

Vacuum Pump Selection Guide



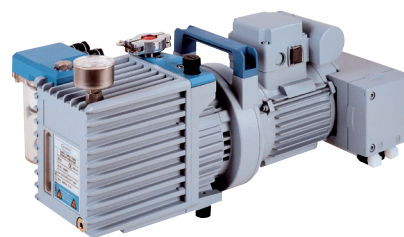
Vacuum Pumps

Features & Benefits



Scroll Vacuum Pump

- Designed for use with acids below 20% concentration and solvents including acetonitrile
- Two spiral scrolls compress air and vapors to move them toward the exhaust
- Oil-free design eliminates the use of hydrocarbons
- Ultimate vacuum (partial pressure) 7×10^{-3} mBar (5.3 micron) or 2×10^{-2} mBar (15 micron)



VACUUBRAND HYBRID* Vacuum Pump

- Designed for use with acids and other harsh chemicals including TFA, TFA by-products, acetonitrile, HBe and HNO_3 present in samples such as HPLC-prepared and peptide purified materials
- Comprised of a two-stage rotary vane pump and two-stage, chemical-resistant diaphragm pump. Provides a deep vacuum required for quality freeze drying and evaporation with superior solvent and acid handling capabilities
- Ultimate vacuum (partial pressure) 2×10^{-3} mBar (1.5 micron)



Welch Chemically Resistant Rotary Vane Vacuum Pump

- Designed for use with harsh chemicals such as TFA, acetonitrile, HBr, and others
- System includes continuous acid neutralization and oil filtration, extending the service interval of the pump
- Large oil chamber slows oil breakdown within pump
- Ultimate vacuum 2×10^{-3} mBar (1.5 micron)



Rotary Vane Vacuum Pump

- Designed for use with aqueous samples
- Single phase direct drive motor, totally enclosed and fan cooled. Should the motor overheat, the thermal overload device switches off the pump. When the pump cools down, the motor automatically restarts
- Ultimate vacuum (total pressure) 2×10^{-3} mBar (1.5 micron)



VACCUBRAND* Diaphragm Vacuum Pump

- PTFE-corrosion resistant
- Designed for corrosive applications
- For evaporation products only
- Wetted parts are PTFE-coated for corrosion resistance
- Ultimate vacuum (total pressure) <7 or <2 mBar



Diaphragm Vacuum Pump for Drying Train

- PTFE-corrosion resistant
- For use in drying train circulation in Labconco glove boxes
- Displacement capacities range from 27 to 88 liters per minute
- Ultimate vacuum (total pressure) of 206 mBar

*VACUUBRAND™ and VACUUBRAND HYBRID™ are trademarks of VACUUBRAND GMBH + CO KG.

Vacuum Pumps

Specifications

Scroll models feature:

- Designed for use with acids below 20% concentration and solvents including acetonitrile
- Compatible with Labconco Freeze Dryers and Dry Evaporation Systems
- Ultimate vacuum (partial pressure) 7 x 10⁻³ mBar (5.3 micron) for 7587000
- Ultimate vacuum (partial pressure) 2 x 10⁻² mBar (15 micron) for 7587100
- Low maintenance, longer lasting. Since these dry pumps do not require oil, lifetime operation costs are lower and less maintenance is needed compared to oil pumps
- Two spiral scrolls compress air and vapors to move them toward the exhaust
- Environmentally friendly. Oil-free design has no hydrocarbons
- Vacuum without contamination. Lubricant-free within the vacuum envelope and hermetically sealed environment renders a totally clean and dry vacuum to prevent cross contamination
- Advanced scroll-form and tip-seal technologies deliver best-in-class vacuum performance and ultimate vacuum levels
- Unique tip seal design significantly reduces wear to minimize maintenance and extend service life
- Quiet operation of <52 dB(A) for minimal environmental impact
- 1/2" and 3/4" OD inlet adapter
- Overall dimensions: 20.0" w x 12.0" d x 15.0" h
- Shipping weight: 59 lbs. (27 kg)
- Include power switch, power cord and plug

VACUUBRAND HYBRID* models feature:

- Compatible with Labconco Freeze Dryers and Centrifugal Concentrators
- Ultimate vacuum (partial pressure) 2 x 10⁻³ mBar (1.5 micron)
- Comprised of a two-stage rotary vane pump and two-stage, chemical-resistant diaphragm pump
- Lower maintenance, longer lasting. The diaphragm pump, made of PTFE and other chemical-resistant fluoropolymer components evacuates the oil reservoir, freeing it from corrosive gases and vapors, thus extending the life of the oil and ultimately the life of the pump
- Environmentally friendly. Pump oil lasts up to 10 times longer than in conventional rotary vane pumps under virtually all conditions. Fewer oil changes conserves resources
- Pressure control valve compensates for the different volumes displaced by the two pumps
- Glass separator captures downstream condensate vapors
- Lifting handle
- 1/2" and 3/4" OD inlet adapter
- Overall dimensions: 20.0" w x 12.0" d x 9.1" h
- Shipping weight: 66 lbs. (30 kg)
- Includes one (1) one-liter bottle of vacuum pump oil, power switch, power cord and plug

Chemically resistant rotary vane models feature:

- Compatible with Labconco Freeze Dryers, Centrifugal Concentrators and Controlled Atmosphere Glove Boxes
- Ultimate vacuum (total pressure) 2 x 10⁻³ mBar (1.5 micron)
- Continuous acid neutralization and oil filtration, extending the service interval of the pump
- Large oil chamber to slow oil breakdown within the pump
- Overall dimensions: 11.1" w x 18.2" d x 9.2" h
- Shipping weight of 61.6 lbs. (27.9kg)
- Include two (2) one-liter bottles of gold vacuum pump oil, one (1) oil mist filter, and one (1) 3/4" hose adapter

Rotary vane models feature:

- Compatible with Labconco Freeze Dryers, Centrifugal Concentrators and Controlled Atmosphere Glove Boxes
- Ultimate vacuum (total pressure) 2 x 10⁻³ mBar (1.5 micron)
- On/off switch. Two inlet adapters (1/2" and 3/4" OD). Cast aluminum casing and rubber feet
- Mode selector with two positions: High Vacuum and High Throughput
- Gas ballast with three positions: Closed, Low Flow and High Flow
- Isolation valve seals the inlet to prevent oil and air contamination of the system in the event of power failure
- Retractable lifting handle (models: 1472100 and 7739402)
- Lifting bracket (models: 1467700 and 7739403)
- Overall dimensions: 6.5" w x 17.0" d x 10.4" h
- Shipping weight:
 - 62 lbs. (28 kg) (models: 1472100 and 7739402)
 - 65 lbs. (30 kg) (models: 1467700 and 7739403)
- Include four (4) one-liter bottles of vacuum pump oil and one (1) exhaust filter with oil mist and odor filter elements

Diaphragm models feature:

- Designed for corrosive applications Compatible with Labconco Centrifugal Concentrators, Evaporation Systems, and Controlled Atmosphere Glove Boxes
- Ultimate vacuum (total pressure):
 - <7 mBar models 7359020 and 7359030
 - <2 mBar models 7393000 and 7393001
 - <206 mBar models 5248200 and 5248201
- On/off switch. Inlet adapter(s):
 - (1/2", 3/4" OD) for 7359020, 7359030, 7393000, and 7393001
 - (1/4" OD) for models 5248200 and 5248201
- Wetted parts are PTFE-coated for corrosion resistance
- Overall dimensions:
 - 9.6" w x 8.3" d x 7.8" h (models: 7359020 and 7359030)
 - 9.1" w x 15" d x 6.7" h (models: 7393000 and 7393001)
 - 4.8" w x 8.0" d x 7.0" h (models: 5248200 and 5248201)
- Shipping weight: 38 lbs. (15 kg) (models: 7359020 and 7359030)
- Shipping weight: 40 lbs. (18 kg) (7393000 and 7393001)
- Shipping weight: 11 lbs. (5 kg) (5248200 and 5248201)
- Includes power cord and plug

Vacuum Pumps

Selection Guide

Centrifugal Vacuum Concentrators




Centrivap Systems

Model	Application	Sample Type	Pump Type	Recommended Pump		Recommended Trap
				115 Volts	230 Volts	
	Evaporation	Any, Small Volumes	Small Diaphragm	7359020	7359030	Mechanical cold & chemical traps included
		Any, Large Volumes	Large Diaphragm	7393000	7393001	
	Evaporation or Lyophilization	Water	Small Rotary Vane	1472100	7739402	
		Acids & Solvents	Hybrid	7584000	7584002	
			CR Rotary Vane	7584500	7584501	
			Scroll	7587100	7587100	
	Evaporation	Any, Small Volumes	Small Diaphragm	7359020	7359030	Glass trap
		Any, Large Volumes	Large Diaphragm	7393000	7393001	
	Evaporation or Lyophilization	Water	Small Rotary Vane	1472100	7739402	Mechanical cold trap required
		Acids & Solvents	Hybrid	7584000	7584002	Mechanical cold and glass traps required
			Scroll	7587100	7587100	



Benchtop, Refrigerated, or Acid




Dry Evaporators

Model	Application	Sample Type	Pump Type	Recommended Pump		Recommended Trap	
				115 Volts	230 Volts		
	Vacuum	Evaporation	Any	Large Diaphragm	7393000	7393001	Trapping Valve 7348000 is required with mechanical cold trap


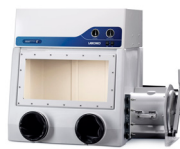
Vacuum Pumps

Selection Guide

Freeze Dryers

	Model	Application	Sample Type	Pump Type	Recommended Pump	
					115 Volts	230 Volts
	Benchtop 2.5, 4.5, 6 & 8 Liter or Dry Ice	Lyophilization	Water	Small Rotary Vane	1472100	7739402
			Acids & Solvents	Hybrid	7584000	7584002
				CR Rotary Vane	7584500	7584501
				Scroll	7587100	7587100
	Console 6, 12 & 18 Liter	Lyophilization	Water	Rotary Vane	1467700	7739403
			Acids & Solvents	Hybrid	7584000	7584002
				CR Rotary Vane	7584500	7584501
				Scroll	7587000	7587000
	Console 6, 12 & 18 Liter with Bulk Tray Dryer, Stoppering Tray Dryer, or Tall Clear Chamber	Lyophilization	Water	Large Rotary Vane		7739403
			Acids & Solvents	CR Rotary Vane	7584500	7584501
				Scroll	7587000	7587000
	Triad	Lyophilization	Water	Rotary Vane		7739403
			Acids & Solvents	Hybrid		7584002
				CR Rotary Vane		7584501
				Scroll		7587000
						7587100

Glove Boxes

	Model	Application	Sample Type	Pump Type	Recommended Pump	
					115 Volts	230 Volts
	Controlled Atmosphere	Atmosphere Control	Any	Small Rotary Vane	1472100	7739400 Manual Use
						7739402 Automatic Use
				CR Rotary Vane	7584500	7584501
				Scroll	7587100	7587100
		Drying Train Moisture & Oxygen Removal	Any	Diaphragm for Drying Train	5248200	5248201

Vacuum Pumps

Ordering Information



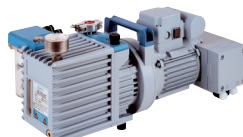
Rotary Vane Vacuum Pump

Catalog Number	Electrical Configuration	Ultimate Vacuum (Partial Pressure)	Displacement at 60 Hz L/min	Vacuum Outlet	Shipping Weight
1472100	115V, 50/60 Hz, 4.6A	2 x 10 ⁻³ mBar (1.5 micron)	117	1/2" or 3/4" OD	62 lbs. (28 kg)
7739402*	230V, 50/60 Hz, 2.4A	2 x 10 ⁻³ mBar (1.5 micron)	117	1/2" or 3/4" OD	62 lbs. (28 kg)
1467700	115V, 50/60 Hz, 7.8A	2 x 10 ⁻³ mBar (1.5 micron)	195	1/2" or 3/4" OD	65 lbs. (30 kg)
7739403*	230V, 50/60 Hz, 4.0A	2 x 10 ⁻³ mBar (1.5 micron)	195	1/2" or 3/4" OD	65 lbs. (30 kg)



Welch Chemically Resistant Rotary Vane Vacuum Pump

Catalog Number	Electrical Configuration	Ultimate Vacuum (Partial Pressure)	Displacement at 60 Hz L/min	Vacuum Outlet	Shipping Weight
7584500	115V, 60Hz	2 x 10 ⁻³ mBar (1.5 micron)	158	3/4" OD	61.6 lbs (27.9 kg)
7584501	230V, 50/60Hz	2 x 10 ⁻³ mBar (1.5 micron)	158	3/4" OD	61.6 lbs (27.9 kg)



VACUUBRAND HYBRID** Vacuum Pump

Catalog Number	Electrical Configuration	Ultimate Vacuum (Partial Pressure)	Displacement at 60 Hz L/min	Vacuum Outlet	Shipping Weight
7584000	115V, 50/60 Hz, 5.7A	2 x 10 ⁻³ mBar (1.5 micron)	115	3/4" OD	66 lbs. (30 kg)
7584002*	230V, 50/60 Hz, 2.7A	2 x 10 ⁻³ mBar (1.5 micron)	115	3/4" OD	66 lbs. (30 kg)



Scroll Vacuum Pump

Catalog Number	Electrical Configuration	Ultimate Vacuum (Partial Pressure)	Displacement at 60 Hz L/min	Vacuum Outlet	Shipping Weight
7587000	115/230V, 50/60 Hz, 10/6A (Includes NEMA 5-15P and reverse IEC)	7 x 10 ⁻³ mBar (5.3 micron)	190	3/4" OD	59 lbs. (27 kg)
7587100	115/230V, 50/60 Hz, 10/6A (Includes NEMA 5-15P and reverse IEC)	2 x 10 ⁻² mBar (15 micron)	103	3/4" OD	59 lbs. (27 kg)



VACUUBRAND** Diaphragm Vacuum Pump

Catalog Number	Electrical Configuration	Vacuum	Displacement at 60 Hz L/min	Vacuum Outlet	Shipping Weight
7359020	115V, 50/60 Hz, 3.4A	7 mBar	38	1/2" OD	38 lbs. (15 kg)
7359030	230V, 50/60 Hz, 1.8A	7 mBar	38	1/2" OD	38 lbs. (15 kg)
7393000	115V, 60 Hz, 4.0A	1.5 mBar	63	1/2" OD	40 lbs. (18 kg)
7393001	230V, 50/60 Hz, 3.0A	1.5 mBar	63	1/2" OD	40 lbs. (18 kg)



Diaphragm Vacuum Pump for Glove Box Drying Train

Catalog Number	Electrical Configuration	Ultimate Vacuum (Partial Pressure)	Displacement at 60 Hz L/min	Vacuum Outlet	Shipping Weight
5248200	115V, 60Hz, 3.3A	206 mBar	42	1/4" OD	11 lbs (5 kg)
5248201	230V, 50Hz, 1.5A	206 mBar	63	1/4" OD	11 lbs (5 kg)

*Has reverse IEC plug

**VACUUBRAND HYBRID™ is a trademark of VACUUBRAND GMBH + CO KG.

Vacuum Pump Accessories

Ordering Information

Rotary Vane and Combination



1472200—Inlet Filter. For rotary vane pumps 1472100, 7739400, 7739402, 1467700, 7739401 and 7739403. Prevents backstreaming and protects the pump from submicron particle damage. Includes filter assembly and one filter cartridge. Life is approximately 1000 hours at 1.33×10^{-2} mBar (10 microns) vacuum. Shipping weight 1.0 lb. (0.5 kg)



7584300—VACUUBRAND B-Oil.** One liter. Replacement for combination pumps 7584000 and 7584002. Shipping weight 2.0 lbs. (0.9 kg)



7541300—Vacuum Pump Oil. One gallon (3.8 L) synthetic hydrocarbon oil. Shipping weight 12 lbs. (5 kg)

1473500—Oil Return Kit. Allows extended operation of the pump with the ballast open and helps to keep oil purged of contaminants. Consists of a stainless steel cylinder and tubing with clamp. When the excess oil collects in the filter, it is directed back to the pump to conserve oil. Shipping weight 0.5 lb. (0.2 kg)

Vacuum Pump Oil. Hydro-treated paraffinic hydrocarbon replacement oil. For rotary vane pumps 1472100, 7739400, 7739402, 1467700, 7739401 and 7739403.

1988000—One liter. Shipping weight 2.0 lbs. (0.9 kg)

1988001—One gallon (3.8 L). Shipping weight 12 lbs. (5 kg)

7772700—Gold Vacuum Pump Oil. One liter. Replacement vacuum pump oil for Welch Chemically Resistant Rotary Vane Vacuum Pump (7584500 and 7584501). Shipping weight 2.0 lbs. (0.9 kg)

7584600—Alumina Filter Element for Oil Sump. Replacement alumina filter element for Welch Chemically Resistant Rotary Vane Vacuum Pump (7584500 and 7584501). Shipping weight 1.0 lb. (0.5 kg)



1472500—Replacement Inlet Filter Cartridge. For 1472200. Shipping weight 0.5 lb. (0.2 kg)



1473400—Replacement Exhaust Filter. For rotary vane pumps 1472100, 7739400, 7739402, 1467700, 7739401 and 7739403. Removes oil mist and odor from pump exhaust. Ducting to outside not required. Includes filter assembly, one oil mist filter cartridge and one odor filter cartridge. Oil mist filter cartridge life is approximately one year and odor filter cartridge life is approximately six months at 1.33×10^{-2} mBar (10 microns) vacuum. Shipping weight 1.0 lb. (0.5 kg)



1473200—Replacement Oil Mist Exhaust Filter Cartridge. For 1473400. Life is approximately one year at 1.33×10^{-2} mBar (10 microns) vacuum. Shipping weight 0.5 lb. (0.2 kg)



1473300—Replacement Odor Exhaust Filter Cartridge. For 1473400. Life is approximately one year at 1.33×10^{-2} mBar (10 microns) vacuum. Package of five. Shipping weight 0.5 lb. (0.2 kg)

Scroll

7587300—Pump Silencer. Filters exhaust while silencing exhaust pump noise. Includes filter, centering ring and clamp to attach to exhaust outlet. Shipping weight 2.0 lbs. (0.9 kg)

7587400—Pump Silencer Replacement Filter. For 7587300. Shipping weight 2.0 lbs. (0.9 kg)

7587200—Tip Seal Replacement Kit. Includes two tip seals, two o-rings, exhaust valve and spring and other small components. Shipping weight 2.0 lbs. (0.9 kg)

7587500—Bearing Replacement Service Kit. Includes contact bearings, shaft end cap, washers, screws, plugs and o-rings. Shipping weight 2.0 lbs. (0.9 kg)

**Visit labconco.com to request information
for all Labconco products.**

LABCONCO CORPORATION

8811 Prospect Avenue
Kansas City, MO 64132

(800) 821-5525 | (816) 333-8811

labconco.com

©2023 LABCONCO CORPORATION

Printed in the U.S.A.

Product design subject to change without notice.

3-25-10/29/2024

