

Alfa Laval MX Mixers

Mixers for fats and oils refining

Introduction

Alfa Laval MX mixers are specially designed to meet the specific mixing requirements of the fats and oils industry. MX mixers are ideal for important process stages such as degumming, acid conditioning and neutralization.

Application

Fats and oils refining.

Benefits

- MX mixers are suitable for use in a wide variety of mixing activities, including operating under more delicate mixing conditions.
- Mixing can be done as flexibly as possible, and is easy to optimize.
- Added advantage of preventing emulsions from forming

Working principle

The unique twin-inlet, double-chamber MicroMerge™ design improves both operating efficiency and economics. MicroMerge makes it possible to combine high-intensity dispersion (in the upper chamber) with a preset contact time (in the lower chamber).

With two separate inlets – one at the top and one at the bottom – it is possible to feed oil directly into the dispersion section, and then gradually into the mixing section, as required.

The majority of the dispersion takes place in the top part of the mixer. Dispersion requires power and the greater the diameter of the vessel the more power is required. An upper part with a smaller diameter is therefore advantageous. In the bottom part of the mixer, highly turbulent, low-shear mixing is used to bring the dispersed chemicals into contact with all the oil being treated, in a volume large enough to provide sufficient contact time.

Design

Alfa Laval MX mixers are available in four sizes. Depending on the capacity required and the duties involved, each size has specific top and bottom volumes. The type and size of the rotors also vary according to the specific capacity and the task for which they are required.

All MX mixers are made of acid-proof steel and have single mechanical seals. The special oiler provided is fitted with



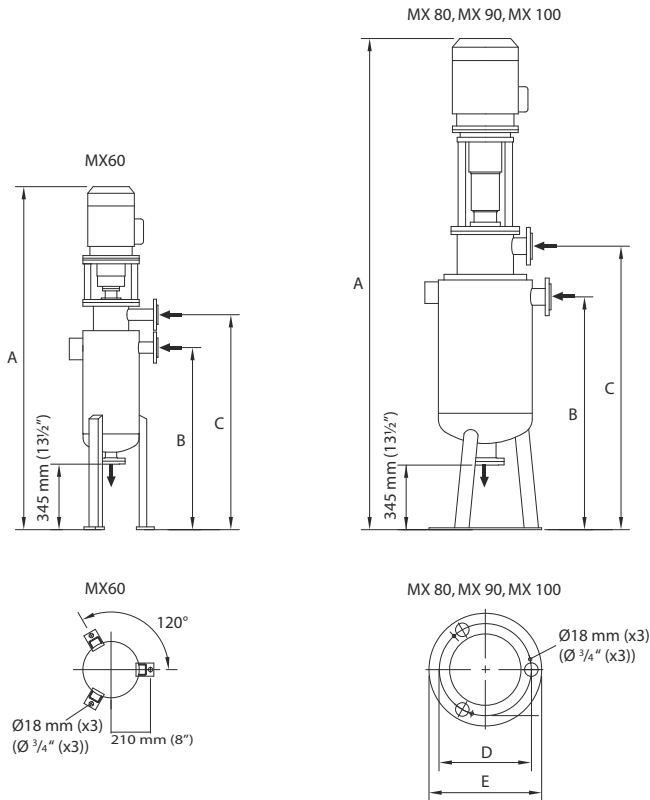
protection against dry running, and a bottom bearing can be replaced from the outside without having to remove the agitator.

Fixed-speed operation is standard, but variable speed operation is available as an option, and is recommended for further optimization of performance and flexibility.

Materials

Parts in contact with product	Acid-proof stainless steel
Mechanical seal	Carbon/stainless steel
Bearing assembly	Carbon steel
Max. speed	1500 rpm

Dimensional drawing



Measurements in mm (in)	MX 60	MX 80	MX 90	MX 100
A	1827 (72)	2541 (100)	2616 (103)	2959 (116)
B	970 (38)	1265 (50)	1240 (49)	1391 (55)
C	1154 (45)	1450 (57)	1510 (59)	1676 (66)
D	-	390 (15)	490 (19)	590 (23)
E	-	500 (20)	600 (24)	700 (28)

Technical data	MX 60	MX 80	MX 90	MX 100
Volume I (US gallons)	50 (190)	115 (437)	170 (646)	280 (1066)
Nominal capacity (tpd) ¹	200	450	700	1000
Max. operating temp °C (°F)	100 (212)	100 (212)	100 (212)	100 (212)
Max. pressure bar (psig)	10 (150)	10 (150)	10 (150)	10 (150)
Feed viscosity range (cSt)	10-100	10-100	10-100	10-100
Shipping volume m3 (ft3)	0.75 (26)	1.5 (53)	2.0 (70)	2.8 (99)
Motor, kW (Hp) single-speed 50 Hz	4.0 (5)	7.5 (10)	11.0 (15)	18.5 (25)
Motor, kW (Hp) single-speed 60 Hz	6.6 (7.5)	8.6 (10)	12.6 (15)	21.3 (25)
Motor, kW (Hp) variable speed 50/60 Hz	5.5/6.6 (5/7.5)	7.5/8.6 (10)	11.0/12.6 (15)	18.5/21.3 (25)
Operating speed, rpm single-speed 50 Hz	950	950	950	950
Operating speed, rpm single-speed 60 Hz	1140	860	860	860
Operating speed, rpm variable speed 50/60 Hz	700-1200	510-1040	510-1040	510-900
Motor protection class	IP55	IP55	IP55	IP55
Net weight, kg (lb) without motor	148 (325)	295 (650)	355 (780)	455 (1000)
Net weight, kg (lb) with motor, max.	200 (440)	400 (880)	500 (1100)	640 (1410)

¹ Actual capacities will vary depending on application

This document and its contents is owned by Alfa Laval Corporate AB and protected by laws governing intellectual property and thereto related rights. It is the responsibility of the user of this document to comply with all applicable intellectual property laws. Without limiting any rights related to this document, no part of this document may be copied, reproduced or transmitted in any form or by any means (electronic, mechanical, photocopying, recording, or otherwise), or for any purpose, without the expressed permission or authorized by Alfa Laval Corporate AB. Alfa Laval Corporate AB will enforce its rights related to this document to the fullest extent of the law, including the seeking of criminal prosecution.

How to contact Alfa Laval

Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com