



APV Flex-Mix™

Powder Mixer type TPM+

Application

The mixer is used for mixing of powders and liquids, for recombined dairy products, sugar solutions, brine, etc.

Capacity

12,000 to 50,000 l/hour of recombined product

Operation

In principle the mixer is an integrated injector/centrifugal pump. It consists of a mixer/pump housing onto which an injector pipe is 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 centre. In connection with the injector pipe, a powder hopper is mounted above the mixer.

Between funnel and mixer a throttle valve regulates the powder quantity.

During operation the liquid is accelerated by means of the mixing wheel which creates a vacuum centrally in the injector pipe by which the powder is 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 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 litres (TPM+2 only 100 litres).
- 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, etc.

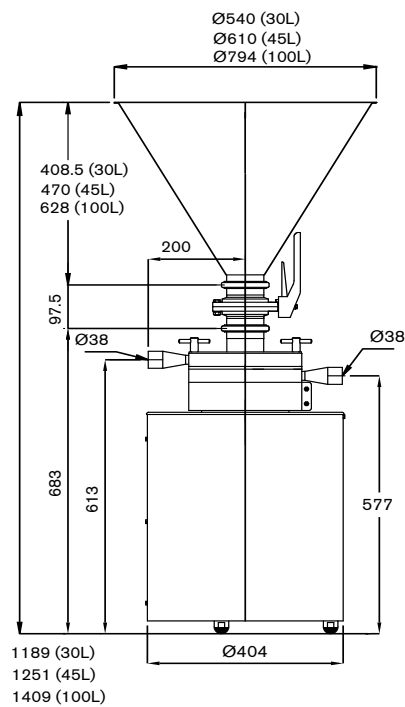
Technical Data

| | | TPM+1 | TPM+2 |
|---|------------|---------------|-------------|
| Motor | kW | 4 – 5.5 – 7.5 | 11 – 15 |
| | rpm @ 50Hz | 2900 | 2200 |
| Liquid capacity | l/h | Max. 25,000 | Max. 50,000 |
| Powder capacity (*) | kg/min. | 60 | 150 |
| Max. Temperature | C° | 140 | 140 |
| Inlet pressure (feed pressure) min. | bar | 0.5 | 0.5 |
| Outlet pressure (counter pressure) max. | bar | 1.5 | 1.5 |
| System pressure, max. | bar | 10 | 10 |
| Service water for shaft seal | | | |
| Capacity | l/h | 15-30 | 15-30 |
| Pressure, max. | bar | 7 | 7 |
| Weight | kg | 75 (4 kW) | 160 (11kW) |
| | | 90 (5.5kW) | 175 (15kW) |
| | | 100 (7.5kW) | |

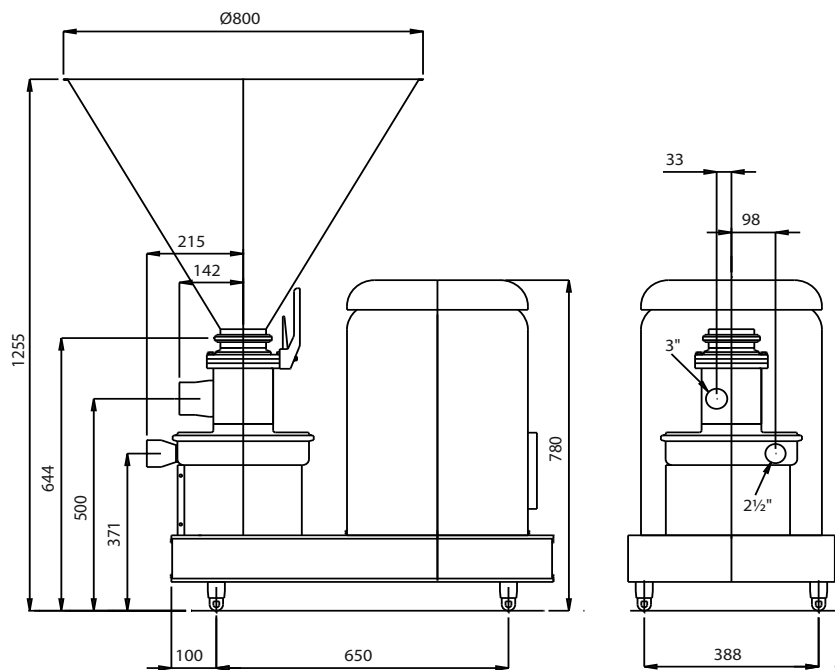
(*) The capacity depends on the powder type. Contact SPX for recommendations.

Dimensional sketches

TPM + 1



TPM+2



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