



 **Where Ideas Meet Industry**

# APV Flex-Mix<sup>™</sup> Liquivorter



## Application

The Flex-Mix Liquiverter is specially designed for products with low to medium viscosity in order to obtain a fast mixing of powders and particles with liquids. The Flex-Mix Liquiverter is usable for mixing, dispersion, recombination and reestablishment of soluble products. It is also used for reconstitution of dairy products, manufacturing of fine foods, emulsions, preparation of starch and hydrocolloid solutions.

## Capacity

Up to 3000 litre – batch production.

All depending on the type of production plant, the capacity per hour can be up to 20,000 litre.

## Function

The Flex-Mix Liquiverter is a square shaped tank with a bottom mounted high speed mixing impeller. The impeller generates an axial flow, which is re-circulated in the tank via the surrounding mixer chamber. The square shaped tank ensures that there will be no forced rotation of liquids in the tank (forced vortex). On the contrary a free vortex will be created which sucks the liquid down towards the mixing impeller (like in a bath tub outlet, a plug-hole). This liquid whirl also sucks powders and particles being added through the manway placed in the top of the tank down into the mixing impeller. In both the impeller and the surrounding chamber, high shear forces and turbulence are created ensuring effective and homogeneous mixing.

The product outlet is placed in the mixer chamber. Depending on the characteristics and viscosity of the product, a booster pump may be needed for emptying in order to ensure further transportation of the liquid.

## Standard execution

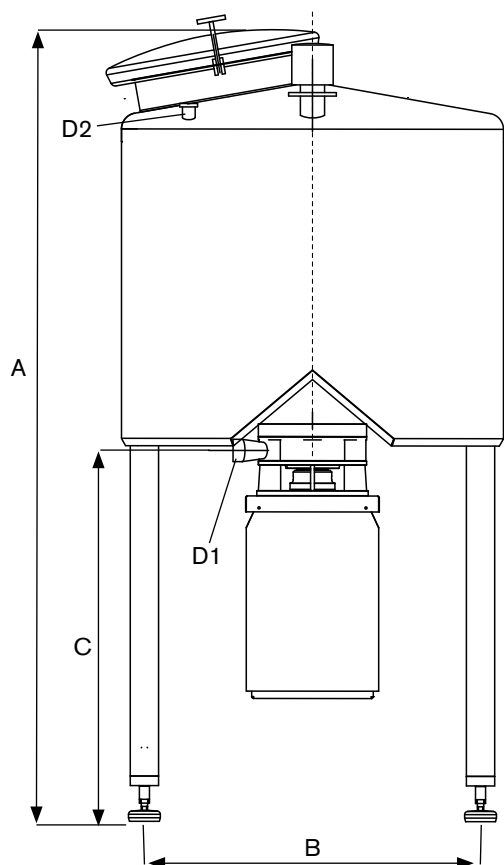
- All products in touch with the end product are made of stainless steel AISI 316 / DIN1.4401
- Square shaped pressureless tank in the following sizes: 250, 500, 1000, 2000, and 3000 litres
- Interior/exterior tank surfaces in 2B finish with polished welds. Other product contacting surfaces in: Ra < 1 µm
- Available option with heating/cooling jacket on tank wall and/or with insulation on the outer jacket
- Top mounted manway cover – optional with safety lock and safety grid
- Two top mounted liquid inlets (more can be delivered) and a bottom mounted mixer outlet
- In/outlet fittings in accordance with required standard: ISO, DIN, etc.
- Top mounted vent
- Available option with level sensors and/or load cells
- Sanitary design for CIP cleaning
- With one CIP inlet branch, ø25 mm with rotating spray ball
- Three mixer unit sizes with standard mixing impellers, i.e. ø150, ø250, and ø350
- Available with a special mixing impeller (high shear mixing unit)
- Axial units: Inducer propeller, premix blades, serrated rotating knife
- Directly coupled norm motor (closed coupled design)
- Motor fully encapsulated in IEC or NEMA norm, IP55, covered by a stainless steel jacket, 1450 rpm
- Double mechanical shaft seal for water flushing made of Silicon/Carbon alternatively of Silicon / Silicon seal ring material
- Seal material in EPDM or FPM (Viton), FDA quality

## Technical data

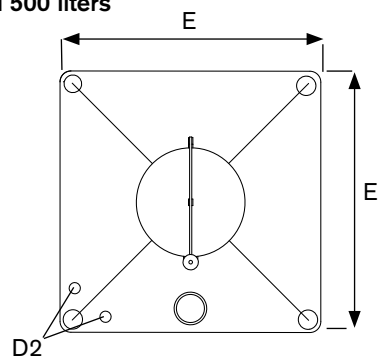
Type	Tank volume (L)	Mixer Impeller (mm)	Motor			Weight** (kg)	
			SizeType IEC	Power* (kW)	Speed@ 50HZ (rpm)	Single shell	Insulated/jacketed
TB+250-150	250	Ø150	160	11 – 15 - <b>18.5</b>	1450	308	358
TB+250-250		Ø250	180	18.5 – 22 - <b>30</b>		376	426
			200	30 – <b>37</b> – 45		430	480
TB+500-250	500	Ø250	180	18.5 – 22 - <b>30</b>		446	516
			200	30 – <b>37</b> – 45		500	570
TB+500-350		Ø350	225	<b>37</b> - <b>55</b>		580	650
TB+1000-250	1000	Ø250	180	18.5 – 22 - <b>30</b>		566	666
			200	30 – <b>37</b> - 45		620	720
TB+1000-350		Ø350	225	<b>37</b> - <b>55</b>		700	800
TB+2000-250	2000	Ø250	180	18.5 – 22 - <b>30</b>		746	896
			200	30 – <b>37</b> - 45		800	950
TB+2000-350		Ø350	225	<b>37</b> - <b>55</b>		880	1030
TB+3000-350	3000	Ø350	225	<b>37</b> - <b>55</b>		1060	1260

\*) ABB motors

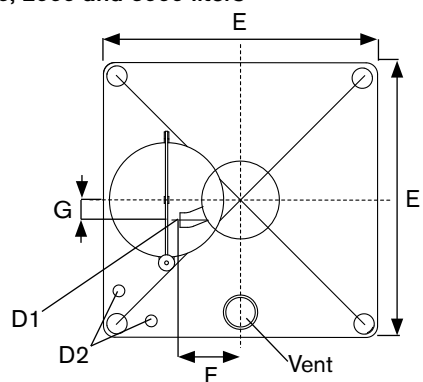
\*\*) Weight only with the motor power marked in **bold**



250 and 500 liters



1000, 2000 and 3000 liters



#### Dimensional sketches

Type		Dim. (mm)								Shipping volume (m3)	
		D1*	D2*	A	B	C	E**	F	G	Single shell	Insulated/jacketed
TB+250-	150	38	38	1685	667	876	770			2	2,5
	250	63.5				893		240	80		
TB+500-	250	63.5	51	2004	885	1033	1000	245	80	3,2	4
	350	76.1				1062		360	120		
TB+1000-	250	63.5	63.5	2325	1056	1163	1200	245	80	5,1	6,4
	350	76.1				1190		360	120		
TB+2000-	250	63.5	76.1	2580	1350	1163	1520	245	80	8,2	10,3
	350	76.1				1190		360	120		
TB+3000-	350	76.1	76.1	2832	1528	1190	1700	360	120	11,6	14,5

\*) OD,

\*\*) insulated and/or jacketed: Add. 76 mm to E.

Note: Dimensions are without fittings.



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