

## LB 442 Mass Flow Measurement

### for pneumatically conveyed or free-falling bulk materials

The bulk flow meter LB 442 is used for the mass flow measurement of pneumatically conveyed or free-falling materials.

LB 442 ensures a highly precise and stable measurement. Specifically developed for the bulk industry, it is extremely robust, providing reliable measuring results for many years of operation. The system is absolutely maintenance-free and does not require recalibrations.

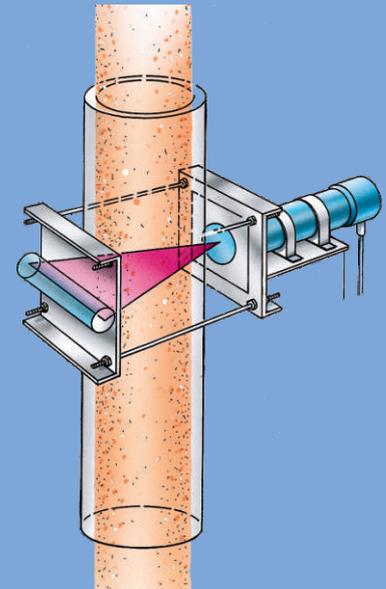
#### No Contact - Perfect!

The radiometric measurement system works completely non-contacting and is therefore not exposed to any wear and tear. Neither temperature, variations in particle size, pressure nor conductivity of the measured material affect the performance of the system. The LB 442 can even be used in extremely dusty or abrasive environments, where highly precise and reliable measurement results are achieved.

#### Fields of Application

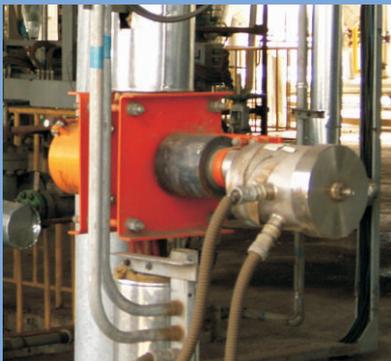
LB 442 can easily be mounted externally on existing pipelines, chutes or on the discharge of vibrator trays, transfer chutes, screw conveyors etc. without any modification of the conveyor system. The LB 442 mass flow measurement can be used for example to monitor truck loads – further applications can be found on:

- Coal dust  
(e.g. in coal gasification)
- Ash
- Calcium carbonate
- Calcium chloride



#### Radiometric Mass Flow Measurement

Gamma radiation is directed through the measuring point towards a scintillation detector on the opposite side of the pipeline. When irradiating the pipeline, the radiation is attenuated. Since the measuring geometry is constant, the resulting attenuation is directly proportional to the solids concentration. In combination with the material velocity, the required mass flow can be accurately determined.



Installation on a pneumatic conveying line, with a *DYNAvel* velocity sensor.

### Application Details

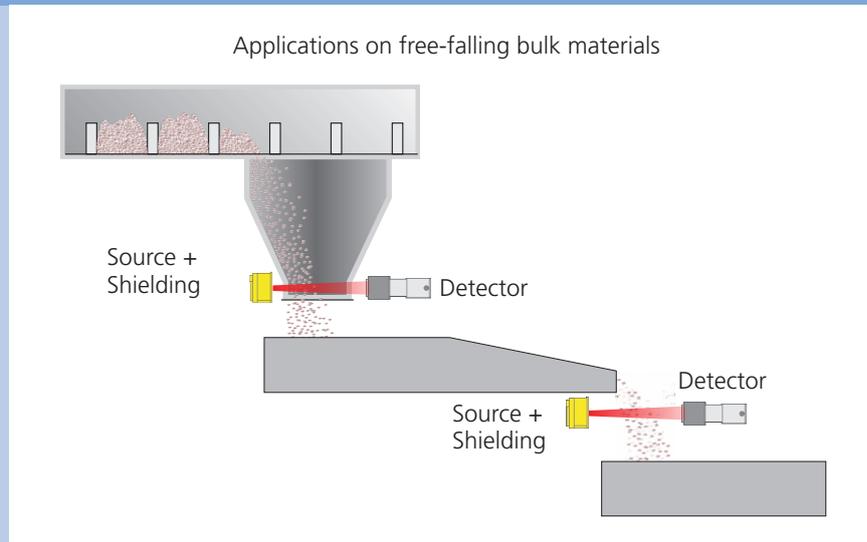
The radiometric bulk flow meter LB 442 measures the solids concentration as weight per unit area in  $\text{g}/\text{cm}^2$ . Combining the result of the measured weight per unit area and the material velocity, the mass flow (e.g. in  $\text{t}/\text{h}$ ) can be determined. The electrostatic method for velocity measurement from *DYNA Instruments* has proven to be a successful method for this application. This system is virtually independent of the material distribution within the pipeline and provides reliable results even on high material densities.

Depending on the material and measurement geometry, the system is capable of monitoring mass flows, typically ranging from  $100 \text{ kg}/\text{h}$  –  $800 \text{ t}/\text{h}$ .

### Technical Support

Our qualified sales engineers and application experts are pleased to support you in your project planning. Taking into account your specifications and requirements; they will select the optimum system configuration to solve your measurement task.

All free of charge and non-binding, naturally



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