

City of Solothurn, HE Postplatz, TF-PNA Nominal diameter 500

Pneumatic discharge control for throttling to 570 l

The old weir in the spillway at the Postplatz in Solothurn served for many years, but now had to make way for a system that meets the requirements of modern sewer network operation. The water flows from the 1.7m inlet canal via the opening in the ground (jump weir) into the 600-metre canal, which is about 1m lower, in the direction of the sewage treatment plant. The outflow is now measured and throttled directly after the opening in the lower-lying 600-metre canal in a shaft built especially for the measuring and throttling unit.

Tasks

- Precise flow measurement in dry and rainy weather from 1 l/s.
- Precise limitation of the flow rate.
- Variable throttle quantity for later sewer network management.
- Connection to the process control system of the local sewage treatment plant via mobile communication.

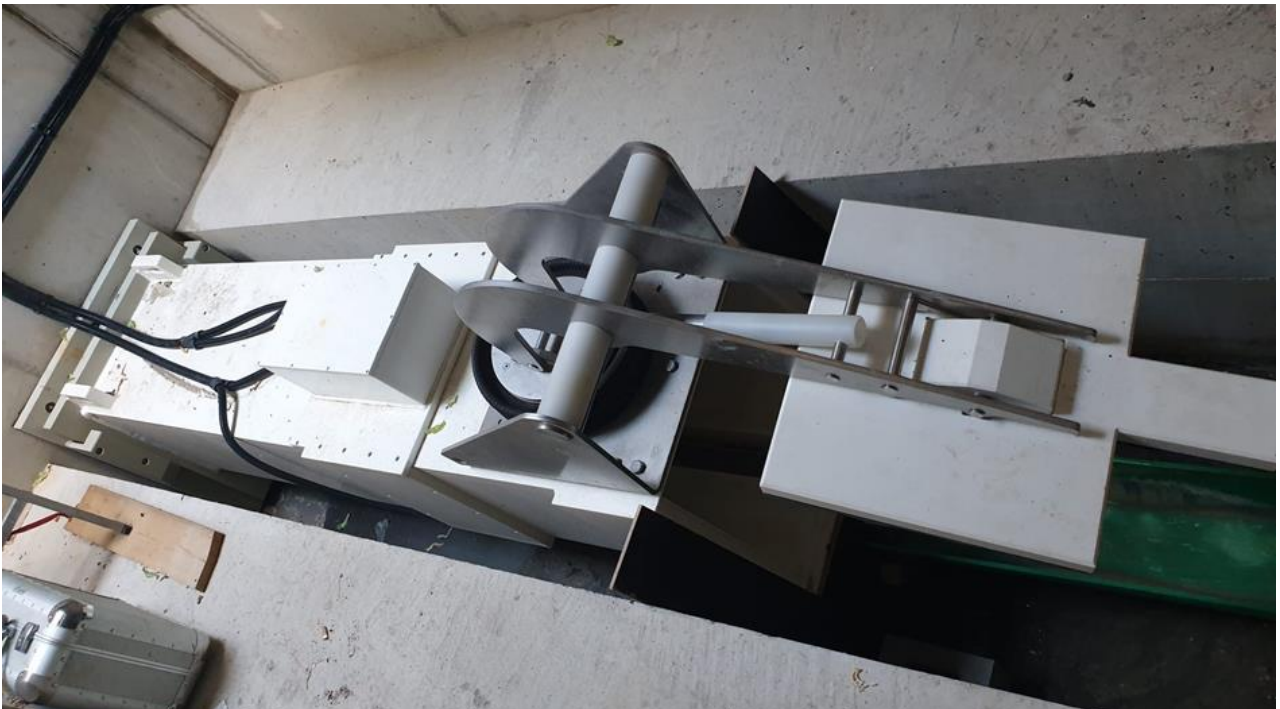


Figure 1: Pneumatic discharge control with partially filled flow measurement using the ultrasonic transit time difference method. Designed in a calibrated measuring channel with dry weather gutter for highest measuring accuracy over the whole measuring range.



Figure 2: Outlet area of the TF-PNA. During dry weather the throttle valve remains open while the small discharge quantities in the dry weather gutter are precisely measured.



Figure 3: The system was calibrated, tested and pre-set in STEBATEC's hydraulic laboratory before delivery.



Figure 4: The flow control system used in the building. During dry weather the pneumatic actuator is at rest and the flap remains open until the flow measurement detects increased discharge.



Figure 5: The system was purchased from STEBATEC including cabin, compressed air treatment and data transmission to the sewage treatment plant.

