

STOP

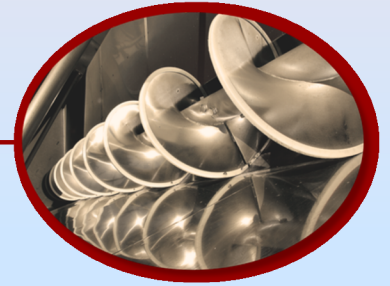


# HEAT

FROM DESTROYING YOUR PRODUCT AND PROFITABILITY

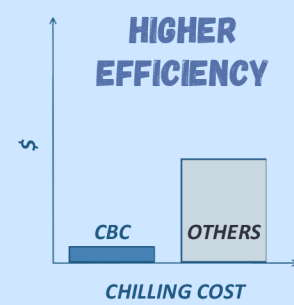
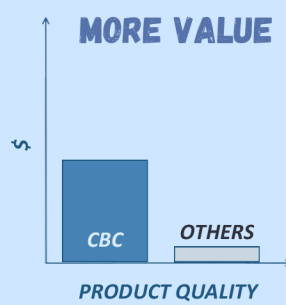
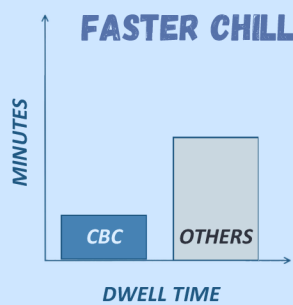
## Rapid Heat Generation in Mixing & Blending

- Texture breakdown, off-flavor and nutrient loss
- Inconsistent blending and forming
- Low hygienic production, e.g. smearing
- Decreased shelf life and spoilage



# CRYOGENIC CHILLING

- CONTINUOUS COOLING FOR SEAMLESS PRODUCTION
- PRECISE TEMPERATURE AND UNIFORM COOLING
- MOISTURE, TEXTURE AND FLAVOR PRESERVATION
- NO BATCH TRANSITION AND EASY CLEANING
- SMALLER FOOTPRINT THAN TRADITIONAL TECHNOLOGY
- REDUCED BOTTLENECK FOR DIFFICULT-TO-PROCESS MASSES
- SUITABLE FOR COMPLEX PROTEINS, & BOTANICAL & BIOMASS MATERIALS



BONELESS MEAT



OFFAL



PET FOOD PROTEINS



BACON / JERKY PIECES



GRANOLAS



DAIRY PRODUCTS



COOKED RICE / PARTICULATES



PLANT / BOTANICAL MATERIALS



SMARTER COOLING FOR MIXING & BLENDING PROCESSES



# CSM CRYOGENIC SOLUTIONS FOR MEAT MIXING & BLENDING

Liquid **N<sub>2</sub>**

## NovoDoser MX-500

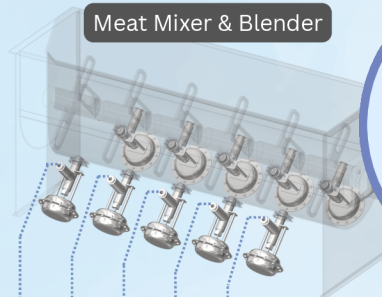


### Subcooler

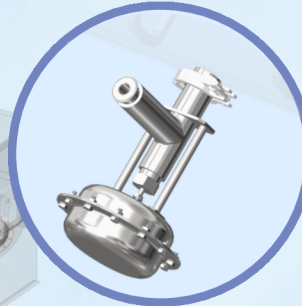
Subcooler improves cryogenic freezing efficiency while reducing LN2 usage by 30% in food and biopharma industries

- Efficient chilling of the product in the mixer and freezing tunnel
- Consistent batch temperatures at minimal operator involvement

### Super Insulated Piping



### Meat Mixer & Blender



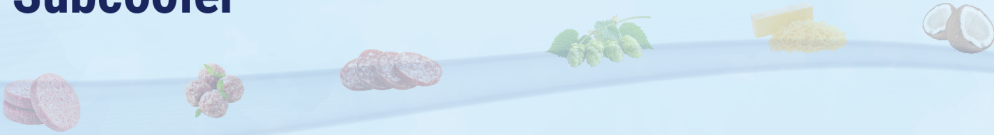
- **SUPER INSULATED**
- **ZERO DEAD VOLUME**
- **SIP AND CIP READY**
- **SS316L**



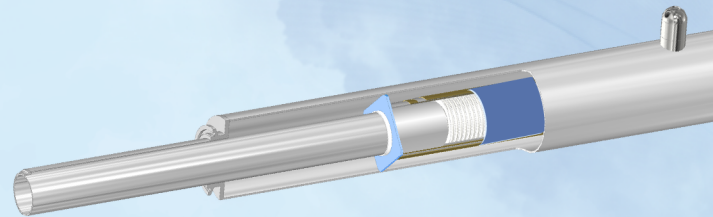
### Traditional Injection Valve



- **HIGH LN2 WASTAGE**
- **FROSTING AND WATER DRIPPING**



Liquid **CO<sub>2</sub>**



### Super Insulated Pipe



### Traditional PU Piping



### High Heat Leak

Increased LCO<sub>2</sub> losses



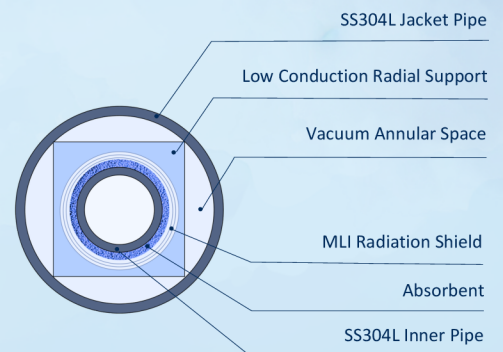
### High Condensation

Requires water tray to keep the production floor dry



### Non-Hygienic

PU foam insulation generates particles contamination to food preparation



ACAT-FB.MX-R26.1  
2 June.

