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Detecting LEAKS to avoid WATER DAMAGE

Regulvar's intelligent water inlet devices

Water damage! Whether it's minor or major, it can have a significant impact on your business, since water infiltrates, destroys materials and promotes the growth of mould.

Water damage is cause for concern, especially since the most common mechanical breakdowns in a building are related to plumbing. Desjardins Insurance reports that water damage accounts for approximately one-third of all business insurance claims, and that "broken pipes and leaking plumbing fixtures are the most common sources of water damage." [1]

As a result, building owners and managers know it's advantageous to adopt a prevention strategy, conduct regular maintenance, and put in place fail-safe measures. Over the years, they've counted on Regulvar's intelligent water inlet devices to prevent or limit water leaks and avoid costly damage.

A standard, affordable device

Given the high demand, Regulvar decided to develop a standard device that is both affordable and easy to install.

The product is called RE-DEE-X, a mechanical/electronic device designed to protect buildings when they are unoccupied by detecting potential water leaks (upstream of the water inlet and backflow prevention device).

Consisting of a controller, a flowmeter and two motorized valves, the RE-DEE-X works like an electric breaker, cutting off the water supply as soon as it detects an abnormal flow. Its built-in flowmeter can detect low flow rates, allowing it to prevent even minor leaks.

The device is linked to the building automation system via a BACnet network, which allows it to operate according to a pre-set schedule or in conjunction with the intruder alarm system.

Types of leaks

A building's plumbing system consists of many parts and water leaks vary according to the breakdown in question. The RE-DEE-X mainly handles two types of leaks.

Sudden major leaks

The RE-DEE-X can detect a water flow that is suddenly much stronger than usual over a short period of time. This occurs, for example, when a pipe breaks, causing the sudden outflow of a large quantity of water.

Continuous minor leaks

The RE-DEE-X can also detect a flow that is only slightly higher than normal, but that remains steady over an extended period, for example, when a toilet leaks slightly but constantly, or flushes on its own.

In this case, the device must have reference values to distinguish a normal flow from a leak. In the weeks following installation, the device's self-learning software analyzes the building's normal water consumption to establish a minimum threshold (in litres) and an operational set point.

[1] Desjardins Insurance | Business, In Good Company newsletter, Spring 2013
www.desjardinsassurancesentreprises.com (page viewed on February 29, 2016)

How it works

When the building is occupied, the RE-DEE-X is in idle mode. Its main valve is open and water flows freely, while the secondary valve is closed. This allows us to make sure the system is working properly. Since water isn't forced through the flowmeter, a reading other than zero indicates a mechanical failure.

When the building is not occupied, the RE-DEE-X is in active mode. Its main valve is closed and its secondary valve is open, forcing water to pass through the flowmeter, which will detect any discrepancies between the measured flow and the reference value.

When a leak is detected

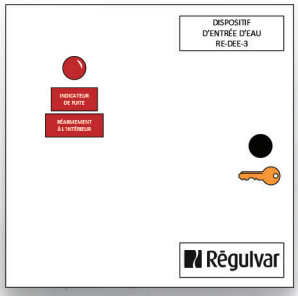
If the flowmeter detects a discrepancy between the measured flow and the reference value, it automatically shuts off the secondary valve.

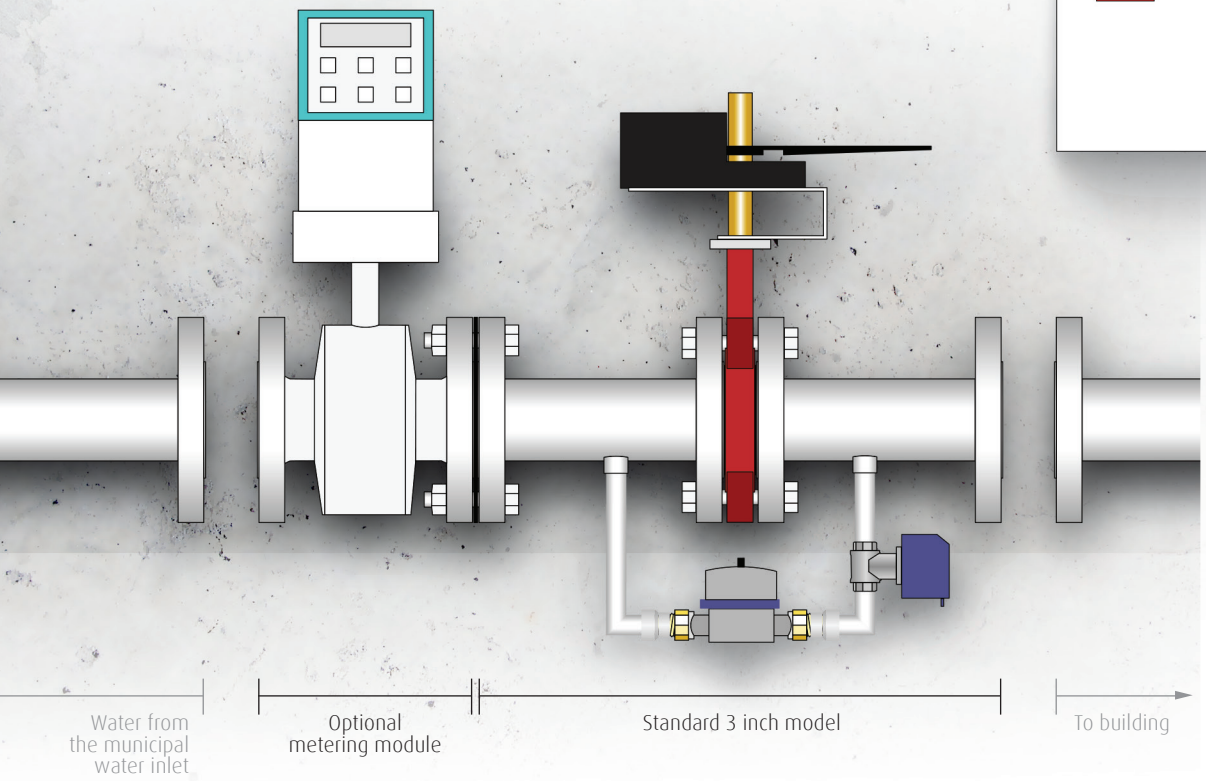
At the same time, an indicator light on the control panel switches on and a programmed BACnet alarm is triggered in the building automation system.

Once the leak has been repaired, the system can be reset manually by pressing a button in the control panel or through the BAS interface.

Features

The RE-DEE-X comes in three standard models for water inlets with a diameter of 2, 3 or 4 inches. Customized models are available on request.





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