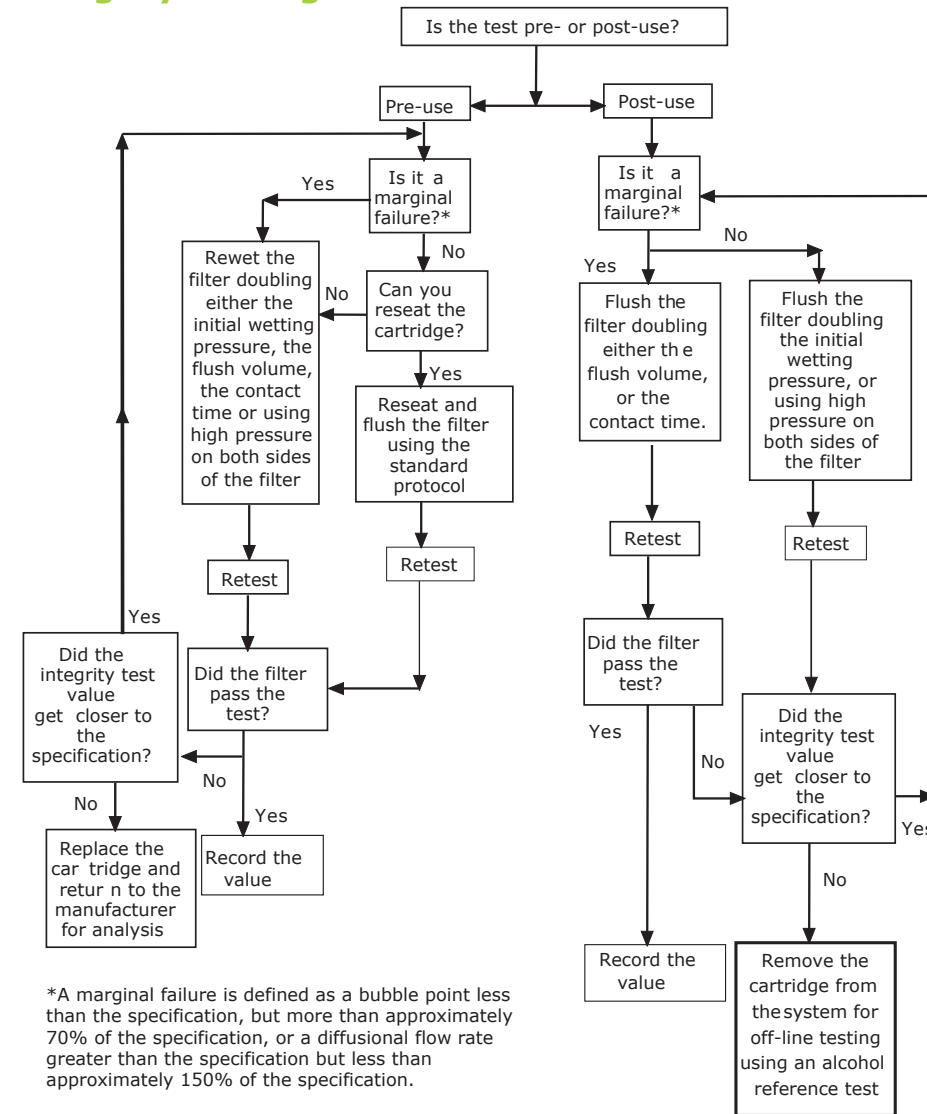


Troubleshooting Decision Tree for Integrity Testing



Troubleshooting

Wetting

If you encounter an integrity test value that is out of specification, the cause may be:

- improperly or incompletely wet filter
- contaminant or residual on the filter
- improper O-ring seal
- temperature outside manufacturer's recommended temperature
- system hardware leak (if automatic integrity tester is used)

Integrity Testing

Drying prior to retesting can minimize integrity test failure.

If you encounter a problem:

- Do not remove the cartridge from its housing (for a post-use test).
- Check connections for leaks (if automatic integrity tester is used).
- Ensure that appropriate integrity test specifications are used for the filter and housing.
- Make sure the environmental and/or test fluid temperature is within the manufacturer's recommended specification.
- Make sure an appropriate test fluid is used.

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Millipore®

Solvex™
Cartridge
Filters

User Guide

Refer to the appropriate Validation Guide or Certificate of Quality for filter specifications.



Unpacking the Box

A Certificate of Quality, included with each filter, provides detailed product properties and performance data.

Installing the Filter

Before using the filter, verify the catalog number. The catalog number, lot number and serial number are located on top of the cartridge.

It is very important that the filter is installed in the housing correctly. The cartridges are shipped double bagged. Carefully tear open the outer bag, then carefully tear open the inner bag. Use the inner bag as a glove to avoid touching the cartridge with ungloved hands while installing it into the housing. To ease installation of the cartridge into the housing, wet the O-rings with sterile water or fluid to be filtered and gently slide the cartridge into place. For a Code 7 cartridge, after the O-rings are in the socket, twist the cartridge slightly to “lock” it in place. When installing the cartridge, avoid pinching the O-rings or bending the tabs on the Code 7 cartridge. A pre-use integrity test can confirm that the filter is installed in the housing correctly.

NOTE: Do not touch a cartridge with ungloved hands as dirt and oils from skin can affect the performance of the filter.

70/30 IPA Wetting Instructions

- The cartridge should be completely dry to ensure complete and adequate wetting of the membrane prior to the procedure.
- Use 70/30 IPA (70%/30% isopropanol/purified water).
- Moisten the cartridge O-ring with 70/30 IPA to allow ease of insertion into the filter housing.

1. Set up intallation as shown in Figure 1 and close all valves (V1, V2 and V3).
2. Open V1 and V2. **ENSURE THAT THE UNIT IS PROPERLY GROUNDED. USE A NITROGEN PRESSURE SOURCE TO MINIMIZE FLAMMABILITY.** Flow 70/30 IPA through the filter at the minimum recommended flow rate shown in Table 1. When fluid flows through V2 and all air has been released close V2.
3. Gradually increase the upstream pressure to 1 bar (15 psig). Do not exceed the maximum differential pressure rating for the filter unit. Maintain this pressure for a minimum of one minute to dissolve any residual gas within the filter and to ensure membrane wetting.
4. After one minute, gradually open the downstream valve (V3) and continue to flow 70/30 IPA through the filter at the minimum recommended flow rate shown in Table 1 for five minutes.
5. Stop the fluid flow and allow the upstream pressure (P1) to drop to zero.
6. Drain the wetting fluid from the housing.
7. Perform an integrity test.

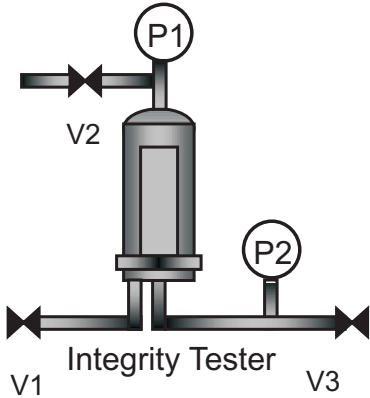


Figure 1: Typical installation

70/30 IPA Removal Following Integrity Testing

1. Set up intallation as shown in Figure 1 and close all valves (V1, V2 and V3).
2. Open valves V1 and V2. Flow fluid to be filtered through the filter at the minimum recommended flow rate shown in Table 1. When fluid flows through V2 and all air has been released. Close V2.
3. Gradually increase the upstream pressure to 2.8 bar (40 psig). Do not exceed the maximum differential pressure rating (see Certificate of Quality) for the filter unit. Maintain this pressure for a minimum of one minute to dissolve any residual gas within the filter and to ensure membrane wetting.
4. After one minute, gradually open the downstream valve (V3) and continue to flow fluid through the filter at the minimum flow rate shown in Table 1 for five minutes.
5. Stop the fluid flow and allow the upstream pressure (P1) to drop to zero.
6. Drain the fluid from the housing.

Table 1: Minimum Recommended Flow Rates for 5 minutes at 2–5 psi (0.2–0.4 bar)

Cartridge Length (in.)	70/30 IPA Flow Rate (Lpm)
10	3
20	6
30	9