

X Series 2 Continuous Gravimetric Blender

Mechanical Features

Individual weighed ingredient hoppers with easy-to-use drains.

Interchangeable metering units with quick disconnect.

Brushless DC gear motors with closed-loop control for precise ingredient measuring.

Integral loading platform for mounting vacuum receivers.

Designed for easy clean-out and quick change over.

Color touch screen operator interface with new "off-the-shelf" control.



The X Series 2 Continuous Gravimetric Blender offers unsurpassed blend accuracy and blend homogeneity in a wide range of configurations to meet the needs of any application. For extruder throat-mounted applications, the X Series 2 Blender comes equipped with an integral downcomer to preserve the blended material all the way to the extruder without demixing. For mezzanine or off-line mounting, the blender does not include the downcomer and is designed to work with a number of different options for storing the blended material prior to its use.

Operation

The operator enters the desired blend recipe at the operator station. All ingredients are simultaneously metered in the correct blend ratios by inclined augers from individual weighed material hoppers. The ingredients flow through a cascade chamber which produces the best blend homogeneity.

Control Features

- ◆ Blender monitors weight loss of each ingredient hopper for precise control of blend ratios.
- ◆ Weighing system resolution is 1:1,000,000 for maximum accuracy.
- ◆ Color touchscreen display for easy viewing of inventory and performance data.
- ◆ Storage for 400 blend recipes in battery-backed memory.
- ◆ Multiple alarm levels with visual display and contact closures.

Options

- ◆ Gravimetric Extrusion Control
- ◆ Steep-wall hoppers for regrind and other sluggish materials.
- ◆ Powder Feeder metering elements
- ◆ High temperature design



PROCESS CONTROL CORPORATION

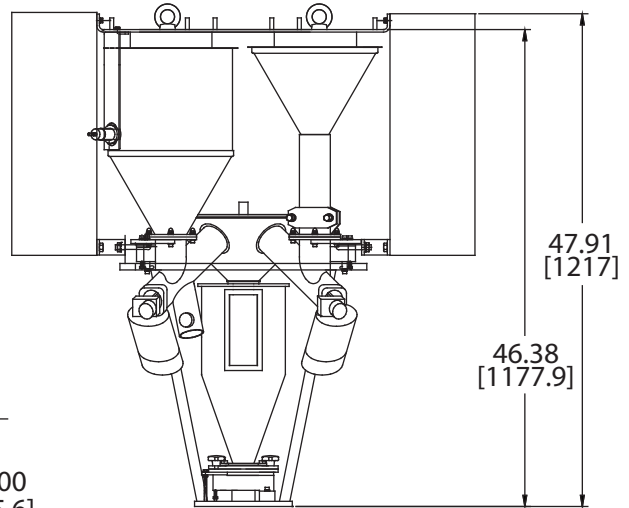
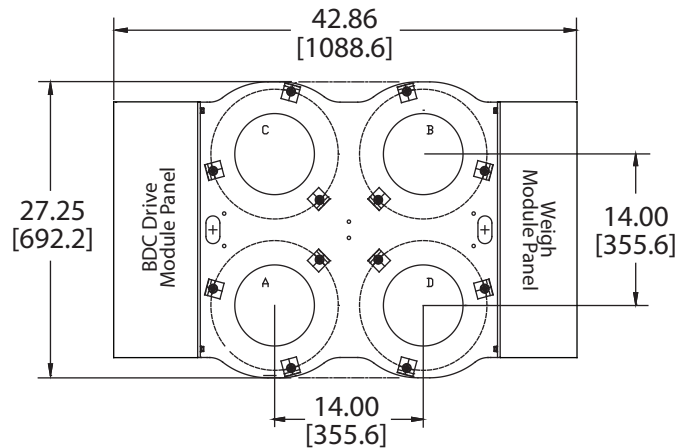
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X2DG4 Continuous Gravimetric Blender

For Extruder Mounted Applications

For throughputs up to 660PPH
Approx Shipping Weight: 400lbs
[] Dimensions are in mm

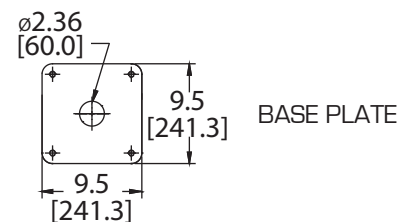
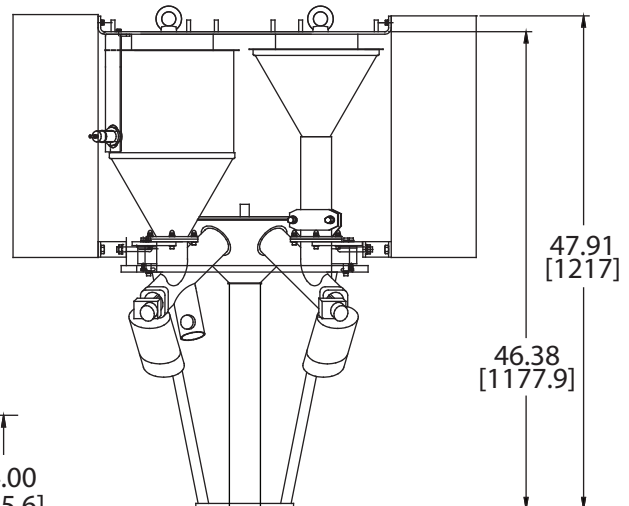
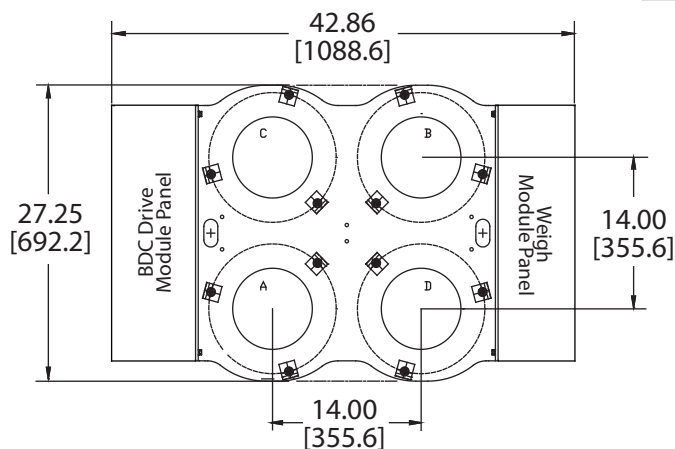


BASE PLATE

X2DC4 Continuous Gravimetric Blender

For Off-Line or Mezzanine Mounted Applications

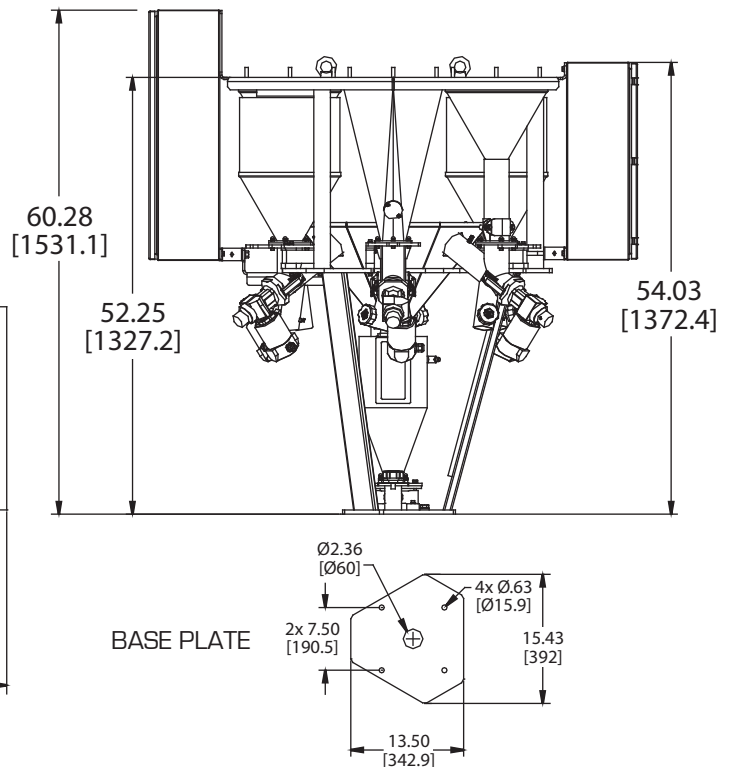
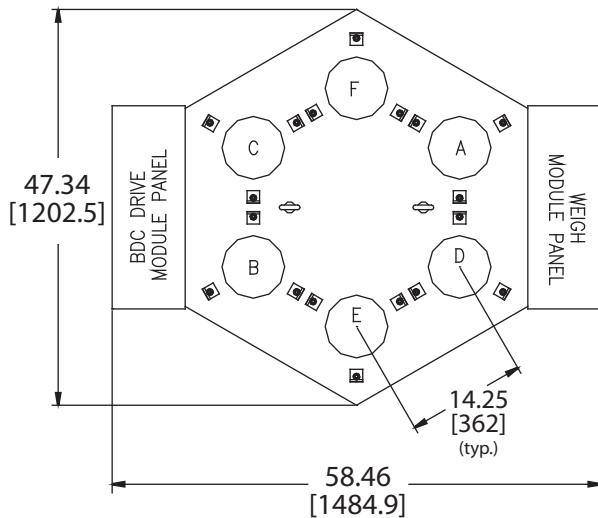
For throughputs up to 660PPH
Approx Shipping Weight: 370lbs
[] Dimensions are in mm



X2DG6 Continuous Gravimetric Blender

For Extruder Mounted Applications

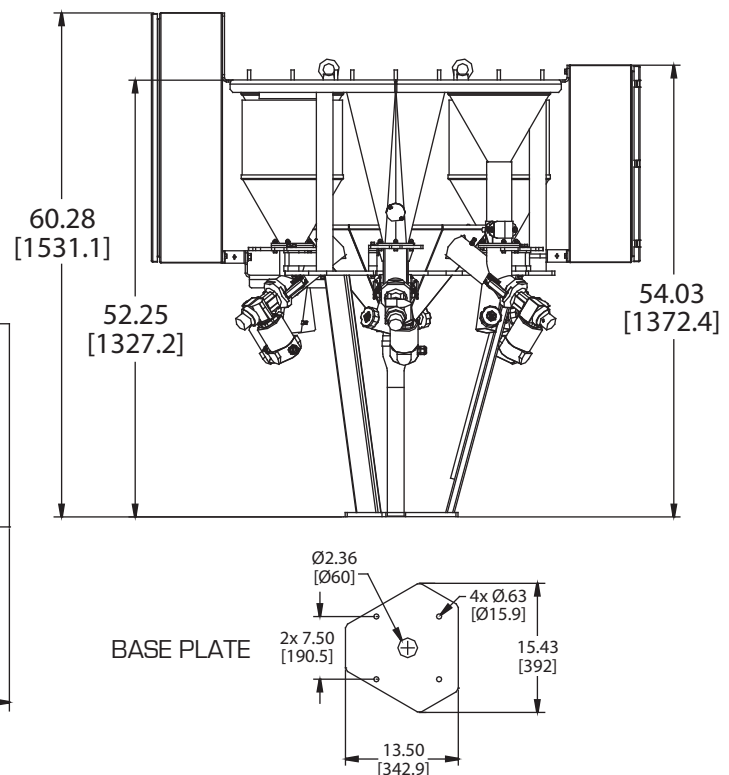
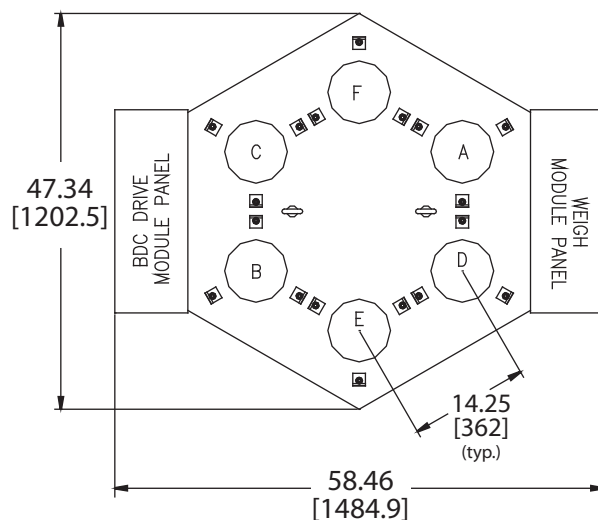
For throughputs up to 660PPH
Approx Shipping Weight: 750lbs
[] Dimensions are in mm



X2DC6 Continuous Gravimetric Blender

For Off-Line or Mezzanine Mounted Applications

For throughputs up to 660PPH
Approx Shipping Weight: 720lbs
[] Dimensions are in mm

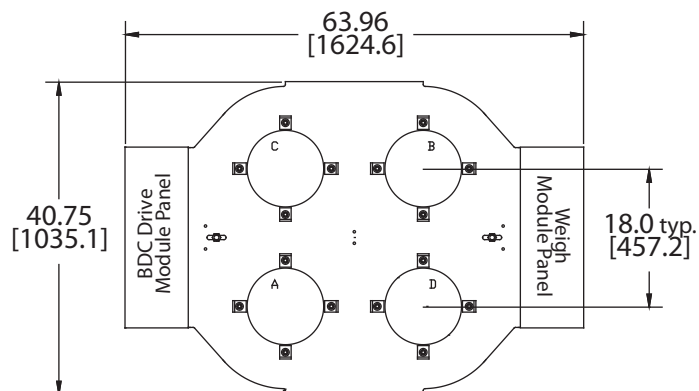


X2LG4 Continuous Gravimetric Blender

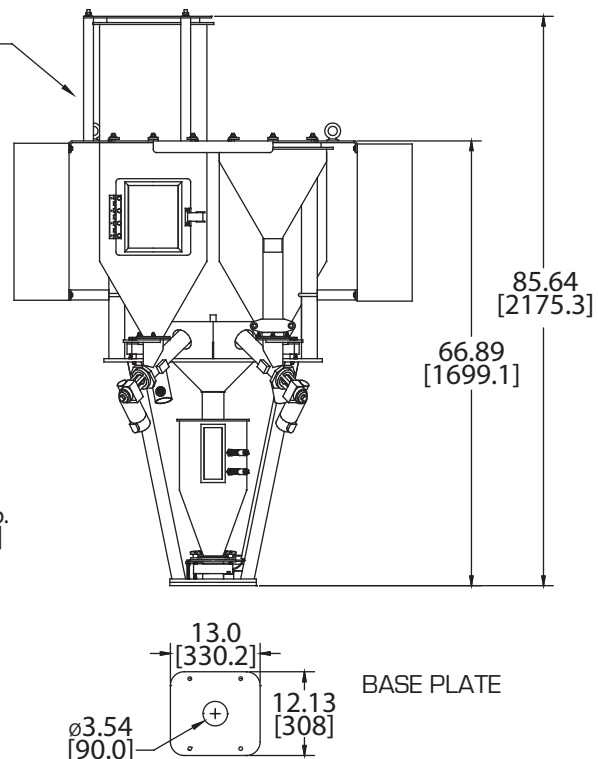
For Extruder Mounted Applications

Approx Shipping Weight: 670lbs

[] Dimensions are in mm



High Rate
Metering
Hopper
(optional)

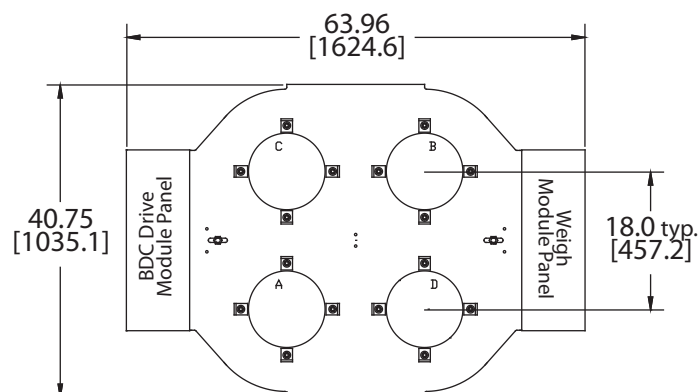


X2LC4 Continuous Gravimetric Blender

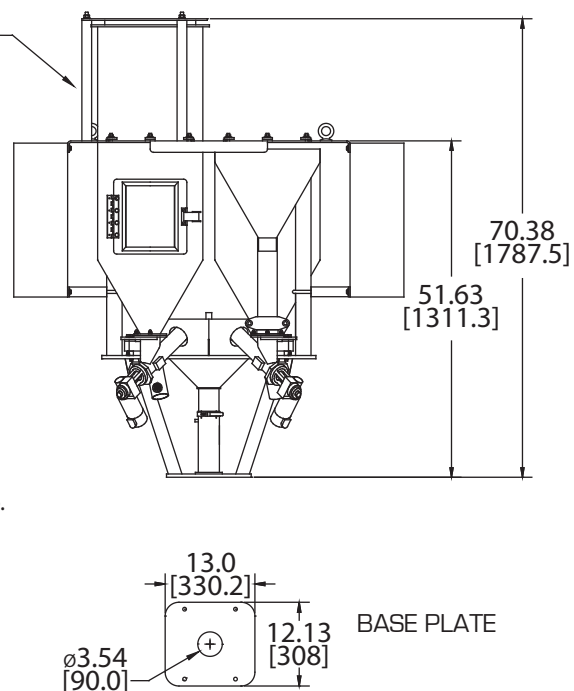
For Off-Line or Mezzanine Mounted Applications

Approx Shipping Weight: 625lbs

[] Dimensions are in mm



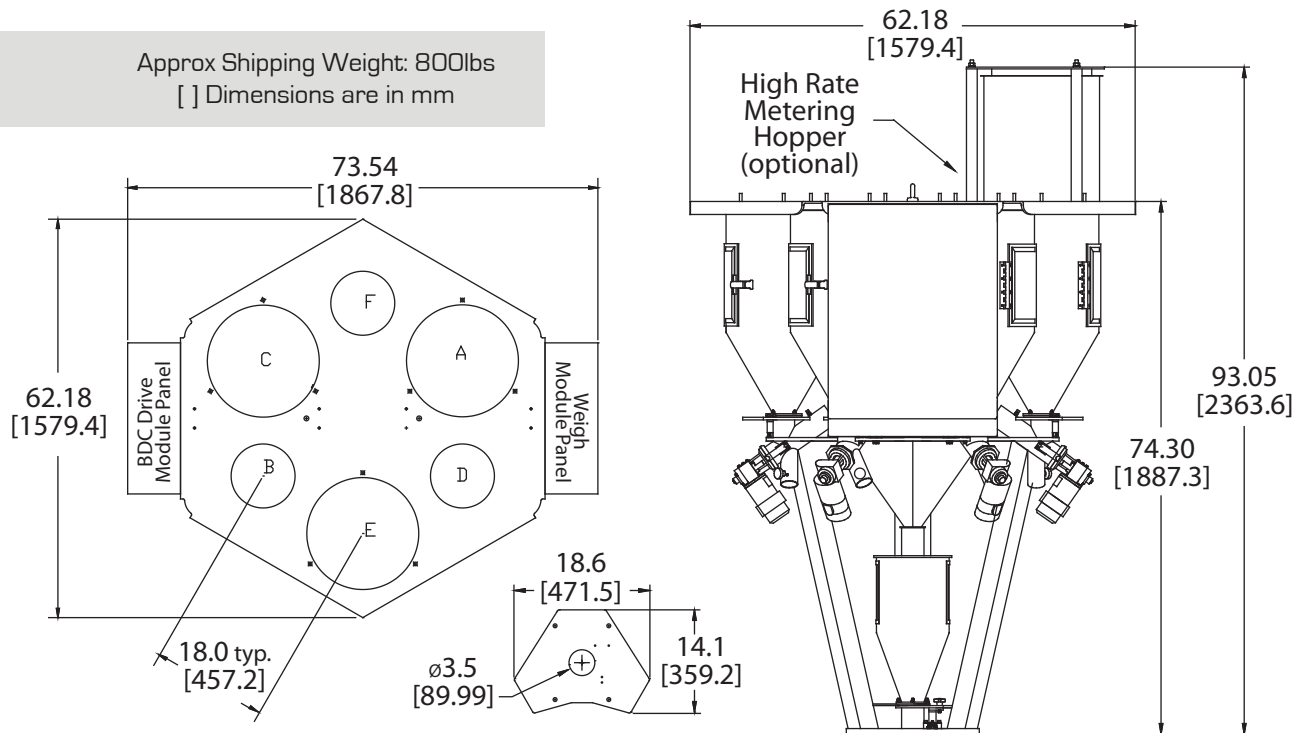
High Rate
Metering
Hopper
(optional)



X2LG6 Continuous Gravimetric Blender

For Extruder Mounted Applications

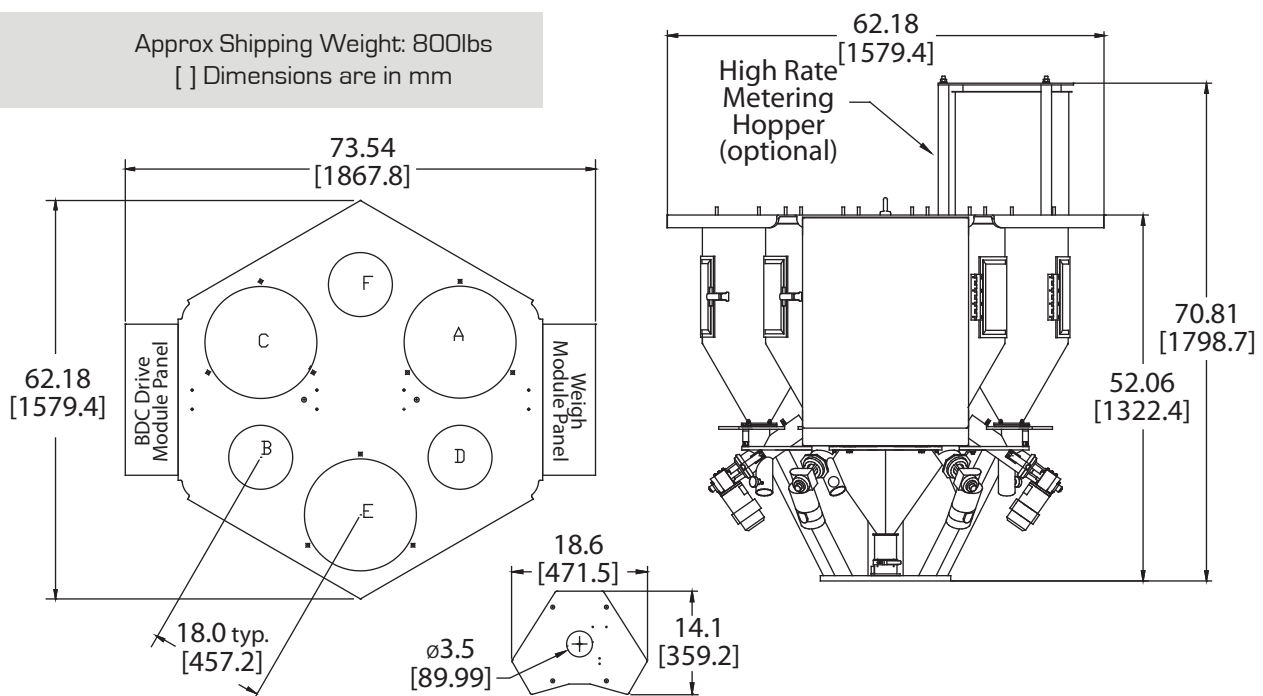
Approx Shipping Weight: 800lbs
[] Dimensions are in mm



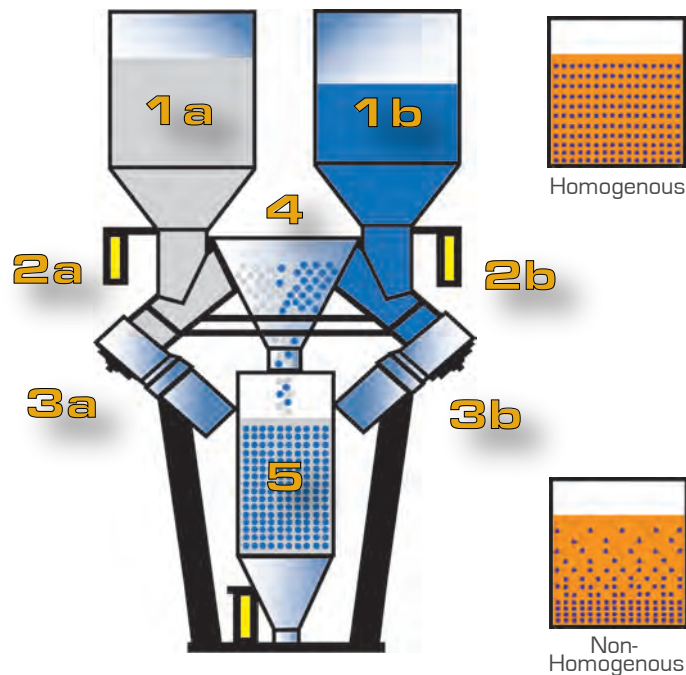
X2LC6 Continuous Gravimetric Blender

For Off-Line or Mezzanine Mounted Applications

Approx Shipping Weight: 800lbs
[] Dimensions are in mm

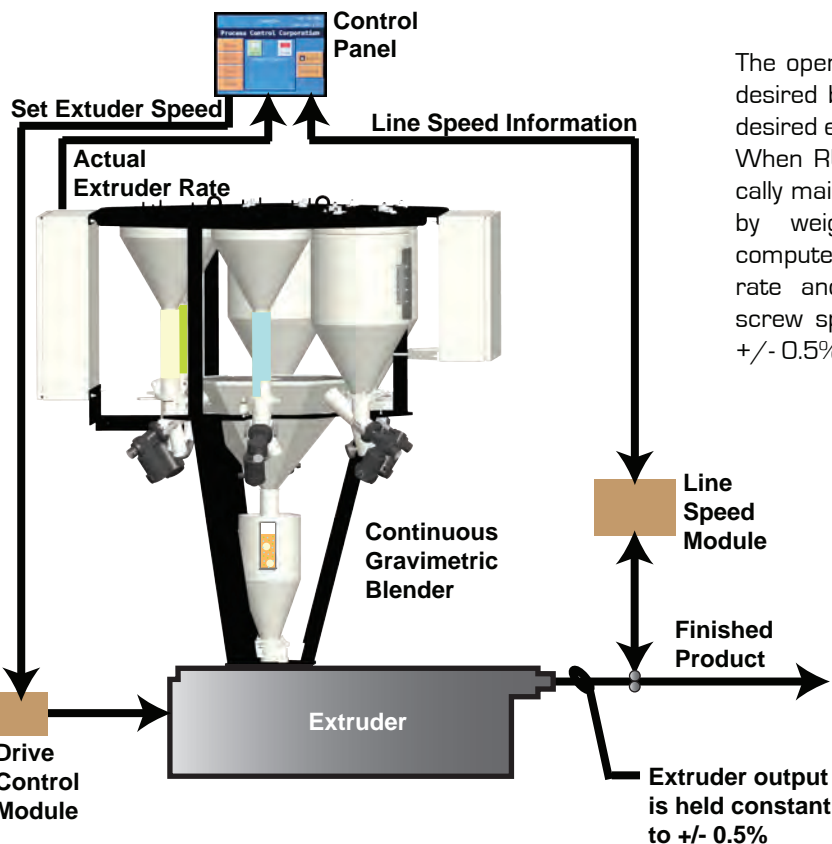


Continuous Blender Operation



Materials are kept in separate weigh hoppers [1], each mounted on a load cell [2] which measures the weight of the hopper and its contents. Target metering rates are determined for each material based on the recipe and the current blender total rate. As the materials are simultaneously metered by auger [3] into the cascade mixing chamber [4], the actual metering rate of each ingredient is frequently calculated from the weight loss of the hoppers. These actual rates are compared to the target rates and the speeds of the augers are adjusted to correct for any variation, maintaining an accurate blend. The materials simultaneously flow through the cascade chamber, thoroughly homogenizing the blend. The resultant blend is then captured in a plug-flow hopper [5] designed to preserve the blend all the way to the extruder throat (or other process).

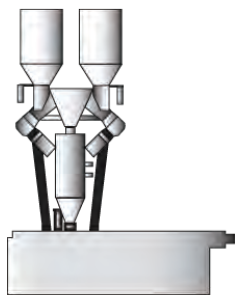
Gravitrol® Gravimetric Extrusion Control



The operator presses **RECIPE** and enters the desired blend percentages by weight and the desired extruder rate into the operator station. When **RUN** is pressed the blender automatically maintains the desired blend percentages by weight. Simultaneously, the blender computer calculates the actual extruder usage rate and periodically adjusts the extruder screw speed to maintain extruder output to $\pm 0.5\%$ by weight.

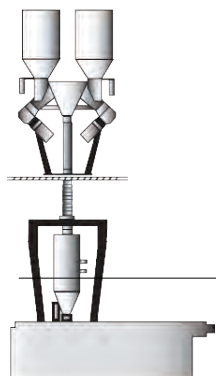
In applications which incorporate line speed control, the operator also enters desired weight per length as part of the recipe and the computer controls line speed in addition to extruder speed to maintain the desired product weight per length.

BLENDER MOUNTING OPTIONS



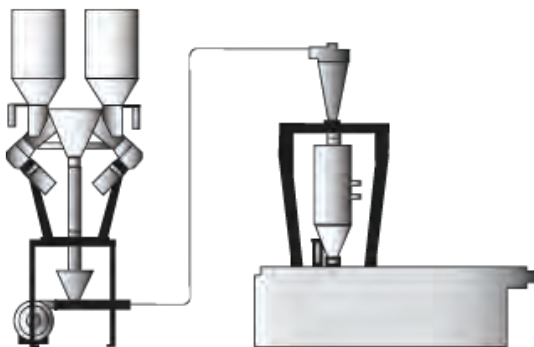
Extruder Throat Mounting

When space is available, the blender with integral downcomer may be bolted directly to the throat. This is the simplest installation and provides excellent blend homogeneity and cleanout.



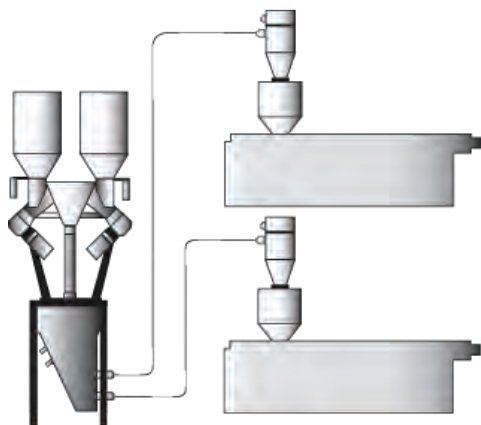
Mezzanine Mounting

For applications with an existing mezzanine structure above, this arrangement offers the benefits of throat mounting. This blender configuration uses a remote downcomer mounted on the extruder throat to capture the gravity-fed blend of materials from the mezzanine mounted blender.



Off-Line Mounting with Pressure Conveying

For applications where the blender must be mounted off-line, the pressure conveying system offers the benefits of extruder throat mounting. AS the blend is produced, it is conveyed via pressure continuously to the extruder throat mounted remote downcomer. This prevents demixing and allows accurate calculation of extruder rate for gravimetric extrusion control applications.



Off-Line Mounting with Vacuum Conveying

For applications where there is not enough headroom for either throat or mezzanine mounting, or where more than one extruder is to be served by the same blender, off-line mounting is to be used. The blender is mounted on a stand with a vacuum pickup box below it to capture the material blend. On demand, the blend will be vacuum-conveyed to the machine(s) being served. Care must be taken to minimize the chances for blend separation during this conveying.



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