Sifters are used for many and varying products, ranging from dried food to aggregates, pharmaceutical to liquid chocolate. Typically the major fault of the sifter is the lack of hygiene and poor sealing around the flexible connector leading to a loss of product.

The BFM® fitting is perfectly suited for all oscillating, gyrating or vibratory equipment.

There are two types of Sifting systems, Oscillating and Vibrating.

Oscillating sifters, such as Allgaier, Great Western and Rotex have a large throw (movement) from left to right as well as up and down.

To allow for sufficient flexibility to take up the oscillating movement of the sifter decks, the flexible connectors typically need to be longer than the usual standard of 100 or 200mm. The rule of thumb is: connector length is equal to the diameter x 1.5. To keep the product range as standard as possible, we recommend that you keep to these lengths if at all possible.

Vibrating sifters, such as VAV and Sweco, have a far smaller amount of movement when compared to a vibratory sifter, either sideways or up and down. The sifters run at a far higher rate, hence the term vibratory.

This means that sizing and working out an installation gap is much easier for these types of sifters.
BFM® APPLICATIONS- SIFTERS

Installation Height

The outlets of the various sifter decks have different amounts of movement, usually larger on the upper decks and less the further down you get. In general no two sifters will behave exactly the same, so you should treat each case individually.

There are two methods for measuring this movement:

1st Method: Measure the distances between the outlet and a fixed point (e.g. floor or the entry point of the pipe that it is to be connected to the outlet) at four different stages during an example run of the machine. The longest measured difference is then the starting point to calculate the optimal installation gap.

You need to make sure that you are measuring when the sifter is at the maximum amount of movement.

2nd Method: Draw a motion curve for each outlet and measure the maximum vertical and horizontal distance from there. This method is the more exact way of determining the real movement but requires the necessary tools and some experience in taking those measurements.

Once the desired connector size is decided the next step is to calculate the required installation gap (measurement between welded spigots).

When working out the required installation gap it is important all factors of the sifters operation are taken into account. The formula listed below offers a guideline to begin looking at the installation requirements.

Installation height = connector length (less) maximum vertical movement (less) 13mm

The 13mm gives tolerance in the movement and should ensure that the connector does not get stretched during machine operation as this will diminish both the connector’s durability as well as the functionality of the sifter.

Bear in mind that you want to get an optimal fit for the BFM® connector, so creating the right gap is essential. The areas where the material folds up will be most prone to abrasion and eventual cracking. Switching the connectors upside down regularly will help spread out the burden a little and therefore extend the operating life of the BFM® connector. It is also important to install the connectors with the vertical seam to a right angle to the spigot and to avoid twisting the connector.
BFM® APPLICATIONS- SIFTERS

The Advantages of the BFM® fitting in sifter applications:

- Dust-tight and therefore: no product loss, no contamination of the work environment, no risk of dust explosions outside the system.
- Perfect closure of the snap band in the spigots every time. The BFM® seal can withstand pulling forces due to the equipment movement multiple far better than hose clamps. No re-fitting necessary ever.
- Higher pressure tolerance than any hose clamp connector due to the sealing from the inside.
- Atex, FDA and EC approved connector materials.
- Quick and easy replacement and cleaning - less equipment down time.

Variables that will effect the life of the connector on a sifter:

All of these points will have their effect on any type of flexible connector installed; regardless of whether it is BFM® or a conventional type.

- Extent and duration of operation.
- Abrasion from product flow.
- Additional stress from chemical products (e.g. Acid, Caustic).
- Extreme temperatures.
- Installation height: the straighter the connector, the less wear will occur.
- Larger diameter connectors will typically tolerate the necessary compression better than a smaller one.
- There is often a small vacuum in the system to help product exit the sifter smoothly. This vacuum may slightly suck the connector walls to the inside and cause further creasing with resulting premature damage. If at all possible, pneumatic suction should be avoided in conjunction with strong oscillating movement.