Maelstrom
Advanced Process Technologies

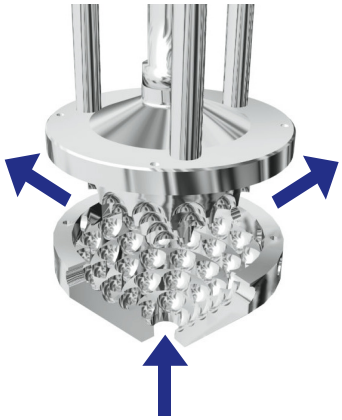
DB75-200

PRODUCTION FDM BATCH 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 cost-effective, 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 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.

- Dispersing
- Homogenising
- Rapid blending
- De-agglomerating
- Emulsifying
- Reacting
- Powder addition



MODEL RANGE

		DB75	DB100	DB125	DB150	DB175	DB200
Nominal rotor diameter	mm	75	100	125	150	175	200
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)					
Weight**	kg	33	65	120	165	270	365
	lbs	73	145	265	365	595	800
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	6000	3600				
Approvals / Certification (standard)		CE marking (Europe), UL/ASME components (US) + others					

* For fluids in this viscosity range, supplementary agitation using some form of impeller may be required .
** Typical for alloy motors. Larger and non-standard motors available on request

Food Pharmaceuticals Speciality Chemicals Paints Coating Pigments

PART CODES AND ORDERING

DB _ _ _ - _ - _ _ _ _ _ _ _ _

1 2 3 4 5 6 7 8

Model
DB

Size
_75
100
125
150
175
200

Cavity rows
-2-3
-3-4

Motor size
In kW x 10

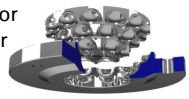
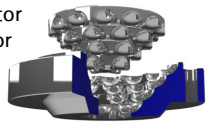
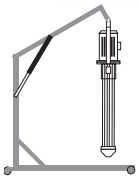
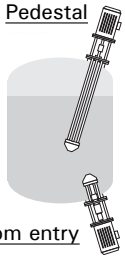
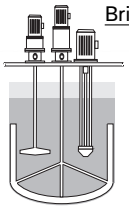
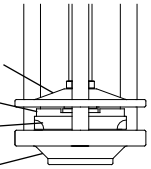
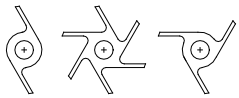
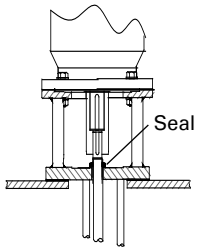
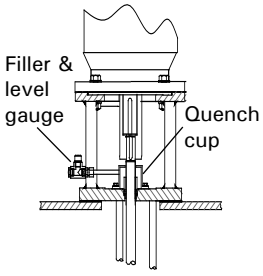
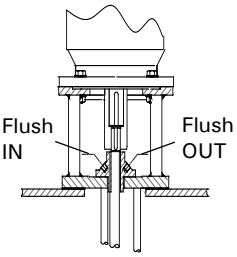
Mounting
F - flange
P - pedestal
C - crane hoist
B - bottom entry

High flow option
N - no high-flow
F - high flow impeller

Seal
N - no seal
L - lip (dust) seal
S - single mechanical
D - double mechanical

Special options
N - no special options
H - hygienic option
F - flameproof/ATEX option

EXAMPLE
DB125-2-3-110FFNH means a DB mixer with 125mm diameter rotor, 2 cavity rows on the stator and 3 on the rotor, 11kW motor, flange mounted with high flow impeller, no seal. Special hygienic design option included.

CODE POSITION	DETAILS	
3	**Cavity rows** The number of rows of mixing cavities on the stator and the rotor. A 2-3 configuration gives more pumping (agitation) and less mixing whilst a 3-4 option provides the opposite.	2 row stator 3 row rotor  3 row stator 4 row rotor 
5	**Mounting** The mixer can be mounted above a vessel on a bridge using a simple flat flange plate (F) or it can be mounted directly onto the top of a lidded vessel using a pedestal (P). A crane hoist mount (C) allows the mixer to be suspended above the vessel for frequent removal whilst a bottom-entry mounting (B) enables the mixer to be fitted into the vessel from underneath using a mechanical seal.	Crane hoist  Pedestal  Bottom entry Bridge 
6	**High flow option** The unique design of the DB mixing head allows an axial flow impeller (F) to be mounted on the upper surface of the rotor. This can provide greatly increased agitation for low viscosity fluids in the vessel where it is impractical or expensive to use a separate impeller/stirrer to improve batch uniformity.	Vented top plate Impeller 3 row rotor 2 row stator  Impeller Types 
7	**Seal** A seal can be selected for a pedestal mounted mixer. A lip (dust) seal (L) is suitable for non-critical, non-pressurised applications whereas a single (S) or double (D) mechanical seal is needed for pressurised, hygienic and toxic applications. A bottom entry mounted mixer must be fitted with a single or double mechanical seal. There are many options relating to seals including materials of construction, pressure ratings, hygienic assessment ratings etc. Please contact Maelstrom for advice on seal selection for a particular application.	Lip or V-ring Seal Seal  Single Mech. Seal Filler & level gauge Quench cup  Double Mech. Seal Flush IN Flush OUT 

Maelstrom
Advanced Process Technologies

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

Authorised Distributor: