



LinearDoser™

Liquid Nitrogen Dosing System for Linear Fillers

The LinearDoser system is a multi-head liquid nitrogen (LN₂) doser for linear packaging. Chart engineers designed an ultra-efficient system to dispense a precise dose of LN₂ into every container every time to displace the oxygen in the container and provide internal pressure. When compared to traditional gaseous nitrogen flushing applications, the LinearDoser system provides better consistency and reduces LN₂ consumption and cost.

Features

- **Compact Size** – enables installation in limited spaces
- **Precise Dosing** – delivers consistent, accurate dosing
- **Discrete Dosing** – up to 500 containers per minute
- **Discrete or Continuous Dosing** – change over defined by user
- **Vacuum Insulated Technology** – the most efficient use of LN₂
- **Multi-Head Design** – customizable and adaptable to most linear fillers



How it Works

LN₂ is supplied to the LinearDoser system by a vacuum insulated flex pipe from a Chart Phase Separator and flows into the dosing heads. A 24vdc PNP sensor detects the presence of a container. When a container is detected, the dosing heads open and dispense an exact amount of LN₂ which gasifies and escapes with oxygen to inert the headspace.

Key Benefits

- **Oxygen Reduction** – create an inert environment to preserve product freshness
- **Extend Shelf Life** – minimize oxygen levels
- **Reduce Nitrogen Consumption** – measurable and repeatable liquid doses
- **Lightweight PET** – reduce the weight of PET for cost and environmental savings
- **Bottle Rigidity** – maintain bottle shape even with lighter weight containers
- **Eliminate Paneling** – increase the internal pressure to offset paneling issues
- **Stabilize Organic Products** – extend shelf life without preservatives
- **Ease of Labeling** – consistent bottle rigidity creates an efficient labeling process
- **Maximize Warehouse Storage Space** – increasing product stackability utilizes less square footage

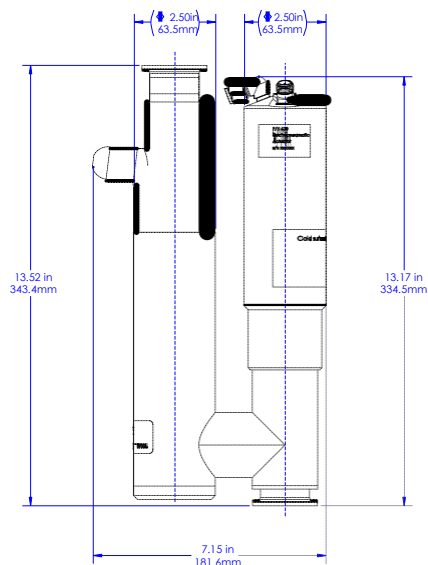
LinearDoser™ Technical Specifications



Materials	Stainless Steel Series 300*
Body Dimensions	13.5" H x 2" W (338 x 50.8 mm)
Dosing Head Dimensions	9.5"H x 2"W (241 x 50.8 mm)
Arm Reach	6.5" (165 mm)
Head Pressure	Dependent on elevation of Phase Separator 3 ft (914.4 mm) elevation height = ~1 psi (0.07 bar)
Nozzles	0.020" - 0.100" (0.005" increments) available
System Utilities	LN ₂ : Max. 125 psi (8.62 bar): 80 psi (5.52 bar) optimal GN ₂ : 60 - 100 psi (4.1- 6.9 bar) Electricity: 110 - 240VAC; 50/60Hz, 110W
Steady State Consumption	0.04 gal (0.15 liter) / hour
EP Head Compatible	Yes

* 304 standard, 316L available upon request

LinearDoser™ Dimensions



Controller Technical Specifications

Model	500S
PLC Platform	Siemens
Display	Mono Keypad
Dose Duration	15 to 1000 ms (1 ms intervals)
Maximum Discrete Dosing (cpm) (cph)	500 (30,000)
Electronic Dose Targeting	yes
Fixed Delay Mode	yes
Speed Compensated Mode	yes
Accuracy	± 5% of dose weight
Certifications	CE, NEMA 4X

CRYOGAS

Cryogas Tech Sdn Bhd
No 41, Jalan Putra Permai 1A, Equine Park,
43300 Seri kembangan, Selangor, Malaysia.
Phone +603-8948 2350 Fax +603-8948 7950
www.cryogas.asia