

ENERGY  
SAVING  
TECHNOLOGY

N2 OUTLET  
PRESSURE

AIR INLET  
PRESSURE

FROM BUFFER  
VESSEL

NITROGEN  
OUTLET

NITROGEN (N<sub>2</sub>)  
AZOTE

N<sub>2</sub> | NITROSource  
PART OF THE MAXIGAS RANGE

# The profitability generator

Nitrogen gas generation



**Parker** | domnick  
hunter

ENGINEERING YOUR SUCCESS.



The profitability generator

“We are set to recoup the capital cost within 18-24 months. So effectively, we’ll be producing free nitrogen on-tap, without the risk of production downtime.”

James Sweeting – Director, Lincoln & York, coffee producer, United Kingdom



### The profitability generator

How much do you rely on nitrogen? It's a vital element of production for a huge range of businesses, from foods and material processing to pharmaceuticals and electronics. It's also a significant cost component. But now there's a new way of thinking about nitrogen – as a source of *increased productivity, sustainability and above all, profitability.*

### Continuous supply, ultimate reliability, competitive advantage

When you switch to gas generation with Parker domnick hunter's NITROSource, you can expect payback within six to 24 months, depending on your existing arrangements and consumption. But you're also making an investment in quality through uninterrupted supply, stable gas pressure, consistent flow and guaranteed purity. It's a golden opportunity to gain an advantage over your competitors.

### Lowest total lifetime cost

With unique design and advanced Energy Saving Technology at its core, the market leading NITROSource on-site generator requires less compressed air to generate more nitrogen than other solutions. Which translates into reduced energy consumption. Together with substantially lower servicing costs, reduced downtime and a longer working life, it adds up to the most cost-efficient nitrogen supply available; Significantly more affordable than traditional sources, and delivering huge savings over the lifetime of the generator.

### Trusted innovation

With over 20 years' experience in the market, and over 50,000 units installed globally, Parker is first choice for innovative and reliable gas generation technology.

## Advanced technology for industry leading performance

A product of Parker's worldwide R&D resources and featuring a host of intelligent engineering solutions, unique technology and a sleek space-saving design, NITROSource is designed to work more efficiently for customers. Purely and simply, it's better inside and out.

NITROSource offers a number of significant advantages over delivered gas options, as well as traditional generator designs. So when you're considering on-site supply, NITROSource is the benchmark specification for maximum performance and lowest lifetime cost.

### Highest efficiency, highest output nitrogen gas generator

Developed through extensive research and design, utilising the latest flow modelling technology, materials and controls system, NITROSource is the highest efficiency nitrogen generator. Using less compressed air, it produces nitrogen at the lowest unit cost.

### Carbon Molecular Sieve (CMS)

NITROSource employs the most robust, highest efficiency CMS - the material that removes the oxygen from the compressed air stream. This is the 'engine' of the generator, and the source of valuable performance benefits: more gas for less compressed air, reducing energy consumption; a very long working life - saving money on replacements; and less CMS per unit of gas produced, enabling a more compact unit.

### PSA technology

utilising Carbon Molecular Sieve - designed for over 10 year's operational life.

### Easy-to-use control panel

plus mass flow controller and economy stand-by mode.



**Modular design** for expandability, and compact footprint for maximum versatility and optimum use of factory space.

**Unique Energy Saving Technology:** Exactly matches compressed air flow with nitrogen gas outlet flow and purity, for lowest energy consumption.

### Industry compliance, food and pharmaceutical safe

Independently tested by a third party UKAS authority, NITROSource offers total compliance with guidelines around food and pharmaceutical applications, so that it can be specified with complete peace of mind:

- Produces pharmaceutical and food grade nitrogen gas in accordance with European statute.
- Manufactured from materials that are safe for gas contact with pharmaceutical and food products, in line with the USA Food & Drugs Administration Article 21 (FDA Article 21).

### Unique Energy Saving Technology (EST)

Dramatically reduces compressed air consumption and energy cost, by ensuring that the inlet compressed air flow is always exactly matched to the nitrogen gas outlet flow and purity.

### Expandable

Avoids unnecessary investment in surplus capacity at the outset. As an expandable system, NITROSource can be exactly specified for only the current requirement, and simply enlarged with additional generators - as and when demand increases. And with 100% back up provided by a single extra generator, there are extra savings on duplicating the complete set up.

### Remote monitoring

With 'MODBUS', single or multiple generators can be connected to proprietary remote management and generator control systems; available as standard through an integral connection on the NITROSource.

### Gas quality control system

Designed with five key components at its heart, NITROSource offers the assurance of the correct quality gas at all times.

- Mass Flow Controller - whatever happens downstream, the generator will continue to deliver the correct set pressure and flow, removing the risk of any over-flow or compromise in nitrogen purity.
- Integral Oxygen Analyser - constantly measures the oxygen content in the output gas stream, ensuring that it is within the set limits and the correct purity gas is delivered.
- Off-Gas-By-Pass - ensures that the correct gas purity is always delivered to the application, by automatically allowing out-of-specification gas to vent to the atmosphere during start up, or in the unusual event of a fault.
- Inlet and outlet pressure regulation - guarantees the correct compressed air-inlet and nitrogen gas-outlet pressures, ensuring maximum operating efficiency and safeguarding both equipment and product from potential damage or spoilage.
- Purpose designed electronic control system - ensures the correct quality, pressure and flow of nitrogen, through 100% control of all critical generator functions, including economy control, monitoring outputs and alarms.

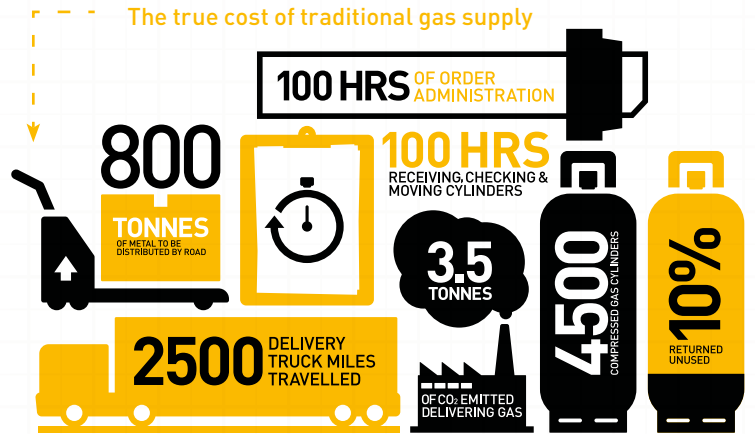


**Integral Oxygen Analyser -**  
Constant monitoring ensuring the correct gas purity.

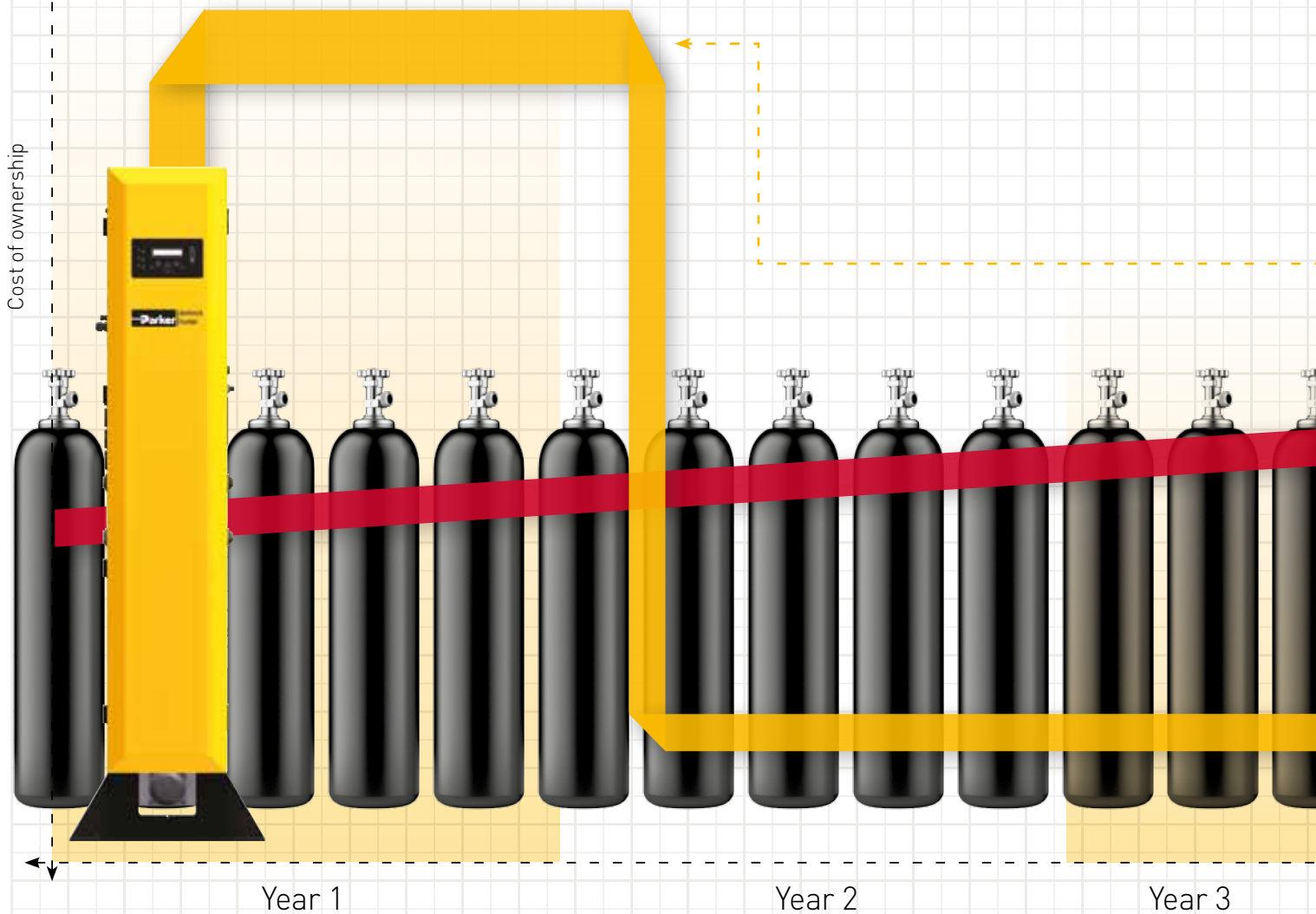
## The profitability generator

### The most economical source of nitrogen

With traditional methods of gas supply, users are liable for 'hidden extra costs' such as cylinder rental, delivery and administration charges on top of the headline gas price. In addition, liquid 'boil-off' vents expensive gas into the atmosphere, and approximately 10% of the gas in every cylinder is typically returned to the supplier unused. So when the true costs are accounted for, gas generation with NITROSource is the most economical source of nitrogen – making a positive contribution to the bottom line.



\* based on approximately 10m<sup>3</sup>/hour for 4000 hours/year using cylinders or manifolded cylinder packs



### The tipping point

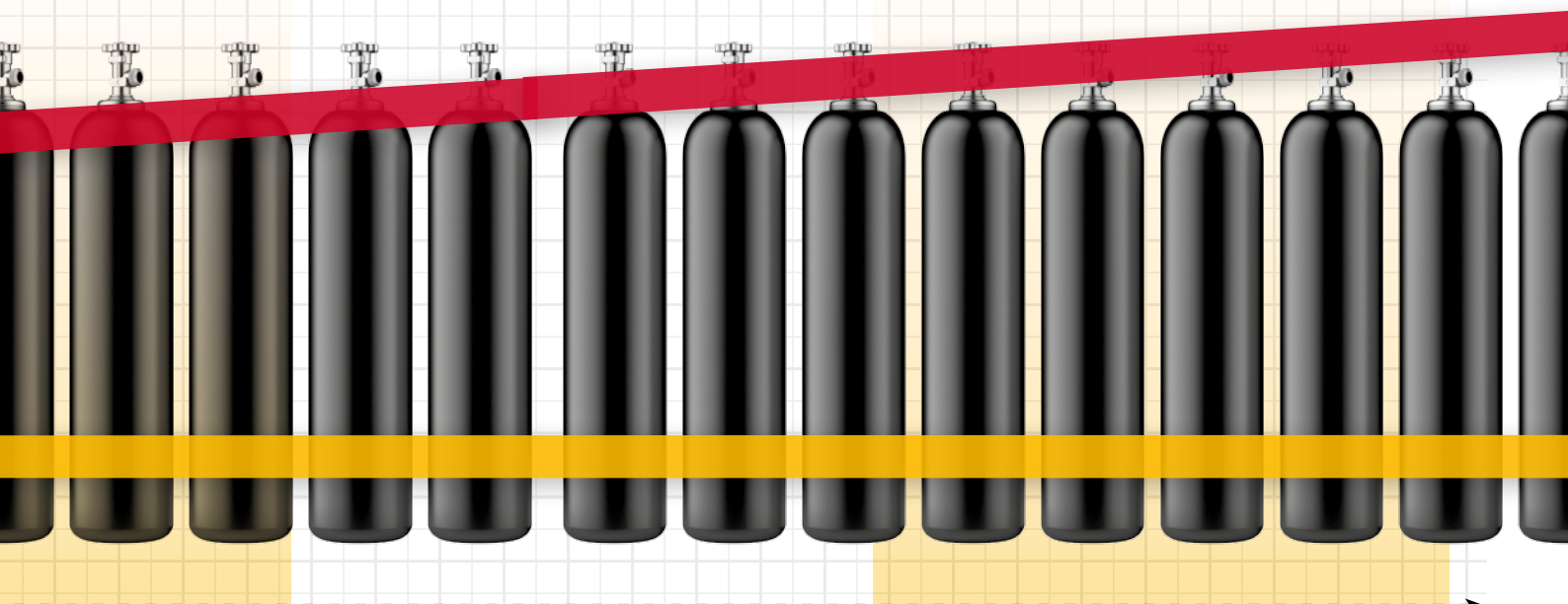
With NITROSource you can expect payback within six to 24 months\* (depending on agreed gas delivery 'terms' and consumption). So after the initial investment, NITROSource costs reduce dramatically, while the costs of traditional methods continue to grow year on year.

### Energy saving

Packed with advanced energy-efficient technology, NITROSource consumes less compressed air and energy than traditional generators – delivering substantial cost savings as well as greater sustainability in the long run.

### Lowest cost maintenance and parts

Built around Parker's high efficiency, and very long life Carbon Molecular Sieve, NITROSource requires a fraction of the maintenance and expensive replacement parts demanded by other gas generators – representing decisive cost-savings over the lifetime of the product.



Year 3

Year 4

Year 5

## Increased profitability for producers in a wide range of markets

NITROSource is the ideal solution for manufacturers and suppliers in a variety of industries, from food to pharmaceuticals, electronics and material processing. As a permanently installed solution, it brings a significantly reduced risk of gas contamination - unlike traditional supplies that require the user to break into the sealed system in order to connect and disconnect cylinders and liquid filling equipment.

NITROSource is managed 24/7 through an advanced electronic control system, designed to offer complete reassurance over gas purity and safety. The system governs a range of integrated technologies which, together, optimise all of the critical factors, including economy, quality, pressure and flow.


NITROSource is the only generator fitted with a Mass Flow Controller as standard, to ensure correct pressure and flow, regardless of outside factors. Gas purity is continually measured by the Integral Oxygen Analyser, with any 'out-of-specification' gas automatically vented away from the application through the Off-Gas By-Pass.

With a modular design, NITROSource is expandable to suit different volumes and flow rates, delivering vital savings and supporting profitability on every type of process and application. You can generate as much or as little nitrogen as you require, with total confidence, and 100% on demand. And you don't have to pay for excess capacity you don't need.

### **Food, beverage and pharmaceutical safe**

NITROSource has independent third-party food and beverage safety accreditation to demonstrate full compliance with European statute for food and pharmaceutical grade gases as well as the USA Food & Drugs Administration (FDA) Article 21; making it a risk-free choice for food, beverage and pharmaceutical applications.





## Additional peace of mind with Parker extended warranty

Like all Parker products, NITROSource is precision engineered for outstanding reliability and performance. But for added peace of mind, you are automatically entitled to our free five year extended warranty through Parker (providing that your equipment is maintained through the approved Parker service programme, using only genuine Parker components). Should the unexpected happen, you'll be entitled to a full replacement or repair, carried out by fully trained Parker certified technicians.\*

*\*Parker extended warranty extends for five years or 40,000 operating hours from the date of commissioning, or 66 months from date of manufacture, whichever is the soonest. For full conditions, please contact your distributor.*

**NITROSource is appropriate for manufacturers and producers in a wide range of industries:**

- **Food production, processing, storage and packaging**
  - snacks, dairy, grated cheese, milk powder, coffee, edible oils
- **Beverage and bottling**
- **Pharmaceuticals**
  - primary and secondary manufacturing, centralised laboratory, inert storage and packaging
- **Materials processing**
  - laser cutting, heat treatment and composite manufacturing
- **Electronics**



# Upgrade your nitrogen source

Bringing together advanced energy-efficient technologies, Parker engineering know-how, and in-depth understanding of customer needs, NITROSource sets a new level of specification for gas generation:

## Energy efficiency

Reduced compressed air and energy consumption, lowest unit cost nitrogen.

## Lower cost maintenance, very long working life

The Carbon Molecular Sieve filtration delivers nitrogen more efficiently, leading to a very long working life – and major savings on maintenance and replacements.

## Five year warranty

Free through Parker extended warranty, offering the assurance of no unexpected maintenance costs.

## Industry compliance

Food and pharmaceutical safe, in line with European statute and the USA Food & Drugs Administration (FDA Article 21).

## Energy Saving Technology

Matches compressed air flow to the nitrogen outlet flow and purity, reducing compressed air use, and saving energy and money.

## Expandable

Add extra capacity as the application requirement grows.

## Quality control

- Mass Flow Controller - ensuring correct set pressure and flow.
- Integral Oxygen Analyser - constantly measuring gas purity.
- Off-Gas By-Pass – automatically vents off out-of-specification gas.
- Inlet and outlet pressure regulation – preventing damage to the generator or application.
- Electronic control system – 100% management of all critical generator functions.

## Remote monitoring

Enabling connection to proprietary remote management and generator control systems.



Offering increased efficiency and performance, maximum sustainability, and purity you can rely on, NITROSource adds up to the smartest solution for gas supply. And with the most dependable, lowest cost nitrogen generation safely in place, you're free to concentrate on what matters to you; creating value for your customers, and building profit for your business.



Find out more about how NITROSource can increase your profitability. For more information or a detailed discussion about your specific nitrogen requirements, contact an authorised Parker distributor.

$N_2$  | **NITROSource**  
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