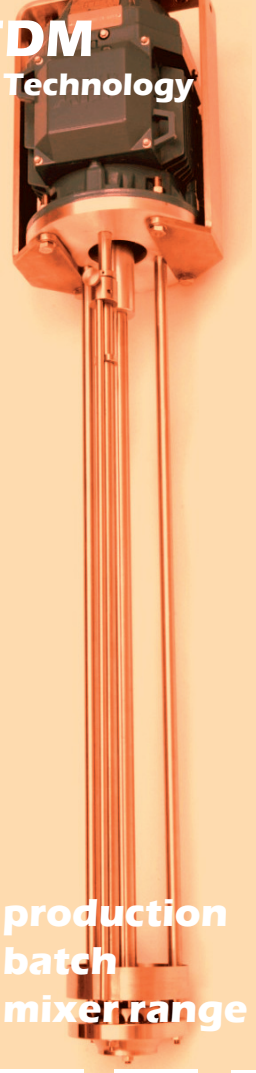
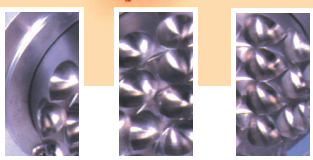
FDM Technology



DISTROMIX B

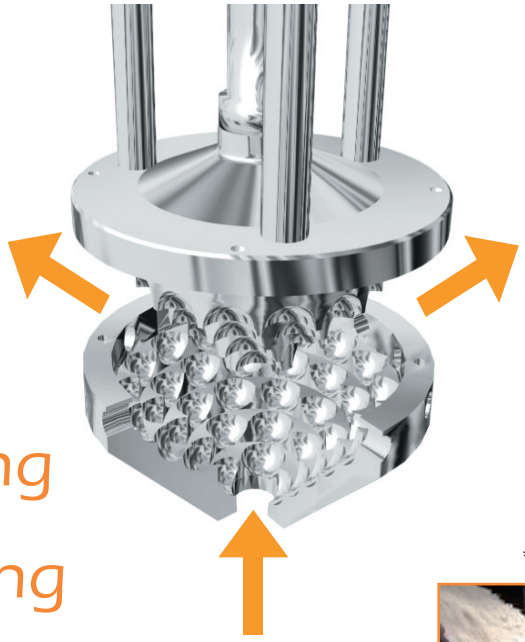
production batch mixer range



DB Batch Production High Shear Mixers

High quality dispersions and emulsions are at the heart of most fluid production processes. Maelstrom's DB range of production high shear mixers offers the benefits of patented Fluid Division Mixing (FDM) technology in a conventional and flexible format. With standardised hoist, bridge and vessel mountings and a wide range of options for abrasive, flameproof and hygienic applications, the DB range really is the all-round performer in high shear mixing.

The unique FDM high shear action action uses the principles of inter-cavity transfer and hydraulic shear to deliver high levels of mixing energy to the fluid. Using its centrifugal self-pumping action, fluid is drawn into mixing head and subjected to strong cavity vortex actions which shear the fluid against itself. In contrast to conventional rotor-stator mixers, all of the material passing through the head experiences the same mixing actions. This reduces the number of passes needed and therefore the mixing time.



- intense shearing action
- up to 5x energy input*
- fast, consistent results
- easiliy cleanable
- interchangeable heads
- flameproof, hygienic & abrasives options

*compared to conventional rotor-stator high shear mixers

Dispersing

Homogenising

Rapid blending

De-agglomerating

Emulsifying

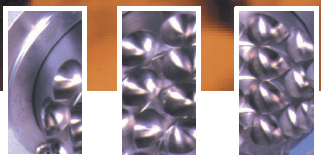
Reacting

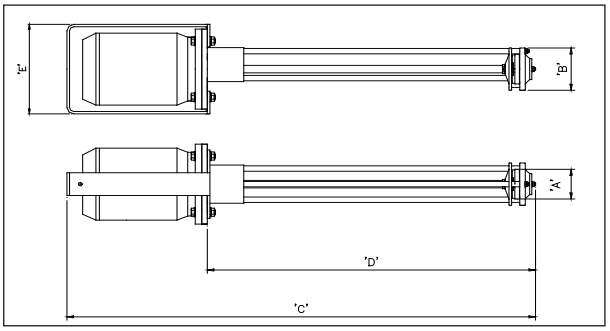
Food **Pharmaceuticals** **Speciality Chemicals** **Paints** **Coatings** **Pigments**

FDM Technology

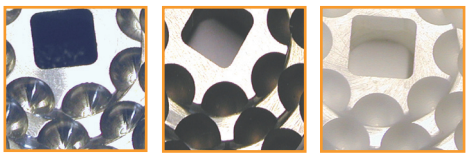
DISTROMIX B

production batch mixer range





Typical Construction Materials



316 stainless | Toolsteel | zirconia ceramic

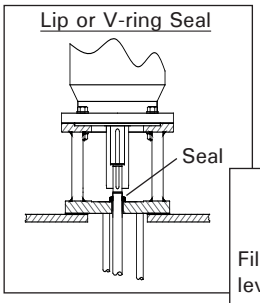
		DB75	DB100	DB125	DB150	DB175	DB200
Typical Dimensions (hoist mounting)	mm						
A		75	100	125	150	175	200
B		105	145	175	210	250	290
C		1080	1450	1825	2205	2300	2360
D		750	1000	1200	1500	1500	1500
E		225	340	400	400	460	510
Weight	kg	33	65	120	165	270	365
	lbs	73	145	265	365	595	800
Typical maximum mixing volume at low viscosity (e.g. water)	litres	50	200	1000	2000	5000	10000
	gals	15	50	250	500	1500	2500
Typical maximum mixing volume at high viscosity (e.g. thick cream)	litres	20	80	400	800	2000	4000
	gals	5	20	100	200	500	1000
Viscosity range (approx.)	Pa.s (cP)	0.0001 (0.1) - 30 (30,000)					
Motor power range (standard*)	kW	2.2	5.5	11	18.5	30	45
	hp	3	7.5	15	25	40	60
Rotor speed (typical max.)	rpm	3600					
Approvals / Certification (standard)		CE marking (Europe), UL/ASME components (US) + others					

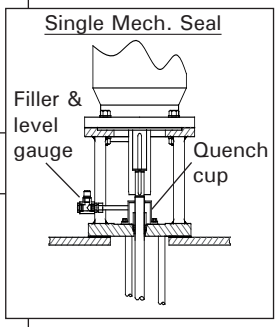
*Larger and non-standard motors available on request

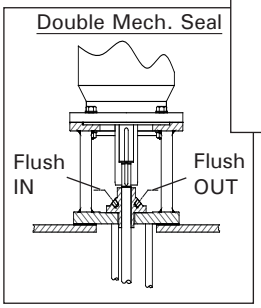
Options

Mixing head configuration	Standard: 2/3 (2 cavity rows on stator, 3 on rotor) Options: 3/4 and 4/4 heads available
Construction materials	Wetted parts - 300 series stainless steel standard (other materials such as titanium, HASTELLOY® and ceramics are available on request) Bearings - polymer lower bush (FDA-approved material). Ceramic bush or sealed rolling element bearings are optional. Note that the standard mixer must NOT be run dry. Mountings - stainless steel or painted structural steel
High-Flow	Optional impellers mounted on the back of the rotor to increase agitation in the vessel and speed up powder dispersions. Two impeller sizes are available for each mixer model in the range.
Mountings	Crane hoist, bridge mounting or vessel mounting (with seals)
Seals	Lip (dust) seal, single mechanical or double mechanical seal with flushing system.
Motors & Drives (note that standard mixers are supplied with motor only)	- Electric motors to any IP rating - EExd and explosion proof motors - Air motors - Painted or stainless steel finishes - AC inverters or DC control systems

Vessel Mounting & Sealing Options







The physical and performance specifications in this leaflet are not intended for accurate sizing and selection of machines. Please contact Maelstrom APT or its agents directly for a selection appropriate to any particular mixing application.
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Maelstrom
Advanced Process Technologies

First Floor, 59-61 High Street West,
Glossop
Derbyshire SK13 8AZ, UK
Tel> +44 (0)1457 867777
Fax> +44 (0)1457 862207
email> sales@maelstrom-apt.com
web> www.maelstrom-apt.com

Authorised Distributor: INDIA

Chempro Technovation Pvt. Ltd.
3 Sukhshine Complex, Sunrise Park
Ahmedabad 380054, Gujarat, India
Tel> +91-079-26851135
Fax> +91-079-26851154
web> www.chempro.in

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