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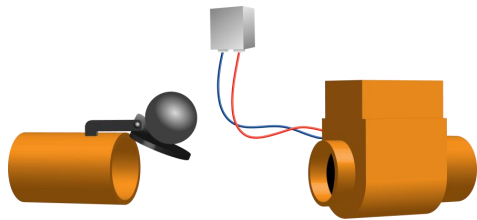
WASTEWATER

BACKFLOW – COMPARISON OF PREVENTIVE METHODS

Backflow

– comparison of preventive methods

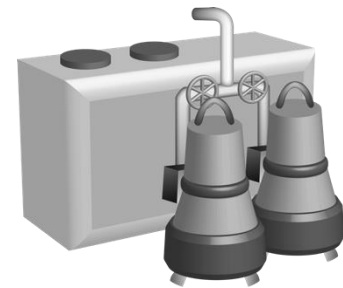
In this presentation we will compare three common ways to prevent backflow:



**Mechanical or electric
anti-flooding valves**

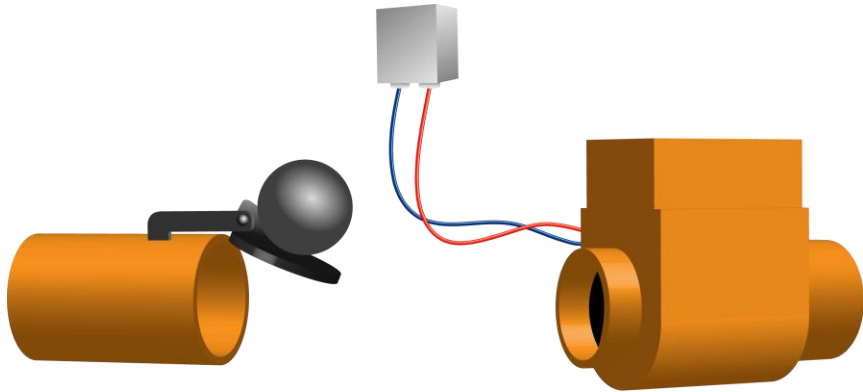


Pumping stations



Lifting stations

Anti-flooding valves



**Mechanical
anti-flooding valves**

**Electric
anti-flooding valves**

- Come in mechanical and electric versions
- The mechanical anti-flooding valve works with a floater that shuts off the pipe in case of backflow
- The electric anti-flooding valve has a sensor electrode that registers when there is a water backflow situation. The flap is then closed by an electric motor

Anti-flooding valves

Advantages:

- Inexpensive
- Simple

Disadvantages:

- Needs regular inspection and cleaning
- Highly sensitive to sand and solid objects
- No use of sanitary facilities connected to the anti-flooding valve during backflow situations
- Should not be combined with rainwater drainage systems
- Should only be used in secondary rooms with no vital technical installations



Pumping stations

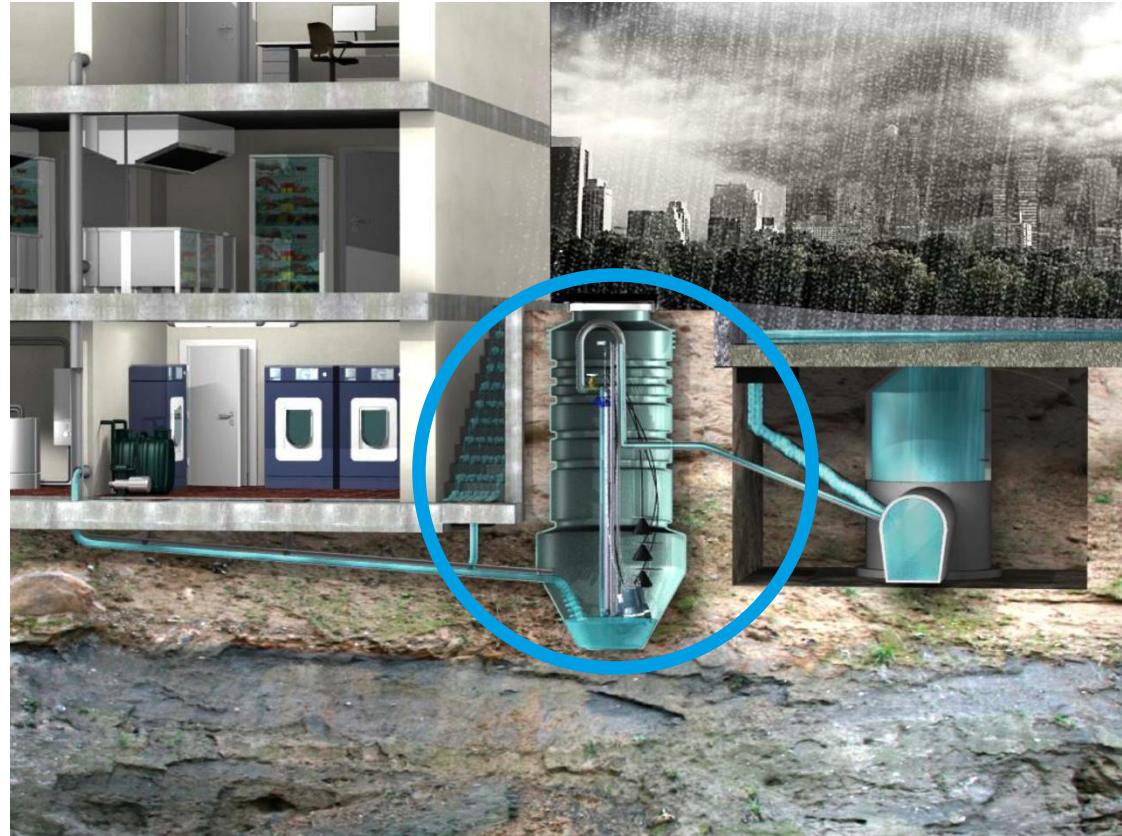


- Pumping stations can be used as anti-flooding devices instead of valves
- Here, the highest geometric point of pressure pipe should be located above the locally determined backwater level, which is often ground- or street level
- However, if the recipient system is pressurised the pressure pipe can be connected without any precautions.

Pumping stations

Advantages:

- Maximum backflow and flooding protection
- Not sensitive to fat, grease, sands and solids in the water
- Possible to use the sanitary facilities in case of backflow
- Protection for paved areas
- Building storm water drains can be connected to a pumping station



Lifting stations



- A perfectly combined pumping and anti-flooding device
- Is located inside the building and usually comes fully preassembled
- Easily installed and accessible for service
- Its construction offers maximum backflow and flooding protection and is ideal for safeguarding electrical and other high value equipment

Lifting stations

Advantages:

- Construction offers maximum backflow and flooding protection
- Ideal for safeguarding electrical and other high value equipment
- Unlimited use of sanitary facilities in the building is allowed during backflow
- Easily serviced
- Can be installed in the building's storm water drainage system
- Not sensitive to sand and solid objects in the water





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