



AmketteAnalytics
Limited

Endless possibilities...



begin here...

PRODUCT
CATALOG



Serving Industry Since 1967

"Constantly challenging the status quo and pushing boundaries leads to transformative growth."

Our Corporation

ANM Alliance

ANM Alliance is a virtual repository of technology and an ideal knowledge partner providing quality solutions from Simulation to Site.

Our domain of expertise spans from the Laboratory to the Process industry as we offer exemplary solutions that encompass the varied needs in the Simulation to Site spectrum.

ANM Alliance comprises of lucrative SBUs derived through Team efforts of more than 100 colleagues working together.

ANM Alliance strategizes host of initiatives which include integrated backup services for the entire Team, warehousing site along with virtual warehousing, ERP and CRM.

We continually leverage technology in order to remain a lean and proactive Organization to endorse enhanced Customer service and satisfaction. Our nation-wide network presence ensures prompt services to our Customers.

Many of ANM Alliance's achievements today are a result of foresight, the ability to forecast Customer requirement and being on hand with already technological solution.

ANM Alliance Group owes its development to the visionary Founder, Late **Shri Arvind N. Mehta** – a man of simple living and high thinking, who set the course which the Group is following, to this day.

We continuously strive to become a responsible corporate citizen contributing significantly to the scientific, industrial and economic advancement of the Country.

Amkette Analytics
Limited

ANM Industries

SYNERGY
— TECHNO SUPPORT & SOLUTIONS LLP —

ANM HOUSE

OUR VISION



To be the finest skills - based total solution provider for turnkey projects, delighting our customers.

OUR MISSION



The management team will focus on delivering great value to customers by developing high calibre professional skills in core competence and representing world-class instrumentation and automation products.

OUR VALUES



- Integrity and honesty
- Passion for customers, for our partners and technology
- Openness and respectfulness
- Taking on big challenges
- Constructive self-criticism, self- improvement and personal excellence
- Accountability towards customers, partners and employees for commitments, results and quality

OUR CORE COMPETENCIES



- Project management
- System integration and maintenance
- Delivering the best solutions for MEP



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GETINGE **LANCER | ULTIMA**



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interscience

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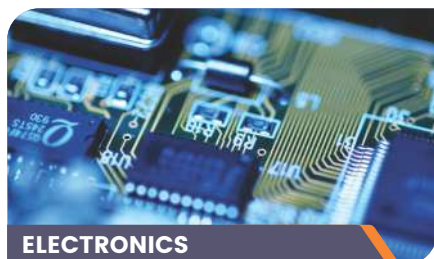


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MARKET SEGMENTS



ELECTRONICS



ENVIRONMENT



HEALTH & BIO-MEDICAL



CHEMICALS



BIOTECH



WATER TREATMENT



LIFE SCIENCE



POLLUTION CONTROL



LABORATORY



RESINS, PAINTS & COATING



PETROLEUM



HYDROCARBONS



AUTOMOBILES



PHARMACEUTICALS



FOOD & BEVERAGES



ENERGY & POWER



ASPHALT

Electronic Balances



SEMI-MICRO & ANALYTICAL BALANCE



AP-WD SERIES

Advanced Performance UniBloc Semi-micro Balances provide High-Speed Response and Stability. Available in super range and dual range.

- 21 CFR Part 11 Compliant with Lab Solutions Software.
- Variety of Accessories suitable for semi-micro measurements.
- Buffer Solution and Sample Preparation modes for HPLC Users(only in APW & APWD Series Model).
- RS232C Interface.
- User ID and Password Management.
- Minimum Measurement Value (only in APW Series Model).
- Periodic Inspection Support Function (only in APW & APWD Series Model).

Model	AP225W	AP135W	AP225WD-AD	AP225WD	AP125WD-AD	AP125WD	AP324X	AP224X
Capacity	220 g	135 g	220 g / 102 g		120 g / 52 g		320 g	220 g
Minimum Display	0.01 mg		0.1 mg / 0.01 mg				0.1 mg	
Door	Manual		Auto	Manual	Auto	Manual	Manual	
Repeatability (at weighing capacity)	0.015 mg (to 20 g) 0.03 mg (to 100 g) 0.05 mg (to weighing capacity)	0.05 mg	0.1 mg / 0.05 mg		0.1 mg / 0.02 mg		0.1 mg	
Linearity	±0.1 mg		±0.2 mg / ±0.1 mg		±0.2 mg / ±0.05 mg		±0.3 mg	±0.2 mg
Response Time	8 sec.		2 sec. / 8 sec.				2 sec.	
Sensitivity Stability Against Temperature Range	±2 ppm / °C (10 to 30°C)							
Pan Size	Approx: 91 mm dia							
Weight (Approx)	7.9 kg	7.9 kg	9.7 kg	7.9 kg	9.7 kg	7.9 kg	7.0 kg	

ELECTRONIC TOP LOADING BALANCE

UP SERIES

Superior Response Significantly Increases Weighing Efficiency.

- Capacity range: 220g to 8.2kg.
- Readability: 0.001g, 0.01g and 0.1g.
- Significantly improved response time of approximately 1 second provides fastest response performance in its class.
- Full Aluminum Die Cast Housing Provides Excellent Chemical Resistance.
- Balance Keys Weighing Data Collection Software.
- Using the highly impact-resistant UniBloc sensor minimizes downtime due to malfunctions.
- UP series balances have been shown to operate with PLCs from major companies.
- Addition of ionizer increases measurement reliability.

“X” Series with Internal Calibration Weights

Model	UP223X	UP423X	UP623X	UP823X	UP1023X	UP2202X	UP4202X	UP6202X	UP422X	UP822X	UP8201X
Capacity	220 g	420 g	620 g	820 g	1020 g	2200 g	4200 g	6200 g	420 g	820 g	8200 g
Minimum Display	0.001 g					0.01 g					0.1 g
Repeatability (at Weighing Capacity)	≤ 0.001 g					≤ 0.01 g			≤ 0.008 g		≤ 0.08 g
Linearity	± 0.002 g			± 0.003 g		± 0.02 g			±0.01 g		±0.1 g
Response Time ^(**1)	Approx. 1 sec.								Approx. 0.6 to 1.0 sec.		
Sensitivity Stability Against Temperature Range	± 3 ppm/°C (10 to 30°C)								±5 ppm/°C (10 to 30°C)		
Pan Size	Approx. 108 × 105 mm					Approx. 170 × 180 mm			Approx. 108 x 105 mm	Approx. 170 × 180 mm	
Weight	Approx. 3.4 kg					Approx. 4.6 kg			Approx. 3.4 kg		Approx. 4.6 kg

*1 - Indicated response time values are typical

“Y” Series with Internal Calibration Weights

Model	UP223Y	UP423Y	UP623Y	UP823Y	UP1023Y	UP2202Y	UP4202Y	UP6202Y	UP422Y	UP822Y	UP8201Y
Capacity	220 g	420 g	620 g	820 g	1020 g	2200 g	4200 g	6200 g	420 g	820 g	8200 g
Minimum Display	0.001 g					0.01 g					0.1 g
Repeatability (at Weighing Capacity)	≤ 0.001 g					≤ 0.01 g			≤ 0.008 g		≤ 0.08 g
Linearity	± 0.002 g			± 0.003 g		± 0.02 g			±0.01 g		±0.1 g
Response Time ^(**1)	Approx. 1 sec.								Approx. 0.6 to 1.0 sec.		
Sensitivity Stability Against Temperature Range	± 3 ppm/°C (10 to 30°C)								±5 ppm/°C (10 to 30°C)		
Pan Size	Approx. 108 × 105 mm					Approx. 170 × 180 mm			Approx. 108 x 105 mm	Approx. 170 × 180 mm	
Weight	Approx. 2.7 kg					Approx. 2.9 kg			Approx. 2.7 kg		Approx. 2.9 kg

*1 - Indicated response time values are typical

ELECTRONIC ANALYTICAL & TOP LOADING BALANCE



AT-R SERIES

Basic Model with Improved Convenience.

- Capacity range: 62g to 320g.
- Readability: 0.1mg.
- Easy settings enable responsiveness and stability to be freely changed.
- Basic Analytical balance equipped with 2 interfaces: USB and RS232C.
- Prevent Human error by direct transfer of weight values to the computer.
- AT-R Series balances have been shown to operate with PLCs from major companies.
- Addition of ionizer increases measurement reliability.



TW/TX/TXB SERIES

Extremely capable and easy to operate.

- Capacity range: 220g to 6.2kg.
- Readability: 0.001g, 0.001ct (0.0002g), 0.01g, 0.1g.
- Easy to operate key layout.
- Piece counting function.
- Backlight LCD.
- Carat Balance



BL SERIES

High-resolution balances made affordable.

- Capacity range: 220g to 3.2kg.
- Readability: 0.001g, 0.01g, 0.1g.
- Piece counting function.
- Analog bar graph display.
- Change among many weighing units and functions with a single touch.
- Data Transfer Port.
- Equipped with a Square Pan for Ease of Operation.

MOISTURE BALANCE



MOC63U

Makes moisture content measurements quick and easy.

- Next-Generation Mass Sensor: UniBloc.
- Windows Direct Function.
- Backlit LCD.
- RS232C interface.
- USB Interface.
- In-Built Halogen Heater for moisture measurements.

A Total of Five Modes Makes This Balance Compatible with a Variety of Sample Measurements

- **Ending Modes**
Automatic/Timed Ending Mode.
- **Alternate Drying Modes**
Rapid/Slow/Step Drying Mode.



MOC-120H

Measure the Moisture Ratio of even large or large amounts of samples.

- The moisture ratio is found by heating the sample with the built-in infrared heater.
- The sample pan measures 130 mm in diameter, which is optimal for large amounts of samples.
- Importing results to a PC is easy (equipped with the Balance Keys function).
- Equipped with the UniBloc aluminum block mass sensor.
- Next-Generation Mass Sensor: UniBloc.
- Windows Direct Function.
- Backlit LCD.

ACCESSORIES



Static Remover (Ionizer)

- Static charge on a sample or in the container can cause fluctuations in weight.
- Stablo-AP provides reliable measurement by removing static electricity.
- AC Corona discharge method for fast Ionization (1 Second typically).
- Can be used easily in handheld form, setting up on stand, or being fixed within a balance.
- An excellent solution against static.



Electronic Printers

Enhanced support for ISO/GLP/GMP.

- Enhanced visibility for OLED Display.
- Includes functionality for preventing date alterations.
- Supports GLP/GMP using password protection- based date/time alteration prevention.
- Powered by Rechargeable Batteries.
- Status Display with Enhanced Visibility for OLED Display.

Specific Gravity Analyzer

Measures a variety of gravity values with the Immersion Method.



- Capable of automatically calculating and displaying specific gravity values.
- Liquid density can also be measured by using an optional sinker.

TEXTURE ANALYZER

SHIMADZU
Excellence in Science



Shimadzu presents the more convenient to use Next Generation Stand-Alone High Precision Table Top Type Texture Analyzer / UTM for the testing of materials. It brings exciting new dimension of quick, efficient testing to busy labs that need to improve productivity while maintaining quality.

EZ Test series comes with greater ease of operation through stand-alone or control by PC/Trapezium X Software, higher precision & accuracy of Interchangeable load cells from 1N/100g - 5kN/500kg, longer travel distance from 500mm - 920mm, ultra-high speed testing of 0.001-2000 mm/min & 1500 / 3000 mm/min return speed, automatic load calibration, accessible controls and comprehensive safety.

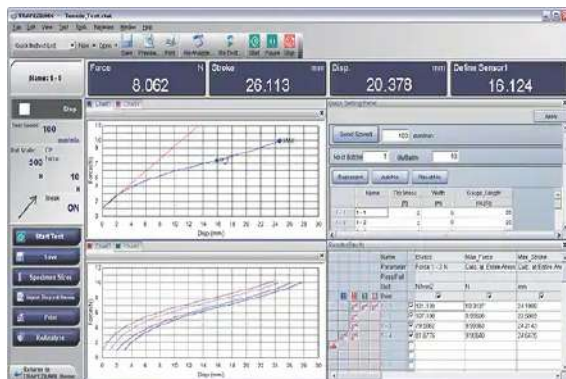
- Light weight and compact design.
- Single column, Finger-tip operation.
- Max capacity 500N & 5kN model.
- Travel upto 920mm.
- Fast return speed.
- Wide speed range 0.001 to 2000mm/min.
- Automatic load calibration.
- Crosshead speed accuracy $\pm 0.1\%$.
- High speed sampling of 1msec.
- Standalone operation without PC.
- USB interface for PC/Laptop.
- Touch load alarm.
- High precision load cell $\pm 0.5\%$ of indicated value within 1/500 ~ 1/1 of indicated force.

A wealth of specialized jigs suitable for Product Test in Diverse Fields

Physical evaluation testing is now required in more fields than ever before. EZ Test offers an ample selection of specialized jigs and features to support a wide variety of customer requirements with special jigs and applications for a number of fields, including foods, pharmaceuticals, medical devices, cosmetics, house hold items, packaging, automotive, electrical machinery & electronics and rubber & plastics, etc.

TRAPEZIUM X – Cutting Edge Software for Testing Machines

Trapezium X provides a state of the art user interface, comprehensive functions and easy to use design to improve the efficiency of your testing.



TRAPEZIUM X – Cutting Edge Software for Testing Machines

Trapezium X software is ideal for measuring the texture of foods, evaluating various quality parameters, or measuring the physical properties of pharmaceuticals, cosmetics, and other specimens. It allows creation of user-defined control patterns that enable creation of data processing parameters specialized for foods, such as hardness, brittleness, and energy.

Compression tests (piercing, penetration, and break analysis tests), tensile tests, texture tests (two-bite method), indentation tests, gel strength tests, shear/cutting tests, adhesiveness tests, hardness tests, and more.



Packaging



Food Texture



Plastics



Pharmaceuticals



Range of Jigs



Easy Control

JIGS FOR EVALUATING TEXTURES



Compression Test on Bread



Surface Hardness Test on Apple



Hardness Test on Butter



Viscoelasticity Test on Gelatin



Shear Test on Sausage



Compression Shear Test on Cereal



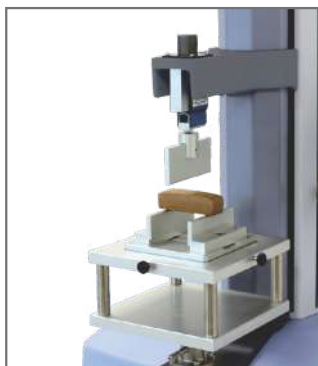
Compression Shear Test on Beans



Shear Test on Butter



Spreadability Test on Margarine



Three-Point Bending Test on Cookies



Break Strength Test on Potato Chips



Crush Test on Fruits



Extrusion Force Test on Liquids



Teeth Shear Test on Potato Croquette



Hardness Test on Lipstick



Testing Adhesive Bandages

VISCOSITY | RHEOLOGY | TEXTURE



B-ONE PLUS



Intuitive and powerful, the new B-ONE PLUS will surprise you with its extended measuring range in LR version or with its optional temperature sensor.

- 7" Touch Screen Display.
 - Wide Speed Range upto 250rpm.
 - Rotating Spring Less Technology.
 - Robust Ball Bearing Suspension.
 - SS316 Spindles.
 - Bayonet Fitting for Quick & EZ Spindle Connection.
 - Direct measure with Time to Stop.
 - Built-in USER Mode & LOCK Mode.
 - Built-in USB Port for Data Transfer.
 - Torque gage on display
 - Speed or shear rate control
 - Units: cP (Centipoise), mPa.s/Pa.s(Poise)
 - Displays: Viscosity, Speed, Torque(%), Shear Stress, Shear Rate, Time, Temperature (Optional probe required)
 - Auto Range (Min. & Max. Viscosity) (Range depends on speed & spindle selected)
- Two Viscometer Ranges
 - LV & RV in 1 Viscometer (LR)
 - RV, HA - 5HB in 1 Viscometer (HR)
 - Exactly same matching comparing results

Model	VISCOSITY RANGE cP (mPa•s)		SPEEDS			
	Min.	Max.	Accuracy	Repeatability	RPM	No. of Speeds
B-ONE PLUS LR (Low Range LV-RV)	1*	22M	±1% of FSR	+/-0.2%	0.1-250	UNLIMITED
B-ONE PLUS HR (High Range RV, HA-HB)	33*	240M	±1% of FSR	+/-0.2%	0.1-250	UNLIMITED
B-ONE PLUS HR / KU	40KU	140KU	±1% of FSR	+/-0.2%	0.1-250	UNLIMITED

* Can reach 1 mPa•s (LR) & 33 mPa•s (HR/Standard) with MS ULV

FIRST PLUS


With its expanded programming possibilities and increased modularity, the FIRST PLUS will be the ideal tool for your application whether you use it alone or with its software

- 7" Touch Screen Display.
 - Wide Speed Range upto 250rpm.
 - Rotating Spring Less Technology.
 - Robust Ball Bearing Suspension.
 - SS316 Spindles.
 - Bayonet Fitting for Quick & EZ Spindle Connection.
 - Direct measure with Time to Stop.
 - Built-in Temperature Probe.
 - Built-in USER Mode & LOCK Mode.
 - Built-in USB & RS232 Port for PC/Printer Connection.
 - Torque gage on display.
 - Integrated temperature probe.
 - Compatible with RheoTex software (21 CFR).
 - Speed or shear rate control.
 - Units: cP (Centipoise), mPa.s/Pa.s(Poise)
 - Displays: Viscosity, Speed, Torque(%), Shear Stress, Shear Rate, Time, Temperature
 - Auto Range (Min. & Max. Viscosity) (Range depends on speed & spindle selected)
- Two Viscometer Ranges
 - LV & RV in 1 Viscometer (LR)
 - RV, HA - 5HB in 1 Viscometer (HR)
 - Exactly same matching comparing results

Model	VISCOSITY RANGE cP (mPa•s)		SPEEDS			
	Min.	Max.	Accuracy	Repeatability	RPM	No. of Speeds
FIRST PLUS LR (Low Range LV-RV)	1*	22M	±1% of FSR	+/-0.2%	0.1-250	UNLIMITED
FIRST PLUS HR (High Range RV, HA-HB)	33*	240M	±1% of FSR	+/-0.2%	0.1-250	UNLIMITED

* Can reach 1 mPa•s (LR) & 33 mPa•s (HR/Standard) with MS ULV

FIRST PRO PLUS



FIRST PRO has the same enhanced programming capabilities as the most complete instrument to maximize the repeatability of your measurements.

- Inbuilt software for programming.
- Direct measure with time to stop.
- User and locked mode.
- Data recording and USB transfer.
- Torque gage on display.
- Integrated temperature probe.
- Printer connection.
- Compatible with RheoTex software (21 CFR).
- Display of viscosity limits according to mobile and speed.
- Speed or shear rate control.
- Direct control of temperature unit.
- Multistep method.
- LIMS function.

- Two Viscometer Ranges
 - LV & RV in 1 Viscometer (LR)
 - RV, HA - 5HB in 1 Viscometer (HR)
- Exactly same matching comparing results

Model	VISCOSITY RANGE cP (mPa•s)		SPEEDS			
	Min.	Max.	Accuracy	Repeatability	RPM	No. of Speeds
FIRST PRO LR (Low Range LV-RV)	1*	22M	±1% of FSR	+/-0.2%	0.1-250	UNLIMITED
FIRST PRO HR (High Range RV, HA-HB)	33*	240M	±1% of FSR	+/-0.2%	0.1-250	UNLIMITED

* Can reach 1 mPa•s (LR) & 33 mPa•s (HR/Standard) with MS ULV

FIRST PRODIG



The viscometer with a 7 " touch screen allows you to create and save your measurement methods, display results or curves, analyse your data, print reports, manage users and protect data.

- Speed or shear rate control.
- Inbuilt software for programming.
- Constant, Multistep or ramp method.
- Direct curve on display.
- Direct analysis with regression.
- Direct report editing.
- Direct measure with time to stop.
- User and locked mode.
- Data recording and USB transfer.
- Torque gage on display.
- Integrated temperature probe.
- Printer connection.
- Compatible with RheoTex software.
- Display of viscosity limits according to mobile and speed.
- Direct control of temperature unit.
- LIMS function.
- QC limits function.

- Two Viscometer Ranges
 - LV & RV in 1 Viscometer (LR)
 - RV, HA - 5HB in 1 Viscometer (HR)
- Exactly same matching comparing results

Model	VISCOSITY RANGE cP (mPa•s)		SPEEDS			
	Min.	Max.	Accuracy	Repeatability	RPM	No. of Speeds
FIRST PRODIG LR (Low Range LV-RV)	1*	22M	±1% of FSR	+/-0.2%	0.1-250	UNLIMITED
FIRST PRODIG HR (High Range RV, HA-HB)	33*	240M	±1% of FSR	+/-0.2%	0.1-250	UNLIMITED

* Can reach 1 mPa•s (LR) & 33 mPa•s (HR/Standard) with MS ULV

FIRST PRODIG CP1000



The FIRST PRODIG CP1000 offers unparalleled ease of use and modularity. It incorporates a support for cone-plate measurements. It is perfectly suited to measurements at ambient temperature and offers the possibility to control temperature of the sample when combined with a circulating bath (not included). Its versatility allows it to use other measuring mobiles such as MS-RV, MS KREBS or MS VANE.

- Touch Screen Display.
- Wide Speed Range upto 250rpm.
- Rotating Spring Less Technology.
- Robust Ball Bearing Suspension.
- SS316 Spindles.
- CP-1000 stand for cone-plate measurement.
- Quick attachment with AC265 coupling.
- Manual lift for gap adjustment.
- Speed or shear rate control.
- Inbuilt software for programming.
- Constant, Multistep or ramp method.
- Direct curve on display.
- Direct analysis with regression.
- Direct report editing.
- Direct measure with time to stop.
- User and locked mode.
- Data recording and USB transfer.
- Torque gage on display.
- Integrated temperature probe.
- Printer connection.
- Compatible with RheoTex software(21 CFR).
- Display of viscosity limits according to mobile and speed.
- LIMS function.
- QC limits function.

- Multi Viscometer Range
 - (CP & Rotational Viscometer) in 1 Viscometer CP, RV, VANE, Krebs-KU
- Exactly same matching comparing results

Model	VISCOSITY RANGE cP (mPa•s)		SPEEDS			
	Min.	Max.	Accuracy	Repeatability	RPM	No. of Speeds
FIRST PRODIG CP 1000	3	80M**	±1% of FSR	±0.2%	0.1-250	UNLIMITED

** According to Cone-plate MS CP

RM100 PLUS



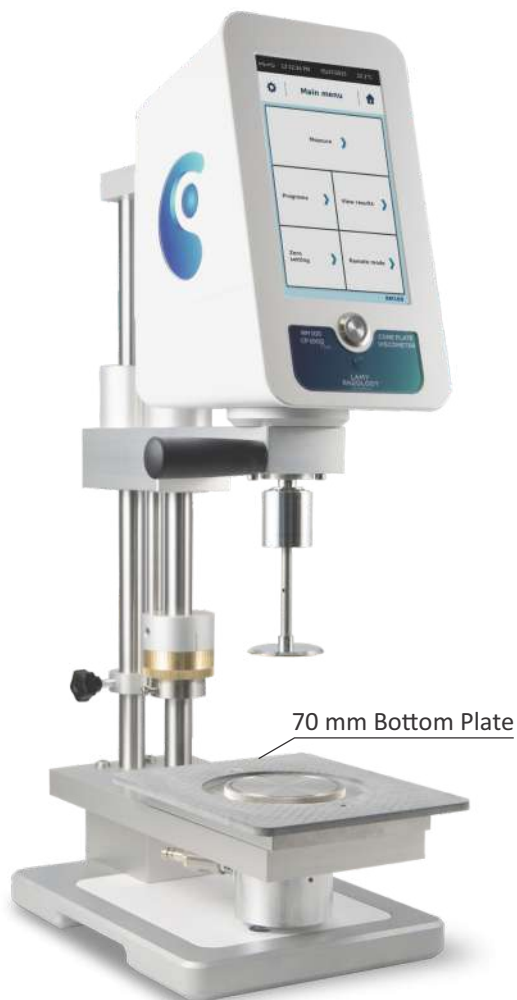
The RM100 PLUS is the viscometer with largest speed and torque range available on market. Create your methods and store your results in relation with your application.

- Speed or shear rate control.
- Huge speed and torque range.
- Direct control of temperature unit.
- Inbuilt software for programming.
- Direct measure with time to stop.
- User and locked mode.
- Data recording and USB transfer.
- Torque gage on display.
- Integrated temperature probe.
- Printer connection.
- Compatible with RheoTex software (21 CFR).
- Display of viscosity limits according to mobile and speed.
- Multistep method.
- LIMS function.
- QC limits function.
- Touch screen display.
- Wide speed range 1500 rpm.
- Rotating spring less technology.
- Robust ball bearing suspension.
- SS 316 spindles.

Model	VISCOSITY RANGE cP (mPa•s)		SPEEDS			
	Min.	Max.	Accuracy	Repeatability	RPM	No. of Speeds
RM100 PLUS	1	780M*	±1% of FSR	±0.2%	0.1-1500	UNLIMITED

M for million / * According to measuring system.

RM100 CP-1000 PLUS



Equipped with a fluid circulation for temperature control (bath not included), the RM100 CP1000 PLUS will allow you to perform cone-plate and beaker measurements using the MS RV, MS VANE or MS KREBS mobiles.

- 7" Touch Screen Display.
- Wide Range of CP01 - CP10 Spindles.
- Wide Range of CP40Z - CP52Z Spindles.
- Robust Ball Bearing Suspension.
- CONE/PLATE Springless Technology.
- AC265 coupling system for SS316 Cone Plate.
- SS316 Spindles (CP/RV/VANE).
- Bayonet Fitting for Quick & EZ Spindle Connection.
- Removable Bottom Plate.(w/integrated temp. probe)
- Manual lift for gap adjustment.
- Guaranteed Easy Cleaning.
- Programming and Recording Method.
- CP1000 Stand for C/P measurement.
- Built-in USER Mode & LOCK Mode.
- Built-in USB & RS232 Port for PC/Printer Connection.
- Optional RheoTex software (21 CFR).
- Units: cP (Centipoise), mPa.s/Pa.s(Poise)
- Speed or shear rate control.
- Inbuilt software for programming / Printer connection.
- Direct measure with time to stop.
- Torque gage on display.
- Integrated temperature probe.
- Display of viscosity limits according to mobile and speed.
- Multistep method.
- LIMS function / QC limits function.
- Displays: Viscosity, Speed, Torque(%), Shear Stress, Shear Rate, Time, Temperature
- Auto Range (Min. & Max. Viscosity) (Range depends on speed & spindle selected)

- Multi Viscometer Range
 - (CP & Rotational Viscometer) in 1 Viscometer CAP, CP, RV, HA-HB, KU
- Cover High Torque 181,000 dyne cm ICI Specifications method
- Covers Low Torque 7,970 dyne cm (123CAP)
- Wide Shear Range! 1-20,000 sec⁻¹
- Exactly same matching comparing results

Model	VISCOSITY RANGE cP (mPa•s)		SPEEDS			
	Min.	Max.	Accuracy	Repeatability	RPM	No. of Speeds
RM100 CP-1000 PLUS	1	190M**	±1% of FSR	±0.2%	0.1-1500	UNLIMITED

M for million / ** According to MS CP spindle

RM100 CP-2000 PLUS CONE & PLATE VISCOMETER



Cone and Plate measuring systems are adapted for samples in limited quantities and difficult to clean. With maximum shear rate up to $20,000 \text{ s}^{-1}$, the RM100 CP2000 PLUS will fit all your applications.

- 7" Touch Screen Display.
- Wide Range of CP01 - CP10 SS316 Spindles.
- Wide Range of CP40Z - CP52Z SS316 Spindles.
- Robust Ball Bearing Suspension.
- AC265 coupling system for Cone Plate.
- Removable Bottom Plate.(w/integrated temp. probe)
- Guaranteed Easy Cleaning.
- CONE/PLATE Springless Technology.
- Programming and Recording Method.
- Direct report editing.
- Huge speed and torque range.
- Direct control of temperature unit.
- Inbuilt software for programming.
- Printer connection.
- Data recording & USB Transfer
- Built-in USER Mode & LOCK Mode.
- Built-in USB & RS232 Port for PC/Printer Connection.
- Optional RheoTex software (21 CFR).
- Units: cP (Centipoise), mPa.s/Pa.s(Poise)
- Multistep method.
- LIMS function.
- QC limits function.
- Displays: Viscosity, Speed, Torque(%), Shear Stress, Shear Rate, Time, Temperature
- Auto Range (Min. & Max. Viscosity) (Range depends on speed & spindle selected)

- Multi Viscometer Range
 - (CP & Rotational Viscometer) in 1Viscometer CP models & CAP models
- Cover High Torque 181,000 dyne cm ICI Specifications method
- Covers Low Torque 7,970 dyne cm (123CAP)
- Wide Shear Range! $1\text{-}20,000 \text{ sec}^{-1}$
- Exactly same matching comparing results

Model	VISCOSITY RANGE cP (mPa•s)		SPEEDS			
	Min.	Max.	Accuracy	Repeatability	RPM	No. of Speeds
RM100 CP-2000 PLUS	1	190M	±1% of FSR	±0.2%	0.1-1500	UNLIMITED

M for million

GT-300 PLUS GEL TIMER



Measure your Gel Time on one click

The GT 300 PLUS is a «Gel Timer» to measure all curing times of your products. Combined with disposable measuring systems and temperature control, it adapts to all your expectations for a very competitive cost per measurement.

- Inbuilt software for programming
- RheoTex software included.
- Direct control of temperature unit.
- Measure with disposable hooks and cups.
- Sample temperature probe (optional).
- Low sample volume.
- Temperature ramp available.
- Display of viscosity limits according to mobile and speed.
- LIMS function.
- QC limits function.

Disposable cup
(aluminium)
(by 100)
Ref. 700011



Disposable hook
(stainless steel)
(Vol. 50-80mL)
(by 100)
Ref. 700010



Disposable hook
(steel)
(Vol. 35-50mL)
(by 100)
Ref. 700040



GT-300 PRODIG GEL TIMER



Measure your Gel Time on one click

The GT300 PRODIG measures your gel time, shows curves, analyses your data and print reports. Autonomy and user-friendly, it benefits to GT300 performances with ergonomic innovations.

- Inbuilt software for programming.
- Direct curve on display.
- Direct Gel time analysis.
- Direct report editing.
- Direct control of temperature unit.
- Measure with disposable hooks and cups.
- Sample temperature probe (option).
- Low sample volume.
- Temperature ramp available.
- Display of viscosity limits according to mobile and speed.
- LIMS function.
- QC limits function.

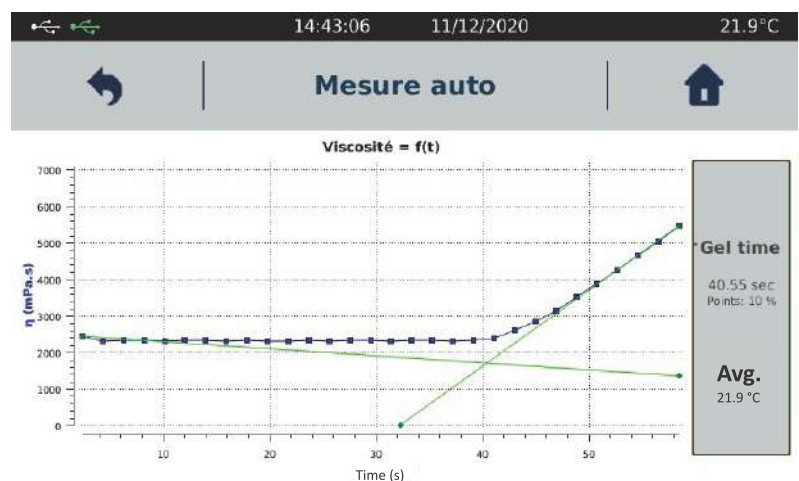
Disposable cup
(aluminium)
(by 100)
Ref. 700011



Disposable hook
(stainless steel)
(Vol. 50-80mL)
(by 100)
Ref. 700010



Disposable hook
(steel)
(Vol. 35-50mL)
(by 100)
Ref. 700040



PORTABLE B-ONE VISCOMETER



The PORTABLE B-ONE is the ideal tool for your viscosity measurements in the workshop, production area, delivery area or outside. With one hour of battery life, it will optimize your control times and flexibility.

- Autonomy more than one hour.
- Charge indicator.
- Direct measure with time to stop.
- Usable with standard or rack stand(option).
- User and locked mode.
- Data recording and USB transfer.
- Torque gage on display.
- Display of viscosity limits according to mobile and speed.
- Speed or shear rate control.

Model	VISCOSITY RANGE cP (mPa•s)		Accuracy	Repeatability	SPEEDS	
	Min.	Max.			RPM	No.of Speeds
B-ONE Portable Viscometer	200 (15**)	240M	±1% of FSR	±0.2%	0.1-250	UNLIMITED

M for million / ** Can reach 15 mPa.s with MS BV.

PORTABLE RM 100 - ON-LINE / PROCESS VISCOMETER



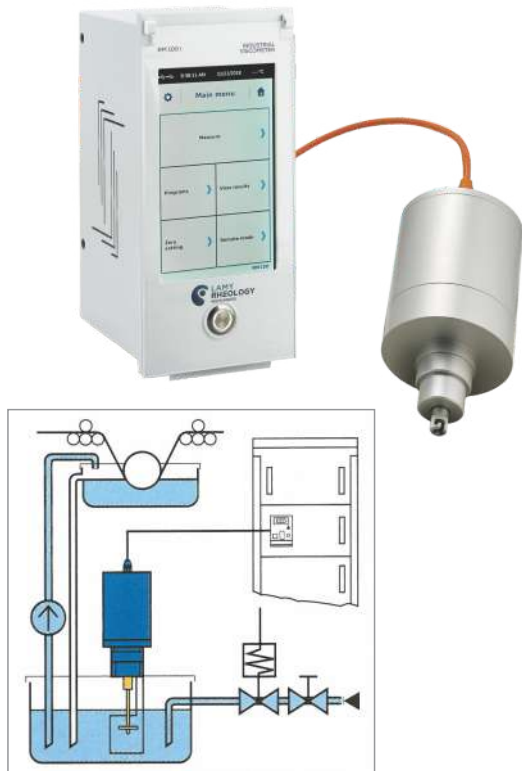
No matter where, the PORTABLE RM 100 allows you to bring your viscosity measurement methods where your lab can not operate. With programming, memorization, temperature measurement and all measurement systems, all your expertise is moving!

- Autonomy more than one hour.
- Charge indicator.
- Huge speed and torque range.
- Usable with standard or rack stand (option).
- Inbuilt software for programming.
- Direct measure with time to stop.
- User and locked mode.
- Data recording and USB transfer.
- Torque gage on display.
- Integrated temperature probe.
- Printer connection.
- Compatible with RheoTex software.
- Display of viscosity limits according to mobile and speed.
- Speed or shear rate control.
- Multistep method.
- LIMS function.
- QC limits function

Model	VISCOSITY RANGE cP (mPa•s)		Accuracy	Repeatability	SPEEDS	
	Min.	Max.			RPM	No.of Speeds
RM-100 Portable Viscometer	200 (1**)	240M	±1% of FSR	±0.2%	0.1-1500	UNLIMITED

M for million / ** Can reach 1 mPa.s with MS DIN19

RM100 i – ON-LINE / PROCESS VISCOMETER



The RM100 i is perfectly suited for so-called immersion use, installing it over a tank or on a support for a measurement in a pot. Only the measuring head is above the product, the electronic box can be installed more than 17 meters in a control cabinet with its 4-20mA output

- Industrial measure on large tanker.
- Continuous measurement or with time to stop.
- 4-20 mA output for external control.
- 17m maximum distance between head and box.
- Usable with standard or rack stand.
- Huge viscosity range.
- Inbuilt software for programming.
- External temperature probe (option).
- Printer connection.
- Compatible with RheoTex software.
- Display of viscosity limits according to mobile and speed.
- Speed or shear rate control.
- Multistep method.
- LIMS function.
- QC limits function

RM 100 L – IN-LINE / PROCESS VISCOMETER



The online viscosity measurement of the RM100 L guarantees continuous control for immediate action in production.

Whatever the flow rate, the viscosity or the diameter of your pipe, this viscometer will be able to adapt by guaranteeing you a measurement according to laboratory's norms.

- Industrial on-line measurement.
- Continuous measurement or with time to stop.
- 4-20 mA output for external control.
- Magnetic bearing for sealing.
- 30m maximum distance between head and box.
- Huge viscosity range.
- Inbuilt software for programming.
- External temperature probe (option).
- Printer connection.
- Compatible with RheoTex software.
- Display of viscosity limits according to mobile and speed.
- Speed or shear rate control.
- Multistep method.
- LIMS function.
- QC limits function

RM 200 PLUS RHEOMETER



The Rheology at your fingertips

Thanks to its large storage capacity and its easy programming, the rheometer RM200 PLUS allows you to realize all your measurements of flow curves, yield point, thixotropic, analysis without software.

- Constant, Multistep or ramp method.
- Direct analysis with regressions.
- Direct control of temperature unit.
- Huge viscosity range.
- Speed or shear rate control.
- Inbuilt software for programming.
- Direct measure with time to stop.
- User and locked mode.
- Data recording and USB transfer.
- Torque gage on display.
- Integrated temperature probe.
- Printer connection.
- Compatible with RheoTex software.
- Display of viscosity limits according to mobile and speed.
- LIMS function.
- QC limits function.

RM 200 CP-4000 PLUS RHEOMETER



Optimize your rheological measurements

The motorized lift of the RM200 CP4000 PLUS allows a fast and repeatable installation of cone and plate measuring systems guaranteeing reliable rheological measurements whatever your application.

- Automatic lift for gap.
- Quick attachment with AC265 coupling.
- Constant, Multistep or ramp method.
- Direct analysis with regressions.
- Direct control of temperature unit.
- Huge viscosity range.
- Speed or shear rate control.
- Inbuilt software for programming.
- Direct measure with time to stop.
- User and locked mode.
- Data recording and USB transfer.
- Torque gage on display.
- Integrated temperature probe.
- Printer connection.
- Compatible with RheoTex software.
- Display of viscosity limits according to mobile and speed.
- LIMS function.
- QC limits function.

DSR 500 RHEOMETER



A new vision on your measurements

The rheometer with imposed shear rate, equipped with a 7 " touch screen to display the curves directly. And with direct report editing on a desktop printer, measuring viscosity or yield point has never been so easy!

- Direct curve on display.
- Shear rate and speed control.
- Constant, Multistep or ramp method.
- Direct analysis with regressions.
- Direct control of temperature unit.
- Huge viscosity range.
- Inbuilt software for programming.
- Direct measure with time to stop.
- User and locked mode.
- Data recording and USB transfer.
- Torque gage on display.
- Integrated temperature probe.
- Printer connection.
- Compatible with RheoTex software.
- Display of viscosity limits according to mobile and speed.
- LIMS function.
- QC limits function.

DSR 500 CP-4000 PLUS RHEOMETER



A rheometer to meet your requirements

With its motorized lift, built-in temperature control unit and all the features of the DSR500, this new cone-plate rheometer optimizes your measurements and guarantees high performance even without a computer!

- Automatic lift for gap.
- Quick attachment with AC265 coupling.
- Direct curve on display.
- Shear rate and speed control.
- Constant, Multistep or ramp method.
- Direct analysis with regressions.
- Direct control of temperature unit.
- Huge viscosity range
- Inbuilt software for programming.
- Direct measure with time to stop.
- User and locked mode.
- Data recording and USB transfer.
- Torque gage on display.
- Integrated temperature probe.
- Printer connection.
- Compatible with RheoTex software.
- Display of viscosity limits according to mobile and speed.
- LIMS function.
- QC limits function.

TX700 TEXTURE ANALYZER



With its wide range of probes and fixtures, the TX-700 is the ideal tool for your texture analysis. Thanks to its touch screen directly displaying the curves, its method programming capability, storage and analysis of measurements, the TX-700 will integrate in laboratory and production area.

- Integrated temperature probe.
- Direct curve on display.
- Inbuilt software for programming.
- Data recording and USB transfer.
- Many different probes and fixtures.
- Interchangeable load sensors.
- Height adjustable tray.
- Compatible with RheoTex software.
- LIMS function.



FIXTURE BASE TABLE

Designation

TX-700 TEXTURE ANALYZER - 10N

TX-700 TEXTURE ANALYZER - 20N

TX-700 TEXTURE ANALYZER - 50N

TX-700 TEXTURE ANALYZER - 100N

TX-700 TEXTURE ANALYZER - 250N

TX-700 TEXTURE ANALYZER - 500N

METHODS	PROPERTIES
COMPRESSION	Compressibility, compactability, springiness, relaxation, crush strength, firmness, elastic, work/load/deflection at rupture, maximum load.
PUNCTURE PENETRATION	Firmness, gel strength, dipping consistency, product toughness, fracture force, 'cake' breaking strength, semi-solid consistency, actuation force.
CUTTING SHEARING	Bite force, firmness, toughness, shear force.
FRACTURE BENDING	Brittleness, snapping force, tip strength, flexibility, force to bend, bend modulus, fracture force, flexure modulus.
TENSILE	Tensile strength, tensile 'break point', extensibility, stretchiness, elongation, burst point, tensile modulus, strength and strain to fracture, fracture toughness
ADHESION	Adhesiveness, stickiness, tackiness, peel force, cohesiveness, tailing, stringiness, legging, work of adhesion.
DETERMINATION OF GELATIN BLOOM STRENGTH	Determination of Bloom Strength as a means of monitoring the effects of quality, concentration and processing methods on gelatin.



COMPRESSION



PUNCTURE PENETRATION



CUTTING SHEARING



FRACTURE BENDING



TENSILE



ADHESION



DETERMINATION OF GELATIN BLOOM STRENGTH

THERMOCELL PACKAGE HIGH TEMPERATURE



Electrical heating system for cylindrical measuring systems

- Temperature range from Room T°C to +300°C.
- Economic electric oven.
- Compatible with bayonet coupling device.
- Compatible with norms ASTM D4402 and D3236.



Designation	Reference	Temp. Range	Type	Compatible measuring system	Dimensions (pxlxh) in mm	Weight
RT-1 PLUS	N130110	RoomT°C to +300°C	Electrical	MS SV, MS DIN, MS ULV	610 x 340 x 650	15 kg

HELIPRO for GELS, PASTE, CREAMS etc.



The HELIPRO device makes it possible to measure viscosity of gels, pastes, creams and more generally products that do not flow.

When a measuring mobile turns in this type of product, we can observe appearance of cavities around the rotating spindle which has effect of reducing measured viscosity values. Through its movement vertical, HELIPRO system with its mobile T shape will prevent formation of cavities within product and will ensure reliable and consistent measurement.



ACCESSORIES

MS-SV (Small Volume)

LAMY RHEOLOGY MS-SV Measuring System for Low/Small Volume Viscosity Measurement. This measuring system makes it possible to measure products in small quantities by applying a shear rate. Cylindrical geometry provides calculable shear rates, which allow the user to predict a product's reaction to shear stress.

- For rheological evaluation of materials where sample volume is limited
- Sample chamber easily changed
- Optional disposable chamber also available
- Optional Water jacket allows rapid and precise temperature control of sample
- Simultaneous sample temperature measurement (optional for B-One Plus series)

Small Volume Package



Small Volume Package with Water Jacket



MS-ULV

LAMY RHEOLOGY MS-ULV Measuring System for Ultra Low Viscosity Measurement up to 1cP (centipoise). This measuring system makes it possible to measure low viscosity products in control by applying shear rate.

- Ideal for low viscosity materials
- SS#316 Stainless steel parts are easily cleaned
- Reduces measuring range to as low as 1 cP (LR Model)
- Small sample size: 11 mL
- Cylindrical geometry provides defined shear rates for detailed product analysis

Ultra Low Adapter



Ultra Low Adapter with Water Jacket



MEASURING SYSTEMS WITH BAYONET COUPLING FOR LR DEVICE

Designation	Sample Volume (ml)	Shear rate range (s-1)	Viscosity range (mPa•s)
MS-ULV	21 ml	1 to 510	1 to 26K (LR) 33 to 750K (HR)

VISCOSITY STANDARD AT 25 °C TEMPERATURE



Lami Silicone Viscosity Standards provide a convenient, reliable means of checking the performance of most Viscometers / Rheometers. These fluids are calibrated at 25°C and available in standard bottle along with Certificate of Viscosity Standard Calibration.

Part No.

CPS 5

CPS 10

CPS 50

CPS 100

CPS 500

CPS 1000

CPS 5000

CPS 12500

CPS 30000

CPS 60000

CPS 100000

GUARDLEG LV

Allows correct positioning of MS-LV spindles in 600ml beakers for optimized viscosity measurement.



GUARDLEG RV

Allows correct positioning of MS-RV spindles in 600ml beakers for optimized viscosity measurement.



RHEOTEX SOFTWARE



The license file associated with the software allows you to automatically configure software to be compatible with instrument. Since the software base is the same, only an additional license is required when you have two devices to control by RheoTex. The installation of the software is not limited to one computer station.

The integrity of results and methods is guaranteed by using a database and by an optimized management of the users with specific rights.

New graphical tools allow custom management of the display of curves, tables and analysis results

- Creation and saving of methods.
- Transfer data from device memory.
- Temperature ramp method.
- Use of mathematical tools for data analysis.
- Creation of free program.
- PDF report editing.
- Compatible with office software or experience creation (automatic measurement and analysis).

Functions / Instrument version	FIRST	FIRST PRO	FIRST PRODIG	RM 100	RM 200	DSR 500	GT300	GT300 PRODIG	TX-700
Instrument connection	USB, RS232								RS232
Method viscosity over time	*	*	*	*	*	*	*	*	
Method step by step	*	*	*	*	*	*			
Method flow curve			*		*	*			
Methods Compression, Relaxation, Tensile, TPA, Penetrometry									*
Methods Free Program	*	*	*	*	*	*	*	*	*
Loop mode	*	*	*	*	*	*	*	*	*
Experiment	*	*	*	*	*	*	*	*	*
Logarithmic ramp			*		*	*			
Control of temperature unit (EVA, RT, CP1, CP2000, CP4000)*	*	*	*	*	*	*	*	*	
Data transfer from device memory	*	*	*	*	*	*	*	*	*
Direct curve while test	*	*	*	*	*	*	*	*	*
Import methods and results	*	*	*	*	*	*	*	*	*
Export/copy data to Office	*	*	*	*	*	*	*	*	*
Export/copy diagram to Office	*	*	*	*	*	*	*	*	*
Editing report pdf	*	*	*	*	*	*	*	*	*
Display multiple curves	*	*	*	*	*	*	*	*	*
Lift control					For CP4000				*
Role/user management	*	*	*	*	*	*	*	*	*
21 CFR Part 11	*	*	*	*	*	*	*	*	*
Automatic stop on measured value	*	*	*	*	*	*	*	*	*
Mathematic analysis of results	Maximum, minimum, average, curves average, smoothing, interpolation, inflexion								
Analysis as Area, Slope, TPA, relaxation									*
Rheological models	Newton, Ostwald, Bingham, Casson, Casson-Steiner, Chocolat				Newton, Ostwald, Bingham, Casson, Power Law, Herschel-Bulkley, Casson-Steiner, Steiger Ory, Chocolat				

* Only for temperature unit with programmer.

Incubators

Hot Air Oven

Climate Chambers

Ultra Low Temperature Freezers



HOT AIR OVEN



Best conditions for your success



The convection oven provides a highly efficient environment for all thermal processes including sterilization with fast and uniform drying.

- Temperature range up to +300 °C
- Temperature range: +5 °C above ambient temperature to +300 °C (ED) & +10 °C above ambient temperature to +300 °C (FD & FED)
- Best energy efficiency on the market
- Excellent temporal and spatial temperature accuracy
- USB connection for recording data
- Up to 30% lower energy consumption compared to conventional units on the market (ED & FED)
- Natural convection (ED)
- Controller with LCD display
- Electromechanical control of the exhaust air flap
- Class 2 integrated independent adjustable temperature safety device (DIN 12880) with visual alarm
- Ergonomic handle design

Description	ED 56	FD 56	FED 56	ED 115	FD 115	FED 115	ED 260	FD 260	FED 260	ED 720	FD 720	FED 720
Measures												
Interior volume [L]	57	60		114	116		255	259		743	741	
Net weight of the unit (empty) [kg]	42	41			57			85		169	166	
Load per rack [kg]		30			30			40			45	
Internal Dimensions												
Width [mm]	360	400		510	550		610	650		960	1000	
Height [mm]	420	440		530	550		760	780		1280	1300	
Depth [mm]	380	345		425	385		550	515		605	570	
Housing dimensions not incl. fittings and connections												
Width net [mm]		560			710			810			1165	
Height net [mm]		625		705	735	705		940			1590	
Depth net [mm]		565			605		760	825	760		870	
Performance Data Temperature												
Temperature range +5 °C above ambient temperature to [°C]	300	—		300	—		300	—		300	—	
Temperature range +10 °C above ambient temperature to [°C]	—	300		—	300		—	300		—		
Temperature variation at 150 °C [± K]	2.3	1.7	1.4	1.5	1.7	1.2	1.8	1.9	1.6	3.2	2.5	2.0
Temperature fluctuation at 150 °C [± K]	0.4	0.3		0.4	0.3		0.8	0.4		0.8	0.6	
Heating-up time to 150 °C [min]	50	15		45	18		50	19		85	25	
Recovery time after 30 seconds door open at 150 °C [min]	19	4		16	4		20	5		25	6	
Fixtures												
Number of shelves (std./max.)		2/4			2/5			2/8			2/16	

VACUUM OVEN



The vacuum oven gently dries samples with homogenous temperature distribution and with patented expansion shelf-technology ensuring optimal heat transfer.

- Temperature range: ambient temperature +9 °C to +220 °C (VD) & +9 °C to +110 °C (VDL)
- ATEX conformity for units: EX II 2/3/- G IIB T3 Gb/Gc/- X (VDL)
- Intuitive touchscreen controller with graphical pressure and temperature display (VDL)
- Fast, gentle drying
- Optimum heat transfer through large thermal conducting plates
- Pressure control device for heating activation from < 100 mbar (VDL)
- Controller with digital display of pressure and temperature
- Program-controlled drying monitoring with automatic ventilation at end of process
- Internal data logger, measured values can be readout in open format via USB
- Inert gas connection for interior flushing
- Shatterproof, spring-mounted safety glass panel
- Patented expansion racks technology for optimal heat transfer

Description	VD 23	VD 56	VD 115	VDL 23	VDL 56	VDL 115
Internal dimensions (W x H x D) mm	285 x 285 x 295	400 x 400 x 343	506 x 506 x 460	285 x 285 x 295	400 x 400 x 343	506 x 506 x 460
Housing dimensions not incl. fittings and connections (W x H x D) mm	523 x 698 x 413	638 x 815 x 461	743 x 942 x 581	523 x 698 x 413	638 x 815 x 461	743 x 942 x 581
Measures						
Interior volume [L]	24	55	119	24	55	119
Net weight of the unit (empty) [kg]	68	101	146	72	104	158
Permitted load [kg]	50	60	70	50	60	70
Load per rack [kg]	20			20		
Performance Data Temperature						
Temperature range +9 °C above ambient temperature to [°C]	220			110		
Temperature variation at 100 °C [± K]	1.0	1.5	2.9	1.0	1.5	2.9
Temperature fluctuation [± K]	0.1			0.1		
Heating-up time to 100 °C [min]	80	80	130	150	140	170
Electrical data						
Nominal power (version 230 V) [kW]	0.9	1.4	1.6	0.9	1.4	1.6
Fixtures						
Number of shelves (std./max.)	1/4	1/5	1/6	2/4	2/5	2/6

INCUBATOR - MICROBIOLOGICAL



Best conditions for your success



Incubators for stable incubation conditions and reproducible results. The disinfection routine at 100°C minimizes the risk of contamination.

- Temperature range: ambient temperature +5 °C to 100 °C (BD) & ambient temperature +7 / +8 / +10 °C to 100 °C (for model 56, 115, 260 & 720) (BF)
- APT.line™ preheating chamber technology
- Natural convection (BD)
- Forced convection (BF)
- Controller with LCD display
- Electromechanical control of the exhaust air flap
- Inner door made of tempered safety glass
- Class 3.1 integrated independent temperature safety device (DIN 12880) with visual alarm

Description	BD 56	BF 56	BD 115	BF 115	BD 260	BF 260	BD 720	BF 720
Measures								
Interior volume [L]	57	59	112	114	253	257	737	734
Net weight of the unit (empty) [kg]	39		54		85		169	166
Load per rack [kg]	30		30		40		45	
Internal Dimensions								
Width [mm]	360	400	510	550	610	650	960	1000
Height [mm]	420	440	530	550	760	780	1280	1300
Depth [mm]	380	340	420	380	545	510	600	565
Outer dimensions								
Width net [mm]	560		710		810		1165	
Height net [mm]	625		735		965		1590	
Depth net [mm]	565		605		760		870	
Performance Data Temperature								
Temperature range 5 °C above ambient temperature to [°C]	100	—	100	—	100	—	100	—
Temperature range 7 - 8 °C above ambient temperature to (°C)	—	100	—	100	—	100	—	—
Temperature range 10 °C above ambient temperature to (°C)	—		—		—		—	100
Temperature variation at 37 °C [± K]	0.3	0.2	0.3		0.3		0.7	0.3
Temperature fluctuation at 37 °C [± K]	0.1		0.1		0.2	0.1	0.1	0.1
Heating-up time to 37 °C [min]	42	6	55	8	60	7	70	15
Recovery time after 30 seconds door open at 37 °C [min]	15	3	15	3	16	3	23	4
Fixtures								
Number of shelves (std./max.)	2/4		2/5		2/8		2/16	

INCUBATOR - COOLED (BOD)



BINDER
Best conditions for your success

Cooling Incubators with compressor technology and thermoelectric cooling combine performance and energy-efficiency for versatility.

- Temperature range: -10 °C to +100 °C (KB), +4 °C to +100 °C (KT) & 0 °C to +70 °C (max. 26 °C below the ambient temperature) (KB ECO)
- Safe, reproducible incubation, even at high ambient temperatures
- Disinfection routine at +100 °C (KB, KT)
- APT.line™ preheating chamber technology
- Cooling with compressor cooling unit (KB)
- Electric cooling with Peltier module (KT)
- Thermoelectric cooling (KB Eco)
- Door heating system from 240 liters (KB)
- Adjustable fan speed (KB, KT)
- Adjustable condensate protection (KB Eco)
- Controller with time-segment and real-time programming (KB, KT)
- Inner door made of tempered safety glass

Cooling Incubators with Powerful Compressor Cooling

Description	KB 53	KB 115	KB 240	KB 400	KB 720
Measures					
Interior volume [L]	53	115	247	400	698
Net weight of the unit (empty) [kg]	78	106	171	221	309
Load per rack [kg]	15	20	30		45
Internal Dimensions					
Width [mm]	400	600	650		970
Height [mm]	400	480	785	1270	1250
Depth [mm]	330	400	485		576
Performance Data Temperature					
Temperature range [°C]			-10...100		
Temperature variation at 37 °C [± K]			0.2		
Temperature fluctuation at 37 °C [± K]			0.1		
Recovery time after 30 seconds door open at 37 °C [min]		2		4	3
Fixtures					
Number of shelves (std./max.)	2/4	2/5	2/9		2/15

Cooling Incubators with Peltier Cooling

Description	KB ECO 240	KB ECO 400	KB ECO 720	KB ECO 1020	KT 53	KT 115	KT 170
Measures							
Interior volume [L]	247	400	700	1020	53	102	163
Net weight of the unit (empty) [kg]	152	196	272	327	63	83	102
Load per rack [kg]	30		45		15		30
Internal Dimensions							
Width [mm]	650	650	973	973	400	600	600
Height [mm]	785	1200	1250	1250	400	455	765
Depth [mm]	485	390	576	836	334	355	355
Performance Data Temperature							
Temperature range (max. 26 °C under ambient temp.) [°C]	—		0...70			4...100	
Temperature range (max. 28 °C under ambient temp.) [°C]	0...70		—			—	
Temperature variation at 37 °C [± K]		0.1			0.3		0.4
Temperature fluctuation at 37 °C [± K]		0.1			0.1		
Recovery time after 30 seconds door open at 37 °C [min]	3	6	4	4	2		3
Fixtures							
Number of shelves (std./max.)	2/9		2/15		2/5	2/6	2/10

PHOTO-STABILITY CHAMBER

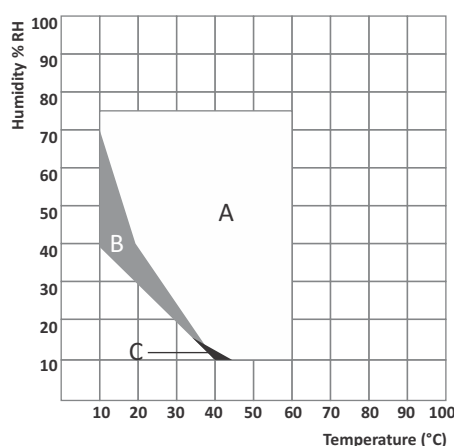


Best conditions for your success



Equipped with ICH-compliant light source the variable positionable illumination cassettes in the photo-stability chamber offer homogenous lighting conditions.

- Humidity regulation with capacitive humidity sensor & vapor humidification
- Patented APT.line™ pre-heating chamber technology.
- Illumination cassettes with ICH-compliant UV/Vis light source.
- Independent light dose control of UV-A & visible light with spherical sensors.
- Unit Self Test for comprehensive status analysis.



A: Guaranteed condensation-free range
B: Time-limited operation (max. 24 hours)
C: Deviations of technical data may be possible

Description	KBF LQC 240	KBF LQC 720
Outer dimensions (W x H x D) mm	925 x 1460 x 800	1250 x 1925 x 890
Internal Dimensions (W x H x D) mm	650 x 785 x 485	973 x 1250 x 576
Measures		
Interior volume [L]	247	700
Net weight of the unit (empty) [kg]	217	374
Permitted load [kg]	100	150
Load per rack [kg]	30	45
Performance Data Temperature		
Temperature range with 100% illumination [°C]	10...60	10...60
Temperature range without illumination cassettes [°C]	0...70	0...70
Performance Data Climate		
Temperature range with 100% illumination [°C]	10...60	20...60
Temperature range without illumination cassettes [°C]	10...70	10...70
Temperature variation with illumination at 40 °C and 75 % RH [± K]	0.6	1.2
Temperature fluctuation with illumination at 40 °C and 75 % RH [± K]	0.2	0.2
Humidity range with illumination cassettes, with illumination [% RH]	10...75	10...75
Humidity range without illumination [% RH]	10...80	10...80
Humidity fluctuation with illumination at 40 °C and 75 % RH [± % RH]	2	2
Lightdata per Illumination Cassettes		
ICH compliant illumination for photo stability testing [lx]	7500	9000
ICH compliant illumination for photo stability testing [W/m²]	1.1	1.5
Electrical data		
Nominal power (version 230 V) [kW]	2.4	3.5
Fixtures		
Number of shelves (std./max.)	2/7	3/12
Number of illumination cassettes (std./max.)	2/2	3/3

GROWTH CHAMBER

BINDER
Best conditions for your success



Patented lighting systems ensures homogeneous light distribution.

- Reproducible growth conditions.
- Optional Arabidopsis and Fluora growth lamps.
- Patented APT.line pre-heating chamber technology.
- Positionable illumination cassettes, each with 5 fluorescent tubes.
- Pressure humidification with fast response times.



Ideal Growth Condition
for Plant



Plant Tissue Culture



Insect Research

Description	KBW 240	KBW 400	KBW 720	KBWF 240	KBWF 720
Housing dim. not incl. fittings and connections (W x H x D) mm	925 x 1465 x 800	925 x 1950 x 805	1250 x 1925 x 890	925 x 1465 x 800	1250 x 1925 x 890
Internal Dimensions (W x H x D) mm	650 x 785 x 485	650 x 1270 x 485	970 x 1250 x 576	650 x 785 x 485	973 x 1250 x 576
Measures					
Interior volume [L]	247	400	698	247	700
Net weight of the unit (empty) [kg]	202	267	377	214	374
Permitted load [kg]	100	120	150	100	150
Load per rack [kg]	30	30	45	30	45
Performance Data Temperature					
Temperature range with 100% illumination [°C]	5...60	5...60	5...60	10...60	10...60
Temperature range without illumination cassettes [°C]	0...70	0...70	0...70	0...70	0...70
Temperature variation with 100% illumination [± K]	0.5	1.5	1.0	10...60	20...60
Temperature variation without illumination cassettes [± K]	0.5	0.5	0.5	10...70	10...70
Humidity range with illumination cassettes [% 8H]	0.2	0.2	0.1	10...75	10...75
Humidity range without illumination cassettes [± K]	0.1	0.1	0.1	10...80	10...80
Lightdata per Illumination Cassettes					
Daylight tubes [W/m²]	24	24	38	24	38
Daylight tubes [lx]	9000	9000	13000	9000	13000
Fluora® growth lamps [W/m²]	23	23	36	23	36
Fluora® growth lamps [lx]	7500	7500	10500	7500	10500
Arabidopsis lamps [W/m²]	32	32	43	32	43
Arabidopsis lamps [lx]	11000	11000	14000	11000	14000
Electrical data					
Nominal power (version 230 V) [kW]	1.4	1.6	2.7	2.4	3.5
Fixtures					
Number of shelves (std./max.)	2/7	3/12	3/12	2/7	3/12
Number of illumination cassettes (std./max.)	2/2	3/3	3/3	2/2	3/3

STABILITY CHAMBERS

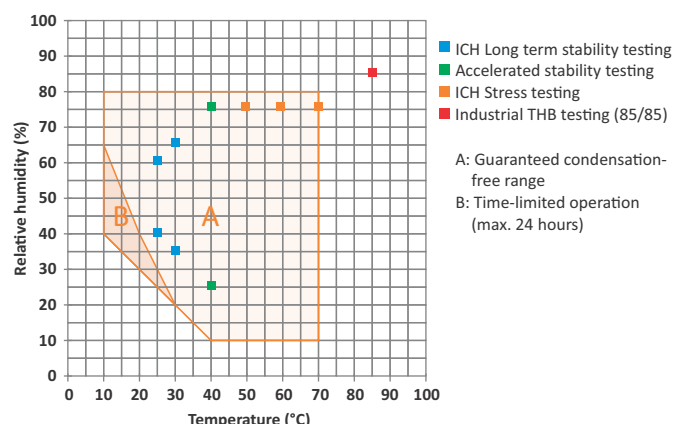


BINDER

Best conditions for your success

With extended temperature/humidity ranges and precise maintenance of constant climate, these chambers provide incomparable reliability for stability.

- Intuitive touchscreen controlled with time-regiment and real-time programming.
- Internal data logger, measured values can be read out in open format via USB.
- Patented APT.line pre-heating chamber technology.
- Humidity regulation with capacitive humidity sensor and vapor humidification.

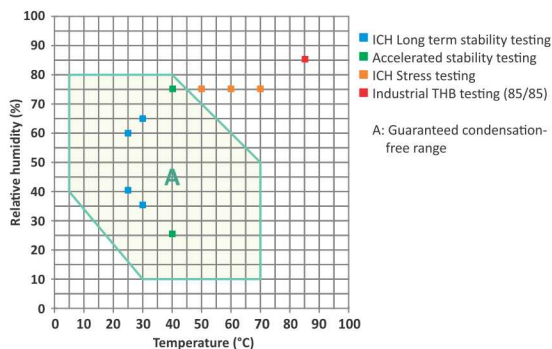


Description	KBF 115	KBF 240	KBF 720	KBF 1020
Outer dimensions (W x H x D) mm	880 x 1050 x 650	925 x 1460 x 800	1250 x 1925 x 890	1250 x 1925 x 1145
Internal Dimensions (W x H x D) mm	600 x 483 x 351	650 x 785 x 485	973 x 1250 x 576	973 x 1250 x 836
Measures				
Interior volume [L]	102	247	700	1020
Net weight of the unit (empty) [kg]	128	189	312	379
Permitted load [kg]	100	100	150	150
Load per rack [kg]	30	30	45	45
Performance Data Temperature				
Temperature range [°C]	0...70	0...70	0...70	0...70
Temperature variation at 40 °C [± K]	0.2	0.3	0.2	0.2
Temperature fluctuation [± K]	0.1	0.1	0.1	0.5
Performance Data Climate				
Temperature range [°C]	10...70	10...70	10...70	10...70
Temperature variation at 40 °C and 75 % RH [± K]	0.2	0.3	0.2	0.2
Temperature fluctuation at 40 °C and 75 % RH [± K]	0.1	0.1	0.1	0.1
Humidity range [% RH]	10...80	10...80	10...80	10...80
Humidity fluctuation at 40 °C and 75 % RH [± % RH]	≤2	1.5	1.5	1.5
Electrical data				
Nominal power (version 230 V) [kW]	2	2.1	3.1	3.1
Fixtures				
Number of shelves (std./max.)	2/5	2/9	2/15	2/15

STABILITY CHAMBERS – ECO & Solid.Line

BINDER

Best conditions for your success



KBF-S climate chamber for long-term & accelerated stability testing in accordance with ICH Q1A Solid.Line.

Thermoelectric cooling technology with patented heat dissipation, the new KBF-S ECO climatic chamber is one of the most energy-efficient constant climate chambers on the market.

- Safe thanks to standard-compliant testing according to the ICH Q1A guideline, even with full load. (KBF-S ECO)
- Safe thanks to climatic homogeneity that far exceeds the accuracy required by ICH guidelines, even with a fully loaded unit. (KBF-S Solid.Line)

The interior and Longlife evaporator plate are made entirely from stainless steel. (KBF-S Solid.Line)

- Economical, as energy consumption is minimal thanks to optimized thermoelectric cooling (KBF-S ECO).
- Reliable thanks to failsafe operation without compromise.
- Smart, as a wide range of accessories makes it highly compatible for adaptation to specific customer requirements.
- Temperature range: 0 °C to +70 °C (max. 24 °C under ambient temperature)
- Humidity range: 10% to 80% RH (KBF-S ECO) & 20% to 80% RH (KBF-S Solid.Line)
- Humidity regulation with capacitive humidity sensor and steam humidification (KBF-S Solid.Line)
- APT.line™ preheating chamber technology
- Independent water supply via tank
- LCD to display temperature and humidity along with additional information and alarms
- Internal data logger, measured values can be read out in open format via USB
- Unit self-test for comprehensive status analysis

Description	KBF-S 115	KBF-S 240	KBF-S ECO 240	KBF-S 720	KBF-S ECO 720	KBF-S 1020	KBF-S ECO 1020
Measures							
Interior volume [L]	102	247		700		1020	
Net weight of the unit (empty) [kg]	128	189	146	284	267	379	322
Load per rack [kg]	30	30		45		45	
Internal Dimensions							
Width [mm]	600	650		973		976	973
Height [mm]	483	785		1250		1250	1250
Depth [mm]	351	485		576		836	
Housing dimensions not incl. fittings and connections							
Width net [mm]	880	925	932	1250	1254	1250	1254
Height net [mm]	1050	1460	1461		1925		
Depth net [mm]	650	800	796	890	885	1145	1146
Performance Data Temperature							
Temperature range [°C]	0...70	0...70	0...70*	0...70	0...70*	0...70	0...70*
Temperature variation at 40 °C [± K]	0.3	0.3	0.2	0.3		0.3	0.5
Temperature fluctuation at 40 °C [± K]	—		0.1	—		0.1	
Humidity range [% RH]	20...80	20...80	10...80	20...80	10...80	20...80	10...80
Humidity fluctuation at 40 °C and 75 % RH [% RH]	2.0	—	0.3	—	0.3	—	0.4
Fixtures							
Number of shelves (std./max.)	2/5	2/9			2/15		

*Under different ambient temperature

ULTRA LOW TEMPERATURE FREEZERS



Best conditions for your success



Series UFV | Ultra low temperature freezers with climate-neutral refrigerants

The BINDER ultra low temperature freezer ensures the safe storage of samples at -90 °C. It combines outstanding environmental friendliness with low energy consumption, convenient operation and an individual safety concept

- Temperature range: -90 °C to -40 °C
- Lowest energy consumption in its class
- Powerful cascade compressor cooling unit
- Environmentally friendly refrigerants R-290 and R-170
- Thermal insulation with unique long-life VIPs (vacuum insulation panels)
- Innovative door gasket concept reduces buildup of ice
- Ergonomic door handle
- Rust-proof interior made completely of stainless steel
- Detachable inner doors made of stainless steel
- Stainless-steel shelves providing flexible placement
- Water cooling (UFV 500 / UFV 700)
- Zero-voltage alarm contact for in-house alarm system
- Internal data logger, measured values can be read out in open format via USB
- Ethernet interface
- Access ports, Ø 28 mm, rear

Description	UFV 350	UFV 500	UFV 700
Housing Dimensions not incl. fittings and connections (D x H x W) mm	938 x 1966 x 706	938 x 1966 x 826	938 x 1966 x 1110
Internal Dimensions (D x H x W) mm	605 x 1300 x 486	605 x 1300 x 606	605 x 1300 x 890
Measures			
Interior volume [L]	382	477	700
Net weight of the unit (empty) [kg]	226	247	288
Permitted load [kg]	160	200	200
Performance Data Temperature			
Temperature range [°C]	-90...-40	-90...-40	-90...-40
Temperature variation at -80 °C [± K]	3.5	2.5	2.5
Temperature fluctuation at -80 °C [± K]	3.5	1.5	1.5
Warm-up time during power failure from -80 °C to -60 °C [min]	170	230	250
Electrical data			
Nominal power (version 230 V) [kW]	1.6	1.6	1.6
Fixtures			
Number of shelves (std./max.)	3/13	3/13	3/13

APT.COM™ 4 SOFTWARE



Multi Management Software provides management, logging, programming, control, and documentation options, and much more.

- Graphically or entering the values manually
- Upto 100 units can be connected



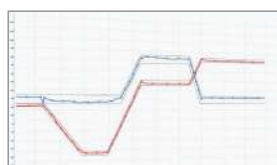
Quick and Easy Unit Setup



Unit Overview and Control at a Glance



Room Plan Can Be Created Via Drag & Drop



Diverse Presentation of Measured Data



Data Export and GLP-compliant Data Retention



Multilingual Use



LABORATORY FURNACE



MUFFLE FURNACE

Nabertherm



Lift Door

- Tmax 1100°C to 1800°C
- Heating from two sides up to five sides for an optimal temperature uniformity
- Temperature uniformity of ± 5 K with closed fresh-air inlet in empty work space according to DIN 17052-1 at working temperatures above 800°C
- Fast heating times
- Dual shell housing made of textured stainless steel sheets with additional fan cooling for low surface temperature
- Exclusive use of insulation materials without categorization according to EC Regulation No. 1272/2008 (CLP)
- Adjustable air inlet integrated in door
- Exhaust air outlet in rear wall (select model)
- Compact dimensions and light weight
- Solid state relays provide for low noise operation
- Defined application within the constraints of the operating instructions
- NTLog Basic for Nabertherm controller: recording of process data with USB-flash drive
- Multi-layer insulation with robust lightweight refractory bricks in the furnace chamber
- Optional Flap door which can be used as work platform or Lift door with hot surface facing away from the operator



Flap Door



Manual Gas Supply System



Chimney with Fan

Model	Tmax (°C ¹)	Volume (l)	Inner dimensions w x d x h (mm)	Connected load (kW)	Electrical connection	Heating time in (min ⁴)
LE 1/11	1100	1	90 x 115 x 110	1.6	1-phase	10
L 1/12	1200	1	90 x 115 x 110	1.5	1-phase	25
LHT 01/17 D	1650	1	110 x 120 x 120	2.9	1-phase	35
LHTC 01/16	1550	1.5	110 x 120 x 120	3.5	1-phase	30
LHT 02/16	1600	2	90 x 150 x 150	3.0	1-phase	30
LHT 02/17	1750	2	90 x 150 x 150	3.0	1-phase	35
LHT 02/18	1800	2	90 x 150 x 150	3.6	1-phase	60
L(T) 3/11	1100	3	160 x 140 x 100	1.2	1-phase	40
L(T) 3/12	1200	3	160 x 140 x 100	1.2	1-phase	45
LHTC(T) 03/16	1600	3	120 x 210 x 120	10.0	3-phase	30
LHT 04/16	1600	4	150 x 150 x 150	5.2	3-phase	25
LHT 04/17	1750	4	150 x 150 x 150	5.2	3-phase	30
LHT 04/18	1800	4	150 x 150 x 150	5.2	3-phase	40
L(T) 5/11	1100	5	200 x 170 x 130	2.4	1-phase	50
L(T) 5/12	1200	5	200 x 170 x 130	2.4	1-phase	60
L. LT 5/13	1300	5	200 x 170 x 130	2.4	1-phase	60
L. LT 5/14	1400	5	200 x 170 x 130	2.4	1-phase	50
LE 6/11	1100	6	170 x 200 x 170	2.0	1-phase	30
LHT 08/16	1600	8	150 x 300 x 150	8.0	3-phase	25
LHTC(T) 08/16	1600	8	170 x 290 x 170	15.5	3-phase	25
LHT 08/17	1750	8	150 x 300 x 150	8.0	3-phase	30
LHT 08/18	1800	8	150 x 300 x 150	9.0	3-phase	40
L(T) 9/11	1100	9	230 x 240 x 170	3.0	1-phase	65
L(T) 9/12	1200	9	230 x 240 x 170	3.0	1-phase	75
L. LT 9/13	1300	9	230 x 240 x 170	3.0	1-phase	60
L. LT 9/14	1400	9	250 x 250 x 170	3.2	1-phase	50
LE 14/11	1100	14	220 x 300 x 220	3.2	1-phase	35
L(T) 15/11	1100	15	230 x 340 x 170	3.2	1-phase	75
L(T) 15/12	1200	15	230 x 340 x 170	3.2	1-phase	85
L. LT 15/13	1300	15	230 x 340 x 170	3.2	1-phase	70
L. LT 15/14	1400	15	250 x 350 x 170	3.2	1-phase	70
L(T) 24/11	1100	24	280 x 340 x 250	4.5	3-phase	70
LE 24/11	1100	24	260 x 330 x 280	3.5	1-phase	40
L(T) 24/12	1200	24	280 x 340 x 250	4.5	3-phase	80
L(T) 40/11	1100	40	320 x 490 x 250	6.0	3-phase	75
L(T) 60/11	1100	60	380 x 490 x 330	9.8	3-phase	150
L(T) 60/12	1200	60	380 x 490 x 330	9.8	3-phase	160

¹ Recommended working temperature is 100°C Below Tmax

⁴ Heating time of the empty and closed furnace up to Tmax –100 K



Round Saggar



Rectangular / Square Saggar

ASHING FURNACE

Nabertherm



Ashing Furnace

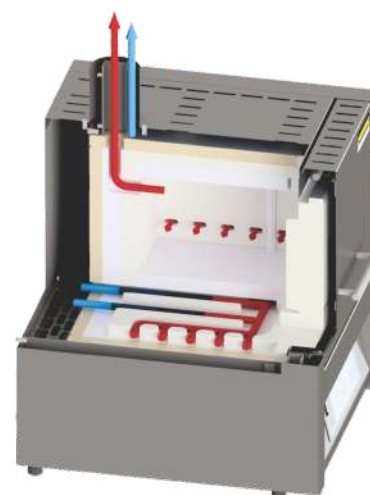


Ceramic Collecting Pan

Hot
Cold



Air Circulation



Air Inlet & Exhaust Flow

- Tmax 1100 °C
- Ceramic heating plates with integral heating element which is safeguarded, and easy to replace
- Air exchange of more than 6 times per minute
- Good temperature uniformity due to preheating of incoming air, temperature uniformity according to DIN 17052-1 to +/- 10°C in the defined empty work area
- Suitable for many standardized ashing processes according to ISO, ASTM, EN, and DIN
- NTLog Basic for Nabertherm controller: recording of process data with USB-flash drive
- Spring-assisted closing of the furnace door (flap door) with mechanical locking against unintentional opening
- Dual shell housing made of textured stainless steel sheets with additional fan cooling for low surface temperature
- Exclusive use of insulation materials without categorization according to EC Regulation No. 1272/2008 (CLP)

Model	Tmax (°C ¹)	Volume (l)	Inner dimensions wxdxh (mm)	Max. evaporation rate (g/min)	Connected load (kW)	Electrical Connection	Heating time (min ⁴)
LV 3/11	1100	3	160 x 140 x 100	0.1	1.2	1-phase	45
LVT 3/11	1100	3	160 x 140 x 100	0.1	1.2	1-phase	45
LV 5/11	1100	5	200 x 170 x 130	0.2	2.4	1-phase	55
LVT 5/11	1100	5	200 x 170 x 130	0.2	2.4	1-phase	55
LV 9/11	1100	9	230 x 240 x 170	0.3	3.0	1-phase	70
LVT 9/11	1100	9	230 x 240 x 170	0.3	3.0	1-phase	70
L 9/11 BO	1100	9	230 x 240 x 170	1.0	7.0	3-phase	120
LV 15/11	1100	15	230 x 340 x 170	0.3	3.5	1-phase	80
LVT 15/11	1100	15	230 x 340 x 170	0.3	3.5	1-phase	80
L 24/11 BO	1100	24	280 x 340 x 250	2.0	9.0	3-phase	120
L 40/11 BO	1100	40	320 x 490 x 250	2.1	11.5	3-phase	120

¹ Recommended working temperature is 100°C Below Tmax

⁴ Heating time of the empty and closed furnace up to Tmax -100 K

TUBE FURNACE

Nabertherm



Tube Furnace

- Tmax 1200 °C to 1800 °C
- Single-zoned design / three-zoned design
- Dual shell housing made of textured stainless steel sheets with additional fan cooling for low surface temperature
- Exclusive use of insulation materials without categorization according to EC Regulation No. 1272/2008 (CLP)
- Outer tube diameter ranging from 50 mm to 170 mm and heated length ranging from 250 mm to 1000 mm
- Solid state relays provide for low noise operation
- Defined application within the constraints of the operating instructions
- NTLog Basic for Nabertherm controller: recording of process data with USB-flash drive
- Ceramic working tube including two fiber plugs for operation under air
- Active cooling of housing for low surface temperatures (select models)

Model	Tmax (°C)	Outer tube Ø (mm)	Heated Length (mm)	Tube length (mm)	Connected load (kW)	Electrical Connection
R 50/250/12	1200	50	250	450	1.6	1-phase
R 50/500/12	1200	50	500	700	2.3	1-phase
R 120/500/12	1200	120	500	700	6.5	3-phase
R 170/750/12	1200	170	750	1070	10.0	3-phase
R 170/1000/12	1200	170	1000	1400	11.5	3-phase
R 50/250/13	1300	50	250	450	1.6	1-phase
R 50/500/13	1300	50	500	700	2.3	1-phase
R 120/500/13	1300	120	500	700	6.5	3-phase
R 170/750/13	1300	170	750	1070	10.0	3-phase
R 170/1000/13	1300	170	1000	1400	11.5	3-phase
RHTC 80/230/16	1600	80	230	600	7.5	3-phase
RHTC 80/450/16	1600	80	450	830	11.3	3-phase
RHTC 80/710/16	1600	80	710	1080	13.8	3-phase
RHTV 50/150/16	1600	50	150	380	5.4	3-phase
RHTV 80/300/16	1600	80	300	530	10.3	3-phase
RHTV 120/600/16	1600	120	600	830	19.0	3-phase
RHTH 50/150/17	1700	50	150	380	5.4	3-phase
RHTH 80/300/17	1700	80	300	530	9.0	3-phase
RHTH 120/600/17	1700	120	600	830	14.4	3-phase
RHTV 50/150/17	1700	50	150	380	5.4	3-phase
RHTV 80/300/17	1700	80	300	530	10.3	3-phase
RHTV 120/600/17	1700	120	600	830	19.0	3-phase
RHTH 50/150/18	1800	50	150	380	5.4	3-phase
RHTH 80/300/18	1800	80	300	530	9.0	3-phase
RHTH 120/600/18	1800	120	600	830	14.4	3-phase
RHTV 50/150/18	1800	50	150	380	5.4	3-phase
RHTV 80/300/18	1800	80	300	530	10.3	3-phase
RHTV 120/600/18	1800	120	600	830	19.0	3-phase

SPLIT-TYPE TUBE FURNACE

Nabertherm



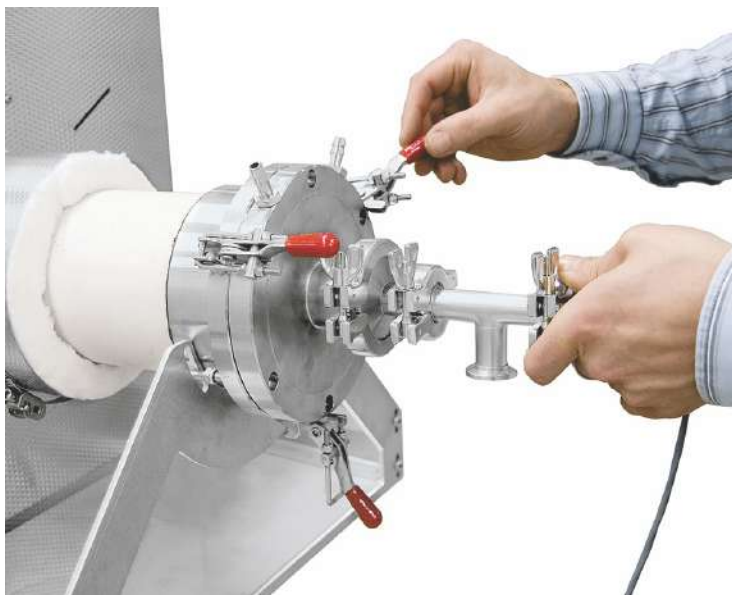
Split-Type Tube Furnace

- Tmax 1100°C or 1300°C
- Single-zoned design
- Dual shell housing made of textured stainless steel sheets with additional fan cooling for low surface temperature
- Exclusive use of insulation materials without categorization according to EC Regulation No. 1272/2008 (CLP)
- RSV models with frame for vertical operation
- Split-type design for simple insertion of the working tube (opening temperature < 180°C)
- Ceramic working tube C 530 including two fiber plugs for operation under air
- Thermocouple type N (1100°C) or type S (1300°C)
- Solid state relays provide for low noise operation
- Heating elements on support tubes provide for free radiation
- RSH: switchgear and control unit integrated in furnace housing
- RSV: switchgear and control unit separate from furnace in own wall or standing cabinet
- Defined application within the constraints of the operating instructions
- NTLog Basic for Nabertherm controller: recording of process data with USB-flash drive
- Controller B510

Model	Tmax (°C)	Outer tube Ø (mm)	Heated Length (mm)	Tube length (mm)	Connected load ⁴ (kW)		Electrical Connection
					1100°C	1300°C	
RSH 50/250/11	1100	50	250	650	1.9	1.9	1-phase
RSH 50/500/11	1100	50	500	850	3.4	3.4	1-phase
RSH 80/500/11	1100	80	500	850	6.6	6.6	3-phase
RSH 80/750/11	1100	80	750	1100	10.6	12.0	3-phase
RSH 120/500/11	1100	120	500	850	6.6	6.6	3-phase
RSH 120/750/11	1100	120	750	1100	10.6	12.0	3-phase
RSH 120/1000/11	1100	120	1000	1350	13.7	13.7	3-phase
RSH 170/750/11	1100	170	750	1100	10.6	12.0	3-phase
RSH 170/1000/11	1100	170	1000	1350	13.7	13.7	3-phase
RSV 50/250/11	1100	50	250	650	1.9	1.9	1-phase
RSV 50/500/11	1100	50	500	850	3.4	3.4	3-phase
RSV 80/500/11	1100	80	500	850	6.6	6.6	3-phase
RSV 80/750/11	1100	80	750	1100	10.6	12.0	3-phase
RSV 120/500/11	1100	120	500	850	6.6	6.6	3-phase
RSV 120/750/11	1100	120	750	1100	10.6	12.0	3-phase
RSV 120/1000/11	1100	120	1000	1350	13.7	13.7	3-phase
RSV 170/750/11	1100	170	750	1100	10.6	12.0	3-phase
RSV 170/1000/11	1100	170	1000	1350	13.7	13.7	3-phase
RSH 50/250/13	1300	50	250	650	1.9	1.9	1-phase
RSH 50/500/13	1300	50	500	850	3.4	3.4	1-phase
RSH 80/500/13	1300	80	500	850	6.6	6.6	3-phase
RSH 80/750/13	1300	80	750	1100	10.6	12.0	3-phase
RSH 120/500/13	1300	120	500	850	6.6	6.6	3-phase
RSH 120/750/13	1300	120	750	1100	10.6	12.0	3-phase
RSH 120/1000/13	1300	120	1000	1350	13.7	13.7	3-phase
RSH 170/750/13	1300	170	750	1100	10.6	12.0	3-phase
RSH 170/1000/13	1300	170	1000	1350	13.7	13.7	3-phase
RSV 50/250/13	1300	50	250	650	1.9	1.9	1-phase
RSV 50/500/13	1300	50	500	850	3.4	3.4	3-phase
RSV 80/500/13	1300	80	500	850	6.6	6.6	3-phase
RSV 80/750/13	1300	80	750	1100	10.6	12.0	3-phase
RSV 120/500/13	1300	120	500	850	6.6	6.6	3-phase
RSV 120/750/13	1300	120	750	1100	10.6	12.0	3-phase
RSV 120/1000/13	1300	120	1000	1350	13.7	13.7	3-phase
RSV 170/750/13	1300	170	750	1100	10.6	12.0	3-phase
RSV 170/1000/13	1300	170	1000	1350	13.7	13.7	3-phase

GAS SUPPLY SYSTEM

Nabertherm



Stainless Steel Flange

- Supports non-flammable protective or reactive gas (N₂, Ar, He, CO₂, air, forming gas*) and Hydrogen gas
- Two vacuum-tight stainless steel flanges with KF flange on the outlet side
- Mounting system on furnace for the flanges
- Shut-off valve and flow meter with manual valve
- Check valve in the gas outlet to prevent air entering
- Additional safety controls to monitor hydrogen

Vacuum Package

- It consists of a ball valve, a pressure gauge and a manually operated vacuum pump that is connected to the gas outlet by a corrugated stainless steel hose
- The maximum ultimate pressure in the working tube depends on the type of pump.
 - Single-stage rotary vane pump for an achievable ultimate pressure of approx. 20 mbar
 - Two-stage rotary vane pump for an achievable ultimate pressure of approx. 5×10^{-2} mbar
 - Turbomolecular pump system for an achievable ultimate pressure of up to approx. 5×10^{-5} mbar

Model	Gas supply system			
	1	15	2	4
R	•	•	•	•
RHTC	•		•	•
RHTH			•	•
RHTV			•	•
RSH	•	•	•	•
RSV	•	•	•	•



Gas Supply System 2



Vacuum Pump



Manual Gas Supply System



Gas Supply System 15

FORCED CONVECTION CHAMBER FURNACE

Nabertherm



Forced Convection Chamber Furnace - Table Top



Forced Convection Chamber Furnace

- Tmax 450 °C, 650 °C, or 850 °C
- Horizontal air circulation with optimum distribution through stainless steel baffles
- Dual shell housing made of textured stainless steel sheets with additional fan cooling for low surface temperature
- Swing door hinged on the right side
- Temperature uniformity up to $\pm 4^{\circ}\text{C}$ according to DIN17052-1 (modelspecific)
- Exclusive use of insulation materials without categorization according to EC Regulation No 1272/2008 (CLP). This explicitly means that alumino silicate wool, also known as "refractory ceramic fiber" (RCF), which is classified and possibly carcinogenic, is not used.
- Defined application within the constraints of the operating instructions
- Controller with touch operation B500/B510 (5 programs with 4 segments each)
- NTLog Basic for Nabertherm controller: recording of process data with USB-flash drive freeware
- NTEdit for convenient program input via Excel™ for Windows™ on the PC freeware
- NTGraph for evaluation and documentation of firings using Excel™ for Windows™ on the PC
- My Nabertherm App for online monitoring of the firing on mobile devices for free download

Model	Tmax (°C)	Volume (l)	Inner dimensions wxdxh (mm)	Heating Power (kW)	Electrical Connection	Heat-up time to Tmax (min)
NAT 15/65	650	15	295 x 340 x 170	2.8	1-phase	40
NAT 15/85	850	15	320 x 320 x 150	3	1-phase	190
NAT 30/65	650	30	320 x 320 x 300	3	1-phase	80
NAT 30/85	850	30	320 x 320 x 300	3	1-phase	230
NAT 50/85	850	50	400 x 320 x 400	4.5	3-phase	230
NA 60/65	650	60	350 x 500 x 350	9.0	3-phase	120
NAT 60/65	650	60	400 x 400 x 400	3	1-phase	100
NA 60/85	850	60	350 x 500 x 350	9.0	3-phase	150
NA 120/45	450	120	450 x 600 x 450	9.0	3-phase	60
NA 120/65	650	120	450 x 600 x 450	12.0	3-phase	60
NA 120/85	850	120	450 x 600 x 450	12.0	3-phase	150
NA 250/45	450	250	600 x 750 x 600	12.0	3-phase	60
NA 250/65	650	250	600 x 750 x 600	20.0	3-phase	90
NA 250/85	850	250	600 x 750 x 600	20.0	3-phase	180
NA 500/45	450	500	750 x 1000 x 750	18.0	3-phase	60
NA 500/65	650	500	750 x 1000 x 750	27.0	3-phase	60
NA 500/85	850	500	750 x 1000 x 750	30.0	3-phase	180
NA 675/85	850	675	750 x 1200 x 750	30.0	3-phase	210

LABORATORY INSTRUMENTS



LANCER ULTIMA 815LX

Undercounter Glassware Washer-Dryer

GETINGE 
LANCER | ULTIMA



- Capacity: 2 Racks interchangeable between upper and lower level.
- Possible to wash and dry upto 200 glasswares in one cycle.
- Hot Forced Air Drying upto 95 °C.
- 5 standard, 35 customizable programs.
- Supports Multi-function racks.
- Standard USB Port and Optional Printer connection.
- Optional Water Softener for purified water input.

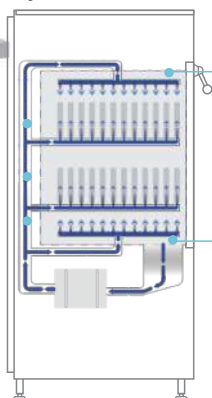
LANCER 1300LX

Freestanding Glassware Washer-Dryer



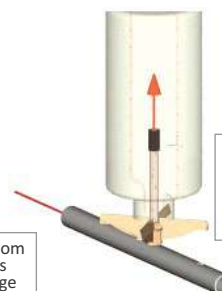
- Capacity: 3 Racks interchangeable between upper, middle and lower level.
- Possible to wash and dry upto 300 glasswares in one cycle.
- Injector Drying + Hot Forced Air Drying upto 95 °C.
- Injector Drying ensures 100% drying in reduced time.
- 5 standard, 35 customizable programs.
- Supports Multi-function racks.
- Standard USB Port and Optional Printer Connection.
- Optional Water Softener for Purified Water Input.

Hydraulic Circuit



Pressurized top and bottom stainless steel spray arms provides exterior coverage of the goods.

Forced Air Drying + Injector Drying



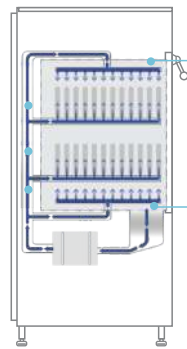
Forced air through the chamber as well as through the injectors provides complete drying coverage of the processed glassware.

LANCER 1600LXP

Freestanding Glassware Washer-Dryer

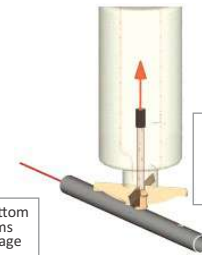


- Capacity: 4 Racks interchangeable between 4 levels.
- Possible to wash & dry upto 576 glasswares in one cycle.
- Injector Drying + Hot Forced Air Drying upto 95 °C.
- Injector Drying ensures 100% drying in reduced time.
- 5 standard, 35 customizable programs.
- Standard USB Port & Optional Printer Connection.
- Optional Water Softener for Purified Water Input.



Pressurized top and bottom stainless steel spray arms provides exterior coverage of the goods.

**Forced Air Drying
+ Injector Drying**



Forced air through the chamber as well as through the injectors provides complete drying coverage of the processed glassware.

FEATURES



Designed for optimal cleaning

The hydraulic design maximizes flow and pressure through a single, direct fluid path. Each individual rack is connected to the hydraulic circuit without any intermediate accessories. This design ensures efficient and balanced high-pressure water distribution to remove soil for optimal cleaning.



Interchangeable means flexibility

The Lancer Ultima Rack System is interchangeable among models. The most common racks fit on any of the wash levels without the need for adjustments. This allows for great flexibility and limits the need for additional accessories, reducing costs of ownership.

ACCESSORIES



PST Basket Rack



PS/21XLC/25PIP Multi Function Rack



Injector Rack



LTCXL Test-Tubes Basket



Getinge LLL Detergent & NLL Neutralizer

For an efficient and consistent washing process

LLL and NLL assure high-performance washing by a contamination-free process with compatibility between equipment material and chemicals used.

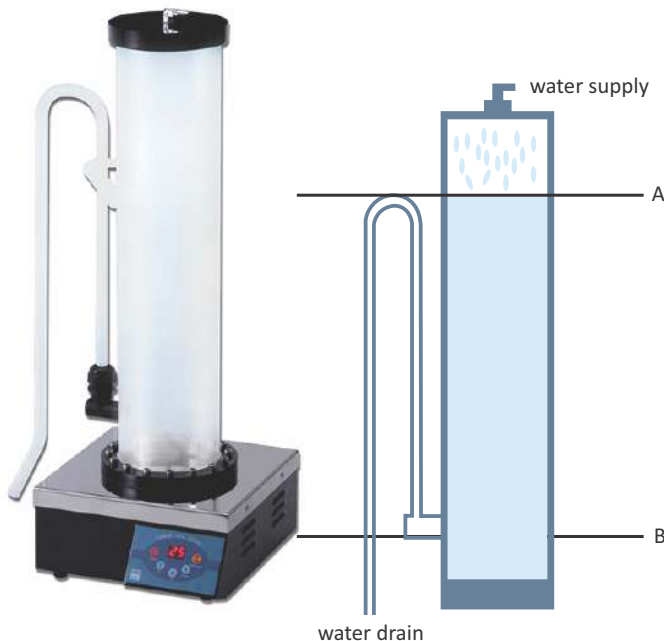
POWERSONIC 600 SERIES



- Degassing function to eliminate dissolved gas in water or solutions
- Sweep function to optimize the cleaning power by modulating the frequency (Model 605/610/620)
- Housing material of SUS 304 + PP (Polypropylene) for stronger durability (Model 605/610/620)
- Built in microprocessor controller
- High-performance industrial BLT transducer
- Selectable use of ultrasonic power (3 steps - Low, Medium, High)
- Built-in alarm function for operation stop

Model	Powersonic 603	Powersonic 605	Powersonic 610	Powersonic 620
Transducer	Industrial BLT Type			
Time Range	1-99min (Digital)			
Temp Range	Ambient-60°C (Digital)	Ambient-70°C		
Frequency	40KHz			
Housing Material	SUS 304 + ABS	SUS 304 + PP	SUS 304 + PP	SUS 304 + PP
Bath Capacity	3.3 L	5.7 L	10.7 L	20.7 L
Bath Dimensions	W240 x D140 x H100 mm	W300 x D155 x H150 mm	W300 x D240 x H150 mm	W500 x D300 x H150 mm
Overall Dimensions	W325 x D225 x H255 mm	W385 x D255 x H270 mm	W385 x D345 x H270 mm	W590 x D405 x H275 mm
Tray Dimensions	W240 x D135 x H105 mm	W240 x D120 x H100 mm	W250 x D200 x H100 mm	W440 x D250 x H100 mm
Required Power	200 Watt	350 Watt	400 Watt	700 Watt
Net Weight	4.5 kg	6.1 kg	7.3 kg	11.8 kg
Accessories	LID, Drain Hose (1m), Power Cable, Instruction Manual			
Voltage	Option: 100V, 110V, 220V or 240V(50/60 Hz)			

POWERSONIC 212



Siphon Shower Effect

When the solution is filled to the point A, it is automatically drained through the point B.

Ultrasonic pipette cleaner POWERSONIC 212 is an instrument to take off dirt or contaminants on materials for cleaning by ultrasonic sound from the transducers through the liquid in the bath. No need to change water when cleaning by siphon shower method

- Automatic water supply and drain by Siphon principle
- Strong cleaning power industrial BLT transducer
- No need to change water when cleaning (short cleaning time)
- Easy to adjust the cleaning time with built-in digital timer
- Convenient operation plate
- Available to clean multiple pipettes with safety by a basket tray
- Stainless steel drain pipe for stronger durability

Model	POWERSONIC 212
Transducer	Industrial BLT Type
Time Range	1-99 min (Digital)
Frequency	28KHz
Cabinet Material	Stainless Steel SUS 304
Bath Material	Transparent Acryl Resin
Bath Capacity	12L
Bath Dimensions	Ø160 x H685 mm
Overall Dimensions	W320 x D320 x H850 mm
Tray Dimensions	Ø140 x H505 mm
Required Power	150watt
Net Weight	15 kg
Voltage	Available from 100 to 240V, 50/60Hz
Accessory	Tray, Water Supply Hose (3m)

MELTING POINT APPARATUS – AUTOMATED

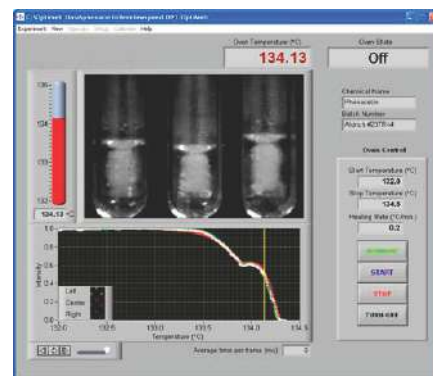


OptiMelt provides a fast and accurate means of automatically determining the melting points and melting ranges of chemical substances.

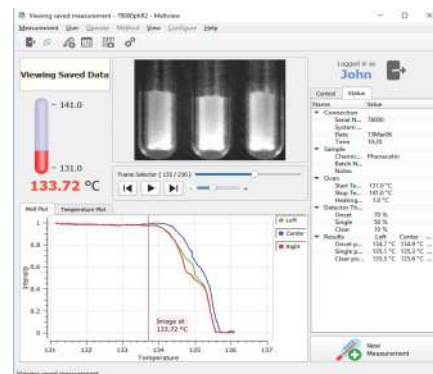
The Meltview 2 Pro software licence FDA 21CFR Part 11 is ready. It enables users to integrate the MPA100 into a compliance based lab environment. Both stand alone and client / server modes are available.

- Completely automated operation.
- PID-controlled temperature ramping.
- Digital movie of each melt.
- Stand-alone operation and computer control (USB).
- Conforms to Pharmacopoeia and GLP.
- Printer output.
- Live images during melts.
- Single-click data acquisition with auto-saving to a central database.
- View data from any computer on the network.
- Permission-based operations. User login required on all applications.
- Electronic signatures on collected data.
- Audit trail recording of all user activities with messages to discern invalid or altered records.
- Measurement report in PDF. Audit logs export to PDF or CSV.
- Easy user management from any computer on the network.
- Data backup/restore with schedule and recurring option.
- Stored files can be recalled for frame-by-frame playback.

Description	MPA100
Temperature display	Melting point and melting point range
Start temp. range	(Ambient + 10 °C) to 396 °C, 0 °C min. set point
Stop temp. range	(Start temperature + 4 °C) to 400 °C
Temperature resolution	0.1 °C
Ramp rate	0.1 °C to 20 °C per minute (0.1 °C increments)
Heat-up time	~10 minutes (50 °C to 350 °C)
Cool-down time	~10 minutes (350 °C to 50 °C)
Temperature accuracy	±0.3 °C (up to 100 °C) ±0.5 °C (up to 250 °C) ±0.8 °C (up to 400 °C)
Reproducibility	0.2 °C
Temperature sensor	Pt RTD (built-in)
Oven control	Closed-loop PID
Display	Back-lit, touchscreen LCD (5.8")
Printer interface RS-232	Supports Epson compatible dot-matrix printers.
Capillaries	Dimensions 1.4 mm to 2.0 mm outside dia., 100 mm length
	Capacity Up to 3 tubes simultaneously
	Fill height 2 mm to 3 mm



Meniscus Point Software



Measurement and Recall

Q7 SERIES BENCHTOP SCALES



T-Touch



- Touchscreen : 7" TFT Colour Display
- TOS I Embedded Operating System(454MHz)
- PLU Product Management
- Sleep function
- 128mb RAM, 256mb Flash memory
- Detailed Weighing Records
- Visible print format
- Capacities : 6kg ~ 30kg
- Max. Divisions : 3,000e; 2 x 3,000e; 30,000d
- Pan size : 230 x 300mm
- 2 x USB high speed; 1 x RS-232 Interface
- OIML approval from Delta (approval no. DK0199.589)
- Housing : ABS plastic
- Keyboard : 5keys (Mechanical switch)
- Power : Input - AC 100 ~ 240V, 50/60HZ
Output - DC 12V/2500mA
6V/4Ah rechargeable battery (Not Included)

Order No.	Capacity	Readability	Class	Approx Weight	Pan size
Q7-20-6K-M	6 kg	2 g	III	5.1 kg	230 x 300 mm
Q7-20-15K-M	15 kg	5 g	III	5.1 kg	230 x 300 mm
Q7-20-6K-MR	3/6 kg	1/2 g	III	5.1 kg	230 x 300 mm
Q7-20-15K-MR	6/15 kg	2/5 g	III	5.1 kg	230 x 300 mm

S29 SERIES WATERPROOF SCALES



- IP65 Water Proof Rating
- Weighing units conversion
- With hand breathable knob design
- OIML approval from Delta (approval no.DK0199.255)
- Battery provides up to 70 hours of continuous use(without backlight)
- Optional 20mm rear display
- 25mm LCD, Display with white backlight
- Capacities : 3kg ~ 25kg
- Max. Divisions : 3,000e; 2 x 3,000e; 6,000d
- Platform size : 230 x 190mm
- Housing : SST
- Keyboard : 3keys (Mechanical switch)
- Power : Input - AC 100 ~ 240V, 50/60HZ
Output - DC 12V/500mA
6V/4Ah rechargeable battery as standard

Order No.	Capacity	Readability	Class	Approx Weight	Pan size
S29-3K-M	3 kg	1 g	III	4.2 kg	230 x 190 mm
S29-6K-M	6 kg	2 g	III	4.2 kg	230 x 190 mm
S29-15K-M	15 kg	5 g	III	4.2 kg	230 x 190 mm
S29-25K-M	25 kg	10 g	III	4.2 kg	230 x 190 mm
S29-6K-MR	6 kg	1 g / 2 g	III	4.2 kg	230 x 190 mm
S29-15K-MR	15 kg	2 g / 5 g	III	4.2 kg	230 x 190 mm
S29-25K-MR	25 kg	5 g / 10 g	III	4.2 kg	230 x 190 mm

BWS WATERPROOF PLATFORM SCALES



ANM T-Scale
Your Precision Partner

- IP65 Water Proof Rating
- OIML approval from Delta (approval no.DK0199.165)
- Stainless steel housing and load cell
- Applications: - Check weighing - Accumulation - Animal weighing - Peak hold
- 52mm LCD, Display with white backlight
- Capacities : 30kg ~ 300kg
- Max. Divisions : 3,000e; 15,000d
- Keyboard : 7keys (Mechanical switch)
- Housing : SST
- Power : Input - AC 100~240V, 50/60HZ
Output - DC 12V/500mA
6V/4Ah rechargeable battery as standard
- Optional RS-232 interface to connect to computer or printer
- Optional analogue output (4V~20mA/0~10V)
- Optional bluetooth
- Optional initial-verification

Order No.	Capacity	Readability	Class	Approx Weight	Pan size
BWS-4050-60K	60 kg	5 g	II	21 kg	400 x 500 mm
BWS-4050-150K	150 kg	10 g	II	21 kg	400 x 500 mm
BWS-6050-60K	60 kg	5 g	II	27 kg	650 x 500 mm
BWS-6550-150K	150 kg	10 g	II	27 kg	650 x 500 mm
BWS-6550-300K	300 kg	20 g	II	27 kg	650 x 500 mm

BW SERIES PLATFORM SCALES



- 52mm LCD Display with white LED backlight
- Capacities : 30kg~600kg
- Max. Divisions : 3,000e; 15,000d
- Housing : ABS plastic indicator
- Keyboard : 7keys (Mechanical switch)
- Power : Input - AC 100~240V, 50/60HZ
Output - DC 12V/500mA
6V/4Ah rechargeable battery (Not Included)
- Application : - Check weighing - Accumulation - Animal scale - Keyboard lock
- Aluminum Diecast Platform & MS Platform Options
- Battery provides up to 70 hours of continuous use (without backlight)
- Optional RS-232 interface
- Optional analog output (0-10V/4-20mA)
- Optional setpoint output (HI/OK/LOW/BEEP)
- Optional bluetooth
- OIML approval from DELTA (Approval No.DK0199.411)

Order No.	Capacity	Readability	Class	Approx Weight	Pan size
BWS-60KS	60 kg	5 g	II	16.4 kg	350 x 450 mm
BWS-150KS	150 kg	10 g	II	16.4 kg	350 x 450 mm
BWS-60KM	60 kg	5 g	II	18.3 kg	420 x 520 mm
BWS-150KM	150 kg	10 g	II	18.3 kg	420 x 520 mm
BWS-300KM	300 kg	20 g	II	18.3 kg	420 x 520 mm
BWS-300KL	300 kg	20 g	II	65.4 kg	600 x 800 mm

AUTOCLAVES with Colour Touch Panel



LIQUID mode

Heating

Sterilization

Variable exhaust

- Main applications: Sterilization of liquid, which can withstand high temperature and high pressure steam such as water, culture medium, reagent, reagent solution, liquid medicine, etc.

SOLID mode

Heating

Sterilization

Forced exhaust

- Main applications: Sterilization of instruments made of glass, ceramic, metal or rubber that can withstand high temperature, high pressure steam and rapid pressure decrease during the exhaust stage.

WASTE mode

Heating

Sterilization

Forced exhaust

- Main applications: Sterilization of waste using a sterilization bag and the like.

AGAR mode

Heating

Sterilization

Variable exhaust

Warming

- Main applications: Sterilization of agar medium (It is warmed at constant temperature to prevent clotting after sterilization.)

DISSOLUTION mode

Heating

Warming

- Main applications: Dissolution of agar medium (It is warmed at constant temperature to prevent clotting after heating.)



■ Operation cycle of each mode (Up to 8 patterns for each mode can be registered.)

HV-II SERIES



These Autoclaves are user friendly, Easy-to-Read and Easy-to-operate

- Sterilization Temperature: 126°C or 135°C.
- Capacity from 25-110 liters.
- Easy-to-operate Color-touch Panel.
- 5 selectable modes: Agar, Solid, Dissolution, Liquid, Waste.
- Electromechanical Lid Lock System.
- 3 exhaust levels: Without, Fine, Small
- Optional devices: Printer, Recorder, Floating Sensor, Forced Cooling Unit, Automatic water supply system, USB interface port.

Description		HV-25 II	HV-50 II	HV-85 II	HV-110 II
Effective capacity		25 L	50 L	85 L	110 L
Chamber size (φ x H mm)		240 x 550	300 x 710	420 x 615	420 x 795
Temperature setting range	Sterilization	105°C - 126°C Variable	105°C - 135°C Variable		
	Dissolution	60°C - 100°C Variable			
	Warming	45°C - 60°C Variable			
	Lid lock	LIQUID, AGAR, DISSOL modes: 60°C - 95°C Variable / SOLID, WASTE modes: 60°C - 97°C Variable			
Exhaust setting		3 levels (Without exhaust, Fine exhaust, Small amount of exhaust)			
Maximum working pressure		0.186MPa	0.255MPa		
Thermometer		Digital display 5.0°C- 128.9°C	Digital display 5.0°C - 137.9°C		
Required power supply facility		1.5kW	2.0kW	3.0kW	4.0kW
Power supply		AC110V / 120V / 220V / 230V / 240V, 50Hz / 60Hz (Please specify when ordering.)		AC220V / 230V / 240V, 50Hz / 60Hz (Please specify when ordering.)	
Weight (Approximately)		44 kg	60 kg	83 kg	89 kg
Safety devices and alarms		Safety pressure valve, Earth leakage breaker with O.C.protection, Low water cut off device, Alarms: Low water heating, Temperature sensor wire disconnection, Over-temperature, Over-cool, Over-pressure, Abnormality in lid, Abnormality in the lock of lid opening/closing lever			
Supplied accessories		Wire basket, Exhaust bottle, Bottom plate, Drainage hose (50 cm), Exhaust hose (50 cm), Drainage collecting bottle, Cable tie, Caster stopper, Operation manual, User inspection procedure, Small sized pressure vessel specifications (excluding HV-25II and HV-25IILB)			

HG-II SERIES


A new generation autoclave that features the advanced function and the enhanced user-friendliness with an automated lid operation system.

- Sterilization Temperature: 105°C or 135°C.
- Capacity from 50 liters.
- Electromechanical Lid Lock System.
- Automatic exhaust system that can select the exhaust level.
- Double Sensing System for air removal.
- Process status display.
- Programmable modes and memory function.



Model		HG-50 II	HG-80 II
Chamber size (Volume)		Φ364 x H482 mm (Effective volume 50.2 liter)	Φ364 x H730 mm (Effective volume 76 liter)
Net weight (Approx.)		62 kg	73 kg
Power source		AC110V / 120V / 220V / 230V / 240V 50 / 60 Hz (Specify the voltage when ordering)	AC220V / 230V / 240V 50 / 60 Hz (Specify the voltage when ordering)
Power consumption		3kW (2kW for AC110V / 120V / 220V)	3.8kW
Chamber material		Stainless steel (SUS 304)	
Setting Range	Sterilization temperature	105 - 135°C Variable	
	Dissolution temperature	60 - 100°C Variable	
	Warming temperature	45 - 60°C Variable	
	Reservation timer	1 - 99 hour, Setting the operation start-up time	
	Lid lock temperature	Liquid, Agar, Dissolution : 60 - 95°C (Default 80°C) Solid : 60 - 97°C (Default 97°C)	Liquid, Agar, Dissolution: 60 - 95°C (Default 65°C) Solid : 60 - 97°C (Default 97°C)
Exhaust treatment		Vapor condensation by water cooling	
Fast cooling		ON or OFF	
Safety devices		Pressure safety valve, Earth leakage and over current breaker, Low water cut off device, Error display (Boil-dry, Disconnection of temperature sensor wire, Over-temperature, Over-cooling, Over-pressure, Abnormality in the lid, Abnormality in the exhaust valve, Abnormality in the heater)	
Supplied accessories		Wire basket (HG-50II : 2, HG-80II : 3), Drain bottle, Bottom plate, Caster stopper(2), Support bracket and bolt (2)	

HV HICLAVE SERIES



The best-selling autoclave series that has many functions with excellent operability.



- Dual sensing interlock mechanism
- Programmable auto-start function
- Auto-exhaust mechanism
- Electro mechanical lock system
- Memory back-up
- Double-sensing system for air exhaust

Model	HV-25	HV-50	HV-85	HV-110
Outside dimension (W x D x H mm)	485 × 470 × 956	547 × 532 × 1046	667 × 652 × 1011	667 × 652 × 1191
Inside dimension (Φx D mm) Effective capacity	240 × 550 (25L)	300 × 710 (50L)	420 × 615 (85L)	420 × 795 (110L)
Nominal Volume	28 L	54.2 L	98.8 L	123.7 L
Net weight (approx.)	41kg	57kg	71kg	81kg
Power supply	230 / 240 VAC, 50 Hz / 60 Hz			
Pressure vessel category	Small sized pressure vessel			
Chamber material	Stainless steel (SUS 304)			
Sterilization temperature range	105-126°C variable	105-135°C variable		
Dissolution temperature range	60 - 100°C, variable			
Warming temperature range	45 - 60°C, variable			
Maximum working pressure	0.186MPa	0.26 MPa		
Thermometer	5 - 128°C	5 ~ 137°C		
Pressure gauge	0 ~ 0.4MPa			
Safety devices	Pressure safety valve, Over-current & Earth leakage breaker, Low water cut off device Low water heating, Temperature sensor wire disconnection, Over-temperature, Over-cool,Over-pressure, Abnormality in lid open/closing lever lock			
Alarms, Error display				
Supplied accessories	Wire mesh baskets (2), Bottom plate, Drainage hose, Exhaust bottle, Exhaust hose, Drain bottle, Caster stoppers			

HVE ECONOMICAL HICLAVE SERIES



An economical model which is recommended when renewing an old model.

- Pulse exhaust function
- Warming function that does not coagulate the agar media
- Electro-mechanical lid lock system
- Dual interlock mechanism
- Memory function

Model	HVE-50
Outside dimension (W x D x H mm)	547 × 532 × 1046
Inside dimension (Φx D mm) Effective capacity	300 × 710 (50L)
Nominal Volume	54.2 L
Net weight (approx.)	57kg
Power supply	230 / 240 VAC, 50 Hz / 60 Hz
Pressure vessel category	Small sized pressure vessel
Chamber material	Stainless steel (SUS 304)
Sterilization temperature range	105-135°C variable
Warming temperature range	45 - 80°C, variable
Maximum working pressure	0.255MPa
Thermometer	Digital display 5 ~ 137°C
Pressure gauge	Analog display 0 ~ 0.4MPa
Safety devices	Pressure safety valve, Over-current and Earth leakage breaker, Low water cut off device
Alarms, Error display	Low water heating, Temperature sensor wire disconnection, Over-temperature, Over-cool, Over-pressure, Abnormality in lid open/close lever lock
Supplied accessories	Stainless steel wire basket, Bottom plate, Drainage hose, Exhaust bottle, Exhaust hose, Drain bottle, Caster stoppers

HVA HICLAVE SERIES



Economical HICLAVE with forced cooling device

A forced cooling system is equipped. This model has a capacity of 85 L or 110 L and has excellent cost performance.

- Excellent cost performance
- Forced cooling unit is standard
- Warming function does not coagulate the agar media
- Electro-mechanical lid lock system
- Memory function
- Dual interlock mechanism

Model	HVA-85	HVA-110
Outside dimension (W x D x H mm)	667 × 652 × 1011	667 × 652 × 1191
Inside dimension (Φ x H mm) Effective capacity	420 × 615 (85L)	420 × 795 (110L)
Nominal Volume	98.8 L	123.2 L
Net weight (approx.)	78kg	85kg
Power supply	230 / 240 VAC, 50 Hz / 60 Hz	
Pressure vessel category	Small sized pressure vessel	
Chamber material	Stainless steel (SUS 304)	
Sterilization temperature range	105-135°C variable	
Warming temperature range	45 - 80°C, variable	
Maximum working pressure	0.255MPa	
Thermometer	Digital display	5 ~ 137°C
Pressure gauge	Analog Display	0 ~ 0.4MPa
Safety devices	Pressure safety valve, Over-current and Earth leakage breaker, Low water cut off device	
Alarms, Error display	Low water heating, Temperature sensor wire disconnection, Over-temperature, Over-cool, Over-pressure, Abnormality in lid open/close lever lock	
Supplied accessories	Stainless steel wire basket, Bottom plate, Drainage hose, Exhaust bottle, Exhaust hose, Drain bottle, Caster stoppers	

HVN SERIES


Exhaust steam-free autoclave with deodorizing

New Idea !! An autoclave equipped with the deodorizing function that can suppress an unpleasant smell and steam.

- Deodorizing function
- Comfortable working environment

Model	HVN-50	HVN-85
Outside dimension (W x D x H mm)	547 × 552 × 1050	669 × 680 × 1011
Inside dimension (Φx D mm) Effective capacity	300 × 710 (50L)	420 × 615 (85L)
Power supply	AC220V, 50/60Hz, Single-phase	
Net weight (approx.)	73kg	88kg
Chamber material	Stainless steel (SUS 304)	
Sterilization temperature range	105-135°C variable	
Maximum allowable pressure (gauge pressure)	0.255MPa	
Pressure vessel category	Small sized pressure vessel	
Temperature display range	5 ~ 137°C	
Sterilization timer	1 ~ 250 minutes	
Deodorizing timer	1 ~ 90 minutes	
Exhaust bottle (filled)	3.4 liter, built-in	
Pressure gauge	Analog display, 0 ~ 0.4MPa	
Safety devices / Warning alarms	Pressure safety valve, Circuit breaker, Lack of water prevention switch Error indication (Exhaust clogging, Lack-of-water, Temperature sensor wire breakage, Over temperature, Over cooling, Open/close lever locking failure)	
Accessories	SS Wire basket(2pcs), Heater cover, Drain hose, Exhaust hose, Drain bottle, Castor stopper (2pcs)	

HVP HICLAVE SERIES



HICLAVE with full automatic drying function

Full-automatic sterilization to drying by high-efficiency vacuum pump.

- Drying efficiency is increased
- Dressing drums can be loaded
- Clean drying without contamination
- Pre-vacuum air removal using a vacuum pump
- Dual interlock mechanism

Model	HVP-50
Outside dimension (W x D x H mm)	540 × 630 × 1040
Inside dimension (Φx D mm) Effective capacity	300 × 710 (50L)
Nominal Volume	54.2 L
Net weight (approx.)	80kg
Power supply	230 / 240 VAC, 50 Hz / 60 Hz
Pressure vessel category	Small sized pressure vessel
Chamber material	Stainless steel (SUS 304)
Sterilization temperature range	105-135°C variable
Maximum working pressure	0.255MPa
Thermometer	Digital display 5 ~ 137°C
Pressure gauge	Analog display 0 ~ 0.4MPa
Safety devices	Pressure safety valve, Low water cut off device, Earth leakage breaker for vacuum pump
Alarms, Error display	Low water heating, Temperature sensor wire disconnection, Over-temperature, Over-cool, Over-pressure, Abnormality in lid open/close lever lock, Lack of water for vacuum pump bottle
Supplied accessories	Bottom plate, Flexible drainage hose, Drainage hose, Caster stoppers, Water supply hose
Time setting range	Sterilization: 1 min - 250 min, Remaining time is displayed Drying: 1 min to 90 min, Remaining time is displayed

ScanStation
Real-time incubator
and colony counter

Real-time incubator
and colony counter

easySpiral Dilute
Automatic dilutor and platers

FlexiPump
Dispensing pumps

BagTools

Accessories

BagMixer
Lab blenders

DiluFlow
Gravimetric dilutors

BAGFILTER PIPET & ROLL

NEW RollBag
Sterile sampling bags

Sample

LABORATORY

BAGSYSTEM

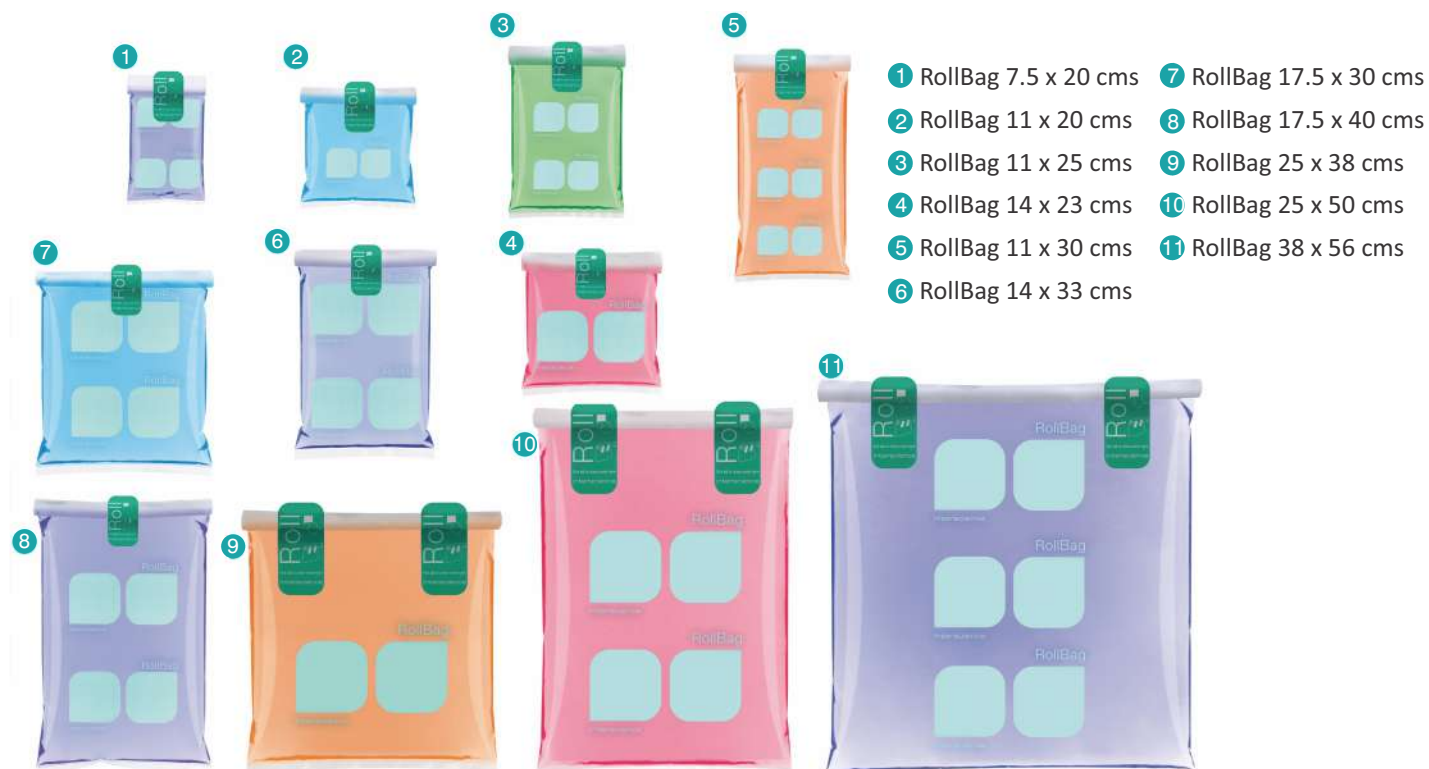
PLATE & COUNT SYSTEM

Result

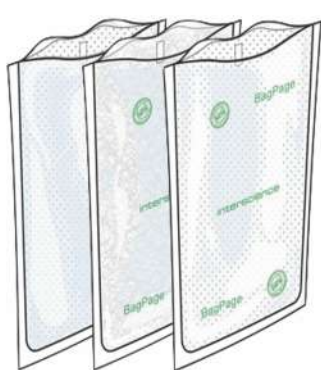


SAMPLING BAGS FOR HOMOGENIZER / LAB BLENDER

interscience



Variety of Blender Bags to suit your needs



FullPage Filter Bags



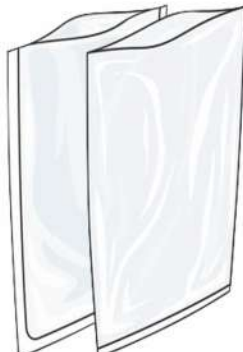
Filter Bags with Dehydrated Media



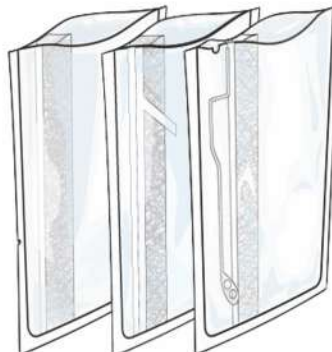
Easy Pipetting Filter Bags



Roll Bags



Non-filter Bags



Lateral Filter Bags

LAB BLENDER



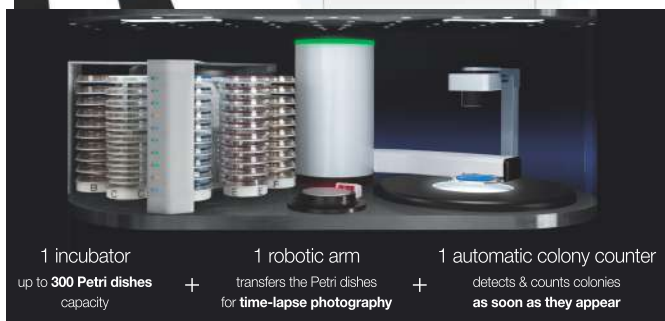
BagMixer® is a highly efficient lab blender for solid sample preparation. With a blender bag, it guarantees optimal microbiological extraction in less than 60 seconds and eliminates all risks of cross contamination.

- Optimal bacterial extraction.
- Adjustable blending power.
- Click & Clean.
- Q-Tight closing.
- User-friendly.

Description	MiniMix 100 P CC	MiniMix 100 W CC	BagMixer 400 P	BagMixer 400 W	BagMixer 400 CC	BagMixer 400 S	BagMixer 400 SW
Optimal blending volume	5 - 80 mL	5 - 80 mL	50 - 400 mL	50 - 400 mL	50 - 400 mL	50 - 400 mL	50 - 400 mL
Net weight	11.7 kg	11.7 kg	16.8 kg	16.6 kg	16.1 kg	25.1 kg	24.7 kg
Dimensions (w x d x h)	20 x 36.9 x 20.2 cm	20 x 36.9 x 20.2 cm	26.8 x 44.1 x 28.3 cm	26.8 x 44.1 x 28.3 cm	27 x 42.1 x 26.6 cm	27.6 x 45.9 x 35.7 cm	27.6 x 45.9 x 35.7 cm
Box (w x d x h)	49 x 29 x 33 cm		49 x 34.5 x 37 cm			56 x 41 x 50 cm	
Gross weight	13.6 kg	13.7 kg	19.5 kg	19.7 kg	19.2 kg	29.3 kg	28.9 kg
Fuses	T3.15A L 250V / T1.25A L 250V 5x20 mm				T3,15A L 250V 5x20 mm		
Power	110 W	110 W	135 W	135 W	55 W	55 W	55 W
International protection marking	11	11	21	21	21	31	31
In compliance with	ISO 7218, ISO 6887 and FDA BAM (Bacteriological Analytical Manual)						

SCANSTATION

interscience



Real-time incubator and colony counter

ScanStation® is a real-time incubator and colony counting station centralizing incubation, detection and counting of up to 300 Petri dishes simultaneously. Petri dishes are counted every 30 min* throughout the process. Colonies are detected as soon as they appear.

- **Rotating Petri carousel** - Record-breaking capacity of 300 Petri dishes
- **Insulated panoramic window** - Easy process monitoring
- **Thermoregulated incubator** - Peltier module ± 1 °C refrigerated incubator
No compressor
- **Storage unit** - For computer, UPS, accessories
- **Easy installation** - Simply plug in the 100-240V~ power cord.
- **High speed robotic arm** - Automated plate handling from incubation to counting
- **Real-time bacterial growth** - Touch screen with real-time video of the process 24/7 operation
- **Ultra-HD camera** - Reflection free LED lighting 5 megapixel sensor
- **Pressure-sensitive gripper** - Automatically adapts to right-side up or upside down Petri dishes
No settings
- **Bar-code reading** - Automatically retrieves sample data
Connectable with LIMS, dataLink™

	ScanStation® 100	ScanStation® 200	ScanStation® 300
Reference	439 100	439 200	439 300
Capacity	100 Petri dishes	200 Petri dishes	300 Petri dishes
Reading time in between each dish	30 minutes or 1 hour		1 hour
Petri dish size	Ø 90 mm right-side up or upside down and Ø 55-65 mm (with adaptor)		
Type of plating accepted	Pour plate, surface, Spiral®, filtration membrane		
Loading	single or multi-batch		
Camera resolution	5 megapixels		
Interface	23 inches touch screen		
Software	ScanStation® software		
Video player	Play, zoom, pause, replay, during and after incubation		
Included computer system	PC Windows 10 LTSC desktop with Intel i7 processor		
Incubation temperature	From 20 °C to 45 °C		
Accuracy of incubation temp.	± 1 °C (checked by a 9-point mapping system)		
Recording of the temperature	Every minute		
Heating and cooling temp.	Peltier modules, compressor free		
Terms of use	In a ventilated room, under normal temperature conditions between 18 °C and 25 °C		
Max external humidity temp.	70%		
Max incubation time	10 days		
Voltage - frequency	100-240 V~ 50-60 Hz		
In compliance with	21 CFR Part 11		

SEMI-AUTOMATIC COLONY COUNTER



Scan® Series (300, 500, 1200, 4000) is a semi-automatic colony counter series with the essential features to start the colony counting and is specifically designed for environments of food microbiology (PCA, VRBG, MRS).

- Counting on pour, surface, Spiral, circle mode plated dishes.
- Accuracy and repeatability.
- 21CFR Part 11 included.
- Traceability.
- Print of the results.
- Dark Field lighting technology.
- Ideal with dataLink full traceability system.



Description	Scan 300	Scan 500	Scan 1200	Scan 4000
Type of colony counter	Semi automatic	Semi automatic	Semi automatic	Semi automatic with manual control
Counting time	Up to 1000 colonies per second			
Minimal size of colony	0.1 mm	0.1 mm	0.05 mm	0.05 mm
Camera	CMOS color camera	CMOS color camera	HD CCD color camera	Ultra HD color camera
Lens	M12 lens	M12 lens	HD japanese lens	Ultra HD Japanese lens
Zoom	x 28	x 28	x 28	x 69
Resolution	1 megapixel	1 megapixel	1.2 megapixel	5 megapixel
Power	20 W	20 W	20 W	100-240 V~ 50/60 Hz
Screen	1280 X 1024 pixels or superior			1280 X 1024 pixels and more
Dimensions (w x d x h)	28.5 x 26.5 x 29 cm	28.5 x 26.5 x 28.5 cm	28.5 x 26.5 x 37.5 cm	47 x 47 x 64 cm
Net weight	8.4 kg	8.4 kg	9.4 kg	25 kg

MANUAL COLONY COUNTER

interscience



Scan 100



Scan 50

Scan® 100 and Scan® 50 are manual colony counters equipped with a LED lighting system and an ergonomic hand rest. The Dark Field technology provides indirect, accurate and contrasted lighting of the colonies.

- Dark Field Technology.
- Touch surface with adjustable sensitivity.
- Great ergonomics.
- Data export via USB, LIMS, Excel™.
- White LED lighting with adjustable intensity.

Description	Scan 100	Scan 50
Type of colony counter	Manual	Manual
Counting	Manual (from 0 to 1998 CFU)	Manual (from 0 to 199 CFU)
Adjustable counting beeps	4 sound levels	9 different sounds / 5 volume levels
Counting zone	Adjustable sensitivity of touch surface	Touch surface with adjustable sensitivity
Lighting technology	White LED / Dark Field	Dark field 2 technology for high contrast colony lighting
Lighting system	Adjustable LED intensity	Adjustable LED lighting levels
Culture support: Petri dishes	Ø 55 - 150 mm: PetriFilm™, Compact Dry™, MC-Media Pads™, easyPlate™, filtration membranes	Ø 55 - 90 mm / PetriFilm™, Compact Dry™, MC-Media Pads™, easyPlate™ / filtration membranes
Power	5 W	20 W
In compliance with	ISO 7218 and FDA BAM (Bacteriological Analytical Manual)	
Dimensions (L x P x H)	24.9 x 31.2 x 17.3 cm	27.3 x 29.5 x 15.1 cm
Net weight	4.57 kg	4.05 kg

Water Activity – Laboratory Instruments

SALT STANDARDS

PROTECTION FILTERS

SAMPLE DISHES

SENSORS



LABMASTER NEO

novasina
The Art of Precision Measurement



The LabMaster Neo provides accurate and repeatable and accurate aW measurements and also supports in the investigation of the causes of product spoilage, texture changes or rancidity.

- Full temperature control (0-60°C) for highest accuracy.
- Complete 21CFR11 compliance thanks to audit trail and user management.
- Various measurement modes incl. fast mode.
- Reusable SAL-T calibration standards with automatic recognition by RFID tag.
- Automatic equilibrium detection for best repeatability and comparability of measured values.

Description	LabMaster-aw Neo	
Versions	ENS/ELS	
Measurement Specifications	Parameter	
	Water activity	Temperature
Measuring principle	Electrolytic	Surface infrared sensor
Measuring range	0.0300...1.0000aw*	0...60°C (32...140°F)
Adjustment range	0.0400...1.0000aw*	N/A
Resolution	0.0001aw	0.01°C
Accuracy	+/-0.0030aw within the adjustment range	+/-0.1°C
Repeatability	+/-0.0010aw within calibration range	N/A
Mains connection	> 100... 260 VAC, > Power consumption: , > Maximum: 42W, > Normal operation: < 15W > Stand-By: < 0.1W	
Power supply	90...264 VAC 50/60 Hz	
Display	7" capacitive Touchscreen	
Communication	> RS232 and USB 2.0 for PC, > RS232 for printer Epson TM-U220D, > SD card, > XML to LIMS	
Housing	> Hybrid of painted steel housing and PUR , > Weight: approx. 10kg > Dimensions (LxWxH)= 423x260x186mm, Height with open ceiling: 462mm	
Measuring chamber volume	12 ml	
21CFR 11	> 21CFR11 compliant Audit Trail > 21CFR11 compliant user management	

LABTOUCH


The Lab Touch can measure aW for many samples, whether liquid, gel-like or solid and with its ergonomic design and touch screen, it makes water activity measurement easier than ever before.

- Partial temperature control (0-60°C) for highest accuracy.
- Partial 21CFR11 compliance.
- Reusable SAL-T calibration standards.
- SD card for easy measurement data management.

Description	LabTouch-aw	
Versions	CM-2 Sensor/ CM-3 Sensor	
Measurement Specifications	Parameter	
	Water activity	Temperature
Measuring principle	Electrolytic	Surface IR and NTC
Measuring range	0.030...1.000aw	5...45°C (41...113°F)
Adjustment range	0.110...0.970aw	N/A
Resolution	0.001aw	0.1°C
Accuracy	+/-0.005aw within calibration range	+/-0.10°C
Repeatability	+/-0.002aw within calibration range	N/A
Mains connection	5 VDC, +/-6%, max. Power consumption 10W	
Power supply	90...264 VAC 50/60 Hz	
Display	4.3" LC-colour display	
Communication	> USB for PC / printer > SD/SDHC-card	
Housing	> Two-part PC/ABS housing, weight: 2.8 kg > Dimensions (L x W x H) = 200 x 285 x 105 mm	
Measuring chamber volume	15mL	
21CFR 11	Partially compliant	



The Lab Swift is suitable for products such as powder or dried fruit with low-medium aW values. Is available with a rechargeable battery so the device can be placed anywhere.

- Battery option for local flexibility.
- SD card for easy measurement data management.
- Reusable SAL-T calibration standards.
- Fast device for medium aW measured value range.

Description	LabSwift-aw	
Versions	With and without battery pack	
Measurement Specifications	Parameter	
	Water activity	Temperature
Measuring principle	Electrolytic	Surface IR and NTC
Measuring range	0.030...1.000aw	5...45°C (41...113°F)
Adjustment range	0.110...0.900aw	N/A
Resolution	0.001aw	0.1°C
Accuracy	+/-0.010aw within calibration range	+/-0.15°C
Repeatability	+/-0.002aw within calibration range	N/A
Mains connection	5 VDC, +/-6%, max. Power consumption 10W	
Power supply	90...264 VAC 50/60 Hz	
Display	LC-display, dimensions: 35 x 69mm	
Communication	SD/SDHC- card	
Housing	> Two-part PC/ABS housing, weight: 1.2kg > Dimensions (L x W x H) = 225x140x85mm	
Measuring chamber volume	15mL	
21CFR 11	Partially compliant	

LABSTART


The Lab Start allows water activity measurement with the unique Novasina technology of the resistive electrolyte sensor at an economical budget.

- Reusable SAL-T calibration standards.
- Simple starter measuring device.
- User-friendly design.
- Covers a low demand on accuracy and reproducibility.

Description	LabStart-aw	
Versions	N/A	
Measurement Specifications	Parameter	
	Water activity	Temperature
Measuring principle	Electrolytic	NTC
Measuring range	0.03...1.00aw	0...30°C (59...86°F)
Adjustment range	0.11...0.75aw	N/A
Resolution	0.01aw	0.1°C
Accuracy	+/-0.03aw within calibration range	+/-0.15°C
Repeatability	+/-0.01aw within calibration range	N/A
Mains connection	5 VDC, +/-6%, max. Power consumption 10W	
Power supply	90...264 VAC 50/60 Hz	
Display	LC-display, dimensions: 35 x 69mm	
Communication	N/A	
Housing	> Two-part PC/ABS housing, weight: 1.2kg > Dimensions (L x W x H) = 225x140x85mm	
Measuring chamber volume	15mL	
21CFR 11	Not compliant	

SAL-F SALT STANDARDS



novasina
The Art of Precision Measurement

The new SAL-F salt standard was developed to meet customer demand for faster calibration capabilities. Especially on the line, time is often a key element. Novasina has therefore maximized the speed of this calibration salt. The unsaturated salt solution in combination with our aluminum cup and the special fabric allow the fastest possible calibration on the market.

Humidity values	P/3N	Name	LabStart-aw Calibration	LabSwift-aw Calibration	LabTouch-aw Calibration	LabMaster-aw neo Calibration	Verification
11%	260 2086	SAL-F 11		X	X	X	X
33%	260 2087	SAL-F 33	X	X	X	X	X
58%	260 2088	SAL-F 58		X	X	X	X
75%	260 2089	SAL-F 75	X	X	X	X	X
84%	260 2090	SAL-F 84		X	X	X	X
90%	260 2091	SAL-F 90		X	X	X	X
97%	260 2092	SAL-F 97			X	X	X

SAL-T SALT STANDARDS



Moisture standards based on saturated salt solutions in plastic tablets, with a moisture permeable membrane. Each salt is delivered in well closing can.

Humidity values	P/N	Name	LabStart-aw Calibration	LabSwift-aw Calibration	LabTouch-aw Calibration	LabMaster-aw neo Calibration	Verification
4%	111 7440	SAL-T 4				X	X
6%	111 6453	SAL-T 6				X	X
11%	111 0930	SAL-T 11		X	X	X	X
23%	260 0960	SAL-T 23					X
33%	111 0932	SAL-T 33	X	X	X	X	X
43%	260 0961	SAL-T 43					X
53%	111 0934	SAL-T 53		X	X	X	X
58%	260 0189	SAL-T 58		X	X	X	X
75%	111 0936	SAL-T 75	X	X	X	X	X
84%	111 9886	SAL-T 84		X	X	X	X
90%	111 0938	SAL-T 90		X	X	X	X
97%	111 9887	SAL-T 97			X	X	X
100%	260 1619	SAL-T 100				X	X

Filter Selection for Water Activity



These specially designed filters shall be mounted in front of the sensor and used to provide protection against chemical contamination and degradation of the resistive electrolytic sensor element.

As the inner part of the sensor consists of a liquid, volatiles which dissolve and dissociate are extremely dangerous and harm the sensor in a very short time.



REFRIGERATORS and FREEZERS CONTROLLED BIOSTORAGE



BIOPLUS



The BioPlus range is designed for the storage of the most delicate biomaterials, in situations where even tiny fluctuations in conditions inside the storage cabinet can have a serious effect on the contents.

BioPlus refrigerators reduce internal relative humidity, thus cutting down on any likelihood of undesirable contaminants getting near delicate biomaterials.

- Access port
- Self-closing door with key lock
- Voltage-free contact
- Acoustic and visual door alarm
- E-sensor
- Acoustic and visual temperature alarms
- Alarm recording
- The base can be fitted with castors
- Full ATEX compliance
 - Both internal and external
- Pedal door opener (not EF)

Exterior: White lacquered steel or stainless steel

Interior: Stainless steel

Model	ER 930	RF 930	ER 1270	RF 1270	ER 1400	RF 1400	EF 600W
Temp Range	-2°C/+20°C	-25°C/-5°C	-2°C/+20°C	-25°C/-5°C	-2°C/+20°C	-25°C/-5°C	-35°C/-5°C
Control Unit	Gram Control Unit with Voltage Free Contact, acoustic and visual alarms, E-sensor, Dry Cool Function						
Material Interior	Stainless Steel						
Material Exterior	White lacquered steel or Stainless Steel						
Dimensions (W x D x H) mm	780 x 1045 x 2025/2275		1390 x 876 x 1875/2125		1390 x 876 x 2025/2275		837 x 756 x 1875/2125
Volume	930 liters		1270 liters		1400 liters		600 liters
Net weight	165 kg		271 kg		283 kg		146 kg
Insulation	60 mm polyurethane with HFC-free cyclopentane propellant						
Refrigerant	R290						
Energy Consumption (kWh/24h)	2.1	6.12	2.5	7.97	2.56	8.39	8.86
Sound Level	48.5dB(A)	49.5db(A)	48.3dB(A)	51dB(A)	47.5dB(A)	46.6dB(A)	55.3dB(A)
Connection	230V, 50Hz						
Air System	Gram BioLine Ventilated Air Distribution System						
Defrost System	Automatic Smart Defrost with re-evaporation of defrost water						
Racks Options	Wire Shelves, Perforated Shelves, Drawers						

BIOMIDI



Blostorage you can depend on



The BioMidi cabinet is designed to meet the majority of biomaterial refrigeration and freezer requirements, with very few limitations.

The specifications include the major features from our top-of-the-range BioPlus model, making it the ideal choice when the ability to maintain stable temperatures is decisive in a purchasing decision. The functional design ensures easy, ergonomically correct access to the storage space.

- Access port
- Self-closing door with key lock
- Voltage-free contact
- Acoustic and visual door alarm
- E-sensor
- Acoustic and visual temperature alarms
- The base can be fitted with lockable recessed wheels
- Full ATEX compliance
 - Both internal and external
- Alarm recording

Exterior: White lacquered steel or stainless steel

Interior:** Aluminium/stainless steel or stainless steel

*** White version comes with internal sides in aluminium and bottom and backside of door in stainless steel. Stainless versions comes as all stainless*

Model	RR 425	RF 425	RR 625	RF 625	EF 425
Temp Range	+2°C/+20°C	-25°C/-5°C	+2°C/+20°C	-25°C/-5°C	-40°C/-5°C
Control Unit	Gram Control Unit with Voltage Free Contact, acoustic and visual alarms, E-sensor				
Material Interior	Aluminium/ Stainless Steel or Stainless Steel				
Material Exterior	White lacquered steel or Stainless Steel				
Dimensions (WxDxH) mm	600 x 731 x 1980/2000		815 x 731 x 1980/2000		622 x 731 x 1980/2000
Volume	425 liters		625 liters		425 liters
Net weight	112 kg		152 kg		112 kg
Insulation	60mm polyurethane with HFC-free cyclopentane propellant				
Refrigerant	R290				
Energy Consumption (kWh/24h)	1.27	3.61	1.3	4.03	8.93
Sound Level	47.2dB(A)	46.3db(A)	46.6dB(A)	48.4db(A)	57.8dB(A)
Connection	230V, 50Hz				
Air System	Gram BioLine Ventilated Air Distribution System				
Defrost System	Automatic Smart Defrost with re-evaporation of defrost water				
Racks Options	Wire Shelves, Perforated Shelves, Drawers				

BIOCOMPACT II



This is a compact refrigerator or freezer cabinet for a wide range of biostorage purposes where the prime focus is on dependability.

The BioCompact II provides you with significantly better performance than any other cabinets in this segment for storing ordinary biomaterial under stable conditions. The small footprint of this design also makes it the perfect biostorage unit for use in confined spaces.

- Access port
- Self-closing door with key lock
- Voltage-free contact
- Acoustic and visual door alarm
- E-sensor
- Acoustic and visual temperature alarms
- The base can be fitted with castors
- Full ATEX compliance
 - Both internal and external
- Alarm recording

Exterior: White lacquered steel or stainless steel finish

Interior: PS lining

For 610 series: PS lining with wall rails in stainless steel

Model	RR210	RF210	RR310	RF310	RR410	RF410	RR610	RF610
Temp Range	+2°C/+20°C	-25°C/-5°C	+2°C/+20°C	-25°C/-5°C	+2°C/+20°C	-25°C/-5°C	+2°C/+20°C	-25°C/-5°C
Control Unit	Gram Control Unit with Voltage Free Contact, acoustic and visual alarms, E-sensor							
Material Interior	PS Lining						PS Lining with Wall Rails in Stainless Steel	
Material Exterior	White lacquered steel or Stainless Steel							
Dimensions (W x D x H) mm	595 x 640 x 801/1001		595 x 640 x 1190/1390		595 x 640 x 1776/1976		695 x 875 x 1874/2075	
Volume	125 liters		218 liters		346 liters		583 liters	
Net Weight (Unpacked)	46 Kg		55 Kg		78 Kg		114 Kg	
Insulation	50mm polyurethane with HFC-free cyclopentane propellant						60mm polyurethane with HFC-free cyclopentane propellant	
Refrigerant	R600a						R290	
Energy Consumption (kWh/24h)	0.61	1.53	0.63	1.69	0.59	2.06	1.15	3.88
Sound Level	36.5dB(A)	39.7db(A)	36.8dB(A)	39.9db(A)	33.2dB(A)	36.6db(A)	44.2dB(A)	48.6dB(A)
Connection	230V, 50Hz							
Air System	Gram Bioline Ventilated Air Distribution System							
Defrost System	Automatic Smart Defrost with re-evaporation of defrost water							
Racks Options	Wire Shelves, Perforated Shelves, Drawers							

BIOCOMPACT II COMBINATION



The BioCompact II Models RR310 / RF210 and RR210 / RF210 combination, are stacked cabinets consisting of one Refrigerator and one Freezer cabinet mounted together. The RR310 / RF210 combination offers a very high degree of flexibility and versatility on the same small footprint as the BioCompact II 210, 310 and 410.

The design & combination of the BioCompact II RR310 / RF210 and RR210 / RF210 ensures you many ways to deal with individual storage needs, thanks to the versatile interior layout and a comprehensive selection of fixtures and fittings. The combination makes it the perfect biostorage unit. It is designed for a wide range of basic biostorage purposes where the prime focus is on dependability and exceptional performance.

- Access port
- Self-closing door with key lock
- Voltage-free contact
- Acoustic and visual door alarm
- E-sensor
- Acoustic and visual temperature alarms
- The base can be fitted with castors
- Full ATEX compliance
 - Both internal and external
- Alarm recording

Exterior: White lacquered steel or stainless steel

Interior: PS lining

Model	RR210/RF210	RR310/RF210
Temp Range	+2°C/+20°C and -25°C/-5°C	+2°C/+20°C and -25°C/-5°C
Control Unit	Gram Control Unit with Voltage Free Contact, acoustic and visual alarms, E-sensor	
Material Interior	PS Lining	
Material Exterior	White lacquered steel or Stainless Steel	
Dimensions (W x D x H) mm	595 x 640 x 1602/1802	595 x 640 x 1991/2191
Volume	125 liters and 125 litres	218 liters and 125 litres
Net Weight (Unpacked)	92 Kg	101 Kg
Insulation	50mm polyurethane with HFC-free cyclopentane propellant	
Refrigerant	R600a	
Energy Consumption (kWh/24h)	2.07	1.98
Sound Level	39dB(A)	39.3dB(A)
Connection	230V, 50Hz	
Air System	Gram Bioline Ventilated Air Distribution System	
Defrost System	Automatic Smart Defrost with re-evaporation of defrost water	
Racks Options	Wire Shelves, Perforated Shelves, Drawers	

BIOBASIC



Biostorage you can depend on

The BIOBASIC range offers cost-effective biostorage solutions for a host of applications. With temperature alarms, internal and external ATEX, no cold walls and a user friendly interface, the BIOBASIC range provides an exceptional selection of features in a very small package. With four sizes to choose from, the BIOBASIC range is well suited for use in confined spaces where performance, features and value are paramount.

- Access port
- Self-closing door with keylock
- Voltage-free contact
- Acoustic and visual temperature alarms
- Acoustic and visual door alarm
- Full ATEX compliance
 - Both internal and external
- RR 210/310/410 also available with glass door

Exterior: White lacquered steel

Interior: White/PS lining, Model 600 stainless steel

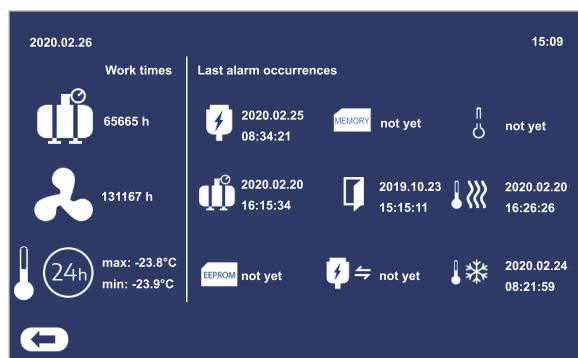


Model	RR210	RF210	RR310	RF310	RR410	RF410	RR600	RF600
Temp Range	+2°C/+15°C	-25°C/-5°C	+2°C/+15°C	-25°C/-5°C	+2°C/+15°C	-25°C/-5°C	+2°C/+15°C	-25°C/-5°C
Control Unit	BioBasic Control Unit with Voltage Free Contact, acoustic and visual alarms, E-sensor							
Material Interior	PS Lining						Stainless Steel	
Material Exterior	White lacquered steel							
Dimensions (W x D x H) mm	595 x 640 x 831		595 x 640 x 1220		595 x 640 x 1876		700 x 895 x 2125	
Volume	125 liters		218 liters		346 liters		610 liters	
Refrigerant	R600a						R290	
Energy Consumption (kWh/24h)	0.43	1.47	0.51	1.56	0.59	2.06	1.44	3.77
Sound Level	33.3dB(A)	37.7db(A)	34.1dB(A)	37.8db(A)	33.2dB(A)	36.6db(A)	44.4dB(A)	44.4dB(A)
Connection	230V, 50Hz							
Air System	Forced Air Distribution System							
Defrost System	Automatic Smart Defrost with re-evaporation of defrost water							
Access Port	1						2	
Plastic Coated Wire shelves	3		4		6		4	

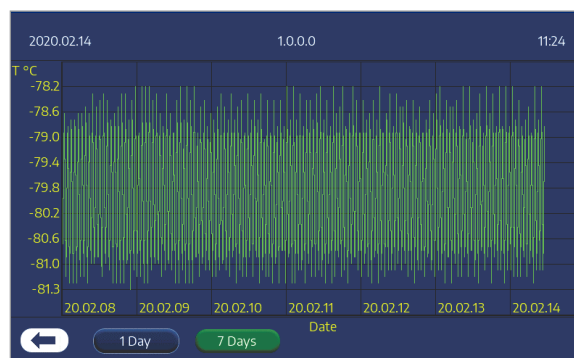
REFRIGERATORS AND FREEZERS



- Touch Screen Display



- Alarms for every malfunction



- Temperature Graph



B SCIENCE

ULT -86° C FREEZERS



The range of ULT freezers -86° C is developed to ensure you a trouble free usage of ultra-low temperature storage – based on safe cascade system. The most reliable refrigeration system in the world. With its large Touch screen and fantastic user friendly interface, it is the most user friendly ULT freezer made today.

- Large colorful touch screen
- Integrated datalogger with min 15 years memory
- Integrated Test mode validation program
- Isolation with V.I.P. panels
- Password protected display
- Multiple temperature graph on screen
- Upload & Download through USB
- Door key lock
- Magnetic silicone gaskets
- Temperature mapping
- Multiple alarms available

Model	B-ULT100	B-ULT400	B-ULT550	B-ULT650
Capacity (liter)	107	406	527	648
Temperature range	-86°C / -40°C	-86°C / -40°C	-86°C / -40°C	-86°C / -40°C
External dimension (W x D x H) mm	830 x 775 x 850	750 x 920 x 1997	890 x 920 x 1997	1030 x 920 x 1997
Racks	8 pcs	12 pcs	16 pcs	20 pcs
50mm boxes(2")	72 pcs	264 pcs	352 pcs	440 pcs

PREMIUM BIOMEDICAL -30° C FREEZERS



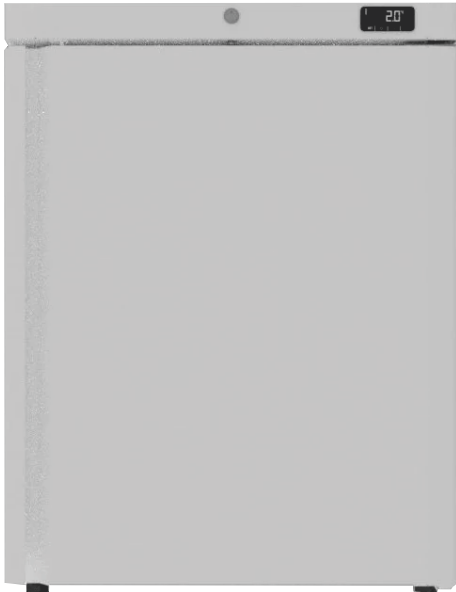
The PREMIUM Biomedical freezers are designed and manufactured with the latest technology. The body of the freezers is built with thickness of 70mm to maximize the temperature stability in the freezers.

- Large colorful touch screen
- Integrated datalogger with min 15 years memory
- Integrated Test mode validation program
- Password protected display
- Multiple temperature graph on screen
- Upload & Download through USB
- Door key lock
- Self closing door
- Magnetic silicone gaskets
- Temperature mapping
- Auto defrost system
- Multiple alarms available

Model	BMF628	BMF1398
Capacity (liter)	628	1398
Temperature range	-30°C / -10°C	-30°C / -10°C
External dimension (W x D x H) mm	740 x 830 x 2035	1480 x 830 x 2035
Solid door	1	2

B SCIENCE

LAB -25° C FREEZERS



The LAB Freezer Basic Lines -25° C is the perfect solution for cold storage in laboratories, universities, hospitals or any scientific laboratories.

This line meets the common requirement for basic storage without compromising the performance.

This is a cost efficient range without compromising.

- Door lock
- Magnetic door gasket
- Open door alarm
- Self-closing door
- Automatic defrost
- Forced air cooling
- Monoblock refrigeration
- Castors with lock
- Easy to install – Plug & Play
- Low energy consumption
- Multiple alarms available

Model	LABFREEZ100	LABFREEZ628	LABFREEZ1398
Capacity (liter)	100	628	1398
Temperature range	-30°C / -10°C	-25°C / -10°C	-25°C / -10°C
External dimension (W x D x H) mm	650 x 620 x 860	740 x 830 x 2035	1480 x 830 x 2035
Solid door	1	1	2

Lab Combi +1°C/ +10°C & -25°C/-10°C



The LAB Requirement Basic Lines +1°C/+10°C & -25°C/-10°C is the perfect solution for cold storage in laboratories, universities, hospitals or any scientific laboratories. This line meets the common requirement for basic storage without compromising on the performance.

BASIC line Refrigerators are also available with high-end dual glass door. When there is a need for an overview without opening the door, this is the perfect solution for you. With this model, you have a huge foot print saving. **BASIC line is a perfect fit if you do not want to compromise the temperature stability.**

- Door lock
- Magnetic door gasket
- Open door alarm
- Self-closing door
- Automatic defrost
- Forced air cooling
- Castors with lock
- Easy to install – Plug & Play
- Low energy consumption
- Multiple alarms available

Model	Labcombi650
Capacity (liter)	2 x319
Temperature range	+1°C/+10°C & -25°C/-10°C
External dimension (W x D x H) mm	720 x 880 x 2040
Solid door	yes, 2 solid door

LAB +1° / +10° C REFRIGERATORS

B SCIENCE

The LAB Requirement Basic Lines +1° / +10° C is the perfect solution for cold storage in laboratories, universities, hospitals or any scientific laboratories. This line meets the common requirement for basic storage without compromising on the performance

BASIC line Refrigerators are **also available with high-end dual glass door**. When there is a need for **an overview without opening the door**, this is the perfect solution for you. **All the sizes are available with glass door**. BASIC line is a perfect fit if you do not want to compromise the temperature stability.



- Door lock
- Magnetic door gasket
- Open door alarm
- Self-closing door
- Solid or glass door
- Automatic defrost
- Air forced cooling
- Monoblock refrigeration
- Easy to install – Plug & Play
- Low energy consumption
- Multiple alarms available

Model	LABREF100	LABREF100G	LABREF628	LABREF628G	LABREF1398	LABREF1398G
Capacity (liter)	100	100	628	628	1398	1398
Temperature range	+1°C / +10°C	+1°C / +10°C	+1°C / +10°C	+1°C / +10°C	+1°C / +10°C	+1°C / +10°C
External dimension (W x D x H) mm	650 x 620 x 860	650 x 620 x 860	740 x 830 x 2035	740 x 830 x 2035	1480 x 830 x 2035	1480 x 830 x 2035
Solid door	yes, 1 solid door	no	yes, 1 solid door	no	yes, 2 solid doors	no
Glass door	no	yes, 1 glass door	no	yes, 1 glass door	no	yes, 2 glass door

w.styler



TEST SIEVES & SIEVE SHAKERS



RO-TAP® RX-29 AND RX-30 MODELS

w.s.tyler



The industry standard in test sieve shakers, the original W.S. Tyler Ro-Tap® has a unique two-dimensional operation: a horizontal, circular motion, and a vertical tapping motion. This special action allows material particles to stratify and “seek” critical openings in the test media. This unit provides the most accurate and consistent particle analysis testing and requires minimal maintenance. The RX-29 is designed for testing with 8-inch diameter test sieves. The RX-30 model is designed for testing with 12 in. diameter test sieves. Each unit is test run and serialized prior to shipment and features a 99-minute digital timer/clock with a tolerance of .1 seconds

Number of Sieves

Model	Full Height	Half Height
RX-29 (8 in. or 200 mm diameter)	6 sieves with full height pan	13 sieves with half height pan
RX-30 (12 in. or 300 mm diameter)	4 sieves with full height pan	8 sieves with half height pan
RX-30 (12 in. or 300 mm diameter)	6 sieves with half height pan	8 sieves with half height pan

Specifications

Oscillations per Minute	278 ± 10
Oscillations Displacement	1-1/8 in. x 7/16 in.
Taps per Minute	150 ± 10
Dimensions	28 in. wide x 21 in. deep x 25 in. high (71 cm x 54 cm x 64 cm)
Weight	180 lbs. (82 kg)
Testing Applications	RX-29: 2 in. through US #635 mesh (20 µm) RX-30: 4 in. through US #500 mesh (25 µm)

8" DIAMETER TEST SIEVES



200MM DIAMETER
TEST SIEVES



RO-TAP® E SIEVE SHAKERS



RO-TAP E PURE

The newly designed test sieve shaker stands out with its simple and quick operation. Two specific regulated amplitudes for coarse or fine material can be selected by the user. Sieving begins immediately once the timer is set and an amplitude has been selected.

The Ro-Tap E is recommended as a basic machine for standard sieve analysis.



RO-TAP E PREMIUM

The Ro-Tap E Premium unit is one of two new W.S. Tyler Sieve Shaker offerings. This machine is the most quiet design ever with the improved dampening system. The control panel allows users to self select the amplitude and interval of the sieving motions.

The extra large display offers operators an excellent overview of the settings and is user-friendly. The new Ro-Tap E Premium unit is ideally suited for users who demand precision and reproducible sieve analysis.



RO-TAP E PREMIUM REMOTE

The Ro-Tap E Premium Remote offers a separate control unit for wet sieve analysis. The design and function of the lid has been specifically developed for tests where water needs to be used to assist in the particle separation.

The wide-spreading spray diffuser is integrated into the cover, offering improved handling. The cover includes an inspection glass which allows observation during the sieving process.

Model Name	Amplitude	Diameter Sieves	Wet Testing	Part #
E Pure	Fine and Coarse	8 in. or 200 mm	N	RX-29-E
E Premium	Adjustable up to 3 mm	8 in. or 200 mm	N	RX-29-E Premium
E Premium Remote	Adjustable up to 3 mm	8 in. or 200 mm	Y	550100
EML 315	Adjustable up to 3 mm	12 in. or 300 mm	Y	550075

VARISIFTER™ SONIC SEPARATOR



Specifications

- Capacity 3" Acrylic: 6 Acrylic L3-S Sieves, 3 Acrylic L3-M (Precision Sieves)
- Dimension: 10" W x 12" D x 23" H (25 x 31 x 61 cm)
- Weight: 16 kg net
- Operating Range: Temperature -18° C to 49 °C
(Temperature and humidity should be controlled for optimal results)
Humidity non-condensing
- Timer: 1 - 59:59 min
- Agitation Method: Sonic Wave (top) and Mechanical Pulse: 1 Vertical (bottom), 2 Horizontal

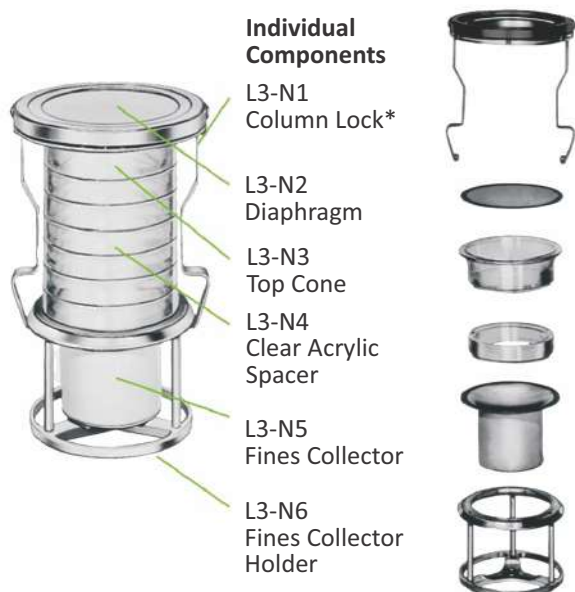
Fully adjustable, Fast, Accurate.

The next generation sonic sifter. The VariSifter™ is a top-of-the-line particle separator that generates the same repeatable and reproducible results as with the original L3P Sonic Separator but with upgraded features including adjustable frequency, multiple built-in tapping options, touch screen and a universal power converter.

The device uses 3" clear acrylic sieves that, with an oscillating air column created by sonic wave accompanied by tapping actions, are capable of quickly achieving separations of particles ranging from 5.6 mm down to 3 µm. Whether this is the first time purchasing a sonic sifter or you have been using the technology for years, the VariSifter™ is the new standard in fine particle separation.

- Ideal for fine particle separation - Sieves range from 3 µm to 5.6 mm
- Two built-in Horizontal Tappers - 2 horizontal tapping mechanisms, may be turned on or off
- Frequency Control - Adjustable from 15 Hz up to 60 Hz
- Amplitude control - Adjustable from 0 - 100%
- Clear acrylic framed sieves allow for a visual reference to determine proper power level and finish point
- Accurate results and quick test times - Key in testing with fully customizable variables
- Internal universal power converter - Device can be used in any standard power environment 100vac to 240vac/50Hz or 60Hz
- Touch Control Panel - Intuitive and easy to read touch monitor with dynamic Machine Status Indicator and clear visibility of your variables
- Vertical mechanical pulse shears agglomerates and reorients the particles in the air column
- Each unit includes a complete Stack Assembly comprised of: 1 Column Lock, 1 Diaphragm, 1 Top Cone, 6 Spacers, 1 Fines Collector and 1 Fines Collector Holder
- One-year limited warranty

STACK ASSEMBLY FOR SONIC DEVICES



For use with VariSifter and L3P Sonic Separators

Complete Stack Assembly

L3-N7 Includes:

- 1 Column Lock
- 1 Diaphragm
- 1 Top Cone
- 6 Acrylic Spacers
- 1 Fines Collector
- 1 Fines Collector Holder

*Column Lock with a BLACK top ring can be used with either the L3P Sonic Separator or VariSifter. Previously sold uncolored Column Locks can ONLY BE USED WITH THE L3P Sonic Separator.

COLD



CHILLERS

HOT



**CIRCULATING
BATHS**



**GENERAL PURPOSE
WATER BATHS**

Controllers

MX



- Heats to 135°C
- Stability: $\pm 0.07^{\circ}\text{C}$
- 1-speed Pump

Standard Digital (SD)



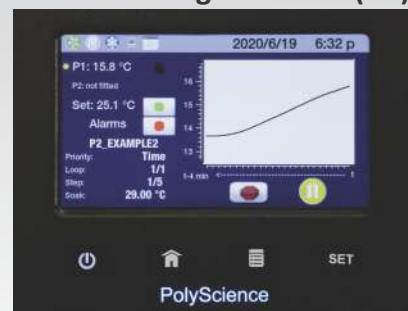
- Heats to 170°C
- Stability: $\pm 0.04^{\circ}\text{C}$
- 2-speed Pump

Advanced Digital (AD)



- Heats to 200°C
- Stability: $\pm 0.01^{\circ}\text{C}$
- Variable-speed Pump
- Full Connectivity

Advanced Programmable (AP)

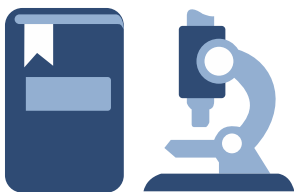







- Heats to 200°C
- Stability $\pm 0.005^{\circ}\text{C}$
- Variable-speed Pump
- Full Connectivity
- Open Mode Time/
Temperature Ramping



SELECTION: CIRCULATING WATER BATHS

...For Heat Removal from Pieces of Equipment

Where? Industry	Why? Applications	Who... to contact	What? products?	When... to sell?	Questions to ask...
 Education	<ul style="list-style-type: none"> Rotary Evaporators Freezing Media Warming Electrophoresis General Lab Cooling / Heating Extractions 	Lab Manager Facilities Manager Principal Investigator Purchasing	Refrigerated Circulating Water Baths <ul style="list-style-type: none"> -40° to 200°C Reservoir sizes: 7 to 75 liters Up to 1400 W of cooling Temperature stabilities to $\pm 0.005^{\circ}\text{C}$ 	<ul style="list-style-type: none"> Requirements have changed 	<ul style="list-style-type: none"> What device is being cooled / requires heat removal?
 Bio / Pharma	<ul style="list-style-type: none"> Rotary Evaporators Extractions= Aging Studies Calibration Enzyme Assays Cell Culture 	Lab Manager Facilities Manager Principal Investigator Purchasing	Heated Circulating Water Baths <ul style="list-style-type: none"> Ambient +10° to 200°C Reservoir sizes: 6 to 28 liters Temperature stabilities to $\pm 0.005^{\circ}\text{C}$ 	<ul style="list-style-type: none"> Replacing existing equipment 	<ul style="list-style-type: none"> How much heat removal or cooling capacity is required?
 Manufacturing	<ul style="list-style-type: none"> Vacuum Pump Distillation Tap Water Cooling Solvent Traps= 	Quality Manager Facilities Manager Purchasing Engineering	Viscosity Baths <ul style="list-style-type: none"> Working temperatures up to 135°C Uniquely configured to accommodate specific testing and quality control needs, including ASTM D-445 	<ul style="list-style-type: none"> Customer is looking to improve performance 	<ul style="list-style-type: none"> What are the pressure and/or flow rate requirements?
 Chem/PetroChem	<ul style="list-style-type: none"> Viscosity Sample Tempering Solvent Traps Polymer Studies Asphalt Testing 	Quality Manager Facilities Manager Purchasing Engineering	Histology Products <ul style="list-style-type: none"> Quickly freeze samples for histological studies Histology Bath: fixed at -60°C Histology Freeze Plate: fixed at -34.4°C 	<ul style="list-style-type: none"> Customer is purchasing a new device or is adding a new process that requires heating or cooling 	<ul style="list-style-type: none"> What is the current model being used?
 Medical	<ul style="list-style-type: none"> Cell Freezing Media Warming DNA Culture PCR (Polymerase Chain Reactions) Tissue Freezing Histological Studies 	Lab Manager Facilities Manager Purchasing			
 Others	<ul style="list-style-type: none"> Calibration Chromatography Isoelectric Focusing Forced-Age Testing e.Coli Testing 	Lab Manager Quality Manager Principal Investigator Purchasing Engineering	Coliform Bath <ul style="list-style-type: none"> 28 liter reservoir Specifically designed for many Coliform tests 		

TEMPERATURE CONTROLLERS FOR CIRCULATING BATHS



Controller Type	Advanced Programmable (AP)	Advanced Digital (AD)	Standard Digital (SD)	MX
Maximum Temperature	200°C	200°C	170°C	135°C
Temperature Stability	±0.005°C	±0.01°C	±0.04°C	±0.07°C
Swivel 180™ Rotating Controller	•	•	•	
Pump	Variable-Speed	Variable-Speed	2-Speed	1-Speed
Pump Pressure (maximum) psi (kPa) 60Hz/50Hz	4.3 (29.6) / 3.6 (24.8)	4.3 (29.6) / 3.6 (24.8)	3.5 (24.1) / 2.9 (20.0)	2.3 (15.9) / 1.8 (12.4)
Pressure Flow Rate (maximum) gpm (l/min) 60Hz/50Hz	5.3 (20.1) / 4.4 (16.7)	5.3 (20.1) / 4.4 (16.7)	2.9 (11.0) / 2.7 (10.2)	3.6 (13.5) / 3.1 (11.9)
Suction Flow Rate (maximum) gpm (l/min) 60Hz/50Hz	3.9 (14.7) / 3.2 (12.2)	3.9 (14.7) / 3.2 (12.2)		
Closed-Loop Operation	•	•	•	•
Open-Loop Operation	•	•		
Fluid Optimization/Specific Heat Tuning	•	•		
Temperature Calibration Capability	10-point	1-point	1-point	1-point
WhisperCool® Environmental Control System	•	•	•	•
Inert Gas Reservoir Purge	•	•	•	
Display Type & Size	SmartTouch Color LCD 4.3"	SmartView LCD Touch-Pad 3.75"	EasyView LCD Touch-Pad 3.75"	EasyView LCD 3.25"
Enhanced Data Display Capability	7 selectable views	Message Bar		
Multi-Language Menus or Prompts	11 languages	4 languages	Icon/English	Icon/English
Displays Temperature Trend	•			
Time/Temperature Programs & Steps	Open-Mode			
Date & Time with Calendar Start/Stop	•			
Timer	•	•		
On-Screen Help or Prompts	•	•		
External Temperature Control Capability (Pt100)	•	•		
Data logging to USB Flash Drive	•	•		
RS232/RS485 Serial Output	•	•	RS232	
Remote On/Off Capability	•			
USB	•	•		
Ethernet	•	•		
Software Support for LabVIEW™ included	•			
Backlit Display	•	•	•	•
Automatic Loss of Power Reset	Selectable	Selectable	Yes	Yes
Safety Class (DIN 12876-1)	III	III	I	I
Over-Temperature Protection	•	•	•	•
Failsafe Heater Control	•	•	•	•
High and Low Temperature Limits/Alarms	•	•	•	•
Low-Liquid-Level Safety	•	•	•	•
Alarm and Fault Indicators	Message	Message	Icon	Icon

Temperature Controller Features



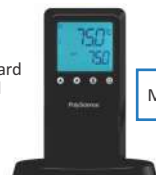
Advanced Programmable (AP)



Advanced Digital (AD)



Standard Digital (SD)



MX



Features include patented Swivel 180™ and a SmartTouch touchscreen. (Select Models Only)



CIRCULATING BATHS



ACHIEVE THE TEMPERATURE YOU WANT, WHEN YOU WANT IT.

PolyScience circulating baths are designed to work hard for your specific needs while making your job more efficient and ensuring the most precise temperature control.

- Reservoir sizes ranging from 6 to 75 liters
- Refrigerated and Heated, Heated and Open Bath models, and Immersion Circulators
- Four types of digital temperature controllers, from the essentials to fully programmable
- Intuitive setup and operation, featuring either multi-language help or screen prompts (depending on model)



Capacity	7 liter	7 liter	15 liter	15 liter	20 liter	28 liter	45 liter
Maximum Temperature	200 °C						135°C
Minimum Temperature	-20°C	-40°C	-30°C	-40°C	-30°C	-30°C	-25°C
Cooling Capacity @20°C	200 W	360 W	915 W	1000 W	915 W	915 W	1400 W
Working Access (LxWxD) inch	6.2 x 5.6 x 5	6.2 x 5.6 x 5	8.4 x 10.9 x 5.5	8.4 x 10.9 x 5.5	9.9 x 12.5 x 5.5	12.4 x 14.1 x 5.5	21.6 x 15.7 x 5.5
Drain	•	•	•	•	•	•	•
Lid Dock™	•	•	•	•	•	•	•
Advanced Programmable	AP07R-20	AP07R-40	AP15R-30	AP15R-40	AP20R-30	AP28R-30	AP45R-20
Advanced Digital	AD07R-20	AD07R-40	AD15R-30	AD15R-40	AD20R-30	AD28R-30	AD45R-20
Standard Digital	SD07R-20		SD15R-30		SD20R-30	SD28R-30	
MX	MX07R-20		MX15R-30		MX20R-30		

1 Maximum temperature is controller dependent

GENERAL PURPOSE WATER BATHS



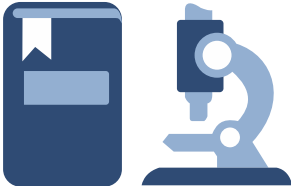

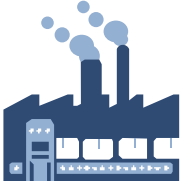



PolyScience water baths utilize a full color TFT display. Clear hinged gable cover continues to be a standard feature on all the water baths and the intuitive plain-language user interface offers five selectable languages.

Research, communication and listening to customers' needs is what drives the innovation to make the range of PolyScience Water Baths stand out from the competition. These intelligent water baths are the perfect blend of control, convenience, safety and of course, budget.

- Programmable High Limit Value
- Eco Mode
- User-settable alarms: audible & visible
- Displays actual and set point temperature simultaneously
- 5 programmable pre-sets for frequently used temperatures
- Programmable timer
- Hinged gable cover
- Programmable Calibration / Temperature Offset

Capacity	20 liter	28 liter
Temperature Range	Ambient +5° to 100 °C	
Temperature Stability	±0.1°C	
Temperature Uniformity	±0.2 °C	
Heater Wattage	1400	1400
Working Access (L x W x D) inch	9.5 x 17 x 6 in	9.5 x 17 x 8 in
Overall Dimensions (L x W x D) inch	22.5 x 17.5 x 12 in	22.5 x 17.5 x 14 in
Electrical Requirements (V/Hz/A)	240 / 50 / 6	240 / 50 / 6
Shipping Weight	28 lbs / 12.7 kg	
Part No.	240V	WBE20A12E

SELECTION: CHILLERS

Recirculating Chillers...			...For Heat Removal from Pieces of Equipment		
Where? Industry	Why? Applications	Who... to contact	What? products?	When... to sell?	Questions to ask...
 Education	<ul style="list-style-type: none"> Rotary Evaporators Condenser Cooling Bioreactors Dry Ice Replacement Tap Water Cooling Replacement Laser Cooling 	Lab Manager Facilities Manager Principal Investigator Purchasing	Benchtop Chillers <ul style="list-style-type: none"> Up to 13 kW heat removal -20° to +50°C LS, LM and MM series Portable Chillers <ul style="list-style-type: none"> Up to 5.3 kW heat removal -10° to +40°C Turbine, Positive Displacement or Centrifugal Pump options 	<ul style="list-style-type: none"> Requirements have changed - more heat removal / cooling 	<ul style="list-style-type: none"> What device is being cooled / requires heat removal?
 Bio / Pharma	<ul style="list-style-type: none"> Bioreactors ICP (Inductively Coupled Plasma) Electron Microscope GC/MS (Gas Chromatography / Mass Spectroscopy) Reaction Vessels Rotary Evaporators 	Lab Manager Facilities Manager Principal Investigator Purchasing			
 Manufacturing	<ul style="list-style-type: none"> Laser Cooling Welder Cooling Hydraulics Cooling Waterjet Cutting Electrical Discharge Matching 	Quality Manager Facilities Manager Purchasing Engineering	DuraChill® Chillers <ul style="list-style-type: none"> Up to 33 kW heat removal 0° to +35°C 	<ul style="list-style-type: none"> Replacing existing equipment 	<ul style="list-style-type: none"> How much heat removal or cooling capacity is required?
 Chem/PetroChem	<ul style="list-style-type: none"> Condenser Cooling Concentrator / Extractor GC/MS (Gas Chromatography / Mass Spectroscopy) Reaction Vessels 	Quality Manager Facilities Manager Purchasing Engineering			
 Medical	<ul style="list-style-type: none"> Plasma Thawing CT Scanning Magnetic Resonance Imaging PET Scanners 	Lab Manager Facilities Manager Purchasing	Cryoprecipitate Bath <ul style="list-style-type: none"> Fixed at 4 °C Thaws up to 24 units of Fresh Frozen Plasma or Whole Blood simultaneously 	<ul style="list-style-type: none"> Customer is looking to improve performance 	<ul style="list-style-type: none"> What are the pressure and/or flow rate requirements?
 Others	<ul style="list-style-type: none"> Distillation Apparatus FTIR (Fourier Transform Infrared Spectroscopy) Injection Molding Turbo-Molecular Pumps Vacuum Systems Semiconductor (Plasma Etch, Water Polishing, Water Trimming) 	Lab Manager Quality Manager Principal Investigator Purchasing Engineering			

DURACHILL CHILLERS



PolyScience®
Temperature Control Solutions®

DuraChill® Portable Recirculating Chillers are the most effortless chiller on the market. With a wide range of new and exclusive features, DuraChill® Chillers promote ease of use, minimal maintenance and environmental safety. DuraChill® has been designed for future migration to low global warming potential natural refrigerants.

Applications

- Plasma Thawing
- Condenser Cooling
- CT Scanning
- Bioreactors
- MRI
- Dry Ice Replacement
- PET Scanners
- Tap Water Cooling Replacement
- Distillation
- Laser Cooling
- FT-IR
- ICP
- Injection Molding
- Electron Microscopes
- GC/MS
- Hydraulics Cooling
- Reaction Vessels
- Semi Conductor
- Welder Cooling

Model		CA02	CA03	CA05	CA10
Cooling Capacity @ 20°C	50 Hz	0.7 kW	1.28 kW	1.84 kW	2.65 kW
Cooling Capacity @ 10°C	50 Hz	0.5 kW	0.94 kW	1.29 kW	1.9 kW
Cooling Capacity @ 0°C	50 Hz	0.3 kW	0.49 kW	0.77 kW	1.0 kW
Fluid Temperature Range		-10 to 70°C			
Temperature Stability		±0.1 °C			
Displayable Temperature Units		°C or °F			
Displayable Pressure Units		PSI or kPa			
Pump Inlet and Outlet		1/2 inch female NPT			
Connectivity		RS-232. USB Serial Port Emulation. USB TMC, Dry Contact On/Off/Status			
Self-Changing Air Filter		Yes			
UV Biological Growth Inhibitor		Yes			
Optional Remote Temperature Probe		Remote monitoring / Remote control			
Ambient Air Temperature Tracking		Yes			
Pump Pressure Range (Turbine Pump)	50 Hz	20 to 75 psi / 138 to 621 kPa			
Pump Pressure Range (Positive Displacement Pump)	50 Hz	20 to 83 psi / 138 to 572 kPa		20 to 83 psi / 138 to 572 kPa	
Maximum Pump Flow Rate (Turbine Pump)	50 Hz	2.2 qpm / 8.3 lpm		2.9 qpm / 11 lpm	
Maximum Pump Flow Rate (Positive Displacement Pump)	50 Hz	2.0 qpm / 7.6 lpm		2.9 qpm / 11 lpm	
Power Requirements (with Turbine Pump)	50 Hz	240V, 50Hz, 8.9A	240V, 50Hz, 9.0A	240V, 50Hz, 9.2A	240V, 50Hz, 13.5A
Power Requirements (with Positive Displacement Pump)	50 Hz	240V, 50Hz, 8.2A	240V, 50Hz, 8.3A	240V, 50Hz, 8.5A	240V, 50Hz, 12.0A
Part Number (with Turbine Pump)	50 Hz	CA02A2T1-41AA1N	CA03A2T1-41AA1N	CA05A2T1-41AA1N	CA10A2T1-41AA1N
Part Number (with Positive Displacement Pump)	50 Hz	CA02A2P1-41AA1N	CA03A2P1-41AA1N	CA05A2P1-41AA1N	CA10A2P2-41AA1N

Note: Specifications are subject to change

IMMERSION PROBE COOLERS



Excellent for trapping and Dewar - type applications, these coolers reduce the expense of using consumables such as dry ice or liquid nitrogen. A flexible hose allows convenient placement of the cooling probe. With a variety of probes available, these Immersion Probe Coolers are the ideal solution for reaching extreme cold temperatures with high efficiency.

	IP-100	IP-80	IP-60	IP-35
Temperature Range	-100 TO -60°C	-80 TO -40°C	-60 TO -20°C	-35 TO -40°C
Cooling Capacity (W)	85 @ -65°C 35 @ -80°C	215 @ -60°C 100 @ -80°C	150 @ -20°C 0 @ -60°C	1004 @ 20°C 106 @ -30°C
Temperature Control	Fixed at -100°C	Fixed at -80°C	Fixed at -60°C	Fixed at -35°C
Temperature Readout	Yes	Yes	No	No
Overall Dimensions (L x W x H)	20.1 x 15 x 22.3 in	20.1 x 15 x 22.3 in	11 x 10 x 9 in	17 x 14 x 14 in
Hose Diameter	2.8" (7.1 cm)	2.8" (7.1 cm)	1.5" (3.8 cm)	1.5" (3.8 cm)
Hose Length	6' (1.8 m)	6' (1.8 m)	4' (1.2 m)	4' (1.2 m)
3" Rigid Coil	•			•
1.75" Rigid Coil		•		•
1.5" Rigid Coil			•	
1.75" Bent Probe		•		
1.5" Bent Probe			•	
Flexible Cold Finger	•			
Rigid Cold Finger	•			



	Probe Length	Probe Diameter	Exposed Length ¹
3" Rigid Coil	9" (22.9 cm)	3" (7.6 cm)	17" (43.2 cm)
1.875" Rigid Coil	7" (17.8 cm)	1.875" (4.8 cm)	16.5" (41.9 cm)
1.5" Rigid Coil	4" (10.2 cm)	1.5" (3.8 cm)	15" (38.1 cm)
1.875" Bent Probe	7" (17.8 cm)	1.875" (4.8 cm)	8" (20.3)
1.5" Bent Probe	4" (10.2 cm)	1.5" (3.8 cm)	6" (15.2)
Rigid Cold Finger	3.75" (9.53 cm)	0.7" (1.8 cm)	3.75" (9.53 cm)
Flexible Cold Finger	15" (38.1 cm)	0.625" (1.6 cm)	15" (38.1 cm)

1. Exposed length refers to the amount of exposed metal from the insulated hose to the tip of the probe.

DURACHILL® BENCHTOP CHILLERS



- Intuitive touchscreen display with 5 operating languages
- Continuous fluid level monitoring
- Variable fan speed technology
- UV light biological growth inhibitor
- Patented self-diagnostic system
- Fluid temperature range of -30 to 30°C
- Temperature stability of $\pm 0.1^\circ\text{C}$
- Displayable temperature units in $^\circ\text{C}$
- Displayable pressure units in kPa or PSI
- Easy-priming pump
- Environmentally friendly natural refrigerant option

The natural refrigerant option is better for the environment and also achieves a low temperature of -30°C , making DuraChill Benchtop the coldest in its class.

- Refrigeration stepper valves

Saving energy and providing more precision and efficiency to your cooling process, even at lower temperatures.

- Hot gas bypass

Adding an additional level of safety to each unit.

- Remote probe

Control a jacketed reactor or any other process that requiring a secondary temperature sensor with the easily-equipable optional remote probe.

Model		BA05 (R134a)	BA05 (R290)	BA06 (R134a)	BA06 (R290)
Operating Temperature Range		-10° to 30°C	-10° to 30°C	-20° to 30°C	-30° to 30°C
Cooling Capacity @ 20°C^1	50 Hz	400 W [†]	400 W [†]	1000 W [†]	1050 W [†]
Cooling Capacity @ 10°C^1	50 Hz	375 W [†]	350 W [†]	700 W [†]	875 W [†]
Cooling Capacity @ 0°C^1	50 Hz	350 W [†]	250 W [†]	450 W [†]	650 W [†]
Cooling Capacity @ -10°C^1	50 Hz	200 W [†]	150 W [†]	250 W [†]	500 W [†]
Reservoir Capacity		0.4 gal / 1.5 L			
Pump Inlet and Outlet		1/2 inch female NPT			
Connectivity		RS-232, USB-B, Dry Contact On/Off/Status, Remote Probe			
UV Biological Growth Inhibitor		Yes			
Optional Remote Temperature Probe		Remote monitoring / Remote control			
Ambient Air Temperature Tracking		Yes			
Maximum Sound Level (at 1m)		60 dBA			
Maximum Pump Pressure		16.5 psi / 114 kPa			
Maximum Pump Flow Rate		6.4 qpm / 24.6 lpm			
Power Requirements	50 Hz	240V, 50Hz, 2.4A	240V, 50Hz, 2.5A	240V, 50Hz, 2.5A	240V, 50Hz, 3.2A
Part Number	50 Hz	BA05A0G3-310A13E	BA05E0G3-310A13E	BA06A0G3-310A13E	BA06E0G3-310A13E
Unit Weight		24.3 kg			
Shipping Weight		35.5 kg			
Dimensions		16.9 x 9.1 x 18.4 inch			

1. Cooling capacity based on a 50%/50% mix of ethylene glycol and distilled water as coolant at ambient temperature of 20°C .

[†] For conversion of W to BTU/hr, multiply by 3.412

RECIRCULATING COOLERS

The 3370 Liquid-to-Air Cooler and the 4100 Liquid-to-Liquid Cooler are economical, quiet, energy-efficient alternatives to traditional chillers in many applications. Extend the temperature range of non-refrigerated circulators to below ambient and boost the cooling capacity of refrigerated circulators with the FT-25 Flow-Through Refrigerated Cooler.



3370 Liquid-to-Air Cooler



4100 Liquid-to-Liquid Cooler



FT-25 Flow-Through Refrigerated Cooler

		3370 Liquid-to-Air
Cooling Capacity @ 20 °C (W) 60Hz/50Hz		4000 ¹
Temperature Range		Ambient +5° to 70°C
Turbine Pump	Maximum Pressure psi (bar)	62 (4.3)
	60Hz/50Hz	50 (3.4)
	Maximum Flow gpm (l/min)	5.4 (20.5)
	60Hz/50Hz	4.5 (17.1)
Positive Displacement Pump	Maximum Pressure psi (kPa)	100 (689)
	60Hz/50Hz	100 (689)
	Maximum Flow gpm (l/min)	2.4 (9.1)
	60Hz/50Hz	2 (7.6)
Overall Dimensions (L x W x H)		20.5 x 15 x 22.3 in
Electrical Configurations	Turbine Pump	120V 60Hz 5.5A
	60Hz / 50Hz	240V 50Hz 3A
	Positive displacement Pump	120V 60Hz 5.5A
	60Hz / 50Hz	240V 50Hz 3A
Reservoir Capacity gal (L)		1.1 (4.2)
Process Connections		1/2" female NPT

		4100 Liquid-to-Liquid
Cooling Capacity @ 20°C1 (W) 60Hz/50Hz		10,000 ²
Temperature Range		Facility Water +10° to 60°C
Temperature Stability		0.4°C
Turbine Pump	Maximum Pressure psi (kPa)	100 (689)
	60Hz/50Hz	100 (689)
	Maximum Flow gpm (l/min)	3.5 (13.2)
	60Hz/50Hz	3.5 (13.2)
Overall Dimensions (L x W x H)		27.6 x 14.5 x 22.6 in
Electrical Configuration		208-240V 50-60 Hz 3A 240V 50Hz 3A
Reservoir Capacity gal (L)		1.1 (4.2)
Process Connections		1/2" female NPT

		FT-25 Flow-Through Refrigerated
Temperature Range		-25° to 40°C
Cooling Capacity (W)		745 @ 20°C / 260 @ -10°C
Temperature Control		Fixed at -25°C
Inlet and Outlet sizes		3/8" (9.5 mm)
Overall Dimensions (L x W x H)		17 x 14 x 14 in

APPLICATION-SPECIFIC PRODUCTS

PolyScience offers an array of application-specific products, uniquely configured to accommodate specific testing and quality control needs.



Viscosity Baths

- Configured for use with popular capillary viscometers
- Choice of MX or AD controller
- Includes tap water cooling coil
- Lidded viscometer openings
- Configured to accommodate ASTM D-445 testing



Coliform Bath

- Ideal for fecal coliform and E. coli testing
- 28 liter reservoir with hinged, see-through cover
- Designed specifically for the following Coliform tests:
 - APHA, AWWA, WEF and EPA fecal coliform determinations at 44.5°C as specified in "Standard Test Methods for the Examination of Water and Wastewater" (19th edition)
 - Membrane filter method or MPM method can be used
 - AOAC determination of E. coli at 45.5°C
 - APHA, AWWA, WEF 7-hour Fecal Coliform Test at 41.5°C
 - Defined Substrate Technology® tests for E. coli and total coliform at 35.0°C



Refrigerated Calibration Bath

- Accommodates up to 6 temperature measuring devices
- Bath lid with sleeves for two each 3 mm, 4 mm, and 6 mm diameter openings



Histology Freeze Plate

- Fast-freeze cold plate allows histotechnicians to observe tissue freezing and keep specimen edges flat
- Ultra-cold surface freezes samples quickly, reduces overall processing time by 40% or more



Cryoprecipitate Bath

- Safe, reliable thawing of Fresh Frozen Plasma (FFP) for the recovery of Cryoprecipitated Antihemophilic Factor (AHF)
- Preset to a 4°C thawing temperature (Variable setpoint option available)
- Thaws up to 24 units of FFP or Whole Blood (WB) simultaneously



75 Liter Forced Age Testing Bath

- Specifically designed to replicate temperature fluctuations that accelerate beverage aging
- Working Temperature: -20° to 100°C
- Advanced Programmable Temperature Controller allows endless array of thermal cycling options and programs
- Complies with DIN 12876-1 Class III safety requirements for use with flammable liquids

LABORATORY INSTRUMENTS



Water Baths
Freeze Dryers
Sieve Shakers
Lab Testing Instruments



CIRCULATING / REFRIGERATED WATER BATH



- Compact and Space saving, table top model
- Microprocessor based PID controlled
- User-Friendly Operation
- External Circulation
- Dual display with 7 segment LED display
- Display Resolution : 0.1°C
- Temperature Stability : +/-0.3°C
- R134a CFC free Refrigerant
- Robust cooling, Powerful pump
- Inner bath of SS and outer housing MS powder coated
- Can be used as chiller, circulator, water bath & refrigerated bath

Order Code	WB 2000	WB2100
Temperature Range	-10 °C to 100°C	-20 °C to 100 °C
Temperature Control	PID	PID
Temperature Stability	± 0.3°C	± 0.3°C
Display	Dual 7 segment LED	Dual 7 segment LED
Display Resolution	0.1°C	0.1°C
Heater Capacity	1000 watts	1000 watts
Cooling Capacity @ 19°C	300 watts	300 watts
Pump Flow Rate	12 liters / min	12 liters / min
Bath Opening [W X L X D]	120 X 120 X 150mm	120 X 120 X 150mm
Dimensions [W X L X H]	440 X 430 X 475mm	440 X 430 X 475mm

ORDERING INFORMATION

Order Code	Description
WB 2000	Circulating Waterbath, -10°C to 100°C, 5 Ltr. Horizontal
WB 2100	Circulating Waterbath, -20°C to 100°C, 5 Ltr. Horizontal

CIRCULATING / REFRIGERATED WATER BATH



- Compact and Space saving, table top model
- Microprocessor based PID controlled
- User-Friendly Operation
- External Circulation
- Dual display with 7 segment LED display
- Display Resolution : 0.1°C
- Temperature Stability : +/-0.3°C
- R134a CFC free Refrigerant
- Robust cooling, Powerful pump
- Inner bath of SS and outer housing MS powder coated
- Can be used as chiller, circulator, water bath & refrigerated bath

Order Code	WB 2000 V	WB 2100 V	WB 2200 V	WB 2300 V
Temperature Range	-10 °C to 100 °C	-20 °C to 100 °C	-30 °C to 100 °C	-40 °C to 100 °C
Temperature Control	PID	PID	PID	PID
Temperature Stability	± 0.3°C	± 0.3°C	± 0.3°C	± 0.3°C
Display	Dual 7 segment LED	Dual 7 segment LED	Dual 7 segment LED	Dual 7 segment LED
Display Resolution	0.1°C	0.1°C	0.1°C	0.1°C
Heater Capacity	1000 watts	1000 watts	2000 watts	2000 watts
Cooling Capacity @ 19°C	300 watts	300 watts	400 watts	800 watts
Pump Flow Rate	12 liters / min	12 liters / min	12 liters / min	17 liters / min
Bath Opening [W X L X D]	110 X 110 X 150mm	110 X 110 X 150mm	200 X 120 X 150mm	170 X 100 X 150mm
Dimensions [W X L X H]	445 X 240 X 640mm	445 X 240 X 640mm	320 X 470 X 625mm	460 X 510 X 785mm

ORDERING INFORMATION

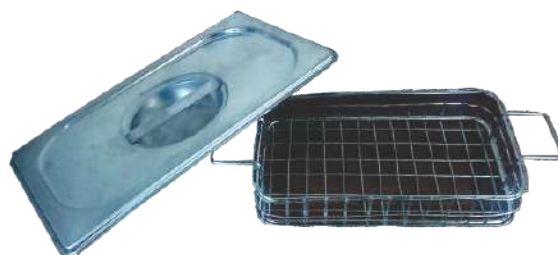
Order Code	Description
WB 2000 V	Circulating Waterbath, -10°C to 100°C, 5 Ltr. Vertical
WB 2100 V	Circulating Waterbath, -20°C to 100°C, 5 Ltr. Vertical
WB 2200 V	Circulating Waterbath, -30°C to 100°C, 9 Ltr. Vertical
WB 2300 V	Circulating Waterbath, -40°C to 100°C, 9 Ltr. Vertical

ULTRASONIC CLEANER



With advanced MOSFET technology in generation of Ultrasonic waves are very efficient. The Ultrasonic cleaner with various operation modes like degassing, Cleaning, Sweep modes gives optimum uses of the Sonicator in its application.

- Powerful and reliable cleaning.
- Built-in micro processor controller with MOSFET based technology.
- Built-in digital thermometer and timer to set an optimum condition for cleaning.
- Easy to read operation status on digital display.
- With SS lead & basket
- Frequency 30 ± 3 KHz



Order Code	USC100	USC200	USC300	USC400	USC500
Volume Capacity	1.5 Ltr.	3 Ltr.	5.5 Ltr.	10 Ltr.	20 Ltr
Temperature Range	Fixed @ 45°C	RT to 70°C	RT to 70°C	RT to 70°C	RT to 70°C
Bath Dimension [L x W x H mm]	240 x 140 x 65	200 x 150 x 100	250 x 200 x 110	300 x 200 x 150	450 x 300 x 150
Basket Size [L x W x H mm]	210 x 110 x 40	180 x 130 x 60	230 x 180 x 60	280 x 180 x 100	400 x 250 x 100
Ultrasonic Power	50 Watts	100 Watts	150 Watts	300 Watts	500 Watts
Timer Range	0 - 15 min	0 - 60 min	0 - 60 min	0 - 60 min	0 - 99 min
Rated Supply	230 VAC	230 VAC	230 VAC	230 VAC	230 VAC

ORDERING INFORMATION

Order Code	Description
USC 100	Ultrasonic cleaner, 1.5 Ltr
USC 200	Ultrasonic cleaner, 3 Ltr.
USC 300	Ultrasonic cleaner, 5.5 Ltr.
USC 400	Ultrasonic cleaner, 10 Ltr
USC 500	Ultrasonic cleaner, 20 Ltr

FREEZE DRYER

with
Vacuum Pump



Freeze dryer is widely used in medicine, pharmacy, biology research, chemical industry and food production, etc. After freeze drying process, a long term preservation for material is much easier.

The vacuum freeze drying technology, which is also called sublimation drying, is a technical method that freezes the samples in advance, and then sublimates its moisture under vacuum state.

- Condenser, trays, drying shelf and pre-freezing shelf are made of stainless steel 304, anti-corrosion.
- Color LCD touch screen display.
- Condenser with uniform and good ice capture function.
- Transparent acrylic drying chamber.
- Vacuum pump with high pumping speed, to reach good final vacuum.
- CFC-free refrigerant, low noise, good efficiency.

Order Code	FD-50	FD-80	FD-50B	FD-80B
Condenser temperature	-50°C	-80°C	-50°C	-80°C
Tray Dimension	200mm dia x 4 layers	200mm dia x 4 layers	200mm dia x 4 layers with 8 ports manifold	200mm dia x 4 layers with 8 ports manifold
Freeze Drying Area	0.12m ²			
Condenser Capacity	3-5kg			
Vacuum degree	< 10 Pa			
Bulk Capacity	1.2L, 10mm thickness			
Voltage	220V, 50Hz			
Power	700W			
Dimension [L x W x H]	460 x 625 x (370 + 465) mm			

ORDERING INFORMATION

Order Code	Description
FD-50	Freeze dryer -50°C, 4 layers
FD-50B	Freeze dryer -50°C, 4 layers with 8 ports manifold
FD-80	Freeze dryer -80°C, 4 layers
FD-80B	Freeze dryer -80°C, 4 layers with 8 ports manifold

ACCESSORIES

FD-NV	Nitrogen Valve
FD-COM	Communication Interface

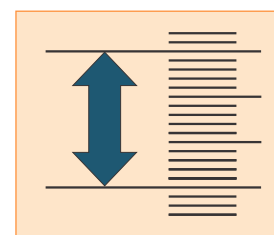
ELECTROMAGNETIC SIEVE SHAKER



- 3 directional shifting motion
- Intermittent and Continuous tapping motion
- Very low noise operation
- Wet Sieve attachment (Optional)
- Mesh is uniformly tensioned & welded



Test Sieves



Amplitude (2.5 mm)

Order Code	SSA 200
Display	16 x 2 character alphanumeric LCD
Intermittent operation	At interval Upto 0.5 seconds
Capacity	Upto 8 Sieves of 50 mm height
Shake time	Programmable from 1min to 99 min
Power (Vibration) level	Programmable from 5 to 20
Max.Batch / Feed Capacity	3 Kg
Noise level	Less than 61 dB without sieves at maximum amplitude Less than 71 dB without sieves and material at maximum amplitude
Dimensions [L X W X H]	339 X 312 X 270mm
Weight	50 Kg Approx without sieves
Power	220 / 230 V AC, 50 Hz, 600VA
Std. Supply	Main Unit + Lid + Receiver + 2 Nos. of sieves (Mesh Size from 5.6 mm to 40 µm with compliance certificate, S - 200 XX user selectable)

ORDERING INFORMATION

Order Code	Description
SSA - 200	Sieve Shaker
SSA - LR	Lid & Receiver
SSA - LR - Wet	Wet sieve attachment

TEST SIEVE

International Style



Certificate



Indian Style






Calibration certificate

- Sieves made from stainless steel (Mesh- SS 316 / Ring- SS 304) with laser marking of specification & serial number
- Specially designed sieves without crevasses and without Lead
- No soldering process involved
- Lead free which makes it ideal for food grade products

International Test Sieves Comparison Table				200 mm/8 Inch Brass Frame Indian Style	200 mm/8 Inch ss Frame Indian Style	200 mm/8 Inch ss Frame International Style
Bss	ASTM	ISS	Mesh Size	non Certified	non Certified	With Certificate
3	3.35	5.6	5.6 mm	IBS 200-5.6 mm	ISS 200-5.6 mm	S 200-5.6 mm
		5	5 mm			S 200-5 mm
3.5	4	4.75	4.75 mm	IBS 200-4.75 mm	ISS 200-4.75 mm	S 200-4
		4.5	4.5 mm			S 200-4.5 mm
4	5	4	4 mm	IBS 200-4 mm	ISS 200-4 mm	S 200-5
		3.55	3.55 mm			S 200-3.55 mm
5	6	3.35	3.35 mm	IBS 200-3.35 mm	ISS 200-3.35 mm	S 200-6
		3.15	3.15 mm			S 200-3.15 mm
6	7	2.8	2.8 mm	IBS 200-2.8 mm	ISS 200-2.8 mm	S 200-7
		2.5	2.5 mm			S 200-2.5 mm
7	8	2.36	2.36 mm	IBS 200-2.36 mm	ISS 200-2.36 mm	S 200-8
		2.24	2.24mm			S 200-2.24mm
8	10	2	2 mm	IBS 200-2 mm	ISS 200-2 mm	S 200-10
		1.8	1.8 mm			S 200-1.8 mm
10	12	1.7	1.7 mm	IBS 200-1.7 mm	ISS 200-1.7 mm	S 200-12
		1.6	1.6 mm			S 200-1.6 mm
12	14	1.4	1.4 mm	IBS 200-1.4 mm	ISS 200-1.4 mm	S 200-14
		1.25	1.25 mm			S 200-1.25 mm
14	16	1.18	1.18 mm	IBS 200-1.18 mm	ISS 200-1.18 mm	S 200-16
		1.12	1.12 mm			S 200-1.12 mm
16	18	1	1 mm	IBS 200-1 mm	ISS 200-1 mm	S 200-18
		900	900 µ			S 200-900 µ
18	20	850	850 µ	IBS 200-850 µl	SS 200-850 µ	S 200-20
		800	800 µ			S 200-800 µ
22	25	710	710 µ	IBS 200-710 µ	ISS 200-710 µ	S 200-25
		630	630 µ			S 200-630 µ
25	30	600	600 µ	IBS 200-600 µ	ISS 200-600 µ	S 200-30
		560	560 µ			S 200-560 µ

TEST SIEVE

International Test Sieves Comparison Table				200 mm/8 Inch Brass Frame Indian Style	200 mm/8 Inch ss Frame Indian Style	200 mm/8 Inch ss Frame International Style
Bss 	ASTM 	ISS 	Mesh Size	non Certified	non Certified	With Certificate
30	35	500	500 μ	IBS 200-500 μ	ISS 200-500 μ	S 200-35
		450	450 μ			S 200-450 μ
36	40	425	425 μ	IBS 200-425 μ	ISS 200-425 μ	S 200-40
		400	400 μ			S 200-400 μ
44	45	355	355 μ	IBS 200-355 μ	ISS 200-355 μ	S 200-45
		315	315 μ			S 200-315 μ
52	50	300	300 μ	IBS 200-300 μ	ISS 200-300 μ	S 200-50
		280	280 μ			S 200-280 μ
60	60	250	250 μ	IBS 200-250 μ	ISS 200-250 μ	S 200-60
		224	224 μ			S 200-224 μ
72	70	212	212 μ	IBS 200-212 μ	ISS 200-212 μ	S 200-70
		200	200 μ			S 200-200 μ
85	80	180	180 μ	IBS 200-180 μ	ISS 200-180 μ	S 200-80
		160	160 μ			S 200-160 μ
100	100	150	150 μ	IBS 200-150 μ	ISS 200-150 μ	S 200-100
		140	140 μ			S 200-140 μ
120	120	125	125 μ	IBS 200-125 μ	ISS 200-125 μ	S 200-120
		112	112 μ			S 200-112 μ
150	140	106	106 μ	IBS 200-106 μ	ISS 200-106 μ	S 200-140
		100	100 μ			S 200-100 μ
170	170	90	90 μ	IBS 200-90 μ	ISS 200-90 μ	S 200-170
		80	80 μ			S 200-80 μ
200	200	75	75 μ	IBS 200-75 μ	ISS 200-75 μ	S 200-200
		71	71 μ			S 200-71 μ
240	230	63	63 μ	IBS 200-63 μ	ISS 200-63 μ	S 200-230
		56	56 μ			S 200-56 μ
300	270	53	53 μ	IBS 200-53 μ	ISS 200-53 μ	S 200-270
		50	50 μ			S 200-50 μ
585	325	45	45 μ	IBS 200-45 μ	ISS 200-45 μ	S 200-325
		40	40 μ			S 200-40 μ
400	400	38	38 μ	IBS 200-38 μ	ISS 200-38 μ	S 200-400
		36	36 μ			S 200-36 μ
		32	32 μ			S 200-450
500	500	25	25 μ	IBS 200-25 μ	ISS 200-25 μ	S 200-500
600	600(635)	20	20 μ	IBS 200-20 μ	ISS 200-200 μ	S 200-600(635)

VACUUM OVEN



- Fitted with highly accurate controller that allows gentle drying of heat sensitive materials avoiding damage due to rapid temperature overshooting
- Dries faster than the conventional oven
- Separate vacuum release valve releasing vacuum by gentle turn of the knob
- Separate vacuum connection valve preventing oil spillage in the oven
- The interior of the chamber is made of stainless steel with one SS rack
- The door provided with silicon gasket & positive latch to maintain seal at all vacuum levels
- Door with glass window for viewing of the sample inside the chamber
- Heater mounted below the tray, ensures rapid and equal heating without any thermal loss
- Visual alarm for temperature deviations

Order Code	VO 100
Temperature Range	50°C to 200°C
Resolution	0.1 °C
Temperature Accuracy	± 2°C
Capacity Litres	30
Inner dimension [L x W x D]	300 x 300 x 275mm
External dimensions [L x W x D]	590 x 420 x 460mm
Shelves	1
Rated supply	230V, 50Hz, 15A

ORDERING INFORMATION	
Order Code	Description
VO 100	Vacuum Oven, 30 Ltr.
VP-1	Vacuum Pump

VACUUM PUMP



- Oil free, Portable, Diaphragm type vacuum pump
- Made from Special grade Aluminum: light weight and good strength
- Built in Micro suction filter with 2-play nylon reinforced neoprene rubber diaphragm
- Special sealed bearing to eliminate lubrication
- Moisture trap & pressure regulator with pressure gauge
- Built-in thermal protection device to shut off the pump automatically when overheated and then restart it when the temperature cools down
- Vibration-proof assembly makes pump run at the lowest noise level among all other equivalent pumps

HOT PLATE MAGNETIC STIRRER



MS 101

MS 303

- Robust top made up of nano-crystalline glass ceramic for resistance against temperature shocks and liquid splash
- Elevated control panel for protection against leaking liquids
- Display for easy value setting, all set values readily visible without toggle. No shared display
- 3 heating modes for rapid, gradual & accurate heating
- Pulse mode for vigorous mixing of liquids
- Constant speed across diverse loads and viscosity
- Compatible with PT- 1000 Temperature Probe for accurate measurement of media temperature (available as an optional accessory)
- Powerful BLDC motor for constant speed delivery under varying load conditions

Order Code	MS 101	MS 303
Speed Range	200 - 2200 in steps of 10 RPM	
Dimensions (L x W x H)	156 X 248 X 155 mm	330 X 225 X 113 mm
Stirring Quantity in Ltr (Max)	10	20
Heating Temp. Range (°C)	Ambient to 320°C	Ambient to 550°C
Set-up Plate Feature	Ceramic Coated SS	Ceramic Plate
Set-up Plate Dimensions	140 mm dia (Round)	180 X 180 mm
RS 232 interface	N.A	Yes
Weight	1.4 kg	4.9 kgs
Temp. Accuracy	±1°C	
IP Rating	IP 21	
Safety Temp. Circuit	Yes	
Slip Detection	Yes	

ORDERING INFORMATION

Order Code	Description
MS 101	Magnetic Stirrer with Heater, 3 Ltr
MS 303	Magnetic Stirrer with Heater, 20 Ltr

OPTIONAL ACCESSORIES

Order Code	Description
MS-A	External Sensor (PT 1000)
MS-B	Support Clamp for external sensor

OVERHEAD STIRRER



- Brushless DC motor for quiet operation and maintenance free long operation
- Microprocessor controlled for consistent accuracy with viscous and non-viscous liquids
- Reversible mixing motion - CW/CCW
- Large digital display for all the parameters at one glance
- Uninterrupted operation through Smart control
- Safety cut for overload, over current & over temperature
- Counter reaction to speed change
- Push through shaft for viscous liquid or smaller vessels

Order Code	OHS 200
Capacity [H ₂ O]	25 Ltr.
Speed Range	50-2000 RPM
Torque	20 Ncm
Viscosity	10000 mPas
Timer	1 min to 99 hr 59 mins & infinite mode
Dimensions [L X W X H]	79 X 221 X 179 mm
Protection Class	IP 54
Weight	1.8 kg

ORDERING INFORMATION

Order Code	Description
OHS 200	Overhead Stirrer with Display, 25 Ltr. with Stand

**Impeller to be order separately*

OPTIONAL ACCESSORIES

Order Code	Description
OHS-A	Universal Stand with support holder & fixing device
OHS-B	Cross-Welded Impeller : 50 X 12 X 550 mm
OHS-C	Straight Blade Impeller : 35 X 12 X 550 mm
OHS-D	Straight Blade Impeller : 50 X 12 X 550 mm
OHS-E	Pivoting Blade Impeller : 60 X 15 X 550 mm
OHS-F	Collapsible Blade Impeller : 80 X 10 X 550 mm
OHS-G	Square Blade Impeller : 38 X 38 X 550 mm
OHS-H	Anchor Blade Impeller : 45 X 45 X 550 mm
OHS-I	Paddle Blade Impeller : 70 X 70 X 550 mm
OHS-J	Paddle Blade Impeller : 70 X 80 X 550 mm



OHS-B
Cross-Welded



OHS-C
Straight Blade



OHS-D



OHS-E
Pivoting Blade



OHS-F
Collapsible Blade



OHS-G
Square Blade



OHS-H
Anchor Blade



OHS-I
Paddle Blade



OHS-J

VORTEX MIXER (VM 101)



Vortex mixer is designed for laboratory; mixing of samples. It assures the highest performance in terms of speed, reliability, precision and safety. It has a variable speed with digital control that allows low RPM start-up for gentle shaking and high speed mixing for vigorous vortexing samples.

- Touch and continuous operations
- Wide Speed Range of 300 - 4200 RPM, Step-less speed regulation
- Brushless DC motor for maintenance free long life.
- Steady and safe operation
- Variable timer from 1 min to 999 min for continuous operation
- Press activated Pulse Function
- Used for various mixing applications with optional adapters, handles up to 48 tubes
- Can be used in hoods & cold rooms
- Specially designed vacuum suction feet hold to the surface and prevent the unit from movement
- Aluminum Cast Base

Items	Specifications
Orbital diameter [mm]	4
Motor type	Brushless DC motor
Speed range [rpm]	300-4200
Speed display	Digital RPM / Time
Run type	Continuous/touch operation
Dimensions (mm)	205 x 136 x 139 (W x D x H)
Protection class acc. to DIN 60529	IP21
Supply Voltage / Adaptor details	110-240VAC input to adaptor, 24V DC , 1.5 A output
Power	20 W
Weight	3 Kg

ORDERING INFORMATION

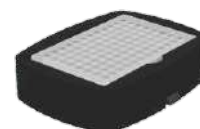
Order Code	Description
VM 101	300-4200 RPM (Adjustable speed)

Accessories

Order Code	Description
VMA-1	Cup attachment (Std. supply with unit)
VMA-2	Attachment for Centrifuge tubes
VMA-3	Attachment for microplate
VMA-4	Attachment for flask
VMA-5	Round Disk attachment



Flask



96 Well Micro Plate



Micro Centrifuge Tube
20 x 1.5/2ml



Cup Attachment



Round Disc

PERSONAL CENTRIFUGES



PC 103V

- Patented magnetic design for tool-free rotor removal
- Digital display of time and RPM
- 8 place closed rotor for better airflow, better efficiency and low heat generation
- Electronic brake for immediate stop on lid opening for user safety
- Imbalance detection with auto cut off
- User enabled digital calibration function
- Whisper-quiet operation
- Small footprint for saving valuable bench space
- Suitable for use in hoods and cold rooms
- Microprocessor controlled centrifuge with variable speed and time setting, along with last run memory function

Order Code	PC 103 V
Display	Digital display
Maximum RPM/RCF [g]	6000/2000 g
Timer	1 to 25 Minutes & Infinite Mode
Variable Speed	1000 - 6000 RPM in step of 100 RPM
Noise Level	< 55 db
Dimensions [L X W X H]	162 X 157 X 116 mm
Rotors & Adaptors, (Included in standard pack)	8 X 1.5 / 2.0 ml Closed Rotor, PCR Strip Rotor (2 X 8 X 0.2 ml), Reduction Adaptors for 0.2 / 0.5 ml Micro tubes
Rotor	8 X 1.5/2.0 ml Micro tubes
Weight	1.1 Kgs
Imbalance detection	Yes

ORDERING INFORMATION	
Order Code	Description
PC 103V	Personal Centrifuge, variable speed, RPM 6000, RCF 2000 X g

ABEL FLASH POINT APPARATUS



- Confirms to specifications as per - IP-33 & IP-170 & IS1448 (P-20) standards
- Outer body made of heavy gauge mild steel, painted with powder coated paint
- Temperature will be controlled by digital temperature controller cum indicator & PT-100 sensor
- Electrically heated model with metallic heating plate with gas jet/oil test jet and manual stirrer

Order Code	AFP - D
Supply	230V AC, Single Phase, 50 Hz
Standard Package Contains	<ul style="list-style-type: none"> • Thermometer IP-74C - 1 No • Thermometer IP-75C - 1 No • Energy Regulator • Test Cup made of Brass • Water Bath (Heating Vessel) Made of copper • Manual Stirrer • Oil test jet Gas test jet with control valve and silicon tubing

PENSKY MARTENS CLOSED CUP FLASH POINT APPARATUS



- Confirms to specifications as per - ASTM D-93, IP-34 & IS1448 standards
- Outer body made of heavy gauge mild steel, painted with powder coated paint
- Temperature will be controlled by digital temperature controller cum indicator & PT-100 sensor
- Electrically heated model

Order Code	PMCC - D
Supply	230V AC, Single Phase, 50 Hz
Standard Package Contains	<ul style="list-style-type: none"> • Thermometer IP-15C/ASTM-9C - 1 No • Thermometer IP-16C/ASTM-10C - 1 No • Test Cup & Cup Cover • Pilot Flame • Motorized Stirrer • Heating Unit • Oil test jet OR Gas test jet with control valve, 'Y' connection, silicon tubing & rubber tubing

CLEVELAND OPEN CUP FLASH POINT APPARATUS - DIGITAL



- Confirms to specifications as per - ASTM D-92, IP-36 & IS1448 (P-69) standards
- Electrically heated model with metallic heating plate
- Manually Controlled Flame
- Outer body made of heavy gauge MS powder coated
- Temperature controlled by digital temperature controller cum indicator & PT-100 sensor

Order Code	COC - D
Supply	230V AC, Single Phase, 50 Hz
Standard Package Contains	<ul style="list-style-type: none"> • Thermometer IP-28C - 1 No • Open Cup with handle • Clamp for thermometer • Oil test jet OR Gas test jet with control valve and silicon tubing

KINEMATIC VISCOSITY BATH



ANM Kinematic Viscosity baths are used in determination of viscosity of fluids. These units conform to specifications and methods as per **ASTM D-445/446** and **IP -71 standards**. The apparatus are supplied with standard accessories used in the method.

- Double walled constructions, outer body made of heavy gauge mild steel, painted with powder coated paint, inside made of stainless steel.
- Glass wool insulation to prevent heat loss.
- Leak proof argon arc welded & fine finished joints.
- Toughened glass windows with In-built light arrangement.
- A stirrer for turbulence free agitation & uniform temp. throughout the bath.
- Digital temperature controller cum indicator and PT-100 sensor.

Description	
Temperature Range	Ambient RT+5°C to 120°C
Display Resolution	0.1°C (0.01°C up to 99.99°C and above 100°C will be 0.1°C in KVB-04-P Model.)
Accuracy	± 0.05°C
Heater wattage	1.5 KW
Supply	230V AC, Single Phase
Standard Package Contains	<ul style="list-style-type: none"> • Thermometer IP-32C / IP-66C / IP-92C (Any One) - 1 No • Viscometer Holder made of Bakelite • Digital Stop Watch -1No.

ORDERING INFORMATION	
Order Code	Description
KVB-04-E	Standard Kinematic Viscosity Bath , with 4 holes
KVB-04-P	Standard Kinematic Viscosity Bath , with 4 holes, Eurotherm Controller

OPTIONAL INFORMATION	
Order Code	Description
KVB-CAL	Calibration Certificate

DATA LOGGER



ANM Data logger is a data acquisition system with its advanced features and 21CFR compliance Software used to record Temperature / Humidity / Pressure data and prepare the reports. These are used for qualification and calibration of instruments like Ovens, Incubators, Stability chambers etc.

- The software is 21CFR Part-II Compliant.
- Common Data Logger for different brand instruments .
- Uses latest micro controller based technology for better accuracy.
- Easy on-line field calibration by front panel membrane keypad.
- Field programmable channel scan time 1 to 59 sec., Logging Interval 1 to 9999 sec. & Printing interval 5 to 9999 sec.
- Field programmable delay time 1 to 99 sec. for relay output.
- Optional RS232 / RS485 Modbus Serial / Parallel Printer Port.

Specifications

Inputs	Range		Resolution Normal	Accuracy Full Scale
	Minimum	Maximum		
RTD PT-100 (3 WIRE)	-200°C	400°C	0.1	±0.25%
K - Type (Cr - AL)	-50°C	1300°C	1	±0.25%
R - Type (PT - 13% Rh/PT), S-Type (PT - 10% Rh/PT)	0°C	1750°C	1	±0.25%
T - Type (Cu / CON)	-200°C	400°C	0.1	±0.25%
E - Type (NI Cr - CON)	0°C	1000°C	1	±0.25%
4 to 20 mA / 0 to 20 mA	-999°C	9999°C	Programmable	±0.25%
Voltage (0 to 1 VDC / 0 to 10 VDC)	-999°C	9999°C	By User	±0.25%
Set Point	2 independent set points for each channel with 2 common relay outputs & programmable latch / non-latch facility for relay and alarm indications.			
Relay Output	4 common relay outputs, potential free contacts			
Print Interval	5 to 9999 sec. for Direct printout on 24 / 08 / 132 Column Dot Matrix			
Memory	5000 reading storage capacity for DLS 8 3000 reading storage capacity for DLS 16			
Fault Indication	Under range, over range indication for RTD and all Thermocouple I/Ps			
Dimensions for 16 Channel [H X W X D]	192 X 96 X 200mm			

ORDERING INFORMATION

Order Code	Description
DLS 8	Data Logger, 8 Channel
DLS 16	Data Logger, 16 Channel
DLS SW	Software for Data Logger, 21 CFR Compliant software

OPTIONAL ACCESSORIES

Order Code	Description
DLS - A	Temperature Sensor, RTD PT100, -50°C to 400°C
DLS - B	Temperature Sensor, Thermocouple, k type, 100°C to 1200°C
DLS - C	Temperature Humidity Transmitter, -40°C to 1200°C, 0 to 100%RH

UNIVERSAL STATISTIC PRINTER



The balance printer USP -100 has a streamlined appearance, completely meets the quality requirements of the chemical and pharmaceutical industry and GLP, GMP standard certification.

- Various modes of operation for different applications:
 - Direct Mode
 - Interval Printing
 - Statistical (Sum, Mean etc.)
 - Formulation
 - Pipette Calibration
 - Comparator Mode
- Prints Time and Date information when hooked to a balance without clock function.
- Password Protection for Date / Time Setting.
- Plug and Play Interfacing.
- Enhanced Support for ISO/GLP.
- User Defined Header & Footer.

Specifications	
Display	Alpha Numeric LED Display
Printing	<ul style="list-style-type: none"> • Method : Impact dot matrix • Speed : 2.7 lines/sec. (Approx.) • Printer mechanism durability : 1.5 million lines • Character size : 1.7mm (W) × 2.6mm (H) ASCII • Inking : Ink ribbon • Print format : 24 digits / line (5 × 7 dot matrix) • Paper : Normal paper 57.5mm width
Interface	Compatible with all types of Weighing balances having RS232 & DB9 interfacing facility
Power Supply	12 V DC /1.5 A
Dimension [L x W x H]	188.5 x116 x 87mm

ORDERING INFORMATION

Order Code	Description
USP-100	Universal Statistic Printer

SAYBOLT CHROMOMETER



Saybolt Chromometer with daylight source built-in the base arranged to project a diffused light up through the tubes, 3-position turret assembly (1/2, 1 and 2) with certified Saybolt filters reducing the time required to make a determination and eliminating the handling of the standard filters and the possibility of loss and damage.

- Daylight source built-in the base to project diffused light u.
- 3-position turret assembly (1/2, 1 and 2) with certified filters.
- For use on AC 230V-50Hz-0.3 A-180x180x760 mm - (± 8 kg).
- Conforms to ASTM D-156.

H₂O STABILIZER



- Stops/minimizes the biological breeding of bacteria, algae, fungus in instrument where water is stored
- Water changing duration is minimized
- Heat-transfer efficiency is maintained
- The transparency/cleanliness of water is maintained
- All contact parts are protected against corrosion
- Safe to use
- Biodegradable
- Non irritating to skin at recommended concentrations
- It can also be used as a general purpose fluid for routine Laboratory applications

FOAMLESS DETERGENT & NEUTRALIZER FOR LAB GLASSWARE WASHER/DRYER

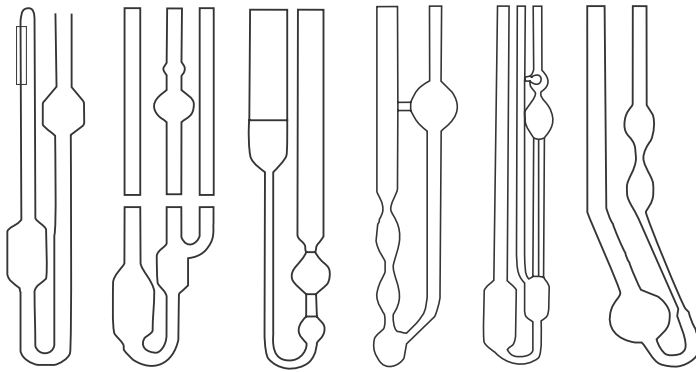


- Glassware Washing Machines require foamless surfactant free detergent for trouble free operation.
- Detergent & Neutralizer are available in pack size of 10 liters along with Certificate of Analysis (COA).

ORDERING INFORMATION

Order Code	Description
FLD	Foamless Detergent for Glassware Washer, 10 Ltr.
FLN	Neutralizer for Glassware Washer, 10 Ltr.

'U' TUBE VISCOMETER



UTDF SL UTRF CFRF UBBEL CFDF

UTDF - 'U' Tube Direct Flow
SL Suspended Level

CFRF - Cannon Fensky Reverse Flow
CFDF Cannon Fensky Direct Flow

UTRF - 'U' Tube Reverse Flow
UBBEL Ubbelohde Viscometer

- Confirms to specifications ASTM D-445 & 446.
- 'U' Tube Reverse Flow / Cannon Fensky Reverse Flow Viscometers for opaque liquid.
- 'U' Tube Direct Flow / Cannon Fensky Direct Flow Viscometers for transparent liquid.
- Suspended Level / Ubbelohde Viscometers for transparent liquid.
- Supplied with test certificate of constant @40°C or @40°C & 100°C.

ORDERING INFORMATION

Order Code	Description
UBBELOHDE VISCOMETER for transparent liquids	
UBBEL-1	Size number 1 - Viscosity range from 2 to 10 cSt
UBBEL-1C	Size number 1C - Viscosity range from 6 to 30 cSt
UBBEL-1B	Size number 1B - Viscosity range from 10 to 50 cSt
UBBEL-2	Size number 2 - Viscosity range from 20 to 100 cSt
CANNON-FENSKE ROUTINE VISCOMETER DIRECT FLOW TYPE for transparent liquids	
CFDF-75	Size number 75 - Viscosity range from 1.6 to 8 cSt
CFDF-100	Size number 100 - Viscosity range from 3 to 15 cSt
CFDF-150	Size number 150 - Viscosity range from 7 to 35 cSt
CFDF-200	Size number 200 - Viscosity range from 20 to 100 cSt
CFDF-300	Size number 300 - Viscosity range from 50 to 200 cSt
CFDF-350	Size number 350 - Viscosity range from 100 to 500 cSt
CFDF-400	Size number 350 - Viscosity range from 200 to 1200 cSt
CANNON-FENSKE VISCOMETER REVERSE FLOW TYPE for opaque liquids	
CFRF-75	Size number 75 - Viscosity range from 1.6 to 8 cSt
CFRF-100	Size number 100 - Viscosity range from 3 to 15 cSt
CFRF-150	Size number 150 - Viscosity range from 7 to 35 cSt
CFRF-200	Size number 200 - Viscosity range from 20 to 100 cSt
CFRF-300	Size number 300 - Viscosity range from 50 to 200 cSt
CFRF-350	Size number 350 - Viscosity range from 100 to 500 cSt
BS/IP U RF VISCOMETER for opaque liquids	
UTRF-1	Size number 1 - Viscosity range from 0.6 to 3 cSt
UTRF-2	Size number 2 - Viscosity range from 2 to 10 cSt
UTRF-3	Size number 3 - Viscosity range from 6 to 30 cSt
UTRF-4	Size number 4 - Viscosity range from 20 to 100 cSt
UTRF-5	Size number 5 - Viscosity range from 60 to 300 cSt
BS/IP SL VISCOMETER for transparent liquids	
SL-1	Viscosity range 3.5 to 10 cSt
SL-1A	Viscosity range 6 to 30 cSt
SL-2	Viscosity range 20 to 100 cSt
SL-2A	Viscosity range 60 to 500 cSt
BS/IP U DF VISCOMETER for transparent liquids	
UTDF-A	Viscosity range 1 to 5 cSt
UTDF-B	Viscosity range 2 to 15 cSt
UTDF-C	Viscosity range 6 to 45 cSt
UTDF-D	Viscosity range 20 to 120 cSt
UTDF-E	Viscosity range 60 to 500 cSt

LEAK TEST APPARATUS (LTA 201-N)



Leak Test Apparatus is used to test for the integrity of packed strips, blisters and small sachets containing tablets, granulates liquids and so on. The instrument is used to test the quality of the packaging process and to check that the seals enclosing the product are perfectly intact.

- As per USP And Package Specifications
- Ideal for checking leakage of packed strips, blisters, small sachets and Liquid orals.
- Fully Automatic System
- Display indicates set and actual vacuum level
- Vacuum level can be set up to 600mm of Hg
- Programmable retention time, start delay time and vacuum hold time
- Automatic release of vacuum at the end of the test
- Alarm indication to indicate the status of the test
- Incorporated with an oil free vacuum pump
- Compact size makes the device portable
- Slow release / ventilation of vacuum at the end of the test
- Validation Report Printout
- Polycarbonate vacuum desiccator.
- 20X4 LCD display

Specifications	LTA 201
Vacuum Range	100 - 600 mbar
Accuracy	+/- 10mbar
Display	20 X 4 LCD display
Time Range	1 -9999 sec
Interface	Parallel printer port
Dimensions	400 x 320 x 200
Accessories / Std. Supply	Polycarbonate Desiccator (250 mm) with perforated disk and Lid, Connection tubing
Weight Approx.	16 Kg
Supply Voltage	220 VAC, 50 Hz

ORDERING INFORMATION

Order Code	Description
LTA 201-N	Leak Test Apparatus

CHROMATOGRAPHY CONSUMABLES



9MM LC CLEAN BONDED SCREW CAP



- Color free, Bonded ultra clean septa.
- For all LC, HPLC and LCMS analysis.
- Suitable for critical samples.

Part No.	Description
SCSPB-09-2000	PP Blue Screw Cap with Clear LC Clean Bonded Septa
SCSPB-09-2001	PP Grey Screw Cap with Clear LC Clean Slit Bonded Septa.



9MM ULTRA MASS SPEC CERTIFIED SCREW CAP WITH SEPTA (UM4)



- Extreme low-bleed.
- Conditioned to level 4 standard.
- Cleanest in the industry.
- Pharmaceutical grade.

Part No.	Description
SCSPB-UM-0730	UM,4 PP Blue Colour Open Top Screw Cap, 6mm hole with White PTFE /Purple Silicon BONDED septa
SCSPB-UM-2074	UM4,PP Blue Colour Open Top Screw Cap, 6mm hole with White PTFE /Purple Silicon SLIT BONDED septa

9MM, Y PRE-SLIT SEPTA



- Prevent sample evaporation until the septum is pierced.
- The Y shape of the pre-cut allows a larger area for the needles to penetrate

Part No.	Description
SCSP-9Y-2074	PP Blue Colour Open Top Screw Cap, 6mm hole with Red PTFE/ White Silicon with Y Silicon SLIT, PTFE not slit septa

9MM MAGNETIC SCREW CAP



- Designed for instruments using a magnetic sample transport system.
- Truly Bonded Septa.
- Secure grip to autosampler magnets.
- For liquid injection technique (Temp. upto 130°C).

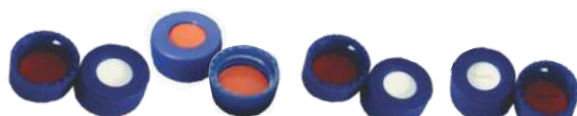
Part No.	Description
MCSPB-09-0730	Blue Polymag Cap with Bonded Red PTFE/White Silicon BONDED Septa
MCSPB-09-2074	Blue Polymag Cap with Bonded Red PTFE/White Silicon SLIT BONDED Septa

9MM SCREW TOP VIAL, CAP & SEPTA

CYBERLAB™



Slit Bonded



Bonded

Slit

Part No.	Description
	9mm Screw Top Vials
ST-09-2068	1.5 ml Clear Glass Screw Top Vials, with write on
ST-09-2069	1.5 ml Amber Glass Screw Top Vials, w/o write on
ST-09-2070	1.5 ml Amber Glass Screw Top Vials, with write on
ST-09-2068-33	1.5ml Clear Glass Screw Top Vials, with write-on 33mm Expansion
ST-09-0932	0.3 ml (300 µl) PP micro Vial
ST-PP-1205	1.5ml PP Screw Top Vials
	9mm Cap and Septa
SCSPB-09-0730	PP Blue Colour Open Top Screw Cap, 6mm hole with Red PTFE/ White Silicon BONDED septa for 9-425 vials
SCSPB-09-2074	PP Blue Colour Open Top Screw Cap, 6mm hole with Red PTFE/White Silicon SLIT BONDED septa for 9-425 vials
SCSPB-09-1534	PP Blue Colour Open Top Screw Cap, 6mm hole with White PTFE/ Beige Silicon SLIT BONDED septa for 9-425 vials
SCSP-09-0730	PP Blue Colour Open Top Screw Cap, 6mm hole with Red PTFE/ White Silicon septa for 9-425 vials
SCSP-09-2074	PP Blue Colour Open Top Screw Cap, 6mm hole with Red PTFE/ White Silicon with SLIT septa for 9-425 vials
SCSPB-09-4499	9mm, PP Blue Screw Cap ,6mm Center hole with red silicon/clear PTFE BONDED Septa NEW
SCSPB-09-4498	9mm, PP Blue Screw Cap ,6mm Center hole with red silicon/clear PTFE SLIT BONDED Septa NEW

INSERT



Part No.	Description
	Inserts for 9 mm vials
MI-09-0865	(100µl) 0.1ml 31 x 6 mm with assembled plastic spring
MI-09-0866	(200µl) 0.2ml 31 x 6 mm flat bottom

8MM SCREW TOP VIAL, CAP & SEPTA



Part No.	Description
	8mm Screw Top Vials, Cap and Septa
ST-08-4427	1.5 ml Clear Glass Screw Top Vials, w/o write on
ST-08-4428	1.5 ml Clear Glass Screw Top Vials, with write on
ST-08-4429	1.5 ml Amber Glass Screw Top Vials, w/o write on
ST-08-4430	1.5 ml Amber Glass Screw Top Vials, with write on
SCSP-08-4437	PP Black Colour Screw Cap, with Red PTFE/ White Silicon BONDED septa

11MM SNAP TOP VIAL, CAP & SEPTA

CYBERLAB™



Slit

Part No.	Description
	11mm Crimp Top Vials, Cap and Septa
ST-11-1232	1.5ml Clear Glass Snap Top Vials, w/o write-on
ST-11-1232W	1.5ml Clear Glass Snap Top Vials, with write-on
ST-11-1232A	1.5ml Amber Glass Snap Top Vials, w/o write-on
ST-11-1232WA	1.5ml Amber Glass Snap Top Vials, with write-on
SCSP-11-4500	11mm Clear Snap Cap, 6mm hole with Red PTFE Septa/ White Silicon Septa
SCSP-11-2074	11mm Clear Snap Cap, 6mm hole with Red PTFE Septa/ White Silicon with Slit for Snap Top Vials

11MM CRIMP TOP VIAL, CAP & SEPTA



Part No.	Description
	11mm Crimp Top Vials, Cap and Septa
CT-11-4491	1.5ml Clear Glass Crimp Top Vials, w/o write-on
CT-11-4492	1.5ml Clear Glass Crimp Top Vials, with write-on
CT-11-4493	1.5ml Amber Glass Crimp Top Vials, w/o write-on
CT-11-4494	1.5ml Amber Glass Crimp Top Vials, with write-on
CC-11-4500	11mm Silver Aluminium Crimp Caps with Centre hole, with White Silicon / PTFE Red Septa
CC-11-4498	11mm Silver Aluminium Crimp Caps with Centre hole, with Red Silicon / PTFE Red Septa

13MM SCREW TOP VIAL, CAP & SEPTA



Part No.	Description
	13mm Screw Top Vials, Cap and Septa
ST-13-0222	4ml Clear Glass Screw Top Vials, w/o write-on
ST-13-1335	4ml Clear Glass Screw Top Vials, with write-on
ST-13-0280	4ml Amber Glass Screw Top Vials, w/o write-on
ST-13-1336	4ml Amber Glass Screw Top Vials, with write-on
SCSP-13-4437	PP Black Colour Open Top Screw Cap, 8.5mm hole with Red PTFE / White Silicone BONDED septa

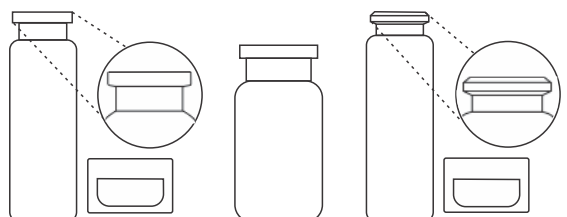
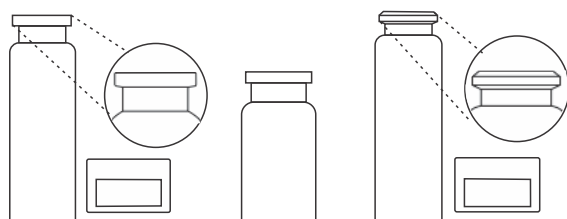
1ML SHELL VIAL



Part No.	Description
	1ml Shell Vial
SV-01-0513	1ml Clear Glass Shell Vial with PE Plug Cap
SV-PP-2194	1ml PP Shell Vial with PE Plug Cap

HEADSPACE VIAL, CAP & SEPTA

CYBERLAB™



Part No.	Description
20ml Headspace Vials	
PE-0C-0297	20ml Clear Glass Flat Bottom Vial for PE
PE-0C-0297 (R)	20ml Clear Glass Round Bottom Vial for PE
UN-RB-0873	20ml Clear Glass Round Bottom Vial
UN-FB-0796	20ml Clear Glass Flat Bottom Vial
10ml Headspace Vials	
UN-10-1405	10ml Clear Glass Round Bottom Vial
UN-10-0795	10ml Clear Glass Flat Bottom Vial
Part No.	Description
Headspace Cap and Septa	
ALNS-STAG-0638	20mm, Silver Aluminium Crimp Cap with Silicon White / PTFE Beige (Tan) Septa
ALNS-STAG-6579	20mm, Silver Aluminium Crimp Cap with Silicon White / PTFE Beige Dark (Tan) Septa
MG-08-0638	20mm Gold Magnetic Cap With Silicon White/PTFE Beige Septa (Pre-Assembled)
BM-08-6579	20mm, Blue Bi-metallic Crimp Cap with Silicon White / PTFE Beige Dark (Tan) Septa (Pre-Assembled)
BM-08-0638	20mm, Red Bi-metallic Cap with Silicon White / PTFE Beige Septa (Pre-Assembled)
ALNS-BTGR-0057	20mm, Silver Aluminium Crimp Cap, Butyl / PTFE Grey Septa
ALWS-BTGR-6239	20mm Aluminium Pressure Release Cap Butyl / PTFE Septa.

CRIMPER AND DECAPPER



Part No.	Description
Crimper and Decapper	
CRIMP-11	Manual Crimper 11mm
DECAP-11	Manual Decapper 11mm
CRIPM-20	Manual Crimper 20mm
DECAP-20	Manual Decapper 20mm

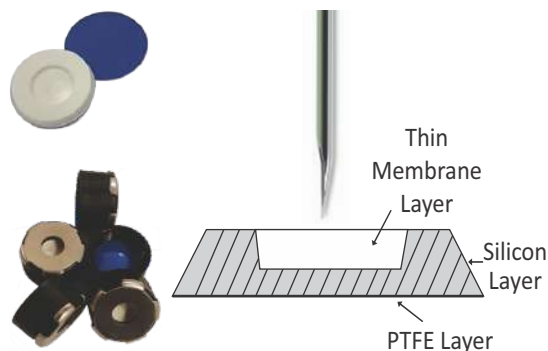
20ML HEADSPACE VIAL, CAP & SEPTA



Part No.	Description
20ml Head Space Screw Top Vial, Cap and Septa	
ST-20-1307	20 ml Clear Glass Round Bottom Screw Top Vial
ST-20-1311	20 ml Amber Glass Round Bottom Screw Top Vial
SCSP-20-1309	18 mm Silver Magnetic Screw Cap with Silicon White/PTFE Blue Septa
MPHS-18-6331	18 mm Magnetic PP Screw Cap with Blue PTFE / White Silicon SPME Septa

18MM POLYMAG SCREW CAP WITH SPME MICROCENTER SEPTA

CYBERLAB™



- Micro thin center.
- Seals tightly.
- Easy to pierce.
- Patented Product.
- For Headspace technique. (Temp. upto 130°C).

Part No.	Description
MPHS-18-6331	Magnetic PP Screw Cap with Blue PTFE / White Silicon SPME Septa.

SMART SEPTA (RFID)



- Scan tags with commercially available RFID handheld devices.
- Track samples at the individual vial/cap level.
- Temperature extreme agnostic.
- Protected from chemical sample within the silicon/PTFE layers.
- Tag cannot be removed or tampered with.
- Customizable data storage parameters.
- Secure administration of data.

EPA / TOC VIAL KIT (CERTIFIED & PRE-ASSEMBLED)



- Suitable for water or soil samples.
- Ultra-low bleed septa are suitable for all environmental sample analysis.
- Ideal for EPA method 5035.
- 40 ml Clear glass screw Neck Vials

Part No.	Description
KT-40-0402	40ml Clear Glass Screw Neck Vial with PP Screw Cap White Center Silicon natural / PTFE Beige BONDED Septa with Dust Protection Lid
SCSPC-24-0842	PP White colour top screw cap with Silicon natural / PTFE Beige BONDED septa with Dust Protection Lid



D2 LAMP

- OEM equivalent lamps.
- Same bare lamps used.
- Guarantee and warranties match those offered by OEM.

CYBERLAB™**Agilent**

1100, 1200, 1260, 1290

Cyberlab Part Number	Description
D2-AGI-VWD	D2 Lamp for Agilent 1100/1200 VWD/UVD equivalent to G1314-60100/G1314-60101
D2-AGI-DAD	D2 Lamp for Agilent 1100/1200 DAD/PDA equivalent to P/N 5181-1530/2140-0813/2140-0820
D2-AGI-1260	D2 Lamp for Agilent 1260/1290 equivalent to 5190-0917

Waters

2996, 2487 Alliance

Cyberlab Part Number	Description
D2-WAT-2487	D2 Lamp for Waters Alliance 2487 UV/VWD equivalent to P/N WAS081142
D2-WAT-2996	D2 Lamp for Waters Alliance 2996 PDA/DAD equivalent to P/N WAT052586/WAT057760
D2-WAT-UPLC	D2 Lamp for Waters ACQUITY UPLC 2489/2998 equivalent to P/N 20100018

Shimadzu

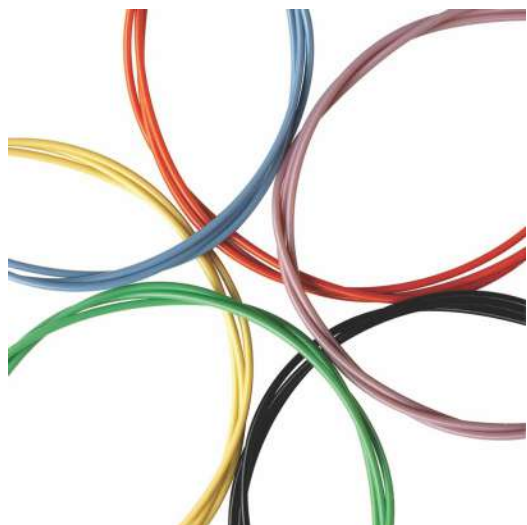
SPD10A, AVP, AVVP, M10AVP, 2010

Cyberlab Part Number	Description
D2-SHI-2010	D2 Lamp for Shimadzu HPLC LC-2010 equivalent to P/N 228-37401-00
D2-SHI-SPD	D2 Lamp for Shimadzu SPD10A/10AVP equivalent to P/N 228-34016-02
D2-SHI-UVAA	D2 Lamp for Shimadzu AA/UV Spectrophotometers equivalent to P/N 062-65055-05

Shimadzu**Prominence i**

Cyberlab Part Number	Description
D2-SHI-NEXPROD	D2 Lamp for Shimadzu NEXERA (LC 2040/2040C) & Prominence i (LC2030/2030C) equivalent to P/N 228-55626-01

PEEK TUBING



Trajan precision bore PEEK tubing is designed specifically for modern LC, LCMS and automation usage. PEEK tubing is a flexible alternative to stainless steel tubing in high pressure applications.

Trajan precision bore PEEK tubing ensures reproducibility in your chromatographic flow rates and results through smooth internal surface along with consistent and tight toleranced IDs.

Features and benefits

- Excellent chemical resistance and inert to most commonly used solvents. Exceptions are very caustic reagents, strong acids and bases.
- Bio-inert and bio-compatible.
- Color coded to industry standards for easy identification of inner diameter.
- Leach free colorants.
- Smooth inner walls and precise IDs.
- Works well with either polymer fittings as well as stainless steel fittings.

Recommended applications

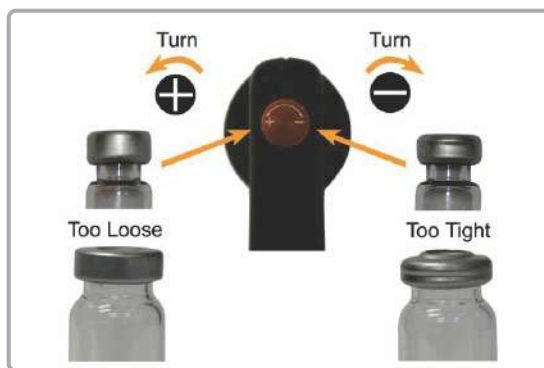
- LC, LCMS and automation solutions.

Product specifications

- Operating temperature up to 100°C max continuous use.
- Operating pressure range up to 10,000 psi (690 bar), size dependent.
- Can be used across a broad pH range of 2 to 14.

Cat No.	ID in mm	ID in Inch	OD in Inch	Colour	Length	Compatible
1302005001	0.13mm ID	0.005" ID	1/16"		10 Mtr. 50 Mtr. 100 Mtr.	For Waters
1302007002	0.17mm ID	0.007" ID	1/16"		10 Mtr. 50 Mtr. 100 Mtr.	For Agilent
1302010003	0.25mm ID	0.010" ID	1/16"		10 Mtr. 50 Mtr. 100 Mtr.	For Shimadzu
302020004	0.50mm ID	0.020" ID	1/16"		10 Mtr. 50 Mtr. 100 Mtr.	Preparative HPLC

MANUAL CRIMPER AND DECAPPER



Crimper



Decapper

Manual crimper and decapper for aluminum crimp caps. Ergonomically designed manual crimping tools transform the standards of vial crimping and decapping.

Crimper

Part No.	Description
311990	11 mm Manual Crimper
320990	20 mm Manual Crimper

Decapper

Part No.	Description
311991	11 mm Manual Decapper
320991	20 mm Manual Decapper

ELECTRONIC BATTERY CRIMPER AND DECAPPER

Crimper



Decapper



Electronic battery crimper for 20 mm aluminium crimp caps*. Reduce strain from repetitive manual crimping. Crimp with the push of a button!

**Not suitable for all-steel or magnetic ring crimp caps; The High Power Unit is required for this application.*

Crimper

Part No.	Description
6A11CO	11 mm Electronic Crimper
6A20CO	20 mm Electronic Crimper

Decapper

Part No.	Description
6A11DO	11 mm Electronic Decapper
6A20DO	20 mm Electronic Decapper



Crimper



Decapper



BTO premium high-temp GC septa

Maximum operating temperature 400 °C (330-350 °C for 17mm size). BTO is Bleed and Temperature Optimized for the most demanding GC and GC/MS applications. Septa BTO is formulated to extend low-bleed and outstanding mechanical properties or premium GC septa to the highest-temperature applications. Packaged in Glass Jars.

Part No.	DIA	Application	Type	Description
298787	5	BTO - Premium	High Temp & Center Guide	5 mm OD BTO premium high-temp center guide GC septa PK50
041919	6.4	BTO - Premium	High Temp	6.4 mm (1/4") OD BTO premium high-temp GC septa PK25
298755	6.4	BTO - Premium	High Temp	6.4 mm (1/4") OD BTO premium high-temp GC septa PK50
298713	9	BTO - Premium	High Temp & Center Guide	9 mm OD BTO premium high-temp center guide GC septa PK50
041896	9	BTO - Premium	High Temp & Center Guide	9 mm OD BTO premium high-temp center guide GC septa PK25
298705	9.5	BTO - Premium	High Temp	9.5 mm OD BTO premium high-temp GC septa PK50
041897	9.5	BTO - Premium	High Temp	9.5 mm OD BTO premium high-temp GC septa PK25
298745	10	BTO - Premium	High Temp	10 mm OD BTO premium high-temp GC septa PK50
041918	10	BTO - Premium	High Temp	10 mm OD BTO premium high-temp GC septa PK25
041898	11	BTO - Premium	High Temp & Center Guide	11 mm OD BTO premium high-temp center guide GC septa PK25
298717	11	BTO - Premium	High Temp & Center Guide	11 mm OD BTO premium high-temp center guide GC septa PK50
298718	11	BTO - Premium	High Temp & Center Guide	11 mm OD BTO premium high-temp center guide GC septa PK100
298777	11.5	BTO - Premium	High Temp & Center Guide	11.5 mm OD BTO premium high-temp center guide GC septa PK50
041899	11.5	BTO - Premium	High Temp & Center Guide	11.5 mm OD BTO premium high-temp center guide GC septa PK25
298727	12.7	BTO - Premium	High Temp & Center Guide	12.7 mm OD BTO premium high-temp center guide GC septa PK50
0418992	12.7	BTO - Premium	High Temp & Center Guide	12.7 mm OD BTO premium high-temp center guide GC septa PK24
298817	17	BTO - Premium	High Temp & Center Guide	17 mm OD BTO premium high-temp center guide GC septa PK50
0418990	17	BTO - Premium	High Temp & Center Guide	17 mm OD BTO premium high-temp center guide GC septa PK24
298735	Shimadzu	BTO - Premium	High Temp & Center Guide	Shimadzu Plug BTO premium high-temp center guide GC septa PK50



AG3 low-bleed GC septa

The CRS Advanced Green 3 was specifically created to combine significantly longer injection life, low bleed and low injection port adhesion. The result is a green septum you can use for all your critical analyses. Maximum temperature 350 °C (except in the 17mm size – please see specification details). Packaged in Glass Jar: 2 in. H x 1-1/2 in. W x 1-1/2 in. D; Weight: 59.5 g

Part No.	DIA	Application	Type	Description
246525	5	AG3	Low Bleed & Center Guide	5 mm OD AG3 low-bleed center guide GC septa PK50
041917	5	AG3	Low Bleed & Center Guide	5 mm OD AG3 low-bleed center guide GC septa PK25
246526	6	AG3	Center Guide	6 mm OD AG3 center guide GC septa PK50
041916	6.4	AG3	Low Bleed & Center Guide	6.4 mm (1/4") OD AG3 low-bleed GC septa PK25
246527	7	AG3	Center Guide	7 mm OD AG3 center guide GC septa PK50
246528	8	AG3	Center Guide	8 mm OD AG3 center guide GC septa PK50
246713	9	AG3	Low Bleed & Center Guide	9 mm OD AG3 low-bleed center guide GC septa PK50
041900	9	AG3	Low Bleed & Center Guide	9 mm OD AG3 low-bleed center guide GC septa PK25
246124	9.5	AG3	Low Bleed	9.5 mm OD AG3 low-bleed GC septa PK50
041901	9.5	AG3	Low Bleed	9.5 mm OD AG3 low-bleed GC septa PK25
246510	10	AG3	Center Guide	10 mm OD AG3 center guide GC septa PK50
246225	11	AG3	Low Bleed & Center Guide	11 mm OD AG3 low-bleed center guide GC septa PK50
246228	11	AG3	Low Bleed & Center Guide	11 mm OD AG3 low-bleed center guide GC septa PK100
041902	11	AG3	Low Bleed & Center Guide	11 mm OD AG3 low-bleed center guide GC septa PK25
246725	11.5	AG3	Low Bleed & Center Guide	11.5 mm OD AG3 low-bleed center guide GC septa PK50
041904	11.5	AG3	Low Bleed & Center Guide	11.5 mm OD AG3 low-bleed center guide GC septa PK25
246325	12.7	AG3	Low Bleed & Center Guide	12.7 mm (1/2") OD AG3 low-bleed center guide GC septa PK50
041906	12.7	AG3	Low Bleed & Center Guide	12.7 mm (1/2") OD AG3 low-bleed center guide GC septa PK24
246624	17	AG3	Low Bleed & Center Guide	17 mm OD AG3 low-bleed center guide GC septa PK50
041903	17	AG3	Low Bleed & Center Guide	17 mm OD AG3 low-bleed center guide GC septa PK24
246424	Shimadzu	AG3	Low Bleed & Center Guide	Shimadzu Plug AG3 low-bleed center guide GC septa PK50

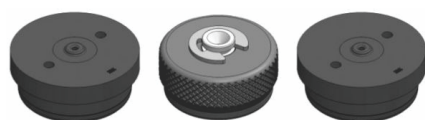
SEPTAS



General purpose blue GC septa

Our Blue Septa is designed for non-demanding, routine applications. They are easy to penetrate. The septa can be used up to 275 °C and are suitable for 90% of all GC analyses.

Part No.	DIA	Application	Type	Description
234105	5	General Purpose	Blue	5 mm OD General purpose blue GC septa PK100
234106	5	General Purpose	Blue	5 mm OD General purpose blue GC septa PK50
234905	5	General Purpose	Blue	5 mm OD General purpose blue GC septa PK100
234625	6.4	General Purpose	Blue	6.4 mm (1/4") OD General purpose blue GC septa PK100
234626	6.4	General Purpose	Blue	6.4 mm (1/4") OD General purpose blue GC septa PK50
234113	8	General Purpose	Blue	8 mm OD General purpose blue GC septa 8 mm PK50
234109	9	General Purpose	Blue	9 mm OD General purpose blue GC septa PK100
234108	9	General Purpose	Blue	9 mm OD General purpose blue GC septa PK50
234906	9.5	General Purpose	Blue	9.5 mm (3/8") OD General purpose blue GC septa PK50
234110	10	General Purpose	Blue	10 mm OD General purpose blue GC septa PK100
234111	10	General Purpose	Blue	10 mm OD General purpose blue GC septa PK50
234115	11	General Purpose	Blue	11 mm OD General purpose blue GC septa PK100
234116	11	General Purpose	Blue	11 mm OD General purpose blue GC septa PK50
234215	11.5	General Purpose	Blue	11.5 mm OD General purpose blue GC septa PK100
234216	11.5	General Purpose	Blue	11.5 mm OD General purpose blue GC septa PK50
234125	12.7	General Purpose	Blue	12.7 mm (1/2") OD General purpose blue GC septa PK100
234126	12.7	General Purpose	Blue	12.7 mm (1/2") OD General purpose blue GC septa PK50
234117	17	General Purpose	Blue	17 mm OD General purpose blue GC septa PK100
234118	17	General Purpose	Blue	17 mm OD General purpose blue GC septa PK50
234120	Shimadzu	General Purpose	Blue	Shimadzu Plug General purpose blue GC septa PK100
234121	Shimadzu	General Purpose	Blue	Shimadzu Plug General purpose blue GC septa PK50



Endura-Seals GC septa

Endura-Seals are the CRS alternative to typical silicon-rubber injection port septa for gas chromatography. They work in a 2 part sealing system that includes the septa and the sealing nut.

The duckbill valve in the Endura-Seal is much more resilient to needle wear and tear than the traditional pierced septa. It allows the needle to glide through the valve without damaging the integrity of the septa. While CRS premium septa are already designed to avoid coring (particles in the liner), the Endura-Seals go a step further to virtually eliminate this burden. These features make the Endura-Seal septa the optimum choice for automated analysis that require long run times.

The Endura-Seals are available in 11 mm and Shimadzu style kits. Each kit includes 1 sealing nut and 2 septas.

Part No.	DIA	Application	Type	Description
250111	11	Endura- Seals	Kit	11 mm OD Endura-Seals GC septa kit
250112	11	Endura- Seals		11 mm OD Endura-Seals replacement GC septa
250100	Shimadzu	Endura- Seals	Kit	Shimadzu Endura-Seals GC septa kit
250101	Shimadzu	Endura- Seals		Shimadzu Endura-Seals replacement GC septa



Marathon long-life GC septa

Long injection life, pre-pierced for minimal coring. Maximum temperature 350 °C (except in the 17mm size – please see specification details). CRS Marathon septum typically achieves 400 injections without failure, when used with a rounded-tip (Agilent-style) needle and autosampler or needle guide. Marathon is ideal for standard manual-injection GC and GC/MS. CenterGuide design requires less force for initial penetration, for a smoother feel. Septum life may be enhanced in some applications by minimizing tearing and coring. Packaged in Glass Jar: 2 in. H x 1-1/2 in. W x 1-1/2 in. D; Weight: 55.0 g

Part No.	DIA	Application	Type	Description
239587	5	Marathon	Long-life Center Guide	5 mm OD Marathon long-life center guide GC septa PK25
239597	5	Marathon	Long-life Center Guide	5 mm OD Marathon long-life center guide GC septa PK50
239778	9	Marathon	Long-life Center Guide	9 mm OD Marathon long-life center guide GC septa PK25
239779	9	Marathon	Long-life Center Guide	9 mm OD Marathon long-life center guide GC septa PK50
239888	11	Marathon	Long-life Center Guide	11 mm OD Marathon long-life center guide GC septa PK100
041915	11	Marathon	Long-life Center Guide	11 mm OD Marathon long-life center guide GC septa PK25
239297	11	Marathon	Long-life Center Guide	11 mm OD Marathon long-life center guide GC septa PK50
041907	11.5	Marathon	Long-life Center Guide	11.5 mm OD Marathon long-life center guide GC septa PK25
239798	11.5	Marathon	Long-life Center Guide	11.5 mm OD Marathon long-life center guide GC septa PK50
041914	12.7	Marathon	Long-life Center Guide	12.7 mm (1/2") OD Marathon long-life center guide GC septa PK24
239397	12.7	Marathon	Long-life Center Guide	12.7 mm (1/2") OD Marathon long-life center guide GC septa PK50
041910	17	Marathon	Long-life Center Guide	17 mm OD Marathon long-life center guide GC septa PK24
239698	17	Marathon	Long-life Center Guide	17 mm OD Marathon long-life center guide GC septa PK50
041913	Shimadzu	Marathon	Long-life Center Guide	Shimadzu plug Marathon long-life center guide GC septa PK25
239498	Shimadzu	Marathon	Long-life Center Guide	Shimadzu plug Marathon long-life center guide GC septa PK50



Puresep T GC septa

Silicon-based septum is faced on one side with a double layer of polyimide and PTFE. The polyimide adheres to both the silicon and PTFE, providing a better bond and enhanced durability. The outer PTFE coating assures maximum inertness and helps minimize bleed. Maximum inlet temperature 225 °C. Packaged in Plastic Bag: 4 in. x 6 in.; weight: 8.5 g

Part No.	DIA	Application	Type	Description
230665	6.4	Puresep	Teflon coated	6.4 mm (1/4") OD Puresep T coated GC septa PK50
230675	9.5	Puresep	Teflon coated	9.5 mm (3/8") OD Puresep T coated GC septa PK50
230685	11	Puresep	Teflon coated	11 mm OD Puresep T coated GC septa PK50
230697	11.5	Puresep	Teflon coated	11.5 mm OD Puresep T coated GC septa PK50
230695	12.7	Puresep	Teflon coated	12.7 mm (1/2") OD Puresep T coated GC septa PK50

Ferrule Selection Guide

Material	User	Advantages	Disadvantages
100% Graphite	FID, NPD	<ul style="list-style-type: none"> • Easy-to-use stable seal • High temperature limit • Can be easily removed • Can be re-used 	<ul style="list-style-type: none"> • Not for MS or oxygen-sensitive detectors • Soft, easily deformed or destroyed • Possible system contamination
85% Vespel/ 15% Graphite	MS & oxygen-sensitive detectors	<ul style="list-style-type: none"> • Long lifetime • High temperature limit • MS compatible 	<ul style="list-style-type: none"> • Can not be re-used • Must be re-tightened after initial temperature cycle
SilTite Metal	MS & oxygen-sensitive detectors	<ul style="list-style-type: none"> • Long lifetime • High temperature limit • MS compatible 	<ul style="list-style-type: none"> • Cannot be re-used



Connectors & Ferrules for Agilent Instruments

Ferrules

Part No.	Instrument	Column ID	Ferrule ID	Pack size
100% graphite ferrules				
072635	Injectors & detectors at atmospheric pressure e.g. FID(not for GC-MS)	0.1 - 0.32 mm	0.5 mm	10
072636		0.45 - 0.53 mm	0.8 mm	10

Connectors & Ferrules for PerkinElmer Instruments

Ferrules

Part No.	Instrument	Column ID	Size of nut	Ferrule ID	Pack size
100% graphite ferrules					
072627	Injectors & detectors at atmospheric pressure e.g. FID(not for GC-MS)	0.1 - 0.32 mm	1/16"	0.5 mm	10
072626		0.45 - 0.53 mm	1/16"	0.8 mm	10

Connectors & Ferrules for Shimadzu Instruments

Ferrules


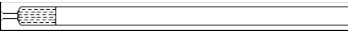

Part No.	Column ID	Description	Pack size
GC17A, GC2010 and GC2014 detector/ injectors (not for MS interface or QP2010 injector)			
0726080	0.10 - 0.25 mm ID columns	100% graphite	10
0726082	0.45 - 0.53 mm ID columns	100% graphite	10

Connectors & Ferrules for Thermo Scientific Instruments

Ferrules

Part No.	Instrument	Column ID	Size of nut	Ferrule ID	Pack size
Replacement SilTite nuts					
100% graphite ferrules					
072635	For TRACE 1300 injectors & detectors at atmospheric Pressure e.g.FID(not for GC-MS)	0.1 - 0.32 mm	-	0.5 mm	10
072636		0.45 - 0.53 mm	-	0.8 mm	10



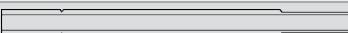


INLET LINERS FOR AGILENT, THERMO INSTRUMENTS

Description and geometry	OD (mm)	ID (mm)	Length (mm)	Pack Size	Part No.
For Agilent 5890,6850,6890,7890 and 4890 I For Thermo Scientific TRACE 1300GC					
 Split / Splitless FocusLiner	6.3	4	78.5	5	092002
 Split/ Splitless with single taper (quartz wool)	6.3	4	78.5	5	092019
 Split/ Splitless quartz, straight-through liner	6.1	2	78.5	5	092004

O-Rings and Sealing Rings

Part No.	Description	Usage	Pack Size
0726532	Viton O-Ring	Temperature up to 300°C. Suitable for liners with OD of 0.63 mm	10





INLET LINERS FOR PERKINELMER INSTRUMENTS

Description and geometry	OD (mm)	ID (mm)	Length (mm)	Pack Size	Part No.
For PerkinElmer AutoSystem and Clarus 500, 600					
 Split / Splitless FocusLiner	6.2	4	92	5	092092
 Split / Splitless tapered FocusLiner	6.2	4	92	5	092095
 Split, straight-through liner	6.2	2	92	5	092100
 Split / Splitless for PSS injector	4	4	86.2	5	092098
 Split / Splitless FocusLiner for PSS injector	4	2	86.2	5	092101

O-Rings and Sealing Rings

Part No.	Description	Usage	Pack Size
0726536	Viton O-Ring	Temperature up to 300°C. For use with 6.2 mm OD liners	10

INLET LINERS FOR SHIMADZU INSTRUMENTS

Description and geometry	OD (mm)	ID (mm)	Length (mm)	Pack Size	Part No.
For PerkinElmer AutoSystem and Clarus 500, 600					
 Split / Splitless FocusLiner	5	3.4	95	5	092062
 Split/ Splitless with middle gooseneck	5	3.4	95	5	092077
 Split/ Splitless with middle gooseneck	5	3.4	95	5	092085
 ConnecTite (0.53 mm ID columns)	5	2.6	95	5	092087

O-Rings and Sealing Rings

Part No.	Description	Usage	Pack Size
0726533	Viton O-Ring	Temperature up to 350°C. For 2010 & 2014 (SPL-2010 injector & SPL-2014 injector)	10

GENERAL PURPOSE MANUAL SYRINGES

5 - 10 µL Metal Plunger

Standard Plunger Protection Syringes



Syringe Part No.	Syringe Volume	Needle Length (mm)	Needle Gauge	Needle OD (mm)	Needle ID (mm)	Needle Tip	Syringe Code
Fixed Needle							
001000	5 µL	50	26	0.47	0.11	Bevel	5F
002000	10 µL	50	26	0.47	0.11	Bevel	10F
Removable Needle							
002050	10 µL	50	26	0.47	0.11	Bevel	10R

Guided Plunger

Fixed Needle							
001400	5 µL	50	26	0.47	-	Bevel	5F-GP
Removable Needle							
001450	5 µL	50	26	0.47	-	Bevel	5R-GP

1 µL Volume



Syringe Part No.	Syringe Volume	Needle Length (mm)	Needle Gauge	Needle OD (mm)	Needle ID (mm)	Needle Tip	Syringe Code
8.0 mm Outer Diameter (OD) Barrel							
000500	1 µL	50	23	0.63	0.155	Cone	1BR-5
000505	1 µL	70	23	0.63	0.155	Cone	1BR-7
000570	1 µL	70	26	0.47	0.155	Cone	1BR-7/0.47

25 µL - 100 µL Metal Plunger



Syringe Part No.	Syringe Volume	Needle Length (mm)	Needle Gauge	Needle OD (mm)	Needle ID (mm)	Needle Tip	Syringe Code
Fixed Needle							
003000	25 µL	50	25	0.5	0.2	Bevel	25F
004000	50 µL	50	25	0.5	0.2	Bevel	50F
005000	100 µL	50	25	0.5	0.2	Bevel	100F

10 µL PTFE Tipped Plunger



Syringe Part No.	Syringe Volume	PTFE Tipped Plunger	Needle Length (mm)	Needle Gauge	Needle OD (mm)	Needle ID (mm)	Needle Tip	Syringe Code
Fixed Needle								
002200	10 µL	✓	50	26	0.47	0.11	Bevel	10F-GT

1 mL PTFE Tipped Plunger

Also Suitable for Syringe Pumps and Dispensers



Syringe Part No.	Syringe Volume	PTFE Tipped Plunger	Needle Length (mm)	Needle Gauge	Needle OD (mm)	Needle ID (mm)	Needle Tip	Syringe Code
Fixed Needle								
008102	1 mL	✓	50	22	0.72	0.37	Bevel	10F-GT
Removable Needle								
008100*	1 mL	✓	50	23	0.63	0.32	Bevel	1MR-GT
Fixed Luer Lock								
008025	1 mL	✓	-	-	-	-	Luer Lock	1MDF-LL-GT

* No thread in Plunger stem of syringe. Part numbers 008100

GC AUTOSAMPLER SYRINGES

Agilent Instruments



Syringe Part No.	Syringe Volume	PTFE Tipped Plunger	Needle Length (mm)	Needle Gauge	Needle OD (mm)	Needle ID (mm)	Needle Tip	Syringe Code
HP7673, 7683, 7693A and 6850ALS Fixed Needle								
002821	10 µL	✓	42	23-26	0.63/0.47	0.11	Cone	10F-AG-0.63/0.47
002826	10 µL	✓	42	23-26	0.63/0.47	0.11	Cone	10F-AG-GT-0.63/0.47

CTC PAL Headspace



Syringe Part No.	Syringe Volume	PTFE Tipped Plunger	Needle Length (mm)	Needle Gauge	Needle OD (mm)	Needle ID (mm)	Needle Tip	Syringe Code
CTC PAL Headspace								
008631	2.5 mL	-	56	23	0.63	-	Side Hole	2.5MF-CTC-EGT-HS-5.6/0.63H

Shimadzu Instruments



Syringe Part No.	Syringe Volume	PTFE Tipped Plunger	Needle Length (mm)	Needle Gauge	Needle OD (mm)	Needle ID (mm)	Needle Tip	Syringe Code
AOC 14, 17, 20 and 20i Fixed Needle								
001988	5 µL	-	42	23	0.63	0.11	Cone	5F-S-0.63
AOC 14, 17, 20 and 20i Removable Needle								
002898	10 µL	-	42	23	0.63	0.11	Cone	10R-S-0.63

GC Manual Syringe - Beckman / Altex, Rheodyne, SSI Instruments and Valco Valves



Syringe Part No.	Syringe Volume	PTFE Tipped Plunger	Needle Length (mm)	Needle Gauge	Needle OD (mm)	Needle ID (mm)	Needle Tip	Syringe Code
Fixed Needle								
003300	25 µL	-	51	22	0.028"	0.37	LC	25F-LC
004300	50 µL	-	51	22	0.028"	0.37	LC	50F-LC
005300	100 µL	-	51	22	0.028"	0.37	LC	100F-LC

SGE CAPILLARY COLUMNS



BP-1 : 100% Dimethyl Polysiloxane

Suitable Replacement for : DB-1, HP-1, Ultra-1, SPB-1, CP-Sil 5CB, Rtx®-1, ZB-1, CP-Sil 5CB MS, VF-1MS, Petrocol DH DB-Petro, HP-1MS, SPB-1 Sulfur, VB-1

Part No.	Length Meters	I.D. (mm)	Film Thickness μm
054090	30	0.53	1.0

BP-5 : 5% Phenyl / 95% Dimethyl Polysiloxane

Suitable Replacement for : DB-5, Rtx-5, HP-5, Ultra-2, PTE-5, SPB-5, MDN-5, CP-Sil 8CB, VB-5, ZB-5

Part No.	Length Meters	I.D. (mm)	Film Thickness μm
054177	30	0.32	0.25
054196	30	0.53	5.0

BP-10 (1701) : 14% Cyanopropylphenyl Polysiloxane

Suitable Replacement for : DB-1701, Rtx-1701, HP-1701, SPB-7, CP-Sil 19CB, 007-1701, PE-1701, SP-1701

Part No.	Length Meters	I.D. (mm)	Film Thickness μm
054268	25	0.32	0.5
054280	25	0.53	1.0

BP-624 : Cyanopropylphenyl Polysiloxane

Suitable Replacement for : DB-624, HP-VOC, Rtx Volatiles, Rtx 624, VOCOL, VB-624, ZB-624, OV-624, AT-624, HP-VOC, CP-Select624CB, 007-624

Part No.	Length Meters	I.D. (mm)	Film Thickness μm
054832	30	0.32	1.8
054836	30	0.53	3.0
054838	60	0.53	3.0

BP-20 (WAX) : Polyethylene Glycol

Suitable Replacement for : DB-Wax, HP-20M, Supelcowax 10, CP-Wax 52CB, Stabilwax, Carbowax, HP-Innowax, Rtx-WAX, RH-WAX, ZB-WAX, TG-WAX MS, VF-WAX MS, Elite-WAX

Part No.	Length Meters	I.D. (mm)	Film Thickness μm
054427	30	0.25	0.25
054433	30	0.32	0.25
054451	30	0.53	1.0
054431	50	0.32	0.25
054438	30	0.32	0.5

BPX-70 : 70% Cyanopropyl Polysilphenylene-siloxane

Suitable Replacement for : DB-23, CP-Sil 88, VF-23ms, SP-2330, SP-2380, Rtx®-2330, ZB-FAME

Part No.	Length Meters	I.D. (mm)	Film Thickness μm
054612	30	0.22	0.25
054622	30	0.25	0.25
054623	60	0.25	0.25
054624	120	0.25	0.25

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