Acro™ 37 TF vent device

Instructions for Use

Introduction

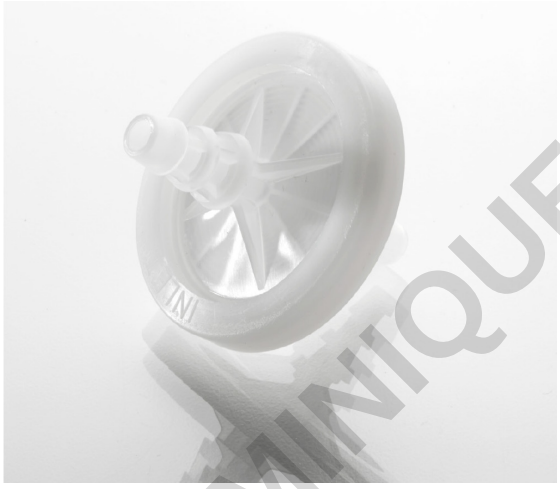
Intended use

Cytiva Lab Filtration products are designed for professional laboratory applications only. These products are not approved for use in medical, clinical, surgical or other patient protection applications. They are also not suitable for use in Biopharmaceutical manufacturing or production.

Important

Employment of the products in applications not specified, or failure to follow all instructions contained in this Instructions for Use, can result in personal injury, damage to property or the product, or improper functioning of the product.

Description



- Hydrophobic membrane acts as a barrier to aqueous solutions and aerosols to protect sensitive equipment or laboratory environment.
- Ideal for venting small volume culture vessels in-line filtration of air and other gasses.
- PTFE membrane and polypropylene housing have broad chemical compatibility for solvent filtration.

Integrity testing

Step	Action
1	Fill a 10 mL or larger syringe with IPA.
2	Insert a 3-way connector between syringe and either end of the Acro™ 37 TF vent device.
3	Attach a pressure gauge and orient the outlet in an upward direction.
4	Gradually (with low pressure) wet the Acro 37 TF vent device membrane allowing the IPA to displace the air within the housing.
5	Flush the wetted filter with an additional 10 to 30 mL of IPA at higher syringe pressures to assure thorough wetting (using less than a 10 mL flush can result in incomplete wetting).
6	Disconnect the IPA source and attach an air filled syringe or pressure vessel and orient the filter in an upward direction.
7	Applying increasing pressure, gradually push the air into the filter, constantly watching for bubbles at the outlet of the Acro 37 TF vent device.
8	Read pressure gauges at the moment bubbles appear, to determine bubble point (see *Specifications, on page 2*).

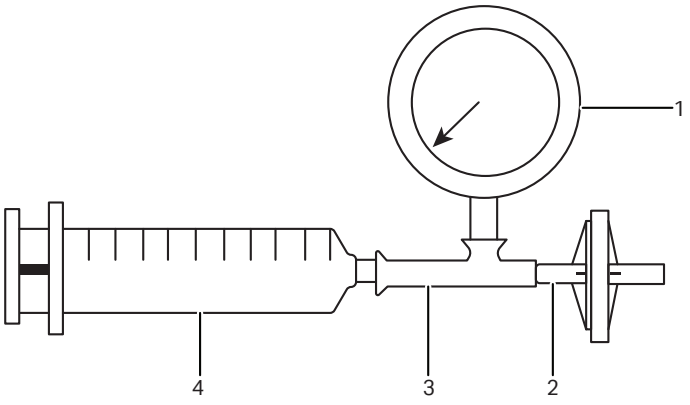
Water breakthrough test (WBT)

Due to the unacceptable nature of alcohol in many applications, and the need for an easy, routine procedure for integrity testing, the water breakthrough test (WBT) is recommended. The WBT is also referred to in the literature as water intrusion pressure or water entry pressure.

Note: *A WBT cannot be performed on units following an alcohol bubble point test due to the residual alcohol "wetting out" the membrane.*

This relatively simple and reproducible test has been adopted by membrane manufacturers and reported in their literature and specifications for hydrophobic membranes. The naturally hydrophobic PTFE membrane resists water penetration. However, water can be forced through the membrane under high pressures. The pressure required to force water through (the water breakthrough point) is inversely correlated to the pore size of the membrane. Any physical destruction or rupture of the membrane is easily detected. The WBT takes only a minute to run and is very reproducible.

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Part	Description
1	Calibrated pressure gauge
2	Acro 37 TF device
3	3-way connector
4	10 mL syringe

Step	Action
1	Fill a 10 mL syringe (male luer) with water. ***Note:*** *Over a period of time, the syringe and stopcock can begin to wear and can affect water breakthrough test results. Any standard 10 mL (or greater) syringe with luer slip fittings can be substituted.*
2	By using a 3-way connector, attach the calibrated syringe pressure gauge (must measure up to 2.1 bar (30 psi)), syringe, and the external connector of the Acro 37 TF vent device.
3	Gently fill the housing and connectors with water.
4	Apply appropriate pressure (2.1 bar (30 psi)) with syringe plunger and hold this pressure for 15 seconds. *Result:* Integrity of housing and membrane is proven by retention of water in the syringe, and by the pressure remaining steady.
5	If failure occurs, check connectors for leaks and repeat above steps. If failure reoccurs, discard filter unit.
6	After completing test procedure, aspirate the water back into the syringe by pulling back on the syringe plunger.
7	Disconnect the test equipment. Shaking the Acro 37 TF vent device by hand aids in further removing residual water in the plastic housing.

Specifications

Parameter	Specification
Materials of construction	Filter media: PTFE on a polypropylene support Housing: polypropylene
Filter diameter	37 mm
Effective filtration area	7.5 cm^2
Minimum air flow rate	3.6 Lpm at 0.2 bar (3 psi)
Maximum operating temperature	100°C (212 °F)
Maximum operating pressure	4.1 bar (410 kPa, 60 psi)
Minimum bubble point (IPA, 100%)	0.9 bar (90 kPa, 13 psi)
Minimum water breakthrough pressure	2.1 bar (210 kPa, 30 psi)
Dimensions	Overall length: 5.3 cm (2.1 in.) Diameter: 4.5 cm (1.8 in.)
Inlet and outlet connections	Stepped hose barbs 6.4 to 9.5 mm (¼ to ⅜ in.) diameter
Sterilization	Provided non-sterile. Autoclave at 121°C to 123°C (250 to 253 °F) for a maximum of 15 minutes.

Note: *Cytiva laboratory tests indicate this unit can withstand multiple autoclave cycles. Reuse requires individual integrity testing and consideration for other problems including cross-contamination.*

Ordering information

Part number	Description	Packaging
4464	Acro 37 TF vent device, 0.2 µm, 37 mm	24/pkg
4465	Acro 37 TF vent device, 0.2 µm, 37 mm	200/pkg

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