	20.91	23.17
17 barg	Nitrogen	3.33	4.64	6.75	8.87	11.02	13.17
	Air	14.97	16.51	19.25	21.80	24.06	26.73
19 barg	Nitrogen	3.78	5.27	7.67	10.07	12.51	14.94
	Air	16.87	18.71	21.80	24.71	27.32	30.35
20 barg	Nitrogen	4.01	5.58	8.13	10.68	13.25	16.20
	Air	17.88	19.84	23.11	26.20	28.87	32.85

Operating Temperature : 45 °C

Pressure	MN2-01400	Nitrogen product flow rate and Air feed required (Nm ³ /hr)					
	Oxygen density (%)	0.5	1	2	3	4	5
5 barg	Nitrogen	0.70	0.97	1.43	1.88	2.37	2.85
	Air	4.15	4.56	5.11	5.67	6.32	6.98
7 barg	Nitrogen	1.21	1.68	2.46	3.24	4.05	4.86
	Air	6.50	7.05	8.09	9.12	9.99	10.85
9 barg	Nitrogen	1.68	2.40	3.50	4.60	5.73	6.87
	Air	8.09	9.12	11.06	12.10	13.41	14.72
11 barg	Nitrogen	2.24	3.11	4.54	5.96	7.42	8.88
	Air	10.64	11.61	13.82	15.41	17.00	18.87
13 barg	Nitrogen	2.75	3.82	5.57	7.32	9.10	10.89
	Air	12.99	14.10	16.59	18.66	20.77	22.91
15 barg	Nitrogen	3.26	4.54	6.61	8.68	10.79	12.90
	Air	15.21	16.66	19.49	21.98	24.33	26.96
17 barg	Nitrogen	3.77	5.25	7.65	10.04	12.47	14.90
	Air	17.42	19.22	22.39	25.37	27.99	31.10
19 barg	Nitrogen	4.28	5.96	8.68	11.40	14.16	16.91
	Air	19.63	21.77	25.37	28.75	31.80	35.32
20 barg	Nitrogen	4.54	6.32	9.20	12.09	15.00	18.34
	Air	20.81	23.09	26.89	30.48	33.59	38.22

Operating Temperature : 55 °C

Pressure	MN2-01400	Nitrogen product flow rate and Air feed required (Nm ³ /hr)					
	Oxygen density (%)	0.5	1	2	3	4	5
5 barg	Nitrogen	0.75	1.04	1.53	2.00	2.54	3.06
	Air	4.56	5.01	5.62	6.23	6.95	7.67
7 barg	Nitrogen	1.30	1.81	2.64	3.47	4.34	5.21
	Air	7.14	7.75	8.89	10.03	10.98	11.93
9 barg	Nitrogen	1.81	2.57	3.75	4.93	6.15	7.36
	Air	8.89	10.03	12.15	13.29	14.74	16.18
11 barg	Nitrogen	2.40	3.34	4.86	6.39	7.96	9.52
	Air	11.99	12.83	15.20	16.82	18.50	20.69
13 barg	Nitrogen	2.95	4.10	5.98	7.85	9.76	11.67
	Air	14.73	15.77	18.11	20.66	22.70	24.84
15 barg	Nitrogen	3.49	4.86	7.09	9.31	11.57	13.83
	Air	16.71	18.31	21.42	24.15	26.74	29.62
17 barg	Nitrogen	4.04	5.63	8.20	10.77	13.37	15.98
	Air	19.14	21.12	24.61	27.88	30.76	34.18
19 barg	Nitrogen	4.59	6.39	9.31	12.23	15.18	18.13
	Air	21.87	24.59	28.21	31.36	34.50	38.58
20 barg	Nitrogen	4.87	6.77	9.87	12.96	16.08	19.66
	Air	23.18	26.06	29.90	33.23	36.56	41.84