

ROTARY DRUM BLENDER 0.05 - 25m³



TOTAL MIXING

TOTAL DISCHARGE

GENTLE MIXING

NO SEGREGATION

DIVERSE MIXING

BATCH OR CONTINUOUS

SPRAY COATING



J R Boone Ltd

Process plant design manufacture and installation

THE ROTARY DRUM BLENDER

YEARS OF DEVELOPMENT LEADS TO SIMPLE OPERATION

The unique non-shear action of the Boone Blender is produced by a series of blades fully welded to the inside of the Drum, these lift and convey the entire mix with each revolution creating a highly fluidised state. Under these conditions powders and granules of widely different bulk densities and particle size can move freely ensuring a rapid and gentle mix with minimum power and energy input into the mix.

HIGHLY EFFICIENT MIXING

The blades transfer the fluidised product around the mixer quickly producing a completely homogeneous mix. For example we have a client who produces a plaster compound by mixing 20 grams of additive into a 3.2 tonne mix in 5 minutes. For additions of 0.5 to 1.0% mixing times are typically in the range of 30 - 180 seconds and are consistent throughout the sizes. Products with particle sizes ranging from sub 50 micron to 20mm and above can just as easily be mixed with those having a bulk density range of 500 kg/m³ to several Tons per/m³ without segregation.

CHARGING AND DISCHARGING

The combined inlet and outlet provides compact inline filling and emptying via the simple flap valve and single rotating seal. Rapid and total discharge occurs as the product is lifted via the fixed buckets and into the valve. The inlet / outlet is sealed by a packed gland, mechanical or heavy duty lip seal to match your process conditions.

GENTLE ACTION

Low rotational speed and the minimum number of mixing blades combined with no moving parts in the batch provide ideal conditions to mix friable granules and flakes with minimal or no degradation. For the same reason highly abrasive materials produce little or no wear in the rotary drum.

PROCESS FLEXIBILITY

The wide variety of products which can be mixed in the Boone Blender combined with the total discharge make product change over quick and easy. This together with the options work in semi continuous mode or a live storage unit and efficiently mix part loads (in some cases as low as 10%) have resulted in its use by many industries. For example Food, Pharmaceuticals, Fine Chemicals, Agro Chemicals, Cements, Plastics, Rubber and Minerals Processing industries.

TAILORED TO YOUR PROCESS

The internal blade design can be adjusted to suit your exact requirements increasing or decreasing the mixing action to create or prevent agglomeration. The falling curtain of material combined with the correct spray bar design can produce ideal conditions for spray coating. Liquid additions of up to 40% have been achieved on absorbent products.

LOW MAINTENANCE AND OPERATING COSTS

The efficient design and robust construction of the Boone Rotary Drum Blender from mild or stainless steel in conjunction with no drive parts or bearings being exposed to the product results in minimum power requirements and maintenance free operation for long periods of continuous running.

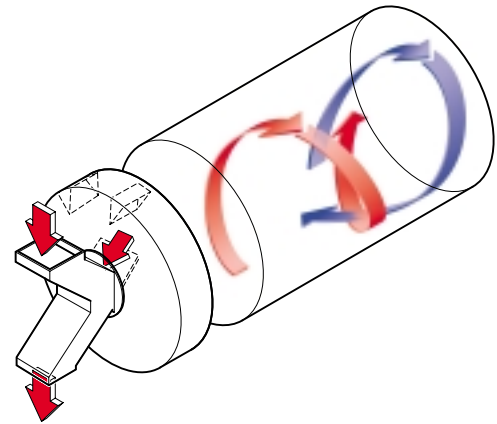
This provides a reliable machine with low running costs at the right price.

DRIVES FOR THE STANDARD RANGE

Direct coupled, Chain, Gear and Friction drives are available to match your application.

The selection is based on the average bulk density, material type and your operating conditions.

Please supply this information when requesting a quotation.



Batch mixer and semi continuous mode



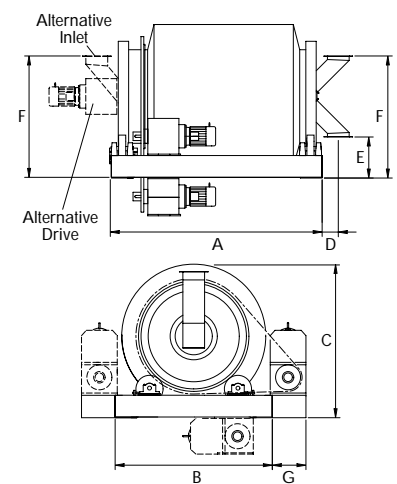
Continuous mixing plant in the Dominican Republic



Turn key mixing plant

MANY CONFIGURATIONS ARE POSSIBLE

The Boone Rotary Drum Range

Capacity m ³		Overall length	Overall width	Overall height	Outlet CL	Inlet Height	Outlet Height	Clearance Drive	
Maximum m ³	Minimum m ³	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	
0.05	0.01	950	800	925	160	180	800	0	
0.50	0.12	2160	1225	1650	225	420	1670	500	
1.00	0.25	2515	1520	1900	225	420	1670	500	
1.50	0.37	2755	1610	1925	225	420	1670	600	
2.00	0.50	2950	1770	2000	225	420	1670	600	
3.00	0.75	3275	2030	2150	225	420	1670	650	
4.00	1.00	3520	2220	2280	225	450	1700	900	
5.00	1.25	3720	2380	2450	225	530	1780	900	
7.50	1.87	4020	2725	2780	570	600	2050	1000	
10.00	2.50	4495	3000	3050	570	730	2180	1200	
12.50	3.12	4775	3230	3217	570	850	2300	1500	
15.00	3.75	5025	3430	3475	570	950	2400	1750	
20.00	5.00	5430	3750	3800	570	1110	2560	2000	
25.00	6.25	5790	4060	4100	570	1260	2710	2200	

Capacities given are mixing volumes.

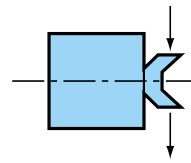
Consult our technical department for non standard and continuous sizes.

Owing to our continual development, JR Boone reserve the right to amend the figures and dimensions given without prior notice.

Guards omitted for clarity.

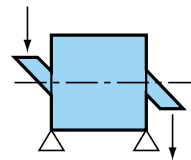
1. STAND ALONE

Inlet and outlet at same end for bag or big bag filling and direct bagging off from the mixer. Excellent for small batches or frequent product change.



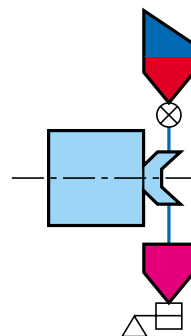
2. IN LINE / DUAL MODE

Inlet at opposite end to outlet for semi-continuous, continuous or high capacity applications. The mixer can be mounted on load cells to provide a compact weigh / mix and metered discharge system.



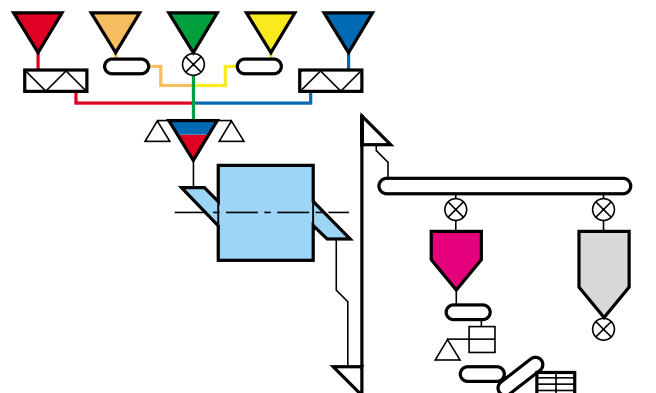
3. GRAVITY FEED

The mixer is charged from a batch hopper or IBC into which the components are pre-weighed. Small additions can be fed directly into the inlet chute. The mix is then discharged into a packing bin fitted with a semi-automatic weigher. Bagging off takes place whilst the next batch is being loaded and mixed.



4. FULLY AUTOMATED

Computerised process control provides for any number of recipes to be automatically weighed, mixed and discharged to bulk out loading or automatic packing lines. Monitored from a PC real time graphics system or local process controller.



Continuous mixing plant in the Dominican Republic

TYPICAL APPLICATIONS

Abbreviated application list:

Adhesive granules	Bauxite
Titanium Di-Oxide	Ceramic powders
Soap powder	Rubber compounds
Pot pouri	Plastic compounds
Hormone tablets	Pigments
Cocoa powder	Confectionery
Heart tablets	Resins
Spices	Gelatine
Tea and coffee	Salts
Insecticide	Muesli
Activated carbon	Dried vegetables
Carpet fibres	Metallic powders
Rice flakes	Glass frit
Floor screeds	Grass seeds
Toner materials	Aluminium powders

HYGIENE AND CLEANING.

The totally enclosed mixing drum is easily inspected or cleaned via a large access door, the door is interlocked with a code key lock and matching code key isolator. After emptying only dust which would adhere to the inside of the drum remains, this can be removed by vacuum cleaning or an optional clean in place (CIP) system and drain valve. Mirror finish stainless steel and bead blast finishes can also be provided.

OPTIONAL FEATURES

Continuous Mixing, Spray Coating, QA Sampling during Mixing. Controlled Atmosphere processing. Heating or cooling Jackets. Vacuum Drying, Vacuum Loading/Unloading. Corrosion Resistant / Non Stick Linings. High Shear De-Agglomeration.

Safety: Compliance

In accordance with EEC Directive S89/392 and 91/368.

All moving parts are guarded (to BS 5304), top access and outlets suitably interlocked or supplied with grids.

Test facilities are available and test can be conducted under your supervision. Test machines available 50 litre and 1000 litre.

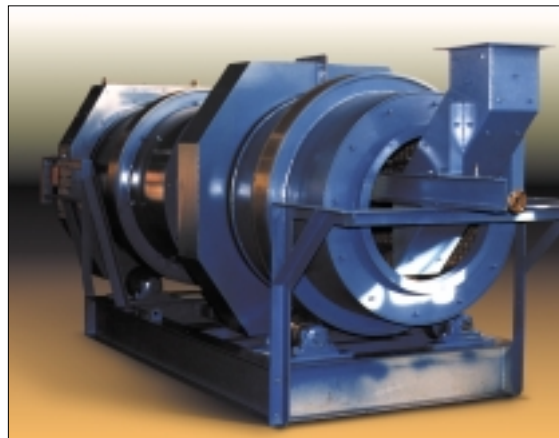
We also manufacture:

Helical Blade Mixers (Ribbon)	Delta Blade Mixers (Plough)
Conical Mixers	Twin Paddle/Screw Mixers
Liquid Mixer/Reactors	Lump Breakers
Bulk solids, storage, conveying and metering systems	
Liquid storage and metering systems	

Planning in data sheets are available for all the above.



Easy cleaning/inspection access



Non standard machines/agglomeration drum



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