

AUTO MIX

Ingredient Batching, Formulation, & Scheduling by BSI

At Bakery Systems our focal point is to provide loss control weighing solutions that fit in to new and existing production lines.

Auto Mix Ingredient systems provide a complete solution for any level of formulation complexity. Our modular system components can be deployed gradually to achieve the desired level of automation. There are three common tasks in any batching process.

Transportation - This component provides the delivery of all ingredients. From their individual storage area to scaling and then to the mixer.

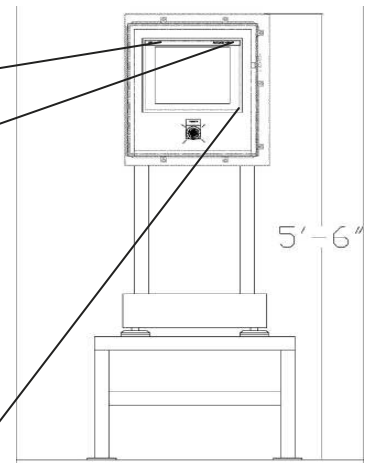
Measuring - This component provides the correct amount of all ingredients for a recipe.

Mixing - This component provides the proper reaction of all the blended ingredients.

Auto Mix-MB Provides accurate ingredient scaling when manual ingredient transportation is required. The system is comprised of any number of scaling stations with varying levels of capacity and sensitivity. The operator simply presses the *Start* Batch button, and is prompted to place an empty container on the scale. The system checks the weight of the empty container if it is in tolerance the operator is prompted for the first ingredient. The screen displays the current formula information, the requested ingredient, the target weight and the tolerance for the ingredient. The weight and status bar with control limits are also displayed live during ingredient weighing. An optional bar code scanner can also be used to identify the ingredient containers and multiple LOT# tracking. After the operator delivers the correct amount of the current ingredient he presses the verify button. If the ingredient weight falls inside the desired tolerance range the scale tares to net zero and the operator is prompted for the next ingredient. If not, the system will not allow the operator to continue until the weight is adjusted and the verify button is pressed again. This process is repeated until the formula is completed. Upon completion of each formula a batch summary log file is generated and copied to the supervisor computer for archiving and review. Each scaling station is connected to the supervisor computer via wireless LAN, or Ethernet CAT-6 cable connection.

Each Auto Mix-MB scaling system consists of:

- *High precision weigh scale (up to four)*
- *The MB touch screen controller*
- *Stainless Steel support stand*
- *"Batch Manager" supervisory PC software*



Auto Mix Batching Systems

- Touch Screen Graphical Interface and Control
- High Precision Weigh Scales
- Batch Manager Supervisor Software

SPECIFICATIONS:

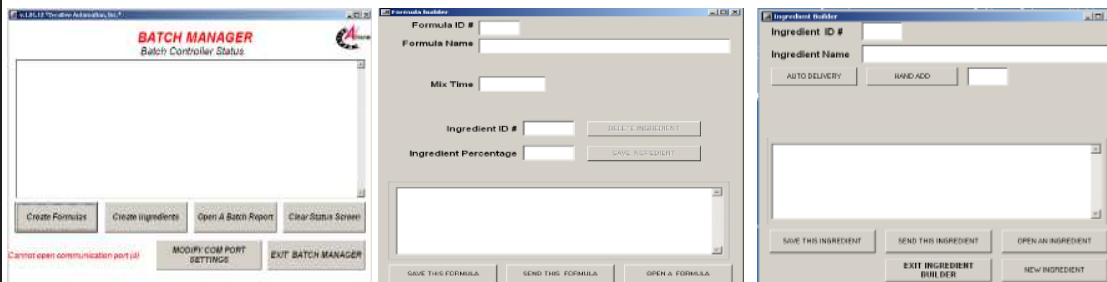
- Manual, Semi Automatic, and Full Automatic Batching
- Multiple Ingredient and formula storage.
- Controls batching of bulk, minor, and micro ingredients
- Liquid ingredient metering or weighing
- Water temperature controls
- New material handling systems, and existing system retrofits
- Any number of weigh scale inputs

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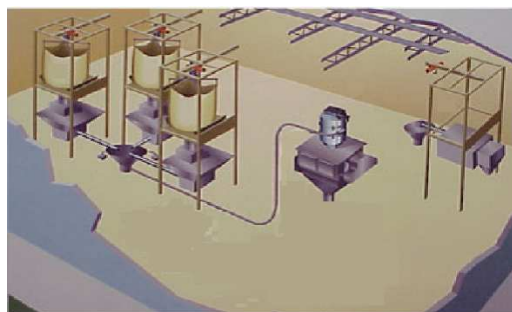
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The **Batch Manager Software** installed on the supervisor computer allows for supervisory editing, and creating of formulas and ingredient tables. The scheduling function allows the supervisor to determine the order of formulas to be run for a production period, along with the number of batches for each formula, and any partial formulas that are required. The production schedule is downloaded to the MB scaling stations to begin production.



Auto Mix-MAB systems provide complete semi automatic transportation, scaling, and mixing of minor ingredients. The semi automatic MAB system requires manual minor ingredient transportation with automated scaling and collection. The MAB system provides individual minor ingredient storage with metering devices. The operator simply places the minor ingredient collection container on a conveyor and presses Start. The Batch Manager software provides the production schedule to the MAB. The controller activates the conveyor to position the container beneath each minor ingredients metering device. Each of the desired ingredient amounts are delivered to the collection container. Upon completion of all minor ingredient scaling the container is conveyed to the mixer waiting area for manual transportation to the mixer. The MAB system can also provide a bar code and human readable label for each container for identification. The label provides a bar coded batch ID# along with a human readable minor ingredient formula summary. A bar code scanner can be positioned at each mixer for minor ingredient to batch verification.

Auto Mix- AB systems provide complete automatic transportation, scaling, and mixing of all ingredients. The Batch Manager software provides the production schedule to the powerful touch screen control system. The AB system is designed to handle any number of bulk, minor, and micro ingredients liquid or dry. Liquids can be weighed or metered directly into the mixer or a premix tank. An Allen Bradley Logix controller takes care of discrete I/O functions such as activating mixers, conveyors, or pumps, and monitoring switches, and sensor inputs. The user interface provides a straight forward approach to building and editing formula, and ingredient tables. The production scheduling is flexible for calculating partial batch ingredient amounts, and editing the production schedule order. An animated graphical representation of the process provides operator confidence.



Auto Mix Batching Systems

Optional Hardware:

- Programmable Logic Controllers
- Material Handling Equipment
- Pneumatic Ingredient Conveying
- Stainless Steel Holding Tanks
- Ingredient Bins and Feeders
- Desktop PC with Batch Manager Software
- Network Communication Modules

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