

Liquid Nitrogen (LN2) Dosing

Revolutionize Your Packaging System and
Enhance Product Quality

Manufacturer:

Cryogenic Specialty Manufacturing

Kualar Lumpur, Malaysia

www.csm-cryogenic.com/

Authorized Distributor:

KTW Technology GmH

Gleeser Str. 14, 56653 Wehr, Germany

www.ktwtechnology.de/

+49 2636 807773

Get in touch:

KTW Technology GmbH

Markus König

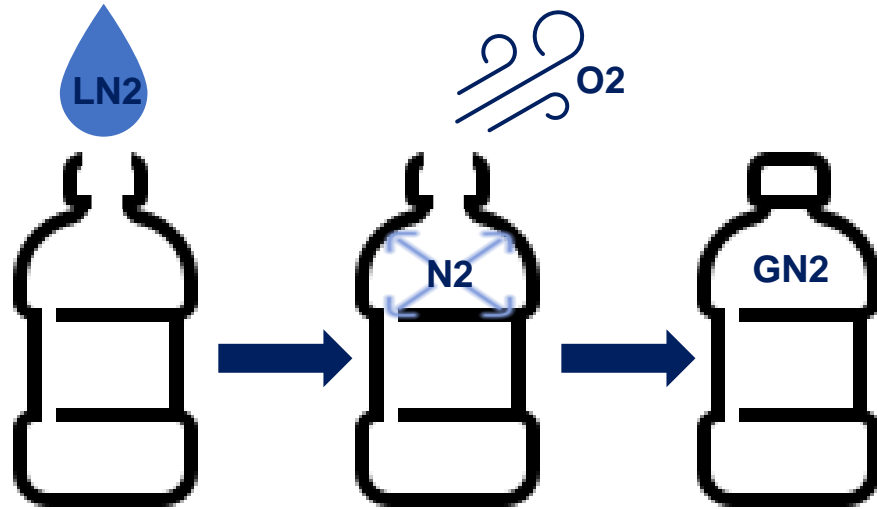
mk@ktwtechnology.de / +49 172 161 6509

Problem

- Requirement of headspace inerting for products sensitive to oxidation and thin-walled packaging material.
- Traditional methods of filling inert gas: time-consuming, inaccurate, energy-wasting and failure-prone (nozzle freezing).
- Inconsistent and inadequate filling:
 - product quality and shelf-life variability
 - oxidation or spoilage of the product
 - wasted product and lost revenue
 - product damages during transportation
- Overfilling:
 - increasing costs, more gas used than necessary.



Solution – LN2 Dosing



Liquid nitrogen expands about 700 times when converting from a liquid to a gas, creating a controlled pressure inside the container and removing any residual oxygen.

1

Enhance structure rigidity

Compensate for any loss of structure rigidity, ensure that the package remains intact during shipping and handling.

2

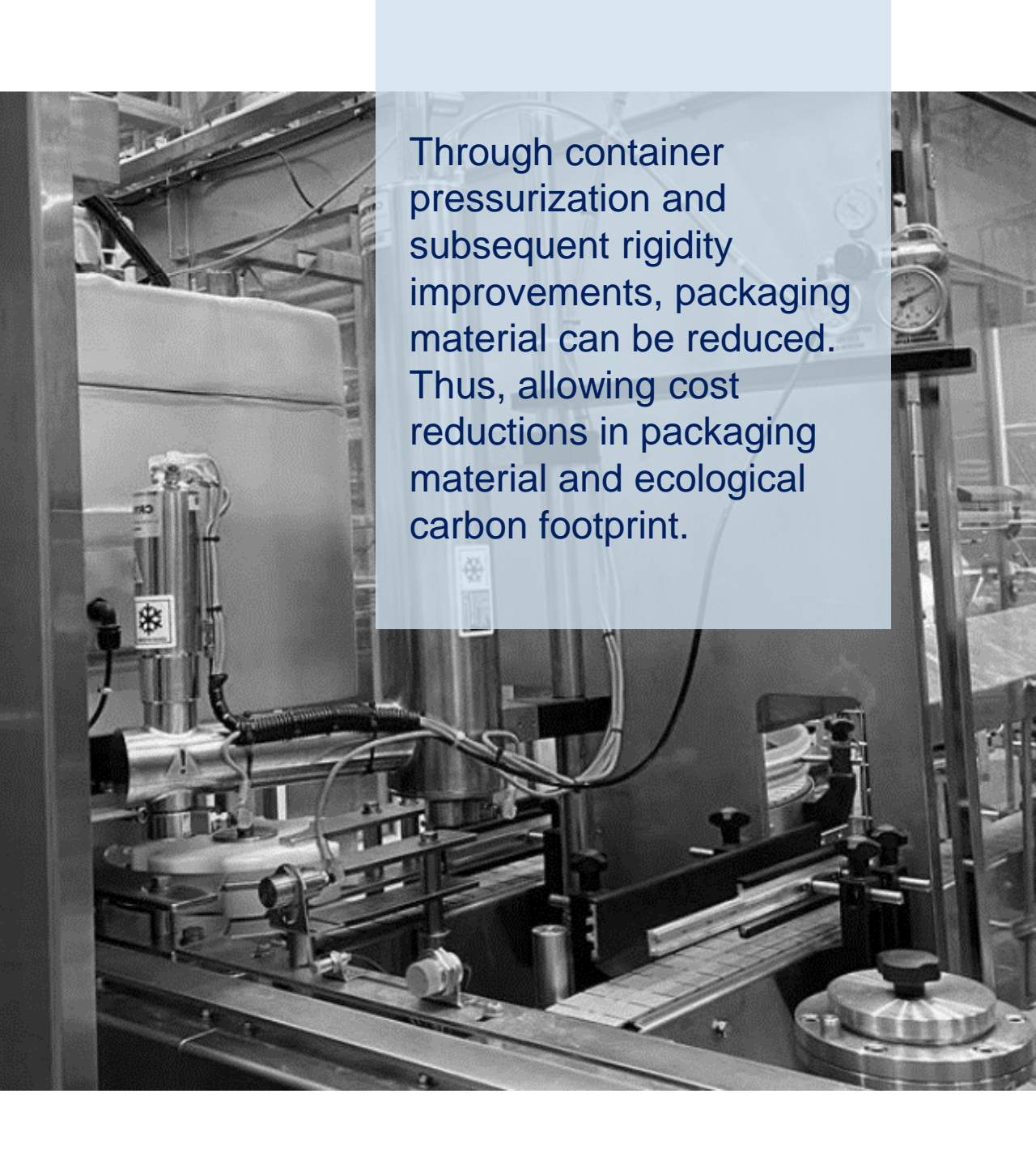
Reduce cost

Less packaging material.
Fewer defects. Less revenue lost.
Less waste. Less cost.

3

Maximize efficiency

Improve energy efficiency.
Less emission.
Eco-friendly packaging operations.




Through container pressurization and subsequent rigidity improvements, packaging material can be reduced. Thus, allowing cost reductions in packaging material and ecological carbon footprint.

The benefits of LN2 dosing

PRESSURIZATION

- ✓ Prevent deformation and damage during transportation of containers
- ✓ Improve labelling from better container rigidity
- ✓ Improve palletizing in factory warehouse
- ✓ Compensate for atmospheric pressure differences (eg. mountain – sea level)
- ✓ Preserve the bottle/can shape in the supermarket and allow product sales via vending machines



Inerting food & beverage containers through LN2 dosing is a highly effective method for achieving the desired level of oxygen exclusion and preserving the quality and freshness of food and beverage products.

The benefits of LN2 dosing

INERTING

- ✓ Prevention of product oxidation
- ✓ Avoiding the need to add oxidation inhibitors
- ✓ Avoiding collapse of the package (paneling)
- ✓ Preserving taste, color, and freshness of the product
- ✓ Increasing the shelf life of the product

NovoDoser

A new generation liquid nitrogen doser with frost-free operation, food-grade austenitic stainless-steel material, hygienic wash-down design in compliance with stringent HACCP requirements.



NovoDoser

- ✓ Frost-free Nozzle
- ✓ Accurate dosing up to $\pm 1\%$
- ✓ Discrete dosing, up to 2000 CPM
- ✓ Lowest LN2 Losses
- ✓ Lowest dose pressure, 0,02 bar
- ✓ Hygiene Wash Down Design
- ✓ Sensors & Electrical cables are IP 65 rated, 316L material grade for main system
- ✓ 5 Years Vacuum Warranty



NovoDoser - Specifications

Model	500FD	800SC	2000DSC
PLC Platform	Siemens S7-1200	Siemens S7-1200	Siemens S7-1200
HMI (LCD touch screen)	4,3" Color	4,3" Color	7,0" Color
Dose Duration, 1ms int.	15 to 1500 ms	5 to 1000ms	5 to 1000ms
Dose Volume, mg/dose	10 to 2000	10 to 1400	5 to 1400
Dose Accuracy	± 2%	± 2%	± 1%
Max. Discrete Dosing	500 CPM	800 CPM	2000 CPM



Trusted by

