

# *Backflow Basics*

**Operator Training Committee of Ohio**

**Gary Espenschied**  
**OTCO**  
**[gary@ohiowater.org](mailto:gary@ohiowater.org)**



# *Backflow Basics*

- Detroit Edison finds hydrazine in cafeteria water lines
- Legionella found in car wash reclaim system
- 112 people sickened by e. coli at N.C. State Fair
- Goodyear coolant ponds contaminate water lines
- Hydro-seeder contaminates water main

# *Backflow Basics*

- Montana - 19 customers ill due to a cross-connection in a restaurant's poultry pen
- Ohio - hydro-seed is backsiphoned from truck into the water main at fire hydrant
- West Virginia - x-ray developing chemicals backflow into water lines
- West Virginia - ethylene glycol antifreeze from chiller enters drinking fountains
- Australia - uranium detected in water lines at Ranger Uranium Mine

# *Backflow Basics*

- No person shall install or maintain a water service connection to any premises where actual or potential cross-connections to a public water system unless they are controlled or abated to the satisfaction of the supplier of water.
- Keep their water out of your water main



# *Backflow Basics*

- The supplier of water shall conduct periodic investigations and surveys of the water use practices within a consumer's premises to determine if there are actual or potential cross-connections.
- Survey existing premises



# *Backflow Basics*

- On the request of the supplier of water, the consumer shall furnish the supplier of water information on water use practices within the consumer's premises.
- Review plans for proposed buildings



# *Backflow Basics*

- An approved backflow prevention device shall be installed on each service line to a premises, when in the judgment of the supplier of water a pollution, system, health or severe health hazard exists.
- Require a backflow preventer at meter



# *Backflow Basics*

➤ Tests shall be made of these devices at such intervals and in such manner as may be required by the supplier of water. It shall be the duty of the supplier of water to ensure that these tests are performed.

Test each assembly every 12 months



# *Backflow Basics*

- A pollution hazard means a condition in which an aesthetically objectionable or degrading material that is not dangerous to health may enter the public water system. It won't make you sick



# *Backflow Basics*

- A system hazard means a condition posing a actual or potential threat to the physical properties of the public water system or the piping of a user's potable water system. It can hurt the pipe



# *Backflow Basics*

- A health hazard means any condition, device, or practice in a water system or its operation that creates, or may create, a danger to the health of users. It will make you sick



# *Backflow Basics*

- A severe health hazard means a threat to the health of a user that could be reasonably expected to result in significant morbidity or death. It will kill you, or make you wish that you were dead

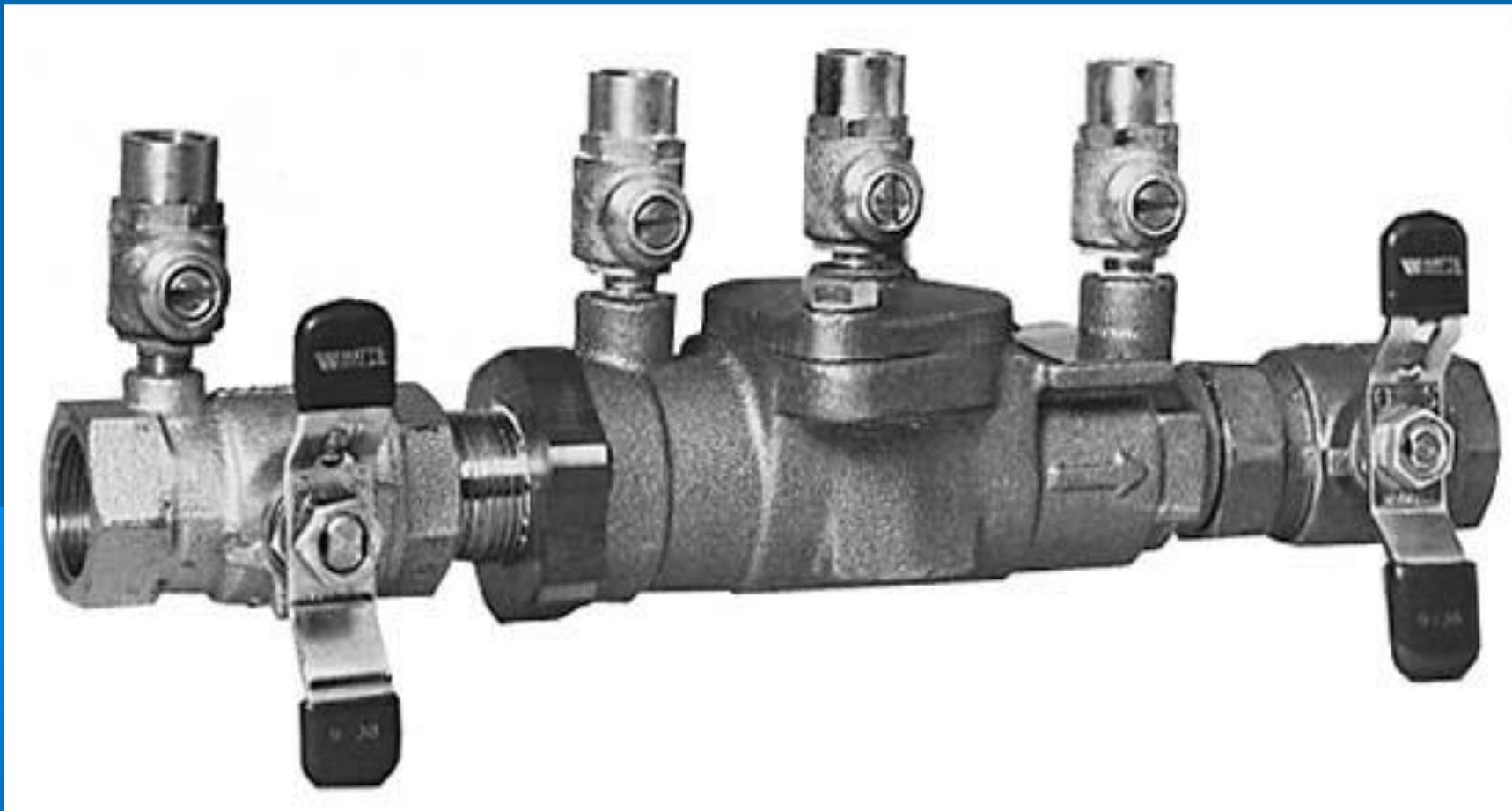


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- A double check valve assembly is composed of two spring loaded single check valves that are independent operating, two tightly closing shut-off valves, and four appropriately located test cocks.
- Has no hole in the bottom
- ASSE 1015



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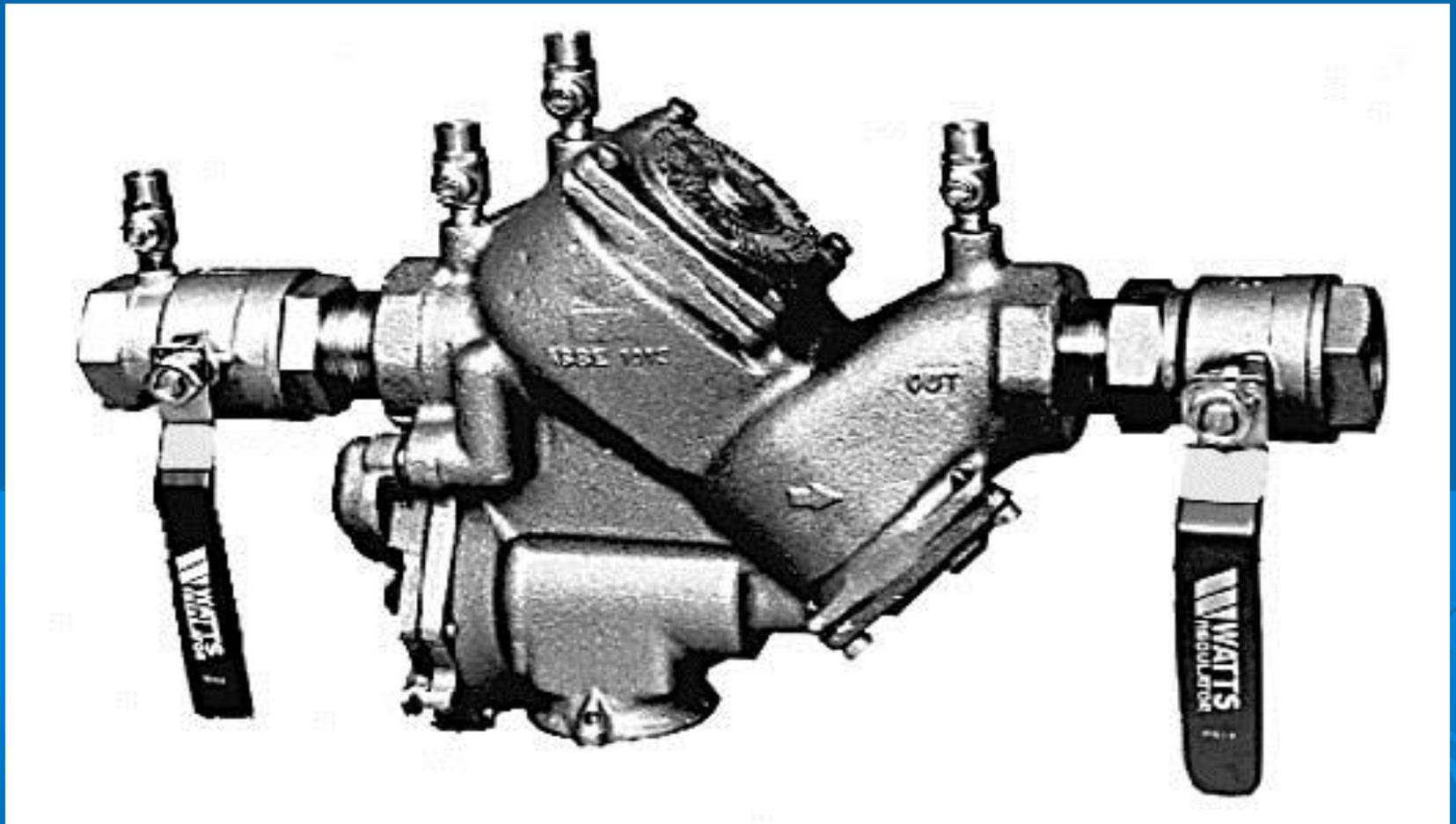
# Backflow Basics

- A reduced pressure backflow prevention assembly is two independently-acting, spring-loaded check valves; four appropriately located test cocks; two tightly-closing shut-off valves; & a pressure relief valve located between the two check valves to maintain the pressure between the check valves at least two pounds lower than the supply pressure.

Has a hole in the bottom  
ASSE 1013



# Backflow Basics



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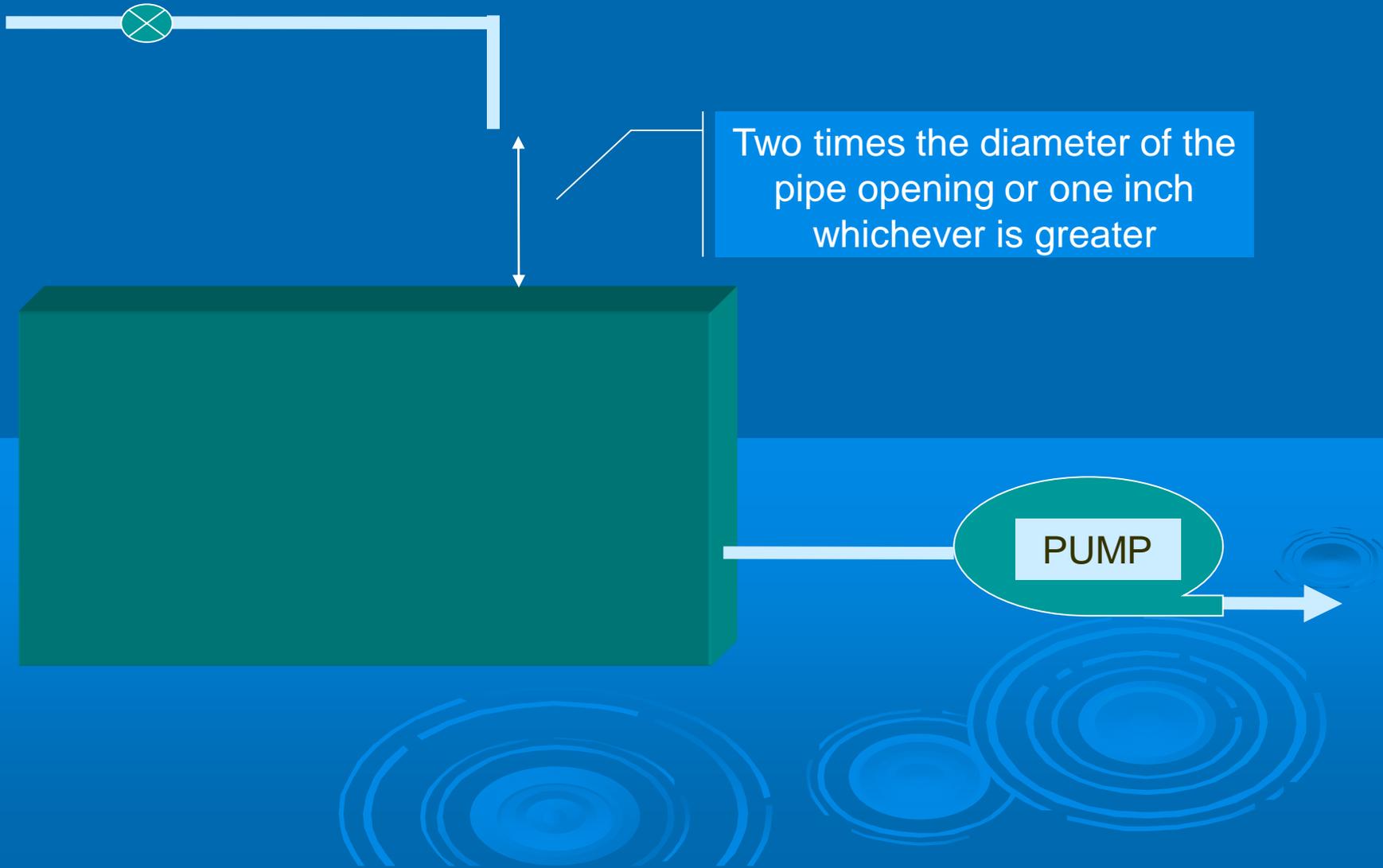
- An air-gap separation means the unobstructed vertical distance through the free atmosphere between the lowest opening from any pipe supplying water to a tank or plumbing fixture and the flood level rim of the receptacle to be supplied.

The water falls through  
the air

ANSI 112.1



# Backflow Basics



# *Backflow Basics*

Demonstrate your knowledge of backflow prevention and you will not be questioned again in the near future, or possibly ever!

- keep theirs out of yours
- survey old
- review new
- backflow at meter
- test @ 12 months
- pollution = no hole
- system = hole
- health = hole
- severe health = falls through the air