

BLENDER MIXING PUMP



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SEPAK INDUSTRIES



Design and features

- ☆ The mixer is basically consists of a casing and a centrifugal pump impeller which are mounted vertically.
- ☆ The suction side has a double wall tube that keeps the inlet of solid separate from that of liquids, thus avoiding the formation of blocks before the material enters the casing.
- ☆ The liquid enters the mixing chamber with high velocity and creates a vacuum at the centre of the impeller, which causes the suction of the solids. The fall of the solids can be regulated by means of a valve situated at the bottom of the hopper. It is important to keep low pressure at the suction and at the discharge sides of the blender to avoid cavitation. A feeding pump must be provided only for the applications that really require it (considerable pressure drops at suction side, high viscosity products etc), please keep in mind that suction capacity will decrease.
- ☆ When discharge pressure is high, a centrifugal pump needs to be fitted to the discharge side of the blender.
- ☆ For viscosities above 500 cP, the feeding pump and the discharge pump must be positive displacement pumps.

Options

- ☆ Dual cooled seal
- ☆ Connections: DIN, SMS
- ☆ Pneumatic actuator valve
- ☆ 60° hopper
- ☆ Screen in the mixing chamber
- ☆ Drainage

Applications

- ☆ The mixing pumps are used to mix solids in liquids. In the food processing industry, they provide a perfect solution for reconstituting powdered milk, making syrups, preparing brines etc.
- ☆ They can also be a solution for preparing solid-liquid mixtures in the pharmaceutical, cosmetics and chemical industries.

Materials

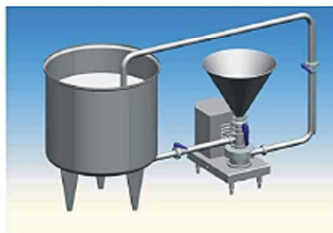
- ☆ Parts in contact with the media: AISI 316L
- ☆ Gaskets (standard) : EPDM according to FDA
- ☆ Mechanical seal (standard) : C/ St.St/ EPDM
- ☆ Inside finish: mirror polished, $Ra \leq 0.8 \mu m$
- ☆ Outside finish: mirror polished

Design and features

- ☆ Simple and versatile assembly for quick and homogeneous mixing of great variety of solid without contact with the air. Complete mixing with circulation of the material. In some applications, it can be used in line without recirculation
- ☆ 3A sanitary design
- ☆ Easy assembly and disassembly by clamp connection
- ☆ Cleaning can be carried out without disassembly of the mixer
- ☆ Sanitary single mechanical seal

Application

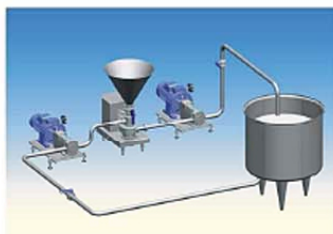
- ☆ Preparation of sugar syrup, sorbitol, glucose and derivatives
- ☆ Reconstitution of powdered milk
- ☆ Dissolution of cocoa and /or sugar in milk
- ☆ Reconstitution of powdered whey
- ☆ Preparation of flour and starch slurries
- ☆ Preparation of brines
- ☆ Pre mixtures of yogurt and other milk based desserts
- ☆ Dissolution of bentonites for wine filtering
- ☆ Dissolution of casein and caseinates in the cheese making industry
- ☆ Preparation of pesticides and fertilizers



Typical Application 1:
Can be achieved on fast-dissolving of a variety of powder product, dealing mainly with the solution which with solid content not more than 15%. Usually used in the rapid dissolution process of milk powder, pectin, additives, sugar and other materials.



Typical Application 2:
Increasing a centrifugal pump between Mixer and make-up tank is in order to feed mixer expected, this configuration can handle relatively high solid content of solution, high-speed liquid through the centrifugal accelerates solution processing of dry powder. Mainly used in the processing of final solution with solids content of 25% or less.



Typical Application 3:
This system is equipped with two sets of rotor pumps; rotor pump has a relatively large advantage in the process of delivery of materials containing the viscosity, and has a relatively high pressure. This system is designed to handle high solids content of mixed solution, especially perfect in dealing with the solution with solids content of 50% or more.

Options

The following control components can be added

- ☆ Pneumatic valve
- ☆ High and low level sensors
- ☆ Vibrator (pneumatic or electric)

Switch board

The mixers can be provided with a switch board for operation and protection of the equipment

The basic functions of the standard switch board are follows

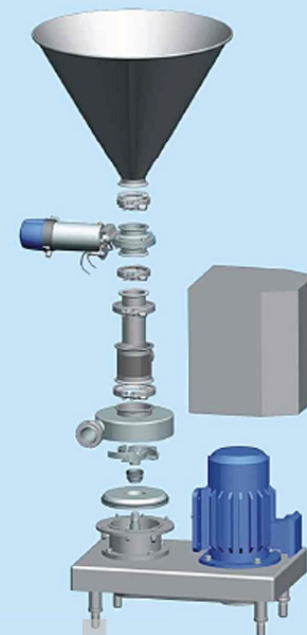
- Stop/start
- Emergency stop
- Motor protection



Type of vibrators

Pneumatic vibrator: the vibration is produced by means of a roller rolling on a steel grooves. the frequency of vibration can be changed by means of regulating the entry of air in the vibrator.

Electric vibrator: motor drives masses offcenter on each side of the rotating shaft in order to provide the required vibration.





Hopper vibrator

- ☆ we offer the option of installing a vibrator to the hopper to facilitate the complete discharge of the solids such as very fine powders.
- ☆ The vibration allows keeping the flow of solids until the hopper is completely empty, thus avoiding residual materials from being left attached to the walls of the hopper.
- ☆ If substantial vibration is required, the mixer will be adapted to operate under the relevant conditions.
- ☆ This adaptation is made by means of an anti-vibration support for the hopper and an elastic coupling.



Solid detection sensor

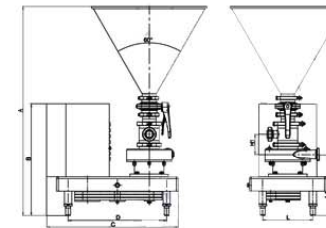
- ☆ Due to the high degree of automation of the processes, it is important that all the variables relevant to the process are controlled.
- ☆ In order to cover this need, we offer the possibility of adding one or two solid detection sensors to the hopper.
- ☆ These sensors provide a signal to indicate low and/or high level in hopper.
- ☆ The low signal can be used to control the valve in the lower part of the hopper in order to avoid the entry of air in to the mixing chamber.
- ☆ The high level sensor can be used to control a solid feeding unit.

1. Hopper, powder, solids, viscous liquid materials, etc
2. butterfly valve, manual/pneumatic or other kind
3. of valves
4. mixture outlet
5. liquid inlet



Mixing Pump (Blender) Selection table

Model	Flow rate (T)	Power	Solid Inlet size	Liquid Inlet size	Outlet	Hopper volume	Solid suction volume	Connection way
HHQ-10	10	3.0	DN65-3"	DN40-1.5"	DN50-2"	45 升	2000kg/h	Clamp;Thread
HHQ-20	20	4.0	DN65-3"	DN40-1.5"	DN50-2"	45 升	3000kg/h	Clamp;Thread
HHQ-30	30	5.5	DN80-3.5"	DN50-2"	DN65-2.5"	45 升	4200kg/h	Clamp;Thread
HHQ-40	40	7.5	DN80-3.5"	DN50-2"	DN65-2.5"	45 升	5500kg/h	Clamp;Thread
HHQ-50	50	11.0	DN100-4"	2.5"	DN80-3"	65 升	7000kg/h	Clamp;Thread
HHQ-60	60	15.0	DN100-4"	2.5"	DN80-3"	65 升	9000kg/h	Clamp;Thread



HHQ	POWER (KW)	INLET d"/DN	INLET d"/DN	OUTLET d"/DN	Assembly Dimension												
					A	B	C	D	F	G	H	K	L	M	N	P	
HHQ-10		3 3"/65	1.5"/40	2"/50	183	94	108	340	550	330	1130	590	670	630	400	600	
HHQ-20		4 3"/65	1.5"/40	2"/50													
HHQ-30		5.5 3.5"/80	2"/50	2.5"/65	204	117	132	418	780	330	1350	705	920	870	430	610	
HHQ-40		7.5 3.5"/80	2"/50	2.5"/65													
HHQ-50		11 4"/100	2.5"	3"/80	227	125	170	428	830	410	1460	840	970	920	500	700	
HHQ-60		15 4"/100	2.5"	3"/80													

Model instruction of mixing pump

