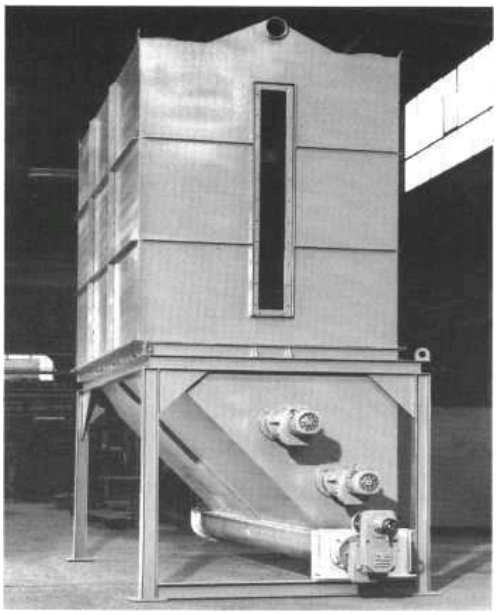
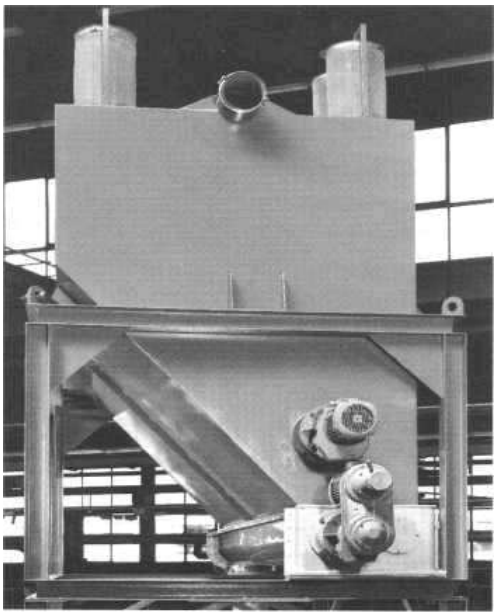
Herbold

Information Sheet 38

HERBOLD-Silos
Model HFS

These silos have been developed for the intermediate storage of material that does not flow easily: Size reduced film (film flakes), fibres, mono and multifilaments, etc.





They differ from conventional round silos mainly because of their horizontal design with single or double discharge screws fitted horizontally to the bottom of the unit. The silos are fitted with three vertical walls and a fourth inclined wall equipped with an agitator for loosening the material.

On closer consideration you can see that these units have been designed for material with the typical characteristics of film or fibre. As opposed to vertical silos which are fitted with heavy duty agitators to keep the contents partly or fully in motion there is no necessity for a forced material circulation in the HFS silos.

The silo is fitted with special paddles for loosening the material in those areas where bridging is to be expected. This causes the bridged material to collapse without the other material stored in the silo being moved. The design of this loosening device enables the silos to be used for the storage of wet film flakes as well as for dry material. Even difficult material such as fibre scrap can easily be discharged.

The manufacturers of vertical silos generally justify the use of high consumption agitators that are susceptible to faults with the necessity to mix the stored product. However, we have found a better solution to this problem: The material is circulated continually in the batch mixer whilst the silo is being fed, a method which prevents the forming of "nests". In addition, mixing in this manner reduces the power requirement of the plant while being less affected by faults. Two parallel silos allow an effective method of implementing this plant: While silo 1 - completely mixed - is being emptied, silo 2 can be filled with the agitating/mixing process in operation.

If required we can supply the silos with a total separator to prevent any unintended discharge of material, a particular problem when dealing with fine film, e.g. biaxial PP film and a problem associated with conventional cyclone units due to their limited efficiency factor. By implementing a total separator it is possible to meet official requirements with regard to a high degree of cleanness of the discharge air without the need of a separate filter that would have repeatedly to be emptied. Fines filtered out of the air by the total separator are automatically discharged back into the silo.

The HFS model silos are manufactured from normal and stainless steel. A combination of the two metals is recommended to keep costs down on units that are intended for wet film flakes in recycling systems. The screw trough is made of stainless steel because this is where all the moisture will collect. Normal steel is used for the remainder of the silo construction.

The screw trough is easy to replace - a further advantage compared to vertical silos where the trough is integrated into the agitator drive and can only be replaced with extreme difficulty and costs. Unfortunately, it is necessary to operate a silo of that type before the follow-up costs become apparent.

We manufacture and supply the model HFS silos as custom-made units with capacities between 1 and 35 m^3. Special requirements such as an inspection glass, special filters and internal silo surface coating can easily be realized.

A brief summary of the advantages associated with the horizontal design:

- No vertical screws, a large base area and a higher construction mean a greater volume;
- Greatly reduced power consumption, agitator breakages due to overloading are avoided.
- Dust-free direct feed without a cyclone separator - a better filling and an easier dust separation is possible.
- Lower operating costs for electricity and maintenance.
- No drive gear for an agitator mounted underneath the silo that would be difficult to protect against moisture and fines.

Our product range

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