



Technical Article

## Sampling and Dividing of Bulk Materials

Edited by on 17. Jan. 2024

[Published in bulk solids handling, Vol. 3 \(1983\) No. 1](#)

The quality control of a product during initial, intermediate and final stages of production is best achieved with accurate sampling and sample division. It is of great importance that the sample taken is representative of the whole. The result of the quality determination of the sample is often the basis for a decisive production or economic decision. This report gives a summary of the various sampling possibilities and the individual machines available for sample dividing.

### 1. Sampling Schemes

#### 1.1 Time-Proportional Sampling

The interval time of the sampling is governed through a timer. The sampling time is not related to flow rate so the quantity of each sample could be different. The process is easy to maintain and inexpensive to operate. These devices are inexpensive to install and are generally of rugged construction.

#### 1.2 Weight-Proportional Sampling with Variable Sample Quantity

With this method the sampling machine receives an impulse from a belt weigher after it senses a preset weight (e. g. 50 tons), the sampling machine will then take a sample. Each sample is different in quantity, as in 1.1, as the quantity of product passing the sampling point is variable. The composition of the sample

could therefore be different if the flow rate were changed. This method is also easy to maintain and inexpensive, because in most cases the customer already has a belt weigher and requires only the sampling apparatus.