

MixMIM

Cosmetic Reactor



The MixMIM range of mixing equipment allows the precise and quality reproduction of a wide variety of cosmetic products, or other products that require dispersion, homogenization and heat exchange.

The system combines the effect of a TANDEM vertical agitator and an EMFL high shear emulsifier. The vertical agitation system, made up of two agitators with opposite directions of rotation, known as counter-rotating agitator, allow an exhaustive and uniform mixing processing of high viscosity products. The emulsifier located at the bottom of the tank enables the dispersion of solid particles and homogenization of the aqueous and oily phase. A recirculation system is incorporated into the emulsifier that improves the efficiency of the process.

In the equipment it is possible to feed solids and liquids by vacuum, as well as discharge under pressure. The parameters of temperature, pressure and weight are controlled, as well as the speeds of the mixing elements.



WORKING FIELDS

Manufacture of cosmetic and hygienic products such as ointments, creams and gels, etc.

MATERIALS

Parts in contact with the product: AISI 316L
External parts: AISI 304 L
Gaskets: EPDM / Viton (according to each product) FDA

CHARACTERISTICS

Useful capacity: from 50l to 5,000l
Working temperature: 20 ° C to 85 ° C
Working pressure: vacuum up to + 1.5bar
TANDEM central agitator (Counter-rotation)
Bottom emulsifier with recirculation
Load cell weighing system
Standalone equipment with PLC and touch screen



OPTIONAL SUPPLEMENTS

- Hydraulic top bottom lift system
- Hot water generation system
- Cooling system
- Automated CIP cleaning system
- Ladder and walkway in the upper frame
- Higher working pressures

THE REACTOR

Tank built in AISI-316L, product contact areas, and the rest in AISI-304. Sanitary mirror-polished interior finish, Ra <0.8 µm.

Tank provided with double chamber. Equipment heating by steam or hot water and cooling by cold water or mains water.

Tank bottoms type: Klopfer.

Removable cleaning system using rotating cleaning balls, with 360° effectiveness, to connect to external CIP-SIP cleaning equipment.

MIXING AND EMULSIFYING SYSTEM

TANDEM central agitator: Counter rotation provided with an anchor with scrapers that will rotate in one direction and a second central paddle agitator that will rotate in the opposite direction. Sealing by means of mechanical seals to withstand pressure and vacuum, and sanitary execution. It will work with a frequency inverter: central agitator at 60-140 rpm and anchor at 20-40 rpm.

High shear bottom mixer: with recirculation.

VALVES AND CONNECTIONS

Butterfly valves and / or single seat for ingredient and product connections.

Butterfly and ball valve for auxiliary products.

Tri-Clamp type sanitary connections ISO2852 or DIN 32676.

VACUUM SYSTEM

Composed of a liquid ring pump, pipelines, solenoid valve and safety valve. Pressure transmitter and vacuum breaker valve included.

INSTRUMENTATION

Temperature transmitter for product temperature control.

Pressure transmitter for vacuum and pressure control in the reactor.

Maximum and minimum level sensor in the tank.

WEIGHING

The equipment has a weighing system with load cells and a weight terminal with the possibility of programming. Besides to always control the amount of product inside, loading and unloading can be carried out automatically.

CONTROL PANEL

Stainless steel control panel, with Siemens PLC connected to a touch panel, with restricted access system, which allows to enter recipes in memory, or modify existing ones.

OPTIONAL SUPPLEMENTS:

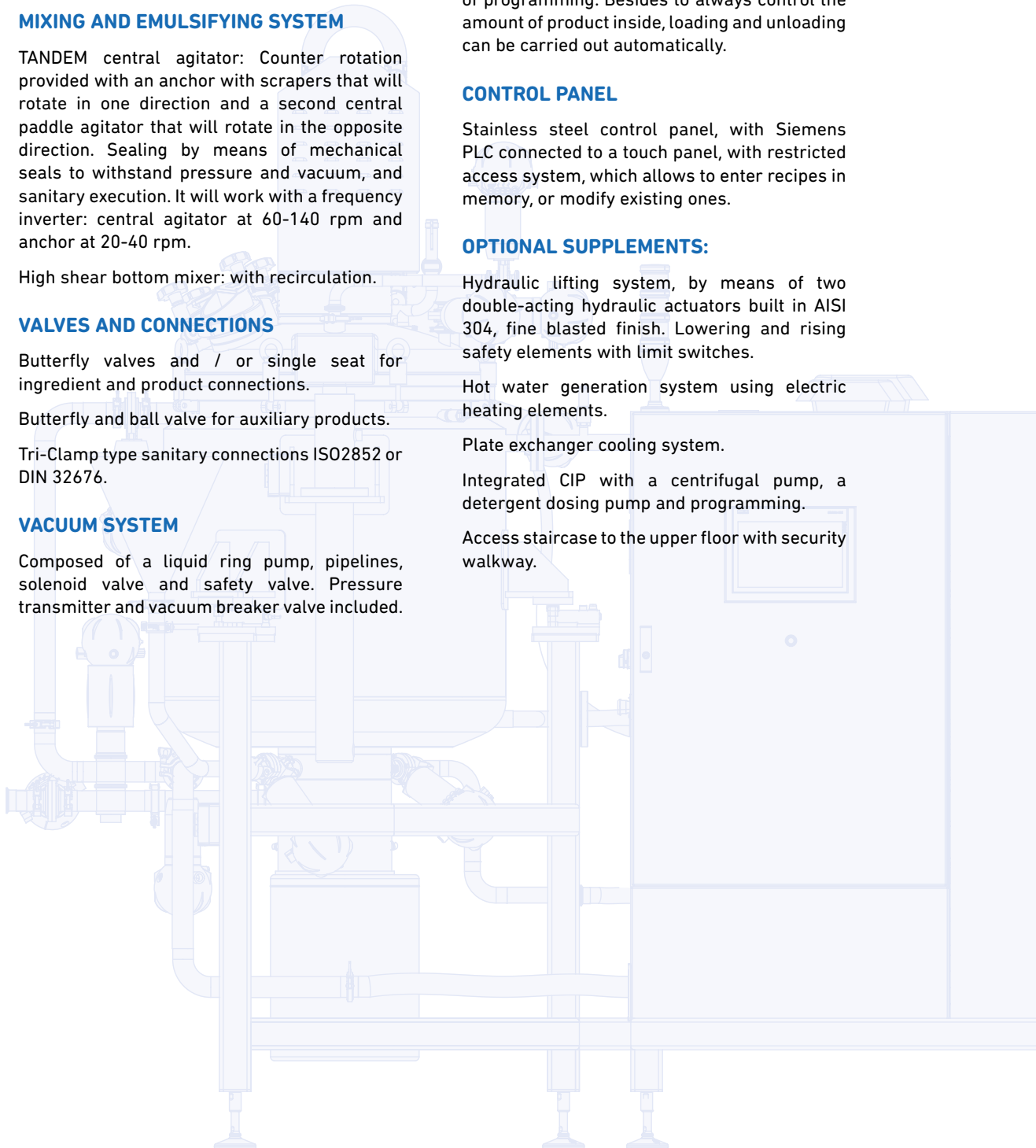
Hydraulic lifting system, by means of two double-acting hydraulic actuators built in AISI 304, fine blasted finish. Lowering and rising safety elements with limit switches.

Hot water generation system using electric heating elements.

Plate exchanger cooling system.

Integrated CIP with a centrifugal pump, a detergent dosing pump and programming.

Access staircase to the upper floor with security walkway.



SELECTION CHART

MixMIM 50	MixMIM 100	MixMIM 300	MixMIM 500	MixMIM 1000	MixMIM 2000	MixMIM 3000	MixMIM 5000
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Working capacity

Minimum (L)	17	35	100	170	335	670	1000	1700
Maximum (L)	50	100	300	500	1000	2000	3000	5000

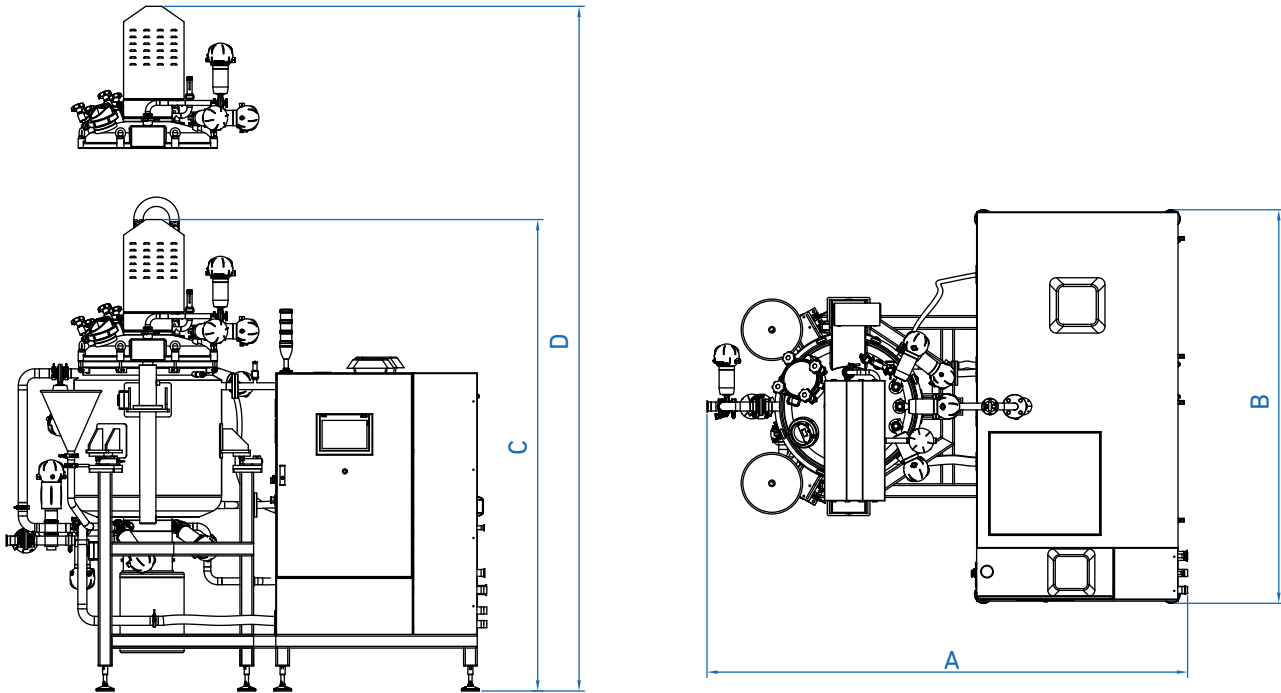
Motor Power

Agitator TANDEM (KW)	0.75-0.75	1.5-1.5	2.2-2.2	3-3	4-4	5.5-5.5	7.5-9.2	11-11
Bottom mixer (KW)	1.5	4	7.5	7.5	15	22	30	45

Design pressure

Pressure	Vacuum / Up to +1.5 bar							
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DIMENSIONS



MODELO	VOLUM RANGE [L]	INSTALLED POWER [kW]*approx.	WEIGHT [Kg] approx.	Length A [mm]	Width B [mm]	Height C [mm]	Height D [mm]
MixMIM-50	8 to 65	7	900	1500	1600	1900	2400
MixMIM-100	12,5 to 120	14	1500	1700	1600	2100	2600
MixMIM-300	36 to 350	18	2000	2800	2300	2750	3450
MixMIM-500	60 to 560	20	2500	2800	2300	3000	3800
MixMIM-1000	120 to 1080	33	3500	3000	2300	3500	4500
MixMIM-2000	250 to 2200	45	5350	2390	2340	4100	-
MixMIM-3000	300 to 3250	60	6800	2390	2340	4700	-
MixMIM-5000	500 to 5250	80	9000	2390	2340	5200	-