



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 1800 containers per minute* (controller dependant)
- **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.

* Results obtained under specific conditions.



How it Works

LN₂ is supplied to the UltraDoser by a standard 10 ft (3 mt) vacuum insulated Cryotech/Flex hose (various lengths available) and flows into the dosing head. A 24vdc PNP sensor detects the speed of the line (encoder compatible for higher speeds); a second 24vdc PNP sensor detects the presence of a container. When a container is detected, the dosing head opens and dispenses an exact amount of pure LN₂.

Key Benefits

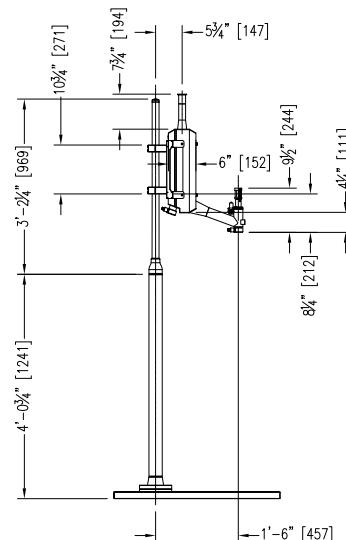
- **Lightweight PET** – reduce the weight of PET for cost and environmental savings
- **Glass to PET Transition** – eliminate glass safety hazards and weight of containers
- **Bottle Rigidity** – maintain bottle shape even with lighter weight containers
- **Eliminate Paneling** – increase the internal 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 (762 x 152 mm)
Dosing Head Dimensions	9.5"H x 2"W (241 x 50.8 mm)
Arm Reach	18" (457 mm)
Head Pressure	0.45 psi (0.03 bar)
Nozzles	Min. 0.020" - Max. 0.120" available Ships with 0.040" (installed), 0.050", 0.060"
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

UltraDoser Dimensions



Controller Technical Specifications

	AB1500	S7200	SC350c	FS150
Dimensions	20"H x 8"D x 11"W (508 x 216 x 279 mm)	19.8"H x 7.8"D x 12.3"W (503 x 198 x 312 mm)	10.8"H x 5.7"D x 9.0"W (273 x 145 x 230 mm)	10.8"H x 5.7"D x 9.0"W (273 x 145 x 230mm)
Weight	22.5 lbs (10.2 kg)	22.5 lbs (10.2 kg)	10.5 lbs (4.8 kg)	9.5 lbs (4.3 kg)
Screen Dimensions	3.5" x 4.5" (88.9 x 114.3 mm)	3.5" x 4.75" (88.9 x 120.7 mm)	3.25" x 0.75" (82.5 x 19.0 mm)	1.0" x 1.25" (25.4 x 31.8 mm)
PLC Platform	Allen Bradley	Siemens	Siemens	Siemens
Dosing Range	0.01 - 1.4 grams/dose	0.01 - 1.4 grams/dose	0.01 - 14 grams/dose	0.01 - 7 grams/dose
Timing Range	10 to 100 ms (in 1 ms intervals)	10 to 100 ms (in 1 ms intervals)	15 to 1000 ms (in 1 ms intervals)	10 to 500 ms (in 10 ms intervals)
Encoder Compatible	Yes	Yes	No	No
Discrete Dosing	Up to 1800 cpm*	Up to 1800 cpm*	Up to 350 cpm	up to 150 cpm
Line Speed Auto Detect	Yes	No	No	No
Electronic Dose Targeting	Yes	Yes	Yes	No
Fixed Delay Mode	Yes	No	Yes	Yes
Speed Compensated Mode	Yes	Yes	Yes	No
Accuracy	± 5% of dose value	± 5% of dose value	± 5% of dose value	± 5% of dose value
Multiple Languages	No	Yes	No	No
Ethernet Ready	Yes (w/ additional module)	No	No	No
Recipe Storage	Yes	Yes	No	No
Certifications	CE, NEMA 4X	CE, NEMA 4X	CE, NEMA 4X	CE, NEMA 4X

* Results obtained under specific conditions.

Your Local Representative



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PN 14936230