

Vacuum Manifold

(User Manual)

Applicable for model 009802-R/B、009803-R/B、009804-R/B、009805-R/B、009606-B



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Description

The Vacuum Manifolds are specially designed for high-throughput nucleic acid purification, solid phase extraction, protein precipitation, Oligo synthesis and other applications. The manifolds are adapted to 48/96/384 well plates and Luer-inlet columns to eliminate repetition of pipetting and centrifugation in traditional nucleic acid extraction methods.

The integral device is made of anti-corrosion and durable materials. The compact design ensures uniform flow rate during extraction at negative pressure, also, eliminate repeated operations of centrifugation and pipetting in traditional methods to improve efficiency.

Application

Universal Vacuum Manifolds: Nucleic acid extraction, solid phase extraction, protein precipitation, QuEChERS, phospholipids removal, Oligo synthesis of deprotection, ammonolysis and other processes etc.

Double-Layer Vacuum Manifolds: Enable filtration and extraction at same time for nucleic acid extraction, solid phase extraction, protein precipitation, phospholipids removal, etc.

Luer-Inlet Vacuum Manifold: Large volume nucleic acid extraction and purification.

Packing List

Parts	009802-R	009803-R	009804-R	009805-R	009606-B
	009802-B	009803-B	009804-B	009805-B	
Base	1	1	1	1	1
Waste Tray	1	1	1	1	1
Plate Holder	1	1	2	-	-
6 mm Pad	1	1	1	-	-
12 mm Pad	-	-	-	-	1
15 mm Pad	1	1	1	-	-
26 mm Pad	1	1	-	-	-
12-Position Spin Column Lid	-	-	-	1	-
12-Position Tube Rack	-	-	-	1	-
Connectors	-	-	-	12	-
Sealing Plugs	-	-	-	12	-
The screw	-	-	-	-	2
Vacuum Gauge	1	1	1	1	1
Pipe 1	1	1	1	1	1
Pipe 2	1	1	1	1	1
Handbook	1	1	1	1	1

Note: R refers rose red base, and B refers sapphire blue base.

Storage

Vacuum Manifold should be stored in cool and dry conditions.

Expected Usage

Vacuum Manifold is applied to laboratory research only, not for medicine, clinical diagnosis, food, or cosmetics.

Precautions

- Please wear personal protective equipment such as safety goggles and gloves when using this vacuum manifold.
- Keep the vacuum manifold placed in a safe area to avoid damage.

Warranty

1 year warranty

During the warranty period, Biocomma Limited will replace the damaged parts free of charge in following cases:

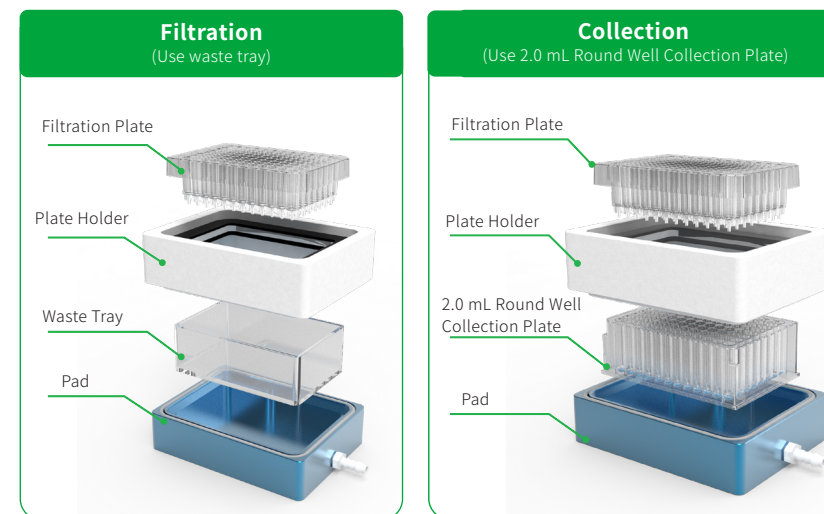
1. Defects arising from the design and manufacture of the product.
2. During normal use, the parts are worn out due to non-human factors.

In the following cases, Biocomma Limite will replace the damaged parts with charge:

1. After the warranty expires, the parts are damaged due to natural aging and other reasons.
2. During the warranty period, damage caused by human error or intentional wrong operation.

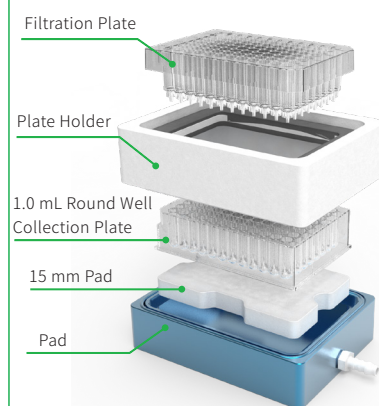
Assembly Method

Universal Vacuum Manifold

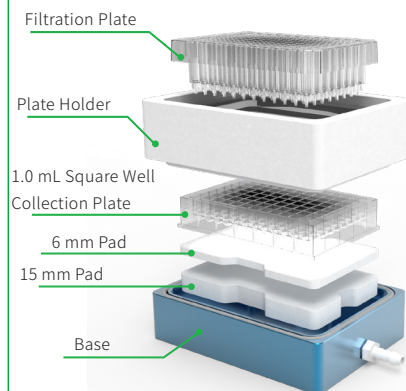
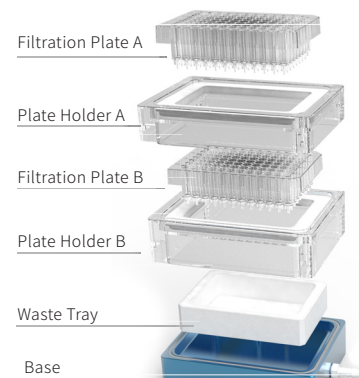
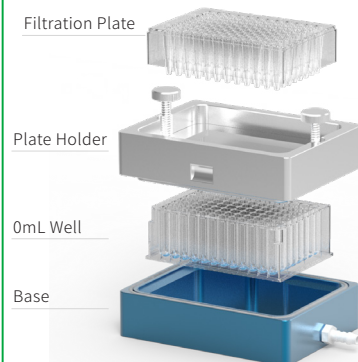
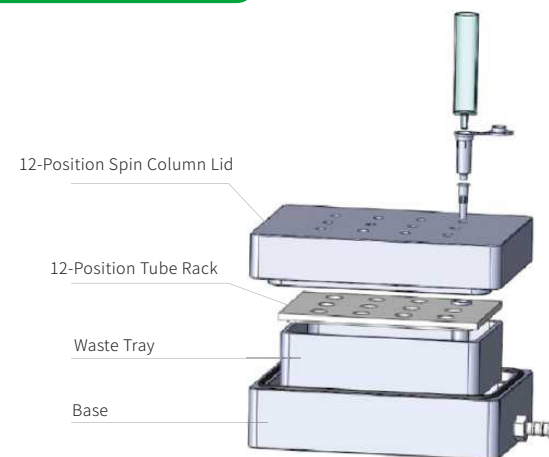
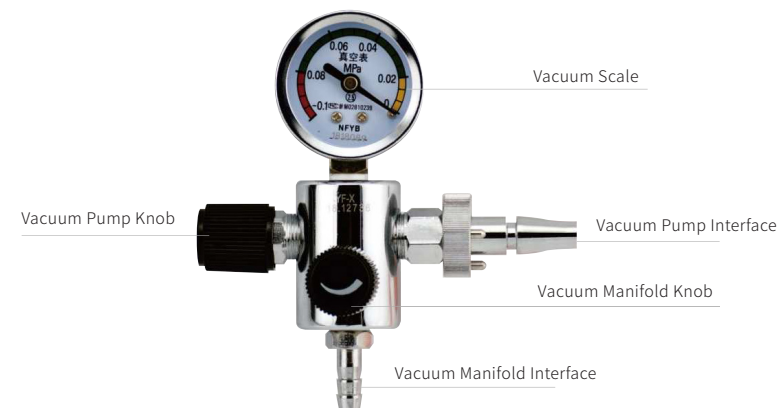


Collection

(Use 1.0 mL Round Well Collection Plate)

**Collection**

(Use 1.0 mL Square Well Collection Plate)

**Double-Layer Vacuum Manifold****Oligo Synthetic special Inlet Vacuum Manifold****Luer-Inlet Vacuum Manifold****Vacuum Gauge**

Directions

1. Connect the vacuum manifold and vacuum pump

- Connect the vacuum manifold to pump via pipe 1 or 2
- Connect the vacuum gauge 3.
- Vacuum pump interface to pump via Pipe 1, and 5. Vacuum Manifold Interface to Vacuum Manifold via Pipe 2. Adjust 2. Vacuum Pump Knob to control the internal pressure of Vacuum Manifold. 4. Vacuum Manifold Knob is used to release pressure.

Note: The vacuum gauge monitors the internal pressure of vacuum manifold. Control the extraction by adjusting the vacuum gauge to achieve the best results.

2. 96-Well Plate Filtration

Mainly applied to wash process for nucleic acid extraction.

- Connect the Vacuum Manifold and pump. Place the Waste Tray in the Base, and Plate Holder on the Base.
- Place the 96-Well Extraction Plate (e.g.: DNAK9603-N) on the Plate Holder. Check if the 96-well plate is firmly placed on the Vacuum Manifold.
- Add the wash buffer to the extraction plate, and turn on the pump. When the solution is completely filtered, turn off the pump. Keep the extraction plate for subsequent operations.
- Pour off the waste liquid. Rinse all parts with water, and dry with paper towel for future use.

Note: 96-Well Filtration can be accomplished by Universal or Double-Layer Vacuum Manifold.

3. 96-Well Plate Filtration & Binding

Mainly applied to filtration and binding process of nucleic acid extraction.

- Connect the Vacuum Manifold and pump. Place the Waste Tray in the Base. Place the 96-Well Extraction Plate (e.g.: DNAK9603-N) on the Plate Holder A, then place on the Base. Place the 96-Well Filtration Plate on Plate Holder B, then

place on the Plate Holder A. Check if the 96-well plate is firmly placed on the Vacuum Manifold.

- Add the lysis solution to the filtration plate, and turn on the pump. When the solution is completely filtered, turn off the pump. Remove the filtration plate and keep the extraction plate for subsequent operations.
- Pour off the waste liquid. Rinse all parts with water, and dry with paper towel for future use.

Note: 96-Well Filtration & Binding can be accomplished by Double-Layer Vacuum Manifold.

4. 96-Well Plate Elution

Mainly applied to elution process of nucleic acid extraction.

- Connect the Vacuum Manifold and pump. Place the 96-Well Collection Plate and 6 mm or 15 mm Pad in the Base.
- Place the 96-Well Extraction Plate (e.g.: DNAK9603-N) on the Plate Holder, then place on the Base. Check if the 96-well plate is firmly placed on the Vacuum Manifold.
- Add the elution buffer to the extraction plate, and turn on the pump. When the solution is completely filtered, turn off the pump. Remove the Extraction Plate and keep the collection plate for subsequent operations.
- Pour off the waste liquid. Rinse all parts with water, and dry with paper towel for future use.

5. Columns Filtration

Mainly applied to wash process of nucleic acid extraction.

- Connect the Vacuum Manifold and pump. Place the Waste Tray in the Base, and 12-Position Spin Column Lid on the Base.
- Place the columns (e.g.: EP05-25) on the connectors. Pay attention to avoid cross-contamination.
- Add the wash buffer to the columns, and turn on the pump. When the solution is completely filtered, turn off the pump. Keep the columns for subsequent operations.

● Pour off the waste liquid. Rinse all parts with water, and dry with paper towel for future use.

Maintenance

1. keep the Vacuum Manifold dry and clean. All parts can be washed with water and dried with paper towel.
2. The Vacuum Manifold is not resistant to ethanol, methanol, and other alcohol reagents. Do not put acrylic parts (such as Plate Holder, Pad, Waste Try, etc.) in ethanol for a long time to avoid corrosion and cracking. The Base does not resistant to phenol and chloroform. If the reagent is spilled, wash it with water immediately.
3. Do not use silicone resin or vacuum grease on any part of the vacuum manifold to ensure the best performance.

Troubleshooting

If there is any failure or difficulties during use, please contact Biocomma Limited in time.

Appendix 1: Chemical Compatibility of Vacuum Manifold

Reagents	Compatibility
Chlorine bleach (12%)	✓
Hydrochloric acid	
Sodium chloride	
Sodium hydroxide	
Urea	
Acetic acid	✗
Acetone	
Chromic acid	
Phenol	
Concentrated alcohols	
Benzene	
Chloroform	
Ethers	
Toluene	

Appendix 2: Recommended Pressure for Different Applications

Application	vacuum pressure	
	mbar	mm Hg
Ultrapure Plasmid Mini Prep Extraction	-200~-300	-150~-225
High Purity Plasmid Mini Prep Extraction	-40~-200	-30~-150
Conventional Plasmids Mini Prep Extraction	-200~-300	-150~-225
PCR Product purification	-100~-600	-75~-450
RNA Mini Prep Extraction	-800~-900	-600~-675

Ordering Information

Cat. #	Description	Qty.
SPEMFP01-E	Portable Oil-Free Vacuum Pump, ultimate pressure 0.08 MPa	1 Set/Carton
SPEMFP02-E	Adjustable Pressure Vacuum Pump, adjustable pressure: 0.01~0.085 MPa, waste collection bottle included	1 Set/Carton
009802-R-E	Universal Vacuum Manifolds (rose red)	1 Set/Carton
009802-B-E	Universal Vacuum Manifolds (sapphire blue)	1 Set/Carton
009803-R-E	Universal Vacuum Manifolds (rose red, POM, anti-corrosive)	1 Set/Carton
009803-B-E	Universal Vacuum Manifolds (sapphire blue, POM, anti-corrosive)	1 Set/Carton
009804-R-E	Double-Layer Vacuum Manifolds (rose red)	1 Set/Carton
009804-B-E	Double-Layer Vacuum Manifolds (sapphire blue)	1 Set/Carton
009805-R-E	Luer-Inlet Vacuum Manifolds (rose red)	1 Set/Carton
009805-B-E	Luer-Inlet Vacuum Manifolds (sapphire blue)	1 Set/Carton
009606-B-E	Oligo Synthetic special Inlet Vacuum Manifold (sapphire blue)	1 Set/Carton