Resprep VM-96 Vacuum Manifold

cat.# 25858

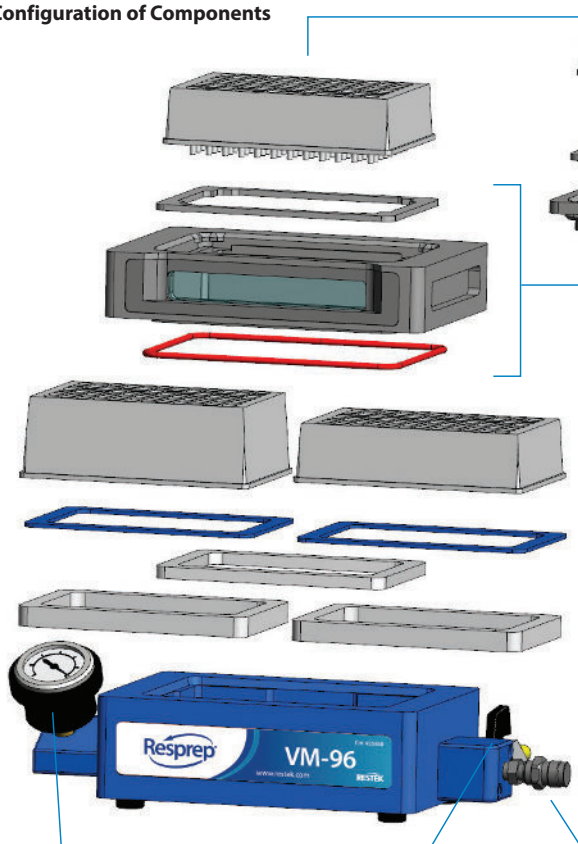
The Resprep VM-96 vacuum manifold is designed for 96-well plate sample preparation methods. It is compatible with solid phase extraction (SPE), supported liquid extraction (SLE), protein precipitation (PPT), and filter plate techniques. Manufactured with precision-machined aluminum and stainless steel parts, the Resprep VM-96 vacuum manifold is robust and reliable for high-volume laboratory work. For user convenience, flow rate can be easily monitored either from the top of the extraction well plate or through the glass window.

Components

All Resprep VM-96 vacuum manifolds contain the following components. Well plates and waste basins are not included.

1. Top unit with glass observation window (constructed of aluminum with stainless steel support around the glass window)
2. Bottom unit (aluminum) with four rubber feet
3. Precision height adaptor (aluminum)
4. Vacuum gauge
4. Valve block assembly
    a. Vacuum attachment port (with on/off valve)
    b. Vacuum control valve
5. Shim pack
    a. Two 2 mm aluminum shims
    b. One 6 mm polypropylene shim
    c. Two 11 mm polypropylene shims
7. Tygon vacuum tubing (5 ft length)
8. Two gaskets (one for top unit, one for precision height adaptor)
9. O-ring

Configuration of Components



Top well plate (extraction well plate)
- Use a 2 mL plate alone, or
- Add the precision height adaptor and extra gasket, if using a 1 mL plate.

Precision height adaptor with gasket

Top unit with glass observation window (place gasket on top and O-ring on bottom)

Bottom well plate—use either a 1 mL or a 2 mL bottom well plate for collection. Alternately, a waste basin may be used.

Shims—use any combination of shims to obtain the desired height.
- Two 2 mm aluminum shims
- One 6 mm polypropylene shim
- Two 11 mm polypropylene shims

Bottom unit assembly

Vacuum gauge

Vacuum attachment port (with on/off valve in "on" position)

Vacuum control valve (for fine tuning flow rate)

RESTEK
Pure Chromatography

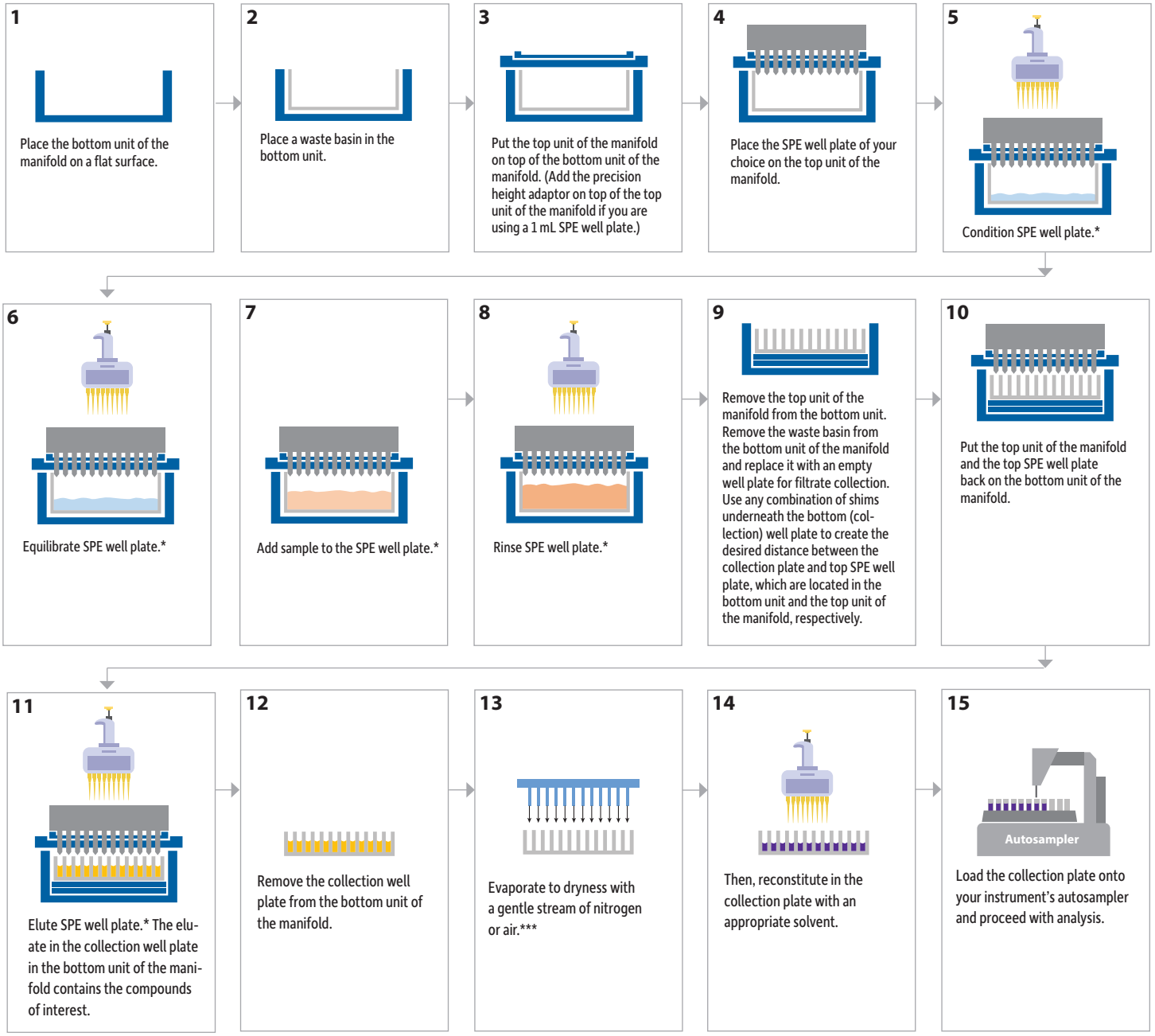
Guidelines for Use

These instructions describe generic applications for different well plate types/techniques and should only be used for overall guidance. Refer to your well plate manufacturer's instructions for more specific procedures. Note that if a bottom well plate is not used, a waste basin should be used instead. Although solvent waste can be drained by vacuum, this can damage metal components along the vacuum path and reduce the lifetime of your Resprep VM-96 vacuum manifold.

1. Put the bottom unit of the manifold on a flat surface (e.g., laboratory hood or counter top) within range of a vacuum source.
2. Place shims into the bottom unit until they provide the height that is needed for your application. Any combination of shims may be used; the height needed depends on the type of bottom (collection) well plate or waste basin that is used.
3. Put the bottom (collection) well plate or the waste basin on top of the shims.
4. Inspect the top unit of the manifold. Confirm that the O-ring is secured to the underside and that a gasket is in place on the top.
5. Place the top unit of the manifold onto the bottom unit of the manifold.
6. If using a 1 mm top well plate, place the precision height adaptor on the top unit of the manifold. Confirm that a gasket is also in place on the top of the precision height adaptor.
7. Put the top well plate of your choice onto the assembled Resprep VM-96 vacuum manifold. This unit can be used with SPE, SLE, PPT, and filtration 96-well plates. See the instructions below for general procedures for each type of well plate.

SPE Well Plate

General Procedure



SLE Well Plate

General Procedure

1

Place the bottom unit of the manifold on a flat surface.

2

Place an empty collection well plate in the bottom unit.

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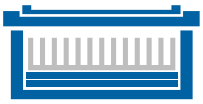

Put the top unit of the manifold on top of the bottom unit of the manifold. (Add the precision height adaptor on top of the top unit of the manifold if you are using a 1 mL SLE well plate.)

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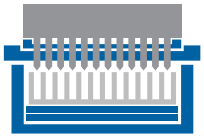

Place the SLE well plate of your choice on the top unit of the manifold.

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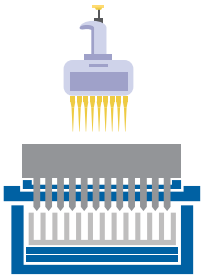

Add aqueous sample to the SLE well plate.**

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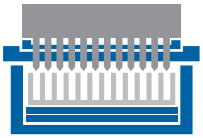

Wait 5 min and make sure no sample breakthrough occurs. If you see any sample breakthrough on the tip of the SLE well plate, adjust your aqueous sample amount. Refer to the SLE well plate manufacturer's instruction for specific recommendations.

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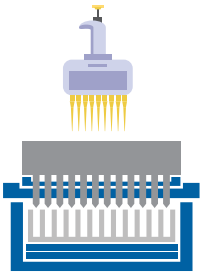

Add water-immiscible organic solvent to the SLE well plate.**

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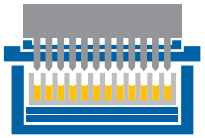

Apply vacuum, if needed, to initiate flow and collect the water-immiscible organic solvent containing the compounds of interest in the bottom (collection) well plate. Use of vacuum is intended just to initiate the flow rate; the vacuum can be shut off once the flow begins. Please refer to the instructions for your specific SLE well plate.

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Remove the collection well plate from the bottom unit of the manifold.

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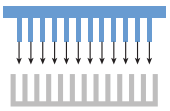

Evaporate to dryness with a gentle stream of nitrogen or air.***

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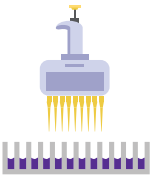

Then, reconstitute in the collection plate with an appropriate solvent.

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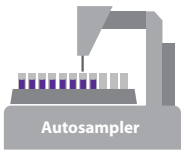


Load the collection plate onto your instrument's autosampler and proceed with analysis.

Filter Plate (without Non-Drip Function)

General Procedure

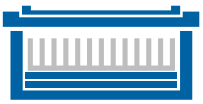
1

Place the bottom unit of the manifold on a flat surface.

2

Place an empty collection well plate in the bottom unit.

3



Put the top unit of the manifold on top of the bottom unit of the manifold. (Add the precision height adaptor on top of the top unit of the manifold if you are using a 1 mL filter plate.)

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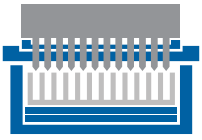

Place the filter plate of your choice on the top unit of the manifold.

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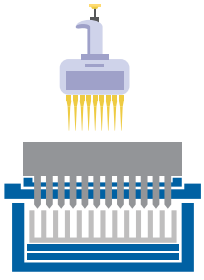

Add samples to be filtered.

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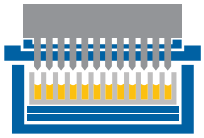

Apply vacuum to collect the filtrate in the empty collection well plate in the bottom unit of the manifold.*

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Remove the collection well plate from the bottom unit of the manifold.

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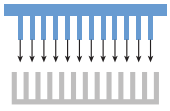
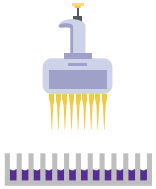


Evaporate to dryness with a gentle stream of nitrogen or air.***

9



Then, reconstitute in the collection plate with an appropriate solvent.

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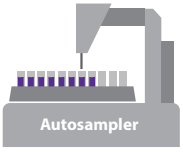


Load the collection plate onto your instrument's autosampler and proceed with analysis.

PPT Well Plate (with Non-Drip Function)

General Procedure

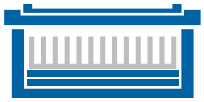
1

Place the bottom unit of the manifold on a flat surface.

2

Place an empty collection well plate in the bottom unit.

3



Put the top unit of the manifold on top of the bottom unit of the manifold. (Add the precision height adaptor on top of the top unit of the manifold if you are using a 1 mL PPT well plate.)

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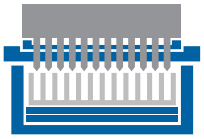

Place the PPT well plate of your choice on the top unit of the manifold.

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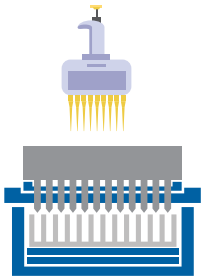

Add 3 parts acetonitrile to the PPT well plate.

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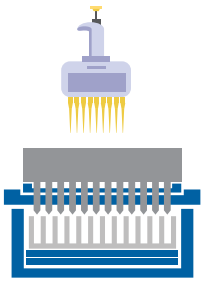

Add 1 part sample.

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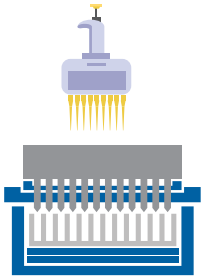

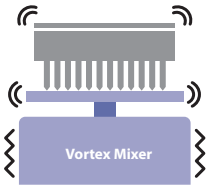

Vortex mix or pipette mix the sample and acetonitrile in the PPT well plate. Pipette mixing can be done directly in the PPT well plate on top of the assembled manifold. To vortex mix, first place a well plate cover on top of the PPT well plate and then remove the PPT well plate from the manifold.

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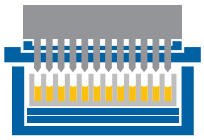
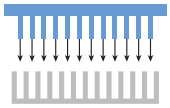


After vortex mixing, place the PPT well plate back on top of the manifold and apply vacuum to collect the filtrate in the empty collection well plate in the bottom unit of the manifold.*

9

Remove the collection well plate from the bottom unit of the manifold.

10

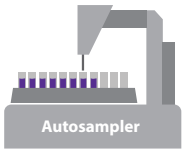


Evaporate to dryness with a gentle stream of nitrogen or air.***

11

Then, reconstitute in the collection plate with an appropriate solvent.

12



Load the collection plate onto your instrument's autosampler and proceed with analysis.

Questions?
Contact Restek's Technical Service group at support@restek.com, 1-800-356-1688 ext. 4, or 1-814-353-1300 ext. 4.

*These steps include the use of a vacuum. Whenever a vacuum is applied, the flow rate should be checked and can be adjusted using the vacuum control valve. A flow rate of a couple of drops per second is generally recommended, but slower flow rates can yields better results.

** Gravity flow is recommended, but if no flow is observed, apply a pulse of vacuum to initiate the flow by quickly opening and closing the vacuum control valve.

*** This step is performed outside the Resprep VM-96 vacuum manifold using an appropriate evaporation device.

Resprep VM-96 Replacement Parts

Description	cat. #
Valve block assembly	25857
Gasket and O-ring kit	25856
Vacuum gauge	25855

Questions about this or any other Restek product?
Contact us or your local Restek representative (www.restek.com/contact-us).

www.restek.com

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