

THE MAGIC MOTION

2020-2021

About WIGGENS

What Does Wiggins Stands for?

Wide Product Range
International Orientation
Great Quality
Great Service
Energetic Team
New Technology
Solutions

WIGGENS
THE MAGIC MOTION

Wiggins was established in 2005 with the goal delivering the best laboratory equipment and service for reliable results, since then Wiggins has been producing top-quality general laboratory equipment, analysis apparatus and chemical reaction solutions. Our brand Wiggins stands for high quality, durability and remarkable performance.

Wiggins is your reliable laboratory companion and provides products that can be used in different kinds of laboratory environments. The Wiggins product range includes:

- * Rotary Evaporators
- * Pumps
- * Heating & Mixing units
- * Incubator & Ovens
- * Analysis Apparatus
- * Gas Generator
- * Chemical Reactors

ChemVak, the product brand of Wiggins, is specializing in vacuum technology offering an extensive range of vacuum pumps for all applications, including chemical-resistant diaphragm pumps oil-free pumps and rotary vane vacuum pumps, are complemented by vacuum filtration equipment for a wide range of different applications. In addition, solvent recovery systems and bio-suction systems are part of the product range.

ChemTron is our product brand focus on analysis apparatus, gas generators and chemical reaction solutions, as well as efficient chemical separation tools-rotary evaporator.



Innovation

New concepts and solutions
Customers as generator of ideas
Friendly and modern working atmosphere

Thinking the unusual is usual for us.

Competence

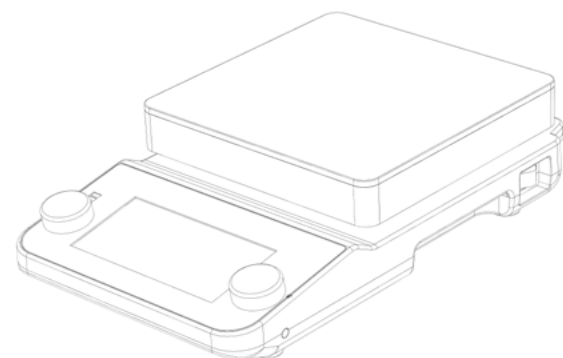
Specialists in all teams
Expert knowledge and experience

Quality


Reliability
ISO 9001
Strong After Sales Service
Made in Germany, China, Switzerland & USA

Flexibility

Special Design, customized products
Constant feedback from subsidiaries and customers



Contents

| | | | | | |
|---|--|------------|---|--|------------|
|  | Rotary Evaporators | 05 |  | Incubators / Ovens | 130 |
| | | | | > Portable Mini CO ₂ Incubator..... | 131 |
| | | | | > Constant Temperature Incubators..... | 135 |
| | | | | > Large Capacity Incubator..... | 136 |
| | | | | > Low Temperature Incubators..... | 137 |
| | | | | > Forced Convection Ovens..... | 138 |
|  | Vacuum Pumps | 26 |  | Shaking Incubators | 139 |
| | > Chemical Resistant Diaphragm Pumps (A Series) .. | 28 | | > CO ₂ Incubator with built-in Roller | 140 |
| | > Chemical Resistant Diaphragm Pumps (C Series) .. | 29 | | > CO ₂ Incubator with Shaker | 140 |
| | > Solvent Recovery Systems..... | 33 | | > Shaking Incubators | 141 |
| | > Oil-Free Piston Vacuum Pumps..... | 37 | | > Accessories for Shaker incubators..... | 142 |
| | > Vacuum Filtration Systems..... | 39 | | > CO ₂ Shaking Incubator..... | 144 |
| | > Filtration Collocations | 40 | | | |
| | > Filtration Sets..... | 41 |  | Liquid Handling Equipment | 146 |
| | > Multi-Position Filtration Systems..... | 44 | | > Peristaltic Pumps..... | 147 |
| | > Accessories For Filtration Systems..... | 48 | | > Portable Suction Unit (Aspirator) | 149 |
| | > Electrical Aspirator Pump | 53 | | > Bio-Suction Kit..... | 150 |
| | | | | > Vdose Syringe Pumps..... | 151 |
|  | Hot Plates / Stirrers | 54 |  | Gas Generators | 152 |
| | > Infrared Hot Plates / Stirrers | 60 | | > Hydrogen gas generator..... | 153 |
| | > Magnetic Stirrers | 74 | | > Nitrogen gas generator..... | 154 |
| | > Submersible Magnetic Stirrers | 74 | | > Zero air generator..... | 154 |
| | > Infrared Hot Plates..... | 76 | | | |
| | > Accessories..... | 77 |  | Ultrasonic Cleaner | 160 |
| | > Multi-Purpose Heater / Dry Bath..... | 78 | | > Ultrasonic Cleaner | 161 |
| | > COD Reactor..... | 79 | | > Shaking Ultra Sonic Water Bath / SONOSHAKE | 162 |
| | > Multi-Position Heating mantles..... | 80 | | | |
| | > Temperature and stirring controller..... | 83 |  | Wiggins Analytics | 163 |
|  | Overhead Stirrers | 85 |  | Chemtron Reaction Solutions | 179 |
| | > Overhead Stirrers | 87 | | > Bench Top Glass Reactors | 180 |
| | > High Torque / High Speed Overhead Stirrers..... | 88 | | > Large Scale Glass Reactors..... | 181 |
| | > Accessories for Overhead Stirrers..... | 92 | | > S.S. High Pressure Reactors | 183 |
| | | | | > S.S. Low Pressure Reactor | 184 |
| | | | | > S.S. Reactor | 187 |
|  | Homogenizers | 101 | | | |
| | > Handheld Homogenizer..... | 102 | | | |
| | > High Speed Homogenizer..... | 103 | | | |
| | > Flapping Homogenizer (Stomaker) | 110 | | | |
| | > Accessories for flapping homogenizer..... | 112 | | | |
|  | Shakers | 113 | | | |
| | > Rocking / Waving Shaker..... | 115 | | | |
| | > Microplate Shaker..... | 116 | | | |
| | > Digital Pulse Mixer..... | 117 | | | |
| | > Orbital Shakers | 118 | | | |
| | > Remote Shaker | 121 | | | |
| | > Separatory Funnel Shaker..... | 124 | | | |
| | > Vortex Shakers..... | 127 | | | |



1 Rotary Evaporators

Rotary evaporators

Laboratory Rotary Evaporator
Up to 2L



STRIKE 8
Large Scale Rotary Evaporator

Large Rotary Evaporator
6L, 10L, 20L

STRIKE 8
Large Scale Rotary Evaporator

Industrial Rotary Evaporator
50L, 100L, ATEX



ROTARY EVAPORATOR STRIKE A GENERATION AHEAD



Product Comparison Table between Strike 280 and Strike 380



| Model | Strike 280 | Strike 380 |
|------------------------------------|--|---|
| Series | Programmable | Programmable |
| Rotation speed | 20~300rpm (DC motor) | 20~280rpm (AC motor) |
| Screen | 4.3" monochromatic LCD touch screen | 3.5" monochromatic LCD touch screen |
| Sealing | Maintenance-free PTFE and carbon graphite seals | Maintenance-free PTFE and carbon graphite seals |
| Connection | Rodavis evaporation flask connection system | Rodavis evaporation flask connection system |
| Bath temperature | 2 bath fluid modes: up to 85 °C with water, up to 180 °C with oil | 2 bath fluid modes: up to 85 °C with water, up to 180 °C with oil |
| Heating capacity | 1400W | 1400W |
| Bath volume | 5L | 5L |
| Bath material | PTFE coated | PTFE coated |
| Bath movement distance | 90mm | 90mm |
| Draining | Removable bath for emptying | Removable bath for emptying |
| Glassware lift device | Automatic | Automatic |
| Stroke displacement | 13cm, adjusted, and can be stop at any position | 13cm, adjusted, and can be stop at any position |
| Head angle adjustable | 0~15 ° | 0~15 ° |
| Cooling surface | 1500cm ² | 1500cm ² |
| Evaporating flasks | 1000ml (optional 50 to 2000ml) | 1000ml (optional 50 to 2000ml) |
| Collecting flasks | 1000ml (optional 250 to 2000ml) | 1000ml (optional 250 to 2000ml) |
| protective shield | Glassware lifting made possible with or without protective shield | Glassware lifting made possible with or without protective shield |
| Features | <ul style="list-style-type: none"> > Powered glassware lifting equipment with safety release (in case of power failure) > Quick Start/Stop control and parameter selector > Timer function > Easy program control (1 × 9 steps, automatic) > Adjustable safety temperature | <ul style="list-style-type: none"> > Powered glassware lifting equipment with safety release (in case of power failure) > Quick Start/Stop control and parameter selector > Timer function > Methods (up to 21 methods) > Optimal program control (21 × 5 steps, automatic or manual) > Setting the "Maximum Vapor" > Setting the "Minimum Vapor" > Setting the "Vapor Range" |
| Weight | 25.5 Kg (vertical version), 25 Kg (slanting version) | 26.5 Kg (vertical version), 26 Kg (slanting version) |
| Overall dimensions | 690x700x430mm (vertical version, HxDxL) 690x790x430mm (slanting version, HxDxL) | 690x700x430mm (vertical version, HxDxL) 690x790x430mm (slanting version, HxDxL) |
| Voltage | 230 V AC, 50Hz | 230 V AC, 50/60Hz |
| Peripheral modules and accessories | <ul style="list-style-type: none"> > Steam temperature probe > Cooling water temperature probe > Chemical resistant diaphragm pumps > Vacuum controller > Solvent recovery system > Chiller | <ul style="list-style-type: none"> > Steam temperature probe > Chemical resistant diaphragm pumps > Vacuum controller > Solvent recovery system > Chiller |
| Packages | <ul style="list-style-type: none"> > 7 packages available > Slanting glassware (Borosilicate glass or plastic coated safety glassware) > Vertical glassware with steam sinking (Borosilicate glass or plastic coated safety glassware) > Vertical glassware with steam rising type (Borosilicate glass or plastic coated safety glassware) > Dry ice condensation type | <ul style="list-style-type: none"> > 7 packages available > Slanting glassware (Borosilicate glass or plastic coated safety glassware) > Vertical glassware with steam sinking (Borosilicate glass or plastic coated safety glassware) > Vertical glassware with steam rising type (Borosilicate glass or plastic coated safety glassware) > Dry ice condensation type |
| Application | Simple distillation, Education, Food and beverage... | Complex distillation, Petrochemical, Pharmaceutical, Environment, Food and beverage... |

Rotary Evaporator

Strike 280

New entry level for Rotary evaporator, new standard for safety, efficiency and easy of use. offering excellent separation, concentration and purification solution. Strike 280 are equipped with timer function, program control, automated lift. More safety feaures are: over temperature setting and protection, automated lift-our in case of power outage, real-time monitoring of steam and cooling water temperature.

Features



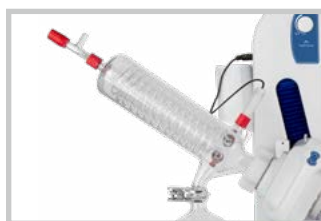
Sealing system

- > The exclusive sealing system allows a perfect vacuum-tight and anti-corrosion
- > Seal without gaskets or other materials that can be damaged by solvent contact
- > This sealing system is a standard feature in all strike models and can be used with all types of glassware.



Mechanical structure

- > With motor lift system, adjustable stroke, and it can stop at any position in the stroke
- > With powerful rotation Motor, the speed up to 300 RPM
- > Adjust the required angle of the evaporating flask individually according to your needs



Glassware

- > All glassware sets are also available with transparent plastic coating for added safety
- > Four types of condensers are optional
- > Different volume of Evaporating and receiving flasks are available
- > Standard packages are include one 1,000ml evaporating flask and one 1,000ml receiving flask
- > Other accessories are optional, such as adapters, Anti-sprinkling bubbles, vapor tube...



Vapor tube

- > Evaporating flasks and vapor tubes which come with a standard NS 29/32 joint size and thread
- > PTFE sleeves ensure high sealing while preventing the glass from sticking together
- > Easy-to-disassemble, clean-and-replace



Thread locking design

- > With screw thread locking function, screw cap is fixed by clip spring to prevent loss
- > Screw cap can be removed for install other evaporation flask with different connector
- > Made of corrosion-resistant material



Display and operation

- > Touch screen with multi-language user interface
- > Easy to operate using the turn & push controller
- > Multifunction display, for bath temperature, rotation speed, vacuum, vapor and cooling temperature



Function

- > Custom method, one-click start, after boot to save the last settings
- > Multistage distillation, with Max. 9 steps, after each step, it will automatically move on to the next step
- > Timing distillation, automatic end of distillation after the end of timing



NEW!

Safety

- > Overheat protection design that prevents water baths running dry
- > In case of a power cut, motor lift will remove the flask from the heating bath preventing safety hazards and potential thermal damage to your sample
- > The shield is standard for all models. It can be removed by the operator and fitted beside the instrument



Heating bath

- > With the same thermostat bath, you can choose the water or oil bath fluid in the MENU
- > Two bath fluid modes: up to 85 °C with water, up to 180 °C with oil
- > High strength stamped inner bath and anti-corrosion PTFE coating
- > With high quality protective shell, prevent scald
- > The position of the bath can be easily adjusted to fix the evaporation position for different volume evaporating flasks



Optional accessories and peripheral modules

- > Vacuum controller, and the vacuum can be set and displayed directly on touch screen
- > Vapor temperature sensor, with glass sleeve
- > Vacuum pumps, Solvent recovery system, Chillers, Adapters and tubes



Display and operation

Main interface

Click the touch screen, select the setting area, set the parameters through the KNOB, press the Knob to save the value

- > Rotation switch and speed settings
- > Bath temperature switch and settings
- > Vacuum switch and settings
- > Vapor temperature display, When connected to a vapor temperature sensor
- > Cooling temperature display, when connected to a cooling temperature sensor

MENU

- > Safety temperature settings for the bath
- > Temperature unit
- > Vacuum unit
- > Delta of vacuum
- > Language
- > Timer

Program

Multistage distillation, with Max.9 steps.

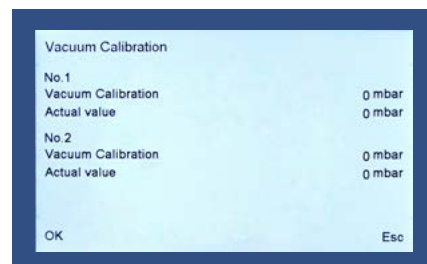
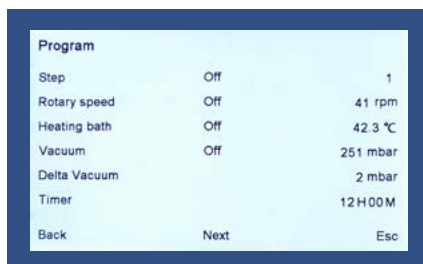
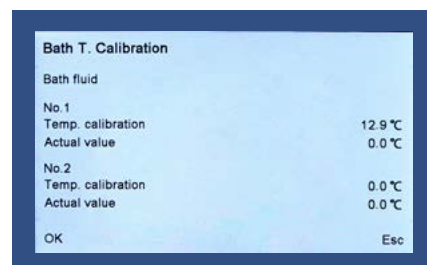
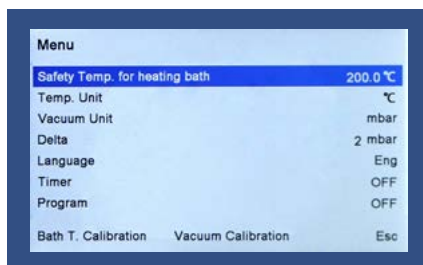
Each step can define the bath temperature, rotation speed, vacuum, vacuum delta and duration. after each step, it will automatically move onto the next step

Bath temperature calibration
(two points)

Vacuum calibration
(two points)

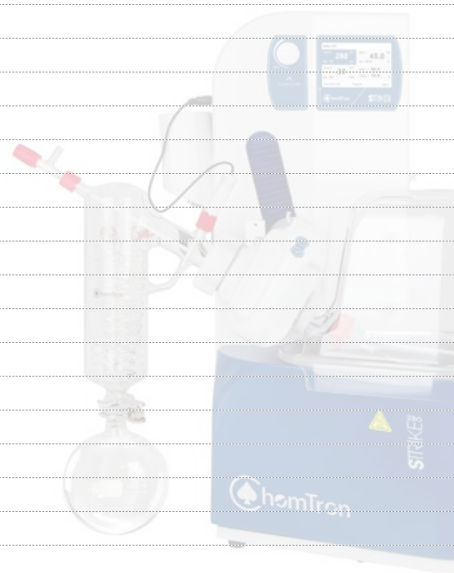


During the experiment, all information can be displayed on the same screen



Specifications

| | |
|------------------------|---|
| Technical data | STRIKE 280 |
| Models | Models available with slanting glassware, vertical glassware (steam sinking and steam rising type) |
| Glassware | Standard or plastic-coated glassware |
| Rotation speed | 20 to 300 rpm (DC motor) |
| Screen | 4.3" monochromatic LCD touch screen |
| sealing | Maintenance-free PTFE and carbon graphite seals |
| Connection | Rodavis evaporation flask connection system |
| Bath temperature | 180 (2 possible settings: water and oil) |
| Bath heater | 1400W |
| Bath capacity | 5 liters |
| Temperature Stability | ± 0.2 |
| Bath material | PTFE coated |
| Bath movement distance | 90mm |
| Draining | Removable bath for emptying |
| Stroke displacement | 13cm, adjusted, and can be stop at any position |
| Head angle adjustable | 0~15 ° |
| Cooling surface | 1500cm ² |
| Evaporating flasks | 1000ml (optional 50 to 2000ml) |
| Collecting flasks | 1000ml (optional 250 to 2000ml) |
| Weight | 26,5 Kg (vertical version), 26 Kg (slanting version) |
| Overall dimensions | 690x700x430mm (vertical version,HxDxL) 690x790x430mm (slanting version,HxDxL) |
| Voltage | 230 V AC, 50Hz |
| Options | Steam temperature probe, Cooling water temperature probe, vacuum pump and controller, Chiller... |
| protective shield | Glassware lifting made possible with or without protective shield |
| Other features | Powered glassware lifting equipment with safety release (in case of power failure) Quick Start/Stop control and parameter selector |



Models of STRIKE 280



STRIKE 280 M1 / M4
Slanting glassware



STRIKE 280 M2 / M5
Vertical glassware (Steam sinking type)



STRIKE 280 M3 / M6
Vertical glassware (Steam rising type)



STRIKE 280 M7
Dry ice condensation type

Configurations in standard glassware

| Order Number | Model | Type | Voltage | Version |
|--------------|------------------------|---|---------|---------|
| SQED058113 | Rot.Evap.STRIKE 280 M1 | Slanting glassware | 220V | O |
| SQED058112 | Rot.Evap.STRIKE 280 M2 | Vertical glassware (Steam sinking type) | 220V | V |
| SQED058111 | Rot.Evap.STRIKE 280 M3 | Vertical glassware (Steam rising type) | 220V | U |

Configurations in plastic coated safety glassware

| Order Number | Model | Type | Voltage | Version |
|--------------|------------------------|---|---------|---------|
| SQED058419 | Rot.Evap.STRIKE 280 M4 | Slanting glassware | 220V | O/P |
| SQED058418 | Rot.Evap.STRIKE 280 M5 | Vertical glassware (Steam sinking type) | 220V | V/P |
| SQED058417 | Rot.Evap.STRIKE 280 M6 | Vertical glassware (Steam rising type) | 220V | U/P |
| SQED058420 | Rot.Evap.STRIKE 280 M7 | Dry ice condensation type | 220V | C |

NOTE: Other glassware versions are available upon specific request

Rotary Evaporator

Strike 380

A philosophy of safety

The rotary evaporator Strike 380 combines excellent operating characteristics and high performance levels, all in an ergonomic design. Strike 380 has been projected in complete respect of safety needs and in compliance with the existing directive regarding equipment construction and electromagnetic compatibility.



STRIKE 380

Features

Strike 380 almost has all of the features and functions as Strike 280, but also with the following characteristics, suitable for more complex distillation and experimental needs.



Display

- > Touch screen with multi-language user interface, and it can be locked
- > Easy to operate only using the turn & push controller
- > Multifunction display, for bath temperature, rotation speed, vacuum, vapor and cooling temperature



Features

- > Custom method, one-click start, after boot to save the last settings
- > Standard method, customer can save the current settings as a standard method, easy to quickly call in the future, Up to 21 methods can be stored
- > Manual multistage distillation. At the end of each step, it need to be confirm by operator, then move on to the next step. Up to 21 methods can be stored, each of them can be set 5 steps
- > Automatic multistage distillation. At the end of each step, it automatically moves to the next step (Application examples: concentration). Up to 21 methods can be stored, each of them can be set 5 steps
- > Timer distillation, When the time is over, the distillation will automatically end

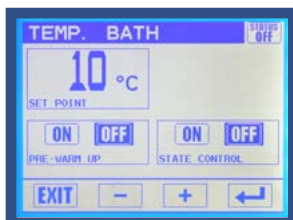


Safety

- > Overheat protection design that prevents water baths running dry
- > In case of a power cut, motor lift will remove the flask from the heating bath preventing safety hazards and potential thermal damage to your sample
- > The shield is standard for all models. It can be removed by the operator and fitted beside the instrument
- > High vapor temperature protection, low vapor temperature protection and vapor temperature range settings

Display and operation

General Settings



Bath temperature settings

- > Bath temperature switch
- > Temperature settings
- > Pre-warm up switch (After the main power switch is turned on, the bath can be heated to a set temperature)



Rotation settings

- > Rotation switch
- > Speed settings



Vacuum settings

- > Vacuum switch
- > Vacuum settings
- > Vacuum Delta (Permissible vacuum fluctuation range and control valve opening and closing frequency)
- > If optional ST380 vacuum controller is present

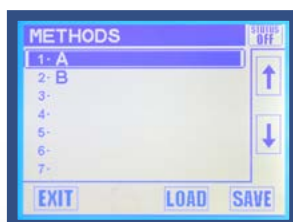


Vapor temperature monitoring and protection

- > Vapor temperature display
- > Max. vapor temperature settings
- > Min. vapor temperature settings
- > Vapor temperature range

Advanced settings

Unique function



Method

Customer can save the current settings as a standard method, easy to quickly call in the future, Up to 21 methods can be stored



Function

- > Manual multistage distillation. At the end of each step, it need to be confirm by operator, then move on to the next step. Up to 21 methods can be stored, each of them can be set 5 steps
- > Automatic multistage distillation. At the end of each step, it automatically moves to the next step (Application examples: concentration). Up to 21 methods can be stored, each of them can be set 5 steps
- > Timer distillation, When the time is over, the distillation will automatically end



Setup

- > Frequency (50 / 60Hz)
- > Bath type (Water / Oil)
- > Touch active (Yes / No)
- > Contrast
- > Language



Password for calibration

Bath temperature sensor
Vapor temperature sensor
Cooling temperature sensor
Vacuum



Evaporator in operating phase

Evaporator in stand-by phase with lifted glassware and protective shield

Evaporator in non-operating phase without protective shield

Specifications

| | |
|------------------------|---|
| Technical data | Strike 380 |
| Models | Models available with slanting glassware, vertical glassware (steam sinking and steam rising type) |
| Glassware | Standard or plastic-coated glassware |
| Rotation speed | 20 to 280 rpm (150W induction motor) |
| Screen | 3.5" monochromatic LCD touch screen |
| sealing | Maintenance-free PTFE and carbon graphite seals |
| Connection | Rodavis evaporation flask connection system |
| Bath temperature | 180 (2 possible settings: water and oil) |
| Bath heater | 1400W |
| Bath capacity | 5 liters |
| Temperature Stability | ± 0.2 |
| Bath material | PTFE coated |
| Bath movement distance | 90mm |
| Draining | Removable bath for emptying |
| Stroke displacement | 13cm, adjusted, and can be stop at any position |
| Head angle adjustable | 0~15 ° |
| Cooling surface | 1500cm ² |
| Evaporating flasks | 1000ml (optional 50 to 2000ml) |
| Collecting flasks | 1000ml (optional 250 to 2000ml) |
| Weight | 26,5 Kg (vertical version), 26 Kg (slanting version) |
| Overall dimensions | 690x700x430mm (vertical version,HxDxL) 690x790x430mm (slanting version,HxDxL) |
| Voltage | 230 V AC, 50/60Hz |
| Options | Steam temperature probe, vacuum controller |
| protective shield | Glassware lifting made possible with or without protective shield |
| Other features | Powered glassware lifting equipment with safety release (in case of power failure) Quick Start/Stop control and parameter selector |

Models of Strike 380



STRIKE 380 M1 / M4
Slanting glassware



STRIKE 380 M2 / M5
Vertical glassware (Steam sinking type)



STRIKE 380 M3 / M6
Vertical glassware (Steam rising type)



STRIKE 380 M7
Dry ice condensation type

Configurations in standard glassware

| Order Number | Model | Type | Voltage | Version |
|--------------|------------------------|---|---------|---------|
| SQED060113 | Rot.Evap.Strike 380 M1 | Slanting glassware | 220V | O |
| SQED060112 | Rot.Evap.Strike 380 M2 | Vertical glassware (Steam sinking type) | 220V | V |
| SQED060111 | Rot.Evap.Strike 380 M3 | Vertical glassware (Steam rising type) | 220V | U |

Configurations in plastic coated safety glassware

| Order Number | Model | Type | Voltage | Version |
|--------------|------------------------|---|---------|---------|
| SQED060419 | Rot.Evap.Strike 380 M4 | Slanting glassware | 220V | O/P |
| SQED060418 | Rot.Evap.Strike 380 M5 | Vertical glassware (Steam sinking type) | 220V | V/P |
| SQED060417 | Rot.Evap.Strike 380 M6 | Vertical glassware(Steam rising type) | 220V | U/P |
| SQED060420 | Rot.Evap.Strike 380 M7 | Dry ice condensation type | 220V | C |

NOTE: Other glassware versions are available upon specific request

Five steps to building up your rotary evaporator

Step 1



Rotary evaporator Strike 280 / Strike 380

- > Three sets of glassware available:
- > Two kinds glass materials available: Borosilicate glass / Glass with safety coating
- > Evaporating flasks: 1000ml (50~2000ml are optional)
- > Collecting flasks: 1000ml (250~2000ml are optional)

Step 2



Chiller

* Various chillers available

| | 0.5-1 L | up to 2 L | |
|------------------|---------|---------------|-----------------|
| STRIKE 280 / 300 | 1 | 2 | 3-4 |
| Chiller | FL300 | F500 FL601 | F1000 FL1201 |

Step 3



Vacuum system

Different vacuum systems are optional according to different experimental requirements

| | C series | CSH series | CSC series |
|-------------------|----------|------------|------------|
| Vacuum pump | | | |
| Vacuum controller | | | |
| Condensers | | | |
| Separator | | | |
| Collecting flasks | | | |

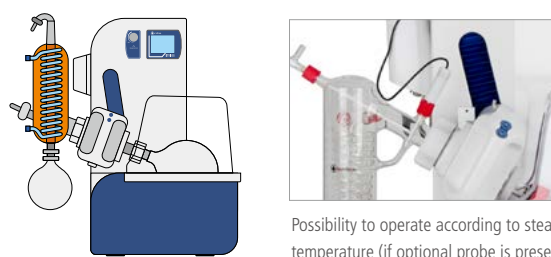
Step 4



Vacuum controller

- > If a vacuum controller is selected, different vacuum can be controlled
- > ST280 can display vacuum values on the screen of rotary evaporator
- > ST380 can display vacuum values on the screen of rotary evaporator
- > DVR480 can set and display the vacuum value directly.
- > CSC series already contains the vacuum controller.

Step 5



Temperature sensor

- > Possibility to operate according to steam temperature (if optional probe is present)
- > Strike 280 can also display cooling water temperature (if optional probe is present)
- > Glass temperature sensor, corrosion resistant
- > Steam temperature can be display from the screen of rotary evaporator

Vacuum pumps, vacuum controller and solvent recovery systems

Chemical Resistant Pumps



| Model | A 410 | A 510 | C410 | C510 | C610 |
|-----------------------|-------|-------|------|------|------|
| Max.powe(W) | 95 | 245 | 95 | 245 | 245 |
| Max.vacuum (mbar) | 13 | 8 | 13 | 8 | 2-4 |
| Max.Flow Rate (L/min) | 25 | 40 | 25 | 34 | 37 |
| Outlet (mm) | 10 | 10 | 10 | 10 | 10 |

The above are the specifications of 220V models. Suitable for STIRKE 280 / 380



A Pump

C Pump

Solvent recovery system - CSH serirs

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

| Model | CSH 410 | CSH 510 |
|------------------------------------|------------------|------------------|
| Build in Pump Type | C410 | C510 |
| Power (W) | 95 | 245 |
| Ultimate Vacuum (mbar) | 13 | 8 |
| Max. Flow Rate (l/min) | 25 | 34 |
| Outlet Size (outer diameter in mm) | 10 | 10 |
| Order No. | 900512 | 900513 |
| Suitable for | STIRKE 280 / 380 | STIRKE 280 / 380 |



CSH Series

Vacuum controller

| Model | DVR480 / DVR480-Pro | ST280 | ST380 |
|--------------------------------|--|---------------------------|---------------------------|
| Voltage | 100-240V, 50/60Hz | 12VDC | 12VDC |
| Displayed Vacuum Accuracy | 0.1 mbar | 1 mbar | 1 mbar |
| Controllable Range | 0.1~1000 mbar | 1~1000 mbar | 1~1000 mbar |
| Measurement Accuracy | 0.25 level / 0.1 level | 1 level | 1 level |
| Display | LED | Display on the Strike 280 | Display on the Strike 380 |
| Control Mode | On-Touch | Controlled by Strike 280 | Controlled by Strike 380 |
| Timer / Program | Yes / Up to 5 Steps | - | - |
| Pressure Release Feature | Yes | No | No |
| Electrical Control of the Pump | Yes | Yes | Yes |
| Protection Category | IP40 | IP40 | IP40 |
| Corrosion resistance | All parts that come into contact with gases are made of PTFE or highly durable ceramic to ensure the resistance to various acid, base, or organic solvent gases. | | |
| Suitable for | STIRKE 280 / 380 | STIRKE 280 | STIRKE 380 |



DVR 480 Series



ST280 / ST380

Solvent recovery system - CSC serirs

The inlet of the CSC System is connected to a segregation bottle, whereas the outlet is connected to a condenser, which is used to condensate and recover the solvent. In addition, the system contains a vacuum controller to set, display, and control the vacuum.

Fully automated vacuum generation system comprising Chemical resistant diaphragm vacuum pump, base plate, high performance condenser, segregation bottle, Vacuum control device, valves and control unit.

| Model | CSC 410 | CSC 510 |
|------------------------------------|------------------|------------------|
| Build in Pump Type | C410 | C510 |
| Power (W) | 95 | 245 |
| Ultimate Vacuum (mbar) | 13 | 8 |
| Max. Flow Rate (l/min) | 25 | 34 |
| Outlet Size (outer diameter in mm) | 10 | 10 |
| Order No. | 900522 | 900523 |
| Suitable for | STIRKE 280 / 380 | STIRKE 280 / 380 |

Note: CSC Solvent Recovery Systems already contains a vacuum controller.



CSC Series

Accessories and spare parts

PT100 probe

| Order No. | Description |
|------------|--|
| SQEF059420 | complete with trap for vapour temperature reading |
| SQEF059421 | PT100 probe, Cooling temperature sensor (directly interfaced and controlled by Strike 280) reading |



Borosilicate glass refrigerator

| Order No. | Description | No. |
|------------|--|-----|
| SQEF059799 | With internal coil, O version (slanting) | 1 |
| SQEF059798 | Plastic coated, with internal coil, O version (slanting) | 1 |
| SQEF059796 | With internal coil, V version (vertical, Steam sinking type) | 2 |
| SQEF059797 | Plastic coated, with internal coil, V version (vertical, Steam sinking type) | 2 |
| SQEF059794 | With internal coil, U version (vertical, Steam rising type) | 3 |
| SQEF059792 | Plastic coated, with internal coil, U version (vertical, Steam rising type) | 3 |
| SQEF059793 | Dry ice condensation type | 4 |

Borosilicate glass rodavis evaporating flask 29/32

| Order No. | Description |
|------------|-----------------|
| SQFY051170 | Capacity 50mL |
| SQFY015938 | Capacity 100mL |
| SQFY015939 | Capacity 250mL |
| SQFY015940 | Capacity 500mL |
| SQFY015934 | Capacity 1000mL |
| SQFY015935 | Capacity 2000mL |



Evaporating flasks for powders

| Order No. | Description |
|------------|-----------------|
| SQFY046060 | Capacity 500mL |
| SQFY046062 | Capacity 1000mL |
| SQFY046061 | Capacity 2000mL |



Borosilicate glass collecting flask 35/20

| Order No. | Description |
|------------|--|
| SQUA015797 | Round collecting flask with spherical Joint capacity ml.250 |
| SQUA015798 | Round collecting flask with spherical Joint capacity ml.500 |
| SQUA015796 | Round collecting flask with spherical Joint capacity ml.1000 |
| SQUA015792 | Round collecting flask with spherical Joint capacity ml.2000 |



Plastic coated borosilicate glass collecting flask 35/20

| Order No. | Description |
|------------|---|
| SQUA015788 | Round collecting flask with spherical Joint capacity ml. 250 |
| SQUA015791 | Round collecting flask with spherical Joint capacity ml. 500 |
| SQUA015789 | Round collecting flask with spherical Joint capacity ml. 1000 |
| SQUA015790 | Round collecting flask with spherical Joint capacity ml. 2000 |

Borosilicate glass adapter for collecting flask

| Order No. | Description |
|------------|---|
| SQFW029300 | For multiple evaporation, N.4 sockets NS12 with central socket NS29/32 |
| SQUA062435 | For multiple evaporation, N.4 sockets NS29 with central socket RODAVIS 29 |
| SQUA062434 | For multiple evaporation, N.3 sockets NS29 with central socket RODAVIS 29 |
| SQFW029301 | For multiple evaporation, N.4 sockets NS19 with central socket RODAVIS 29 |



Borosilicate glass adapter for connection

| Order No. | Description |
|------------|--------------------|
| SQAD060001 | NS29/32 to NS24/29 |
| SQAD060002 | NS29/32 to NS19/26 |
| SQAD060003 | NS29/32 to NS14/23 |



Anti-sprinkling bubble in borosilicate glass

| Order No. | Description |
|------------|--------------------------------------|
| SQFW026451 | BUBBLE volume 100mL, NS29/32 to NS29 |
| SQFW026452 | BUBBLE volume 100mL, NS29/32 to NS24 |
| SQFW026453 | BUBBLE volume 250mL, NS29/32 to NS29 |
| SQFW026454 | BUBBLE volume 250mL, NS29/32 to NS24 |



Joint clips, plastic

| Order No. | Description |
|------------|-----------------|
| FLMU016720 | For 29/32, pk/1 |
| FLMU016721 | For 24/29, pk/1 |
| FLMU016722 | For 19/26, pk/1 |
| FLMU016723 | For 14/23, pk/1 |



Discharge valve, vapor tube, sample filling tube

| Order No. | Description |
|------------|---------------------|
| SQEF062449 | Discharge valve |
| SQEF059795 | Vapor tube |
| BQRY024329 | Sample filling tube |



Tightening clamp

| Order No. | Description |
|------------|---|
| FLMM016694 | Tightening clamp for flask with spherical joint |



Sleeves, PTFE

| Order No. | Description |
|------------|-------------------------|
| KAMY011542 | 7551-14 For 29/42, pk/1 |
| KAMY011544 | 7551-12 For 24/29, pk/1 |
| KAMY011546 | 7551-09 For 19/22, pk/1 |
| KAMY011547 | 7551-06 For 14/23, pk/1 |



Rubber vacuum resistant tube

| Order No. | Description |
|-----------|---|
| 168001-01 | Rubber vacuum resistant tube, 8 x 14mm silicone vacuum resistant tube, 1 meter, uncut |



STRIKE₂₀

The highest performances proposal
For your evaporation processes!

6L, 10L, 20L

Based on Industrial Relation System
Design Concept



Vertical glassware (Steam sinking type)

STRIKE 20 - Large-Capacity Rotary Evaporator



Strike 20 has both industrial and laboratory rotary evaporation features. It meets all the process needs by using Borosilicate glass and PTFE permitting aggressive substances treatment. The plant allows for evaporation of volatile components (lowboiling) so as to separate them from the residual ones (high-boiling) due to the difference of their boiling points. Easy and totally safe startup, check and stop procedures of the process: Strike 20 is provided with a transparent protection shield for the evaporation flask and the thermostatic bath.



Heating Bath

The heating bath is lifted by means of a hydraulic system which, in case of Power failure, goes automatically down to avoid fluid overheating.



Sealing System

A great feature of Strike 20 is its sealing system made of self-lubricating material which allows a perfect vacuum-tight. This sealing system does not require any maintenance.



Pressure And Temperature

Strike 20 runs under atmospheric pressure conditions or vacuum. It guarantees a perfect vacuum tight up to 5 mbar. The perfect sealing up to 5 mbar allows for reduced process time due to low evaporation temperature of the fluid. The thermostatic bath can run both with water and oil allowing to reach 180 maximum temperature; it also permits evaporation of any solvent under atmospheric pressure conditions. The heating bath is supplied with two 3KW electric heaters.

Measurement, Visual Display And Recording Of The Following Parameters:

- > Bath pre-set and real temperature
- > Vapor pre-set and real temperature
- > Pre-set and real rotation speed
- > Pre-set and real vacuum reading and setting

Technical Features

| Heating bath | |
|--|--------------------------------|
| Working range | ambient ... 150 |
| Accuracy | +/- 2 |
| Resolution | 0.1 |
| Set point | YES (1 step) |
| Type of control | PID |
| Maximum oscillation during checkout | +/- 3 |
| Power resistor KW | 3 |
| Heater Power density | ≤3W/cm ² |
| Over-temperature protection | YES |
| Temperature sensor | PT100 |
| Filling level | Manual |
| Vapour temperature | |
| Working range | ambient ... 150 |
| Accuracy | +/- 2 |
| Resolution | 0.1 |
| Temperature sensor | PT100 |
| Rotation | |
| Working range Rpm | 10-150 |
| Accuracy Rpm | +/- 2 |
| Rotation speed reading | YES |
| Resolution Rpm | 1 |
| Vacuum control | |
| Working range mbar | 8~atmospheric |
| Accuracy mbar | ± 5mbar |
| Resolution mbar | 1 |
| Absolute vacuum reading | |
| Display | Digital |
| Vacuum setting | |
| Lift system | |
| On/off | |
| Electric | |
| Interface | |
| Export data | |
| Remote control | |
| Alarms and controls | |
| Heating bath overheating | |
| Bath temperature exceeding set point | |
| Soft start rotation | |
| Rotation speed monitoring | |
| Safety status (rotation, lifting, heating=off) | |
| Evaporation flask protection | |
| Glassware | |
| 20 lt evaporation flask | |
| 10 lt evaporation flask | |
| 6 lt evaporation flask | |
| Collecting flasks: 2x6 lt or 1x10lt | |
| Glassware configuration | Descending, reflux, customized |
| General features | |
| Cooler exchange surface (mq) | 0.5 |
| Over-pressure protection | |
| Protection with Rupture disc | |
| Quick closing | |
| Dimensions (WxDxH mm) | 1240x580x2060 |
| Power supply | 230V, 3.4 kW |
| Weight | 150Kg |
| Vapours cycle maximum temperature | |
| Vapours cycle minimum temperature | |
| Vapours cycle Temp range | |
| Receipt/methods in memory | |
| Recipes customization | |
| Data acquisition on PC | |
| Remote Control | |
| Bath lowering in case of alarm | |
| Optional accessories | |
| Plastic coated glassware | |
| Evaporation flask protection shield | |



Vertical glassware (Steam rising type)

Applications

- Distillation(continuous and discontinuous)
- Solvent recycling
- Reflux process reactions
- Component drying
- Fine chemical synthesis
- Crystallization
- Extractions
- Purifications
- R&D studies
- Scale-down processes

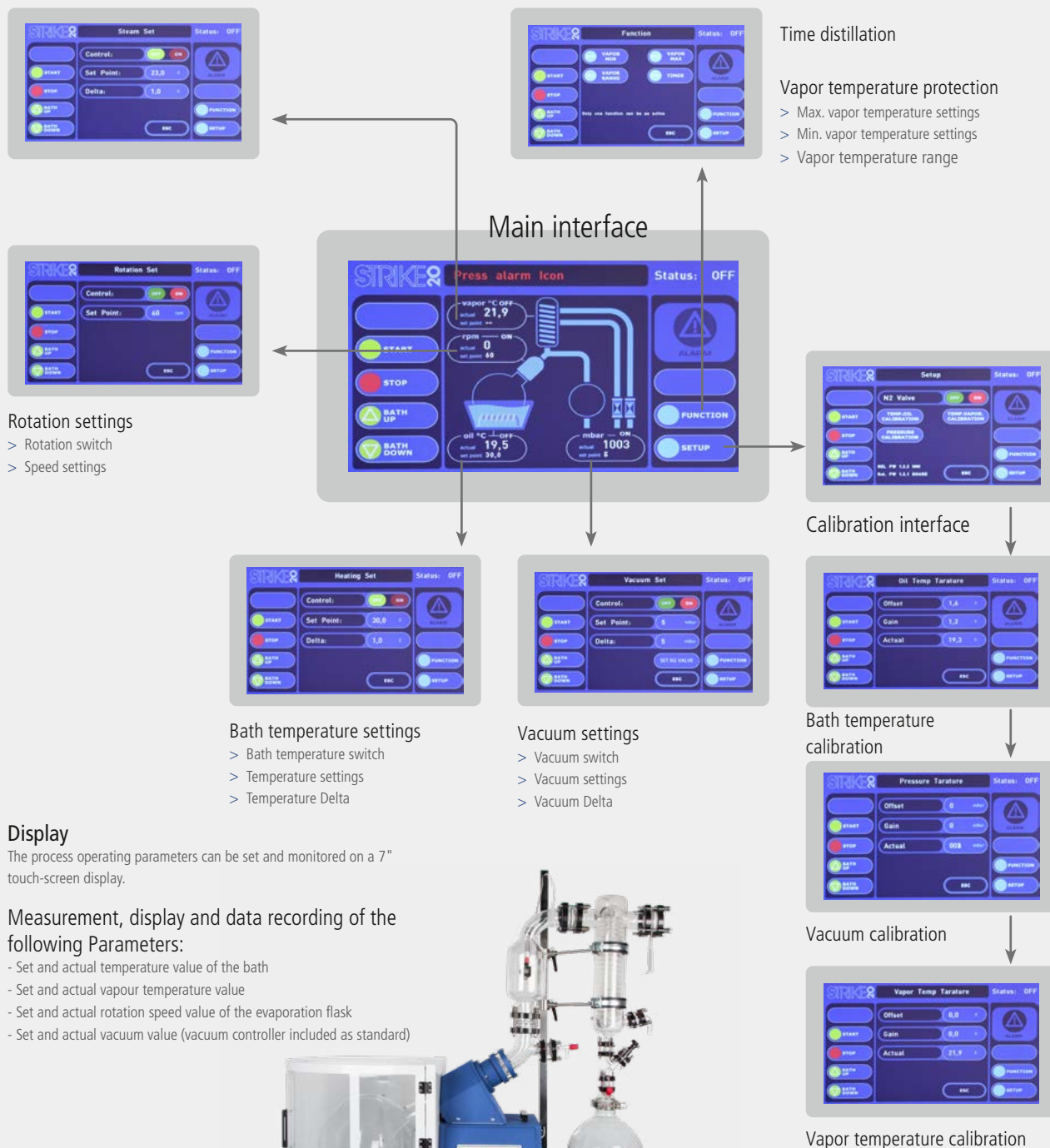
Industries

- Pharmaceutical
- Chemical
- Cosmetic
- Herb extraction
- Food
- Research
- Petrochemical

Order information

| Order No. | Configuration |
|------------|---|
| SQFU079737 | STRIKE 20 descending glassware, 20L evaporating flask 1x10L collecting flask |
| SQFU079738 | STRIKE 20 descending glassware, 20L evaporating flask, 2x6L collecting flasks |
| SQFU079735 | STRIKE 20 reflux glassware, 20L evaporating flask 1x10L collecting flask |
| SQFU079736 | STRIKE 20 reflux glassware, 20L evaporating flask, 2x6L collecting flasks |

Display and operation



Display

The process operating parameters can be set and monitored on a 7" touch-screen display.

Measurement, display and data recording of the following Parameters:

- Set and actual temperature value of the bath
- Set and actual vapour temperature value
- Set and actual rotation speed value of the evaporation flask
- Set and actual vacuum value (vacuum controller included as standard)

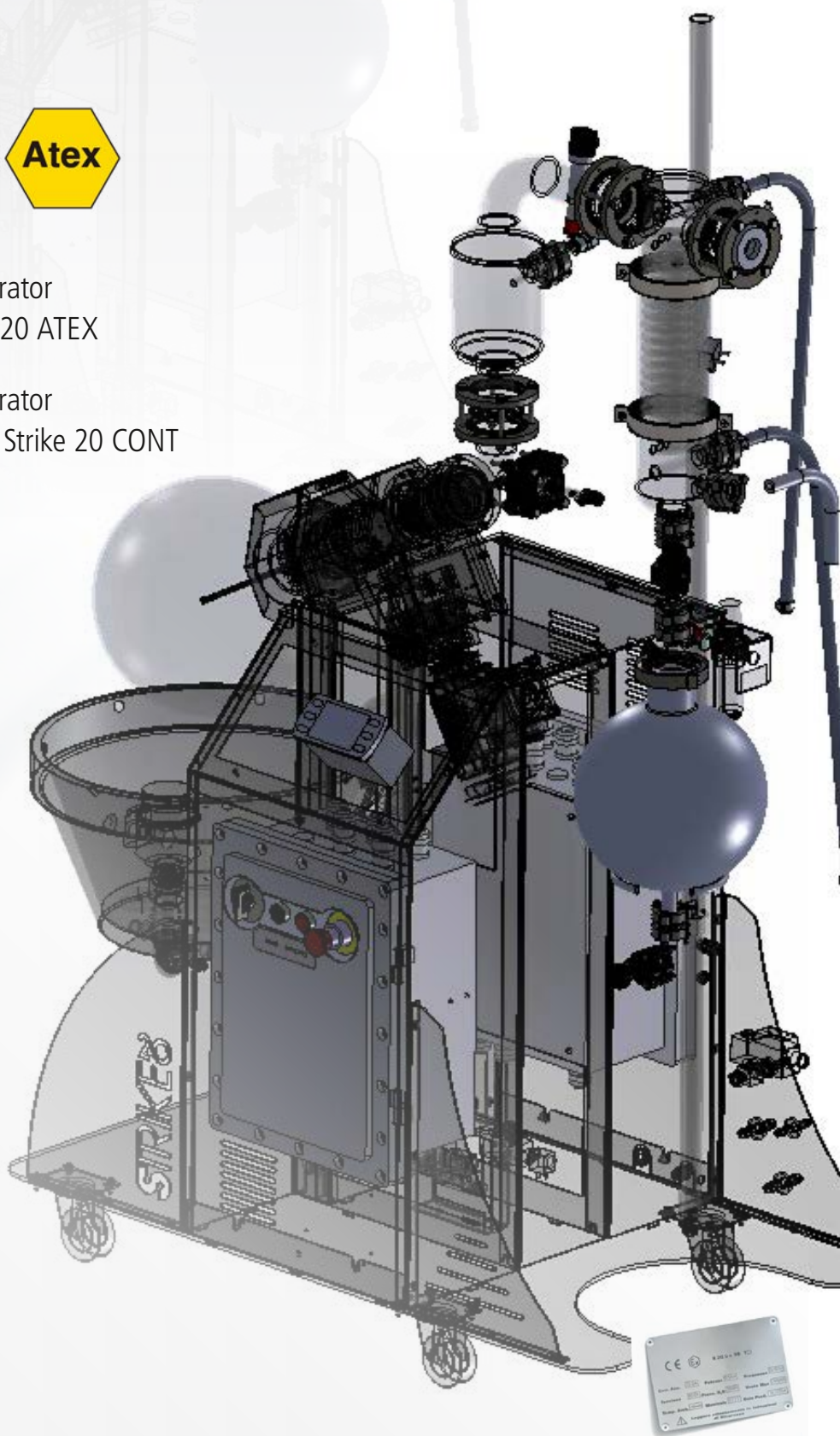
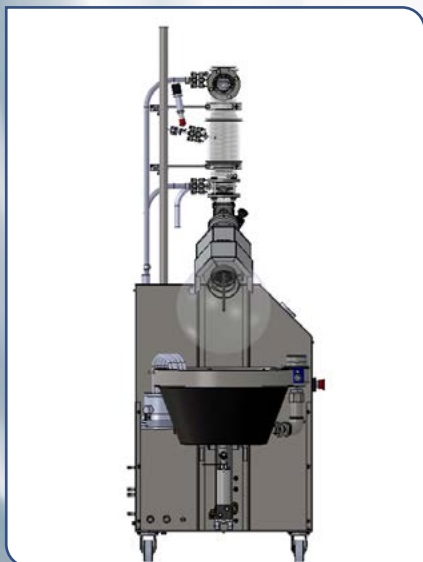
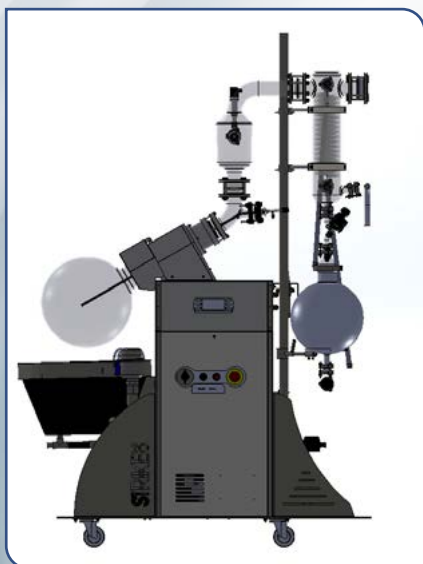


STRIKE2

STRIKE

Large-Capacity Rotary Evaporator
Explosion-proof type - Strike 20 ATEX

Large-Capacity Rotary Evaporator
Continuous distillation type - Strike 20 CONT



More detailed information, please contact WIGNES

STRIKE 100 - Industrial Rotary Evaporator

STRIKE100 is a large-capacity rotary evaporator designed for industrial plants. It meets all the process needs by using Borosilicate glass and PTFE permitting aggressive substances treatment. The unit works under vacuum or atmosphere conditions. The rotation of the 50 or 100 lt evaporation flask in the thermostatic bath results in a forced convection and homogenous distribution of the product, thus preventing sedimentation. Moreover, it ensures high evaporating exchange surface. The sealing system guarantees the perfect vacuum tightness and maintenance-free operation. Possibility to customize glassware as for Clients needs.

Applications

- Distillation (continuous and discontinuous)
- Solvent recycling
- Reflux process reactions
- Component drying
- Fine chemical synthesis
- Crystallization
- Extractions
- Purifications
- Scale-up processes

Fields

- Pharmaceutical
- Chemical
- Cosmetic
- Herb extraction
- Petrochemical
- Food

STRIKE[®] 100

The highest performances proposal
For your evaporation processes!



Total safety system

The industrial safety rotary evaporators are able to safeguard the user from any risk during work. The thermostatic bath is covered by a transparent shield providing the operator with utmost protection from glass breaking and spray at high temperature. The thermostatic bath and the protective shield are lifted by means of an hydraulic system electronically controlled. An automatic system lowers the thermostatic bath when a power failure, door opening and overheating occur. It is also inserted on glassware a brake disc in order to avoid sudden overpressure.

Vacuum sealing system

A great feature of these rotary evaporators is its sealing system made of self-lubricating material which allows a perfect vacuum-tight. This sealing system does not require any maintenance.

Heating bath

The heating bath is lifted by means of a hydraulic system which, in case of Power failure or doors opening, goes automatically down to avoid fluid overheating and the process will immediately stop. Electric heater enhanced to 8Kw to ensure a continuous evaporation of the product even in the worst conditions.

Display

The process operating conditions can be set and displayed: any value error or anomalous temperature will block the electric Power. For STRIKE100 ATEX version is a "LCD display anti-reflectio coating glass panel" . For version STRIKE100 is a graphical color display 7" touch-screen

Electronic controller

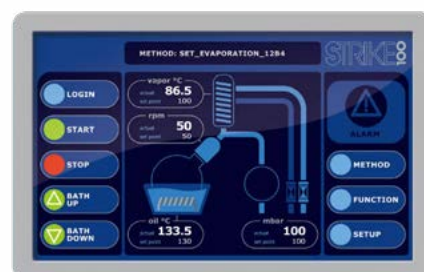
Strike100 e STRIKE100ATEX are fully controlled by a PLC (Programmable Logic Controller) which allows for controlling the parameters as well as setting them di-rectly by means of the keys.

Client could acquire on an external PC through serial communication all the process parameters through special software for data acquisition and management. Client could remotely control the instrument from an external PC via serial communication. Client could save and recall up to 20 methods or "recipes" work that the customer can customize over time (NOT ON ATEX VERSION). In addition, the instrument has control algo-rithms that allow you to finish the process of evapora-tion / distillation or separation of solvents automatically by reading the temperature of the vapors.



Technical features

| Thermic Bath | |
|--|------------------|
| Working Range | [0; 150] |
| Accuracy | +/- 2 |
| Resolution | 0.1 |
| Set point | YES (1 step) |
| Type of control | PID |
| Maximum oscillation during checkout | +/- 3 |
| Power resistor KW | 8 |
| Heater Power density | 3W/cm2 |
| Over-temperature protection | YES |
| Temperature Sensor | Three-wire PT100 |
| Level sensor | YES |
| Filling Level | Yes -Manual |
| Vapour Temperature | |
| Working Range | [0; 150] |
| Accuracy | +/- 2 |
| Resolution | 0.1 |
| Temperature sensor | Three-wire PT100 |
| Rotation | |
| Working Range Rpm | [5; 100] |
| Accuracy Rpm | +/- 2 |
| Rotation speed reading | YES |
| Resolution Rpm | 1 |
| Engine 0,18KW, 380Vac | YES |
| Vacuum Control | |
| Working Range mbar | [0; 1000] |
| Accuracy mbar | ± 5mbar |
| Resolution mbar | 1 |
| Absolute vacuum reading | YES |
| Display | Digital |
| Vacuum regulation | YES |
| Lifting | |
| Lifting control ON/OFF | YES |
| Hydraulic lifting | YES |
| Interface | |
| PLC controlled | YES |
| Export data interface | YES |
| Remote control interface | YES |
| Alarms | |
| Thermal bath overheat | YES |
| Bath temperature exceeding set point | YES |
| Soft start rotation | YES |
| Rotation speed monitoring | YES |
| Security status (rotation, lifting, heating=off) | YES |
| Evaporation flask protection opening | YES |
| General | |
| 100Lt evaporation flask | YES |
| 50Lt evaporation flask | YES |
| 20L evaporation flask | YES |
| 20Lt collecting flask | 2 |
| cooler exchange surface (mq) | 0.6/1.4/custom |
| Over-pressure Protection | YES |
| Protection with Rupture disc | YES |
| Quick closing | YES |
| ATEX certification | YES |
| Dimensions (WxDxH mm) | 1830x890x2110 |
| Operation | |
| vapours cycle maximum temperature | YES |
| vapours cycle minimum temperature | YES |
| vapours cycle Temp range | YES |
| receipt/methods in memory | YES |
| recipes customization | YES |
| Data acquisition on PC | YES |
| Remote Control | YES |
| lowering bath in case of alarm | YES |
| Optional | |
| Plastic coated glassware | |



Parameters measurement, visual display and recording of the following:

- Bath pre-set and real temperature
- Vapor pre-set and real temperature
- Pre-set and real rotation speed
- Pre-set and real vacuum reading and setting

Order information

| Strike 100 | Order No. |
|---|------------|
| 100L version | |
| 100lt reflux glassware 1.43m ² 2x20L | SQFU069840 |
| 100lt reflux glassware 1.43m ² 1x20L | SQFU069841 |
| 100lt descending glassware 100lt 1.43m ² 2x20L | SQFU069842 |
| 100lt descending glassware 100lt 1.43m ² 1x20L | SQFU069843 |

| | |
|---|------------|
| 50L version | |
| 50lt reflux glassware 0.6m ² 2x20L | SQFU069844 |
| 50lt reflux glassware 0.6m ² 1x20L | SQFU069845 |
| 50lt descending glassware 0.6m ² 2x20L | SQFU069846 |
| 50lt descending glassware 0.6m ² 1x20L | SQFU069847 |

| Strike 100 ATEX | Order No. |
|---|------------|
| 100L version | |
| 100lt reflux glassware 1.43m ² 2x20L | SQFU069848 |
| 100lt reflux glassware 1.43m ² 1x20L | SQFU069849 |
| 100lt descending glassware 100lt 1.43m ² 2x20L | SQFU069850 |
| 100lt descending glassware 100lt 1.43m ² 1x20L | SQFU069851 |

| | |
|---|------------|
| 50L version | |
| 50lt reflux glassware 0.6m ² 2x20L | SQFU069852 |
| 50lt reflux glassware 0.6m ² 1x20L | SQFU069853 |
| 50lt descending glassware 0.6m ² 2x20L | SQFU069854 |
| 50lt descending glassware 0.6m ² 1x20L | SQFU069855 |

*Strike 100 ATEX version is in compliance with the ATEX European Directives that regulate explosion-proof manufacturing materials.

Strike 100 ATEX is T3 or T4 certificated. T3 or T4 protection level can be chosen according to the applications needed.

High-power Chemical Resistant Diaphragm Pumps

High chemical resistant

All wetted parts of Chemvak C series pump are made of PTFE material which are ideal for extremely aggressive / corrosive gases and vapors.

| Model | C900E | C920Z | C960T | C1450TEF |
|------------------------|-----------|-----------|-----------|-------------|
| Max. vacuum (mbar) | 30 | 8 | 2 | 8 |
| Max. Flow Rate (L/min) | 90 | 70 | 60 | 145 |
| Outlet (mm) | 10 | 10 | 10 | 10 |
| Order No. | 169900-22 | 169920-22 | 169960-22 | 1691450C-22 |
| Suitable for | STRIKE 20 | STRIKE 20 | STRIKE 20 | STRIKE 100 |



C1450TEF

FL Recirculating Coolers

- > The compact FL models are suited for a wide variety of cooling tasks.
- > Installation under a lab bench saves valuable space.
- > Easy filling from above
- > Feed pressure indicator (FL1201 and above) and level indicator (all models)
- > Large compensation volume
- > Circulating pumps designed for continuous operation
- > Permissible return temperature up to +80
- > Low liquid level protection with visual and acoustic signals
- > May be used with water, water-glycol, thermal bath fluid
- > Overload protection for pump motor and cooling machine

| JULABO Order No. | Model | Working temp. range | Temp. stability | Cooling capacity (kW) | | | | | Pump capacity Flow rate/pressure | | Filling volume liters | Suitable for |
|---------------------|---------|------------------------|--------------------|-----------------------|------|------|------|------|-------------------------------------|---------|--------------------------|--------------|
| | | | | 20 | 10 | 0 | -10 | -20 | L/min | bar | | |
| 9 661 017 | FL1701 | -20~40 | ±0.5 | 1.7 | 1.5 | 1.1 | 0.85 | 0.4 | 23 | 1.0 | 1 2~17 | STRIKE 20 |
| 9 663 025 | FL2503 | -20~40 | ±0.5 | 2.5 | 2.2 | 1.5 | -- | 0.55 | 40 | 0.5-3.0 | 24~30 | STRIKE 20 |
| 9 663 040 | FL4003 | -20~40 | ±0.5 | 4.0 | 3.4 | 2.4 | -- | 0.65 | 40 | 0.5-3.0 | 24~30 | STRIKE 20 |
| 9 666 070 | FL7006 | -20~40 | ±0.5 | 7.0 | 6.4 | 5.1 | -- | 1.55 | 60 | 0.5-6.0 | 39~47 | STRIKE 100 |
| 9 666 110 | FL11006 | -20~40 | ±0.5 | 11.0 | 9.0 | 7.5 | -- | 3.0 | 60 | 0.5-6.0 | 39~47 | STRIKE 100 |
| 9 666 200 | FL20006 | -20~40 | ±0.5 | 20.0 | 15.0 | 10.0 | -- | 2.5 | 80 | 0.8-6.0 | 15~37 | STRIKE 100 |



Accessories for Strike 20

| Order No. | Description |
|------------|--|
| SQFW080270 | Aluminium trolley for evaporating flask handling |
| SQFY080951 | 6L Evaporation vessel for Strike 20 |
| SQFY080952 | 10L Evaporation vessel for Strike 20 |
| SQFY080953 | 20L Evaporation vessel for Strike 20 |
| SQFY080954 | 6L Collecting plastic coated vessel |
| SQFY080955 | 10L Collecting plastic coated vessel |

Accessories for Strike 100

| Order No. | Description |
|------------|--|
| SQFW039025 | Aluminium trolley for evaporating flask handling |
| SQEG034290 | 50L Evaporation vessel for Strike 100 |
| SQEG034291 | 100L Evaporation vessel for Strike 100 |
| SQEG036866 | 20L Collecting plastic coated vessel |



Case study

| Model | Collection rate ml/h | Chemicals | Cooling capacity W | Chiller | Vacuum pump |
|------------------------|-------------------------|------------------|-----------------------|-------------|-------------|
| STRIKE280 STRIKE300 | 50 | Toluene | 5.2 | F250, FL300 | C410, C510 |
| | | Acetone | 7.3 | F250, FL300 | C410, C510 |
| | | Absolute alcohol | 11.4 | F250, FL300 | C410, C510 |
| | | Water | 37.6 | F250, FL300 | C410, C510 |
| | 100 | Toluene | 10.4 | F250, FL300 | C410, C510 |
| | | Acetone | 17.6 | F250, FL300 | C410, C510 |
| | | Absolute alcohol | 22.8 | F250, FL300 | C410, C510 |
| | | Water | 75.2 | F250, FL300 | C410, C510 |
| | 250 | Toluene | 26.0 | F250, FL300 | C410, C510 |
| | | Acetone | 36.5 | F250, FL300 | C410, C510 |
| | | Absolute alcohol | 57.0 | F250, FL300 | C410, C510 |
| | | Water | 188.0 | F250, FL300 | C410, C510 |
| | 500 | Toluene | 52.0 | F250, FL300 | C410, C510 |
| | | Acetone | 73.0 | F250, FL300 | C410, C510 |
| | | Absolute alcohol | 114.0 | F250, FL300 | C410, C510 |
| | | Water | 376.0 | F500, FL601 | C410, C510 |
| | 1000 | Toluene | 104.0 | F250, FL300 | C410, C510 |
| | | Acetone | 176.0 | F250, FL300 | C410, C510 |
| | | Absolute alcohol | 228.0 | F250, FL300 | C410, C510 |
| | | Water | 752.0 | FL1701 | C410, C510 |
| | 2000 | Toluene | 208.0 | F250, FL300 | C410, C510 |
| | | Acetone | 252.0 | F500, FL300 | C410, C510 |
| | | Absolute alcohol | 456.0 | F500, FL601 | C410, C510 |
| | | Water | 1504.0 | FL1701 | C410, C510 |
| STRIKE20 | 6000 | Toluene | 624.0 | FL1701 | C610, C960T |
| | | Acetone | 1056.0 | FL1701 | C610, C960T |
| | | Absolute alcohol | 1368.0 | FL1701 | C610, C960T |
| | | Water | 4512.0 | FL7006 | C960T |
| | 10000 | Toluene | 1040.0 | FL1701 | C610, C960T |
| | | Acetone | 1760.0 | FL2503 | C610, C960T |
| | | Absolute alcohol | 2280.0 | FL2503 | C610, C960T |
| | | Water | 7520.0 | FL11006 | C960T |
| | 20000 | Toluene | 2080.0 | FL2503 | C610, C960T |
| | | Acetone | 2520.0 | FL2503 | C610, C960T |
| | | Absolute alcohol | 4560.0 | FL7006 | C960T |
| | | Water | 15040.0 | FL20006 | C960T |



$Q = \text{flow rate} \times \text{heat of vaporization} \times \text{density}$

Q = heat load in Watt

flow rate: in ml/hour

heat of vaporization: in Kcal/g

density: in g/ml

Example

Collecting 300 ml of methylene chloride in 30 minutes

1. Convert volume to weight: 300 ml x density of 1.33 g/ml = 399 g
2. Convert minutes to hours: 399 g in 30 min = 798 g/hr
3. Multiply by the latent heat of vaporization: 798 g/hr x 89 cal/g = 71022 cal/hr
4. Divide by 1000 to get Kcal: 71022 / 1.000 = 71,022 kcal/hr
5. Multiply by 1.16 to get Watts: 71,022 x 1.16 = 82 Watt

Add a security factor of at least 20% for loss of cooling capacity due to high ambient, long tubing, etc.: 82 x 1.2 = 98 Watt





Vacuum Pumps Solvent Recovery Systems

Vacuum Pumps

The ability to handle difficult and different vacuum challenges quickly.

Wiggins is your general laboratory companion and provides products that can be used in all kinds of laboratory environments.

ChemVak is product line in vacuum technology offering an extensive range of vacuum pumps for all applications.

Including :



Chemical resistant diaphragm vacuum pumps which can be used in the chemical, pharmaceutical, petrochemical and other industries

Chemical resistant diaphragm pumps



Chemical resistant diaphragm pumps
Frequency conversion chemical resistant vacuum pumps

Chemical resistant diaphragm vacuum pumps which can be widely used to hard acidic, basic and solvent vapors



Solvent recovery systems



Oil-free Piston Vacuum Pump, no pollution, no need for oil changes.

Oil-free piston vacuum pumps

Oil-sealed Rotary Vane vacuum pumps are widely used traditional vacuum pumps in research and production



Rotary vane vacuum pumps



Pressure pumps and air supply systems

Chemical Resistant Diaphragm Pumps (A Series)



New Entry Level for
Anti-Corrosion Diaphragm Pump



A410

A510

- > Chemvak A series are chemical resistant diaphragm vacuum pumps which can be used in the chemical, pharmaceutical, petrochemical and other industries, such as suction filtration, vacuum distillation, rotational evaporation, vacuum concentration, centrifugal concentration, solid phase extraction and so on.
- > A series Pumps can be widely used to hard acidic, basic and solvent vapors by utilizing corrosion proof PTFE on all the wetted surfaces. The vacuum chamber and the drive chamber are separated and sealed, Ensure a longer working life of mechanical components
- > Chemvak A series pumps are driven by Diaphragm, without the need of lubricant, regular oil changes and maintenance; with no oil pollution.
- > Driven direct by motor with no additional belt-driven transmission; the quality vibration-proof assembly makes Chemvak A series run at the lowest noise level among all other equivalent pumps.
- > Cost-effective, reliable, unique structural design, noise less than 50dB.
- > A variety of models are available to meet the various needs of the laboratory, with a minimum vacuum of up to 2 mbar.
- > Every motor of Chemvak A series pumps has a built-in thermal protection device to shut off the pump automatically when overheated and then resume working when the temperature cools down.

Features

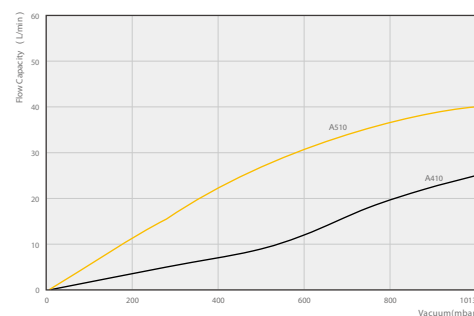
- > No pollution when working.
- > Can be used for suction of high temperature steam or Condensate
- > Overheat protection and power insurance
- > Chemical resistant design
- > Suitable for corrosive gases and steam media
- > Environmentally friendly design
- > Strong tightness

Specifications



| Model | A410 | A510 |
|------------------------|-------------|-------------|
| Power | 220V/50Hz | 220V/50Hz |
| Max. power (W) | 95 | 245 |
| Max. current (A) | 0.6 | 1 |
| Max. vacuum (mbar) | 13 | 8 |
| Max. Flow Rate (L/min) | 25 | 40 |
| Motor Speed (rpm) | 1450 | 1450 |
| Number of Stages | Double | Double |
| Outlet (mm) | 10 | 10 |
| Size WxDxH (mm) | 230x155x173 | 290x190x210 |
| Weight (kg) | 4.5 | 10 |
| Noise Level (dB) | 50 | 50 |
| Order No. | 170410-22 | 170510-22 |

Chemical Resistant Diaphragm Pumps Flow curve



Note: Above data is based on the 220V/50Hz instrument



Chemical Resistant Diaphragm Pumps (C Series)

C series construction with PTFE makes them very resistant to chemical vapors from inlet to exhaust and very tolerant to condensates. Pumping chambers are hermetically ensuring long lifetimes of mechanical parts.

Most importantly, diaphragm pumps are oil-free, for vastly reduced service demands compared with oil sealed pumps. They eliminate the cost of water and its contamination well-known from water-jet aspirators, and the waste-oil disposal of rotary vane pumps.

They are chemical resistant diaphragm vacuum pumps which can be widely used to hard acidic, basic and solvent vapors by utilizing corrosion proof PTFE on all the wetted surfaces. Through innovative mechanical technology and human considerations, we have made C series to be quiet, safe, maintenance-free and cost effective vacuum pumps.

Features

High chemical resistant

All wetted parts of C series pump are made of PTFE which are ideal for extremely aggressive / corrosive gases and vapors.

Long-term durable

Head cover and diaphragm made of PTFE/PTFE-coated with stability core for unsurpassed long-term performance

No air pollution, maintenance free

Chemvak C series pumps are driven by Diaphragm, without the need of lubricant, regular oil changes and maintenance; with no oil pollution.

Practical

- > smooth surfaces for easy cleaning
- > sealing system provides reduced leakage rates for improved ultimate vacuum

Quiet and low vibration

Driven direct by motor with no additional belt-driven transmission; the quality vibration-proof assembly makes Chemvak C series run at the lowest noise level among all other equivalent pumps.

Thermal protection device

Every motor of Chemvak C series pumps has a built-in thermal protection device to shut off the pump automatically when overheated and then resume working when the temperature cools down.

International safety certification

CE certification

The stability core principle: for unprecedented long-term performance

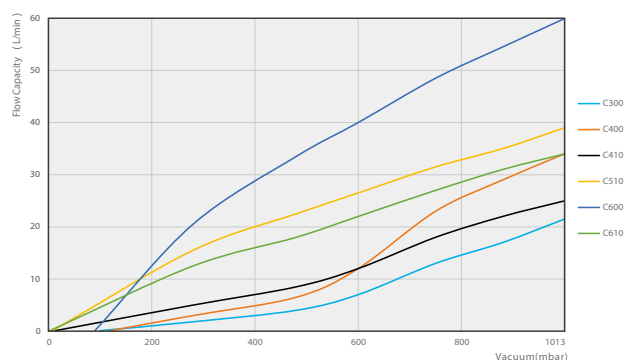
chemistry diaphragm pumps provide optimum performance and unsurpassed service intervals even in harsh chemical applications. We achieve this unmatched reliability by manufacturing the most highly stressed components – the head cover and clamping disk.

- > high quality PTFE coated EPDM provide long term chemical resistance
- > this thick-walled, diffusion resistant, molded fluoroplastic is supported by a stable metallic core for durability
- > mechanical precision finishing ensures reproducible WIGGENS quality

Application

- > Chemical and petrochemical Industry
- > Pharma Industry
- > Filtration processes
- > Vacuum distillation
- > Rotary evaporation
- > Vacuum and centrifugal concentration
- > Solid phase extraction
- > Conventional drying and gel drying
- > Advanced substitute for water-jet pumps

Chemical Resistant Diaphragm Pumps Flow curve



Note: Above data is based on the 220V/50Hz instrument

Specifications



| Model | C300 | | C400 | | C410 | | C510 | | C600 | | C610 | |
|------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Powe | 115V / 60Hz | 220V / 50Hz | 115V / 60Hz | 220V / 50Hz | 115V / 60Hz | 220V / 50Hz | 115V / 60Hz | 220V / 50Hz | 115V / 60Hz | 220V / 50Hz | 115V / 60Hz | 220V / 50Hz |
| Max. powe (W) | 70 | 60 | 90 | 95 | 90 | 95 | 250 | 245 | 250 | 270 | 250 | 245 |
| Max. current (A) | 1.6 | 0.5 | 1.4 | 0.5 | 1.4 | 0.5 | 2.4 | 1.1 | 2.4 | 1.1 | 2.4 | 1.1 |
| Max. vacuum (mbar) | 100 | | 120 | | 13 | | 8 | | 90 | | 2-4 | |
| Max. Flow Rate (L/min) | 22 | 22 | 34 | 34 | 25 | 25 | 41 | 34 | 60 | 60 | 37 | 37 |
| Motor Speed (rpm) | 1700 | 1450 | 1700 | 1450 | 1700 | 1450 | 1700 | 1450 | 1700 | 1450 | 1700 | 1450 |
| Number of Stages | Single | | Single | | Double | | Double | | Single | | Double | |
| Outlet (mm) | 10 | | 10 | | 10 | | 10 | | 10 | | 10 | |
| Size WxDxH (mm) | 233*110*210 | | 294*156*195 | | 294*156*195 | | 380*156*226 | | 380*162*226 | | 380*171*226 | |
| Weight (kg) | 6 | | 8.5 | | 8.5 | | 13.2 | | 13.2 | | 13.8 | |
| Noise Level (dB) | 50 | | 50 | | 50 | | 60 | | 60 | | 60 | |
| Order No. | 169300 | | 169400 | | 169410 | | 169510 | | 169600 | | 169610 | |

Packages

Package 1 includes

The pump with vacuum trap, regulator and vacuum gauge (order no. 169311-06)



Package 2 includes

The pump with vacuum trap, regulator and digital meter DVM150C (order no. 169312-06)



Package 3 includes

The pump with chemical resistant vacuum controller DVR480



High-power Chemical Resistant Diaphragm Pumps

General version and frequency conversion version

C series are chemical resistant diaphragm vacuum pumps which can be widely used to hard acidic, basic and solvent vapors by utilizing corrosion proof PTFE on all the wetted surfaces. Through innovative mechanical technology and human considerations, we have made Chemvak C series to be quiet, safe, maintenance-free and cost effective vacuum pumps.

- > The construction provides the advantageous combination of high pumping speed and deep ultimate vacuum in a pump with a very small footprint. All parts in contact with pumped media are made of chemically resistant PTFE/ PTFE-coated. Well-proven PTFE sandwich diaphragms increase reliability and extend operating life.
- > This series of chemical resistant vacuum pumps are suitable for the treatment of corrosive gases in the chemical, pharmaceutical, petrochemical and other industries, such as extraction, vacuum distillation, rotational evaporation, vacuum concentration, centrifugal concentration, solid phase extraction and other uses.
- > All parts in contact with gas and condensate are made of high-quality PTFE, the gas chamber and drive chamber are separated and sealed to ensure a long life of the mechanical parts
- > Overheat protection, automatic shutdown when the temperature is too high, and automatic start when it back to the normal temperature, to ensure the security and stability of the system.
- > Frequency conversion pump can control the pressure of vacuum system more accurately, effectively overcome the zigzag fluctuation caused by switch valve. You can select appropriate frequency converters and pressure sensors to form a closed-loop system. Or you can also select the complete frequency conversion chemical resistant vacuum systems.

Application

- > Vacuum distillation for large volume
- > Large capacity reaction kettle
- > Large capacity vacuum filtration
- > Vacuum enrichment
- > Vacuum drying
- > Various applications in the semiconductor industry

Features

- > Vacuum stability, easy to control, high control precision
- > Excellent chemical and vapour resistance
- > In the high vacuum degree, the performance is still very good.
- > Long life, simple and convenient for maintaince.
- > Simple and convenient to work in a stable and lasting way
- > Small structural size, energy conservation and environmental protection
- > High level of protection for motor, suitable for various environments



C960T

Packages

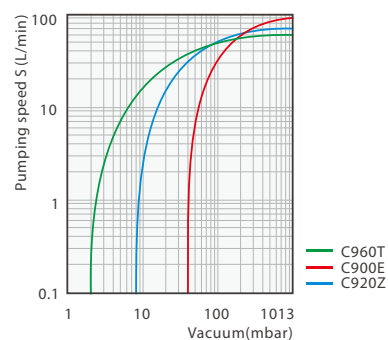
Package 1 includes

The pump with vacuum trap, regulator and vacuum gauge (order no. 169311-06)



Package 2 includes

The pump with vacuum trap, regulator and digital meter DVM150C (order no. 169312-06)



Specifications



| Model | C900E | C920Z | C960T | C980V | C900EF | C920ZF | C960TF | C980VF |
|------------------------|-----------------------------------|-------------|-------------|-------------|---|-------------|-------------|-------------|
| | General version | | | | Frequency conversion version | | | |
| Power supply | 220V / 50Hz | 220V / 50Hz | 220V / 50Hz | 220V / 50Hz | 50Hz ,230/400, V /Y 60Hz ,265/460, V /Y | | | |
| Power (W) | 370 | 370 | 370 | 370 | 370 | 370 | 370 | 370 |
| Max. vacuum (mbar) | < 30 | < 8 | < 2 | < 1 | < 30 | < 8 | < 2 | <1 |
| Max. Flow Rate (L/min) | 95 | 75 | 60 | 40 | 95 | 75 | 60 | 40 |
| Motor Speed (rpm) | 1425 | 1425 | 1425 | 1425 | 1380(50Hz)/1680(60Hz) | | | |
| Number of Stages | Single | Double | Double | Four | Single | Double | Double | Four |
| IP Code | IP55 | IP55 | IP55 | IP55 | IP55 | IP55 | IP55 | IP55 |
| Outlet (mm) | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Size WxDxH (mm) | 440*270*240 | 440*270*240 | 440*270*240 | 440*270*240 | 440*270*240 | 440*270*240 | 440*270*240 | 440*270*240 |
| Weight (kg) | 21.5 | 21.5 | 21.5 | 21.5 | 21.5 | 21.5 | 21.5 | 21.5 |
| Noise Level (dB) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Vacuum control | Vacuum controller, such as DVR480 | | | | External variable frequency controller | | | |
| Order No. | 169900-22 | 169920-22 | 169960-22 | 169980-22 | 169900B-22 | 169920B-22 | 169960B-22 | 169980B-22 |

Frequency Conversion Chemical Resistant Vacuum Systems

Integrated variable frequency controller

- > A new generation of intelligent vacuum technology, modular design, integrating variable frequency pumps and control units, compact design, light weight. It can adjust the speed of the diaphragm pump by frequency conversion motor and controller, control the vacuum pressure more accurately.
- > PID Self-tuning for vacuum control, the controller automatically changes the PID value according to the artificial intelligence logic algorithm, accurately adjusting the motor speed and stabilizing the precise vacuum degree.
- > This series of chemical resistant vacuum pumps are suitable for the treatment of corrosive gases in the chemical, pharmaceutical, petrochemical and other industries, such as extraction, vacuum distillation, rotational evaporation, vacuum concentration, centrifugal concentration, solid phase extraction and other uses.
- > All parts in contact with gas and condensate are made of high-quality PTFE, the gas chamber and drive chamber are separated and sealed to ensure a long life of the mechanical parts
- > Overheat protection, automatic shutdown when the temperature is too high, and automatic start when it back to the normal temperature, to ensure the security and stability of the system.



C960TEF



Standard Configuration:

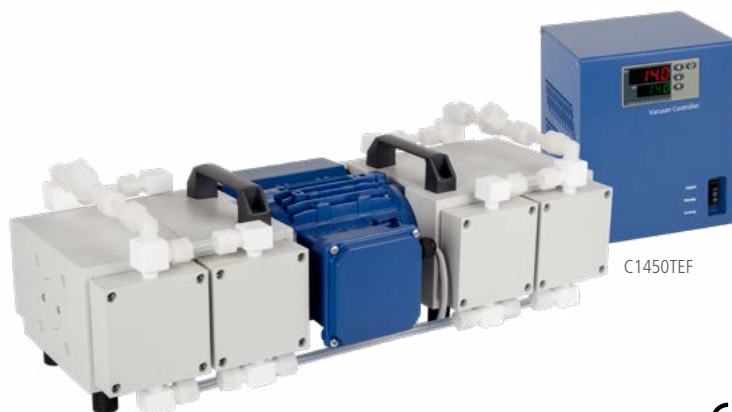
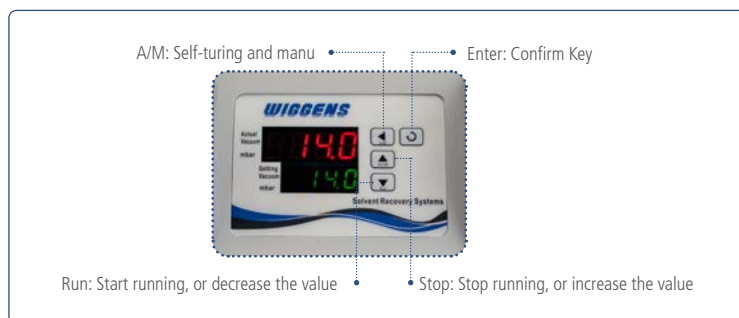
The vacuum system integrated variable frequency controller, and also includes vacuum trap, regulator and vacuum gauge (order no. 169311-06)

Features

- > Vacuum stability, easy to control, high control precision
- > Excellent chemical and vapour resistance
- > In the high vacuum degree, the performance is still very good.
- > Long life, simple and convenient for maintenance.
- > Simple and convenient to work in a stable and lasting way
- > Small structural size, energy conservation and environmental protection
- > High level of protection for motor, suitable for various environments

Application

- > Vacuum distillation for large volume
- > Large capacity reaction kettle
- > Large capacity vacuum filtration
- > Vacuum enrichment
- > Vacuum drying
- > Various applications in the semiconductor industry



C1450TEF

Specifications

| Model | C900EEF | C920ZEF | C960TEF | C980VEF | C1450TEF |
|------------------------|-----------------------|-----------------------|-----------------------|-----------------------|--------------|
| Power (W) | 400 | 400 | 400 | 400 | 600 |
| Resolution | 0.1mbar | 0.1mbar | 0.1mbar | 0.1mbar | 0.1mbar |
| Setting range | 0.1-1000mbar | 0.1-1000mbar | 0.1-1000mbar | 0.1-1000mbar | 0.1-1000mbar |
| Max. vacuum (mbar) | < 30 | < 8 | < 2 | < 1 | <8 |
| Max. Flow Rate (L/min) | 95 | 75 | 60 | 40 | 145 |
| Motor Speed (rpm) | 1380(50Hz)/1680(60Hz) | 1380(50Hz)/1680(60Hz) | 1380(50Hz)/1680(60Hz) | 1380(50Hz)/1680(60Hz) | 1400 |
| Number of Stages | Single | Double | Double | Four | Double |
| Outlet (mm) | 10 | 10 | 10 | 10 | G1/2 |
| Size WxDxH (mm) | 220*400*495 | 220*400*495 | 220*400*495 | 220*400*495 | 635*280*200 |
| Weight (kg) | 25 | 25 | 25 | 25 | 36.5 |
| Noise Level (dB) | 50 | 50 | 50 | 50 | 65 |
| Order No. | 169900C-22 | 169920C-22 | 169960C-22 | 169980C-22 | 1691450C-22 |



Solvent Recovery Systems

This chemistry vacuum system has a wide range of applications like evacuation, evaporation and pumping of gases and vapors in chemical, biological and pharmaceutical laboratories. This system is ideal for high vacuum requirements with high boiling solvents. Typical applications are rotary evaporators and drying ovens.

The separator at the inlet (AK), made of glass with a protective coating, retains particles and liquid droplets.

The waste vapor condenser at the outlet (EK) is highly efficient and compact. The condenser enables efficient recycling of solvents and active protection of the environment outstanding chemical resistance and superior vapor tolerance

- > exceptionally high performance even at low vacuum
- > excellent ultimate vacuum even with gas ballast
- > whisper quiet and very low vibration
- > excellent environmental friendliness due to efficient solvent recovery
- > Sealed system to enable a good distillation environment
- > Precise control of the evaporation process
- > Compact and environmental friendly design
- > Low noise
- > Buffer bottle prevents particles from damaging the pump
- > Direct electric connection
- > Ultimate vacuum range: 1-30 mbar
- > Flow rate range: 25-95 L/min

CSH System

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

| Model | CSH 410 | CSH 510 | CSH 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) | 10 | 10 | 10 |
| Weight (kg) | 12.5 | 15.8 | 16.6 |
| Order No. | 900512 | 900513 | 900514 |

CSC System

The inlet of the CSH System is connected to a segregation bottle, whereas the outlet is connected to a condenser, which is used to condensate and recover the solvent. In addition, the system contains a vacuum controller to set, display, and control the vacuum.

Fully automated vacuum generation system comprising Chemical resistant diaphragm vacuum pump, base plate, high performance condenser, segregation bottle, Vacuum control device, valves and control unit.

| 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) | 10 | 10 | 10 |
| Weight (kg) | 16 | 19.3 | 20.1 |
| Order No. | 900522 | 900523 | 900524 |

CSC Systems (Frequency conversion)

- > New generation of intelligent vacuum technology, modular design, integrating variable frequency pumps and control units, compact design, light weight.
- > PID Self-tuning for vacuum control, the controller automatically changes the PID value according to the artificial intelligence logic algorithm, accurately adjusting the motor speed and stabilizing the precise vacuum degree.
- > All parts in contact with gas and condensate are made of high-quality PTFE, the gas chamber and drive chamber are separated and sealed to ensure a long life of the mechanical parts
- > It can be directly connected to the power supply and working system.
- > Recovery flasks at air inlet to prevent solid particles and liquid water from entering the pump body.

| Model | CSC900E | CSC920Z | CSC960T | CSC980V |
|------------------------|--------------|--------------|--------------|--------------|
| Power (W) | 400 | 400 | 400 | 400 |
| Resolution | 0.1mbar | 0.1mbar | 0.1mbar | 0.1mbar |
| Setting range | 0.1-1000mbar | 0.1-1000mbar | 0.1-1000mbar | 0.1-1000mbar |
| Max. vacuum (mbar) | < 30 | < 8 | < 2 | < 1 |
| Max. Flow Rate (L/min) | 95 | 75 | 60 | 40 |
| Outlet (mm) | 10 | 10 | 10 | 10 |
| Weight (kg) | 25 | 25 | 25 | 25 |
| Noise Level (dB) | 50 | 50 | 50 | 50 |
| Order No. | 900532 | 900533 | 900534 | 900535 |



CSH System

Includes chemical resistant diaphragm pump, separator, condenser, tubing



CSC System

Includes chemical resistant diaphragm pump, vacuum controller, separator, condenser, tubing



CSC System (Frequency conversion)

Includes chemical resistant diaphragm pump, variable frequency controller, separator, condenser, tubing

Chemical Resistant Vacuum Controller

- > Large measurement and control range
- > Can control the vacuum down to 0.1 mbar
- > Supports the programming of up to 5-step control
- > All parts that come into contact with gases are made of PTFE or highly durable ceramic to ensure high chemical resistance
- > Bright LED display and convenient on-touch control
- > RS-232 and analog connection available
- > Pressure release feature for easy vacuum system installation
- > Direct electric control of the vacuum pump
- > Energy saving and environmental friendly
- > Suitable for continuous operation



Specifications

| Model | DVR480 | DVR480-Pro |
|--------------------------------|--|---------------------|
| Voltage | 100-240V, 50/60Hz | 100-240V, 50/60Hz |
| Displayed Vacuum Accuracy | 0.1 mbar | 0.1 mbar |
| Controllable Range | 0.1...1000 mbar | 0.1...1000 mbar |
| Measurement Accuracy | 0.25 level | 0.1 level |
| Display | LED | LED |
| Control Mode | On-Touch | On-Touch |
| Timer / Program | Yes / Up to 5 Steps | Yes / Up to 5 Steps |
| Pressure Release Feature | Yes | Yes |
| Electrical Control of the Pump | Yes | Yes |
| Protection Category | IP40 | IP40 |
| Corrosion resistance | All parts that come into contact with gases are made of PTFE or highly durable ceramic to ensure the resistance to various acid, base, or organic solvent gases. | |

Accessories For Chemical Resistant Diaphragm Pumps

General Purpose Valves

A range of plug valves for applications with demand towards pressure and temperature, with max. pressure at 1 bar and max. vacuum at 7 bar.

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

| Order No. | Outer Diameter/mm | Bore (mm) |
|---------------------------------|-------------------|-----------|
| Straight Through Bayonet | | |
| 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 | | |
| 016.1202.6.2 | 6 | 2 |
| 016.1203.2 | 8 | 3 |
| 016.1204.2 | 8 | 4 |
| T-Shape Bayonet | | |
| 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 | | |
| 016.1302.6.2 | 6 | 2 |
| 016.1303.2 | 8 | 3 |
| 016.1304.2 | 8 | 4 |

Connector

| Order No. | Outer Diameter mm | Inner Diameter mm |
|-----------------------------------|----------------------|----------------------|
| Straight Through Connector | | |
| 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 | | |
| 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 | | |
| 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 | | |
| 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 |

Accessories For Chemical Resistant Diaphragm Pumps

PTFE Connector

| Order No. | Description |
|-----------|---|
| C410015 | Diameter: 10mm ,suitable for C300, 400, 410, 510, 600, 610, 900E, 920Z and 960T |



PTFE Connector with O-ring

Adapter (Flange to screw thread)

| Order No. | Description |
|-----------|---|
| C410055 | KF25 to screw thread, suitable for C300, 400, 410, 510, 600, 610, 900E, 920Z and 960T |



Adapter (Flange to screw thread)

Silencer

| Order No. | Description |
|-----------|---|
| C900E030 | suitable for chemical resistant diaphragm pumps |



Silencer

Diaphragm and Valve Plate Sets

| Order No. | Description |
|-----------|---|
| 410001 | Diaphragm and Valve Plate Set, 1 diaphragm and 2 valve plate, suitable for C300/400/410 |
| 510001 | Diaphragm and Valve Plate Set, 1 diaphragm and 2 valve plate, suitable for C510/600/610/900E/920Z/960T/980V |
| C410005 | Diaphragm, suitable for C300/400/410, 1/pk |
| C510011 | Diaphragm, suitable for C510/600/610/900E/920Z/960T/980V, 1/pk |
| C510013 | Valve Plate, suitable for C300/400/410/510/600/610/900E/920Z/960T/980V, 1/pk |



Diaphragm

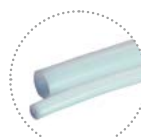


Valve Plate

Tubing

| Order No. | Outer Diameter, mm | Inner Diameter, mm | Thickness, mm | Length, m |
|---------------------|--------------------|--------------------|---------------|-----------|
| PTFE Tubing | | | | |
| 016.1706.01 | 6 | 4 | 1 | 1 |
| 016.1708.01 | 8 | 6 | 1 | 1 |
| 016.1712.01 | 12 | 10 | 1 | 1 |
| 016.1714.01 | 14 | 12 | 1 | 1 |
| Viton Tubing | | | | |
| 168000-01 | 12 | 6 | 3 | 1 |
| 168001-01 | 14 | 8 | 3 | 1 |
| 168002-01 | 16 | 10 | 3 | 1 |

Length upon request (min. 1 m)



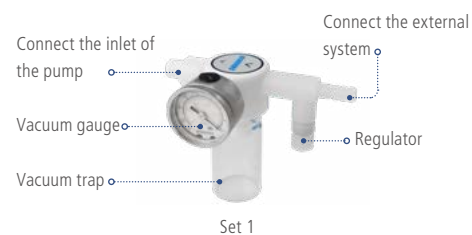
PTFE Tubing



Viton Tubing

Chemical Resistant Vacuum Regulator / Filter Equipment

| Order No. | Description |
|-----------|--|
| 169311-06 | Set 1 (Includes vacuum trap, regulator and vacuum gauge) |
| 169312-06 | Set 2 (Includes vacuum trap, regulator and digital meter DVM150C) |
| 169313-06 | Regulator |



Set 1



Set 2

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

VDM Vacuum Digital Meter

- > Compact design, flange connector, strong tightness
- > TFT high-light screen, easy to observation for multiple angles or long distance
- > Directly to connect with the pumps
- > DVM150C for chemical resistant diaphragm pumps

| Models | DVM150C |
|---------------------------------------|-------------------|
| Voltage | 100-240V, 50/60Hz |
| Display screen | TFT |
| Display resolution | 0.1-1000mbar |
| Testing range | 0-1000mbar |
| Material of sensor | Ceramic |
| Material for contact parts of the gas | PTFE and Ceramic |
| Size of the meter | 100*65*55mm |
| Order No. | 15060-01 |



Application recommendation

Matching rotary evaporator



| Pump models | Max. vacuum (mbar) | Flow Rate (L/min) | Suitable for |
|-------------|--------------------|-------------------|--------------|
| C410 | 13 mbar | 25 L/min | 1L / 2.5L |
| C510 | 8 mbar | 34 L/min | 5L |
| C600 | 90 mbar | 60 L/min | 10L |
| C610 | 2 mbar | 34 L/min | 5L |
| C920Z | 8 mbar | 75 L/min | 50L,100L |

Matching vacuum oven



| Pump models | Max. vacuum (mbar) | Flow Rate (L/min) | Suitable for |
|-------------|--------------------|-------------------|--------------|
| C410 | 13 mbar | 25 L/min | 15L |
| C510 | 8 mbar | 34 L/min | 45L |
| C600 | 90 mbar | 60 L/min | 60L |
| C610 | 2 mbar | 34 L/min | 30L |

Matching vacuum concentrator



| Pump models | Max. vacuum (mbar) | Flow Rate (L/min) |
|-------------|--------------------|-------------------|
| C410 | 13mbar | 25L/min |
| C510 | 8 mbar | 34 L/min |
| C600 | 90 mbar | 60 L/min |
| C610 | 2 mbar | 34 L/min |

Matching vacuum freeze dryer



| Pump models | Max. vacuum (mbar) | Flow Rate (L/min) |
|-------------|-------------------------|-------------------|
| R-8D | 4x10 ⁻⁴ mbar | 180 L/min |
| R-17D | 4x10 ⁻⁴ mbar | 283 L/min |
| R-24D | 4x10 ⁻⁴ mbar | 360 L/min |
| R-36D | 4x10 ⁻⁴ mbar | 540L/min |

Oil-Free Piston Vacuum Pumps

Chemvak V series vacuum pump is a piston-powered, oil-free pump. With innovative electronic, mechanical technology and human design concept make, compact and light weight, clean and maintenance free, safe and comfortable.



Copper Muffler



Moisture Trap/ Vacuum Regulator / Filter



Thermal protection device



Quiet and low vibration <50dB

Features

No air pollution, maintenance free

Chemvak V series pumps are driven by Piston, without the need of lubricant, regular oil changes and maintenance; with no oil pollution.

Moisture trap with filter cartridge

Chemvak V series pumps are equipped with filter cartridge in air inlet to filter particle and moisture to prolong the life of pump.

Oil-free

The oil-free piston vacuum pump provides continuous, reliable, high flow vacuum for your container.

Vacuum regulator

Chemvak V series pumps are equipped with vacuum regulator to adjust vacuum.

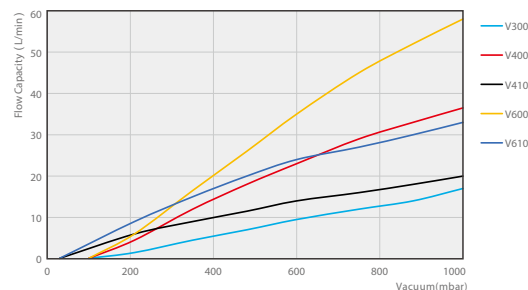
Thermal protection device

Every motor of Chemvak V series pumps has a built-in thermal protection device to shut off the pump automatically when overheated and then resume working when the temperature cools down.

Application

- > Biology laboratories
- > Food industry
- > Microbiological detection
- > Vacuum extraction
- > Liquid filtration
- > Vacuum drying
- > Suspended solids measurement

Oil-Free Piston Vacuum Pumps flow curve



Note: Above data is based on the 220V/50Hz instrument



Specifications

| Model | V300 | V400 | V410 | V430 | V600 | V610 | V800 | V810 |
|------------------------|-------------|-------------|-------------|--------------|-------------|-------------|-------------|-------------|
| Power (V / Hz) | 220 / 50 | 220 / 50 | 220 / 50 | 220 / 50 | 220 / 50 | 220 / 50 | 220 / 50 | 220 / 50 |
| Max. power (W) | 60 | 80 | 80 | 125 | 190 | 210 | 220 | 220 |
| Max. current (A) | 0.3 | 0.4 | 0.4 | 0.6 | 1 | 1 | 1 | 1 |
| Max. vacuum (mbar) | 100 | 100 | 30 | 150 / 5.5bar | 100 | 30 | 100 | 30 |
| Max. flow rate (L/min) | 17 | 34 | 19 | 28 | 60 | 40 | 80 | 50 |
| Motor rotation (RPM) | 1450 | 1450 | 1450 | 1450 | 1450 | 1450 | 1450 | 1450 |
| Port thread (mm) | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| Dimension WxDxH(mm) | 272x142x165 | 310x152x165 | 310x152x165 | 247x235x200 | 340x155x195 | 340x155x195 | 340x185x195 | 340x185x195 |
| Weight (kg) | 4.4 | 5.4 | 5.4 | 5.5 | 8.6 | 8.6 | 8.6 | 8.6 |
| Noise level (dB) | 50 | 60 | 50 | 50 | 52 | 52 | 52 | 52 |
| Order No. | 167300-22 | 167400-22 | 167410-22 | 167430-22 | 167600-22 | 167610-22 | 167800-22 | 167810-22 |



Accessories For Oil-Free Piston Pumps



Connectors

| Description | Suitable for | Order No. |
|------------------------|-----------------------|-----------|
| Connectors | | |
| Outlet Diameter 9.5 mm | Oil-Free Piston Pumps | 167300-20 |
| Outlet Diameter 8 mm | Oil-Free Piston Pumps | 167300-21 |
| Outlet Diameter 6.4 mm | Oil-Free Piston Pumps | 167300-26 |
| Outlet Diameter 4.8 mm | Oil-Free Piston Pumps | 167300-23 |
| Outlet Diameter 3.2 mm | Oil-Free Piston Pumps | 167300-24 |

L- Shape Connector

| | | |
|----------------------|-----------------------|-----------|
| Outlet Diameter 8 mm | Oil-Free Piston Pumps | 167300-25 |
|----------------------|-----------------------|-----------|

Quick Connection Outlets

| | | |
|-----------------------|-----------------------|-----------|
| Outlet Diameter 12 mm | Oil-Free Piston Pumps | 168100-12 |
| Outlet Diameter 10 mm | Oil-Free Piston Pumps | 168100-10 |
| Outlet Diameter 8 mm | Oil-Free Piston Pumps | 168100-08 |
| Outlet Diameter 6 mm | Oil-Free Piston Pumps | 168100-06 |
| Outlet Diameter 4 mm | Oil-Free Piston Pumps | 168100-04 |

Silencer

| Description | Suitable for | Order No. |
|-------------|--------------------|-----------|
| Silencer | V300/400/410/V430 | 167300-42 |
| Silencer | V600/610/V800/V810 | 167600-42 |

Tubing

| Outer Diameter mm | Inner Diameter mm | Thickness mm | Length m | Suitable for | Order No. |
|----------------------|----------------------|-----------------|-------------|--------------|-----------|
| PER Tubes | | | | | |
| 6 | 4 | 1 | 1 | A,C,V Pumps | 168010-01 |
| 8 | 6 | 1 | 1 | A,C,V Pumps | 168011-01 |
| 10 | 8 | 1 | 1 | A,C,V Pumps | 168012-01 |
| 12 | 10 | 1 | 1 | A,C,V Pumps | 168013-01 |
| Silicon Tubes | | | | | |
| 12 | 6 | 3 | 1 | V Pumps | 168020-01 |
| 14 | 8 | 3 | 1 | V Pumps | 168021-01 |
| 16 | 10 | 3 | 1 | V Pumps | 168022-01 |

Length upon request (min. 1m)

Foot Pedal

| Description | Suitable for | Order No. |
|-------------|---|-----------|
| Foot Pedal | Applicable to C and V Series Vacuum Pumps | 167200-41 |

Non-Chemical-Resistant Filtration Device

| Description | Order No. |
|--|-----------|
| Non-Chemical-Resistant Filtration Device Set 1(incl. pressure gauge) | 167300-05 |

Application recommendation

| Pump Models | Max. vacuum | Max. flow rate | Suitable for |
|-------------|-------------|----------------|--------------|
| V300 | 100 mbar | 17 L/min | 1L |
| V400 | 100 mbar | 34 L/min | 5L |
| V410 | 30 mbar | 19 L/min | 2~3L |
| V430 | 150 mbar | 28 L/min | 5L |
| V600 | 100 mbar | 60 L/min | 5~15L |
| V610 | 30 mbar | 40 L/min | 5~15L |
| V800 | 100 mbar | 80 L/min | 5~20L |
| V810 | 30 mbar | 50 L/min | 5~15L |

Vacuum Filtration Systems

All-In-One Systems







- > Compact and portable design
- > Combines all necessary items for filtration
- > Large variety of filtration flasks
- > Oil-free vacuum provision
- > Easy maintenance
- > Low noise level
- > Manual pressure control
- > Availability of chemical resistant systems



CE

| Product | Content | Application |
|---------|---|---|
| VF203A | > Oil-free vacuum pump | Normal filtration Suspended solids measurement |
| | > VF6 filtration flask set | |
| | > Silicone tube | |
| | > 0.2 µm water-blocking filter | |
| | > Fiberglass filter membrane fiberglass filter membrane (47mm / 1 µm) | |
| VF203B | > Oil-free vacuum pump | Normal filtration Microorganism determination |
| | > VF2 filtration flask set | |
| | > Dragon 100 lab burner | |
| | > Silicone tube | |
| | > 0.2 µm water-blocking filter | |
| VF205A | > Strong oil-free vacuum pump | Normal filtration Suspended solids measurement |
| | > VF6 filtration flask set | |
| | > Silicone tube | |
| | > 0.2 µm water-blocking filter | |
| | > Fiberglass filter membrane fiberglass filter membrane (47mm / 1 µm) | |
| VF205B | > Strong Oil-free vacuum pump | Normal filtration Microorganism determination |
| | > VF2 filtration flask set | |
| | > Dragon 100 lab burner | |
| | > Silicone tube | |
| | > 0.2 µm water-blocking filter | |
| VF204 | > Fiberglass filter membrane fiberglass filter membrane (47mm / 1 µm) | HPLC Gas chromatography AA micro-analysis Mobile phase decontamination |
| | > Chemical resistant vacuum pump | |
| | > VF3 filtration flask set | |
| | > High-pressure resistant tube | |
| | > 0.2 µm water-blocking filter | |
| VF214 | > Strong chemical resistant vacuum pump | HPLC Gas chromatography AA micro-analysis Mobile phase decontamination |
| | > VF3 filtration flask set | |
| | > High-pressure resistant tube | |
| | > 0.2 µm water-blocking filter | |
| | > 0.2 µm water-blocking filter | |

Specifications

| Model | VF 203A | VF 203B | VF 205A | VF 205B | VF 204 | VF 214 |
|--------------------------------|---|---|---|--|---|---|
| Working mode | All-In-One Filtration System | | All-In-One Filtration System | | Chemical Resistant Vacuum Filtration System | |
| Power (W) | 60 | 60 | 80 | 80 | 60 | 95 |
| Ultimate vacuum(mbar) | 150 | 150 | 150 | 150 | 100 | 13 |
| Max. Flow Rate(L/min) | 17 L/min | 17 L/min | 34 L/min | 34 L/min | 22 L/min | 25 L/min |
| Tube I.D. (mm) | 8 | 8 | 8 | 8 | 8 | 8 |
| Motor Speed (rpm) | 1450 | 1450 | 1450 | 1450 | 1450 | 1450 |
| Weight (kg) | 7.1 | 7.1 | 7.5 | 7.5 | 7.1 | 8.3 |
| Noise Level (dB) | 50 | 50 | 60 | 60 | 50 | 50 |
| | VF6 | VF2 | VF6 | VF2 | VF3 | VF3 |
| Contained Filtration Glass Set |  |  |  |  |  |  |
| Order No. | 167203A | 167203B | 167205A | 167205B | 169204 | 169214 |

Filtration Collocations

Features

- > Wide range of pumps and filtration flasks
- > High quality components
- > Quick filtration results
- > Easily exchangeable elements

Application

- > Suspended solids measurement
- > HPLC
- > Gas chromatography
- > AA micro-analysis
- > Mobile phase decontamination
- > Food and beverages industry
- > Pharma industry

| Product | Features | Components | Application |
|---------|---|---|---|
| V300A | <ul style="list-style-type: none"> > Modular design > Environmental friendly > Maintenance-free > Low noise > Added filters for enhanced pump longevity | <ul style="list-style-type: none"> > Oil-free vacuum pump > VF6 filtration flask set > Silicone tube > Fiberglass filter membranes (47mm / 1 µm) > PTFE disc filter | Water quality measurement Normal liquid filtration |
| V300B | <ul style="list-style-type: none"> > Modular design > Magnetic Stability Cup > Environmental friendly > Maintenance-free > Low noise > Added filters for enhanced pump longevity | <ul style="list-style-type: none"> > Oil-free vacuum pump > VF1 magnetic filtration flask set > Silicone tube > Fiberglass filter membranes (47mm / 1 µm) > PTFE disc filter | Suspended solids measurement Normal liquid filtration |
| V300SS | <ul style="list-style-type: none"> > Modular design > Flame-sterilizable > Spin-Lock system > Environmental friendly > Maintenance-free > Low noise > Added filters for enhanced pump longevity | <ul style="list-style-type: none"> > Oil-free vacuum pump > VF2 filtration flask set > Dragon 100 lab burner > Silicone tube > Fiberglass filter membranes (47mm / 1 µm) > PTFE disc filter | Microbiological detection All kinds of liquid filtration |
| C300A | <ul style="list-style-type: none"> > Chemical Resistance > Modular design > Environmental friendly > Low maintenance > Low noise > Added filters for enhanced pump longevity | <ul style="list-style-type: none"> > Chemical resistant vacuum pump > VF3 filtration flask set > High-pressure resistant tube > PTFE disc filter | Sample pretreatment for HPLC, GC, and AA analysis All kinds of solvent purification (mobile phase) |



V300A



V300B



V300SS



C300A

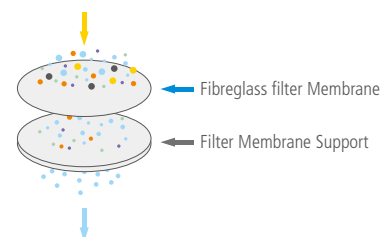
Specifications

| Model | V300A | V300B | V300SS | C300A |
|---|--------------------|-----------------------|------------------------------|--------------------|
| Flow Rate of the Pump(l/min) | 17 l/min | 17 l/min | 17 l/min | 22 l/min |
| Ultimate Vacuum(mbar) | 150 mbar | 150 mbar | 150 mbar | 210 mbar |
| Filtration Glass Set | VF6 | VF1 | VF2 | VF3 |
| Suction Bottle Capacity(ml) | 1000 ml | 1000 ml | 1000 ml | 1000 ml |
| Filter Diameter(mm) | 47/50 mm | 47/50 mm | 47/50 mm | 47/50 mm |
| Filter Flask Capacity(ml) | 300 ml | 300 ml | 100 ml | 300 ml |
| Filter Flask Material | (Glass Filter Cup) | (Magnetic Filter Cup) | (Stainless Steel Filter Cup) | (Glass Filter Cup) |
| Effective Filtration Area(cm ²) | 8 cm ² | 9.6 cm ² | 9.6 cm ² | 8 cm ² |
| Tube I.D. (mm) | 8 mm | 8 mm | 8 mm | 8 mm |
| Order No. | 167301 | 167302 | 167303 | 169301 |

Filtration Sets

- > Vacuum filtration technique is widely used in liquid filtration in microbiological detection, SuspendedSolid detection, sample pre-process or solvent purification, mostly for microanalysis of HPLC, GC, or AA in food, medicine, beverage, drinking water, etc.
- > This unique design combined a filtration funnel with a receiver ask with drain, together with magnetic weighted base, guaranteeing the efficiency and stability.

Drawing for filtration principle



Specifications

| Model | VF1 | VF2 | VF3 | VF5 | VF6 | VF7 | VF8 |
|---------------------------|---------------------------|---------------------|--------------------|--------------------|--------------------|--------------------|--------------------------------|
| Funnel | PES | SUS316 | Borosilicate Glass | Borosilicate Glass | Borosilicate Glass | Borosilicate Glass | Borosilicate Glass |
| Funnel Base | PES | SUS316 | Borosilicate Glass | Borosilicate Glass | Borosilicate Glass | Borosilicate Glass | Borosilicate Glass |
| Material | Membrane Support | PP | SUS316 | Borosilicate Glass | Borosilicate Glass | Borosilicate Glass | Stainless Steel Micro-Strainer |
| | Stopper | Silicon | Silicon | -- | Silicon | Silicon | Silicon |
| | Receiver Flask with Drain | Borosilicate Glass | Borosilicate Glass | Borosilicate Glass | Borosilicate Glass | Borosilicate Glass | Borosilicate Glass |
| Funnel Capacity | 300 ml | 100 ml | 250 ml | 15ml | 250 ml | 250 ml | 15ml |
| Filtration Flask Capacity | 1000 ml | 1000 ml | 1000 ml | 125ml | 1000 ml | 1000 ml | 125ml |
| Filter Diameter | 47 mm | 47 mm | 47 mm | 25mm | 47 mm | 47 mm | 25mm |
| Effective Filtration Area | 9.6 cm ² | 9.6 cm ² | 8 cm ² | 2.2cm ² | 8 cm ² | 8 cm ² | 2.2cm ² |
| Tube I.D. (mm) | 8 mm | 8 mm | 8 mm | 8 mm | 8 mm | 8 mm | 8 mm |

| Model | VF9 | VF10 | VF11 | VF12 | VF30 | VF32 | VF33 |
|---------------------------|---------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Funnel | SUS316 | Borosilicate Glass | SUS316 | Borosilicate Glass | PES | SUS316 | SUS316 |
| Funnel Base | SUS316 | Borosilicate Glass | SUS316 | Borosilicate Glass | PES | SUS316 | SUS316 |
| Material | Membrane Support | SUS316 | Borosilicate Glass | SUS316 | Borosilicate Glass | PP | SUS316 |
| | Stopper | Silicon | -- | Silicon | Silicon | Silicon | Silicon |
| | Receiver Flask with Drain | Borosilicate Glass | Borosilicate Glass | Borosilicate Glass | Borosilicate Glass | Borosilicate Glass | Borosilicate Glass |
| Funnel Capacity | 300 ml | 1000 ml | 500 ml | 300 ml | 300 ml | 100 ml | 300 ml |
| Filtration Flask Capacity | 1000 ml | 4000 ml | 2000 ml | 1000 ml | 1000 ml | 1000 ml | 1000 ml |
| Filter Diameter | 47 mm | 47 mm | 47 mm | 47 mm | 47 mm | 47 mm | 47 mm |
| Effective Filtration Area | 9.6 cm ² | 9.6 cm ² | 9.6 cm ² | 9.6 cm ² | 9.6 cm ² | 9.6 cm ² | 9.6 cm ² |
| Tube I.D. (mm) | 8 mm | 8 mm | 8 mm | 8 mm | 8 mm | 8 mm | 8 mm |

Order Information



VF1

For solvent purification, general filtration and waste inhalation

| VF1, 47mm Magnetic Filtration set | | 167200-01 |
|---|------------------------------------|-----------|
| Magnetic filter funnel 300 ml (1+2+3+4) | | 167100-18 |
| 1 | 300 ml Magnetic Filter Cup | 167000-34 |
| 2 | PP Membrane Support | 167000-37 |
| 3 | PES Filtration Base | 167000-35 |
| 4 | Silicone stopper | 167110-16 |
| 5 | Receiver flask with drain, 1000 ml | 167300-08 |
| 6 | Weighted Base | 167200-04 |



VF2

For filtration requiring the sterilization such as microbiology test or use for purification of corrosive liquid, solvent etc.

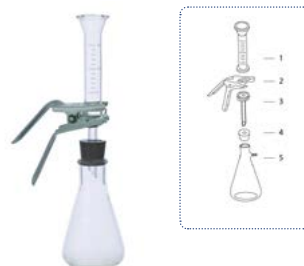
| VF2, 47 mm Stainless Steel Filtration Set | | 167200-02 |
|---|------------------------------------|-----------|
| 100ml Stainless steel filter holder (1+2+3+4) | | 167103-10 |
| 1 | Stainless steel funnel, 100 ml | 167103-61 |
| 2 | Stainless steel support screen | 167100-31 |
| 3 | Stainless steel support base | 167103-60 |
| 4 | Silicone stopper | 167110-16 |
| 5 | Receiver flask with drain, 1000 ml | 167300-08 |
| 6 | Weighted Base | 167200-04 |



VF3

Application Ideal for the purification of organic, corrosive liquid such as solvent (mobile phase) for HPLC analysis.

| VF3, 47 mm Glass Filtration Set | | 167200-03 |
|-----------------------------------|------------------------------------|-----------|
| 250ml Glass filter holder (1+2+3) | | 167120-30 |
| 1 | Glass funnel, 250 ml | 167210-03 |
| 2 | Aluminum Magnesium Alloy Clamp | 167240-01 |
| 3 | Glass support base & tubulated cap | 167230-01 |
| 4 | Ground joint ask, 1000 ml | 167250-01 |



VF5

Application Ideal for small volume vacuum filtration for biological analysis or particulate contamination analysis.

| VF5, 25mm Glass Microanalysis Filtration Set | | 167200-05 |
|--|-------------------------|-----------|
| 15 ml Glass filter holder (1+2+3+4) | | 167120-32 |
| 1 | Glass funnel, 15 ml | 167220-05 |
| 2 | Anodized aluminum clamp | 167240-05 |
| 3 | Glass support base | 167230-04 |
| 4 | Silicone stopper | 167110-18 |
| 5 | 125 ml Receiver flask | 167250-05 |



VF6

Application Ideal for solvent purification and general filtration for microbiology, suspended solid analysis etc.

| VF6, 47 mm Glass Filtration Set | | 167200-06 |
|-------------------------------------|-------------------------|-----------|
| 250ml Glass filter holder (1+2+3+4) | | 167120-31 |
| 1 | Glass funnel, 250 ml | 167210-03 |
| 2 | Anodized aluminum clamp | 167240-01 |
| 3 | Glass support base | 167230-03 |
| 4 | Silicone stopper | 167110-17 |
| 5 | Receiver flask, 1000 ml | 167250-03 |



VF7

Application Ideal for solvent purification and general filtration for microbiology, suspended solid analysis etc.

| VF7, 47 mm Glass Filtration Set | | 167200-07 |
|---------------------------------------|--------------------------------|-----------|
| 250ml Glass filter holder (1+2+3+4+5) | | 167120-33 |
| 1 | 250 ml Glass Filter Cup | 167210-03 |
| 2 | Anodized aluminum clamp | 167240-01 |
| 3 | Stainless steel support screen | 167230-31 |
| 4 | Glass support base | 167230-07 |
| 5 | Silicone stopper | 167110-17 |
| 6 | Receiver flask, 1000 ml | 167250-03 |



VF8

Application Ideal for small volume vacuum filtration for biological analysis or particulate contamination analysis.

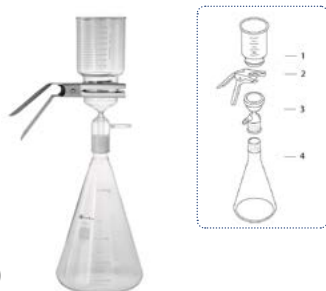
| VF8, 25mm Glass Microanalysis Filtration Set | | 167200-08 |
|--|--------------------------------|-----------|
| 15 ml Glass filter holder (1+2+3+4+5+6) | | 167120-40 |
| 1 | Glass funnel, 15 ml | 167220-15 |
| 2 | Anodized aluminum clamp | 167240-05 |
| 3 | Stainless steel support screen | 167230-32 |
| 4 | Glass support base | 167230-08 |
| 5 | Silicone stopper | 167110-18 |
| 6 | 125 ml Receiver flask | 167250-05 |



VF9

Application For filtration requiring the sterilization such as microbiology test or use for purification of corrosive liquid, solvent etc.

| VF9, 47mm Stainless Steel Filtration Set | | 167200-09 |
|---|------------------------------------|-----------|
| 300ml Stainless steel filter holder (1+2+3+4) | | 167103-30 |
| 1 | Stainless steel funnel, 300 ml | 167103-63 |
| 2 | Stainless Steel Membrane Support | 167100-31 |
| 3 | Stainless steel support base | 167103-60 |
| 4 | Silicone stopper | 167110-16 |
| 5 | Receiver flask with drain, 1000 ml | 167300-08 |
| 6 | Weighted Base | 167200-04 |



VF10

Ideal for the purification of organic, corrosive liquid such as solvent (mobile phase) for HPLC analysis.

| | |
|---|------------------|
| VF10, 47 mm Glass Filtration Set | 167200-10 |
| 1000ml Glass filter holder (1+2+3) | 167210-35 |
| 1 Glass funnel, 1000 ml | 167210-10 |
| 2 Anodized aluminum clamp | 167240-01 |
| 3 Glass support base & tubulated cap | 167230-01 |
| 4 Ground joint flask, 4000 ml | 167250-06 |



VF12

Ideal for the purification of organic, corrosive liquid such as solvent (mobile phase) for HPLC analysis.

| | |
|---------------------------------------|------------------|
| VF12, Glass Filtration Set | 167200-12 |
| 250ml Glass filter holder (1+2+3+4) | 167120-31 |
| 1 Glass funnel, 250 ml | 167210-03 |
| 2 Anodized aluminum clamp | 167240-01 |
| 3 Glass support base | 167230-03 |
| 4 Silicone stopper | 167110-16 |
| 5 Filtration Adapter | 167000-65 |
| 6 1000ml Glass storage bottle (Duran) | 21801545 |



VF32

For filtration requiring the sterilization such as microbiology test or use for purification of corrosive liquid, solvent etc.

| | |
|--|------------------|
| VF32, 47mm Stainless Steel Filtration Set | 197010-32 |
| 100ml Stainless steel filter holder (1+2+3+4) | 167103-10 |
| 1 Stainless steel funnel, 100 ml | 167103-61 |
| 2 Stainless Steel Membrane Support | 167100-31 |
| 3 Stainless steel support base | 167103-60 |
| 4 Silicone stopper | 167110-16 |
| PC waste bottle with cover, 1000 ml (5+6+7) | 197000-11-PC |
| 5 PC cover | 197000-32-PC |
| 6 Overflow protection | 197000-39 |
| 7 PC bottle, 1000 ml | 197000-31-PC |



VF11

For filtration requiring the sterilization such as microbiology test or use for purification of corrosive liquid, solvent etc.

| | |
|--|------------------|
| VF11, 47mm Stainless Steel Filtration Set | 167200-11 |
| 500ml Stainless steel filter holder (1+2+3+4) | 167103-50 |
| 1 Stainless steel funnel, 500 ml | 167103-65 |
| 2 Stainless Steel Membrane Support | 167100-31 |
| 3 Stainless steel support base | 167103-60 |
| 4 Silicone stopper | 167110-16 |
| 5 Receiver flask with drain, 2000 ml | 167200-13 |



VF30

For solvent purification, general filtration and waste inhalation

| | |
|---|------------------|
| VF30, 47mm Magnetic Filtration set | 197010-30 |
| Magnetic filter funnel 300 ml (2+3+4+5) | 167100-18 |
| 1 PP Funnel Lid | 167130-32 |
| 2 Magnetic Filter Cup, 300ml | 167000-34 |
| 3 PP Membrane Support | 167000-37 |
| 4 PES support base | 167000-35 |
| 5 Silicone stopper | 167110-16 |
| PC waste bottle with cover, 1000 ml (6+7+8) | 197000-11-PC |
| 6 PC cover | 197000-32-PC |
| 7 Overflow protection | 197000-39 |
| 8 PC bottle, 1000 ml | 197000-31-PC |



VF33

For filtration requiring the sterilization such as microbiology test or use for purification of corrosive liquid, solvent etc.

| | |
|--|------------------|
| VF33, 47mm Stainless Steel Filtration Set | 197010-33 |
| 300ml Stainless steel filter holder (1+2+3+4) | 167103-30 |
| 1 Stainless steel funnel, 300 ml | 167103-63 |
| 2 Stainless Steel Membrane Support | 167100-31 |
| 3 Stainless steel support base | 167103-60 |
| 4 Silicone stopper | 167110-16 |
| PC waste bottle with cover, 1000 ml (5+6+7) | 197000-11-PC |
| 5 PC cover | 197000-32-PC |
| 6 Overflow protection | 197000-39 |
| 7 PC bottle, 1000 ml | 197000-31-PC |

Multi-Position Filtration Systems

Features

The manifold is made of SS316

All parts of manifold are made of SS316 Which are excellent chemical resistance and can be fast sterilized by flame and steam.

The spin-lock design

The manifold uses a spin-lock connection which facilitates fast and stable installation without clamp.

Individual control valve

Each branch permits individual control.

Compatible to different sizes of funnels

manifolds are available to fit 100, 300, 500ml funnel at option.

Light and handy aluminum design

The manifold is made of anodized aluminum which is autoclavable, light and cost-effective.

Magnetic filter holder is included

Magnetic filter holder allows one-handed operation, prevents possible twisting and tearing of the membrane.

Application

- > Biological laboratories
- > Chemical industry
- > Microbiological detection
- > All kinds of liquid filtration



Specifications

| Model | BioVac330B | BioVac630B | BioVac321A | BioVac321B |
|---|------------------------|------------------------|---------------------|------------------------|
| Max. Flow Rate | 34 l/min | 58 l/min | 34 l/min | 34 l/min |
| Ultimate Vacuum(mbar) | 150 mbar | 150 mbar | 150 mbar | 150 mbar |
| Waste Bottle (Capacity in ml/ Material) | 3000 ml, PC | 3000 ml, PC | 3000 ml, PC | 3000 ml, PC |
| Number of Branches | 3 | 6 | 3 | 3 |
| Manifold Material | Stainless Steel | Stainless Steel | Aluminum | Aluminum |
| Filter Diameter(mm) | 47 / 50 mm | 47 / 50 mm | 47 / 50 mm | 47 / 50 mm |
| Filter Cup (Capacity in ml/ Material) | 100 ml Stainless Steel | 100 ml Stainless Steel | 300 ml Magnetic | 100 ml Stainless Steel |
| Effective Filtration Area(cm ²) | 9.6 cm ² | 9.6 cm ² | 9.6 cm ² | 9.6 cm ² |
| Tube I.D. (mm) | 8 mm | 8 mm | 8 mm | 8 mm |

Ordering Information

| | Model | Order No. | Model | Order No. | Model | Order No. | Model | Order No. |
|------------------|---------------------------------------|-----------|---------------------------------------|-----------|-----------------------------------|-----------|--------------------------------|-----------|
| Model | BioVac330B | 167403 | BioVac630B | 167601 | BioVac321A | 167401 | BioVac321B | 167402 |
| Contains | | | | | | | | |
| Pump | V400 | 167400 | V600 | 167600 | V400 | 167400 | V400 | 167400 |
| Manifold | BioVac330 3-branch Stainless steel | 167103-23 | BioVac630 6-branch Stainless steel | 167103-26 | BioVac321 3-branch Aluminum | 167200-43 | BioVac321 3-branch Aluminum | 167200-43 |
| Filter Cups | 3 x 100 ml Stainless steel | 167103-61 | 6 x 100 ml Stainless steel | 167103-61 | 3 x 300 ml PES (magnetic base) | 167100-18 | 3 x 100 ml Stainless steel | 167103-10 |
| Waste Bottle | 3000 ml / PC | 167200-33 | 3000 ml / PC | 167200-33 | 3000 ml / PC | 167200-33 | 3000 ml / PC | 167200-33 |
| Bunsen Burner | Dragon 100 | 177100-00 | Dragon 100 | 177100-00 | Without | Without | Dragon 100 | 177100-00 |
| Filter Membranes | Pall GN-6 MCE * | 167100-52 | Pall GN-6 MCE * | 167100-52 | Pall GN-6 MCE * | 167100-52 | Pall GN-6 MCE * | 167100-52 |
| Silicon Tube | 2 x 1m | 168021-01 | 2 x 1m | 168021-01 | 2 x 1m | 168021-01 | 2 x 1m | 168021-01 |

* Pall GN-6 MCE / 0.45µm, 200 pcs

Multi-Position Manifolds

Vacuum filtration is widely done in laboratory for various tests such as microorganism test in food, pharmacy, beverage, drinking water industries and suspended solid test in environment protection field, sample or solution pretreatment before HPLC, GC, AA analysis etc.

WIGGENS is one of the leading suppliers of vacuum filtration apparatuses in the world. WIGGENS manufactures quality and cost effective vacuum pumps, compressors, manifolds as well as funnels and filters for different applications, wiggens offer you total solution for vacuum filtration.

Features

The manifold is made of SS316

All parts of BioVac 330, 630 manifold are made of SS316. Which are excellent chemical resistance and can be fast sterilized by flame and steam.

The spin-lock design

The manifold uses a spin-lock connection which facilitates fast and stable installation without clamp

Individual control valve

Each branch permits individual control.

Compatible to different sizes of funnels

BioVac 330 and 630 manifolds are available to fit 100, 300, 500ml funnel as option.



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



Stainless Steel Filter Cup (Cylinder Type)



3-branch Stainless Steel Manifold set (100ml, 300ml, 500ml)
Order No.: 167103-24, 167101-23, 167101-24

3-branch Stainless Steel Manifold set

| Model | BioVac330 | BioVac331 | BioVac333 | BioVac335 |
|---------------------------|---|--|---|--|
| Order No. | 167103-23 | 167103-24 | 167101-23 | 167101-24 |
| Number of Branches | 3 | 3 | 3 | 3 |
| Filter Diameter(mm) | 47/50 | 47/50 | 47/50 | 47/50 |
| Effective Filtration Area | 9.6 cm ² | 9.6 cm ² | 9.6 cm ² | 9.6 cm ² |
| Tube I.D. (mm) | 8 | 8 | 8 | 8 |
| Dimensions(L×W×H) cm | 50×15×15cm | 80×15×20cm | 50×15×23cm | 50×15×26cm |
| Filter Cup Material | / | Stainless Steel | Stainless Steel | Stainless Steel |
| Filter Cup Capacity (mL) | / | 100ml | 300ml | 500ml |
| Product Description | 3-branch stainless steel manifold BioVac 330 | 3-branch stainless steel manifold BioVac 330 + 3 x 100ml Stainless Steel Filter Cups | 3-branch stainless steel manifold BioVac 330 +3 x 300ml Stainless Steel Filter Cups | 3-branch stainless steel manifold BioVac 330+3 x 500ml Stainless Steel Filter Cups |



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



Stainless Steel Filter Cup (Cylinder Type)



6-branch Stainless Steel Manifold set BioVac 631
Order No.: 167103-27

6-branch Stainless Steel Manifold set

| Model | BioVac630 | BioVac631 | BioVac633 | BioVac635 |
|---------------------------|---|--|---|--|
| Order No. | 167103-26 | 167103-27 | 167101-26 | 167101-27 |
| Number of Branches | 6 | 6 | 6 | 6 |
| Filter Diameter(mm) | 47/50 | 47/50 | 47/50 | 47/50 |
| Effective Filtration Area | 9.6 cm ² | 9.6 cm ² | 9.6 cm ² | 9.6 cm ² |
| Tube I.D. (mm) | 8 | 8 | 8 | 8 |
| Dimensions(L×W×H) cm | 80×15×15 | 80×15×20 | 80×15×23 | 80×15×26 |
| Filter Cup Material | / | Stainless Steel | Stainless Steel | Stainless Steel |
| Filter Cup Capacity (mL) | / | 100ml | 300ml | 500ml |
| Product Description | 6-branch stainless steel manifold BioVac 630 | 6-branch stainless steel manifold BioVac 630 + 6 x 100ml Stainless Steel Filter Cups | 6-branch stainless steel manifold BioVac 630 +6 x 300ml Stainless Steel Filter Cups | 6-branch stainless steel manifold BioVac 630+6 x 500ml Stainless Steel Filter Cups |

Multi-Position Filtration Manifolds

3-branch Stainless Steel Manifold set



Manifold only



| Model | BioVac320 | BioVac341 | BioVac343 | BioVac345 | BioVac351 | BioVac353 | BioVac355 | BioVac363 | BioVac364 |
|---------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|----------------------------------|
| Order No. | 167110-23 | 167111-31 | 167111-33 | 167111-35 | 167112-31 | 167112-33 | 167112-35 | 167113-33 | 167113-34 |
| Number of Branches | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Filter Diameter(mm) | 47/50 | 47/50 | 47/50 | 47/50 | 47/50 | 47/50 | 47/50 | 47/50 | 47/50 |
| Effective Filtration Area | 9.6 cm ² | 9.6 cm ² | 9.6 cm ² | 9.6 cm ² | 9.6 cm ² | 9.6 cm ² | 9.6 cm ² | 9.6 cm ² | 9.6 cm ² |
| Tube I.D. (mm) | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| Dimensions(L×W×H) cm | 50×15×12 | 50×15×23 | 50×15×27 | 50×15×30 | 50×15×30 | 50×15×30 | 50×15×33 | 50×15×30 | 50×15×30 |
| Filter Cup Material | Without | Stainless Steel | Stainless Steel | Stainless Steel | Magnetic | Magnetic | Magnetic | Borosilicate Glass | Glass funnel with Micro-Strainer |
| Filter Cup Capacity (mL) | Without | 100 | 300 | 500 | 150 | 300 | 500 | 250 | 250 |

6-branch Stainless Steel Manifold set



Manifold only



| Model | BioVac620 | BioVac641 | BioVac643 | BioVac645 | BioVac651 | BioVac653 | BioVac655 | BioVac663 | BioVac664 |
|---------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|----------------------------------|
| Order No. | 167110-26 | 167111-61 | 167111-63 | 167111-65 | 167112-61 | 167112-63 | 167112-65 | 167113-63 | 167113-64 |
| Number of Branches | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| Filter Diameter(mm) | 47/50 | 47/50 | 47/50 | 47/50 | 47/50 | 47/50 | 47/50 | 47/50 | 47/50 |
| Effective Filtration Area | 9.6 cm ² | 9.6 cm ² | 9.6 cm ² | 9.6 cm ² | 9.6 cm ² | 9.6 cm ² | 9.6 cm ² | 9.6 cm ² | 9.6 cm ² |
| Tube I.D. (mm) | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| Dimensions(L×W×H) cm | 80×15×12cm | 80×15×23cm | 80×15×27cm | 80×15×30cm | 80×15×30cm | 80×15×30cm | 80×15×33cm | 80×15×30cm | 80×15×30cm |
| Filter Cup Material | Without | Stainless Steel | Stainless Steel | Stainless Steel | Magnetic | Magnetic | Magnetic | Borosilicate Glass | Glass funnel with Micro-Strainer |
| Filter Cup Capacity (mL) | Without | 100 | 300 | 500 | 150 | 300 | 500 | 250 | 250 |

3-branch aluminum manifold set



Manifold only



| Model | BioVac321 | BioVac311 | BioVac313 | BioVac315 | BioVac301 | BioVac303 | BioVac305 | BioVac323 | BioVac324 |
|---------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|----------------------------------|
| Order No. | 167200-43 | 167204-31 | 167204-33 | 167204-35 | 167202-31 | 167202-33 | 167202-35 | 167203-23 | 167203-24 |
| Number of Branches | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Filter Diameter(mm) | 47/50 | 47/50 | 47/50 | 47/50 | 47/50 | 47/50 | 47/50 | 47/50 | 47/50 |
| Effective Filtration Area | 9.6 cm ² | 9.6 cm ² | 9.6 cm ² | 9.6 cm ² | 9.6 cm ² | 9.6 cm ² | 9.6 cm ² | 9.6 cm ² | 9.6 cm ² |
| Tube I.D. (mm) | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| Dimensions(L×W×H) cm | 50×15×12cm | 50×15×23 | 50×15×27 | 50×15×30 | 50×15×30 | 50×15×30 | 50×15×30 | 50×15×30 | 50×15×30 |
| Filter Cup Material | Without | Stainless Steel | Stainless Steel | Stainless Steel | Magnetic | Magnetic | Magnetic | Borosilicate Glass | Glass funnel with Micro-Strainer |
| Filter Cup Capacity (mL) | Without | 100 | 300 | 500 | 150 | 300 | 500 | 250 | 250 |

Customer Assembling Options for Multi-Position Filtration System

wiggins offers free assembling options, the customer can design it yourself the filtration system based different application requirements.

Filtration System Components Package

Vacuum pump 、 PP/PC Waste Bottle 、 Filter Membranes 、 Silicon Tubing 、 Filtration combination



Multi-Position Filtration System

Selection Table for Multi-Position Filtration System

| No. | Name | | | | |
|-----|------------------|---|------------------|-----------|--------|
| 1 | Vacuum pump | V400 | V600 | V410 | V610 |
| | Order No. | 167400 | 167600 | 167410 | 167610 |
| 2 | Suction bottle | 1000ml | 2000ml | 3000ml | - |
| | Order No. | 167200-31 | 167200-32 | 167200-33 | - |
| 4 | Filter Membranes | Fiberglass Filter Membranes | MCE Filter Paper | - | - |
| | Order No. | 167100-20 | 167100-52 | - | - |
| 5 | Silicon Tubing | Outer Diameter 14mm, Inner Diameter 8mm, Length 1m | | | - |
| | Order No. | 167021-01 | | | - |
| 6 | Combination | BioVac351, BioVac353, BioVac355, BioVac363, BioVac364, BioVac651, BioVac653, BioVac655, BioVac663, BioVac664, BioVac311, BioVac313, BioVac315, BioVac301, BioVac303, BioVac305, BioVac323, BioVac324, | | | |

Filtration System Components Package

Vacuum pump 、 PP/PC Waste Bottle 、 Lab Burners 、 Filter Membranes 、 Silicon Tubing 、 Filtration combination



Multi-Position Filtration System

Selection Table for Multi-Position Filtration System

| No. | Name | | | | |
|-----|------------------|--|------------------|-----------|--------|
| 1 | Vacuum pump | V400 | V600 | V410 | V610 |
| | Order No. | 167400 | 167600 | 167410 | 167610 |
| 2 | Suction bottle | 1000ml | 2000ml | 3000ml | - |
| | Order No. | 167200-31 | 167200-32 | 167200-33 | - |
| 3 | Lab Burners | Dragon 100 | Dragon 220 | - | - |
| | Order No. | 177100-00 | 177220-00 | - | - |
| 4 | Filter Membranes | Fiberglass Filter Membranes | MCE Filter Paper | - | - |
| | Order No. | 167100-20 | 167100-52 | - | - |
| 5 | Silicon Tubing | Outer Diameter 14mm, Inner Diameter 8mm, Length 1m | | | - |
| | Order No. | 167021-01 | | | - |
| 6 | Combination | BioVac331, BioVac333, BioVac335, BioVac631, BioVac633, BioVac635, BioVac341, BioVac343, BioVac345, BioVac641, BioVac643, BioVac645 | | | |

Accessories For Filtration Systems

47mm Glass Funnel Holder

Features

- > Made of chemical-resistant borosilicate glass
- > High temperature resistant
- > Steam-sterilization can be applied

Specifications

| Materials | Glass Funnel | Glass funnel with support screen |
|------------------|--------------------|--|
| Funnel | Borosilicate Glass | Borosilicate Glass |
| Funnel Base | Borosilicate Glass | Borosilicate Glass |
| Membrane Support | Sintered Glass | Stainless Steel Support Screen + PTFE Gasket |
| Clamp | Aluminum | Aluminum |

Ordering Information

| | |
|------------------------|-----------|
| 47mm Glass Funnel | 167120-31 |
| 250ml Glass Filter Cup | 167210-03 |
| Aluminum Clamp | 167240-01 |
| 47mm Glass Filter Base | 167230-03 |
| Silicon Rubber | 167110-16 |

| | |
|---------------------------------------|-----------|
| 47mm Glass Funnel with Micro Strainer | 167120-33 |
| 250ml Glass Filter Cup | 167210-03 |
| Aluminum Clamp | 167240-01 |
| Stainless Steel Support Screen | 167230-31 |
| 47mm Glass Filter Base | 167230-07 |
| Silicon Rubber | 167110-16 |

| Type | | |
|---|---------------------|---------------------|
| Funnel Capacity(ml) | 250 ml | 250 ml |
| Filter Diameter(mm) | 47 mm | 47 mm |
| Effective Filtration Area(cm ²) | 9.6 cm ² | 9.6 cm ² |



Glass Funnel



Glass funnel with support screen

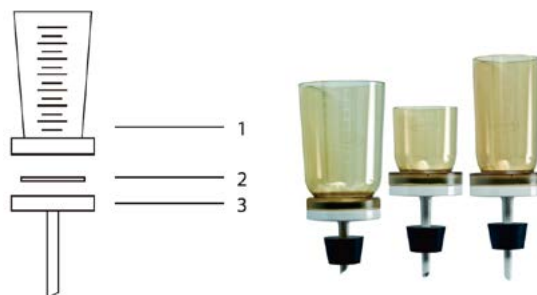


PES Funnels With Magnetic Base

- > Unique magnetic connection design
- > No clamps needed
- > High temperature sterilization possible

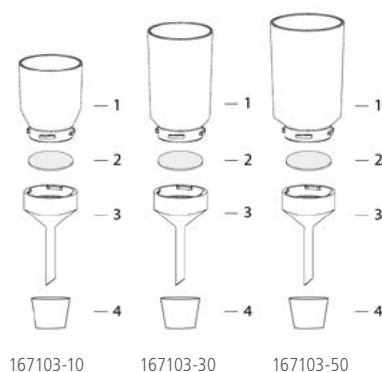
| Materials | |
|------------------|---------|
| Filter Cup | PES |
| Membrane Support | PP |
| Filter Base | PES |
| Rubber | Silicon |

| Specifications | |
|-------------------------------|-----------|
| Magnetic filter funnel 150 ml | 167130-15 |
| Magnetic filter funnel 300 ml | 167100-18 |
| Magnetic filter funnel 500 ml | 167130-50 |



47mm Stainless Steel Funnels

- > Quick and effective spin-lock system
- > No clamp needed
- > SUS316 stainless steel
- > Heat sterilization can be applied



Ordering Information

| | |
|----------------------------------|-----------|
| 100 ml Stainless Steel Funnel | 167103-10 |
| 100ml stainless steel filter cup | 167103-61 |
| Stainless Steel Support Screen | 167100-31 |
| 47mm stainless steel filter base | 167103-60 |
| Silicon Rubber | 167110-17 |

Specification

| Material | 100 ml | 300 ml | 500 ml |
|---|---------------------|---------------------|---------------------|
| Funnel | SUS316 | SUS316 | SUS316 |
| Funnel Base | SUS316 | SUS316 | SUS316 |
| Membrane Support | SUS316 | SUS316 | SUS316 |
| Funnel Lid | SUS316 | SUS316 | SUS316 |
| Type | | | |
| Funnel Capacity(ml) | 100 ml | 300 ml | 500 ml |
| Filter Diameter(mm) | 47 / 50 mm | 47 / 50 mm | 47 / 50 mm |
| Effective Filtration Area(cm ²) | 9.6 cm ² | 9.6 cm ² | 9.6 cm ² |

| | |
|----------------------------------|-----------|
| 300 ml Stainless Steel Funnel | 167103-30 |
| 300 ml | 167103-63 |
| Stainless Steel Support Screen | 167100-31 |
| 47mm stainless steel filter base | 167103-60 |
| Silicon Rubber | 167110-17 |

| | |
|-----------------------------------|-----------|
| 500 ml Stainless Steel Funnel | 167103-50 |
| 500ml stainless steel filter base | 167103-65 |
| stainless steel Support Screen | 167100-31 |
| 47mm stainless steel filter base | 167103-60 |
| Silicon Rubber | 167110-17 |

Stainless Steel Filter Cup (Cylinder Type)



| Material | 100 ml | 300 ml | 500 ml |
|------------|--------|--------|--------|
| Filter Cup | SUS316 | SUS316 | SUS316 |

| Type | | | |
|---|---------------------|---------------------|---------------------|
| Funnel Capacity(ml) | 100 ml | 300 ml | 500 ml |
| Filter Diameter(mm) | 47 / 50 mm | 47 / 50 mm | 47 / 50 mm |
| Effective Filtration Area(cm ²) | 9.6 cm ² | 9.6 cm ² | 9.6 cm ² |

| Stainless Steel Filter Cup (Cylinder Type) | Order No. |
|--|-----------|
| 100ml, Suitable for BioVac 330/630 | 167103-61 |
| 300ml, Suitable for BioVac 330/630 | 167103-63 |
| 500ml, Suitable for BioVac 330/630 | 167103-65 |

Stainless Steel Filter Cup (Cone Type)



| Material | 500 ml | 750 ml | 1000 ml |
|------------|--------|--------|---------|
| Filter Cup | SUS316 | SUS316 | SUS316 |

| Type | | | |
|---|---------------------|---------------------|---------------------|
| Funnel Capacity(ml) | 500 ml | 700 ml | 1000 ml |
| Filter Diameter(mm) | 47 / 50 mm | 47 / 50 mm | 47 / 50 mm |
| Effective Filtration Area(cm ²) | 9.6 cm ² | 9.6 cm ² | 9.6 cm ² |

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

Stainless Steel Funnel Lid



| Description | 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



| Specifications | Material |
|---------------------|------------------|
| Order No.: | 167130-32 |
| Suitable for Funnel | Pall 4242 |
| Number of Inlets | 3 |
| Inlet Type | Female luer slip |
| Filter Diameter | 25 mm |
| Package | 1 |
| Main Body | PP |
| Cover | Silicon |
| Filter Material | PTFE |
| Pore Size | 0.2 μm |

Filtration Flask for Liquids

| Order No. | 167100-13 | 167100-14 |
|---|-----------|-----------|
| Includes | | |
| Glass bottle | 167300-08 | 167300-08 |
| Rubber stopper | 167110-16 | 167110-17 |
| Magnetic base | 167200-04 | 167200-04 |
| Specifiction | | |
| Capacity | 1000 ml | 1000 ml |
| Inlet / Outlet Diameter | 8 mm | 8 mm |
| Water Outlet | Yes | Yes |
| The dia meter of hole in center of rubber stopper | Ø15mm | Ø9.5mm |



Weighted Base

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



Disc Filter

| Name | 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 | 37 mm / 0.2 µm | 50 mm / 0.2 µm |
| Outer Diameter | 30 mm | 45 mm | 73 mm |
| Material | PTFE | PTFE | PTFE |
| Outer Material | PP | PP | PP |
| Number of Filters per Package | 1 | 1 | 1 |



Filter Membranes

| Name | 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 | 100 | 200 |



Silicon Tubing

| Order No. | Outer Diameter (mm) | Inner Diameter (mm) | Thickness (mm) | Length (m) |
|-----------|---------------------|---------------------|----------------|------------|
| 168020-01 | 12 | 6 | 3 | 1 |
| 168021-01 | 14 | 8 | 3 | 1 |
| 168022-01 | 16 | 10 | 3 | 1 |



167201-31

167201-33

167200-31

167200-33

PP/PC Waste Bottle

| Material | | | | | | |
|--------------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| Order No. | 167201-31 | 167201-33 | 167200-31 | 167201-32 | 167200-32 | 167200-33 |
| Bottle | PC | PC | PC | PC | PC | PC |
| Bottle Cover | 316L | PC | PC | PC | PC | PC |
| Spill-Proof Buoy | PP | PP | PP | PP | PP | PP |
| Description | | | | | | |
| Capacity(ml) | 1000 ml | 2500 ml | 1000 ml | 1500 ml | 2000 ml | 3000 ml |
| Outlet(mm) | 8 mm | 8 mm | 8 mm | 8 mm | 8 mm | 8 mm |
| Spill-Proof Buoy | Yes | Yes | Yes | Yes | Yes | Yes |
| Autoclavability (121 °C) | Yes | Yes | Yes | Yes | Yes | Yes |

Glass Waste Bottle

| Description | Material | |
|--------------------------|-----------|----------------------------|
| Order No.: | 167120-34 | |
| Capacity | 4000 ml | Bottle Glass |
| Outlet | 8 mm | Bottle Lid Stainless Steel |
| Spill-Proof Buoy | Yes | Float Switch PP |
| Autoclavability (121 °C) | Yes | |



Stand for Suction Bottles

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



Foot Pedal

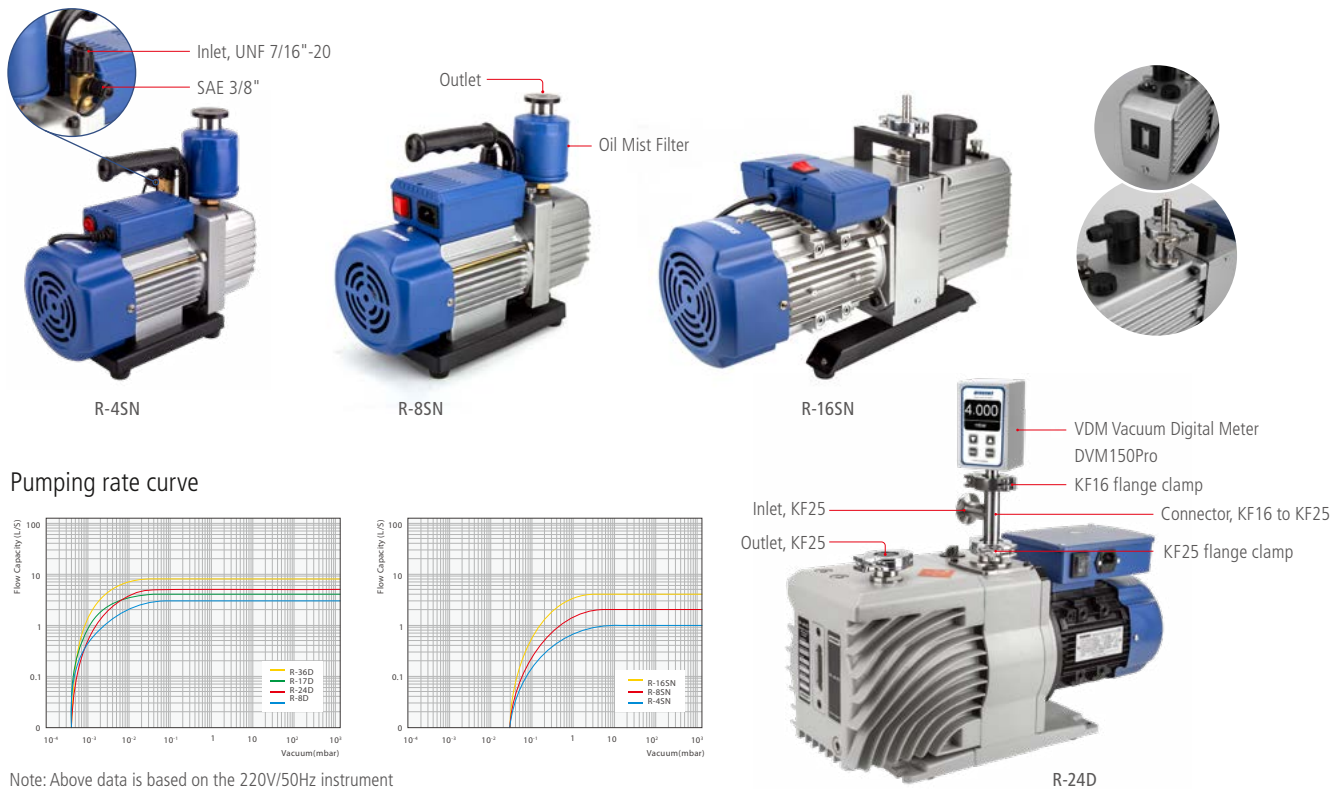
| Description | Order No. |
|---|-----------|
| Suitable for C Series and V Series Vacuum Pumps | 167200-41 |

Silicon Drainage Tubing

| Order No. | Outer Diameter (mm) | Inner Diameter (mm) | Thickness (mm) | Length (m) |
|-----------|---------------------|---------------------|----------------|------------|
| 168030-01 | 12 | 8 | 2 | 1 |

Rotary Vane Vacuum Pumps

Oil-sealed Rotary Vane vacuum pumps are widely used traditional vacuum pumps in research and production, can be used independently, as well as working as backing pumps for molecular pumps or diffusion pumps. Wiggins' direct driven rotary vane pumps are available as one and two-stage versions, cover the range from desktop lab pumps to production line pumps, with low noise and stable working temperature for common voltages and frequencies, long lifespan, and outstanding reliability for chemical applications. Various application areas may include vacuum distillation, vacuum filtration, vacuum inspection, vacuum freeze drying, vacuum coating, vacuum leak detection, vacuum packaging, vacuum adsorption, etc.



Features

- > Compact structure
- > Very good sealing
- > No returning throughput
- > Oil-spout prevention
- > Low noise
- > Oil-observation window
- > Handle for easy transportation
- > High flow rate
- > Low and stable ultimate vacuum
- > High evaporation resistance
- > Comparatively high chemical resistance
- > High longevity
- > Low maintenance rate
- > Low oil mist
- > Gas ballast valve
- > Overcurrent protection
- > Fulfills IP54 standards

Application

- > Vacuum distillation
- > Vacuum filtration
- > Vacuum testing
- > Vacuum freeze drying
- > Vacuum plating
- > Leak detection
- > Vacuum packaging
- > Vacuum sorption
- > As a backing pump for turbo-molecular pumps or diffusion pumps

Specifications

| Model series | R-4SN | R-8SN | R-16SN | R-8D | R-17D | R-24D | R-36D |
|---------------------------------|--------------------------|--------------------------|----------------------|--------------------|--------------------|--------------------|--------------------|
| Number of Stages | Single | Single | Single | Double | Double | Double | Double |
| Flow Rate (L/min) | 50 | 120 | 240 | 180 | 283 | 360 | 540 |
| Ultimate Vacuum (mbar) | 2.5×10^{-2} | 2.5×10^{-2} | 2.5×10^{-2} | 4×10^{-4} | 4×10^{-4} | 4×10^{-4} | 4×10^{-4} |
| Power (W) | 180 | 250 | 550 | 550 | 750 | 750 | 1100 |
| Motor rotation(RPM) | 1,400 | 1,400 | 1,400 | 1400 | 1400 | 1400 | 1400 |
| Noise Level (dB) | < 54 | < 54 | < 54 | < 54 | < 54 | < 56 | < 56 |
| Oil Capacity (L) | 0.25 | 0.33 | 1 | 1.1 | 1.4 | 1.9 | 2.1 |
| IP Code | IP40 | IP40 | IP40 | IP44 | IP44 | IP44 | IP44 |
| Weight (kg) | 9 | 11 | 22 | 29 | 31 | 37 | 39 |
| Inlet and Outlet Specifications | SAE 3/8" UNF 7/16"-20 | SAE 3/8" UNF 7/16"-20 | DN25KF | DN25KF | DN25KF | DN25KF | DN25KF |
| Order No. | 900101-22 | 900102-22 | 900104-22 | 900111-22 | 900112-22 | 900025-22 | 900035-22 |

Accessories for Rotary Vane Vacuum Pumps

Oil Mist Filter

The gas pumping out from the outlet often has some oil mist, which will effect the ambient, and sometime is harmful. Chemvak's exhaust filter can almost stop all the oil mist and let it flow back to the pump and can reduce noise as well.



| Name | Suitable for | Order No. |
|----------------------|--|-----------|
| Filters | R-4SN, R-8SN (Direct connection, outlet DN25KF) | 900101-1 |
| Filters | R-16SN, R-8D, R-17D, R-24D, R-36D (Direct connection, outlet DN25KF) | 900111-1 |
| Filter Element | R-16SN, R-8D, R-17D, R-24D, R-36D | 900111-2 |
| Condensate Separator | R-16SN, R-8D, R-17D, R-24D, R-36D | 900111-3 |
| Dust Filter | R-16SN, R-8D, R-17D, R-24D, R-36D | 900111-4 |

Connector / Flange Joint

| Name | Description | Order No. |
|--------------|--|-----------|
| Connector | Specification : 3/8 SAE; Outlet Diameter : 8mm; R-4SN / R-8SN | 168900-82 |
| Connector | Specification : 3/8 SAE; Outlet Diameter : 10mm; R-4SN / R-8SN | 168900-83 |
| Connector | Specification : 3/8 SAE; Outlet Diameter : 12mm; R-4SN / R-8SN | 168900-84 |
| Flange Joint | Inlet : DN25KF; Outlet Diameter : 8mm; Suitable for R-16SN, R-8D, R-17D, R-24D, R-36D | 168900-08 |
| Flange Joint | Inlet : DN25KF; Outlet Diameter : 10mm; Suitable for R-16SN, R-8D, R-17D, R-24D, R-36D | 168900-10 |
| Flange Joint | Inlet : DN25KF; Outlet Diameter : 12mm; Suitable for R-16SN, R-8D, R-17D, R-24D, R-36D | 168900-12 |
| Flange Joint | Inlet : DN25KF; Outlet Diameter : 19mm; Suitable for R-16SN, R-8D, R-17D, R-24D, R-36D | 168900-19 |
| Flange Joint | Inlet : DN25KF; Outlet Diameter : 25mm; Suitable for R-16SN, R-8D, R-17D, R-24D, R-36D | 168900-25 |

DVM Vacuum Digital Meter

- > Compact design, flange connector, strong tightness
- > TFT high-light screen, easy to observation for multiple angles or long distance
- > Directly to connect with the pumps, material for contact parts of the gas is stainless steel
- > DVM150Pro for rotary vane pumps



| Models | Display resolution | Testing range | Material of sensor | Size of the meter | Order No. |
|-----------|---|-----------------|--------------------|-------------------|-----------|
| DVM150Pro | 0.001mbar | 0.001-9.999mbar | PIRANI | 100*65*55mm | 15060-02 |
| No. | Description | Order No. | | | |
| | Connector, KF16 to KF25, suitable for R-16SN, R-8D, R-17D, R-24D, R-36D | DVM150BJFL001 | | | |
| | Connector, KF16 to threaded connector, suitable for R-4SN, R-8SN | DVM150BJFL002 | | | |
| | KF16 flange clamp | BJFL003 | | | |
| | KF25 flange clamp | BJFL004 | | | |

Wiggins 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. |
|----------------|-----------|
| 500 mL | 900100-04 |
| 1 L | 900100-05 |
| 5 L | 900100-02 |
| 10 L | 900100-03 |

Thick Vacuum Tubing

Thick rubber tube, which can be used in vacuum systems and for low evaporation pressure.



| Inner Diameter(mm) | Thickness (mm) | Length(m) | Order No. |
|--------------------|----------------|-----------|-----------|
| 8 | 5 | 1 | 22690-06 |
| 10 | 9.5 | 1 | 22690-11 |
| 12 | 9.5 | 1 | 22690-13 |
| 19 | 9.5 | 1 | 22690-21 |
| 25 | 9.5 | 1 | 22690-26 |

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. | 8116-10 |

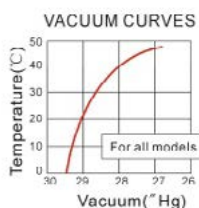
Electrical Aspirator Pump

Portable dual-channel, water-jet aspirator pump.

VE-11 creates a vacuum using an aspirator pump that is dependent on the vapor pressure of water. Ideal for rotary vacuum evaporators, decompressing distillatories, vacuum dryers, and vacuum filtering units.

Features

- > Economic use of resources
- > High flow rate up to 36 L/min
- > Vacuum can be regulated between 20 mmHg and 74 mmHg
- > Employs two water flow and gas suction devices, a check valve, and an upstream prevention device
- > Housing is made of PP to enhance longevity
- > Small amounts of liquid in the machine don't harm the system Built-in circulating pump and water tank makes this unit portable and eliminates water waste.
- > Circulating pump continuously forces water quietly across a set of aspirators, and therefore clean and efficient.
- > Included (2) metal aspirators to create a vacuum with a built-in check valve to prevent backflow of water into the aspirator pump.
- > Submerged parts: 304 stainless steel, polypropylene silicone, and nickel-coated brass.
- > Tank features a drain port and spigot for easy water changes.
- > Unlike other vacuum pumps the VE-11 can suck a little bit of solvent. (water)



Included Accessories

- > Tank / Aspirating pump / Tank closure.
- > Two aspirators.
- > Two ø6mm (0.02") silicone rubber tube 20cm (0.7 ft) in length and an additional ø6mm (0.02") silicone rubber tube 100cm (3.3 ft) in length.

VE-11

with optional vacuum gauge / regulator

Specifications & Ordering Information



| Model | | VE-11 |
|------------------------|-------------------|--|
| Max. Flow Rate | | 36 L/min (18 L/min*2) |
| Water Tank Capacity(L) | | 9.5 L |
| Motor Power(W) | | 150 W |
| Material (Water Tank) | | Polypropylene |
| Dimensions | Water Tank(WxDxH) | 298 x 210 x 227 |
| | Case(WxDxH) | 330 x 265 x 390 |
| | Absorption nozzle | 9.5 Ø x 2 |
| | Overflow nozzle | 17 Ø |
| Safety Devices | | Fuse, check valve, overheat protection |
| Weight (kg) | | 5.7 |
| Order No. | | 900701 |

Application Area

- > Filtration
- > Distillation
- > Rotary evaporation



Vacuum Gauge / Regulator (Option)

Optional Accessories

- > Vacuum gauge / regulator: to monitor and control the vacuum pressure. (between 0.0267~0.0998MPa / 7.9~29.5" Hg)
- > Cooling coil: to prevent vacuum from decreasing due to temperature increase.

Accessories

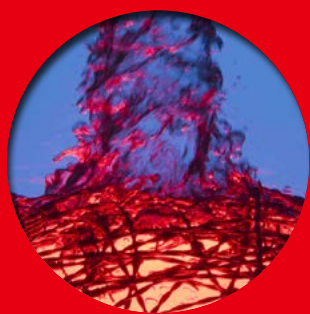
| Description | Order No. |
|--------------------------|-----------|
| Vacuum Gauge / Regulator | 900701-1 |
| VC-10 Cooling Coil | 900701-2 |
| ET-02 Aspirator | 900701-3 |



VC-10 Cooling Coil



ET-02 Aspirator



3 Hot Plates / Stirrers Dry Bath / Heating Mantles

Laboratory Hotplate Stirrers

Attractive design for demanding heating & mixing



Our new complete range of laboratory hotplate stirrers will meet your high demands every day!

More Powerful Units



Intelligent heating technology for your very demanding applications



More precise, more ingenious heating, stirring, controlling with a modern design



Powerful infrared heating



Multi-position heating & mixing



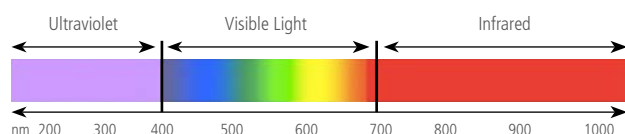
New entry level for lab heating & mixing



Infrared Radiation Heating

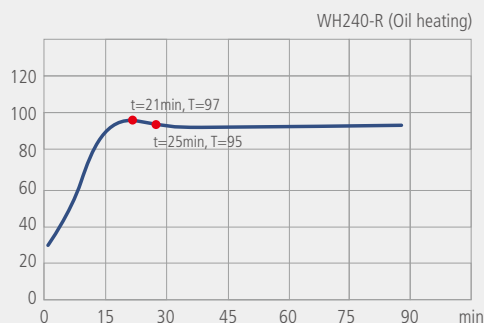
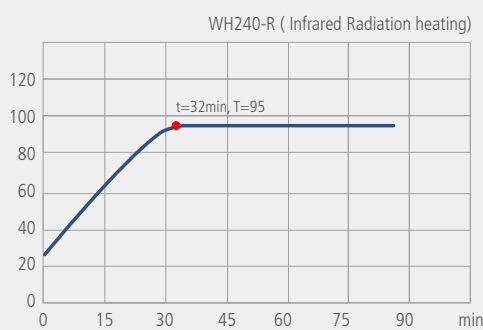
Infrared radiation heating refers to the spectrum between 0.7 μ m-100 μ m of light waves, emission and transmission accompanied by obvious, directional energy transmission. The energy transmission does not need any media, even in vacuum space. The infrared heating is using an electromagnetic wave with a wavelength of 2.5 to 15 μ m. This speed is much higher than the rate of conduction and convection.

Wavelengths (nm) of Light



Magnetic heating stirrer is usually suitable for the heating of beakers, flasks, crystallizing dishes and other containers and the mixing of samples. In chemical synthesis laboratories, however, it is often necessary to heat and mix round bottom flasks, they are usually heated only in oil. It is necessary to wipe out splashed bath oil. Rather than oil heating, infrared radiation heating can heat the sample directly, cleanly.

Infrared radiation heating can be more effective use of heating power. The heating magnetic stirrer using infrared radiation heating has a better temperature stability control. When you turn off the heater, they also stop radiating heat the instant. In comparison, an oil-filled heater will continue to warm even after the unit is off because it takes time for the heated oil to cool down. In addition, the infrared heating does not use any kind of oil and any other media, so compared to oil bath heaters, and it's more environmentally friendly and safe.



Digital Hot Plate / Stirrers

New entry level for lab heating & mixing

WH200 / WH210 / WH220

- > Our laboratory hotplates / stirrers are developed and produced according to high international quality standards.
- > Advanced microprocessor controlling system guarantees the reliability and temperature stability.
- > Bright and clear LED digital display and setting for the working temperature and stirring speed.
- > Memory function for stirring speed and setting temperature, convenient for experiments with fixed conditions.
- > Liquid drainage above the control board to prevent liquids from accessing the system.
- > Direct connection for thermocouple sensor for convenient solution temperature control.
- > WH200 and WH210 are suitable for general laboratory application.
- > WH220 with sealed outer shell and isolated critical parts design even can be used in a harsh laboratory environment.
- > When the temperature of the top plate is above 60 °C, hot-top indicator will light up for the user's safety protection.



Standard thermocouple sensor

Accurate solution temperature with in ± 2 in general range.



Safety protection

Flashing high temperature indicator, warning for hurt by touch



Simultaneously displaying various parameters, memory of the last working parameters



Liquid drainage above the control board
Avoid the solution splashing on the touch board.



WH200 with aluminum plate, WH210 with SS304 plate. WH210 and WH220 SS304 coated with ceramic

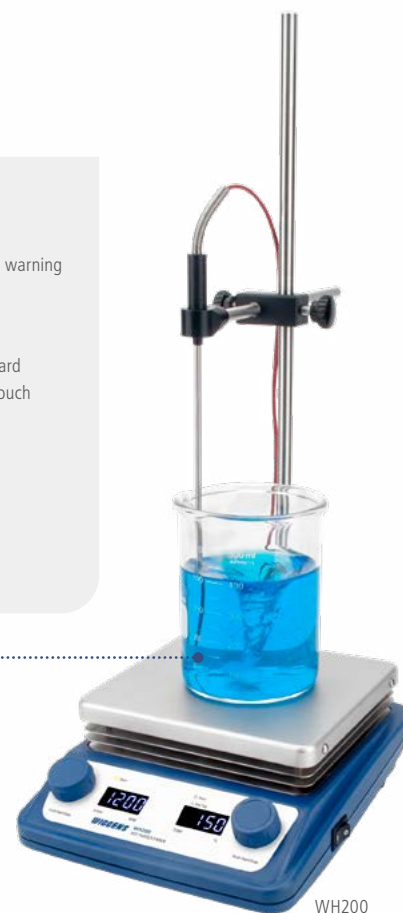


For stirrer bars, please reference Page 73



Standard thermocouple sensor

Accurate solution temperature within ± 2 in general range.

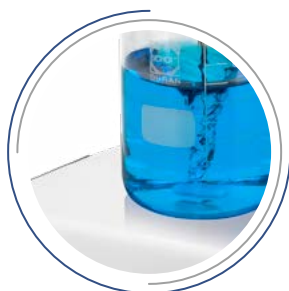


WH200

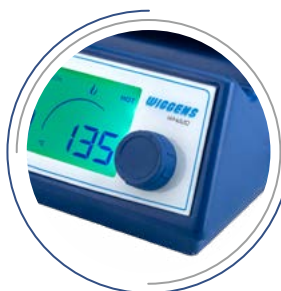


Specifications

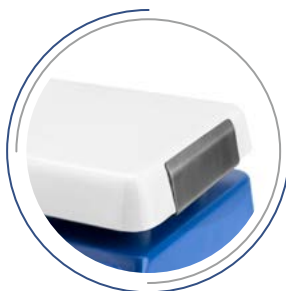
| Model | WH200 | WH210 | WH220 |
|---|------------------------------------|------------------------------------|------------------------------------|
| Display Mode / Control type | LED Digital Display / Knob Control | LED Digital Display / Knob Control | LCD Digital Display / Knob Control |
| Max. Set Temperature (top plate) (°C) | 250 | 250 | 380 |
| Sensor | Thermocouple sensor | Thermocouple sensor | PT100 |
| Max. Set Temperature (With sensor)(°C) | 250 | 250 | 200 |
| Temperature Stability (With sensor)(°C) | ± 2 | ± 2 | ± 2 |
| Safety Temp. (°C) | 280 | 280 | 50~430 |
| Stirring Speed Range (rpm) | 100~1500 | 100~1500 | 100~1200 |
| Heating Capacity (W) | 300 | 500 | 500 |
| Max. Capacity (L)H ₂ O | 2 | 2 | 20 |
| Top Plate Material | Aluminum | SS304 coated with ceramic | SS304 coated with ceramic |
| Top Plate Dimensions (mm) | 165x150 | 180x145 | 145x180 |
| PID Parameters | 1 set of PID | 1 set of PID | 2 set of PID |
| Order No. | 400302 | 400402 | 400400 |



Powerful magnets and motor give stirring speeds up to 1200rpm and volumes up to 20 litres.



LCD Digital Display /
Knob Control



With white coated heating plate!

- > Offers excellent chemical resistance
- > The white surface helps to recognize color changes of fluids in a glass vessel.
- > Easy to clean



Cleaning. Easy.

Boast a beautiful and functional design that makes cleaning a breeze.



WH220



Everything at the front.

Access all functions and connections conveniently from the front of the unit.



Brilliant.

The clear, bright display makes it easy to read even from a distance.



WH210

Digital Hot Plate / Stirrers

Multi-position heating & mixing

WH420 / WH620

- > Advanced microprocessor controlling system guarantees the reliability and temperature stability
- > Bright and clear LED digital display and setting for the working temperature, stirring speed, working time, and safety temperature
- > Memory function for stirring speed and setting temperature, convenient for experiments with fixed conditions
- > Liquid drainage above the control board to prevent liquids from accessing the system
- > Direct connection for Pt100 temperature sensor for convenient solution temperature control
- > Sealed outer shell and isolated critical parts design for enhanced longevity even in a harsh laboratory environment
- > When the temperature of the top plate is above 60 °C, hot-top indicator will light up for the user's safety protection



Standard PT100 temperature sensor

Accurate solution temperature with in ± 2 °C in general range.



LED selectable

Simultaneously displaying various parameters, memory of the last working parameters.



Ceramic top plate

Great anti-corrosive ability to acid, base, or organic solvents.



Safety protection

Flashing high temperature indicator, warning for hurt by touch.



Liquid drainage above the control board
Avoid the solution splashing on the touch board.

Advantages and Applications

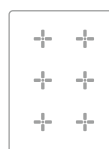
- > Anti-corrosion top plate is easy to clean, can stand high temperatures.
- > Ceramic coated stainless steel top plate is suitable for relatively mild heating, good for small sample amounts relatively low temperature for large volume sample
- > WH420 with four positions and WH620 with six positions, each of them can be controlled separately
- > Both of WH420 and WH620 have a timer function for heating.

WH420 / WH620 Heating and stirring in parallel

- > The multiple talents of WH420/WH620 are particularly suited for laboratories in which highly differing tasks are to be coped with.



4



6



Specifications

| Model | WH420 | WH620 |
|--|------------------------------|------------------------------|
| Display Mode | LED | LED |
| Max. Set Temperature (top plate) (°C) | 300 | 300 |
| Max. Set Temperature (with Pt100 sensor) (°C) | 300 | 300 |
| Temperature Stability (with Pt100 sensor) (°C) | ± 2 | ± 2 |
| Safety Temp. (°C) | 370 | 370 |
| Stirring Speed Range (rpm) | 150~1500 | 150~1500 |
| Heating Capacity (W) | 1000 | 1500 |
| Max. Capacity (L)H ₂ O | 2 | 2 |
| Top Plate Material | Aluminum coated with ceramic | Aluminum coated with ceramic |
| Timer (min) | 1 - 9959 / continuous | 1 - 9959 / continuous |
| Number of stirring positions | 4 | 6 |
| PID Parameters | 1 set of PID | 1 set of PID |
| Interface | RS232 | RS232 |
| High Temperature Protection T(°C) | -- | -- |
| Top Plate Dimensions (mm) | (160 × 155mm) x4 | (150 × 133mm) x6 |
| Dimensions (mm) | 405x320x80 | 525x320x87 |
| Order No. | 400315 | 400316 |



WH420



WH620

Infrared Hot Plates / Stirrers Powerful infrared heating

WH240-HT

- > Advanced microprocessor controlling system guarantees the reliability and temperature stability
- > Bright and clear LCD digital display and setting for the working temperature, stirring speed, working time, and safety temperature
- > Memory function for stirring speed and setting temperature, convenient for experiments with fixed conditions
- > Liquid drainage above the control board to prevent liquids from accessing the system
- > Direct connection for Pt100 temperature sensor for convenient solution temperature control
- > Sealed outer shell and isolated critical parts design for enhanced longevity even in a harsh laboratory environment
- > When the temperature of the top plate is above 60 °C, hot-top indicator will light up for the user's safety protection

Safe Heating and Mixing

Have you ever heard of hotplates with fast heat-up times and chemical resistance?



Standard PT100 temperature sensor

Accurate solution temperature within ± 2 °C in general range.



LCD

Simultaneously displaying various parameters, memory of the last working parameters.



Ceramic or ceramic glass top plate

Great anti-corrosive ability to acid, base, or organic solvents.



Safety protection

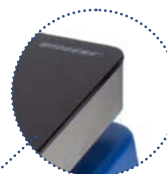
Flashing high temperature indicator, warning for hurt by touch.



Liquid drainage above the control board

Avoid the solution splashing on the touch board.

Best-seller!



Ceramic glass top

- Excellent anti-corrosion ability
- Excellent scratch resistance
- Excellent IR transparency
- Excellent anti-thermal-shock characteristics
- Easy to clean



LCD Digital Display /
Knob Control

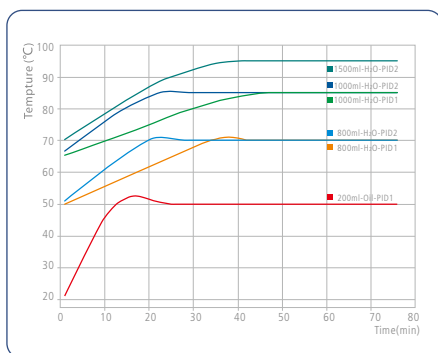
HT serial - Advantages and Applications

- > Chemical resistant ceramic glass plate with excellent anti-thermal-shock characteristics, robust and easy to clean with an attractive appearance as well as practical reliability
- > Very quick obtainment of desired high media temperature, which low temperature models can not reach
- > High safety protection: When exceeding the safety range of the hotplate (50 more than the setting temperature) or solution, the heating can be shut off immediately and automatically for the safety protection
- > Two sets of PID parameters suitable for quick heating of large volume sample or accurate control of small amount sample

The heating capacity of WH240-HT

WH240-HT have two sets of PID parameters selectable from the menu, PID1 suitable for accurate control of small amount sample (small volume or specific heat) , and PID2 is suitable for quick heating and stable temperature of large volume sample.

WH240-HT Heating curve



For stirrer bars,
please reference
Page 73

Note: Above data is based on the 220V/50Hz instrument with pure water (H₂O) and simethicone (Silicon Oil).



Specifications

| Model | WH240-HT |
|--|-----------------------|
| Display Mode | LCD |
| Max. Set Temperature (top plate) () | 450 |
| Max. Set Temperature (with Pt100 sensor)() | 300 |
| Temperature Stability (with Pt100 sensor)() | ±2 |
| Safety Temp. () | 50~500 adjustable |
| Stirring Speed Range (rpm) | 100~1200 |
| Heating Capacity (W) | 800 |
| Max. Capacity (L)H ₂ O | 20 |
| Top Plate Material | Ceramic glass |
| Timer (min) | 1 - 1999 / continuous |
| PID Parameters | 2 set of PID |
| Interface | USB |
| Top Plate Dimensions (mm) | 150x190 |
| Dimensions (mm) | 225X215X115 |
| High Temperature Protection T() | 10~50 adjustable |
| Order No. | 400401 |



Infrared Hot Plates / Stirrers

Parallel infrared heating and mixing

WH240-R

- > Advanced microprocessor controlling system guarantees the reliability and temperature stability
- > Bright and clear LCD digital display and setting for the working temperature, stirring speed, working time, and safety temperature
- > Memory function for stirring speed and setting temperature, convenient for experiments with fixed conditions
- > Liquid drainage above the control board to prevent liquids from accessing the touching board and the electronics
- > Direct connection for Pt100 temperature sensor for convenient solution temperature control
- > Sealed outer shell and isolated critical parts design for enhanced longevity even in a harsh laboratory environment
- > New enhanced infrared heating element, is a type of high temperature hot plate stirrer with very high heating density, can reach a high media temperature
- > High safety protection: When exceeding the safety range of the hotplate (50 more than the setting temperature) or solution (adjustable for WH240-R), the heating can be shut off immediately and automatically for the safety protection



Standard PT100 temperature sensor

Accurate solution temperature with in ± 2 in general range.



LCD / LED selectable

Simultaneously displaying various parameters, memory of the last working parameters.



Ceramic glass top plate

Great anti-corrosive ability to acid, base, or organic solvents.



Safety protection

Flashing high temperature indicator, warning for hurt by touch.



Liquid drainage above the control board

Avoid the solution splashing on the touch board.



-High power infrared heating
-Fast heating up
-Volume up to 2000 mL

Specifications

| | |
|--|--|
| Model | WH240-R |
| Display Mode | LCD |
| Control | Digital set and control |
| Max. Set Temperature (top plate) () | 450 (Continuous) |
| Max. Set Temperature (with Pt100 sensor)() | 300 |
| Temperature Stability (with Pt100 sensor)() | ± 2 |
| Safety Temp. () | 50~500 adjustable |
| Stirring Speed Range (rpm) | 100~1200 |
| Heating Capacity (W) | 800 |
| Max. Capacity (L) H ₂ O | 20 |
| Top Plate Material | Ceramic Glass |
| Top Plate Dimensions (mm) | Ø135 |
| Dimensions (mm) | 225x215x115 |
| High Temperature Protection(T) | 50 (Factory set value 50 ,10-50 adjustable) |
| Timer (min) | 1 - 1999 / continuous |
| PID Parameters | 2 set of PID |
| Communication | USB (COM) |
| Interface | USB |
| Order No. | 400501 |



LCD Digital Display / Knob Control

Infrared Hot Plates / Stirrers Attractive design for demanding heating & mixing

WH260-H / WH260-R

- > Advanced microprocessor controlling system guarantees the reliability and temperature stability.
- > Bright and clear LCD digital display and setting for the working temperature, stirring speed, working time, and safety temperature.
- > Memory function for stirring speed and setting temperature, convenient for experiments with fixed conditions.
- > Liquid drainage above the control board to prevent liquids from accessing the touching board and the electronics.
- > Direct connection for Pt100 temperature sensor for convenient solution temperature control.
- > Sealed outer shell and isolated critical parts design for enhanced longevity even in a harsh laboratory environment.
- > New enhanced infrared heating element, is a type of high temperature hot plate stirrer with very high heating density, can reach a high media temperature.
- > High safety protection: When exceeding the safety range of the hotplate (10-50 adjustable), the heating can be shut off immediately and automatically for the safety protection.
- > 3 sets of PID parameters, suitable for accurate control of small amount sample (small volume or specific heat), and quick heating and stable temperature of large volume sample.

Strong. Robust.

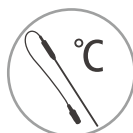


Our new laboratory hot plate stirrers will fulfill all the high demands you place on it every day!

The laboratory stirrer WH260 is extremely well suited for gentle to intensive mixing of liquids and at the same time it can quickly heat the liquids or simply keep them at a steady temperature.



LCD display
Simultaneously displaying various parameters, memory of the last working parameters.



Standard PT100 temperature sensor
Accurate solution temperature with in ± 2 in general range.



ceramic glass top plate
Great anti-corrosive ability to acid, base, or organic solvents.



Liquid drainage above the control board
Avoid the solution splashing on the touch board.



Safety protection
Flashing high temperature indicator, warning for hurt by touch.



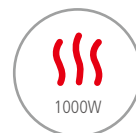
The large LCD display is used to show and control all functions.



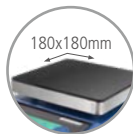
3 sets of PID
Suitable for different application, for accurate control of small amount samples to quick heating and stable temperature of large volume sample..



Ceramic Glass by Schott combines chemical resistance, top quality surfaces and resistance to temperature shocks of greater than 700 .



Heating power
WH260-H with 1000w power, rapid heating speed.



WH260-H
Plate dimension: 180x180mm



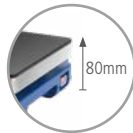
Safety Temperature
is an adjustable temperature safety circuit that prevents from exceeding a specified set temperature. The safety temperature can be adjusted by using a special tool included in the product delivery



WH260-R
Plate dimension: Ø135cm
Suitable for Parallel application



Overheating protection
Should the internal temperature of the exceed the permissible temperature that would damage the internal electronic components, the heating power is reduced automatically.



Height: Only 80mm



Set temperature
can be adjusted easily. It is used to safely heat the medium until the set temperature is reached



The casing is resistant to corrosion, stable and hermetically sealed from above and so guarantees long and problem free use.



USB interface
Enable connecting the unit to a PC for operating



Easy to operate thanks to rotating knobs control panel.

But perhaps you do need a specialist?

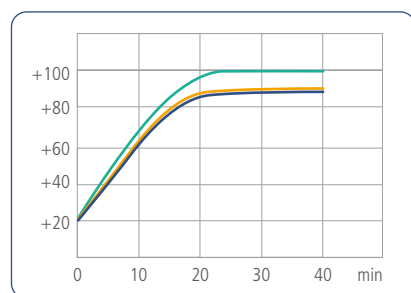
For example a laboratory hotplate with temperature control or simply a hotplate or a laboratory hotplate with stirring function in parallel. We have it all for you.

The laboratory hotplate WH260 series can be used to mix liquids gently to intensively and if required they can also be heated quickly or at controlled temperatures.

The heating capacity of WH260-H and WH260-R

WH260-H and WH260-R have three sets of PID parameters selectable from the menu, PID1 suitable for accurate control of small amount sample (small volume or specific heat), and PID3 is suitable for quick heating and stable temperature of large volume sample.

WH260-H Heating curve



- 150ml, Silicon oil-PID1
- 300ml, H₂O-PID2
- 500ml, H₂O-PID3

Note: Above data is based on the 220V/50Hz instrument with pure water (H₂O) and simethicone (Silicon Oil).

Specifications

| Model | WH260-H | WH260-R |
|---|-----------------------------------|-----------------------------------|
| Display Mode / Control type | LCD Digital Display /Knob Control | LCD Digital Display /Knob Control |
| Max. Set Temperature (top plate) (°C) | 450 | 450 |
| Max. Set Temperature (with Pt100 sensor)(°C) | 300 | 300 |
| Temperature Stability (with Pt100 sensor)(°C) | ±2 | ±2 |
| Safety Temp. (°C) | 50-500 adjustable | 50-500 adjustable |
| Stirring Speed Range (rpm) | 100~1500 | 100~1500 |
| Heating Capacity (W) | 900 | 800 |
| Motor | DC brushless motor, 12W | DC brushless motor, 12W |
| Max. Capacity (L)H ₂ O | 20 | 20 |
| Top Plate Dimensions(mm) | 180x180 | Ø135 |
| High Temperature Protection(°C) | 10-50 adjustable | 10-50 adjustable |
| Timer (min) | 1 - 1999 / continuous | 1 - 1999 / continuous |
| Top Plate Material | Ceramic glass | Ceramic glass |
| PID Parameters | 3 sets | 3 sets |
| Communication | USB(COM) | USB(COM) |
| Interface | USB | USB |
| Order No. | 400601 | 400602 |



For stirrer bars,
please reference
Page 73



Soft Dry Bath -one for all shapes of vessels

Heating in reflux, distillation and rectification, Oil free heating, completely new experience

WIGGENS launched one for all shapes of vessels Soft Dry Bath which can be easily mounted on the top of 135mm round hotplate top.

- > The high quality soft dry bath developed and produced by Wiggins have uniform heat transfer and fast heat conduction, which is very suitable for replacing the small oil bath commonly used in the laboratory dry bath module, electric heating sleeve and other heating methods.
- > Aluminum bottom of the bath, it helps to transfer the heat to alloy particles very fast. Surrounded by PTFE material, for insulation and anticorrosion
- > With infrared heating (IR) technology and ACC self-tuning temperature control technology of Wiggins, it can achieve faster heating effect and better temperature stability.

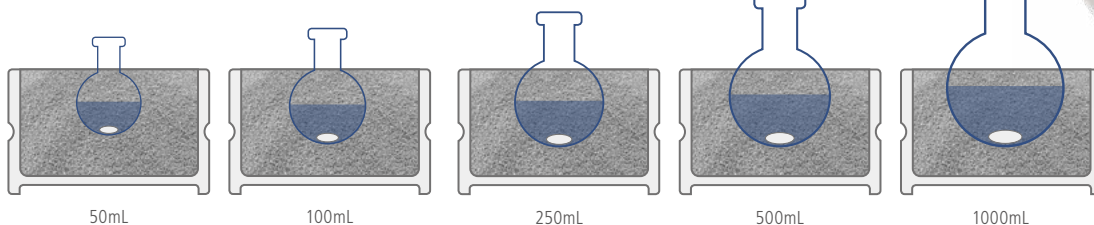
- Suitable for any shape of container
- Replacement of Silicon oil
- Replacement of thermostat module
- High temperature
- Safety
- New experience
- No cleaning required.
- Energy conservation and environmental protection
- The exclusive technology



One For All



Suitable for any shape of container



Suitable for different volume of containers

Order information

| Order No. | Model | Description |
|-----------|--------------------------|---|
| SDB-1 | Dry bath tank and jacket | The dry bath tank and PTFE insulation jacket internal diameter: 140mm |
| SDB-2 | Alloy seeds | The alloy seeds, 2kg |

* For digital hot plate / stirrers (WH240-R or WH260-R), you need to order separately.



For stirrer bars,
please reference
Page 73

Parallel Reaction Station

6 and 12 positions are optional

The 6 Parallel Reaction Station simultaneously heats, stirs and refluxes multiple samples under an inert atmosphere. Accepts round bottom flasks: 50 ml, 100 ml and 250 ml sizes.

Features

- Powerful, even stirring - fits onto a Stirring Hotplate.
- Rapid heating to 180 °C.
- Quick to set up and easy to use.
- Water-cooled reflux head.
- Perform reactions under an inert atmosphere.
- Easy viewing of flask contents during experiments.
- 100 ml and 250 ml azeotropic (Dean and Stark) flask option.
- PTFE caps feature a quick-thread for fast attachment to flasks.



Aluminium inserts for 50 ml and 100 ml flasks



50 ml Reaction Flask
Reflux Tube & PTFE Cap



50 ml Flask with Sidearm
Reflux Tube & PTFE Cap



100 ml Reaction Flask
Reflux Tube & PTFE Cap



A wide range of accessories including liquid additions funnels, powder funnels and rotary evaporator adapters

For more information about parallel reaction station, please contact WIGGENS (info@wiggens.com)

Infrared Hot Plates / Stirrers

Intelligent heating technology for your very demanding applications

WH380

The first address for laboratory instruments

In addition to fast or temperature controlled heating, a lot of applications also require liquids to be stirred. Using our laboratory stirrer WH380 with heating, the process of mixing liquids can be selected from careful to intense, and the device can also be used for speedy heating up or controlled temperature adaptation.



Attractive designs for heating, stirring and controlling



Safe Heating and Mixing

Have you ever heard of hotplates with fast heat-up times and chemical resistance?

Chemical resistance, a high surface quality, and a resistance to temperature shocks of more than 700 provide the user with maximum benefits compared to conventional heating surface materials. The always pore-free and plane surface enables even most stubborn dirt to be removed simply and in a caring manner. The high infra-red permeability ensures that the heating energy is transferred quickly and with a low loss rate, i.e. it heats liquids faster than other heating surface materials, and thus saves energy.

Quality and safety

- > As a matter of course, our laboratory hotplates and laboratory stirrers are developed and produced according to high international quality standards.
- > A residual-heat display protects the user from the hazard of injuries (burning). Over-heating is excluded by the built-in over-temperature protection.
- > The corrosion-resistant, solid, casing with a hermetically sealed, non-inflammable top made of duroplastic in the case of the laboratory hotplates and of coated die-cast aluminium in the case of the laboratory stirrer ensure a long and trouble-free use of the devices.
- > The stand rod holder on the back panel of the device can be used to connect accessories such as a temperature sensor conveniently and securely.

Our new laboratory stirrer will fulfill all the high demands you place on it every day!

The laboratory stirrer WH380 is extremely well suited for gentle to intensive mixing of liquids and at the same time it can quickly heat the liquids or simply keep them at a steady temperature.

Touch controller with intuitive control

The newly designed touch controller has modern sensor keys with a separate display field. Thus you can always keep track and the display field keeps clean. The newly developed menu structure has been optimized by usability experts and offers simple and intuitive operation.

User friendly design

Since the device is controlled using infrared touchcontrol technology, the design of the hotplates excels by the absence of exposed controls, space-restricting frames, or dirt-attracting corners. These design features contribute to a considerable minimisation of the efforts required for cleaning and servicing the devices on a daily basis.

Using our new WH380 stirrer with heating, the process of mixing liquids can be selected from careful to intense, and the device can also be used for speedy heating up or controlled temperature adaptation.



Standard PT100 temperature sensor

Accurate solution temperature within ± 2 in general range.



Ceramic Glass by Schott combines chemical resistance, top quality surfaces and resistance to temperature shocks of greater than 700 .



ceramic glass top plate

Great anti-corrosive ability to acid, base, or organic solvents.



Heating power

WH380 with 1200w power, rapid heating speed.



Safety protection

Flashing high temperature indicator, warning for hurt by touch.



The casing is resistant to corrosion, stable and hermetically sealed from above and so guarantees long and problem free use.



Touch controller

with comfortable and easy operation



Heating zone: Ø190

Stirring, heating and controlling using the WH380

- > Corrosion-resistant Ceramic Glass 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
- > Fast heating and excellent temperature stability
- > External control by the connection of a Pt100 temperature sensor
- > A high-temperature indicator warns the user and prevents burning injuries
- > Compressed air connector optionally available for the use in aggressive environments

The laboratory hotplate WH380 can be used to mix liquids gently to intensively and if required they can also be heated quickly or at controlled temperatures.



Specifications

| | |
|--|---|
| Model | WH380 |
| Display Mode | LED |
| Heating Capacity (kW) | 1.2 |
| Max. Set Temperature (top plate) (°C) | 550 |
| Max. Set Temperature (with Pt100 sensor) (°C) | 40-300 |
| Temperature Stability (with Pt100 sensor) (°C) | ± 2 |
| Min. Time to Boiling Point for 1L H ₂ O (min) | 10(1L H ₂ O) |
| Stirring Speed Range (rpm) | 100~1200 |
| Setting accuracy (rpm) | 10 |
| Digital set/actual rpm display | yes |
| Top Plate Area (W x L in mm) | 280*280 |
| Heating Zone (mm) | Ø190 |
| Mixing Capacity (L) H ₂ O | 30 |
| Top Plate Material | Ceramic Glass |
| Housing material | Die-cast, coated with anti-corrosion material |
| Environmental conditions | -5 ~ +40 °C; Admissible air humidity 85% |
| Protection type / protection class | IP20, Level 1 |
| Temperature sensor connector | Pt100 |
| Interface | RS-232 |
| Dimensions (L x W x H in mm) | 450X282X115 |
| max. load (kg) | 25 |
| Weight (kg) | 4.1 |
| Mains connection | 230V/50Hz |
| Order No. | 400801 |



For stirrer bars,
please reference
Page 73

Infrared Hot Plates / Stirrers

SLR

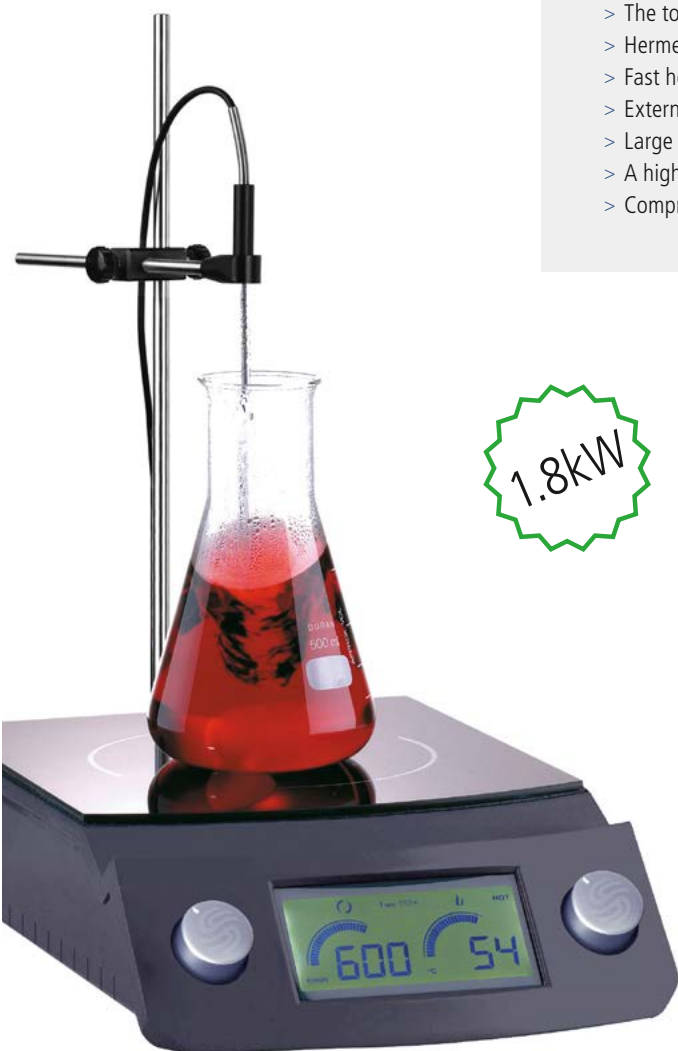
Intelligent heating technology for your very demanding applications

Stirring, heating and controlling using the SLR

In addition to fast or temperature controlled heating, a lot of applications also require liquids to be stirred. Using our laboratory stirrer SLR with heating, the process of mixing liquids can be selected from careful to intense, and the device can also be used for speedy heating up or controlled temperature adaptation.

Features

- > Corrosion-resistant ceramic glass 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
- > Fast heating and excellent temperature stability
- > External control by the connection of a Pt100 temperature sensor
- > Large LCD display for setting and monitoring of 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

CE

| Model | SLR |
|--|---|
| Display Mode | LCD |
| Heating Capacity (kW) | 1.8 |
| Max. Set Temperature (top plate) (°C) | 550 |
| Max. Set Temperature (with Pt100 sensor) (°C) | 40-300 |
| Temperature Stability (with Pt100 sensor) (°C) | ± 2 |
| Min. Time to Boiling Point for 1L H ₂ O (min) | 7 (1L H ₂ O) |
| Stirring Speed Range (rpm) | 50~1500 |
| Setting accuracy (rpm) | 10 |
| Digital set/actual rpm display | yes |
| Top Plate Area (W x L in mm) | 280*280 |
| Heating Zone (mm) | Ø190 |
| Mixing Capacity (L) H ₂ O | 30 |
| Top Plate Material | Ceramic Glass |
| Housing material | Die-cast, coated with anti-corrosion material |
| Environmental conditions | -5 ~ +40 °C ; Admissible air humidity 85% |
| Protection type / protection class | IP20, Level 1 |
| Temperature sensor connector | Pt100 |
| Interface | RS-232 |
| Dimensions (L x W x H in mm) | 450X282X115 |
| max. load (kg) | 25 |
| Weight (kg) | 4.1 |
| Mains connection | 230V/50Hz |
| Order No. | 285416373 |

Thermometer

The Handheld High-Precision Digital Thermometer which features high precision, high stability, low power consumption, multiple input types, multiple measurement results, easy operation, etc., can be widely used for handheld precise temperature measurement in production, scientific research and labs.

PR5500 Thermometer

- > They have wide Input types, such as Pt100, K, S, E, T, J, R, B and N. There are three compensation modes for thermocouples, including internal compensation, external compensation and manual (simulated) compensation.
- > In addition to basic measurement values, the relative value, maximum value, minimum value, average value, peak-peak value, standard deviation and sampling number can also be measured at the same time.
- > The thermometer adopts 6-digit display and the resolution can be switched to 0.1 or 1.
- > For thermal resistances and thermocouples, the display units are switchable among $^{\circ}\text{C}$, $^{\circ}\text{F}$ and K.

PR5600 Thermometer

- > They have wide Input types such as Pt100, Pt1000, Cu50, Cu100, K, S, E, T, J, R, B, N, as well as Ω , mV, and mA signals.
- > There are three compensation modes for thermocouples, including internal compensation, external compensation and manual(simulated) compensation.
- > In addition to basic measurement values, the relative value, maximum value, minimum value, average value, peak-peak value, standard deviation and sampling number can also be measured at the same time.
- > The thermometer adopts 6-digit display and the resolution can be set. The highest resolution is 0.001 (RTD :Resistance Temperature Detector) or 0.01 (K/E/J/T/N thermocouple).
- > For thermal resistances and thermocouples, the four display units are switchable among Ω or mV, $^{\circ}\text{C}$, $^{\circ}\text{F}$ and K.



| Order No. | Working temperature range | Sensor type |
|-----------|---------------------------|-------------|
| PR5500 | -50.0~+400.0 | Pt 100 |
| | -50.0~+500.0 | K |
| PR5600 | -50.0~+400.0 | Pt 100 |
| | -50.0~+500.0 | K |

Accessories for Hot Plate / Stirrers

Temperature sensor

| Order No. | Model | Description |
|-----------|---------------------|---|
| PT100-01 | PT100 | Type I; -30~300 ;Length: 170 mm; Diameter: 4 mm; Material: Stainless steel; |
| PT100-02 | PT100 | Type II; -30~300 ; Length: 300 mm; Material: Stainless steel, Fig |
| PT100-03 | PT100 | Type III; -30~250 ; Length: 170 mm; Material: Stainless steel, PTFE coated, Fig |
| PT100-04 | PT100 | Type IV; -30~250 ;Length: 300 mm; Material: Stainless steel, PTFE coated |
| PT100-06 | PT100 | Type VI; -30~300 ; Length: 250 mm; Diameter: 4 mm; Material: Glass; Fig |
| 600.170.1 | K type thermocouple | 0-500 ; Length: 170 mm; Diameter: 4 mm; Material: Stainless steel; |

Holder for temperature sensor

| Order No. | Model | Description |
|-----------|---|--------------------------|
| PT100-05 | Holder and clamp for PT100 temperature sensor | Fixed temperature sensor |
| | PT100-05: | |
| WH220017 | Installation stand | M8x10x400mm |
| WH220026 | Boss head clamp | Aluminum |
| WH220027 | Sensor holder | POM |
| WH220095 | Holding rod | M8x8x200mm |
| WH220096 | Clamp screws | M6x22x15mm |

Protective cover

| Order No. | Description | Suitable for |
|-----------|---------------------------------------|--------------------|
| 400-001 | Silicone material, top square opening | WH220-HT, WH240-HT |
| 400-002 | Silicone material, top round open | WH240-R |

Heating jacket

The heating jacket use for matching with WIGGENS magnetic stirrer with heating or heating plate. The heating jacket improves heat transfer into the medium. It can cut down the heating time considerable.

| Order No. | Model | Description |
|-----------|--------|--|
| HG1001 | HG600 | Heating jacket for for 600 ml beaker, Dimensions: \varnothing 111 x 50 mm, Inner diameter: 91 mm |
| HG1002 | HG1000 | Heating jacket for for 1000 ml beaker, Dimensions: \varnothing 126 x 50 mm, Inner diameter: 106 mm |



Clamps for oil bath

fast and easy to fix the big volume flask. It's adjustable according to the size of the container

| Order No. | Maximum length of extension (mm) | maximum container diameter |
|-----------|----------------------------------|----------------------------|
| WA00-56 | 160 | 160mm |
| WA00-56A | 160 | 280mm |

Glass oil bath

| Order No. | Model | Description |
|-----------|---------------|---|
| | with spout | |
| 213115407 | G1000 | Oil bath, Glass, 900mL, inner Ø 140 mm, 75 mm height (SCHOTT) |
| 213115904 | G2000 | Oil bath, Glass, 2L, inner Ø 190 mm, 90 mm height (SCHOTT) |
| 213116309 | G3500 | Oil bath, Glass, 3.5L, inner Ø 230 mm, 100 mm height (SCHOTT) |
| | without spout | |
| 213135409 | G1000-S | Oil bath, Glass, 900mL, inner Ø 140 mm, 75 mm height (SCHOTT) |
| 213135906 | G2000-S | Oil bath, Glass, 2L, inner Ø 190 mm, 90 mm height (SCHOTT) |
| 213136302 | G3500-S | Oil bath, Glass, 3.5L, inner Ø 230 mm, 100 mm height (SCHOTT) |



Stainless steel oil bath

- > No eddy current losses
- > High magnetic adhesion force
- > Very good heat transfer (3 L beaker and up: due to a round deepening area for fitting heating plates with Ø 135 mm)

| Order No. | Model | Description |
|-----------|-------|---|
| H220001 | H1500 | Beaker, stainless steel, 1.5 l, inner Ø 160 mm, 90 mm height |
| H220002 | H2000 | Beaker, stainless steel, 2.0 l, inner Ø 160 mm, 120 mm height |
| H220003 | H3000 | Beaker, stainless steel, 3 l, inner Ø 200 mm, 110 mm height |
| H220004 | H5000 | Beaker, stainless steel, 5 l, inner Ø 240 mm, 115 mm height |
| H220005 | H8000 | Beaker, stainless steel, 8 l, inner Ø 260 mm, 150 mm height |



Cylindrical heating block

| Order No. | Description | For |
|------------|--|------------------|
| 13696-01W | Stainless T-shape handle, length: 20cm | |
| 13696-02W | Stainless T-shape handle, length: 30cm | |
| 13697-01W | 28 x 30 (ID x H in mm) 11 Holes | WH240-R, WH260-R |
| 13697-02W | 28 x 50 (ID x H in mm) 11 Holes | WH240-R, WH260-R |
| 13697-03W | 26 x 30 (ID x H in mm) 11 Holes | WH240-R, WH260-R |
| 13697-04W | 28 x 30 (ID x H in mm) 11 Holes | WH240-R, WH260-R |
| 13697-11W | 28 x 30 (ID x H in mm) 15 Holes | WH240-R, WH260-R |
| 13697-12W | 28 x 50 (ID x H in mm) 15 Holes | WH240-R, WH260-R |
| 13697-13W | 26 x 30 (ID x H in mm) 15 Holes | WH240-R, WH260-R |
| 13697-14W | 26 x 50 (ID x H in mm) 15 Holes | WH240-R, WH260-R |
| 13699-04W | 60.3mm Diameter, 4 holes | WH240-R, WH260-R |
| 13699-03F | 69 mm Diameter, 3 Holes | WH240-R, WH260-R |
| 13699-05W | 48.5 mm Diameter, 5 Holes | WH240-R, WH260-R |
| 13699-150 | 62.2mm Diameter, 4 Holes | WH240-R, WH260-R |
| 13699-01W | 100mL Beakers, 3 Holes | WH240-R, WH260-R |
| 13699-02W | 62.2 mm Diameter, 3 Holes | WH240-R, WH260-R |
| 13707-250 | 250mL Beakers Form | WH240-R, WH260-R |
| 13707-500 | 500mL Beakers Form | WH240-R, WH260-R |
| 13707-1000 | 1000mL Beakers Form | WH240-R, WH260-R |
| 13707-2000 | 2000mL Beakers Form | WH240-R, WH260-R |



Magnetic Stirrers

- > 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 150 and 1500 rpm
- > Individual control for each plate



For stirrer bars,
please reference
Page 73

Best-
seller!



Specifications

| Model | WH-210D | WH-410D | WH-610D |
|--------------------------------|----------------|-----------------|-----------------|
| Display Mode | LED | LED | LED |
| Speed Range (rpm) | 150 ~ 1500 | 150 ~ 1500 | 150 ~ 1500 |
| Number of Plates | 1 | 4 | 6 |
| Mixing Capacity (ml) | 50 ~ 3000 | 50 ~ 2000 | 50 ~ 2000 |
| Plate Dimensions (W × L) | 158 × 143 | (151 × 156) × 4 | (151 × 156) × 6 |
| Overall Dimensions (W × L × H) | 189 × 215 × 48 | 344 × 377 × 48 | 504 × 377 × 48 |
| Order No. | 400214 | 400215 | 400216 |



Corrosion resistant mat for Magnetic Stirrer

- > Corrosion resistant and protect the surface of magnetic stirrer
- > The surface is non-slippery, with adhesive layer on the back, which is easy to fix.
- > Repeatedly for use and can be replaced

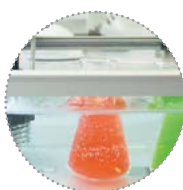
| Order No. | 400214-PTFE | 400215-PTFE | 400216-PTFE |
|---------------------|-------------|-------------|-------------|
| Suitable for | WH-210D | WH-410D | WH-610D |
| Material | PTFE | PTFE | PTFE |
| Thickness | 0.18mm | 0.18mm | 0.18mm |
| Attachment strength | 25N/100mm | 25N/100mm | 25N/100mm |
| Tensile strength | 400/100mm | 400/100mm | 400/100mm |
| Temperature range | 70~260 | 70~260 | 70~260 |
| Size | 158mmx170mm | 317mmx325mm | 317mmx485mm |



Submersible Magnetic Stirrers

Fully encapsulated and hermetically sealed PP housing, and suitable for the use in incubators and ovens. Water-, dust-, and germ proof. Submersible in water.

| Order No. | S-1 | B-1 |
|--------------------------------|---|------------|
| Speed (rpm) | 100 ~ 1500 | 100 ~ 1500 |
| Temp. Range() | 0 ~ +60 | 0 ~ +60 |
| Housing material | PP | PP |
| Mixing capacity (mL) | 10 ~ 1000 | 50 ~ 3000 |
| Plate Dimension(mm) | 70X70X28 | 155X155X45 |
| Connection Cable to Controller | 1m | 1m |
| Accessories | Connection adapter to fix the stirrer as one multi-position stirrer | |
| | S-1-01 | B-1-01 |



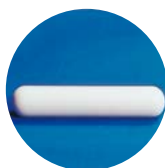
Controller for submersible magnetic stirrers

| Order No. | CS-1 | CB-1 | CS-4 | CB-4 |
|--|-------------------------|------|--------------------------------|------|
| Speed Control | Scale | | | |
| Dimension (mm) | 95X158X56 | | | |
| Stirring Drive | S-1 | B-1 | S-1 | B-1 |
| Number of stirring drive cable connected | 4 | 4 | 4 | 4 |
| Speed controlling mode | same speed for 4 drives | | 4 different specs for 4 drives | |



Cylindrical Stirrer Bars

Cylindrical Stirrer Bars have a smooth round profile.
A popular general purpose stirrer for a wide variety of applications.



Glass Covered Stirrer Bars

For use with very abrasive media which may erode PTFE



Plain Stirrer Bars

Plain Stirrer Bars have a similar action to cylindrical but give more turbulence at low speed.



Octahedral Stirrer Bars

Octahedral Stirrer Bars use a similar action to Pivot Ring type but with increased turbulence at low speeds.



Oval Stirrer Bars

Oval Stirrer Bars are for use in round bottomed flasks.



Cross Stirrer Bars

Cross Stirrer Bars are very stable general purpose stirrers.



Double Ended Stirrer Bars

Double Ended Stirrer Bars have a double paddle action for efficient stirring plus high stability.



Tube Stirrer Bars

Tube Stirrer Bars are designed for use with 10mm standard cuvettes.



Colored Octahedral Stirrer Bars

Colored Octahedral Stirrer Bars are for use where identification is of prime importance.



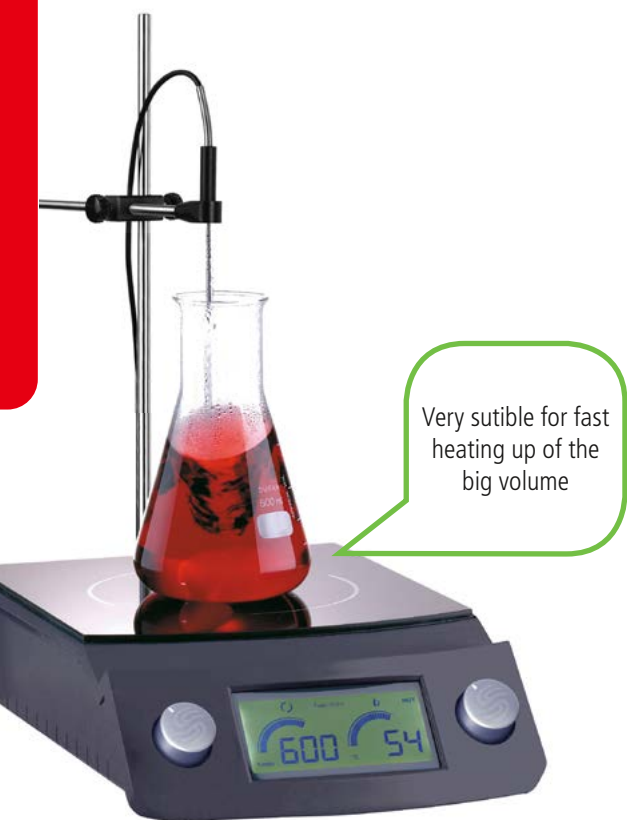
Micro Stirrer Bars

Micro Stirrer Bars are for the very smallest containers.
Note: Always use the largest stirrer bar possible.



Stirrer Bars

| Order No. | Name | Description |
|--------------|-----------------------------|-------------------------------|
| 1.110.6 | Cylindrical Stir Bar | Length: 10mm, Diameter: 6mm |
| 1.115.6 | Cylindrical Stir Bar | Length: 15mm, Diameter: 6mm |
| 1.120.7 | Cylindrical Stir Bar | Length: 20mm, Diameter: 7mm |
| 1.120.8 | Cylindrical Stir Bar | Length: 20mm, Diameter: 8mm |
| 1.125.8 | Cylindrical Stir Bar | Length: 25mm, Diameter: 8mm |
| 1.130.8 | Cylindrical Stir Bar | Length: 30mm, Diameter: 8mm |
| 1.140 | Cylindrical Stir Bar | Length: 40mm, Diameter: 8mm |
| 1.145 | Cylindrical Stir Bar | Length: 45mm, Diameter: 8mm |
| 1.150 | Cylindrical Stir Bar | Length: 50mm, Diameter: 8mm |
| 1.180 | Cylindrical Stir Bar | Length: 80mm, Diameter: 10mm |
| 1.1212 | Glass Covered Stir Bar | Length: 12mm, Diameter: 5mm |
| 1.1225 | Glass Covered Stir Bar | Length: 25mm, Diameter: 6mm |
| 1.1245 | Glass Covered Stir Bar | Length: 45mm, Diameter: 8mm |
| 1.1260 | Glass Covered Stir Bar | Length: 60mm, Diameter: 8mm |
| 1.215.6 | Plain Stir Bar | Length: 15mm, Diameter: 6mm |
| 1.220.7 | Plain Stir Bar | Length: 20mm, Diameter: 7mm |
| 1.230.7 | Plain Stir Bar | Length: 30mm, Diameter: 7mm |
| 1.240 | Plain Stir Bar | Length: 40mm, Diameter: 8mm |
| 1.250 | Plain Stir Bar | Length: 50mm, Diameter: 8mm |
| 1.260 | Plain Stir Bar | Length: 60mm, Diameter: 10mm |
| 1.270 | Plain Stir Bar | Length: 70mm, Diameter: 10mm |
| 1.280 | Plain Stir Bar | Length: 80mm, Diameter: 10mm |
| 1.515 | Octahedral Stir Bar | Length: 15mm, Diameter: 8mm |
| 1.525 | Octahedral Stir Bar | Length: 25mm, Diameter: 8mm |
| 1.538.10 | Octahedral Stir Bar | Length: 38mm, Diameter: 10mm |
| 1.551.10 | Octahedral Stir Bar | Length: 51mm, Diameter: 10mm |
| 1.575.10 | Octahedral Stir Bar | Length: 75mm, Diameter: 13mm |
| 1.620 | Oval Stir Bar | Length: 20mm, Diameter: 10mm |
| 1.625.10 | Oval Stir Bar | Length: 25mm, Diameter: 10mm |
| 1.630 | Oval Stir Bar | Length: 30mm, Diameter: 16mm |
| 1.635 | Oval Stir Bar | Length: 35mm, Diameter: 16mm |
| 1.640 | Oval Stir Bar | Length: 40mm, Diameter: 20mm |
| 1.650.17 | Oval Stir Bar | Length: 50mm, Diameter: 17mm |
| 1.650 | Oval Stir Bar | Length: 50mm, Diameter: 20mm |
| 1.2402 | Cross-Shaped Stir Bar | Length: 20mm, Diameter: 8mm |
| 1.2405 | Cross-Shaped Stir Bar | Length: 38mm, Diameter: 11mm |
| 1.2407 | Cross-Shaped Stir Bar | Length: 60mm, Diameter: 20mm |
| 1.1335 | Double Ended Stir Bar | Length: 35mm, Diameter: 8mm |
| 1.1355 | Double Ended Stir Bar | Length: 55mm, Diameter: 8mm |
| 1.1335-R/B/Y | Double Ended Stir Bar | Length: 35mm, Diameter: 8mm |
| 1.1355-R/B/Y | Double Ended Stir Bar | Length: 55mm, Diameter: 8mm |
| 1.420 | Triangular Stir Bar | Length: 20mm, Diameter: 8mm |
| 1.440 | Triangular Stir Bar | Length: 40mm, Diameter: 14mm |
| 1.450 | Triangular Stir Bar | Length: 50mm, Diameter: 12mm |
| 1.480 | Triangular Stir Bar | Length: 80mm, Diameter: 14mm |
| 1.4136 | Triangular Stir Bar | Length: 136mm, Diameter: 36mm |
| 1.1609 | Tube Stir Bar | Length: 6mm, Diameter: 9mm |
| 1.515-R,B/Y | Colored Octahedral Stir Bar | Length: 15mm, Diameter: 8mm |
| 1.525-R,B/Y | Colored Octahedral Stir Bar | Length: 25mm, Diameter: 8mm |
| 1.538-R,B/Y | Colored Octahedral Stir Bar | Length: 38mm, Diameter: 8mm |
| 1.551-R,B/Y | Colored Octahedral Stir Bar | Length: 51mm, Diameter: 8mm |
| 1.575-R,B/Y | Colored Octahedral Stir Bar | Length: 75mm, Diameter: 13mm |
| 1.802 | Micro Stir Bar | Length: 2mm, Diameter: 2mm |
| 1.806 | Micro Stir Bar | Length: 6mm, Diameter: 3mm |
| 1.808 | Micro Stir Bar | Length: 8mm, Diameter: 1.5mm |
| 1.813 | Micro Stir Bar | Length: 13mm, Diameter: 3mm |



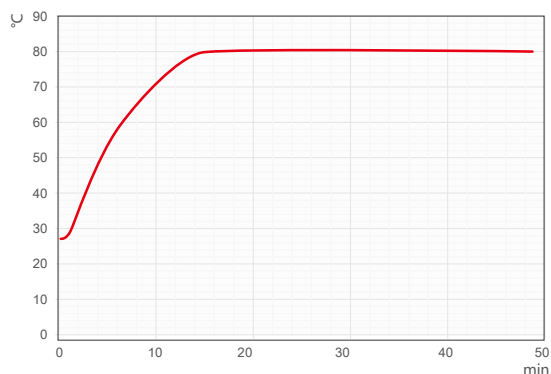
The laboratory hotplate SLK series
Optimized for all-round use

The first address for laboratory hotplates

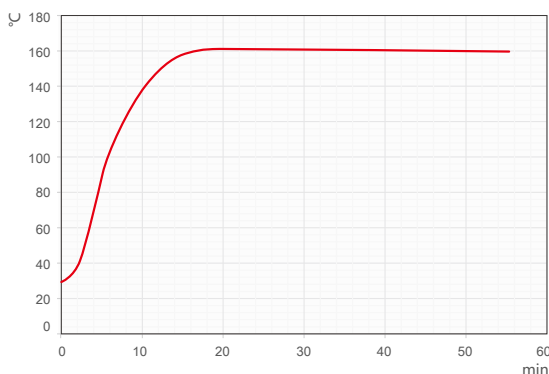
Infrared Hot Plates

- > Smooth and corrosion resistant Ceramic Glass top plate
- > Excellent transmittance of the infrared light
- > Material can resist a thermal shock of up to 700
- > Corrosion-resistant, solid casing which is hermetically sealed
- > 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
- > 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 data for SLK2-T is based on heating up 1 liter water to a target temperature of 80 °C with external temperature sensor.



The data for SLK2-T is based on heating up 1 liter Silicone oil to a target temperature of 160 °C with external temperature sensor.



Note: Above data is based on the 220V/50Hz instrument with pure water (H₂O) and simethicone (Silicon Oil).

Specifications

| Model | SLK1 | SLK2 | SLK2-T |
|--|-----------------|------------------------------|------------------------------|
| Display Mode | LCD | LCD | LCD |
| Heating power (kW) | 1.2 | 1.8 (1.5 for 110V equipment) | 1.8 (1.5 for 110V equipment) |
| Max. Set Temperature (top plate) (°C) | 550 | 550 | 550 |
| Min. Time to Boiling Point for 1L H ₂ O (min) | 10 | 7 | 7 |
| Top Plate Area (W x L in mm) | 285 x 285 | 285 x 285 | 285 x 285 |
| Heating Zone (mm) | Ø 155 | Ø 190 | Ø 190 |
| Temperature Sensor Connector | - | - | Available |
| Top Plate Material | Ceramic Glass | Ceramic Glass | Ceramic Glass |
| 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. | 285416616 | 285416324 | 285416398 |

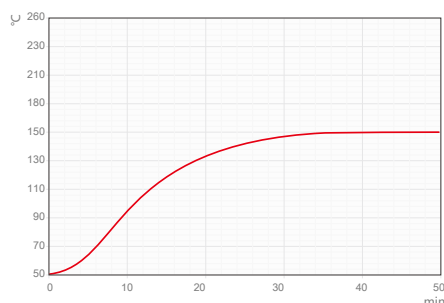


Digital Hot Plates

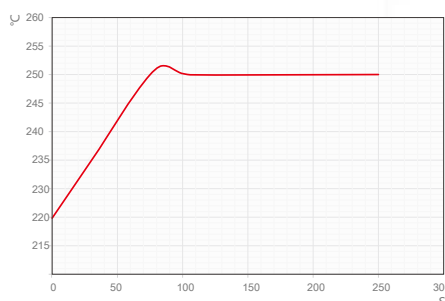
- > PID temperature control technology for accurate and reliable results
- > Suitable for complicated temperature control requirements
- > Bright LED screen can display both set value and actual temperature
- > Convenient temperature setting via on-touch control
- > Timer function for automatic heating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



The data for H200D-2K heating up the high-temperature oil from 50 to 150 (with external temperature sensor)



The surface temperature stability data for WH200D-2K (250 °C)



Note: Above data is based on the 220V/50Hz instrument with pure water (H₂O) and simethicone (Silicon Oil).

Specifications



| Order No. | WH200D-1K | WH200D-2K | WH200D-3K |
|--|------------------------------|------------------------------|------------------------------|
| Display Mode | LED | LED | LED |
| Temperature Stability (°C) | ± 2 | ± 2 | ± 2 |
| Hot plate material | Aluminum coated with ceramic | Aluminum coated with ceramic | Aluminum coated with ceramic |
| Set Temperature Range (top plate) (°C) | 50~300 | 50~300 | 50~300 |
| Set Temperature Range (with Pt100 sensor) (°C) | 40~300 | 40~300 | 40~300 |
| Power (W) | 680 | 1000 | 1500 |
| Dimensions (W x L in mm) | 170X170 | 320X320 | 400X300 |
| Outer Dimensions (W x L x H mm) | 240X280X70 | 320X360X70 | 470X410X70 |
| Order No. | 400110 | 400111 | 400112 |

Accessories

PT100 Temperature sensor

| Order No. | Model | Description |
|-----------|-------|--|
| PT100-01 | PT100 | Type I, -30~300 °C; Length: 170 mm; Diameter: 4 mm; Material: Stainless steel; Fig |
| PT100-02 | PT100 | Type II, -30~300 °C; Length: 300 mm; Material: Stainless steel, Fig |
| PT100-03 | PT100 | Type III, -30~250 °C; Length: 170 mm; Material: Stainless steel, PTFE coated, Fig |
| PT100-04 | PT100 | Type IV, -30~250 °C; Length: 300 mm; Material: Stainless steel, PTFE coated |
| PT100-06 | PT100 | Type VI, -30~300 °C; Length: 250 mm; Diameter: 4 mm; Material: Glass, Fig |

Holder for Temperature Sensor

| Order No. | Model | Description |
|-----------|---|--------------------------|
| PT100-05 | Holder and clamp for PT100 temperature sensor | Fixed temperature sensor |
| | PT100-05: | |
| WH220017 | Installation stand | M8x10x400mm |
| WH220026 | Boss head clamp | Aluminum |
| WH220027 | Sensor holder | POM |
| WH220095 | Holding rod | M8x8x200mm |
| WH220096 | Clamp screws | M6x22x15mm |



Multi-Purpose Heater / Dry Bath

Microprocessor control

The built-in unique microprocessor can provide precise temperature control for a variety of biochemical experiments.

Heating chamber in one piece

Heating chamber is made of one-piece aluminum with PTFE coating and can work as a small water bath.

Various optional heating blocks

Various types of heating block are available for option, mass customization is acceptable.

Three types of timer modes

OFF, OFF-TIME, and WAIT-TIME

Certification

CE certification

Applications

- > Molecular biology
- > Biochemistry



Precise temperature control!

- > Rapid heat up rates
- > Exceptional temperature uniformity
- > PT 100 temperature sensor included in the delivery

Best-seller!



CE



Specifications

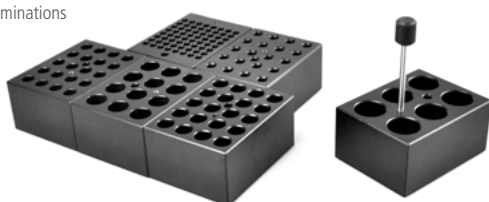
| Model | WD310 | WD320 |
|---|---|----------------|
| Set Temperature Range () | 40-150 (with PT-100 sensor) 50-150 (without PT-100 sensor) | |
| Temperature Stability () | ± 0.1 | ± 0.1 |
| Temperature Accuracy () | ± 0.1 | ± 0.1 |
| Temperature Safety () | Cut off at 170 | Cut off at 170 |
| Setting Time (min) | 1~9959 / OFF | 1~9959 / OFF |
| Block No. | 1 | 2 |
| Display | 4 1/2" LED | 4 1/2" LED |
| Outer Dimensions (W x L x H mm) | 200 x 270 x 80 | 200 x 270 x 80 |
| Heating Block Dimensions (W x L x H mm) | 79 x 104 x 50 | 79 x 104 x 50 |
| Order No. | 179310 | 179320 |

Heating Blocks for WD310 and WD320

| Order No. | Size | Number of Holes | Ø x H (mm) |
|-----------|--------------|-----------------|------------|
| 179300-01 | 0.2mL | 64 | 6x17mm |
| 179300-02 | 0.5mL | 20 | 8x25mm |
| 179300-03 | 1.5mL(or2.0) | 20 | 11x35mm |
| 179300-04 | 10mL | 20 | 10x33mm |
| 179300-05 | 13mL | 20 | 13x36mm |
| 179300-06 | 20mL | 12 | 20x48mm |
| 179300-07 | 25mL | 6 | 25x45mm |
| 179300-10 | 17mL | 12 | 17x44mm |

WIGGENS® dry block heaters are highly versatile suitable for broad range of applications.

- > DNA extractions
- > DNA analysis
- > Melting point determination
- > Nucleic acid hybridization
- > Coagulation studies
- > Biochemical processes
- > Incubation and activation of cultures
- > Blood examinations
- > Fertile ground processing
- > Restriction digest
- > Denaturation
- > Boiling point determination
- > Enzymatic processes
- > Enzyme activity studies
- > Blood-urea-nitrogen determinations
- > Immunoassays
- > Enzyme reactions
- > In situ hybridization



COD Reactor



Features

Compliance with regulations

WD325 COD reactor is used to digest closed micro reflux COD vial and can meet USEPA 410. 4. It is easier and safer than traditional open macro reflux method.

Special COD program

Just press start/stop button, the reactor starts to heat up to 150 °C and keep for 2-hour countdown then shut down automatically with 10-sec audio alarm.

3 additional program settings

Temperature range setting 60 °C - 200 °C and timer from 1 - 999. Built-in 3 additional heating program settings available for users to store and execute as needed.

Auto shut off and audio alarm

WD325 can stop heating then shut off automatically with audio alarm when every program is completed.

Applications

- > Waste water from factories
- > Water quality in lake, pond and river

Specifications



| Model | WD325 |
|-----------------------|--|
| Display | 4 digital LED of set temperature, set time, process temperature, residual time display. |
| Timer | 1~1999 minutes with audible alarm and automatic shutoff or continuous operation |
| Accuracy | ± 2 °C (at 150 °C) |
| Set temperature range | Fixed 150 °C (COD program) 60 °C ~200 °C, adjustable. |
| Housing structure | Stainless steel with powder paint coating |
| Block structure | Anodized aluminum |
| Safety | Hot top indicator (flashing when block temperature is over 70 °C), Automatic shutoff when block temperature is over 240 °C |
| Power | AC110V, 60Hz (AC220V, 50Hz), 220Watt |
| Block capacity | Ø16.5*55mm (25) sample vials, Optional block is available. |
| Outer Dimensions | 189 x 116 x 315 (W x L x H mm) |
| Order No. | 179200-22 |

Heating Mantles Multi-Position Heating mantles

WIGGENS combination mantles have always been the mantles of choice for repetitive extracting, refluxing, and distilling procedures in labs of the food, textile fiber, water and waste-water, petroleum, and many other industries. WIGGENS latest version offers safety and convenience never before available in a multi-place heating mantle.

- > Lower profile for space-saving convenience
- > Revolutionary heating element container system makes replacing burned-out elements a simple task
- > Clear anodized aluminum cabinet with black PTFE resin coated top for chemical resistance.
- > Offered in two space-saving configurations; six-place for 100 - 300 mL flasks and three-place for 500 - 1,000 mL flasks
- > Available in low-temperature (400 RX version) and high-temperature (600 RJ version) for greater versatility
- > The ideal mantle for Kjeldahl, Soxhlet, and other extraction procedures.

Each six-place Combo is furnished with six spring-type glassware clamps, and each three-place unit contains three. The clamps hold glassware from 1 5/8" - 2" in diameter. The clamps attach to one of the horizontal support rod (included). Two Series RL control choices are available percentage timer or proportional voltage. The percentage-timer version pulses full-line voltage to each heating position according to the dial setting. The proportional-voltage version supplies a constant, steady-state voltage to each position. The six-place controls are actually two units that can be mounted together or separately. The cord-connected controls allow placement at a convenient location for the operator.

Power Controls

- > 3 place w/one quick attach open face bracket for 1/2" diameter rod
- > 6 place w/two quick attach open face bracket for 1/2" diameter rod.

Dimensions

3-place: 610 x 286 x 159 (WxDxH mm)

6-place: 743 x 241 x 133 (WxDxH mm)



3-Place heating mantle with digital display controller



6-Place heating mantle with digital display controller

Table A

| Flask Size ml | Maximum Diameter mm | Bottom | Rating Per Position | Mantle Weight kg | Replacement Element Order No. | Order No. |
|---------------------------------------|------------------------|--------|------------------------|---------------------|----------------------------------|-----------|
| Three-Place - low temperature | | | | | | |
| 500 | 103 | Flat | 180W | 9.1 | RX50024E | RX50024 |
| 500 | 101 | Round | 180W | 9.1 | RX50224E | RX50224 |
| 650 | 108 | Round | 200W | 9.1 | RX65024E | RX65024 |
| 800 | 116 | Round | 225W | 9.1 | RX80024E | RX80024 |
| 1000 | 130 | Round | 290W | 9.1 | RX100024E | RX100024 |
| Three-Place - high temperature | | | | | | |
| 500 | 103 | Flat | 300W | 9.1 | RJ50024E | RJ50024 |
| 500 | 101 | Round | 300W | 9.1 | RJ50224E | RJ50224 |
| 650 | 108 | Round | 325W | 9.1 | RJ65024E | RJ65024 |
| 800 | 116 | Round | 375W | 9.1 | RJ80024E | RJ80024 |
| 1000 | 130 | Round | 450W | 9.1 | RJ100024E | RJ100024 |
| Six-Place - low temperature | | | | | | |
| 250/300 | 87 | Flat | 125W | 8.6 | RX30024E | RX30024 |
| 250/300 | 87 | Round | 125W | 8.6 | RX30424E | RX30424 |
| Six-Place - high temperature | | | | | | |
| 100/125 | 70 | Flat | 140W | 8.6 | RJ12524E | RJ12524 |
| 100/125 | 70 | Round | 140W | 8.6 | RJ12724E | RJ12724 |
| 250/300 | 87 | Flat | 210W | 8.6 | RJ30024E | RJ30024 |
| 250/300 | 87 | Round | 210W | 8.6 | RJ30424E | RJ30424 |

The glassware is not included, please order separately.

Table B

| Control Type | For Use With | Amps | Voltage(V) | Weight (kg) | Order No. |
|-------------------------|------------------|------|------------|-------------|-----------|
| Digital display control | 3-place RJ or RX | 12 | 240 | 2.3 | RL5324 |
| Digital display control | 6-place RJ or RX | 15 | 240 | 5.0 | RL5624 |
| Percentage timer | 3-place RJ or RX | 12 | 240 | 2.3 | RL3324 |
| Percentage timer | 6-place RJ or RX | 15 | 240 | 5.0 | RL3624 |
| Proportional voltage | 3-place RJ or RX | 12 | 240 | 2.3 | RL4324 |
| Proportional voltage | 6-place RJ or RX | 15 | 240 | 5.0 | RL4624 |



The replaceable element containers provide spill containment and can be replaced in a matter of a few minutes.

How to order

Select the heating mantle from Table A based on the flask being used, the power needed for the application, and the operating voltage. Generally, the RX units are used with solvents common to Soxhlet extractions, and the RJ units are for refluxing aqueous solutions. Select the required power control from Table B based on mantle configuration (3-place or 6-place) and whether pulsing on-off or constant-input voltage is desired.



Recommend

Order the Combo control to match your application from the chart on the left.

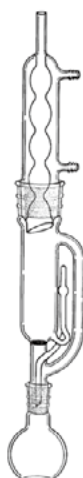


Table C - Soxhlet Lipid Extraction Apparatus (for Combo Mantles)

| Size | Flask volume (mL) | Extractor Top Joint | Extractor Bottom Joint | Package Order No. | Condenser Order No. | Extractor Order No. | Extraction Thimbles Order No. | Flask volume Order No. |
|---|-------------------|---------------------|------------------------|-------------------|---------------------|---------------------|-------------------------------|------------------------|
| Suitable for Wiggins Combo Mantles (Six positions Flat Bottom) | | | | | | | | |
| A | 100 | 34 / 45 | 24 / 40 | 189100-11 | 189102-01 | 189101-01 | 189103-01 | 189105-01 |
| A | 100 | 34 / 45 | 24 / 40 | 189100-12 | 189102-01 | 189101-01 | 189103-02 | 189105-01 |
| A | 125 | 34 / 45 | 24 / 40 | 189100-13 | 189102-01 | 189101-01 | 189103-01 | 189105-02 |
| A | 125 | 34 / 45 | 24 / 40 | 189100-14 | 189102-01 | 189101-01 | 189103-02 | 189105-02 |
| B | 250 | 45 / 50 | 24 / 40 | 189100-15 | 189102-02 | 189101-02 | 189103-03 | 189105-03 |
| B | 250 | 45 / 50 | 24 / 40 | 189100-16 | 189102-02 | 189101-02 | 189103-04 | 189105-03 |
| D | 300 | 55 / 50 | 24 / 40 | 189100-17 | 189102-03 | 189101-04 | 189103-05 | 189105-04 |
| D | 300 | 55 / 50 | 24 / 40 | 189100-18 | 189102-03 | 189101-04 | 189103-06 | 189105-04 |
| Suitable for Wiggins Combo Mantles (Six positions Round Bottom) | | | | | | | | |
| A | 100 | 34 / 45 | 24 / 40 | 189100-21 | 189102-01 | 189101-01 | 189103-01 | 189104-01 |
| A | 100 | 34 / 45 | 24 / 40 | 189100-22 | 189102-01 | 189101-01 | 189103-02 | 189104-01 |
| A | 125 | 34 / 45 | 24 / 40 | 189100-23 | 189102-01 | 189101-01 | 189103-01 | 189104-02 |
| A | 125 | 34 / 45 | 24 / 40 | 189100-24 | 189102-01 | 189101-01 | 189103-02 | 189104-02 |
| B | 250 | 45 / 50 | 24 / 40 | 189100-25 | 189102-02 | 189101-02 | 189103-03 | 189104-03 |
| B | 250 | 45 / 50 | 24 / 40 | 189100-26 | 189102-02 | 189101-02 | 189103-04 | 189104-03 |
| D | 300 | 55 / 50 | 24 / 40 | 189100-27 | 189102-03 | 189101-04 | 189103-05 | 189104-04 |
| D | 300 | 55 / 50 | 24 / 40 | 189100-28 | 189102-03 | 189101-04 | 189103-06 | 189104-04 |
| Suitable for Wiggins Combo Mantles (Three positions Flat Bottom) | | | | | | | | |
| D | 500 | 55 / 50 | 24 / 40 | 189100-31 | 189102-03 | 189101-04 | 189103-05 | 189105-05 |
| D | 500 | 55 / 50 | 24 / 40 | 189100-32 | 189102-03 | 189101-04 | 189103-06 | 189105-05 |
| Suitable for Wiggins Combo Mantles (Three positions Round Bottom) | | | | | | | | |
| D | 500 | 55 / 50 | 24 / 40 | 189100-41 | 189102-03 | 189101-04 | 189103-05 | 189104-05 |
| D | 500 | 55 / 50 | 24 / 40 | 189100-42 | 189102-03 | 189101-04 | 189103-06 | 189104-05 |
| D | 1000 | 55 / 50 | 24 / 40 | 189100-43 | 189102-03 | 189101-04 | 189103-05 | 189104-06 |
| D | 1000 | 55 / 50 | 24 / 40 | 189100-44 | 189102-03 | 189101-04 | 189103-06 | 189104-06 |

Soxhlet 6-Plate Heater

The design concept of WH-106 is compactness, safety and efficiency. For compactness, the layout of hotplates has been changed from traditional 6 holes in one row to 3 each in 2 rows. So that we can save 50% operating space.

The distance between each hole is 55mm which is according to DIN 44548 and wide enough for users to handle the samples in back row conveniently. WH-106 contains six embedded heating plates with 85mm diameter, and its heating components are made in Germany, rugged and easy to maintain. Each plate with a heating indicator is controlled independently, and the temperature can reach 425 °C. For safety reason, each plate is surrounded by a rim for keeping electronics from spilling. The whole housing is made of stainless steel with paint coating.

Applications

- > COD digestion
- > Lipid extraction
- > Kinds of heating

Specification

| Model | WH-106 |
|------------------|---|
| Heating plate | 6 × Ø85mm diameter cast-iron with embedded heating resistor |
| Safety | Each top plate is surrounded by a rim that protect electronics from spills. Spacing of 55mm between the heating plate which is according to DIN 44548. |
| Max. Temperature | 425 |
| Control | Each heating plate is controlled independently |
| Power supply | 6 × 450W |
| Order No. | 178106 |

CE



Parallel reaction for Soxhlet extraction

Soxhlet Lipid Extraction Apparatus (Suitable for WH-106)

| Size | Flask volume (mL) | Extractor Top Joint | Extractor Bottom Joint | Package Order No. | Condenser Order No. | Extractor Order No. | Extraction Thimbles Order No. | Flask volume Order No. |
|------|-------------------|---------------------|------------------------|-------------------|---------------------|---------------------|-------------------------------|------------------------|
| A | 125 | 34 / 45 | 24 / 40 | 189100-01 | 189102-01 | 189101-01 | 189103-01 | 189105-02 |
| A | 125 | 34 / 45 | 24 / 40 | 189100-02 | 189102-01 | 189101-01 | 189103-02 | 189105-02 |
| B | 250 | 45 / 50 | 24 / 40 | 189100-03 | 189102-02 | 189101-02 | 189103-03 | 189105-03 |
| B | 250 | 45 / 50 | 24 / 40 | 189100-04 | 189102-02 | 189101-02 | 189103-04 | 189105-03 |
| B | 300 | 45 / 50 | 24 / 40 | 189100-05 | 189102-02 | 189101-02 | 189103-03 | 189105-04 |
| B | 300 | 45 / 50 | 24 / 40 | 189100-06 | 189102-02 | 189101-02 | 189103-04 | 189105-04 |
| D | 500 | 55 / 50 | 24 / 40 | 189100-07 | 189102-03 | 189101-04 | 189103-05 | 189105-05 |
| D | 500 | 55 / 50 | 24 / 40 | 189100-08 | 189102-03 | 189101-04 | 189103-06 | 189105-05 |

Specifications for Wiggins Extractor Bodies

| Specification | A | B | C | D |
|------------------------|---------|---------|---------|----------|
| Size | A | B | C | D |
| Use Thimble Size (mm) | 25 x 85 | 35 x 90 | 35 x 90 | 45 x 130 |
| Extractor Top Joint | 34 / 45 | 45 / 50 | 45 / 50 | 55 / 50 |
| Extractor Bottom Joint | 24 / 40 | 24 / 40 | 29 / 42 | 24 / 40 |
| Condenser Bottom Joint | 34 / 45 | 45 / 50 | 45 / 50 | 55 / 50 |
| Length of Siphon (mm) | 190 | 260 | 260 | 300 |

Extraction Thimbles - Glass

With an Wiggins fritted disc sealed in. Can be used in any standard Soxhlet extraction apparatus. The sizes below correspond to the size specifications of extraction bodies and will fit those units.

| Size | A | A | B/C | B/C | D | D |
|----------------|-----------|------------|-----------|------------|-----------|------------|
| ID x H (mm) | 25 x 85 | 25 x 85 | 35 x 90 | 35 x 90 | 45 x 130 | 45 x 130 |
| Sintered glass | 20-35um | 100-200 um | 20-35um | 100-200 um | 20-35um | 100-200 um |
| Order No. | 189103-01 | 189103-02 | 189103-03 | 189103-04 | 189103-05 | 189103-06 |

Extractor Body

| Size | A | B | C | D |
|------------------------|-----------|-----------|-----------|-----------|
| Extractor Top Joint | 34 / 45 | 45 / 50 | 45 / 50 | 55 / 50 |
| Extractor Bottom Joint | 24 / 40 | 24 / 40 | 29 / 42 | 24 / 40 |
| Order No. | 189101-01 | 189101-02 | 189101-03 | 189101-04 |

Extraction Apparatus

Bulb type for use with regular extraction apparatus. Improved design permits greater condensing capacity.

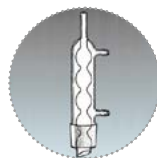
| Size | A | B/C | D |
|---------------------|-----------|-----------|-----------|
| Extractor Top Joint | 34/45 | 45/50 | 55/50 |
| Tubing Size (mm) | 190 | 260 | 300 |
| Height (mm) | 275 | 365 | 405 |
| Order No. | 189102-01 | 189102-02 | 189102-03 |

Extraction Thimbles

CELLULOSE FIBER. Good retention. Seamless, high quality extraction thimbles, single thickness.

Readily permeable to the flow of ether and other organic solvents. Packed 25 per box.

| Size (Ø x H) | 27 x 80 | 27 x 60 | 30 x 80 | 33 x 94 | 40 x 123 |
|--------------|---------|---------|---------|---------|----------|
| Order No. | 6811-08 | 6811-14 | 6811-20 | 6811-22 | 6811-24 |



Flask

Round bottom with short neck and outer joint.

24/40 Joint

| Capacity(mL) | 100 | 125 | 250 | 300 | 500 | 1000 |
|----------------|-----------|-----------|-----------|-----------|-----------|-----------|
| Order No. | 189104-01 | 189104-02 | 189104-03 | 189104-04 | 189104-05 | 189104-06 |

29/42 Joint

| Capacity(mL) | 100 | 250 | 500 | 1000 |
|----------------|-----------|-----------|-----------|-----------|
| Order No. | 189104-11 | 189104-13 | 189104-15 | 189104-16 |

Flask

Single Neck, Flat Bottom

24/40 Joint

| Capacity(mL) | 100 | 125 | 250 | 300 | 500 | 1000 |
|----------------|-----------|-----------|-----------|-----------|-----------|-----------|
| Order No. | 189105-01 | 189105-02 | 189105-03 | 189105-04 | 189105-05 | 189105-06 |

29/42 Joint

| Capacity(mL) | 250 | 300 | 500 | 1000 |
|----------------|-----------|-----------|-----------|-----------|
| Order No. | 189105-13 | 189105-14 | 189105-15 | 189105-16 |



Temperature and stirring controller

for measuring, control and monitoring

WIGGENS temperature controllers measure, control and monitor applications in laboratories such as heating mantle and chemical reactors.



Ordering Information

| Models / Specifications | TCSS | PL524 Pre | PL524 Pro-Stir | PL524 Pro | PC524 |
|-------------------------|---|------------------------------------|-------------------------------------|------------------------|------------------------------|
| Name | Program controller for temperature and stirring | Program controller for temperature | Temperature and stirring controller | Temperature controller | Safety temperature protector |
| Screen | 5 " TFT touch screen LED | | | | |
| Function | Heating | | | | |
| | Cooling | | | | |
| | Programming | | | | |
| | Stirring | | | | |
| Interface | Safety temperature | | | | |
| | RS485 | | | | |
| | RS232 | | | | |
| | Ethernet | | | | |
| Options | USB-A | | | | |
| | Alarm | | | | |
| | Pt100 | | | | |
| | Thermocouple | | | | |
| Options | heating mantle | | | | |
| | matching unit | | | | |
| | Solenoid valve for cooling | | | | |
| | WH260 series | | | | |



Temperature,Stirring Speed,Cooling Valve Controller



Program temp. Control and security protection



Temp. and Stir. Controller



Temp. Control and security protection



Overheated security protection

Note 1 : Standard configuration Options

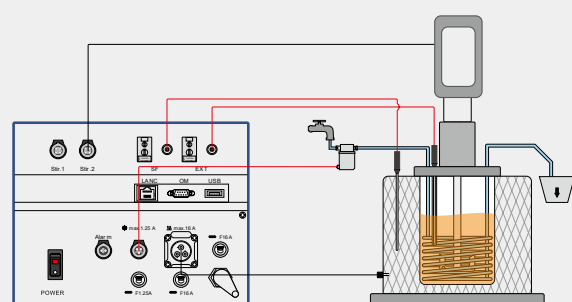
Note 2 : TCSS, PL524 Pre, PL524 Pro-Stir, PL524 Pro working with two temperature sensors ; PC524 just need one temperature sensor

Note 3 : TCSS-1 matching with heating-stirring mantle, PL524pro-Stir matching with heating-stirring mantle

TCSS-2 matching with WB201C motor (It is the same motor as WB2000-C)

TCSS-3 matching with WB181D motor (It is the same motor as WB1800-D)

TCSS-4 matching with WB181C motor (It is the same motor as WB1800-C)



Application of TCSS

The external system (e.g. Heating mantle, Motor, Solenoid valve) is connected via socket at the back, Different sensors for working and safety temperatures control the application.

TCSS-2 / 3 / 4

Motor

Magnetic Clutch

Working sensor

Safety sensor

Heating mantle

Stirrer

Cooling coil

Solenoid valve

Heating Mantles

Aluminum Housed Mantles

- > Rigid housing provides strength and durability while supporting the weight of the vessel
- > Fabric interior to softly nest glass vessels and reduce the chance of thermal shock
- > Adaptable to most vessels including larger sizes
- > Withstands 450 °C internal operating temperature (650 °C for Series STM), enough power for most applications
- > Can be adapted to special applications with custom sizes, bottom holes, and special electrical devices
- > Feet on smaller sizes designed to provide stability and promote cooler exterior temperatures

Spherical Flask Mantles

- > The Series TM spherical flask mantle covers only the flask's bottom half, letting you see its full contents. Larger sizes have multiple circuits for ease of temperature control when a flask is less than half full. Splash Guards can be used with TM102 through TM117.
- > Poncho Safety Shields can be used with sizes 500 ml (TM107) and larger.

Specifications

| Complete System Order No. | Order No. | Flask Capacity mL | Max. Flask Diameter mm | Watts W | Depth mm | Outside Dia. mm | Height mm | Weight kg |
|---------------------------|-----------|-------------------|------------------------|---------|----------|-----------------|-----------|-----------|
| WTM95 | TM95 | 50 | 48 | 60 | 24 | 159 | 121 | 1.0 |
| WTM97 | TM97 | 100 | 60 | 80 | 30 | 159 | 121 | 1.0 |
| WTM99 | TM99 | 125 | 70 | 80 | 35 | 159 | 121 | 1.0 |
| WTM101 | TM101 | 200 | 76 | 100 | 38 | 159 | 121 | 1.0 |
| WTM103 | TM103 | 250 | 83 | 180 | 41 | 159 | 121 | 1.1 |
| WTM105 | TM105 | 300 | 86 | 180 | 43 | 159 | 121 | 1.1 |
| WTM107 | TM107 | 500 | 101 | 270 | 51 | 159 | 127 | 1.1 |
| WTM109 | TM109 | 1000 | 130 | 380 | 65 | 191 | 127 | 1.4 |
| WTM111 | TM111 | 2000 | 170 | 500 | 86 | 254 | 152 | 2.1 |
| WTM113 | TM113 | 3000 | 183 | 500 | 91 | 254 | 152 | 2.1 |
| WTM115 | TM115 | 5000 | 220 | 600 | 109 | 305 | 178 | 2.8 |
| WTM117 | TM117 | 12000 | 293 | 2@650 | 147 | 419 | 229 | 6.8 |
| WTM119 | TM119 | 22000 | 347 | 2@770 | 173 | 483 | 254 | 8.5 |
| WTM121 | TM121 | 50000 | 456 | 3@1000 | 228 | 610 | 330 | 18.6 |
| WTM122 | TM122 | 72000 | 522 | 3@2000 | 259 | 660 | 356 | 20.0 |



WTM seires

Spherical flask mantle with temp. control and security protection, the flask is not included



TM seires

Spherical flask mantle only, the flask is not included

Stir Mantles

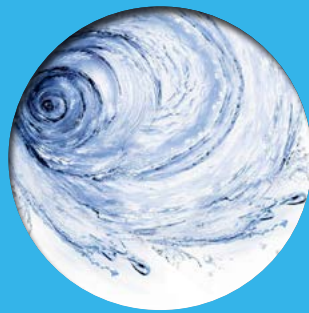
- > The StirMantle adds electromagnetic stirring capability (50-750 rpm) to the Series TM heating mantle for spherical flasks. Heating and stirring are independent, choose either or both. Speed is easily adjusted by a single dial on the PL524pro-Stir.
- > The PL524pro-Stir creates and synchronizes the magnetic field. When restarting (as for removal and reinsertion of the flask), Wiggins exclusive " Synchrostart " feature maintains linkage between the field and the bar. The PL524pro-Stir connects to the StirMantle by cord, so it may be placed outside corrosive hood atmospheres and is easily accessible.
- > PL524pro-Stir connecting cords, and stir bar. Completely grounded and fused.

Specifications

| Complete System Order No. | Order No. | Flask Capacity mL | Depth mm | Watts W | Outside Dia. mm | Height mm | Weight kg |
|---------------------------|-----------|-------------------|----------|---------|-----------------|-----------|-----------|
| EMS103P | EMS103 | 250 | 42 | 180 | 159 | 121 | 2.0 |
| EMS105P | EMS105 | 300 | 43 | 180 | 159 | 121 | 2.0 |
| EMS107P | EMS107 | 500 | 51 | 270 | 159 | 133 | 2.0 |
| EMS109P | EMS109 | 1000 | 65 | 380 | 191 | 140 | 2.4 |
| EMS111P | EMS111 | 2000 | 85 | 500 | 254 | 165 | 2.5 |
| EMS113P | EMS113 | 3000 | 91 | 500 | 254 | 165 | 2.9 |



Complete system of stir mantle (EMS1XXP)



4 Overhead Stirrers

Overhead stirrer

Attractive design for demanding stirrers & mixing

Our new complete range of laboratory overhead stirrers will meet your high demands every day!



High Torque / High Speed Overhead stirrer
D series
WB3000-D, WB1800-D, WB6000-D



Remotely Controllable High Torque / High Speed Stirrers,
Suitable for reaction
DF series
WB3000-DF, WB1800-DF, WB6000-DF



Remotely Controllable High Torque / High Speed Stirrers
C & EC Series
WB3000-C, WB1800-C, WB3000-EC, WB1800-EC



WB2000-C



WB2000-M



WB2000-A

Overhead stirrer
2000 series
WB2000-A, WB2000-M, WB2000-C



Overhead Stirrers

Overhead Stirrers

Overhead Stirrers

WB2000-A / WB2000-M / WB2000-C

WIGGENS® offers overhead stirrers for your stirring and mixing tasks in the lab for low to high viscosities. Safety, power and intelligence were again at the core of the development of this product range. The powerful motors achieve homogeneous results-with exact speed even under changing loads or high viscosity and produce little noise. Many reliable solutions are available, according to different requirements in terms of viscosity and volume.

WIGGENS® overhead stirrers process stirring quantities of up to 100 liters.

- > Brushless DC motor, which is very suitable for long-term experimental applications
- > Stable and accurate stirring process due to latest micro-processor technology
- > Slow ramp-up and speed limits protect you from splashes
- > Totally enclosed and compact casing
- > The high torque ensure maximum efficiency of minimal processing times-even high-viscosity media
- > 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 / C come with a reversible rotation function
- > The WB2000-C employs button 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

Features of the WB2000-C

- > Employs all basic functions of the WB2000-C 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

| Order No. | WB2000-A | WB2000-M | WB2000-C |
|--|------------------------------|------------------------------------|--|
| Display / Control Mode | Scale Display / Knob Control | LED Digital Display / Knob Control | LCD Digital Display / On-Touch Control |
| Speed Accuracy (rpm) | - | ±1 | ±1 |
| Speed Range (rpm) | 40 ~ 2000 | 40 ~ 2000 | 20-2000 |
| Maximum Viscosity (cps) | 20000 | 20000 | 20000 |
| Maximum Torque (N-cm) | 70 | 66 | 70 |
| Maximum Capacity (L)H2O | 50 | 50 | 50 |
| Chuck range max. diameter (mm) | 10 | 10 | 10 |
| Clockwise and Counter Clockwise Mixing | Yes | No | Yes |
| Input / Output Power (W) | 70/50 | 70/50 | 70/50 |
| Dimensions (W x L x H in mm) | 105X160X185 | 105X160X185 | 105 x 160 x 185 |
| Order No. | 100100 | 100300 | 100500 |



For support stand selection, please refer to Page 98
For impeller selection, please refer to Page 91

Order Information

additional order no.:WB2000-X-P1/P2/P3

Package 1 includes



Overhead Stirrer, WF12 Support stand

Package 2 includes



Overhead Stirrer, WF12 Support stand and 9004 impeller

Package 3 includes



Overhead Stirrer, WF12 Support stand and 5.240.8.2 PTFE impeller

High Torque / High Speed Overhead Stirrers

WB3000-D / WB1800-D / WB6000-D

Specially designed for optimum usability and the highest efficiency in the same class with advanced safety features.

- > Brushless DC motor
- > Totally enclosed and compact metal casing
- > Smart and convenient on-touch control
- > TFT Display for better image quality and easy navigation
- > Bright TFT screen, which can display for monitoring of set speed, actual speed and torque
- > Transmission can be switched between low speed / high torque, and high speed / low torque
- > Easily adjustable spinning chuck
- > Precise speed adjustment
- > Set speed can be maintained when viscosity of liquid changes
- > Easy and time saving impeller adjustments
- > Digital and analog interface available
- > Monitoring and control via PC software



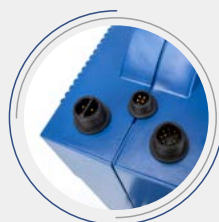
A through-shaft design allows for adjusting the impeller position to make height adjustment more convenient



Ease of operation
Smart and convenient on-touch control



Precise speed adjustment
Speed Range 20-3000rpm, Maintenance of constant motor speed by PID feedback control system even under conditions of changing viscosity.



RS232 / RS485
The stirrer comes equipped with a RS 232 and a RS485 interface to control and document all parameters.



Brushless DC motor
for longer life span, low maintenance and higher efficiency



Keyless chuck
It allows you to quickly and easily remove the stirring elements without any tools. Clamping range: 0.5-10mm



TFT Display
for better image quality and easy navigation



High Torque / High Speed
Offering the best mixing results, even for challenging applications



Specifications

Please note that other overhead stirrer models are available on request, please contact wiggins for further information.



| Model | WB3000-D | WB1800-D | WB6000-D |
|---------------------------------------|--|---------------------------------------|---------------------------------------|
| Display / Control Mode | TFT Digital Display /On-Touch Control | TFT Digital Display /On-Touch Control | TFT Digital Display /On-Touch Control |
| Speed Accuracy (rpm) | ± 1rpm | ± 1rpm | ± 1rpm |
| Torque Display | Stirrer converts output current to torque, reflecting the changing load of motor | | |
| Speed Range (rpm) | Low: 30~600 High:601~3000 | Low: 20~360 High: 361~1800 | Low: 60~1200 High:1201~6000 |
| Torque (N-cm) | Low: 339 High: 68 | Low: 563 High: 113 | Low: 170 High: 34 |
| Maximum Viscosity (cps) | 100000 | 150000 | 70000 |
| Maximum Torque (N-cm) | 339 | 563 | 170 |
| Chuck range max. diameter (mm) | 10 | 10 | 10 |
| Maximum Capacity (L) H ₂ O | 100 | 40 | 100 |
| Output Power (W) | 150 | 150 | 150 |
| Dimensions (W × L × H in mm) | 200x95x230 | 200x95x230 | 200x95x230 |
| Motor Weight (Kg) | 5 | 5 | 5 |
| Order No. | 100400 | 100600 | 100800 |

Order Information

additional order no.: WBXX00-D-P1,P2 and P3



High Torque / High Speed Stirrers

WB3000-DF / WB1800-DF / WB6000-DF

Remotely controllable, keyless chuck

Ideally perform your professional stirring tasks requiring high functionality, safety, and longevity.
Prestige touch TFT controller

Features

- > Years of vibration-free and silent operation.
- > Equipped with a maintenance-free BLDC motor to generate smooth, quiet, and yet powerful stirring.
- > Powerful torque capable of handling high viscosity tasks.
- > Maintenance of constant motor speed by control system even under conditions of changing viscosity.
- > Best effort function intelligently manages its stirring speed to keep stirring even workload is out of its capacity.
- > Prevention of accidental spills or splashes thanks to microprocessor controlled smooth start and stop functions.

When the overhead stirrer is installed in a higher and farther position, such as connecting with the reaction systems, the operator can not easily to operate.

Wiggins has developed and designed a remotely controllable stirrer that separates the stirring part from the control part and makes it easier to operate through a remote panel.

- > Dimensions of the remote panel: 150 × 100mm
- > The length of the cable: 2m
- > Connection mode of the cable: Quick connector
- > Control and display parameters: Stir speed, torque and Stir mode

Practical external controller.

- > Intuitive and easy control with touch TFT.
- > It enables convenient and safe external control without opening the sash of the fume hood or safety cabinet.

Compact and slim head design for diverse flexibility in configuring other test equipment and accessories. (optional)



Safety

- > Sturdy aluminum main body efficiently absorbing and emitting the heat generated by the motor.
- > Separated adapter from the main body minimizes the risks of electrical hazards to the users.



A through-shaft design allows for adjusting the impeller position to make height adjustment more convenient



Keyless chuck

It allows you to quickly and easily remove the stirring elements without any tools.
Clamping range: 0.5-10mm

Specifications



| Model | WB3000-DF | WB1800-DF | WB6000-DF |
|---------------------------------------|--|-------------------------------|---------------------------------|
| Display / Control Mode | TFT Digital Display / On-Touch Control | | |
| Speed Accuracy (rpm) | ± 1rpm | | |
| Torque Display | Stirrer converts output current to torque, reflecting the changing load of motor | | |
| Speed Range (rpm) | Low: 30~600 High: 601~3000 | Low: 20~360 High: 361~1800 | Low: 60~1200 High: 1201~6000 |
| Torque (N·cm) | Low: 339 High: 68 | Low: 565 High: 113 | Low: 170 High: 34 |
| Maximum Viscosity (cps) | 100000 | 150000 | 70000 |
| Maximum Torque (N·cm) | 339 | 565 | 170 |
| Chuck range max. diameter (mm) | 10 | 10 | 10 |
| Maximum Capacity (L) H ₂ O | 100 | 40 | 100 |
| Output Power (W) | 150 | | |
| Dimensions (W × L × H in mm) | 200x95x230 | | |
| Motor Weight (Kg) | 5 | | |
| Order No. | 100400F | 100600F | 100800F |



High Torque / High Speed Stirrers Remotely controllable

WB3000-C / WB1800-C / WB3000-EC / WB1800-EC

- > 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
- > Digital (RS-232/485) and analog communication available for remote PC or PLC control

Safety

- > Sturdy aluminum main body efficiently absorbing and emitting the heat generated by the motor.
- > Separated adapter from the main body minimizes the risks of electrical hazards to the users.



Features

- > Years of vibration-free and silent operation.
- > Powerful torque capable of handling high viscosity tasks.
- > Maintenance of constant motor speed by control system even under conditions of changing viscosity.
- > Best effort function intelligently manages its stirring speed to keep stirring even workload is out of its capacity.
- > Prevention of accidental spills or splashes thanks to microprocessor controlled smooth start and stop functions.

Practical external controller.

- > Intuitive and easy control with touch TFT.
- > It enables convenient and safe external control without opening the sash of the fume hood or safety cabinet.

Compact and slim head design for diverse flexibility in configuring other test equipment and accessories. (optional)

Specifications



| Model | WB3000-C | WB1800-C | WB3000-EC | WB1800-EC |
|---------------------------------------|--|-----------|-----------|-----------|
| Control Type | TFT Display for Speed and Torque and On-Touch Control | | | |
| Torque Display | Stirrer converts output current to torque, reflecting the changing load of motor | | | |
| Speed Range (rpm) | 70-3000 | 20-800 | 70-3000 | 20-800 |
| Speed Accuracy(rpm) | ±1 | ±1 | ±1 | ±1 |
| Maximum Viscosity (cps) | 100000 | 150000 | 200000 | 300000 |
| Maximum Torque (N-cm) | 330 | 1320 | 410 | 1640 |
| Rated Torque (N-cm) | 47 | 188 | 116 | 464 |
| Maximum Capacity (L) H ₂ O | 100 | 50 | 100 | 50 |
| Power (W) | 150 | 150 | 450 | 450 |
| Dimensions (W × L × H in mm) | 157×65×65 | 216×65×65 | 165×75×75 | 225×75×75 |
| Motor Weight (Kg) | 1.8 | 2.3 | 2.8 | 3.4 |
| Order No. | 100401 | 100601 | 100402 | 100602 |



Accessories for Overhead Stirrers

Stirrer guides

Universal stirrer seal

Material : PTFE (Polytetrafluoroethylene)

Best-seller!



| Order No. | Description | ShaftØ (mm) | Height (mm) |
|-----------|-------------|-------------|-------------|
| KA22-02 | 24/40 | 8 | 60 |
| KA22-03 | 29/42 | 8 | 60 |
| KA22-04 | 34/45 | 8 | 60 |

Universal stirrer guides For standard taper ground glass joints

Universal stirrer guides for use with standard taper ground glass joints can be used with PTFE Shaft Stirrers and glass and metal shaft stirrers. Unique features of the design are a permanently loaded Composite PTFE/PEEK Seal and a Glass Ball-Bearing for rigidity and smoothness of operation.

- > Exceptional chemical resistance
- > Anti-whip and reduced vibration
- > Vacuum (5mmHg) and pressure (3-5psi) performance
- > No shedding
- > Maximum recommended speeds; continuous 500rpm, intermittent 800rpm

| Order No. | ShaftØ (mm) | 'A' Core | Height (mm) excl.joint | GuideØ (mm) |
|-----------|-------------|----------|------------------------|-------------|
| 5.101.1.7 | 6 | 19/22 | 96 | 45 |
| 5.102.7 | 6 | 24/40 | 96 | 45 |
| 5.104.7 | 8 | 24/40 | 96 | 45 |
| 5.105.7 | 10 | 24/40 | 96 | 45 |
| 5.106.7 | 10 | 29/42 | 96 | 45 |
| 5.108.7 | 12 | 29/42 | 110 | 55 |

High performance stirrer guides For standard taper ground glass joints

This product is designed to provide an effective guide for Glass and Metal Shaft stirrers over a range of temperatures without shedding particles from the seal, whilst maintaining a vacuum. The seal is manufactured from a specially formulated PTFE-PEEK composite and is permanently pressure loaded.

- > The HP Stirrer Guide has the additional features:
- > High level of chemical resistance
- > Anti-whip and reduced vibration
- > Vacuum (~5mm Hg) and pressure (3-5psi) performance
- > No shedding
- > Self releasing joint ring
- > Maximum recommended speeds: continuous 500rpm, intermittent 800rpm

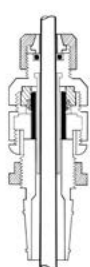
Note : PEEK has a very high level of chemical resistance with some susceptibility only to strong mineral acids

| Order No. | ShaftØ(mm) | 'B' Core | Height (mm) excl.joint | GuideØ (mm) |
|-----------|------------|----------|------------------------|-------------|
| 5.0.0619 | 6 | 19/22 | 60 | 42 |
| 5.0.0624 | 6 | 24/40 | 60 | 42 |
| 5.0.0819 | 8 | 19/38 | 60 | 42 |
| 5.0.0824 | 8 | 24/40 | 60 | 42 |
| 5.0.1024 | 10 | 24/40 | 60 | 42 |
| 5.0.1029 | 10 | 29/42 | 60 | 50 |
| 5.0.1034 | 10 | 34/45 | 60 | 50 |
| 5.0.1045 | 10 | 45/50 | 60 | 58 |
| 5.0.1229 | 12 | 29/42 | 70 | 50 |
| 5.0.1945 | 19 | 45/50 | 70 | 58 |

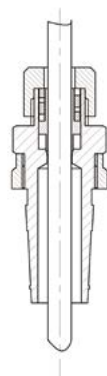
High vacuum stirrer guides

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.

| Order No. | Joint Size | ShaftØ (mm) | Replace O-Ring |
|-----------|---------------|-------------|----------------|
| 8050-02 | 24/40 | 10 | 7859-526 |
| 8050-04 | 29/42 | 10 | 7859-534 |
| 8050-14 | 29/32 | 10 | 7859-534 |
| 8050-10 | #15 Ace-Thred | 10 | 7859-530 |
| 8050-12 | #25 Ace-Thred | 10 | 7859-534 |
| 8050-06 | 45/50 | 19 | 7859-573 |
| 8050-16 | 45/50 | 25.4 | 7859-573 |
| 8050-08 | 45/50 | 28 | 7859-573 |
| 8050-18 | 45/50 | 30 | 7859-573 |



Best-seller!



Magnetic stirrer guides

Magnetic drives are designed for agitating a fully vacuumed flask.

Multi-functional easy to replace impeller.

- > Use of rare-earth elements which is Neodymium (Nd), Samarium (Sm-Co) magnet.
- > High-speed rpm, vibration free.
- > Specifically designed with permanent magnets which has a dynamic torque rating.
- > Small size and powerful rotating magnetic drive is useful both for laboratory and manufacturing applications.

Specifications

| Model | MD-24 | MD-29 | MD-45 | MD-15 | MD-25 |
|-------------------------------|--|--------|--------|------------|------------|
| Ground Joint | 24/40 | 29/42 | 34/45 | Thread #15 | Thread #25 |
| Body / Housing | SUS316L / CR-PLATE | | | | |
| Bushing / Seal | PTFE/Viton | | | | |
| Vacuum | 1×10^{-4} mmHg | | | | |
| Pressure | 5 bar | | | | |
| Temp | Max. 70 (without cooling), Max. 300 (with cooling) | | | | |
| Shaft Size (Ø, mm) | 8 mm | | | | |
| Cooling in / out Size (Ø, mm) | 3.2 mm | | | | |
| Dimension (Ø x L, mm) | 50 x 200mm | | | | |
| Weight (kg) | 1.02 | 1.04 | 1.08 | 1.00 | 1.02 |
| Order No. | 511001 | 511002 | 511003 | 511004 | 511005 |



Application of Magnetic Drive

PTFE Impeller

- > 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
- > 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

EX = Exposed Shaft.

Shafts of 650mm, 750mm & 1000mm in length are produced with a stainless steel core with an exposed end for more rigid clamping to the chuck drive. Shafts up to 12mm diameter have an exposed end of 50mm long and 6.5mm diameter.

Shafts of 16mm diameter have an exposed end of 50mm long and 8.5mm diameter.

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.



| Order No. | Shaft Ø(mm) | Length(mm) | Rotor Ø(mm) |
|----------------|-------------|------------|-------------|
| 5.230.2 | 6 | 300 | 40 |
| 5.240.2 | 6 | 400 | 40 |
| 5.250.2 | 6 | 500 | 50 |
| 5.230.8.2 | 8 | 300 | 40 |
| 5.240.8.2 | 8 | 400 | 40 |
| 5.250.8.2 | 8 | 500 | 50 |
| 5.255.10.2 | 10 | 550 | 70 |
| 5.0265.10.2 | 10 | 650EX | 70 |
| 5.0275.10.2 | 10 | 750EX | 70 |
| 5.0265.12.2 | 12 | 650EX | 80 |
| 5.0275.12.2 | 12 | 750EX | 80 |
| 5.02100.12.2 | 12 | 1000EX | 80 |
| 5.0275.16.2 | 16 | 750EX | 80 |
| 5.0275.16.1.2 | 16 | 750EX | 100 |
| 5.02100.16.2 | 16 | 1000EX | 100 |
| 5.02100.16.1.2 | 16 | 1000EX | 120 |

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



| Order No. | Shaft Ø(mm) | Length(mm) | Rotor Ø(mm) |
|--------------|-------------|------------|-------------|
| 5.430.2 | 6 | 300 | 40 |
| 5.440.2 | 6 | 400 | 40 |
| 5.450.2 | 6 | 500 | 50 |
| 5.430.8.2 | 8 | 300 | 40 |
| 5.440.8.2 | 8 | 400 | 40 |
| 5.450.8.2 | 8 | 500 | 50 |
| 5.455.10.2 | 10 | 550 | 70 |
| 5.0465.10.2 | 10 | 650EX | 70 |
| 5.0475.10.2 | 10 | 750EX | 70 |
| 5.0465.12.2 | 12 | 650EX | 80 |
| 5.0475.12.2 | 12 | 750EX | 80 |
| 5.04100.12.2 | 12 | 1000EX | 80 |
| 5.0475.16.2 | 16 | 750EX | 80 |
| 5.04100.16.2 | 16 | 1000EX | 80 |

Anchor Impeller (PTFE Coated)

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



| Order No. | Shaft Ø(mm) | Length(mm) | Rotor Ø(mm) |
|----------------|-------------|------------|-------------|
| 5.330.2 | 6 | 300 | 80 |
| 5.340.2 | 6 | 400 | 80 |
| 5.350.2 | 6 | 500 | 80 |
| 5.330.8.2 | 8 | 300 | 80 |
| 5.340.8.2 | 8 | 400 | 80 |
| 5.350.8.2 | 8 | 500 | 80 |
| 5.355.10.2 | 10 | 550 | 100 |
| 5.0365.10.2 | 10 | 650EX | 140 |
| 5.0375.10.2 | 10 | 750EX | 140 |
| 5.0365.12.2 | 12 | 650EX | 140 |
| 5.0375.12.2 | 12 | 750EX | 140 |
| 5.03100.12.2 | 12 | 1000EX | 140 |
| 5.0375.16.2 | 16 | 750EX | 140 |
| 5.0375.16.1.2 | 16 | 750EX | 180 |
| 5.03100.16.2 | 16 | 1000EX | 140 |
| 5.03100.16.1.2 | 16 | 1000EX | 180 |

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.



| Order No. | Shaft Ø(mm) | Length(mm) | Rotor Ø(mm) | Blade Ht(mm) |
|-------------|-------------|------------|-------------|--------------|
| 5.80850.300 | 8 | 300 | 50 | 10 |
| 5.80875.300 | 8 | 300 | 75 | 15 |
| 5.80850.400 | 8 | 400 | 50 | 10 |
| 5.80875.400 | 8 | 400 | 75 | 15 |
| 5.81050.400 | 10 | 400 | 50 | 10 |
| 5.81075.400 | 10 | 400 | 75 | 15 |
| 5.81050.500 | 10 | 500 | 50 | 10 |
| 5.81075.500 | 10 | 500 | 75 | 15 |

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)



| Order No. | W(mm) | Ht(mm) | Order No. | W(mm) | Ht(mm) |
|-----------|-------|--------|-----------|-------|--------|
| 2.052.1 | 52 | 14 | 2.1065.1 | 65 | 25 |
| 2.076.1 | 76 | 19 | 2.1075.1 | 75 | 25 |
| 2.090.1 | 90 | 28 | 2.1105.1 | 105 | 25 |
| | | | 2.1125.1 | 125 | 25 |
| | | | 2.1150.1 | 150 | 25 |

4 Blade Angled Type 45 ° Metric

| Order No. | Shaft Ø(mm) | Rotor Ø(mm) |
|-----------|-------------|-------------|
| 5.606040 | 6 | 40 |
| 5.608040 | 8 | 40 |
| 5.610060 | 10 | 60 |
| 5.610090 | 10 | 90 |
| 5.612070 | 12 | 70 |
| 5.612090 | 12 | 90 |
| 5.616100 | 16 | 100 |



Plain Impeller Shafts (PTFE Coated)

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



| Order No. | Shaft Ø(mm) | End Ø(mm) | LengthØ(mm) |
|-------------|-------------|-----------|-------------|
| 5.100830EX | 8 | 5 | 300 |
| 5.100850EX | 8 | 5 | 500 |
| 5.101030EX | 10 | 6.4 | 300 |
| 5.101050EX | 10 | 6.4 | 500 |
| 5.101065EX | 10 | 6.4 | 650 |
| 5.101250EX | 12 | 6.4 | 500 |
| 5.101265EX | 12 | 6.4 | 650 |
| 5.101275EX | 12 | 6.4 | 750 |
| 5.1016750EX | 16 | 10 | 750 |
| 5.1016100EX | 16 | 10 | 1000 |

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



| Order No. | Shaft Ø (mm) | Length (mm) | Order No. | Shaft Ø (mm) | Length (mm) |
|-----------|--------------|-------------|--------------|--------------|-------------|
| 5.530.1 | 6 | 300 | 5.0565.10.1 | 10 | 650EX |
| 5.540.1 | 6 | 400 | 5.0575.10.1 | 10 | 750EX |
| 5.550.1 | 6 | 500 | 5.05100.10.1 | 10 | 1000EX |
| 5.530.8.1 | 8 | 300 | 5.0565.12.1 | 12 | 650EX |
| 5.540.8.1 | 8 | 400 | 5.0575.12.1 | 12 | 750EX |
| 5.550.8.1 | 8 | 500 | 5.05100.12.1 | 12 | 1000EX |
| | | | 5.0575.16.1 | 16 | 750EX |
| | | | 5.05100.16.1 | 16 | 1000EX |



Flat Type Metric

| Order No. | Shaft Ø(mm) | Rotor Ø(mm) |
|-----------|-------------|-------------|
| 5.706070 | 6 | 70 |
| 5.708070 | 8 | 70 |
| 5.710070 | 10 | 70 |
| 5.710100 | 10 | 100 |
| 5.712100 | 12 | 100 |
| 5.712150 | 12 | 150 |
| 5.716100 | 16 | 100 |
| 5.716150 | 16 | 150 |



Adjustable Turbine

| Order No. | Shaft Ø(mm) | Rotor Ø(mm) |
|-----------|-------------|-------------|
| 5.90850 | 8 | 50 |
| 5.90875 | 8 | 75 |
| 5.91075 | 10 | 75 |
| 5.9100100 | 10 | 100 |
| 5.91275 | 12 | 75 |
| 5.912100 | 12 | 100 |
| 5.016100 | 16 | 100 |
| 5.916150 | 16 | 150 |



Stainless Steel Impellers

Pivoting Blade Impeller

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

Blade Height : 18 mm



| Order No. | Rotor Ø(mm) | Shaft Ø(mm) | Length(mm) |
|-----------|--------------|-------------|------------|
| 9603 | 60 | 8 | 300 |
| 9604 | 60 | 8 | 400 |
| 9605 | 60 | 8 | 500 |

Straight 2-Blade Impeller

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

Blade Height : 12 mm



| Order No. | Rotor Ø(mm) | Shaft Ø(mm) | Length(mm) |
|-----------|--------------|-------------|------------|
| 9703 | 50 | 8 | 300 |
| 9704 | 50 | 8 | 400 |
| 9705 | 50 | 8 | 500 |

Straight 4-Blade Impeller

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

Blade Height : 12 mm



| Order No. | Rotor Ø(mm) | Shaft Ø(mm) | Length(mm) |
|-----------|--------------|-------------|------------|
| 9053 | 50 | 8 | 300 |
| 9054 | 50 | 8 | 400 |
| 9055 | 50 | 8 | 500 |
| 9056 | 100 | 10 | 300 |
| 9057 | 100 | 10 | 400 |
| 9058 | 100 | 10 | 500 |

3-Hole Blade Impeller

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



| Order No. | Rotor Ø(mm) | Shaft Ø(mm) | Length(mm) |
|-----------|--------------|-------------|------------|
| 9403 | 50 | 8 | 300 |
| 9404 | 50 | 8 | 400 |
| 9405 | 50 | 8 | 500 |
| 9406 | 100 | 10 | 300 |
| 9407 | 100 | 10 | 400 |
| 9408 | 100 | 10 | 500 |

6-Hole Blade Impeller

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



| Order No. | Rotor Ø(mm) | Shaft Ø(mm) | Length(mm) |
|-----------|--------------|-------------|------------|
| 9503 | 50 | 8 | 300 |
| 9504 | 50 | 8 | 400 |
| 9505 | 50 | 8 | 500 |
| 9506 | 100 | 10 | 300 |
| 9507 | 100 | 10 | 400 |
| 9508 | 100 | 10 | 500 |

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.

Blade Height : 12 mm



| Order No. | Rotor Ø(mm) | Shaft Ø(mm) | Length(mm) |
|-----------|--------------|-------------|------------|
| 9003 | 50 | 8 | 300 |
| 9004 | 50 | 8 | 400 |
| 9005 | 50 | 8 | 500 |
| 9009 | 100 | 8 | 300 |
| 9010 | 100 | 8 | 400 |
| 9011 | 100 | 8 | 500 |
| 9012 | 70 | 8 | 500 |
| 9013 | 100 | 10 | 650 |
| 9014 | 100 | 10 | 800 |

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.



| Order No. | Rotor Ø(mm) | Shaft Ø(mm) | Length(mm) |
|-----------|--------------|-------------|------------|
| 9025 | 45 | 7 | 400 |
| 9026 | 65 | 7 | 400 |
| 9025A | 45 | 8 | 400 |
| 9026A | 65 | 8 | 400 |

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.

Blade Height : 10 mm



| Order No. | Rotor Ø(mm) | Shaft Ø(mm) | Length(mm) |
|-----------|--------------|-------------|------------|
| 9209 | 90/15 | 8 | 300 |
| 9210 | 90/15 | 8 | 400 |
| 9211 | 90/15 | 8 | 500 |
| 9212 | 90/15 | 10 | 300 |
| 9213 | 90/15 | 10 | 400 |
| 9214 | 90/15 | 10 | 500 |
| 9215 | 90/15 | 10 | 650 |

Propeller stirrers, 3 fix blades

- > Rpm-range middle
- > Mixing of media with low and middle viscosity
- > Ideal for homogenising and suspending
- > Axial flow

Blade Height : 12 mm



| Order No. | Rotor Ø(mm) | Shaft Ø(mm) | Length(mm) |
|-----------|--------------|-------------|------------|
| 9103 | 50 | 8 | 300 |
| 9104 | 50 | 8 | 400 |
| 9105 | 50 | 8 | 500 |
| 9109 | 70 | 8 | 300 |
| 9110 | 70 | 8 | 400 |
| 9111 | 70 | 8 | 500 |
| 9112 | 100 | 10 | 300 |
| 9113 | 100 | 10 | 400 |
| 9114 | 100 | 10 | 500 |
| 9115 | 70 | 10 | 650 |
| 9116 | 100 | 10 | 800 |

Anchor Impeller

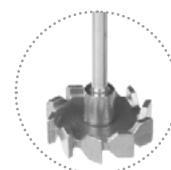
Produces tangential flow and strong shearing force. Used for slow-speed stirring, for high viscosity mixtures.



| Order No. | Rotor Ø(mm) | Shaft Ø(mm) | Length(mm) |
|-----------|--------------|-------------|------------|
| 9610 | 70 | 8 | 500 |
| 9611 | 90 | 10 | 650 |
| 9612 | 140 | 10 | 800 |

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.



| Order No. | Rotor Ø(mm) | Shaft Ø(mm) | Length(mm) |
|-----------|--------------|-------------|------------|
| 9030 | 50 | 8 | 400 |
| 9031 | 50 | 10 | 400 |

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.



| Order No. | Rotor Ø(mm) | Shaft Ø(mm) | Length(mm) | RPM |
|-----------|--------------|-------------|------------|---------|
| 9020 | 80 | 10 | 500 | 200-700 |
| 9021 | 120 | 10 | 500 | 120-500 |

COLLAR with PTFE Gasket

Designed to be used with 8068, 8070, 8071, 8074 or 8078 stirring shafts. Handy for positioning shaft in bearing, and preventing shaft from dropping into flask. Supplied with PTFE gasket to prevent scratching top of bearing and to act as dust cover.



| Description | Order No. |
|---|-----------|
| Collar,glass filled PTFE,10mm,w/PTFE gasket | 8127-10 |
| Collar,glass filled PTFE,19mm,w/PTFE gasket | 8127-20 |
| Collar,glass filled PTFE,28mm,w/PTFE gasket | 8127-28 |
| Collar,stainless steel,10mm,w/PTFE gasket | 8127-42 |
| Collar,stainless steel,19mm,w/PTFE gasket | 8127-43 |
| Collar,stainless steel,28mm,w/PTFE gasket | 8127-44 |

'STIR-LUBE' Ace Trubore®, Stirrer Lubricant

A superior, low melting, silicone-base lubricant which liquifies at body temperature. Because of its composition, you need apply only a very thin film of "Stir-Lube" to a stirring shaft to increase bearing and shaft life at least three times over that of bearing lubricated with glycerine. Non-cooled ACE bearing can be operated at 1500 rpm and water-cooled bearings up to 2000 rpm for many hours with negligible wear.



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

LUBRICANT Stopcock

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.



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

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.

| Description | Order No. |
|-------------|-----------|
| 30ml | 8119-07 |

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.



| Description | Order No. |
|-------------|-----------|
| 2 oz | 8115-08 |

KRYTOX LVP High Vacuum Grease

Very low vapor pressure, highly inert, nonflammable grease. The grease for high-vacuum systems. Vapor Pressure: torr at 20 °C - 1×10^{-13} ; torr at 200 °C - 1×10^{-5} .



| Description | Order No. |
|-------------|-----------|
| 2 oz | 8116-10 |

Truebore Flexible Drive Shaft Overhead Stirrer

SHAFT Fully flexible drive shaft connects the motor to any size or type of reactor stir shaft. Designed with a ball bearing motor coupling at one end, for connection to any motor with an 8mm (5/16-inch) diameter shaft. The other end has a detachable handpiece with an 8mm round aluminum pin adapter (8081-24) for connection to our 8124 chucks (supplied separately). The handpiece can be supported by a standard lab clamp or hand held. The shafts operate up to 14,000 rpm. Shafts should run in a counter-clockwise direction. Typical torque ratings: sharp bend in shaft, (4-inch loop) -4.7 Kg-cm, (4 in-lbs). Straight shaft -28 Kg-cm, (24 in-lbs). Shafts measure approximately 91.4 cm, (36 inches) or 152.4 cm, (60 inches) with handpiece and motor coupling attached. Optional adapter 8081-27 allows for connection to motors with 9.5mm (3/8-inch) O. D. shaft. Operating and lubrication instructions included. Complete units consist of: either shaft A -8081-05 or shaft A-1, 8081-06, motor coupling for 8mm motor shaft, 8081-12, handpiece with 1/4-inch collet and adapter, chuck wrench, and key chain.

inches) with handpiece and motor coupling attached. Optional adapter 8081-27 allows for connection to motors with 9.5mm (3/8-inch) O. D. shaft. Operating and lubrication instructions included. Complete units consist of: either shaft A -8081-05 or shaft A-1, 8081-06, motor coupling for 8mm motor shaft, 8081-12, handpiece with 1/4-inch collet and adapter, chuck wrench, and key chain.



| | Order No. |
|---|-----------|
| A)Flexible shaft only, 91.4cm | 8081-05 |
| (A-1) Flexible shaft only, 152.4cm | 8081-06 |
| B) Handpiece with 8mm 8081-24 adapter, includes 1/8-inch and 1/4-inch Collets | 8081-08 |
| C)Motor Coupling (only) for 8mm shaft | 8081-12 |
| COMPLETE, 91.4cm (Consists of A, B, C & E) | 8081-30 |
| Complete, 152.4cm (consists of A-1, B, C & E) | 8081-32 |
| Additional Parts: | |
| (E)Chuck wrench with key and chain | 8081-15 |
| (F)Shaft lubrication, 30mL | 8081-19 |
| (G) 8mm Adapter (only) for 8081-08 handpiece | 8081-24 |
| (H)Adapter, connecting (3/8-inch O.D. motor shaft to motor coupling) | 8081-27 |

Lifting platform

Laboratory Lifting platform

- > Material : Stainless (#204)
- > Available to support experiment tools such as stirrers, water baths, flasks and etc in height control
- > Smoothly works with a little force
- > Max Height : 270mm

| Description (W x L) cm | Max Height (mm) | Order No. |
|------------------------|-----------------|-----------|
| S/T (15 * 15) | 270 | KA11-91 |
| S/T (20 * 20) | 270 | KA11-93 |
| S/T (25 * 25) | 270 | KA11-94 |
| S/T (30 * 30) | 270 | KA11-95 |
| S/T (15 * 15) | 270 | KA11-91N |
| S/T (20 * 20) | 270 | KA11-93N |
| A/L (15 * 15) | 270 | KA11-91B |
| A/L (20 * 20) | 270 | KA11-92 |



Clamps

Three-Prong Clamps

| | Overall length(mm) | Maximum grip size(mm) | Order No. |
|--------------|--------------------|-----------------------|-----------|
| Large Clamp | 270 | 80 | KA00-52 |
| Medium Clamp | 245 | 60 | KA00-53 |
| Small Clamp | 210 | 30 | KA00-54 |
| Large Clamp | 615 (Rod :500) | 80 | KA00-52A |



Two-Prong Clamps

Two-Prong Clamp, Dual adjustment clamp has a maximum grip size of 73mm. Two-prong design is ideal for beakers, flasks, and test tubes. Jaws adjust independently. Overall length is 255mm. Clamp extends 127mm

| | Overall length(mm) | Maximum grip size(mm) | Order No. |
|--------------|--------------------|-----------------------|-----------|
| Medium Clamp | 255 | 60 | KA00-50 |
| Medium Clamp | 605 (Rod :500) | 60 | KA00-50A |



Utility Clamp Flat

Grips rods up to 3/4 in. diameter (19mm). Holding angle of jaw is adjustable. Can be locked with a wingnut. Wingnut also allows length adjustment. Two-prong flat jaws for test tubes. Three-prong for irregular shapes. Vinyl and fiber glass sleeves are included. Replacement sleeves are available; contact your Fisher Customer Service Representative.

| Description | Order No. |
|----------------------|-----------|
| 2P direct connection | KA00-57 |



Utility Clamp 3Prong

Grips rods up to 3/4 in. diameter (19mm). Holding angle of jaw is adjustable. Can be locked with a wingnut. Wingnut also allows length adjustment. Two-prong flat jaws for test tubes. Three-prong for irregular shapes. Vinyl and fiber glass sleeves are included.

| Description | Order No. |
|----------------------|-----------|
| 3P direct connection | KA00-58 |



Square Clamp Holder

Material : Die Casting (Chromium plating)
Pipe Diameter : Ø12.7mm

| Description | Order No. |
|-------------|-----------|
| Ø12.7mm | KA00-68 |



Foot

Material : Die Casting (Chromium plating)
Pipe Diameter : Ø12.7mm

| Description | Order No. |
|-------------|-----------|
| Ø12.7mm | KA00-73 |



Overhead Stirrers

Clamp Swivel Holder

Material : Brass (Chromium plating)

Adjustable angle holder, different from the other holder fixed at 90 degrees



| Description (Max Grip) | Order No. |
|------------------------|-----------|
| Ø13mm | KA00-71B |

Ring Clamp

Material : Stainless Steel (Chromium plating)

For Funnel & Separatory Funnel



| Description (ID) | Order No. |
|------------------|-----------|
| Ø90mm | KA00-65 |
| Ø70mm | KA00-66 |
| Ø50mm | KA00-67 |

Extension-Type Ring

Material : Stainless Steel (Chromium plating)

Separatory Funnel Size : 250ml-70mm / 500ml-90mm / 1,000ml-100mm



| Description (ID x OD) | Order No. |
|-----------------------|-----------|
| Ø50 x Ø60mm | KA00-67F |
| Ø70 x Ø80mm | KA00-67A |
| Ø90 x Ø100mm | KA00-67B |
| Ø110 x Ø120mm | KA00-67C |
| Ø130 x Ø140mm | KA00-67D |
| Ø150 x Ø160mm | KA00-67E |

Clamp Holder (Regular)

Will grip rods up to and including 19mm diameter. Attaches clamp at right angle.



| Order No. |
|-----------|
| 11080-19 |

Jumbo Clamp Holder

Heavy-Duty Clamp Holder, Jumbo clamp holder has a maximum grip size of 22mm Heavy duty version of the regular holder is for use wherever clamping at 90 ° angle is required



| Content | Order No. |
|-----------------|-----------|
| Max Grip (22mm) | KA00-70A |

Pinch Cock

Material : Stainless Steel (Nickel plating)



Screw Cock

Material : Brass (Nickel plating)

| Content (mm) | Material | Order No. |
|--------------|----------------------------------|-----------|
| 12 | Stainless Steel (Nickel Plating) | KA00-71 |
| 12 | Brass (Nickel Plating) | KA00-72 |

Spring Steel Clip

Material : Nickel



| Description | Order No. |
|-------------|-----------|
| 14 / 23 | KC.KCM14 |
| 19 / 26 | KC.KCM19 |
| 24 / 29 | KC.KCM24 |
| 29 / 32 | KC.KCM29 |

Chain Clamp

Material : Stainless Steel / Vinyl Coating



| Description (Max Grip x Length) | Order No. |
|---------------------------------|-----------|
| 165 x 180mm | KA00-56 |
| 280 x 180mm | KA00-56A |

Frame Holder

Lab frame hook connector allow one-handed assembly of two components with one adjustment screw.

Material : Die Casting (Chromium plating)

Pipe Diameter : Ø12.7mm



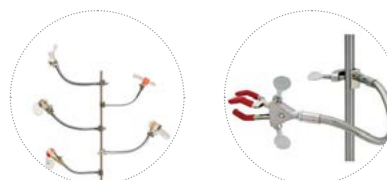
| Pipe Diameter | Order No. |
|---------------|-----------|
| 12.7mm | KA00-69 |
| 12.7mm | KA00-70C |



KA00-50B

KA00-50C

| Description (Max Grip x Length) | Order No. |
|---------------------------------|-----------|
| 60 x 360, 2P | KA00-50B |
| 60 x 360, 3P | KA00-50C |



Clamping system features a 12-inch or 16-inch flex arm. Ideal for working within hoods. The system mounts to any lab frame or support stand with a 19mm or less diameter. An optional base plate or bench clamp provides increased versatility. Complete units (-10 and -12) include flex arm, two-prong head, three-prong head, spring head, and lab frame connector. Comes with an extra set of fiberglass prong covers for temperatures above 100 °C.

| Order No. | Description |
|-----------|---|
| 11058-10 | Complete clamping system with 300cm arm |
| 11058-12 | Complete clamping system with 400cm arm |

Clamp Holder All-Position

All-position holder connects at any angle in any plane. Consists of two holders connected by double plate-joint which sets holders 90° from each other. Each holder can be rotated 360°. Grips rods up to 19mm diameter.



| | Order No. |
|--------------|-----------|
| All-Position | 11090-17 |

Clamp Universal Swivel, "Power Hold"

Universal swivel clamp allows positioning of stirrer at any compound angle for best stirring action.

One knob — Lets you lower or raise stirrer

One knob — Locks stirrer on support rod, tilts right/left

One knob — Controls swivel setting, forward/backward

Fits support stand from 3/8-inch to 5/8-inch (9.5mm to 16mm) diameter. Will hold stirrer mounting rod from 3/8-inch to 5/8-inch diameter. Fabricated of precision machined aluminum.



| | Order No. |
|--------------------------------|-----------|
| Universal Swivel, "Power Hold" | 11084-11 |

Clamp Holder

Only suitable for Single Rod Stand

| Model | WH2 |
|--------------------------------|----------------|
| Clamping range - stand | 6~30mm |
| Clamping range - extension arm | 6~16mm |
| Material | cast aluminium |



Clamp Holder

Only suitable for Single Rod Stand

| Model | WH1 |
|--------------------------------|----------------|
| Clamping range - stand | 6~16mm |
| Clamping range - extension arm | 6~16mm |
| Material | cast aluminium |



Clamp Holder

Only suitable for Double Rod Stand

| Model | WH4 |
|--------------------------------|----------------|
| Clamping range - stand | 16mm |
| Clamping range - extension arm | 10~13mm |
| Material | cast aluminium |



Extension Rod

Extend the rod to the expected length for your application



| Order No. | Diameter (mm) | Height (mm) |
|-----------|---------------|-------------|
| WE-11 | 16 | 200 |
| WE-12 | 16 | 400 |
| WE-13 | 16 | 550 |

Stands

WF Stand

Material : Ordinary steel, stainless steel

Max. load : 5 kg

Dimensions (W x D) : 315X200mm

Height : 550, 750, 950 mm



| Model | Height (mm) |
|-------|-------------|
| WF11 | 550 |
| WF12 | 750 |
| WF13 | 950 |

WF Stand

Material : Ordinary steel, stainless steel

Dimensions (W x D) : 315X200mm

Height : 550, 750, 950 mm



| Model | Height (mm) |
|--------|-------------|
| WF11-D | 550 |
| WF12-D | 750 |
| WF13-D | 950 |

WH Stand (Stand with base plate H-shape)

Particularly stable stand with H-shape base which prevents the stand from tipping backwards. Provides optimum stability required for larger, heavier instruments and attachments, for example with rheological measurements using overhead stirrers.

> Material : Aluminum, stainless steel

> Dimensions (W x D) : 340X300mm

> Height : 550, 750, 950 mm



| Model | Height (mm) |
|--------|-------------|
| WH11-S | 550 |
| WH12-S | 750 |
| WH13-S | 950 |

WH Stand

Stand with base plate H-shape

Particularly stable stand with H-shape base which prevents the stand from tipping backwards. Provides optimum stability required for larger, heavier instruments and attachments, for example with rheological measurements using overhead stirrers.

> Material : Aluminum, stainless steel

> Height : 550, 750, 950 mm



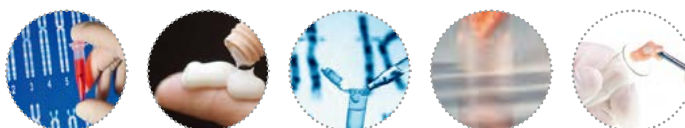
| Model | Height (mm) | Model | Height (mm) |
|--------|-------------|---------|-------------|
| WH21-D | 550 | - | - |
| WH22-D | 750 | - | - |
| WH23-D | 950 | WH23-DS | 1200 |



5 Homogenizers

Handheld Homogenizer D-130

When speed & high quality meet
creating power to disperse



Stand
Order No. : 1710130-01

Features

- > Use for mixing, emulsification, shredding, or chopping.
- > Practical answer for small samples.
- > Easy to hold and light weight for one hand operation.
- > Autoclavable stainless steel shafts. Inert to aggressive solutions.
- > All shafts are interchangeable shafts and are easily removed for cleanup.
- > High speed motor. Speed control from 8,000 to 30,000 rpm.

Applications

- > General homogenization applications (dispersion and emulsification)
- > Homogenising of tumour tissue sample, for research of diverse tissue diseases
- > Fast dissolving of pills, sugar-coated tablets for quality control purposes
- > Sample preparation for subsequent extraction of pharmaceutical agents (API)
- > Cell disruption, RNA / DNA isolation from tissue
- > Dispersion of small quantities from plants, animals or human tissue
- > Solving of solid materials

Specifications



| | |
|-------------------------------------|--|
| Model | D-130 |
| Speed with Zero-Load (rpm) | 8000 ~ 30000 |
| Process Range H ₂ O (mL) | 0.1 ~ 50 (H ₂ O) / 1 ~ 250 (H ₂ O) |
| Input / Output Power (W) | 130 |
| Contact Material | 316L Stainless Steel |
| Optional working head | Ø5mm/L90mm(0.1 ~ 50mL) Ø10mm/L150mm(1 ~ 250mL) |
| Order No. | 1710130 |

Shaft for D-130

| Model | DS-130/5 | DS-130/7 | DS-130/10 | DS-130/14 |
|-----------------|----------|----------|-----------|-----------|
| Length | 90mm | 160mm | 150mm | 170mm |
| Rotor Di-ameter | 5mm | 7mm | 10mm | 14mm |
| Volume Range | 0.1-50ml | 0.3-50ml | 1-250ml | 2-250ml |



High Speed Homogenizer

D-500 / D-500 Pro

Used for homogenizing, emulsifying or suspending. There is a broad spectrum of dispersing tools to choose from.

Features

- > Continuously adjustable speeds for better results
- > Light-weighted and small-dimensioned for better handling
- > Triple safety of the drive (overload protection. Smooth start – against jerky work, safety switch)
- > High quality dispersing tools as standard for better resistance to corrosion (SS 316 L steel)
- > Quick-change system of the dispersing tools for a short changing time between preparations
- > Viscosities up to 10,000 cps
- > One shaft size
- > High quality lab dispersing unit, at a competitive price!

Specifications

| Model | D-500 | D-500 Pro |
|------------------------------------|------------------------|---|
| Speed display | Scale | LED |
| Process Range H ₂ O(mL) | 10~40,000mL | 10~40,000mL |
| Speed with Zero-Load (rpm) | 10,000~30,000 rpm | 500~30,000 rpm |
| Applicable aggregates | Ø4~Ø23 mm | Ø4~Ø23 mm |
| Noise Level (dB) | 72 dB (30,000 rpm) | 66 dB (2500 rpm); 72 dB (30,000 rpm) |
| Motor | AC | DC Brushless |
| Input / Output Power (W) | 500 W | 500 W |
| Supply voltage (V) | 220V/50~60Hz | 220V/50Hz |
| Relative humidity (max.) | 80% RH | 80% RH |
| Operating temperature | 0~40 | 0~40 |
| IP Code | IP20 | IP20 |
| Dimensions (W x L x H in mm) | Drive:70 x 70 x 255 mm | Drive:157 x 76 x 236 mm |
| Weight (kg) | Drive:1.3 kg | Drive:1.8 kg |

CE



D-500

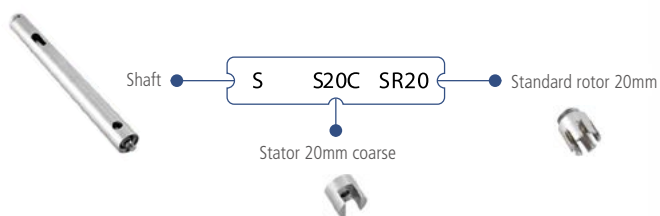


D-500 Pro

Buy one set of D-500 (includes homogenizer, shaft and stands), get one dispersion cup free



Shaft Selection Guide for High Speed Homogenizer



Shaft 5

Includes: Shaft, PTFE bearing, 5 mm stator, 4 mm rotor



SS20CSR20

Includes: Shaft, PTFE bearing, 20 mm stator, standard rotor SR20



SS20FER20

Includes: Shaft, PTFE bearing, 20 mm stator, emulsification rotor ER20



SS30CSR30

Includes: Shaft, PTFE bearing, 30 mm stator, standard rotor SR30



SS30FER30

Includes: Shaft, PTFE bearing, 30 mm stator, emulsification rotor ER30



SS40CMR30

Includes: Shaft, PTFE bearing, 40 mm stator, mixing rotor MR30



Composition Diagram



Shaft / Order Table

| Rotor Name | Function Description | Process Volume | Linear Velocity | Rotor Diameter | Stator Diameter | Min. / Max. | Ultimate Fineness (in microns) | | Disinfection Method | Applications* |
|------------|------------------------------|----------------|-----------------|----------------|-----------------|-----------------|--------------------------------|----------|---------------------|-----------------|
| Order No. | | mL | m/s | mm | mm | Immersion Depth | suspension | emulsion | | |
| SS20CSR20 | Solid-Liquid Mixing Material | 10-5000 | 23.5 | 15 | 20 | 40/170 | 10-50 | 1-10 | | P,CI,PC,SD |
| SS20CCR20 | Fiber Material | 10-5000 | 23.5 | 15 | 20 | 40/170 | 10-50 | 1-10 | | SP,M,F,PT,TI |
| SS20CMR20 | Solid-Liquid Mixing Material | 10-5000 | 23.5 | 15 | 20 | 40/170 | 10-50 | 1-10 | | CI,PI |
| SS20FER20 | Latices | 10-5000 | 23.5 | 15 | 20 | 40/170 | 10-50 | 1-10 | | SP,PI,PT,P |
| SS20FCR20 | Fiber Material | 10-5000 | 23.5 | 15 | 20 | 40/170 | 10-50 | 1-10 | | SP,BT,M,F,PT,TI |
| SS20FMR20 | Solid-Liquid Mixing Material | 10-5000 | 23.5 | 15 | 20 | 40/170 | 10-50 | 1-10 | | CI,C,PI,F,PT,PC |
| SS30CMR20 | Stirring Paddle Function | 250-20000 | 36.1 | 15 | 30 | 40/170 | High-speed mixer | | | CI,F,SP |
| SS30CSR30 | Solid-Liquid Mixing Material | 100-8000 | 36.1 | 23 | 30 | 40/170 | 5-25 | 1-5 | | SP,M,F,PT,P |
| SS30CCR30 | Fiber Material | 100-8000 | 36.1 | 23 | 30 | 40/170 | 5-25 | 1-5 | all methods | SP,M,F,PT,P |
| SS30CMR30 | Solid-Liquid Mixing | 100-8000 | 36.1 | 23 | 30 | 40/170 | 5-25 | 1-5 | | CI,PI |
| SS30FSR30 | Solid-Liquid Mixing Material | 100-8000 | 36.1 | 23 | 30 | 40/170 | 5-25 | 1-5 | | SP,PI,PT,P |
| SS30FER30 | Latices | 100-8000 | 36.1 | 23 | 30 | 40/170 | 5-25 | 1-5 | | SP,PI,PT,P |
| SS30FMR30 | Solid-Liquid Mixing Material | 100-8000 | 36.1 | 23 | 30 | 40/170 | 5-25 | 1-5 | | CI,C,P,F,DT,TI |
| SS40CMR30 | Stirring Paddle | 1000-40000 | 36.1 | 23 | 40 | 40/170 | High-speed mixer | | | CI,F,SP |
| Shaft 5 | Solid-Liquid Mixing Material | 0.2-50 | 6.3 | 4 | 5 | 40/60 | 10-50 | 1-10 | | BT,M |
| Shaft 10 | Solid-Liquid Mixing Material | 1-250 | 6.3 | 9 | 10 | 10/60 | 10-50 | 1-10 | | BT,M |
| Shaft 14 | Solid-Liquid Mixing Material | 100-1000ml | 6.3 | 13 | 14 | 10/60 | 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

Dispersing Vessels

Choosing the right dispersing aggregate is crucial for good results. The right vessel also helps contribute to achieving the desired results.

The Problem from traditional dispersing vessels

- > For normal cylindrical dispersing jars, the flow creates a vortex. The mixing and dispersing efficiency decreases considerably since the product is no longer being optimally processed through the dispersing generator head. This lengthens processing times and thus requiring more energy input. Depending on the shape of the vortex, this may also lead to additional air being introduced.

The Solution from Wiggins

- > Our specially designed GS jars have a cloverleaf-like shape. This effectively interrupts the flow in the radial direction and generates additional counteracting forces. These high turbulences maximize the mixing and dispersion efficiency, thus minimizing processing time and requiring less energy.
- > Our GS-glasses are available in chemical- and temperature-resistant borosilicate glass or in stainless steel. Dimensions from a few milliliters to several liters are available, with or without lid, with or without sealed feedthrough.



| Model | Dim. (mm) Ø / H | Working Vol. | Shape | Material | Features | Order No. |
|-------------|-----------------|--------------|--------------------|---------------------|---|-----------|
| GS 15 | 30 / 150 | 35 ml | Clover leaf shaped | Borosilicate glass | Top open without cover | 11050010 |
| GS 25 | 55 / 150 | 150 ml | Clover leaf shaped | Borosilicate glass | Top open without cover | 11050011 |
| GS 40 | 80 / 200 | 500 ml | Clover leaf shaped | Borosilicate glass | Top open without cover | 11050012 |
| GS 50 | 90 / 250 | 1000 ml | Clover leaf shaped | Borosilicate glass | Top open without cover | 11050013 |
| GS 60 | 100 / 300 | 1300 ml | Clover leaf shaped | Borosilicate glass | Top open without cover | 11050014 |
| GS 15K | 30 / 150 | 35 ml | Clover leaf shaped | Borosilicate glass | | 11050020 |
| GS 25K | 55 / 150 | 150 ml | Clover leaf shaped | Borosilicate glass | with screw cap glas inlet: | 11050021 |
| GS 40K | 80 / 200 | 500 ml | Clover leaf shaped | Borosilicate glass | GS 15K Ø 9 mm | 11050022 |
| GS 50K | 90 / 250 | 1000 ml | Clover leaf shaped | Borosilicate glass | GS 25K Ø 25 mm | 11050023 |
| GS 60K | 100 / 300 | 1300 ml | Clover leaf shaped | Borosilicate glass | GS 40/50/60K Ø 40 mm | 11050024 |
| GS 15KL 7.5 | 30 / 150 | 35 ml | Clover leaf shaped | Borosilicate glass | | 11050030 |
| GS 25KL 12 | 55 / 150 | 150 ml | Clover leaf shaped | Borosilicate glass | | 11050031 |
| GS 25KL 20 | 55 / 150 | 150 ml | Clover leaf shaped | Borosilicate glass | with screw cap tapered fitting 7.5, 12, 20 or 25 mm | 11050032 |
| GS 40KL 25 | 80 / 200 | 500 ml | Clover leaf shaped | Borosilicate glass | glas inlet (as above) | 11050034 |
| GS 50KL 25 | 90 / 250 | 1000 ml | Clover leaf shaped | Borosilicate glass | | 11050036 |
| GS 60KL 25 | 100 / 300 | 1300 ml | Clover leaf shaped | Borosilicate glass | | 11050038 |
| GS 100 Z | 100 / 150 | 900 ml | Cylindrical | V2A Stainless steel | Top open without cover | 11050060 |
| GS 130 Z | 125 / 170 | 2000 ml | Cylindrical | V2A Stainless steel | Top open without cover | 11050061 |

Stands

- > Strong base for optimal weight distribution
- > Base made of cast iron and shafts made of stainless steel
- > Different heights available
- > WF-D series specifically designed for D-500 and D-500Pro homogenizers
- > WF, WH-S, and WH-D series all suitable for overhead stirrers
- > WF-D and WH-D series include high quality clamps

| Order No. | Description | Suitable for |
|-----------|--|-----------------|
| WF11-D | Can be extended flat bracket (double rod design) | D-500, D-500Pro |
| 11045011 | Vessel holder with boss head clamp for WF11-D | WF11-D, WH11-D |
| 11045030 | Safety ring for stand WF | WF11-D, WH11-D |



Clamp Holder































Security position ring





















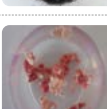





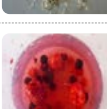



Fixing clamp for dispersion cup



Dispersing tests D-500 / D-500Pro

| No. | Material | Amount | Pregrinded | Liquid | Vessel | Speed | Duration | Result | Remarks | Test okay? Yes/no | Sample before Dispersing | Sample after Dispersing |
|-----|-----------------|------------------|--------------|--------------|--------------------------|-------|----------|--|---|----------------------|---|---|
| 1 | Rape oil | 5 ml | no | 80 ml water | 100ml measuring Cylinder | max. | 1 min | stable emulsion | | yes |  |  |
| 2 | Liver | 20 g | 10 mm pieces | 200 ml water | 500 ml beaker | max. | 30 s | homogeneous Suspension | sample complete homogenized | yes |  |  |
| 3 | Rice | 20 g | no | 80 ml water | 100ml measuring Cylinder | max. | 1 min | homogeneous Suspension | only small pieces of rice left | yes |  |  |
| 4 | Basil leaf | 10 pieces | 10 mm pieces | 200 ml water | 500 ml beaker | max. | 1 min | homogeneous Suspension | only small pieces of leaves left | yes |  |  |
| 5 | Spelt flakes | 25 g | no | 80 ml water | 100ml measuring Cylinder | max. | 1 min | homogeneous Pulp | | yes |  |  |
| 6 | Ham cooked | 20 g | 1 cm pieces | 200 ml water | 500 ml beaker | max. | 30 s | homogeneous Suspension | only very small pieces of fibres left | yes |  |  |
| 7 | Confetti | about 200 pieces | no | 70 ml water | 100ml measuring Cylinder | max. | 1 min | homogeneous Cellulose Suspension | a very small part Stick between rotor and stator | yes |  |  |
| 8 | Wood | 5 Toothpicks | 1 cm pieces | 200 ml water | 500 ml beaker | max. | 1 min | about 60 % of the picks were Grinded | some psrts of the Picks are not Grinded and stick | yes |  |  |
| 9 | Tobacco | 1 cigarette | no | 150 ml water | 250 ml beaker | max. | 1 min | bad homogenizing Most of the tobacco floats ungrinded on the surface | a few fibres stick In the gaps between Rotor and stator | no |  |  |
| 10 | Doves | 30 pieces | no | 200 ml water | 500 ml beaker | max. | 1 min | homogeneous Suspension | all cloves are Grinded | yes |  |  |
| 11 | Mustard seeds | 10 g | no | 150 ml water | 500 ml beaker | max. | 1 min | homogeneous Suspension | all seeds were Grinded | yes |  |  |
| 12 | Herbal tea | 2 g | no | 500 ml water | 2 l beaker | max. | 1 min | homogeneous Suspension | the herbal tea was completely Grinded | yes |  |  |
| 13 | Sunflower seeds | 20 g | no | 150 ml water | 500 ml beaker | max. | 1 min | homogeneous Suspension | all seeds were Grinded | yes |  |  |
| 14 | Dragees | 5 pieces | no | 60 ml water | 100ml measuring Cylinder | max. | 1 min | homogeneous Suspension | the dragee was Completely grinded | yes |  |  |





























Dispersing tests D-500 / D-500Pro

| No. | Material | Amount | Pregrinded | Liquid | Vessel | Speed | Duration | Result | Remarks | Test okay? Yes/no | Sample before Dispersing | Sample after Dispersing |
|-----|----------------------------|-----------|--------------|--------------|--------------------------|-------|----------|-------------------------|---------------------------------------|----------------------|---|---|
| 15 | Chicken meat | 10 g | 10 mm pieces | 200 ml water | 500 ml beaker | max. | 20 s | homogeneous Suspension | part of teendons Wrap around rotor | yes |  |  |
| 16 | Ivy | 10 leaves | 10 mm pieces | 200 ml water | 500 ml beaker | max. | 2 min | Homogeneous Suspension | only very small pieces of leaves left | yes |  |  |
| 17 | Rose blossom | 10 leaves | 10 mm pieces | 200 ml water | 500 ml beaker | max. | 2 min | homogeneous Suspension | only very small pieces of leaves left | yes |  |  |
| 18 | Whole grain Bread | 20 g | 10 mm pieces | 200 ml water | 500 ml beaker | max. | 2 min | homogeneous Suspension | the vessel must be moved | yes |  |  |
| 19 | Carrot | 10 g | 10 mm pieces | 200 ml water | 500 ml beaker | max. | 2 min | homogeneous Suspension | the vessel must be moved | yes |  |  |
| 20 | Harzer cheese | 20 g | 10 mm pieces | 200 ml water | 500 ml beaker | max. | 20 s | homogeneous Suspension | the vessel must be moved | yes |  |  |
| 21 | Rapes with Kernels | 5 pieces | 10 mm pieces | 200 ml water | 500 ml beaker | max. | 1 min | homogeneous Suspension | only very small pieces of rapes left | yes |  |  |
| 22 | Coffee beans | 10 pieces | no | 60 ml water | 100ml measuring Cylinder | max. | 1 min | homogeneous Suspension | only very small pieces of coffee left | yes |  |  |
| 23 | Soil sample | 20 g | no | 200 ml water | 500 ml beaker | max. | 1 min | homogeneous Suspension | only very small pieces of stones left | yes |  |  |
| 24 | Pork meat (fat and sinewy) | 10 g | 10 mm pieces | 200 ml water | 500 ml beaker | max. | 1 min | homogeneous Suspension | part of teendons Wrap around rotor | yes |  |  |
| 25 | Pet food | 20 g | 10 mm pieces | 200 ml water | 500 ml beaker | max. | 30 s | homogeneous Suspension | part of teendons Wrap around rotor | yes |  |  |
| 26 | Styrofoam | 2 cm³ | 10 mm pieces | 200 ml water | 500 ml beaker | max. | 1 min | no grinding effect | | no |  |  |
| 27 | Berries mix | 20 g | no | 200 ml water | 500 ml beaker | max. | 30 s | homogeneous Suspension | all berries are Grinded | yes |  |  |
| 28 | Tomatoes | 50 g | 10 mm pieces | without | 250 ml beaker | max. | 2 min | homogeneous Tomato pulp | the vessel must Be moved | yes |  |  |

Dispersing tests D-130

| No. | Material | Amount | Pregrinded | Liquid | Vessel | Speed | Duration | Result | Remarks | Test okay? Yes/no | Sample before Dispersing | Sample after Dispersing |
|-----|--------------------|--------------------|-------------|----------------|--------------------|-------|----------|--|--|----------------------|---|---|
| 1 | Rape oil | 20 drops | no | 10 ml water | test tube 16 mm | max. | 1 min | stable emulsion | | yes |  |  |
| 2 | Chicken liver | 1 g | 5 mm pieces | 10 ml water | test tube 16 mm | max. | 30 s | homogeneous Suspension | sample complete Homogenized | yes |  |  |
| 3 | Rice | 1g | no | 10 ml water | test tube 16 mm | max. | 1 min | homogeneous Suspension | only very small pieces of rice left | yes |  |  |
| 4 | Basil leaf | 1 piece | 5 mm pieces | 10 ml water | test tube 16 mm | max. | 1 min | homogeneous Suspension | only small pieces of leaves left | yes |  |  |
| 5 | Spelt flakes | 2 g | no | 15 ml water | test tube 16 mm | max. | 1 min | homogeneous Pulp | | yes |  |  |
| 6 | Ham cooked | 2 g | 5 mm pieces | 50 ml water | 150 ml beaker | max. | 30 s | homogeneous Suspension | only very small pieces of leaves left | yes |  |  |
| 7 | Confetti | about 20 pieces | no | 10 ml water | test tube 16 mm | max. | 1 min | homogeneous Cellulose Suspension | | yes |  |  |
| 8 | Wood | 1 toothpick | 5 mm pieces | 10 ml water | test tube 16 mm | max. | 1 min | pick was not Grinded | slight abrasion of The wood pieces | no |  |  |
| 9 | Tobacco | 0,5 cigarettes | no | 10 ml water | test tube 16 mm | max. | 30 s | homogeneous Pulp | a few fibres stick In the gaps of The stator | yes |  |  |
| 10 | Cloves | 5 pieces | no | 10 ml water | test tube 16 mm | max. | 1 min | no grinding effect | no cloves was Grinded | no |  |  |
| 11 | Mustard seeds | 1 g | no | 10 ml water | test tube 16 mm | max. | 1 min | homogeneous Suspension | all seeds were Grinded | yes |  |  |
| 12 | Herbal tea | 0,5 g | no | 10 ml water | test tube 16 mm | max. | 1 min | homogeneous Suspension | the herbal tea was completely Grinded | yes |  |  |
| 13 | Sunflower seeds | 2 g | no | 15 ml water | test tube 16 mm | max. | 1,5 min | homogeneous Suspension | all seeds were Grinded | yes |  |  |
| 14 | Dragee | 1 piece | no | 10 ml water | test tube 16 mm | max. | 1 min | homogeneous Suspension | the dragee was Completely grinded | yes |  |  |

Dispersing tests D-130

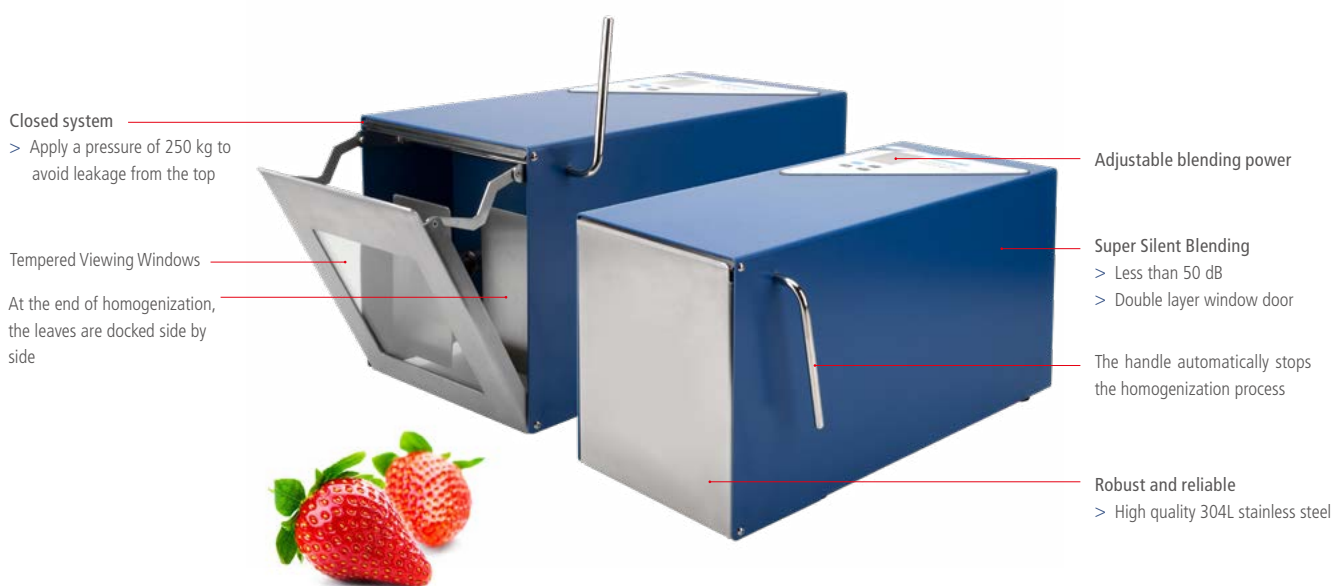
| No. | Material | Amount | Pregrinded | Liquid | Vessel | Speed | Duration | Result | Remarks | Test okay? Yes/no | Sample before Dispersing | Sample after Dispersing |
|-----|----------------------------|----------|--------------|-------------|-----------------|-------|----------|--------------------------|---|----------------------|---|---|
| 15 | Chicken meat | 2 g | 5 mm pieces | 10 ml water | test tube 16 mm | max. | 20 s | homogeneous Suspension | part of teendons Wrap around rotor | yes |  |  |
| 16 | Ivy | 2 leaves | 5 mm pieces | 10 ml water | test tube 16 mm | max. | 2 min | inhomogeneous Suspension | 20 % of the leaves Were not grinded | no |  |  |
| 17 | Rose blossom | 2 leaves | 5 mm pieces | 10 ml water | test tube 16 mm | max. | 1 min | homogeneous Suspension | some fibres stick In the gaps of The stator | yes |  |  |
| 18 | Whole grain Bread | 2 g | 5 mm pieces | 15 ml water | test tube 16 mm | max. | 30 s | homogeneous Suspension | | yes |  |  |
| 19 | Carrot | 2 g | 5 mm pieces | 10 ml water | test tube 16 mm | max. | 2 min | no grinding effect | carrots are too hard | no |  |  |
| 20 | Harzer cheese | 2 g | 5 mm pieces | 10 ml water | test tube 16 mm | max. | 10 s | homogeneous Sample | | yes |  |  |
| 21 | Rapes with Kernels | 5 pieces | 5 mm pieces | 10 ml water | test tube 16 mm | max. | 1 min | homogeneous Suspension | only very small pieces of rapes left | yes |  |  |
| 22 | Coffee beans | 1 piece | quartered | 10 ml water | test tube 16 mm | max. | 1 min | homogeneous Suspension | only very small pieces of coffee left | yes |  |  |
| 23 | Soil sample | 1 g | no | 10 ml water | test tube 16 mm | max. | 30 s | homogeneous Suspension | only very small pieces of stones left | yes |  |  |
| 24 | Pork meat (fat and sinewy) | 1 g | 5 mm pieces | 10 ml water | test tube 16 mm | max. | 1 min | homogeneous Suspension | part of teendons Wrap around rotor | yes |  |  |
| 25 | Pet food | 1 g | 5 mm pieces | 10 ml water | test tube 16 mm | max. | 30 s | homogeneous Suspension | part of teendons Wrap around rotor | yes |  |  |
| 26 | Styrofoam | 0,5 cm³ | 5 mm pieces | 10 ml water | test tube 16 mm | max. | 1 min | no grinding effekt | | no |  |  |
| 27 | Berries mix | 2 g | no | 10 ml water | test tube 16 mm | max. | 30 s | homogeneous Suspension | all berries are Grinded | yes |  |  |
| 28 | Tomatoes | 15 g | 10 mm pieces | without | 50 ml beaker | max. | 2 min | homogeneous Tomato pulp | parts of the bowl are Not grinded | yes |  |  |

Flapping Homogenizer (Stomaker)

- > Flapping Homogenizer is also called Sterile Homogenizer, can be used to abstract bacteria from solid samples. Put the original samples and the diluents into the sterile bag, then put the bag into the homogenizer, through the flapping of the paddles, the material in the bag can rapidly reach a homogenized state by the pressure, shaking and vibration.
- > To guarantee the uniformity of the effective extraction of the microorganism inside and on the surface of the solid sample, make sure to include all the material in the sterile bag. The homogenized sample then can be used for the following analysis, the sterile bag avoids the cross contamination.
- > Using disposable sterile homogeneous bags to guarantee the sample safety and non-contamination, leakless process omits cleaning of the instrument. The advantage of the flapping homogenization is convenient, quick, mild, accurate and good repeatability. Samples will not be contaminated, damaged, heated, and no sterilization as well as no container is needed, thus no container cleaning process either.

Applications:

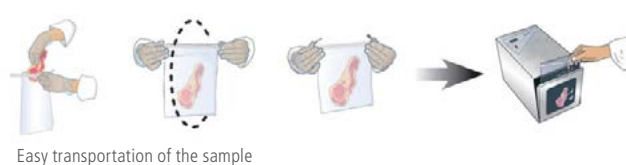
- > Food microbiological analysis
- > Homogenization of animal tissues, biological samples, and cosmetics
- > Homogenization of meats, fish, vegetables, and fruits
- > Medicines, clinics, molecules, detection of toxins and bacteria



Features

- > Leading microprocessor technology for flap control
- > Adjustable flapping speed for the HG400V and the HG400VW (20~600 Strokes / min, 10~300rpm)
- > Working time can be set on continuous or between 1min ~24h
- > Maintenance-free brushless DC motor
- > Stainless steel housing with plastic coating
- > Easy to clean working chamber
- > The HG400V and the HG400VW employ digital setting and display of the working time
- > Digital and analog interface for remote control

Sterile bag for sampling and samples homogenization.



Selection

| Model | HG400V | HG400VW |
|---------------------------------------|---|---------------------------------|
| Door Design | Stainless Steel Door | SS-Door With Observation Window |
| Capacity Range | 50-400 mL | 50-400 mL |
| Flapping Speed | Adjustable Between 20~600 Strokes / min (10~300rpm) | |
| Exterior Size (LxWxH)(W x D x H, cm) | 45 x 21 x 24 | 45 x 21 x 24 |
| Interior Size(W x D x H, cm) | 10 x 19 x 22 | 10 x 19 x 22 |



Collect the sample and blend in the same bag

Flapping Homogenizer

From sample preparation.....to microbiological analysis

WIGGENS provides a complete solution



1

Collecting the sample

Place the sample in sterile filter bag. The bag stands upright.



2

Diluting the sample

Add the right amount of diluent into the sterile bag



3

Homogenizing the sample

The sample is homogenized with the Flapping Homogenizer. There is no contact between the sample and the machine to avoid cross-contamination.



5

Pipet the filtered sample

Preparation of dilute inoculation fluid (gradient) with precision pipetting device from Socorex.



4

Organizing the samples

It is easy to absorb and transfer because the filter bag integrates the filtering effect



6

Prepare your media

Preparation and subpackage of medium with BioFlo ELITE peristaltic pump



7

Plating

Diluting coating method

Please choose Petri dish automatic turntable from WIGGENS



Flat plate crossed inoculation

Please choose automatic sterilization device from WIGGENS for automatic sterilization of inoculation rings



8

Counting the colonies

It is very fast for counting when using the colony counter



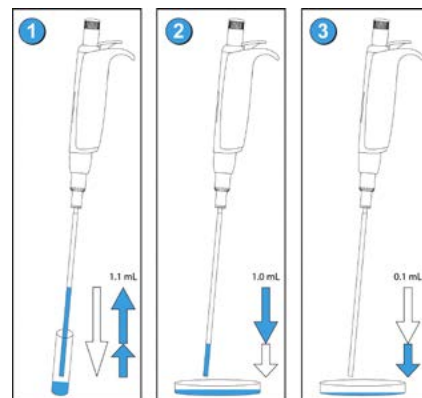
Accessories for flapping homogenizer

Dilution pipette Acura® manual 810

Air displacement pipette with two pre-calibrated steps allows subsequent pipetting of 1 and 0.1 mL of the same liquid. Metal nozzle fits long straw tips to aspirate from narrow or deep reservoirs (i.e. Stomacher®bags). Ideal alternative to the graduated glass pipettes when performing serial 1:10 dilutions in bacteriology.

Features

- > Two pre-calibrated fixed volumes – no setting required
- > Smooth activation, excellent ergonomics
- > Interchangeable PE nozzle protection filter
- > Justip™ system for height adjustment of tip ejector
- > Independent calibration for each volume
- > Easy maintenance, cleaning and disinfection
- > Fully autoclavable 121 / 250 °F



Ordering information

| Order No. | Packaging | Description |
|-------------|--------------|--|
| 810.1100 | 1 / pk | 1 mL 0.1 mL |
| 313.1119.40 | 40 x 25 / pk | Straw tips, polypropylene, sterilized (L: 190 mm, Ø: 4 mm) |
| 322.810 | 100 / pk | Nozzle protection filter, PE material |

Simple operation

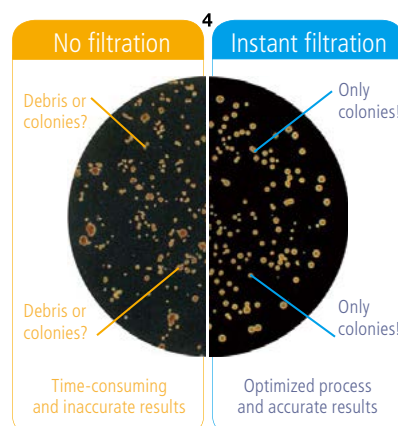
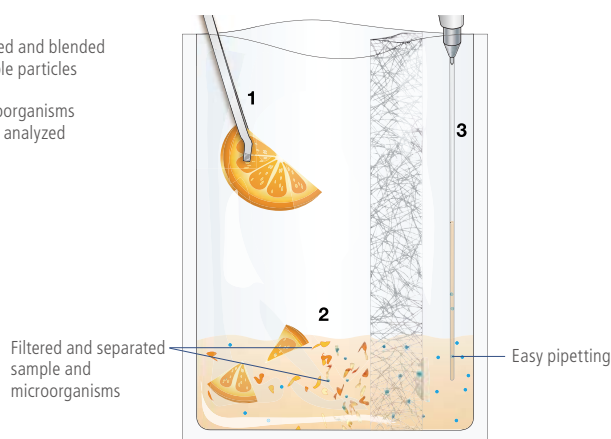
1. Depress plunger button in full, then release slowly to aspirate 1.1 mL
2. Depress plunger button to first stop, thus dispensing 1 mL in Petri dish
3. Depress plunger button to second stop, thus dispensing residual 0.1 mL in next Petri dish

Bags

- > Same bag for homogenization, filtration and pipetting
- > Particle-free solution: easy reading of the colonies
- > Compatible with any blender
- > Sterile, approved for food contact

Why use a filter bag?

- Diluted and blended sample particles
- Microorganisms to be analyzed
- Filter



Order information

| Order No. | Name | Capacity | Content |
|-----------|-----------------------------|----------|-----------------------------|
| 1125C45 | Standard bag | 80 ml | 25 per bag; 60 bags per box |
| 2125C25 | Standard bag | 400 ml | 25 per bag; 20 bags per box |
| 2150C25 | Standard bag | 400 ml | 50 per bag; 10 bags per box |
| 3125C05 | Standard bag | 3500 ml | 25 per bag; 20 bags per box |
| 4125C15 | Full-page filter bag | 400 ml | 25 per bag; 20 bags per box |
| 6125C15 | Lateral filter bag | 400 ml | 25 per bag; 20 bags per box |
| 9125R15 | Rack for Sterilization Bag | | Position: 10 |
| SMCLIP | Clip for Sterilization Bags | - | - |



9125R15



6 Shakers

WS-350R Rocking Shaker

Simple Adjustments for Rocking Speed

WIGGENS Rocking Shaker is innovatively designed for use in a wide range of lab applications. WS-350R provide controlled seesaw-like motion, while the Shakers offer a smooth, low-foaming, 3D wave motion. Each unit include a dimpled mat and universal harness

Your advantages

- > Working speed range from 5rpm to 100rpm
- > Bright TFT with display resolution 1rpm, easy to operate with the knob and the button
- > Tilt Angle range from 7 ° to 13 °
- > Smooth Starting function to protect the split out of sample.
- > User can set the timer from 1 min to 99 hour 59 min, and the timer can be check remaining time.
- > BLDC motor provides low noise and strong durability
- > During overload situation, it will show overload sign, alarm and stop
- > Low profile design, silicon pads, and rubber feet are minimizing noise and vibration to safety of the experiment. During the high mixing sample, the shaker is not be easily slide.



Application

Mixing blood samples, DNA extractions, blotting techniques, staining and destaining gels, hybridizations



Specifications



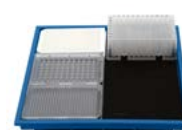
| Model | WS-350R | |
|-------------------------------------|--|----------------------------------|
| Shaking System | Speed range(rpm) | 5~ 100 |
| | Speed control type | Feedback Control |
| | Tilt Angle | Easy adjustable from 7 ° to 13 ° |
| | Timer | 1min to 99 hrs 59 min |
| Safety device | Over current protection | |
| Max. Load including attachment (kg) | 5 | |
| Motor type | BLDC motor | |
| Control panel | TFT(Thin Film Transistor), Touch key,Dial Button | |
| Dimension | Overall Dimension (W×D×H, mm) | 276 x 343 x 150 |
| | Tray dimension (W x D, mm) | 276x 276 |
| | Net Weight (kg) | 6.9 |
| Materials | PP, PET, Powder coated steel | |
| Electrical requirement | 100 ~ 240VAC, 50 / 60 Hz | |
| Order No. | W5011001 | |

Accessories

| Order No. | Part | Description |
|-----------|---------------------------|---|
| W5011101 | Removable tray (Standard) | Included tray, silicon mate and universal harness (6ea) |
| W5011102 | Removable tray | Included tray, rubber mate and universal harness (6ea) |
| W5011201 | Tray | Tray only |
| W5011202 | Rubber mat | Rubber mat |
| W5011203 | Dimpled mat | Dimpled mat |
| W5011204 | Universal harness, 6ea | Universal harness, 6ea |



W5011101



W5011102

WS-350W Waving Shaker

Simple Adjustments for Tilt Angle and Speed

WIGGENS Waving Shaker is innovatively designed for use in a wide range of lab applications. WS-350W provide controlled orbital motion, while the Shakers offer a smooth, low-foaming, 3D wave motion. Each unit include a dimpled mat and universal harness

Your advantages

- > Working speed range from 8rpm to 100rpm
- > Bright TFT with display resolution 1rpm, easy to operate with the knob and the button
- > Tilt Angle range from 0 ° to 13 °
- > Smooth Starting function to protect the split out of sample.
- > User can set the timer from 1 min to 99 hour 59 min, and the timer can be check remaining time.
- > BLDC motor provides low noise and strong durability
- > During overload situation, it will show overload sign, alarm and stop
- > Low profile design, silicon pads, and rubber feet are minimizing noise and vibration to safety of the experiment. During the high mixing sample, the shaker is not be easily slide.



Application

Mixing blood samples, DNA extractions, blotting techniques, staining and destaining gels, hybridizations



Specifications

| Model | | WS-350W |
|-------------------------------------|--|----------------------------------|
| Shaking System | Speed range(rpm) | 8~ 100 |
| | Speed control type | Feedback Control |
| | Tilt Angle | Easy adjustable from 0 ° to 13 ° |
| | Timer | 1min to 99 hrs 59 min |
| Safety device | Over current protection | |
| Max. Load including attachment (kg) | 5 | |
| Motor type | BLDC motor | |
| Control panel | TFT(Thin Film Transistor), Touch key,Dial Button | |
| Dimension | Overall Dimension (W×D×H, mm) | 276 x 343 x 150 |
| | Tray dimension (W x D, mm) | 276x 276 |
| | Net Weight (kg) | 7.3 |
| Materials | PP, PET, Powder coated steel | |
| Electrical requirement | 100 ~ 240VAC, 50 / 60 Hz | |
| Order No. | W5011002 | |

Accessories

| Order No. | Part | Description |
|-----------|---------------------------|---|
| W5011101 | Removable tray (Standard) | Included tray, silicon mate and universal harness (6ea) |
| W5011102 | Removable tray | Included tray, rubber mate and universal harness (6ea) |
| W5011201 | Tray | Tray only |
| W5011202 | Rubber mat | Rubber mat |
| W5011203 | Dimpled mat | Dimpled mat |
| W5011204 | Universal harness, 6ea | Universal harness, 6ea |



W5011101



W5011102

WS-350P Microplate Shaker

Suitable for Microplate, Micro-tube and Conical tube

The microplate shaker is driven by brushless DC motor. It is mainly used in the mixed oscillation of Enzyme Label Plate (96-well / 384-well plate), cell culture plate (24-well plate, 48-well plate, 96-well plate), Micro tube and Conical tube. It can be used in immunoassays, staining and other experiments. Compact design, simple and convenient for operation, safety, stability and no noise.

Your advantages

- > Working speed range from 150rpm to 1200rpm
- > Bright TFT with display resolution 1rpm, easy to operate with the knob and the button
- > Rotational motion with shaking radius of 3mm
- > Smooth Starting function to protect the split out of sample.
- > User can set the timer from 1 min to 99 hour 59 min, and the timer can be check remaining time.
- > Possible to use 1.5ml Micro-tube, 15ml, 50ml Conical tube.
- > BLDC motor provides low noise and strong durability
- > During overload situation, it will show overload sign, alarm and stop
- > Low profile design, silicon pads, and rubber feet are minimizing noise and vibration to safety of the experiment. During the high mixing sample, the shaker is not be easily slide.



Specifications



| | | |
|-------------------------------------|--|------------------------------|
| Model | WS-350P | |
| Shaking System | Speed range(rpm) | 150~1,200 (No-load running)* |
| | Speed control type | Feedback Control |
| | Tilt Angle | 3 |
| | Timer | 1min to 99 hrs 59 min |
| Safety device | Over current protection | |
| Max. Load including attachment (kg) | 4 | |
| Motor type | BLDC motor | |
| Control panel | TFT(Thin Film Transistor), Touch key,Dial Button | |
| Dimension | Overall Dimension (W×D×H, mm) | 249 x 329 x 127 |
| | Tray dimension (W x D, mm) | 267x 183 |
| | Net Weight (kg) | 10.3 |
| Materials | PP, PET, Powder coated steel | |
| Electrical requirement | 100 ~ 240VAC, 50 / 60 Hz | |
| Order No. | W5011003 | |

* Maximum speed at full load is 925 RPM

Accessories

| Order No. | Part | Description |
|-----------|--------------------|--|
| J2311 | Micro-tube rack | 1.5ml Micro-tube rack with cap, 80(5 × 16) |
| S0011 | Micro-tube rack | 15ml Micro-tube rack with cap |
| S0012 | Micro-tube rack | 50ml Micro-tube rack with cap |
| W5011304 | Enzyme label plate | 96-well plate |
| W5011306 | Deep well plate | 96-well plate or 384-well plate |



1.5mL Micro-tube Rack



15mL Conical Tube Rack



50mL Conical Tube Rack

DPM-24 Digital Pulse Mixer

Performing high or low speed pulse vortexing/ mixing for most applications

WIGGENS Digital Pulse Mixer is capable of performing high or low speed pulse vortexing/ mixing for most applications. This unit is able to accommodate a wide variety of glassware, racks, well plates or reactor blocks for accurate, repeatable results. The microprocessor based control technology allows for display of speed, multi-function timer, and pulse profiling.

Your advantages

- > Working speed range from 100rpm to 1500rpm
- > Bright TFT with display resolution 1rpm, easy to operate
- > Built-in digital timer (seconds: 1-60, minutes 1-60, hours 1-24)
- > Preset run times of 30, 60, 90 and 120 seconds
- > User selectable pulse profile (Pulses-per-minute: 1-100), Ppm-duty-cycle: 1-99 %
- > Timer and Pulse mode may be combined for timed-pulse mode
- > Fail Safe Mode to prevent speed fluctuations
- > BLDC motor provides low noise and strong durability
- > User-friendly membrane switch interface (4-button)
- > Smooth Starting function to protect the split out of sample.
- > Communication port (RS232) , optional software for real time data acquisition



Application

Mixing blood samples, DNA extractions, blotting techniques, staining and destaining gels, hybridizations

Specifications

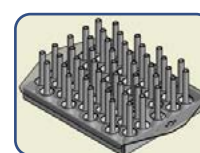
| Model | DPM-24 |
|--------------------------|---|
| Working speed range(rpm) | 100 ~1500 |
| Speed control type | Feedback Control |
| Control panel | TFT(Thin Film Transistor), Touch key |
| Motor type | BLDC motor |
| Quick timing mode | 30s, 60s, 90s, 120s are available |
| Pulse mode | Pulses adjustment range(min): 1-100 Duty Cycle adjustment range(%): 1-100 |
| Timer and Pulse mode | Timer: 00:00:00 to 24:60:60 Pulses adjustment range(min): 1-100 Duty Cycle adjustment range(%): 1-100 |
| Electrical requirement | 110 or 240VAC, 50 / 60 Hz |

Sample Preparation

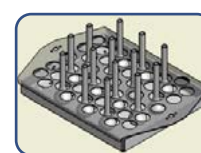
Our Digital Pulse Mixers are ideal for preparation work in Volumetric flasks.

Simply changing the chemical resistant bottom foam pad allows you to quickly switch flask sizes while using one standard hold down top.

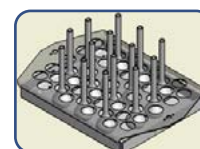
| Order No. | Description |
|-----------|--|
| R801207 | Hold down top with holes |
| R66501 | ½" pad for 25ml vol. flask, 49 Position |
| R66502 | ½" pad for 50ml vol. flask, 14 Position |
| R66503 | ½" pad for 100ml vol. flask, 14 Position |
| R66504 | ½" pad for 250ml vol. flask, 8 Position |
| R66500 | ½" pad for 500ml vol. flask, 6 Position |



25mL Vol. Flasks



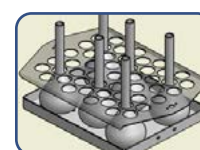
50mL Vol. Flasks



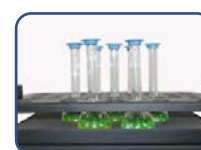
100mL Vol. Flasks



250mL Vol. Flasks



500mL Vol. Flasks



Digital Pulse Mixer Shown with 100ml Volumetric Flasks & Hold Down Top

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 12 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
- > Shaking motion can be set in up to 6 different ways
- > Wide range of accessories are available.



Economy Shakers

The distinctive and economical models offer the most felicitousshaking motion

Two types of shaking motions (orbital or reciprocating), four types of an orbit or reciprocating lengths. The compact and interchangeable platform design accommodates various types and sizes of vessels and suitable for use in chambers.



Specifications

| Model | WS-50D | WS-50DR |
|---------------------|--|--|
| Motion Type | Orbital | Reciprocating |
| Speed Range (RPM) | 10 to 300 | 10 to 250 |
| Accuracy (rpm) | ± 2 (100 RPM) | ± 2 (100 RPM) |
| Timer (min) | Forward & Backward: 1min to 999min | |
| Amplitude Size (mm) | 20 (10 to 300rpm/14mm ;10 to 300rpm/8mm Available) | 20 (10 to 300rpm/14mm ;10 to 300rpm/8mm Available) |
| Platform (W×D) (mm) | 320x260(mm) | 320x260(mm) |
| Overall (WxDxH) | 355x375x140(mm) | 355x375x140(mm) |
| Weight(kg) | 20 | 20 |
| Order No. | 3A126C | 3A226C |



Multi-function Shaking System

Intensive multi-function shaking system surpasses all the previous levels of shaker units. Mix and match clockwise, counterclockwise, start, and stop motions.

(Making 6 possible combinations - refer to each model spec.)



Dual-Action Shakers

Benttop platform shakers with advanced dual-shaking features, for flask up to maximum 6L.

Performances Orbital or Reciprocating action and variable-speed control provided gentle to vigorous agitation. Offers user-friendly operating and safety features for reliable shaking of lab glassware.



Note:
Mounting plate not included



Specifications

| Model | WS-100D | WS-150D | WS-200D |
|----------------------------|--|--|--|
| Display and Control | TFT Digital Display / On-Touch Control | TFT Digital Display / On-Touch Control | TFT Digital Display / On-Touch Control |
| Motion Type | Orbital or Reciprocating motion selectable | | |
| Accuracy(rpm) | ± 1 (100rpm) | ± 1 (100rpm) | ± 1 (100rpm) |
| Speed Range (RPM) | 10~300 | 10~300 | 10~300 |
| Amplitude Size (mm) | 20, 30, 40 Available - Standard 30 | 20, 30, 40 Available - Standard 30 | 30, 40, 50, 60, 70 Available - Standard 30 |
| Timer (min) | Run time: 1min to 999min, Forward & Backward, Pause : 1min to 999min | | |
| Maximum Load (kg) | 7.5 | 15 | 30 |
| Power (W) | 45/10 | 70/19 | 140/38 |
| Platform (W×D) (mm / inch) | 350×350 / 13.8×13.8 | 450×450 / 17.7×17.7 | 755×481 / 29.7×18.9 |
| Overall (W×D×H) (mm/inch) | 410×490×150 / 16.1×19.3×5.9 | 510×595×150 / 20.1×23.4×5.9 | 820×610×166 / 32.3×24×6.5 |
| Weight (Kg / lbs) | 24 / 52.9 | 29 / 63.9 | 50 / 110.2 |
| Order No. | 200200C | 200300C | 200400C |



Accessories for 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-50D/50DR | WS-100D | WS-150D | WS-200D |
|-------------------------|-------------|---------|---------|---------|
| Order No. | 3A901 | 31901 | 31902 | 31903 |
| Dimensions(W x D in mm) | 320x260 | 350x350 | 450x450 | 755x481 |



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-50D/50DR | WS-100D | WS-150D | WS-200D |
|----------------------|-------------|---------|---------|---------|
| Order No. | 3A521 | 31521 | 31522 | 31523-W |
| Max. Load of Beakers | | | | |
| 50ml | 12 | 16 | 25 | 40 |
| 100ml | 6 | 9 | 16 | 28 |
| 250ml | 3 | 4 | 9 | 15 |
| 300ml | 3 | 4 | 9 | 15 |
| 500ml | 3 | 4 | 5 | 10 |
| 1L | 2 | 2 | 4 | 8 |
| 2L | - | 1 | 2 | 4 |
| 2.8L | - | 1 | 2 | 4 |



Adjustable Bar Tray

| Suitable for | WS-50D/50DR | WS-100D | WS-150D | WS-200D |
|------------------|-------------|----------|----------|----------|
| Order No. | 3A511 | 31511 | 31512 | 31513 |
| Number of bar | 3 | 3 | 3 | 6 |
| Order No. of bar | 3A511-05 | 31511-05 | 31512-05 | 31513-05 |



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-50D/50DR | WS-100D | WS-150D | WS-200D |
|--|-------------|---------|---------|---------|
| Order No. | 3A501 | 31501 | 31502 | 31503 |
| Dimensions(W x D in mm) | 320x260 | 350x350 | 450x450 | 755x481 |
| Max. Load of Flask Holders | | | | |
| 50ml | 20 | 32 | 49 | 96 |
| 100ml | 9 | 25 | 36 | 65 |
| 250ml | 9 | 13 | 25 | 28 |
| 300ml | 6 | 13 | 25 | 28 |
| 500ml | 4 | 9 | 13 | 24 |
| 1L | 2 | 4 | 8 | 12 |
| 2L | 1 | 2 | 5 | 11 |
| 4L | - | 2 | 2 | 4 |
| Max. Load of Separatory Funnel Holders | | | | |
| 250ml | 4 | 4 | 6 | 11 |
| 500ml | 3 | 3 | 4 | 9 |
| 1L | 2 | 2 | 3 | 5 |
| 2L | - | 1 | 2 | 4 |

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 |
|-------------------------------|-------------|---------------|----------------|-----------------|
| Order No. | 23651 | 23652 | 23653 | 23654 |
| Max. mountable holders | | | | |
| WS-50D/50DR | 4 | - | 1 | 6 |
| WS-100D | 6 | - | 2 | 8 |
| WS-150D | 10 | 2 | 3 | 15 |
| WS-200D | 16 | 3 | 5 | 25 |



Rubber Mats

Designed for low-speed applications, non-skid rubber mats allow quick addition or removal of flasks, plates or tubes.

| Suitable for | WS-50D/50DR | WS-100D | WS-150D | WS-200D |
|--------------|-------------|---------|---------|---------|
| Order No. | 3A531 | 31531 | 31532 | 31533 |



Separatory Funnel Holders

| Funnel Volumes | 250mL | 500mL | 1L | 2L |
|----------------|-------|-------|-------|-------|
| Order No. | 23562 | 23563 | 23564 | 23565 |



Erlenmeyer flask clamps

| Size of flask | Reference No. | Order No. |
|-----------------|---------------|-----------|
| 25mL | 31274 | - |
| 50mL | 31279 | 23550 |
| 100mL | 31271 | 23551 |
| 250mL | 31275 | 23552 |
| 300mL | - | 23556 |
| 500mL | 31280 | 23553 |
| 1000mL | 31272 | 23554 |
| 2000mL | 31273 | 23555 |
| 2800mL Fernbach | - | 23557 |
| 3000mL | 31277 | - |
| 4000mL | 31278 | 23558 |
| 5000mL | 31281 | - |
| 6000mL | - | 23559 |

Plastic clamps for Erlenmeyer flask

| Order No. | Description | Order No. | Description |
|-----------|-------------|-----------|-------------|
| 31285 | 100ml | 31287 | 500ml |
| 31286 | 250ml | | |

Stainless steel clamps for Fernbach flask

| Order No. | Description | Order No. | Description |
|-----------|-------------|-----------|-------------|
| 31283 | 1.8L | 31284 | 2.8L |



Test tube rack for long type

| Order No. | Description | Order No. | Description |
|-----------|-------------|-----------|-------------|
| 31342 | 144 x Ø8mm | 31356 | 39 x Ø18mm |
| 31343 | 100 x Ø10mm | 31358 | 36 x Ø20mm |
| 31347 | 72 x Ø12mm | 31359 | 33 x Ø22mm |
| 31352 | 64 x Ø14mm | 31360 | 20 x Ø25mm |
| 31354 | 36 x Ø16mm | 31361 | 16 x Ø30mm |

Test tube rack for short type

| Order No. | Description |
|-----------|--|
| 31348 | 72 x Ø12mm |
| 31353 | 64 x Ø14mm |
| 31357 | 39 x Ø18mm (Suitable for Greiner Bio-one tube) |

Rack for plastic test tube

| Order No. | Description |
|-----------|-------------------|
| 31355 | 36x Ø16mm (15ml) |
| 31362 | 16x Ø30mm (50ml) |

187mm test tube rack for short type

| Order No. | Description | Order No. | Description |
|-----------|-------------|-----------|-------------|
| 31344 | 44 x Ø12mm | 31349 | 21 x Ø20mm |
| 31346 | 24 x Ø18mm | | |



Remote Shaker

Dedicated for CO₂ incubator

This is Compact Size Shaker with benefits such as small foot print, easy to move. Built-in Plate Type BLOC motor provides low noise, low vibration. Despite compact size, shaking is powerful and work place is large to load various vessels.



Specification

| Model | WOS-SRC | WOS-CRC | WOS-MRC |
|--------------------------------|------------------------------------|----------------|-----------------|
| Motion | Orbital | | |
| Control | Microprocessor Digital | | |
| Motor | Brushless DC Motor | | |
| Drive System | Magnetic Drive | | |
| Display | LED display | | |
| Speed range (rpm) | 30 ~ 300 | 20 ~ 200 | 30 ~ 300 |
| Accuracy (rpm) | ± 1 | ± 1 | ± 1 |
| Orbital diameter (mm) | 25 | 25 | 25 |
| Time Range | Continuous or up to 47 hours 59min | | |
| Time Increment | 1min | | |
| Shaker size(W x L x H mm) | 300 x 345 x 90 | 450 x 380 x 80 | 465 x 520 x 130 |
| Weight (Kg) | 7.5 | 14 | 25 |
| Platform Size(W x L x H mm) | 300 x 330 | 400x330 | 455 x 455 |
| Control box Size(W x L x H mm) | 155 x 95 x 25 / 0.5 | | |
| Power | 100-240V 50/60HZ | | |
| Load Capacity | 100mL x 16 | 100ml x 23 | 100mL x 36 |
| | 250mL x 9 | 250ml x 10 | 250mL x 23 |
| | 500mL x 5 | 500ml x 6 | 500mL x 16 |
| | 1000mL x 4 | 1000ml x 5 | 1000mL x 9 |
| | 2000mL x 1 | 2000ml x 2 | 2000mL x 4 |
| Order No. | W6100100 | W6100200 | W6100300 |

Features

Extremely Low Heat Release from Shaker

The BLDC motor of shaker is powered by very low watt electricity so heat from shaker motor is very low. This is ideal for the shaker to use inside incubator or chamber where uniform temperature maintenance is required.

Gentle magnetic drive

The magnetic drive does not require a drive belt and is designed to be watertight. This most gentle drive unit has exceptionally smooth start-up and braking behaviour and was developed specifically for cell cultures.

Made of stainless steel

The entire housing of shaker is made of stainless steel (SUS304), meeting the demand of GMP requirements. Easy for the removal of any unwanted liquids and can be cleaned with chemicals.

Wire Remote Control Box

This allows user to control the shaker out of incubator. Its display shows shaker status clearly so user doesn't need to open incubator door to check. This saves time and minimizes energy loss caused by opening incubator door.

Magnetic Attachment

Thin Wire Cable connection between shaker and control box
Very thin wire cable enable to pass through sealing part of inner glass door although no access port is in your incubator.

Placing remote box with Magnet or Hanger

Depending on material type of incubator or situation of lab, placing remote box is available with 2 options such as magnet attachment, hanging with strap hanger.

Accessories

| Order No. | Name |
|----------------------|--------------------|
| Suitable for WOS-SRC | |
| W6100101 | Sticky Plate |
| W6100102 | Universal Tray |
| W6100103 | Multi-Purpose Tray |
| W6100104 | Microplate Rack |
| Suitable for WOS-CRC | |
| W6100201 | Sticky Plate |
| W6100202 | Universal Tray |
| W6100203 | Multi-Purpose Tray |
| W6100204 | Microplate Rack |
| Suitable for WOS-MRC | |
| W6100301 | Sticky Plate |
| W6100302 | Universal Tray |
| W6100303 | Multi-Purpose Tray |
| W6100304 | Microplate Rack |



Sticky Plate



Universal Tray



Multi-Purpose Tray



Microplate Rack

Remote Roller

WIGGENS Remote Roller WB-204MR is highly flexible in facilitating its operation not only incubator inside but also elsewhere on work table. Remote control box can be attached to the incubator surface and flat cable needs no particular measures such as access port. Its operation capacity is 2000ml bottle x 4ea at one time.

Speed range 2rpm to 30rpm helps user utilize adherent cell culture performance.



WB-204MR

Features

- > Steel reinforced Polyurethane timing belts
- > Brushless DC Motor
- > Powder coated aluminum for durability and cleanliness Non-slip rubber material for the best performance of rolling Designed for no idle roller by drive-belt



Specifications

| | |
|------------------------|--------------------------------------|
| Model | WB-204MR |
| RPM Range | 2~30rpm |
| Accuracy | 1rpm |
| Increment | 0.1rpm |
| Control | Microprocessor digital PIO |
| Time Range | Continuous or up to 99h 59min |
| Accuracy | ± 1% |
| Display | LED Display |
| Motor type | Brushless DC motor |
| Standard roller bottle | 110mm to 120mm, 4ea |
| Roller deck dimension | 362 (W) × 299 (D) × 212 (H) mm |
| Overall dimension | 375 (W) × 370 (D) × 345 (H) mm |
| Power | AC 90~264V, 50/60Hz, 10W |
| Weight | 12.5kg |
| Order No. | 189204 |

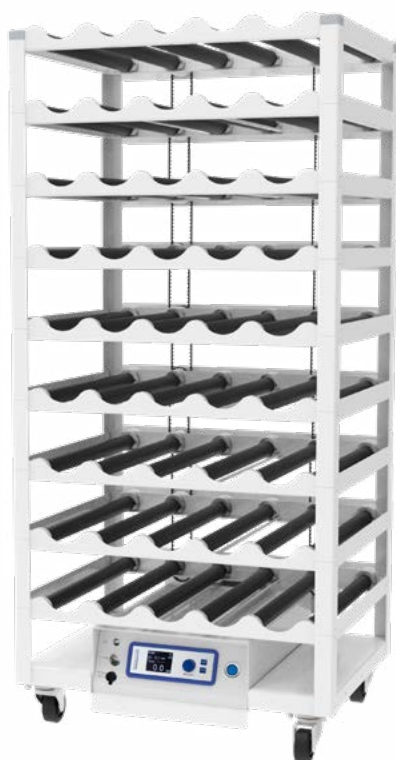


Can contain four Dia.100-120mm roller bottles.

Outside control

Controller can adjust speed without opening the door.

Roller Apparatus



Celrol Pro

- > Smooth ramping digitally controlled rotation accurate to 0.01 RPM
- > Maintenance free precision brushless motor
- > Bright LCD display for easy operation
- > SMS alarm function
- > Can Be directly connected to the printer

Specifications



| Model | Celrol Pro |
|-----------------------------|--------------------------------------|
| Display | LCD |
| Capacity | 5~55 Positions |
| Bottle Speed (110mm Bottle) | 0.08~2.5rpm |
| Diameter of roller bottler | 108~121mm |
| Length of roller bottler | Max. 550mm |
| Accuracy | 0.01rpm |
| Drive | Belt Driven |
| Motor Type | Brushless DC |
| Rotation Direction | Clockwise and Counter-Clockwise |
| Options | Temperature Alarm and Battery Backup |
| Remote Communication | RS232 |
| Humidity | 80% up to 31 |
| Operating Temperature | 10 to 40 |
| Electrical | 100-240 VAC, 50/60 Hz |



Celrol Elite

- > Robust touch screen interface that is easy to view from a distance
- > Readily recognized icons for intuitive navigation
- > Digitally controlled maintenance free motor accurate to 0.01 RPM
- > RS-422 Modbus RTU, RS-4485 Modbus RTU, Modbus TCP and TCP/IP
- > SMS alarm function
- > Can Be directly connected to the printer

Specifications



| Model | Celrol Elite |
|-----------------------------|---|
| Display | SIMATIC HMI Touch Screen |
| Capacity | 8~88 Positions 5~55 Positions |
| Bottle Speed (110mm Bottle) | 0.08~2.5rpm |
| Diameter of roller bottler | 108~121mm |
| Length of roller bottler | Max. 550mm |
| Accuracy | 0.01rpm |
| Drive | Belt Driven |
| Motor Type | Brushless DC |
| Rotation Direction | Clockwise and Counter-Clockwise |
| Options | Temperature Alarm and Battery Backup |
| Remote Communication | RS-422 Modbus RTU, RS-4485 Modbus RTU, Modbus TCP and TCP/IP |
| Humidity | 80% up to 31 |
| Operating Temperature | 10 to 40 |
| Electrical | 100-240 VAC, 50/60 Hz |

Separatory Funnel Shaker

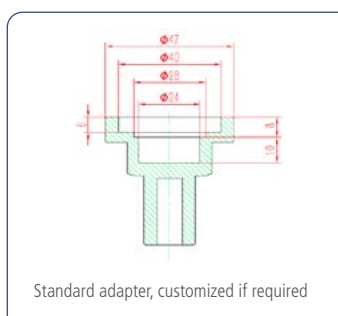
WS-1

Intensive vertical reciprocating quick solvent extraction shaking unit.

The separatory funnel shaker is able to shake six samples in identical conditions for any series or comparative protocols in chemistry, biotech, and medical labs.



WS-1PLUS
0~20° Angle adjustable



WS-1
Angle is not adjustable

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
- > Easily adjustable flask holder (max. 5 flasks per side)
- > Two holders for a total of 6 flasks (500ml) included
- > WS-1 PLUS entails a holder to adjust the shaking angle

* Funnel Capacities (per each side)

| Capacity | Round type funnel | Slim type funnel |
|-------------|-------------------|------------------|
| under 500ml | 3-5 | 5 |
| 500ml () | 3 | 3 |
| 1L | -- | 3 |
| 2L | -- | 2 |

Included Accessories

- 500mL Separatory Funnel Holder (Ordering information - Order No.: 32500)
- 1L Separatory Funnel Holder (Ordering information - Order No.: 32501)
- 2L Separatory Funnel Holder (Ordering information - Order No.: 32502)

Specifications



| Model | WS-1 | |
|------------------------------------|--------------------------------|---------|
| Motion Type | Vertical reciprocating | |
| Speed Range (rpm) | 50 ~ 300 | |
| Accuracy(± rpm) | ± 1 | |
| Vertical Stroke Length (mm / inch) | 40 / 1.6 | |
| Timer | 60 min or continuous operation | |
| Overall (W×D×H) (mm / inch) | 445×730×505 / 17.5×28.7×19.9 | |
| Max. Load per each Side (kg / lbs) | 3 / 6.6 | |
| Power (W) | 90 | |
| Fixture | 6 | |
| Weight (Kg) | 53 | |
| Order No. | WS-1 | 32012KA |
| | WS-1 PLUS | 32012KB |

Accessories for Shakers

Snorkel Stopper

With a WIGGENS Snorkel Stopper, you'll never again have to take time to open the stopcock and relieve pressure when vigorously shaking a separatory funnel, because our Snorkel Stopper does the task automatically. When using a WIGGENS shaker, you can simply load the funnels onto it and get on with more important things without worrying about exploding glass. The Snorkel Stopper features a one-way check valve that automatically relieves gas pressure. The non-sticking, ground-glass valve is backed with a stainless-steel spring and a Teflon® closure screw for maximum chemical resistance. The valve releases pressure of more than 1 pound and prevents direct air contact with the vessel.

The shape of the stopper allows manual or machine shaking and avoids solution leakage. For manual shaking, the stopper is held in place by hand. On WIGGENS shakers, glassware holders automatically restrain the stopper.



| Order No. | Fits Standard Taper Stopper Size | Weight (kg) |
|-----------|----------------------------------|-------------|
| SST13 | 13 | 0.1 |
| SST16 | 16 | 0.1 |
| SST22 | 22 | 0.2 |
| SST27 | 27 | 0.2 |
| SST38 | 38 | 0.2 |

Pressure Release Valves

Exclusive! Designed to work specifically with WIGGENS's separatory funnels, these pressure release valves reduce the hazards of pressure build-up. They simply slip over the drain of a WIGGENS funnel and tighten down with a twist of the wrist. The valve can be easily removed when it is time to drain the funnel. Each valve is made of Teflon® resin and is factory preset to release at 1 psi of pressure.

The valve can be adjusted to release at pressures up to 5 psi by turning the pressure release slug on the top of the valve with a screwdriver. Models are also available to convert other separatory funnels to automatically vent. Weight: 0.10kg.



| Order No. | Description |
|-----------|--|
| PRV6 | For WIGGENS funnels SEP0060–SEP1000 or spout OD 7.5–9.5 mm |
| PRV10 | For WIGGENS SEP2000 or spout OD 12.5–13.0 mm |

Ventsep

VentSep, a special 1-liter or 2-liter separatory funnel with a built-in relief valve, can be used on WIGGENS's Bench-Top Shaker or either of the WIGGENS 3D shakers. That means you can shake up to eight 2-liter funnels or ten 1-liter funnels at once without worrying about pressure buildup. What's more, VentSep features a screw cap instead of a penny-head stopper. As a result, VentSep is safer to use in the laboratory because the screw cap doesn't need restraining and won't come off at inappropriate times, though it will come off easily when you want it to.

VentSep will vent gas pressure over 1 psi automatically. This means you reduce the possibility of unsuspected pressure buildups that could cause exploding glass and personnel injury. As a result, vigorous hand or machine shaking can be done with confidence.

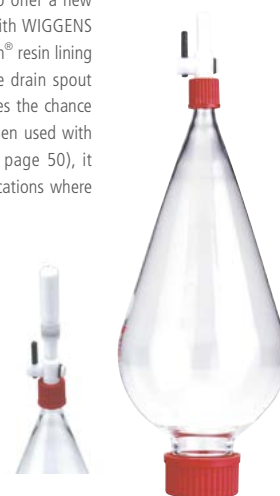


| Order No. | Description | Weight (kg) |
|-----------|---|-------------|
| SST555 | Separatory funnel with automatic pressure relief. Teflon® resin stopcock and screw cap with Teflon® resin liner, 1000 ml. | 1.5 |
| SST655 | Separatory funnel with automatic pressure relief. Teflon® resin stopcock and screw cap with Teflon® resin liner, 2000 ml. | 2.7 |

Separatory Funnel

WIGGENS new separatory funnel is designed to offer a new level of convenience and safety when used with WIGGENS shakers. This funnel has a screw cap with a Teflon® resin lining to reduce the possibility of contamination. The drain spout is a screw-on Teflon® resin design which reduces the chance of breakage and allows for easier cleaning. When used with WIGGENS's new pressure release valve (see page 50), it offers the convenience of self-venting for applications where pressure build-up is a concern.

When used with the WIGGENS Pressure Release Valve, this separatory funnel becomes self-venting.



| Order No. | Description | Weight (kg) |
|-----------|--|-------------|
| SEP 0060 | Separatory funnel with Teflon® cap and spout,, 60 ml | 0.1 |
| SEP 0125 | Separatory funnel with Teflon® cap and spout,, 125 ml | 0.2 |
| SEP 0250 | Separatory funnel with Teflon® cap and spout,, 250 ml | 0.4 |
| SEP 0500 | Separatory funnel with Teflon® cap and spout,, 500 ml | 0.4 |
| SEP 1000 | Separatory funnel with Teflon® cap and spout,, 1000 ml | 0.5 |
| SEP 2000 | Separatory funnel with Teflon® cap and spout,, 2000 ml | 0.9 |

Funnel Separatory, Glass or PTFE stopper



| Order No. | Capacity (mL) | Joint | Plug Bore (mm) | Stopper |
|-----------|-----------------|-------|------------------|--------------|
| 189111-05 | 50 | 14/20 | 2 | PTFE stopper |
| 189111-06 | 50 | 19/22 | 2 | PTFE stopper |
| 189111-07 | 100 | 14/20 | 2 | PTFE stopper |
| 189111-08 | 100 | 19/22 | 2 | PTFE stopper |
| 189111-09 | 125 | 14/20 | 2 | PTFE stopper |
| 189111-10 | 125 | 19/22 | 2 | PTFE stopper |
| 189111-11 | 125 | 24/40 | 2 | PTFE stopper |
| 189111-12 | 250 | 14/20 | 4 | PTFE stopper |
| 189111-13 | 250 | 19/22 | 4 | PTFE stopper |
| 189111-14 | 250 | 24/40 | 4 | PTFE stopper |

| Order No. | Capacity (mL) | Joint | Plug Bore (mm) | Stopper |
|-----------|-----------------|-------|------------------|---------------|
| 189111-19 | 50 | 14/20 | 2 | Glass stopper |
| 189111-20 | 50 | 19/22 | 2 | Glass stopper |
| 189111-21 | 100 | 14/20 | 2 | Glass stopper |
| 189111-22 | 125 | 14/20 | 2 | Glass stopper |
| 189111-23 | 100 | 19/22 | 2 | Glass stopper |
| 189111-24 | 125 | 19/22 | 2 | Glass stopper |
| 189111-25 | 125 | 24/40 | 2 | Glass stopper |
| 189111-26 | 250 | 14/20 | 4 | Glass stopper |
| 189111-27 | 250 | 19/22 | 4 | Glass stopper |
| 189111-28 | 250 | 24/40 | 4 | Glass stopper |

Optional accessories

| Order No. | Description |
|-----------|----------------------------|
| 189111-29 | 2mm PTFE locking stopper |
| 189111-30 | 4mm PTFE locking stopper |
| 189111-31 | 14/20 Glass stopper |
| 189111-32 | 19/22 Glass stopper |
| 189111-33 | 14/20 PTFE locking stopper |
| 189111-34 | 19/22 PTFE locking stopper |
| 189111-35 | 24/40 PTFE locking stopper |

Funnel Separatory, Glass locking stopper

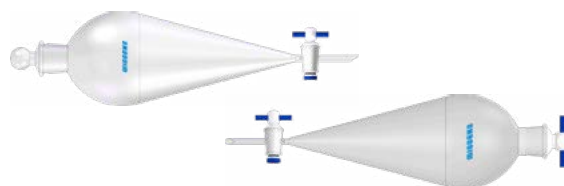


| Order No. | Capacity (mL) | Stopper Size (mm) | Plug Bore (mm) | Stopper |
|-----------|-----------------|---------------------|------------------|---------|
| 189112-02 | 60 | 16 | 2 | PTFE |
| 189112-03 | 125 | 22 | 2 | PTFE |
| 189112-04 | 250 | 22 | 4 | PTFE |
| 189112-05 | 500 | 27 | 4 | PTFE |
| 189112-06 | 1000 | 27 | 4 | PTFE |

Optional accessories

| Order No. | Description |
|-----------|---------------------------|
| 189112-07 | 2mm Glass locking stopper |
| 189112-08 | 4mm Glass locking stopper |

Funnel Separatory, PTFE locking stopper



| Order No. | Capacity (mL) | Joint | Plug Bore (mm) | Stopper |
|-----------|-----------------|-------|------------------|---------------|
| 189113-06 | 50 | 14/20 | 2 | Glass stopper |
| 189113-07 | 50 | 19/22 | 2 | Glass stopper |
| 189113-08 | 60 | N0.16 | 2 | Glass stopper |
| 189113-09 | 100 | 14/20 | 2 | Glass stopper |
| 189113-10 | 100 | 19/22 | 2 | Glass stopper |
| 189113-11 | 125 | 14/20 | 2 | Glass stopper |
| 189113-12 | 125 | 19/22 | 2 | Glass stopper |
| 189113-13 | 125 | 24/40 | 2 | Glass stopper |
| 189113-14 | 125 | N0.22 | 2 | Glass stopper |
| 189113-15 | 250 | 19/22 | 4 | Glass stopper |
| 189113-16 | 250 | 24/40 | 4 | Glass stopper |
| 189113-17 | 250 | 29/42 | 4 | Glass stopper |
| 189113-18 | 250 | N0.22 | 4 | Glass stopper |
| 189113-19 | 500 | 24/40 | 4 | Glass stopper |
| 189113-20 | 500 | 29/42 | 4 | Glass stopper |
| 189113-22 | 500 | N0.27 | 4 | Glass stopper |
| 189113-23 | 1000 | 24/40 | 4 | Glass stopper |
| 189113-24 | 1000 | N0.27 | 4 | Glass stopper |

| Order No. | Capacity (mL) | Joint | Plug Bore (mm) | Stopper |
|-----------|-----------------|-------|------------------|--------------|
| 189113-31 | 50 | 14/20 | 2 | PTFE stopper |
| 189113-32 | 50 | 19/22 | 2 | PTFE stopper |
| 189113-33 | 60 | N0.16 | 2 | PTFE stopper |
| 189113-34 | 100 | 14/20 | 2 | PTFE stopper |
| 189113-35 | 100 | 19/22 | 2 | PTFE stopper |
| 189113-36 | 125 | 14/20 | 2 | PTFE stopper |
| 189113-37 | 125 | 19/22 | 2 | PTFE stopper |
| 189113-38 | 125 | 24/40 | 2 | PTFE stopper |
| 189113-39 | 125 | N0.22 | 2 | PTFE stopper |
| 189113-40 | 250 | 19/22 | 4 | PTFE stopper |
| 189113-41 | 250 | 24/40 | 4 | PTFE stopper |
| 189113-42 | 250 | 29/42 | 4 | PTFE stopper |
| 189113-43 | 250 | N0.22 | 4 | PTFE stopper |
| 189113-44 | 500 | 24/40 | 4 | PTFE stopper |
| 189113-45 | 500 | 29/42 | 4 | PTFE stopper |
| 189113-46 | 500 | N0.27 | 4 | PTFE stopper |
| 189113-47 | 1000 | 24/40 | 4 | PTFE stopper |
| 189113-48 | 1000 | N0.27 | 4 | PTFE stopper |

Optional accessories

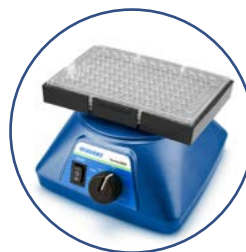
| Order No. | Description |
|-----------|--------------------------|
| 189113-49 | 2mm PTFE locking stopper |
| 189113-50 | 4mm PTFE locking stopper |

Vortex Shakers-Vortex 3000

Low profile design and highly touch sensitive sensor reduce wrist stress when pushing and holding experiment tools resulting in less fatigue and unpleasant feeling.

Features

- > Elaborate design for safe and reliable vortex shaking
- > Speed can be set between 0 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.
- > Chemically resistant PP (polypropylene) molded exterior.
- > Available in 7 different colors
- > A wide range of accessories available.(rubber platform comes standard)



Specifications

| Shaking Method | Vortex Shaking | |
|---------------------------------|---|--|
| Technical Data | Motion | Orbital |
| | Speed Range (RPM) | 0 - 3,000 |
| | Control | Scale |
| | Orbit (mm / inch, Ø) | 4 / 0.16 |
| | Operating Mode | Touch, Continuous |
| | Motor Rating Input / Output (W) | 12W / 6W |
| | Motor | BLDC motor |
| General Data | Max. Load (kg / lbs) - incl. attachment | 0.5 / 1.1 |
| | Material | Body: Polypropylene Platform: Silicone rubber |
| | Dimension (mm / inch, W × D × H)* | 148 × 159 × 77 / 5.8 × 7.4 × 3 |
| | Net Weight (kg / lbs) | 2.6 / 5.7 |
| | Safety Device | Current limit protection |
| Protection Class (DIN EN 60529) | | IP 42 |
| Order No. | | 360115 |

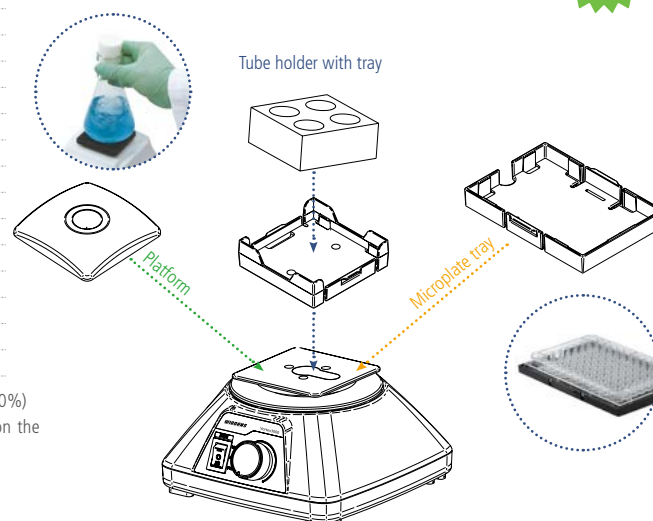
Permissible environmental conditions: temperature (5-40 °C) and relative humidity (up to 80%)

Protection class according to DIN EN 60529: Waterproof, Dust production index based on the test level.

* Exterior dimension without attachment.



Best-seller!



Accessories application

Accessories for Vortex 3000 Series



| No. | Order No. | Description |
|-----|-----------|--|
| 1 | V0058 | Platform (pop-off) |
| 2 | V0011 | Platform |
| 3 | V0008 | Microplate tray, recommendation speed range 0-1500rpm |
| 4 | 36520 | Tube holder with tray (up to Ø50mm), recommendation speed range 0-1500rpm |
| 5 | 36521 | Tube holder with tray (Ø10mm x 16 ea), recommendation speed range 0-1500rpm |
| 6 | 36522 | Tube holder with tray (Ø12mm x 9 ea), recommendation speed range 0-1500rpm |
| 7 | 36523 | Tube holder with tray (Ø15mm x 9 ea), recommendation speed range 0-1500rpm |
| 8 | 36524 | Tube holder with tray (Ø20mm x 5 ea), recommendation speed range 0-1500rpm |
| 9 | 36525 | Tube holder with tray (Ø25mm x 4 ea), recommendation speed range 0-1500rpm |
| 10 | 36526 | Tube holder with tray (Ø8mm x 18e a & Ø10mm x 28 ea), recommendation speed range 0-1500rpm |

TM Series Vortex Shakers

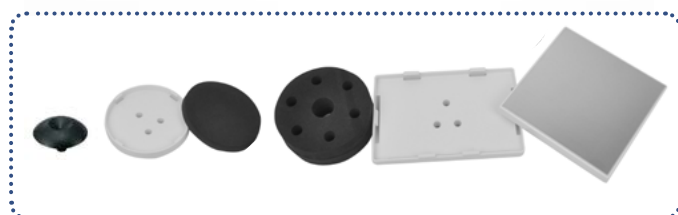
- > Very accurate shaking speed due to micro-chip speed controller
- > Stable and reliable performance
- > High shaking speed of up to 2500 rpm
- > Shaking operation can be switched between continuous and on-touch operation
- > Suitable for shaking test tubes or other small volume vials
- > Large range of platforms and other accessories
- > Aluminum housing
- > Suitable for deep well titer plates
- > Can be used as a stirrer and flask shaker



TM-1



TM-1F



TM-1F / 2F Accessories

TM-1F/2F 6 in 1 Package



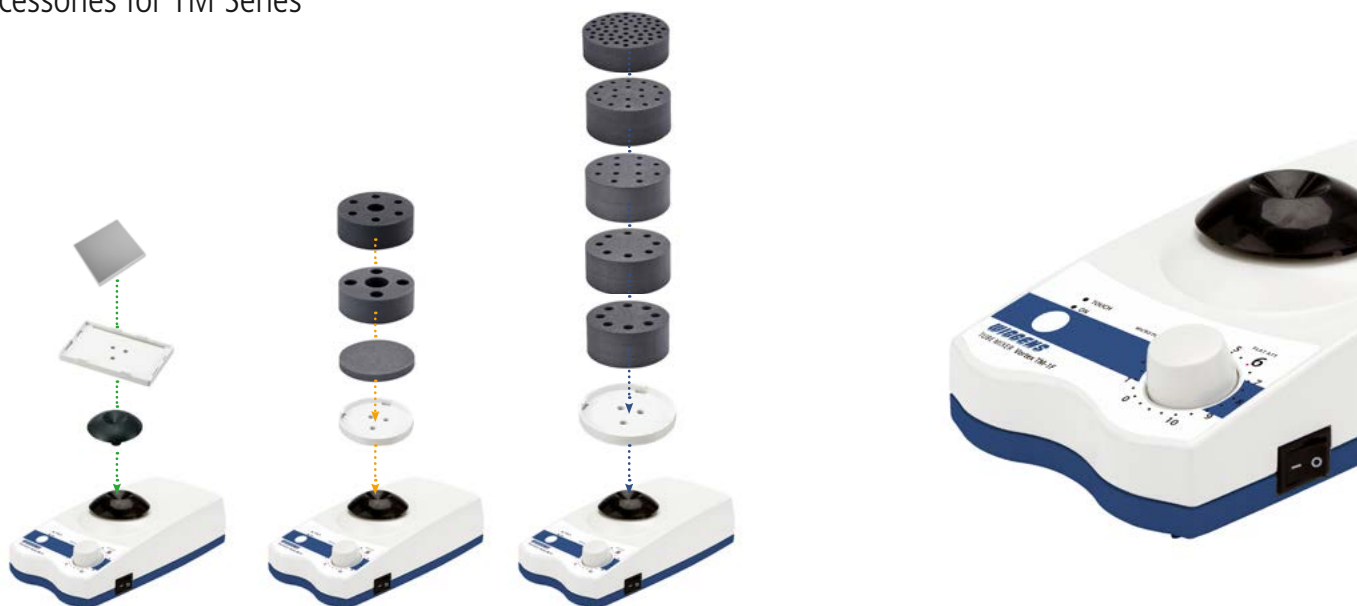
TM-1F / 2F

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/Display | Turning Knob Scale Display | Turning Knob Scale Display | Turning Knob LED Display | Turning Knob 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 |
| Dimension (mm) | 115X230X60 | 115X230X60 | 115X230X60 | 115X230X60 |
| Order No. | 360110 | 36011F | 360120 | 36012F |



Accessories for TM 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
recommendation speed range 0-1500rpm
Order No. : 3601-02

Elisa Plate Tray

Can be used with an ELISA Plate
recommendation speed range 0-1500rpm
Order No. : 3601-03

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
recommendation speed range 0-2000rpm
Order No. : 3601-04

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
recommendation speed range 0-2000rpm
Order No. : 3601-05

One-hand insert

80mm
recommendation speed range 0-800rpm
Order No. : 3601-06

Universal Base Plate

Base plate for foam plastic platforms with 120 mm diameter
recommendation speed range 0-1500rpm
Order No. : 3602-01

Test Tube Platform (54 Holes)

Can be used in combination with the universal base plate for shaking operation of 54 Eppendorf tubes
recommendation speed range 0-1500rpm
Order No. : 3602-02

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
recommendation speed range 0-1500rpm
Order No. : 3602-03

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
recommendation speed range 0-1500rpm
Order No. : 3602-04

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
recommendation speed range 0-1500rpm
Order No. : 3602-05

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
recommendation speed range 0-1500rpm
Order No. : 3602-06

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



7 Incubators / Ovens

Portable Mini CO₂ Incubator

Compact & Economical Mini CO₂ Incubator

Features

- > 15.2 Liter Chamber
- > 6.8 kg Light Weight to carry
- > Portable Use with carrying handle (Car Plug available)
- > Economical Price & Compact Design for Personal Use
- > Available size to use in work station or Clean bench
- > Digital Set-Up for Temperature & CO₂
- > Forced Air Circulation by Fan
- > Excellent Temperature Uniformity
- > Quick recovery & Precise CO₂ control by IR Sensor
- > Cooling with very low noise
- > Two Stainless Steel Shelves (Standard)
- > Natural Humidification by Water Pan
- > Cooling & Heating by peltier
- > Stainless steel Water Tray
- > Power Plug & Car Jack



CE



Specifications

| | | |
|-------------------------|--------------|--|
| Product Name | | WCI-15R |
| Chamber Volume | | 15.2 liter |
| Temperature | Range | 15 ~ 45 (at Ambient 25) |
| | Accuracy | ± 0.25 |
| | Control | Micom |
| CO ₂ | Range | 0 ~ 20% |
| | Sensor | Dual Beam IR Sensor |
| | Accuracy | ± 0.1% (5%) |
| | Gas Pressure | 0.7Bar (Max. 1Bar) |
| Humidity | | Up to 80% |
| Display | | LED Display |
| Cooling & Heating | | By Peltier (thermoelectric elements) |
| Shelf | | 2, Stainless steel (standard) / Max (3ea) |
| In & Outside Material | | ABS |
| Inside (W x Dx H mm) | | 224x 200 x 340 |
| Outside (W x Dx H mm) | | 292x 333x 433 |
| Weight | | 6.8Kg |
| Power / Frequency | | 220V , 50/60Hz |
| Power Consumption | | DC-COLD: 46W, HOT: 48W AC-COLD: 63W, HOT: 63W |
| Order No. | | 189221 |



> Car Jack

Accessories & Options

| Order No. | Name | Model |
|-----------|---------------------------|---------------------------------|
| 189231 | Shelf (Stainless steel) | 203M-SHELF SUS (220x162mm-WxD) |
| 189232 | Measuring opening | 203M-Hole |

CO₂ Incubator

The incubator is ideal for the experiments of the cultivation of animal cells, sperm/ovum, anaerobic cells, all sorts of microbe cells, hatching/germinating and special tissues.

NEW



Features

Fast Heat-Up, Fast-Recovery, Stable Control

6 Sides Direct Heating System

Electric Heating wire is covered on all sides of chamber which makes stable uniformity and provides fast heat-up & temperature recovery.

3 parts of heating section are controlled and calibrated individually by 3 temperature sensors.

Dry Wall and Air Jacket

Warm Air from heating wire is preserved in space between chamber and insulation. It helps temperature recovered faster and minimize heat loss.

Dry wall with insulation is not required to regular maintenance.

DUAL BEAM IR CO₂ Sensor

Fast & Precise Detection for CO₂ gas regardless of temperature and humidity.

Natural Humidification using Water Tray

The heater on bottom side warm the water in tray and it makes humidification. Circulation fan deliver the moisture formed from the water in entire chamber.

No Condensation

Heating by front door heater & frame heater prevent condensation in chamber and on glass door.

Microprocessor PID Control

Intelligence Control for CO₂ density, Temperature, Alarm, Automatic Decontamination (Optional).

HEPA filtration of chamber

Options

Customize your incubator with these options



Access port

25mm Access Port is available at left side. (Upon ordering and additional charge)



UV sterilization

4W UV is placed up of chamber ceiling and beside of circulation fan. The UV light is not reached to sample and sterilization is operated during culturing.



Maximum 125 Dry Hot Air in WCI-40, WCI-180

No need to remove IR CO₂ sensor



Monitoring System

Analog connection port has been designed to observe the status of equipments in real time even in the far distance.



lower Gas Consumption. lower Heat loss.

Faster Recovery Easy Classification for Various samples.

5 Split Door for WCI-40

6 Split Door for WCI-180

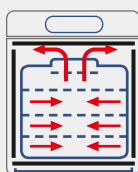
Alarm System

Buzzer to alarm low or high deviation of CO₂ Temperature.



Natural Air and Moisture Convection

Natural Air and Moisture Convection Air and Moisture in chamber are distributed naturally by 6 side heating, air circulation fan.



Over Heating Limit

Heating is automatically cut by safety device when temperature control failed or there is excessive heating over set point.



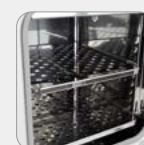
Easy to clean

Rounded Conner allows easy cleaning. Entire chamber is made of stainless steel(SUS316)



Perforated Shelves

Perforated Shelves are good for natural air flows and are made of stainless steel which are resistant against rust and contamination.



Specifications



| Model | WCI-40 | WCI-180 | WCI-260 | WCI-650 | WCI-850 | WCI-1200 |
|-----------------------------|-----------------------------------|---------------------------|---------------------|---------------------|---------------------|---------------------|
| Chamber volume | 40L | 180L | 260L | 650L | 850L | 1200L |
| Temp. | Range | Ambient+5~60 | Ambient+5~60 | Ambient+5~60 | Ambient+5~60 | Ambient+7~60 |
| | Accuracy | ± 0.1 (37) | ± 0.1 (37) | ± 0.1 (37) | ± 0.1 (37) | ± 0.5 (37) |
| | Resolution | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| | Control | Digital PID | | | | |
| | Uniformity | ± 0.3 (37 / RT.20) | ± 0.3 (37 / RT.20) | ± 0.4 (37 / RT.20) | ± 0.5 (37 / RT.20) | ± 0.5 (37 / RT.20) |
| | Heating Capacity | 320W | 320W | 610W | 1100W | 1600W |
| CO ₂ | Range | 0% ~ 20% | | | | |
| | Accuracy | ± 0.1% (5% / 37) | | | | |
| | Resolution | 0.1% | | | | |
| | Sensor | IR CO ₂ Sensor | | | | |
| | Control | Microprocessor | | | | |
| | Inlet pressure range | 0.3~0.5bar | 0.3~0.5bar | 0.6~0.7bar | 0.7~1.0bar | 0.7~1.0bar |
| Display | LED Display | | | | | |
| Operating panel | Individual 2 Channel Touch Button | | | | | |
| Jacket type | Dry Wall Type (6 sides heat) | | | | | |
| Chamber material | Stainless Steel (304) | | | | | |
| Number of shelves | 2/4 | 3/8 | 3/8 | 3/15 | 3/15 | 0/15* |
| Chamber dimension (WxDxH) | 320x350x375mm | 473x528x710mm | 530x590x900mm | 700x650x1430mm | 700x800x1530mm | 868x720x1927mm |
| Overall dimension (WxDxH) | 420x460x570mm | 560x620x945mm | 630x680x1125mm | 820x780x1740mm | 820x930x1840mm | 990x855x2123mm |
| Weight (kg) | 38 | 80 | 115 | 230 | 260 | 260 |
| Order No. | Standard | W6011040 | W6011180 | W6011260 | W6011650 | W6011850 |
| | Sterilization | W6012040 | W6012180 | W6012260 | W6012650 | W6012850 |

* The door with glass observation window, without internal glass door

* The shelves of WCI-1200 need to be ordered separately



Copper Chamber CO₂ Incubator

Copper oxide / copper-plated inner chamber, sterilization effect is better!

| | | |
|---------------------------|-------------------------------|--------------------------------------|
| Model | WNB-180Cu | |
| Capacity | 180L | |
| Temperature | Range | Rt+5~60 |
| | Display accuracy | ± 0.1 (37) |
| | Resolution | 0.1 |
| | Control | Digital PID |
| | Temperature uniformity | ± 0.3 (37 / Rt20) |
| CO ₂ | Heating power | 320W |
| | Range | 0% ~ 20% |
| | Accuracy | ± 0.1% (5% / 37) |
| | Resolution | 0.1% |
| | Sensor | Dual infrared CO ₂ sensor |
| | Control | Microprocessor |
| | Inlet pressure | 0.3~0.5bar |
| Display | LED | |
| Panel | Individual dual channel panel | |
| Jacket style | Air (six sides heating) | |
| Interior material | Copper oxide/ copper plating | |
| Shelves (standard/ max) | 3/8 | |
| Copper oxide interior | Standard | |
| Order No. | Standard | W6028180 |
| | Sterilization | W6028181 |



Accessories about the CO₂ Incubators

| Order No. | Name | Description | Suitable for |
|-----------|--------------------------------|---|-----------------------------------|
| W6010401 | Stainless steel shelf | Perforated to improve uniformity | WCI-40 |
| W6011801 | Stainless steel shelf | Perforated to improve uniformity | WCI-180, WNB-180R/S/Cu |
| W6012601 | Stainless steel shelf | Perforated to improve uniformity | WCI-260 |
| W6016501 | Stainless steel shelf | Perforated to improve uniformity | WCI-650 |
| W6018501 | Stainless steel shelf | Perforated to improve uniformity | WCI-850 |
| W6010402 | Roller base | Height 20cm from Bottom | WCI-40 |
| W6011802 | Roller base | Height 20cm from Bottom | WCI-180, WNB-180R/S/Cu |
| W6011803 | Stacking kit | Stacking Kit | WCI-180 |
| W6011804 | HEPA filtration | HEPA filtration of gas circulation, Standard | WCI-40/180/260/650, WNB-180R/S/Cu |
| W6018504 | HEPA filtration | HEPA filtration of gas circulation, Standard | WCI-850 |
| W6012604 | HEPA filtration | HEPA filtration of gas circulation, dry Heat sterilization | WCI-260/650 |
| W6010405 | Water pan | Heated by 6 sides direct heating for humidity, dimension: 160mmx H 35mm | WCI-40 |
| W6011805 | Water pan | Heated by 6 sides direct heating for humidity, dimension: 230x160x50mm | WCI-180, WNB-180R/S/Cu |
| W6012605 | Water pan | Heated by 6 sides direct heating for humidity, dimension: 325x265x65mm | WCI-260 |
| W6016505 | Water pan | Heated by 6 sides direct heating for humidity, dimension: 530x325x65mm | WCI-650/850 |
| W6011806 | UV lamp | UV lamp. Install the side of the top fan | All CO ₂ incubator |
| W6011807 | Peltier cooling | 5 Below from Ambient, Lowest Temperature: 20 , used for Standard Version | Standard, WCI-40/180 |
| W6011808 | Peltier cooling | 5 Below from Ambient, Lowest Temperature: 20 , used for dry Heat sterilization version | Sterilization, WCI-40/180 |
| W6011809 | Monitoring system | Analog connection port has been designed to observe the status of equipments in real time even in the far distance. | All CO ₂ incubator |
| W6011810 | GAS regulator | GAS regulator | WCI-40, WCI-180, WNB-180R/S/Cu |
| W6011811 | CO ₂ Analyzer | CO ₂ Analyzer | All CO ₂ incubator |
| W6011812 | Divided door | 5 Divided Door | WCI-40 |
| W6011813 | Divided door | 3 Divided Door, used for WCI-180 | WCI-180, WNB-180Cu |
| W6011814 | Divided door | 6 Divided Door, used for WCI-180 | WCI-180, WNB-180Cu |
| W6011815 | Printer | Printer | All CO ₂ incubator |
| W6011816 | Holes for auxiliary monitoring | Diameter of 30mm (40mm is available), on the left side of the incubator | All CO ₂ incubator |

Constant Temperature Incubators

Versatile air-jacketed natural convection incubators.

Specially designed for uniform temperature distribution and minimal sample contamination caused by external air intrusion.



Features

- > Applicable in life-science, pharmacy, medical science, chemistry, biology, and related fields for storage of samples which need 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
- > Can be opened anytime when necessary
- > Temperature measure unit is
- > When the temperature exceeds set levels and reaches the set safety value, an alarm activates, 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, 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

Specifications



| Product Name | WH-05 | WH-10 | WH-15 | WH-25 | WH-650 | WH-850 |
|--------------------------------|--|-----------------|-----------------|------------------|------------------|------------------|
| Volume (L) | 50 L | 100 L | 150 L | 260 L | 650 L | 850 L |
| Temperature Range (°C) | Ambient Temperature + 5~65 | | | | | |
| Accuracy (°C) | < ±0.2 (37 °C) | | | | | |
| Temperature Stability (°C) | ±0.1 (37 °C) | | | | | |
| Temperature Controller | Button 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 ; | | | | | |
| Timer | 1 min ~ 99 hr 59 min | | | | | |
| Heating Capacity | 340W | 340W | 340W | 610W | 1100W | 1400W |
| Mains Requirements | AC 220~240 V , 50/60 Hz | | | | | |
| Shelves (included / max.) | 2/3 | 2/4 | 2/8 | 3/8 | 3/15 | 3/15 |
| Inner Dimensions (WxDxH in mm) | 345 x 368 x 375 | 480 x 480 x 495 | 500 x 480 x 620 | 530 x 590 x 900 | 700 x 650 x 1430 | 700 x 800 x 1530 |
| Outer Dimensions (WxDxH in mm) | 440 x 480 x 610 | 560 x 560 x 760 | 560 x 580 x 880 | 630 x 680 x 1125 | 820 x 780 x 1740 | 820 x 930 x 1840 |
| Weight (kg) | 35 | 50 | 65 | 115 | 230 | 260 |
| Order No. | W6031050 | W6031100 | W6031150 | W6031250 | W6031650 | W6031850 |

Large Capacity Incubator

Versatile air-jacketed natural convection incubators.

Specially designed for uniform temperature distribution and minimal sample contamination caused by external air intrusion.

Specifications



| | |
|---------------------|--|
| Product Name | WH-1200 |
| Volume (L) | 1200 |
| Temperature Range . | Ambient +7°C ~ +60°C at 25 RT |
| Temp. Uniformity | Temp ± 0.5°C ~ ± 0.7°C at 37 and 25 RT |
| Temp. Increment | ± 0.1°C |
| Temp. Recovery* | 12 minute at 37 after door open for 5minutes |
| Heating | Independent Over Temperature Thermostat |
| Temperature Safety | 5 Side Direct Heating with Forced Air Flow by 4 Circulation Fans |
| Interior Outlet | Same voltage of instrument/ 7 outlets(standard) |
| Display | digital display, 5 Digit LED for Temp |
| Number of Shelve | Optional, Max 35ea |
| Door | Front door (left open)with Viewing Glass Window |
| Electric Safety | Fuse 15A for Incubator / Fuse 10A for Interior outlet |
| Interior Dimension | 868(W) x 720(D) x 1927(H)mm |
| Exterior Dimension | 990(W) x 855(D) x 2123(H)mm |
| Chamber Capacity | 42.5 cu ft /1204L |
| Chamber Material | Stainless steel 304 |
| Power Supply | 220V / 50 or 60Hz (670W) |
| Alarm | Temperature, Door Open |
| Analogue Output | Temp, Alarm Contact, Roller Alarm Contact |
| Weight (kg) | 260 |
| Order No. | W6031850 |



货号有误，需要修
改成W6031122

Accessories about the Incubators

| Order No. | Name | Description | Suitable for |
|-----------|--------------------------------|---|----------------|
| W6030501 | Stainless steel shelf | Perforated to improve uniformity | WH-05 |
| W6031001 | Stainless steel shelf | Perforated to improve uniformity | WH-10 |
| W6031501 | Stainless steel shelf | Perforated to improve uniformity | WH-15 |
| W6032501 | Stainless steel shelf | Perforated to improve uniformity | WH-25 |
| W6036501 | Stainless steel shelf | Perforated to improve uniformity | WH-650 |
| W6038501 | Stainless steel shelf | Perforated to improve uniformity | WH-850 |
| W6031221 | Stainless steel shelf | Perforated to improve uniformity | WH-1200 |
| W6010402 | Roller base | Height 20cm from Bottom | WH-05 |
| W6031002 | Roller base | Height 20cm from Bottom | WH-10 |
| W6031502 | Roller base | Height 20cm from Bottom | WH-15 |
| W6031003 | Stacking kit | Stacking Kit | WH-10 |
| W6031503 | Stacking kit | Stacking Kit | WH-15 |
| W6011816 | Holes for auxiliary monitoring | Diameter of 30mm, on the left side of the incubator | All incubators |
| W6011806 | UV lamp | UV lamp. Install the side of the top fan, used for all incubator | All incubators |
| W6011809 | Monitoring system | Analog connection port has been designed to observe the status of equipments in real time even in the far distance. | All incubators |
| W6051502 | Socket inside the chamber | Socket inside the chamber | All incubators |

Low Temperature Incubators

Superb low temperature incubation performance using a noiseless HBP compressor cooling system which reduces water evaporation within the chambers.

Features

- > 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
- > 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 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, and the fan and heating device stop operation. After one minute without closing the door an alarm sets in
- > The WH-11C and the WH-21C 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

Specifications



| Product Name | WH-11C | WH-21C |
|--------------------------------|---|-------------------------|
| Temperature Control Method | Forced circulation method (fans integrated in the work environment) | |
| Volume(L) | 150 | 250 |
| Temperature Range(°C) | +4 ~ 60 | +4 ~ 60 |
| Accuracy(°C) | < ±0.1 | < ±0.1 |
| Temperature Uniformity(°C) | ±1.5 (37 °C) | ±1.5 (37 °C) |
| Temperature Controller | Touch Control; Digital Display with PID automatic regulation | |
| Materials | Interior: Stainless steel ; Shelves: Polished stainless steel ; Observation window: glass | |
| Timer | 1 min ~ 99 hr 59 min | |
| Heating Capacity(W) | 450 | 450 |
| Max. Cooling Capacity(W) | 350 | 350 |
| 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 in mm) | 550 x 500 x 610 | 550 x 500 x 1000 |
| Outer Dimensions (W×D×H in mm) | 660 x 605 x 1020 | 660 x 605 x 1415 |
| Weight (kg) | 95 | 120 |
| Order No. | W6055150 | W6055250 |

Accessories

| Order No. | Name | Description | Suitable for |
|-----------|--------------------------------|---|--------------|
| W6052501 | Stainless steel shelf | Perforated to improve uniformity | WH-11C/21C |
| W6011816 | Holes for auxiliary monitoring | Diameter of 30mm, on the left side of the incubator | WH-11C/21C |
| W6011809 | Monitoring system | Analog connection port has been designed to observe the status of equipments in real time even in the far distance. | WH-11C/21C |
| W6051502 | Socket inside the chamber | socket inside the chamber | WH-11C/21C |
| W6051503 | LED light | at the top of chamber | WH-11C/21C |



Forced Convection Ovens

General Models

Ideal for high temperature storage with user-friendly design.
WF-G Models is used for all sterilization and drying tasks that do not require high drying rates or special time requirements, ideal for drying applications requiring a gentle airflow.

Operating Features

- > From +10 °C above room temperature to 260 °C.
- > Microprocess PID control / Calibration.
- > Digital timer: 1 min ~ 99 hr 59 min, delayed ON / OFF.
- > Over temperature limit protection / Door opening alarm.
- > Conveniently preset 3 most commonly used temperature settings.
- > Digital LED display (0.1 °C resolution) with touch keypads

Constructional Features

- > Gravity-flow convection with vertical airflow for uniform sample heating.
- > Threefold tempered glass viewing window allows for easy monitoring of samples.
- > Featuring a pull down door handle.
- > Rounded inner chamber corners for easy cleaning and better air-flowing.
- > Stainless steel interior.
- > Two circular adjustable top slide vents helps to control inner air vapor circulation. (38mm / 1.5" in dia.)



Specifications

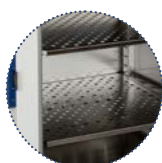


| Model | | WF-02G | WF-12G | WF-22G |
|--------------------------|------------------------------|-----------------------|------------------------|------------------------|
| Chamber Volume (L) | | 50 | 100 | 150 |
| Temperature | Range (°C) | Amb.+10~ 260 | Amb.+10~ 260 | Amb.+10~ 260 |
| | Fluctuation at 100 °C (°C) | 0.5 | 0.6 | 0.8 |
| Dimension (W × D × H) | Interior (mm) | 400 × 420 × 420 | 480 × 460 × 500 | 500 × 480 × 625 |
| | Exterior (mm) | 540 × 620 × 780 | 600 × 690 × 810 | 660 × 750 × 920 |
| Number of shelves | | 2ea (Max shelves 8ea) | 2ea (Max shelves 12ea) | 2ea (Max shelves 14ea) |
| Weight (kg) | | 55 | 62 | 72.5 |
| Heating power (W) | | 1000 | 1200 | 1200 |
| Order No. | | W6061050 | W6061100 | W6061150 |

Accessories & Options

Perforated Shelves

Stainless steel shelf system is removed easily without using tools for easy cleaning.



| Order No. | Description W × L (mm) | Model |
|-----------|--------------------------|--------|
| W6060501 | 360 × 310 | WF-02G |
| W6061001 | 450 × 380 | WF-12G |
| W6061501 | 465 × 400 | WF-22G |

Tempered Viewing Windows

Optimized sample monitoring with threefold, tempered glass.



| Order No. | Thickness / xW × L (mm) | Suitable for |
|-----------|---------------------------|----------------|
| W6060502 | 5 / 150 × 280 | WF-02G |
| W6061002 | 5 / 150 × 380 | WF-12G, WF-22G |



8 Shaking Incubators

CO₂ Incubator with built-in Roller

WIGGENS CO₂ incubator with a roller apparatus or shaker at the bottom of the chamber, adherent or suspension cells culture in one incubator. All operations and controls are on the external control panel. In addition to all the functions of the WCI-180, the CO₂ incubator with roller apparatus has the following features:

- > 180-litre CO₂ incubator built-in roller apparatus
- > Low noise by using a low vibration DC brushless motor
- > CO₂, humidity, temperature have good uniformity in the chamber
- > The roller apparatus can be removed out for static cell culture
- > The external controller can control the internal rollers individually
- > The speed, temperature are displayed and controlled on the LED screen

CE

| Model | | WNB-180R |
|-------------------|-------------------|--------------------------------------|
| Display | | LED |
| Capacity | | 180L |
| Temperature | Range | Rt+5-60 |
| | Display Precision | ± 0.1 (37) |
| | Resolution | 0.1 |
| Speed control | Speed | 2~30rpm |
| | Accuracy | ± 1rpm |
| | Division | 0.1rpm |
| | Control | PID microprocessor |
| Humidity | | ≥70% (at 37) |
| CO ₂ | accuracy | ± 0.1% (5% / 37) |
| | Resolution | 0.1% |
| | Sensor | Dual infrared CO ₂ sensor |
| | Control | Microprocessor |
| Timer | | Continuous or max 99h59min |
| Jacket style | | Air (six sides heating) |
| Interior material | | 304 stainless steel |
| Shelf | | One for roller apparatus |
| Order No. | | W6026180 |



Can contain four Dia.100-120mm roller bottles.

Outside control

Controller can adjust speed without opening the door.



For remote roller,
please reference
Page 116

CO₂ Incubator with Shaker

In addition to all the functions of the WCI-180, the CO₂ shaking incubator has the following features:

- > 180-litre CO₂ incubator built-in shaker
- > Low noise by using a low vibration DC brushless motor
- > CO₂, humidity, temperature have good uniformity in the chamber
- > The shaker can be removed for static cell culture
- > The standard universal plate, optional sticky plate
- > A variety of plate types (erlenmeyer flask: 100mL, 250mL, 500mL, 1000mL, test tube clamps, 96-well plate plates)
- > The external controller can control the internal rollers individually
- > The speed, temperature are displayed and controlled on the LED screen

CE

| Model | | WNB-180S |
|-------------------|-------------------|--------------------------------------|
| Display | | LED |
| Capacity | | 180L |
| Temperature | Range | Rt+5-60 |
| | Display Precision | ± 0.1 (37) |
| | Resolution | 0.1 |
| Speed control | Speed | 30-300 rpm |
| | Accuracy | ± 1rpm |
| | Division | 1rpm |
| | Control | PID microprocessor |
| Humidity | | ≥70% (at 37) |
| CO ₂ | Accuracy | ± 0.1% (5% / 37) |
| | Resolution | 0.1% |
| | Sensor | Dual infrared CO ₂ sensor |
| | Control | Microprocessor |
| Timer | | Continuous or max 47h59min |
| Jacket style | | Air (six sides heating) |
| Interior material | | 304 stainless steel |
| Shelf | | One for shaker |
| Order No. | | W6027180 |



It is suitable for suspension cell culture of mammals and can place flask of 100-1000mL. Brushless DC motor makes it low vibration, dust-free, low noise, very suitable for cell culture

Outside control

Controller from outside without opening the door



For shaker,
please reference
Page 115

Shaking Incubators

Combining a benchtop incubator/refrigerator with a dual-action (orbital and reciprocating) shaker, WS series shakers offer versatility for a variety of biological and biotech applications.

Shaking Features

- > Dual shaking modes: orbital or reciprocating action.
- > Speed range: 30 to 300 rpm.
- > Programmable shaking motion.
 - Timer range: 10 sec to 999 hr 59 min 59 sec.
 - Forward & Backward, Pause: 10 sec to 59 min 59 sec.
- > Selectable orbit diameter or stroke length: 20, 30, 40mm.

Operating Features

- > Temperature control:
 - +5 above ambient to 60 °C (for WS-300 and WS-600)
 - +15 to 60 °C (for WS-300R and WS-600R)
- > Microprocessor PID control.
- > Simple calibration and auto-tuning functions.
- > Digital timer with Delayed ON/OFF function: 1 min to 99 hr 59 min.
- > High temperature limit setting and open door alarm.
- > Convenient preset function for 3 most commonly used temperature settings.
- > Up to 9 temperature steps and maximum 200 cycles of repetition programmable for each profile.
- > Adjustable 3-step fan speed with defrosting time and period control.
- > Intuitive control panel with bright LED display (0.1 °C resolution) and touch-sensitive keypad.
- > RS-232 interface.



Optional Accessories

- > Universal / Dedicated Platforms, Rubber Mats, Universal Attachments
- > Flask Clamps, Funnel Clamps
- > Test Tube Racks, Spring Wire Racks
- > Microplate Holders (three styles)
- > Lab Sticker

Constructional Features

- > Maintenance-free and durable BLDC motor.
- > High-velocity fan ensuring uniform temperature distribution and rapid thermal recovery.
- > Convenient sample monitoring thanks to the transparent acryl lid and the fluorescent lamp.
- > Gas spring lid supports providing soft closing, smooth motion, and stopping.
- > Environment-friendly CFC-free refrigerant.

Specifications



| Product Name | | WS-300 | WS-300R | WS-600 | WS-600R |
|-----------------|---------------------------|--|-----------------------|-----------------------|-----------------------|
| Volume(L) | | 53 | 53 | 83 | 83 |
| Temperature | Range(°C) | Ambient +5 ~ 60 | 15~60 | Ambient +5 ~ 60 | 15 ~ 60 |
| | Accuracy(°C) | ± 0.1 (38) | ± 0.1 (38) | ± 0.1 (38) | ± 0.1 (38) |
| | Stability(°C) | ± 1.0 (38) | ± 1.0 (38) | ± 1.0 (38) | ± 1.0 (38) |
| | 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) | 30 ~ 300 | 30 ~ 300 | 30 ~ 300 | 30 ~ 300 |
| | Stability (rpm) | ± 1 (at 150rpm) | ± 1 (at 150rpm) | ± 1 (at 150rpm) | ± 1 (at 150rpm) |
| Dimensions | Platform (W × D in mm) | 350 × 350 | 350 × 350 | 450 × 450 | 450 × 450 |
| | 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. | | W6091050 | W6095050 | W6091080 | W6095080 |

Accessories for Shaker incubators



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.

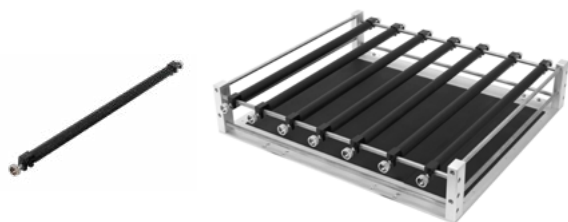
| Suitable for | WS-300/300R | WS-600/600R |
|--------------------------|-------------|-------------|
| Order No. | 31901 | 31902 |
| Dimensions (W x D in mm) | 350x350(mm) | 450x450(mm) |



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 |
|--------------------------|-------------|-------------|
| Order No. | 31521 | 31522 |
| Dimensions (W x D in mm) | 350x350 | 450x450 |
| Max. Load of Beakers | | |
| 50ml | 16 | 25 |
| 100ml | 9 | 16 |
| 250ml | 4 | 9 |
| 300ml | 4 | 9 |
| 500ml | 4 | 5 |
| 1L | 2 | 4 |
| 2L | 1 | 2 |
| 2.8L | 1 | 2 |



Adjustable Bar Tray

| Suitable for | WS-300/300R | WS-600/600R |
|--------------------------|-------------|-------------|
| Order No. | 31514 | 31515 |
| Dimensions (W x D in mm) | 300x300(mm) | 400x400(mm) |
| Number of bar | 3 | 3 |
| Order No. of bar | 31514-05 | 31515-05 |



Universal Trays

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

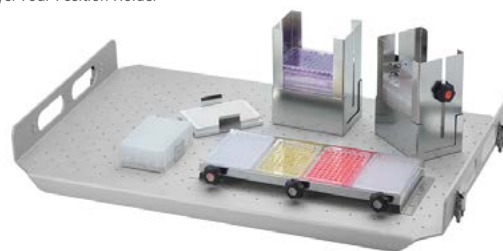
| Suitable for | WS-300/300R | WS-600/600R |
|---|-------------|-------------|
| Order No. | 31501 | 31502 |
| Dimensions (W x D in mm) | 350x350(mm) | 450x450(mm) |
| Max. Load of Beaker Holders (kg) | | |
| 50ml | 28 | 45 |
| 100ml | 24 | 36 |
| 250ml | 13 | 18 |
| 300ml | 13 | 18 |
| 500ml | 10 | 13 |
| 1L | 5 | 7 |
| 2L | 4 | 5 |
| 2.8L | 1 | 2 |
| 4L | - | - |
| Max. Load of Separatory Funnel Holders (kg) | | |
| 250ml | 4 | 6 |
| 500ml | 2 | 3 |
| 1L | - | 2 |
| 2L | - | - |

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 |
|-------------------------------|-------------|---------------|----------------|-----------------|
| Order No. | 23651 | 23652 | 23653 | 23654 |
| Max. mountable holders | | | | |
| WS-300/300R | 6 | -- | 2 | 8 |
| WS-600/600R | 10 | 2 | 3 | 15 |



Rubber Mats

Designed for low-speed applications, non-skid rubber mats allow quick addition or removal of flasks, plates or tubes.

| Suitable for | WS-300/300R | WS-600/600R |
|--------------|-------------|-------------|
| Order No. | 31531 | 31532 |



Separatory Funnel Holders

| Funnel Volumes | 250mL | 500mL | 1L | 2L |
|----------------|-------|-------|-------|-------|
| Order No. | 23562 | 23563 | 23564 | 23565 |



Erlenmeyer flask clamps

| Size of flask | Reference No. | Order No. |
|-----------------|---------------|-----------|
| 25mL | 31274 | - |
| 50mL | 31279 | 23550 |
| 100mL | 31271 | 23551 |
| 250mL | 31275 | 23552 |
| 300mL | - | 23556 |
| 500mL | 31280 | 23553 |
| 1000mL | 31272 | 23554 |
| 2000mL | 31273 | 23555 |
| 2800mL Fernbach | - | 23557 |
| 3000mL | 31277 | - |
| 4000mL | 31278 | 23558 |
| 5000mL | 31281 | - |
| 6000mL | - | 23559 |

Plastic clamps for Erlenmeyer flask

| Order No. | Description | Order No. | Description |
|-----------|-------------|-----------|-------------|
| 31285 | 100ml | 31287 | 500ml |
| 31286 | 250ml | | |

Stainless steel clamps for Fernbach flask

| Order No. | Description | Order No. | Description |
|-----------|-------------|-----------|-------------|
| 31283 | 1.8L | 31284 | 2.8L |



Test tube rack for long type

| Order No. | Description | Order No. | Description |
|-----------|-------------|-----------|-------------|
| 31342 | 144 x Ø8mm | 31356 | 39 x Ø18mm |
| 31343 | 100 x Ø10mm | 31358 | 36 x Ø20mm |
| 31347 | 72 x Ø12mm | 31359 | 33 x Ø22mm |
| 31352 | 64 x Ø14mm | 31360 | 20 x Ø25mm |
| 31354 | 36 x Ø16mm | 31361 | 16 x Ø30mm |

Test tube rack for short type

| Order No. | Description |
|-----------|--|
| 31348 | 72 x Ø12mm |
| 31353 | 64 x Ø14mm |
| 31357 | 39 x Ø18mm (Suitable for Freiner Bio-one tube) |

Rack for plastic test tube

| Order No. | Description |
|-----------|-------------------|
| 31355 | 36x Ø16mm (15ml) |
| 31362 | 16x Ø30mm (50ml) |

187mm test tube rack for short type

| Order No. | Description | Order No. | Description |
|-----------|-------------|-----------|-------------|
| 31344 | 44 x Ø12mm | 31349 | 21 x Ø20mm |
| 31346 | 24 x Ø18mm | | |

Biotron™ CO₂ Shaking Incubator

The WIGGENS shaking CO₂ incubator is ideal for use in the fields of bio similar production, proteomics, crystallography, genomics, cell biology and new drug development. A large capacity CO₂ incubator with separable long life shakers provide the optimum solution for cell culture in suspension

The Biotron internal chamber is subdivided into 3 compartments each holding a separable orbital shaker which can hold Erlenmeyer, cylindrical flasks or deepwell blocks. Dual beam Infra Red sensor provides precise CO₂ control while the six side heating system ensures excellent temperature control and recovery and humidity. An outstanding Air Circulation System ensures temperature uniformity within all compartments.

The unique patented orbital shakers are constructed with stainless steel to minimize contamination and aid cleaning. Brushless magnetic plate induction design allows these shakers to be used in highly humid environments and operate vibration free without generating particulates. Noise free these powerful shakers can be used for many years with reliability guaranteed.



Features

Growing cell suspension

The Biotron is designed to culture eukaryotic cells such as CHO, HEK, Hela etc. in suspension but can also be used as a static incubator if required.

Infra red sensor

Industry Standard Dual Beam Infra Red Sensor is used to maintain control of CO₂ density

Pullout shaker platform

Platform of each shakers can be pulled out for loading flasks on each shakers efficiently

Sticky mat & various holders

The orbital shakers can be used with sticky mats or dedicated flask holder trays or universal flask/tube holder plate.

Individual shaker control

Each orbital shaker can be individually controlled by an external control panel.

Excellent temperature control

All 6 sides are directly heated and combined with PID control to ensure that temperatures are reached quickly and uniformity is maintained. Further the system combines forced air and natural convection to maintain the best temperature uniformity at all times.

High natural humidification

A deep and wide humidity tray allows a high and natural humidity to be generated.

Split inner glass doors

The internal chamber is separated into three compartments each with its own shelf, shaker and glass door. This design prevents excessive loss of heat and CO₂ when removing flasks etc.

Humidity display

LED display of actual humidity in the chambers informs the user of time to supplement the water in the humidity tray

Auto restart function

Each shaker has an autostart function such that if the glass inner door to each compartment is opened the shaker in that compartment stops and starts again when the door is closed. Auto start is also enabled if there is a power cut.

UV lamp

A UV lamp sited next to the circulation fan works to sterilize the air in the incubator even during cell culturing. The UV lamp can be turned on or off by a switch on the front panel.

Stain resistant interior

The inner chamber and all orbital shakers are constructed with stainless steel SUS304 which is designed for use in GMP facility and is resistant to rust formation in high humidity conditions

Anti-bacterial filter

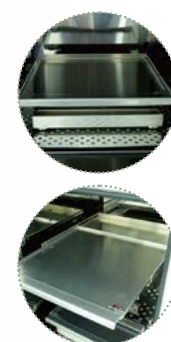
A HEPA filter, located in post circulation fan, traps microbes and helps to maintain a sterile environment.

Removable shelves

Larger growth vessels like 5 or 10 liter flasks can be accommodated by completely removing the shelves

Specifications

| Model | WCI-650CH | WCI-850CH |
|----------------------|-----------------------------------|--------------------------------|
| Display | LED | LED |
| Chamber volume | 650L | 850L |
| Temp. | Range | Ambient +5-60 |
| | Accuracy | ± 1 (at 37 °C) |
| Shaker | Shaking motion | Orbital |
| | Speed range | 30-200 rpm |
| | Speed accuracy | ± 1rpm |
| | Speed increment | 1rpm |
| | Orbit diameter | 25mm |
| Humidity | Range | ≥70% (at 37 °C) |
| | Accuracy | ± 0.3% (at 5% at 37 °C) |
| CO ₂ | Sensor | IR CO ₂ sensor |
| | Inlet pressure | 0.7-1 bar |
| | Time range | Continuous or up to 47h 59mins |
| Time | Time accuracy | ± 1% |
| | Time increment | 1min |
| Jacket type | Air jacket type (6 sides heating) | |
| Filter | Anti-Bacterial Hepa filter | |
| Sterilization | U.V 4Wx1ea | |
| Shelves | 3ea | |
| Dimension (WxDxH) | Chamber dimensions | 700x650x1430mm |
| | Platform size | 520x520mm |
| | Compartment 1 (Bottom): | 700x650x430 mm |
| | Compartment 2, 3 (Middle, Top): | 700x650x380mm |
| Overall dimensions | 820x780x1740mm | 820x920x1840mm |
| Weight | 323Kg | 393Kg |
| Power | 220V , 50/60Hz | |
| Order No. | 189821 | 189822 |



Maximum allowance for flask capacity

| WCI-650CH | WCI-850CH |
|-------------|-------------|
| 125mL x 156 | 125mL x 156 |
| 250mL x 90 | 250mL x 90 |
| 500mL x 60 | 500mL x 60 |
| 1000mL x 48 | 1000mL x 48 |
| 2000mL x 9 | 2000mL x 27 |

*Optimum performance for maximum allowance can be obtained at 150rpm.

Universal Trays

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



| Suitable for | WCI-650CH | WCI-850CH |
|--------------------------|-----------|-----------|
| Order No. | 189433-01 | 189433-02 |
| Dimensions (W x D in mm) | 520x520mm | 520x520mm |

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 | WCI-650CH | WCI-850CH |
|--------------------------|-----------|-----------|
| Order No. | 189431-01 | 189431-02 |
| Dimensions (W x D in mm) | 520x520mm | 520x520mm |

Multi-Purpose Tray

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

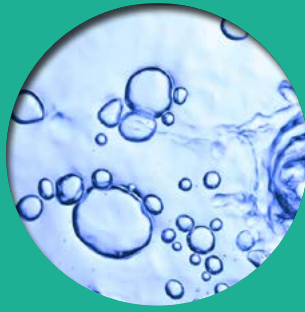


| Suitable for | WCI-650CH | WCI-850CH |
|--------------------------|-----------|-----------|
| Order No. | 189432-01 | 189432-02 |
| Dimensions (W x D in mm) | 520x520mm | 520x520mm |



Erlenmeyer flask clamps

| Size of flask | Reference No. | Order No. |
|-----------------|---------------|-----------|
| 25mL | 31274 | - |
| 50mL | 31279 | 23550 |
| 100mL | 31271 | 23551 |
| 250mL | 31275 | 23552 |
| 300mL | - | 23556 |
| 500mL | 31280 | 23553 |
| 1000mL | 31272 | 23554 |
| 2000mL | 31273 | 23555 |
| 2800mL Fernbach | - | 23557 |
| 3000mL | 31277 | - |
| 4000mL | 31278 | 23558 |
| 5000mL | 31281 | - |
| 6000mL | - | 23559 |



9 Liquid Handling Equipment

Peristaltic Pumps

Advancing the Science of Liquid Handling



Advanced Control Features

- > Icon Driven User Interface allows for easy setup and operation
- > Large Backlit LCD Display is easy to view from a distance or an angle
- > Durable Front Overlay is resistant to chemicals and wear
- > Polarized and Angled Screen allows for glare free viewing
- > “ Trouble-Free ” Calibration Screen allows for accurate and quick calibration
- > Ultra High Precision Stepper Motor ensures repeatability and accuracy

User-Friendly Design Features

- > Low Profile Design reduces space required on the bench or in a hood
- > Pump Settings can be saved and recalled saving time in multi-use settings. Nine quick retrieval setups are available
- > Compliance to Industry Standards: UL/CSA/CE/RoHS/WEEE
- > Multi-Language Help Screens: English, Chinese, French, Japanese, Korean, and Spanish

OmniSpense ELITE Additional Features

- > Multiple Stacking Pump Heads allows for higher volumes and multiple fill applications with one pump
- > Microcassette Head is ideal for precision micro-dispensing of liquids in well plates, microtubes, or microcentrifuge tubes
- > Works with 2, 3, 6 and 8mm tubing
- > Pump allows for Different Ramping Profiles to avoid splashing or foaming
- > Accommodates a variety of Dispensing and Process Applications

Suggested Applications

Research, Development, and Quality Control

Transfer and distribution of fluids into smaller containers, serial dilutions, sample preparation, and media dispensing.

Pharmaceutical and Biotechnology

Dispensing microbiological media, pill coating, dilutions, transferring live cells, additions and harvests to and from bioreactors, packaging and filling.

Food and Beverage

Common uses include dispensing flavorings, colorings, vitamins, and other additives in processing applications, and simple dispensing of end products on production lines or into shelf packages.

Waste Water and Sample Collection

Industrial and QC applications, environmental compliance hazardous/toxic materials evaluation and site sampling for liquids, sludge, earth/soil, water, etc. Ideal for sampling from barrels and drums.

International

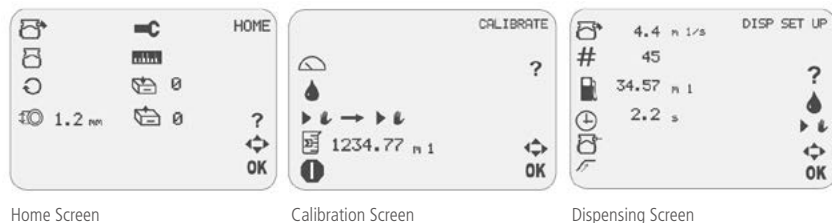
The Icon Driven display and multi-language help screen will work well in laboratories abroad.



| Functionality | Vdose® PRO | Vdose® ELITE |
|---------------|---------------------------|--|
| Modes | Dispense Mode | Dispense Mode and Flow Mode |
| Motor | Dual Speed 75 and 150 RPM | Variable Speed 0.5 to 400 RPM |
| Direction | Unidirectional; Clockwise | Bidirectional; Clockwise and Counterclockwise |
| Ramp | Not Offered | User Ramp Control for Dispense and Flow Modes 5 Profiles |
| Drawback | Not Offered | For Filling into a Closed Container |
| Pump Heads | Single | Single, Dual, Microcassette |
| Order No. | W375040-F | W375030-F |

Technical Specification

| Model Pump | VAC | WATTS | Operating Speed RPM | Tubing Sizes Available (mm ID) | Dispense Ranges for Tubing mL | Flow Rate Ranges for Tubing mL/min | Accuracy Midrange | Delay Time / Sec | Dim. with Pumphead (HxWxD) | Optional Pump Head Support |
|--------------|---------|-------|---------------------|--------------------------------|-------------------------------|------------------------------------|-------------------|------------------|----------------------------|---|
| Vdose® ELITE | 100-240 | 37 | 0.5-400 | 2 | 0.01-9999.99 | 20.4-174 | ≤±1% | 0.5-99.9 | 17.3×22.3×33 | > Stack up to 2 Pump Heads |
| | | | | 3 | 0.01-9999.99 | 40.2-354 | | | | > Stacking Pump Head for 2.3mm Wall Tubing |
| | | | | 6 | 0.01-9999.99 | 131-1176 | | | | > Pump Head for 1.6mm Wall Tubing |
| | | | | 8 | 0.01-9999.99 | 200-1746 | | | | > Stacking Pump Head for 1.6mm Wall Tubing |
| Vdose® PRO | 100-240 | 37 | 75&150 | 2 | 0.01-9999.99 | 30&60 | ≤±1% | 0.5-99.9 | 17.3×22.3×33 | > 5-Channel Pump Head for Small-Bore Tubing |
| | | | | 3 | 0.01-9999.99 | 60&120 | | | | > Pump Head for 1.6mm Wall Tubing |
| | | | | 6 | 0.01-9999.99 | 270&540 | | | | > Pump Head for 2.3mm Wall Tubing |
| | | | | 8 | 0.01-9999.99 | 540&1080 | | | | |



Optional Pump Heads

| Order No. | Description | Qty/Case |
|-----------|---|----------|
| W375021 | Single Pump Head for 2.3mm Wall Tubing | 1 |
| W375022 | Optional Stacking Pump Head for 2.3mm Wall Tubing | 1 |
| W375023 | Optional Pump Head for 1.6mm Wall Tubing | 1 |
| W375024 | Optional Stacking Pump Head for 1.6mm Wall Tubing | 1 |
| W375025 | Optional 5-Channel Pump Head for use with Small Bore with fixed stops | 1 |

Peristaltic Pumps Accessories

| Order No. | Description | Qty/Case |
|--|---|----------|
| Tubing Accessories | | |
| 374322 | Hose Barb/Luer Adapter (fits 2 and 3mm) | 1 |
| 1050694 | Footswitch | 1 |
| 374324 | 2 and 3mm Polypropylene Nozzle | 6 |
| 374326 | 6mm Polypropylene Nozzle | 6 |
| 374328 | 8mm Polypropylene Nozzle | 6 |
| 374320 | Small Glass Sinker (fits 2 and 3mm ID tubing) | 6 |
| 374321 | Large Glass Sinker (fits 6 and 8mm ID tubing) | 6 |
| Tubing Support Stand | | |
| 1054106 | Tubing Support Stand | 1 |
| Silicone Tubing Assembly, 2.3 mm wall thickness | | |
| 374310 | 2mm ID, 5 ft Section (1.5m) | 1 |
| 374311 | 3mm ID, 5 ft Section (1.5m) | 1 |
| 374313 | 6mm ID, 5 ft Section (1.5m) | 1 |
| 374314 | 8mm ID, 5 ft Section (1.5m) | 1 |
| Silicone Tubing, 2.3mm wall thickness | | |
| 374304 | 2mm ID, 25 ft Section (7.62m) | 1 |
| 374305 | 3mm ID, 25 ft Section (7.62m) | 1 |
| 374306 | 6mm ID, 25 ft Section (7.62m) | 1 |
| 374308 | 8mm ID, 25 ft Section (7.62m) | 1 |
| Microtest Manifolds | | |
| 851380 | 4 Position, Straight, 24 Well | 1 |
| 851381 | 8 Position, Straight, 96 Well | 1 |
| 851382 | 4 Position, Angular, 24 Well | 1 |
| 851383 | 8 Position, Angular, 96 Well | 1 |
| 851388 | 12 Position, Straight, 96 Well | 1 |
| 851389 | 12 Position, Angular, 96 Well | 1 |
| Dispensing Cannulas w/Luer Lock | | |
| 851411 | 18 Gauge x 2 in | 1 |
| 851412 | 14 Gauge x 4 in | 1 |



Microcassette Pump Head



Stacking Pump Head with Standard Pump Head

Stacking Pump Head

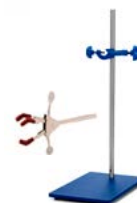
Hose Barb/Luer Adapter

The luer adapter allows connection to equipment and components with a female luer connector.



Tubing Support Stand

Optional tubing support stand conveniently holds the tubing in place for filling operations.



Footswitch

Utilize the convenience of a handsfree pump by installing the optional footswitch.



Silicone Tubing

Assembly consists of 1.5m (5-foot) section of silicone tubing with a wall thickness of 2.3mm, a borosilicate glass sinker, and a polypropylene delivery nozzle. Bulk tubing also available.



Polypropylene Nozzle & Glass Sinker

- > The nozzle connects to the pump tubing for dispensing of liquids.
- > The glass sinker is used to secure tubing when drawing from a container.



Microtest Manifolds & Dispensing Cannulas

Ideal for use with 24 and 96 well microplates. This unique dispensing system enables you to perform sample inoculations and cell feedings faster and more efficiently under sterile conditions.



Portable Suction Unit (Aspirator)

Adopts oil-free vacuum pump

No lubricant required, maintenance free, low noise and durable.

Double overflow protection

A built-in float switch plus 0.2 μ m PTFE hydrophobic disc filter between suction bottle and pump prevent the medium and bacteria from flowing into the pump.

Autoclavable

Waste bottle and disc filter are autoclavable.

- > Whole unit is made of ABS plastic and aluminum alloy.
- > Various precision elements are developed, and assembled through long time test.
- > Twin diaphragm pump design low noise, wear resistant, non-pollution, and free maintenance.

High-Temperature Sterilization

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

Double Protection Against Liquid Overflow

- > Waste bottle, floating ball.
- > 0.2 μ m PTFE disc filter
- > Protection against liquid overflow
- > Keeps liquid from entering the pump.

Stable and Durable Casing

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

Wire Storage Box

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



Certification
CE certification

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 and high-pressure sterilization



Application

- > Biochemical cultivation
- > Separation of culture fluids
- > Waste liquid suction in cell cultivation
- > All kinds of waste liquid suction in laboratory environments

Single-branch
suction head



1

Handheld
controller



2

8-branch "tip"
plastic suction head



3

Single-branch
stainless steel
suction head



4

Specifications

| Order No. | Model series | Power | Ultimate Vacuum | Max. Flow Rate | Foot Switch | Dimensions | Suction bottle | Weight | Accessories |
|-------------|-----------------|-------|-----------------|----------------|-------------|--------------|----------------|--------|-------------|
| | | W | mbar | L/min | | cm | | kg | |
| 167225-22 | BioVac 225 | 25 | 100 | 25 | - | 37 × 15 × 25 | 1000mL X 1 | 4.3 | 4 |
| 167225-22-P | BioVac 225 PLUS | 25 | 100 | 25 | - | 37 × 15 × 25 | 1000mL X 1 | 4.3 | 1.2.3.4 |
| 167235-22 | BioVac 235 | 25 | 100 | 35 | - | 27 × 30 × 28 | 1500mL X 2 | 6.9 | 4 |
| 167235-22-P | BioVac 235 PLUS | 25 | 100 | 35 | - | 27 × 30 × 28 | 1500mL X 2 | 6.9 | 1.2.3.4 |
| 167240-22 | BioVac 240 | 25 | 80 | 40 | yes | 54 × 26 × 35 | 3000mL X 1 | 12 | 4 |
| 167240-22-P | BioVac 240 PLUS | 25 | 80 | 40 | yes | 54 × 26 × 35 | 3000mL X 1 | 12 | 1.2.3.4 |

Accessories

Bio-Suction Kit

Successful removal of supernatants from lab containers by means of a vacuum aspiration system depends on applying the correct level of vacuum and on using an aspirator tip that matches the size and form of the container from which liquid is aspirated. The vacuum aspiration tool has been by Wiggins to specifically match the diversity of laboratory containers. Different adapters fit on the hand operator so that your vacuum source is converted into a flexible system for aspirating liquids from tubes, dishes, bottles, T-Flasks, 24-well and 96-well plates.

Quick-lock design

Ergonomic handle and friendly designed lock switch can keep continuous suction without pressing button all the time.

Single-handed tip ejection

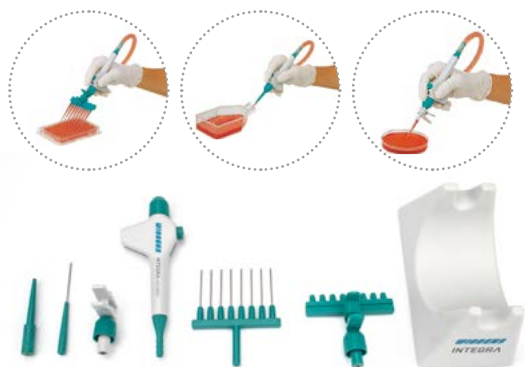
The innovative tip ejection design enables tip ejection by single hand easy.

Quick fitting change

Quick connection coupling between fitting and handle can make any fittings replaced quickly.

Vapor sterilization can be applied

The complete kit except rack are made of POM and stainless steel material available for autoclave.



Specifications

| No. | Order No. | Name | Quantity |
|-----|-----------|--|----------|
| 1 | 167200-42 | Single-branch suction head | 1 |
| 2 | 167200-44 | Single-branch stainless steel suction head | 1 |
| 3 | 167200-45 | Single-branch "tip" plastic suction head | 1 |
| 4 | 167200-46 | Handheld controller | 1 |
| 5 | 167200-47 | 8-branch stainless steel suction head | 1 |
| 6 | 167200-48 | 8-branch "tip" plastic suction head | 1 |
| 7 | 167200-49 | ABS Depositing rack | 1 |

| Name | Bio-Suction Kit |
|---------------------|-----------------|
| Order No. | 167200-37 |
| Operation Form | Vacuum Suction |
| Outlet Diameter(mm) | 5 mm |



Disc Filter

| Name | Small Disc Filter | Big Disc Filter |
|-------------------------------|-----------------------|-----------------|
| Order No. | 167200-35 | 167200-36 |
| Brand | Pall | Pall |
| Filter Diameter / Pore Size | 37 mm / 0.2 μm | 50 mm / 0.2 μm |
| Outer Diameter | 45 mm | 73 mm |
| Material | PTFE | PTFE |
| Outer Material | PP | PP |
| Number of Filters per Package | 1 | 1 |
| Suitable for | BioVac225 / BioVac235 | BioVac240 |

Silicon Tubes



| Order No. | Outer Diameter mm | Inner Diameter mm | Thickness mm | Length m |
|-----------|----------------------|----------------------|-----------------|-------------|
| 168021-01 | 14 | 8 | 3 | 1 |
| 168022-01 | 16 | 10 | 3 | 1 |



167200-50



167200-51

| Order No. | Name | Description |
|-----------|-----------------------------|--|
| 167200-50 | Manual suction tube | Outer diameter of connector is 8mm, Outer diameter of the PP tube is 5mm |
| 167200-51 | High pressure silicone tube | For the tube, the outer diameter is 10mm, inner diameter is 6mm, with hose joints at both ends |



167200-52



167200-53

| Order No. | Name | Description |
|-----------|------------------|---|
| 167200-52 | Plastic stoppers | Suitable for the tube that outer diameter is 10mm or 12mm |
| 167200-53 | Detachable tray | 300x175mm, suitable for BioVac350 / 650 |



PP/PC Waste Bottle

| Material | | | |
|--------------------------|-----------|-----------|-----------------------|
| Order No. | 167200-31 | 167201-32 | 167200-34 |
| Bottle | PC | PC | PC |
| Bottle Cover | PC | PC | PC |
| Spill-Proof Buoy | PP | PP | PP |
| Description | | | |
| Capacity(ml) | 1000 ml | 1500 ml | 3000 ml |
| Outlet(mm) | 8 mm | 8 mm | 8 mm |
| Spill-Proof Buoy | Yes | Yes | Yes |
| Autoclavability (121 °C) | Yes | Yes | Yes |
| Suitable for | BioVac225 | BioVac235 | BioVac240 / 350 / 650 |

If you want to need other different volume of bottle, please choose 167200-39 followed



Stand for Suction Bottles

| Order No. | Description | |
|-------------|--|--------|
| 167200-39-1 | Stand for Suction Bottles Designed for Stabilizing | 1000mL |
| 167200-39-2 | the Bottle in Filtration Work | 2000mL |
| 167200-39-3 | | 3000mL |



Foot Pedal

| Order No. | Description |
|-----------|------------------------------------|
| 167200-40 | Foot Pedal, Suitable for BioVac240 |
| 167200-41 | Foot Pedal |

Vdose Syringe Pumps

The standard syringe pump includes injection element and controller, and the injection element can be single channel or dual channel. Vdose serial syringe pump can carry out accurate liquid transmission automatically. The system is also programmable with a PC to realize more complicated liquid dosing operations.

- > Big TFT display can show the dosing parameters clearly on one screen
- > 11 types of syringes can be selected, from 50 μ l~25ml, it is easy to change the syringes
- > Dosing speed: from 1.25 μ l/min to 375ml/min
- > All parts contacted with the liquid are glass or PTFE, that guarantees the chemical resistance
- > The three port valve can switch automatically to complete the repeating withdrawing and dosing
- > The valve ports can be configured for convenient liquid recovery without taking part the tubing
- > RS-232/485 digital communication ports available for remote PC or PLC control



Vdose2400



Vdose1200

Specifications



| Model | Vdose1200 | Vdose2400 |
|---------------------------------|-----------------------------|-----------------------------------|
| Number of dosing channel | Single Position | Dual Position |
| Flow Rate | 1.25 μ l/min~375 ml/min | 1.25 μ l/min~375 ml/min |
| Precision | $\leq 5\%$ | $\leq 5\%$ |
| Weight | 5.5 kg | 9.1 kg |
| Outer Dimensions (H x W x D mm) | 305 x 89 x 330 | 305 x 178 x 330 |
| Syringe | Size | 50 μ l~25 ml |
| | Material | Glass and Teflon wetted |
| | Dispense Resolution | 1/6000 of the syringe size in use |
| | Feature | Easily interchangeable |
| Valve | Material | PEEK |
| | Feature | 3 to 8 selectable ports |
| Interface Port | RS232 / 485 | RS232 / 485 |
| Electric requirements | 110~240V, 50/60Hz | 110~240V, 50/60Hz |
| Order No. | V900703 | V900702 |

Order Information

| Order No. | Description |
|---------------------------------|--|
| V900703 | Single Position Syringe pump, with dosing unit and controller (need to specify the valve ports and glass syringe volume) |
| V900702 | Dual Position Syringe pump, with dosing unit and controller (need to specify the valve ports and glass syringe volume) |
| Accessories | |
| V900700-5 | 50 μ L glass syringe with Teflon plunger |
| V900700-6 | 100 μ L glass syringe with Teflon plunger |
| V900700-7 | 250 μ L glass syringe with Teflon plunger |
| V900700-8 | 500 μ L glass syringe with Teflon plunger |
| V900700-9 | 1mL glass syringe with Teflon plunger |
| V900700-10 | 2.5mL glass syringe with Teflon plunger |
| V900700-11 | 5mL glass syringe with Teflon plunger |
| V900700-12 | 10mL glass syringe with Teflon plunger |
| V900700-13 | 25mL glass syringe with Teflon plunger |
| PTFE Tubing and Fittings | |
| V900700-19 | Tubing Length: 6m; Outer Diameter: 1/8 "; Includes: 6 nuts and 6 ferrules |
| V900700-20 | Tubing Length: 30m; Outer Diameter: 1/8 "; Includes: 6 nuts and 6 ferrules |
| V900700-21 | Tubing Length: 6m; Outer Diameter: 1/16 "; Includes: 6 nuts and 6 ferrules |
| V900700-22 | Tubing Length: 30m; Outer Diameter: 1/16 "; Includes: 6 nuts and 6 ferrules |





Gas Generators

Hydrogen

Nitrogen

Zero Air

























Compressed Air

Purified Air

10

Hydrogen gas generator

Hydrogen gas generator at a glance (H₂ or H₂+Zero Air all-in-one)

| Hydrogen | Series | Max Outlet pressure | The range of flow rate | | |
|----------------------|--------------------------|---------------------|------------------------|---|---|
| High purity 99.9995% | HK Plus | 7 bar (102 psi) | 100-250 mL/min | Ideal for use for gas chromatography detectors such as: > GC - FID / GC - NPD / GC - TCD > Gas Reagent GC- ELCD / GC – HALL |   |
| | PG Plus | | | |   |
| High purity 99.9996% | FID FLAT-PG Plus (+Air) | 11 bar (160 psi) | 100-250 mL/min | > FID-S Can placement under a GC > Ideal for all GC Detectors |    |
| | FID TOWER-PG Plus (+Air) | | | |    |
| | RACK-PG Plus (+Air) | | | |    |
| Ultrapure 99.99996% | NM Plus | 11 bar (160 psi) | 100-1350 mL/min | > Flame ionization detector (FID) > Carrier gas for GC and GC-MS > Fast GC > Collisions on ICP-MS |   |
| | FID FLAT-NM Plus (+Air) | | | |    |
| | FID TOWER-NM Plus (+Air) | | | |    |
| | RACK-NM Plus (+Air) | | | |    |

Nitrogen gas generator



N₂-TOWER Plus



WHISPER



MINI WHISPER



MISTRAL EVOLUTION

| | Series | The range of flow rate L/min | With or without air compressors | Purity |
|----------------------|-----------------------------------|------------------------------|---------------------------------|----------|
| N ₂ | N ₂ -TOWER Plus (Oven) | 0.2-4 | without | 99.9999% |
| | MINI WHISPER | 5-12 | without | 98~99.9% |
| | WHISPER | 40~120 | without | 98~99.9% |
| | MISTRAL EVOLUTION | 10-40 | with | 98-99.9% |
| N ₂ + Air | Mini WHISPER Hybrid | 5-12 | without | 98~99.9% |
| | | 35 (Air) | without | Zero air |
| | WHISPER Hybrid | 10-120 | without | 98~99.9% |
| | | 35 or 70 (Air) | without | Zero air |
| | | Up to 12 | with | 98~99.9% |
| | MISTRAL EVOLUTION HYBRID | Up to 24 (Air) | with | Zero air |
| | | Up to 8 (Air) | | |
| | MISTRAL EVOLUTION GAS-STATION | Up to 25 | with | 98~99.9% |
| | | Up to 40 (Air) | With | Zero air |

Zero air generator

Zero Air and Ultra-Zero Air Generator at a glance



GC Series



GT Series



19" Rack Series

| | Series | The range of flow rate L/min | Purity |
|-----|----------------------|------------------------------|----------------|
| Air | GC Zero Air | 1.5-30 | Zero Air |
| | GT Ultri Zero Air | 1.5-30 | Ultra-Zero Air |
| | 19" Rack GC Zero Air | 1.8-15 | Zero Air |

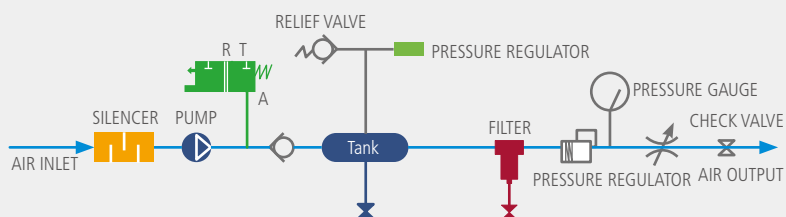
Compressed Air System

- > Compressed air system is designed for laboratory applications
- > P440 is a small size which is suitable for the supply of compressed air for work conditions with small flow rate and low pressure in the laboratory.
- > P640 is medium size which is suitable for continuous supply of compressed air, equipped with condenser and filter to increase the output air purity.

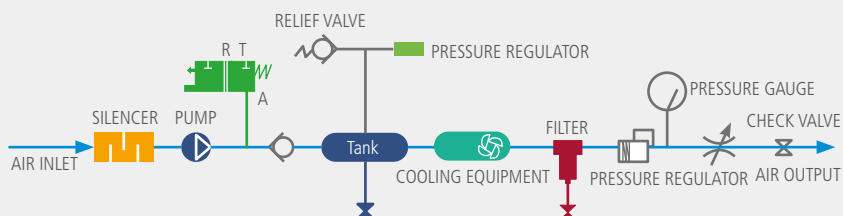


P420

Work flow of P440



Work flow of P640



Specifications



| Model | P420 | P440 | P640 |
|---------------------------------|-----------------|--|--|
| Order No. | 167420-22 | 167440-22 | 167640-22 |
| Max. Airflow (L/min) | 25 | 30 | 60 |
| Max. Pressure (bar) | 5.5 | 5 | 8 |
| Pressure adjustment range (bar) | - | 0~5 | 0~8 |
| Power(W) | 95 | 750 | 550 |
| Connection (mm) | G1/8 | 6mm quick connector or G1/4Male | |
| Air tank (L) | - | 30 | 30 |
| Weight(kg) | - | 56 | 68 |
| Noise (dB) | 50 | 69 | 69 |
| Dimension L × W × H (mm) | 370 × 152 × 165 | 680 × 340 × 720 | 640 × 470 × 720 |
| Filter type | - | WND30005 | WND30005 |
| Running type | - | Switch: auto stop, start at 3bar and stop at 5bar. | Switch: auto stop, start at 3bar and stop at 6bar. |
| safety valve: | - | Release the air pressure automatically when the pressure over 8bar in the air tank | |

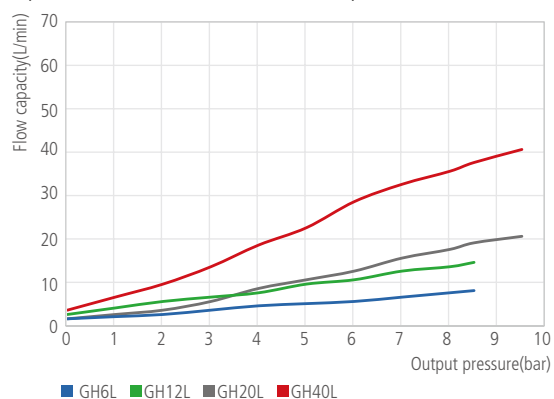
Purified Air System

Purified Air System is specifically developed for the applications where air quality is essential for your applications and production processes.

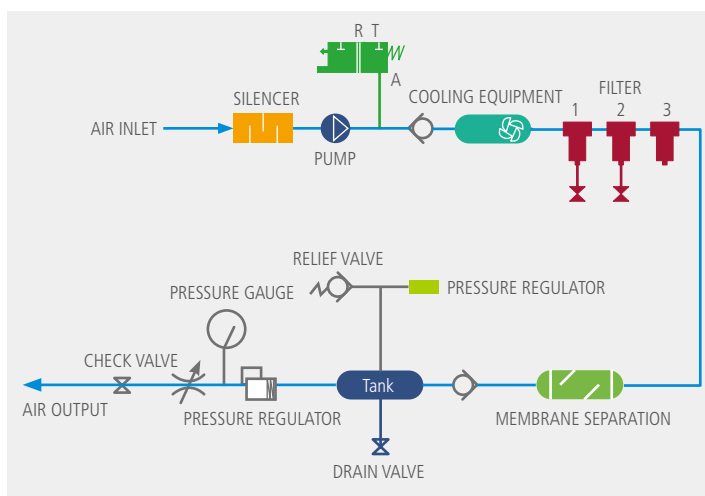
We are committed to provide purified air to Nitrogen generator, Zero air generator, and deliver top air quality for critical applications including food and beverage processing, chemical processing, electronics manufacturing and Life science research.



Pumps characteristics curve between pressure and flow rate



Work flow of GH6L/12L/20L/40L



Specifications

| Model | GH6L | GH12L | GH20L | GH40L |
|---------------------------------|---|-----------------------|--|------------------------|
| Order No. | 16706000-22 | 16712000-22 | 16720000-22 | 16740000-22 |
| Max. Airflow (L/min@7bar) | 6 | 12 | 20 | 40 |
| Max. Pressure (bar) | 8.5 | 8.5 | 9.5 | 9.5 |
| Pressure adjustment range (bar) | 0~8.5 | 0~8.5 | 0~9.5 | 0~9.5 |
| Power(W) | 400 | 400 | 600 | 600 |
| Connection (mm) | 6mm quick connector or G1/4 Male | | 6mm quick connector or G1/4 Male | |
| Air tank (L) | 5 | 8 | 20 | 40 |
| Weight(kg) | 35 | 40 | 59 | 72 |
| Noise (dB) | 57 | 57 | 63 | 63 |
| Dimension L × W × H (mm) | 550 × 220 × 450 | 550 × 300 × 560 | 640 × 420 × 550 | 640 × 470 × 720 |
| Filter type | Model I Triple filter | Model I Triple filter | Model II Triple filter | Model II Triple filter |
| Running type | Switch: auto stop, start at 7.5bar and stop at 8.5bar. | | Switch: auto stop, start at 7.5bar and stop at 9.5bar. | |
| safety valve | Release the air pressure automatically when the pressure over 10bar in the air tank | | | |



Purified Air System



Features

Highest air quality

- > GH series has equipped with a condenser, a triple filtration device, and an efficient dryer, to ensure the filtration accuracy of the air and the filtration of water vapor. The particles with a diameter of 0.01 μm can be filtered, and the dew point of output gas can reach to -15°C .
- > Use of high-quality stainless steel internal tank to avoid corrosion and solid particles in the tank for a long period of time, to ensure the purity of the output gas
- > Purified air system is suitable for supplying nitrogen generators and zero air generators.

Environmentally friendly

We deliver purified air and create less waste compared to oil lubricated compressors. You'll need less oil and filter elements to dispose of after maintenance

Safety

- > The inside of the motor is equipped with a temperature protection switch. When the internal temperature is too high, it will stop automatically, and it will auto start after cool down.
- > The internal tank is equipped with a relief valve. If the equipment reaches the maximum pressure, the relief valve will open automatically to prevent overload and overpressure
- > GH series is equipped with digital pressure switches, start and stop can be set according to the customer's needs. If the pressure switch reaches the set pressure, the motor will stop running. If it exceeds the pressure setting, the pressure switch will display the alarm.
- > Maintenance and safety signs are printed on the casing of the Purified air system, to ensure the accurate operation of the unit and avoid damage caused by improper operation.

Quality Assured

- > The maximum working pressure can reach 8.5 or 9.5 bar, and it can be adjusted continuously. It is suitable for use in the case of continuous work, and guarantees the output of large flow under the maximum pressure.
- > Adjustable output pressure, set the pressure to make the motor turn off. This function can extend the service life and maintenance cycle of the unit.
- > With high precision display gauge to ensure that the pressure gauge reading is stable and shows accurate actual pressure values.
- > Direct drive transmission, without belt, further reducing vibration and noise

Smart AIR Solutions

- > Compact design, GH6L and computer case are similar in size
- > The air inlet is equipped with filter, to filter dust particles and reduce the noise
- > The inside of the unit is equipped with shockproof pads and soundproof cotton to reduce the vibration and noise, and reduce the damage caused by mechanical vibration to unit

Lower operating cost

Our innovation has resulted in some of the most energy efficient products in the market, keeping energy costs low.

Accessories

Pressure gauge

| Order No. | Name | Description |
|-----------|----------------|---------------------------------|
| WND3010 | Pressure gauge | 0~16bar, G1/8 connection, Ø40mm |



Buffer vessel

| Order No. | Name | Description |
|-----------|---------------|--|
| CQG010 | Buffer vessel | 10L, Ø220 × 300mm, Stainless steel, Horizontal, 8mm quick connector or G1/4 Male |
| CQG020 | Buffer vessel | 20L, Ø250 × 440mm, Stainless steel, Horizontal, 8mm quick connector or G1/4 Male |
| CQG030 | Buffer vessel | 30L, Ø300 × 460mm, Stainless steel, Horizontal, 8mm quick connector or G1/4 Male |
| CQG050 | Buffer vessel | 50L, Ø350 × 700mm, Stainless steel, Vertical, 8mm quick connector or G1/4 Male |
| CQG100 | Buffer vessel | 100L, Ø400 × 1100mm, Stainless steel, Vertical, 8mm quick connector or G1/4 Male |
| CQG200 | Buffer vessel | 200L, Ø500 × 1230mm, Stainless steel, Vertical, 8mm quick connector or G1/4 Male |
| CQG300 | Buffer vessel | 300L, Ø550 × 1530mm, Stainless steel, Vertical, 8mm quick connector or G1/4 Male |

Different material and size of buffer vessel can be customized. The pressure up to 10 bar. Included safety valves, pressure gauges, drainage valves, exhaust ball valves.



PU pressure tubing

| Order No. | Name | Description |
|-----------|--------------------|-------------------------------------|
| WND30036 | PU pressure tubing | 6mm, quick connection, up to 10bar |
| WND30035 | PU pressure tubing | 8mm, quick connection, up to 10bar |
| WND30034 | PU pressure tubing | 10mm, quick connection, up to 10bar |
| WND30063 | PU pressure tubing | 12mm, quick connection, up to 10bar |
| WND30064 | PU pressure tubing | 14mm, quick connection, up to 10bar |

Different size of pressure tubing can be customized



Quick connector

| Order No. | Name | Description |
|------------|-----------------|-------------------------------------|
| P440031 | Quick connector | 6~8mm, quick connection |
| P440032 | Quick connector | 8~10mm, quick connection |
| P440033 | Quick connector | 10~12mm, quick connection |
| P440034 | Quick connector | 12~14mm, quick connection |
| WND3011 | Quick connector | 6mm, PE three-way quick connection |
| WND3050010 | Quick connector | 8mm, PE three-way quick connection |
| WND30017 | Quick connector | 10mm, PE three-way quick connection |
| WND3035 | Quick connector | 6mm, PY three-way quick connection |
| WND30018 | Quick connector | 8mm, PY three-way quick connection |
| WND3050012 | Quick connector | 10mm, PY three-way quick connection |



Pressure reducing valve

| Order No. | Name | Description |
|-----------|-------------------------|---|
| WND30009 | Pressure reducing valve | 0.05~0.7Mpa, G1/4 inlet, G1/8 × 1 outlet, G1/4 × 2 outlet |
| GH40L002 | Pressure reducing valve | 0.05~0.85Mpa, G1/4 inlet, G1/4 × 3 outlet |



Air Filter and Separator

| Order No. | Name | Description |
|-----------|--------------------|--|
| WND3001 | Air filter | Model I, G1/4 connection, 5µm, air flow rate <200L/min, Automatic drain, up to 10 bar |
| WND3002 | Oil mist separator | Model I, G1/4 connection, 0.3µm, air flow rate <200L/min, Automatic drain, up to 10 bar |
| WND3003 | Microfog separator | Model I, G1/4 connection, 0.01µm, air flow rate <200L/min, up to 10 bar |
| WND30123 | Triple filter | Included WND3001, WND3002 and WND3003 |
| WND30005 | Air filter | Model II, G1/4 connection, 5µm, air flow rate <450L/min, Automatic drain, up to 10 bar |
| WND30006 | Oil mist separator | Model II, G1/4 connection, 0.3µm, air flow rate <450L/min, Automatic drain, up to 10 bar |
| WND30007 | Microfog separator | Model II, G1/4 connection, 0.01µm, air flow rate <450L/min, up to 10 bar |
| WND30567 | Triple filter | Included WND30005, WND30006 and WND30007 |



Filter cartridge



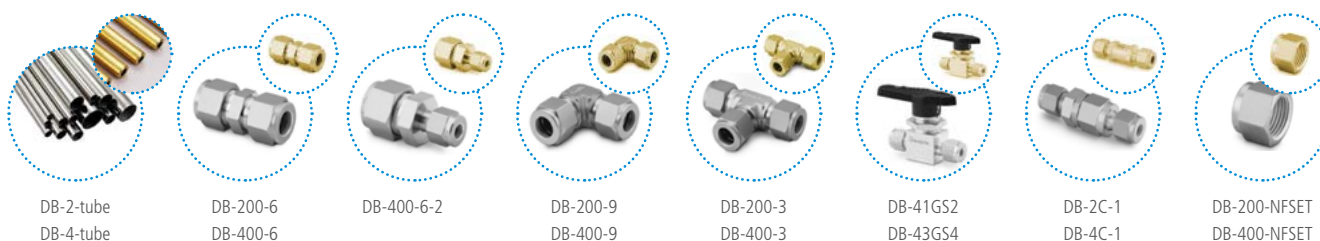
| Order No. | Name | Description |
|-------------|------------------|-------------|
| WND3001-01 | Filter cartridge | 5µm |
| WND3002-01 | Filter cartridge | 0.3µm |
| WND3003-01 | Filter cartridge | 0.01µm |
| WND30005-01 | Filter cartridge | 5µm |
| WND30006-01 | Filter cartridge | 0.3µm |
| WND30007-01 | Filter cartridge | 0.01µm |

Recommended to replace it once a year and shorten it according to the air quality of inlet.



Installation kits ,when GH series provides gas to two system

| Order No. | Purified air system | External system 1 | External system 2 |
|-----------|---------------------|--|--|
| WND12201 | GH | GC Zero Air Generator or Hydrogen and air generator | N2 TOWER plus series |
| WND12202 | GH | GC Zero Air Generator or Hydrogen and air generator or GT Ultra-Zero Air Generator | GC Zero Air Generator or Hydrogen and air generator or GT Ultra-Zero Air Generator |
| WND12203 | GH | N2 TOWER plus series | N2 TOWER plus series |



SS-Tubing / adapter / Valve / Connectors,etc

| Order No. | Description |
|--------------|---|
| DB-2-tube | 1/8" SS tubing, 1meter, uncut. |
| DB-4-tube | 1/4" SS tubing , 1meter, uncut. |
| DB-200-6 | 2 Adapters 1/8" to 1/8" |
| DB-400-6 | 2 Adapters 1/4" to 1/4" |
| DB-400-6-2 | 2 Adapters 1/4" to 1/8" |
| DB-200-9 | 1/8" 2 Elbow fittings 90 ° |
| DB-400-9 | 1/8" 2 Elbow fittings 90 ° |
| DB-200-3 | 1/8" T-connector |
| DB-400-3 | 1/4" T-connector |
| DB-41GS2 | 1/8" Shut-off valve |
| DB-43GS4 | 1/4" Shut-off valve |
| DB-2C-1 | 1/8" Non-return valve, Open pressure 1 pisp (0.07bar) |
| DB-4C-1 | 1/4" Non-return valve, Open pressure 1 pisp (0.07bar) |
| DB-200-NFSET | 1/8" screw cap, includes seals (5 pieces) |
| DB-400-NFSET | 1/4" screw cap, includes seals (5 pieces) |
| DB-tools-set | Tubing tools set |

COPPER-Tubing / adapter / Valve / Connectors,etc

| Order No. | Description |
|--------------|---|
| DC-2-tube | 1/8" copper tubing, 1meter, uncut. |
| DC-4-tube | 1/4" copper tubing , 1meter, uncut. |
| DC-200-6 | 2 Adapters 1/8" to 1/8" |
| DC-400-6 | 2 Adapters 1/4" to 1/4" |
| DC-400-6-2 | 2 Adapters 1/4" to 1/8" |
| DC-200-9 | 1/8" 2 Elbow fittings 90 ° |
| DC-400-9 | 1/8" 2 Elbow fittings 90 ° |
| DC-200-3 | 1/8" T-connector |
| DC-400-3 | 1/4" T-connector |
| DC-41GS2 | 1/8" Shut-off valve |
| DC-43GS4 | 1/4" Shut-off valve |
| DC-2C-1 | 1/8" Non-return valve, Open pressure 1 pisp (0.07bar) |
| DC-4C-1 | 1/4" Non-return valve, Open pressure 1 pisp (0.07bar) |
| DC-200-NFSET | 1/8" screw cap, includes seals (5 pieces) |
| DC-400-NFSET | 1/4" screw cap, includes seals (5 pieces) |
| DC-tools-set | Tubing tools set |



11 | Ultrasonic Cleaner

Ultrasonic Cleaner

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 37/40KHz. These bubbles break in all directions and attack every surface in contact with water, erasing dirt, impurities and pollutants when in contact with materials or pieces in the bath. This phenomenon allows cleaning all kinds of materials and products without the need of disassembling, due to all the surfaces being in contact with the liquid. The heat allows accelerate this clearing process.

Eco Series

- > Wide range available volumes from 3 l up to 22 l capacity
- > Inner and outer parts made of stainless steel
- > Comes with a tray to conveniently place objects to be cleaned
- > Features a digital timer with up to 99 min

Pro Series

- > Entails all advantages of the Eco series
- > LCD touch screen for simple and intuitive operation
- > Features a digital timer with up to 199 min
- > Working power adjustable between 40% and 100%
- > Heating ability between 20 and 80
- > Comes with a tray and lid
- > Stainless steel 304 tank and paint coated case, meet the requirements of antiseptic and hygienic lab environment
- > Independent degas function
- > Automatically save last parameters and recalled when unit is turned back on
- > Non-slip feet and flexible surface contact for lower ultrasonic vibration
- > Safety handles make unit portable
- > Maintain ultrasonic efficiency at different temperatures
- > Frequency overload and thermal protection

Application

- > 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



Specifications

| Model | Capacity L | Internal Size (LxWxH) mm | Overall Size (LxWxH) mm | Working Power W | Heater Power W | Temp. | Frequency Khz | Timer min | Drainage outlet |
|------------|---------------|-----------------------------|----------------------------|------------------------------|-------------------|-------|------------------|--------------|--------------------|
| Eco Series | | | | | | | | | |
| UE03SFD | 3 | 240 x 140 x 100 | 270 x 160 x 240 | 90 | -- | -- | 40 | 1~99min | Without |
| UE06SFD | 6 | 300 x 150 x 150 | 330 x 180 x 290 | 160 | -- | -- | 40 | 1~99min | With |
| UE10SFD | 10 | 300 x 240 x 150 | 360 x 270 x 310 | 250 | -- | -- | 40 | 1~99min | With |
| UE15SFD | 15 | 330 x 300 x 150 | 390 x 330 x 310 | 350 | -- | -- | 40 | 1~99min | With |
| UE22SFD | 22 | 500 x 300 x 150 | 570 x 330 x 330 | 500 | -- | -- | 40 | 1~99min | With |
| Pro Series | | | | | | | | | |
| UA03MFDN | 3 | 240 x 137 x 103 | 301 x 163 x 342 | Max.100 (40-100% adjustable) | 88 | 20~80 | 37 | 1~199min | Without |
| UA06MFDN | 6 | 300 x 153 x 150 | 362 x 180 x 305 | Max.150 (40-100% adjustable) | 170 | 20~80 | 37 | 1~199min | Without |
| UA10MFDN | 10 | 300 x 240 x 150 | 383 x 267 x 305 | Max.200 (40-100% adjustable) | 270 | 20~80 | 37 | 1~199min | With |
| UA22MFDN | 22 | 500 x 300 x 150 | 584 x 327 x 327 | Max.400 (40-100% adjustable) | 550 | 20~80 | 37 | 1~199min | With |

SONOSHAKE

Ultrasonic bath with shaking device for sample preparation

Wiggins shaking ultrasonic water bath SONOSHAKE combines the function of ultrasonic cleaner and shaking water bath. Both procedures can be carried out simultaneously or separately. This means that a sample can be pre-homogenized at a specified shaking frequency, and then final homogenization can be achieved in a very short time using ultrasound.

- > Shaking stroke is 20 mm, 30mm, 40mm are optional
- > Rack is easy to remove
- > With drainage outlet

Max. Load of flasks

- > 6 X 250ml
- > 6 X 300ml
- > 2 X 500ml
- > 2 X 1L
- > 1 X 2L



Applications

Biochemical research, material testing, enzyme and tissue studies, homogenization, routine laboratory tasks, corrosion tests, fermentation, incubation, blood plasma thawing, temperature tests of food and beverages

Specifications

| Order No. | Model | Temp. | Frequency | Working Power | Heater Power | Timer | Drainage outlet | Capacity | Shaking stroke |
|-----------|-----------|-------|-----------|------------------------------|--------------|----------|-----------------|----------|----------------|
| | | | Khz | W | W | min | | L | mm |
| WSA1028 | SONOSHAKE | 20-80 | 37 | Max.400 (40-100% adjustable) | 550 | 1~199min | With | 20 | 20 (30 / 40) |

Accessories for Ultrasonic Cleaner

Some accessories are very suitable for the Ultrasonic Cleaner, protecting the tank body, and some small parts need special containers ensure to be placed at the bottom of the tank.

Lid for reduce the noise

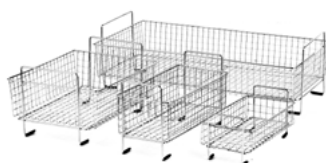


| Order No. | Name | Suitable for Volume |
|-----------|--------|---------------------|
| U10003 | SS Lid | 3L |
| U10006 | SS Lid | 6L |
| U10010 | SS Lid | 10L |
| U10015 | SS Lid | 15L |
| U10022 | SS Lid | 22L |

Tray



| Order No. | Name | Suitable for Volume |
|-----------|------|---------------------|
| U10203 | Tray | 3L |
| U10206 | Tray | 6L |
| U10210 | Tray | 10L |
| U10215 | Tray | 15L |
| U10222 | Tray | 22L |



SS Insert basket

| Order No. | Name | Suitable for Volume |
|-----------|---------------|---------------------|
| U10103 | Insert basket | 3L |
| U10106 | Insert basket | 6L |
| U10110 | Insert basket | 10L |
| U10115 | Insert basket | 15L |
| U10122 | Insert basket | 22L |



Positioning lids

| Order No. | Name | Suitable for Volume |
|-----------|------|---------------------|
| U10403 | Lid | 3L |
| U10406 | Lid | 6L |
| U10410 | Lid | 10L |
| U10415 | Lid | 15L |
| U10422 | Lid | 22L |

Test tube holder / Drain pipe

| Order No. | Description |
|-----------|---|
| U10503 | Test tube holder, suitable for 3~22L Ultrasonic Cleaner |
| U10606 | Drain pipe, suitable for 3~22L Ultrasonic Cleaner |



Stabilizing rings for Erlenmeyers

- > - PVC covered steel
- > - suitable for Erlenmeyers, flasks, etc.
- > Application: The weight of the ring prevents flasks from floating when placed in a thermal bath.



| Order No. | Model | Colour | Size (OD) x (ID) | Weight |
|-----------|--------|--------|------------------|--------|
| 5660 | Type S | Red | Ø 70 x Ø 27 mm | 0.3 kg |
| 5661 | Type M | Yellow | Ø 105 x Ø 52 mm | 0.5 kg |
| 5662 | Type L | Blue | Ø 140 x Ø 76 mm | 1.2 kg |



12 Wiggens Analytics

Chemtron Auto Titrator

The easiest titration ever...

CAT Automatic Titrator has been designed to simply and precisely perform the widest range of potentiometric titrations. has always been the first choice if you were looking for a very easy-to-use automatic titrator for any application. A special training or a deeper knowledge of automatic titration was not necessary to get precise and quick results. That and much more is exactly what the new generation of CAT stands for:

- > High resolution pH/mV-measurement input for pH-, silver-, mV-electrodes and double platinum electrode
- > Pt 100 temperature measurement input for automatic temperature compensation
- > Pre-installed standard methods for alkalinity, total acidity in drinks, free and total SO₂ in wine, chloride etc.
- > Constant and progressive titration to equivalence points
- > Titration to pH and mV-end points
- > Automatic pH measurement (If auto sampler is present)



Typical applications of water/wastewater and environmental analysis

- > Automatic pH measurement
- > Alkalinity (p+m value)
- > Total kjeldahl nitrogen
- > Chloride in wastewater



Typical applications of food analysis

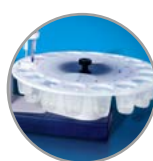
- > Salt content (chloride, sodium chloride)
- > pH-value, total acidity in wine, drinks and other food products
- > Ascorbic acid
- > protein determination (Kjeldahl-nitrogen in milk and dairy products)
- > Free SO₂, total SO₂ determination in wine
- > Iodine and peroxide value

CAT. Everything you need. The advantages at a glance.



Brilliant

Bright display with strong illumination can be viewed easily from a long distance.



Auto-level adjuster

Designed to optimize the procedure of samples auto level, in order to speed up the sample preparation.



Compact

Compact instrument and can be both upgraded and configured to satisfy the everchanging laboratory needs.



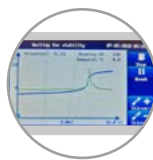
Auto-degassing system

Nitrogen valve for sample degassing.



Easy-to-use

The wide colour touch screen display contains all the messages and the icons that make CAT extremely easy to use. The titrator guides the user in each programming phase, analysis and data interpretation.



Titration curve

During the titration process the graphic trend is displayed in real time, so that the operator is immediately informed about the analysis trend.



Modular design

Up to 2 burettes and 3 peristaltic pumps, operated together or separately, every stage of titration process can be made truly automatic.



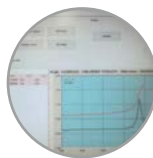
Report

pH electrode calibration report, Standard titration report and Sample titration report.



Peripheral modules

Single analysis stand, 16 positions autosampler, 35 positions autosampler, Printer and Software.



Software

Data management software via external PC



Methods

Default methods, Method template make to quickly edit and start your experiments.



Switch on. And off you go.

Intelligent operating concept. Ready for operation with just a few quick and easy steps.

Features



Standard methods

- > Pre-installed standard methods for alkalinity, total acidity in drinks, chloride, SO_2 in wine etc.
- > Each standard method can be used directly or edited according to actual needs
- > The commonly used titration method can be marked and set to the top, which is easy for operators to choose quickly.

Menu

Built-in system setting, date and time setting, calibration solution setting, operator setting, burette manual operation, creep pump manual operation, electrode lifting device manual setting, and continuous titration turntable manual setting function



Utility

Including: manual setting of cleaning steps, manual filling of burette, calibration program settings, pH measurement settings, titration results query, import, transfer and deletion, calibration reports and records

Titration curve

- > During the titration process, the titration curve is displayed in real time, and the integral curve will be shown after the titration is finished
- > After titration, display titration results, including starting values, ending values and calculation results



Specification – CAT

| | Features |
|-------------------------------|--|
| Display | 4.3" monochromatic LCD touch screen |
| Burette dispensation accuracy | Syringe volume: 10mL (It is possible to install up to 2 burettes) Burette for titrant dosage resolution at 12,000 steps (means 0.83 µL at any step) |
| Dispensation accuracy | <0.2% (2µL with 10ml syringe) |
| Dispensation repeatability | ± 0.2% (2µL with 10ml syringe) |
| Peristaltic pump | Interchangeable pump head (up 3 per unit), 1ml/sec. |
| pH | Range:0-14pH, Accuracy: ± 0.02pH, Resolution: ± 0.01pH |
| mV | Range: ± 2000mV, Accuracy: ± 2mV, Resolution: ± 0.1mV |
| µA | Range: ± 10µA, Accuracy: ± 2µA, Resolution: ± 0.1µA |
| Temperature | Range:0-100 , Accuracy: ± 1 , Resolution: ± 0.1 |
| Utility procedures | 1.Priming 2.Cleaning 3.Electrode calibration |
| Method template | EP, EQ, free SO2, total SO2 and double SO2 |
| pH calibration | Buffer auto-recognize. Refusal defective electrodes. Notice expired calibration (to be set from 0 to 7 days). Temperature compensation with pt100 probe during pH calibration 1. 1buffer calibration (7) 2. 2 buffers calibration (7, 4 or 10) 3. Theoretical (Nernst equation) 4. Oenological: 2 buffers calibration (7, 3) |
| Communication | 1. Electrode port (x2) 2. USB A 3. USB B 4. RS232 serial (for external printer) 5. RS232 serial (for sampler) 6. Bluetooth (for external PC) |
| Internal memory | Last 50 analyses and last 10 calibrations Up 30 methods Data export: (date, hour, operator ID, sample ID, method, result, titrant volume) a) To USB pen drive (file csv) b) To external pc (via dedicated |
| Accessories | 1. Printer 2. Single analyses stand 3. 16 positions sampler 4. 35 positions micro-sampler 5. Auto-level adjuster 6. Automatic degasser 7. Software for data management on external PC |

Order index, for your custom unit configuration

| Order No. | CAT | - | M1 | - | T1 | - | S1 | - | B1 | - | P1 | - | G1 | - | L1 |
|-----------|--|---|----|---|----|---|----|---|----|---|----|---|----|---|----|
| M1 | pH electrode | | | | | | | | | | | | | | |
| M2 | Ag-combined electrode | | | | | | | | | | | | | | |
| M3 | Double platinum electrode | | | | | | | | | | | | | | |
| M4 | pH electrode and Ag-combined electrode | | | | | | | | | | | | | | |
| M5 | pH electrode, Ag-combined electrode and double platinum electrode | | | | | | | | | | | | | | |
| M6 | pH micro electrode, for AS24 35 position micro-sampler | | | | | | | | | | | | | | |
| M7 | Ag-micro combined electrode, for AS24 35 position micro-sampler | | | | | | | | | | | | | | |
| M8 | pH micro electrode and Ag-micro combined electrode, for AS24 35 position micro-sampler | | | | | | | | | | | | | | |
| T0 | Without temperature sensor | | | | | | | | | | | | | | |
| T1 | With temperature | | | | | | | | | | | | | | |
| S1 | single analysis stand | | | | | | | | | | | | | | |
| S2 | AS24 16 position micro-sampler | | | | | | | | | | | | | | |
| S3 | AS24 35 position micro-sampler | | | | | | | | | | | | | | |
| B1 | 1 burette | | | | | | | | | | | | | | |
| B2 | 2 burettes | | | | | | | | | | | | | | |
| P1 | 1 peristaltic pump | | | | | | | | | | | | | | |
| P2 | 2 peristaltic pumps | | | | | | | | | | | | | | |
| P3 | 3 peristaltic pumps | | | | | | | | | | | | | | |
| G0 | Without automatic degassing system | | | | | | | | | | | | | | |
| G1 | With automatic degassing system | | | | | | | | | | | | | | |
| L1 | Without auto-level adjuster | | | | | | | | | | | | | | |
| L2 | With auto-level adjuster (The third peristaltic pump must be fitted.) | | | | | | | | | | | | | | |

Order Information



CAT1 Automatic titrator with magnetic stirrer

| Order No. | Model | Description |
|-----------|-----------------------------|--|
| CAT1-1-M1 | Basis set | Basic unit without electrode, Included CAT1, Magnetic stirrer(1), Stir bar(1), 10ml burette(1), titration tube(1), power supply(1), 1L glass bottle(1), GL45 and S40 adapter(1), drying tube(1). |
| CAT1-1-M2 | For pH titration | CAT1-1-M1 with pH electrode and buffer solution |
| CAT1-1-M3 | For Precipitation titration | CAT1-1-M1 with Ag electrode |
| CAT1-1-M4 | For Redox titration | CAT1-1-M1 with Pt electrode |
| CAT1-1-M5 | For Dead stop titration | CAT1-1-M1 with Double Platinum electrode |



CAT2 Automatic titrator with magnetic stirrer

| Order No. | Model | Description |
|-----------|-----------------------------|--|
| CAT2-1-M1 | Basis set | Basic unit without electrode, Included CAT2, Magnetic stirrer(1), Stir bar(1), 10ml burette(2), titration tube(2), power supply(1), 1L glass bottle(2), GL45 and S40 adapter(2), drying tube(2). |
| CAT2-1-M2 | For pH titration | CAT2-1-M1 with pH electrode and buffer solution |
| CAT2-1-M3 | For Precipitation titration | CAT2-1-M1 with Ag electrode |
| CAT2-1-M4 | For Redox titration | CAT2-1-M1 with Pt electrode |
| CAT2-1-M5 | For Dead stop titration | CAT2-1-M1 with Double Platinum electrode |



CAT2 Automatic titrator with 16 position auto-sampler

| Order No. | Model | Description |
|------------|-----------------------------|---|
| CAT2-16-M1 | Basis set | Basic unit without electrode, Included CAT2, AS24 16 position auto-sampler (1), Stir bar(1), 10ml burette(40), titration tube(2), power supply(1), 1L glass bottle(2), GL45 and S40 adapter(2), drying tube(2). |
| CAT2-16-M2 | For pH titration | CAT2-16-M1 with pH electrode and buffer solution |
| CAT2-16-M3 | For Precipitation titration | CAT2-16-M1 with Ag electrode |
| CAT2-16-M4 | For Redox titration | CAT2-16-M1 with Pt electrode |
| CAT2-16-M5 | For Dead stop titration | CAT2-16-M1 with Double Platinum electrode |



CAT2 Automatic titrator with 35 position micro-sampler

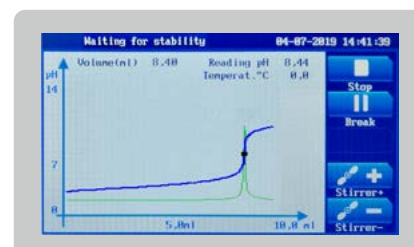
| Order No. | Model | Description |
|------------|-----------------------------|--|
| CAT2-35-M1 | Basis set | Basic unit without electrode, Included CAT2, AS24 35 position micro-sampler (1), Stirring paddle(2), 10ml burette(2), titration tube(2), power supply(1), 1L glass bottle(2), GL45 and S40 adapter(2), drying tube(2). |
| CAT2-35-M2 | For pH titration | CAT2-35-M1 with Micro pH electrode and buffer solution |
| CAT2-35-M3 | For Precipitation titration | CAT2-35-M1 with Micro Ag electrode |
| CAT2-35-M4 | For Redox titration | CAT2-35-M1 with Micro Pt electrode |
| CAT2-35-M5 | For Dead stop titration | CAT2-35-M1 with Micro Double Platinum electrode |

Case study



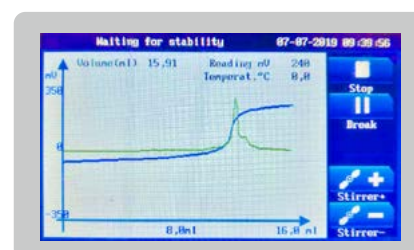
Case 1. Determination of total acidity in fruit juice

| | |
|-----------------------|---|
| Application | This method is used for the quantitative determination of total acidity in fruit juice. Here, the citric acid is the main use as a reference. |
| Model Recommendations | CAT1-1-M2, CAT2-1-M2, CAT2-16-M2, CAT2-35-M2 |
| Reagents | Titrant: sodium hydroxide solution 0.1 mol/l Soda lime for carbon dioxide uptake of the reagent. Titer: potassium hydrogen phthalate (reference material) |



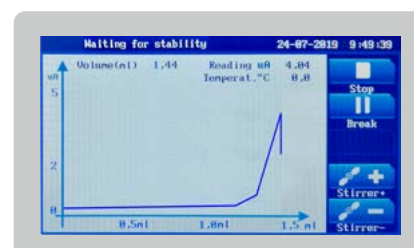
Case 2. Determination of chloride/sodium chloride (salt) in food samples

| | |
|-----------------------|--|
| Application | Potentiometric determination of chloride/sodium chloride (" salt ") in food samples such as salt, spice mixtures, cheese, meat or tomato sauce. |
| Model Recommendations | CAT1-1-M3, CAT2-1-M3, CAT2-16-M3, CAT2-35-M3 |
| Reagents | Solvent: distilled water Titration agent: silver nitrate solution (AgNO ₃) 0.1 mol/L Standard: NaCl titrimetric standard, HNO ₃ 1 mol/l |



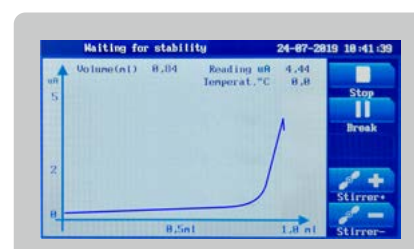
Case 3. Determination of Free and Total SO₂ in Wine and fruit juice

| | |
|-----------------------|--|
| Application | This application note describes the titration procedure with iodine solution. |
| Model Recommendations | CAT1-1-M5, CAT2-1-M5, CAT2-16-M5, CAT2-35-M5 |
| Reagents | Solvent: distilled water Standardisation: Na ₂ S ₂ O ₃ Titrant: Iodine solution (I ₂) 0.025 mol/L or 0.01 mol/L Other reagents: H ₂ SO ₄ 10 %, NaOH 4 mol/l, KI-solution 5 % |



Case 4. Quantitative analysis of ascorbic acid with Iodine titrant

| | |
|-----------------------|---|
| Application | This method is used to determine the content of ascorbic acid (Vitamin C) with the Iodine titrant in juices like orange or apple juice. The sulfite (SO ₂) in the juice is masked before with glyoxal solution. |
| Model Recommendations | CAT1-1-M5, CAT2-1-M5, CAT2-16-M5, CAT2-35-M5 |
| Reagents | Titration agent: Iodine solution 0.01 mol/L Other reagents: H ₂ SO ₄ 25 % and Glyoxal solution 40 % |



Professional pH meter pH 90

Professional pH Meter pH 90 is a portable yet highly accurate pH meter. It is used in all industries as well as commercial and educational teaching aids.

The meter uses a regular BNC connector and accepts a variety of other electrodes for special measurement needs. The meter comes complete in a hard carrying case with calibration buffer solutions.

Features

- > Large LCD with multiple display, display of pH, temperature and time simultaneously
- > Auto lock Measurement, meter automatically sense a stabilized endpoint reading
- > This ensures workers only takes in an accurate reading all the time and every time.
- > Multi-point calibration (ISO, NIST and manual, up to 5 points calibration)
- > Electrode status indicator, able to display percentage of slope of the electrode after successive calibration. This feature enables user to determine if the electrode should be replaced due to wear and tear.
- > Real time memory, able to save records of up to 99 data memory with date and time, enable download to PC.
- > Online PC link, able to link to a PC for online display with optional PC kit (sold separately) and download saved data.

Meter uses regular AAA size batteries and tap power source from PC when connected via the USB cable.

Specifications

| | pH | mV | | Temperature |
|------------------------------------|--|-----------|-----------|-----------------------------|
| Range | -2 to 16 pH | ± 700.0mV | ± 2,000mV | 0 to 120°C |
| Resolution | 0.01pH | 0.1mV | 1mV | 0.1°C |
| Accuracy | ± 0.02pH | ± 0.5mV | ± 2mV | ± 0.1 °C ± 0.5°C (Probe) |
| Calibration | Min. 2 point, Max. 5 point | | | |
| Buffer Recognition | up to 60°C or 95°C depending on buffer type | | | |
| Automatic Temperature Compensation | pH electrode temperature error compensation 0 to 120°C | | | |
| Memory | 99 data with real time clock | | | |
| Power source | 4 x 1.5Volt AAA size battery | | | |
| Operating temperature | 5 to 40°C | | | |
| Storage temperature | -20 to 60°C | | | |
| Operating humidity | Up to 95% RH | | | |



Professional conductivity meter CON 90

Professional Conductivity-TDS-Salinity Meter CON 90 is a portable yet highly accurate Conductivity meter. It is used in all industries as well as commercial and educational teaching aids. It has full functionality that matches an expensive bench meter.

The meter comes complete in a hard carrying case with calibration buffer solutions.

Features

- > Large LCD with multiple display, display of conductivity, TDS, Salinity with temperature and time simultaneously, able to display reading in µSiemen, mSiemen, ppm, ppt.
- > Auto lock Measurement, meter automatically sense a stabilized endpoint reading
- > This ensures workers only takes in an accurate reading all the time and every time.
- > Automatic Range, meter able to automatically switch to the next higher range to enhance the accuracy over the 5 calibrated points.
- > Cell Constant, meter can accept probe of different cell constant 0.1, 1.0 and 10.0
- > TDS Factor, TDS factor can be adjusted to allow higher accuracy of different type of chemical or liquid of known conversion.
- > Real time memory, able to save records of up to 99 data memory with date and time, enable download to PC.
- > Online PC link, able to link to a PC for online display with optional PC kit (sold separately) and download saved data.

Meter uses regular AAA size batteries and tap power source from PC when connected via the USB cable.

Specifications

| Range | Conductivity / TDS | | | | | Salinity | Temperature |
|---------------|--|-----------|----------|-----------|-----------|------------|-------------|
| | 0~19.99µS | 0~199.9µS | 0~1999µS | 0~19.99mS | 0~199.9mS | 0~100.0ppt | 0~120 °C |
| | 0~9.99ppm | 0~99.9ppm | 0~999ppm | 0~9.99ppt | 0~99.9ppt | | |
| Resolution | 0.01 | 0.1 | 1 | 0.01 | 0.1 | 0.1ppt | 0.1 °C |
| | µS / ppm | µS / ppm | µS / ppm | mS / ppt | mS / ppt | | |
| Accuracy | ± 1% Full Scale | | | | | | ± 0.5 °C |
| Calibration | 5 points with 1 point on each range | | | | | | |
| TDS Factor | Adjustable from 0.40 to 1.00 | | | | | | |
| Cell constant | Selectable from 0.1 , 1.0 & 10.0 | | | | | | |
| ATC | Automatic from 0 - 100 °C | | | | | | |
| Memory | 99 data with real time clock | | | | | | |
| Power source | 4 x 1.5Volt AAA size battery | | | | | | |
| Battery Life | 40 hrs of continuous use with white backlight on | | | | | | |



Digital dissolved oxygen meter DO 60 / DO 80

DO 60 is designed for full portability. It is most suitable for use at sea level and for fresh water. It comes with a standard 1 meter probe. An optional 3 or 5 meter probe can be purchased or ordered on request. The specially designed strap-on, hang over bag is fully equipped with all accessories needed to operate the meter. Each unit comes with an extra membrane, a bottle electrolyte and with a salinity conversion table for quick conversion. This basic DO meter is most popular with aquaculture users due to its simplicity. Advanced Features: Utilization of microcontroller technology provides fast, accurate readings allowing digital repeatability Fast In-Air calibration. Uses durable long lasting components including a light weight chemical resistant HDPP casing Large and easy to read Liquid Crystal Display

DO 80 is a top range meter for field use. Each meter comes with a 3 meter probe for submerged testing under water in streams, ponds or water tanks. Users can preset salinity compensation and atmospheric compensation to allow direct reading without any conversion tables. It can store up to 99 memory with date and time records. To allow night visibility, there is a backlit display handy. The HD3030 is suitable for aquaculture or industrial users. Advanced Features: Dual DO and temperature display One touch calibration in air Able to set salinity and atmospheric pressure compensation Save up to 99 data in memory with real time clock Make online data logging on PC with optional RS232 kit Able to show maximum and minimum reading over saved data Backlite for night display



Specifications

| Model | Digital Dissolved Oxygen Meter DO 60 | Professional Dissolved Oxygen Meter DO 80 |
|-------------------------|---|---|
| Range | 0 - 20 mg/L | 0 - 20 ppm, 0 - 50 |
| Display Resolution | 0.1 mg/L | 0.01 ppm, 0.1 |
| Accuracy (machine only) | ± 0.4 mg/L | ± 1.5% FS, 0.3 |
| Operating Temperature | 0 to 50 | 0 to 50 |
| Calibration | Single point calibration in air at 100% | Single point calibration in air at 100% |
| Battery type | DC9V (1604A, 6LF22 or equivalent) | 4 x 1.5V AAA size battery or DC9V adaptor (optional item) |
| Battery life | Approximately 80 hours | Approximately 100 hours continuous use |
| Size | 164 x 83 x 35mm | 195 x 40 x 36mm |
| Weight | 350gm (main unit including battery) | 150gm |

Multiparameter instrument HM3070

The HM3070 is specially designed for full portability, simplicity and ease of use which meets general environmental measurements. the meter is ideally suitable for Aquaculture monitoring, open or closed water systems, environmental water checks, waste water control etc.

Calibration is made simple with 3point buffer recognition calibration for pH, single point calibration at a preferred Conductivity range and in-air calibration for Dissolved Oxygen.

This meter is robust and rugged with a waterproof rating at IP67 for usage in harsh weather conditions. Regular 1meter cable probe for pH and conductivity and 3 meter cable probe for DO will meet most measuring situation. Meter is able to store up to 99 data memory on site.



Specifications

| Model | HM3070 | | | | |
|-----------------------|----------------------|---------|----------|-----------|--------|
| Range | 2.0~12.0pH | 0~30ppm | 0~69.9mS | 0~42.0ppt | 0~60.0 |
| Display Resolution | 0.01 | 0.1ppm | 0.1uS | 0.1ppt | 0.1 |
| Accuracy | ± 0.1pH | ± 1ppm | ± 2% FS | ± 1% FS | ± 0.5 |
| Operating Temperature | 0 to 50 | | | | |
| Battery Type | 6 x AAA size battery | | | | |

Professional benchtop pH meter pH 610

Features

- > Large LCD with Multiple Display, display of pH, temperature and time simultaneously
- > Hold Display function, automatically lock reading when a stable reading is established.
- > Multi point calibration, automatic buffer recognition with built in standards:
ISO - pH7.00, 4.01, 10.01
NIST - pH6.68, 4.01, 9.18
Custom - Manual set to any buffer standard.
Up to 5 points calibration

Specifications

| | pH | mV | Temperature |
|-----------------------|------------------------|---------------------------|-------------|
| Range | 0 to 14 pH | ± 1999 mV | 0 to 90 |
| Display Resolution | 0.01 pH | 0.1-199.9 mV 1-1999 mV | 0.1 |
| Accuracy | ± 0.02 pH | ± 0.2 mV ± 2 mV | ± 0.5 |
| Calibration | 5 point selectable | | |
| Operating Voltage | 9 to 12V DC, min 650mA | | |
| Operating Temperature | 5 to 40 | | |
| Storage Temperature | -20 to 60 | | |
| Slope recognition | ± 60 mV | | |
| Meter Size | 217 x 168 x 58mm | | |
| Package Weight | 2.1 kg | | |



Benchtop conductivity meter CON 600

The Professional Conductivity Bench Meter is a dedicated stationary meter specially designed for laboratory and educational use. It is able to link with a PC for online data logging, or a user can save data in its memory with the date and time and download the data later to a PC. For enhanced accuracy, the meter can calibrate up to 5 points at 1 point on each of its range. The meter is complete with an electrode stand and a PC communication kit.

Specifications

| Model | CON600 Professional Conductivity Bench meter | | | | |
|--------------------------|--|-------------|------------|-------------|--------------|
| Range | 0- 19.99µS | 0 - 199.9µS | 0 -1999 µS | 0 -19.99 mS | 0 - 199.9 mS |
| Display Resolution | 0.01 µS | 0.1 µS | 1 µS | 0.01 mS | 0.1 mS |
| Accuracy | ± 1% F.S. + 1digit | | | | |
| Calibration | 5 point with 1 point on each range | | | | |
| TDS factor | Adjustable 0.3 to 1.00 | | | | |
| Temperature compensation | Automatic 0 to 80 | | | | |
| Memory | 99 data with real time clock | | | | |
| Operating Temperature | 5 to 40 | | | | |
| Storage Temperature | -20 to 60 | | | | |
| Operating humidity | Up to 95% relative humidity | | | | |
| Meter Size | 217 x 168 x 585mm | | | | |
| Weight | 2.1 kg | | | | |



Digital LUX meter HL9040

Digital Lux Meter is a versatile and portable light meter. It measures up to 50,000 Lux with a semi-spherical sensor. The remote sensor allows user to set the light sensor at various tight locations and angles thus providing flexibility to measure light intensity at the exact spot. The digital Lux meter is widely used in commercial setups and agriculture setups.

Features

- > Large LCD
- > Remote Light Sensor
- > 3 switching ranges for 1, 10, 100 Lux resolution

Specifications

| Model | Digital Lux Meter |
|-------------------------|-------------------------------------|
| Range | 0 - 50,000 Lux |
| Display Resolution | Selectable at 1, 10, 100 Lux |
| Accuracy (machine only) | ± 5% F.S. |
| Operating Temperature | 0 to 50 |
| Operating humidity | Maximum 80% relative humidity |
| Battery type | DC9V (1604A, 6LF22 or equivalent) |
| Battery life | Approximately 80 hours |
| Size | 164 x 83 x 35mm |
| Weight | 260gm (main unit including battery) |



Order Information

Portable meter (complete with Electrode / Probe, calibration solution in carry-bag)

| Order No. | Description |
|-----------|---|
| HP9010 | pH meter pH 90 |
| HC9021 | Conductivity meter CON 90 |
| HD9030 | Digital dissolved oxygen meter DO 60 with 1 meter probe |
| HD9033 | Digital dissolved oxygen meter DO 60 with 3 meter probe |
| HD9035 | Digital dissolved oxygen meter DO 60 with 5 meter probe |
| HL9040 | Digital LUX meter |
| HD3030 | Professional Dissolved Oxygen meter DO 80 |



Bench meter

| Order No. | Description |
|-----------|---|
| BP3001 | Professional Bench Top pH meter pH 610 |
| BC3020 | Professional Bench Top Conductivity meter CON 600 |



Multi-parameter meter

| Order No. | Description |
|-----------|--|
| HM3070 | Multiparameter instrument pH-cond-sal-DO-temp. |





Accessories

| Order No. | Description |
|-----------|---|
| AX30-232 | RS232 communication cable & CD set for 3000 series |
| AX30USB | USB communication cable & CD set for 3000 series |
| AX9010U | PC link USB cable & software for 9000 series |
| AXESTD | Stand electrode |
| VX0009 | Battery 9Volts |
| VXLR44Q | Button Cell Battery - 1.5 volts (4pcs pack) |
| VX2A15Q | Battery AA size - 1.5 volts (4pcs pack) |
| VX3A15Q | Battery AAA size - 1.5 volts (4pcs pack) |
| VX2032D | Button Cell Battery CR2032 - 3 volts (2pcs Pack) |
| AX9190F | Replacement Iron Rod for Electrolyzer 2i (2pcs Pack) |
| AX9190A | Replacement Aluminium Rod for Electrolyzer 2i (2pcs Pack) |
| AX3AFUS | Replacement 3A Fuse for Electrolyzer 2i |

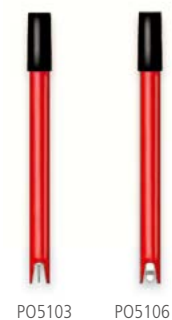
pH Electrodes



Electrode / Probe

| Order No. | Description |
|-----------|--|
| PT2020 | PT9010 Temperature probe for pH 90 |
| PT3001 | Temperature probe for pH 610 |
| PP5003 | PE03 Plastic body combination pH electrode, General purpose |
| PP5003-6 | PE03-6 Plastic body combination pH electrode with 6m Cable, General purpose |
| PP5004 | PE04 Plastic body combination pH electrode with Pointed Tip and Polymer Reference |
| PP5010 | PP4010 Plastic body combination pH electrode with build-in Temperature Sensor for pH 610 |
| PP5052 | PG02 Glass body combination pH electrode, General purpose |
| PP5053 | PG03 Glass body combination pH electrode, with polymer reference for Viscous liquid |
| PP5054 | PG04 Glass body combination pH electrode with Pointed-Tip and Polymer Refere |
| PP5055 | PG05 Glass body combination pH electrode -5 to 130 °C |
| PP5056 | Glass body combination pH electrode with Flat tip |
| PP5057 | Glass body combination pH electrode for Low Ion liquid |
| PP5060 | PG10 Glass body combination pH electrode with Re-fillable Reference |
| PP5061 | Glass body combination pH electrode with Re-fillable Ref. & Sleeve Junction for petroleum or ethanol |
| PO5106 | ORP106 Plastic body combination platinum ring ORP electrode |
| PO5103 | ORP103 Plastic body combination platinum wire ORP electrode |
| PC5201 | CD101T10 Glass body Conductivity electrode, Platinized Platinum cell K=1 with temp.sensor |
| PC4021 | Plastic body Conductivity probe Platinized Platinum cell K=1 with pt1000 sensor & 1 meter Cabel for CON 90 |
| PC5321 | Plastic body Conductivity Probe Graphite Cell K=1 with pt1000 sensor & 1 meter Cabel for CON 90 |
| PD9031 | DO-01 Dissolved Oxygen electrode with 1 meter cable for DO 60 |
| PD9033 | DO-02 Dissolved Oxygen electrode for with 3 meter cable DO 60 |
| PD9035 | DO-03 Dissolved Oxygen electrode with 5 meter cable for DO 60 |
| AD9032 | Dissolved Oxygen Diaphragm Cap(2pcs pack) |
| PD3030-3 | Dissolved Oxygen Probe with 3meter cable for DO 80 |
| AD3030 | Membrane Cap for DO 80 (2pcs pack) |
| PC3010 | Graphite Conductivity Probe for CON 600 |
| PO3001 | Probe ORP for pH 610 |
| PD3070 | Dissolved Oxygen Probe with 3 meter cable for HM3070 |
| PP3070 | pH Electrode with 1 meter cable for HM3070 |
| PC3070 | Conductivity Probe with 1 meter cable for HM3070 |
| AD3070 | Membrane Cap for HD3070 (2pcs pack) |

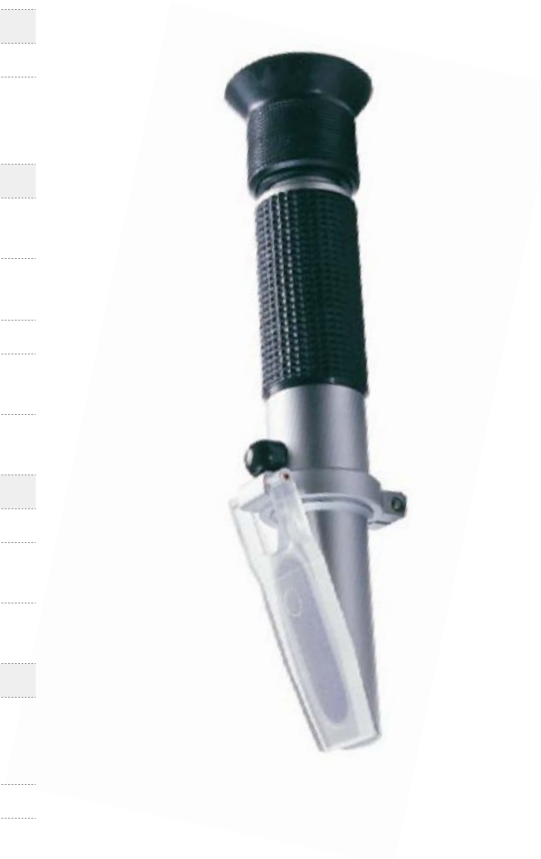
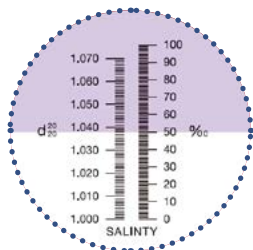
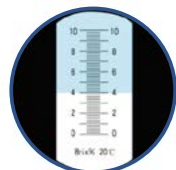
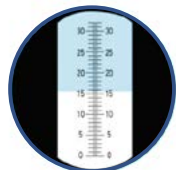
ORP Electrodes



Refractometer

WIGGENS offer various model of refractometer for the measurement of Sugar, prediction of Alcohol and Salinity. These meters are self contain and made of precision prism and optics. Most of the meter comes with bi-metal automatic temperature compensation. The mechanical designs requires no batteries to operate.

| Sugar Refractometer | Range | Resolution |
|----------------------------|-----------------------|---------------------------|
| BR0010N | 0~10% | 0.1% |
| BR0018N | 0~18%, | 0.1% |
| BR0032N | 0~32% | 0.2% |
| BR2862N | 28~62% | 0.2% |
| BR5892N | 58~92% | 0.2% |
| Sugar Refractometer ATC | | |
| BR0010T | 0~10% | 0.1%, ATC |
| BR0018T | 0~18% | 0.1%, ATC |
| BR0032T | 0~32% | 0.2%, ATC |
| BR2862T | 28~62% | 0.2%, ATC |
| BR5892T | 58~92% | 0.2%, ATC |
| Salinity Refractometer | | |
| SA0010 | 0~100‰ 1.000~1.070 | 1‰ 0.005 |
| SA0028 | 0~28% | 0.2% |
| Salinity Refractometer ATC | | |
| SA0010T | 0~100‰ 1.000~1.070 | 1‰ 0.005 |
| SA0028T | 0~28% | 0.2% |
| Honey refractometer | | |
| HN1230 | 12-30% Honey Moisture | 0.1% |
| HN5892 | 58-92% Brix | 0.5% |
| | 38-43 ° Be ' | 0.5 |
| | 12-27% water | 1% |
| Honey refractometer ATC | | |
| HN1230T | 12-30% Honey Moisture | 0.1% |
| HN5892T | 58-92% Brix | 0.5% |
| | 38-43 ° Be ' | 0.5 |
| | 12-27% water | 1% |
| Alcohol Refractometer | | |
| AL-1N | 0~80% v/v ; | 0~60%(1%) 60~80%(2.5%) |
| AL-2N | 0~80% w/w ; | 0~60%(1%) 60~80%(2.5%) |
| AL-3N | 0~25% v/v | 0.1% |
| AL-4N | 0~25% v/v | 0.1% |
| | 0~40% Brix | 0.2% Brix |
| AL-5N | 0~25% v/v | 0.1% |
| | 0~20% Baume | 0.2% Baume |
| Alcohol Refractometer ATC | | |
| AL-3T | 0~25% v/v | 0.2% |
| AL-4T | 0~25% v/v | 0.2% |
| | 0~40%Brix | 0.2% |
| AL-5T | 0~25% v/v | 0.2% |
| | 0~20Baume | 0.2 |
| Wine Refractometer | | |
| WN-1N | 0~1400e | 1 |
| | 0~25KMW (Babo) | 0.2 |
| | 0~32%Mas Sacch | 0.2% |
| WN-2N | 0~1700e | 2 |
| WN-3N | 3~1400e | 1 |
| | 0~32% | 0.2% |



| Wine Refractometer ATC | | Range | Resolution | |
|----------------------------------|----------------------------|--------------------|------------|----------|
| WN-1T | | 0~1400e | 1 | |
| | | 0~25KMW(Babo) | 0.2 | |
| | | 0~32%Mas Sacch | 0.2% | |
| | | Temperature offset | | |
| WN-2T | | 0~1700e | 2 | |
| | | Temperature offset | | |
| WN-3T | | 3~1400e | 1 | |
| | | 0~32%, | 0.2% | |
| | | Temperature offset | | |
| Urea Refractometer (Medical) | | | | |
| UR-1N | | 0~12g/dl | 0.2g/dl | |
| | | 0~12g/dl | 0.2g/dl | |
| | | 1.000~1.050sg | 0.002sg | |
| UR-2N | | 1.3330~1.3600RI | 0.00025RI | |
| | | | | |
| Urea Refractometer ATC (Medical) | | | | |
| UR-1T | | 0~12g/dl | 0.2g/dl | |
| | | 1.000~1.040sg | 0.002sg | |
| UR-2T | | 0~12g/dl | 0.2g/dl | |
| | | 1.000~1.050sg | 0.002sg | |
| | | 1.3330~1.3600RI | 0.00025RI | |
| Digital Refractometer | | | | |
| Model | Scales | Range | Resolution | Accuracy |
| BR0035 | Brix | 0 ~ 35% | 0.1 | ±0.5 |
| | RI | 1.3330 ~ 1.3900 | 0.0001 | ±0.0005 |
| BR5892 | Brix | 58-92% | 0.1 | ±0.5 |
| | RI | 1.4370 ~ 1.5233 | 0.0001 | ±0.0005 |
| BR0085 | Brix | 0-85% | 0.1 | ±0.5 |
| | RI | 1.3330 ~ 1.5100 | 0.0001 | ±0.0005 |
| SA0028 | NaCl | 0-28% | 0.1 | ±0.2 |
| | RI | 1.3330 ~ 1.4100 | 0.0001 | ±0.0003 |
| SA0035 | NaCl (Solubility) | 0-30% | 0.1 | ±0.2 |
| | RI | 1.3330 ~ 1.4100 | 0.0001 | ±0.0003 |
| SA0100 | Sea Water Salinity | 0-100% | 0.1 | ±0.2 |
| | Sea Water Specific Gravity | 1.000 ~ 1.070 | 0.001 | ±0.001 |
| WN3150 | Oe (Germany) | 3 ~ 150 | 1 | ±1 |
| | Oe (Swiss) | 0-150 | 1 | ±1 |
| | Mass S/W | 0-35% | 0.1 | ±0.2 |
| | Vol AP | 0-22% | 0.1 | ±0.2 |
| | KMW | 0-25 | 0.1 | ±0.2 |
| EG3258 | EG (CRC88) | 32 ~ (-58) °F | 0.1 °F | ±1 °F |
| | | 0 ~ (-50) | 0.1 | ±0.5 |
| | | 0 ~ 75% Volume | 0.1 | ±0.3 |
| PG3258 | PG (CRC88) | 32 ~ (-58) °F | 0.1 °F | ±1 °F |
| | | 0 ~ (-50) | 0.1 | ±0.5 |
| | | 0 ~ 60% Volume | 0.1 | ±0.3 |
| ET0060 | Ethanol | 0 ~ 60% Volume | 0.1 | ±0.3 |
| | | 0 ~ 60% Weight | 0.1 | ±0.3 |
| MT0060 | Methanol | 0 ~ 60% Volume | 0.1 | ±0.5 |
| | | 0 ~ 60% Weight | 0.1 | ±0.5 |
| | | 0 ~ (-50) | 0.1 | ±0.5 |
| | | 32 ~ (-58) °F | 0.1 °F | ±1 °F |
| IPA0060 | Isopropyl Alcohol (IPA) | 0 ~ 60% Volume | 0.1 | ±0.5 |
| | | 0 ~ 60% Weight | 0.1 | ±0.5 |
| | | 0 ~ (-50) | 0.1 | ±0.5 |
| | | 32 ~ (-58) °F | 0.1 °F | ±1 °F |
| PLA0043 | Plato | 0-43% | 0.1 | ±0.1 |
| | Plato Specific Gravity | 1.000-1.134 | 0.001 | ±0.001 |
| | RI | 1.3330-1.4082 | 0.0001 | ±0.0003 |
| SM0035 | Soymilk | 0 ~ 35% | 0.1 | ±0.1 |
| | RI | 1.3330-1.4100 | 0.0001 | ±0.0003 |



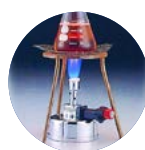
Lab Burners

Features

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

Applications

- > Sterilizing
- > Welding
- > Heating
- > Cooking



Dragon 100



Dragon 200



Dragon 220

Specifications

| Model | Dragon 100 | Dragon 200 | Dragon 220 |
|-------------------------|------------|------------|------------|
| Max. temperature (°C) | 1300 | 1300 | 1300 |
| Fuel tank capacity (g) | 45 | 45 | 45 |
| Working time (min) | 60 | 60 | 60 |
| Dim. H x W x D (mm) | 161x137x79 | 92x115x79 | 94x115x78 |
| weight (g) | 380 | 407 | 425 |
| Safety switch | yes | -- | -- |
| Order No. | 177100-00 | 177200-00 | 177220-00 |

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
- > Pressure sensor allows the use of any marking pen, without the contamination of the sample
- > 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 |
| Illumination | Ring-Shaped Lamp |
| Pressure Sensitivity | Adjustable |
| Acoustical Counting Signal | Adjustable |
| Dimensions (W x L x H in mm) | 313 x 360 x 346 |
| Net Weight (kg) | 5.2 |



Ordering Information

| Order No. | Product Description |
|-----------|---------------------------|
| 175200 | Galaxy 230 Colony Counter |

Sensor-controlled turntable for Petri dishes

- > The touch-free IR-Sensor technology guarantees extremely simple operation with movements of the hand. Alternatively the new Sensorturn / Sensorturn pro can be operated with a foot pedal.
- > An extraordinarily low working height allows effortless work. The highest degree of sterility is ensured by the device's stainless steel construction.
- > The Sensorturn / Sensorturn pro is a high-performance, UV resistant and flame-sterilizable device.
- > For both options different operating modes are available:
 - Flexible Start-Stop functions or the second timer control with variable rotational periods from 1 - 25 seconds. For longer applications the time can be extended to 125 seconds.
 - A continuously variable rotational speed control of 14 - 110 rpm (Sensorturn) or 14 - 210 rpm (Sensorturn pro) ensures uniform and individual plating of the Petri dishes up to a diameter of 100 mm (optional: up to 150 mm).



Specifications

- > Stainless steel construction
- > Variable rotational speed control:
- > Sensorturn: 14 - 110 rpm; Sensorturn pro: 14 - 210 rpm
- > Short time operation 1 - 125 seconds
- > Turntable with silicone covering & centring ring (autoclavable)
- > Switch on and off with movements of the hand or foot pedal*
- > UV-resistant and flame-sterilizable
- > Minimum space requirement
- > Includes IR-Sensor and connector for foot pedal
- > 5 operating modes:
- > IR-Sensor: Time / Constant
- > Foot pedal: Standard / Start-Stop / Time
- > Turntable with transparent silicone covering & centring ring
- > Screwdriver for IR-Sensor detection range
- > Power connection

Specifications

| Model | Sensorturn | Sensorturn Pro |
|----------------------------|---------------------------------------|----------------|
| Rotary speed range | 14 - 110 rpm | 14 - 210 rpm |
| Petri dish size | up to Ø 100 mm (Ø 150 mm optional) | |
| Rotational direction | clockwise | |
| Detection range IR-Sensor | 5 - 50 mm, adjustable | |
| Connector for foot pedal | yes | |
| Timer range Time operation | 1 - 25 sec or 5 - 125 sec, adjustable | |
| Constant operation | unlimited | |
| Operating voltage / input | 9 V - 15 V DC / 1.5 VA | |
| Measurements (w x h x d) | 160 x 74 x 109 mm | |
| Weight | 980 g | |
| Order No. | 7.001.000 | 7.002.000 |

Accessories

- ① Foot pedal/stainless steel

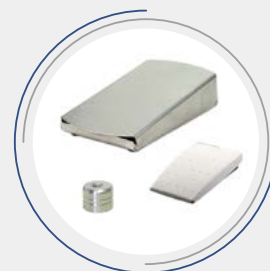
Order No. 6.000.402

- ② Pedal mini/ plastic

Order No. 6.000.403

- ③ Benchtop switch / stainless steel

Order No. 6.000.405



- Tray, right or left side, stainless steel

Order No. 8.000.340

- triangle spatula / glass

Order No. 6.000.370

- triangle spatula / stainless steel

Order No. 6.000.369



- Inoculation loop holder

stainless steel, with sleeve nut, for inoculation loops wire Ø 0.6 - 1 mm

length 245 mm

Order No. 6.000.360

length 215 mm

Order No. 6.000.365



- Turntable

extra wide for Petri dishes up to 150 mm with transparent silicone covering
Order No. 7.000.150





12 Chemtron Reaction Solutions

Bench Top Glass Reactors

All-in-one series

Chemtron reactor kits are selected by volume and comprise the basic components required for startup. For a complete application solution Chemtron is proud to offer a full range of glassware, accessories, and temperature control equipment to compliment our reactor kits.

Reactor kits include the following components:

- > Support Stand
- > Vessel with JRS Valve™
- > Shaft and agitator(s)
- > Bearing
- > Lid with clamp and o-ring
- > Overhead stirrer with shaft couplings
- > Spiral Condenser
- > Jacket adapters
- > RTD probe adapter



Heating/Cooling Circulator needed?
 If so, what capacity?
 If so, what temperature range?
 If so, what time to temperature?
 If so, is your reaction exothermic?

Specifications

| Model | | BTG250 | BTG500 | BTG1000 | BTG2000 | BTG5000 |
|--------------------------------|----------------------------|---|-------------|-------------|-------------|-------------|
| Reaction vessel | Material | Borosilicate glass | | | | |
| | Volume | 250ml | 500ml | 1000ml | 2000ml | 5000ml |
| | Flange | 100mm | 100mm | 100mm | 150mm | 150mm |
| | Bottom valve | Temperature range: -80~200 , 10mm and 20mm are optional | | | | |
| | Jacket connection | DN15 | DN15 | DN15 | DN15 | DN15 |
| Lid | Material | Borosilicate glass | | | | |
| | Ports (total) | 5 | 5 | 5 | 5 | 5 |
| | Center port | 24/40(1) | 24/40(1) | 24/40(1) | 24/40(1) | 24/40(1) |
| | Side port | 24/40(3) | 24/40(3) | 24/40(3) | 24/40(3) | 24/40(3) |
| O-ring | Addition port | 24/40(1) | GL45(1) | GL45(1) | GL45(1) | GL45(1) |
| | PTFE, 60mm | PTFE, 100mm | PTFE, 100mm | PTFE, 100mm | PTFE, 150mm | PTFE, 150mm |
| Stirrer | Stirring speed range | 20~2000rpm | | | | |
| | Bearing | PTFE stirring bearing | | | | |
| Addition Funnel | Volume | 125ml | 125ml | 125ml | 125ml | 500ml |
| | Port | 24/40 | 24/40 | 24/40 | 24/40 | 24/40 |
| Condenser | Length | 300mm | 300mm | 300mm | 300mm | 300mm |
| | Port | 24/40 | 24/40 | 24/40 | 24/40 | 24/40 |
| Receiving Vessel | Volume | 50ml | 200ml | 500ml | 500ml | 500ml |
| Multi channel regulating valve | Optional | Optional | Optional | Optional | Optional | Optional |
| Stand | Smart supporting structure | | | | | |
| Spill containment tray | Included | Included | Included | Included | Included | Included |

1. Single-layer reactor, double-jacket reactor are also available
2. JULABO temperature control system is recommended
3. WIGGENS auto reaction system is recommended (ReactROL)

Large Scale Glass Reactors

EasyChem series

10L, 20L, 30L, 50L and 100L EasyChem reactor. Designed for maximum diversity and ease of use, we have developed a simple base system building platform which allows any reactor system to be customized using catalog or custom designed parts. Each base system comes with the basic starting components required. Simply select the motor and accessories needed to complete the design. For customized components or application design, contact our technical department for further assistance.

1. Select the base system dependent on desired working volume.
2. Select the motor that best suits your application.
3. Select the components and accessories which best fit your application.



Specifications

| Model | | SPG10 | SPG20 | SPG30 | SPG50 | SPG51 | SPG100 |
|--------------------------------|----------------------|-----------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Reaction vessels | Material | Borosilicate glass | | | | | |
| | Volume | 10L | 20L | 30L | 50L | 50L | 100L |
| | Flange | DN200 | DN300 | DN300 | DN300 | DN400 | DN400 |
| | Bottom valve | DN50, dead volume | | | | | |
| | Jacket connection | DN15(2) | N25(2) | N25(2) | N25(2) | N25(2) | N25(2) |
| Lids | Material | Borosilicate glass | | | | | |
| | Ports (total) | 5 | 8 | 8 | 8 | 8 | 8 |
| | Center port | 45/50 | 45/50 | 45/50 | 45/50 | 45/50 | 45/50 |
| | Addition port | 60mm | 100mm | 100mm | 100mm | 100mm | 100mm |
| O-rings | Side port | 45/50(3) | 45/50(4) | 45/50(4) | 45/50(4) | 45/50(4) | 45/50(4) |
| | | | 29/42(2) | 29/42(2) | 29/42(2) | 29/42(2) | 29/42(2) |
| | | | | | | | |
| Stirrers | Material | PTFE | PTFE | PTFE | PTFE | PTFE | PTFE |
| | Diameter | DN200 | DN300 | DN300 | DN300 | DN400 | DN400 |
| Addition Funnels | Stirring speed range | 20~1800rpm | | | | | |
| | Bearing | PTFE stirring bearing | | | | | |
| Condensers | Volume | 2L | 2L | 2L | 5L | 5L | 5L |
| | Port | 29/42 | 29/42 | 29/42 | 45/50 | 45/50 | 45/50 |
| Receiving Vessel | Cooling surface | 1400cm ² | 1400cm ² | 1400cm ² | 1400cm ² | 1400cm ² | 1400cm ² |
| | Port | 45/50 | 45/50 | 45/50 | 45/50 | 45/50 | 45/50 |
| Multi channel regulating valve | Volume | 2L | 2L | 2L | 5L | 5L | 5L |
| Stand | Optional | Optional | Optional | Optional | Optional | Optional | Optional |
| Smart supporting structure | Optional | Optional | Optional | Optional | Optional | Optional | Optional |
| Spill containment tray | Included | Included | Included | Included | Included | Included | Included |

1. JULABO temperature control system is recommended

2. WIGGENS auto reaction system is recommended (ReactROL)

Large Scale Glass Reactors

Plus series

Pilot plant for high performance applications scaling up to the kilolab

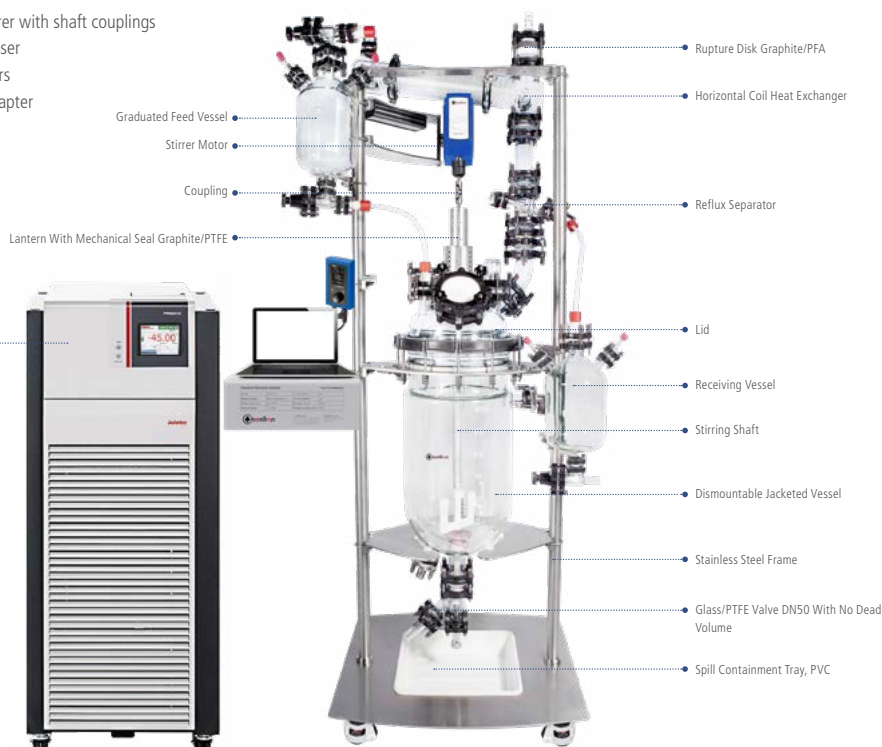
- > Wiggins offers a wide range of pilot plants for research and production, the system are modular, flexible, user-friendly and can be integrated anytime with various accessories.
- > Easily configurable range of pilot plant from 10L to 100L of total volume.
- > Wiggins unique open air, auto-centered frame made of AISI 316 stainless steel allow the expansion of the basic configuration.

Reactor kits include the following components:

- > Support Stand
- > Vessel with KF-50 drain valve
- > Shaft and agitator(s)
- > Bearing
- > Lid with clamp and o-ring
- > Overhead stirrer with shaft couplings
- > Spiral Condenser
- > Jacket adapters
- > RTD probe adapter

Heating/Cooling Circulator needed?

- > If so, what capacity?
- > If so, what temperature range?
- > If so, what time to temperature?
- > If so, is your reaction exothermic?



Specifications

| Model | | PPG10 | PPG20 | PPG30 | PPG50 | PPG51 | PPG52 | PPG100 | PPG102 |
|--------------------------------|----------------------------|-----------------------|-------------------|-------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| Reaction vessels | Material | Borosilicate glass | | | | | | | |
| | Volume | 10L | 20L | 30L | 50L | 50L | 50L | 100L | 100L |
| | Flange | DN300 | DN300 | DN300 | DN300 | DN400 | DN450 | DN400 | DN450 |
| | Bottom valve | DN50, dead volume | | | | | | | |
| | Jacket connection | DN25(2) | | | | | | | |
| Lids | Material | Borosilicate glass | | | | | | | |
| | Ports (total) | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | Center port | DN50 | DN50 | DN50 | DN50 | DN50 | DN50 | DN50 | DN50 |
| | Addition port | DN80 | DN80 | DN80 | DN80 | DN80 | DN80 | DN80 | DN80 |
| | Condenser port | DN50 | DN50 | DN50 | DN80 | DN80 | DN80 | DN80 | DN80 |
| O-rings | Side port | DN40(3) | DN40(3) | DN40(3) | DN40(3) | DN40(3) | DN40(3) | DN40(3) | DN40(3) |
| | | DN25 | DN25 | DN25 | DN25 | DN25 | DN25 | DN25 | DN25 |
| Stirrers | Material | PTFE | | | | | | | |
| | Diameter | DN300 | DN300 | DN300 | DN300 | DN400 | DN450 | DN400 | DN450 |
| Addition Funnels | Stirring speed range | 20~1800rpm | | | | | | | |
| | Bearing | PTFE stirring bearing | | | | | | | |
| Condensers | Volume | 5L | 5L | 5L | 10L | 10L | 10L | 10L | 10L |
| | Cooling surface | 0.6m ² | 0.6m ² | 0.6m ² | 0.75m ² | 0.75m ² | 0.75m ² | 0.75m ² | 0.75m ² |
| Receiving Vessel | Port | DN50 | DN50 | DN50 | DN80 | DN80 | DN80 | DN80 | DN80 |
| | Volume | 2L | 2L | 2L | 5L | 5L | 5L | 5L | 5L |
| Multi channel regulating valve | Optional | Optional | Optional | Optional | Optional | Optional | Optional | Optional | Optional |
| Stand | Smart supporting structure | | | | | | | | |
| Spill containment tray | Included | Included | Included | Included | Included | Included | Included | Included | Included |

1. JULABO temperature control system is recommended

2. WIGGENS auto reaction system is recommended (ReactROL)

S.S. High Pressure Reactors

CR-300 | CR-500 | CR-1000 | CR-2000 (Up to 100bar)

This high-pressure reactor is ideally suitable for universal experimental runs. This high-pressure reactor is available in stainless steel with or without bottom outlet. The usable volume of the reactor can be varied between 300 ml and 2,000 ml using different reactor vessels.

The CR-300/500/1000/2000 high-pressure reactor is notable for its ease of handling. The reactor is closed using a manual quick closure that can be attached without the use of tools. The reactor seal is established using a conical flange lock and O-ring seal of PTFE, FKM, or FFKM. The appropriate fitting inserts are available in stainless steel. A total of 6 connection options are provided in the lid, which can be selected from the following:

- > Immersion tube for temperature probes
- > Rupture disc of metal for the safe limitation of maximum pressure
- > Pressure display
- > Vent valve
- > 2 Freely selectable fittings, for example for a gas sampling valve or liquid sampling point

Temperature is regulated using a temperature probe which detects the inner temperature of the reactor in an immersion tube. A second temperature probe can optionally be used as an independent overheating safety. Appropriate stand systems are available.

Features

- > 300, 500, 1000 or 2000 ml / 60 bar / 300
- > Quick closure chain, to be operated manually without tools
- > O-seal ring made of Viton®, PTFE or Kalrez®
- > Completely made of SUS 316L
- > Heating by electrical or thermostated mantle
- > Stirring by magnetic clutch and separate drive
- > Optionally internal heating/cooling coil
- > Optionally 2'nd thermocouple



CR-300 / 500

CR-1000 / 2000

Technical Specification

| | CR-300 | CR-500 | CR-1000 | CR-2000 |
|------------------|------------------------------------|-------------------------------------|-------------------------|-------------------------|
| Temperature max. | 300 | 300 | 300 | 300 |
| Pressure max. | 100 bar | 100 bar | 100 bar | 100 bar |
| Reactor Vessel | Volume | approx. 300 ml | approx. 500 ml | approx. 1,000 ml |
| | Inner Diameter | 68 mm | 68 mm | 90 mm |
| | Inner Height | 108 mm | 175 mm | 193 mm |
| | Weight | approx 4 kg | approx 6 kg | approx 11 kg |
| | Bottom Drain Valve | with bottom drain valve | with bottom drain valve | with bottom drain valve |
| Armatures | Standard Armatures | Rupture Disc, Dip Tube, Valve, Tool | | |
| | Pressure Measurement | analog and/or digital | | |
| | Ports (total) | 7 | 7 | 7 |
| | Ports (free) | 3 | 3 | 3 |
| Heating Systems | Type of connection | 8 mm Tube Connection | 8 mm Tube Connection | 8 mm Tube Connection |
| | Via Fluid | with jacket | with jacket | with jacket |
| | Via Fluid (Heating Coil, optional) | Heating coil | Heating coil | Heating coil |
| Stirring | WB20C and RV 100-SS | WB20C and RV 100-SS | WB20C and RV 100-SS | WB20C and RV 100-SS |
| Stand | Electric bench-top stand | Electric bench-top stand | Electric lifting stand | Electric lifting stand |

S.S. Low Pressure Reactor

NR-500 | NR-1000 | NR-2000 (Up to 25bar)

This low-pressure reactor is ideally suitable for larger experimental runs. This low-pressure reactor is available in stainless steel, Hastelloy, or with PTFE lining on all sides. The usable volume of the reactor can be varied between 500ml, 1,000ml and 2,000 ml using different reactor vessels.

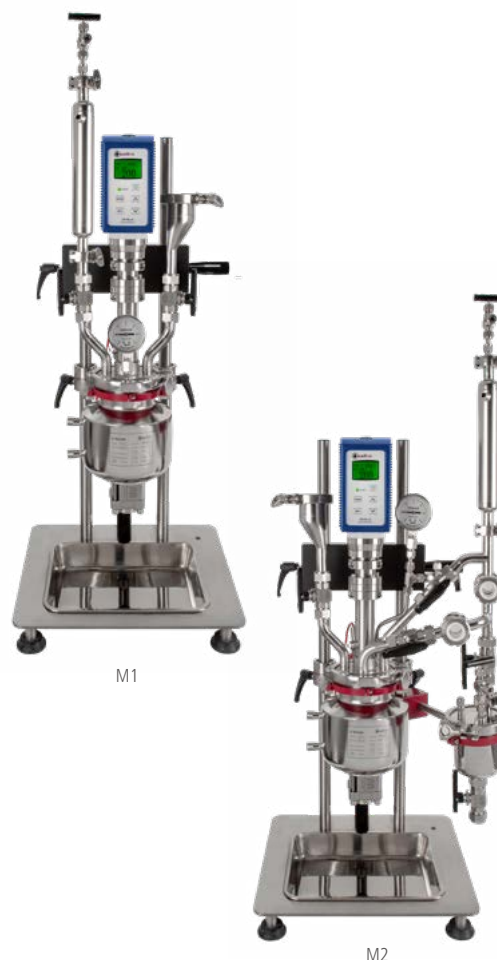
The NR-500/1000/2000 low-pressure reactor is notable for its ease of handling. The reactor is closed using a manual quick closure that can be attached without the use of tools. The reactor seal is established using a conical flange lock and O-ring seal of PTFE, FKM, or FFKM. The appropriate fitting inserts are available in stainless steel or Hastelloy. A total of 7 connection options are provided in the lid, which can be selected from the following:

- > Gas sampling
- > Rupture disc of metal for the safe limitation of maximum pressure
- > Pressure display
- > Vent valve
- > Dip-tube liquid sampling
- > Thermocouple with dip-tube
- > Exhaust hose

Temperature is regulated using a temperature probe which detects the inner temperature of the reactor in an immersion tube. A second temperature probe can optionally be used as an independent overheating safety. Appropriate stand systems are available.

Features

- > 500,1000 or 2000 ml / 25 bar / 300 ° (PTFE-Lined 230 °)
- > With or without bottom drain valve
- > Quick closure chain, to be operated manually without tools
- > O-seal ring made of Viton®, PTFE or Kalrez®
- > Either with PTFE-insert or completely made of SUS 316L or Hastelloy®
- > Heating by electrical or thermostated mantle
- > Stirring by magnetic clutch and separate drive
- > Optionally internal heating/cooling coil



M1

M2

Technical Specification

| | | NR-500 | NR-1000 | NR-2000 |
|--------------------------|------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|
| Performance and Material | Material | Stainless Steel or Hastelloy | | |
| | Temperature max. | 300 | 300 | 300 |
| | Pressure max. | 25 bar | 25 bar | 25 bar |
| Reactor Vessel | Volume | approx. 500 ml | approx. 1,000 ml | approx. 2,000 ml |
| | Inner Diameter | 83 mm | 96 mm | 127 mm |
| | Inner Height | 80 mm | 120 mm | 150 mm |
| | Weight | approx 3.7 kg | approx 5.7 kg | approx. 8.1 kg |
| | Bottom Drain Valve | | | |
| TFMTM-PTFE Insert | | optional | optional | optional |
| Armatures | Standard Armatures | Rupture Disc, Dip Tube, Valve, Tool | | |
| | Pressure Measurement | analog and/or digital | | |
| | Ports (total) | 7 | 7 | 7 |
| | Ports (free) | 3 | 3 | 3 |
| | Type of connection | 8 mm Tube Connection | 8 mm Tube Connection | 8 mm Tube Connection |
| Heating Systems | Via Fluid | with jacket | with jacket | with jacket |
| | Via Fluid (Heating Coil, optional) | Heating coil | Heating coil | Heating coil |
| Stirring | | WB20C and RV 100-SS | WB20C and RV 100-SS | WB20C and RV 100-SS |
| Stand | | Electric bench-top stand (M1 and M2) | Electric bench-top stand (M1 and M2) | Electric bench-top stand (M1 and M2) |
| | | Electric lifting stand (M3) | Electric lifting stand (M3) | Electric lifting stand (M3) |

S.S. Low Pressure Reactor

NR-5L | NR-10L (Up to 25bar)

This low-pressure reactor is ideally suitable for larger experimental runs. This low-pressure reactor is available in stainless steel, Hastelloy, or with PTFE lining on all sides. The usable volume of the reactor can be varied between 5L and 10L using different reactor vessels.

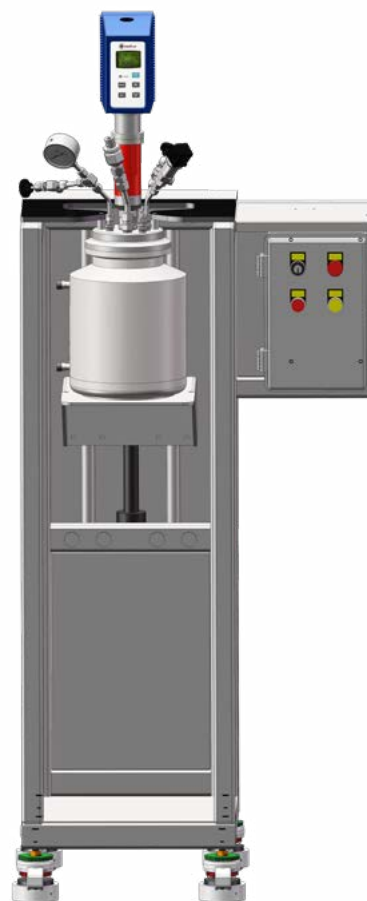
The NR-5L/10L low-pressure reactor is notable for its ease of handling. The reactor is closed using a manual quick closure that can be attached without the use of tools. The reactor seal is established using a conical flange lock and O-ring seal of PTFE, FKM, or FFKM. The appropriate fitting inserts are available in stainless steel or Hastelloy. A total of 7 connection options are provided in the lid, which can be selected from the following:

- > Gas sampling
- > Rupture disc of metal for the safe limitation of maximum pressure
- > Pressure display
- > Vent valve
- > Dip-tube liquid sampling
- > Thermocouple with dip-tube
- > Exhaust hose

Temperature is regulated using a temperature probe which detects the inner temperature of the reactor in an immersion tube. A second temperature probe can optionally be used as an independent overheating safety. Appropriate stand systems are available.

Features

- > 5L or 10L / 25 bar / 300 °C (PTFE-Lined 230 °C)
- > With or without bottom drain valve
- > Quick closure chain, to be operated manually without tools
- > O-seal ring made of Viton®, PTFE or Kalrez®
- > Either with PTFE-insert or completely made of SUS 316L or Hastelloy®
- > Heating by electrical or thermostated mantle
- > Stirring by magnetic clutch and separate drive
- > Optionally internal heating/cooling coil



Technical Specification

| | | NR-5L | NR-10L |
|---------------------------|------------------------------------|-------------------------------------|------------------------|
| Performance and Material | Material | Stainless Steel or Hastelloy | |
| | Temperature max. | 300 | 300 |
| | Pressure max. | 25 bar | 25 bar |
| Reactor Vessel | Volumen | approx. 5000 ml | approx. 10L |
| | Innendurchmesser | 195 mm | 195 mm |
| | Innenhöhe | 239 mm | 394 mm |
| | Gewicht | approx. 16,4 kg | approx. 20 kg |
| | Bodenablassventil | | |
| TFMTM-PTFE Insert | | optional | optional |
| Armatures | Standard Armatures | Rupture Disc, Dip Tube, Valve, Tool | |
| | Pressure Measurement | analog and/or digital | |
| | Ports (total) | 8 | 8 |
| | Ports (free) | 4 | 4 |
| | Type of connection | 8 mm Tube Connection | 8 mm Tube Connection |
| Heating Systems(optional) | Via Fluid | with jacket | with jacket |
| | Via Fluid (Heating Coil, optional) | Heating coil | Heating coil |
| Stirring | RV-100 | WB18D and RV 100-SS | WB18D and RV 100-SS |
| | RV-400 | WB18D and RV 400-SS | WB18D and RV 400-SS |
| Stand | | Electric lifting stand | Electric lifting stand |

S.S. Low Pressure Reactor

NR-20L | NR-30L | NR-50L (Up to 25bar)

This low-pressure reactor is ideally suitable for larger experimental runs. This low-pressure reactor is available in stainless steel. The usable volume of the reactor can be varied 20L, 30L and 50L using different reactor vessels.

The NR-20L/30L/50L low-pressure reactor is notable for its ease of handling. The reactor is closed using a quick closure. The reactor seal is established using a conical flange lock and O-ring seal of PTFE, FKM, or FFKM. The appropriate fitting inserts are available in stainless steel. A total of 7 connection options are provided in the lid, which can be selected from the following:

- > Gas sampling
- > Rupture disc of metal for the safe limitation of maximum pressure
- > Pressure display
- > Vent valve
- > Dip-tube liquid sampling
- > Thermocouple with dip-tube
- > Exhaust hose

Temperature is regulated using a temperature probe which detects the inner temperature of the reactor in an immersion tube. A second temperature probe can optionally be used as an independent overheating safety. Appropriate stand systems are available.



Features

- > 20L, 30L or 50L / 20 bar / 250
- > With bottom drain valve
- > Quick closure chain
- > O-seal ring made of Viton®, PTFE or Kalrez®
- > Temperature controlled by heating and cooling circulators from JULABO
- > Stirring by magnetic clutch and separate drive

Technical Specification

| | | NR-20L | NR-30L | NR-50L |
|----------------------------|-----------------------------|--|--------|--------|
| Performance and Material | Material | Stainless Steel | | |
| | Temperature max. | 250 | 250 | 250 |
| | Pressure max. | 20bar | 20bar | 20bar |
| Reactor vessel | Volume | 20L | 30L | 50L |
| | Inner diameter | 250mm | 312mm | 265mm |
| | Inner height | 557mm | 550mm | 737mm |
| | Bottom drain valve | | | |
| | With jacket | | | |
| Seal ring | Max. pressure on jacket | 3bar | 3bar | 3bar |
| | Volume of jacket | ≈5.3L | ≈15.8L | ≈20.0L |
| Armatures | Viton | | | |
| | Standard armatures | Rupture disc., Pressure gauge, Pt-sensor and gas valve | | |
| | Pressure measurement | Analog and/or Digital | | |
| | Ports (total) | 7 | 7 | 7 |
| Heating Systems | Type of connection | 8mm tube connection | | |
| Stirring (Magnetic clutch) | Double jacket (JULABO unit) | | | |
| | RV-400 | | | |

* The number of free ports can be enlarged by the use of T-connections

** When using PTFE inserts the maximum allowable temperature is 230

S.S. Reactor

VR-500 | VR-1000 | VR-2000 | VR-5000 (-1~5bar)

Bench top reactors are ideally suitable for small experimental runs. This series reactor is available in stainless steel, with or without jacket, The usable volume of the reactor can be varied between 500 ml and 5,000 ml using different reactor vessels.

The VR-500/1000/2000/5000 reactor are notable for its ease of handling. The reactor is closed using a manual quick closure. The reactor seal is established using a conical flange lock and O-ring seal of PTFE, FKM, or FFKM. The appropriate fitting inserts are available in stainless steel. A total of 5 connection options are provided in the lid from VR-500 to VR-2000, VR-5000 has 7 connecting options.



M1



M2



M3

Features

- > 500, 1000, 2000 or 5000 ml / 5 bar / 200
- > With or without jacket, with or without bottom outlet
- > Quick closure chain design
- > O-seal ring made of PTFE, Viton or FFKM
- > Heating by electrical or thermostated mantle
- > Stirring by overhead stirrer
- > Optionally internal heating/cooling coil

Technical Specification

| Model | | VR-500 | VR-1000 | VR-2000 | VR-5000 |
|--------------------------|-----------------------|--|-----------|-----------|-----------|
| Performance and Material | Material | 316L S.S. | 316L S.S. | 316L S.S. | 316L S.S. |
| | Max. Temperature | 300 | 300 | 300 | 300 |
| | Max. Pressure | ≤5bar | ≤5bar | ≤5bar | ≤5bar |
| Jacketed vessel | Volume | 500ml | 1000ml | 2000ml | 5000ml |
| | Flange | DN89 | DN102 | DN133 | DN153 |
| | Inner Dia. | 83mm | 96mm | 127mm | 147mm |
| | Inner Height | 80mm | 120mm | 150mm | 280mm |
| O-ring | Material | PTFE (Viton, FFKM for optional) | | | |
| | Size | 89mm | 102mm | 133mm | 153mm |
| | Flange | DN89 | DN102 | DN133 | DN153 |
| Lids | Center Ports | M38X2 | M38X2 | M38X2 | M38X1.5 |
| | Other ports | 1/4" and 1/2" NPT | | | |
| Heating unit (Optional) | JULABO unit | Yes | | | |
| | Type of sealling | Double mechanical seal | | | |
| Stir | Motor | Overhead stirring motor | | | |
| | Speed | 20~1800rpm(Other model for optional) | | | |
| Frame | Type | SS Frame | | | |
| | Size | 600*360/700mm(L*W*H) | | | |
| | Liquid receiving tray | Stainless steel | | | |

Large Scale S.S. Reactors

VR-10L | VR-20L | VR-30L | VR-50L (-1~5bar)

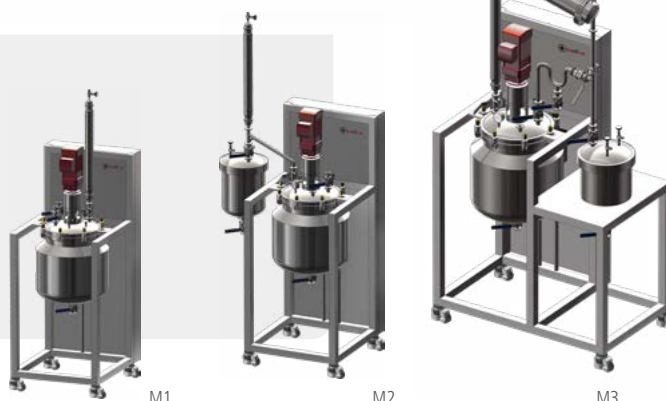
Pilot Plant are ideally suitable for big volume experimental runs. This series reactor is available in stainless steel, with or without jacket, The usable volume of the reactor can be varied between 10L and 50L using different reactor vessels.

The VR-10L/20L/30L/50L reactor are notable for its ease of handling. The reactor is closed using a manual quick closure. The reactor seal is established using a conical flange lock and O-ring seal of PTFE, Silicon or Viton. The appropriate fitting inserts are available in stainless steel. A total of 7 connection options are provided in the lid from VR-10L to VR-50L



Features

- > 10, 20, 30 or 50L / 5 bar / 200
- > The vessel with jacket and bottom outlet
- > Strong device is used to fix the reaction vessel and lid
- > O-seal ring made of PTFE, Silicon or Viton
- > Temperature control by heating and cooling circulator, such as JULABO unit
- > Stirring by overhead stirrer
- > Optionally internal heating/cooling coil
- > With distillation unit and Receiver



Technical Specification

| Model | | VR-10L | VR-20L | VR-30L | VR-50L |
|--------------------------|-----------------------|--|-----------|-----------|-----------|
| Performance and Material | Material | 316L S.S. | 316L S.S. | 316L S.S. | 316L S.S. |
| | Max. Temperature | 300 | 300 | 300 | 300 |
| | Max. Pressure | ≤5bar | ≤5bar | ≤5bar | ≤5bar |
| | Volume | 10L | 20L | 30L | 50L |
| Jacketed vessel | Inner Dia. | 250mm | 300mm | 350mm | 400mm |
| | Inner Height | 250mm | 300mm | 300mm | 350mm |
| | Thickness | 4mm | 4mm | 4mm | 4mm |
| | Material | PTFE (Viton, FFKM for optional) | | | |
| O-ring | Size | 283mm | 333mm | 383mm | 433mm |
| | O.D. | 300mm | 350mm | 400mm | 450mm |
| Lids | I.D. | 250mm | 300mm | 350mm | 400mm |
| | Thickness | 28mm | 28mm | 28mm | 28mm |
| Heating unit (Optional) | JULABO unit | Yes | | | |
| Stir | Type of sealling | Double mechanical seal | | | |
| | Motor | Overhead stirring motor | | | |
| | Speed | 20~1800rpm(Other model for optional) | | | |
| Frame | Type | SS Frame | | | |
| | Liquid receiving tray | Stainless steel | | | |



ReacTROL III

Powerful and extensible PLC system

- > The system can provide independent Power to all equipment in the system and has security protection function
- > Integrated Siemens PLC technology, with high quality, stable and reliable.
- > Integrated Auto-Reactor (Industrial) V2.0 software
 - Animated and intuitive main interface, easy operation, real-time monitoring
 - Curve interface (Real-time curve interface, and history curves can be called from database)
 - Programming control interface, save and invoke a set of parameters, Easy to carry out repetitive experiments, parameter optimization experiments and parallel experiments.
 - System Parameter Settings Interface, includes Setting and calibration of system and equipment parameters, Data Corresponding Settings
 - Data recording and storage, Ability to customize fileDescription and data acquisition frequency(.csv format)

Documentation:

- In compliance with FDA and GMP directives
- Operating manual
- P&ID
- Layout drawing
- FAT,SAT,IQ/OQ
- ATEX certification
- CE/GMP certification
- CIP certification

Safety features

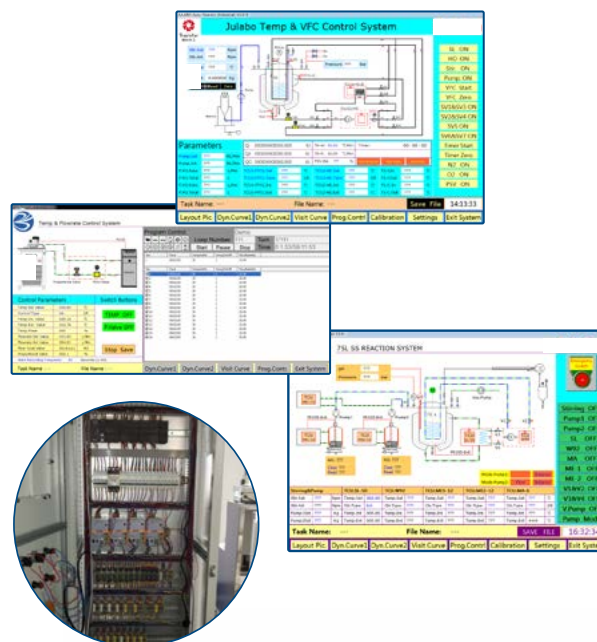
- Rupture disc
- Relief valve
- Safety valve
- Emergency discharge
- Solvent dilution
- ATEX Version

Mode of communication:

- Ethernet interface
- Modbus
- RS-485
- RS-232
- Analog

Instruments and parameters include:

- Temperature of the TCU
- Temperature of the sample in reactor
- Stirring speed
- Vacuum
- Pressure
- pH / DO
- liquid dosing pump
- loading balance
- Turbidity
- Various electronic valves



ATEX Version



WIGGENS
THE MAGIC MOTION



WIGGENS China

Room 303, Hall C, Office Building M8, No. 1
Jiuxianqiao East Road, Chaoyang District, Beijing 100015
Tel :+86-4008092068 Service: +86-400-650-2011



WIGGENS GmbH

Gässlesweg 22-24, 75334 Straubenhardt
Tel: +49 7248 4529088
www.wiggens.com