Manufacturing Forward

MNG-US SERIES
PSA NITROGEN GENERATORS

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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 140 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.

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MNG-US SERIES PSA NITROGEN GENERATORS

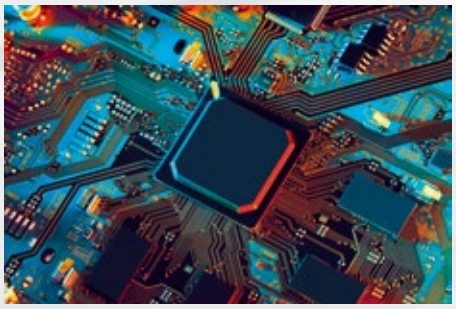
Pressure Swing Adsorption (PSA) type Nitrogen Generation system that is used to separate and enrich Nitrogen from Oxygen employs CMS (Carbon Molecular Sieve) for adsorbent. Carbon Molecular Sieve (CMS) adsorbs Oxygen and Water Vapor molecules under certain pressure while allowing Nitrogen to pass through.

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 from 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



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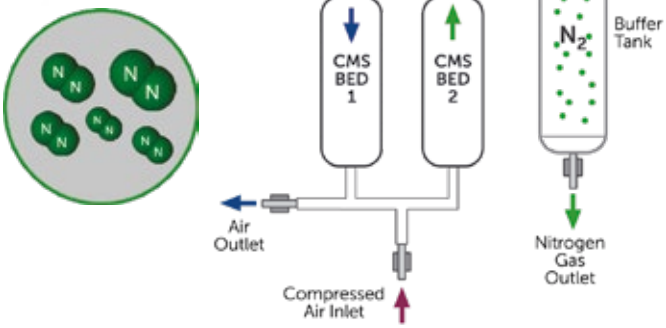
Standard

- Oxygen Analyzer / Nitrogen Purity Sensor
- Flow Meter
- Carbolescer with oil indicator
- Nitrogen Generator / Silencer
- Basic Logo or Crouzet mini plc for modular type
- Siemens HMI color touch screen PLC for twin towers
- Buffer Tank (Standard for MNG-US-10 to MNG-US-2050)
- T Filters are standard in all models



Optional

- Dew Point Sensor

Features

- Simple structure, compact design, full automated operation
- Replaces manifold usage (see pic .1)
- Touch Screen PLC for controlling the complete system (see pic. 2)
- 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. 5)
- On demand production, low cost
- 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.
  *Replace filter element periodically only and service your compressor as normal


Replaces Manifold Usage - Pic. 1

Touch Screen PLC - Pic. 2


Dew Point Sensor - Pic. 3


Air Filter - Pic. 4


Long Life Piston Valve - Pic. 5

MNG-US SERIES PSA NITROGEN GENERATORS

Technical Specifications

Model	Air Demand @ Following Purity Level (scfm)									
	95%	97%	98%	99%	99.50%	99.90%	99.95%	99.99%	99.999%	
MNG-US-10	3,3	2,9	2,7	2,3	2,1	1,8	1,6	1,5	1,2	Modular
MNG-US-20	5,3	4,7	4,3	3,8	3,7	2,9	2,6	2,4	1,9	
MNG-US-35	9,7	8,7	7,9	6,9	6,3	5,4	4,9	4,3	3,5	
MNG-US-60	16,2	14,5	13,2	11,5	10,6	9,0	8,1	7,2	5,9	
MNG-US-95	27,9	24,9	22,7	19,8	18,2	15,4	14,0	12,4	10,1	Twin Tower
MNG-US-120	37,3	33,3	30,2	26,5	24,3	20,6	18,6	16,6	13,5	
MNG-US-150	45,7	40,7	37,0	32,4	29,7	25,2	22,8	20,3	16,6	
MNG-US-250	72,7	64,8	58,9	51,6	47,3	40,1	36,3	32,3	26,3	
MNG-US-330	96,1	85,8	77,9	68,3	62,6	53,1	48,1	42,8	34,9	
MNG-US-450	130,0	115,9	105,4	92,3	84,6	71,8	65,0	57,8	47,1	
MNG-US-510	148,9	132,8	120,7	105,7	96,9	82,3	74,4	66,2	54,0	
MNG-US-570	165,3	147,4	134,0	117,4	107,6	91,4	82,6	73,6	59,9	
MNG-US-730	216,4	193,0	175,4	153,7	140,8	119,6	108,2	96,3	78,4	
MNG-US-910	264,7	236,1	214,6	188,0	172,2	146,3	132,3	117,8	96,0	
MNG-US-1110	321,8	287,0	260,9	228,6	209,4	177,8	160,8	143,2	116,7	
MNG-US-1230	355,0	316,6	287,8	252,1	231,0	196,2	177,4	158,0	128,7	
MNG-US-1370	393,3	350,8	318,9	279,4	255,9	217,4	196,6	175,0	142,6	
MNG-US-1820	531,8	474,3	431,1	377,8	346,0	293,9	265,8	236,7	192,8	
MNG-US-2050	620,4	553,1	502,7	440,6	403,5	342,7	310,0	276,0	224,8	
MNG-US-2550	743,5	663,1	602,7	528,1	483,8	410,8	371,6	330,9	269,5	
MNG-US-2950	917,0	817,9	743,4	651,4	596,7	506,8	458,4	408,1	332,4	
MNG-US-3540	1074,7	958,5	871,3	763,4	699,3	593,9	537,2	478,3	389,6	
MNG-US-4160	1239,3	1105,3	1004,7	880,3	806,4	684,8	619,5	551,5	449,3	
MNG-US-5560	1491,9	1330,6	1209,4	1059,8	970,6	842,9	745,6	663,9	541,2	
MNG-US-6050	1893,3	1656,7	1504,9	1317,5	1211,1	1026,5	930,4	823,5	664,4	
MNG-US-7500	2252,3	1970,8	1790,3	1567,4	1440,8	1221,1	1106,9	979,7	790,4	
MNG-US-9170	2460,7	2194,5	1994,6	1747,8	1600,4	1390,2	1230,0	1094,9	892,2	
MNG-US-11200	3005,2	2680,3	2436,8	2134,8	1954,9	1698,1	1502,2	1337,4	1089,3	

	95%	97%	98%	99%	99,50%	99,90%	99,95%	99,99%	99.999%
A/N Ratios	2	2,3	2,4	2,7	3	4	4,1	5,2	8,4

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Technical Specifications

Model	Free Nitrogen Delivery @ Following Purity Level (scfm)									
	95%	97%	98%	99%	99.50%	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	Twin Tower
MNG-US-120	18,3	14,6	12,7	9,9	8,2	5,2	4,6	3,2	1,6	
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-6050	901,6	720,3	627,1	488,0	403,7	256,6	226,9	158,4	79,1	
MNG-US-7500	1072,5	856,9	746,0	580,5	480,3	305,3	270,0	188,4	94,1	
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 Dew Point
			≤38 °F
109 psig	87 psig	77 °F	Refrigerant Air Dryer

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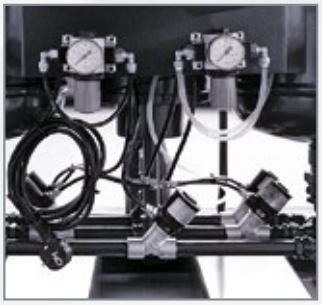
N2 NITROGEN

Model	Buffer Tank (ft^3)	Carbolescer	Connections	
			Air Inlet	Nitrogen Outlet
MNG-US-10	0,9	GELM-C-US-100	1/2"	1/2"
MNG-US-20	1,2	GELM-C-US-100	1/2"	1/2"
MNG-US-35	1,8	GELM-C-US-100	1/2"	1/2"
MNG-US-60	2,5	GELM-C-US-100	1/2"	1/2"
MNG-US-95	3,4	GELM-C-US-250	1"	1/2"
MNG-US-120	4,4	GELM-C-US-300	1"	1/2"
MNG-US-150	5,3	GELM-C-US-500	1"	1/2"
MNG-US-250	8,8	ELM-C-US-150	3/4"	1/2"
MNG-US-330	14,4	ELM-C-US-150	1"	1/2"
MNG-US-450	16,3	ELM-C-US-150	1"	1/2"
MNG-US-510	18,2	ELM-C-US-300	1 1/2"	1"
MNG-US-570	20,2	ELM-C-US-300	1 1/2"	1"
MNG-US-730	25,1	ELM-C-US-300	1 1/2"	1"
MNG-US-910	36,8	ELM-C-US-300	1 1/2"	1"
MNG-US-1110	45,6	ELM-C-US-600	1 1/2"	1"
MNG-US-1230	49,5	ELM-C-US-600	2"	1"
MNG-US-1370	52,9	ELM-C-US-600	2"	1 1/2"
MNG-US-1820	71,3	ELM-C-US-600	2"	1 1/2"
MNG-US-2050	82,5	ELM-C-US-800	2 1/2"	1 1/2"
MNG-US-2550	-	ELM-C-US-1200	2 1/2"	2"
MNG-US-2950	-	ELM-C-US-1200	2 1/2"	2"
MNG-US-3540	-	ELM-C-US-1600	3" FLANGE	2"
MNG-US-4160	-	ELM-C-US-1600	3" FLANGE	2"
MNG-US-5560	-	ELM-C-US-2100	4" FLANGE	2 1/2"
MNG-US-6050	-	ELM-C-US-2100	4" FLANGE	3" FLANGE
MNG-US-7500	-	ELM-C-US-2750	4"FLANGE	3" FLANGE
MNG-US-9170	-	ELM-C-US-4200	6" FLANGE	3" FLANGE
MNG-US-11200	-	ELM-C-US-4200	6"FLANGE	4" FLANGE

Note: Mikropor supplies buffer tank volumes for 99,0% and higher Nitrogen purities. For purities lower than 99,0%, it may be necessary to use an additional tank.



Correction Factor for MNG-US Series

Inlet Air Pressure (psig)	F1	Inlet Temp. (˚F)	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

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

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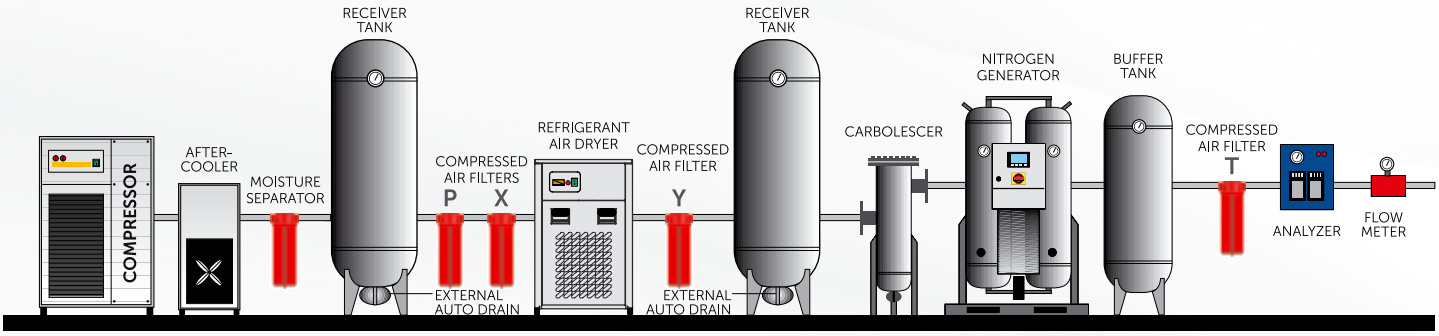
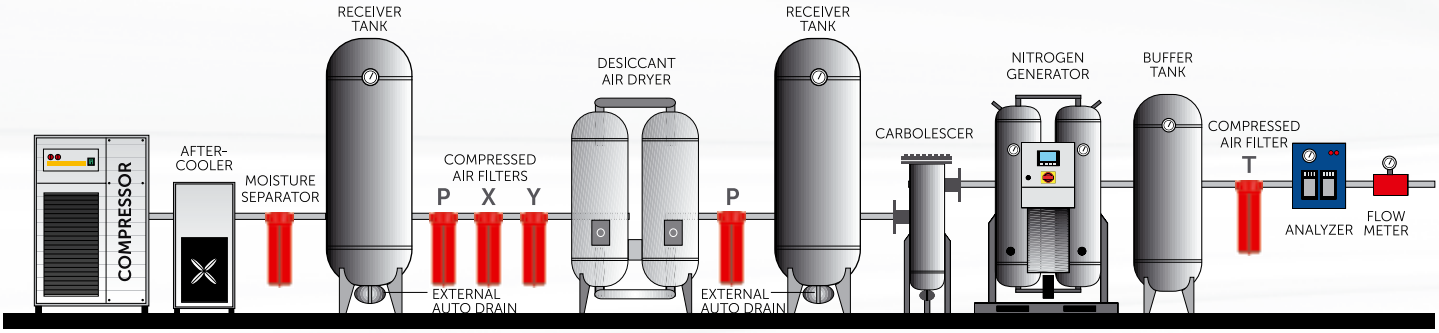
"Mikropor reserves the right to change the design and/or dimensions and/or weight of his products at any time without any notice or liability."

AIR LINE DESIGN



AIR LINE DESIGN



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