

Wireless Electric Valve for Automatic Closing and Opening of main Fluid Pipe

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Background

- Approximately Millions of water units rupture annually in north America
- Leaky washing machines cost homeowners hundreds of millions \$ in damages every year.
- Home is damaged by leaking appliance or ruptured aging plumbing every few tens of seconds.
- Billions of dollars are spent fixing damages out off flooding fluids from internal sources , mostly while structures is unoccupied
- Home owners may pay loss of an average 1500 \$.A Remediation water project can cost more than 100,000 \$.
- Flooding fluid damages are usually occurs when the site/structure is unoccupied – there is nobody available to shut down main structure valve . Therefore potential damages may be so heavy .
- Encourage residential homes , industrial and commercial sites owners to keep **“ routine prevention process ”** may assure solid solution .

The Invention - How Technically It works

The invention refers to a wireless electric valve for automatic closing and opening of main fluid pipe in response to a wireless command received from external source .

The valve is designed to be installed on entering main fluid pipe so that one end of main pipe is connected inlet and the other is connected to the outlet customer site .The valve is equipped with an electric control mechanism which enable receive Of remote wireless command to close and open flow of fluids.it comprises an external casing , electrical motor, internal power source , an inner pipe with an inlet an outlet, an inner clamp , a rotation shaft , a primary cogwheel that is attached to the said electric motors by means of an axle ,a secondary cogwheel , that is attached to the rotation shaft , and electronic control mechanism. The valve may be equipped with manual handle that enables manual opening and closing of the valve .

Mode of Operation

When a wireless command to close the valve is transmitted , it is received •
by the receiver of the electronic control mechanism which activates the
electric motor and cogwheels .The outcome may shut off the flow through
main pipe .When a wireless command to open the valve is transmitted , it
causes sequence of operations to be executed in the opposite direction .

The command to open or close may be transmitted to the electronic •
control mechanism from several sources such as moisture sensors that may
be installed in relevant , flood – prone locations , or structure's alarm
system which is programmed to transmit a command whenever the alarm
system is deactivated / activated ,as well as **activation by handheld** – an
On/Off wireless activation Box or power switch electric .

Device Features/Benefits

- Easy to be installed –significantly reduces installation cost
- Can be installed at any point / implemented with ½ “- 4” Valves and Pipes
- No need to utilize drilling in walls or adding wires
- No need to deal with main power electricity –operated by batteries
- Shut off motor / Ball Valve design for heavy duty electrically high reliable actuation
- Can be integrated with home security / “smart home” automation
- Supports vast number of wireless sensors
- Recognized and endorsed by insurance companies (save insurance cost thru discounts or credits)
- Conserves water / reduces damages due to common plumbing related floods

Summary

The Invention is aimed at those who deals with "routine prevention process" and the business of increase of operational efficiencies and improve of customers safety. •

The notation has been already implemented and is installed successfully to thousands of satisfied customers – private home as well as public utilities .It shows resilient solution and work independently of external powers supply and therefore suits to be utilized even during case of disaster. •

The invention attract valve manufactures as well as professional installers / plumbing business industry .It fits also those who are engaged with security business (alarm system etc..). •

Future predicts constant increase in the value of properties all over USA , beside yearly huge payment of the insurance companies to their customers , due to flood damages . Therefore, the one who holds rights to such invention , will gain profits out of the invention . •