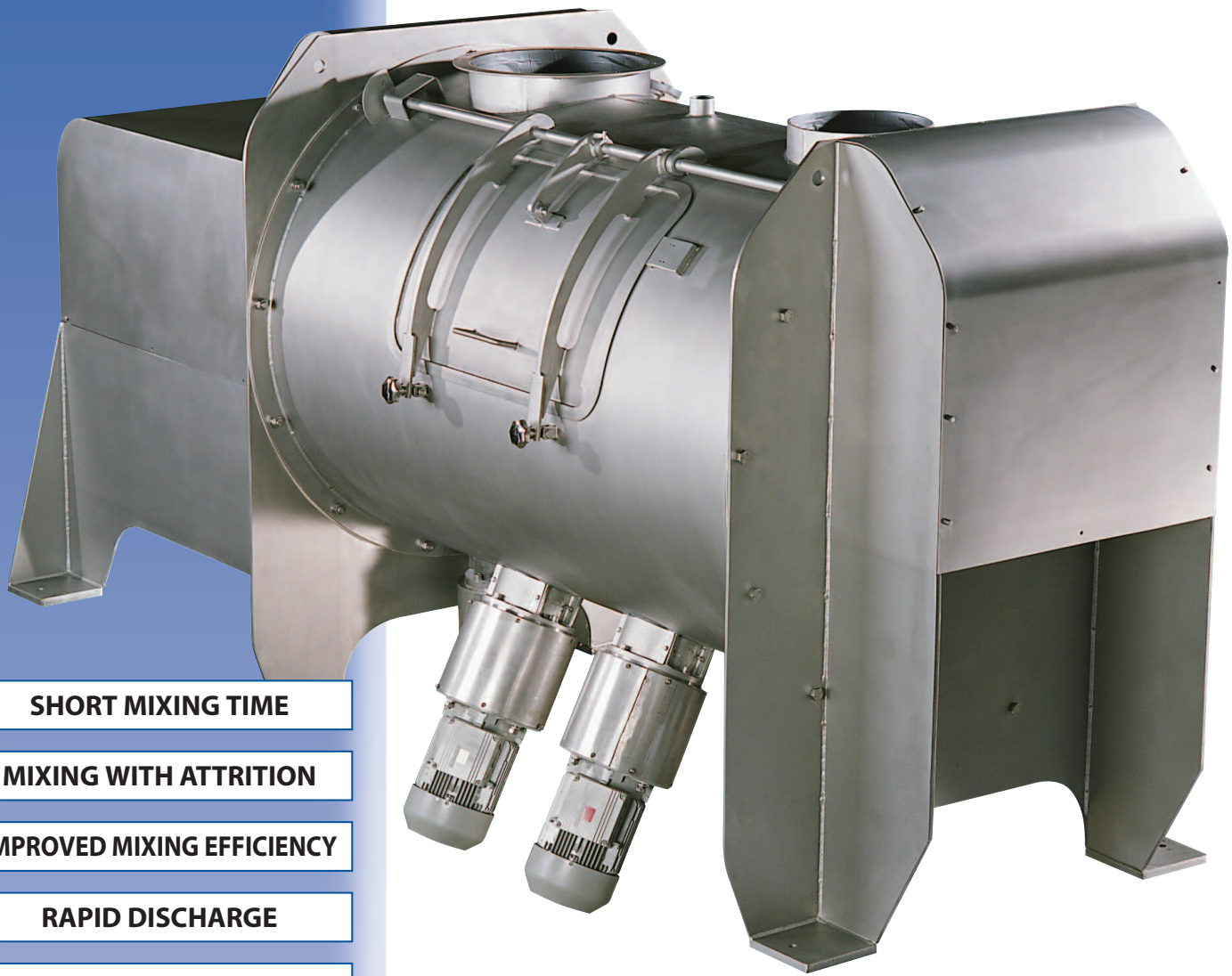
HORIZONTAL DELTA BLADE MIXERS
40 to 3200 litres
THE NEW CONCEPT OF PLOUGHSHARE TECHNOLOGY



- SHORT MIXING TIME
- MIXING WITH ATTRITION
- IMPROVED MIXING EFFICIENCY
- RAPID DISCHARGE
- BATCH OR CONTINUOUS
- LOW MAINTENANCE COSTS
- COMPETITIVELY PRICED

J R Boone Ltd

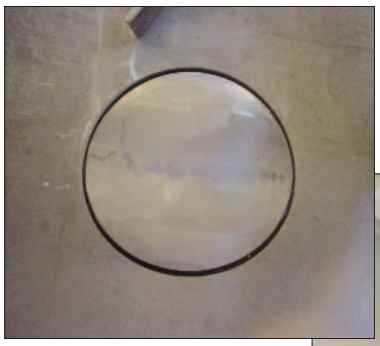
The Company with the process plant expertise

HORIZONTAL DELTA BLADE MIXER

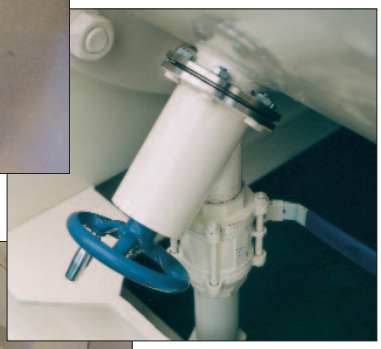
The Delta Blade Mixer is an innovative development of the conventional plough type mixer, producing a cleaner agitator configuration, giving short mixing times and quicker discharge thus reducing the cost of the operation cycle.

A selection of applications this versatile mixer can perform:

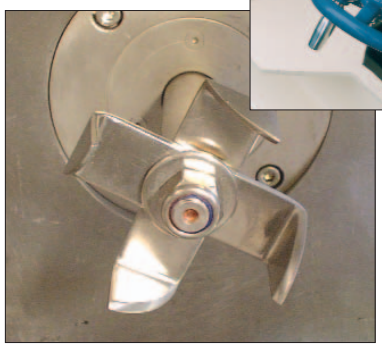
- Catering mixing with up to 50% fat additions.
- Dry mortar, plaster mixes and building chemicals.
- Pre Mixes of food additives and spices.
- Perfumed talcum and face powders (cosmetics).
- Producing brown sugars.
- Reduction of filter cake into lump free slurry.
- Coloured powder health drinks.
- Dispersion of solvent into aluminium powders.
- Re-processing paint over-spray from booths.
- Dispersing fibres into sports field topsoil.
- Sewage sludge conversions to fertiliser.
- Extending dyes and pigments into powders.
- Products requiring additional attrition when being mixed.
- Adding minor liquid additions to powders without agglomeration.
- Breaking down of 'soft' agglomerates and cohesive powders when mixing.
- Extending dyes and pigments into powders.



No dead pocket outlet



Sampling valve

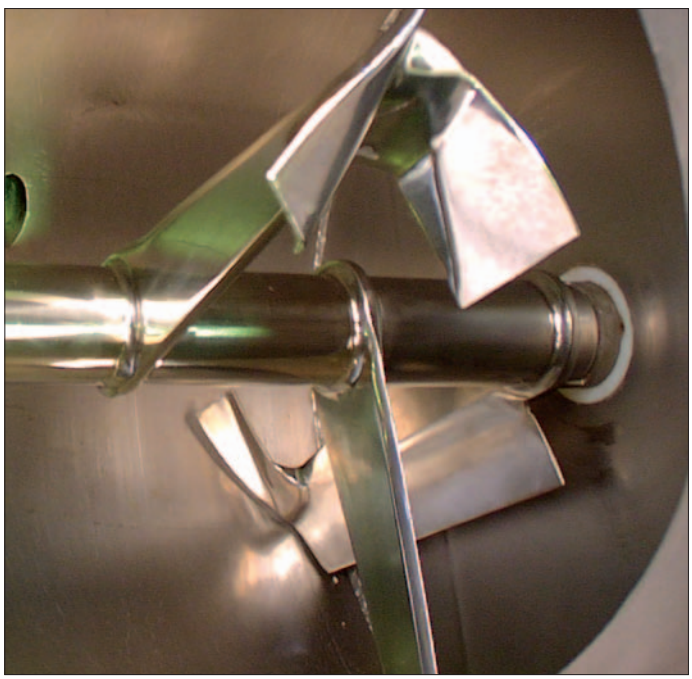


Refiner

Like the ploughshare, the Delta Blade Mixer uses the principles of high agitator speeds to radially and axially accelerate the product formulation in a short criss-cross pattern within the mixer shell. We have used our many years of practical experience, coupled with scientific testing, to provide reduced mixing times, higher levels of shear and lower power consumption per kg produced.

The following features make the Delta Blade Mixer competitive in both technology and price.

1. Short aspect ratio for quicker end to end mixing.
2. The Delta Blade provides differential displacement of the product formulation improving mixing and discharge efficiency leading to reduced processing time.
3. The ploughshare mixer can leave up to 5% of product in the shell after discharge unless a very large outlet is fitted. The Delta Blade Mixer reduces this to 1 - 2% with a standard size outlet.
4. The arm, taken from the Helical blade agitator design enables more attrition or cutting to be imparted during mixing without excessive additional power. This reduces the number of high speed cutters that are necessary with ploughshare mixers and in some instances refiners are not needed at all.
5. The arm also enhances the agitator strength and reduces adherence of mixed and unmixed product on the arm.



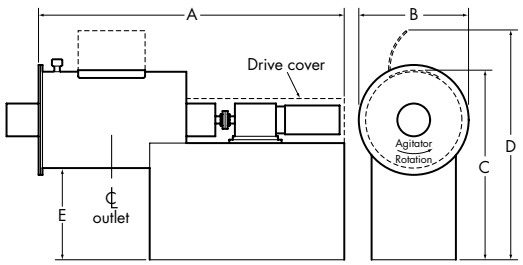
Delta blade

‘PLANNING IN’ DATA

Special configurations and sizes can be accommodated where space and existing plant prevent a conventional layout:

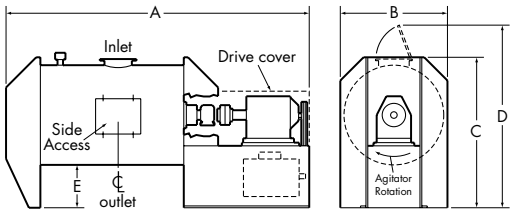
The Boone HDBM - capacity 40 to 400 litres

Model No.	Working capacity		Overall length	Overall width	Overall height		Trough Clearance	Motor Power
	Maximum litres	Minimum litres	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	Kw
50	40	20	1475	440	860	1050	450	1.1
100	80	40	1760	540	960	1200	450	2.2
150	120	60	1940	605	1025	1300	450	3.0
200	160	80	2080	685	1095	1400	450	4.0
300	240	120	2360	770	1180	1500	450	7.5
400	320	160	2700	840	1250	1600	450	11.0
500	400	200	2810	900	1310	1750	450	15.0



The Boone HDBM - capacity 600 to 3200 litres

Model No.	Working capacity		Overall length	Overall width	Overall height		Trough Clearance	Motor Power
	Maximum litres	Minimum litres	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	Kw
750	600	250	2750	1040	1400	1850	400	18.5
1000	800	350	3020	1130	1490	1960	400	22.5
1250	1000	450	3270	1230	1570	2000	400	30.0
1500	1200	500	3440	1300	1745	2200	500	37.0
2000	1600	700	3760	1420	1865	2325	500	45.0
2500	2000	900	4250	1520	1965	2400	500	55.0
3000	2400	1100	4650	1630	2160	2750	600	75.0
4000	3200	1500	4920	1780	2410	2900	700	90.0



Owing to our continual development, J R Boone reserve the right to amend data without prior notice.
Approximate overall dimensions; In the event of an order, a fully dimensioned certified drawing in CAD or printed form will be supplied.
Motor power and overall dimensions may vary according to client’s process requirements.
Dependent on the formulation and mixing requirements, the working capacity may be increased/decreased.
Outlet is midway along trough, type selected to meet the process requirements.
Continuous Mixers are available, each designed and manufactured match the process requirements.

Standard drive arrangements

40 to 400 sizes: geared motor and flexible coupling to the agitator. 600 to 3200 sizes: motor, vee belt drive, gearbox and flexible coupling to the agitator.

Electric’s

D.O.L starting is advised to ensure mixers will start under load.

Safety: CE compliance

In accordance with EC Directive 98/37/EC, all moving parts are guarded in accordance with BS EN ISO 12100 and related standards, top access and outlets suitably locked or supplied with grids.

Machines and mixing systems are also supplied in accordance with the EC ATEX, PED, Low Voltage and EMC directives.

FEATURES, OPTIONS AND TESTING

Flexibility

The Delta Blade Mixer is complementary to our successful Helical Blade Mixers and our new Paddle Blade Mixer. With the three ranges having common shell dimensions it enables any one of the mixers to be converted to an alternative range to meet a different mixing process.

Complete circular shell

Mixing elements sweep all surfaces, ideal for fitting heating/cooling jackets and creating internal pressure/vacuum conditions.

Materials of Construction

Can be manufactured in 304, 321, 316 & duplex stainless steel, as well as mild steel and abrasion resistant carbon steels. When mixing abrasive products bolted Delta blade arm units can be incorporated and 'hard' tipped if needed.

Testing

Available for tests at our works or for hire at your site are 316 stainless steel model No.200 mixers similar to that shown. A variety of features are incorporated, including Delta, Helical and paddle agitators, speed change, spraying, steam injection, in mix sampling, 'no dead pocket' outlets and jacket in order to optimise your mixing process.

Range of Options

To ensure that our mixers will meet the exact requirements of your process and plant layout, options include:-

- Any number of feed arrangements.
- A variety of discharge valves, bomb doors or rotating shell for rapid discharge, are available.
- Air purged glands or mechanical seals.
- Pressure rated Q&A sampling valves.
- Jacketed and internal pressure or vacuum shells.
- Liquid addition spray systems.
- Polished, bead blast or coated finishes.
- Flame proof electric's, explosion and earthing requirements.
- Electrical and Pneumatic controls and instrumentation.
- High speed refiners with a variety of tools.
- ATEX compliant machines.

Other Features

1. Short mixing times, also reduces the need for pre-mixing with small percentage additions.
2. Simple design, minimum number of working parts; the drive in particular can be obtained 'off the shelf' from many suppliers.
3. Very little maintenance required.
4. Loading and discharge arrangements are simple and can be easily made to suit all conditions of a plant layout.
5. Can be easily adapted to meet other process conditions such as drying, vacuum, auto-claving, liquid addition, etc.
6. The design has few agitator elements which reduces cleaning time.
7. Batch or continuous operation.

J R Boone Ltd also manufacture very low shear Drum Mixers, large capacity Vertical Mixers and associated proportioning equipment. We also offer a complete service for an integrated process from design through manufacture to installation and commissioning.

Over 40 years of engineering excellence and high standards of customer service have earned J R Boone a reputation as a leading name in the process industry.

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