



MNG Series (0.1 scfm - 1470 scfm)

PSA Nitrogen Generator Serie

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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

Features :

- Simple structure, compact design, full automated operation
- **7/24** Nitrogen production in your own place. (see pic.1)
- **Touch Screen PLC** for controlling the complete system (see pic.2)
- 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 (see pic.5)
- 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.

Applications:

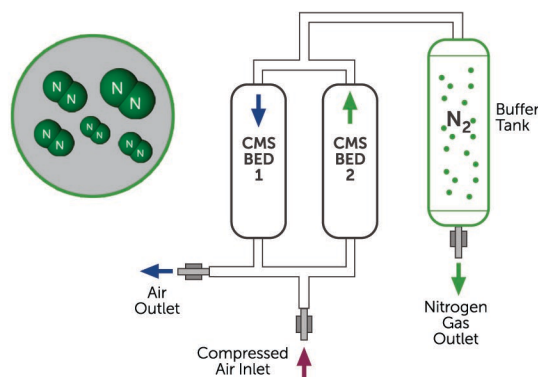
- Metal industry,
- Chemical industry
- Purge
- Plastic industry
- Charge nitrogen gas in tires
- Production process and storage of food

Standard:

- Activated Carbon Tower
- Compressed air filters (P grade) after carbon tower and after buffer tank
- Nitrogen Generator / Silencer
- Oxygen Sensor / Nitrogen purity Sensor / Flow Sensor
- Basic Logo or Crouzet mini PLC for modular types
- **Siemens** HMI color touch screen PLC for twin towers
- Buffer Tank

Optional:

- Dew Point Sensor (pic.3 see next page)



7/24 Own Nitrogen production
(pic.1)

Model	Free Nitrogen Delivery @ following purity level (scfm)									
	95%	97%	98%	99%	99.5%	99.90%	99.95%	99.99%	99.999%	
MNG-US-10	1,6	1,3	1,1	0,9	0,6	0,5	0,4	0,3	0,1	Modular
MNG-US-20	2,6	2,1	1,8	1,4	1,2	0,7	0,7	0,5	0,2	
MNG-US-35	4,8	3,8	3,3	2,6	2,1	1,4	1,2	0,8	0,4	
MNG-US-60	7,9	6,3	5,5	4,3	3,5	2,3	2,0	1,4	0,7	
MNG-US-95	13,7	10,9	9,5	7,4	6,1	3,9	3,4	2,4	1,2	
MNG-US-120	18,3	14,6	12,7	9,9	8,2	5,2	4,6	3,2	1,6	Twin Tower
MNG-US-150	22,4	17,9	15,6	12,1	10,0	6,4	5,6	3,9	2,0	
MNG-US-250	35,6	28,4	24,7	19,3	15,9	10,1	9,0	6,2	3,1	
MNG-US-330	47,1	37,6	32,7	25,5	21,1	13,4	11,8	8,3	4,1	
MNG-US-450	63,6	50,8	44,3	34,4	28,5	18,1	16,0	11,2	5,6	
MNG-US-510	72,9	58,2	50,7	39,4	32,6	20,7	18,3	12,8	6,4	
MNG-US-570	80,9	64,7	56,3	43,8	36,2	23,0	20,4	14,2	7,1	
MNG-US-730	105,9	84,6	73,7	57,3	47,4	30,2	26,7	18,6	9,3	
MNG-US-910	129,6	103,5	90,1	70,1	58,0	36,9	32,6	22,8	11,4	
MNG-US-1110	157,5	125,9	109,6	85,3	70,5	44,8	39,7	27,7	13,8	
MNG-US-1230	173,8	138,8	120,9	94,1	77,8	49,5	43,7	30,5	15,2	
MNG-US-1370	192,6	153,8	133,9	104,2	86,2	54,8	48,5	33,8	16,9	
MNG-US-1820	260,4	208,0	181,1	140,9	116,6	74,1	65,5	45,7	22,8	
MNG-US-2050	303,6	242,6	211,2	164,4	135,9	86,4	76,5	53,4	26,6	
MNG-US-2550	364,0	290,8	253,2	197,0	163,0	103,6	91,6	63,9	31,9	
MNG-US-2950	449,0	358,7	312,3	243,0	201,0	127,8	113,0	78,9	39,4	
MNG-US-3540	526,2	420,4	366,0	284,8	235,6	149,8	132,4	92,4	46,2	
MNG-US-4160	606,7	484,7	422,0	328,4	271,7	172,7	152,7	106,6	53,2	
MNG-US-5560	730,4	583,5	508,0	395,3	327,1	207,9	183,8	128,3	64,1	
MNG-US-9170	1204,7	962,4	837,9	652,0	539,4	342,9	303,2	211,6	105,7	
MNG-US-11200	1471,3	1175,5	1023,5	796,4	658,8	418,8	370,3	258,5	129,1	

Reference Conditions

Inlet Compressed Air Pressure	Outlet Nitrogen Pressure	Ambient Temperature	Inlet air dewpoint	
			38°F (under 99.5% purity)	-40°F (above 99.5% purity)
109 psig	87 psig	77°F	Refrigerant air dryer and activated carbon filter is required	Desiccant air dryer and activated carbon filter is required



Dew point Sensor
(pic.3)



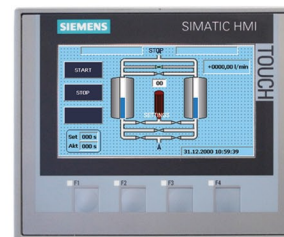
Long Life Piston Valve
(pic.5)



Regeneration Tank

Low Noise Silencer

Active Carbon Tower



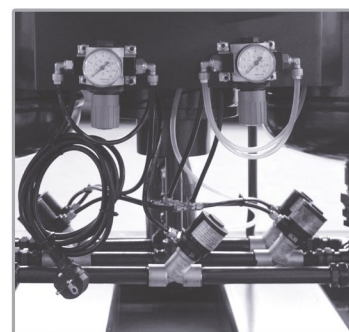
Touch Screen PLC
(pic.2)



Air Filter

N2 NITROGEN

Model	Buffer Tank (ft ³)	Connections		Dimensions (inch)		
		Air Inlet	Nitrogen Outlet	Length	Width	Height
MNG-US-10	0,92	1/2"	1/2"	44	24	43
MNG-US-20	1,24	1/2"	1/2"	43	22	51
MNG-US-35	1,84	1/2"	1/2"	46	29	70
MNG-US-60	2,47	1/2"	1/2"	44	37	58
MNG-US-95	3,43	1/2"	1/2"	65	30	58
MNG-US-120	4,45	1/2"	1/2"	64	35	57
MNG-US-150	5,33	1/2"	1/2"	64	35	65
MNG-US-250	9,89	3/4"	1/2"	69	35	78
MNG-US-330	14,41	1"	1/2"	75	37	80
MNG-US-450	16,39	1"	1/2"	87	40	84
MNG-US-510	18,19	1"	3/4"	87	40	80
MNG-US-570	20,24	1"	3/4"	87	40	88
MNG-US-730	25,14	1"	3/4"	106	44	82
MNG-US-910	36,8	1 1/2"	1"	107	48	98
MNG-US-1110	45,56	1 1/2"	1"	114	52	99
MNG-US-1230	49,51	2"	1"	114	52	107
MNG-US-1370	52,9	2"	1 1/4"	114	53	116
MNG-US-1820	71,3	2"	1 1/2"	142	71	104
MNG-US-2050	82,5	3" Flange	1 1/2"	133	77	123
MNG-US-2550	82,5	3" Flange	2"	144	84	126
MNG-US-2950	82,5	3" Flange	2"	160	88	110
MNG-US-3540	82,5	3" Flange	2"	158	94	120
MNG-US-4160	82,5	3" Flange	2"	158	94	132
MNG-US-5560	82,5	4" Flange	2 1/2"	162	95	153
MNG-US-9170	82,5	6" Flange	3" Flange	177	118	172
MNG-US-11200	82,5	6" Flange	4" Flange	121	184	186



Inlet Air Pressure (psig)	Pressure Factor F1	Inlet Temp. (°F)	Inlet Factor F2
87	0,82	41	0,85
94,3	0,88	50	1
101,5	0,94	59	1
108,8	1	68	1
116	1,05	77	1
123,3	1,1	86	0,91
130,5	1,14	95	0,82
137,8	1,2	104	0,74
145	1,21	113	0,6

Correction Factor

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

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.

