

## Vacuum weighing systems and interior silos in the filtration of beer

**Operator protection**

**Closed kieselguhr handling**

**Continuous high quality**

**Constant dosing**

**Less dust more hygiene**

### Customer

In this brewery, large quantities of kieselguhr and stabilizing agents are used. The supply of the respective auxiliary agents for the filtration process must be fully automated.

### Task

AZO's task was to supply a storage system for coarse, medium and fine kieselguhr as well as commonly used auxiliary agents such as stabilizers. The actual conditions in the building did not permit storage of the materials in outdoor silos. In addition, pickup stations for big bags which ensured dust-free

discharge had to be installed. The exactly weighed ingredients had to be conveyed to one or more metering vessels in the filtration plant.

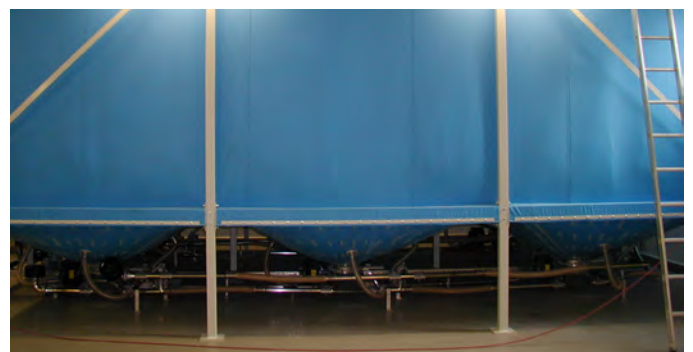
## THE SOLUTION



### AZO solution

#### Product pickup stations for medium-volume ingredients

The medium-volume ingredients are supplied in big bags with a one-way PE in-liner. The big bags are taken to the pickup stations by means of appropriate hoisting equipment where they are docked without dust emission. The big bag stations can be equipped with two connection pieces so that product may be transferred to each line separately.

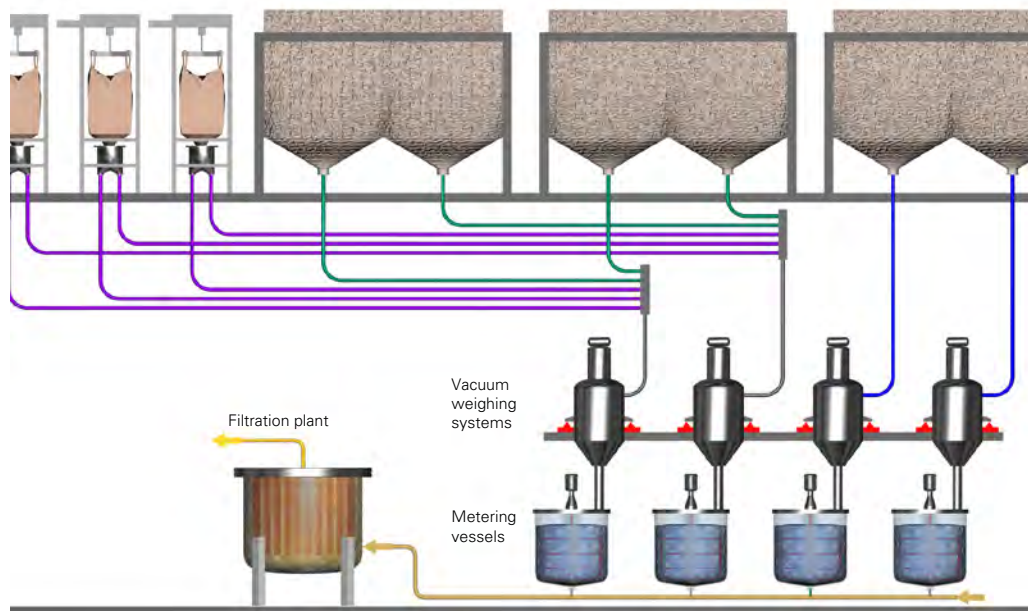


Indoor silos

## Feeding of a filtration plant

Big bag pickup station

Flexible silos for large-volume products



## Storage of large-volume products

Coarse, medium and fine kieselguhr is delivered in silo vehicles and transferred to the silos without dust emission. Since kieselguhr tends to compact, these silos are equipped with aeration bottoms which provide aeration at regular intervals thus keeping the product in motion.



Automated vacuum weighing systems

## Automated vacuum weighing systems for feeding the metering bins

Depending on the demands in the filtration plant, one or more metering bins are fed with product by means of fully-automated vacuum weighing systems. Conveying from the big-bag pickup stations and the silos to one or more conveyor scales is effected via automatic pipe diverters. Since kieselguhr is highly abrasive, care must be taken that the pipe elbows have large radii to prevent premature wear. The automated feeding operation is controlled and monitored via the process control system. This ensures that, depending on the throughput, kieselguhr and stabilizing agents are supplied to the filtration plant on time and in the correct quantities according to the set control parameters.



Integrable process control system

After filtration, a printout documenting the whole filtration process with all filtration parameters is emitted.



Feeding of metering vessels