ab204067-Vacuum manifold for 96 well filter plates

This product is for research use only and is not intended for diagnostic use.

Version 5 Last Updated 03 March 2016

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1. BACKGROUND

This manifold is compatible with all Firefly® assays, including those that require filtrate collection during sample preparation.

The manifold is packaged complete with a vacuum control assembly. The control assembly includes:

- A gauge to indicate vacuum level applied to filter plate.
- Fine vacuum control enabled via a set-point knob.
- An optional flow restrictor to limit vacuum in environments where vacuum source is high and cannot be adjusted.
- 3/8” inner diameter tubing to interface with end user’s vacuum trap.

2. PRECAUTIONS

Please read these instructions carefully prior to Assembling, Calibrating or Using the equipment.

All components have been formulated and quality control tested to function successfully. Modifications to the components or procedures may result in loss of performance.

3. STORAGE

Upon receipt of this equipment, please store at room temperature.

Refer to list of materials supplied for storage conditions of individual components.

4. MATERIALS SUPPLIED

Item	Quantity	Storage Condition (Before use)
Vacuum Manifold Base	1 Unit	RT
Vacuum Manifold Frame	1 Unit	RT
Vacuum Control Assembly	1 Unit	RT
Optional Flow Restrictor	1 Unit	RT

5. EQUIPMENT REQUIRED, NOT SUPPLIED

This equipment is not included in the kit, but will be required to successfully utilize this assay:

- Vacuum source (pump or building supply line)
- Vacuum trap
- 96 well Filter Plate and Lid

6. MATERIALS REQUIRED, NOT SUPPLIED

- Firefly Multiplex Assay.

7. LIMITATIONS

- Modifications to the components or procedures may result in loss of performance.

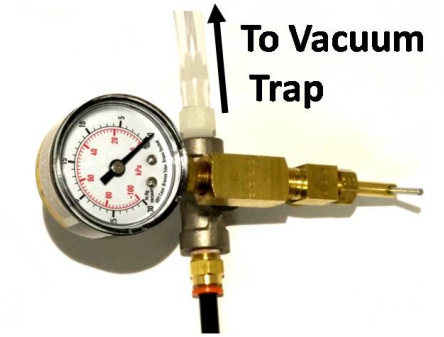
8. TECHNICAL HINTS

- Use tape or a partial plate seal to cover all non-assay or empty wells. This maintains even vacuum across the plate.
- Most samples vacuum down in a few seconds. Longer time and higher vacuum may be required for complex or viscous samples (up to one minute at -10 inHg).
- Take care that Firefly particles are not dry for more than two minutes.

  If samples do not filter, press firmly on the plate and check that the gauge reads non-zero. If the vacuum is weak, check that unused wells are covered. If unused wells are covered, you may need to close the set-point knob and/or increase the vacuum source.

9. VACUUM MANIFOLD ASSEMBLY

9.1 Connect waste output on vacuum control assembly to a vacuum trap (3/8” inner diameter tubing included).



9.2 Insert supplied manifold tube into push-to-connect fitting on vacuum control assembly (use enough force such that tubing does not fall out). The manifold tube can be released from the assembly by holding the colored ring against the push-to-connect fitting and pulling on the tubing.

10. VACUUM MANIFOLD CALIBRATION

10.1 Gently turn the set-point knob counter-clockwise to ensure that it is completely open (see figure below).

10.2 Place the vacuum manifold frame squarely onto the base.

10.3 Turn on your vacuum source. If the gauge reads non-zero now, then reduce your vacuum by:

(a) Adjusting your vacuum pump or

(b) Using the optional flow restrictor. The optional flow restrictor should be inserted into the tubing at the source of your vacuum (after your vacuum trap). If that is not possible, the flow restrictor can be inserted into the included 3/8" ID tubing (before the vacuum trap) and filtrate will flow through the restrictor.

10.4 Next, place a filter plate lid on top of the manifold frame and turn on the vacuum source. Gently press down on the sides of the lid to ensure a vacuum seal. The filter plate lid should deform while the vacuum is on.

10.5 With the vacuum on and the plate lid on the manifold, adjust the set-point knob on the vacuum control assembly until the gauge reads approximately -3 inHg.

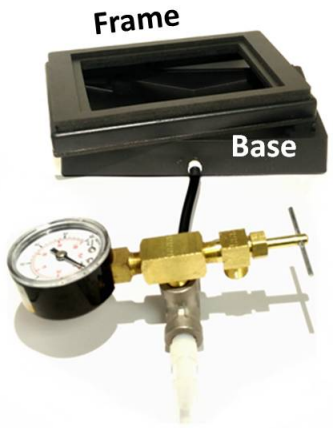
(a) If the knob is completely open and vacuum readings are stronger than -10 inHg, then follow the instructions in Step 2 to reduce your vacuum.

(b) If the knob is completely closed and vacuum readings are significantly less than -3 inHg, then increase the strength of your vacuum at the pump.

Note: The -3 inHg setting is appropriate for most assays, but especially viscous biological samples (for example, 1:4 diluted saliva) may require vacuum up to -10 inHg.

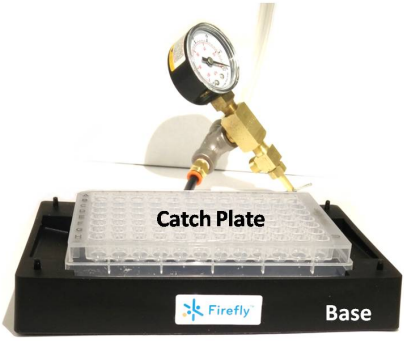
10.6 Turn off the vacuum source and note the time it takes for the lid to be released from vacuum.

10.7 If this time is more than 10 seconds, open the set-point knob approximately one-half turn and repeat the calibration until this is achieved.



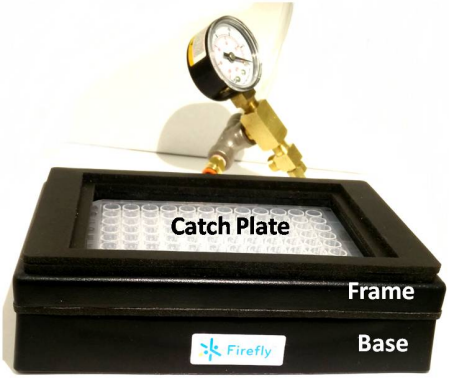
11. VACUUM MANIFOLD USE

11.1 This step is only necessary for filtrate collection. Proceed to Step 2 if your filtrate is waste and does not require collection.
Remove the vacuum manifold frame and firmly place the catch plate into the vacuum manifold base. The catch plate fits tightly and evenly into the corner notches of the base.

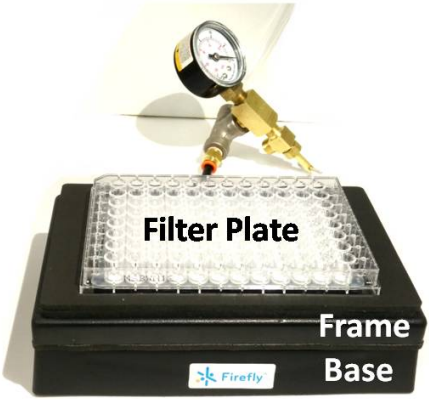


Frame is not present in this image.

11.2 Replace the vacuum manifold frame onto the base such that the frame fits squarely on the base.



11.3 Place the filter plate on top of the vacuum manifold frame and ensure that it is aligned above the collection plate.



11.4 Turn on the vacuum source and press down on all four corners of the filter plate until the liquid is removed from all of the wells. For optimal removal, it is important to have an even seal on all sides of the filter plate and to cover all unused wells.

11.5 Immediately turn off the vacuum source once all of the filtrate has been removed or collected.

11.6 Wait until the gauge reads '0 inHg' before removing the filter plate from the vacuum manifold. Removing the filter plate while the vacuum is still engaged can damage the filter plate and compromise assay results.

12. NOTES

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