



# Flex-Mix Powder Mixer Type TPM+

## Applications

APV's TPM+ Powder Mixer is part of a wide range of mixing equipment offering the flexibility to handle all types of products, quickly and efficiently. Our specialty mixing and blending systems fulfill customer requirements in industries as diverse as processed food, brewing, dairy, pharmaceutical and healthcare industries.

The TPM+ model is used for mixing of powders and liquids, for recombined dairy products, sugar solutions, brines, etc. and is available in two standard versions.

Uses include, but are not limited to:

- Powdered milk
- Powdered whey
- Lactose
- Chocolate
- Stabilizers, mixed with milk
- Addition of vitamins and minerals
- Sauces
- Brine
- Fertilizer
- Pesticides

## Capacity

110 - 220 gpm (12,000 to 50,000 l/hour) of recombined product

## Operation

The TPM+ Powder Mixer is an integrated injector/centrifugal pump which consists of a mixer/pump housing with an injector pipe built coaxially into the pump inlet. In the double inlet pipe, the liquid is added in the outer pipe section and the powder in the center. In connection with the injector pipe, a powder hopper is mounted above the mixer. Between the funnel and mixer, a throttle valve regulates the powder quantity.

During operation, the liquid is accelerated by means of the mixing wheel/impeller. This creates a vacuum effect centrally in the injector pipe causing the powder to be

sucked in. The products are mixed in the mixer housing. In addition to the pump pressure, the mixing wheel also generates turbulence and high shear forces in the mixture ensuring an effective and homogeneous mixing. For high product viscosities (>500cp) a booster pump may be needed to feed the mixer.

## Standard Specification

- Two models: TPM+1 with motor coupled directly to the mixer shaft and TPM+2 with V-drive between motor and mixer
- All parts in contact with the product are made of acid proof stainless steel AISI 316L / DIN1.4404
- The Powder hopper is made of stainless steel AISI 304 / 1.4301 and is available in 30, 45, and 100 liters (TPM+2 only 100 liters)
- With level sensor and/or vibrator on powder hopper if required
- Manual or air operated throttle valve for powder regulation/shut off
- Double shaft seal with water flushing (W+ pump seal)
- Seal material in EPDM or FPM (Viton), FDA quality
- Motor is totally enclosed in IEC or NEMA norm, covered by stainless steel shroud
- Sanitary design for CIP cleaning
- Inlet/outlet fittings in accordance with required standard: ISO, DIN, Tri-Clamp, etc.



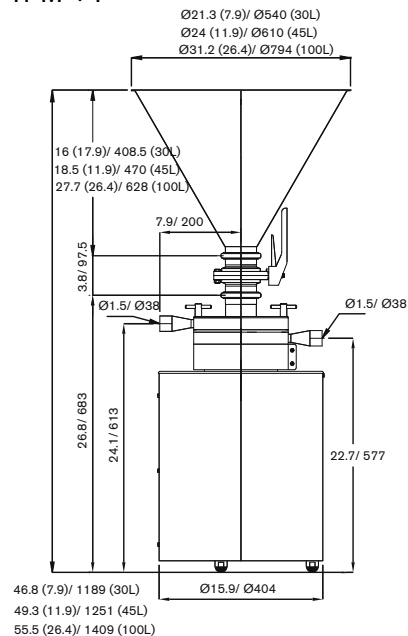
## Technical Data

	TPM+1	TPM+2
Motor:	5-7.5-10 hp (4 - 5.5 - 7.5 kW)	15-20 hp (11-15 kW)
	3600rpm @ 60Hz (2900rpm @ 50Hz)	
Liquid capacity	Max 110 gpm (25,000 l/h)	Max 220 gpm (50,000 l/h)
Powder capacity (*)	60 kg/min	150 kg/min
Max Temperature	284°F (140°C)	
Inlet pressure (feed pressure) min	7 psi (0.5 bar)	
Outlet pressure (counter pressure) min	21 psi (1.5 bar)	
System pressure, max	145 psi (10 bar)	
<b>Water flush seal data</b>		
Capacity	0.06 - 0.13 gpm (15 - 30 l/h)	
Pressure, max.	101 psi (7 bar)	
(*) The capacity depends on the powder type. Contact APV for recommendations		

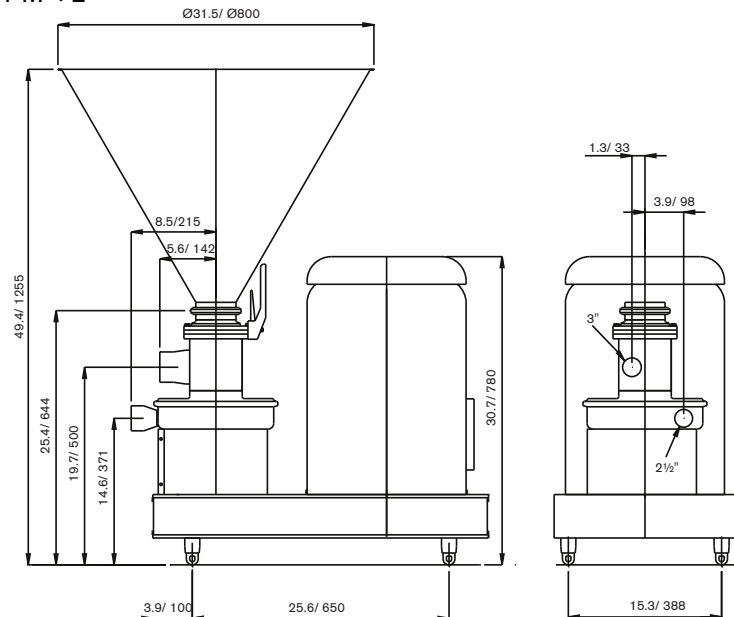
## Dimensional Sketches

Measurements shown: in/gallon and mm/L

TPM +1



TPM +2



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