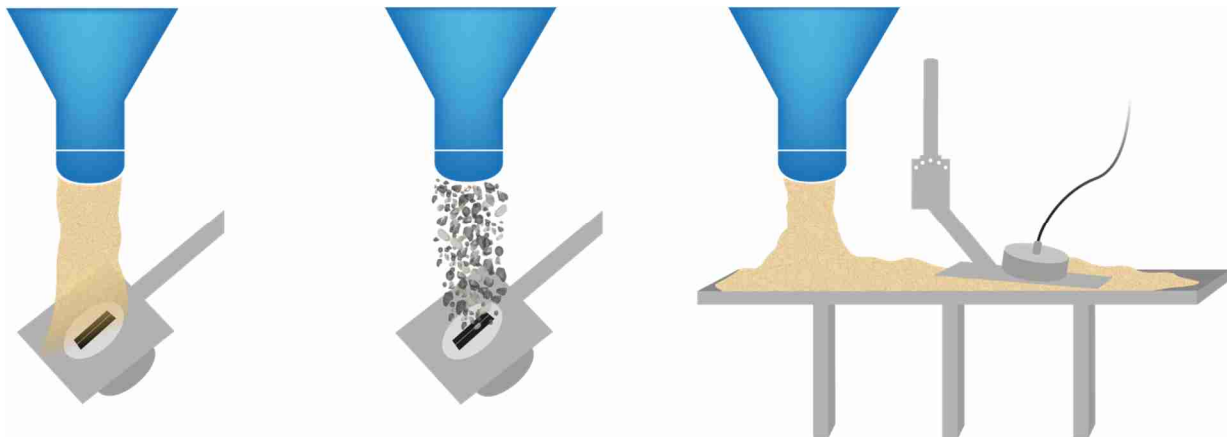


Installation Instructions for the SONO-VARIO

The installation conditions are strongly influenced by the constructional circumstances of the installation facility. The ideal installation location must be established individually. For measuring sand, gravel and grit, the SONO-VARIO should ideally be installed under a silo valve, which has many advantages (see below).



Installation of the SONO-VARIO for measuring sand, gravel and grit, under a silo valve or on a conveyor belt. Dependent on material, it is important to find the suitable angle of the mounting plate. It should be not too steep, but also not too flat.

It should be mentioned, that with the innovative features of SONO-probes and an extremely rugged design, it is possible, to install a SONO-VARIO directly under valves of silos, also for gravel with 32mm size. The installation inside a silo could be possible, but it is not recommended because it is necessary to ensure that during filling and emptying, no material (e.g. sand) can be stick on the probes surface, which could be result in measurement errors.

The SONO-VARIO should be installed ideally under a valve of the silo, which has many advantages:

1. The material flows constant and therefore the material density is constant which guarantees more precise measurement values.
2. Measured is only the material (sand, gravel) which is required for this batch.
3. Due to higher material pressure, the probe's surface is cleaned continuously. Material sticking and therefore measurement errors are prevented and can visually be controlled (which is not possible inside a silo).
4. The SONO-VARIO can detect clearly the start and the end of a batch process. So the SONO-VARIO can calculate an automatic summation of the moisture quantity during one batch process in mode CC. Even short batches with few material can be precisely measured. Further advantage is that the PLC programming can be made more simple without switching signals.

Further Assembly Instructions

The following instructions should be followed when installing the probe:

- With the universal holder, deliverable by IMKO, the SONO-VARIO can be placed above a conveyor belt. Particularly with inhomogeneous or loose sand, the material can be constantly condensed, which leads to higher measurement results.
- The installation locations may not be situated beneath the inlets for additives.
- In case of an uneven base, the probe must be installed at the highest point of the base. No water may accumulate at the probe head as this could falsify the measurement.
- Areas with strong turbulences are not ideal for the installation. There should be a continuous material flow above the probe head.
- For special installations inside mixing containers it should be noted that the stirring movement of blades should be conducted without gaps above the probe head.
- The probe should not be installed in the direct vicinity of electrical disturbing sources such as motors.
- In case of curved installation surfaces in containers, the centre of the probe head should be flush with the radius of the container wall without disturbing the radial material flow in the container. The probe may not project and come in contact with blades or wipers.