BACKFLOW TESTERS — GUIDE

RP, DC, PVB and SVB assemblies

Recognise the main assembly types without choosing or changing protection yourself.

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The letters describe different assembly designs. They do not rank products from good to bad. The right protection depends on the hazard and the pressure conditions. The EPA manual describes common devices. California's April 2026 handbook gives definitions for RP, DC, PVB and SVB assemblies.

| Type | Key feature in the cited definitions | What to ask your tester | | --- | --- | --- | | RP | Independently acting check valves with a differential pressure relief valve between them | Is the model approved for this use, and is discharge drainage suitable? | | DC | Independently acting check valves in a testable assembly | Does the utility accept this assembly for the assessed hazard? | | PVB | A check valve and loaded air inlet, with test cocks and shutoff valves | Is this a backsiphonage-only application? | | SVB | A check valve and loaded air inlet, with a test cock and bleed or vent port | Does the nameplate confirm a spill-resistant vacuum breaker? |

These features summarise the California handbook definitions. A photograph may hide important parts. Paint, covers and pipe orientation can make assemblies look alike. Confirm the manufacturer, model, type and serial number on the nameplate.

Pressure conditions matter

The EPA manual distinguishes backpressure from backsiphonage. Backpressure occurs when pressure downstream is higher than the supply pressure. Backsiphonage can occur when supply pressure drops. California's definitions limit PVB and SVB protection to backsiphonage. Do not replace an RP or DC assembly with a vacuum breaker because its pipe size appears to match.

Washington's selection table in WAC 246-290-490 distinguishes high-health and low cross-connection hazards. It lists different acceptable protection for each. That table applies within the Washington program and does not replace a local hazard assessment elsewhere.

Detector assemblies

You may see DCDA or RPDA on fire service records. The EPA manual describes detector arrangements with a bypass and meter. These remain different from a simple DC or RP record. Send the full model and all associated serial numbers when requesting a quote. Ask the tester to confirm what must be tested and reported.

Make a safe identification record

Take a clear photo of the nameplate and an overall photo from a safe position. Record the pipe served and the utility's asset identifier. Do not open test cocks or move shutoff valves to identify a device. Do not enter a vault or remove a cover that requires specialist access. Use our identifier only as a prompt for a conversation with the tester. It does not approve an installation

or determine code compliance.

Sources

All sources below were fetched on 2026-11-10. Dates beside titles identify publication, revision or access dates. This guide is information for planning. Confirm the current requirements with your water utility.

- US EPA, Cross-Connection Control Manual, February 2003.
- California State Water Resources Control Board, Cross-Connection Control Policy Handbook, April 2026.
- Washington Legislature, WAC 246-290-490, effective 2022-01-01.

Frequently asked questions

Can a PVB protect against backpressure?

The California handbook definition says PVB protection is for backsiphonage and must not be used for backpressure.

Can appearance alone confirm the type?

No. Match the nameplate and approved model with the utility record and ask a tester to confirm.