

SAFEGUARDING POTABLE WATER SUPPLY UNDER BUSY AIRPORT RUNWAY

MEASUREMENT TASK

Katronic were recently called upon by the operator of one of the Scotland's busiest airports to help solve a difficult application. The situation was that the customer needed to monitor the flow of water through a cast iron pipe feeding several large towns. The problem is that the pipe has been in the ground since 1910 and runs directly under the main runway placing a risk of rupture. It was crucial the operator was able to monitor, measure the flow of up to eight mega litres per day and act upon any changes in order to avoid the possibility of a major incident.

SOLUTION

The customer contacted ProcessPlus, one of Katronic's distributors in Scotland to provide the flowmeters to connect to a "Pipeminder System" being offered by Syrinix, a leader in intelligent pipeline solutions.

Initially engineers from ProcessPlus used a KATflow 200 portable ultrasonic flowmeter at two locations to survey the piping and gain provisional flow data. They then provided two KATflow 100 clamp-on flowmeters with suitable outputs to permanently install at key locations and connect to the Pipeminder.

This device is programmed to alarm, should there be an unexpected or sudden change in the flow rates being seen by the Katronic instruments. It is also connected to pressure caps on fire hydrants either side of the airport and will alarm should there be a rapid pressure loss. These instruments combined will allow the user to monitor changes in the pipe condition and crucially have an advanced warning of any potential pipe burst.

ADVANTAGES

- Easy retro-fit onto aging pipeline
- Portable flowmeter allowed initial survey to be carried out
- No risk of compromising pipe condition
- KATflow 100 allows for ease of connection to other devices
- Compact design simplified installation in confined space
- Reliable measurement in spite of the age of the pipe

SPECIFICATIONS

Installation type	Portable and fixed
Medium	Potable water
Pipe material	Cast iron
Pipe diameter	450 mm
Temperature	+10 °C
Special Requirements	90 year old pipeline

APPLICATION



A KATflow 200 portable flowmeter was used to survey the pipe prior to full installation.

INSTRUMENT SOLUTION



Two KATflow 100 flowmeters were installed as part of a permanent metering and monitoring package.