Flashblend powder/liquid mixing system

The Silverson Flashblend is designed to incorporate large volumes of powders on a continuous and semi-continuous basis, at rates of up to 15,000 kgs/hour. The semi-automated system can be specified for ultra-hygienic applications and custom built to suit clients' specific requirements There are over 500 Flashblend systems in use worldwide throughout all sectors of the process industry.

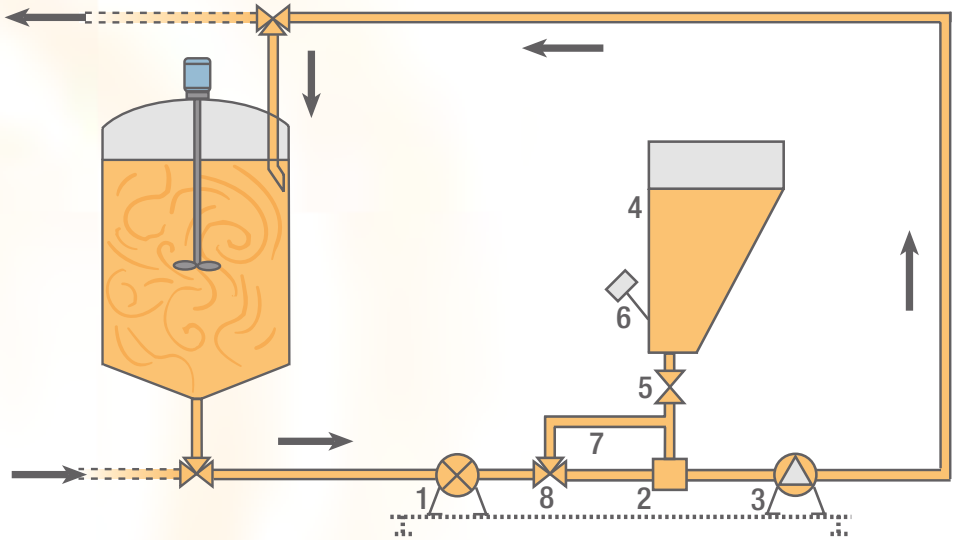
Advantages

- Suitable for large scale production.
- Can be incorporated into automated systems.
- Fully sterilisable units available.
- Can be customised to suit client requirements.
- Agglomerate-free product.
- Repeatability.
- Speed.
- Minimum aeration.
- Improved vessel hygiene.

Flashblend operating sequence

Operation

Liquid is forced through the system by the pump (1). The liquid flow through the venturi assembly (2) creates a vacuum, boosted by the pumping action of the Silverson In-Line mixer (3). When powder is present in the hopper (4), the valve (5) can be opened and powder is drawn down into the venturi by the vacuum.



The powder/liquid mix immediately passes into the high shear rotor/stator assembly of the Silverson In-Line mixer, ensuring a finely dispersed and agglomerate-free mixture. The resultant product is passed back to the process vessel by the pumping action of the machine.

Once the hopper is empty, the sensor (6) will automatically shut the valve, minimising aeration. When the powder sensor closes the powder feed valve, product flow can be diverted round a bypass line (7) by the divertor valve (8).

The high flowrate in this mode ensures a scouring action of the venturi housing, keeping the area free of any buildup of partially hydrated powder.

The bypass position is also used for Cleaning-In-Place (CIP), ensuring that the venturi area is cleaned to as high a standard as normal sanitary piping.

Technical Specifications

Materials of Construction

All product contact parts are in 316L stainless steel. The chassis is constructed from 304 stainless steel.

Sealing

Hygienic single mechanical shaft sealing is standard. Double mechanical shaft seals are available.

Motor specifications

TEFV (Totally Enclosed Fan Ventilated) motors are available as standard. Other types of motor and enclosures are available as options.

ATEX

Units suitable for use in Zone 22 areas are available.

Inlet and outlet connections

2” Tri-clamp fitting as standard. Other fittings on request.

Cleaning

Designed for Cleaning-In-Place (CIP). Sterilise-In-Place (SIP) and Cleanroom standards are available.