Donaldson
FILTRATION SOLUTIONS

DRYER SYSTEMS
NITROGEN GENERATORS
Nitropac N01x - N06x

MAIN FEATURES & BENEFITS

- **Purity Specifications**

Nitrogen generator for various purity specifications from 95% to 99,9995% Nitrogen purity at flow rates from 40 l/min to 2,025 l/min

- **Pre and After Filter**

High-efficiency pre and after filters included in generator package to ensure highest efficiency of air separation process and to ensure high purity of Nitrogen outlet flow

- **Modular Design**

Modular expandable design. Entire range based on same adsorber module size. Capacity can be increased by adding more adsorber modules

- **On-Site gas Generation**

Sustainable on-site gas generation, no need for storage of high volumes of bulk gas supply

PRODUCT DESCRIPTION

Typical Application for Nitropac N01x - N06x

- **Laser cutting**
- Assist gas for cutting process
- Laser beam path purging / Laser welding process
- **Electronic component assembly**
- Soldering processes
- Inert atmosphere for assembly processes packaging and storage of components
- **Gas assisted injection molding**
- Used in injection molding processes to counteract the effects of material shrinking
- Better dimensional control, better surface quality
- **Food & Beverage processes**
- Flush and dry bottles prior to filling process
- Modified atmosphere packaging (MAP) – inert atmosphere to increase shelf-life

INDUSTRIES

- PCB assembly and CD manufacturing

- Laser cutting industry

- Food & beverage industry

- Machine building & plant engineering / construction

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Ultrafilter

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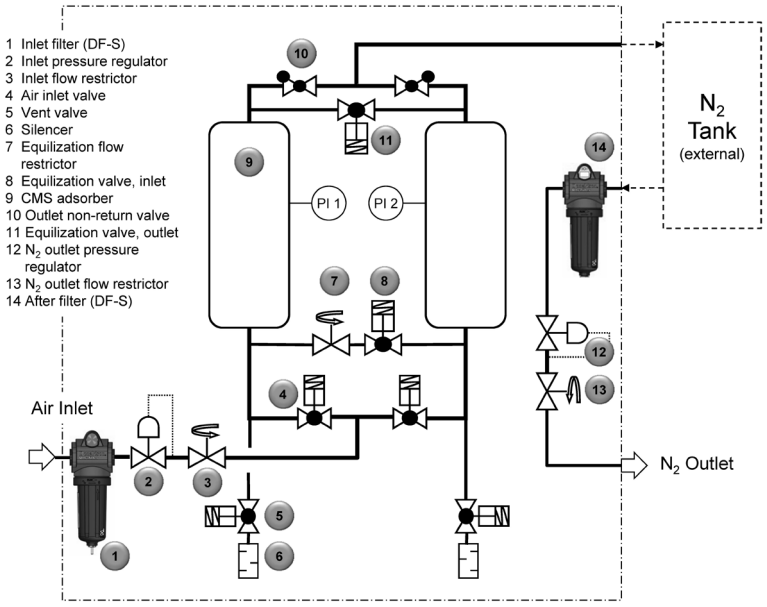
Technical alterations reserved (6/2018)

PRODUCT DESCRIPTION

Compressed air is entering the Nitrogen generator at the air inlet and is passing the pre filter (1) where the air is cleaned from particulates and liquid contaminations. With the inlet pressure regulator (2) and inlet flow restrictor (3) it is ensured that the feed air flow is not exceeding the specified flow rate for the specific generator size and Nitrogen purity. Via the air inlet valve (4) the air is lead into the CMS adsorber (9) where Nitrogen and Oxygen are separated. Nitrogen is leaving the adsorber via the outlet non-return valve (10) to the "tank supply" outlet port and is fed into the generator housing at the "tank return" inlet port. Outlet Nitrogen flow is controlled by the N_2 outlet pressure regulator (12) and N_2 outlet flow restrictor (13). In the after filter (14) possibly released particulates from the CMS adsorbent are retained, so clean and pure Nitrogen gas can be used at the N_2 outlet port.



Features	Benefits
Nitrogen generator based on PSA (pressure swing adsorption) process	Consistent gas purity with no fluctuations; ensures generation of high Nitrogen purity
Nitrogen generator for various purity specifications from 95% to 99,9995% Nitrogen purity at flow rates from 40 l/min to 2025 l/min in 6 standard sizes	Wide range of Nitrogen purity level and flow rates cover most of the industrial Nitrogen applications
Generator package incl. high-efficiency filters UltraPleat® S as pre and after filter	Ensures highest efficiency of air separation process and to ensure high purity of Nitrogen outlet flow
Modular concept with uniform CMS (carbon molecular sieve) adsorber modules and standardized process control components	Service-friendly concept; low number of different wear parts required for maintenance
Modular expandable design	Entire range based on same adsorber module size. Capacity can be increased by adding more adsorber modules
All models in cabinet construction	Optimum protection against mechanical damage and dirt
Nitrogen output pressure and flow control as standard	Ensures reliable constant Nitrogen purity
Option: Oxygen analyzer and high O2 content alarm	Permanent monitoring and control of Nitrogen purity ensures reliable gas quality

Technical Data	
Operating pressure:	6...10 barg
Ambient temperature:	5°C... 50°C
Medium temperature:	5°C... 35°C
Power supply:	100- 240 VAC ±10%, 50-60 Hz
Power consumption:	250 W
Noise level:	59 db (A)
Required compressed air quality acc. to ISO 8573-1 : 2010:	2:2:1

PRODUCT SPECIFICATIONS

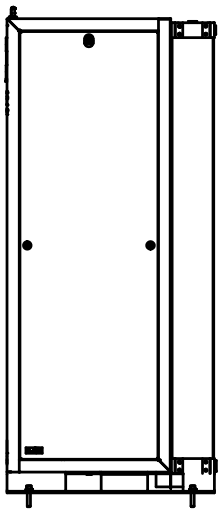
Define required N_2 outlet flow for your application													
Model	O_2 content	5 ppm	10 ppm	50 ppm	100 ppm	500 ppm	0,1%	0,5%	1%	2%	3%	4%	5%
N01x	Nm^3/h	1,8	2,4	3,7	4,1	5,58	7,2	9,3	11,4	15,6	18,3	21,7	24,1
	l/min	30	40	62	68	93	120	155	190	260	305	362	402
N02x	Nm^3/h	3,7	5,0	7,5	8,6	12,0	12,9	18,3	22,8	29,4	34,7	39,1	45,0
	l/min	62	83	125	144	200	215	305	380	490	578	651	750
N03x	Nm^3/h	5,7	7,6	10,8	12,5	17,0	19,4	27	31,8	39,9	48,6	54,9	66,0
	l/min	95	126	180	208	283	323	450	530	665	810	915	1100
N04x	Nm^3/h	6,8	9,0	13,8	16,2	21,7	24,4	35,1	43,5	50,7	61,5	66,9	83,1
	l/min	113	150	230	270	362	406	585	725	845	1025	1115	1385
N05x	Nm^3/h	8,2	10,9	17,1	20,1	27,1	30,5	43,8	53,1	63,9	76,7	85,2	98,9
	l/min	137	182	285	335	452	508	730	885	1065	1278	1420	1649
N06x	Nm^3/h	10,4	13,8	20,7	24,3	32,7	36	52,4	63,7	76,8	94,4	102,2	122,7
	l/min	173	230	345	405	545	600	874	1062	1280	1574	1704	2045

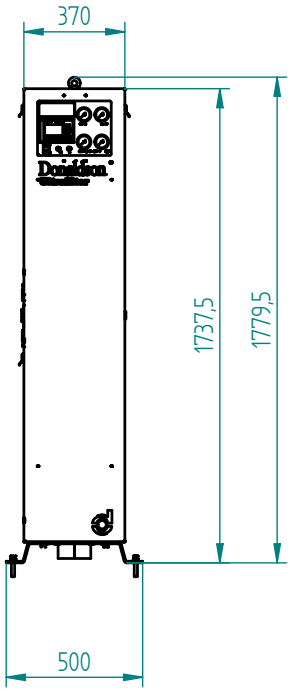
Performance data related to nominal conditions: 7 bar g operating pressure, 20...25°C ambient temperature

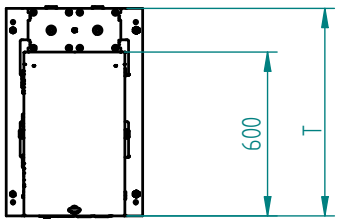
NITROPAC MODEL RANGES

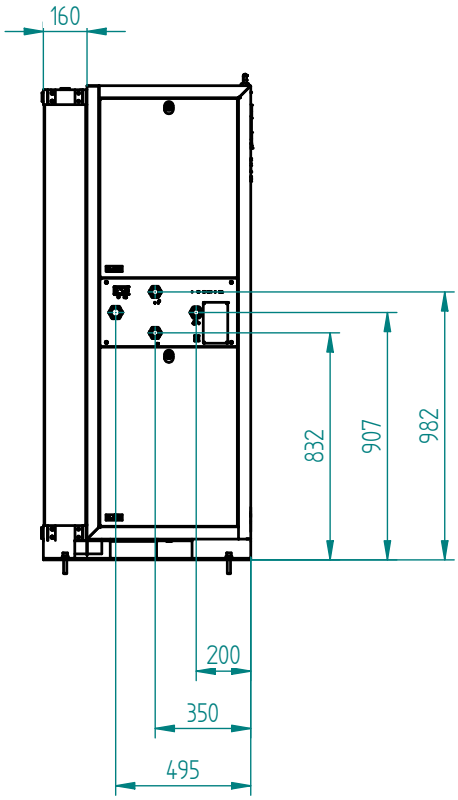
Nitropac without O_2 sensor	Nitropac with electrochemical O_2 sensor (% range)	Nitropac with Zirconium O_2 sensor (ppm range)
N013	N014	N015
N023	N024	N025
N033	N034	N035
N043	N044	N045
N053	N054	N055
N063	N064	N065

DIMENSIONS

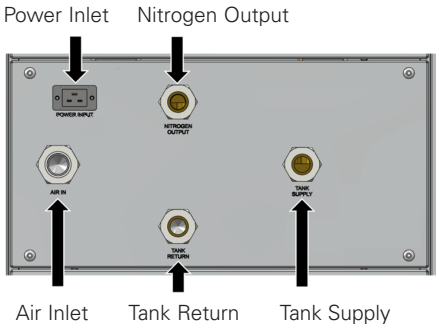








Connections



Model	T (Depth)	Weight	Inlet / Outlet Connections (Female)			
	mm	kg	Air Inlet	Nitrogen Output	Tank Supply	Tank Return
N01x	760	197	1“ BSP	3/4“ BSP	3/4“ BSP	3/4“ BSP
N02x	920	282	1“ BSP	3/4“ BSP	3/4“ BSP	3/4“ BSP
N03x	1080	367	1“ BSP	3/4“ BSP	3/4“ BSP	3/4“ BSP
N04x	1240	452	1“ BSP	3/4“ BSP	3/4“ BSP	3/4“ BSP
N05x	1400	537	1“ BSP	3/4“ BSP	3/4“ BSP	3/4“ BSP
N06x	1560	622	1“ BSP	3/4“ BSP	3/4“ BSP	3/4“ BSP