



## CryoDoser™ 2K Liquid Nitrogen Dosing

The CryoDoser™ is the premier liquid nitrogen (LN<sub>2</sub>) 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 LN<sub>2</sub> into every container every time. The LN<sub>2</sub> 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 up in less than ten minutes
- **RemoteDose™ Capable** – remote access and control to increase efficiency and reduce downtime
- **MicroDose™ Technology** – consistent, accurate dosing over all line speeds
- **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 LN<sub>2</sub>
- **SoftDose™ Compatible** – Chart's proven technology for hot fill, powder, and granular applications.

\* Results obtained under specific conditions.



### How it Works

LN<sub>2</sub> 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 LN<sub>2</sub>. 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

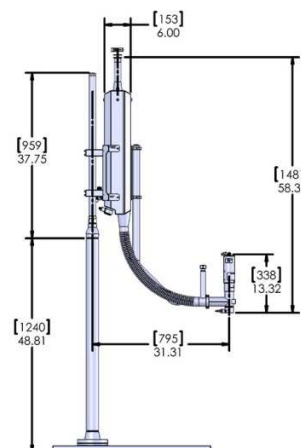


## CryoDoser™ Technical Specifications



<b>Materials</b>	Stainless Steel Series 300*
<b>Weight</b>	38 lbs (17 kg)
<b>Body Dimensions</b>	28.5"H x 6"W (724 x 152 mm)
<b>Dosing Head Dimensions</b>	13.5"H x 2"W (338 x 50.8 mm)
<b>Arm Reach</b>	24" to 30" (609.6 to 762 mm)
<b>Head Pressure</b>	0.9 psi (0.06 bar)
<b>Nozzles</b>	Ships with 0.040", 0.050", 0.060" 0.020" - 0.100" (0.005" increments) available
<b>System Utilities</b>	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
<b>Steady State Consumption</b>	0.04 gal (0.15 liter) / hour
<b>Quick Service Feature</b>	Yes
<b>Vacuum Insulated</b>	Yes
<b>Flexible Arm</b>	Yes
<b>SoftDose™ Compatible</b>	Yes

### CryoDoser™ Dimensions



\* 304 standard, 316L available upon request

## Controller Technical Specifications

Model	2K
PLC Platform	Allen-Bradley ML1400 or Siemens S7-1200
Display	7" (178 mm) Color Touch-screen
Dose Duration	7 to 1000 ms (0.1 ms intervals)
Dose Volume	0.006 to 7 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	✓
Recipe Storage	✓
Certifications	CE, NEMA 4X

\* Results obtained under specific conditions.

