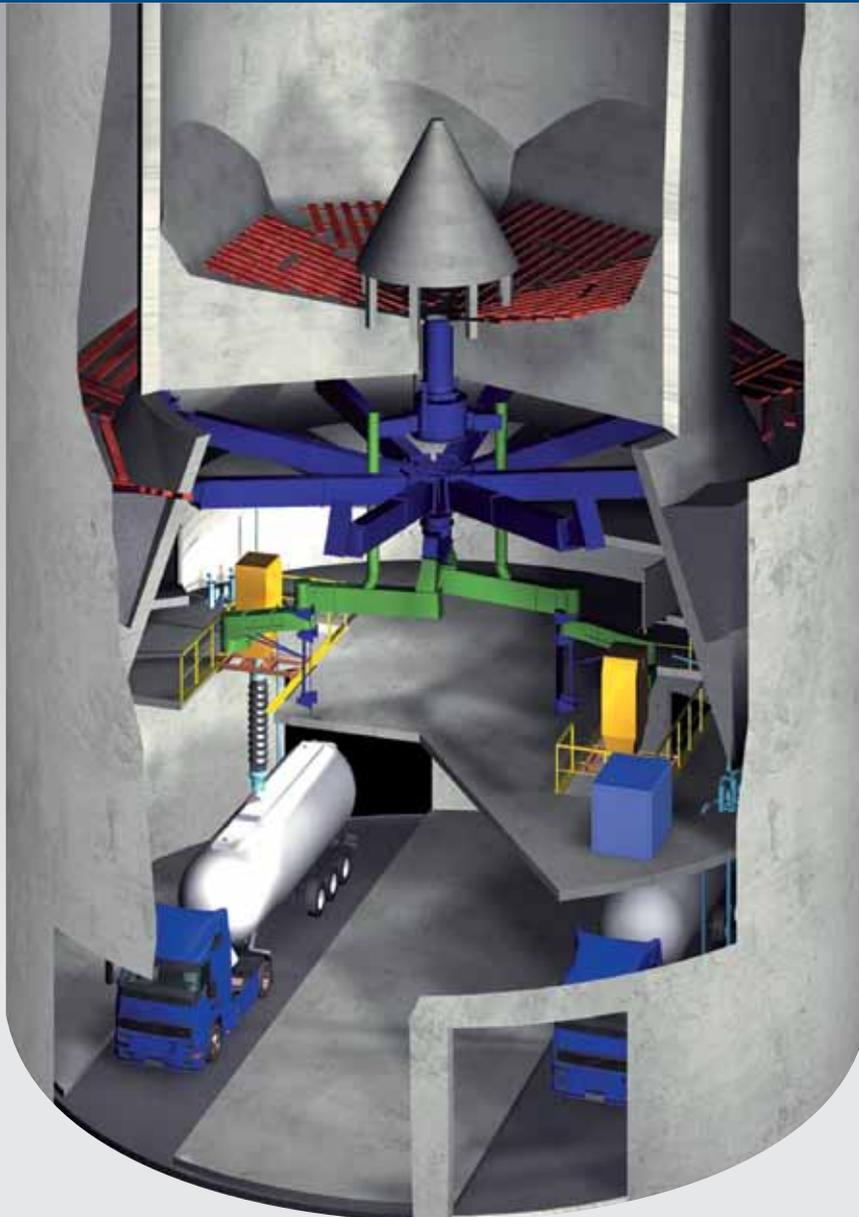


CFMI silo



Multiple products in one silo

Main features

- **Continuously operating multi-compartment storage silo**
- **Two or more compartments in one silo**
- **Facilitates compact plant layout**
- **Controlled flow**
- **Highly customisable – layout can be adapted to appropriate design**
- **Inverted cone eliminates need for columns under silo base, allowing more space for equipment**
- **Low specific power consumption**
- **All material is kept in motion during extraction**
- **Optional aeration filters prevent material from blocking the system**

FLSmidth has developed the CFMI storage silo for cement and related products based on the experience gained with the CF (Controlled Flow) raw meal blending and storage silo and with the CFS (Controlled Flow Storage) storage silo.

The key word in the design of the CFMI silo is reliability. The challenge facing the designer of a storage silo is to ensure that the silo empties 100%, while keeping the specific power consumption at a minimum. The CFMI silo meets the challenge in the following way:

- The specific power consumption is kept low by aerating the silo sector by sector.
- Each compartment is designed so that a large part of the material is kept in motion during extraction. This is ensured by having a steel cone in the central compartment and a number of outlets in the ring compartment(s).
- The aeration segments slope 15 degrees towards the outlets.

As an optional extra, the aeration system may be provided with filters that prevent material from entering and possibly blocking up the entire aeration system.

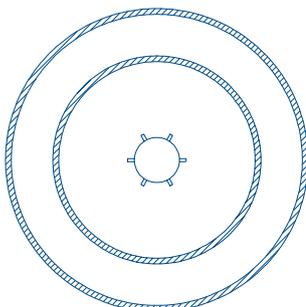
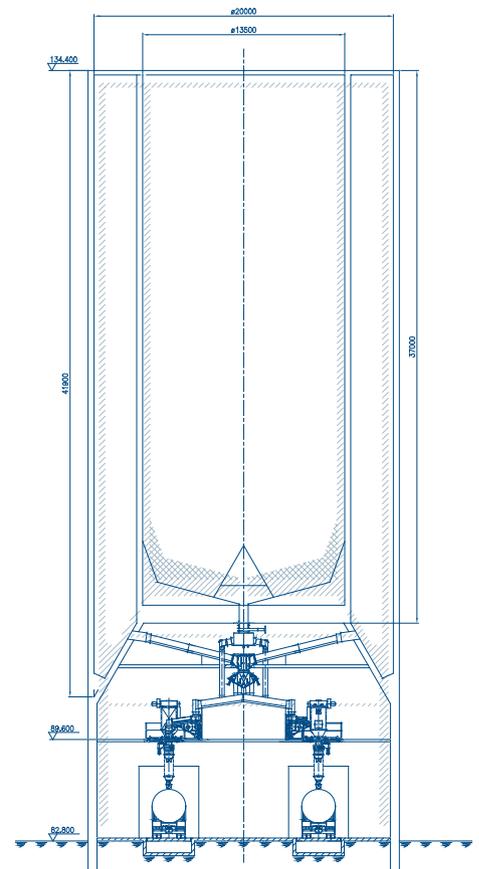


Figure 1: 2-compartment CFMI silo

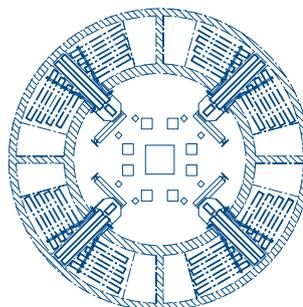


Figure 2: CFMI silo with 4 equally sized compartments

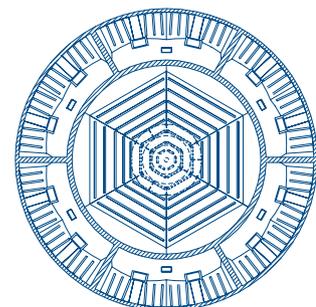


Figure 3: 7-compartment CFMI silo

Technical features

Silo diameters ranging from 10 to 25 m are available based on the same design.

The materials are supplied continuously to the silo either by bucket elevator(s) or by air-controlled lifting device(s). The top deck of the silo is provided with all the standard features such as man-holes, over- and underpressure valves and level indicators.

The silo is divided into compartments so as to meet both customer requirements and civil design considerations.

The raised bottom of the silo may either be of the inverted cone type or a combination of a flat-bottomed CFS silo and the inverted cone CFI silo. The ring compartment may be subdivided into several compartments. Depending on the need for flexibility and other requirements, the silo may be equipped with a number of additional features. A thorough analysis of requirements helps minimise the amount of equipment supplied.

The aerated silo bottom is divided into segments to maintain a low power consumption. The air is supplied to the aeration boxes from rotary blowers at a pressure of up to 0.8 bar.

Each silo discharge is equipped with manual slide gates and a pneumatically operated cut-off gate or a pneumatically operated flow control gate depending on function and requirements.

Packers, mixers and/or bulk loading devices can be installed under the silo.

Figure 1 shows a 2-compartment CFMI silo. The silo has a central compartment holding 4,400 m³ and a ring-shaped compartment holding 5,300 m³. The silo is equipped with two FLSmidth bulk loaders. All dedusting of the silo is effected by the filters placed on top of the bulk loaders. This means that dust from the silo, the transport equipment and the trucks is collected and loaded into the trucks, providing a very compact and simple solution.

Figure 2 shows a CFMI silo with four equally sized compartments.

Figure 3 shows a 7-compartment CFMI silo. The silo has six compartments in the outer ring and one central compartment.

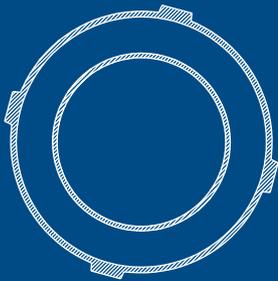
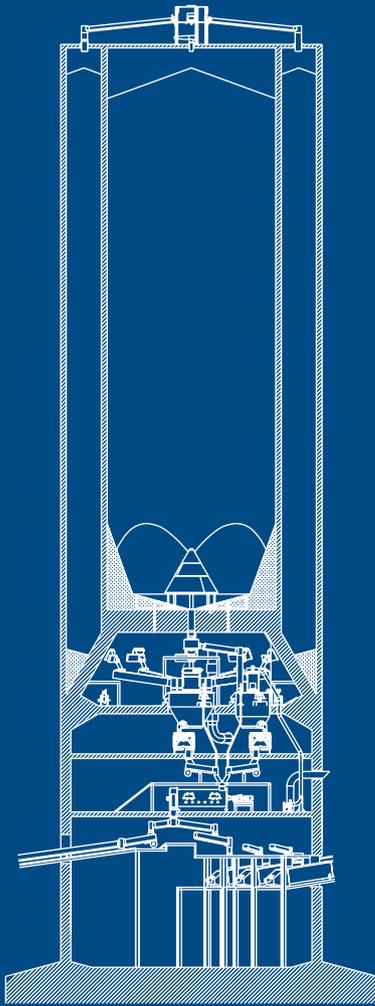
Small diameter CFMI silos may be without a central compartment.



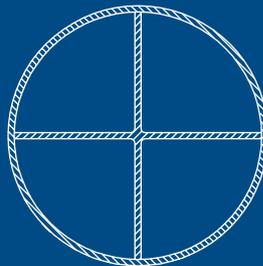
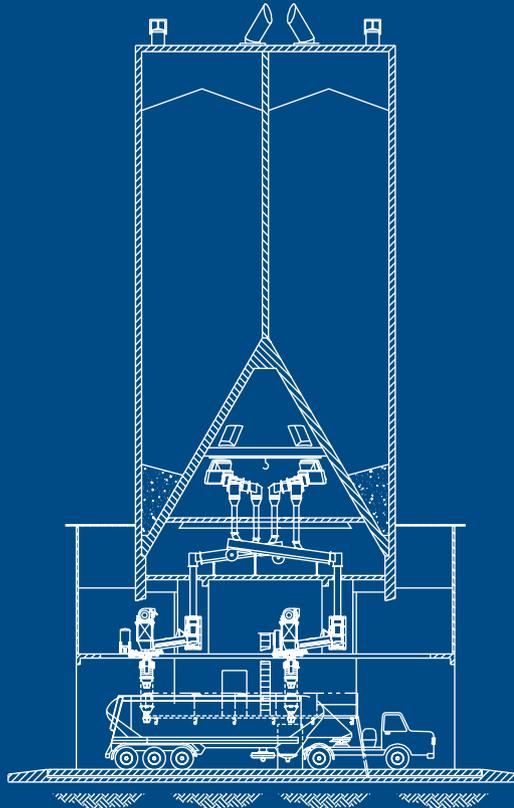
Ceiling of 4-compartment silo



Bottom of 2-compartment silo



2-compartment silo



4-compartment silo

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