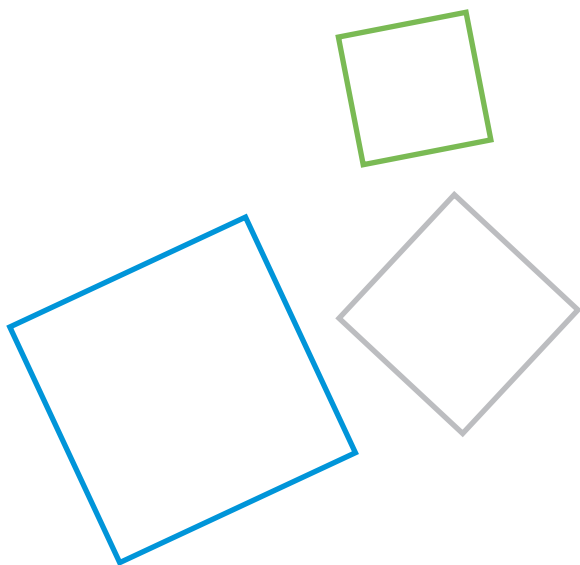
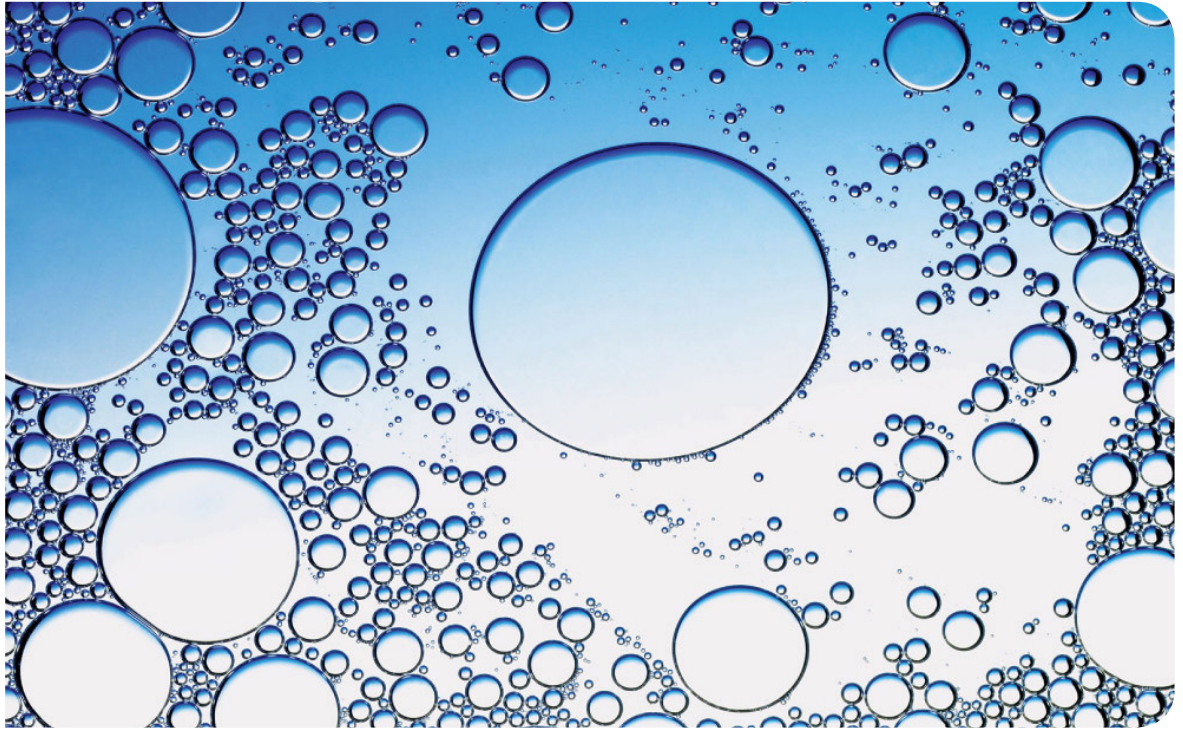


WIGGENS
Quality Built On Innovation

ChemVak
Innovative Vacuum Technology

www.chemvak.com www.wiggins.com



2015 Catalog

General Laboratory Equipment
Laboratory Vacuum Equipment



About WIGGENS

Wiggins is a manufacturer of high quality laboratory equipment based in Beijing, China. We started out as distributor for laboratory equipment and soon became an exclusive distributor for most reputable lab equipment manufacturers. After being established as a well-respected and highly successful distributor all around China, we made the successful transition from a mere distributor to producing high level laboratory equipment itself.

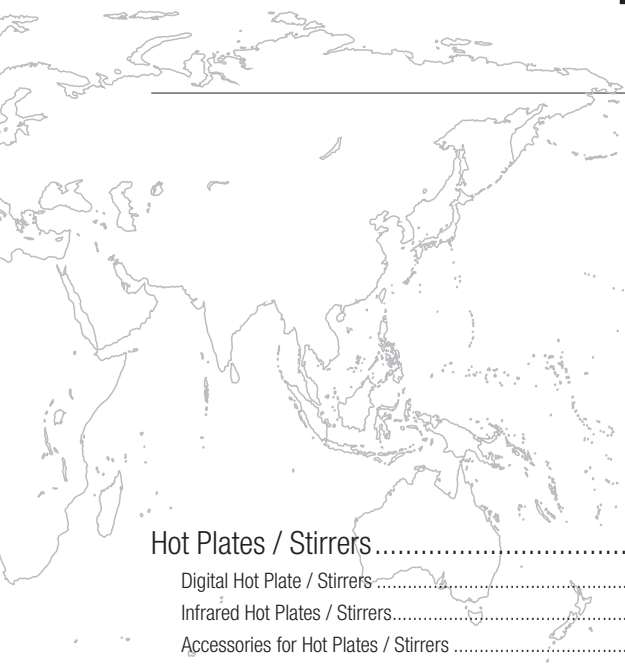
Since 2006 we produce top-quality laboratory equipment and, by making use of our well-established distribution network, we were able to quickly establish our products in the domestic market.

Our two brands Wiggins and ChemVak stand for high quality, long durability, and remarkable performance.

Wiggins is your general laboratory companion and provides products that can be used in all kinds of laboratory environments. The Wiggins product range entails different kinds of magnetic stirrers and hot plates. It even provides hot plates with integrated stirring functions for an even heat distribution among your solvents. In addition to the magnetic stirrers Wiggins also provides overhead stirrers with diverse characteristics to perfectly match the solvent used. In addition, Wiggins offers homogenizers of different magnitudes as well as a broad range of shakers, multi-purpose heaters and colony counters. As a new feature in the 2014 range Wiggins now also provides incubators and water baths for full temperature control.

ChemVak on the other hand has been created as a brand specialized in vacuum equipment. Different kinds of vacuum pumps, including chemical-resistant diaphragm pumps and oil-free piston pumps, are complemented by vacuum filtration equipment to form whole filtration systems for a wide range of different applications. In addition, Water-jet aspirator pumps and bio-suction systems are part of the product range. In 2014, a new line of gas generators became part of the ChemVak product line and round out the picture of ChemVak as a specialist for vacuum and gas related operations.

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Hot Plates / Stirrers

Digital Hot Plate / Stirrers

- Reliable performance
- Accurate and stable heating capacity
- Digital setting of temperature, stirring speed, working time, and overheating protection
- Liquid drainage above the control board to prevent liquids from accessing the system
- Direct connection for Pt100 temperature sensor
- Memory function for stirring speed and temperature control, which helps to enhance the effectiveness of repetitive processes
- Heating capacity up to 380°C
- Stirring speed ranging from 50 to 1200 rpm
- Sealed outer shell for enhanced longevity



HT Series Features

- New infrared technology
- Higher maximum temperature
- Low fluctuations when maximum temperature is reached
- Very quick obtainment of desired temperature
- Chemical resistant ceramic glass plate with excellent conduction characteristics
- Easy to clean
- Over-temperature protection

WH220-R Features

- LCD display for convenient monitoring and setup
- Round top plate for efficient heating of round bottom flasks
- Sealed outer shell for enhanced longevity
- Wide range of Accessories to fit a vast variety of flask sizes

Specifications

Model	WH220 PLUS	WH240 PLUS	WH220-HT	WH240-HT	WH220-R
Display Mode	4-digit LED	4-digit LED	4-digit LED	4-digit LED	LCD
Top Plate Dimensions (mm)	145 × 180	145 × 180	190 × 150	190 × 150	Ø 135
Temperature Range in °C	50 ~ 380	50 ~ 380	50 ~ 500	50 ~ 500	50 ~ 500
Solvent Temperature (Pt100 sensor) in °C	40 ~ 200	40 ~ 200	40 ~ 300	40 ~ 300	40 ~ 300
Temperature Stability (Pt100sensor) in °C	± 2	± 2	± 2	± 2	± 2
Rotating Speed (rpm)	100 - 1200	100 - 1200	100 - 1200	100 - 1200	100 - 1200
Max. Capacity (L)	10	10	10	10	10
Timer (min)	--	1 - 999 / continuous	--	1 - 999 / continuous	--
Order No. for EU/UK-Plug	400300-E/UK	400400-E/UK	400301-E/UK	400401-E/UK	400500-E/UK
Order No. for US-Plug	400300-U	400400-U	400301-U	400401-U	400500-U

Note: The actual temperature of the media can deviate significantly from the hot plate temperature, depending on several factors like the vessel capacity or the isolation level.

Hot Plates / Stirrers

Infrared Hot Plates / Stirrers

- Smooth and corrosion-resistant glass ceramic top plate
- Excellent transmittance of the infrared light
- The top plate can resist up to 700°C thermal shocks
- Hermetically sealed, corrosion-resistant, solid casing
- Non-flammable top made of duro-plastic
- Fast heating and excellent temperature stability
- External control by the connection of a Pt100 temperature sensor
- Large LCD screen displays the set and actual temperature and speed
- A high-temperature indicator warns the user and prevents burning injuries
- Compressed air connector optionally available for the use in aggressive environments



Specifications

Model	SLR
Display Mode	LCD
Heating Capacity (kW)	1.8
Max. Hot Plate Temperature (°C)	550
Min. Time to Boiling Point for 1 L H2O (min)	10
Speed Range (rpm)	50 ~ 1200
Top Plate Area (mm)	190 x 190
Heating Zone (mm)	Ø 190
Temperature Sensor Connector	Pt100
Top Plate Material	Glass Ceramic
Dimensions (L x W x H in mm)	395 x 295 x 110
Mixing Capacity (L)	25
Protection Category	IP20
Order No. for EU/UK-Plug	285416373-E/UK

Note: The actual temperature of the media can deviate significantly from the hot plate temperature, depending on several factors like the vessel capacity or the isolation level.

Wiggins



Accessories for Hot Plates / Stirrers

Model	Description	Order No.
PT100 Temperature sensor, Type I	Length: 170 mm; Diameter: 4 mm; Material: Stainless steel; Admissible temperature: -30 ~ +300°C	PT100-01
PT100 Temperature sensor, Type II	Length: 300 mm; Material: Stainless steel	PT100-02
PT100 Temperature sensor, Type III	Length: 150 mm; Material: Stainless steel, PTFE coated	PT100-03
PT100 Temperature sensor, Type IV	Length: 300 mm; Material: Stainless steel, PTFE coated	PT100-04
PT100 Temperature Sensor, Type VI	Length: 250 mm; Diameter: 4 mm; Material: Glass; Admissible temperature: -30 ~ +300°C	PT100-06
Holder for Temperature Sensor	Holder and clamp for PT100 temperature sensor; Suitable for WH220 Plus, WH240 Plus, WH220-HT, WH240-HT, SLR, SLK, and WH200D Series	PT100-05

Stirrers

Stirrers

Magnetic Stirrers

WH-A Series

- Control knob for precise setting of stirring speed
- Leading microprocessor control technology ensures accuracy and stability of the stirring speed
- Stirring plate surface made of stainless steel
- Wide speed range between 100 and 1500 rpm
- Each plate is individually controllable



WH-D Series

- LED display for convenient control and monitoring of the stirring speed
- Leading microprocessor control technology ensures accuracy and stability of the stirring speed
- Stirring plate surface made of stainless steel
- Wide speed range between 100 and 1500 rpm
- Individual control for each plate and master control for all plates at once



WH-210 Magnetic Stirrer

- Digital display of the stirring speed
- Elegant and convenient on-touch control of the stirring speed
- Leading microprocessor control technology ensures the accuracy and stability of the stirring speed
- Memory function for stirring speed, which helps to enhance the effectiveness of repetitive processes
- Top plate made of ceramic
- Splash-resistant shell
- Liquid drainage above the control board to prevent liquids from accessing the system
- Wide speed range between 50 and 1500 rpm



Specifications

Model	WH-210A	WH-410A	WH-610A	WH-210D	WH-410D	WH-610D	WH-210
Display Mode	Scale display	Scale display	Scale display	LED	LED	LED	LED
Speed Range (rpm)	100 ~ 1500	100 ~ 1500	100 ~ 1500	100 ~ 1500	100 ~ 1500	100 ~ 1500	100 ~ 1200
Number of Plates	1	4	6	1	4	6	1
Mixing Capacity (ml)	50 ~ 3000	50 ~ 2000	50 ~ 2000	50 ~ 3000	50 ~ 2000	50 ~ 2000	50 ~ 10.000
Plate Dimensions (W × L in mm)	158 × 143	313 × 303	473 × 303	158 × 143	313 × 303	473 × 303	145 × 180
Overall Dimensions (W × L × H in mm)	189 × 215 × 48	344 × 377 × 48	504 × 377 × 48	189 × 215 × 48	344 × 377 × 48	504 × 377 × 48	225 × 215 × 115
Order No. for EU/UK-Plug	400210-E/UK	400211-E/UK	400212-E/UK	400214-E/UK	400215-E/UK	400216-E/UK	400200-E/UK
Order No. for US-Plug	400210-U	400211-U	400212-U	400214-U	400215-U	400216-U	400200-U

Stirrers

Electromagnetic Stirrers

- 30% more stirring power than comparable systems
- Cutting edge inductive stirring technology
- Wide speed range of up to 2000 rpm
- Soft-start function for jerk-free stirring right from the beginning
- 4-step power setting for either viscous liquids or long-term operation
- Stable long-term operation of the stirrer without heating dissipation
- Clear LED display for setting of stirrer speed and power
- Quick-setting of initial and maximum speed
- Automatic memory function which saves the last used settings
- Hermetically sealed system with robust stainless steel surface
- Super-flat space-saving design of the stirring modules
- Synchronous speed for multiple stirring units
- Low-consumption power supply unit
- 100% Maintenance free
- No wear and tear



Specification

Model	WHMIX 1	WHMIX 1 Eco	WHMIX 4 MS	WHMIX 6
Stirring Speed (rpm)	100 – 2000	120 – 1400	100 – 2000	100 – 2000
Mixing Capacity (mL)	1 – 10.000	1 – 3000	1 – 3000	1 – 3000
Number of Plates	1	1	4	6
Power (W)	20	10	28 (4 x 7)	20
Power Setting	25 / 50 / 75 / 100%	-	25 / 50 / 75 / 100%	25 / 50 / 75 / 100%
Stirring Point Distance (mm)	-	-	140	130
Individual Speed Setting for Stirring Drives	-	-	Yes	No
Mains Requirements	100-240 V / 50-60 Hz / 1.5 A	100-240 V / 50-60 Hz / 1.5 A	100-240 V / 50-60 Hz / 1.5 A	100-240 V / 50-60 Hz / 1.5 A
Admissible Temperature (°C)	-10 ~ 50	-10 ~ 50	-10 ~ 50	-10 ~ 50
Admissible Humidity	Up to 80%	Up to 80%	Up to 80%	Up to 80%
Casing Material	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
Protection Category	IP64	IP64	IP64	IP64
Dimensions (W x D x H in mm)	180 x 230 x 38	120 x 120 x 35	245 x 425 x 38	245 x 425 x 38
Weight (kg)	4.0	1.7	8.9	8.8
Order No. for EU/UK-Plug	30001-E/UK	30101-E/UK	30404-E/UK	30006-E/UK
Order No. for US-Plug	30001-U	30101-U	30404-U	30006-U

Wiggins



Stirrers

Electromagnetic Stirrers With Remote Controller

Individual combination possibilities of stirring unit and controller
 Cutting edge inductive stirring technology
 Extremely robust construction
 Stirrer unit submersible in water or oil bath
 4-step power setting for either viscous liquids or long-term operation
 Stable long-term operation of the stirrer without heating dissipation
 Clear LED display for setting of stirrer speed and power
 Quick-setting of initial and maximum speed

Automatic memory function which saves the last used settings
 Jerk-free stirring even at low speed
 Super-flat space-saving design of the stirring and control modules
 Synchronous speed for multiple stirring units
 Suitable for CO₂-incubators and ovens
 100% Maintenance free
 No wear and tear

Controller Specifications

Model	MIX Control 20	MIX Control eco
Stirring Speed (rpm)	100 – 1600	120 – 1200
Power (W)	20	10
Power Setting	25 / 50 / 75 / 100%	-
Admissible Temperature (°C)	0 ~ 40	0 ~ 40
Admissible Humidity	Up to 80%	Up to 80%
Casing Material	Stainless Steel	Plastic
Protection Category	IP20	IP20
Dimensions (W x D x H in mm)	200 x 155 x 38	120 x 100 x 24
Weight (kg)	1.4	0.5
Order No. for EU/UK-Plug	90200-E/UK	90100-E/UK
Order No. (incl. RS232 connection) for EU/UK-Plug	90210-E/UK	-
Order No. for US-Plug	90200-U	90100-U
Order No. (incl. RS232 connection) for US-Plug	90210-U	-



Two Different Temperature Resistance Versions Available:

Basic-Version for up to +50°C
 HT-Version for up to +95°C submerged in water baths and up to +200°C in ovens

Wiggins



Stir Unit Specifications

Model	WHMIX Drive 1	WHMIX Drive 1 eco	WHMIX Drive 6
Mixing Capacity (ml)	1 – 10000	1 – 3000	1 – 3000
Number of Plates	1	1	6
Power (W)	20	10	40
Stirring Point Distance (mm)	-	-	130
Admissible Temperature (°C) (Basic Version)	-10 ~ 50 (at 100% humidity)	-10 ~ 50 (at 100% humidity)	10 ~ 50 (at 100% humidity)
Admissible Temperature (°C) (HT-Version)	+95 (in water) +200 (in oven)	+95 (in water) +200 (in oven)	+95 (in water) +200 (in oven)
Casing Material	Stainless Steel	Stainless Steel	Stainless Steel
Protection Category	IP68	IP68	IP68
Dimensions (W x D x H in mm)	180 x 180 x 38	120 x 120 x 35	245 x 375 x 38
Weight (kg)	3.3	1.5	9.5
Order No. (Basic Version) for EU/UK-Plug	40001-E/UK	40101-E/UK	40006-E/UK
Order No. (HT-Version) for EU/UK-Plug	40201-E/UK	40301-E/UK	40206-E/UK
Order No. (Basic Version) for US-Plug	40001-U	40101-U	40006-U
Order No. (HT-Version) for US-Plug	40201-U	40301-U	40206-U

Stirrers

Magnetic Stirrer Accessories



Wiggins

Stir Bar and Retriever Examples

Order No.	Description
001.110.6	Cylindrical Stirrer Bars
001.210.6	Plain Stir Bars
001.513.3	Octahedral Stir Bars
001.513-R/B/Y	Colored Octahedral Stir Bars
001.802	Micro Stir Bars
001.802-R/B/Y	Colored Micro Stir Bars
001.610	Oval Stir Bars
001.3319	Octaoval Stir Bars
001.1712	Cylindrical Stir Bars With a Removable Pivot Ring
001.1910	Tapered Stir Bars
001.1335	Double Ended Stir Bars (Natural)
001.1335-R/B/Y	Double Ended Stir Bars (Colored)
001.412	Triangular Stir Bars
001.1812	Ribbed Triangular Stir Bars

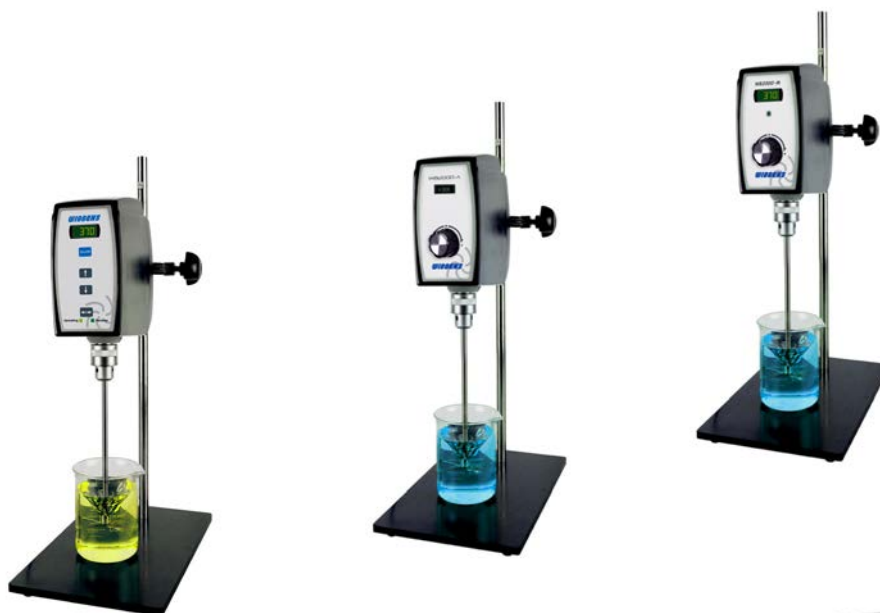
Order No.	Description
001.2201.1	Test Tube Wings
001.2401	Cross-Shaped Stir Bars
001.1110	Crosshead Stirrer Magnets(Double Sided)
001.1110.1	Crosshead Stirrer Magnets(Single Sided)
001.2301	Hub Stirrer Magnets
001.1609	Tube Stirrer Magnets
001.709	Disc-Shaped Stirrer Magnets
001.1512	Spherical Stirrer Magnets
001.1206	Glass Encased Stir Bars
001.0120	Extra Large Stir Bars
001.3003	Stir Bar Sets (18 Bars)
001.2610.RE	Rare Earth 'Turbo' Stir Bars
004.150	Stir Bar Retrievers

Stirrers

Overhead Stirrers

Brushless DC motor, which is very suitable for long-term experimental applications
 Stable and accurate stirring process due to latest micro-processor technology
 Totally enclosed and compact casing
 Stable and quiet working process
 Internal overload protection
 Adjustable impeller shaft for different heights
 Soft start at low speed guarantees a smooth and safe stirring process

Suitable for applications in various environments
 The WB2000-A / D / C come with a reversible rotation function
 The WB2000-D employs new technology soft key control and a bright LED speed display
 The standard version package entails the overhead stirrer, a stand, rod, and clamp, as well as a stainless steel impeller
 Availability of a wide range of different optional impellers



Wigens

Remotely Controllable Overhead Stirrer

Employs all basic functions of the WB2000-D overhead stirrer
 Directly connectable to the computer via RS-232 cable for remote control
 Equipped with digital input/output ports and foot pedal port for various applications
 Suitable for stirring in reaction systems or stirring applications linked to other equipment
 Rotation speed can be lowered to 20 rpm for very sensitive stirring processes



Specifications

Model	WB2000-A	WB2000-M	WB2000-D	WB2000-C
Display / Control Mode	Scale Display / Knob Control	LED Digital Display / Knob Control	LED Digital Display / On-Touch Control	LCD Digital Display / On-Touch Control
Speed Range (rpm)	40 ~ 2000	40 ~ 2000	40 ~ 2000	20 ~ 2000
Maximum Torque (N-cm)	70	70	70	70
Maximum Viscosity (cps)	20000	20000	20000	20000
Maximum Capacity (L)	20	20	20	20
Clockwise and Counter Clockwise Mixing	Yes	No	Yes	Yes
Input / Output Power (W)	70 / 50	70 / 50	70 / 50	70 / 50
Dimensions (W x L x H in mm)	105 x 160 x 185	105 x 160 x 185	105 x 160 x 185	105 x 160 x 185
Order No. for EU/UK-Plug	100100-E/UK	100300-E/UK	100200-E/UK	100500-E/UK
Order No. for US-Plug	100100-U	100300-U	100200-U	100500-U

Stirrers

High Torque / High Speed Overhead Stirrers

- Brushless DC motor
- Totally enclosed and compact metal casing
- Smart and convenient on-touch control
- Bright LED screen, which can display stirring speed and torque
- Transmission can be switched between low speed / high torque, and high speed / low torque
- Spinning chuck protection
- Precise speed adjustment
- Set speed can be maintained when viscosity of liquid changes
- Easy and time saving impeller adjustments



Specifications

Model	WB3000-D	WB1800-D	WB6000-D
Display / Control Mode	LED Digital Display / On-Touch Control	LED Digital Display / On-Touch Control	LED Digital Display / On-Touch Control
Speed Accuracy	+/- 1 rpm	+/- 1 rpm	+/- 1 rpm
Torque Accuracy	+/- 1 in-lb	+/- 1 in-lb	+/- 1 in-lb
Speed Range (rpm)	Low: 20 ~ 600 High: 600 ~ 3000	Low: 12 ~ 360 High: 360 ~ 1800	Low: 40 ~ 1200 High: 1200 ~ 6000
Maximum Torque (N-cm)	339	565	170
Maximum Viscosity (cps)	100000	150000	70000
Maximum Capacity (L)	40	40	40
Output Power (W)	150	150	150
Dimensions (W x L x H in mm)	200 x 95 x 230	200 x 95 x 230	200 x 95 x 230
Order No. for EU/UK-Plug	100400-E/UK	100600-E/UK	100800-E/UK
Order No. for US-Plug	100400-U	100600-U	100800-U

Wiggins

Remotely Controllable Ultra High Torque / High Speed Stirrers

- Suitable for reaction systems and other high torque / high speed applications
- Set speed can be maintained when viscosity of liquid changes
- Brushless DC motor made in Germany, for high performance stirring processes
- Maintenance-free
- Quiet and reliable
- Digitally adjustable rotation speed and direction
- Remote controller can display actual speed and actual torque as well as the set speed
- Monitoring and control via PC software



Specifications

Model	WB3000-C	WB1800-C	WB3000-EC	WB1800-EC
Control Type	LCD Display for Speed and Torque and On-Touch Control			
Speed Range (rpm)	70 ~ 3000	20 ~ 800	70 ~ 3000	20 ~ 800
Accuracy (rpm)	± 1	± 1	± 1	± 1
Maximum Viscosity (cps)	100000	150000	200000	300000
Maximum Torque (N-cm)	100	400	210	840
Rated Torque (N-cm)	47	188	116	464
Maximum Capacity (L)	50	50	100	100
Power (W)	150	150	450	450
Motor Dimensions (W x L x H in mm)	157 x 65 x 65	216 x 65 x 65	165 x 75 x 75	225 x 75 x 75
Motor Weight (kg)	1.8	2.3	2.8	3.4
Order No. for EU/UK-Plug	100401-E/UK	100601-E/UK	100402-E/UH	100602-E/UK
Order No. for US-Plug	100401-U	100601-U	100402-U	100602-U

Stirrers

Accessories for Overhead Stirrers

PTFE Impellers

Stainless steel core surrounded by PTFE mantle
 Chemical resistant
 Economically friendly
 Strong structure which doesn't break easily

Can be used up to a max. temperature of 280°C

The stainless steel core is revealed at the upper part and can be plugged into the stirrer

The length of the revealed part is 50mm

Screw Propeller, 4-Bladed (PTFE Coated)

Creates shearing force. Used for mixing media in an up-to-down axial flow, for mid- and high-speed stirring, and for mid and low viscosity.

Impeller Diameter Range	Shaft Diameter Range	Shaft Length Range
40 - 120 mm	6 - 19 mm	300 - 1000 mm



Anchor Impeller (PTFE Coated)

Produces tangential flow and strong shearing force. Used for slow-speed stirring, for high viscosity mixtures.

Impeller Diameter Range	Shaft Diameter Range	Shaft Length Range
80 - 180 mm	6 - 19 mm	300 - 1000 mm



Centrifugal Stirrer, 2-Bladed (PTFE Coated)

2-Blade Impeller which will open up depending on the stirring speed. Used for round vessels with narrow openings, for mixing media in an up-to-down axial flow, for mid- and high-speed stirring.

Impeller Diameter Range	Shaft Diameter Range	Shaft Length Range
40 - 80 mm	6 - 19 mm	300 - 1000 mm



Retreat Curve Impeller (PTFE Coated)

The blades are formed in a 30° angle. Creates tangential and axial flow as well as high shearing force. Used for mid- and slow-speed stirring, and for all levels of viscosity.

Impeller Diameter Range	Shaft Diameter Range	Shaft Length Range
80 - 180 mm	6 - 19 mm	300 - 1000 mm



Plain Impeller Shafts (PTFE Coated)

Plain shafts with a stainless steel core and PTFE coating, as well as an exposed stainless steel end.

End Diameter Range	Shaft Diameter Range	Shaft Length Range
5 - 10 mm	8 - 19 mm	300 - 1000 mm



Impeller Shafts for Blades (PTFE Coated)

Shafts with a stainless steel core, PTFE coating, an exposed stainless steel end, as well as a hook for mounting blades

Shaft Diameter Range	Shaft Length Range
6 - 19 mm	300 - 1000 mm



Blades (PTFE Coated)

Impeller blades that fit to "Impeller Shaft, with Hook (PTFE Coated)". Completely inert and highly scratch-resistant. (Hole diameter: 6.5 mm)

Length Range	Thickness Range
52 - 150 mm	14 - 28 mm



Impeller Units, Adjustable in Height (PTFE Coated)

Adjustable impeller units which can be mounted on standard shafts and locked in place to give the most effective stirring patterns. Available are propeller blades, flat blades, and turbo blades.

Nut Inner Diameter Range	Impeller Diameter Range
6 - 19 mm	40 - 150 mm



Stirrers

Stainless Steel Impellers

Pivoting Blade Impeller

For mixing media from coarse to liquid, for mid-speed stirring, and for mid to low viscosity mixtures.

Impeller Height	Impeller Diameter Range	Shaft Diameter Range	Shaft Length Range
18 mm	60 mm	8 mm	300 - 500 mm



Straight 2-Blade Impeller

For mixing media from coarse to liquid, for mid-speed stirring, and for mid to low viscosity mixtures.

Impeller Height	Impeller Diameter Range	Shaft Diameter Range	Shaft Length Range
12 mm	50 mm	8 mm	300 - 500 mm



Straight 4-Blade Impeller

For mixing media from coarse to liquid, for mid-speed stirring, and for mid to low viscosity mixtures.

Impeller Height	Impeller Diameter Range	Shaft Diameter Range	Shaft Length Range
12 mm	50 - 100 mm	8 - 10 mm	300 - 500 mm



3(6)-Hole Blade Impeller

For mixing media from coarse to liquid, for mid-speed stirring, and for mid to low viscosity mixtures.

Impeller Diameter Range	Shaft Diameter Range	Shaft Length Range
50 - 100 mm	8 - 10 mm	300 - 500 mm



Centrifugal Impeller

2-Blade Impeller which will open up depending on the stirring speed. Used for round vessels with narrow openings, for mixing media in an up-to-down axial flow, for mid- and high-speed stirring.

Impeller Height	Impeller Diameter Range	Shaft Diameter Range	Shaft Length Range
10 mm	90/15 mm	8 - 10 mm	300 - 650 mm



Pitched Leaf Impeller and Pitched Blade Impeller

Employs small shearing force. Used for mixing media in an up-to-down axial flow, for mid- and high-speed stirring, for mid to low viscosity mixtures.

Impeller Height	Impeller Diameter Range	Shaft Diameter Range	Shaft Length Range
12 mm	50 - 100 mm	8 - 10 mm	300 - 800 mm



Turbine Impeller

Creates shearing force. Used for mixing media in an up-to-down axial flow, for mid- and high-speed stirring, for mid to low viscosity mixtures.

Impeller Diameter Range	Shaft Diameter Range	Shaft Length Range
45 - 65 mm	7 - 8 mm	400 mm



Anchor Impeller

Produces tangential flow and strong shearing force. Used for slow-speed stirring, for high viscosity mixtures.

Impeller Diameter Range	Shaft Diameter Range	Shaft Length Range
70 - 140 mm	8 - 10 mm	500 - 800 mm



Radial Flow Impeller

Creates a strong flow and shearing force. Used for mixing media in an up-to-down axial flow, for mid-speed stirring, for mid viscosity under 500mpas. Especially useful for aerating.

Impeller Diameter Range	Shaft Diameter Range	Shaft Length Range
50 mm	7 - 8 mm	400 mm



Multi-Purpose Impeller

Can generally be used in low to high viscosity mixtures. Even with slow stirring speed, it will produce a very good radial stirring outcome.

Impeller Diameter Range	Shaft Diameter Range	Shaft Length Range	Speed
80 - 120 mm	10 mm	500 mm	120 - 500 / 200 - 700 rpm



Stirrers

Stirring Seals

PTFE Stirring Seals

Universal stirring seal made of PTFE. Employs high chemical resistance, has a standard grinding interface, and an additional O type ring to strengthen the sealing effect.



Shaft Diameter	Outlet Size Range	Height (excl. joint)	Stirring Seal Diameter
8 mm	24/40 - 34/45	60 mm	42 mm

Universal Stirrer Guide

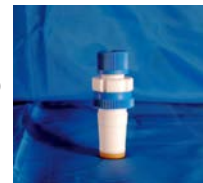
Composite PTFE / PEEK seal plus an inside glass seal to maintain a smooth stirring operation. This unique design can ensure a high vacuum of up to 5 Torr and high pressure of up to 3-5 psi. It doesn't harm the stirring rod and is highly chemical resistant. The highest recommended stirring speeds are 500 rpm in continuous operation and 800 rpm in intermittent operation.



Shaft Diameter Range	Outlet Size Range	Height (excl. joint)	Stirring Seal Diameter Range
6-12 mm	19/22 - 29/42	96-110 mm	45-55 mm

High-Performance Shaft Guide

Composite PTFE / PEEK seal plus an inside glass seal to maintain a smooth stirring operation. This unique design can ensure a high vacuum of up to 5 Torr. It doesn't harm the stirring rod and is highly chemical resistant.



Shaft Diameter Range	Outlet Size Range	Height (excl. joint)	Stirring Seal Diameter Range
6-19 mm	19/22 - 45/50	60-70 mm	42-58 mm

High Vacuum Shaft Guide

The newest design of mechanical stirring seals with all parts that are in contact with liquid or vapor being made of PTFE, RULON, or PEEK material. It doesn't harm the stirring rod and is highly chemical resistant. It can be used with vacuum of up to 1 Torr. The highest recommended stirring speed is 400 rpm.



Shaft Diameter Range	Outlet Size Range
10 - 30 mm	24/40 - 45/50

Lubricants

Stir-Lube

Low-melting. Only very thin film needed. A non-cooled bearing can be operated at 1500 rpm, and water-cooled bearings up to 2000 rpm for many hours with negligible wear.



Order No.	Description
8117-10	28 (1 oz)
8117-20	113 (4 oz)

HI-LUBE Lubricant for Strong Liquids

Resistance to acid and alkali, soluble in organic solvents, and suitable for oxidizing gases. The temperature can reach 260°C, it is non-combustible, and non-oxidized.



Order No.	Description
8119-07	30mL

Piston Lubricant

Smooth, stable, odorless oil based lubricants, free of silicone, suitable for lubrication of joint and piston. The melting point is 52°C, can be cleared with xylene.



Order No.	Description
8118-10	75 (2.65 oz)

Krytox LVP High Vacuum Grease

Low vapor pressure, non-combustible, strong inert oil, suitable for high vacuum systems. It can be used at pressures of 1×10^{-13} Torr at 20°C and 1×10^{-5} Torr at 200°C



Order No.	Description
8116-10	2 oz

Krytox GPL Fluorinated Grease

Good chemical stability, no reaction with oxygen, hydrogen, hydrocarbons and other chemical substances. The usable temperature range is -35°C ~ 290°C



Order No.	Description
8115-08	2 oz

Stirrers

Platforms

Electric Lifting Platform

Adjustable lifting platform with unique design
 Wireless remote control
 Simple operation
 Continuous height adjustment with smooth start and stop regulation
 CE and GS certified



Laboratory Lifting platform

Manually adjustable
 Dimensions: 240 x 240 mm
 Made of Stainless Steel



Clamps

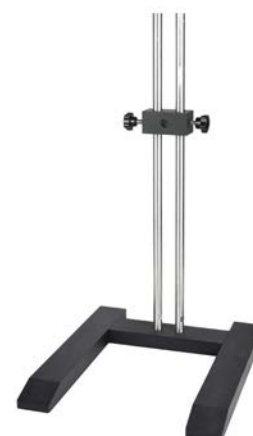
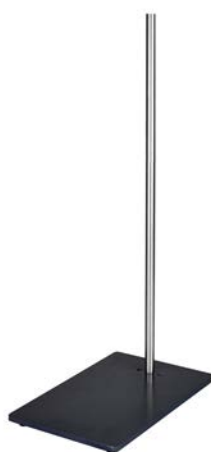


Model	Extended Length Range	Diameter Range
Three Jaw Clamp	17~30 cm	20~80 cm
Double Jaw Clamp	23 cm	64 cm
Enhanced Three Jaw Clamp	15.6~16.1 cm	2.8~10 cm

Wiggins

Stands

Strong Base for optimal weight distribution
 Made of cast iron or stainless steel
 Different heights available
 WH-S and WH-D Series include perfectly fitting clamps
 Suitable for overhead stirrers as well as high speed hor



Model	WF Series Stands	WH-S Series Stands	WH-D Series Stands
Height	550~950 mm	550~950 mm	550~950 mm
Base Dimensions.	315X200 cm	340X300 cm	340X300 cm

Hot Plates

Digital Hot Plates

- PID temperature control technology for accurate and reliable results
- Suitable for complicated temperature control requirements
- Bright LED screen can display both set value and actual temperature
- Convenient temperature setting via on-touch control
- Timer function for automatic heating up to 100 hours
- Alarm signal output which can be applied to stop the operation of the hot plate and other connected devices
- External Pt100 temperature sensor connection for direct and precise control of the actual temperature



Specifications

Model	WH200D-1K	WH200D-2K	WH200D-3K
Display Mode	LED	LED	LED
Temperature Stability (°C)	±2	±2	±2
Hot Plate Temperature (°C)	350	350	350
Power (W)	680	1000	1500
Dimensions (W x L in mm)	170 x 170	250 x 250	400 x 300
Order No. for EU/UK-Plug	400110-E/UK	400111-E/UK	400112-E/UK
Order No. for US-Plug	400110-U	400111-U	400112-U

Soxhlet 6-Plate Heater

The distance between the plates is 55mm (as required by the DIN 44548 standard) and the heating plate diameter is 85 mm. The unit is durable, space saving and maintenance-free.

- Embedded heating resistor
- Sturdy and durable
- Surface temperature up to 425°C
- Independent heating control knobs
- Housing material: Coated Stainless Steel

Model	WH106
Number of Plates	6
Plate Diameter	85 mm
Spacing Between Plates	55 mm
Max. Temperature (°C)	425
Heating Power	6 x 450W
Dimensions(L x W x H in mm)	475 x 395 x 160
Order No. for EU/UK-Plug	WH106-E/UK

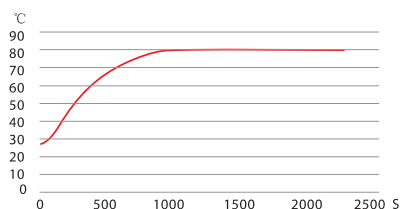


Hot Plates

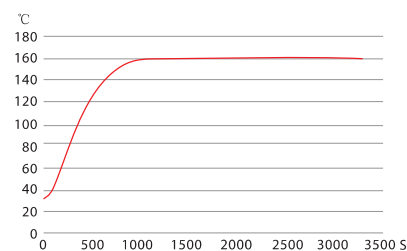
Infrared Hot Plates

Smooth and corrosion resistant glass ceramic top plate
 Excellent transmittance of the infrared light
 Material can resist a thermal shock of up to 700°C
 Corrosion-resistant, solid casing which is hermetically sealed
 Non-flammable top plate made of duro-plastic
 Fast heating and excellent temperature stability
 Temperature can be externally controlled by the connection of a Pt100 temperature sensor
 Timer function of up to 1800 seconds for automatic heating up
 Large LCD screen displays the set and actual temperature
 A high-temperature indicator warns the user and prevents burning injuries

Compressed air connector optionally available for the use of the hotplate in an aggressive environment
 Rod holder can be conveniently used to connect diverse accessories such as a temperature sensor
 SLK1 / SLK2 Infrared Hot Plates employ a 24 step temperature regulator
 SLK2-T can be connected to an external temperature sensor for direct and precise temperature control



The heating curve (SLK2-T, 1L water, temperature is 80 °C)



The heating curve (SLK2-T, 1L oil, temperature is 160°C)

Specifications

Model	SLK1	SLK2	SLK2-T
Display Mode	LCD	LCD	LCD
Heating power (kW)	1.2	1.8	1.8
Max. Hot Plate Temperature (°C)	550	550	550
Min. Time to Boiling Point for 1L H2O (min)	10	7	7
Top Plate Area (W x L in mm)	280 x 280	280 x 280	280 x 280
Heating Zone (mm)	155	190	190
Temperature Sensor Connector	-	-	-
Top Plate Material	Glass Ceramic	Glass Ceramic	Glass Ceramic
Dimensions (L x W x H in mm)	395 x 295 x 110	395 x 295 x 110	395 x 295 x 110
Maximum Capacity (L)	25	25	25
Admissible Ambient Temperature (°C)	10-40	10-40	10-40
Admissible Air Humidity (%)	85	85	85
Protection Category	IP20	IP20	IP20
Protection Class	1	1	1
Order No. for EU/UK-Plug	285416616-E/UK	285416324-E/UK	285416324-E/UK

Hot Plates

Multi-Purpose Heater

WD310 / 320

Precise temperature control provided by leading microprocessor technology
 One-piece heating chamber made of aluminum material with PTFE coating
 Heating chamber can alternatively be used as a small water bath
 Various optional heating blocks available



Model	WD310	WD320
Constant Temperature (°C)	Ambient +5~150	Ambient +5~150
Temperature Stability (°C)	±0.1	±0.1
Temperature Accuracy (°C)	±0.2	±0.2
Temperature Safety (°C)	Cut off at 170	Cut off at 170
Setting Time (min)	0~9999	0~9999
Block No.	1	2
Display	4 1/2" LED	4 1/2" LED
Outer Dimensions (W x L x H in mm)	200 x 270 x 80	200 x 270 x 80
Heating Block Dimensions (W x L x H in mm)	79 x 104 x 50	79 x 104 x 50
Order No. for EU/UK-Plug	179310-22-E/UK	179320-11-E/UK
Order No. for US-Plug	179310-22-U	179320-11-U

COD Reactor

4-digit LED screen which can display the set temperature, the set time, the process temperature, and the residual time
 Timer can be set on continuous operation or on 1 – 999 min operation with automatic shut down and audio alarm
 High accuracy of ±2°C
 Temperature can be adjusted between 60 and 200°C or fixed at 150°C for the COD program
 The casing is made of stainless steel with a powder paint coating
 The block is made of anodized aluminum
 Standard block capacity is 25 x 16 mm sample vials; optional 8 x 20 mm or 6 x 25 mm blocks are available
 Safety can be ensured by a hot temperature LED indicator (for temperatures over 70°C) and an automatic shut-off when the system temperatures exceeds 210°C



Wiggins

Heating Mantles

Provision of even heating
 Maximum surface coverage
 Preferred to Bunsen burners for organic liquids
 Many different sizes
 Single or Combo-Heating Mantles



Model	For Round Bottom Flasks	With Magnetic Stirrer Unit
Capacity Range (in ml)	100 - 72.000	250 - 3000

Model	6-Unit Heating Mantle		3-Unit Heating Mantle	
Type	Mid-Temp.	High-Temp	Mid-Temp	High-Temp
Capacity (in ml)	250/300	100 / 125 / 250 / 3000	500 / 650 / 800 / 1000	500 / 650 / 800 / 1000
Flask Bottom Type	Can be chosen between flat and round bottom			

Hot Plates

Hot Plate Accessories

Temperature Sensors and Holders

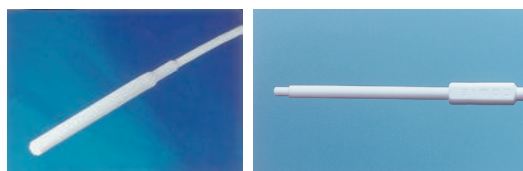
Standard Temperature Sensors and Holders

Model	Description	Order No.
PT100 Temperature Sensor, Type I	Length: 170 mm; Diameter: 4 mm; Material: Stainless steel; Admissible temperature: -30 ~ +300°C	PT100-01
PT100 Temperature Sensor, Type II	Length: 300 mm; Material: Stainless steel	PT100-02
PT100 Temperature Sensor, Type III	Length: 150 mm; Material: Stainless steel, PTFE coated	PT100-03
PT100 Temperature Sensor, Type IV	Length: 300 mm; Material: Stainless steel, PTFE coated	PT100-04
PT100 Temperature Sensor, Type VI	Length: 250 mm; Diameter: 4 mm; Material: Glass; Admissible temperature: -30 ~ +300°C	PT100-06
Holder for Temperature Sensor	Holder and clamp for PT100 temperature sensor; Suitable for WH220 Plus, WH240 Plus, WH220-HT, WH240-HT, SLR, SLK, and WH200D Series	PT100-05



PTFE Temperature Probes

- Outstanding chemical resistance
- No contamination of working area
- A wide range of operating temperature and tolerances
- Almost any shape or size
- Can eliminate thermowells
- Completely coated with PTFE



Model	Body Diameter Range	Body Length Range	Ferrule Length Range	Baffle (W x D x L)	Total Length
Platinum Resistance Probes	6 - 9 mm	100 - 900 mm	35 - 45 mm		135 - 945 mm
Total Immersion	5 mm	50 mm	-		50 mm
Thermocouple Probes Type K	6 - 9 mm	100 - 900 mm	35 - 45 mm		135 - 945 mm
Platinum Resistance Baffle Probes	8 - 16 mm	150 - 250 mm	-	16 x 12 x 150 - 35 x 22 x 250	300 - 500 mm
Thermocouple Baffle Probes	8 - 16 mm	150 - 250 mm	-	16 x 12 x 150 - 35 x 22 x 250	300 - 500 mm

Heating Blocks for WD310 and WD320



Order No.	Size (mL)	Number of Holes	Ø x H (mm)
179300-01	0.2	64	6 x 17
179300-02	0.5	20	8 x 25
179300-03	1.5 (or 2.0)	20	11 x 35
179300-04	10	20	10 x 33
179300-05	13	20	13 x 36
179300-06	20	12	20 x 48
179300-07	25	6	25 x 45
179300-10	17	12	17 x 44

Homogenizers

High Speed Homogenizer

Simple and easy to handle
 Fast and stable process for high quality results
 Enough speed and power to emulsify, suspend, cut-up, and disrupt
 Rotor/Stator independence for maximum flexibility
 Wide range of stators and rotors for application in various environments
 Overload protection



Handheld Homogenizer

Rotor / stator type handheld homogenizer
 Rapid homogenization, dispersion, and emulsifying possible
 Operation in 0.1 – 50 ml or 1 – 125 ml liquids depending on the dispersion shaft
 Suspended material is drawn into the core by a rotor with a speed of up to 30.000 rpm
 Material is repeatedly cycled through narrow slits, rapidly sheared and disintegrated via high speed mechanical action
 Complete homogenization of tissues in a few seconds
 Very low heat production
 Support rod for convenient placing optionally available



Specifications

Model	D-500	D-130
Speed with Zero-Load (rpm)	10000 ~ 30000	8000 ~ 30000
Process Range H2O (mL)	10 ~ 40000 (H2O)	0.1 ~ 250 (H2O)
Input / Output Power (W)	500 / 320	220V, 50 Hz / 130W
Contact Material	316L Stainless Steel / PTFE	316L Stainless Steel
Dimensions (W x L x H in mm)	70 x 70 x 225	n.a.
Order No. for EU/UK-Plug	1710500-E/UK	1710130-E/UK

Flapping Homogenizer

Leading microprocessor technology for flap control
 Adjustable flapping speed for the HG400V and the HG400VW (5 – 8 times / sec)
 Working time can be set on continuous or between 1 sec and 10 min
 Maintenance-free brushless DC motor
 Stainless steel housing with plastic coating
 Easy to clean working chamber
 The HG400 and the HG400W employ digital setting and display of the working time



Specifications

Model	Door Design	Flapping Speed	Capacity Range
HG400	Stainless Steel Door	Fixed to 8 Times / Sec	50 - 400 mL
HG400V	Stainless Steel Door	Adjustable Between 5 And 8 Times	50 - 400 mL
HG400W	SS-Door With Observation Window	Fixed to 8 Times / Sec	50 - 400 mL
HG400VW	SS-Door With Observation Window	Adjustable Between 5 And 8 Times	50 - 400 mL

*Rotor not included on order. Range of suitable rotors on next page.

**Rotor included on order. Please choose suitable rotor on next page.

Homogenizers

Accessories for Homogenizers



Rotors for High-Speed Homogenizer

Rotor Name / Order No.	Function Description	Process Volume (mL)	Linear Velocity (m/s)	Rotor Diameter (mm)	Stator Diameter (mm)	Min. / Max. Immersion Depth	Suspending Liquid Dispensing Size	Latices Dispensing Size	Disinfection Method	Applications
SS20CSR20	Solid-Liquid Mixing Material	10-5000	23.5	15	20	40/175	10-50	1-10		P,CI,PC,SD
SS20CCR20	Fiber Material	10-5000	23.5	15	20	40/175	10-50	1-10		SP,M,F,PT,TI
SS20CMR20	Solid-Liquid Mixing Material	10-5000	23.5	15	20	40/175	10-50	1-10		CI,PI
SS20FER20	Latices	10-5000	23.5	15	20	40/175	10-50	1-10		SP,PI,PT,P
SS20FCR20	Fiber Material	10-5000	23.5	15	20	40/175	10-50	1-10		SP,BT,M,F,PT,TI
SS20FMR20	Solid-Liquid Mixing Material	10-5000	23.5	15	20	40/175	10-50	1-10		CI,C,PI,F,PT,PC
SS30CMR20	Stirring Paddle Function-	250-20000	36.1	15	30	40/175	High Speed Homogenizing		Suitable for All	CI,F,SP
SS30CSR30	Solid-Liquid Mixing Material	100-8000	36.1	23	30	40/175	5-25	1-5	Disinfection Methods	SP,M,F,PT,P
SS30CCR30	Fiber Material	100-8000	36.1	23	30	40/175	5-25	1-5		SP,M,F,PT,P
SS30CMR30	Solid-Liquid Mixing	100-8000	36.1	23	30	40/175	5-25	1-5		CI,PI
SS30FSR30	Solid-Liquid Mixing Material	100-8000	36.1	23	30	40/175	5-25	1-5		SP,PI,PT,P
SS30FER30	Latices	100-8000	36.1	23	30	40/175	5-25	1-5		SP,PI,PT,P
SS30FMR30	Solid-Liquid Mixing Material	100-8000	36.1	23	30	40/175	5-25	1-5		CI,C,P,F,DT,TI
SS30CMR30	Stirring Paddle	100-8000	36.1	23	40	40/175	High Speed Homogenizing			CI,F,SP
Shaft 5	Solid-Liquid Mixing Material	0.2-50	6.3	4	3.8	40/175	10-50	1-10		BT, M

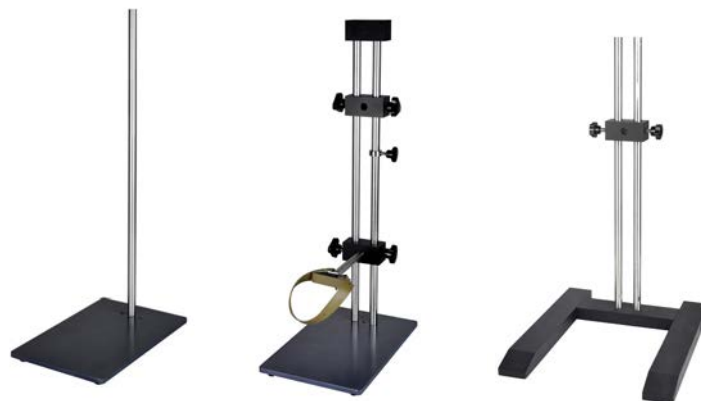
Note: BT = Biology; F = Food Industry; P = Pharmaceutical Industry; C = Cosmetic Industry; M = Medical Analysis; PC = Petrochemical Industry; PT = Paper Production Industry; SP = Wastewater Analysis; CI = Ceramic Industry; CH = Chemical Industry; PI = Paint Industry; TI = Tobacco Industry

Rotors for Handheld Homogenizer

Type	Diameter	Length	Feasible Volume
Type A	5 mm	90 mm	0.1 - 50 ml
Type B	10 mm	150 mm	1 - 250 ml

Stands

Strong Base for optimal weight distribution
 Made of cast iron or stainless steel
 Different heights available
 WH-S and WH-D Series include perfectly fitting clamps
 Suitable for overhead stirrers as well as high speed homogenizers



Model	WF Series Stands	WH-S Series Stands	WH-D Series Stands
Height	550-950 mm	550-950 mm	550-950 mm
Base Dimensions.	315X200 cm	340X300 cm	340X300 cm

Shakers

Shakers

Separatory Funnel Shakers

Features

- Intensive vertical shaking
- Shaking of 6 samples under identical conditions possible
- Mostly used in chemical, biotech, and medical laboratories
- The speed can be set between 50 and 300 rpm
- The timer can either be set on continuous or between 0 and 60 min
- Flasks of up to 40 mm width can be used
- Bright LED display for convenient speed monitoring
- Wide speed range and high precision of the speed control
- Feedback loop to a digital controller
- At the end of a shaking session the device stops automatically with an audible alarm sound
- Easily adjustable flask holder (max. 5 flasks per side)
- Two holders for a total of 6 flasks included

Specifications

Model	WS-1
Motion Type	Vertical Reciprocation
Speed Range (rpm)	50 ~ 300
Timer	0 - 60 min or Continuous Operation
Vertical Stroke Length (mm)	40
Dimensions (W×L×H in mm)	445×730×505
Max. Load For Each Side (kg)	3
Net Weight (kg)	24
Mains Requirements	230V, 60Hz, 0.4A
Order No. for EU/	WS-1 32012KA-E/UK
UK-Plug	WS-1 PLUS 32012KB-E/UK



Funnel Capacities (per Side)

Capacity	Round Type Funnel	Slim Type Funnel
Under 500 ml	3 - 5	5
500 ml	3	3
1 L	-	3

Wiggen's

Orbital Shakers

- Two different shaking functions: back and forth, and orbital
- Adjustable shaking speed and range
- Timer function for maximum flexibility
- Corrosion resistant stainless steel housing,
- Easy to clean and maintain
- Large mounting surface and big load capacity of up to 15 kg
- Ideal for vessels with more than 250 ml capacity, like round flasks, Erlenmeyer flasks, culture flasks, or culture bottles
- Widely used for bacterial cultures, fermentation, hybridization, biochemical reactions, enzyme or tissue research



Specifications

Model	WS-50D	WS-50DR	WS-100D	WS-150D	WS-200D
Display and Control	LED Digital Display / On-Touch Control		LED Digital Display / On-Touch Control	LED Digital Display / On-Touch Control	LED Digital Display / On-Touch Control
Vibration Style	Orbital	Reciprocating	Back and Forth / Orbital	Back and Forth / Orbital	Back and Forth / Orbital
Frequency of Vibration (rpm)	10 - 300	10 - 250	10 - 300	10 - 300	10 - 300
Amplitude of Vibration (mm)	20	20	30 (Standard); 20, 40 (Optional)	30 (Standard); 20, 40 (Optional)	30 (Standard); 20, 40 (Optional)
Speed Adjustment Steps	±2 rpm	±2 rpm	±1 rpm	±1 rpm	±1 rpm
Maximum Timer Length (min)	999 hr 59 min	999 hr 59 min	999 hr 59 min	999 hr 59 min	999 hr 59 min
Maximum Load (including clamps) (kg)	20	20	7.5	15	30
Order No. for EU/UK-Plug	3A126-E/UK	3A226-E/UK	200200-E/UK	200300-E/UK	200400-E/UK

Shakers

Vortex Shakers

Vortex 3000

Elaborate design for safe and reliable vortex shaking
 Speed can be set between 200 and 3000 rpm
 Very suitable for work under fume hoods, and on sterile workbenches
 Excellent vortex mixing of test tubes and capped vials
 Shaking operation can be switched between continuous and on-touch operation
 LED light shows the actual shaking operation method

Rubber feet guarantee stability of the shaker
 Power cut-off function in case of electrical overload or excess current.
 Corrosion-resistant PP housing
 Available in 7 different colors
 Diverse accessories available



Specifications

Model	Vortex 3000
Shaking Method	Vortex Shaking
Shaking Operation	On-Touch or Continuous
Shaking Diameter (mm)	4
Vortex Speed (rpm)	200 - 3000
Motor Input / Output (W)	12 / 6
Max. Load (kg)	1.1
Product Material	PP Housing, Rubber Feet
Dimensions (W x D x H in mm)	148 x 159 x 87
Net Weight (kg)	2.6
Safety Standard	IP42
Order No. for EU/US/UK-Plug	360115-E/U/UK

Wiggins

TM Series Vortex Shakers

Very accurate shaking speed due to micro-chip speed controller
 Stable and reliable performance
 High shaking speed of up to 2500 rpm
 Shaking operation can be switched between continuous and on-touch operation
 Rotation direction can be switched
 Suitable for shaking test tubes or other small volume vials
 Large range of platforms and other accessories



Specifications

Model	TM-1	TM-1F	TM-2	TM-2F
Shaking Speed (rpm)	0 - 2500	0 - 2500	0 - 2500	0 - 2500
Max. Volume (L) in Stirring Mode	2	2	2	2
Housing Material	Plastic-Aluminum	Plastic-Aluminum	Plastic-Aluminum	Plastic-Aluminum
Shaking Amplitude (mm)	4.5	4.5	4.5	4.5
Speed Control	Turning Knob	Turning Knob	Turning Knob	Turning Knob
Display	Scale Display	Scale Display	LED Display	LED Display
Operation Mode	Continuous / On-Touch	Continuous / On-Touch	Continuous / On-Touch	Continuous / On-Touch
Accessories	Shaker Tray	Accessory Pack	Shaker Tray	Accessory Pack
Power (W)	17.3	17.3	17.3	17.3
Dimensions (L x D x H in mm)	115 x 230 x 60	115 x 230 x 60	115 x 230 x 60	115 x 230 x 60
Order No. for EU/US/UK-Plug	360110-E/U/UK	36011F-E/U/UK	360120-E/U/UK	36012F

Shakers

Accessories for Shakers

Accessories for TM & Vortex 3000 Series

Universal Tray

Can be used with different foam plastic platforms for simultaneous shaking of several test tubes

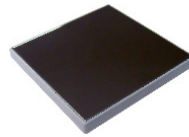
Order No.: 3601-01



Magnetic Stirring Plate

Can be directly installed on the shaker and used for stirring of smaller samples

Order No.: 3601-02



Test Tube Platform (4 Holes)

Can be used in combination with the universal tray for shaking operation of 4 test tubes with 16 mm diameter

Order No.: 3601-05



Elisa Plate Tray

Can be used with an ELISA Plate

Order No.: 3601-03



Universal Base Plate

Base plate for foam plastic platforms with 120 mm diameter

Order No.: 3602-01



Test Tube Platform (6 Holes)

Can be used in combination with the universal tray for shaking operation of 6 test tubes with 12 mm diameter

Order No.: 3601-04



Test Tube Platform (24 Holes)

Can be used in combination with the universal base plate for shaking operation of 24 Eppendorf tubes

Order No.: 3602-02



Test Tube Platform (8 Holes)

Can be used in combination with the universal base plate for shaking operation of 8 test tubes with 16 mm diameter

Order No.: 3602-05



Test Tube Platform (18 Holes)

Can be used in combination with the universal base plate for shaking operation of 18 test tubes with 10 mm diameter

Order No.: 3602-03



Test Tube Platform (8 Holes)

Can be used in combination with the universal base plate for shaking operation of 8 test tubes with 20 mm diameter

Order No.: 3602-06



Test Tube Platform (12 Holes)

Can be used in combination with the universal base plate for shaking operation of 12 test tubes with 12 mm diameter

Order No.: 3602-04



Flask Holder

Can be used in combination with the universal base plate for shaking operation of Erlenmeyer or round flasks with a volume between 100 and 250 ml

Order No.: 3602-07



Sterilization Equipment

Bunsen Burners

Economy Line Bunsen Burners

Features

- Automatic ignition due to piezo effect
- Max. Temperature: 1300°C
- Adjustable flame
- Refillable butane tank

Applications

- Sterilizing
- Welding
- Heating
- Cooking



Dragon 100



Dragon 220



Dragon 200

Model	Dragon 100	Dragon 200	Dragon 220
Max. Temperature (°C)	1300	1300	1300
Tank Capacity (g)	45	45	45
Working Time (min)	60	60	60
Dimensions (H x W x D in mm)	161 x 137 x 79	92 x 115 x 79	94 x 115 x 78
Net Weight (g)	380	407	425

Hand-Operated Laboratory Bunsen Burner

- Automatic ignition due to piezo effect
- Connection for gas cartridge or gas tubing
- Stainless steel stand

- Gas supply only when bar is pressed
- For use with propane, butane, and natural gas
- Safe handling due to one-handed operation



Powerjet 2



Powerjet

Model	Powerjet	Powerjet2
Gas Types	Liquid gas, gas cartridges	Natural gas E/LL, liquid gas, Express 444
Connected Load	0,12 kg / h liquid gas	0,13 kg / h liquid gas
Flame Temperature	1350°C on liquid gas	1350°C on liquid gas, 1300°C on natural gas (E)
Temp. Threshold Level	1.54 kW liquid gas	1.7 kW liquid gas, 1kW natural gas
Dimensions (W x H in mm)	150 x 180	150 x 210
Weight	300g	500g

Fuego Safety Laboratory Gas Burner

- Graphical installation instruction
- Zero-pressure shut off
- Gas consumption display
- Acoustic signals as operating aids
- User-friendly stainless steel knobs
- Animated high-contrast graphic display

- Individually adjustable Single or DoubleClick IR motion sensor
- Automatic unit cut-off
- Cooling reminder for inoculation loops
- Temperature regulation for heating media



Model	Fuego Basic	Fuego Basic RF	Fuego SCS	Fuego SCS Pro
LCD Display	No	No	Yes	Yes
Infrared Temp. Sensor	No	No	Yes	Yes
Safety Control System	Yes	Yes	Yes	Yes
Battery Operation	No	No	No	Yes (Holds for 9 Hours)
Foot Pedal Included	Yes	Yes	No	No
Gas Consumption	70g / h	70g / h	70g / h	70g / h
Flame Temperature (°C)	1350	1350	1350	1350
Power (kW)	1	1	1	1
Dimensions (W x H x L in mm)	103 x 49 x 130	103 x 39 x 130	103 x 39 x 130	103 x 39 x 130

Sterilization Equipment

Carrousel For Flame Sterilizing Inoculation Loops

Precise setting of the required sterilization time
 Exact setting of the cooling time for the inoculation loops
 Monitoring of the sterilization operation by an intelligent sensor
 Quick start button
 Coordinated mounts and reliable optical detectors for loop holders

Optimal sterilization due to intelligent sterilization monitor
 Saves energy, time, and costs
 Fabricated entirely of stainless steel, anodized aluminum, and a display, protected by heat resistant glass

Specifications

Model	Autoloop Pro
Technology	Microchip based control
Operation Mode	Completely Automatic
Inoculation Loops	1 - 4
Sterilization Time	1 - 15 sec
Cooling Time	1 - 45 sec
Display	LED
Alarm Type	LED Light
Automatic Shut-Off	Yes (Programmable)
Control Type	Turning Knobs / Foot Controller
Rotational Direction	Left / Right (depends on removed holder)
Material	Stainless Steel



Wiggins

Infrared Loop Sterilizer

Annealing without flame
 Double tube system (Ceramic / Quartz glass)
 Stainless steel design
 Sterilization period of 5-7 seconds
 Self-locking angular adjustment
 Two sizes available
 Universal support for all inoculation loop holders
 Inoculation loops made of special stainless steel
 Mountable tray for easy placement of inoculation loops
 Timer with stainless steel holder for sidewise attachment
 Tool holder made of stainless steel



Model	SteriMax Type 1	SteriMax Type 2
Diameter (in mm)	15	20
Length (in mm)	118	161
Angular Adjustments	7	7
Sterilization Temperature (in °C)	900 - 950	900 - 950
Power Supply (W)	160	225
Heating Up Time (in min)	10 - 16	10 - 16
Sterilization Time (in sec)	5 - 7	5 - 7
Safety Features	Residual heat display	Residual heat display
Casing	Stainless steel, UV and solvent resistant	Stainless steel, UV and solvent resistant
Weight (in g)	960	1060
Measurements (W x H x D in mm)	175 x 129 x 139	175 x 129 x 169
Order No. for EU/UK-Plug	5.001.000-E/UK	5.101.000-E/UK
Order No. for US-Plug	5.002.000-U	5.102.000-U

Sterilization Equipment

Turntable for Inoculation of Petri Dishes

- Extremely simple operation by mere hand movement or foot pedal use
- Variable rotational speed control
- Short time operation of 1 - 125 seconds
- Low working height allows effortless work
- Turntable with silicone covering & centring ring (autoclavable)
- Stainless steel construction to ensure high durability and the highest degree of sterility
- UV-resistant and flame-sterilizable
- Minimum space required



Specifications

Model	Sensorturn	Sensorturn Pro
Rotary Speed Range (in rpm)	14 - 110	14 - 210
Petri Dish Size (Diameter in mm)	100 (150 optional)	100 (150 optional)
Rotational Direction	Clockwise	Clockwise
Detection Range IR-Sensor	5 - 50 mm, adjustable	5 - 50 mm, adjustable
Connector for Foot Pedal	Yes	Yes
Timer Range (in sec)	1 - 25 or 1 - 125, adjustable	1 - 25 or 1 - 125, adjustable
Constant Operation	Unlimited	Unlimited
Operating Voltage	9V - 15V DC / 1.5VA	9V - 15V DC / 1.5VA
Protection Class	2	2
Dimensions (W x H x D in mm)	109 x 59 x 130	109 x 59 x 130
Order No. for EU/US/UK-Plug	7.001.000-E/U/UK	7.002.000-E/U/UK

Colony Counter

- Adjustable dish-holder suitable for Petri-dishes of various sizes with diameters ranging from 90 mm to 150 mm or for special 60 mm dishes
- Exclusive BACK button, which enables convenient data deduction when over counting occurred
- Pressure sensor allows the use of any marking pen, without the contamination of the sample
- Optional computer software, which offers various tools such as data recording and tracing, report generation, etc.
- CE certification
- Suitable for total bacteria and total coliform counting



Specifications

Model	Galaxy 230
Display	4-Digit Bright Red 0.6" LED Display
Magnification	2 ~ 3 Times
Petri Dish Diameter	60 mm, 90 - 150 mm Adjustable
Zero Reset	Yes
Count Back	Yes
Illumination	Ring-Shaped Lamp
Pressure Sensitivity	Adjustable
Acoustical Counting Signal	Adjustable
Output	RS232
Dimensions (W x L x H in mm)	313 x 346 x 360
Net Weight (kg)	5.2

Ordering Information

Order No.	Product Description
175200-22	Galaxy 230 Colony Counter, AC 110V / 60Hz (220V / 50Hz)
175300-22	Galaxy 230 Colony Counter + PC software + RS232 interface connection cable, AC110V / 60Hz (220V / 50Hz)
175300-12	PC software + RS232 interface connection cable

Water Baths and Ultrasonic Cleaners

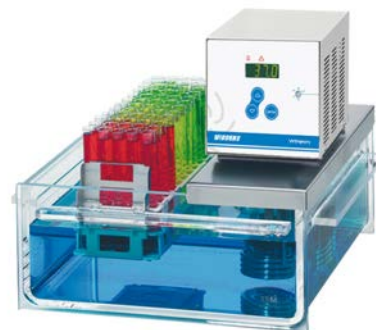
Open Water Baths

- Easy and convenient operation with the 3-button control panel
- Bright LED display for convenient examinations
- Heating capacity up to 95°C
- PID temperature control technology
- Powerful 1.5 kW motor for fast heating up
- Strong pump capacity
- Suitable for internal and external circulation
- Adjustable ratio of internal to external circulation
- Over temperature cut-off, adjustable within working temperature range
- Float switch with cut-off feature for low liquid level protection
- Standby and Auto-Start functions to choose instrument mode after power outage
- Great interior design and voluminous space for heat radiation for ensuring a high durability of the circulator
- High quality corrosion-resistant non-soiling stainless steel heating coil

Transparent Water Baths

- Three different sizes available
- Heat resistance of 100°C
- Mostly suitable for biological and pharmaceutical laboratories
- Low temperature fluctuation
- Convenience through visibility

Wigens



Specifications

Model	Unit	W-Therm B1	W-Therm B3	W-Therm B5	W-Therm 5M	W-Therm 13M	W-Therm 19M
Product Description		Water Bath for Circulator	Water Bath for Circulator	Water Bath for Circulator	Transparent Water Bath for Circulator	Transparent Water Bath for Circulator	Transparent Water Bath for Circulator
Working Temperature Range	°C	Ambient + 5 ~ +95	Ambient + 5 ~ +95	Ambient + 5 ~ +95	Ambient + 5 ~ +95	Ambient + 5 ~ +95	Ambient + 5 ~ +95
Temperature Stability	°C	±0.05	±0.05	±0.05	±0.05	±0.05	±0.05
Power	W	1500	1500	1500	1500	1500	1500
Flow Rate	L/min	10	10	10	10	10	10
Pressure	mbar	230	230	230	230	230	230
Filling Volume	L	4.5	12	18	5	13	19
Weight	kg	8.2	8.2	11.2			
Inner Dimensions (W × L × H)	cm	15 × 33 × 15	32 × 29 × 15	49 × 29 × 15			
Opening Dimensions (W × L × H)	cm	15 × 15 × 15	18 × 30 × 15	36 × 30 × 15	12 × 14 × 15	18 × 30 × 15	36 × 30 × 15
Outer Dimensions (W × L × H)	cm	17 × 33 × 38	39 × 33 × 38	57 × 33 × 38	14 × 40 × 35	41 × 33 × 36	55 × 33 × 36
Order No. for EU/US/UK Plug		9WT10B1-E/U/UK	9WT10B3-E/U/UK	9WT10B5-E/U/UK	9WT105M-E/U/UK	9WT1013M-E/U/UK	9WT1019M-E/U/UK

Water Baths and Ultrasonic Cleaners

Heating and Cooling Water Baths

- Compact design
- Low noise
- Spacious interior
- Easy and convenient operation with the 3-button control panel
- PID temperature control technology
- Powerful 1.5 kW motor for fast heating up
- Strong pump capacity
- Suitable for internal and external circulation
- Adjustable ratio of internal to external circulation
- Over temperature cut-off, adjustable within working temperature range
- Float switch with cut-off feature for low liquid level protection
- Standby and Auto-Start functions to choose instrument mode after power outage
- Great interior design and voluminous space for heat radiation for ensuring a high durability of the circulator

- Drain valve at the front for convenient discharge of the liquid
- High quality corrosion-resistant non-soiling stainless steel heating coil
- Active Cooling Control technology, for provision of refrigeration at any given time and at any value within the working temperature range
- Employment of R134a, a fluorine-free economically friendly cooling agent

Heating and Cooling Water Baths contain:

- W-Therm circulator
- Stainless steel water bath
- 2 meter CR tubing
- 4 hose clamps
- Operation manual (in English)
- "Made in Germany" seal



Wiggins

Specifications

Model	Unit	WT2	WT4	
Product Description		Heating and Refrigerating Water Bath	Heating and Refrigerating Water Bath	
Working Temperature Range	°C	-20 ~ +95	-25 ~ +95	
Temperature Stability	°C	±0.05	±0.05	
Power	W	1500	1500	
Pump Flow Rate	L / min	10	10	
Pump Pressure	mbar	230	230	
Refrigeration Capacity	20°C	W	150	300
	10°C	W	140	280
	0°C	W	110	220
	-10°C	W	100	170
	-20°C	W	50	70
Filling Volume	L	4 ~ 6	4 ~ 6	
Opening Dimensions	W × L in cm	12.5 × 11.5	12.5 × 11.5	
Immersion Depth	cm	19	19	
Weight	kg	14	14	
Outer Dimensions	W × L × H in cm	22.5 × 42 × 62	22.5 × 42 × 62	
Order No. for EU/US/UK-Plug		9WT1R02-E/U/UK	9WT1R04-E/U/UK	

Water Baths and Ultrasonic Cleaners

Ultrasonic Cleaners

Application Areas

Laboratories: laboratory material, precision instruments, pipettes, sieves, etc.
 Medicine: instrumentation in general, surgical material, etc.
 Odontology: dental prosthesis, instrumentation, etc.
 Optics: instrumentation, opticals, frames, etc.
 Industry: printed circuits, Electronic components, etc
 Jewellery: watches, jewels, etc
 Automation: Injector clearing.
 Degasification or liquid dissolution.
 Compact substances digregation

Technology

The cavitation phenomenon consist of formation and growth of millions of microscopic bubbles under a low pressure stage, produced into the ultrasonic bath due to a high power transducer 40kHz. These bubbles break in all directions and attack every surface in contact with water, erasing dirt, impurities and pollutants when contacting with the materials or pieces into the bath. This phenomenon allows cleaning all kind of piece without need of disassembling, due to it is taking part in all surface in contact with the liquid. The heat allows accelerate this clearing process.



Wiggins

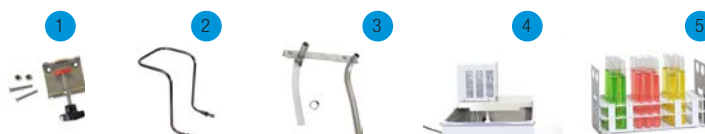
Specifications

Model	Capacity (l)	Power (W)	Heater Power (W)	Temp. (°C)	Frequency	Timer	Drain	Type	Working Power
UE03SFD	3	90	-	-	40	Yes	No	Digital	-
UE06SFD	6	160	-	-	40	Yes	Yes	Digital	-
UE10SFD	10	250	-	-	40	Yes	Yes	Digital	-
UA03MFD	3	Max. 90	100	20 - 80	40 / 59	Yes	No	Digital	40 - 100%
UA06MFD	6	Max. 160	260	20 - 80	40 / 59	Yes	Yes	Digital	40 - 100%
UA10MFD	10	Max. 250	300	20 - 80	40 / 59	Yes	Yes	Digital	40 - 100%
UA22MFD	22.5	Max. 500	650	20 - 80	40 / 59	Yes	Yes	Digital	40 - 100%

Accessories for Water Baths and Ultrasonic Cleaners


General Accessories for Water Baths

Order No.	Product Name	Description	Suitable for	Picture
9WX1005	Bath clamp	Used for fixation of the circulator on a water bath	W-Therm	1
9WX1001	Cooling coil	Used for connecting tap water or an external refrigeration device	W-Therm	2
9WX1002	External circulation connections	Used for connecting the pump with external circulation	W-Therm	3
9WX1003	Stainless steel bridge	Used for stable installation of the circulator on a water bath	W-Therm	4
9WX1030	Test tube rack	For the placement of up to 90 test tubes with 12 / 13 mm diameter Placement Possibilities: 1 rack for B3; 2 racks for B5	B3/B5	5
9WX1031	Test tube rack	For the placement of up to 60 test tubes with 16 / 17 mm diameter Placement Possibilities: 1 rack for B3; 2 racks for B5	B3/B5	5




Water Baths and Ultrasonic Cleaners


Plexiglas Test Tube Racks (Highest admissible temperature: +80°C)

Order No.	Product Name	Description	Suitable for	Picture
9WX0000	Test tube rack	For the placement of up to 20 test tubes with dimensions 100 x 17mm Placement Possibilities: 2 racks for 5M	5M	
9WX0002	Test tube rack	For the placement of up to 36 test tubes with dimensions 400 x 10/11mm Placement Possibilities: 2 racks for 5M	5M	
9WX0003	Test tube rack	For the placement of up to 30 test tubes with dimensions 50 x 12/13mm Placement Possibilities: 2 racks for 5M	5M	
9WX0010	Test tube rack	For the placement of up to 20 test tubes with dimensions 160 x 17mm Placement Possibilities: 2 racks for 5M	5M	
9WX0013	Test tube rack	For the placement of up to 6 Falcom test tubes with 50ml Placement Possibilities: 2 racks for 5M	5M	

Stainless Steel Test Tube Racks (Highest admissible temperature: +150°C)

Order No.	Product Name	Description	Suitable for	Picture
9WX0307	Test tube rack	For the placement of up to 50 test tubes 16/17mm diameter Placement Possibilities: 1 rack for 13M; 2 racks for 19M	13M/19M	
9WX0308	Test tube rack	For the placement of up to 90 test tubes 12/13mm diameter Placement Possibilities: 1 rack for 13M; 2 racks for 19M	13M/19M	
9WX0309	Test tube rack	For the placement of up to 90 microliter test tubes 11/12mm diameter Placement Possibilities: 1 rack for 13M; 2 racks for 19M	13M/19M	
9WX0310	Test tube rack	For the placement of up to 21 test tubes 30mm diameter Placement Possibilities: 1 rack for 13M; 2 racks for 19M	13M/19M	

PT100 Temperature Sensors

Order No.	Material	Shaft Length (in mm)	Diameter (in mm)	Cable Length (in m)	Picture
9WX2003	Stainless steel	200mm	Ø6mm	1.5m	
9WX2005	Glass	200mm	Ø6mm	1.5m	
9WX2006	Stainless steel	20mm	Ø2mm	1.5m	
9WX2010	Stainless steel	300mm	Ø6mm	1.5m	
9WX2011	Glass	300mm	Ø6mm	1.5m	
9WX2013	PTFE coated stainless steel	600mm	Ø6mm	3m	
9WX2014	PTFE coated stainless steel	1200mm	Ø6mm	3m	
9WX2020	M+R Adapter with PT100 temperature sensor (2m cable length)				
9WX2103	Extension cable for PT100 temperature sensor (3.5m cable length)				

Other Accessories for Water Baths

Order No.	Product Name	Description	Suitable for	Picture
9WX1040	Test tube rack with adjustable height	Adjustable height for non-standard immersion depths Placement Possibilities: 1 rack for B3; 2 racks for B5	B3/B5	1
9WX0010	Steam protection pellets	Suitable for all open water baths; slows down the steam production; made of PP; 200mm diameter; 100 pcs / package	All open water baths	2
9WX0006	Bath protection liquid	Prevents algae development; change of colour to indicate when it gets ineffective, and when to refill; 100ml per bottle, 6 bottles per pack	All open water baths	3
9WX0502	Adjustable immersion platform	Easily adjustable platform for non-standard immersion depths Applicable for 13l and 19l baths	All water baths	4
9WX01020	Stainless steel bath lid	Suitable for B3 water bath; reduces heat loss	B3	5
9WX1021	Stainless steel bath lid	Suitable for B5 water bath; reduces heat loss	B5	5
9WX0291-S	Special bath lid	Stainless steel lid with round openings	B5/19M	6



Water Baths and Ultrasonic Cleaners

Liquids for High / Low Temperatures

Product Name	Unit	Thermal G	Thermal H10	Thermal H20S	Thermal H200	Thermal M
Admissible Temperature Range	°C	-30 ~ +80	-20 ~ 180	0 ~ 220	60 ~ 200	40 ~ 170
Flash Point	°C	--	190	230	292	284
Fire Point	°C	--	216	274	334	306
Viscosity (20°C)	mm ² / s	3.87	10	< 51.5	84	350
Density (20°C)	g / cm ³	1.084	0.93	0.97	1.07	1.15
Pour Point	°C	< -35	-90	-70	-50	-39
Boiling Point	°C	107	> 300	> 315	> 300	--
Auto-ignition temperature	°C	--	> 400	> 400	> 400	> 255
Color		Light yellow	Transparent	Light brown	Transparent	Transparent
Order No.	10 L	9WX0124	9WX0114	9WX0108	9WX0134	9WX0100
	5 L	9WX0125	9WX0115	9WX0109	9WX0135	9WX0101

Tubing

CR Tubing

Order No.	Description	Inner Diameter	Admissible Temperature Range (in °C)	Suitable for
9WX1051	CR-Tube	8 mm	-20 ~ +120	All Wiggins products that lie within the stated temperature range
9WX1050	CR-Tube	10 mm	-20 ~ +120	All Wiggins products that lie within the stated temperature range



Viton Tubing

Order No.	Description	Inner Diameter	Admissible Temperature Range (in °C)	Suitable for
9WX2053	Viton Tube	8 mm	-50 ~ +200	All Wiggins products that lie within the stated temperature range
9WX2054	Viton Tube	10 mm	-50 ~ +200	All Wiggins products that lie within the stated temperature range



Heat Insulation Tubing

Order No.	Description	Inner Diameter	Suitable for
9WX1056	1 m Heat Insulation Tube	14 mm	CR Tube with 8 mm diameter CR Tube with 10 mm diameter
9WX1057	1 m Heat Insulation Tube	18 mm	CR Tube with 12 mm diameter



Hose Clamps

Order No.	Description	Piece per Unit	Suitable for
9WX1054	Hose Clamp	2	CR Tube with 8 mm diameter
9WX1055	Hose Clamp	2	CR Tube with 10 mm diameter CR Tube with 12 mm diameter

Single Metal Layer Heat Insulation Tubing

Order No.	Description	Length	Admissible Temperature Range (in °C)	Suitable for
9WX1058	Single Metal Layer Heat Insulation Tube	0.5m	-50 ~ +200	All Wiggins products that lie within the stated temperature range
9WX1059	Single Metal Layer Heat Insulation Tube	1 m	-50 ~ +200	All Wiggins products that lie within the stated temperature range
9WX1060	Single Metal Layer Heat Insulation Tube	1.5 m	-50 ~ +200	All Wiggins products that lie within the stated temperature range
9WX1061	Single Metal Layer Heat Insulation Tube	3 m	-50 ~ +200	All Wiggins products that lie within the stated temperature range



Incubators

Constant Temperature Incubators

Applicable in life-science, pharmacy, medical science, chemistry, biology, and related fields for storage of samples which need a constant temperature and incubation

Digital temperature display and control

PID controller for temperature stability and safety protection

Very good heating characteristics

Ecologically friendly

Easy to clean

Timer function with possible setting of start time and duration

3 pre-programmed often used temperature settings

Can be opened anytime when necessary

Temperature measure unit can be set as either °C or °F

When the temperature exceeds set levels and reaches the set safety value, an alarm activates, power is cut off, and the incubation process stops

The material of the observation window is tempered glass, which has good safety

and sealing characteristics

The magnetic door and high-quality gasket can absorb external shocks and comprise excellent sealing characteristics

Easy to clean stainless steel shelves with good air permeability and adjustable height

In case of temperature deviations, the BIAS function sets in, which makes operation convenient

For the case of an unexpected power breakdown the incubator offers two working options: Automatic re-operation and automatic stop

Upon opening the incubator, a light turns on, and the fan and heating device stop operation

Alarm sound for sample protection sets in when the door is open for more than 60 seconds



Wiggins

Specifications

Product Name	WH-05	WH-15	WH-25
Volume	50 L	70 L	140 L
Temperature Range	Ambient Temperature + 5°C ~ 80°C	Ambient Temperature + 5°C ~ 80°C	Ambient Temperature + 5°C ~ 80°C
Accuracy	< ±0.1°C	< ±0.1°C	< ±0.1°C
Temperature Stability	±0.1°C (37°C)	±0.1°C (37°C)	±0.1°C (37°C)
Temperature Controller	Touch Control; Digital Display with PID automatic regulation	Touch Control; Digital Display with PID automatic regulation	Touch Control; Digital Display with PID automatic regulation
Materials	Interior: Stainless steel ; Shelves: Polished stainless steel ; Inner glass door: 5 mm high temperature resistant safety glass Casing: Steel plate, Spray coating ; Heat insulation: Inflammable polystyrol		
Timer	Start / Stop setting; Max. 99hr 59min; Unit: 1 min		
Heating Capacity	450 W	450 W	450 W
Mains Requirements	AC 220 ~ 240V, 50/60 Hz	AC 220 ~ 240V, 50/60 Hz	AC 220 ~ 240V, 50/60 Hz
Shelves (included / max.)	2 / 3	2 / 4	2 / 5
Inner Dimensions (W × D × H)	400 × 400 × 320 (mm)	400 × 400 × 400 (mm)	550 × 550 × 460 (mm)
Outer Dimensions (W × D × H)	510 × 535 × 698 (mm)	550 × 535 × 778 (mm)	660 × 690 × 858 (mm)
Order No. for EU/US/UK-Plug	21162-E/U/UK	21172-E/U/UK	21182-E/U/UK

Incubators

Low Temperature Incubators

Applicable in life-science, pharmacy, medical science, chemistry, biology, and related fields for storage of samples which need a constant temperature and for incubation.

Digital temperature display and control

PID controller for temperature stability and safety protection

Stainless steel shelves

Very good heating characteristics

Ecologically friendly

Easy to clean

Timer function

Heating function start and duration can be pre-set

Temperature control programs: Temperature programs can be divided into 9 sections and for every section temperature and duration can be set individually

3 pre-set often used temperatures

Can be opened anytime when necessary

Temperature measure unit can be set as either °C or °F

When the temperature exceeds set levels and reaches the set safety value, an alarm activates, power is cut off, and the incubation process stops

A professional controller adjusts the circular fans inside and regulates the defrosting cycle

An observation window made of tempered glass is installed, which makes the examination of samples easy and convenient, and which does not lead to unnecessary disruptions of the incubation process

The magnetic door and high-quality gasket can absorb external shocks and comprise excellent sealing characteristics

The stainless steel shelves have a good air permeability, are easy to clean and can be adjusted in height

When temperature deviation occurs, the BIAS function sets in, which makes operation convenient

For the case of an unexpected power breakdown the incubator offers two working options: Automatic re-operation and automatic stop

When opening the incubator, a light turns on, and the fan and heating device stop operation. After one minute without closing the door an alarm sets in

The WH-11CA and the WH-21CA incubators use heat transfer method for circulation. In a separated room outside the work space it uses heat exchange, in the working space it uses natural convection and forced circulation

The circulation method will not induce air pollution and can guarantee exact temperature distribution

Software for temperature control is optionally available



Specifications

Product Name	WH-11C	WH21C
Temperature Control Method	Forced circulation method (fans integrated in the work environment)	Heat transfer method (no fans integrated in the work environment)
Volume	150 L	250 L
Temperature Range	+4°C ~ 60°C	+4°C ~ 60°C
Accuracy	<±0.1°C	< ±0.1°C
Temperature Stability	±0.2°C ~ 0.3°C	±0.2°C ~ 0.5°C
Temperature Controller	Touch Control; Digital Display with PID automatic regulation	
Materials	Interior: Stainless steel ; Shelves: Polished stainless steel ; Inner glass door: 5mm high temperature resistant safety glass	
Timer	Start / Stop setting; Max. 99hr 59min; Unit: 1 min	
Heating Capacity	450 W	450 W
Cooling Capacity	300 W	350 W
Mains Requirements	AC 220 ~ 240V, 50/60 Hz	AC 220 ~ 240V, 50/60 Hz
Shelves (included / max.)	2/5	3/7
Inner Dimensions (W × D × H)	550 × 455 × 640 (mm)	550 × 455 × 1000 (mm)
Outer Dimensions (W × D × H)	652 × 604 × 1050 (mm)	652 × 604 × 1450 (mm)
Order No. for EU/US/UK-Plug	22041-E/U/UK	22051-E/U/UK

Incubators

Low Temperature Mini Incubators

Applicable in life-science, pharmacy, medical science, chemistry, biology, and related fields for storage of samples which need a constant temperature and for incubation.

Peltier refrigeration system with fewer vibrations, a lower noise level, and lower heat development than common incubators

The WH-01 with a width of only 400mm and the WH-02 with a width of only 416mm can be put into narrow spaces.

PID controller for temperature stability and safety protection

Very good heating characteristics

Ecologically friendly

Easy to clean

Timer function with possible setting of start time and duration

3 pre-programmed often used temperature settings

Can be opened anytime when necessary

Temperature measure unit can be set as either °C or °F

When the temperature exceeds set levels and reaches the set safety value, an alarm activates, power is cut off, and the incubation process stops

The inner door is made of tempered glass, so that observation of samples is possible only by opening the outer door

Forced circulation method to create and maintain an even temperature

Liquid cooling method for strong refrigeration

Automatic defrosting function, which prevents ice formation even under long term operation

Employs durable and environmental friendly EPDM rubber for temperature stability enhancement

The magnetic door and high-quality gasket can absorb external shocks and comprise excellent sealing characteristics

Easy to clean stainless steel shelves with good air permeability and adjustable height

In case of temperature deviations, the BIAS function sets in, which makes operation convenient

For the case of an unexpected power breakdown the incubator offers two working options: Automatic re-operation and automatic stop

Upon opening the incubator, a light turns on, and the fan and heating device stop operation

Alarm sound for sample protection sets in when the door is open for more than 60 seconds



Wiggins

Specifications

Product Name	WH-01	WH-02
Volume	14 L	48 L
Temperature Range	+3°C ~ 60°C (at 20°C ambient temperature)	+3°C ~ 60°C (at 20°C ambient temperature)
Accuracy	0.1°C (20°C)	0.1°C (20°C)
Temperature Stability	0.4°C (37°C)	0.4°C (37°C)
Temperature Controller	Peltier refrigeration system, forced circulation method	Peltier refrigeration system, forced circulation method
Material	Interior: Stainless steel, Shelves: Polished stainless steel, Casing: Steel plate, Spray coating Heat insulation: Inflammable polystyrol, Inner glass door: 5mm high temperature resistant safety glass	
Timer	Start / Stop setting; Max. 99hr 59min; Unit: 1 min	
Heating Capacity	150 W	300 W
Mains Requirements	AC 230V, 50Hz, 1.3A	AC 230V, 50Hz, 2.6A
Net Weight (kg)	24	35
Loading Capacity	3 × 100ml beakers and 3 × 300ml beakers can be placed simultaneously	A shelf can be placed inside, which creates double the loading capacity of the WH-01
Inner Dimensions (W × D × H)	315 × 200 × 230 (mm)	334 × 421 × 334 (mm)
Outer Dimensions (W × D × H)	400 × 535 × 385 (mm)	416 × 590 × 656 (mm)
Order No. for EU/US/UK-Plug	24031-E/U/UK	24041-E/U/UK

Incubators

Low Temperature Incubation

Applicable for fermentation processes with high demands on the precision of the shaking frequency, bacteria incubation, hybridization, life science, pharmacy, medical science, food industry, chemistry, biology, and other laboratory environments.

Orbital and reciprocate shaking functions

Setting of the orbital shaking method (clock-wise or counter clock-wise), stopping behavior, and operation time

Intelligent control system, which maintains the operation speed and adjusts to load changes

PID controller for temperature stability and safety protection

Very good heating characteristics

Ecologically friendly

Shakers

Easy to clean

Shaking throw and speed adjustable

Circulation process automatically stops upon opening the door

In case of temperature overshooting an alarm sound is triggered and heating is cut off

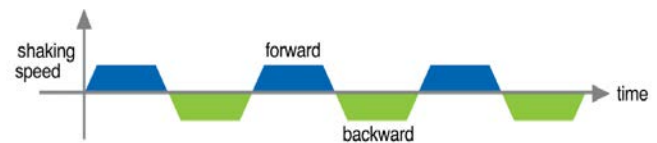
For the case of an unexpected power breakdown the incubator offers two working options: Automatic re-operation and automatic stop

Broad range of available accessories

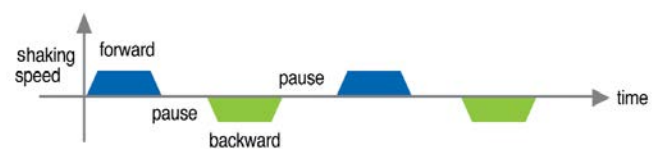


Wiggens

Forward/Backward shaking



Forward/Backward shaking & pause



Specifications

Product Name	WS-300	WS-300R	WS-600	WS-600R	
Volume	53 L	53 L	83 L	83 L	
Temperature	Range	Ambient +5 ~ 60°C	15~60°C	Ambient +5 ~ 60°C	15 ~ 60°C
	Accuracy	±0.1 (38°C)	±0.1 (38°C)	±0.1 (38°C)	±0.1 (38°C)
	Stability	±1.0 (38°C)	±1.0 (38°C)	±1.0 (38°C)	±1.0 (38°C)
	Controller	Touch Control; Digital Display with PID automatic regulation			
	Heater	Heating Plate, 600W			
	Timer	Start / Stop / Duration setting; 10sec ~999hr 59min 59sec			
Shaker	Controller	PID automatic regulation			
	Power Unit	Brushless motor			
	Methods	Clockwise, Counter-clockwise, forth-back, interrupted,			
	Shaking Throw (mm)	20, 30 (standard), 40	20, 30 (standard), 40	20, 30 (standard), 40	20, 30 (standard), 40
	Speed (rpm)	10 ~ 300	10 ~ 300	10 ~ 300	10 ~ 300
	Stability (rpm)	± 1 (at 150rpm)	± 1 (at 150rpm)	± 1 (at 150rpm)	± 1 (at 150rpm)
Dimensions	Platform (W × D in mm)	330 × 330	330 × 330	410 × 410	410 × 410
	Inside (W × D × H in mm)	410 × 410 × 320	410 × 410 × 320	510 × 510 × 320	510 × 510 × 320
	Outside (W × D × H in mm)	440 × 740 × 625	440 × 740 × 625	540 × 850 × 625	540 × 850 × 625
Net Weight (kg)	74	85	91	102	
Max. Load (kg)	10	10	15	15	
Order No. for EU/US/UK-Plug	23101-E/U/UK	23112-E/U/UK	23201-E/U/UK	23211-E/U/UK	

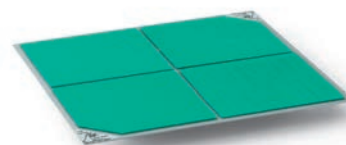
Incubators

Accessories for Incubation Shakers

Sticky Plate

The Wiggins Sticky Plate can be loaded with any kind of vessel with a smooth base. Even at a speed of up to 350 rpm the vessel sticks to the plate. Other vessels, like e.g. microtitre plates can be shaken on the Wiggins Sticky Plate as well. However, only up to a speed of 220 rpm.

Suitable for	WS-300/300R	WS-600/600R
Dimensions (W x D in mm)	350 x 350	450 x 450
Order No.	4A901	31902



Universal Trays

The Universal Trays employ a drilled grid for individual loadings of test tube holders, microtitre plates, and deep well plates.

Suitable for	WS-300/300R	WS-600/600R	
Dimensions (W x D in mm)	350 x 350	450x450	
Max. Load of Beaker Holders (kg)			
	50 ml	28	45
	100 ml	24	36
	250 ml	13	18
	300 ml	13	18
Beaker Volume	500 ml	10	13
	1 L	5	7
	2 L	4	5
	2.8 L	1	2
	4 L	-	-
	6 L	-	-
Max. Load of Separatory Funnel Holders (kg)			
	250 ml	4	6
	500 ml	2	3
Separatory Funnel Volume	1 L	-	2
	2 L	-	-
Order No.	31501	31502	



Deep Well Plates

Deep well plates made of stainless steel for beakers of different volumes.

Order No.	Beaker Volume
23550	50 ml
23551	100 ml
23552	250 ml
23556	300 ml
23553	500 ml
23554	1 L
23555	2 L
23557	2.8 L
23558	4 L
23559	6 L



Separatory Funnel Holders

Holders for separatory funnels of different sizes made of stainless steel.

Funnel Volumes	250 ml	500 ml	1 L	2 L
Order No.	23562	23563	23564	23565



Incubators

Test Tube Holders

Holders for test tubes of different sizes and different quantities.

Order No.	Quantity	Diameter	Max. Number of Holders Installable per Shaker			
23581	86 test tubes	8 mm				
23582	86 test tubes	10 mm				
23583	58 test tubes	12 mm				
23584	58 test tubes	14 mm	WS-300	WS-300R	WS-600	WS-600R
23585	32 test tubes	16 mm	2	2	4	6
23586	19 test tubes	25 mm				
23594	10 test tubes	35 mm				



Multi-Purpose Tray

The multi-purpose tray is made of stainless steel and can be used for a diverse range of unusual specifications.

Suitable for	WS-300/300R	WS-600/600R
Max. Load of Beakers		
50 ml	16	25
100 ml	9	16
250 ml	4	9
300 ml	4	9
Beaker Volume		
500 ml	4	5
1 L	2	4
2 L	1	2
2.8 L	2	2
Order No.	31521	31522



Adjustable Bar Tray and Rubber Surface Tray

Tray with adjustable bars for diverse and unconventional volumes.

Model	Order No.	Suitable for
Adjustable Bar Tray	31511	WS-300/300R
	31612	WS-600/600R
Rubber Surface Tray	31531	WS-300/300R
	31532	WS-600/600R

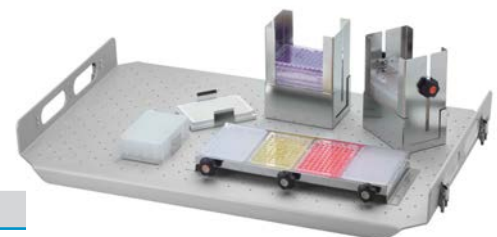


Multi-Pore Holders

The Wiggins multi-pore holders can be installed on the Wiggins sticky plates or the Wiggins universal trays. All holders can be installed on small pores and deeper holes. In total, four different multi-pore holders are available:

1. Multi-Layer Holder
2. Single-Layer Single-Position Holder
3. Single-Layer Three-Position Holder
4. Single-Layer Four-Position Holder

Max. No. of Mountable Holders	Multi-Layer	Four-Position	Three-Position	Single-Position
Max. No. of Mountable Holder (for WS-300(R) / WS600(R))	6 / 10	- / 2	2 / 3	8 / 15
Order No.	23651	23652	23653	23654



Diaphragm Vacuum Pumps and Systems

Chemical Resistant Diaphragm Pumps

All material of the ChemVak Chemical Resistant Diaphragm Pumps which has direct contact with gases is made of PTFE. It can be used in the chemical and petrochemical industry, the pharmacy industry and all industries that make use of chemical resistant vacuum processes, such as filtration, vacuum distillation, rotary evaporation, vacuum and centrifugal concentration, solid phase extraction, etc.

High price-performance ratio, reliable quality, special design, and low noise of 50 dB

Huge product range can fulfill every need in the laboratory work

An ultimate vacuum of 2 mbar can be created

All pumps employ an overheating protection system, which shuts down the pump when the inner temperature is too hot and automatically starts the pump again when cooled down to a safe temperature. This guarantees a stable work of the pump and the safety of the user. You can integrate the chemical resistant diaphragm pumps into vacuum filtration systems and purchase a diverse variety of accessories for your pumps (see P.6 for further information). The special design prevents solid impurities from accessing the pump head and thus guarantees the longevity of the pump. The pressure level can easily be controlled and adjusted



Chemvak

Technical Data

Model	C300	C400	C410
Mains Requirements	220-240V / 50Hz	220-240V / 50Hz	220-240V / 50Hz
Power (W)	60	95	95
Work Mode	Single	Parallel	In Successions
Ultimate Vacuum (mbar)	100	100	13
Flow Rate	1000 mbar	22 L/min	25 L/min
	880 mbar	17 L/min	22 L/min
	750 mbar	13 L/min	20 L/min
	600 mbar	7 L/min	12 L/min
	480 mbar	4 L/min	7.5 L/min
	280 mbar	2 L/min	5 L/min
Outlet (mm)	8	8	8
Motor Speed (rpm)	1450	1450	1450
Weight (kg)	5	7	5
Noise Level (dB)	50	50	50
Order No. for EU/US/UK-Plug	169300-22-E/U/UK	169400-22-E/U/UK	169410-22-E/U/UK

Diaphragm Vacuum Pumps and Systems

Chemical Resistant Diaphragm Pumps



Application:

Vacuum filtration, rotary evaporation, conventional drying, gel drying, etc.
Advanced substitute for water-circulation pumps

Technical specifications:

Environmental friendly medium transmission and vacuum extraction
Resists high and low temperatures
Resists chemical corrosion
Can be used in aggressive gas media
Extremely well sealed
Equipped with a fuse against electrical override and an overheating protection system

Technical Data

Model	C510	C600	C610
Mains Requirements	220-240V / 50Hz	220-240V / 50Hz	220-240V / 50Hz
Power (W)	245	270	245
Work Mode	In Successions	Parallel	In Succession
Ultimate Vacuum (mbar)	8	90	2
Flow Rate	1000 mbar	34 L/min	60 L/min
	880 mbar	31 L/min	55 L/min
	750 mbar	29 L/min	51 L/min
	600 mbar	21 L/min	38 L/min
	480 mbar	16 L/min	32 L/min
	280 mbar	14 L/min	29 L/min
Outlet (mm)	10	10	10
Motor Speed (rpm)	1450	1450	1450
Weight (kg)	7	12.6	13.4
Noise Level (dB)	60	60	60
Order No. for EU/US/UK-Plug	169510-22-E/U/UK	169600-22-E/U/UK	169610-22-E/U/UK

Diaphragm Vacuum Pumps and Systems

Laboratory Vacuum Systems

Information on Accessories

Name	Order No.
CSC/CSR/CSH Receiving bottle	CS001
CSC/CSR/CSH Condensation hose	CS002
CSC/CSR/CSH Segregation bottle	CS013

The sealed system enables a good distillation environment

Precise control of the evaporation process

Maintenance-free

Environmental friendly design

Very low noise

Buffer bottle attached at the air inlet prevents solid and liquid particles from flowing into the pump chamber

Direct electrical connection to the work system

Ultimate vacuum range: 2-13 mbar

Range of the flow rate: 10-34 L/min

The systems mainly consist of chemical resistant vacuum pumps, base plates, condensers, separators, and digital vacuum controller

The CSC system contains a digital vacuum controller, which can display and control the vacuum automatically. You can precisely set the pressure degree. After the set pressure has been achieved, the vacuum pump turns off automatically, which saves energy and helps prolonging the life of the diaphragm and the pump



CSH System

The inlet of the ChemVak CSH System is connected to a segregation bottle, whereas the outlet is connected to a condenser, which can condensate and recover the solvent

Model	CSH 410	CSH 510	CSH 610
Build in PumpType	C410	C510	C610
Power (W)	95	245	245
Ultimate Vacuum (mbar)	13	8	2
Max.Flow Rate (l/min)	25	34	34
Outlet Size (outer diameter in mm)	8	10	10
Weight (kg)	12.5	15.8	16.6
Order No. for EU/US/UK-Plug	900512-E/U/UK	900513-E/U/UK	900514-E/U/UK

The ChemVak CSH vacuum system includes: 1 chemical resistant diaphragm pump, 1 separator, 1 condenser, 1 base plate, and a set of hoses.



CSC System

The inlet of the ChemVak CSC System is connected to a segregation bottle, whereas the outlet is connected to a condenser for solvent recovery. Moreover, the system contains a vacuum controller which can set, display, and control the vacuum degree.

Model	CSC 410	CSC 510	CSC 610
Build in Pump Type	C410	C510	C610
Power (W)	95	245	245
Ultimate Vacuum (mbar)	13	8	2
Max. Flow Rate (l/min)	25	34	34
Outlet Size (outer diameter in mm)	8	10	10
Weight (kg)	16	19.3	20.1
Order No. for EU/US/UK-Plug	900522-E/U/UK	900523-E/U/UK	900524-E/U/UK

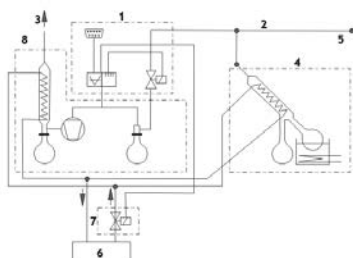
The ChemVak CSC vacuum system includes: 1 chemical resistant diaphragm pump, 1 DVR380 vacuum controller, 1 separator, 1 condenser, 1 base plate, and a set of hoses.

Diaphragm Vacuum Pumps and Systems

Application Guide and Accessories

Application Guide

- Vacuum distillation (e.g. rotary evaporation)
- Liquid ring pump replacement
- Vacuum filtration
- Vacuum waste suction
- Vacuum drying, centrifugation
- Solid phase extraction
- Reaction kettle
- Vacuum inspection, measurement, and detection



Schematic Diagram

- Vacuum controller
- Hose
- Gas outlet
- Rotary evaporator
- Possible extension for multiple rotary evaporators
- Cooling device
- Cooling water control valve
- Vacuum pump

Model selection guide for rotary evaporators

Vacuum Pump Model	Ultimate Vacuum (mbar)	Flow Rate	Applicable Rotary Evaporator
C410	13	25 L/min	1L / 2.5L
C510	8	34 L/min	5L
C600	90	60 L/min	10L
C610	2	34 L/min	5L



Chemvak



Model selection guide for vacuum ovens

Vacuum Pump Model	Ultimate Vacuum (mbar)	Flow Rate	Applicable Vacuum oven
C410	13	25 L/min	15L
C510	8	34 L/min	45L
C600	90	60 L/min	60L
C610	2	34 L/min	30L

Accessories

Chemical Resistant Connector



Description	Order No.
8mm Diameter	169300-20



Chemical Resistant Vacuum Regulator / Filter Equipment

Description	Order No.
Set 1 (includes vacuum trap and regulator)	169311-06
Set 2 (includes vacuum trap only)	169312-06
Set 3 (neither include vacuum trap nor regulator)	169313-06

Diaphragm and Valve Plate Sets



Description	Order No.
Diaphragm and Valve Plate Set 1 (1 diaphragm, 1 valve plate; applicable for C300 / C400 / C410)	410001
Diaphragm and Valve Plate Set 1 (1 diaphragm, 1 valve plate; applicable for C510 / 600 / 610)	510001

Part	Material	Part	Material
Pressure Regulating Valve	PVDF	Filter Bottle	Borosilicate Glass
Filter	PTFE	Adapter	PTFE
Filter Bracket	ABS	Vacuum Sensor	Stainless Steel

Diaphragm Vacuum Pumps and Systems

Accessories For Chemical Resistant Diaphragm Pumps

Tubes and Connectors



PTFE Tubing

Order No.	Outer Diameter mm	Inner Diameter mm	Thickness mm	Length m
016.1706.01	6	4	1	1
016.1706.02	6	4	1	2
016.1706.05	6	4	1	5
016.1708.01	8	6	1	1
016.1708.02	8	6	1	2
016.1708.05	8	6	1	5
016.1712.01	12	10	1	1
016.1712.02	12	10	1	2
016.1712.05	12	10	1	5
016.1714.01	14	12	1	1
016.1714.02	14	12	1	2
016.1714.05	14	12	1	5



Viton Tubing

Order No.	Outer Diameter mm	Inner Diameter mm	Thickness mm	Length m
168000-01	12	6	3	1
168000-01	12	6	3	2
168000-01	12	6	3	5
168001-01	14	8	3	1
168001-01	14	8	3	2
168001-01	14	8	3	5
168002-01	16	10	3	1
168002-01	16	10	3	2
168002-01	16	10	3	5



Straight Through Connector

Order No.	Outer Diameter (mm)	Bore(mm)
016.902.5.2	4.5	2
016.902.2	6.0	2
016.903.7.2	6.8	3
016.903.2	8.0	3
016.904.9.2	9.0	4
016.904.2	10.0	4
016.905.2	11.0	5



L-Shape Connector

Order No.	Outer Diameter (mm)	Bore(mm)
016.1002.5.2	4.5	2
016.1002.2	6.0	2
016.1003.7.2	6.8	3
016.1003.2	8.0	3
016.1004.9.2	9.0	4
016.1004.2	10.0	4
016.1005.2	11.0	5



T-Shape Connector

Order No.	Outer Diameter (mm)	Bore(mm)
016.1102.5.2	4.5	2
016.1102.2	6.0	2
016.1103.7.2	6.8	3
016.1103.2	8.0	3
016.1104.9.2	9.0	4
016.1104.2	10.0	4
016.1105.2	11.0	5



4-Way Connector

Order No.	Outer Diameter (mm)	Bore (mm)
016.1112.5.2	4.5	2
016.1112.2	6.0	2
016.1113.7.2	6.8	3
016.1113.2	8.0	3
016.1114.9.2	9.0	4
016.1114.2	10.0	4
016.1115.2	11.0	5

Chemvak

Diaphragm Vacuum Pumps and Systems

Accessories For Chemical Resistant Diaphragm Pumps

General Purpose Valves

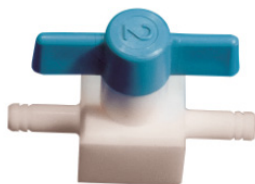
General Purpose Valves

A range of plug valves for applications with less demand towards pressure and temperature

Max. pressure: 1 bar

Max. Vacuum: 7 mbar

Note: Rapid changes in temperature in excess of 25°C may cause these valves to leak due to the expansion properties of PTFE. Can be sterilised at 135°C.



Straight Through Bayonet

Order No.	Outer Diameter/mm	Bore (mm)
016.702.5.2	4.5	2
016.702.2	6.0	2
016.703.7.2	6.8	3
016.703.2	8.0	3
016.704.9.2	9.0	4
016.704.2	10.0	4
016.705.2	11.0	5

Straight Through Screw

Order No.	Outer Diameter/mm	Bore (mm)
016.1202.6.2	6	2
016.1203.2	8	3
016.1204.2	8	4



T-Shape Bayonet

Order No.	Outer Diameter/mm	Bore (mm)
016.802.5.2	4.5	2
016.802.2	6.0	2
016.803.7.2	6.8	3
016.803.2	8.0	3
016.804.9.2	9.0	4
016.804.2	10.0	4
016.805.2	11.0	5

T-Shape Screw

Order No.	Outer Diameter/mm	Bore (mm)
016.1302.6.2	6	2
016.1303.2	8	3
016.1304.2	8	4



Oil-Free Piston Pumps

Oil-Free Piston Vacuum Pumps

The ChemVak V series pumps use piston motion to produce a vacuum and are of such design that no oil has to be used to lubricate the pump. They are very easy to maintain, and can not only be used for vacuum creation but also for pressure supply. Because of the unique structure and advanced technology, the noise level of the pumps lies at comparatively low 48.7 to 60.0 dB. Thus, silent and effective work in the laboratory can be maintained.

The basic ChemVak V pump is suitable for non-corrosive materials, as used e.g. in the biological and food industry

All pumps simply need the vacuum / pressure transformation set in order to convert the pump from a vacuum pump into a pressure pump. Thus, the ChemVak V series can be used for a large variety of purposes in the laboratory environment.

According to your needs you can choose from a large range of accessories

Application Range:

- Microbiological detection
- Vacuum extraction
- Liquid filtration
- Vacuum drying
- Suspended solids measurement
- Underwater Air Supply
- Air sampling



Chemvak

Technical Data

Model	V300	V400	V600	V410	V610	V300DC	
Mains Requirements	220-240V / 50Hz	220-240V / 50Hz	220-240V / 50Hz	220-240V / 50Hz	220-240V / 50Hz	DC 12V	
Power (W)	80	80	190	80	210	35	
Current (A)	0.3	0.4	1	0.4	1	3	
Ultimate Vacuum (mbar)	150	150	150	13	13	150	
Flow Rate	1000 mbar	17 L/min	34 L/min	52 L/min	19 L/min	33 L/min	24 L/min
	880 mbar	14 L/min	31 L/min	46 L/min	18 L/min	30 L/min	24 L/min
	750 mbar	12 L/min	29 L/min	40 L/min	16 L/min	27 L/min	24 L/min
	600 mbar	9.5 L/min	23 L/min	30 L/min	14 L/min	25 L/min	24 L/min
	480 mbar	7 L/min	19 L/min	30 L/min	11 L/min	20 L/min	24 L/min
	350 mbar	4.5 L/min	13 L/min	16 L/min	9 L/min	14 L/min	24 L/min
	210 mbar	1.5 L/min	4 L/min	6 L/min	6 L/min	12 L/min	24 L/min
Outlet (mm)	8	10	8	8	8	8	
Motor Speed (rpm)	1450	1450	1450	1450	1800	1800	
Weight (kg)	4.1	5.2	8.6	4.1	3.5	3.5	
Noise Level (dB)	50	60	52	50	52	50	
Order No. for EU/UK-Plug	167300-22-E/UK	167400-22-E/UK	167600-22-E/UK	167410-22-E/UK	167610-22-E/UK	167330-22-E/UK	

Oil-Free Piston Pumps

Accessories For Oil-Free Piston Pumps



Connectors

Description	Order No.
Outlet Diameter 9.5 mm	167300-20
Outlet Diameter 8 mm	167300-21
Outlet Diameter 6.4 mm	167300-26
Outlet Diameter 4.8 mm	167300-23
Outlet Diameter 3.2 mm	167300-24



L-Shape Connector

Description	Order No.
Outlet Diameter 8 mm	167300-25



Quick Connection Outlets

Description	Order No.
Outlet Diameter 12 mm	168100-12
Outlet Diameter 10 mm	168100-10
Outlet Diameter 8 mm	168100-08
Outlet Diameter 6 mm	168100-06
Outlet Diameter 4 mm	168100-04



Silencer

Description	Order No.
Applicable to the ChemVak V300 / V400 / V410	167300-42
Applicable to the ChemVak V600 / V610	167600-42



Non-Chemical-Resistant Filtration Device

Description	Order No.
Non-Chemical-Resistant Filtration Device Set 1 (incl. pressure gauge)	167300-05
Non-Chemical-Resistant Filtration Device Set 2 (does not incl. pressure gauge)	167300-06



Foot Pedal

Description	Order No.
Applicable to ChemVak C and V Series Vacuum Pumps	167200-41



Heat Shrink Tubes

Order No.	Outer Diameter mm	Inner Diameter mm	Thickness mm	Length mm
168010-01	6	4	1	1
168010-02	6	4	1	2
168010-05	6	4	1	5
168011-01	8	6	1	1
168011-02	8	6	1	2
168011-05	8	6	1	5
168012-01	10	8	1	1
168012-02	10	8	1	2
168012-05	10	8	1	5
168013-01	12	10	1	1
168013-02	12	10	1	2
168013-05	12	10	1	5



Silicon Tubes

Order No.	Outer Diameter mm	Inner Diameter mm	Thickness mm	Length mm
168020-01	12	6	3	1
168020-02	12	6	3	2
168020-05	12	6	3	5
168021-01	14	8	3	1
168021-02	14	8	3	2
168021-05	14	8	3	5
168022-01	16	10	3	1
168022-02	16	10	3	2
168022-05	16	10	3	5

Oil-Free Piston Pumps

Vacuum Filtration Systems

ChemVak Filtration Systems are unique vacuum filtration devices. They combine all the necessary steps needed in vacuum filtration in one smart system. This saves precious time and simplifies the process of vacuum filtration enormously

The here installed vacuum pumps have a very low noise level

The systems are easy to maintain.

The basic vacuum filtration system can be applied in environments, where no chemical resistant devices are necessary, like e.g. biology and food science laboratories

ChemVak also offers chemical resistant vacuum filtration systems, which are e.g. applied in the chemical, petrochemical, and pharmaceutical industry. All parts that come in contact with gases are made of PTFE, which can resist acid-based, and organic gases

The outer filtration device can prevent solid impurities from entering the system

The pressure can be controlled manually

The all-in-one system consists of: a 1L suction bottle, a filtration flask, a funnel, and a bracket

ChemVak offers you 2 different types of all-in-one vacuum filtration systems:

1. Basic vacuum filtration system
2. Chemical resistant vacuum filtration system, which entails an additional filter bottle for the further safety of the vacuum pump when using highly corrosive substances



VF203A / 205A

The basic edition contains a VF6 filtration flask; the filtration flask can be changed to the VF1 model on request; for further information on filtration glass sets please refer to pp. 17 - 20



VF203B / 205B

The basic edition contains a VF2 filtration flask; the filtration flask can be changed to the VF11 model on request; for further information on filtration glass sets please refer to pp. 17 - 20

Available Accessories

ChemVak can offer you different installation methods and funnels of different materials and sizes. Moreover, we can offer different filter membranes as well as Bunsen burners, in order to fulfill all your needs with regard to vacuum filtration.

Technical Data

Model	VF 203A	VF 203B	VF 205A	VF 205B
Product Type	All-In-One Filtration System		All-In-One Filtration System	
Mains Requirements	220-240V / 50Hz	220-240V / 50Hz	220-240V / 50Hz	220-240V / 50Hz
Power (W)	60	60	80	80
Current (A)	0.3	0.3	0.4	0.4
Ultimate vacuum (mbar)	150	150	150	150
Flow Rate	1000 mbar	17 L/min	34 L/min	34 L/min
	880 mbar	14 L/min	14 L/min	31 L/min
	750 mbar	12 L/min	12 L/min	29 L/min
	600 mbar	9.5 L/min	9.5 L/min	23 L/min
	480 mbar	7 L/min	7 L/min	19 L/min
	350 mbar	4.5 L/min	4.5 L/min	13 L/min
	210 mbar	1.5 L/min	1.5 L/min	4 L/min
Outlet (mm)	8mm	8mm	8mm	8mm
Motor Speed (rpm)	1450	1450	1450	1450
Weight (kg)	7.1	7.1	7.5	7.5
Noise Level (dB)	50	50	50	50
Contained Filtration Glass Set	VF6	VF62	VF6	VF2
Order No. for EU/UK-Plug	167203A-22-E/UK	167203B-22-E/UK	167205A-22-E/UK	167205B-22-E/UK

Oil-Free Piston Pumps

Vacuum Filtration Systems

VF203A

This vacuum filtration system contains a VF6 filtration flask set, a VF203 vacuum pump, a high pressure resistant tube, a 0.2 µm water-blocking device, as well as a 0.1 µm fiberglass filter membrane. This system can be used for normal vacuum filtration. It fits especially well for the measurement of suspended solids.

VF203B

This vacuum filtration system contains a VF2 filtration flask set, a VF203 vacuum pump, a Dragon 100 Bunsen burner, a high pressure resistant tube, a 0.2 µm water-blocking device, as well as a 0.1 µm fiberglass filter membrane. This system can be used for normal vacuum filtration. It fits especially well for microorganism determination.

VF205A

This vacuum filtration system contains a VF6 filtration flask set, a VF205 vacuum pump, a high pressure resistant tube, a 0.2 µm water-blocking device, as well as a 0.1 µm fiberglass filter membrane. This system can be used for normal vacuum filtration. It fits especially well for the measurement of suspended solids.

VF205B

This vacuum filtration system contains a VF2 filtration flask set, a VF205 vacuum pump, a Dragon 100 Bunsen burner, a high pressure resistant tube, a 0.2 µm water-blocking device, as well as a 0.1 µm fiberglass filter membrane. This system can be used for normal vacuum filtration. It fits especially well for microorganism determination.

VF204

This vacuum filtration system contains a VF3 filtration flask set, a VF204 vacuum pump, a high pressure resistant tube, and a 0.2 µm water-blocking device. It can be used for HPLC, GC, and AA micro-analysis or for mobile phase decontamination.

VF214

This vacuum filtration system contains a VF3 filtration flask set, a VF214 vacuum pump, a high pressure resistant tube, and a 0.2 µm water-blocking device. It can be used for HPLC, GC, and AA micro-analysis or for mobile phase decontamination.

VF204/214

The basic edition contains a VF3 filtration flask; the filtration flask can be changed to the VF10 model on request; for further information on filtration glass sets please refer to pp. 17 - 20



Technical Data

Model	VF 204	VF 214
Product Type	Chemical Resistant Vacuum Filtration System	Chemical Resistant Vacuum Filtration System
Mains Requirements	220-240V / 50Hz	220-240V / 50Hz
Power (W)	60	95
Current (A)	0.32	0.6
Ultimate Vacuum (mbar)	210	13
1000 mbar	22 L/min	25 L/min
880 mbar	17 L/min	22 L/min
Flow 750 mbar	13 L/min	20 L/min
Rate 600 mbar	7 L/min	12 L/min
480 mbar	4 L/min	7.5 L/min
280 mbar	2 L/min	5 L/min
Outlet (mm)	8 mm	8 mm
Motor Speed (rpm)	1450	1450
Weight (kg)	7.1	8.3
Noise Level (dB)	50	50
Contained Filtration Glass Set	VF3	VF3
Order No. for EU/US/UK-Plug	169204-22-E/U/UK	169214-22-E/U/UK

Oil-Free Piston Pumps

Filtration Collocations

Vacuum filtration is used in laboratories in a wide range of fields, including the food, pharmaceutical, beverages, and drinking-water industry. Environmental-friendly suspended solids measurement, HPLC, GC, and AA analysis, as well as mobile phase decontamination are common applications of vacuum filtration. ChemVak is one of the leading suppliers of laboratory vacuum filtration equipment and can provide vacuum pumps, filtration funnels, as well as all kinds of filtration equipments, which all undergo the highest quality standards. ChemVak provides you with the ideal vacuum filtration system for your specific application.

V300A Features

Basic Filtration Design

The ChemVak V300A is an economic set designed for basic vacuum filtration purposes. The set entails an oil-free piston pump, a VF6 filtration glass set, filter membranes, and a high-pressure resistant silicon tube.

Environmental Friendly and Maintenance Free

The ChemVak V series uses the piston-movement technique for vacuum creation, and thus does not need any oil for lubrication. Therefore, oil change and pollution both are not an issue.

Low Noise, Low Vibration

The ChemVak vacuum pumps use direct motor transmission, so that no belt is needed. In addition, other devices to lower noise and vibration can be provided in order to guarantee a silent operation.

Air Supply Filtration Applicable

All ChemVak vacuum pumps employ a filter element at the inlet, which can filter out dust and moisture. Thus, the inlet can be kept uncontaminated, which enhances the longevity of the vacuum pump.



V300A Product Application

Water quality measurement
Normal liquids filtration

V300A Ordering Information

Order No.: 167301-22-E/UK

The V300A vacuum filtration set includes the following:

- 167300-22 V300 oil-free piston pump
- 167200-01 VF6 filtration glass set
- 167100-20 Fiberglass filter membranes (47 mm / 1 µm)
- 168021-01 High-pressure resistant silicon tube (1 m)
- 167200-35 PTFE disc filter

V300B Features

Designed for Suspended Solids Measurement

The V300B vacuum system is especially designed for suspended solid measurement. The set includes an oil-free piston pump, a VF1 filtration glass set, filter membranes, a high-pressure resistant tube, as well as a 1 µm fiberglass filter.

Magnetic Stability Design

For the filtration funnels a magnetic stability design is used, and thus no clamp is needed to ensure a smooth filtration process.



V300B Product Application

Suspended solid measurement
Normal liquids filtration

V300B Ordering Information

Order No.:167302-22-E/UK

The V300B vacuum filtration set includes the following:

- 167300-22 V300 oil-free piston pump
- 167200-01 VF1 magnetic filtration glass set
- 167100-20 Fiberglass filter membranes (47 mm / 1 µm)
- 168021-01 High-pressure resistant silicon tube (1 m)
- 167200-35 Disc filter made of PTFE material

Model	V300A	V300B
Flow Rate of the Pump	17 l/min	17 l/min
Ultimate Vacuum	150 mbar	150 mbar
Filtration Glass Set	VF6	VF1
Suction Bottle Capacity	1000 ml	1000 ml
Filter Diameter	47/50 mm	47/50 mm
Filter Flask Capacity	300 ml	300 ml
Filter Flask Material	(Glass Filter Cup)	(Magnetic Filter Cup)
Effective Filtration Area	9.6 cm ²	9.6 cm ²
Outlet	8 mm	8 mm

Oil-Free Piston Pumps

Filtration Collocations

V300SS Features

Designed for Microbiological Detection

The V300SS is an economic set especially designed for microbiological detection. A set contains an oil-free piston pump, a VF2 filtration glass set, a Bunsen burner, disc filters, a high-pressure resistant silicon tube, and a 0.45 µm filter membrane especially designed for microbiological detection.

Spin-lock Connection

Fast and stable installation of the filter cup which makes a clamp unnecessary.

Quick Sterilization

The filtration funnels are made of SUS316 stainless steel, and with the included Bunsen burner a quick and effective sterilization can be achieved, which enhances the microbiological detection process significantly.

Environmental Friendly and Maintenance Free

The ChemVak V series uses piston-movement for vacuum creation, and thus does not need any oil for lubrication. Therefore, oil change and pollution both are not an issue.

C300A Features

Special Design for Solvent Purification

The ChemVak C300A series is especially designed for sample pretreatment and solvent purification. It includes a chemical resistant diaphragm pump, a VF3 filtration glass set, disc filters, and a high-pressure resistant silicon tube.

Chemical-Resistant Diaphragm Pump

The ChemVak C series pumps are chemical-resistant diaphragm vacuum pumps, where all parts that come into contact with gases are made of PTFE. In addition, the case and switch are also made of chemical-resistant material, so that all sorts of organic and acid gases can be used.

Environmental Friendly and Maintenance Free

The ChemVak C series uses the diaphragm movement technique for vacuum creation, and thus does not need any oil for lubrication. Therefore, oil change and pollution both are not an issue.

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V300SS Product Application

Microbiological detection
All kind of liquid filtrations

V300SS Ordering Information

Order No.: 167303-22-E/UK

The V300SS vacuum filtration set includes the following:

167300-22	V300 oil-free piston pump
167200-02	VF2 filtration glass set
177100-00	Dragon 100 Bunsen burner
167100-52	Filter membrane (47 mm / 0.45 µm)
168021-01	High-pressure resistant silicon tube (1m)
167200-35	PTFE disc filter (25 mm / 0.2 µm)



C300A Product Application

Sample pretreatment HPLC, GC, and AA analysis
All kinds of solvent purification (mobile phase)

C300A Ordering Information

Order No.: 169301-22-E/U/UK

The C300A vacuum filtration set includes the following:

169300-22	C300 chemical resistant diaphragm pump
167200-03	VF3 magnetic filtration glass set
167200-35	PTFE disc filter
168021-01	High-pressure resistant silicon tube (1m)

Model	V300SS	C300A
Flow Rate of the Pump	17 l/min	22 l/min
Ultimate Vacuum	150 mbar	210 mbar
Filtration Glass Set	VF2	VF3
Suction Bottle Capacity	1000 ml	1000 ml
Filter Diameter	47/50 mm	47/50 mm
Filter Flask Capacity	100 ml	300 ml
Filter Flask Material	(Stainless Steel Filter Cup)	(Glass Filter Cup)
Effective Filtration Area	9.6 cm ²	9.6 cm ²
Outlet	8 mm	8 mm

Oil-Free Piston Pumps

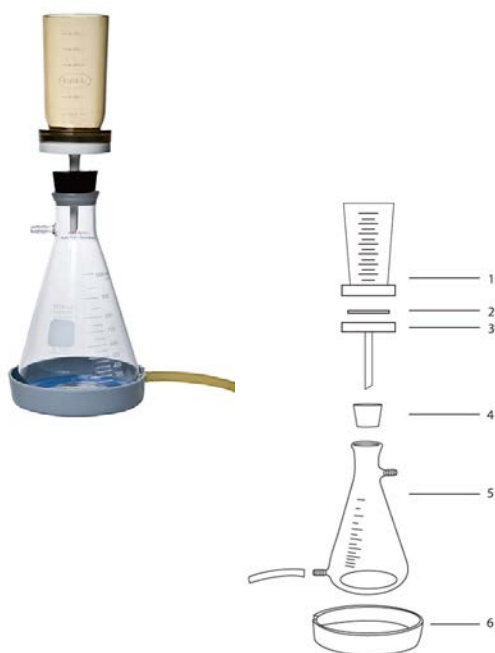
Filtration Glass Sets

Vacuum filtration can be applied in a wide range of fields for all kinds of liquid filtration, including microbiological detection in food, pharmaceuticals, beverages, or drinking water, suspended solid measurement, sample pretreatment like HPLC, GC, and AA analysis, and solvent purification

This set is of a unique design, which consists of a filtration funnel linked to a fast draining filtration flask and seated in a magnetic stand. The design makes it easy to discharge and empty out the filtration flask

VF1 (167200-01)

Suitable for basic liquid vacuum filtration, like suspended solids filtration.



VF9 (167200-09)

Suitable for flame sterilization, microbiological detection, or corrosive sample purification.



Technical Data

Set	VF1	VF9
Funnel	PES	SUS316
Funnel Base	PES	SUS316
Membrane Support	PP	SUS316
Stopper	Silicon	Silicon
Receiver Flask with Drain	Borosilicate Glass	Borosilicate Glass
Specifications		
Funnel Capacity	300 ml	300 ml
Filtration Flask Capacity	1000 ml	1000 ml
Filter Diameter	47 mm	47 mm
Effective Filtration Area	9.6 cm ²	9.6 cm ²
Outlet	8 mm	8 mm

Ordering Information

VF1	47mm Magnetic Filtering Set	167200-01
	300ml Magnetic Funnel	167100-18
1	300ml Magnetic Filter Cup	167000-34
2	PP Membrane Support	167000-37
3	PES Filter Base	167000-35
4	Silicon Rubber	167110-17
5	1000ml Receiver Flask with Drain	167300-08
6	Weighted Base	167200-04
VF9	47mm Stainless Steel Filtration Set	167200-09
	300ml Stainless Steel Funnel	167103-30
1	300ml Stainless Steel Filter Cup	167103-63
2	Membrane Support	167100-31
3	47mm Stainless Steel Funnel Base	167103-60
4	Silicon Rubber	167110-17
5	1000ml Receiver Flask with Drain	167300-08
6	Weighted Base	167200-04

Oil-Free Piston Pumps

47mm Stainless Steel Filtration Glass Sets

Suitable for flame sterilization, microbiological detection, or corrosive sample purification.

VF2 (167200-02)



VF3 (167200-03)



VF11 (167200-11)



VF10 (167200-10)



Chemvæk

Technical Data

Set	VF2	VF11
Funnel	SUS316	SUS316
Funnel Base	SUS316	SUS316
Membrane Support	SUS316	SUS316
Stopper	Silicon	Silicon
Receiver Flask with Drain	Borosilicate Glass	Borosilicate Glass
Specifications		
Funnel Capacity	100 ml	500 ml
Filtration Flask Capacity	1000 ml	2000 ml
Filter Diameter	47 mm	47 mm
Effective Filtration Area	9.6 cm ²	9.6 cm ²
Outlet	8 mm	8 mm

Ordering Information

VF2 47mm Stainless Steel Filtration Set	167200-02
100ml Stainless Steel Funnel	167103-10
1 100ml Stainless Steel Filtration Cup	167103-61
2 Membrane Support	167100-31
3 47mm Stainless Steel Funnel Base	167103-60
4 Silicon Rubber	167110-17
5 1000ml Receiver Flask with Drain	167300-08
6 Weighted Base	167200-04
VF11 47mm Stainless Steel Filtration Set	167200-11
500ml Stainless Steel Funnel	167103-50
1 500ml Stainless Steel Filtration Cup	167103-65
2 Membrane Support	167100-31
3 47mm Stainless Steel Funnel Base	167103-60
4 Silicon Rubber	167110-17
5 2000 ml Receiver Flask with Drain	167300-13

Technical Data

Set	VF3	VF10
Funnel	Borosilicate Glass	Borosilicate Glass
Funnel Base	Borosilicate Glass	Borosilicate Glass
Membrane Support	Borosilicate Glass	Stainless Steel Micro-Strainer + PTFE Gasket
Clamp	Aluminum Magnesium Alloy	Aluminum Magnesium Alloy
Filtration Flask	Borosilicate Glass	Borosilicate Glass
Specifications		
Funnel Capacity	300 ml	1000 ml
Filtration Flask Capacity	1000 ml	4000 ml
Filter Diameter	47 mm	90 mm
Effective Filtration Area	9.6 cm ²	40.6 cm ²
Outlet	8 mm	8 mm

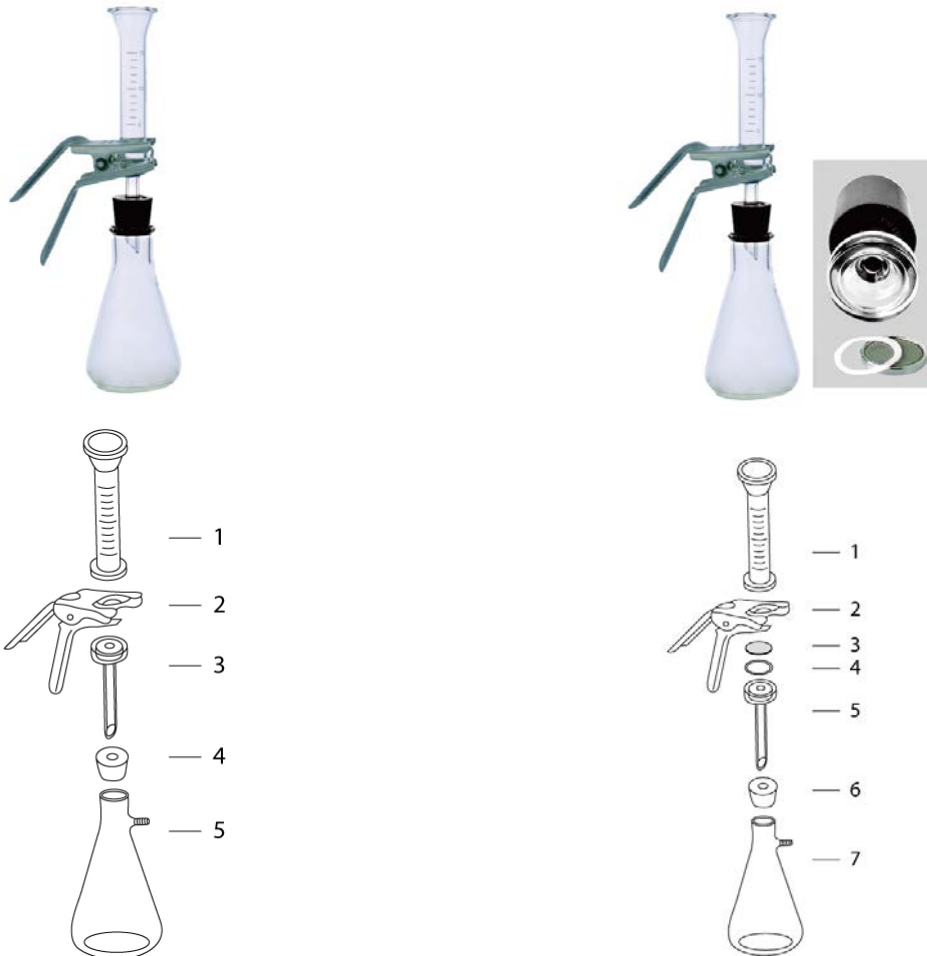
Ordering Information

VF3 47mm Filtration Glass Set	167200-03
300ml Glass Funnel	167120-30
1 300ml Glass Filter Cup	167210-03
2 Aluminum Magnesium Alloy Clamp	167240-01
3 47mm Glass Support Base	167230-01
4 1000ml Receiver Flask	167250-01
VF10 90mm Filtration Glass Set	167200-10
1000 ml Frosted Glass Funnel	167120-35
1 1000 ml Glass Filter Cup	167210-10
2 Aluminum Magnesium Alloy Bracket	167240-02
3 Stainless Steel Support Screen	167230-33
4 PTFE Gasket	167230-43
5 90mm Glass Support Base	167230-09
6 4000ml Receiver Flask	167250-06

Oil-Free Piston Pumps

25mm Filtration Glass Sets For Microanalysis

Suitable for filtration processes as used in pollution analysis or microbiology, like e.g. DNA / RNA hybridization.



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Technical Data

Set	VF5	VF8
Funnel	Borosilicate Glass	Borosilicate Glass
Funnel Base	Borosilicate Glass	Borosilicate Glass
Membrane Support	Borosilicate Glass	Stainless Steel Support Screen + PTFE Gasket
Clamp	Aluminum Magnesium Alloy	Aluminum Magnesium Alloy
Stopper	Silicon	Silicon
Receiver Flask	Borosilicate Glass	Borosilicate glass

Ordering Information

VF5 25mm Glass Filtration Set for Microanalysis	167200-05
15 ml Glass Funnel	167120-32
1 15 ml Glass Filter Cup	167220-15
2 Aluminum Magnesium Alloy Clamp	167240-05
3 25 mm Glass Filter Base	167230-04
4 Silicon Rubber	167110-18
5 125 ml Receiver Flask	167250-05

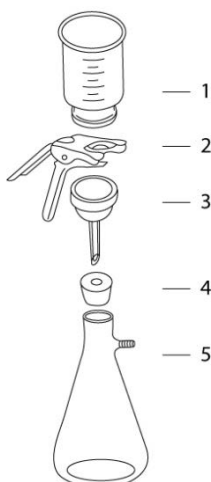
Specifications		
Funnel Capacity	15 ml	15 ml
Filtration Flask Capacity	125 ml	125 ml
Filter Diameter	25 mm	25 mm
Effective Filtration Area	2.2 cm ²	2.2 cm ²
Outlet	8 mm	8 mm

VF8 25 mm Glass Filtration Set for Microanalysis	167200-08
15ml Glass Funnel	167120-34
1 15ml Glass Filter Cup	167220-15
2 Aluminum Magnesium Alloy Bracket	167240-05
3 Stainless Steel Support Screen	167230-32
4 PTFE Gasket	167230-42
5 25mm Glass Filter Base	167230-08
6 Silicon Rubber	167110-18
7 125ml Receiver Flask	167250-05

Oil-Free Piston Pumps

47mm Filtration Glass Sets

Suitable for solvent purification and normal filtration, like microbiological and suspended solids filtration.



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Technical Data

Set	VF6	VF7
Funnel	Borosilicate Glass	Borosilicate Glass
Funnel Base	Borosilicate Glass	Borosilicate Glass
Membrane Support	Borosilicate Glass	Stainless Steel Micro-Strainer + PTFE Gasket
Clamp	Aluminum Magnesium Alloy	Aluminum Magnesium Alloy
Stopper	Silicon	Silicon
Receiver Flask	Borosilicate Glass	Borosilicate Glass

Specifications		
Funnel Capacity	300 ml	300 ml
Filtration Flask Capacity	1000 ml	1000 ml
Filter Diameter	47 mm	47 mm
Effective Filtration Area	9.6 cm ²	9.6 cm ²
Outlet	8 mm	8 mm

Ordering Information

VF6 47mm Filtration Glass Set		167200-06
	300ml Glass Funnel	167120-31
1	300ml Glass Filter Cup	167210-03
2	Aluminum Magnesium Alloy Clamp	167240-01
3	47mm Glass Filter Base	167230-03
4	Silicon Rubber	167110-16
5	1000ml Receiver Flask	167250-03

VF7 47mm Filtration Glass Set		167200-07
	300ml Glass Funnel	167120-31
1	300ml Glass Filter Cup	167210-03
2	Aluminum Magnesium Alloy Clamp	167240-01
3	Stainless Steel Support Screen	167230-31
4	PTFE Gasket	167230-41
5	47mm Glass Filter Base	167230-03
6	Silicon Rubber	167110-16
7	1000ml Receiver Flask	167250-03

Oil-Free Piston Pumps

Multi-Branch Manifolds

SUS316 Stainless Steel

Every branch of the BioVac 330 and the BioVac 630 multi-branch manifolds is made of SUS316 stainless steel, so that heat sterilization can be applied.

Spin-Lock Connection

Fast and stable installation without a clamp.

Independent Valve Control

Each branch of the BioVac 330 / 630 can be independently controlled.

Different Filter Cups Available

The BioVac 330 / 630 multi-branch manifold can be combined with 100 ml, 300 ml, and 500 ml filtration cups for all kinds of filtration experiments.

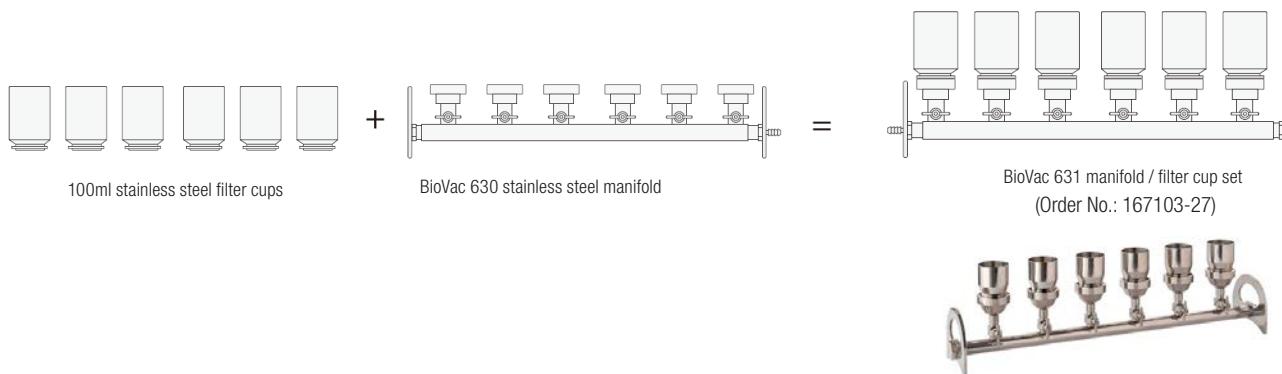


The 3-branch stainless steel manifold BioVac 330
(Order No.: 167103-23)



The 6-branch stainless steel manifold BioVac 630
(Order No.: 167103-26)

BioVac 630 Application Diagram



Ordering Information

- 167103-23 BioVac 330 3-branch stainless steel manifold (filter cups are not included)
- 167103-26 BioVac 630 6-branch stainless steel manifold (filter cups are not included)
- 167103-24 BioVac 331 3-branch manifold set (incl. three 100 ml stainless steel filter cups)
- 167103-27 BioVac 631 6-branch manifold set (incl. six 100 ml stainless steel filter cups)

Eligible Filter Cups

- 167103-61 100 ml stainless steel filter cup
- 167103-63 300 ml stainless steel filter cup
- 167103-65 500 ml stainless steel filter cup

Product Application

- Microbiological detection
- Chemical experiments
- All kinds of liquid filtration
- Air sampling

Product Specifications

Type	BioVac330	BioVac630
Number of Branches	3	6
Filter Diameter	47 / 50 mm	47 / 50 mm
Filter Cup Capacity	100 /300 /500 ml	100 /300 /500 ml
Effective Filtration Area	9.6 cm ²	9.6 cm ²
Outlet	8 mm	8 mm
Dimensions (L x W x H)	44.5 x 12.9 x 12.5 cm	68.5 x 12.9 x 12.5 cm

Oil-Free Piston Pumps

Multi-Branch Manifolds

SUS316 Stainless Steel

Every branch of the BioVac 300 and the BioVac 600 multi-branch manifolds is made of SUS316 stainless steel, so that heat sterilization can be applied.

Spin-Lock Connection

Fast and stable installation without a clamp.

Independent Valve Control

Each branch of the BioVac 300 / 600 can be independently controlled.

Different Filter Cups Available

The BioVac 300 / 600 multi-branch manifold can be combined with 500 ml, 750 ml, and 1000 ml filtration cups for all kinds of filtration experiments.

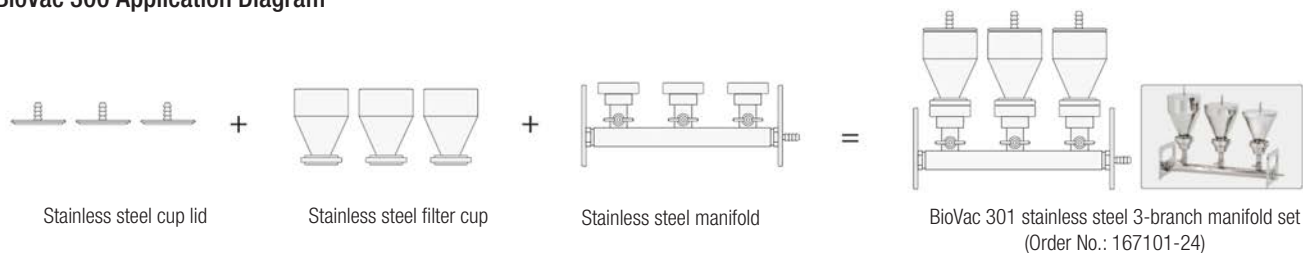


The 3-branch stainless steel manifold BioVac 300
(Order No.: 167101-23)



The 6-branch stainless steel manifold BioVac 600
(Order No.: 167101-26)

BioVac 300 Application Diagram



Ordering Information

- 167101-23 BioVac 300 3-branch stainless steel manifold
(filter cups are not included)
- 167101-26 BioVac 600 6-branch stainless steel manifold
(filter cups are not included)
- 167101-24 BioVac 301 3-branch manifold set
(incl. three 500 ml stainless steel filter cups)
- 167101-27 BioVac 601 6-branch manifold set
(incl. six 500 ml stainless steel filter cups)

Eligible Filter Cups

- 167102-50 500 ml stainless steel filter cup
- 167102-75 750 ml stainless steel filter cup
- 167102-99 1000 ml stainless steel filter cup
- 167110-20 Stainless steel cup covers (fit to the above mentioned cups)

Product Application

- Microbiological detection
- Chemical experiments
- All kinds of liquid filtration

Product Specifications

Type	BioVac300	BioVac600
Number of Branches	3	6
Filter Diameter	47 / 50 mm	47 / 50 mm
Filter Cup Capacity	500 / 750 / 1000 ml	500 / 750 / 1000 ml
Effective Filtration Area	9.6 cm ²	9.6 cm ²
Outlet	8 mm	8 mm
Dimensions (L x W x H)	43.5 x 15 x 14.5 cm	67.5 x 15 x 14.5 cm

Oil-Free Piston Pumps

Multi-Branch Manifolds

SUS316 Stainless Steel

Every branch of the BioVac 320 / 620 multi-branch manifolds is made of SUS316 stainless steel, so that heat sterilization can be applied.

Light Aluminum Design

The BioVac 321 manifold is made of anodized aluminum and copper electroplating, resulting in a very light weight, whereas steam sterilization can still be applied.

Independent Valve Control

Each branch of the BioVac 320 / 620 / 321 can be independently controlled.

Different Filter Cups Available

The BioVac 320 / 620 / 321 multi-branch manifolds can be combined with 100 ml, 300 ml, and 500 ml filtration cups for all kinds of filtration experiments.



The BioVac 321 3-branch aluminum manifold
(Order No.: 167200-43)



The BioVac 320 3-branch stainless steel manifold
(Order No.: 167110-23)



The BioVac 620 6-branch stainless steel manifold
(Order No.: 167110-26)

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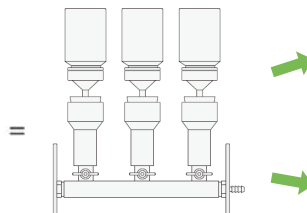
BioVac 320 Application Diagram



Glass / magnetic / stainless steel filter cup



Aluminium manifold



BioVac321 3-branch manifold set

Ordering Information

- 167110-23 BioVac 320 3-branch stainless steel manifold
(filter cups are not included)
- 167110-26 BioVac 620 6-branch stainless steel manifold
(filter cups are not included)
- 167200-43 BioVac 321 3-branch aluminum manifold
(filter cups are not included)
- 167110-17 Silicon Rubber

Eligible filtration cups

- 167103-10/30/50 100 ml, 300 ml, 500 ml stainless steel filter cup
- 167120-31/33 300 ml glass filter cup
- 167100-18 300 ml magnetic filter cup
- 167130-15 150 ml magnetic filter cup
- 167130-50 500 ml magnetic filter cup

Product Application

- Microbiological detection
- Chemical experiments
- All kinds of liquid filtration

Product Specifications

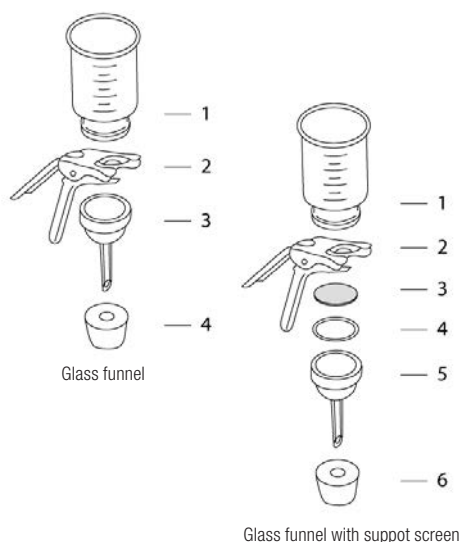
Type	BioVac320	BioVac620	BioVac321
Number of Branches	3	6	3
Filter Diameter	Dependent on Filter Cup Diameter	Dependent on Filter Cup Diameter	Dependent on Filter Cup Diameter
Effective Filtration Area	Dependent on Filter Cup Area	Dependent on Filter Cup Area	Dependent on Filter Cup Area
Outlet	8 mm	8 mm	8 mm
Dimensions (L x W x H)	44.5 x 12.9 x 15 cm	68.5 x 12.9 x 15 cm	39.5 x 15 x 13.7 cm

Accessories For Filtration Systems

47mm Glass Funnel

Product Features

Made of chemical-resistant borosilicate glass
Resistant against high temperatures
steam sterilization can be applied



Product Specifications

Type	Glass Funnel	Glass Funnel with Micro-Strainer
Funnel	Borosilicate Glass	Borosilicate Glass
Funnel base	Borosilicate Glass	Borosilicate Glass
Membrane Support	Borosilicate Glass	Stainless Steel Support Screen + PTFE Gasket
Clamp	Aluminum Magnesium Alloy	Aluminum Magnesium Alloy

Specifications		
Funnel Capacity	300 ml	300 ml
Filter Diameter	47 mm	47 mm
Effective Filtration Area	9.6 cm ²	9.6 cm ²

Ordering Information

47 mm Glass Funnel		167120-31
1	300 ml Glass Filter Cup	167210-03
2	Aluminum Magnesium Alloy Clamp	167240-01
3	47 mm Glass Filter Base	167230-03
4	Silicon Rubber	167110-16

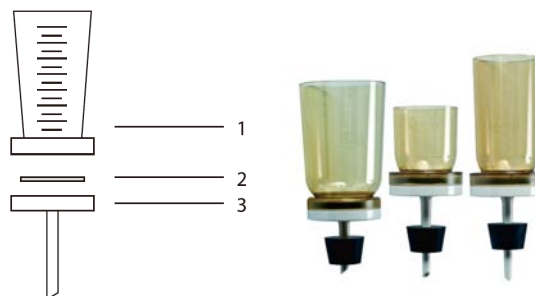
47 mm Glass Funnel with Micro-Strainer		167120-33
1	300 ml Glass Filter Cup	167210-03
2	Aluminum Magnesium Alloy Clamp	167240-01
3	Stainless Steel Support Screen	167230-31
4	PTFE Gasket	167230-41
5	47 mm Glass Filter Base	167230-07
6	Silicon Rubber	167110-16

Magnetic Funnel

Unique magnetic base
no bracket needed anymore
high temperature sterilization possible

Type		
1	Filter Cup	PES
2	Membrane Support	PP
3	Filter Base	PES
4	Rubber	Silicon

Specifications	
Pall 4242 Funnel (Capacity: 300 ml)	167100-18
Pall 4247 Funnel (Capacity: 150 ml)	167130-15
Pall 4238 Funnel (Capacity: 500 ml)	167130-50

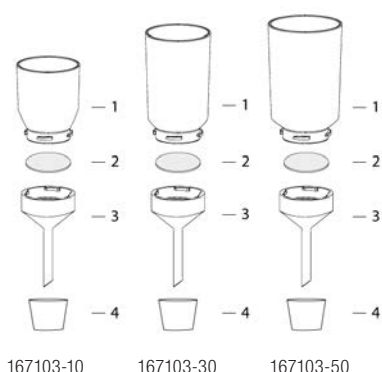


Oil-Free Piston Pumps

Accessories For Filtration Systems

47mm Stainless Steel Funnels

Quick and effective spin-lock system, which makes a clamp redundant
 Made of SUS316 stainless steel material
 Can be used for heat sterilization



Product Specifications

Type	100 ml	300 ml	500 ml
Funnel	SUS316	SUS316	SUS316
Funnel Base	SUS316	SUS316	SUS316
Membrane Support	SUS316	SUS316	SUS316
Funnel Cover	SUS316	SUS316	SUS316

Specifications	100 ml	300 ml	500 ml
Funnel Capacity	100 ml	300 ml	500 ml
Filter Diameter	47 / 50 mm	47 / 50 mm	47 / 50 mm
Effective Filtration Area	9.6 cm ²	9.6 cm ²	9.6 cm ²



Stainless Steel Filter Cup (Cylinder Type)

Type	100 ml	300 ml	500 ml
Filter Cup	SUS316	SUS316	SUS316

Specifications	100 ml	300 ml	500 ml
Funnel Capacity	100 ml	300 ml	500 ml
Filter Diameter	47 / 50 mm	47 / 50 mm	47 / 50 mm
Effective Filtration Area	9.6 cm ²	9.6 cm ²	9.6 cm ²

Stainless Steel Filter Cup	Order No.
100ml Stainless Steel Filter Cup, Suitable for BioVac 330 / 630 Filtration Systems	167103-61
300ml Stainless Steel Filter Cup, Suitable for BioVac 330 / 630 Filtration Systems	167103-63
500ml Stainless Steel Filter Cup, Suitable for BioVac 330 / 630 Filtration Systems	167103-65

Ordering Information

100 ml Stainless Steel Funnel		167103-10
1	100 ml Stainless Steel Filter Cup	167103-61
2	Support Screen	167100-31
3	47 mm Stainless Steel Filter Base	167103-60
4	Silicon Rubber	167110-17

300 ml Stainless Steel Funnel		167103-30
1	300 ml Stainless Steel Filter Cup	167103-63
2	Support Screen	167100-31
3	47 mm Stainless Steel Filter Base	167103-60
4	Silicon Rubber	167110-17

500 ml Stainless Steel Funnel		167103-50
1	500 ml Stainless Steel Filter Cup	167103-65
2	Support Screen	167100-31
3	47 mm Stainless Steel Filter Base	167103-60
4	Silicon Rubber	167110-17



Stainless Steel Filter Cup (Cone Type)

Type	500 ml	750 ml	1000 ml
Filter Cup	SUS316	SUS316	SUS316

Specifications	500 ml	750 ml	1000 ml
Funnel Capacity	500 ml	700 ml	1000 ml
Filter Diameter	47 / 50 mm	47 / 50 mm	47 / 50 mm
Effective Filtration Area	9.6 cm ²	9.6 cm ²	9.6 cm ²

Stainless Steel Filter Cup (Cone Type)	Order No.
500ml Stainless Steel Filter Cup, Suitable for BioVac 300 / 600 Filtration Systems	167102-50
750ml Stainless Steel Filter Cup, Suitable for BioVac 300 / 600 Filtration Systems	167102-75
1000ml Stainless Steel Filter Cup, Suitable for BioVac 300 / 600 Filtration Systems	167102-99

Oil-Free Piston Pumps

Accessories For Filtration Systems



Stainless Steel Funnel Lid

Specifications	Order No.
100 ml Stainless Steel Funnel Lid, Suitable for 100 ml Stainless Steel Filter Cup (Cylinder Type)	167103-11
300 ml Stainless Steel Funnel Lid, Suitable for 300 ml Stainless Steel Filter Cup (Cylinder Type)	167103-13
500 ml Stainless Steel Funnel Lid, Suitable for 500 ml Stainless Steel Filter Cup (Cylinder Type)	167103-15
Stainless Steel Funnel Lid, Suitable for 500 ml / 750 ml / 1000 ml Stainless Steel Filter Cups (Cone Type)	167110-20



PP Funnel Lid

Order No.: 167130-32

Specifications		Material	
Suitable for Funnel	Pall 4242	Main Body	PP
Number of Inlets	3	Cover	Silicon
Inlet Type	Female luer slip	Filter Material	PTFE
Filter Diameter	25 mm	Pore Size	0.2 µm
Package	1		



Filtration Flask for Liquids

Order No.: 167100-13

Specifications		Material	
Capacity	1000 ml	Bottle	Borosilicate Glass
Inlet / Outlet Diameter	8 mm	Stopper	Silicon
Water Outlet	Yes		
Bottle Cork	Yes		
Magnetic Base	Yes		



PP/PC Waste Bottle

Material			
Order No.	167200-31	167200-32	167200-33
Bottle	PC	PC	PC
Bottle Cover	PC	PC	PC
Spill-Proof Buoy	PP	PP	PP
Specifications			
Capacity	1000 ml	2000 ml	3000 ml
Outlet	8 mm	8 mm	8 mm
Spill-Proof Buoy	Yes	Yes	Yes
Autoclavability (121°C)	Possible	Possible	Possible



Glass Waste Bottle

Order No.: 167120-34

Specifications		Material	
Capacity	4000 ml	Bottle	Glass
Outlet	8 mm	Bottle Lid	Stainless Steel
Spill-Proof Buoy	Yes	Float Switch	PP
Autoclavability (121°C)	Possible		Possible

Oil-Free Piston Pumps

Accessories For Filtration Systems



Weighted Base

Specifications	Order No.
1000 ml Filtration Flask Base with a Unique Stabilization Design	167200-04



Stand for Suction Bottles

Specifications	Order No.
Stand for Suction Bottles Designed for Stabilizing the Bottle in Filtration Work	167200-39



Filter Membranes

Type	Fiberglass Filter Membranes	MCE Filter Paper
Order No.	167100-20	167100-52
Brand	Pall	Pall
Filter Diameter	47 mm	47 mm
Filter Pore Size	1 µm	0.45 µm
Material	Fiberglass	MCE
Number of Filters per Package	200	200



Disc Filter

Type	Pinhead Filter	Small Disc Filter	Big Disc Filter
Order No.	194225-01	167200-35	167200-36
Brand	Pall	Pall	Pall
Filter Diameter / Pore Size	25 mm / 0.2 µm	35 mm / 0.2 µm	50 mm / 0.2 µm
Outer Diameter	30 mm	45 mm	72 mm
Material	PTFE	PTFE	PTFE
Outer Material	PP	PP	PP
Number of Filters per Package	1	1	1



Silicon Tubing

Order No.	Outer Diameter mm	Inner Diameter mm	Thickness mm	Length m
168020-01	12	6	3	1
168020-02	12	6	3	2
168020-05	12	6	3	5
168021-01	14	8	3	1
168021-02	14	8	3	2
168021-05	14	8	3	5
168022-01	16	10	3	1
168022-02	16	10	3	2
168022-05	16	10	3	5



Silicon Drainage Tubing

Order No.	Outer Diameter mm	Inner Diameter mm	Thickness mm	Length m
168030-01	12	8	2	1
168030-02	12	8	2	2
168030-05	12	8	2	5

Foot Pedal

Specifications	Order No.
Suitable for C Series and V Series Vacuum Pumps	167200-41

Oil-Free Piston Pumps

Multi-Branch Filtration Systems

Special Design for Microbiological Filtration

The BioVac 330B and 630B are especially designed for large capacity microbiological inspections. Each system entails a vacuum pump, a stainless steel manifold, a Bunsen burner, a filtration flask, and filter membranes.

SUS316 Stainless Steel Manifold

Every part of the manifold is made of SUS316 stainless steel for enhanced corrosion and heat resistance.

Patented Spin-Lock Design

The patented spin-lock technique is used for the stainless steel multi-branch manifolds. This assures a quick assembly and tightness of the system, and inconvenient clamps are no longer needed.

Chemvak



BioVac 330B



BioVac 630B

BioVac 330B

Order No.: 167403-22-E/UK

The BioVac 330B vacuum filtration system includes the following:

- 167400-22 V400 oil-free piston pump
- 167103-24 BioVac 331 3-branch stainless steel manifold
- 167200-33 3000 ml PC waste bottle
- 177100-00 Dragon 100 Bunsen burner
- 167100-52 Pall GN-6 MCE filter membranes (0.45µm), 200 pcs
- 168021-01 High-pressure resistant silicon tube (1m) x 2

Product Application

- Microbiological detection
- Chemical experiments
- All kinds of liquid filtration

BioVac 630B

Order No.: 167601-22-E/UK

The BioVac 630B vacuum filtration system includes the following:

- 167600-22 V600 oil-free piston pump
- 167103-27 BioVac 631 6-branch stainless steel manifold
- 167200-33 3000 ml PC waste bottle
- 177100-00 Dragon 100 Bunsen burner
- 167100-52 Pall GN-6 MCE filter membranes (0.45µm), 200 pcs
- 168021-01 High-pressure resistant silicon tube (1m) x 2

Product Specifications

Model	BioVac330B	BioVac630B
Flow Rate of the Pump	34 l/min	58 l/min
Ultimate Vacuum	150 mbar	150 mbar
Waste Bottle	3000 ml, PC	3000 ml, PC
Number of Branches	3	3
Filter Diameter	47 / 50 mm	47 / 50 mm
Filter Cup Capacity	100 ml	100 ml
Effective Filtration Area	9.6 cm ²	9.6 cm ²
Outlet	8 mm	8 mm

Oil-Free Piston Pumps

Multi-Branch Filtration Systems

Designed for Large-Sample Filtration

The BioVac 321A is an economic set designed for large-sample vacuum filtration. Each set includes a vacuum pump, an aluminum manifold, magnetic funnels, and a waste bottle.

Professional Design for Microbiology

The BioVac 321B is especially designed for the purpose of large-sample vacuum filtration in microbiology. Each set includes a vacuum pump, an aluminum manifold, stainless steel funnels, a Bunsen burner, a waste bottle, and filter membranes.

Light Aluminum Design

The manifolds of the BioVac 321A and 321B filtration systems are made of aluminum and steel material, resulting in a very light weight, whereas steam sterilization can still be applied.

Magnetic Base

The funnels in the BioVac 321A filtration system are set in a magnetic funnel base so that no clamps are needed for a consistent connection between funnels and funnel bases.

Patented Spin-Lock Design

The patented spin-lock technique is used for the BioVac 321B filtration system. This assures a quick assembly and tightness of the system, and makes the use of inconvenient clamps redundant.



BioVac 321A



BioVac 321B

BioVac 321A

Order No.: 167401-22-E/UK

The BioVac 321A vacuum filtration system includes the following:

- 167400-22 V400 oil-free piston pump
- 167200-43 BioVac 321 3-branch aluminum steel manifold
- 167100-18 3 magnetic funnels (300 ml)
- 167200-33 3000 ml waste bottle made of PC material
- 167100-52 Pall GN-6 MCE filter membranes (0.45 μ m), 200 pcs
- 168021-01 High-pressure resistant silicon tube (1m) x 2

BioVac 321B

Order No.: 167402-22-E/UK

The BioVac 321B vacuum filtration system includes the following:

- 167400-22 V400 oil-free piston pump
- 167200-43 BioVac 321 3-branch aluminum manifold
- 167103-10 3 stainless steel funnels (100 ml)
- 167200-33 3000 ml waste bottle made of PC material
- 177100-00 Dragon 100 Bunsen burner
- 167100-52 Pall GN-6 MCE filter membranes (0.45 μ m), 200 pcs
- 168021-01 High-pressure resistant silicon tube (1m) x 2

Product Application

- Microbiological detection
- Chemical experiments
- All kinds of liquid filtration

Product Specifications

Model	BioVac321A	BioVac321B
Flow Rate of the Pump	34 l/min	34 l/min
Ultimate Vacuum	150 mbar	150 mbar
Waste Bottle	3000 ml, PC	3000 ml, PC
Number of Branches	3	3
Filter Diameter	47/50 mm	47/50 mm
Filter Cup Capacity	300 ml Magnetic Filter Cup	100 ml Stainless Steel Filter Cup
Effective Filtration Area	9.6 cm ²	9.6 cm ²
Outlet	8 mm	8 mm

Rotary Vane Vacuum Pumps

Rotary Vane Vacuum Pumps

Rotary vane pumps are traditional vacuum pumps, which can be used in a wide area including research and production. The WH series rotary vane pumps are ChemVak's standard vacuum pumps, which can be used individually or as a backing pump in combination with molecular pumps or diffusion pumps in order to create an extremely high vacuum. They are widely used in vacuum distillation, vacuum filtration, vacuum testing, vacuum freeze drying, vacuum plating, leak detection, vacuum packaging, vacuum sorption, and the like.



WH-8D/17D

Product Features

- Compact structure and very good sealing. Even after shut-off there is no returning throughput.
- Oil spout prevention
- Low noise
- Small casing
- Easy to transport
- High flow rate, which quickly leads to a stable ultimate vacuum
- High evaporation resistance
- Comparatively high chemical resistance
- High longevity and very low maintenance rate
- Low oil mist
- Oil-observation window for convenient oil inspection
- Gas ballast valve, which enables the user to let out a certain amount of gas
- Fuse for overcurrent protection
- Fulfills IP54 standards.

Product Specifications

Type	WH-4SN	WH-12SN	WH-24SN	WH-36SN	WH-8D	WH-17D
Pump Heads	Single	Single	Single	Single	Double	Double
Flow Rate (L/min)	50	170	400	600	135	283
Ultimate Vacuum (mbar)	2.5×10^{-2}	2.5×10^{-2}	6.7×10^{-2}	6.7×10^{-2}	4×10^{-4}	4×10^{-4}
Power (W)	180	370	400	600	550	750
Noise Level (dB)	< 68	< 70	< 70	< 70	< 54	< 56
Oil Capacity (L)	0.3	0.65	1.3	1.5	1.1	1.5
Weight (kg)	7	12	24	28	27	31
Outlet Specifications	1/4" SAE Male	3/8" SAE Male; 1/4" SAE Male; 5/16" SAE Male	DN25KF	DN25KF	DN25KF	DN25KF
Order No. for EU/US/UK-Plug	900101-E/U/UK	900103-E/U/UK	900025-E/U/UK	900035-E/U/UK	900111-E/U/UK	900112-E/U/UK

Rotary Vane Vacuum Pumps

Accessories for Rotary Vane Vacuum Pumps

Filters



Order No.	Name	Description
73502	Exhaust filter	Noise reduction; WH-24SN / 36SN application
900101-1	Exhaust filter	Noise reduction; WH-8SN / 12SN application
900111-1	Water filter	Noise reduction; DN25KF, WH-8D / 17D application
900111-1	Filter element	WH-8D / 17D application
900111-1	Condensate separator	DN25KF, WH-8D / 17D application
900111-1	Dust filter	WH-8D / 17D application

Flanged Joint



Specifications	Order No.
DN25KF with 8 mm diameter	168900-08
DN25KF with 10 mm diameter	168900-10
DN25KF with 12 mm diameter	168900-12
DN25KF with 19 mm diameter	168900-19
DN25KF with 25 mm diameter	168900-25

Highspeed Pump Oil

ChemVak highspeed oil employs a very good lubricant function, and has a high emulsion and oxidation resistance. It helps to maintain the longevity of the system and to reach a stable ultimate vacuum.



Specifications	Order No.
450 mL	900100-01
5 L	900100-02
10 L	900100-03

Thick Vacuum Tubing

Thick rubber hose, which can be used in vacuum systems and usable for low evaporation pressure. Each hose has a length of 15 m.



Inner Diameter (mm)	Thickness (mm)	Order No.
8	5	22690-06
10	9.5	22690-11
12	9.5	22690-13
19	9.5	22690-21
25	9.5	22690-26

Chemvak

Krytox High-Performance Vacuum Pump Oil

The Krytox isoflorane oil has a very high performance in comparison to other hydrocarbon or silicon based pump oils. It is very suitable for industrial purposes. Krytox vacuum pump oil provides absolutely strict control over the viscosity and steam pressure indicator and fulfills strict cleanliness requirements.

- Excellent anti-oxidation and temperature stabilization properties
- Very high chemical inertia (can only react with carbon, oxygen, and fluorine)
- Optimal radiation-resistance; no sludge formation
- Low steam pressure (10^{-7} at 20°C)
- Wide viscosity range
- High lubrication properties for up to 200°C
- High chemical compatibility with metals, plastics, and rubber.
- Availability of different capacities



Krytox LVP High-Vacuum Grease

Very stable, incombustible silicon grease, which is suitable for high-vacuum systems. In high-vacuum environments or high personal risk environments it can be used as a lubricant or sealing compound for plugs, valves, and connecting pieces. It can be used in laboratory or pilot equipment.



Specifications	Order No.
2 oz.	9116-11
2 oz.	9116-09

Dow Corning High Vacuum Grease (Order No.: 9230)

Dow Corning high vacuum grease provides excellent sealing properties. It can also be used as a lubricant for plugs, inlets, and glass pieces. It entails a high chemical and heat resistance. One tube contains 150g of grease.

Dual-Channel Liquid Ring Pump

Dual-Channel Liquid Ring Pump

Water gets recycled, which enables an economic use of resources

Dual-channel action for a high flow rate of up to 36 L/min, can be applied for filtration, distillation, rotary evaporation, etc.

Employs two water flow and gas suction devices as well as a check valve, and has an upstream prevention device

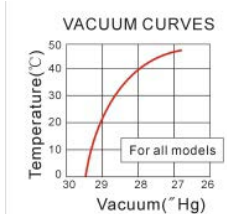
In order to prevent the raised water temperature from influencing the vacuum level, a cooling pipe can be installed

Vacuum can be regulated between 20 mmHg and 74 mmHg on the vacuum gauge

Drain valve installed

The case is made of polypropylene material, which enhances the longevity of the aspirator

In contrast to other vacuum pumps, small amounts of liquid remaining in the machine do not harm the system



Accessories

Description	Order No.
Vacuum Gauge / Regulator	900701-1
VC-10 Cooling Coil	900701-2
ET-02 Aspirator	900701-3
Filter Pack	900701-4



Vacuum Gauge / Regulator



VC-10 Cooling Coil



ET-02 Aspirator



Filter Pack

Technical Data

Model	VE-11
Flow Rate	18 L/min x 2
Water Tank Capacity	9.5 L
Motor Power	150 W
Material (Water Tank)	Polypropylene
Dimensions	
Water Tank (W x D x H in mm)	298 x 210 x 227
Case (W x D x H in mm)	330 x 265 x 390
Absorption Nozzle	9.5 Ø x 2
Overflow Nozzle	17 Ø
Safety Devices	Fuse, check valve, overheat protection
Mains Requirements and Current	220V AC, 60Hz, 0.7A
Weight (kg)	5.7
Order No. for EU/US/UK-Plug	900701-E/U/UK

Hand-Operated Vacuum Pump (Order No.: 167030-00)



Features

This pump is designed for simple laboratory applications and can be used in a wide range of fields

Pump entails a vacuum gauge

Pump entails a 60 cm long transparent vinyl hose, which has an inner diameter of 6 mm

Pump entails a valve which enables the user to easily add pressure without releasing the hose from the pump



Please prevent liquid from accessing the pump!
Please avoid suction of solvents and acid vapors!

Specifications

Material: PVC
Outlet pressure: approx. 21 kPa
Included: 60 cm hose

Pressure Pumps & Compressed Air Supply Systems

Pressure Pumps & Compressed Air Supply Systems

Piston motion for pressure creation

Oil-free technology

Low noise level

The P440 entails a gas tank, which enables long term gas provision.



P320
Pressure Pump



P420
Pressure Pump



P440
Compressed Air Supply System

ChemVak P440 Accessories

Control valve

Pressure gauge

Stainless steel filter

Stainless steel gas tank

Technical Data

Model	P 320	P 420	P 440	
Mains Requirements	220-240V / 50Hz	220-240V / 50Hz	220-240V / 50Hz	
Power (W)	85	125	125	
Current (A)	0.4	0.6	0.6	
Ultimate Pressure (without the use of a filter cup)	6.9	6.9	4.1	
Ultimate Pressure (with the use of a filter cup)	5.5	5.5	4.1	
	0 bar	12 L/min	25 L/min	25 L/min
Max.	1.4 bar	9.5 L/min	23 L/min	23 L/min
Flow	2.0 bar	8 L/min	18 L/min	18 L/min
Rate	2.8 bar	8 L/min	16 L/min	16 L/min
	4.2 bar	3 L/min	8 L/min	11 L/min
Outlet (mm)	8	10	8	
Motor Speed (rpm)	1400	1400	1400	
Weight (kg)	4.1	5.2	8.4	
Noise Level (dB)	50	60	50	
Order No. for EU/UK-Plug	167320-22-E/UK	167420-22-E/UK	167440-22-E/UK	

Air Supply System – Pressure Pumps

Air Supply System – Pressure Pumps

Product Features:

- Small scale pressure pump with remarkably high pressure and flow rates
- Easy to transport
- Applicable for the supply of compressed air
- Long-term laboratory operations possible
- Low noise level
- Maintenance free
- Environmentally friendly
- Direct drive transmission
- Temperature protection for the motor
- Filter for dust and liquid particles
- Pressure gauge and controller
- CSA, CE, UL, PSE, FDA & TUV GS approved

Product application:

- Widely used in laboratory environments with high standards on purity levels, such as:
- Fermentation tanks and bioreactors
- Gas chromatography
- Gas purging devices
- Driving compressed air sources



Technical Data

Model	P520	P640
Power	92W × 2 AC	180W
Mains Requirements	220-240V/50Hz	220-240V/50Hz
Motion Type	Automatic Motion, Preset Pressure 2.8bar (on) / 4.1 bar (off)	Automatic Motion, Preset Pressure (adjustable) 4.1bar (on) / 5.5bar (off)
Max. Flow Rate (L/min)	50	50
Ultimate Pressure (bar)	4.1	5.5
Motor Speed (rpm)	1400	1400
Weight (kg)	9.5	15.0
Gas Tank Volume (L)	--	5.5
Dimensions (L×W×H in mm)	265 × 265 × 225	370 × 335 × 315
Accessories	Straight air hoses (3 m)	
Gas nozzle holder	Gas container, pressure gauge, Pressure regulation valve, Liquids and dust filter, Straight air hoses (3 m)	
Outlet	1/8" PS	1/8" PS
Noise Level (dB)	50	50
Order No. for EU/UK-Plug	167520-22-E/UK	167640-22-E/UK

Portable Bio-Suction Systems

BioVac Bio-Suction Systems

Bio-suction systems are especially designed for biochemical cultivation and the separation of culture fluids. It is an indispensable partner for a sterile laboratory bench and entails the following features.

Oil-Free Vacuum Pump

The System employs an oil-free vacuum pump, where no lubricant is needed and which is maintenance free. Moreover its noise level is very low.

Convenience

Suction of various liquids and a foot switch makes the system very convenient to use.

Double Overflow Protection

The waste bottle contains a floating ball and between the waste bottle and the vacuum pump a 0.2 μm PTFE disc filter is installed. These two safety measures can protect the system from liquid overflow and the liquid from entering the vacuum pump.

High-Temperature and High-Pressure Sterilization

Waste bottle and disc filter are resistant against high pressure steam sterilization.

Product Application

Waste liquid suction in cell cultivation

All kinds of waste liquid suction in laboratory environments

1. Double Protection Against Liquid Overflow

Waste bottle, floating ball.
0.2 μm PTFE disc filter
Protection against liquid overflow
Keeps liquid from entering the pump.

4. Stable and Durable Casing

The casing is made of ABS material, which is light, and easy to clean

5. Wire Storage Box

The system provides a storage for the foot switch wire, which makes it easy and convenient to use

Portable Bio-Suction System BioVac 240

2. High-Temperature Sterilization

Waste bottle and disc filter can resist high-temperature and high-pressure sterilization

3. Employment of an Oil-Free Vacuum Pump

The oil-free vacuum pump is maintenance-free and has a very low noise level and works stable

6. CE Certified

Safe and high quality product



Portable Bio-Suction Systems

BioVac Bio-Suction Systems

Portable
Bio-Suction System
BioVac 225



Portable
Bio-Suction System
BioVac 235



Time-saving 8-branch suction head

Applicable for all kinds of Petri dishes

Environmental friendly waste treatment

Chemvak

Technical Data

Type	BioVac 225	BioVac 235	BioVac 240
Vacuum Creation Method	Diaphragm Pump	Diaphragm Pump	Piston Pump
Power (W)	25	25	200
Ultimate Vacuum (mbar)	100	100	80
Max. Flow Rate (l/min)	25	35	40
Foot Switch	No	Yes	Yes
Weight (kg)	4.3	6.9	12
Dimensions (cm)	37 × 15 × 25	27 × 30 × 28	54 × 26 × 35
Order No. for EU/UK-Plug	167225-22-E/UK	167235-22-E/UK	167240-22-E/UK

Ordering Information

Order No.	Description
167225-22	BioVac225 Bio-Suction System, AC220V / 50Hz
167235-22	BioVac235 Bio-Suction System, AC220V / 50Hz
167240-22	BioVac240 Bio-Suction System, AC220V / 50Hz
167200-31	1000 ml waste bottle, floating ball, sterilization
167200-32	2000 ml waste bottle, floating ball, sterilization
167200-33	3000 ml waste bottle, floating ball, sterilization
167200-35	PTFE disc filter with 37 mm diameter, 0.2 µm pore size, applicable for BioVac 225 / 235
167200-36	PTFE disc filter with 73 mm diameter, 0.2 µm pore size, applicable for BioVac 240
167200-37	Liquid filtration set
168021-01	1 m silicon tube
167200-39	Waste bottle clamp
167200-40	Foot switch for the BioVac 240
167200-41	Universal foot switch
167200-42	Single-branch suction head

Portable Bio-Suction Systems

Accessories for the BioVac Systems

Quick-Lock Design

The handheld controller of the bio-suction kit needs a skilled and stable hand, but the hermetic lock design makes it easy and labor-saving to operate the controller.

One Hand "Tip" Operation

The innovative 8-branch tip outlet design enables the user to conveniently operate the controller with only one hand.

Convenient Accessory Change

Accessories and the handheld controller are installed via quick-plug, which enables the user to quickly and conveniently change accessories.

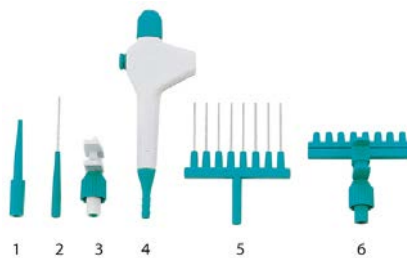
Vapor Sterilization Can Be Applied

All parts except the stand are made of POM or stainless steel, so that vapor sterilization can be applied without damaging the material.



Product Application

Bio-liquid suction in cell cultivation
All kinds of bio-liquid suction in laboratory environments

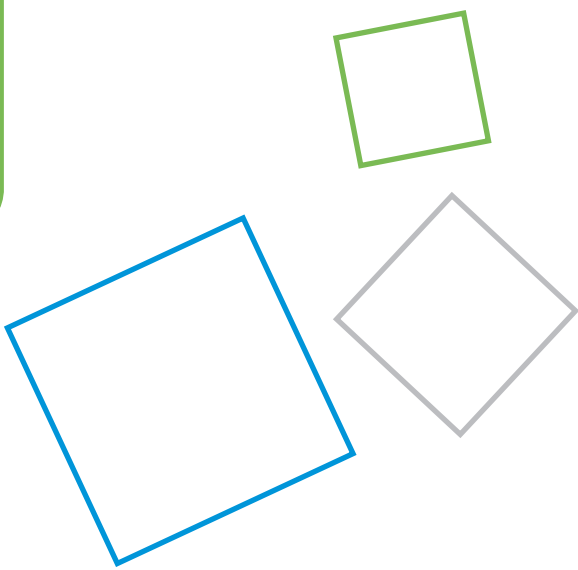


Product Specifications

Bio-Suction	167200-37
Operation Form	Vacuum Suction
Outlet Diameter	5 mm

Used Accessories	Material	Quantity
1. Single-branch suction head	POM	1
2. Single-branch stainless steel suction head	Main component: POM Tip: SUS304	1
3. Single-branch "tip" plastic suction head	POM	1
4. Handheld controller	POM	1
5. 8-Branch stainless steel suction head	Main component: POM Tip: SUS304	1
6. 8-Branch "tip" plastic suction head	POM	1
7. ABS Depositing rack		1

Chemvak



Shinetek Instruments Research Institute

Add: Room 303, Hall C, Office Building M8, No. 1
Jiuxiangqiao East Road, Chaoyang District, Beijing 100015,
China
Tel: +86 400-809-2068
Fax: +86 400-809-2068-112
E-mail: info@wiggens.com
Web: www.wiggens.com