

Typical application of a gravimetric batch blender.

- A Gravimetric Batch Blender
B Control Unit

Component A is described below.



Brief Description

All CSG Series batch blenders feature precision .02% span accurate cantilever load cells and exclusive, heavy-duty diamond design slide gate metering assemblies, which provide for 0.50% to 100% recipe range for free-flowing pellets. The adjustable slide gate stroke limiters provide for accurate metering of minor ingredients. The mixer section is designed for efficiency and blend homogeneity. All metering, weighing, and blending components are constructed of stainless steel.

The stainless steel weigh hopper, mixer agitator, and lower mixer wrap are removable, and the powder-coated mild steel material supply hoppers feature machined polycarbonate clean-out doors. CSG blenders also include compressed air clean-out hoses with blow-off tools included, quick disconnects on slide gate air lines, and a safety-interlocked access system that shuts off air and electricity if the mixer is opened.

The state of the art Mitsubishi PLC control system with touchscreen interface allows three types of recipe entry: **Percentage** mode meters ingredients as a percentage of the overall batch; **Parts** mode meters ingredients as a ratio (i.e., 500:1); and **Quick Set** mode meters additives as a percentage of the virgin material. Up to 50 recipes can be stored. Inventory accumulation is stored for all ingredients and totals.

Other CSG features include alarm light and audible alarm, serial printer port, hopper lids arranged for Colortronic receivers and loaders, and a one year warranty on parts.



Optional Features

- Low-level solid-state proximity sensor for each supply hopper (alarm functions and indicators are included in the PLC controller)
- Regrind Auger Metering (RAM) assembly with agitated straight wall hopper, including interlocked access door (not available with CSG-150 or CSG-500) – add “R” to the end of the model number
- Stainless steel supply hoppers (Allow additional lead time)
- Additional drop-in hoppers with blank hand fill lids (CSG-150, CSG-500, and CSG-900 only)
- Blender stands with slide gates
- Vacuum take-off boxes mounted below surge hopper under floor stands
- Aluminum spool (premium mounting flange) with drain port (8” x 8” square)
- Low-profile drawer-magnet (3 bar)
- Drain tube with slide gate in supply hopper
- Customer-specified (special) mounting hole pattern – drawing required with order

Dimensions and Specifications

	CSG-150	CSG-500	CSG-900	CSG-2500	CSG-4000	CSG-6000	
Maximum blending rate, lbs./hr. (kg/hr.) →	150 (68)	500 (227)	900 (410)	2,500 (1,135)	4,000 (1,815)	6,000 (2,725)	
Number of materials to be blended	2 - 4	2 - 6	2 - 8				
Slide gate size, Majors, in. (mm)	2.0 (50)	2.0 (50)		2.5 (63)	3.0 (76)		
Slide gate size, Minors, in (mm)	1.5 (38)	1.5 (38)		2.0 (50)	3.0 (76)		
Supply hopper capacity, Majors, cu. ft. (l) °	0.7 (20)	1.4 (40)		3.0 (85)	7.5 (212)		
Supply hopper capacity, Minors, cu. ft. (l) °	0.2 (5)	1.0 (28)		2.7 (77)	6.0 (170)		
Weigh hopper capacity, cu. ft. (l)	0.07 (20)	0.18 (50)	0.38 (11)	0.82 (23)	1.23 (34)	2.17 (61)	
Typical batch size, lbs. (kg)	1.5 (0.7)	4 (1.8)	8 (3.6)	25 (11.3)	35 (15.8)	45 (20.4)	
Load cell capacity, kg	1 @ 5 kg	2 @ 3 kg	2 @ 5 kg	2 @ 10 kg	2 @ 15 kg	2 @ 20 kg	
Mixer capacity, kg	0.18 (5)	0.25 (7)	0.56 (16)	1.1 (31)	2.72 (77)		
Mixer motor size, HP (kw)	1/8 (0.09)	1/6 (0.124)		1/2 (0.373)			
Mixer rpm	42	21		22			
Blended material discharge opening, in. (mm)	2.5 (63)	3.0 (76.2)		4.0 (102)	4.0 (102)		
Weight of machine (approx.), lbs. (kg)	250 (115)	375 (170)	450 (205)	650 (295)	1100 (500)		
Shipping weight (approx.), lbs. (kg)	350 (160)	425 (190)	550 (250)	800 (360)	1300 (590)		
Approximate dimensions, in. (mm)	Height	34.5 (875)	51.5 (1308)	56.5 (1435)	69.5 (1765)	85.5 (2172)	89.5 (2337)
	Width	26.0 (650)	37.5 (952)	37.0 (940)	45.5 (1156)	57.5 (1461)	57.5 (1461)
	Depth	22.0 (560)	37.0 (940)	40.0 (1016)	46.5 (1181)	57.0 (1448)	

← CSG blender models with "H" designation include two fixed hoppers and two removable hoppers with integral gates

↑ CSG blender models with 7th and 8th component metering include additive feeders and Allen-Bradley PLC control system

→ See below for important rate information concerning each model's maximum blending rate.

↓ **Compressed air loaders cannot be used to load CSG-150 blenders.**

° Hopper capacity measured excludes straight wall section and is based on vacuum receiver use. Approximate value.

Important disclaimer concerning each base unit's maximum blending rate listed above:

- The standard blender's maximum blending rate (capacity) shown above is based on a 3-component blender running the following recipe: 80% virgin, 18% regrind (free-flowing), or second virgin, and 2% pelletized color. Additional components reduce max rate by approximately 20% each..
- Recipes with a high percentage of regrind, i.e., more than 50%, will significantly reduce the maximum throughput of the blender as well as the accuracy of the minor ingredients. Consult the factory for acceptable minimum and maximum recipes when regrinds will be used at more than 50%.
- Rates and capacities are based on dry, free-flowing pellets with a bulk density of 35 lbs./cu. ft. Bulk density of materials, particularly regrinds, can greatly impact blender performance and output rate.
- Actual rates will vary. Consult the factory for guaranteed or optimum rates.
- Material samples are required for testing prior to shipment for guaranteed rates. Consult your sales engineer for shipping instructions, and the amounts of each material to send for testing (Typical amounts required are 100 lbs. for major ingredients and 25 lbs. for minor ingredients.) **A test request form must be submitted.**

Optional Blender Stands

Heavy-duty blender stands feature heavy-duty cast aluminum pneumatic slide gate and valve.

Regular-duty floor stands are also available with regular-duty pneumatic slide gate, controls, and 2.0 or 3.5 cu. ft. surge hopper.

Both styles of stands are available in drum fill, gaylord fill, and floor stand configurations.

Light-duty casters are available (Not for use on 56" wide heavy-duty stands).

CSG-150 and 500 models should use 30" stands; larger blenders should use 56" stands.

Pneumatic slide gate with controls is required to ensure homogenous mixing prior to discharge, particularly at startup for customer-supplied stands or other special configurations.

Electrical Options

- External audible and visual alarm for remote mounting
- Parallel printer adapter and 6 ft. (1.8 m) cable
- Ethernet module for remote communication
- 220/1/50 or 60 operation (includes CE compliance) – 24 volt controls and 220 volt mixer motor
- A3 communication software for unlimited number of new Mitsubishi controlled blenders

Integrated Blending Control System
Off-the-Shelf Control with Proven Reliability
User-Friendly, Menu-Driven Interface

Colortronic's new Mitsubishi PLC-based blender controller provides state-of-the-art process control at your fingertips. Operator-friendly controls simplify operation, store up to 50 recipes and provide unmatched metering accuracy for up to six ingredients, especially below 2%. The operator pendant touch screen interface displays user-friendly, menu-driven interface screens for complete control and monitoring of any batch blending operation. An optional Ethernet port is available.

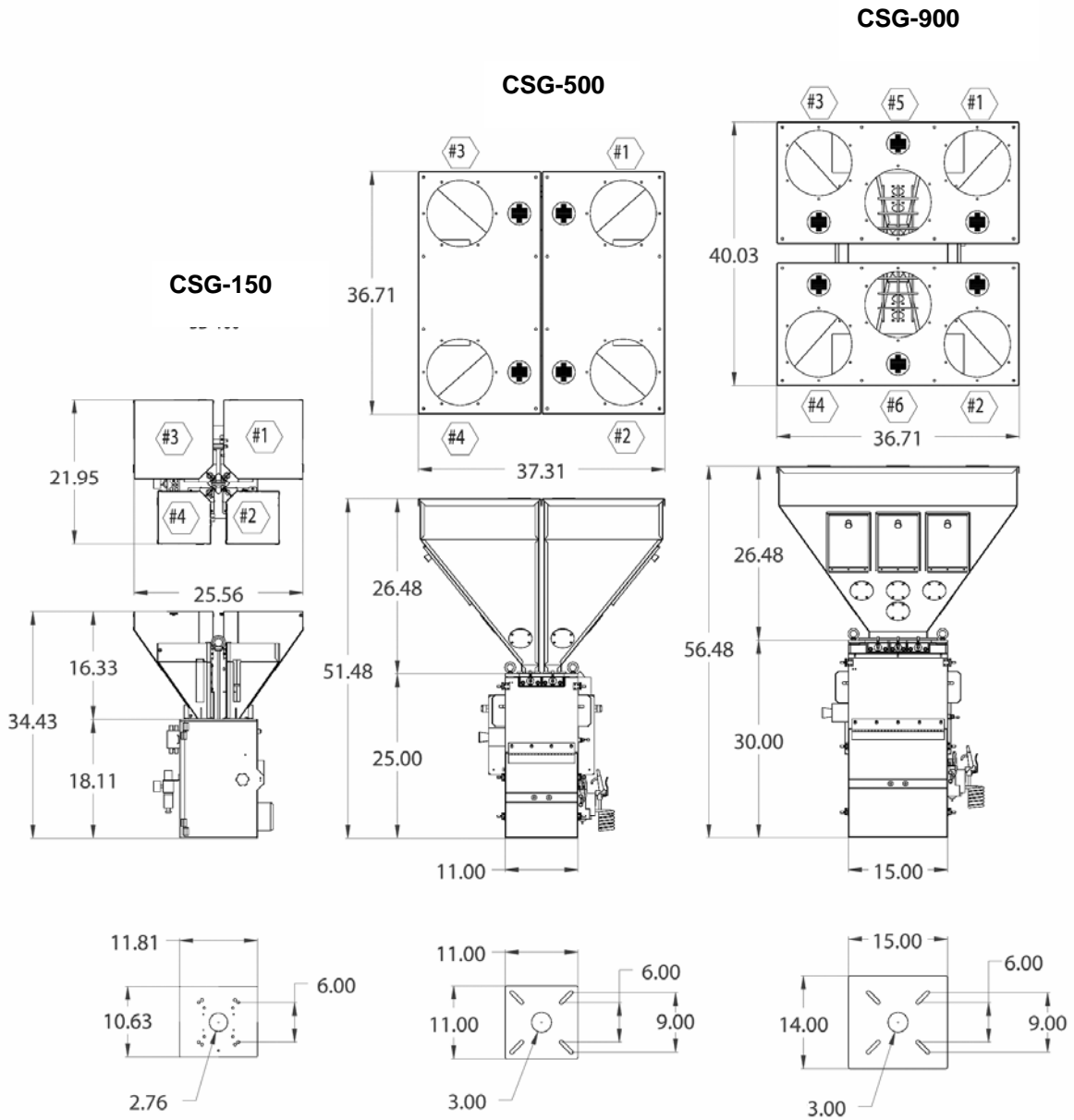
Features

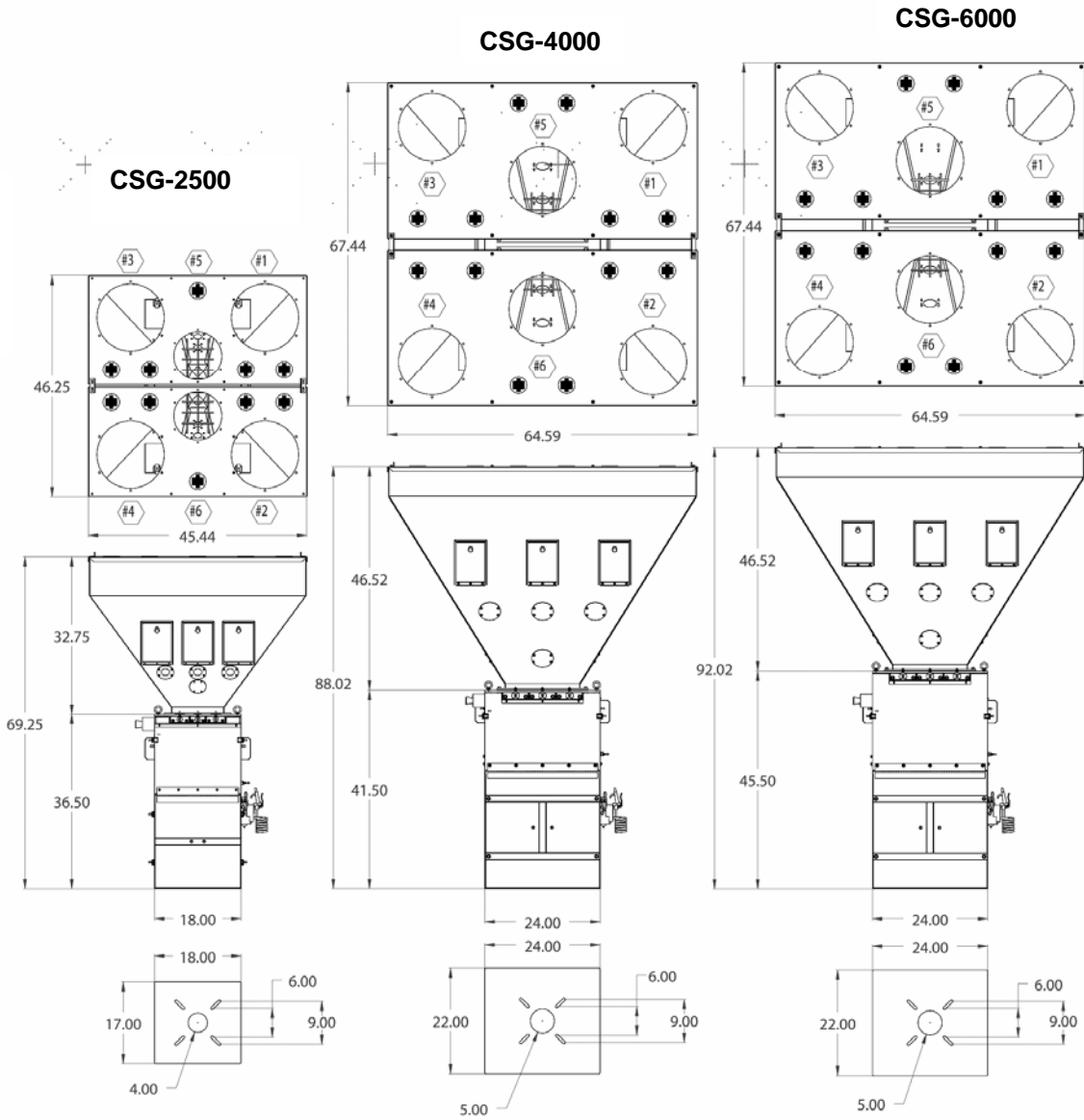
- Patented control system
- Touch screen interface in a remote-mount Pendant enclosure
- Two screens allow total control and monitoring of the blending process
- Constant display of actual material used
- Load cell signal conditioning technology improves reliability and is unaffected by electrical noise
- Redesigned pneumatic and electrical systems improve metering accuracy and blender rate
- Electrical panel meets applicable specifications, with 220 volt operation and CE declaration available
- Integral alarm light and horn indicates material feed problems
- Ethernet module available for off-line monitoring, control, and remote troubleshooting
- Three types of recipe entry formats are available to the operator:
 - Quickset mode meters color and additives as a percentage of the virgin material (most common in injection molding)
 - "Percentage" mode meters all ingredients as a percentage of the overall batch (most common in extrusion and blow molding)
 - "Parts" mode allows for ration recipe entry (e.g. 50:1)

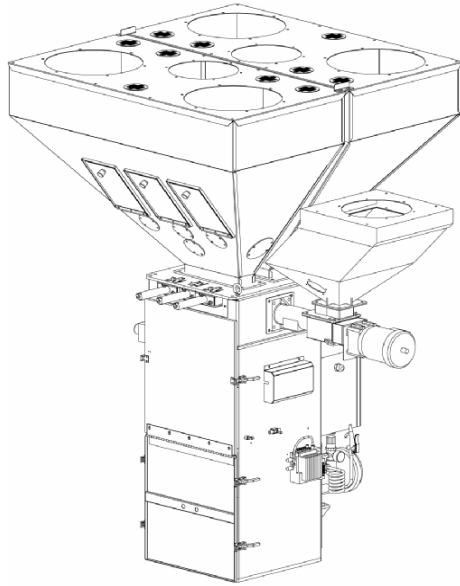
Programmable entry screens
for all three recipe modes
(up to six components)



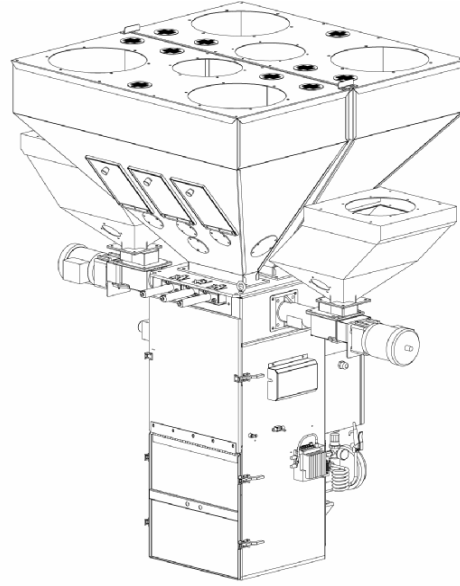
Real time display of process
rate and material usage of
each ingredient



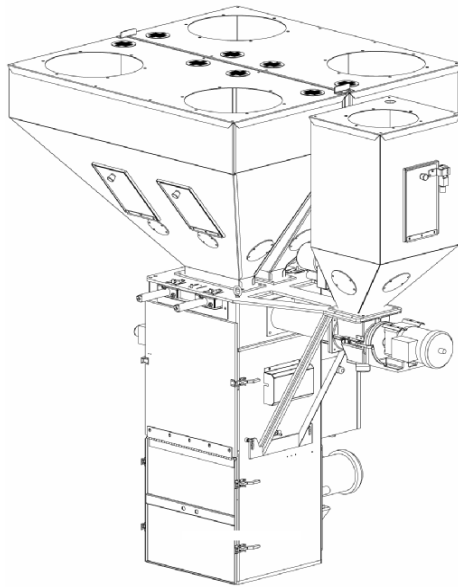




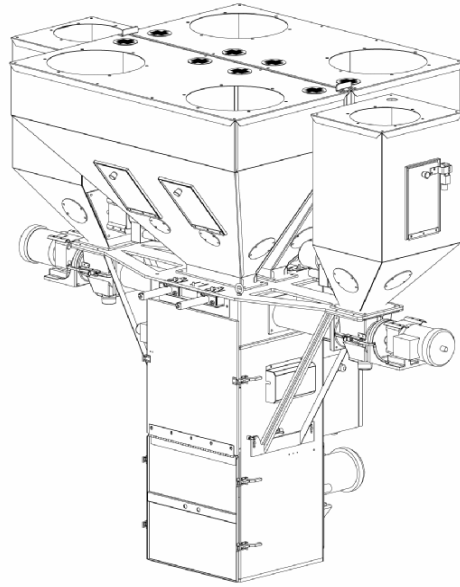
BD-2500-7F
INCLUDES:
6 SLIDEGATE
1 ADDITIVE FEEDER



BD-2500-8FF
INCLUDES:
6 SLIDEGATES
2 ADDITIVE FEEDERS



BD-2500-5R
INCLUDES:
4 SLIDEGATES
1 R.A.M. HOPPER



BD-2500-6RR
INCLUDES:
4 SLIDEGATES
2 R.A.M. HOPPERS

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