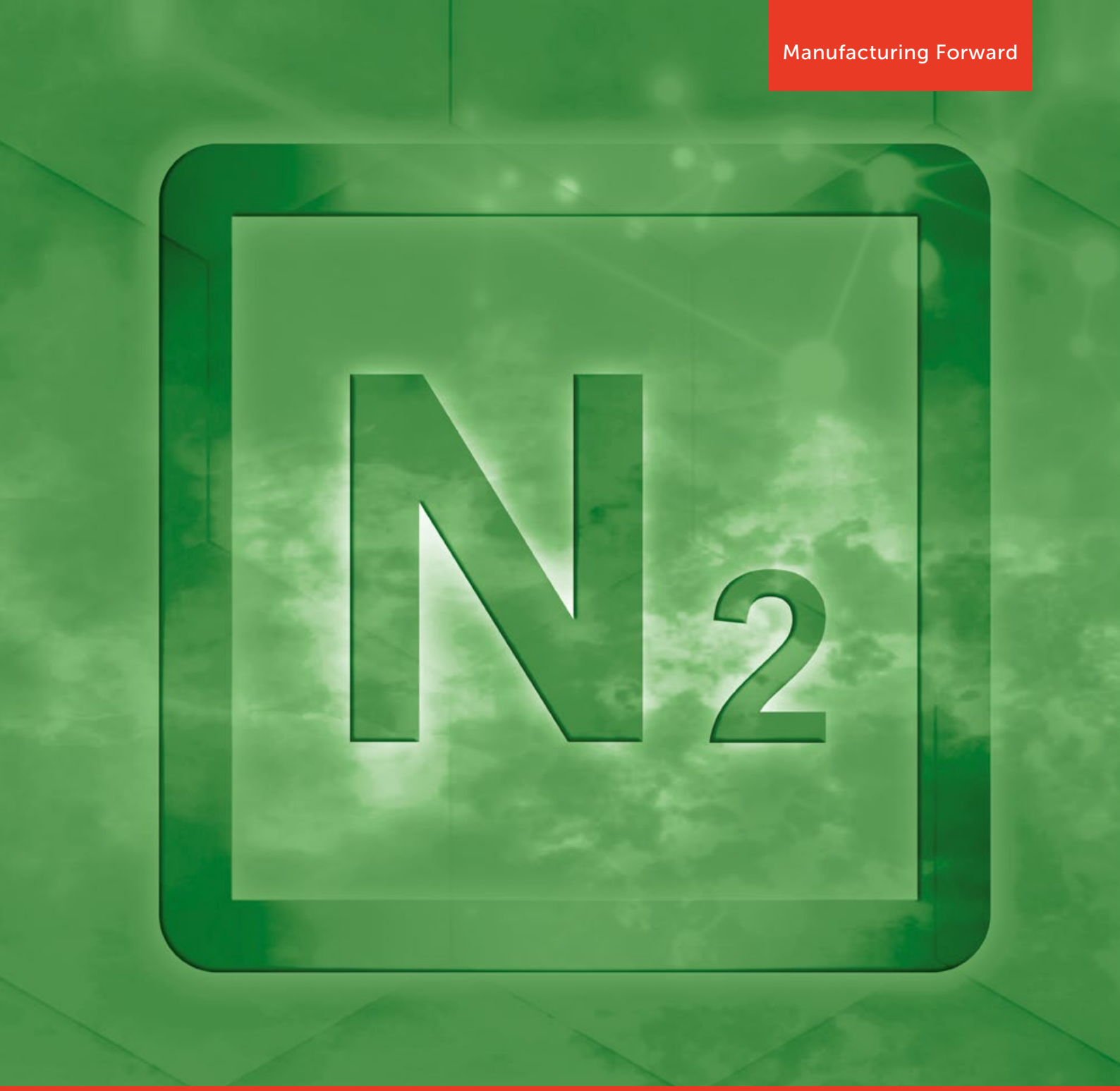
Manufacturing Forward



M-MNG-PRO SERIES
PSA MODULAR NITROGEN GENERATORS

mikropor

www.mikropor.com

Manufacturing Forward

mikropor

Mikropor began its journey in 1987 with a passion to create "Tomorrow's Technology" and has become one of the leading manufacturers of atmospheric air filtration solutions and compressed air treatment systems for a variety of industries.

By closely following the latest developments in technology, Mikropor's "Best in Class" products and solutions are appreciated by customers in more than 100 countries.

The company's sustainable growth has been provided by its passion for innovation and commitment to quality, as well as its dedication to technology. Mikropor is an environmentally conscious company that values people, while developing products that extend the needs and expectations of customers.

With this mission, Mikropor continues to become one of the most recognized brands in the world by expanding its global penetration in the field of technological filtration and contributes to a healthier planet.

www.mikropor.com

M-MNG-PRO SERIES PSA MODULAR NITROGEN GENERATORS

Pressure Swing Adsorption (PSA) type Nitrogen Generation System that is used to separate and enrich nitrogen from oxygen employs CMS (Carbon Molecular Sieve) as adsorbent.

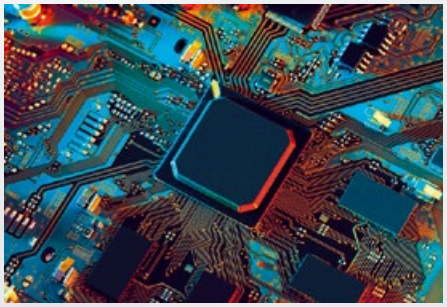
CMS adsorbs oxygen and water vapor molecules under a certain pressure while allowing nitrogen to pass through in the line.

M-MNG-PRO Series is a Modular Adsorber System

The Nitrogen Generator consists of couple of modules filled with CMS. Clean and dry air is directed to adsorber module beds where oxygen and water vapor are adsorbed faster than nitrogen in the pore structure of the CMS, resulting in increased nitrogen purity of the product gas stream to the desired level (95-99.999% as required by customer).

Applications

- Electronic industry
- Metal industry
- Chemical industry
- Cleaning Process
- Plastic industry
- Charge nitrogen gas in tires
- Production process and storage of food



M-MNG-PRO SERIES PSA MODULAR NITROGEN GENERATORS

FEATURES

Standard

- Nitrogen Modules
- Silencer
- Mini PLC
- Manometers
- Pressure Transmitter
- ECO Mode
- T Filter
- Piston Valves
- Valve Control Regulator

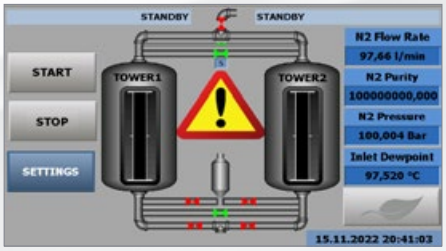
Optional

- Dew Point Sensor
- Flowmeter
- Carbolescer
- Oxygen Analyzer
- 3-Way By-Pass Valve
- HMI Color Touch Screen PLC
- Buffer Tank
- Oil Indicator

Advantages

- Simple structure, compact design, full automated operation
- Replaces manifold usage (see pic. 1)
- PLC Controllers for monitoring and controlling the complete system (see pics. 2 & 3)
- PLC Screen for monitoring and visualizing the progress
- Rapid start-up and safety system
- Superior silencer design gives low noise levels during depressurization and purge
- Durable piston valves for long-life operation (see pic. 6)
- On-demand production with low costs
- High performance
  *The purity and capacity of nitrogen gas is designed to meet customer requirements
  (Nitrogen Purity 95%~99.999% is available)
- Minimum maintenance cost
- Lower air-to-nitrogen (A/N) ratios and energy consumption
- Superior air distribution for the high-quality nitrogen gas production
- High-sensitive sensor technologies (see pic. 4)
- Effective Integrated Filtration (see pic. 5)

Replaces Manifold Usage - Pic. 1



Touch Screen PLC - Pic. 2

Mini PLC - Pic. 3

Dew Point Sensor - Pic. 4

Air Filter - Pic. 5

Long Life Piston Valve - Pic. 6

M-MNG-PRO SERIES PSA MODULAR NITROGEN GENERATORS

Reference Conditions

Pressure Drop	Inlet Compressed Air Pressure	Outlet Nitrogen Pressure	Ambient Temperature	Inlet Air Dew Point
1.5 barg	7.5 barg	6 barg	25 °C	≤ 3 °C

Technical Specifications

Mikropor Models	Air Demand @ Following Purity Level (m^3/h)									
	95%	97%	98%	99%	99.50%	99.90%	99.95%	99.99%	99.995%	99.999%
M-MNG-PRO-20	5.2	5.1	5.0	4.9	4.0	3.9	3.7	3.1	2.6	2.5
M-MNG-PRO-40	8.3	8.2	8.1	8.0	7.9	6.4	6.2	4.9	4.4	4.1
M-MNG-PRO-70	15.3	15.2	15.0	14.7	14.1	11.7	11.5	9.1	9.0	7.5
M-MNG-PRO-123	25.5	25.2	24.5	24.4	24.1	19.5	19.1	15.2	15.0	12.5
M-MNG-PRO-210	44.0	43.9	43.8	42.3	41.8	33.6	33.0	26.1	25.9	21.5
M-MNG-PRO-285	58.7	58.7	58.5	56.4	55.8	44.9	44.0	34.9	34.5	28.8
M-MNG-PRO-340	71.9	71.8	71.6	69.1	68.3	54.9	53.9	42.7	42.3	35.2
M-MNG-PRO-555	114.4	114.3	113.9	109.9	108.7	87.4	85.7	68.0	67.2	56.0
M-MNG-PRO-735	151.3	151.0	150.8	145.4	143.9	115.7	113.4	89.9	89.0	74.1
M-MNG-PRO-990	204.5	204.0	203.8	196.6	194.5	156.4	153.3	121.6	120.3	100.2
M-MNG-PRO-1130	234.3	234.0	233.4	225.2	222.8	179.1	175.6	139.2	137.7	114.7
M-MNG-PRO-1260	260.2	260.0	259.2	250.1	247.4	198.9	195.0	154.6	153.0	127.4
M-MNG-PRO-1650	340.5	340.0	339.3	327.3	323.8	260.3	255.3	202.4	200.2	166.8

M-MNG-PRO SERIES PSA MODULAR NITROGEN GENERATORS

Technical Specifications

Mikropor Models	Free Nitrogen Delivery @ Following Purity Level (m^3/h)									
	95%	97%	98%	99%	99.50%	99.90%	99.95%	99.99%	99.995%	99.999%
M-MNG-PRO-20	3.0	3.0	2.3	2.0	1.4	1.2	1.1	0.5	0.4	0.3
M-MNG-PRO-40	4.9	4.9	3.8	3.2	2.9	1.9	1.8	0.8	0.7	0.5
M-MNG-PRO-70	9.0	9.0	6.9	5.9	5.0	3.6	3.3	1.5	1.4	0.9
M-MNG-PRO-123	15.0	15.0	11.6	9.8	8.6	5.9	5.5	2.6	2.4	1.5
M-MNG-PRO-210	25.9	25.9	19.9	16.9	14.9	10.2	9.4	4.4	4.2	2.6
M-MNG-PRO-285	34.5	34.5	26.6	22.6	19.9	13.6	12.6	5.9	5.6	3.5
M-MNG-PRO-340	42.3	42.3	32.5	27.6	24.4	16.7	15.4	7.2	6.8	4.3
M-MNG-PRO-555	67.3	67.3	51.8	44.0	38.8	26.5	24.5	11.5	10.8	6.8
M-MNG-PRO-735	89.0	89.0	68.5	58.2	51.4	35.1	32.4	15.2	14.4	9.0
M-MNG-PRO-990	120.3	120.3	92.6	78.6	69.5	47.4	43.8	20.6	19.4	12.2
M-MNG-PRO-1130	137.8	137.8	106.1	90.1	79.6	54.3	50.2	23.6	22.2	14.0
M-MNG-PRO-1260	153.0	153.0	117.8	100.0	88.4	60.3	55.7	26.2	24.7	15.5
M-MNG-PRO-1650	200.3	200.3	154.2	130.9	115.6	78.9	72.9	34.3	32.3	20.3

A/N Ratios for All M-MNG-PRO Models**

Purities	95%	97%	98%	99%	99.50%	99.90%	99.95%	99.99%	99.995%	99.999%
Air/N_2 Ratio	1.7	1.9	2.2	2.5	2.8	3.3	3.5	5.9	6.2	8.2

** The Air/Nitrogen ratios according to the model and degree of purity are recommended as the value given above.

M-MNG-PRO SERIES PSA MODULAR NITROGEN GENERATORS

Technical Specifications

Mikropor Models	Recommended Buffer Tank Volume (l)									
	95%	97%	98%	99%	99.50%	99.90%	99.95%	99.99%	99.995%	99.999%
M-MNG-PRO-20	10.0	8.5	7.5	6.0	5.0	4.0	4.0	2.0	2.0	1.0
M-MNG-PRO-40	15.6	14.0	12.0	10.0	10.0	6.0	6.0	4.0	2.0	2.0
M-MNG-PRO-70	30.0	25.5	22.0	19.0	16.0	12.0	10.0	5.0	5.0	4.0
M-MNG-PRO-123	48.0	43.0	37.0	31.0	27.5	19.0	17.5	8.5	7.5	5.0
M-MNG-PRO-210	82.0	73.5	63.5	54.0	47.5	32.5	30.0	14.0	14.0	8.5
M-MNG-PRO-285	110.0	98.0	84.5	72.0	63.5	43.5	40.0	19.0	18.0	12.0
M-MNG-PRO-340	134.0	120.1	103.4	87.8	77.5	52.9	48.9	23.0	21.7	14.0
M-MNG-PRO-555	213.7	191.0	164.5	140.0	123.5	84.0	78.0	37.0	34.5	22.0
M-MNG-PRO-735	283.0	253.0	218.0	185.0	163.0	112.0	103.0	48.5	46.0	29.0
M-MNG-PRO-990	382.0	342.0	294.0	250.0	221.0	151.0	139.0	65.5	62.0	39.0
M-MNG-PRO-1130	438.0	392.0	337.0	286.0	253.0	172.0	160.0	75.0	71.0	44.5
M-MNG-PRO-1260	486.0	435.0	374.0	318.0	281.0	192.0	177.0	83.0	79.0	50.0
M-MNG-PRO-1650	636.0	568.0	490.0	416.0	368.0	251.0	232.0	109.0	103.0	65.0

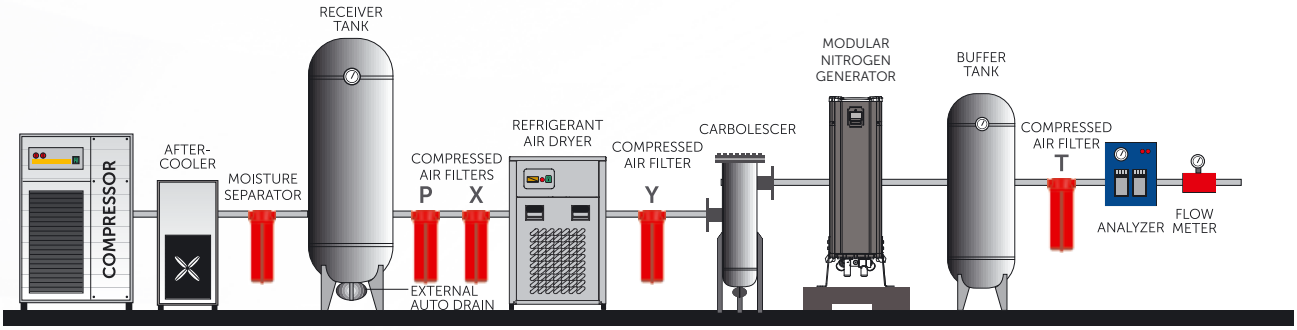
Correction Factor

Inlet Pressure (bar)	F1	Ambient Temp. (°C)	F2
5	0.68	5	0.85
5.5	0.73	10	1
6	0.79	15	1
6.5	0.88	20	1
7	0.90	25	1
7.5	1	30	0.91
8	1.04	35	0.82
8.5	1.08	40	0.74
9	1.15	45	0.6
9.5	1.18	-	-
10	1.2	-	-

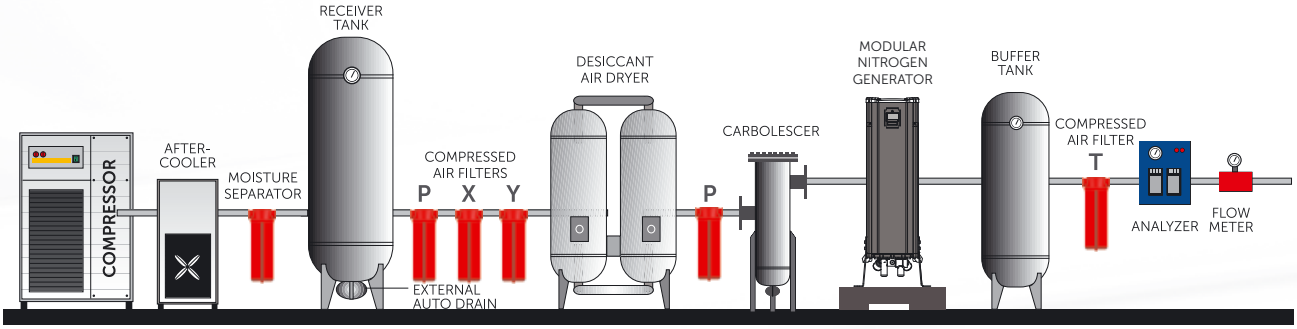
To determine the nitrogen generator model in the reference conditions divide the nitrogen flow rate to the factors mentioned in the correction table.

M-MNG-PRO SERIES PSA MODULAR NITROGEN GENERATORS

AIR LINE DESIGN



AIR LINE DESIGN



"Mikropor reserves the right to change the design and/or dimensions and/or weight of his products at any time without any notice or liability."

M-MNG PRO SERIES
PSA MODULAR NITROGEN GENERATORS

mikropor

Ahi Evran OSB Mah. Oğuz Cad. No: 5 Sincan, 06935, Ankara-Türkiye

+90 312 267 0700 mikropor@mikropor.com

mikropor

www.mikropor.com

060325