



Promega

Technical Bulletin

Quick Start Guide for Assembly of a Vacuum Apparatus with the Welch® Vacuum Pump



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of this system. E-mail: techserv@promega.com

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1. Description

This guide provides quick guidance on assembling a vacuum apparatus for performing vacuum-mediated purification procedures using Promega reagent kits and vacuum manifolds.

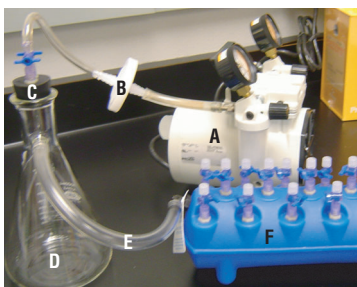


Figure 1. Assembled vacuum apparatus with the Vac-Man® Laboratory Vacuum Manifold (Cat.# A7231). A. Welch® Vacuum Pump Model 2522; B. inline filter; C. neoprene stopper with hole(s); D. vacuum trap; E. vacuum-grade tubing; F. Vac-Man® Laboratory Vacuum Manifold.

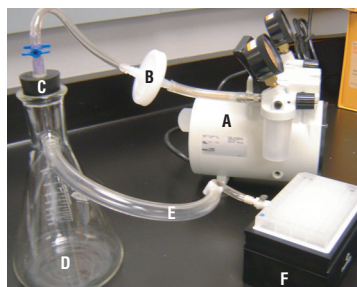


Figure 2. Assembled vacuum apparatus with the Vac-Man® 96 Vacuum Manifold (Cat.# A2291). A. Welch® Vacuum Pump Model 2522; B. inline filter; C. neoprene stopper with hole(s); D. vacuum trap; E. vacuum-grade tubing; F. Vac-Man® 96 Vacuum Manifold.

2. Product Components

Product	Cat.#
Welch® Vacuum Pump	
Model 2522B-01 for North America electrical	A6720
Model 2522C-02 for Europe electrical	A6722
Model 2522C-10 for Japan electrical	A6724

Includes vacuum tubing and inline filter.

Available Separately

Product	Cat.#
Vacuum Manifold	
Vac-Man® Laboratory Vacuum Manifold	A7231
Vac-Man® 96 Vacuum Manifold	A2291

3. Setup of Vacuum Assembly

Materials to Be Supplied by the User

- vacuum trap (i.e., a sidearm flask)
- neoprene stopper with hole(s) (Figure 2 shows the Vac-Man® Jr. neoprene stopper [Cat.# A7660], which will fit into the mouth of a 1- or 2-liter sidearm flask.)
- vacuum manifold (e.g., Vac-Man® Laboratory Vacuum Manifold)



Note: The Welch® Vacuum Pump Model 2522 is not designed to tolerate liquid; use of a vacuum trap and inline filter are required to prolong the life of the pump.

1. Place the neoprene stopper into the top of the sidearm flask (C and D in Figures 1 and 2). The stopper should be allowed to come loose, thereby serving as a safety valve to prevent buildup of excessive pressure in the flask.
2. Using vacuum-grade tubing (E in Figures 1 and 2), connect the vacuum pump (A in Figures 1 and 2) to the neoprene stopper inserted in the sidearm flask.

Note: If you are using a Vac-Man® Jr. neoprene stopper, open the stopcock connected to the vacuum tubing. Leave the second stopcock closed.

3. Cut the tubing approximately halfway between the vacuum pump and the sidearm flask, and insert inline filter (B in Figures 1 and 2). This filter will prevent liquid or particulates from entering and damaging the vacuum pump.
4. Using vacuum-grade tubing, connect the sidearm flask trap to the vacuum manifold (F in Figures 1 and 2).

4. Troubleshooting Vacuum Assembly

For questions not addressed here, please contact your local Promega Branch Office or Distributor. Contact information available at: www.promega.com. E-mail: techserv@promega.com

Symptoms	Causes and Comments
Columns clogged during purification procedure	Sample too large. Please refer to reagent kit technical literature for guidance on sample size processing capabilities and methods for creating appropriate lysates for the purification system you are using.
No vacuum or weak vacuum	<p>Vacuum leak; loose connections. Check all tubing and connectors for damage to tubing or connectors that may cause a vacuum leak. Replace if necessary. Check all connections to be certain that all are secure. Threaded connections can be sealed using Teflon® tape.</p> <p>Vacuum tubing is collapsing. Replace vacuum tubing with larger diameter tubing.</p> <p>Vacuum trap is full. Empty the vacuum trap.</p> <p>Vacuum trap was full and liquid was pulled into the inline filter. Replace the inline filter if inline filter is in place.</p> <p>Vacuum trap was full and liquid was pulled into the vacuum pump. The vacuum pump may be damaged. If you have acquired a Welch® Vacuum Pump from Promega, contact Gardner Denver Welch Vacuum Technology, Inc., for service recommendations.</p>
(for Vac-Man® Laboratory Vacuum Manifold)	<p>Column not seated. Columns need to be fully attached to vacuum adapters.</p> <p>Open Luer-Lok® Stopcocks. Be sure that all unused positions on the manifold are closed.</p> <p>Cracked or broken Luer-Lok® Stopcocks. Replacement stopcocks are available (Cat.# A7261).</p> <p>Broken Vacuum Adapters. Replacement adapters are available (Cat.# A1331).</p> <p>Worn foam seals/gaskets for Vac-Man® 96. Contact Technical Services for replacement.</p> <p>Excessive tubing. Optimal performance is obtained when the shortest lengths of tubing are placed between the pump and columns.</p>

4. Troubleshooting Vacuum Assembly (continued)

Symptoms	Causes and Comments
No vacuum or weak vacuum (for Vac-Man® 96 Vacuum Manifold) (continued)	Plate not seated. Once vacuum is applied, light pressure may be required for the plate to completely seat on the Vac-Man® 96 Vacuum Manifold. Partial 96-well plate used without sealing other wells. Seal unused wells in 96-well plates using a plate sealer.

5. Welch® Vacuum Pump General Information, Service and Support

For specific information regarding the Welch® Vacuum Pump, please refer to the Welch® Vacuum Pump Owner's Manual provided with the product, which includes information on:

- safety
- installation
- operation
- maintenance
- troubleshooting
- specifications
- warranty
- exploded views and parts lists

The Welch® Vacuum Pump Owner's Manual is also available online on the Welch® Vacuum web site at:

www.welchvacuum.com/welch_vacuum_online_resources/repair_manuals.html

For Welch® Vacuum Pump service and support, visit:

www.welchvacuum.com/welch_vacuum_service_support/index.html

Or contact:

Gardner Denver Welch Vacuum Technology
7301 North Central Avenue
Skokie, IL 60077 USA
Phone: 847-676-8800
Fax: 847-677-8606 (Technical Support)



Note: Remember to fill out and return the warranty card to activate the Welch® Vacuum Pump warranty with Gardner Denver Welch Vacuum Technology.

6. Related Products

Here is a list of Promega reagent products that can be used with the Welch® Vacuum Pump. For more product information, please visit:

www.promega.com/catalog/

Product	Size	Cat.#
PureYield™ Plasmid Maxiprep System	25 preps	A2393
PureYield™ Plasmid Midiprep System	100 preps	A2495
PureYield™ Plasmid Miniprep System	250 preps	A1222
PureYield™ RNA Midiprep System*	50 preps	Z3741
Wizard® SV Gel and PCR Clean-Up System*	250 preps	A9282
Wizard® Plus SV Minipreps DNA Purification System*	250 preps	A1460
Wizard® SV Genomic DNA Purification System	250 preps	A2361
SV Total RNA Isolation System*	250 preps	Z3105
Wizard® SV 96 Genomic DNA Purification System	4 × 96 preps	A2371
SV 96 Total RNA Isolation System*	1 × 96 each	Z3500
Wizard® SV 96 PCR Clean-Up System*	8 × 96 preps	A9342

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All prices and specifications are subject to change without prior notice.

Product claims are subject to change. Please contact Promega Technical Services or access the Promega online catalog for the most up-to-date information on Promega products.