



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
- **SoftDose™ Compatible** – Chart's proven technology for hot fill, powder, and granular applications
- **RemoteDose™ Capable** – monitor and troubleshoot the system remotely thereby minimizing or eliminating system downtime
- **MicroDose™ Capable** – designed specifically for tight pressure specifications
- **IntelliDose™ Capable** – automatic dose adjustments at any line speed between low/high points as defined by user

* 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



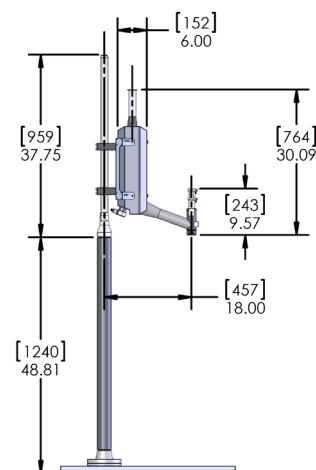
UltraDoser® Technical Specifications



| | |
|---------------------------------|---|
| Materials | Stainless Steel Series 300* |
| Weight | 32 lbs (14.5 kg) |
| Body Dimensions | 18"H x 6"W (762 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 | 2K | 500S | 150S |
|--------------------------------------|--|--------------------------------|-------------------------------|
| PLC Platform | Allen-Bradley or Siemens | Siemens | Siemens |
| Display | 7" (178 mm) TFT Color LCD Touch Screen | Mono Keypad | Mono Keypad |
| Dose Duration | 5.5 to 1000 ms (0.1 ms intervals) | 15 to 1000 ms (1 ms intervals) | 10 to 500 ms (1 ms intervals) |
| Dose Volume | 0.002 to 14 grams/dose | 0.02 to 14 grams/dose | 0.01 to 4 grams/dose |
| Encoder Compatible | ✓ | | |
| Maximum Discrete Dosing (cpm) | 2000* | 500 | 150 |
| MicroDose™ Technology | ✓ | | |
| Line Speed Auto Detect | ✓ | | |
| Electronic Dose Targeting | ✓ | ✓ | |
| Fixed Delay Mode | ✓ | ✓ | ✓ |
| Speed Compensated Mode | ✓ | ✓ | |
| Accuracy | ± 2% of dose weight | ± 5% of dose weight | ± 5% of dose weight |
| Multiple Languages | ✓ | | |
| RemoteDose™ Capable | ✓ | | |
| IntelliDose™ Capable | ✓ | | |
| Recipe Storage | ✓ | | |
| Certifications | CE, NEMA 4X | CE, NEMA 4X | CE, NEMA 4X |

* Results obtained under specific conditions.

Your Local Representative



Chart Inc.

161 Baypointe Parkway • San Jose, CA 95134
Phone +1 800.371.3303 • Fax +1 408.577.1567 • Service +1 408.371.4932
www.chartdosers.com

© 2013 Chart Inc.

PN 14936230