

# PRODUCTDATASHEET

## ECOTROC® GEN2

### Nitrogen generators

#### Solutions for generating gaseous nitrogen from compressed air

Nitrogen generators of KSI product line ECOTROC® GEN2 generate nitrogen of a purity from 95% up to 99,999%. GEN2 generators are available in 3 different versions: COMFORT, PREMIUM and PREMIUM PLUS.



# PRODUCT DATASHEET

## ECOTROC® GEN2 - Nitrogen generators

### ECOTROC® GEN2 COMFORT

KSI nitrogen generators **ECOTROC® GEN2 COMFORT** use the process of adsorption to separate the nitrogen molecules from the oxygen molecules in the incoming compressed air. The produced high quality nitrogen is now ready for use in the respective system.

The **COMFORT** line is designed to generate nitrogen in a purity of 95% up to 99,9999% in an energy-efficient and therefore cost-saving way. Depending on the calculation of the device a resulting capacity of 0,9 m<sup>3</sup>/h to

1.370,3 m<sup>3</sup>/h is possible.

A feature of this KSI product is the simple design of the system which makes a plug & play installation possible. By measuring the purity of the produced nitrogen continuously the quality of the product is guaranteed. A nearly maintenance-free use is provided by special design and quality components.

### ECOTROC® GEN2 PREMIUM

The **ECOTROC® GEN2 PREMIUM** generators work with the pressure swing adsorption process. While flowing through the adsorbent in the pressure vessels, oxygen and carbon dioxide molecules are separated from the compressed air. The remaining nitrogen molecules are stored in a product vessel until the gas is removed for further use.

During the desorption process the adsorbent is regenerated, so the oxygen and carbon dioxide molecules are ejected from the system.

A nitrogen purity of 95% to 99,9999% (class 6.0) is possible with this process. A nitrogen capacity of 0,4 m<sup>3</sup>/h up to 4.111 m<sup>3</sup>/h can be reached, regarding the design of the device.

Special features of the **PREMIUM** line include the serial touch-control-panel which presents all measured data in a clear way. This control enables the user to get all information on every PC or iPad via Remote Control. Of course, the generator offers Modbus, Profibus, GSM and VMC connections, too.

In conclusion, the **PREMIUM** line is equipped with the latest control technique and guarantees a safe and comfortable operation.

To customize the product regarding your individual needs we offer the possibility to include redundant systems, modular extensions or to choose the high pressure model.

### ECOTROC® GEN2 PREMIUM PLUS

The **ECOTROC® GEN2 PREMIUM PLUS** generators use the pressure swing process, too. The PAN technology is the feature that makes the **PREMIUM PLUS** version even more efficient than the **PREMIUM** version.

The „Power As Needed“ technology supplies the system with nitrogen depending on the demand. The optimal use of the adsorption material is guaranteed by this precise control.

Finally, the PAN technology increases the efficiency level of the system remarkably and delivers highly purified up to ultra purified nitrogen while using minimal energy. Especially installations working in a cyclical manner can save lots of energy with this product.

# PRODUCT DATASHEET

ECOTROC® GEN2 · Nitrogen generators

## ECOTROC® GEN2 COMFORT

### Compressed air demand

#### Calculation of compressed air demand

Nitrogen purity (%)	95,00	97,00	98,00	99,00	99,50	99,90	99,99
Air factor	1,9	2,1	2,3	2,5	2,9	3,9	5,5

Please multiply the nitrogen capacity with the respective air factor to calculate the demanded compressed air volume flow.

### Capacities

Type	Capacity m³/h*						
	95,0%	97,0%	98,0%	99,0%	99,5%	99,9%	99,99%
GEN2 1150 C	5,7	4,7	4,1	3,2	2,6	1,6	0,9
GEN2 1250 C	10,8	8,7	7,9	5,8	5,1	3,2	1,3
GEN2 1280 C	16,5	13,4	12,0	9,0	7,7	4,8	2,4
GEN2 1350 C	20,8	17,1	15,8	12,6	9,5	6,3	3,2
GEN2 1450 C	31,2	25,6	23,7	18,9	14,2	9,5	4,8
GEN2 1550 C	49,2	40,1	35,6	28,4	22,1	12,6	6,3
GEN2 1650 C	84,0	59,9	53,8	46,6	37,8	23,2	11,7
GEN2 1750 C	105,0	84,0	76,0	64,0	51,8	32,6	16,5
GEN2 2000 C	140,7	116,5	98,3	77,5	63,0	38,8	19,4
GEN2 2150 C	211,1	174,3	146,5	115,0	94,5	57,8	29,0
GEN2 2250 C	260,4	215,3	188,0	143,9	116,6	73,4	35,8
GEN2 3000 C	372,8	308,7	269,9	205,8	167,0	102,9	51,4
GEN2 4000 C	442,1	366,5	320,3	244,7	198,5	121,8	60,9
GEN2 5000 C	630,0	522,9	457,8	348,6	283,5	174,3	87,2
GEN2 6000 C	913,5	756,0	661,5	504,0	409,5	252,0	126,0
GEN2 8000 C	1370,3	1134,0	992,3	756,0	630,0	378,0	189,0

\*refers to 7 bar inlet pressure and 20°C ambient temperature.

### Dimensions

Height x Width x Depth (mm)	
GEN2 1150 C to GEN2 1350 C	1645 x 810 x 680
GEN2 1450 C	1765 x 810 x 680
GEN2 1550 C	1765 x 1100 x 780
GEN2 1650 C	1855 x 1100 x 780
GEN2 1750 C	2025 x 1100 x 780
From GEN2 2000 C	On demand

# PRODUCT DATASHEET

ECOTROC® GEN2 · Nitrogen generators

## Compressed air supply

<b>Temperature</b>	+5 °C to +50°C
<b>Quality</b>	ISO 8573.1, Class 1: Dirt and oil, Class 4: Water
<b>Pressure dew point</b>	+3°C
<b>Operating pressure max.</b>	11 bar

For questions concerning the compressed air supply please do not hesitate to contact us.

<b>Further data</b>	
<b>Ambient temperature</b>	+5°C to +40°C
<b>Noise level</b>	55 up to max. 78 dB
<b>Electrical connection</b>	110/230 V / 60/50 Hz
<b>Pressure device directive</b>	93/27/EG

## Options

- in- and outlet filtration
- compressed air treatment

## The ECOTROC® GEN2 COMFORT Plus-Effect +++

- + simple installation, plug & play
- + continuous measuring of the nitrogen purity for a safe use
- + minimized maintenance, high quality components



# PRODUCT DATASHEET

ECOTROC® GEN2 · Nitrogen generators

## ECOTROC® GEN2 PREMIUM

### Compressed air demand

#### Calculation of compressed air demand

Nitrogen purity (%)	95,00	97,00	98,00	99,00	99,50	99,90	99,99	99,999	99,9999
Air factor	1,9	2,1	2,3	2,5	2,9	3,9	5,5	8,0-10,0	10,0-12,0

Please multiply the nitrogen capacity with the respective air factor to calculate the demanded compressed air volume flow.

### Capacities

Type	Capacity m³/h*									
	95,0%	97,0%	98,0%	99,0%	99,5%	99,9%	99,99%	99,995%	99,999%	99,999%
GEN2 1150 P	5,7	4,7	4,1	3,2	2,6	1,6	0,9	0,7	0,4	
GEN2 1250 P	10,8	8,7	7,9	5,8	5,1	3,2	1,3	1,1	0,9	
GEN2 1280 P	16,5	13,4	12,0	9,0	7,7	4,8	2,4	1,8	1,3	
GEN2 1350 P	20,8	17,1	15,8	12,6	9,5	6,3	3,2	2,5	1,8	
GEN2 1450 P	31,2	25,6	23,7	18,9	14,2	9,5	4,8	3,6	2,4	
GEN2 1550 P	49,2	40,1	35,6	28,4	22,1	12,6	6,3	4,8	3,2	
GEN2 1650 P	84,0	59,9	53,8	46,6	37,8	23,2	11,7	8,8	5,8	
GEN2 1750 P	105,0	84,0	76,0	64,0	51,8	32,6	16,5	11,9	7,3	
GEN2 2000 P	140,7	116,5	98,3	77,5	63,0	38,8	19,4	14,6	9,7	
GEN2 2150 P	211,1	174,3	146,5	115,0	94,5	57,8	29,0	21,8	14,5	
GEN2 2250 P	260,4	215,3	188,0	143,9	116,6	73,4	35,8	26,9	18,0	
GEN2 3000 P	372,8	308,7	269,9	205,8	167,0	102,9	51,4	38,6	25,8	
GEN2 4000 P	442,1	366,5	320,3	244,7	198,5	121,8	60,9	45,8	30,6	
GEN2 5000 P	630,0	522,9	457,8	348,6	283,5	174,3	87,2	65,4	43,6	
GEN2 6000 P	913,5	756,0	661,5	504,0	409,5	252,0	126,0	94,5	63,0	
GEN2 8000 P	1370,3	1134,0	992,3	756,0	630,0	378,0	189,0	142,0	95,0	
GEN2 10000 P	1598,0	1323,0	1157,0	882,0	720,0	441,0	220,0	165,0	110,0	
GEN2 12000 P	1827,0	1512,0	1323,0	1008,0	819,0	504,0	252,0	189,0	126,0	
GEN2 14000 P	2283,0	1890,0	1653,0	1260,0	1039,0	630,0	315,0	236,0	158,0	
GEN2 16000 P	2740,6	2268,0	1984,6	1512,0	1260,0	756,0	378,0	284,0	190,0	
GEN2 24000 P	4111,0	3402,0	2976,9	2268,0	1890,0	1134,0	567,0	426,0	285,0	

\*refers to 7 bar inlet pressure and 20°C ambient temperature.

### Dimensions

	Height x Width x Depth (mm)
GEN2 1150 P and GEN2 1250 P	1285 x 438 x 920
GEN2 1280 P to GEN2 1450 P	1665 x 460,5 x 1115
From GEN2 1550 P	On demand

# PRODUCT DATASHEET

ECOTROC® GEN2 · Nitrogen generators

## Compressed air supply

Temperature	+5 °C to +50°C
Quality	ISO 8573.1, Class 1: Dirt and oil, Class 4: Water
Pressure dew point	+3°C
Operating pressure max.	11 bar

For questions concerning the compressed air supply please do not hesitate to contact us.

Further data	
Ambient temperature	+5°C to +40°C
Noise level	55 up to max. 85 dB
Electrical connection	110/230 V / 60/50 Hz
Pressure device directive	93/27/EG

## Options

- ambient temperature from -50°C to +60°C
- flow measurement, pressure dew point measurement, inlet pressure measurement, temperature measurement
- connections: Modbus, Profibus, GSM, VMC
- redundant components
- load change control
- modular extensions
- high pressure version up to 300 bar
- stainless steel edition
- ex-protection, Atex, IP 65, ASME

## The ECOTROC® GEN2 PREMIUM Plus-Effect +++

- + inlet and outlet filtration included
- + continuous measurement of nitrogen purity
- + clear and state-of-the-art control panel
- + efficient process
- + redundant components, modular extensions and different special editions (Atex, ASME etc.) create the generator for your special use



# PRODUCT DATASHEET

ECOTROC® GEN2 - Nitrogen generators

## ECOTROC® GEN2 PREMIUM PLUS

### Compressed air demand

#### Calculation of compressed air demand

Nitrogen purity (%)	95,00	97,00	98,00	99,00	99,50	99,90	99,99	99,999	99,9999
Air factor	1,9	2,1	2,3	2,5	2,9	3,9	5,5	8,0-10,0	10,0-12,0

Please multiply the nitrogen capacity with the respective air factor to calculate the demanded compressed air volume flow.

### Capacities

Type	Capacity m³/h*									
	95,0%	97,0%	98,0%	99,0%	99,5%	99,9%	99,99%	99,995%	99,999%	99,999%
GEN2 1150 PP	5,7	4,7	4,1	3,2	2,6	1,6	0,9	0,7	0,4	
GEN2 1250 PP	10,8	8,7	7,9	5,8	5,1	3,2	1,3	1,1	0,9	
GEN2 1280 PP	16,5	13,4	12,0	9,0	7,7	4,8	2,4	1,8	1,3	
GEN2 1350 PP	20,8	17,1	15,8	12,6	9,5	6,3	3,2	2,5	1,8	
GEN2 1450 PP	31,2	25,6	23,7	18,9	14,2	9,5	4,8	3,6	2,4	
GEN2 1550 PP	49,2	40,1	35,6	28,4	22,1	12,6	6,3	4,8	3,2	
GEN2 1650 PP	84,0	59,9	53,8	46,6	37,8	23,2	11,7	8,8	5,8	
GEN2 1750 PP	105,0	84,0	76,0	64,0	51,8	32,6	16,5	11,9	7,3	
GEN2 2000 PP	140,7	116,5	98,3	77,5	63,0	38,8	19,4	14,6	9,7	
GEN2 2150 PP	211,1	174,3	146,5	115,0	94,5	57,8	29,0	21,8	14,5	
GEN2 2250 PP	260,4	215,3	188,0	143,9	116,6	73,4	35,8	26,9	18,0	
GEN2 3000 PP	372,8	308,7	269,9	205,8	167,0	102,9	51,4	38,6	25,8	
GEN2 4000 PP	442,1	366,5	320,3	244,7	198,5	121,8	60,9	45,8	30,6	
GEN2 5000 PP	630,0	522,9	457,8	348,6	283,5	174,3	87,2	65,4	43,6	
GEN2 6000 PP	913,5	756,0	661,5	504,0	409,5	252,0	126,0	94,5	63,0	
GEN2 8000 PP	1370,3	1134,0	992,3	756,0	630,0	378,0	189,0	142,0	95,0	
GEN2 10000 PP	1598,0	1323,0	1157,0	882,0	720,0	441,0	220,0	165,0	110,0	
GEN2 12000 PP	1827,0	1512,0	1323,0	1008,0	819,0	504,0	252,0	189,0	126,0	
GEN2 14000 PP	2283,0	1890,0	1653,0	1260,0	1039,0	630,0	315,0	236,0	158,0	
GEN2 16000 PP	2740,6	2268,0	1984,6	1512,0	1260,0	756,0	378,0	284,0	190,0	
GEN2 24000 PP	4111,0	3402,0	2976,9	2268,0	1890,0	1134,0	567,0	426,0	285,0	

\*refers to 7 bar inlet pressure and 20°C ambient temperature.

### Dimensions

	Height x Width x Depth (mm)
GEN2 1150 PP and GEN2 1350 PP	1645 x 850 x 730
GEN2 1450 PP	1765 x 850 x 730
GEN2 1550 PP	1760 x 1100 x 835
From GEN2 1650 PP	On demand

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ECOTROC® GEN2 · Nitrogen generators

## Compressed air supply

<b>Temperature</b>	+5 °C to +50°C
<b>Quality</b>	ISO 8573.1, Class 1: Dirt and oil, Class 4: Water
<b>Pressure dew point</b>	+3°C
<b>Operating pressure max.</b>	11 bar

For questions concerning the compressed air supply please do not hesitate to contact us.

<b>Further data</b>	
<b>Ambient temperature</b>	+5°C to +40°C
<b>Noise level</b>	55 up to max. 85 dB
<b>Electrical connection</b>	110/230 V / 60/50 Hz
<b>Pressure device directive</b>	93/27/EG

## Options

- ambient temperature from -50°C to +60°C
- flow measurement, pressure dew point measurement, inlet pressure measurement, temperature measurement
- connections: Modbus, Profibus, GSM, VMC
- redundant components
- load change control
- modular extensions
- high pressure version up to 300 bar
- stainless steel edition
- Ex-protection, Atex, IP 65, ASME

## The ECOTROC® GEN2 PREMIUM PLUS Plus-Effect +++

- + in- and outlet filtration included
- + continuous measurement of nitrogen purity
- + clear and state-of-the-art control panel
- + efficient process
- + redundant components, modular extensions and different special editions (Atex, ASME etc.) create the generator for your special use
- + energy saving use of compressed air through PAN process
- + optimal use of adsorbent