

Noblegen Ltd

YOUR RELIABLE PARTNER IN LABORATORY GAS HANDLING

APPLICATION GUIDE

LABORATORY GAS GENERATORS SERVE MANY APPLICATIONS, AND BELOW HIGHLIGHTS THE MAIN AREAS WHERE GENERATORS ARE USED AND THE TYPE OF GAS REQUIRED:-

INSTRUMENT	GAS REQUIREMENT	NOBLEGEN GAS REF
Atomic Absorption	Air for FID	PURE AIR
Autosamplers	Air for pneumatic control Nitrogen for sample injector	PURE AIR HIGH PURITY NITROGEN
ELSD	Nitrogen for nebulising gas	ELSD NITROGEN
GC-FID	Hydrogen for fuel gas Zero air for flame gas Hydrogen for capillary carrier gas Nitrogen for packed carrier gas Nitrogen for make-up gas	HYDROGEN ZERO AIR HYDROGEN ZERO NITROGEN ZERO NITROGEN
GC-FPD	Hydrogen for fuel gas Zero air for flame gas	HYDROGEN ZERO AIR
GC-NPD	Hydrogen for capillary gas Nitrogen for make-up gas	HYDROGEN ZERO NITROGEN
GC-ECD	Nitrogen for carrier gas Nitrogen for make-up gas	ZERO NITROGEN ZERO NITROGEN
GC-TCD	Hydrogen as carrier gas	HYDROGEN
LCMS	Nitrogen for nebulising gas And sheath gas	LCMS NITROGEN
ICP-OES	Nitrogen for purge gas	ICP NITROGEN
NMR	Air for sample spinning and injection	PURE AIR
Solvent Evaporation	Nitrogen	VARIBALE NITROGEN
Total Hydrocarbon analyser	Air for FID	ZERO AIR

YOUR RELIABLE PARTNER IN LABORATORY GAS HANDLING

PRODUCT DATA SHEET

MODEL ZNG1

Description:-

Nitrogen Gas Generator designed to supply a continuous flow of hydrocarbon free Nitrogen Gas at a predetermined pressure. The Generator is designed for use in a Laboratory environment.

Features:-

- PSA technology for producing Nitrogen Gas.
- Isolated compressor enclosure for noise reduction.
- All process pipe-work is copper to prevent ingress of oxygen.
- Service meter measures compressor hours not continuous hours, extending service intervals by up to 30%.
- Separate control relay extends life of timer unit
- Mains operated 110v a.c. 50/60Hz or 230v a.c. 50Hz.
- Built and tested to Noblegen's high standards.
- Full 12 month Warranty on parts and labour.
- PSA carbon sieve carries a life-time warranty as standard
- Separate compressor enclosure for reduced noise and ease of service.



Advantages:-

- 1000's of PSA systems in operation all around the World.
- Operates at a safe low working pressure.
- High quality and reliable system.
- Minimum of 10 years product life expectancy.

Technical Specification:-

Model	Flow-rates (cc/min)	Outlet Pressure	Gas Purity	Dimensions (WxDxH) mm	Weight (kg)	Power consumption
ZNG1-0	1,000	5 barg	<99.9995% (THC <0.1ppm)	320x500x650	30	250 VA
ZNG1-1	1,000	5 barg	<99.9995% (THC <0.1ppm)	320x500x650	45	450 VA

YOUR RELIABLE PARTNER IN LABORATORY GAS HANDLING

PRODUCT DATA SHEET

MODEL NG3

Description:-

Nitrogen Gas Generator designed to supply a continuous flow of Nitrogen Gas at a predetermined pressure. The Generator is designed for use in a Laboratory environment and can be floor or bench mounted.

Features:-

- PSA technology for producing Nitrogen Gas.
- Isolated compressor enclosure for noise reduction.
- All process pipe-work is copper to prevent ingress of oxygen.
- Service meter measures compressor hours not continuous hours, extending service intervals by up to 30%.
- Separate control relay extends life of timer unit
- Mains operated 110v a.c. 50/60Hz or 230v a.c. 50Hz.
- Built and tested to Noblegen's high standards.
- Full 12 month Warranty on parts and labour.
- PSA carbon sieve carries a life-time warranty as standard
- Separate compressor enclosure for reduced noise and ease of service.



Advantages:-

- 1000's of PSA systems in operation all around the World.
- Operates at a safe low working pressure.
- High quality and reliable system.
- Minimum of 10 years product life expectancy.

Technical Specification:-

Model	N2 Flow-rate (cc/min)	Nitrogen Outlet Pressure	Gas Purity	Dimensions (WxDxH) mm	Weight (kg)	Power consumption
NG3-0	3,000	5 barg	<99.9995% (<5ppm O2)	450x665x725 (790 H inc feet)	55	150 VA
NG3-1	3,000	5 barg	<99.9995% (<5ppm O2)	450x665x725 (790 H inc feet)	55	500 VA
compressor	N/A	N/A	N/A	300x500x300	20	N/A

YOUR RELIABLE PARTNER IN LABORATORY GAS HANDLING

PRODUCT DATA SHEET

MODEL NG4

Description:-

Nitrogen Gas Generator designed to supply a continuous flow of Nitrogen Gas at a predetermined pressure. The Generator is designed for use in a Laboratory environment and can be floor or bench mounted.



Features:-

- PSA technology for producing Nitrogen Gas.
- Isolated compressor enclosure for noise reduction.
- All process pipe-work is copper to prevent ingress of oxygen.
- Service meter measures compressor hours not continuous hours, extending service intervals by up to 30%.
- Separate control relay extends life of timer unit.
- Mains operated 110v a.c. 50/60Hz or 230v a.c. 50Hz.
- Built and tested to Noblegen's high standards.
- Full 12 month Warranty on parts and labour.
- PSA carbon sieve carries a life-time warranty as standard
- Separate compressor for reduced noise and ease of service

Advantages:-

- 1000's of PSA systems in operation all around the World.
- Operates at a safe low working pressure.
- High quality and reliable system.
- Minimum of 10 years product life expectancy.

Technical Specification:-

Model	N2 Flow-rate (cc/min)	Nitrogen Out-let Pressure	Gas Purity	Dimensions (WxDxH) mm	Weight (kg)	Power consumption
NG4-0	4,000	5 barg	<99.5% (<0.5% O ₂)	320x300x650	27	150 VA
NG4-1	4,000	5 barg	<99.5% (<0.5% O ₂)	320x300x650	42	375 VA
Compressor	N/A	N/A	N/A	320x300x230	12	N/A

YOUR RELIABLE PARTNER IN LABORATORY GAS HANDLING

PRODUCT DATA SHEET

MODEL NG5 (variable)

Description:-

Nitrogen Gas Generator designed to supply a continuous flow of Nitrogen Gas at a predetermined pressure. The Generator can achieve a range of flow rates and purities, and is designed for a Laboratory environment.

Features:-

- PSA technology for producing Nitrogen Gas.
- Isolated compressor enclosure for noise reduction.
- All process pipe-work is copper to prevent ingress of oxygen.
- Service meter measures compressor hours not continuous hours, extending service intervals by up to 30%.
- Separate control relay extends life of timer unit
- Mains operated 110v a.c. 50/60Hz or 230v a.c. 50Hz.
- Built and tested to Noblegen's high standards.
- Full 12 month Warranty on parts and labour.
- PSA carbon sieve carries a life-time warranty as standard
- Separate compressor enclosure for reduced noise and ease of service.



Advantages:-

- 1000's of PSA systems in operation all around the World.
- Operates at a safe low working pressure.
- High quality and reliable system.
- Minimum of 10 years product life expectancy.

Technical Specification:-

Model	N2 Flow-rate (Ml/min)	Nitrogen Outlet Pressure	Gas Purity	Dimensions (WxDxH) mm	Weight (kg)	Power consumption
NG5	4.0	5 barg	<99.99% (<100ppm O2)	450x665x725 (790 H inc feet)	55	150 VA
NG5	6.0	5 barg	<99.9% (<0.1% O2)	450x665x725 (790 H inc feet)	55	150 VA
NG5	8.0	5 barg	<99.5% (<0.5% O2)	450x665x725 (790 H inc feet)	55	150 VA
NG5	10.0	5 barg	99.0% (<1.0% O2)	450x665x725 (790 H inc feet)	55	150 VA
NG5	12.0	5 barg	98.0% (<2.0% O2)	450x665x725 (790 H inc feet)	55	150 VA
Compressor	N/A	N.A	N/A	300x500x300	20	350 VA

YOUR RELIABLE PARTNER IN LABORATORY GAS HANDLING

PRODUCT DATA SHEET

MODEL NG6

Description:-

Nitrogen Gas Generator designed to supply a continuous flow of Nitrogen Gas at a predetermined pressure. The Generator is designed for use in a Laboratory environment and is primarily used for LCMS applications.

Features:-

- | | |
|---|--|
| <ul style="list-style-type: none"> PSA technology for producing Nitrogen Gas. Two Durr internal compressors. All process pipe-work is copper to prevent ingress of oxygen. Service meter measures compressor hours not continuous hours, extending service intervals by up to 30%. Separate control relay extends life of PLC. | <ul style="list-style-type: none"> Mains operated 110v a.c. 50/60Hz or 230v a.c. 50Hz. Built and tested to Noblegen's high standards. Full 24 month Warranty on parts and labour. PSA carbon sieve carries a life-time warranty as standard. Industry standard Mitsubishi Alpha PLC used with life time warranty. |
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Advantages:-

- 1000's of PSA systems in operation all around the World.
- Operates at a safe low working pressure.
- High quality and reliable system.
- Minimum of 10 years product life expectancy.

Technical Specification:-

Model	N2 Flow-rate (Nl/min)	Nitrogen Outlet Pressure	Gas Purity	Dimensions (WxDxH) mm	Weight (kg)	Power consumption
NG6-0	Up to 30.0	1—7 barg	<99.5%	450x665x725 (790 H inc feet)	80	150 VA
NG6-1	Up to 25.0	1—7 barg	<99.5%	450x665x725 (790 H inc feet)	120	650 VA

YOUR RELIABLE PARTNER IN LABORATORY GAS HANDLING

PRODUCT DATA SHEET

MODEL NG7

Description:-

Nitrogen Gas Generator designed to supply a continuous flow of Nitrogen Gas at a predetermined pressure. The Generator is designed for use in a Laboratory environment and is primarily used for LCMS applications.

Features:-

- PSA technology for producing Nitrogen Gas.
- Isolated compressor enclosure for noise reduction.
- All process pipe-work is copper to prevent ingress of oxygen.
- Service meter measures compressor hours not continuous hours, extending service intervals by up to 30%.
- Separate control relay extends life of timer unit
- Mains operated 110v a.c. 50/60Hz or 230v a.c. 50Hz.
- Built and tested to Noblegen's high standards.
- Full 12 month Warranty on parts and labour.
- PSA carbon sieve carries a life-time warranty as standard
- Separate compressor enclosure for reduced noise and ease of service.



Advantages:-

- 1000's of PSA systems in operation all around the World.
- Operates at a safe low working pressure.
- High quality and reliable system.
- Minimum of 10 years product life expectancy.

Technical Specification:-

Model	N2 Flow-rate (Nl/min)	Nitrogen Outlet Pressure	Gas Purity	Dimensions (WxDxH) mm	Weight (kg)	Power consumption
NG7-0	18.0	7 barg	<99.5%	450x665x725 (790 H inc feet)	80	150 VA
NG7-1	12.0	7 barg	<99.5%	450x665x725 (790 H inc feet)	80	650 VA
compressor	N/A	N/A	N/A	600x500x300	40	N/A

YOUR RELIABLE PARTNER IN LABORATORY GAS HANDLING

PRODUCT DATA SHEET

MODEL NG30-MID

Description:-

Nitrogen Gas Generator designed to supply a continuous flow of Nitrogen Gas at a predetermined pressure. The Generator can achieve a range of flow rates and purities, and is designed for a Laboratory environment.

Features:-

- PSA technology for producing Nitrogen Gas.
- All process pipe-work is copper to prevent ingress of oxygen.
- Service meter measures compressor hours not continuous hours, extending service intervals by up to 30%.
- Integrated PLC with life-time warranty.
- Mains operated 110v a.c. 50/60Hz or 230v a.c. 50Hz.
- Built and tested to Noblegen's high standards.
- Full 24 month Warranty on parts and labour.
- PSA carbon sieve carries a life-time warranty as standard
- Optional oxygen analyser with indication only or alarm control facility.



Advantages:-

- 1000's of PSA systems in operation all around the World.
- Operates at a safe low working pressure.
- High quality and reliable system.
- Minimum of 10 years product life expectancy.

Technical Specification:-

Model	N2 Flow-rate (Nm ³ /hr)	Nitrogen Outlet Pressure	Gas Purity	Dimensions (WxDxH) mm	Weight (kg)	Power consumption	Air:N2 Ratio
NG30-MID	0.6	5 barg	<99.999% (<10ppm O ₂)	600x600x1100	100	150 VA	12:1
NG30-MID	1.0	5 barg	<99.99% (<100ppm O ₂)	600x600x1100	100	150 VA	8:1
NG30-MID	1.6	5 barg	<99.9% (<0.1% O ₂)	600x600x1100	100	150 VA	4.7:1
NG30-MID	2.6	5 barg	99.5% (<0.5% O ₂)	600x600x1100	100	150 VA	3.5:1
NG30-MID	3.1	5 barg	99.0% (<1.0% O ₂)	600x600x1100	100	150 VA	3.1:1
NG30-MID	4.0	5 barg	98.0% (<2.0% O ₂)	600x600x1100	100	350 VA	2.7:1

YOUR RELIABLE PARTNER IN LABORATORY GAS HANDLING

PRODUCT DATA SHEET

MODEL NG30-MID TECHNICAL INFORMATION

PRESSURE CORRECTION FACTOR ON AIR INLET PRESSURE

Barg	Psig	Correction Factor
6.0	87	1.00
6.5	94	1.07
7.0	101	1.14
7.5	109	1.21
8.0	116	1.29
8.5	123	1.36
9.0	131	1.43
9.5	138	1.50

TEMPERATURE CORRECTION FACTOR ON AMBIENT TEMP

Deg C	Deg F	Correction Factor
5	41	0.80
10	50	0.90
15	59	0.94
20	68	1.00
25	77	1.00
30	86	0.98
35	95	0.95
40	104	0.90
45	113	0.85

Buffer Vessel Sizing:-

It is recommended that 10 litres volume of Buffer Vessel should be used for every 1 m³/hr flow rate (minimum size).

Performance:-

All flow and purity values on page 1 are based on:-

6 barg / 87 psig into the Generator, 20°C / 68°F inlet air temperature and 20°C / 68°F ambient temperature.

YOUR RELIABLE PARTNER IN LABORATORY GAS HANDLING

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MODEL NG60-MID

Description:-

Nitrogen Gas Generator designed to supply a continuous flow of Nitrogen Gas at a predetermined pressure. The Generator can achieve a range of flow rates and purities, and is designed for a Laboratory environment.

Features:-

- PSA technology for producing Nitrogen Gas.
- All process pipe-work is copper to prevent ingress of oxygen.
- Service meter measures compressor hours not continuous hours, extending service intervals by up to 30%.
- Integrated PLC with life-time warranty.
- Mains operated 110v a.c. 50/60Hz or 230v a.c. 50Hz.
- Built and tested to Noblegen's high standards.
- Full 24 month Warranty on parts and labour.
- PSA carbon sieve carries a life-time warranty as standard
- Optional oxygen analyser with indication only or alarm control facility.



Advantages:-

- 1000's of PSA systems in operation all around the World.
- Operates at a safe low working pressure.
- High quality and reliable system.
- Minimum of 10 years product life expectancy.

Technical Specification:-

Model	N2 Flow-rate (Nm ³ /hr)	Nitrogen Outlet Pressure	Gas Purity	Dimensions (WxDxH) mm	Weight (kg)	Power consumption	Air:N2 Ratio
NG60-MID	0.9	5 barg	<99.999% (<10ppm O ₂)	600x600x1100	130	150 VA	12:1
NG60-MID	1.5	5 barg	<99.99% (<100ppm O ₂)	600x600x1100	130	150 VA	8:1
NG60-MID	2.6	5 barg	<99.9% (<0.1% O ₂)	600x600x1100	130	150 VA	4.7:1
NG60-MID	3.9	5 barg	99.5% (<0.5% O ₂)	600x600x1100	130	150 VA	3.5:1
NG60-MID	4.6	5 barg	99.0% (<1.0% O ₂)	600x600x1100	130	150 VA	3.1:1
NG60-MID	6.1	5 barg	98.0% (<2.0% O ₂)	600x600x1100	130	350 VA	2.7:1

YOUR RELIABLE PARTNER IN LABORATORY GAS HANDLING

PRODUCT DATA SHEET

MODEL NG60-MID TECHNICAL INFORMATION

PRESSURE CORRECTION FACTOR ON AIR INLET PRESSURE

Barg	Psig	Correction Factor
6.0	87	1.00
6.5	94	1.07
7.0	101	1.14
7.5	109	1.21
8.0	116	1.29
8.5	123	1.36
9.0	131	1.43
9.5	138	1.50

TEMPERATURE CORRECTION FACTOR ON AMBIENT TEMP

Deg C	Deg F	Correction Factor
5	41	0.80
10	50	0.90
15	59	0.94
20	68	1.00
25	77	1.00
30	86	0.98
35	95	0.95
40	104	0.90
45	113	0.85

Buffer Vessel Sizing:-

It is recommended that 10 litres volume of Buffer Vessel should be used for every 1 m³/hr flow rate (minimum size).

Performance:-

All flow and purity values on page 1 are based on:-

6 barg / 87 psig into the Generator, 20°C / 68°F inlet air temperature and 20°C / 68°F ambient temperature.

YOUR RELIABLE PARTNER IN LABORATORY GAS HANDLING

PRODUCT DATA SHEET

MODEL ANG1

Description:-

Nitrogen & Air Gas Generator designed to supply a continuous flow of Nitrogen & Pure Air Gas at a predetermined pressure. The Generator is designed for use in a Laboratory environment and can be floor or bench mounted.

Features:-

- PSA technology for producing Nitrogen Gas.
- Isolated compressor enclosure for noise reduction.
- All process pipe-work is copper to prevent ingress of oxygen.
- Service meter measures compressor hours not continuous hours, extending service intervals by up to 30%.
- Separate control relay extends life of timer unit
- Mains operated 110v a.c. 50/60Hz or 230v a.c. 50Hz.
- Built and tested to Noblegen's high standards.
- Full 12 month Warranty on parts and labour.
- PSA carbon sieve carries a life-time warranty as standard
- Separate compressor enclosure for reduced noise and ease of service.



Advantages:-

- 1000's of PSA systems in operation all around the World.
- Operates at a safe low working pressure.
- High quality and reliable system.
- Minimum of 10 years product life expectancy.

Technical Specification:-

Model	Flow-rates (cc/min)	Outlet Pressure	Gas Purity	Dimensions (WxDxH) mm	Weight (kg)	Power consumption
ANG1-0	N2 1,000 Air 1,500	5 barg 5 barg	N2<99.9995% Air -55°C	320x500x650	30	150 VA
ANG1-1	N2 1,000 Air 1,500	5 barg 5 barg	N2<99.9995% Air -55°C	320x500x650	45	350 VA

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YOUR RELIABLE PARTNER IN LABORATORY GAS HANDLING

PRODUCT DATA SHEET

MODEL ANG3

Description:-

Nitrogen & Air Gas Generator designed to supply a continuous flow of Nitrogen & Pure Air Gas at a predetermined pressure. The Generator is designed for use in a Laboratory environment and can be floor or bench mounted.

Features:-

- PSA technology for producing Nitrogen Gas.
- Isolated compressor enclosure for noise reduction.
- All process pipe-work is copper to prevent ingress of oxygen.
- Service meter measures compressor hours not continuous hours, extending service intervals by up to 30%.
- Separate control relay extends life of timer unit
- Mains operated 110v a.c. 50/60Hz or 230v a.c. 50Hz.
- Built and tested to Noblegen's high standards.
- Full 12 month Warranty on parts and labour.
- PSA carbon sieve carries a life-time warranty as standard
- Separate compressor enclosure for reduced noise and ease of service.



Advantages:-

- 1000's of PSA systems in operation all around the World.
- Operates at a safe low working pressure.
- High quality and reliable system.
- Minimum of 10 years product life expectancy.

Technical Specification:-

Model	Flow-rates (cc/min)	Nitrogen Out-let Pressure	Gas Purity	Dimensions (WxDxH) mm	Weight (kg)	Power consumption
ANG3-0	N2 3,000 Air 3,000	5 barg	N2<99.9995% Air -55°C	450x665x725 (790 H inc feet)	58	150 VA
ANG3-1	N2 3,000 Air 3,000	5 barg	N2<99.9995% Air -55°C	450x665x725 (790 H inc feet)	58	500 VA
compressor	N/A	N/A	N/A	300x500x300	20	N/A

YOUR RELIABLE PARTNER IN LABORATORY GAS HANDLING

PRODUCT DATA SHEET

MODEL AG3 & AG6

Description:-

Air Gas Generator designed to supply a continuous flow of Pure Air at a pre-determined pressure. The Generator is designed for use in a Laboratory environment and can be floor or bench mounted.

Features:-

- PSA technology for producing Pure Air.
- Isolated compressor enclosure for noise reduction.
- All process pipe-work is copper to prevent ingress of moisture
- Service meter measures compressor hours not continuous hours, extending service intervals by up to 30%.
- Separate control relay extends life of timer unit
- Mains operated 110v a.c. 50/60Hz or 230v a.c. 50Hz.
- Built and tested to Noblegen's high standards.
- Full 12 month Warranty on parts and labour.
- PSA activated alumina carries a life-time warranty as standard
- Separate compressor enclosure for reduced noise and ease of service.



Advantages:-

- 1000's of PSA systems in operation all around the World.
- Operates at a safe low working pressure.
- High quality and reliable system.
- Minimum of 10 years product life expectancy.

Technical Specification:-

Model	Flow-rates (NI/min)	Outlet Pressure	Gas Dew-Point	Dimensions (WxDxH) mm	Weight (kg)	Power consumption
AG3-0	3.0	5 barg	Air -55°C	320x300x650	30	150 VA
AG3-1	3.0	5 barg	Air -55°C	320x500x650	45	350 VA
AG6-0	6.0	5 barg	Air -55°C	320x300x650	30	150 VA
AG6-1	6.0	5 barg	Air -55°C	320x500x650	45	350 VA

YOUR RELIABLE PARTNER IN LABORATORY GAS HANDLING

PRODUCT DATA SHEET

MODEL ZAG1 & ZAG3

Description:-

Zero Air Gas Generator designed to remove Total Hydrocarbons to a level of <0.1ppm at a predetermined flow-rate. The Generator is designed for use in a Laboratory environment and can be floor or bench mounted.

Features:-

- Uses heated catalyst technology.
- All process pipe-work is copper for increased gas quality.
- Long life temperature controller.
- Mains operated 110v a.c. 50/60Hz or 230v a.c. 50Hz.
- Built and tested to Noblegen's high standards.
- Full 12 month Warranty on parts and labour.



Advantages:-

- 1000's of Zero Air systems using this technology running World-Wide.
- Operates at a safe low working pressure.
- High quality and reliable system.
- Minimum of 10 years product life expectancy.
- Minimal maintenance.
- Other flow-rates available on request

Technical Specification:-

Model	Flow-rate (cc/min)	Operating pressure	THC removal	Dimensions (WxDxH) mm	Weight (kg)	Power consumption
ZAG1	1,500	0-10 barg	<0.1ppm	250x300x300	15.0	200 VA
ZAG3	3,000	0-10 barg	<0.1ppm	250x500x300	15.0	250 VA

YOUR RELIABLE PARTNER IN LABORATORY GAS HANDLING

PRODUCT DATA SHEET

MODEL ZNG1

Description:-

Nitrogen Gas Generator designed to supply a continuous flow of hydrocarbon free Nitrogen Gas at a predetermined pressure. The Generator is designed for use in a Laboratory environment.

Features:-

- PSA technology for producing Nitrogen Gas.
- Isolated compressor enclosure for noise reduction.
- All process pipe-work is copper to prevent ingress of oxygen.
- Service meter measures compressor hours not continuous hours, extending service intervals by up to 30%.
- Separate control relay extends life of timer unit
- Mains operated 110v a.c. 50/60Hz or 230v a.c. 50Hz.
- Built and tested to Noblegen's high standards.
- Full 12 month Warranty on parts and labour.
- PSA carbon sieve carries a life-time warranty as standard
- Separate compressor enclosure for reduced noise and ease of service.



Advantages:-

- 1000's of PSA systems in operation all around the World.
- Operates at a safe low working pressure.
- High quality and reliable system.
- Minimum of 10 years product life expectancy.

Technical Specification:-

Model	Flow-rates (cc/min)	Outlet Pressure	Gas Purity	Dimensions (WxDxH) mm	Weight (kg)	Power consumption
ZNG1-0	1,000	5 barg	<99.9995% (THC <0.1ppm)	320x500x650	30	250 VA
ZNG1-1	1,000	5 barg	<99.9995% (THC <0.1ppm)	320x500x650	45	450 VA

YOUR RELIABLE PARTNER IN LABORATORY GAS HANDLING

PRODUCT DATA SHEET

MODEL ZNG3

Description:-

Nitrogen Gas Generator designed to supply a continuous flow of hydrocarbon free Nitrogen Gas at a predetermined pressure. The Generator is designed for use in a Laboratory environment.

Features:-

- PSA technology for producing Nitrogen Gas.
- Isolated compressor enclosure for noise reduction.
- All process pipe-work is copper to prevent ingress of oxygen.
- Service meter measures compressor hours not continuous hours, extending service intervals by up to 30%.
- Separate control relay extends life of timer unit
- Mains operated 110v a.c. 50/60Hz or 230v a.c. 50Hz.
- Built and tested to Noblegen's high standards.
- Full 12 month Warranty on parts and labour.
- PSA carbon sieve carries a life-time warranty as standard
- Separate compressor enclosure for reduced noise and ease of service.



Advantages:-

- 1000's of PSA systems in operation all around the World.
- Operates at a safe low working pressure.
- High quality and reliable system.
- Minimum of 10 years product life expectancy.

Technical Specification:-

Model	N2 Flow-rate (cc/min)	Nitrogen Outlet Pressure	Gas Purity	Dimensions (WxDxH) mm	Weight (kg)	Power consumption
ZNG3-0	3,000	5 barg	<99.9995% (THC <0.1ppm)	450x665x725 (790 H inc feet)	55	250 VA
ZNG3-1	3,000	5 barg	<99.9995% (THC <0.1ppm)	450x665x725 (790 H inc feet)	55	600 VA
compressor	N/A	N/A	N/A	300x500x300	20	N/A

HYDROGEN GENERATOR PG-H2



100 ml/min
160 ml/min
250 ml/min
500 ml/min

Cascading Option: a unique technology !!

The PG-H series Hydrogen Pure Gas Generators employ the newest membrane technology available for electrolytic production of pure hydrogen gas.

The patented LGS PG-H series of Hydrogen Pure Gas Generators is ideal for operation with gas analysers, as fuel gas for flame tools, or as a source of pure hydrogen in plasma chambers and other isolated environments.

TECHNICAL FEATURES

The smallest in the market

4 models available (100, 160, 250, 500 cc/mn)

Electronic pressure regulator (max. 10 bar)

Micro processor controlled

LCD display

-shows set points , operating conditions (display of H2 product flow , H2 pressure and water quality) and status of the system (normal, pre -alarm, alarm)

No caustic solutions required

No pump required

Quieter generator and less servicing

Safety increased

-low internal volume of H2 < 50 ml

-Auto shut-off procedure place the unit in standby in the event of an internal error and self test fault diagnosis with digital display and audible alarm

Easy servicing

-The desiccant cartridge can be refilled and the deioniser bag is indicated in the LCD display when needs to be changed

Cascading of 2 or more units (optional)

Remote control (optional)

CE Mark and CSA compliant

BENEFITS

Improved productivity and chromatography results

-Hydrogen is a faster carrier gas and more sensitive when compared to helium, reducing analysis times by 25% to 35% without significant loss of resolution.

Safety:

-Hydrogen production at low pressure and only when required , eliminates the risks of explosion.

-Eliminates problems relating to handling gas cylinders.

Extended column life

-Hydrogen, when used as a carrier gas, requires lower elution temperatures and thus improves the column service life

Increased efficiency in the laboratory

-24Hour operation

-No interruption of analysis due to cylinder changes

HYDROGEN GENERATOR NM-H2



100 ml/min
160 ml/min
250 ml/min
500 ml/min

No Maintenance: a unique technology!!

The NM-H2 Hydrogen Pure Gas Generators employ the newest membrane technology available for electrolytic production of pure hydrogen gas, **including exclusive no maintenance auto-drying technology**. The patented NM-H2 series of No maintenance Hydrogen Generators is ideal for operation with gas analysers, as fuel gas for flame tools, all kind of carrier Gas application, like GC and GC-MS (Mass Spectrometry), or as a source of pure hydrogen in plasma chambers and other isolated environments

TECHNICAL FEATURES

The smallest in the market

4 models available (100, 160, 250, 500 cc/min)

Electronic pressure regulator (max. 10 bar)

Micro processor controlled

LCD display

-shows set points , operating conditions (display of H₂ product flow , H₂ pressure and water quality) and status of the system (normal, pre -alarm, alarm)

No caustic solutions required

No pump required

Quieter generator and less servicing

Safety increased

-low internal volume of H₂ < 50 ml

-Auto shut-off procedure place the unit in standby in the event of an internal error and self test fault diagnosis with digital display and audible alarm

No maintenance

-only deioniser bag as the desiccant cartridge is auto regenerated herself by auto-drying patented technology.

Cascading of 2 or more units (optional)

Remote control (optional)

CE Mark and CSA compliant

BENEFITS

Improved productivity and chromatography results

-Hydrogen is a faster carrier gas and more sensitive when compared to helium, reducing analysis times by 25% to 35% without significant loss of resolution.

Safety:

-Hydrogen production at low pressure and only when required , eliminates the risks of explosion.

-Eliminates problems relating to handling gas cylinders.

Extended column life

-Hydrogen, when used as a carrier gas, requires lower elution temperatures and thus improves the column service life

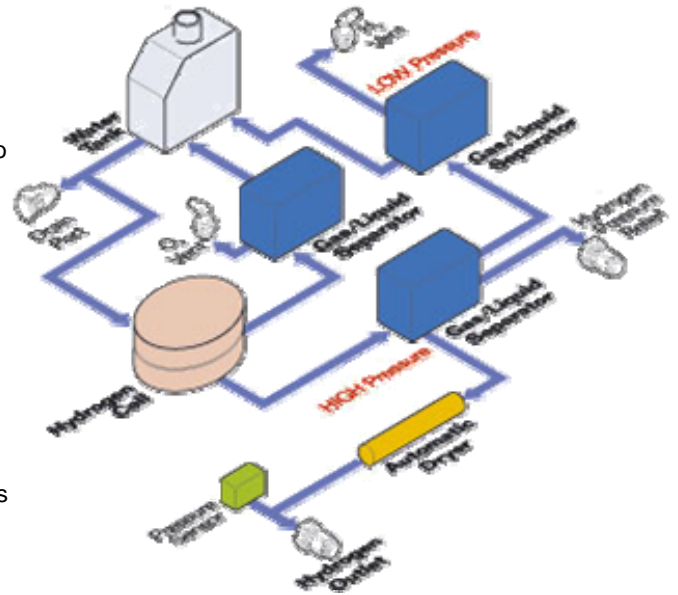
Increased efficiency in the laboratory

-24Hour operation

-No interruption of analysis due to cylinder changes

OPERATING MODE

Electrolytic membrane technology is preferred over alternative hydrogen generating techniques because it is clean, requires less maintenance and there is no need to store chemicals to maintain operation. Only pure water, either distilled or deionised, is required to provide trouble free long-term operation. Use of the electrolytic dissociation process enables water to be broken down into hydrogen and oxygen. The oxygen is released into the air, while the hydrogen is retained to form the product flow. An auto drying cartridge purifies the hydrogen even further so that it attains the desired grade of purity and ensures constant reproducible results. These generators are designed for total safety and reliability of operation. Hydrogen is only generated on demand at low pressure and the volume stored within the unit is minimal. A unique digital display gives system status and diagnosis capabilities not available on any other competitive hydrogen generator.



TECHNICAL SPECIFICATIONS

Models	NM-H2 100	NM-H2 160	NM-H2 250	NM-H2 500
H2 flow rate cc/min	100	160	250	500
Electrolysis cell	Solid polymeric membrane			
Auto drying cartridge	No desiccant cartridge maintenance (exclusive system)			
H2 purity	> 99.9999%			
Delivery pressure	1 - 155 psig / 0.1 - 10.0 barg			
Safety	Auto shut-off, low internal volume of H2 < 50 ml			
LCD display	Shows set points, operating conditions and status			
Indicator lights	Power on, system error			
Options	-remote control by potential free relay contacts -RS485 for cascading up to ten units in parallel -software for PC control capability (requires RS485 option)			
Water quality	Deionised or distilled			
Dimensions (LxHxP)	230 x 430 x 353 mm			
Outlet port	1/8 Swagelok			
Weight Kg	17 kg (NMH2-100-160-250) / 18 kg (NMH2-500)			
Certification	Compliant			

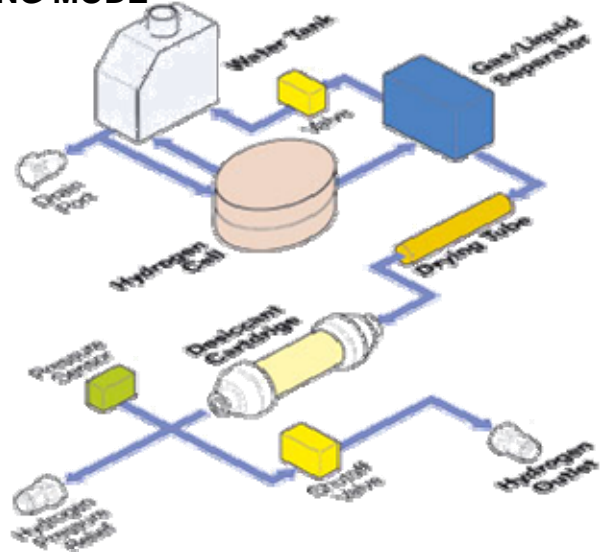
MAINTENANCE

Reference	Description
H200-020	Deioniser bags



Noblegen Ltd, 5 Parker Court, St.Omer's Way, Gateshead, Tyne & Wear NE11 9EW.
 Tel: +44(0)191 460 3577 Fax: +44(0)191 460 1079 (e-mail: sales@noblegen.co.uk)

OPERATING MODE

Electrolytic membrane technology is preferred over alternative hydrogen generating techniques because it is clean, requires less maintenance and there is no need to store chemicals to maintain operation. Only pure water, either distilled or deionised, is required to provide trouble free long-term operation. Use of the electrolytic dissociation process enables water to be broken down into hydrogen and oxygen. The oxygen is released into the air, while the hydrogen is retained to form the product flow. A desiccant cartridge purifies the hydrogen even further so that it attains the desired grade of purity and ensures constant reproducible results. These generators are designed for total safety and reliability of operation. Hydrogen is only generated on demand at low pressure and the volume stored within the unit is minimal. A unique digital display gives system status and diagnosis capabilities not available on any other competitive hydrogen generator.



TECHNICAL SPECIFICATIONS

Models	PG-H2 100	PG-H2 160	PG-H2 250	PG-H2 500
H2 flow rate cc/min	100	160	250	500
Electrolysis cell	Solid polymeric membrane			
H2 purity	> 99.999%			
Delivery pressure	1 - 100 psig / 0.1 – 7.0 barg			
Safety	Auto shut-off , low internal volume of H2 < 50 ml			
LCD display	Shows set points, operating conditions and status			
Indicator lights	Power on , system error			
Options	-remote control by potential free relay contacts -RS485 for cascading up to ten units in parallel -software for PC control capability (requires RS485 option)			
Water quality	Deionised or distilled			
Dimensions (LxHxP)	220 x 390 x 330 mm			
Outlet port	1/8 Swagelok			
Weight Kg	16 kg (PGH2-100-160-250) / 17 kg (PGH2-500)			
Certification	 Compliant 			

MAINTENANCE

Part numbers	Description
H200-003	Desiccant cartridge
H200-019	Refill kit for desiccant cartridge (3 cartridges)
H200-020	De ioniser bag

NobleGen Ltd, 5 Parker Court, St.Omer's Way, Gateshead, Tyne & Wear NE11 9EW.

Tel: +44(0)191 460 3577 Fax: +44(0)191 460 1079 (e-mail: sales@noblegen.co.uk)

YOUR RELIABLE PARTNER IN LABORATORY GAS HANDLING

PRODUCT DATA SHEET

MODEL NG10MSQ

Description:-

Nitrogen Gas Generator designed to supply a continuous flow of Nitrogen Gas at a predetermined pressure. The Generator is designed for use in a Laboratory environment and can be floor or bench mounted.

Features:-

- PSA technology for producing Nitrogen Gas.
- Isolated compressor enclosure for noise reduction.
- All process pipe-work is copper to prevent ingress of oxygen.
- Service meter measures compressor hours not continuous hours, extending service intervals by up to 30%.
- Separate control relay extends life of timer unit
- Mains operated 110v a.c. 50/60Hz or 230v a.c. 50Hz.
- Built and tested to Noblegen's high standards.
- Full 12 month Warranty on parts and labour.
- PSA carbon sieve carries a life-time warranty as standard
- Separate compressor enclosure for reduced noise and ease of service.



Advantages:-

- 1000's of PSA systems in operation all around the World.
- Operates at a safe low working pressure.
- High quality and reliable system.
- Minimum of 10 years product life expectancy.

Technical Specification:-

Model	N2 Flow-rate (NI/min)	Nitrogen Outlet Pressure	Gas Purity	Dimensions (WxDxH) mm	Weight (kg)	Power consumption
NG10-0MSQ	10.0	80 psig	<99.5%	430x450x620	45	150 VA
NG10-1MSQ	10.0	80 psig	<99.5%	430x450x620	55	300 VA