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Global new product introduction: BinderGroup introduces new air flow meter for aeration air at IFAT - Hall A5 Booth 139

The newly developed VACOMASS flow meter AL100 is based on the airflow meters of the successful series COMBIMASS and VACOMASS, for measurement of aeration air in wastewater treatment plants. It uses the proven thermal dispersion method to directly measure the airflow at standard conditions according to DIN 1343.



In addition to installation in header pipes that go to aeration basins, aeration air is increasingly being measured in each aeration zone, so that the airflow can be controlled based on the loading in that zone. The inclusion of airflow in the control loop improves the control performance, particularly in large and deep tanks, or tanks that do not have full-coverage diffusers (see DWA-M 264 Measurement of gases in wastewater treatment plants, May 2015). The control response becomes noticeably faster, and over- or under-aeration can be prevented.

All gas measurement devices have specific requirements for minimum straight pipe runs before and after the device if they are to measure accurately. These straight pipe runs are typically not available at the basin ahead of the valve. The opening and closing action of the control valve (diaphragm valve with falling or central flow axis) causes an additional flow disturbance ahead of the valve, so that a minimum distance from the valve is required.

Instead of maintaining a minimum distance, the flow meter can be installed directly in front of the valve, but the shift in the flow profile caused by the control valve needs to be compensated. This allows a significant reduction of the measurement and control section of pipe while ensuring precise measurement of the airflow.

A particular feature of the VACOMASS® flow meter AL100 is the direct analog input of the control valve position, which allows it to correct the flow reading in real time in the sensor unit, without additional electronics or control modules.

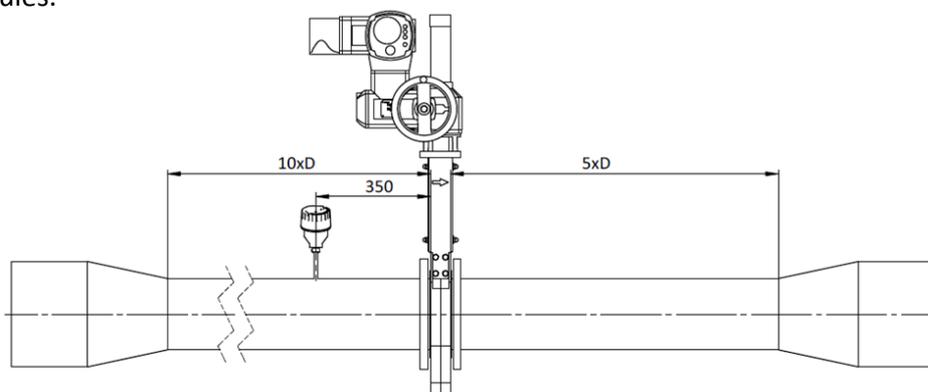


Figure: Installation of the airflow meter in front of a diaphragm control valve

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