



Partnering Solutions



Product Catalogue

Gas Generator



2012 ■

www.imt-gasgen.com

Gas Generator

The Company

IMT GasGen GmbH & Co. KG was established in Bavaria, Germany since 1981 and accredited by ISO 9001 with all product manufacture to meets stringent requirement. During the early years, IMT Group began involved with development of innovative gas generation solutions for industrial high pressure gas cylinder refilling plant. Now, with the increasing demand on gases, IMT has develop economical gas generator with endless supply focusing on sectors covering:

- Industrial
- Laboratory
- Healthcare

IMT GasGen proves to be world leading gas generator supplier with over thousands of installation worldwide together with intensive sales and service support network globally.

The Solution to Endless Supplies with payback < 12 months !

Do you realize that every gas cylinders or liquid nitrogen dewar comes with hidden cost beside than gas:

- Delivery Costs
- Internal Order Processing
- Handling Cost
- Tank Rental
- Handling Hazard



Industrial



Laboratory



Healthcare

Product Accreditations :



GO GREEN Efficiency

IMT Group provides green, sustainable and energy efficient products and services to industry, laboratory and healthcare. Energy reduction towards a smarter way to saves earth with lesser CO2 emission. Therefore, every equipment produced by IMT Group is crafted and designed with most efficient energy consumption.

A Total LabGas Solution For All Your Analytical Applications

Nitrogen

Eliminate high pressure cylinders by producing nitrogen gas from compressed air simply and cost effectively.

- LCMS (single and multiple units)
- ICP
- ELSO
- GC-FID, ECD, NPD, AED
- GC-carrier gas
- Solvent evaporation



Hydrogen

Eliminate high pressure cylinders from the laboratory by generating a continuous source of UHP hydrogen gas.

- GC-FID, NPD, FPD, TCD, ELCD, HALL
- GC-carrier gas
- Total Hydrocarbon Analysers (THA)

Zero Air

Through the purification of a compressed air supply Zero Air Generators are ideal for use in FID applications.

- GC-FID, NPD, FPD
- THA



Clean Dry Air

Desiccant dryers to provide a constant flow of clean, dry compressed air.

- NMR, AA, GC, ATD, Rheometer, Sample Prep Auto-Samplers and many other applications

Maximized Usage, Avoid Interruption, Endless Supply

Performance

Monitorable gas supply with IMT gas analyser

Safety & Hazard

Eliminate safety hazard of storing, handling and changing heavy & high pressure cylinders.

Consistency

24/7 endless supply

User Friendly

Just a push of button to operate

Uninterruptible Supply

Never runs out of gas

New revolution development of IMT gas generators deliver benefits in the laboratory:

Compact Design

- Fits below benchtop with castor

Quiet Operation

- Lowest Noise gas generator in the world (only < 35dB) thus absolute vibration free.

Minimal Maintenance

- Reliable with low ownership cost
- User Friendly with minimal maintenance
- Auto fault diagnostic capabilities with LCD display and audible alarm

Futuristic Design

- High Resolution TFT LCD Display communicates via GPRS with iPhone and iPad.

All IMT Gas Generator are supported by an IQ, OQ and PQ certification upon request.

Global Product Certified

- All IMT product are proven, tested and certified with cTUVus(UL and CSA equivalent), CE (PED, ATEX, LVD).

Worldwide Support

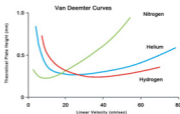
- 2 Years Global Warranty
- Local 24/7 technical support



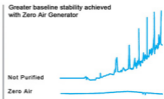
Improved overall analysis with IMT Gas Generator



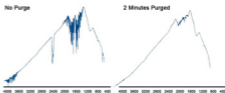
Hydrogen Generator



Zero Air with built in compressor



Compressed Air Dryers



Applications

Laboratory | Industrial | Healthcare

| Applications | Produce | Model | Flow Range | Advantage |
|---------------------|--|------------------------------------|--|--|
| Laboratory | Nitrogen, Purified N2 Zero Air CDA Oxygen | Simplex | 6-80 l/min | Integral silent oil-free compressor, Fits below bench top with combination of gases. |
| | | Duplex (2 in 1) | 6-52 l/min | |
| Triplex (3 in 1) | | 6- 42 l/min | | |
| | Hydrogen | Hydro- Flo | 150-1500 ml/min | Maintenance- Free Safety and secure supplies. |
| Industrial | Nitrogen | Mittel | 90- 200 l/min | Saves 65% on footprint with modular design. Allows capacity expansion when business growth |
| | | Ultima | 300-10,000 l/min 30-16,000 l/min | |
| | Desiccant Dryer | MD Series | 80-13,000 l/min | 6% Purge with advance PSA system on heatless type. |
| | | UD Series | | Zero Purge |
| | Refrigeration Dryer | MR | For compressor 2-200 HP | Tropical series with aluminum after cooler |
| | Waste Management | Auto Drain | For compressor 15-200 HP | Constructive Zero Loss Drain |
| | | Oil Water Separator | | Robust Stainless Steel Body, non electricity operated |
| Oil Free Compressor | Air Gen 80- 200 | Oil Free Air with silent operation | Dental, Laboratory Applications, Food and pharmaceuticals. | |
| HealthCare | Oxygen | OxyMax | 20-10,000 l/min | Operation Rooms, Cosmetic Surgery |
| | Breathing Air | BA 9000 | | Scuba Diving, Hospital Applications |
| | Compressed Dry Air | | Pneumatics Cutting Tools | |



LabGas

Partnering Solutions in Analytical Instruments and Laboratory Applications

N2 Nitrogen Generator

Produce nitrogen gas from compressed air via separation method (PSA / Membrane)

- Dry Clean Nitrogen and Phthalate - Free Gas
- Available in integral silent oil- free compressor or external air supplies.
- Purity up to 99.999%, hydrocarbon <0.05 ppm
- N2 Flow 6 l/min to 82 l/min (consult IMT for higher flow)
- HMI 'OLED' Color Touch Screen with visual and audible alarm
- ECO Modes with flow detection sensor (saves up to 65% electricity and mechanical wear & tear)

Note: Bergbau-Forschung Technik is a patented PSA method, develop in Germany since 1971. IMT GasGen utilize CMS produce by world renown Carbo Tech AC GmbH in PSA system.
- www.carbotech.de



Technical Specifications - Simplex Series NitroGen

| Models | Flowrate (l/ min) | Purity (% N2) | Nominal Pressure (Bar/Psi) | Dimension (mm) W x D x H | Weight (kg) | Applications |
|------------|-------------------|--|-------------------------------------|--------------------------|-------------|---|
| Simplex 6 | 6.2 | 99.9 (std models) or 99.999 (UHP models) | 8/ 120 (std models) or 12/ 175 (MP) | 420 x 720 x 660 | 38 | GC- FID, ELSD, FT-IR, TGA, DSC, TOD, ICP, AAS, Circular Dichroism |
| Simplex 12 | 12 | | | | 46 | |
| Simplex 22 | 22 | | | 550 x 720 x 660 | 58 | |
| Simplex 32 | 32 | | | | 74 | |
| Simplex 42 | 42 | | | | 88 | |
| Simplex 52 | 52 | | | 700 x 740 x 660 | 98 | |
| Simplex 62 | 62 | 128 | | | | |

Also available: Combination gas generator. Duplex with 2 gas combination and Triplex with 3 gas combination. Contact us at sales@imt-gasgen.com for products detail.

O2 Oxygen Generator

Produce oxygen gas from compressed air via separation method (aPSA / Membrane)

- Dry Clean Oxygen and Phthalate-Free Gas
- Available in integral silent oil- free compressor or external air supplies.
- Purity up to 99.999%, hydrocarbon <0.05 ppm
- N2 Flow 6 l/min to 82 l/min (consult IMT for higher flow)
- HMI 'OLED' Color Touch Screen with visual and audible alarm
- ECO Modes with flow detection sensor (saves up to 65% electricity and mechanical wear & tear)

Note: Advance Pressure Swing Absorption (aPSA) method .newly redevelop by IMT GasGen generate oxygen with purge rate of <8% , saves energy utilize zeolites produce by world renown Behn Meyer Holding AG, Hamburg Germany
- www.behnmeier.com



H₂ Hydrogen Generator

Produce dry hydrogen gas from advance PEM fuel cells with fully explosion proof design

- Dry Clean Hydrogen
- Pressure adjustable from 80-145 psi (also available in optional 200 psi)
- Purity up to 99.99995% (GC Hydrogen Grade)
- Flow 150 cc/min to 1600 cc/min
- Advance PEM Fuel Cells- Maintenance Free
- Advance Dual Leak Proof Safety certified by ATEX
- Dual Water Low Level Sensor

Note: All IMT Hydrogen Generator has meets or exceed stringent quality controlled on product safety certified by ATEX - Potentially Explosive Atmosphere, Directive 94/9/EC.



Zero Air Zero Air Generator

Produce Dry Zero Air with high efficiency filtration through a regenerative alumina separation, catalytic converter technologies (removes CO₂ and THC) and stabilizer/cooling tank to produce:

- Dry Clean Zero Air
- Available without compressor- WM Series or Integral Silent Oil Free Compressor with patented 'DSST' with pressure up to 145 psi.
- Dewpoint : -70deg C pdp
- Flow 150 cc/min to 1600 cc/min
- Safety: Compressor Over Heat

Note: Zero Air Grade produce by IMT are free from CO₂ and THC with methane <0.05ppm, CO₂<1ppm



CDA Clean Dry Air Generator

Produce Clean Dry Air with high efficiency filtration through a regenerative alumina blend separation (removes H₂O and CO₂) with pressure stabilizer tank to produce:

- Dry Clean Dry Air
- Available without compressor- WM Series or Integral Silent Oil Free Compressor with patented 'DSST' with pressure up to 145 psi.
- Dewpoint : -70deg C pdp
- Flow 150 cc/min to 3000 cc/min
- Safety: Compressor Over Heat

Note: Clean Dry Air produce by IMT are free from H₂O, CO₂ with filtration <0.1ppm



Gas Generator

for MP-AES

Duplex Series

Organic Analysis Configuration

Produce

Compressed Air - (36.5lpm @87psi for POP, ECGM, Monochromator)

Nitrogen (99.9%) - (25lpm@ 65psi)

Triplex Series

Monochromator Purge (Sulfur Determination)

Produce

Compressed Air - (36.5lpm @87psi for POP, ECGM, Monochromator)

Nitrogen (99.9%) - (25lpm@ 65psi)

UHP Nitrogen (99.999%) - 10lpm@65psi



High Pressure Nitrogen Generator

Lab Gas (12 bar/170psi)

also available:

Ultimate High Pressure Nitrogen Generator- Industrial (500 bar/ 7140 psi)

IMT GasGen also manufactures high pressure compact nitrogen generator with suited requirement for Dionex ASE extraction with increasing demand of nitrogen requirement in Plastic and Oil-Gas Industries has evolve IMT GasGen to produce nitrogen generator with higher pressure(500bar) capabilities to provides comprehensive solution for industries. Gas assist injection moulding uses nitrogen as the medium to reduce seam marks in plastic injection.

High Flow Nitrogen Generator

Lab Gas (I Funnel Technologies)

also available:

High Flow Nitrogen Generator- Industrial (80-16,000 lpm)

IMT GasGen also manufactures high flow compact nitrogen generator with suited requirement for Agilent LCMS/MS

I Funnel Technology application. With increasing demand of nitrogen requirement in modern laboratory has evolve IMT GasGen to produce nitrogen generator with higher flowrates capabilities to provides comprehensive solution of centralized laboratory supply capable of supplying to multiple instruments and applications. Mittel and Ultima typically produce flowrates ranging from 80 l/min to 16,000 l/min at purities from 99.999% to 97% oxygen content.



Disclaimer Notice :

Products mention above are solely for the purpose of identification only and may registered trademarks of their respective owners. IMT GasGen disclaims any rights on those marks.

Gas Generator Application Guide

| Instrument | Gas Requirement | Purity | Flow Rate | Generator Recommendation |
|--|--|--|---|--|
| Products for Gas Chromatography | | | | |
| 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 | UHP Hydrocarbon-free UHP UHP, zero grade UHP, zero grade | 30-50 cc/min 300-500 cc/min up to 10 cc/min 20-50 cc/min 30-50 cc/min | Hydrogen Zero Air Hydrogen Zero Nitrogen Zero Nitrogen |
| GC-FPD | Hydrogen for fuel gas Zero Air for flame gas | UHP Hydrocarbon free | 60-90 cc/min 90-120 cc/min | Hydrogen Zero Air |
| GC-NPD | Hydrogen for capillary gas Nitrogen for make up gas | UHP UHP, zero grade | up to 50 cc/min up to 30 cc/min | Hydrogen Zero Nitrogen |
| GC-ECD | Nitrogen for carrier gas Nitrogen for make up gas | UHP, zero grade UHP, zero grade | up to 60 cc/min up to 100 cc/min | Zero Nitrogen Zero Nitrogen |
| GC-TCD | Hydrogen as carrier gas | UHP | up to 50 cc/min | Hydrogen |
| GC-ATD | Dry air purge | Clean and dry air | less than 2L/min | Clean Dry Air |
| GC-AED | Nitrogen for carrier gas | UHP, zero grade | less than 1L/min | Zero Nitrogen |
| GC-ELCD,HALL | Hydrogen as reaction gas | UHP | 70 to 200 cc/min | Hydrogen |
| Products for LCMS Instruments | | | | |
| LCMS API/ LCMS APCI, Electropray, LCMS/MS, TOF | Air for nebulizer gas Nitrogen for curtain and sheath shield gas | Clean and dry air, hydrocarbon free 99.5% | 18L/min 5 to 35L/min | Clean Dry Air or Zero Air Nitrogen |
| Products for Spectroscopy | | | | |
| FT-IR Spectrometer | Purge gas for sample compartment, optics, air bearing and microscope | Clean dry, CO ₂ free | 14 to 85L/min | CO ₂ free air |
| NMR Spectrometer | Air for lifting spinning and ejecting | Clean and dry air | up to 300L/min | Clean Dry Air |
| ICP Spectrometer | Nitrogen or zero nitrogen for purge gas | 99.99 + % | up to 9L/min | Nitrogen or Zero Nitrogen |
| AA Spectrometer | Air for oxidant gas | Clean and dry air | 28 to 200L/min | Clean Dry Air |
| Products for Analyzers | | | | |
| TOC | Dry air or Nitrogen for carrier gas or combustion gas | Clean dry, CO ₂ free/ hydrocarbon free UHP | 100-500 cc/min 50-700 cc/min | CO ₂ free air/ Zero Air Zero Nitrogen |
| THA | Zero air for FID Hydrogen for fuel gas | Hydrocarbon free UHP | 50 to 500 cc/min 5 to 50 cc/min | Zero Air Hydrogen |
| DSC | Air for air shield | Clean and dry | 100cc/min | Clean Dry Air |
| TGA | Nitrogen or dry air as furnace gas | Clean and dry air or high purity N ₂ | 100cc/min | Clean Dry Air or Nitrogen |
| TOD | Nitrogen carrier gas | UHP, Zero grade | 300cc/min | Zero Nitrogen |
| CO ₂ analyzer | Calibration air | Clean dry, CO ₂ free hydrocarbon free | 550 to 1000cc/min | CO ₂ free air |
| Other laboratory applications | | | | |
| Sample Prep Autosamplers | Nitrogen for solvent evaporation Air for pneumatic controls Nitrogen for sample injector | 95% to 99% Clean and dry UHP, zero grade | up to 130L/min 28L/min 550cc/min | Nitrogen Clean Dry Air Zero Nitrogen |
| Circular Dichroism | Nitrogen | UHP, zero grade | | Zero Nitrogen |
| ELSD Detector | Nitrogen | 98% | 2-8 L/min | Nitrogen or |
| Particle sizing by Laser Diffraction | Clean and dry air for nebulizing gas | Clean and dry air | | Clean Dry Air |

Application Guide for LCMS/MS

| Instrument | Gas Requirement | Flow Rate & Purity | IMT Gas Generator Recommendation |
|--|---|--|----------------------------------|
| Product for Agilent Technologies LCMS | | | |
| Single Quad LCMS Electro Spray (Series 6120, 6130 and 6150) | Nebulizer Gas | 18-32l/min @ 99.9% N2 | Simplex 22 - 32 Evo |
| Triple Quad LCMS (Series 6420, 6430, 6460 and 6490) | | | |
| JetStream / 1 Funnel | Drying Gas and Collision Cells | 52-62l/min (Drying Gas) @ 99.9% N2 300ml/min (Collision Cells) @ 99.999% N2 | Duplex 52-62 Evo |
| Chip Cube | Drying Gas, Collision Cells and Dry Air | 52-62l/min (Drying Gas) @ 99.9% N2 300ml/min (Collision Cells) @ 99.999% N2 12l/min (Chip Cube) @ 99.99% Air | Triplex 52-62 Evo |
| Q-TOF LCMS (Series 6530, 6540 and 6550) | | | |
| JetStream / 1 Funnel | Drying Gas and Collision Cells | 62-82l/min (Drying Gas) @ 99.9% N2 300ml/min (Collision Cells) @ 99.999% N2 | Duplex 62-82 Evo |
| Chip Cube | Drying Gas, Collision Cells and Dry Air | 62-82l/min (Drying Gas) @ 99.9% N2 300ml/min (Collision Cells) @ 99.999% N2 12l/min (Chip Cube) @ 99.99% Air | Triplex 62-82 Evo |
| Product for Waters Corp LCMS | | | |
| Single Quad LCMS SQ Detector 2 Acquity SQD | Nebulizer Gas | 18-32l/min @ 99.9% N2 | Simplex 22 - 32 Evo |
| Triple Quad LCMS Xevo TQD, TQ-MS and TQ-S | Drying Gas | 32-42l/min (Drying Gas) @ 99.9% N2 | Simplex 32 - 42 Evo |
| Time of Flight (TOF) LCMS Xevo G2-S TOF | Drying Gas | 32-42l/min (Drying Gas) @ 99.9% N2 | Simplex 32 - 42 Evo |
| Q-TOF Synapt-G2 MALDI Synapt - G2 | | | |
| Product for Shimadzu LCMS | | | |
| Single Quad LCMS (Series 2010 and 2020) | Nebulizer Gas | 18-32l/min @ 99.9% N2 | Simplex 22 - 32 Evo |
| Triple Quad LCMS (Series 8030, 8040, 8050 and 8080) | Drying Gas | 32-42l/min (Drying Gas) @ 99.9% N2 | Simplex 32 - 42 Evo |

Simplex  Single Outlet N2 Generator

Duplex  2 in 1 Dual Outlet N2 Generator

Triplex  3 in 1 Triple Outlet N2 Generator

Simplex

Gas Generator Simplex™ Series

Product Description

Single Output Gas Generator

- Nitrogen (99.9%)
- Pure Nitrogen (99.999%)
- Clean Dry Air (-70 deg°C)
- Zero Air

Application:-

LCMS Instruments

- LCMS/MS, LCMS API, LCMS APCI, TOF, Q-TOF, Triple Q, I Funnel

Spectroscopy

- FT-IR, NMR, AAS and ICP-MS

Analyzer Products

- TOC, TMA, DSC, TGA, TDD, DMA, TMA and Co2 analyzer
- Other Laboratory Applications
- Turbo Vaps, Rheometers Circular Dichroism, Laser Diffractions, ELSD, Sample Drying / Concentration, Modified Atmospheres / Product Blanketing

Features and Benefits

- Super Silent Operation (+35dB only) with Dual Layer Silent Box Design
- Integral compressor with built-in storage tank
- Compact Design to Fits Below Bench Top
- Minimal Maintenance, Robust 24/7 Operation Auto Failure Diagnostic with failure indication
- EcoSense Mode (Operation based on usage demand) thus less operation cost.
- User Friendly Interface
- Phthalates Free with Constant Nitrogen Flow
- Output Quality Assured (Analyzer fitted)- IQ / OQ certified
- Future Dependable upon business growth / gas requirement increase (master/ slave configuration)
- 2 Years World Wide Warranty

Nitrogen Generator Duplex™ Series

Product Description

Dual Output Gas Generator

- Nitrogen (99.9%)
- Pure Nitrogen (99.999%)
- Clean Dry Air (-70 deg°C)
- Zero Air

Application:-

LCMS Instruments

- LCMS/MS, LCMS API, LCMS APCI, TOF, Q-TOF, Triple Q, I Funnel

Spectroscopy

- FT-IR, NMR, AAS and ICP-MS

Analyzer Products

- TOC, TMA, DSC, TGA, TDD, DMA, TMA and Co2 analyzer

Features and Benefits

- 2 in 1 design, reduces space required, maintenance / operation cost and increase flexibilities
- Super Silent Operation (+35dB only) with Dual Layer Silent Box Design
- Integral compressor with built-in storage tank
- Compact Design to Fits Below Bench Top
- Minimal Maintenance, Robust 24/7 Operation Auto Failure Diagnostic with failure indication
- EcoSense Mode (Operation based on usage demand) thus less operation cost.
- User Friendly Interface
- Phthalates Free with Constant Nitrogen Flow
- Output Quality Assured (Analyzer fitted)- IQ / OQ certified
- Future Dependable upon business growth / gas requirement increase (master / slave configuration)
- 2 Years World Wide Warranty

Duplex

Nitrogen Generator Triplex™ Series

Product Description

Triple Output Gas Generator on Gas to choose below:

- Nitrogen (99.9%)
- Pure Nitrogen (99.999%)
- Hydrogen
- Zero Air

Application:-

GC Instruments

- FID, FPD, NPD, AED and GC-MS

LCMS Instruments

- LCMS/MS, LCMS API, LCMS APCI, TOF, Q-TOF, AB-SCIEX QTRAP

Spectroscopy

- MP, AES, NMR

Analyzer Products

- TOC, TMA, DSC, TGA, TDD

Features and Benefits

- 3 in 1 design, reduces space required, maintenance / operation cost and increase flexibilities
- Super Silent Operation (+35dB only) with Dual Layer Silent Box Design
- Integral compressor with built-in storage tank
- Compact Design to Fits Below Bench Top
- Minimal Maintenance, Robust 24/7 Operation Auto Failure Diagnostic with failure indication
- EcoSense Mode (Operation based on usage demand) thus less operation cost.
- User Friendly Interface
- Phthalates Free with Constant Nitrogen Flow
- Output Quality Assured (Analyzer fitted)- IQ / OQ certified
- Future Dependable upon business growth / gas requirement increase (master / slave configuration)
- 2 Years World Wide Warranty

Triplex

Gas Requirement is countless.
Therefore imagination is unlimited,
please share with us on your applications,
with our expertise nothing is impossible.
Please email to customdesign@imt-gasgen.com today,
let us do the rest.

Authorized Support Center

IMT GasGen GmbH & Co.KG has continuous development policy and the Company reserved the right to alter or change any specification without any notice. However, we will keep customer informed on the latest specification or contact us at sales@imt-gasgen.com

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