

NITROGEN GENERATOR

N-GEN (PSA nitrogen generator)

DESCRIPTION

The N-GEN nitrogen generators extract the available nitrogen in the ambient air from the other gases by applying the Pressure Swing Adsorption (PSA) technology. During the PSA process compressed, cleaned ambient air is led to a molecular sieve bed, which allows the nitrogen to pass through as a product gas, but adsorbs other gases. The sieve releases the adsorbed gases to the atmosphere, when the outlet valve is closed and the bed pressure returns to ambient pressure. Subsequently the bed will be purged with nitrogen before fresh compressed air will enter for a new production cycle. In order to guarantee a constant product flow NG nitrogen generators use two molecular sieve beds, which alternatively switch between the adsorption and the regeneration phase.



APPLICATIONS

- Blanketing of Chemicals and Pharmaceuticals
- Gas Assisted Injection Moulding (GAIM)
- Heat Treatment of Ferrous & Non-Ferrous Metals
- Inerting of Flammable Liquids
- Laser Cutting
- Prevention of Dust Explosions
- Re-flow and Wave Soldering of PCBs
- UV-Curing of Coatings
- Food processing

TECHNICAL SPECIFICATIONS

Operating pressure	6 –10 barg
Operating temperature (feed air)	15°C up to 50 °C
Dew point (at ambient pressure)	<-45°C
Voltage, Frequency	110–230 V / 50–60 Hz
Power consumption	<60 W
Sound level	80dB(A)
Protection class (controller)	IP 54
Compressed air quality (inlet)	Class 1.4.1 acc. to ISO 8573-1 (0,1um ; 3°C ; <0,01mg/m3/h)
Filters (inlet + outlet)	Included

MATERIALS

Columns, construction, support	Carbon Steel
Column inner protection	/
Column and construction protection	Epoxy powder painted
Valves	Brass, aluminium
Fitting, screws, plugs	INOX, brass, steel (zinc coated)
Outside protection	Epoxy powder painted
Adsorbent	Carbon molecular sieve (CMS)

ООО «ТИ-СИСТЕМС» ИНЖИНИРИНГ И ПОСТАВКА ТЕХНОЛОГИЧЕСКОГО ОБОРУДОВАНИЯ

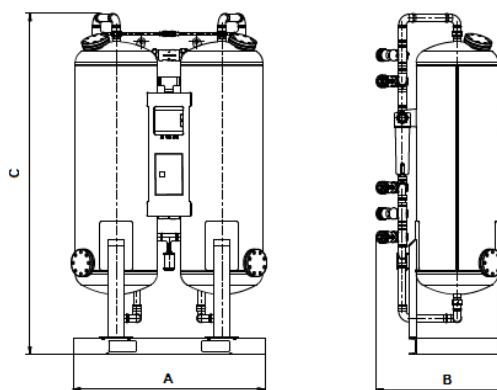
Интернет: www.tisys.ru www.tisys.kz www.tisys.by www.tesec.ru www.ти-системс.рф

Телефоны: +7 (495) 7774788, 7489626, (925) 5007155, 54, 65 Эл. почта: info@tisys.ru info@tisys.kz info@tisys.by

SIZES

Model	Connection		Length A [mm]	Width B [mm]	Height C [mm]	Mass [kg]	Volume* [l]
	[inch]						
	IN	OUT					
N-GEN 03	½"	½"	1085	550	1616	126	14
N-GEN 05	½"	½"	1093	550	1734	160	23
N-GEN 10	½"	½"	1070	550	1641	205	36
N-GEN 15	½"	½"	1079	550	1760	255	63
N-GEN 20	1"	½"	1132	550	1913	335	72
N-GEN 25	1"	½"	1297	760	2048	585	105
N-GEN 35	1"	½"	1453	760	2055	725	176
N-GEN 50	1"	½"	1450	760	2102	845	225
N-GEN 65	1"	1"	1688	860	2184	1170	280
N-GEN 80	1"	1"	1688	860	2334	1290	305
N-GEN 100	2"	1"	1848	1010	2267	1675	480
N-GEN 150	2"	1"	2060	1160	2378	2260	750
N-GEN 200	2"	2"	2293	1325	2396	2877	970
N-GEN 250	2"	2"	2605	1425	2510	3950	1210
N-GEN 300	2"	2"	2815	1630	2630	4660	1540
N-GEN 400	DN65 FLG	DN40 FLG	3100	1690	2735	6850	2140

* per column



PERFORMANCE at inlet temperature 30 °C

Model	INLET PRESSURE [barg]	DISCHARGE PRESSURE [barg]	RESIDUAL OXYGEN [vol. %]						
			3	2	1	0,5	0,1	0,01	0,001
			TOTAL INERT GAS PURITY [vo.%]						
			97	98	99	99,5	99,9	99,99	99,999
N-GEN 03; N2 flow [Nm3/h]	7,5	6,3	5,68	5,36	4,88	3,44	2,56	1,47	0,83
Feed air consumption [Nm3/h]			10,3	10,3	10,2	9,3	9,2	7,2	4,7
N-GEN 05; N2 flow [Nm3/h]	7,5	6,3	9,23	8,71	7,93	5,59	4,16	2,39	1,35
Feed air consumption [Nm3/h]			16,8	16,7	16,7	15,1	15,0	11,7	7,6
N-GEN 10; N2 flow [Nm3/h]	7,5	6,3	15,6	14,7	13,4	9,5	7,0	4,0	2,3
Feed air consumption [Nm3/h]			28,4	28,3	28,2	25,5	25,3	19,8	12,8
N-GEN 15; N2 flow [Nm3/h]	7,5	6,3	20,9	19,8	18,0	12,7	9,4	5,4	3,1
Feed air consumption [Nm3/h]			38,1	37,9	37,8	34,2	34,0	26,6	17,2
N-GEN 20; N2 flow [Nm3/h]	7,5	6,3	30,9	29,1	26,5	18,7	13,9	8,0	4,5
Feed air consumption [Nm3/h]			56,2	56,0	55,7	50,5	50,1	39,2	25,3
N-GEN 25; N2 flow [Nm3/h]	7,5	6,3	43,3	40,9	37,2	26,2	19,5	11,2	6,3
Feed air consumption [Nm3/h]			78,8	78,5	78,1	70,8	70,3	55,0	35,5
N-GEN 35; N2 flow [Nm3/h]	7,5	6,3	68,5	64,7	58,9	41,5	30,9	17,8	10,0

ООО «ТИ-СИСТЕМС» ИНЖИНИРИНГ И ПОСТАВКА ТЕХНОЛОГИЧЕСКОГО ОБОРУДОВАНИЯ

Интернет: www.tisys.ru www.tisys.kz www.tisys.by www.tesec.ru www.ти-системс.рф

Телефоны: +7 (495) 7774788, 7489626, (925) 5007155, 54, 65 Эл. почта: info@tisys.ru info@tisys.kz info@tisys.by

Feed air consumption [Nm3/h]			124,7	124,1	123,6	112,0	111,2	87,0	56,2
N-GEN 50; N2 flow [Nm3/h]	7,5	6,3	88,8	83,8	76,3	53,8	40,0	23,0	13,0
Feed air consumption [Nm3/h]			161,5	160,8	160,1	145,1	144,0	112,7	72,8
N-GEN 65; N2 flow [Nm3/h]	7,5	6,3	115,4	108,9	99,1	69,9	52,0	29,9	16,9
Feed air consumption [Nm3/h]			210,0	209,0	208,2	188,7	187,2	146,5	94,6
N-GEN 80; N2 flow [Nm3/h]	7,5	6,3	134,9	127,3	115,9	81,7	60,8	35,0	19,8
Feed air consumption [Nm3/h]			244,9	243,8	242,7	220,0	218,3	170,9	110,4
N-GEN 100; N2 flow Nm3/h]	7,5	6,3	195,6	184,6	168,1	118,5	88,2	50,7	28,7
Feed air consumption [Nm3/h]			356,0	354,4	352,9	319,9	317,4	248,4	160,5
N-GEN 150; N2 flow Nm3/h]	7,5	6,3	263,1	248,2	226,0	159,3	118,6	68,2	38,5
Feed air consumption [Nm3/h]			478,8	476,6	474,6	430,2	426,8	334,0	215,8
N-GEN 200; N2 flow Nm3/h]	7,5	6,3	360,3	340,0	309,6	218,2	162,4	93,4	52,8
Feed air consumption [Nm3/h]			655,8	652,8	650,1	589,2	584,6	457,6	295,6
N-GEN 250; N2 flow Nm3/h]	7,5	6,3	439,5	414,7	377,6	266,2	198,1	113,9	64,4
Feed air consumption [Nm3/h]			799,9	796,3	792,9	718,7	713,1	558,1	360,5
N-GEN 300; N2 flow Nm3/h]	7,5	6,3	600,0	566,2	515,5	363,4	270,4	155,5	87,9
Feed air consumption [Nm3/h]			1091,9	1087,0	1082,4	981,0	973,4	761,9	492,1
N-GEN 400; N2 flow Nm3/h]	7,5	6,3	766,8	723,6	658,8	464,4	345,6	198,7	112,3
Feed air consumption [Nm3/h]			1395,6	1389,3	1383,5	1253,9	1244,2	973,7	629,0

Refers to 1 bar(a) and 20 °C at 7,5 bar operating pressure. Inlet temperature 30 °C.

For nitrogen flow capacity at other conditions please contact manufacturer.

Performance +/- 5%.


STANDARD EQUIPMENT

- Set of External Feed Air Filters
- Adsorber Vessels in Carbon Steel
- Long life Pneumatic and Solenoid Valves
- Internal Piping & Fittings zinc plated carbon steel
- Product Pressure Transmitters
- Nitrogen and Air flow Regulation
- Pressure Regulator
- Control System with SIEMENS PLC
- WebControl

OPTIONAL EQUIPMENT

- Oxygen Analyser
- Electronic Product Flow Meter
- Feed Air / Product Moisture Analyser
- Feed Air / Product Temperature Transmitters
- Nitrogen Sterile Filters
- Nitrogen Booster
- Nitrogen Cylinder Filling System
- Touch screen Interface

INFORMATION IN THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE

	<p>Our quality management system is certified by BUREAU VERITAS in conformity with ISO 9001:2015 Reg. number: 200285</p>	
---	--	--

ООО «ТИ-СИСТЕМС» ИНЖИНИРИНГ И ПОСТАВКА ТЕХНОЛОГИЧЕСКОГО ОБОРУДОВАНИЯ

Интернет: www.tisys.ru www.tisys.kz www.tisys.by www.tesec.ru www.ти-системс.рф

Телефоны: +7 (495) 7774788, 7489626, (925) 5007155, 54, 65 Эл. почта: info@tisys.ru info@tisys.kz info@tisys.by