



CryoDoser[®] Liquid Nitrogen Dosing

The CryoDoser[®] is the premier liquid nitrogen (LN₂) dosing system utilizing advanced cryogenic technology and PLC programming. Three sensors detecting line speed, timing, and bottle presence allow the system to detect all line speeds, including high 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

- **Flexible Dosing Arm** – allows the dosing head to be installed at any angle
- **Quick Service Automatic Defrost** – eliminates most freeze ups in less than ten minutes
- **IntelliDose™ Capable** – automatic dose adjustments at any line speed between low/high points as defined by user
- **RemoteDose™ Capable** – monitor and troubleshoot the system remotely thereby minimizing or eliminating system downtime
- **MicroDose™ Technology** – designed specifically for tight pressure specifications
- **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

* Results obtained under specific conditions.



How it Works

LN₂ is supplied to the CryoDoser 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 via a touch-screen HMI (Human Machine Interface) display.

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

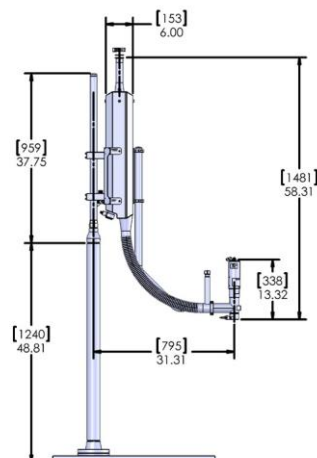
CryoDoser® Technical Specifications



Materials	Stainless Steel Series 300*
Weight	38 lbs (17 kg)
Body Dimensions	28.5"H x 6"W (724 x 152 mm)
Dosing Head Dimensions	13.5"H x 2"W (338 x 50.8 mm)
Arm Reach	24" to 30" (609.6 to 762 mm)
Head Pressure	0.9 psi (0.06 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
Quick Service Feature	Yes
Vacuum Insulated	Yes
Flexible Arm	Yes
SoftDose™ Compatible	Yes

* 304 standard, 316L available upon request

CryoDoser® Dimensions



Controller Technical Specifications

Model	2K
PLC Platform	Allen-Bradley ML1400 or Siemens S7-1200
Display	7" (178 mm) TFT Color LCD Touch Screen
Dose Duration	5.5 to 1000 ms (0.1 ms intervals)
Dose Volume	0.002 to 14 grams/dose
Encoder Compatible	✓
Maximum Discrete Dosing (cpm)	2000*
MicroDose™ Technology	✓
Line Speed Auto Detect	✓
Electronic Dose Targeting	✓
Fixed Delay Mode	✓
Speed Compensated Mode	✓
Accuracy	± 2% of dose weight
Multiple Languages	✓
RemoteDose™ Capable	✓
IntelliDose™ Capable	✓
Recipe Storage	✓
Certifications	CE, NEMA 4X

* Results obtained under specific conditions.

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