

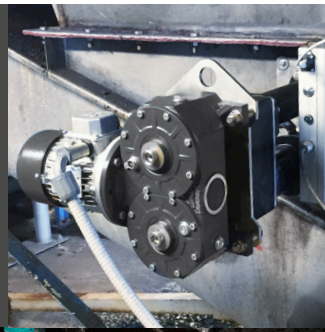
# Valmet Dry Solids Measurement

Continuous dry cake measurements for significant savings





**100%**  
safe microwave  
technology



Up to **25%**  
or more polymer  
reduction



### Benefits of Valmet DS:

- Minimized transportation costs of dry cake
- Optimized polymer dosage and torque of the centrifuge
- Reduced fuel consumption at combustion plant
- Optimization of total solids value of dry cake
- Better oversight of dewatering and process efficiency

## Turning over a new leaf in dry solids measurement

The wastewater treatment industry provides a great service by easing the waste load on the environment. However, the requirements on wastewater plants are greater than ever, with stricter regulations and new, tougher targets that need to be met to ensure a healthier future.

Valmet's innovative automation solutions takes dry solids measurements to a new level with the Valmet Dry Solids Measurement (Valmet DS). The burden on the wastewater treatment plants can be considerably eased through on-site sampling and analysis, with stable measurements. Accurate and quickly available measurements provide a solid foundation for controlling and developing the process, improving efficiency for cost savings and important data to better optimize the dewatering process and increase capacity.

### Microwave technology in action

The measurement is carried out by the sludge sample being guided through the measurement cavity, and with microwave technology, an electrical field is emitted to cover the entire sample. In utilizing the effect of water content in the dry cake sludge on the multi-variable microwave measurement, the density compensated total solids value is calculated.

This provides a stable and accurate solids measurement, with technology that is completely safe to people. Additionally, this method of measurement avoids the critical problem of dirt build-up as commonly seen with optical in-line sensors.

Through accurate cake measurement, the wastewater plant can fully optimize polymer dosage and find energy savings through better torque control. Further savings can be found in boosted drying efficiency of the cake, which brings minimized transportation costs and less fuel consumption in incineration. With even a 1% dryer cake, large wastewater plants can see savings transportation costs and fuel costs in the tens of thousands of euros annually.

### Continuous stable measurements

The necessity for time-consuming manual laboratory measurements can be significantly reduced with Valmet DS. Also, uniquely to Valmet DS's measurement technol-

ogy, the sample is extracted from falling cake flow after a centrifuge or screw press, before returning the sample material back to the process.

Continuous measurements mean the results can be immediately utilized without needless delay from manual sampling and laboratory analysis. This offers better feedback control and real-time assessment of dewatering efficiency.

### Industrial Internet

A variety of benefits are also offered through the use of the multifaceted Industrial Internet capabilities. The Industrial Internet has been expertly developed over the decades through Valmet's digitalization of process industries and close collaboration with the customer.

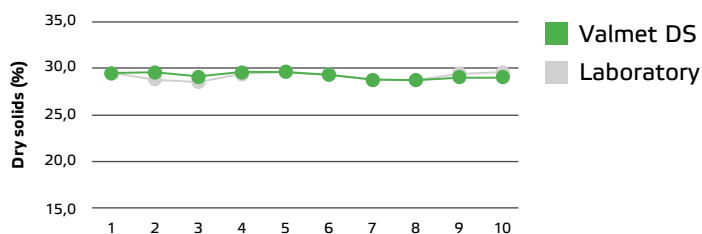
Features include intelligent automation solutions to enhance process efficiency and monitoring, and remote service capabilities that give full access to Valmet DS functions. Measurement data, alarms and diagnostics are all easily accessible at



“Valmet DS is a reliable online measurement. Now we can really see how well the centrifuge is operating. We are satisfied.”

**Sami Ilomäki**  
Operations engineer, Tampere Water

### Tampere Vesi Valmet DS vs. laboratory



the click of a button. In addition to a standard analog output, Valmet DS also features an Ethernet connection, which can also be used for local control or maintenance activities via computer.

### A full range of choice to move your wastewater treatment forward

Valmet Total Solids Measurement (Valmet TS) is the answer for accurate sludge feed and output cake solids measurement, providing beneficial feed forward and feedback control for polymer reduction, and

transportation and incineration cost savings. While, the Valmet Low Solids Measurement (Valmet LS) is the right solution for measuring suspended solids in liquid centrate, in order to help minimize the amount of suspended solids that are cycled back into the plant.

The Valmet Sludge Dewatering Optimizer (Valmet SDO) provides a multi-variable solution to help optimize inputs from solids measurements and centrifuge with model predictive control (MPC). With the easily adaptable Valmet SDO,

wastewater plans benefit from 24/7 automated control, and measurable savings.

### The solutions to trust

Valmet’s measurement and automation solutions perform, so your staff and resources can be better focused on reaching your business goals. We have the experience and know-how in technology to give your plant measurable results, when you need them – bringing significant savings and a speedy return on investment for your business.

### Technical specifications

**Range:** 15-35% solids (Outside range, contact Valmet)

**Operating temperature:** 0-65 °C

**Operating voltage:** 24 VDC, Motor 3-phase power

**Analog output:** 4-20mA

**Binary input in dewatering machine:** on/off

**Sample temperature:** greater than 0 °C, no ice

**Material:** Acid-proof steel, ceramic, high-density PE

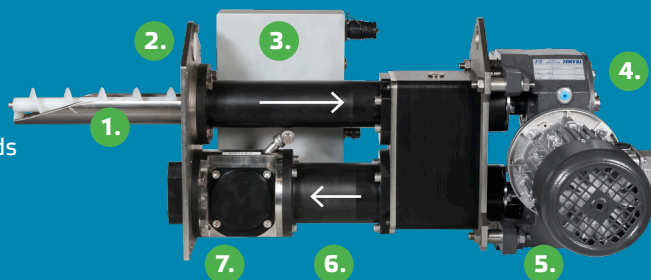
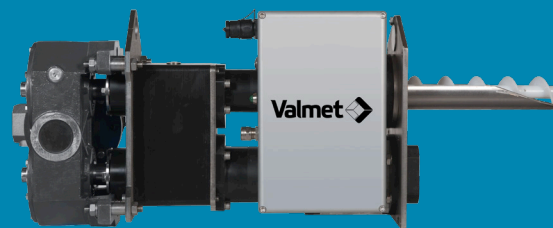
**IP-class:** IP65

**Maintenance software and service:** PC Ethernet connection

#### Sampling unit structure:

Motor-controlled auger system eliminates any voids in system and allows for homogeneous cake flow.

1. Sample screw, 2. Installation flange,
3. Measurement electronics, 4. Double gear,
5. Motor 370W, 6. Return screw, 7. Solids sensors





Valmet's professionals around the world work close to our customers and are committed to moving our customers' performance forward – every day.

Over 8,200 analyzers and tens of thousands of measurements delivered all over the world.



For more information, contact your local Valmet office. [www.valmet.com](http://www.valmet.com)  
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