

TECH-NOTE



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WOODFORD MANUFACTURING COMPANY

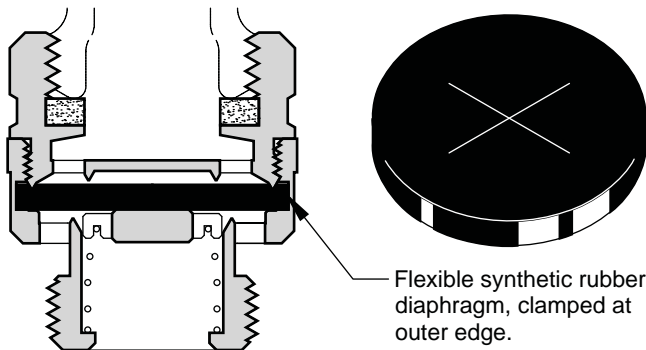
2121 Waynoka Road, Colorado Springs, Colorado 80915 • Phone: (719) 574-1101 • Fax: (719) 574-7621

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04/10 Rev 2

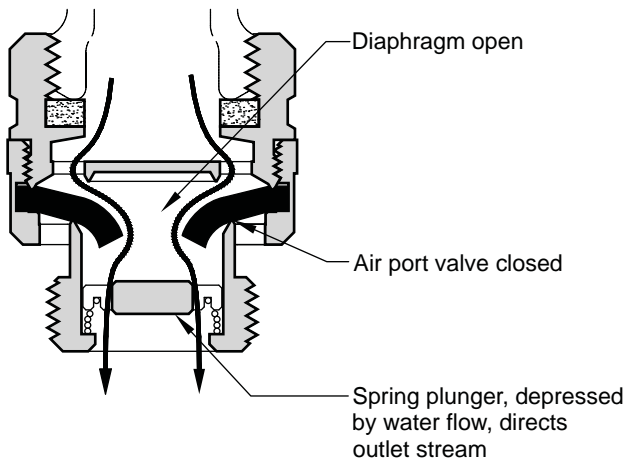
AS BUILT "RELAXED"



Flexible synthetic rubber diaphragm, clamped at outer edge.

Cross slits through center open to allow water to pass through.

WATER FLOW CONDITION

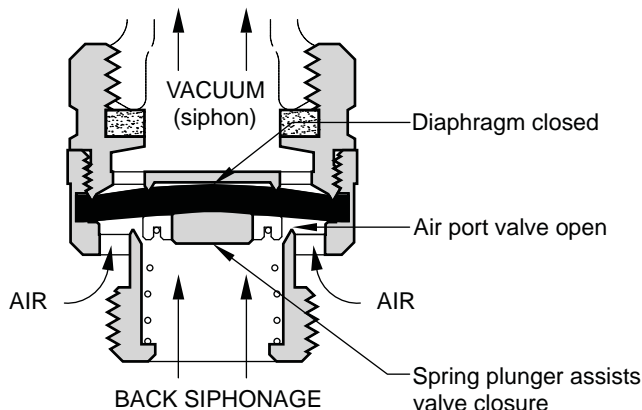


Diaphragm open

Air port valve closed

Spring plunger, depressed by water flow, directs outlet stream

SIPHON CONDITION



VACUUM (siphon)

Diaphragm closed

Air port valve open

Spring plunger assists valve closure

AIR

AIR

BACK SIPHONAGE

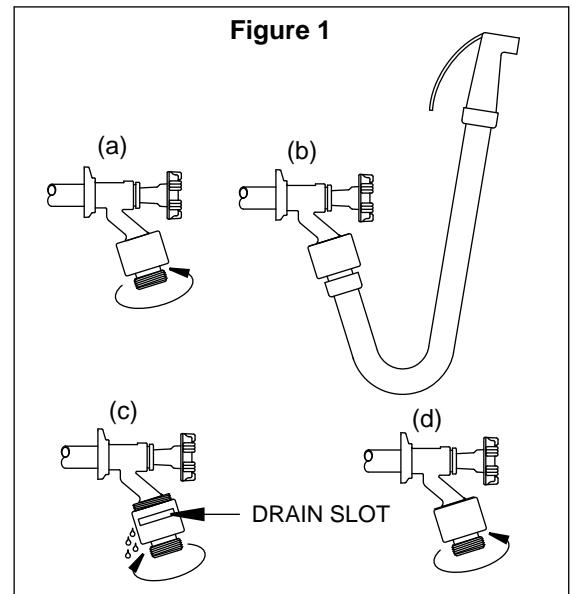
OPERATING INSTRUCTIONS FOR MODEL 34HD PROCEDURE:

- 1) During normal usage the Vacuum Breaker must be turned clockwise hand tight to a seated position. See figure 1a.
- 2) The faucet with the Vacuum Breaker installed, may be operated with or without a hose attached. See figure 1b.
- 3) When the Vacuum Breaker is installed on a frost-proof faucet and freezing temperatures occur, shut off the water and turn the Vacuum Breaker counter-clockwise until it starts draining, approximately 3 turns. Water will drain out of the faucet through the drain slots provided in the Backflow Preventer. See figure 1c.
- 4) After the frost proof faucet has stopped draining, turn the Vacuum Breaker Clockwise hand tight back to a seated position. See figure 1d. The faucet is now protected from freeze damage.

NOTE:

The Vacuum Breaker must be tightly seated on all faucets in order to function properly. When freezing temperatures occur, manual draining of frost-proof faucets must be done to prevent freezing of the faucet and possible damage. This manual draining is achieved by turning the Vacuum Breaker as described above

Figure 1





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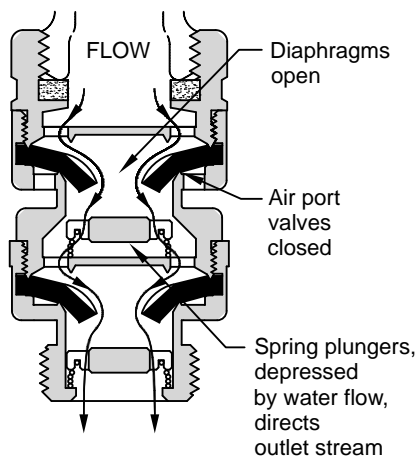
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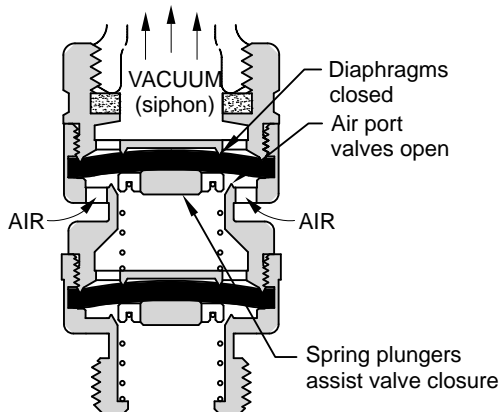
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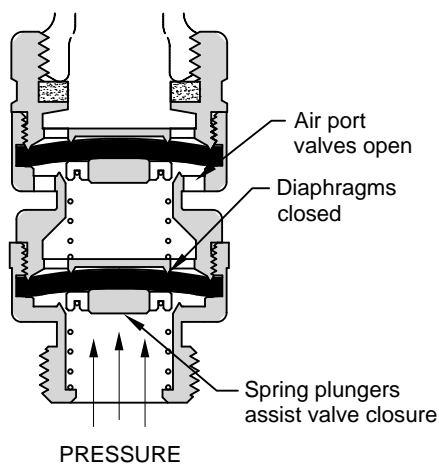
FLOW CONDITION



SIPHON CONDITION



BACKFLOW CONDITION



OPERATING INSTRUCTIONS

PURPOSE: For proper operation of the Model 37HD1 & 37HD2 Backflow Preventer, as installed on a hose threaded outlet, carefully adhere to the instructions below.

PROCEDURE:

- 1) During normal usage the Backflow Preventer must be turned clockwise hand tight to a seated position. See figure 1a.
- 2) The faucet with the Backflow Preventer installed, may be operated with or without a hose attached. See figure 1b.
- 3) When the Backflow Preventer is installed on a frost-proof faucet and freezing temperatures occur, shut off the water and turn the Backflow Preventer counter-clockwise until it starts draining, approximately 3 turns. Water will drain out of the faucet through the drain slots provided in the Backflow Preventer. See figure 1c
- 4) After the frost proof faucet has stopped draining, turn the Backflow Preventer Clockwise hand tight back to a seated position. See figure 1d. The faucet is now protected from freeze damage.

CRITERIA:

The Model 37HD1/37HD2 Backflow Preventer must be tightly seated on all faucets in order to function properly. When freezing temperatures occur, manual draining of frost-proof faucets must be done to prevent freezing of the faucet and possible damage. This manual draining is achieved by turning the Backflow Preventer as described above.

FIELD TEST INSTRUCTIONS

PURPOSE: The instructions below are intended to encourage preventative maintenance by the end user of the Model 37HD1 & 37HD2 Backflow Preventer. These procedures shall verify the integrity of the outlet check valve.

PROCEDURE:

- 1) With the device installed in accordance to the manufacturer's instructions, attach a hose to the outlet of the Backflow Preventer as shown in Figure 2a. Raise the hose to a height of 305-cm (10 feet). Turn on the faucet and let water run to purge the hose of air. Turn off the faucet.
- 2) Turn the Backflow Preventer counter-clockwise 2 turns as shown in figure 2b, while watching the atmospheric vents for leakage.
- 3) Turn the Backflow Preventer clockwise back to a seated position as shown in figure 2c.
- 4) Maintain the hose at a height of 305-cm(10 feet) for five minutes while watching the atmospheric vents for leakage.**

CRITERIA:

*A small leakage at the atmospheric vents that does not exceed approximately 6 seconds duration is normal and indicates proper operation.

** Continuous leakage at the atmospheric vents that exceed approximately 6 seconds indicates that the outlet check valve is faulty.

For continuous protection, replace the Backflow Preventer if faulty.

Figure 1

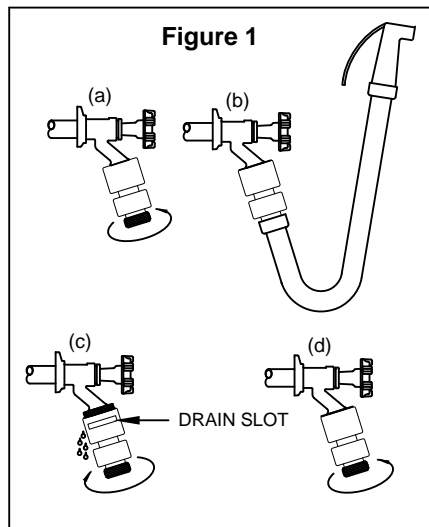


Figure 2

