

Canopy Exhaust Connection To Class II, Type A

3 FT. PURIFIER CONNECTION KIT NO. 36710

4 FT. PURIFIER CONNECTION KIT NO. 36711

6 FT. PURIFIER CONNECTION KIT NO. 36712

INSTRUCTION MANUAL

Product designs are subject to change without notice

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PREFACE

Thank you for displaying confidence in us by selecting a Labconco Canopy Exhaust Connection Kit. Our design engineers, assemblers and inspectors have utilized their skills and years of experience to ensure that the new Labconco Canopy Exhaust Connection Kit meets our high standards of quality and performance.

IMPORTANT NOTICE

This manual should be read carefully by all the end users in order to become familiar with the operation of the Canopy Exhaust Connection Kit. Recommendations are made within the manual to help you obtain maximum performance and life from your product.

We have included sections on initial set up, operation, maintenance and troubleshooting to provide you with all the tools necessary to achieve maximum performance.

If you have questions or concerns, do not hesitate to call us at 1-800-821-5525 for assistance.

Components Shipped

Carefully check the contents of the carton for damage that might have occurred in transit. Do not discard the carton or packaging material until all components have been checked against the following component list and the equipment has been installed and tested.

Model #36710**Part Number****Quantity****Description**

3669903	1	Collar Assembly
3670203	1	Connector Weld Assembly
3670401	1	Damper Weld Assembly
1596903	12	Spacer
1880716	16	Screw, Hex Head, 14-20 x 1 inch
36719	1	This Manual
1910016	16	Washer - Lock, 1/4
1911316	16	Washer - Flat 14

Model #36711**Part Number****Quantity****Description**

3669904	1	Collar Assembly
3670204	1	Connector Weld Assembly
3670401	1	Damper Weld Assembly
1596903	12	Spacer
1880716	16	Screw, Hex Head, 14-20 x 1 inch
36719	1	This Manual
1910016	16	Washer - Lock, 1/4
1911316	16	Washer - Flat 1/4

Model #36712**Part Number****Quantity****Description**

3669905	1	Collar Assembly
3670205	1	Connector Weld Assembly
3670401	1	Damper Weld Assembly
1596903	14	Spacer
1880716	18	Screw, Hex Head, 14-20 x 1 inch
36719	1	This Manual
1910016	18	Washer - Lock, 1/4
1911316	18	Washer - Flat 1/4
15343	1	Duct Reducer - 6 x 8 inches

INTRODUCTION

General Description

The kit contains parts needed to duct the exhaust of your Labconco Purifier outside in a canopy or thimble type manner.

Kit No. 36710 is designed to duct the exhaust of Labconco 3 ft. Biological Safety Cabinets Model No. 36204-00 thru -24, 36205-00 thru -24, and 36601.

Kit No. 36711 will duct 4 ft. Biological Safety Cabinets, Model No. 36208-00 thru -24, 36209-00 thru -24, and 36211-00 thru -07.

Kit No. 36712 will duct 6 ft. Biological Safety Cabinets Model No. 36212-00 thru -24 and, 36213-00 thru -24.

Verify the kit you ordered is the correct one for your model of safety cabinet.

This kit meets the guidelines for exhausting Class II, Type A units outside as described in National Sanitation Foundation International (NSF) Standard 49.

The canopy and exhaust damper should be connected to the exhaust ducting so it can be removed for certification procedures. While it is better to remove the canopy and damper assembly, certification can still be accomplished while only removing the canopy portion and leaving the damper assembly in place. See the Instruction Manual shipped with the Purifier Cabinet for information concerning the cabinet installation.

For installations where the canopy and exhaust damper assembly are removable, measure the exhaust air flow as you would for a unit exhausted back into the room. (See Certification Section).

Exhaust System Requirements

Included in this kit is an exhaust canopy with control damper. The control damper is sized to connect directly to 6" round PVC ducting. The kit for 6 foot wide units (#36712) is sized to fit 8" PVC duct. The canopy exhaust system allows connection to an individual (dedicated) exhaust system or a common (ganged) exhaust system. An exhaust system of a capacity equal or greater than the exhaust volume recommended for your cabinet (See Airflow Table) with a static pressure rating equal to or greater than your duct requirements plus .2 inch water gauge is required. The exhaust system should be equipped with a backdraft damper.

The blower which Labconco recommends to individually exhaust any of the three kits is Model 36680. This is a blower and backdraft damper combination with the following specifications:

Motor - 1/4 H.P., 115V, 60 Hz, 1 Phase, 4.4 Full Load Amps.

Airflow Rating - Maximum unit requirement (See Airflow Data Table).
+ 100 ft. equivalent duct

Inlet - 10" Round PVC
Outlet - 8" Round PVC

For installations with greater than 100 equivalent feet, contact Labconco's Product Service Department (800) 821-5525 or (816) 333-881 for assistance.

INSTALLATION

AIRFLOW DATA TABLE

Cabinet Model	Description	Velocity	Sash	Average	Exhaust	Exhaust
		Profile	Opening	Face	Volume	Volume
		(FPM)	(Sq. Ft.)	Velocity	Cabinet	Thimble
				(FPM)	Only	Duct
					(CFM)	(CFM)
36204-00 Thru -24	3' x 10" Sash Opening	75-85	2.52	75-85	189-214	211-240
36205-00 Thru -24	2' x 8" Sash Opening	75-85	2.01	100-110	201-221	223-247
36208-00 Thru -24	4' x 10" Sash Opening	75-83	3.35	77-85	258-285	284-316
36209-00 Thru -24	4' x 8" Sash Opening	75-85	2.68	100-110	268-295	294-326
36211-00 Thru -07	4' x 10" Sash Opening	75-85	3.35	75-85	251-285	277-316
36212-00 Thru -24	6' x 10" Sash Opening	79-85	5.02	81-85	407-427	437-463
36213-00 Thru -24	6' x 8" Sash Opening	76-85	4.01	104-110	417-441	447-477
36601	3' x 10" Sash Opening	75-85	2.52	75-85	189-214	211-240

Steps Required To Install Canopy (Or Thimble) Exhaust Connection To Type A Purifier Cabinets

- (1) Remove the (4) screws holding exhaust filter cover and discard cover. See Figure 1 on page 6.
- (2) Slip collar over cabinet flange and use same (4 screws) to secure collar in place. See Figure 2 on page 7.
- (3) Attach damper to damper connector using (4) flat washers, (4) lock washers and (4) 1/4-20 x 1 inch along screws. See Figure 2.
- (4) Place spacers between damper connector and collar. Attach damper connector to collar using remaining flat washers, lock washers and screws. (NOTE: Attach with hand quadrant facing front of cabinet.) See Figure 2.
- (5) Connect roof mounted blower package to Purifier using 6 inch diameter thermoplastic duct for 3 ft. and 4 ft. models. Use 8 inch diameter thermoplastic duct for 6 ft. model Purifiers. See Figure 3 on page 8.

NOTE: An optional roof mounted blower package is available by ordering Labconco Part No. 36680.

INSTALLATION

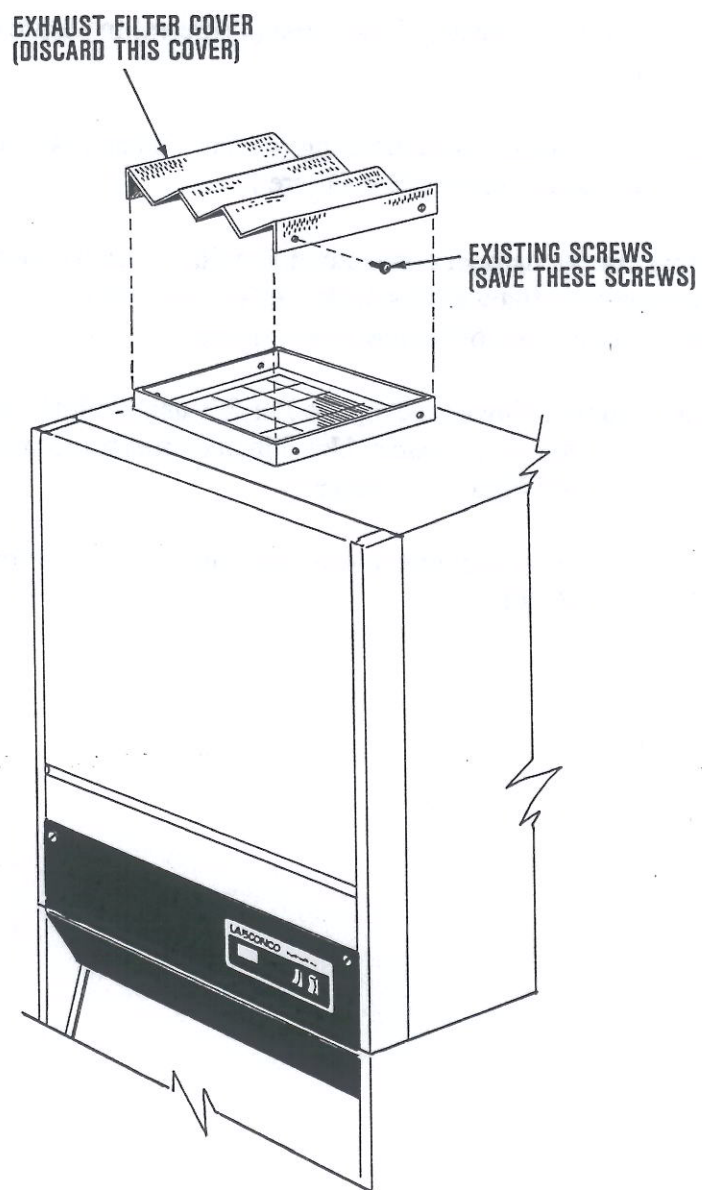


Figure 1

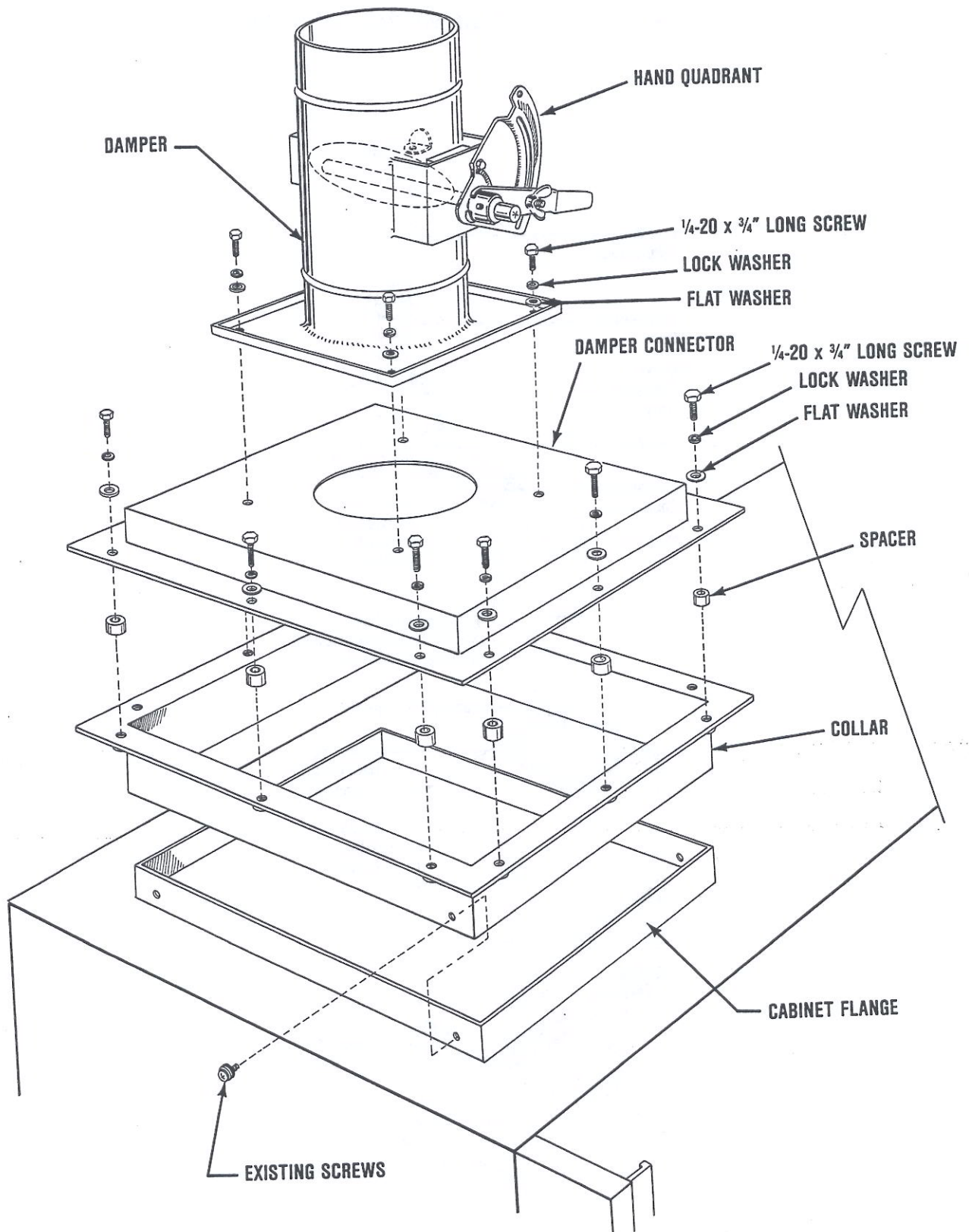


Figure 2

TYPICAL EXHAUST REMOVAL SYSTEM

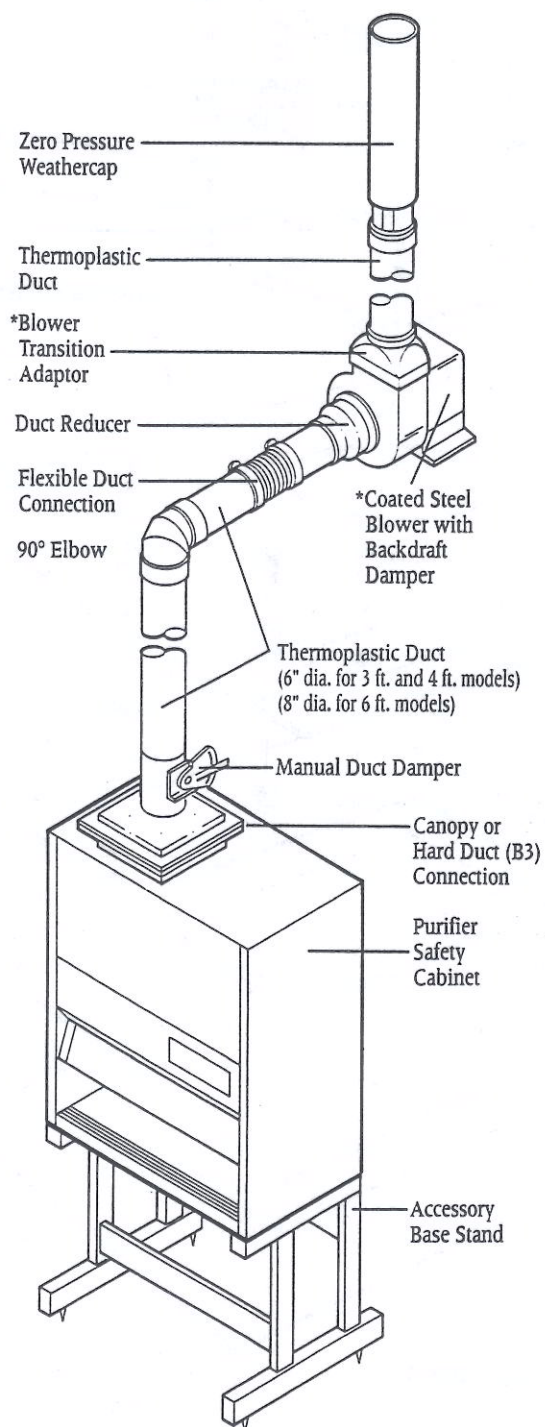


Figure 3

Airflow Measurement and Balancing

Balancing of the airflows in the cabinet is fully accomplished by the cabinet's integral motor(s)/blower(s) speed control and balance damper. The exhaust system should be considered a separate system distinct from the unit. We recommend the canopy and exhaust damper assembly be removed when measuring the exhaust airflow.

The speed control and cabinet balance damper are located behind the front dress panel of the unit. Changing the cabinet balance damper and/or speed control results in changes to face and supply airflows. Both airflows must be checked after adjustments are made.

Velocity Profile and Supply Volume Measurement

Both velocity profile and supply volume airflow measurements should be performed according to NSF Standard 49 recommended procedures for uniform downflow cabinets. A grid indicating the correct locations for the velocity profile measurements is supplied with the cabinet.

The downflow velocities should be as specified in the Airflow Table on page 4.

Face Airflow Measurement

The Type A cabinet requires an indirect method to establish airflows. The exhaust airflow volume above the exhaust filter must be measured in accordance with NSF Standard 49. Multiplying the average exhaust velocity in feet per minute (FPM), by the open area of the exhaust HEPA filter in square feet (sq. ft.) yields the exhaust volume in cubic feet per minute (CFM). From this measurement the average face velocity is calculated by dividing the exhaust volume by the sash opening area in square feet, (sq. ft.). The average face velocity should be as specified in the Airflow Table.

After airflows for the cabinet have been established, install the thimble canopy exhaust damper and ducting to the unit. The airflows in the duct are greater than the exhaust airflows of just the cabinet. This is so exhaust air from the cabinet and air from the room both enter the thimble canopy and are exhausted.

The airflows in the exhaust duct can be established two ways:

- (1) Open the exhaust damper until 100 to 120 FPM airflows averages are measured in the airflow slots around the thimble.
 - (2) Measure the airflow volume in the duct in accordance with Heating, Refrigerating and Air Conditioning Engineers (ASRAE) recommended procedures. It should correspond to the airflow listed in the Airflow Table.
- For installations where the exhaust damper assembly cannot be removed, the

CERTIFICATION

For installations where the exhaust damper assembly cannot be removed, the exhaust airflow can be measured with the canopy in place. The airflow volume in the exhaust duct (total volume) must be measured in accordance with the American Society of Heating, Refrigerating and Air Condition Engineers (ASHRAE). The volume of air entering through the gap of the canopy connection must be measured and subtracted from the total volume of airflow in the exhaust duct (cabinet exhaust volume). The average face velocity is calculated by dividing the cabinet exhaust volume (CFM) by the sash opening area (sq. ft). The average face velocity should be as specified in the AirFlow Table.

To measure the volume of air entering the canopy connection, the velocity of airflow at the gap of the canopy must be measured in 4 inch increments around the periphery of the canopy. Total all the velocities and divide by the number of velocities to obtain the average. Measure the width of the gap in the canopy and multiply by the measured periphery length, convert to square feet and multiply by the average velocity to obtain the volume of airflow entering the canopy connection. (CFM).

Proper canopy operation may be confirmed by generating smoke near the gap in the connector. If properly set, the smoke should be drawn directly into the gap and exhausted out.

Decontamination

Before decontamination, turn off the cabinet and exhaust blowers. Remove the canopy and seal the exhaust opening and the lower front half of the unit. Follow decontamination procedures as recommended by NSF Standard 49 or in the NIH booklet Formaldehyde Decontamination Of Laminar Flow Biological Safety Cabinets, available from either the NIH or Labconco.

For installations where the canopy cannot be removed, seal the airflow gap with duct tape and move the exhaust damper to the "Closed" position.

Filter Leak Testing

When performing filter leak testing, the supply and exhaust filters must be scanned according to filter leak test procedures as recommended by NSF Standard 49. Remove the canopy and exhaust damper assembly to permit scanning of the exhaust filter.

When testing of the upstream DOP (or equivalent) concentration is required, use DOP concentration port located on the top of the unit near the front corner of the exhaust filter. A 3/8" pipe plug requiring a 5/16" allen wrench for removal is located beneath the 1-1/4" pipe plug. Removing both fittings gains access to the positive pressure filter plenums.

CAUTION: Decontaminate the cabinet before opening the DOP concentration port.

SHIPPING CLAIMS

If a shipment is received in visibly damaged condition be certain to make a notation on the delivering carrier's receipt and have his agent confirm the damage on your receipt. Otherwise, the damage claim may be refused.

If concealed damage or pilferage is discovered, notify the carrier immediately and retain the entire shipment intact for inspection. Interstate Commerce Commission rules require that the claim be filed with the carrier within 15 days after delivery.

NOTE: Do not return goods. Goods returned without prior authorization will not be accepted. Labconco Corporation and its dealers are not responsible for shipping damage. Claims must be filed directly with the freight carrier by the recipient. If authorization has been received to return this product, by accepting this approval, the user assumes all responsibility and liability for biological and chemical decontamination and cleansing. Labconco reserves the right to refuse delivery of any products which do not appear to have been properly cleaned and/or decontaminated prior to return.

technical assistance
(800) 821-5525
Standard Time

*Need Assistance? Our experts can be reached between
the hours of 7:00 AM and 6:00 PM CST.*

eed
ier
Central

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NOTES
