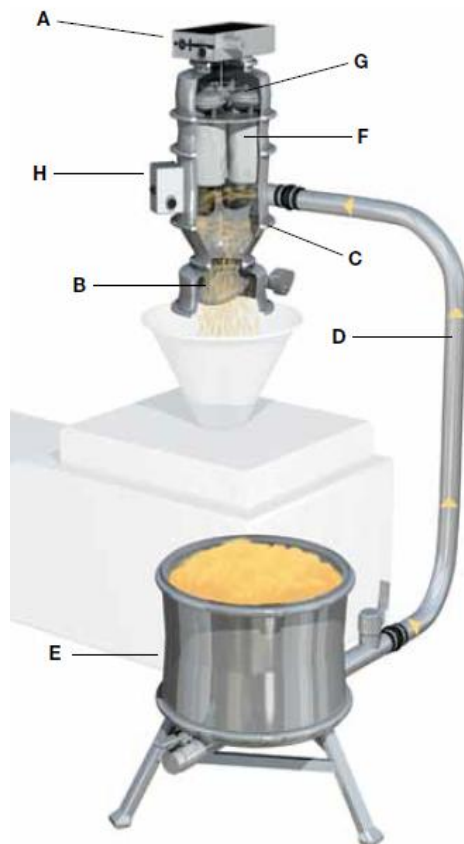


Vacuum transport - gentle material handling.

Handling different types of materials such as powder and bulk products in a hygienic and efficient manner can be achieved by using vacuum in a closed system. This constitutes a gentle way of transporting material, while the transportation system requires little space.

The vacuum transport solutions are designed to improve the production efficiency by reducing the need for manual operations, which are often more costly and involves the risk of personal injury.

Vacuum transport is used, for instance, in the pharmaceutical, food and chemical industries.



The principle of vacuum transport

1. A vacuum is created by a vacuum pump driven by compressed air (A). The pump can be controlled automatically.
2. The bottom valve (B) is closed and a negative pressure (vacuum) is created in the material container (C) and in the transportation conduit (D).
3. From the dispatch station (E), the material is transported through the transportation conduit to the material container.
4. The filter (F) prevents dust and fine particles from entering the pump and enter the surrounding environment.
5. During the material transport operation, the air shock tanks (G) are filled with compressed air.
6. At the preset time, the pump and the material transport is turned off, and the bottom valve (B) is opened. The container is emptied of its material at the same time as the air shock is activated, while the compressed air clears dust and fine particles from the filter.
7. When the pump is started again, the operation is repeated and a new cycle starts. The suction and emptying durations are usually controlled using pneumatic or electric control systems (H).

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Feeding point

It is the ambient air that carries the product, which is why it must be supplied to the feeding point. Do you require product delivery directly from a container? Is there a need to transport it high up? We offer many solutions, from feeding tubes and feeding adapters to various dispatch stations.



Feeder tubes and suction tubes to manually transport the product from a container, bag or bucket. The air flow to the feeder tube can be adjusted to optimize transportation of the product to the transportation conduit.



Feeder adapter which fits the dispatch station, big bag dischargers, small bag dischargers or silos. The feeder adapter can adjust the carrier air to optimize transportation of the product to the transportation conduit.



The dispatch station is designed to be mounted under a big bag or for emptying small bags into it. It has a fluidizing option for sticky, bridge-building, non-freely flowing materials for trouble-free transportation.

Tubes

Tubes have lower friction - and faster and smoother transportation - than hoses and should be used for all fixed installations. The total transport path, the vertical distance, the number of bends in the line, the diameter, whether steel tubing should be used, vacuum hoses or a combination of tubes and hoses, type of connections between the tubes – these are all factors to be taken into account when selecting a tubing system.



Stainless steel tube bends



PVC hose

Test facilities

Our co-partner possesses very modern testing facilities in Sweden to ensure the quality assurance through testing of vacuum transport solutions together with the actual product/material. This practical test ensures that the material can be transported in a safe, hygienic, quiet, and efficient manner. The engineers of our co-partner establish transportation characteristics for different vertical and horizontal distances. After the test, a report is compiled that contains all the necessary data for the transportation application, such as achieved capacity, filter type, feeding point, tube diameter and accessories. This detailed report ensures that you can be certain that the transportation time and energy consumption are efficient.

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VACUUM TRANSPORT

This is one example of a transportation facility. It consists of two big bag dischargers (one with a sealed system), a small bag discharger, two vacuum transporters above the tanks and a suction lance. The operator inserts the lance into a container or small bag, and sucks up the powder, which is then transported to the production process.



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