



## Applications Notes

### Moisture in Granulated Phosphoric Fertilizers

Moisture is an important parameter in both the granulation and drying stages in the production of phosphoric fertilizers. Granule size determines the rate of degradation of the granule within the soil, and thus the effectiveness of the fertilizer. Too high or too low a moisture content at this stage in the process, results in oversized or undersized granules which have to be re-worked. This decreases production capacity and increases energy requirements. The moisture level in the product exiting the drum drier impacts the consistency of the final product. High moisture levels cause the granules to clump. An optimum moisture level is targeted in order to minimize drying costs, maintain consistency and prevent overheating of the fertilizer.

### Production Process

Powdered raw materials are conveyed from storage silos via weigh belts and vibro conveyors to the disk granulators where water is added. The granules are then fed into a dryer prior to packaging.

### Measurement Locations



Downstream of the disk granulator



Exit of the drum drier.

### Gauge Installation

Typically the gauge is installed above a conveyor, approximately 8" from the product, this allows for variations in the sand bed depth. The gauge output can be used in manual or closed loop control.

### Measurement Performance

Measurement	Location	Moisture Range	Typical Accuracy
Moisture	Exit of disk granulator	9-11 %	0.2%
Moisture	Exit of drum drier	2.5-4.5 %	0.1%