



UltraDoser® Liquid Nitrogen Dosing

The UltraDoser® is the multi-purpose liquid nitrogen (LN₂) dosing system utilizing advanced cryogenic technology and PLC programming.

Chart engineers designed an ultra-efficient system for low to medium production line speeds to dispense a precise dose of LN₂ into every container every time. The LN₂ gasifies and is either trapped in the container to add rigidity or escapes with oxygen to inert the headspace.

Features

- **Compact Size** – enables installation in limited spaces
- **Precise Dosing** – delivers consistent, accurate dosing
- **Discrete Dosing** – up to 2000* containers per minute
- **Discrete or Continuous Dosing** – change over defined by user
- **Vacuum Insulated Technology** – the most efficient use of LN₂
- **SoftDose™ Compatible** – Chart's proven technology for hot fill, powder, and granular applications
- **RemoteDose™ Capable** – remote access and control to increase efficiency and reduce downtime
- **MicroDose™ Capable** – consistent, accurate dosing over all line speeds

* Results obtained under specific conditions.



How it Works

LN₂ is supplied to the UltraDoser by a vacuum insulated hose and flows into the dosing head. A sensor detects the speed of the line (encoder compatible); a second sensor detects the presence of a container. When a container is detected, the dosing head opens and dispenses an exact amount of pure LN₂. A PLC (Programmable Logic Controller) is the brains behind integrating the sensors, controls and human interface.

Key Benefits

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



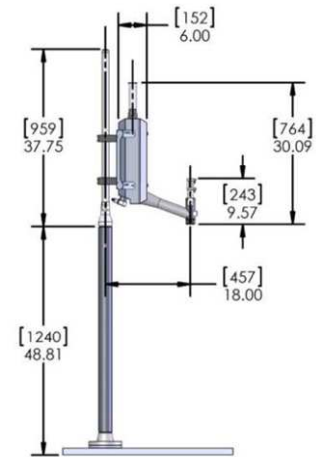
UltraDoser® Technical Specifications



Materials	Stainless Steel Series 300*
Weight	32 lbs (14.5 kg)
Body Dimensions	18"H x 6"W (457.2 x 152 mm)
Dosing Head Dimensions	9.5"H x 2"W (241 x 50.8 mm)
Arm Reach	12" - 18" (304.8 - 457 mm)
Head Pressure	0.45 psi (0.03 bar)
Nozzles	Ships with 0.040", 0.050", 0.060" 0.020" - 0.100" (0.005" increments) available
System Utilities	Liquid Nitrogen: 3 - 22 psi (0.2 - 1.5 bar) Gaseous Nitrogen: 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
Quick Service Feature	No
Vacuum Insulated	Yes
Flexible Arm	No
SoftDose™ Compatible	Yes

* 304 standard, 316L available upon request

UltraDoser® Dimensions



Controller Technical Specifications

Model	500S	150S
PLC Platform	Siemens	Siemens
Display	Mono Keypad	Mono Keypad
Dose Duration	15 to 1000 ms (1 ms intervals)	10 to 500 ms (1 ms intervals)
Dose Volume	0.02 to 14 grams/dose	0.01 to 4 grams/dose
Encoder Compatible		
Maximum Discrete Dosing (cpm)	500	150
MicroDose™ Technology		
Line Speed Auto Detect		
Electronic Dose Targeting	✓	
Fixed Delay Mode	✓	✓
Speed Compensated Mode	✓	
Accuracy	± 5% of dose weight	± 5% of dose weight
Multiple Languages		
RemoteDose™ Capable		
Recipe Storage		
Certifications	CE, NEMA 4X	CE, NEMA 4X

*Remarks obtained under specific conditions.

