

Vibratory High Grade & CIPable Sifters of ALVIBRA

More and more customers apply for automatic cleaning. This way risks of contamination by hands of operators or by air getting inside the sifter during manual cleaning is heavily reduced. The customers can document the automatic process and the results are more consistent.

Alvibra integrates CIP nozzles in our high-grade dairy sifters in several ways and forms. Alvibra vibratory conveyors are also available in CIPable executions - with or without integrated CIP nozzles.

CIP Nozzles and positioning.

The number of nozzles depends on the size and shape of sifter, the screen, the nozzle type, the powder type and the available water flow & pressure data - and much more. It is all evaluated individually for each specific project.

Nozzles comes with different spray patterns and different water consumption data.

Alvibra however typically sticks to a few types of nozzles only - of which are well proven in the field and gets the job done.

The Alvibra nozzles are well tested and modified nozzles offering a better fit for vibratory sifters and also features the so-called impact cleaning. Impact cleaning applies a hard and concentrated beam of water in a slowly moving pattern. We recommend such for most milk powder applications since some milk powders tend to stick hard to surfaces inside the sifter and in between wires of the woven screen mesh.

The design and nozzle positioning must be even more carefully considered, the finer the screen mesh is.

Sifter CIP design.

For a proper cleaning it is important to have a smooth, easy cleanable and an angled self-drainable design inside the sifter.

Screens are mounted with distance and minimal contact to sifter walls and screen supports to allow for water to hit all areas.

The screen can easily be removed, but for automatic CIP cleaning, it is designed to stay in place during CIP. This requires a gasket-free screen design with a direct but minimal contact between sifter wall and the screen mesh.

The silicone gaskets sitting along the sides of a typical basic dairy screen (screen is removable for manual cleaning), makes it a bit harder to take the screen in and out. Therefore, most Alvibra sifters nowadays actually offers a CIPable gasket-free screen design, even also in our basic dairy sifters designed for manual cleaning. With this, our customers of our basic dairy sifters will also benefit from the great advantage of an easy and fast screen removal, which in some cases can be done in less than 1 minute.

The screen replacement procedure generally depends on the size and type of the sifter.



Picture:

Alvibra high grade CIPable sifter with pneumatic controlled retractable CIP nozzles and flex-hoses with a common C-shape water supply pipe. The customer connects to 1 point only.

Replaceable CIP nozzles.

We offer replaceable CIP nozzles (of various types), which are only in position and use during the sanitation process (when sifter is not in operation). Nozzles are simply mounted prior to the cleaning process, and removed again after completed CIP process. Of course, when nozzles are not in place, they are being replaced with a blind-cap to smoothly close the hole of the CIP nozzle.

Retractable CIP nozzles.

We also offer integrated retractable CIP nozzles (of various types). The retractable nozzles are mounted all the time during both operation and sanitation process. Nozzles opens (pops-in) when the cleaning process is started. This clearly means that our retractable CIP nozzles can withstand the continuous vibration of the sifter during sifting. Retractable CIP Nozzles are typically offered with controlled pneumatic opening, either with or without optional open/close detection. Our most simple version just opens/closes by the pressure of the applied CIP water.

Nozzles connections.

In all cases, the connections to the nozzles are typically done thru flexible hoses connected between each nozzle and a local pipe around the sifter framework – to which the customer can connect its CIP water supply to just 1 connection point of the sifter.

In some cases however, the customer takes care of the water supply all the way to each individual nozzle.

Draining.

In the pictured case the water supply pipe is angled, and all hoses are carefully shaped and directed downwards in order to allow for backwards draining after completed CIP-cycle. Nozzles, hoses and pipes are herewith drained backwards into the CIP supply circuit before nozzles closes.

Another alternative is to have the CIP pipes and hoses coming down to the nozzles from above. This way the draining of nozzles, hoses and pipe circuit is done into the sifter.

Water collection.

Sometimes the CIP waste water is simply flowing thru the sifter and out thru the outlets to the next unit in line – and then collected at a later position down-stream.

Mostly however, the CIP waste water is collected by a CIP bowl swung in place under the outlets of the sifter. Wastewater then flows to the customers water cleaning and recycling system, so that water is re-used and consumption is reduced.

We always recommend to collect CIP waste water coming from upstream the sifter (like from FB or spray-drier), before it enters the sifter. This way heavily sticky lumps of wet powder masses are not stuck and caught in the screen and making it sometimes impossible to clean the screen well.

Drying process.

Drying process can be done by sending a stream of hot air thru the sifter, from sifter inlet thru to sifter outlets.

Other customers are able to push hot air thru their CIP pipe system – this requires the pneumatic openable type retractable nozzle, or the replaceable always open nozzle, so that they can stay open without water streaming thru. The advantage with this is that the entire CIP circuit system will not hold drops of water between CIP-processes. It is completely dried out and remains clean and decontaminated.

Alvibra CIP in General.

We recommend to stick to our well proven Alvibra nozzles, design and components – but we can adapt in order to fit to customers individual CIP requirements, individual layouts and individual ways of doing things. In other words, we often adapt our standard components to specific and individual requirements in the design stages.

Contact us for more details about high grade sifters - with or without integrated CIP cleaning nozzles.

You are also welcome to come and see our CIPable sifter first-hand at the POWTECH exhibition 2023 in Nuremberg from September 26th thru 28th – **at the Alvibra booth 2-419.**



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