

PRODUCT

CHARGE THE HYDRANT LINE!

Robust measuring system for hydrants

When there is a fire, we call the fire department to extinguish it – even young children know that. However, for that to work the hydrants must be in good working condition and have to be serviced regularly. A new measuring solution developed by Rittmeyer makes hydrant checks more reliable and much easier than before.

In case of a fire, hydrants must be operational and provide sufficient output, meaning that a sufficiently high flow rate with adequate pressure must be available. In addition, it must also be ensured that neighboring hydrants can also deliver full output capacity, especially in case of a major fire. Therefore, they must be tested periodically as well as when new line sections are put in or existing lines

are restored. In Switzerland, hydrants are generally checked once per year. These inspections and services are supported and subsidized by individual property insurance carriers or in some cases even conducted by them.

Known measuring systems with deficiencies

Hydrant inspections are labor-intensive. Today, measuring solu-

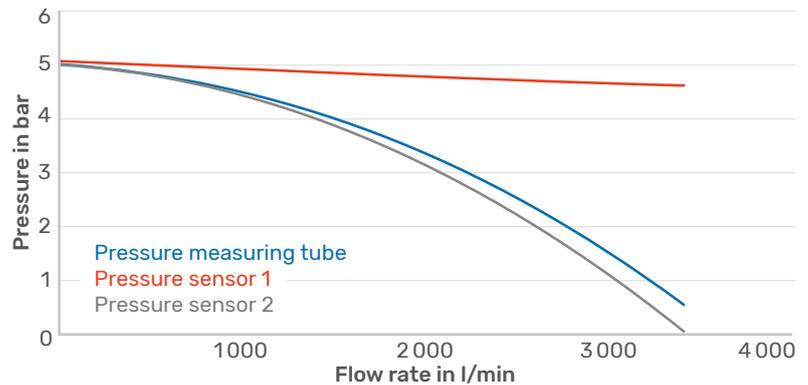
tions with mechanical flow meters (impeller type flow meters) or magnetic inductive flow meters (MID) are used. These are bulky, rather heavy, and do not facilitate distributed pressure measurements. Even the measuring system itself has weaknesses: Any foreign material present in the water lines (such as dirt, sediments, rocks, especially after structural modifications) can

jam or damage the impellers or electrodes contained therein and thus compromise the readings.

Moreover, the flow rate-based water pressure must be measured in a separate work step and the pressure response of adjacent hydrants is only rarely recorded, thus making a correct representation of the flow-pressure interrelationship impossible. To complicate matters, all results have to be manually read and logged which can lead to read-out and transmission errors. And then in yet another work step, these values need to be manually compiled and visualized. Issues in the line system, such as pipe constrictions or clogging debris can remain undetected.

Light and compact.

Fully automatic and precise. Rittmeyer has met these challenges: Based on the robust «clamp-on» RISONIC modular flow measurement system, the company developed a solution that forgoes mechanical flow meters and captures all measurements automatically. This measuring system consists of a 70 cm (27.5 in) long stainless steel measuring tube, a measuring case and an accessory case. The measurements are taken by a clamp-on sensor attached to the outside of the measuring tube that has no contact with the water. Any foreign matter passes the measuring point without interaction. The entire measuring unit is mounted on a sturdy frame equipped with a carrying handle and rubber bumpers which allows for easier transport and guarantees the necessary durability. The RISONIC system that is attached to the frame structure of the tube can be operated with a smartphone, tablet or PC/laptop (via integrated wifi). However, the measurement can also very easily be controlled by means of a start/stop button. The measured data is saved in the device and can be transmitted to an external storage device via USB interface,



Clearly structured visualization: Flow rate and pressure profile at the hydrant as well as the nearest measuring point.

imported into a Microsoft Excel™ file, and automatically visualized as a wave form. Since each component weighs less than 10 kg (22 lbs), the measurement can be conducted by one person. And it's compact enough to be transported in a standard passenger car.

Quick and informative

The entire measuring system can be installed in less than 30 minutes on-site and the measurement itself is automated. While the water volume is adjusted between 0 and 100% of the nominal flow, the water

pressure in the hydrant under test as well as in the nearest one or two adjacent hydrants is measured simultaneously at one-second intervals using wireless pressure sensors. At the same time, the flow and pressure in the measuring tube is recorded as well. A complete measuring cycle takes less than 10 minutes and the clearly structured visualization shows at a glance whether the hydrants operate properly and reliably. ■

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