

PSA Nitrogen Generator

PSA Nitrogen Generator Serie

Pressure Swing Adsorption (PSA) type Nitrogen Generation system is used to separate and enrich Nitrogen from Oxygen employs **CMS (Carbon Molecular Sieve)** for adsorbent. Carbon Molecular Sieve (CMS) adsorbs Oxygen and Water Vapor molecules under certain pressure while allowing Nitrogen to pass through.

The Nitrogen Generator is a two-bed adsorber system.

The Nitrogen Generator consists of two adsorber vessels filled with CMS, a valve assembly, air filters, main pressure regulator, and a product receiver tank. Clean and dry air is directed to one of the adsorber beds where oxygen and water vapor is adsorbed faster than nitrogen in the pore structure of the CMS, thus increasing the nitrogen purity of the product gas stream to the desired level (95 – 99.999% as required by customer). This product flows out of the top of the adsorber bed, through the valve, and into the product receiver at a pressure slightly below the feed air pressure

Applications:

- Metal industry,
- Chemical industry
- Purge
- Plastic industry
- Charge nitrogen gas in tires
- Production process and storage of food

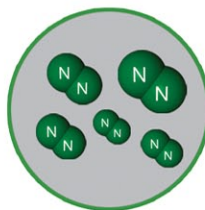
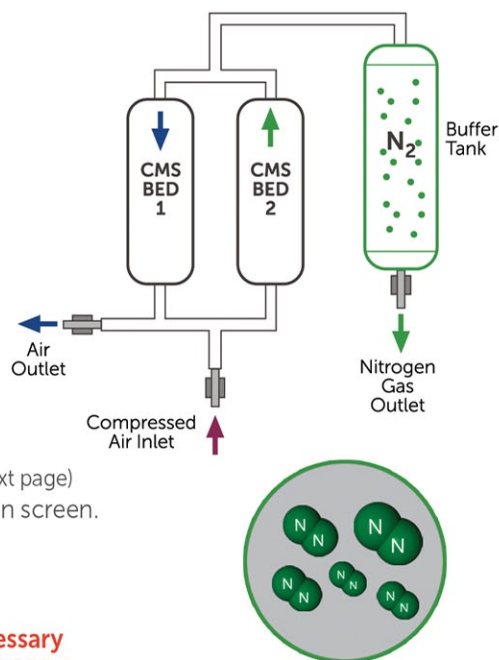
Optional:

- Oxygen Analyzer
- Flow Meter
- Dew Point Sensor (pic.3 see next page)
- Nitrogen purity can be seen on screen.

Features :

NOTE: Mikropor provides necessary Nitrogen Buffer Tank as STANDARD !

- Simple structure, compact design, full automated operation
- **7/24** Nitrogen production in your own place. (pic.1)
- **Touch Screen PLC** for controlling the complete system (pic.2 see next page)
- PLC Screen for Monitoring and visualization the progress
- Rapid start-up and Safety system
- Due to well design of silencer, low noise levels during depressurization and purge (pic.4 see next page)
- Durable piston valves for **long-life** operation (pic.5 see next page)
- On demand production, **low cost**
- High performance. Design the purity and capacity of nitrogen gas meeting to customer's requirements. **(Nitrogen Purity 95%~99.999% is available)**
- Minimum maintenance cost. replace filter element periodically only and get normal service for the compressor



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7/24 Own Nitrogen production
(pic.1)



Low Noise
Silencer
(pic.4)



Touch Screen PLC
(pic.2)



Dew point Sensor
(pic.3)



Long Life Piston Valve
(pic.5)



Air Filter

Reference Conditions

Inlet Compressed Air Pressure	Outlet Nitrogen Pressure	Ambient Temperature	Inlet air dewpoint	
			3°C (under 99.5% purity)	-40°C (above 99.5% purity)
7.5 Bar(g)	6 Bar(g)	25°C	Refrigerant air dryer and activated carbon filter is required	Desiccant air dryer and activated carbon filter is required

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Model	Free Nitrogen Delivery @ following purity level (Nm ³ /h)									
	95%	97%	98%	99%	99.5%	99.90%	99.95%	99.99%	99.999%	
MNG-10	2,7	2,2	1,9	1,5	1	0,8	0,7	0,5	0,2	Modular
MNG-20	4,4	3,5	3,1	2,4	2	1,3	1,1	0,8	0,4	
MNG-35	8,1	6,5	5,6	4,4	3,5	2,3	2,0	1,4	0,7	
MNG-60	13,5	10,8	9,4	7,3	6	3,8	3,4	2,4	1,2	
MNG-95	21,2	17,0	14,8	11,5	9,5	6,0	5,3	3,7	1,9	
MNG-120	28,2	22,5	19,6	15,3	12	8,0	7,1	5,0	2,5	Twin Tower
MNG-150	35,1	28,1	24,4	19,0	15	10,0	8,8	6,2	3,1	
MNG-250	57,0	45,5	39,6	30,8	25	16,2	14,3	10,0	5,0	
MNG-330	75,1	60,0	52,2	40,6	33	21,4	19,0	13,2	6,6	
MNG-450	101,4	81,0	70,5	54,9	45	28,9	25,5	17,8	8,9	
MNG-510	114,4	91,4	79,6	62,0	51	32,6	28,8	20,1	10,0	
MNG-570	128,1	102,4	89,1	69,3	57	36,5	32,2	22,5	11,2	
MNG-730	163,8	130,9	114,0	88,7	73	46,6	41,2	28,8	14,4	
MNG-910	204,1	163,1	142,0	110,5	91	58,1	51,4	36,0	18,0	
MNG-1110	248,2	198,3	172,6	134,3	111	70,7	62,5	43,6	21,8	
MNG-1230	275,7	220,3	191,8	149,2	123	78,5	69,4	48,4	24,2	
MNG-1370	307,5	245,6	213,8	166,4	137	87,5	77,4	54,0	27,0	
MNG-1820	406,6	324,8	282,8	220,1	182	115,7	102,3	71,4	35,7	
MNG-2050	458,5	366,3	318,9	248,2	205	130,5	115,4	80,5	40,2	
MNG-2950	660,6	527,8	459,5	357,6	295	188,0	166,3	116,0	58,0	
MNG-3540	792,0	632,8	550,9	428,7	354	225,4	199,4	139,1	69,5	
MNG-4160	931,0	743,7	647,4	503,8	416	265,0	234,3	163,5	81,7	
MNG-5560	1241,7	992,0	863,6	672,1	556,0	353,4	312,5	218,1	109,0	
MNG-9170	2048,0	1636,1	1424,3	1108,4	917,0	582,9	515,5	359,7	179,7	
MNG-11200	2501,2	1998,3	1740,0	1353,8	1120,0	712,0	629,6	439,4	219,4	

Technical Specifications

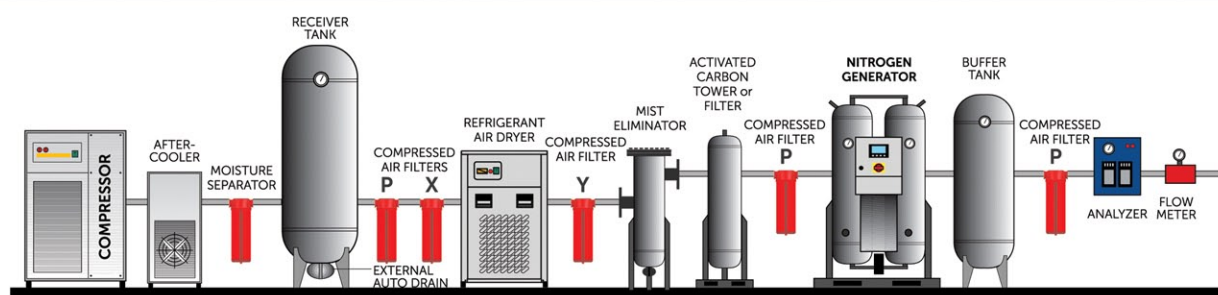
Model	Buffer Tank	Connections		Dimensions (mm)		
		Air Inlet	Nitrogen Outlet	Length	Width	Height
MNG-10	26 L	1/2"	1/2"	670	500	1130
MNG-20	35 L	1/2"	1/2"	1043	596	1284
MNG-35	52 L	1/2"	1/2"	1082	689	1278
MNG-60	70 L	1/2"	1/2"	1100	890	1433
MNG-95	97 L	1/2"	1/2"	1659	760	1485
MNG-120	126 L	1/2"	1/2"	1634	890	1442
MNG-150	151 L	1/2"	1/2"	1634	890	1639
MNG-250	280 L	3/4"	1/2"	1760	892	1975
MNG-330	408 L	1"	1/2"	1901	950	2025
MNG-450	464 L	1"	1/2"	2218	1010	2134
MNG-510	515 L	1"	3/4"	2208	1010	2028
MNG-570	573 L	1"	3/4"	2208	1010	2226
MNG-730	712 L	1"	3/4"	2685	1110	2084
MNG-910	1,042 m ³	1 1/2"	1"	2727	1220	2485
MNG-1110	1,29 m ³	1 1/2"	1"	2896	1322	2521
MNG-1230	1,402 m ³	2"	1"	2898	1322	2724
MNG-1370	1,498 m ³	2"	1 1/4"	2895	1355	2941
MNG-1820	2,019 m ³	2"	1 1/2"	3599	1793	2634
MNG-2050	2,336 m ³	2 1/2"	1 1/2"	3390	1964	3124
MNG-2950	2,336 m ³	2 1/2"	2"	4074	2245	2787
MNG-3540	2,336 m ³	2 1/2"	2"	4024	2375	3054
MNG-4160	2,336 m ³	2 1/2"	2"	4020	2376	3317
MNG-5560	2,336 m ³	DN100	2 1/2"	4125	2175	3811
MNG-9170	2,336 m ³	DN100	DN80	-	-	-
MNG-11200	2,336 m ³	DN150	DN100	-	-	-

Note: Mikropor supplies buffer tank volumes for 99,5% and higher Nitrogen purities.

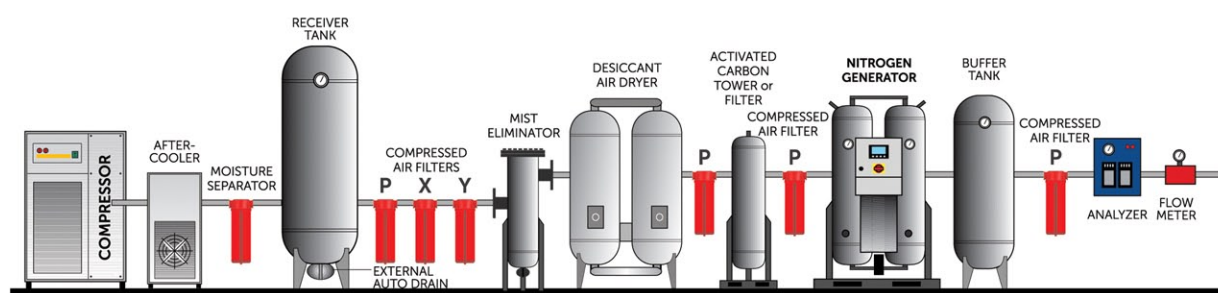
For purities lower than 99,5%, it may be necessary to use additional tank.

"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."

AIR LINE DESIGN (Under 99.5% purity)



AIR LINE DESIGN (Above 99.5% purity)



N₂ NITROGEN