Isolates Dry Ingredients representing allergic or other cross-contamination issues

Multi-functional Design allows for Maximum Utilization

Maximum incorporation Rates

Efficient use of process and C.I.P. Water

Low / No maintenance - pump is only moving part

Minimum Batch Times

Very Low Energy Usage

Improved Operator Safety & GMP

CSD Processes • Sports Drinks • Tea
Nutritional Drinks • Energy Drinks • Juices
Dairy Beverages • Flavored Water

BEVERAGE BATCH STATION:
Wet Side Options and Dry Side Options to handle any volume of ingredients from any type of package

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CONDITIONED POWDER IS CONVEYED INTO THE MIXER BY A NEAR-PERFECT vacuum, which is created when pressurized fluid is forced through the Ejector Mixer’s unique, patented annular nozzle. The fluid is discharged as a high-velocity, hollow jet into which the powder is drawn.

The VACUCAM® system achieves high-speed, instantaneous and complete wetting by bringing together conditioned powder and highly atomized liquid from two separate streams, incorporating particles of liquid with particles of powder. The reactive surface areas of both the powder and the liquid are maximized before intimate contact is actually made. The result is consistently uniform, superior wetting without the agglomeration or “clumping” usually associated with conventional mixing methods.

The VACUCAM® Ejector Mixer is the most effective system available for conveying, wetting and dispersing powders into liquids.

Here’s how it works.

Conditioned powder is vacuum conveyed into the system directly from a silo or a surge bin equipped with an Air-Cone® Hopper for conditioning of powder.

Powder, conditioned with air or inert gas, is conveyed into the mixer by the VACUCAM® system’s near-perfect vacuum.

At the mixpoint, the powder is propelled through a curtain of atomized liquid before proceeding through the discharge tube.

Liquid is introduced into the system from a separate stream - single pass or recycled.

Finished slurry is discharged.

Semi-Bulk Systems integrates the Vacucam® Ejector Mixer into the Beverage Batch Station providing multiple process options for all types of beverages.

The VACUCAM® Modular Dynamic Beverage Batching Stations offer the total solution to meet all of your mix room needs --- for today’s immediate challenges and tomorrow’s changing requirements and capacity demands… NOW & FOR THE FUTURE. New Beverage introductions require new or additional process requirements.

- To handle changing ingredients that cannot be mixed efficiently with traditional mix stations or mixing technology.
- To handle bulk bag addition of ingredients as well as small packages for dry and liquid minors.
- To handle the changing needs for sweeteners and addition of totally new ingredients.
BEVERAGE MIX PROCESSES

- TECHNOLOGY to provide the most efficient Dispersion and Mixing for ALL dry Ingredients.

- BASIC SYSTEM to provide competitive solutions and justification for immediate new production needs

- MODULAR DESIGN to expand Process Capabilities for a TOTAL Mix process.
  - Meet growing and changing demands w/ Modular additions to same system.
  - Build TOTAL Sustainable process for ALL Mix Requirements.
  - Accommodate dry feed from paper bag, drums, bulk bag or bulk.

- FLOOR LEVEL OPERATION – ELIMINATE OPERATOR PLATFORMS.

BEVERAGE BATCHING STATION—BBS-100

Basic Station – EJM-100BB Mixer mounted on 500 liter batch tank w/ dry ingredient wand and/or Air-Cone® hopper funnel. Provides rapid convey, mix and transfer of mix.

Process: batch and transfer
**DYNAMIC BEVERAGE BATCHING STATION – DBBS 150**

**DBBS** – Dynamic Beverage Batching Station with continuous transfer of mix. Processes: Single Pass; batch and transfer, continuous mix and transfer

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**Model: DBBS150**
Dimensions: 74"L X 48"W X 92"H

- **Water IN**
- **Powder IN**
- **Slurry Transfer**
- **Water IN**
From a Basic Beverage Batching Station to a Total Dynamic Beverage Batching Station, the Vacucam® Ejector Mixer will handle the Total mix room requirements for immediate solutions and provide modular growth for Total mix requirements.

Wet Side Process Options:
One Beverage Process System—many process applications for all powder handling and mixing. The system can be configured for one, two or three process options to handle basic CSD processes to large volume dry ingredient additions.

1. The Vacucam® BBS 100 – Incorporates EJM 100BB mixer @ 100gpm.
   • Uses: low volume minor ingredients for CSD
   • Process: Basic batch and transfer

2. The Vacucam® DBBS 150 – Incorporates EJM 150B/C mixer @ 150gpm.
   • Dynamic Batching for typical beverage mixes handling medium to large dry quantities from paper bags, drums, bulk bag, kits. Recommended for multiple bulk bags of citric, sucrose or various sweeteners. Recommended for total mixing of minor ingredients and bulk bags of sweeteners.
   • Processes: Basic batch and transfer; continuous mix and transfer, single pass, Continuous Dynamic Steady State
   • For Total Mix station of high capacity dry and liquid additions.

3. The Vacucam® DBBS 250 – Incorporates EJM 250C mixer @ 250gpm.
   • Dynamic Batching for high capacity total mix station or sugar liquefaction from bulk bags or total bulk.
   • Processes: Continuous mix and transfer, single pass, Continuous Dynamic Steady State.

The Vacucam® Beverage Batch Station also provides for complete CIP for both the wet side and the dry side.

<table>
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<th>Vaccum® Beverage Batch Station Matrix:</th>
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<td><strong>Included (✔) Option</strong></td>
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<td><strong>Beverage Batch Station Modules</strong></td>
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<td>Module A - Density Meter</td>
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<td>Dual Hoists</td>
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<tr>
<td>Batch Control Interface Panel</td>
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VACUCAM® DBBS 250 - See application options for Sugar Liquefication Processes.

BENEFITS:

• Multi-functional Design allows for Maximum Utilization. Efficiently handles and rapidly disperses ALL dry and liquid ingredients.

• Capacity - Maximum incorporation Rates for high capacity mixing and batch making. One Mix station can feed 2-4 bottling lines.

• Isolates Dry Ingredients representing allergic or other cross-contamination issues.

• Efficient use of process and C.I.P. Water

• Low / No maintenance - pump is only moving part

• Automation – reduced batch time and labor.

• Very Low Energy Usage - typically 80% reduction in electricity by eliminating large hp shear mixers and greatly reducing mix time. Eliminate need for heated water in mixing NFDM, other milk powders, gums, pectin and other functionalizing ingredients.

• Improved Operator Safety & GMP – Floor level operation – eliminate operator platforms.
Dry Side Options to handle any volume of dry ingredient from any type of package.
For ALL Beverage Processes

### Typical Ingredients/Mixes:
- Citric Acid
- Caffeine
- Sucrose
- Maltodextrin
- Crystalized Fructose
- Aspartame
- Erythritol
- Dairy Powders
- Thickeners
  - Gums
  - Pectin
  - Starch
- Tea Powders
- Sodium Citrate
- Potassium Benzoate

### Applications:
- **CONVEY** - powders from a conditioned source
- **DISPERSE** - pigments, fillers, silicas, filter aids, carbons, catalysts, spices, etc.
- **REHYDRATE** - NFDM, whey, protein, lactose, lime
- **LIQUEFY** - sugar
- **DISSOLVE** - salts, phosphates, sweeteners
- **FUNCTIONALIZE** - thickeners, gums, starches, pectin, carbopol
- **EMULSIFY** - oils into dry and liquid mixes

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The Dynamic Beverage Batching Station offers the beverage industry the opportunity to incorporate the beverage process for the 21st century to utilize the most efficient automated beverage ingredient processing for the lowest production costs.

The VACUCAM® Automated Ingredient Handling and Mix Process will provide Xstream benefits versus the conventional mechanical processes. The system offers Xstream increases in capacity, efficiency, quality, product yield, operator safety, profitability, automation and market advantage. The system also offers Xstream decreases in time, waste, labor, inconsistency, bottlenecks, energy and maintenance. This process provides the safety and benefits for floor level mix making.