

ONE SOURCE. INFINITE SOLUTIONS.®

# Vacuum Pumps

 **Fisher Scientific**

Part of Thermo Fisher Scientific

**Application Specific Vacuum Pump Selection Guide and Brochure:**

For filtration, degassing, desiccation, distillation, concentration, drying...

Precisely tuned to your laboratory applications.



Fisher Scientific presents:

**Mr. Blue**



# Fisher Scientific Vacuum Pumps

## Pump Selection and Application Guide

### Perfectly tuned for

- Filtration
- Degassing
- Desiccation
- Distillation
- Concentration
- Drying

**Innovative Technology:** Fisher Scientific vacuum pumps combine high tech materials with outstanding engineering to provide:

- Long lifetime
- Low consumption
- Small footprint
- Reduced noise level

**For Multiple Apps:** Fisher Scientific vacuum pumps are designed to fit most laboratory applications, both routine and research.

- High pumping speed
- Wide ultimate vacuum range
- Excellent chemical resistance
- Minimum maintenance

**Fisher Scientific** vacuum pumps combine high tech materials with outstanding engineering. They are designed to fit most laboratory applications, both routine and research. When choosing a vacuum pump, consider application, sample composition and operating parameters.

### Chemistry Applications

All pump materials must resist vapors from the application. Choose a pump that can achieve the necessary ultimate pressure in five minutes or less.

Evaporative procedures that provide significant continuous vapor loads require a pump with substantial pumping speed. Less vacuum is needed for filtration or evaporation of volatile substances.



### Life Science Applications

Most Life Science vacuum applications generate aqueous vapors. Choose a general duty vacuum pump if chemical resistance is not needed.

See our dedicated Life Science brochure to choose the appropriate general duty pumps and aspiration/filtration stations for your application needs.



### Quick Vacuum Pump/System Selection Guide

Application		FB70155	FB65499	FB65452	FB65453	FB65454	FB65500	FB65458	FB65459	FB65460	FB65461	FB65464	see page
Operating vacuum range	Pressure above atmospheric	X	X										3
	Vacuum to 292 mbar	X											4
	Vacuum to 100 mbar		X										4
	Vacuum to 8 mbar			X	X		X						6
	Vacuum to 2 mbar					X							6
	Vacuum to 10 <sup>2</sup> mbar							X					10
	Vacuum to 10 <sup>3</sup> mbar								X	X	X	X	10

Mr. Blue says...

Our goal is to help you select vacuum technology that suits your laboratory needs. If you require assistance in your product selection process, please see the back cover for your specific Fisher representative. Working in consultation with our supply partners, your Fisher Scientific representative will be pleased to assist you.




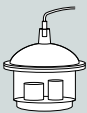

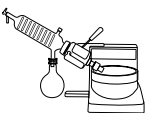

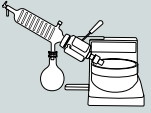

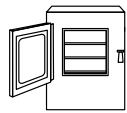



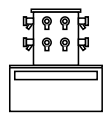

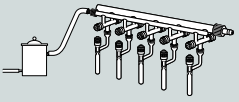



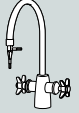


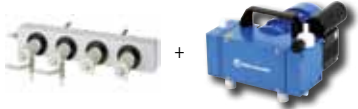


# Fisher Scientific Vacuum Pumps

Quick Selection Chart for common Lab Applications

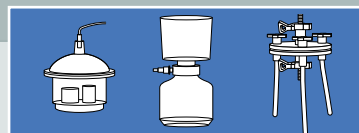


Find the correct vacuum pump/system to address your application needs. The Fisher Scientific product line offers a wide range of vacuum pumps – each expertly designed for optimum function in your application.

Application	Fisher Scientific Pumps & Systems	Pumping Speed X Vacuum	Model
<b>General Vacuum Work</b>	Dry running pump, compact and portable	38L/min 8 mbar	 <b>FB65453</b>
<b>Vacuum/Pressure Filtration</b> Glass Filtration Assemblies	 Vacuum or pressure capability	15L/min 100 mbar	 <b>FB65499</b>
<b>Degassing, Dessication, Solvent Degasification</b>	 Compact, portable and maintenance-free	15L/min 100 mbar	 <b>FB65499</b>
<b>Rotary Evaporator</b> Volatiles, Low B.P. B.P. <100°C Samples 0-5 Liter	 Powerful with optional vacuum regulation	38L/min 8 mbar	 <b>FB65453</b>
<b>Rotary Evaporator</b> Volatiles, Low B.P. B.P. <100°C Samples 0-1 Liter	 System with vacuum control package and solvent recovery	16L/min 8 mbar	 <b>FB65500</b>
<b>Vacuum Oven</b> Drying Degassing	 Aqueous, acidic or basic samples	36L/min 8 mbar	 <b>FB65453</b>
<b>Vacuum Concentrator</b>	 Minimum maintenance	36L/min 2 mbar	 <b>FB65454</b> <b>FB65459</b>
	With cold trap	77L/min 2x10 <sup>-3</sup> mbar	
<b>Freeze Dryer</b> Lyophilizing	 Direct driven pump	97L/min 2x10 <sup>-3</sup> mbar	 <b>FB65459</b>
<b>Vacuum Manifold</b> Schlenk Line	 Compact Vacuum pump	97L/min 2x10 <sup>-3</sup> mbar	 <b>FB65459</b>
<b>Gel Dryer</b>	 Excellent chemical compatible	16L/min 8 mbar	 <b>FB65500</b>
<b>Replace Water Jet Pumps</b>	 Dry running pump, portable and compact	38L/min 8 mbar	 <b>FB65453</b>
<b>Replace House Vacuum Ports</b> Replacing up to 4 ports	 Multi-user vacuum line for vacuum on demand	38L/min 8 mbar	 <b>FB65453</b>

# Fisher Scientific Vacuum Pumps

## General Duty Vacuum Pumps



Fisher Scientific oil-free piston pumps and diaphragm pumps for a variety of applications such as filtration of low volumes, degassing, gas transfer and sampling.

### Piston Pump - FB70155

The FB70155 piston pump is ideal for the basic filtration of non-aggressive solvents.

#### Design Features:

- Lightweight, compact and portable
- Covers most standard applications
- Economically priced but with high performance
- Quick and simple to use due to stylish design

#### Certification:

CE marked



### Diaphragm Pump - FB65499

Simplify your filtration and sampling procedure with Fisher Scientific model FB65499. The oil-free dry pump design provides top performance.

#### Design Features:

- Improved chemical resistance
- Compact, lightweight and portable
- Quiet operation and very low vibration
- Use in the lab or in the field (with optional adapter)

#### Certification:

CE marked



#### Technical Features:

Type	FB70155	FB65499
Pumping Speed @ 50/60Hz	9.2 L/min	15 L/min
Ultimate pressure	< 292 mbar	< 100 mbar
Max. overpressure	2.3 bar	2.5 bar
IN / EX hose connector	hose nozzle DN 6	hose nozzle DN 6, silencer
Sound level @ 50Hz	< 56 db (A)	< 45 db (A)
Motor power	max. 25 W	20 W
Type of protection (motor)	IP 48	IP 44
Weight	2.3 kg	2.0 kg
Overall dimensions (LxWxH)	194/114/191 mm	144/127/196 mm
Ship weight	2.7 kg	3.5 kg
Shipping carton dimensions (LxWxH)	280/180/210 mm	230/170/275 mm

Mr. Blue says...

For a convenient filtration process where you always have the right vacuum, the FB65499 is ideal. FB70155 is not recommended for acid and strong chemical vapors. For a chemical resistant model please see page 6.



#### Ordering Information:

Type	Cat. No.
FB70155, 230V, 50/60 Hz, 1 Ph <sup>1</sup>	<b>FB70155</b>
FB65499, 90-260V, 50/60 Hz <sup>2</sup>	<b>FB65499</b>

1. With Schuko and UK plug leads
2. With AC/DC adapter, Schuko, UK and US power plug adapters

#### Accessories:

Type	Cat. No.
Filtration kit & Dessicator kit - with vacuum hose and in-line filter	<b>404008</b>
Vacuum regulator with dial gauge - for FB65499	<b>700458-02</b>



404008



700458-02

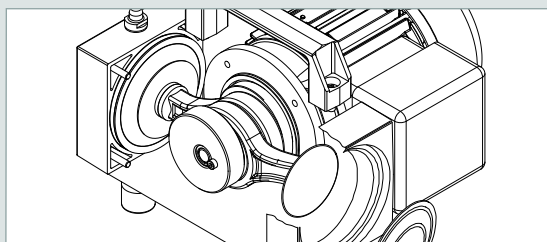
# Fisher Scientific Vacuum Pumps

## Features and Benefits of Chemical Duty Diaphragm Vacuum Pumps

This range of Fisher Scientific diaphragm pumps is chemically resistant, making it ideal for applications involving aggressive solvents and acidic vapors. They are an excellent replacement for rotary vane pumps and water aspirators, especially in rough vacuum applications where corrosive vapors are encountered.

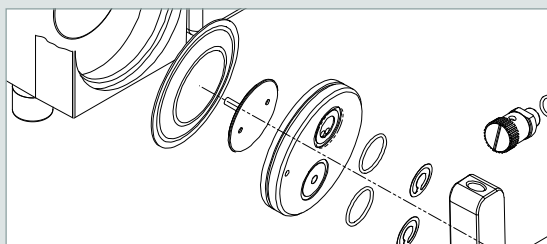
### Design Features

- Pumping speed to 38 l/min
- Ultimate pressure to 2 mbar



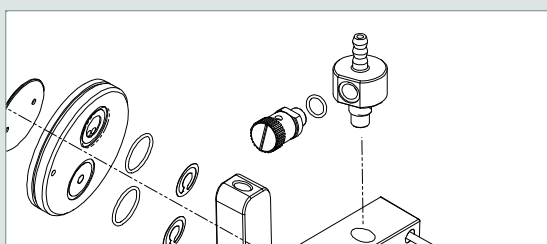
#### Material of Construction

Feature solid PTFE dropped pump heads to handle corrosive and aggressive vapors without damage. Pumping chambers are hermetically separated from the drive space, ensuring extended life of mechanical parts.



#### PTFE Sandwiched Diaphragm

PTFE diaphragms sandwiched to a strong non-wetted backing. PEEK valve have excellent resistance and are extremely hard wearing when compared to elastomer valves.



#### Gas Ballast Valve

Gas ballast valve helps to preserve pump performance when working with condensable vapors

#### Total Cost of Ownership

Lowest cost of ownership, minimal maintenance required and low priced spare parts.

Compact design fits easily on a benchtop or in a fume hood; Setup and disassembly are quick and easy



FB65453

### Pump Selection / Application Chart

Application		FB65452	FB65453	FB65454
Desiccators and pistol drying				
Residual moisture level	Partial drying	X		
	Full drying	X		
Rotary evaporator				
Boiling point of solvent used	Low boiling point	X	X	
	High boiling point (DMF)			X
Centrifugal concentrator				
Boiling point of solvent used	Low boiling point		X	
	High boiling point (DMF)			X
Vacuum oven				
Oven chamber volume	Around 25 liters		X	
	Around 55 liters		X	X

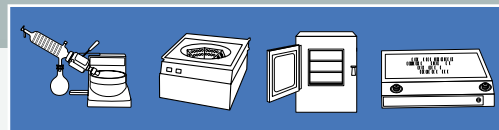
Mr. Blue says...

Use oil-free diaphragm pumps with rotary evaporators, vacuum concentrators, vacuum ovens and filtration devices. They provide high pumping speed coupled with consistent vacuum while eliminating the mess of oil and expense of water.



# Fisher Scientific Vacuum Pumps

## Chemical Duty Diaphragm Vacuum Pumps



Fisher Scientific Diaphragm vacuum pumps are designed for easy use with applications like rotary evaporators, vacuum ovens, filtration devices and for general lab vacuum source.

### Scope of delivery:

Every pump is supplied with ON/OFF switch, carrying handle, vibration isolating feet, DN8 hose nozzle, exhaust silencer and thermal protective switch for the motor. Comes pre-assembled.

### Certification:

CE marked



FB65452



FB65454



FB65453



Mr. Blue says...

Check the pump on a regular basis for unusual running noises and heat building up on the surface of the pump. We recommend replacing parts using the service kit after 10,000 operating hours or less, depending upon the application.

## Technical Features:

Type	FB65452	FB65453	FB65454
Number of heads / stages	2/2	2/2	4/3
Pumping speed @50/60Hz	16/18 L/min	38/41 L/min	33/36 L/min
Ultimate pressure	< 8 mbar	< 8 mbar	< 2 mbar
Max. overpressure	1 bar	1 bar	1 bar
IN / EX hose connector	Hose nozzle DN 8	Hose nozzle DN 8	Hose nozzle DN 8
Sound level	< 44 db (A)	< 44 db (A)	< 44 db (A)
Motor power	60W	180 W	90 W
Type of protection (motor)	IP 54	IP 54	IP 54
Weight	6.5 kg	11.2 kg	10.3 kg
Overall dimensions (LxWxH)	195/235/145 mm	230/265/169 mm	200/260/150 mm
Ship weight	9.0 kg	14.0 kg	13.0 kg
Shipping carton dimensions (LxWxH)	410/260/250 mm	480/320/300 mm	410/260/250 mm

## Ordering Information:

See following page for accessories

Type	Cat. No.	Cat. No.	Cat. No.
230V, 50/60 Hz, 1 Ph <sup>1</sup>	FB65452	FB65453	FB65454
Service kit	402008	402041	402015

1. With Schuko, UK and US plug leads

# Fisher Scientific Vacuum Pumps

Accessories for Chemical Duty Diaphragm Vacuum Pumps and Systems



## Fitting sets for Chemically Resistant Diaphragm Pumps FB65452, FB65453, FB65454:

- Choose the appropriate kit listed below for your specific application needs.

Kit Type	Cat. No.
<b>Kit 1 - Rotary Evaporator Connection Kit</b> - Easy connection of the pump to common rotary evaporators - Connection Kit includes: vacuum hose 18/8x5 (1.5 m), cooling water & chiller connection hose and clamps	112575
<b>Kit 2 - Vacuum Oven Connection Kit for vacuum oven with DN 16 KF or DN 25 KF adapter</b> - For standard vacuum oven connection - Connection Kit includes: hose nozzle DN 16-8, clamping ring, centering ring and vacuum hose 18/8x5 (1.5 m)	404005
<b>Kit 3 - Advanced Vacuum Oven Connection Kit for vacuum oven with DN 16 KF or DN 25 KF adapter</b> - To prevent pump from entering dust, specially recommended for dusty drying processes - Connection Kit includes: hose nozzle DN 16-8, dust filter, clamping ring, centering ring and vacuum hose 18/8x5 (1.5 m)	404006
<b>Kit 4 - Filtration &amp; Dessicator Connection Kit</b> - Connect your manifold easily to the vacuum pump. An inline filter protects liquid from entering the pump. - Connection Kit includes: vacuum hose and hydrophobic in-line filter (DN 8)	404008



112575



404005



404006



404008

Vacuum Hose	Cat. No.
Thick walled hose for vacuum or pressure applications - Rubber red, 18/8x5 mm - sold in 1 meter increments	828310-4



828310-4

## Control Packages for Chemically Resistant Diaphragm Pumps FB65452, FB65453, FB65454:

- Choose the appropriate vacuum control package listed below for your specific application needs.

Vacuum Regulator with Dial Gauge	Cat. No.
- Regulator valve for intake allows the adjustment of the ultimate pressure - Dial gauge indicates the vacuum level. - Air regulator valve mounted directly on the pump.	700458



700458



(Pump FB65453 shown with dial gauge 700458)

Digital Vacuum Control Box VCB 521 cv	Cat. No.
- <b>VCB controls: vacuum – cooling water – venting valve</b> - Timer function for process termination after prespecified time - Solvent library - 38 solvents preprogrammed to simplify parameter selection - Works with most PTFE dry pumps	600053

Programmable vacuum controller VCB 521 cv with a built-in highly resistant ceramic diaphragm sensor for absolute pressure determination. 2 variable independent switch points can be set between 1100-1mbar. Digital display for easy vacuum control; digitally displayed user-friendly operating instructions. Touch function keys stop bumping/foaming or quickly access maximum vacuum.

### Technical Features:

Range	Display	Overall Dimensions (LxWxH)	Voltage
1100-1mbar	4" graphic display & large control knob	195x178x105 mm	90-260V, 50/60Hz <sup>1</sup>

1. With Schuko, UK and US plug leads

### Software Kit for VCB 521 cv

With the Software kit for VCB 521 cv you can network your controller via PC/Laptop. Monitor, control, store and document measuring results. Data acquired can be exported into standard formats and can be analyzed in Excel. The communication between PC and VCB is performed via RS 232 for USB (with optional adapter). The Kit includes Software and connection cable.

620637-01



600053

## Bench-top multiport hub provide vacuum from a single vacuum pump with convenience vacuum regulation

Multi-user Vacuum Line	Cat. No.
Provides vacuum from a single standard or chemical duty vacuum pump for up to 4 users. Replaces central vacuum line, for vacuum down to 2 mbar with manual regulation for easy vacuum adjustment. - With integrated check-valve to minimize interdependence among application and cross contamination - For use in applications like filtration, degassing, distillation and drying - Comes ready installed, for mounting on the bench or wall vacuum connection to pump	700553
<b>Recommended pump model:</b> FB65453 (vacuum to 8mbar), FB65454 (vacuum to 2mbar)	



700553

# Fisher Scientific Vacuum Pumps

Vacuum Systems for Rotary Evaporators



The FB65500 is the perfect system for evaporation and distillation in combination with rotary evaporators and gel dryers. The dry running diaphragm pump and all components coming into contact with vapours are chemically resistant even against acidic, basic and organic solvents

## Design Features

**Vapor recovery system**  
protects lab air quality

**Digital vacuum display**  
for easy and precise vacuum readout

**Vacuum Regulator**  
regulated effective ultimate pressure

**Gas ballast valve**  
helps to preserve pump performance

**Separator/liquid trap**  
protects pump from liquid entering into the pump

**Chemical duty diaphragm pump**  
fast stripping of most common solvents



For accessories, see page 7.

The vacuum system FB65500 is fitted with a powerful chemical duty 2-stage vacuum pump, achieving < 8mbar. It has been specifically designed for wet chemistry applications, such as distillation, evaporation and evacuation of acid and solvent vapours in chemical and pharmaceutical laboratories.

The manual vacuum regulator and digital vacuum gauge provides highly accurate control of the ultimate pressure to prevent bumping and foaming.

An inlet separator prevents particles and liquid droplets from reaching the pump, while the high efficiency emission condenser ensures solvent recovery close to 99%. The condenser can be cooled by tap water or a closed circuit chiller (not included).

Service Kit Cat.No: 402008  
Overall Kit Cat. No: 115526

### Scope of delivery:

Vacuum System is supplied with a chemical duty diaphragm pump (230V, 50/60 Hz 1 Ph), DN 8 hose connector, manual vacuum regulator, digital gauge, solvent trap and plug leads (Schuko and UK). Comes pre-assembled and ready to use.

### Certification:

CE marked

Mr. Blue says...

use a flow control valve to adjust vacuum until bubbles form in the evaporation flask - then back off slightly. Reduce vacuum for fast reaction to bumping and foaming.



## Technical Features/Ordering Information:

Pumping speed @ 50/60Hz	Ultimate pressure	Vacuum control	Vacuum gauge	Weight	Overall Dimensions (LxWxH)	Ship Weight	Shipping Carton Dimensions (LxWxH)	Cat. No.
16/18 L/min	< 8 mbar	manual	digital	11.6 kg	360/310/445 mm	14 kg	540/410/580 mm	FB65500



# Fisher Scientific Vacuum Pumps

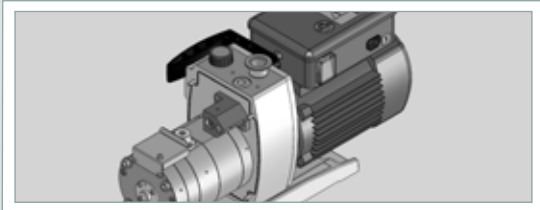
Features and Benefits of Two-Stage Direct Driven Rotary Vane Vacuum Pumps



These two-stage direct driven rotary vane pumps provide a high water vapor tolerance. They are designed for a wide range of laboratory applications and continuous running. The low weight, the small footprint and the high pumping speed, as well as the increased chemical resistance are advantageous features in research and routine processes.

## Design Features

- Pumping speed of 30 to 183 l/min
- Ultimate pressure to  $2 \times 10^{-3}$  mbar



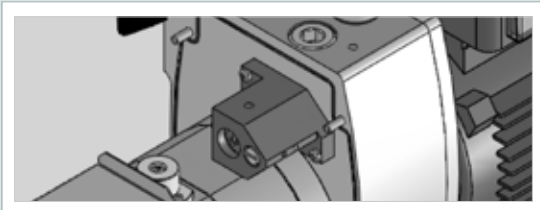
### Technology

Rugged reliable design, combined with low noise level and ease of use, with streamlined access to all control and service features. The pumps are designed for continuous operation.



### High water vapour tolerance

The innovative gas ballast valve and the clear design allow prevention of moisture condensation and high tolerance of water and solvent vapors.



### Anti-suck back valve

The Intake line is vacuum-sealed to protect your application from undesired venting and oil back flow after the pump is turned off.



### Easy oil level monitoring

Vertical Oil side window for monitoring of oil level and oil color. The easy oil drain plug and oil change kit can speed up-oil changes.



## Pump Selection / Application Chart

Application	FB65458	FB65459	FB65460	FB65461	FB65464
Freeze dryer		X			
Ice holding capacity			X	X	X
					X
Vacuum concentrator		X			
High boiling point		X			
Glove box					X
Vacuum manifold / High vacuum distillation	X	X			

Mr. Blue says...

Rotary Vane pumps are not recommended for filtration, or drying which require mostly rough vacuum. These pumps are not designed to operate continuously above 10mbar. A dry ice trap is recommended for vacuum concentrators and vacuum manifolds.



# Fisher Scientific Vacuum Pumps

## Two-Stage Direct Driven Rotary Vane Vacuum Pumps

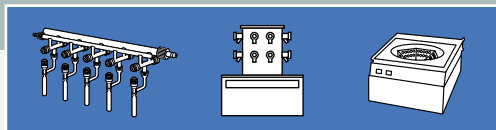
Fisher Scientific Rotary Vane vacuum pumps are designed for easy use with applications like freeze dryers, vacuum concentrators and vacuum manifolds.

### Scope of delivery:

Every pump is supplied complete with anti-suck back valve, gas ballast valve, vacuum oil (Labovac 10), centering ring, clamping ring and motor overload protection. Ready for use after oil filling.

### Certification:

CE marked



FB65459 / FB65460



FB65458



FB65461 / FB65464



Mr. Blue says...

All Fisher Scientific rotary vane pumps are supplied with double distilled Labovac 10 oil. This enables best performance from your pump. Labovac 10 oil has a low vapor pressure and is perfect for general use in all pumps.

Other oils are available for more special applications. Please contact your local Fisher Scientific representative or Technical Support.

### Technical Features:

Type	FB65458	FB65459	FB65460	FB65461	FB65464
Number of stages	2	2	2	2	2
Pumping speed @ 50/60Hz	30/36 L/min	77/92 L/min	97/110 L/min	120/143 L/min	183/220 L/min
Ultimate pressure					
partial abs	< 1x10 <sup>-3</sup> mbar	< 1x10 <sup>-4</sup> mbar	< 1x10 <sup>-4</sup> mbar	< 2x10 <sup>-4</sup> mbar	< 2x10 <sup>-4</sup> mbar
without gas ballast total	< 1 x 10 <sup>-2</sup> mbar	< 2 x 10 <sup>-3</sup> mbar	< 2 x 10 <sup>-3</sup> mbar	< 2 x 10 <sup>-3</sup> mbar	< 2 x 10 <sup>-3</sup> mbar
with gas ballast total	< 0.5 mbar	< 1 x 10 <sup>-2</sup> mbar	< 1 x 10 <sup>-2</sup> mbar	< 1 x 10 <sup>-2</sup> mbar	< 2 x 10 <sup>-2</sup> mbar
Max. allowed intake/exhaust pressure	1 bar	1 bar	1 bar	1 bar	1 bar
IN / EX hose connector	DN 16 KF	DN 16 KF	DN 16 KF	DN 25 KF	DN 25 KF
Sound level	< 48 db (A)	< 49 db (A)	< 49 db (A)	< 49 db (A)	< 49 db (A)
Motor power	120 W		200 W		550 W
Type of motor protection	IP 54		IP 54		IP 54
Water vapor tolerance	33 mbar		60 mbar		35 mbar
Oil capacity	250 ml	530 ml	550 ml	600 ml	1000 ml
Weight	8.0 kg	17.5 kg	19.5 kg	21.5 kg	35.0 kg
Overall dimension (LxWxH)	300/120/150 mm	415/150/235 mm	430/150/235 mm	445/150/235 mm	540/170/260 mm
Ship weight	12.3 kg	22.0 kg	22.0 kg	23.0 kg	36.5 kg
Shipping carton dimensions (LxWxH)	420/270/260 mm	610/210/310 mm	610/210/310 mm	610/210/310 mm	610/210/310 mm

### Ordering Information:

See following page for accessories

Type	Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.
100-120V/200-240V, 50/60 Hz, 1 Ph <sup>1</sup>		FB65459	FB65460	FB65461	FB65464
230V, 50/60 Hz, 1 Ph <sup>2</sup>	FB65458				
Service kit	302012-1	302075	302076	302077	302079

1. With Schuko, UK and US plug leads  
2. With Schuko and UK plug leads

# Fisher Scientific Vacuum Pumps

## Accessories for Two-Stage Direct Driven Rotary Vane Vacuum Pumps



### Exhaust Filter

Exhaust filters for Two Stage Rotary Vane Vacuum Pumps  
**FB65458, FB65459, FB65460, FB65461, FB65464:**

- These compact filters can be mounted easily on the exhaust port to collect oil expelled during operation and to reduce pump noise.
- A replaceable filter element within the oil filter separates the oil from particles to collect them in the filter housing. When the filter element becomes saturated simply unscrew the filter for easy replacement.
- Oil mist separator AKD for effective oil mist elimination
- Oil mist filter OME for economical oil mist elimination

Type	Connection flange	Cat. No.
AKD 16	DN 16 KF	<b>320015</b>
AKD 25	DN 25 KF	<b>320017</b>
OME 10/16	DN 16 KF	<b>700010</b>
OME 10/25	DN 25 KF	<b>700011</b>
Replacement filter element		<b>800106</b>



**Condenser AKD**



**Oil mist filter OME**

### Hose Adapter Kit

- Adapter Kits for all Fisher Scientific Rotary Vane Vacuum Pumps
- Kits ensure proper sized tubing adaptors and clamps for vacuum tight connections
- Kits include 1.5m of thick walled rubber hose in Size DN10 and DN 20

Type	CAT. No.
Hose DN 10 / DN 20	<b>330060</b>



### Dry Ice / Liquid Nitrogen Trap

- Large cold chamber provides rapid condensation of solvent vapors
- Effective Foreline cold trap for vacuum manifolds or Schlenk lines.
- Removable center makes trapping surface easy to clean

Type	Size	CAT. No.
Cold Trap	DN 10	<b>1420H-14</b>
Hose adapter kit	DN 10	<b>330060</b>



### Freeze Dryer Adapter Kits

- All in one kit for connection to freeze dryers

Type	Size	CAT. No.
Kit 5	DN 16 KF	<b>330031</b>
Kit 6	DN 25 KF	<b>330032</b>

Freeze dryer adapter kits include 2-way ball valve, hose connector, hinge clamp ring, centering ring, oil mist separator (AKD) and 1.5m vacuum hose.



### Vacuum Concentrator Adapter Kits

- All in one kit for connection to a vacuum concentrator

Type	Size	CAT. No.
Kit 7	DN 16 KF	<b>330044</b>
Kit 8	DN 25 KF	<b>330045</b>

Vacuum concentrator adapter kits include hose connector, hinge clamp ring, centering ring and 1.5m vacuum hose.



### Vacuum Measurement Packages

- Reliable and accurate measuring for a wide range of applications.

Type	Size	CAT. No.
Kit 9	DN 16 KF	<b>330051</b>
Kit 10	DN 25 KF	<b>330052</b>

Vacuum measurement package includes PIZA 111 or Gold, T-connection, hinge clamp ring and centering ring.



### Vacuum Control Packages

- A cost-effective package for controlling vacuum pressure up to 0.001 mbar. Easily fits two-stage rotary vane pumps.

Type	Size	CAT. No.
Kit 11	DN 16 KF	<b>330053</b>
Kit 12	DN 25 KF	<b>330054</b>

Vacuum control package includes MRV 100, vacuum sensor, T-connection, solenoid valve, hinge clamp ring and centering ring.



### Labovac 10 Vacuum Pump Oil

- Use Fisher Scientific pump oil to reduce oil change cycles and maximize performance. The warranty is only effective when using Fisher Scientific qualified vacuum pump oil.
- Please note that for demanding applications not all types of Fisher Scientific vacuum pump oil can be used. Please contact your local Fisher Scientific representative for further details.

### Ordering Information:

Size	CAT. No.
1 Liters	<b>FB65471</b>
5 Liters	<b>FB65462</b>
20 Liters	<b>FB65463</b>



**Labovac 10 1 Liter    Labovac 10 5 Liters**

### Accessory:

Item	CAT. No.
Oil Change Starter Kit - For all Fisher Scientific rotary vane pumps	<b>340003</b>



**340003**

### Schlenkline Vacuum Gauge

- Measures 1050 to 0.001 mbar
- Accurate across full range
- Resistant to common laboratory chemicals

Accurate vacuum measurement is critical to fine-tuning many vacuum applications, e.g. sensitive evaporations. Corrosive chemicals often compromise conventional sensors, leading to frequent replacement. Prior commercial efforts to prolong sensor life have also insulated the Pirani probe, thereby compromising operating principles.

This precision vacuum sensor sets a new standard for durable instrumentation. The PIZA 111 cr Gold is both chemical resistant and very accurate.



**600074**

Type	Voltage	CAT. No.
PIZA 111 cr Gold	90-260V, 50/60 Hz <sup>1</sup>	<b>600074</b>
Schlenkline Adapter DN16KF - NS14/23		<b>710213</b>
Table Stand		<b>620007</b>
Factory calibration certificate		<b>L955112</b>

1. With AC/DC adapter, Schuko, UK and US plug adapter

ONE SOURCE. INFINITE SOLUTIONS.®

# Life Science

**F** Fisher Scientific  
Part of Thermo Fisher Scientific

**Application Specific Vacuum Pump Selection Guide and Brochure:**  
For filtration, desiccation, degassing, sampling and aspiration...  
Precisely tuned to your laboratory applications.

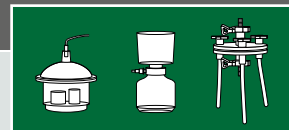


Fisher Scientific presents:  
**Mr Blue**



# Fisher Scientific Vacuum Pumps

## General Duty Vacuum Pumps



Fisher Scientific oil-free piston pumps and diaphragm pumps for a variety of applications such as filtration of low volumes, degassing, gas transfer and sampling.

### Diaphragm Pump - FB65499

Simplify your filtration and sampling procedure with Fisher Scientific model FB65499. The oil-free dry pump design provides top performance.

#### Design Features:

- Improved chemical resistance
- Compact, lightweight and portable
- Quiet operation and very low vibration
- Use in the lab or in the field (with optional adapter)

**Certifications:** CE marked



### Piston Pump - FB70155

The FB70155 piston pump is ideal for the basic filtration of non-aggressive solvents.

#### Design Features:

- Lightweight, compact and portable
- Covers most standard applications
- Economically priced but with high performance
- Quick and simple to use due to stylish design

**Certifications:** CE marked



#### Application

##### Disposable filtration assemblies

For sterilizing tissue culture media, microbiological media and other biological solutions

Routine microbiological filtrations, filtration of tissue culture media and components, prefiltration, sterile filtration and clarification

##### Particulate or Biological contamination analysis

Filtering small liquid volumens in RNA/DNA, collecting biological cells and other materials, preparing small volumens of sterile filtrate

##### Ideal for filtration of tissue culture media, biological fluids, fixation buffers etc

Cell culture media and other aqueous solutions

**Areas of Use:** Water/waste water analysis, food, beverages, pharmaceutical QC, environmental analysis, quality control.

#### Technical Features:

Type	FB65499	FB70155
Free Air Displacement @ 50/60Hz	15 L/min	9.2/11 L/min
Ultimate vacuum	100 mbar	292 mbar
Max. overpressure	2.5 bar	2.3 bar
IN / EX hose connector	hose nozzle DN 6, silencer	hose nozzle DN 6
Sound level	< 45 db (A)	< 56 db (A)
Type of Motor power	20 W	max. 25 W
Type of protection (motor)	IP 44	IP 48
Weight	2.3 kg	2.3 kg
Overall dimensions (LxWxH)	144/127/196 mm	194/114/191 mm
Ship weight	3.5 kg	2.7 kg
Shipping carton dimensions (LxWxH)	230/170/275 mm	280/180/210 mm

#### Application

##### Pressure Filtration

##### Pressure Transfer

##### Degassing

Removal of moisture in a sample preparation

##### Anaerobic culture generation

(use model FB65453)

#### Ordering Information:

Type	Cat. No.
FB65499 90-260V, 50/60 Hz <sup>1</sup>	<b>FB65499</b>
FB70155 230V, 50/60 Hz, 1 Ph <sup>2</sup>	<b>FB70155</b>

1. With AC/DC adapter, Schuko, UK and US power plug adapters
2. With Schuko and UK plug leads

#### Accessories:

Type	Cat. No.
Filtration kit & Dessicator kit - with vacuum hose and in-line filter	<b>404008</b>
Vacuum regulator with dial guage - for FB65499	<b>700458-02</b>

Mr Blue says...

Stop using water jet pumps or aspirators and polluting water. Replace with a Fisher Scientific vacuum pump. For a convenient filtration process where you always have the right vacuum, FB65499 is the perfect choice.



# Fisher Scientific Vacuum Pumps

## Aspiration Stations



**Compact Stations for liquid aspiration and disposing of liquids in biochemistry, microbiology and cellular culture technology. With the NEW handheld pipettor set, rapidly remove supernatant from a variety of cell culture or multi-well plates and dishes!**

### Compact Station - FB70157

The Compact station is ideal for aspirating aqueous solutions, removing liquids from well plates and pressure transfer.

#### Design Features:

- Autoclavable container, adapters and tubing
- Hydrophobic In-line filter
- Vacuum control and dial vacuum gauge
- Automatic flow stop when 1.2 liter receiver is full
- 1.2 liter plastic collection receiver
- Lightweight and easy to use, portable



### High Flow Station - FB70159

The High Flow Compact station is ideal for cell culture aspiration.

#### Design Features:

- Autoclavable container, adapters and tubing
- Vacuum regulator adjusts and monitors vacuum level
- Automatic flow stop when 1.2 liter receiver full
- Bleach resistant construction extends service life
- Optional power package for simultaneous operation of 2 handheld pipettors



112580



112580-01



1430C



1475K-20



112555-04

**Areas of Use:** Life science research companies, universities or government labs carrying out genetic, molecular biology & microbiology research

#### Technical Features:

Type	FB70157	FB70159
Free Air Displacement @50/60Hz	9.2/11 L/min	28/34 L/min
Ultimate pressure	292 mbar	93 mbar
Maximum vacuum	21.3 Hg	27.2 Hg
Max. overpressure	3.3 bar	----
Aspiration rate of liquids	15 ml/s	45 ml/s
Sound level	45 db(A)	46 db(A)
Weight	2.6kg	6.0kg
Overall dimensions (LxWxH)	28x21x25.5cm	37.5x21x25.5cm
Ship Weight	11kg	14.8kg
Shipping Carton dimensions (LxWxH)	55x32x41cm	45x30x40cm

#### Ordering Information:

230V, 50/60Hz, 1 Ph <sup>1</sup>	FB70157	FB70159
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1. With Schuko and UK plug leads

#### Accessories:

Item	Description	Cat. No.
Handheld Pipettor Set	with 8-Channel and 1-Channel Adaptors for disposable tips, 8-Channel stainless steel adapter and Stand	112580
Handheld Pipettor Set	1-Channel Adapter for disposable tips	112580-01
Foot Switch variable On/Off	Hands Free On/Off pump operation	1430C
Replacement Jar	Spare receiver includes a 1.2 liter jar, 2m tubing and 2 hydrophobic filters.	1475K-20
Replacement Hydrophobic Filter	In-line Filter	112555-04

#### Scope of delivery

Vacuum pump, 1.2L collection receiver, 2 hydrophobic in-line filter and 1.5 m hose.

Mr Blue says...

The most common reason for vacuum pump failure in aspiration applications is the ingestion of liquid into the pump mechanism. Fisher Scientific Aspiration Stations integrate features that protect your pump and your application. Routinely empty the Collection Receiver to assure continuous aspiration for your application.





# Fisher Scientific Vacuum Pumps

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