

# LABORATORY EQUIPMENT AND SUPPLIES













# Welcome to the latest edition of the Medline laboratory equipment and supplies catalogue.

Established in 1992, medline specialises in the supply of cost effective, high quality laboratory and medical products including both consumable items and capital equipment.



The company has a broad customer base that includes major national and international distributors, universities, hospital trusts, independent laboratory groups, schools and manufacturing industries. Our primary warehouse is based in Chalgrove, Oxfordshire, UK from where we offer over 5000 carefully selected and proven products.

In 2005 we opened our European service and distribution centre in northern France with additional offices established in India and South East Asia.



Our products are chosen on the basis of known quality, reliability and value. All instruments are CE and ISO accredited, produced to the most stringent regulations.

The company operates a Quality System approved to ISO9001:2000



For technical queries, stock availability or to place an order, please contact our sales office and we will be happy to show you how we can deliver your laboratory requirements with great precision and speed.



Tel: 00 44 1865 400321

e-mail: sales@medlinescientific.com

Alternatively, please visit our website at www.medlinescientific.com

All electrical instruments are mains powered:  $220 \sim 240 \text{ V} / 50 \sim 60 \text{Hz}$  (except where otherwise indicated).

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B

# **BALANCES**

- JTB series
- TDA series
- **TDB** series

Analytical balances and Microbalances are accurate and precise instruments used to measure masses. They require a draft-free location on a solid bench that is free of vibrations. Some modern balances have built-in calibration masses and temperature monitoring to maintain accuracy. Ideal for use in laboratories, some can be used

for pipette calibration, small animal weighing and density determination.

Our range of laboratory weighing scales and balances covers all the requirements of the modern laboratory, whether you are in a pharmaceutical industry, quality control laboratory, a university, college or a school; you will find the right scale here.

#### **PRECISION BALANCE**

#### JTB SERIES

- ▶ High precision load cell
- Aluminium alloy die cast base and mains
- Stainless steel pan
- Super bright LCD display with backlight
- ▶ AC/DC Power supply
- ▶ Full capacity subtraction
- Overload protection
- Glass windshield supplied as standard
- ▶ RS232 Interface supplied as standard
- Below balance hanger supplied as standard
- Check weighing, parts counting
- ▶ Stabilisation time 1.5 seconds
- Doptional: LED display available.

| Product code                 | MD8103             | MD8104   |  |  |  |
|------------------------------|--------------------|----------|--|--|--|
| Capacity (g)                 | 0 to 100           | 0 to 200 |  |  |  |
| Readability (g)              | 0.0                | 001      |  |  |  |
| Repeatability (g)            | ±0.                | 001      |  |  |  |
| Linearity (g)                | ±0.                | 001      |  |  |  |
| Corner error (g)             | ±0.001             |          |  |  |  |
| Pan size (mm)                | ø125               |          |  |  |  |
| Weighing units               | g, ct, oz, lb, ozt |          |  |  |  |
| Dimensions<br>W X D X H (mm) | 190 x 287 x 267    |          |  |  |  |
| Net weight (Kg)              |                    | 4        |  |  |  |





#### PRECISION BALANCE

#### TDA SERIES

- ▶ High precision load cell
- Full plastic housing, stainless steel pan
- Super bright LCD display
- Full capacity subtraction, overload protection
- Below balance hanger
- ▶ Stabilisation time 1.5 seconds typically
- Power supply, 9V DC/Dry battery
- Auto calibration, check weighing, parts counting.

| Product code              | TD3002M        | TD6002M  | TD10002M  | TD20002M  | TD30002M  |  |
|---------------------------|----------------|----------|-----------|-----------|-----------|--|
| Capacity (g)              | 0 to 310       | 0 to 610 | 0 to 1000 | 0 to 2000 | 0 to 3000 |  |
| Readability (g)           | 0.01           |          |           |           |           |  |
| Pan size (mm)             | ø133           |          |           |           |           |  |
| Weighing units            | g, ct, oz      |          |           |           |           |  |
| Dimensions w x D X H (mm) | 265 x 200 x 80 |          |           |           |           |  |
| Net weight (Kg)           | 1.3            |          |           |           |           |  |

| Product code              | TD10001M       | TD12001M  | TD20001M  | TD30001M  | TD50001M  |
|---------------------------|----------------|-----------|-----------|-----------|-----------|
| Capacity (g)              | 0 to 1000      | 0 to 1200 | 0 to 2100 | 0 to 3100 | 0 to 5100 |
| Readability (g)           | 0.1            |           |           |           |           |
| Pan size (mm)             | ø1             | 33        | 155*143   |           |           |
| Weighing units            | g, ct, oz      |           |           |           |           |
| Dimensions w x D X H (mm) | 265 x 200 x 80 |           |           |           |           |
| Net weight (Kg)           | 1.3            |           |           |           |           |



#### PRECISION BALANCE

#### TDB SERIES

- ▶ High precision load cell
- Aluminium alloy die cast base and mains
- Stainless steel pan
- Super bright LCD display
- RS232 Interface supplied as standard
- Below balance hanger supplied as standard
- Full capacity subtraction, overload protection
- Check weighing, parts counting
- Stabilisation time 1.5 seconds
- Weighing units: g/ct/oz/ozt/lb

| Product code              | TDB3002M       | TDB5002M | TDB6002M | TDB10002M | TDB20002M | TDB30002M |  |
|---------------------------|----------------|----------|----------|-----------|-----------|-----------|--|
| Capacity (g)              | 0 to 310       | 0 to 510 | 0 to 610 | 0 to 1000 | 0 to 2000 | 0-3000    |  |
| Readability (g)           |                | 0.01     |          |           |           |           |  |
| Pan size (mm)             |                | ø133     |          |           |           |           |  |
| Dimensions W X D X H (mm) | 265 x 200 x 80 |          |          |           |           |           |  |
| Net weight (Kg)           |                | 2.9      |          |           |           |           |  |

# BATHS AND CIRCULATORS

- Heating Baths
- Shaking/Heating Baths
- Heating Bath Circulators
- Refrigerated & Heating Bath Circulators
- Accessories

#### **Safety Features**

- Built-in power cut off circuit with audible and visual alarms.
- Automatic power cut off to the heater and controller before the unit shuts down in case of overheating.
- Two separate fuses.
- Time setting functions for both Automated Run and Off. (except for BW-B and BW-H Models)
- Integrated time setting function for Delayed ON/OFF.
- Operation mode selection function between Automated Run and Manual Run.
- Protection against low fluid level and dry running. (except for BW-B and BW-H Models):
- Intermittent alert sounds along with a visual alarm on the control panel.
- Automatic shut down of the heater following the alarms to protect users and samples.

## User-friendly Control Features

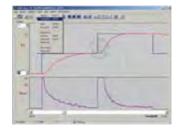
- Advanced electronic and program controls.
   (except for BW-B Models)
- Microprocessor PID temperature control with easyto-use calibration and auto tuning features.
- Preset 3 most commonly used temperature settings provided.
- Simple conversion between Celsius and Fahrenheit.
- Intuitive control display based on HMI (Human Machine Interface) design concept. (except for BW-B and BW-H Models)
- Similar key arrangements for entire product range.
- Splash-proof and easy-toclean keypad and bright LED displays.
- A quick lock button preventing accidental resetting of parameters.

#### **Constructional Features**

- High-quality 304 grade stainless steel interior bath and dirtrepellent powder coating for all external surfaces.
- Corrosion-resistant stainless steel construction of all wetted parts allowing other bath fluids as well as water.
- Corrosion-resistant, seamless, leak-proof, round-cornered, and easy-to-clean stainless steel reservoir.

## Lab Tracer - Control software

- Software and connecting cable included on units with RS-232 interface.
- Display of temperature values and effective space heating/ cooling capacity on PC.
- Programming and recording of time parameter and individual temperature profile.





Pictured with gable cover (optional)

#### **WATER BATH BWH-SERIES**

An economic range of water baths covering most applications, with a temperature range from ambient +5°C to 100°C.

- PID temperature controller
- Over temperature limiter with alarm indication
- Digital LED temperature display

| Model          |                      | BW-05H                                  | BW-20H         |                 |  |  |  |
|----------------|----------------------|---|----------------|-----------------|--|--|--|
| Product code   |                      | AAH45115K AAH45125K AAH45135            |                |                 |  |  |  |
| Bath volume (L | Bath volume (Litres) |   | 3.5 11.5 20    |                 |  |  |  |
| Temperature    | Range (°C)           |   | Amb. +5 to 100 |                 |  |  |  |
| remperature    | Accuracy (°C)        | ± 0.1                                   |                |                 |  |  |  |
| Bath opening / | Depth w x ∟, □       | 240 x 136, 150 300 x 240, 200 498 x 300 |                | 498 x 300, 200  |  |  |  |
| Dimensions w   | ( D X H (mm)         | 307 x 216 x 266 364 x 316 x 318         |                | 564 x 372 x 318 |  |  |  |
| Net weight (Kg | )                    | 6.5                                     | 10             | 18.5            |  |  |  |

(Analogue controlled units also available.)

## BATHS AND CIRCULATORS



#### **DUAL WATER BATH BWH-SERIES**

A range of dual tank water baths with specifications as per BWH single chamber baths.

- ▶ 2 seperate individually controlled baths
- PID temperature controller
- Over temperature limiter with alarm indication
- Digital LED temperature display

| Model                          | BWH-0505H                               | BWH-0510H                               | BWH-1010H                               | BWH-1020H                               |  |
|--------------------------------|---|---|---|---|--|
| Product code                   | AAH47115K                               | AAH47125K                               | AAH47135K                               | AAH47145K                               |  |
| Bath volume (Litres)           | 3.5 & 3.5                               | 3.5 & 11.5                              | 11.5 & 11.5                             | 11.5 & 20                               |  |
| Working temperature range (°C) | Amb. +5 to 100                          |   |   |   |  |
| Temperature stability (°C)     | ± 0.1                                   |   |   |   |  |
| Bath opening / Depth wxlxh(mm) | 240 x 136 x 150<br>&<br>240 x 136 x 150 | 240 x 136 x 150<br>&<br>300 x 240 x 200 | 300 x 240 x 200<br>&<br>300 x 240 x 200 | 300 x 240 x 200<br>&<br>498 x 300 x 200 |  |
| Dimensions W X D X H (MM)      | 590 x 200 x 265                         | 544 x 300 x 318                         | 706 x 300 x 318                         | 844 x 356 x 318                         |  |
| Net weight (Kg)                | 9.7                                     | 12.4                                    | 14                                      | 17.6                                    |  |



#### **WATER BATH BWG-SERIES**

A range of water baths covering most applications, with a temperature range from ambient  $+5^{\circ}$ C to  $100^{\circ}$ C, supplied with flat cover.

- ▶ Microprocessor PID controller/auto timing/calibration
- Digital timer (1 min 99hrs 59 mins)
- Over temperature limiter with low fluid protection
- Memory set points for three different temperatures

| Model                |               | BW-05G BW-10G BW-                         |  |  |  |  |
|----------------------|---------------|---|--|--|--|--|
| Product code         |               | 41405 41415 41425                         |  |  |  |  |
| Bath volume (Litres) |               | 5 10 20                                   |  |  |  |  |
| Range (°C)           |               | Amb. +5 to 100                            |  |  |  |  |
| Temperature          | Accuracy (°C) | ± 0.2                                     |  |  |  |  |
| Bath opening /       | Depth wxL, D  | 231 x 150, 160 285 x 211, 180 345 x 290,  |  |  |  |  |
| Dimensions w         | х D х н (mm)  | 355 x 260 x 334 410 x 311 x 354 471 x 390 |  |  |  |  |
| Net weight (Kg       | )             | 10 14 18                                  |  |  |  |  |

#### **WATER BATH BS-SERIES**

A range of shaking water baths covering most applications, with a temperature range from ambient  $+5^{\circ}\text{C}$  to 100°C, supplied with hinged gabled cover.

- ▶ Microprocessor PID controller/auto timing/calibration
- Digital timer (1 min 99hrs 59 mins)
- Splash proof keypad



| Model                |                               | BS-06                     | BS-11                   | BS-21              | BS-31              |
|----------------------|-------------------------------|---------------------------|-------------------------|--------------------|--------------------|
| Product code         | Product code                  |                           | 44062 44112 44212 44312 |                    |                    |
| Bath volume (Litres) |                               | 17 25 37 55               |                         |                    | 55                 |
| Temperature          | Range (°C)                    |                           | Amb. +                  | 5 to 100           |                    |
| remperature          | Accuracy (°C)                 | ± 0.2                     |                         |                    |                    |
| Shaking              | Motion / Speed range (RPM)    | Reciprocating / 20 to 180 |                         |                    |                    |
| system               | Stroke length                 |                           | 25, 30, 35 (P           | reset at 30)       |                    |
| Dimensions           | Bath opening / Depth w x L, D | 109 x 243,<br>235         | 229 x 243,<br>235       | 389 x 243,<br>235  | 670 x 350,<br>235  |
| (mm)                 | External<br>W X D X H         | 430 x 440<br>x 355        | 550 x 440<br>x 355      | 710 x 440<br>x 355 | 860 x 490<br>x 355 |
| Net weight (K        | g)                            | 26                        | 30                      | 35                 | 42                 |



#### BATHS AND CIRCULATORS



#### WATER BATH CIRCULATOR CW-SERIES

Specially designed for precise temperature control of external instruments or for immersion purposes using a powerful pump, with 5 adjustable pressure settings.

- ▶ Microprocessor PID controller/auto timing/calibration
- Digital timer (1 min 99hrs 59 mins)
- Digital LED display
- ▶ RS-232 interface and Lab Tracer software

| Model                     |                    | CW-05G CW-10G CW-20G CW-30 |                 |                 | CW-30G          |
|---------------------------|--------------------|----------------------------|-----------------|-----------------|-----------------|
| Product code              |                    | 52305 52315 52325 52335    |                 |                 |                 |
| Bath volume (l            | _itres)            | 5 10 20 30                 |                 |                 | 30              |
| Tamamamatuus              | Range (°C)         | Amb. +5 to 150             |                 |                 |                 |
| Temperature               | Accuracy (°C)      | ± 0.05                     |                 |                 |                 |
| Divinos                   | Pressure flow rate |                            | 28 1/           | min             |                 |
| Pump                      | Suction flow rate  | 10 l/min                   |                 |                 |                 |
| Dimensions w x D X H (mm) |                    | 220 x 395 x 424            | 281 x 450 x 444 | 360 x 510 x 464 | 370 x 560 x 494 |
| Net weight (Kg            | g)                 | 12.5 15 17.5 19.5          |                 |                 | 19.5            |

# REFRIGERATING WATER BATH CIRCULATOR

RW-SERIES

Refrigerated baths with a powerful circulation pump for external and internal circulation. Temperature range from -25°C to 150°C.

- ▶ Microprocessor PID controller/auto timing/calibration
- Digital timer (1 min 99hrs 59 mins)
- Over temperature limiter with low fluid protection
- Memory set points for three different temperatures
- ▶ RS-232 interface and Lab Tracer software

| Model         |                    | RW-0525G RW-1025G RW-2025G RW-3 |       |                    | RW-3025G |
|---------------|--------------------|---------------------------------|-------|--------------------|----------|
| Product code  |                    | 57002 57012 57022 57032         |       |                    |          |
| Bath volume ( | Litres)            | 5                               | 10    | 20                 | 30       |
| Tomporatura   | Range (°C)         | -25 to 150                      |       |                    |          |
| Temperature   | Accuracy (°C)      | ± 0.05                          |       |                    |          |
| Divinos       | Pressure flow rate |                                 | 28 l/ | min                |          |
| Pump          | Suction flow rate  |                                 | 10 l/ | min                |          |
| Dimensions w  | х D х н (mm)       |                                 |       | 440 x 620<br>x 895 |          |
| Net weight (K | g)                 | 37                              | 44    | 60                 | 70       |

# REFRIGERATING WATER BATH CIRCULATOR RW-SERIES (LOW TEMPERATURE)

Refrigerated baths with a powerful circulation pump for external and internal circulation. Temperature range from -35°C to 150°C.

All units come complete with a stainless steel lid, RS232 port and Lab Tracer software, external circulation capability, a dual digital display of set and actual temperatures, the 3 user profile settings feature and a timer.

| Model                |                    | RW-0540G           | RW-1040G           | RW-2040G           | RW-3040G           |  |  |
|----------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--|--|
| Product code         |                    | 57102              | 57112              | 57122              | 57132              |  |  |
| Bath volume (        | Litres)            | 5                  | 10                 | 20                 | 30                 |  |  |
| Tomporatura          | Range (°C)         | -35 to 150         |                    |                    |                    |  |  |
| Temperature          | Accuracy (°C)      | ± 0.05             |                    |                    |                    |  |  |
| Dumn                 | Pressure flow rate | 28 l/min           |                    |                    |                    |  |  |
| Pump                 | Suction flow rate  | 10 l/min           |                    |                    |                    |  |  |
| Dimensions wxdxH(mm) |                    | 302 x 438<br>x 690 | 360 x 490<br>x 780 | 380 x 560<br>x 825 | 440 x 620<br>x 895 |  |  |
| Net weight (K        | g)                 | 38                 | 44                 | 60                 | 67                 |  |  |



# ACCESSORIES AND OPTIONS FOR SHAKING / HEATING BATHS



Universal Platforms



Flask Clamps



**Dedicated Platforms** 



Test Tube Racks

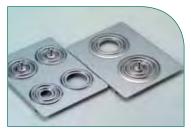
#### FOR BATHS AND BATH CIRCULATORS



Transparent Polypropylene Gable Covers



Stainless Steel Flat Covers



Open-rings Covers



Spring Wire Racks



Half-shelf Adjusters Additional



Suction Pumps

## FOR VISCOMETER HEATING BATHS (see page 80)



Viscometer Tube Holders



Cooling Circulators





The bench top centrifuge is the most common and versatile type of centrifuge. It has a variety of uses, from routine specimen preparation to research, and is referred to by some manufacturers as universal due to the extensive range of uses and rotors. Speeds and g-force vary greatly and most models are also available in a refrigerated version.

The Medline range of centrifuges brings a new level of performance and reliability to the laboratory. The low profile compact design means it's easy to reach into the centrifuge whilst still taking up minimal bench space. The range offers suitable centrifugation for all applications including tissue/cell culture, molecular biology, clinical applications as well as proteomics and genomics.

- Microprocessor control system
- Multi-mode display
- ▶ Brushless D.C. motor
- ▶ 3 mode operation
- Self test diagnostics
- Automatic rotor identification system
- Automatic imbalance detection system
- 9 programme memory
- ▶ Compact & noise-free design
- Special lid locking & safety interlock feature
- ▶ 10 levels of acceleration & deceleration



MD-15000RF

#### **MICROCENTRIFUGES**

| Product code              | MD-15000N   | MD-15000RF  |  |  |  |
|---------------------------|---|---|--|--|--|
| Туре                      | Micro High-speed  | Refrigerated  |  |  |  |
| Max. speed (rpm)          | 15,   | 000   |  |  |  |
| Max.RCF (g)               | 16,   | 853   |  |  |  |
| Max. capacity             | 1.5ml x 24 Tubes  |   |  |  |  |
| Control                   | Microprocessor control  |   |  |  |  |
| Display                   | Back Lit LCD  |   |  |  |  |
| Running mode              | Triple Mode/RPM,RCF & Pulse settings                          |   |  |  |  |
| Programmability           | 9 memory settings   |   |  |  |  |
| Rotor recognition         | Automatic recognition (ARIS)                                  |   |  |  |  |
| Acceleration              | 10 profiles   |   |  |  |  |
| Deceleration              | 10 profiles   |   |  |  |  |
| Timer                     | 99 min.59sec. & F   | Hold for long run   |  |  |  |
| Cooling device            | Air cooling   | Hermetically sealed compressor  |  |  |  |
| Temperature range         | -   | -10°C to 40°C   |  |  |  |
| Drive system              | Brushless DC motor,<br>direct drive                           | Brushless DC motor,<br>V-type, direct drive   |  |  |  |
| Safety device             | Over speed protector,<br>Door Locking,<br>Un balance detector | Over speed protector,<br>Door Locking,<br>Un balance detector,<br>Over/Under Temp.<br>protector |  |  |  |
| Dimensions W X D X H (mm) | 255 x 335 x 230   | 370 x 600 x 330   |  |  |  |
| Net weight (Kg)           | 7.8   | 48  |  |  |  |

# CENTRIFUGES





| N A |       | EO  | 00 |
|-----|-------|-----|----|
| IVI | ( , - | :DU | UU |

| Product code            | MC-5000         | MC-16000            | MC-16000R       |  |
|-------------------------|-----------------|---------------------|-----------------|--|
| Туре                    | Low Speed       | High Speed          | Refrigerated    |  |
| Max. speed (rpm)        | 5000            | 16000               | 16000           |  |
| Max.RCF (g)             | 4390            | 17800               | 17800           |  |
| Max. capacity           | 4 x 250ml       | 10 x 5ml            | 4 x 100ml       |  |
| Timer (Min)             | 0-99 min        | 0-99 min            | 0-99 min        |  |
| Motor                   | Brushless       |                     |                 |  |
| Noise (dB)              | ≤               | ≤ 60<br>-20°C +40°C |                 |  |
| Temp. range             |                 |                     |                 |  |
| Temp. accuracy          |                 | -                   | ± 2°C           |  |
| Dimensions<br>LXWXH(mm) | 440 x 550 x 330 | 240 x 300 x 200     | 620 x 500 x 350 |  |
| Net weight (Kg)         | 40              | 12                  | 70              |  |



MC-16000

| Product Code                 | MC-12000         | MC-7000         | MC-16000RP      |  |
|------------------------------|------------------|-----------------|-----------------|--|
| Туре                         | Capillary        | Multipurpose    | Refrigerated    |  |
| Max. speed (rpm)             | 12000            | 7000            | 16000           |  |
| Max. RCF (g)                 | 14800            | 6915            | 21110           |  |
| Max. capacity                | 24 x capillaries | 6 x 250ml       | 12 x 1.5ml      |  |
| Timer (Min)                  |                  |                 |                 |  |
| Motor                        | Brushless        | Inverter        | Induction       |  |
| Noise (dB)                   | ≤ 65             | ≤ 55            | ≤ 58            |  |
| Temp. range                  |                  | -               | -20°C to 40°C   |  |
| Temp. accuracy               |                  | -               |                 |  |
| Dimensions<br>L X W X H (MM) | 330 x 390 x 320  | 440 x 550 x 330 | 545 x 340 x 275 |  |
| Net weight (Kg)              | 26               | 45              | 40              |  |

#### **ACCESSORIES** AND **OPTIONS**



15ml Swing Out Rotor



1.5ml Fixed Rotor



50ml Fixed Rotor



10ml Swing Out Rotor



Conical Tubes



Microcentrifuge Tubes



# CLEANING AND DISINFECTION REAGENTS

- Detergents for Glassware & Laboratory Equipment
- Hygienic Hand wash & Disinfectants







#### **Laboratories**

#### **RBS 25 Concentrate**

Multipurpose alkaline detergent for manual cleaning, soaking and ultrasonic cleaning of glassware and laboratory equipment made of stainless steel, plastic, porcelain, etc. In industry it is recommended for cleaning parts and devices made of glass, stainless steel, injection moulds, silicon or quartz wafers, production equipment, etc.. For laboratory and industrial applications

#### **RBS 35 Concentrate**

Multipurpose alkaline detergent (hard water stable) for manual cleaning, soaking and ultrasonic cleaning of glassware and laboratory equipment made of stainless steel, plastic, porcelain, etc. In industry, it is recommended for cleaning parts made of glass, stainless steel, injection moulds, production equipment, etc. For laboratory and industrial applications

#### **RBS** 50

Non foaming alkaline detergent for labware washers. Used for cleaning glassware and laboratory equipment made of stainless steel, plastic, porcelain, quartz and ceramic. In industry, it is recommended for cleaning parts and surfaces made of glass, stainless steel, production equipment, etc. Contains chlorine

#### RBS 50 pF

Phosphate free version of RBS 50, non foaming. Contains chlorine

#### **RBS SOLID**

Non foaming Alkaline powdered detergent for cleaning and degreasing in labware washers to clean glassware and equipment made of stainless steel, plastic, porcelain, etc. it removes distillation residues, proteins, oils, greases, etc.

#### **RBS SOLIDPF**

Phosphates-free version of RBS SOLID, non foaming. The RBS range provides a wide selection of cleaning and disinfecting agents for glassware and equipment covering every application within the Laboratory, Industrial and Medical fields.

Environmentally friendly and economical products for various cleaning processes.

- Manual
- Soaking
- Ultrasonic cleaning
- Labware washers
- Surface cleaning
- Glassware

#### **RBST 230 NEUTRAL**

Neutral foaming detergent for soft cleaning by immersion or ultrasonic bath of glassware and sensitive laboratory equipment, materials to bases or acids such as aluminium, zinc, etc. and their alloys having similar properties.

#### **RBST 105 ALKALINE**

Multipurpose foaming alkaline detergent for manual cleaning, immersion and ultrasonic cleaning of glassware and laboratory equipment made of plastic, porcelain, quartz and ceramic. It allows the removal of organic and inorganic residues, greases, oils, distillation residues, proteins, cells cultures ...

#### **RBST 115 ALKALINE PF**

Phosphate free version. Recommended for use in analytical laboratories where the presence of phosphorus derivatives are not desired.

#### **RBST 305 DESCALER**

Strong acidic detergent for manual cleaning, degreasing and de-scaling of surfaces and laboratory equipment. Particularly efficient for the removal of lime, metal oxides, mineral salts, insoluble inorganic residues, metal oxides and scale residues on glassware, equipment and surfaces made of stainless steel, plastic, porcelain, quartz and ceramic. It is also suitable for cleaning animal cages and rooms in laboratories and veterinary institutions. Contains phosphoric acid.

#### **RBS NA2**

Acid neutralising agent for use in labware washers for cleaning glassware and laboratory equipment in washing machines. In prewash cycle, it allows the removal of mineral salts and other hard to clean soils with an alkaline detergent. In the rinsing cycle, it neutralizes the residual alkaline traces of the main alkaline washing cycle. To combine with RBS 50

#### **RBS A888**

Ready-to-use solution for cleaning and degreasing parts and surfaces made of glass, lenses and optical devices. It allows the removal of fatty residues, inks, fingerprints and dusts. It is particularly suitable for the removal of markers traces from laboratory glassware.

#### **Industry**

#### **RBS 48S**

Non foaming alkaline detergent for automatic washing, cleaning in place and power spray systems, used for cleaning glassware and laboratory equipment made of stainless steel, plastic, porcelain, etc. It is also recommended in the pharmaceutical industry for cleaning in place process of tanks and production equipment made of stainless steel.

#### RBS IND 700

High performance alkaline detergent for manual cleaning, soaking and ultrasonic cleaning of parts and equipment made of glass, plastic and stainless steel, including, electronic components, silicon wafers, metal parts, injection moulds, glass and optical components.

#### **RBS IND** 740

Phosphate free alkaline detergent for manual cleaning, soaking and ultrasonic cleaning of parts and equipment made of glass, plastic and stainless steel, including optical lenses, injection moulds, production equipment, etc.

#### **RBS IND 470**

Recommended for cleaning and decontamination of parts, containers, surfaces and equipment made of stainless steel, glass and plastic. It is suitable for use in nuclear power stations, cyclotrons and institutions handling radioactive materials.

# nedline

# CLEANING AND DISINFECTION REAGENTS



#### Medical

#### **RBS M 410**

Alkaline cleaning agent for manual cleaning of surgical and dental instruments before sterilisation and medical material made of stainless steel, chromed steel, etc. It allows efficient removal of blood residues, proteins, cells tissues, biofilms, fatty residues and ointments.

#### **RBS M 415**

Delaning and pre-disinfecting agent for instruments and medical equipment before sterilisation, including dental material, surgical instruments (mini-invasive, microsurgery, etc.), endoscopes, breathing apparatus, anaesthesia material, etc. Besides its efficacy against germs, it removes blood residues, various secretions, biofilms and proteins

#### **RBS FOGLYAM MD**

Cleaning and disinfecting solution for floors, surfaces and medical devices. By its specific formulation combining the presence of aldehydes and quaternary ammonium compounds, RBS FOGLYAM MD presents a wide spectrum of bactericidal activity. It prevents the spreading of pathogenic germs and thus ensures safety in the high risk areas. It also allows effective elimination of bloods traces, proteinic and cells residues, greases, oils, etc. It is recommended for the daily disinfection and cleaning of the frequented zones in hospitals. It best suits the wiping of surfaces: benches, tiling and furniture.

#### RBS 200A MD

Ready-to-use cleaning and disinfecting solution in spray form for surfaces, floors, benches and furniture. It ensures the removal of blood residues, chemical solutions, and fatty deposits



|                      | pH at recommended concentration | Alkaline | Neutral | Acidic | Foaming | Chlorinated ingredient | Phosphates |
|----------------------|---------------------------------|----------|---------|--------|---------|------------------------|------------|
| RBS 25 Concentrate   | 11.9                            | •        |         |        | •       | •                      | •          |
| RBS 35 Concentrate   | 11.5                            | •        |         |        | •       | •                      | •          |
| RBS 50               | 10,5                            | •        |         |        |         | •                      | •          |
| RBS 50 pF            | 11,0                            |          |         |        |         | •                      |            |
| RBS SOLID            | 10,6                            | •        |         |        |         | •                      | •          |
| RBS SOLIDPF          | 10,7                            | •        |         |        |         | •                      |            |
| RBST 230 NEUTRAL     | 7,3                             |          | •       |        | •       |                        | •          |
| RBST 105 ALKALINE    | 11,8                            | •        |         |        | •       | •                      | •          |
| RBST 115 ALKALINE PF | 11,7                            | •        |         |        | •       |                        |            |
| RBST 305 DESCALER    | 1,5                             |          |         | •      | •       |                        |            |
| RBS NA2              | 2,2                             |          |         | •      |         |                        |            |
| RBS A888             |                                 |          |         |        |         |                        |            |
| RBS 48S              | 11.0                            |          |         |        |         | •                      | •          |
| RBS IND 700          | 11.8                            | •        |         |        | •       | •                      | •          |
| RBS IND 740          | 11.7                            | •        |         |        | •       |                        |            |
| RBS IND 470          | 12.6                            | •        |         |        | •       |                        |            |
| RBS M 410            | 11.8                            | •        |         |        | •       | •                      | •          |
| RBS M 415            | 11.6                            | •        |         |        | •       |                        | •          |
| RBS FOGLYAM MD       | 6                               |          | •       |        | •       |                        |            |
| RBS 200A MD          | 5                               |          | •       |        | •       |                        |            |

#### **Handcare**

#### **RBS HDS10**

Bactericidal liquid hand soap, effective against HIV

#### **RBS HDS15**

- Bactericidal liquid hand soap with perfume, particularly suitable for hand washing due to its lightly acid pH and moisturizing agents.
- Bactericidal activity according to EN 1040 and EN 1499.
- Authorized as biocidal product. Authorization n°: NOTIF 444

#### **RBS HDS GEL**

- Hydro-alcoholic gel. Suitable for hand disinfection in laboratories, hospitals and collectivises.
- Helps to prevent propagation of contagious germs.
- Biocidal product. Authorization n° NOTIF75
- Onforms to EN 1040 and EN 1275.
- Hygienic hand disinfection according to EN 1500.
- Active against Influenza A H1N1 virus according to EN 14476.

#### **RBS HDS LOTION**

- Hydroalcoholic lotion for hygienic hand disinfection
- Active against bacteria and fungi.
- Biocidal Product. Authorization number: NOTIF74
- Conforms to EN 1040 and EN 1275.
- Hygienic hand disinfection according to EN 1500.



C

# **CONSUMABLES**

- Containers
- Test Tubes
- Centrifuge Tubes
- Test Tube Caps & Re-Caps
- Autoclave Bags
- Swabs, Loops & Spreaders
- Serological Pipettes

- Pipette Tips
- Plastic Pasteurs
- Paper Products
- Clinical Waste & Sharp Bins
- Histo-pathology Containers
- Cuvettes
- Sample Cups

- Gloves
- Plastic Bags/ Zip-lock Bags
- Microtitration Plates
- Microcentrifuge Tubes
- Screw Cap Microtubes& Cryovials
- Racks & Storage
  Boxes
- Sterilisation Indicator Tapes
- General Labware
- Special Bottles
- Scoops & Weigh Boats
- Petri Dishes

Medline offers a comprehensive range of disposable and reusable plastic products from Deltalab. The following section details the most common products which are available from our stocks in Oxfordshire.

The complete product range is covered by our separate 300 page catalogue (available upon request). This range is targeted at all laboratory disciplines, from microbiology to research applications.







| Product code | Description                                       | Material | Sterility | Case<br>Quantity |
|--------------|---|----------|-----------|------------------|
| Containe     | rs  | •        | •         |                  |
| 129202       | 7ml Bijou container, no label                     | PS       | S         | 700              |
| 129205       | 7ml Bijou container, with label                   | PS       | S         | 700              |
| 309202       | 30ml Universal, no label                          | PS       | S         | 400              |
| 309201       | 30ml Universal, printed label                     | PS       | S         | 400              |
| 309201FL     | 30ml Universal, with label flow seal (bags of 50) | PS       | S         | 400              |
| 409202       | 30ml Universal, no label                          | PP       | S         | 400              |
| 409201       | 30ml Universal, printed label                     | PP       | S         | 400              |
| 309202.4     | 30ml Universal, plain label                       | PS       | S         | 400              |
| 309602.E     | 30ml Universal with spoon, printed label          | PS       | S         | 400              |
| 409602       | 30ml Universal with spoon, no label               | PP       | S         | 400              |
| 409202.B     | 30ml Universal with boric acid                    | PS       | S         | 400              |
| 409402       | 40ml Plastic cap, no label                        | PP       | S         | 800              |
| 409802       | 50ml Plastic cap, no label                        | PP       | S         | 1000             |
| 419802       | 50ml Tamper evident plastic cap, no label         | PP       | S         | 1000             |
| 409502       | 60ml Clear plastic cap, no label                  | PP       | S         | 600              |
| 409501       | 60ml Clear plastic cap, with printed label        | PP       | S         | 600              |
| 409511.4     | 60ml Blue, screw cap, no label                    | PP       | S         | 600              |
| 409511.5     | 60ml Blue, screw cap, plain label                 | PP       | S         | 600              |
| 409511       | 60ml Dark blue, screw cap, plain label            | PP       | S         | 600              |
| 309502       | 60ml Plastic cap, no label                        | PS       | S         | 600              |
| 309501       | 60ml Plastic cap, printed label                   | PS       | S         | 600              |
| 309502.6     | 60ml Plastic cap, plain label                     | PS       | S         | 600              |
| 409711.4     | 125ml Blue, screw cap, no label                   | PP       | S         | 475              |
| 409711.5     | 125ml Blue, screw cap, plain label                | PP       | S         | 475              |
| 409702       | 125ml Natural, screw cap, no label                | PP       | S         | 475              |
| 409752       | 125ml Natural, screw cap with spoon               | PP       | S         | 475              |
| 409915       | 200ml Blue, screw cap, no label                   | PP       | S         | 275              |
| 409905       | 200ml Blue, screw cap, plain label                | PP       | S         | 275              |
| 409902       | 200ml Natural, screw cap, no label                | PP       | S         | 275              |





| Product code | Description                     | Material | Sterility | Case<br>Quantity |  |  |  |
|--------------|---------------------------------|----------|-----------|------------------|--|--|--|
| Containe     | Containers Individually Wrapped |          |           |                  |  |  |  |
| 409222       | 30ml Container, no label        | PP       | S         | 400              |  |  |  |
| 409426       | 40ml Container, no label        | PP       | S         | 800              |  |  |  |
| 409826       | 50ml Container, no label        | PP       | S         | 900              |  |  |  |
| 409526       | 60ml Container, no label        | PP       | S         | 850              |  |  |  |
| 409726       | 125ml Container, no label       | PP       | S         | 400              |  |  |  |
| 309222       | 30ml Universal, no label        | PS       | S         | 400              |  |  |  |
| 409222       | 30ml Universal, no label        | PP       | S         | 400              |  |  |  |
| 309526       | 60ml Container, no label        | PS       | S         | 850              |  |  |  |



| Histology Containers | (Double seal cap) |  |
|----------------------|-------------------|--|
|----------------------|-------------------|--|

| 202840 | 20ml Yellow screw cap container   | PP/PE | NS | 1000 |
|--------|-----------------------------------|-------|----|------|
| 202841 | 40ml Yellow screw cap container   | PP/PE | NS | 600  |
| 202842 | 60ml Yellow screw cap container   | PP/PE | NS | 500  |
| 202843 | 80ml Yellow screw cap container   | PP/PE | NS | 400  |
| 202848 | 90ml Yellow screw cap container   | PP/PE | NS | 300  |
| 202844 | 100ml Yellow screw cap container  | PP/PE | NS | 300  |
| 202845 | 250ml Yellow screw cap container  | PP/PE | NS | 100  |
| 202846 | 500ml Yellow screw cap container  | PP/PE | NS | 200  |
| 202847 | 1000ml Yellow screw cap container | PP/PE | NS | 100  |



#### Large Containers (24 Hour urine)

| 407001 | 2 litre Graduated container, natural         | PE | NS | 44 |
|--------|--|----|----|----|
| 407002 | 2.5 litre 24 Hour urine collection, labelled | PE | NS | 50 |
| 407003 | 2 litre Graduated container, brown           | PE | NS | 44 |
| 407005 | 2.7 litre Graduated container, natural       | PE | NS | 34 |
| 407006 | 2.7 litre Graduated container, brown         | PE | NS | 34 |
| 407007 | 5 litre 24 Hour urine collection, labelled   | PE | NS | 25 |



#### **Test Tubes**

| 300500 | 55 x 11mm, Round bottom  | PS | NS | 2 x 2000 |
|--------|--------------------------|----|----|----------|
| 300300 | 70 x 11mm, Round bottom  | PS | NS | 3 x 1000 |
| 300800 | 75 x 12mm, Round bottom  | PS | NS | 4 x 1000 |
| 300700 | 75 x 13mm, Round bottom  | PS | NS | 4 x 1000 |
| 300705 | 100 x 16mm, Round bottom | PS | NS | 5 x 500  |
| 300100 | 150 x 16mm, Round bottom | PS | NS | 1000     |
| 400500 | 55 x 11mm, Round bottom  | PP | NS | 2 x 2000 |
| 400800 | 75 x 12mm, Round bottom  | PP | NS | 4 x 1000 |
| 400700 | 75 x 13mm, Round bottom  | PP | NS | 4 x 1000 |
| 401700 | 100 x 13mm, Round bottom | PP | NS | 4 x 1000 |
| 400705 | 100 x 16mm, Round bottom | PP | NS | 5 x 500  |



#### Centrifuge Tubes

| 409920 | 15ml Graduated with screw cap          | PP/PE | S | 500 |
|--------|--|-------|---|-----|
| 409922 | 50ml Graduated with screw cap          | PP/PE | S | 500 |
| 429901 | 50ml Graduated with screw cap, skirted | PP/PE | S | 500 |











| Product<br>code | Description                                      | Material | Sterility | Case Quantity |
|-----------------|--|----------|-----------|---------------|
| Test Tub        | e Caps and Re-Caps                               |          |           | •             |
| 305302          | Cap to fit 11mm diameter tube                    | PP       | NS        | 2000          |
| 305802          | Cap to fit 12mm diameter tube                    | PP       | NS        | 2000          |
| 307102          | Plug tight cap to fit 13mm diameter tube         | PP       | NS        | 2000          |
| 6010R           | Re-cap for 13mm evacated tube                    | PE       | NS        | 1000          |
| MED131          | Insert cup for 13mm tube 1-5ml                   | PE       | NS        | 1000          |
| Autoclav        | ve Bags  |          |           |               |
| 200310          | Autoclave Bag, 300 x 600mm, High temperature     | PA       | NS        | 200           |
| 200311          | Autoclave Bag, 400 x 760mm, High temperature     | PA       | NS        | 200           |
| 200312          | Autoclave Bag, 610 x 780mm, High temperature     | PA       | NS        | 200           |
| MD66201         | Specimen Bag, 51/2" x 6" x 81/2"                 | PE       | NS        | 1000          |
| MD66200         | Specimen Bag, printed biohazard                  | PE       | NS        | 1000          |
| V160230         | Specimen Bag, 16 x 16.5cm, green                 | PE       | NS        | 2000          |
| N160230         | Specimen Bag, 16 x 16.5cm, orange                | PE       | NS        | 2000          |
| Swabs, L        | oops & Spreaders                                 |          |           |               |
| 300200          | Plain Swab, wooden stick, individually wrapped   |          | S         | 1000          |
| 300230          | Plain Swab, wooden stick, cotton tip             |          | NS        | 100 x 100     |
| 300230S         | Plain Swab, wooden stick, cotton tip (100's)     |          | S         | 1000          |
| 300250          | Plain Swab, wooden stick, cotton tip in PP tube  |          | S         | 500           |
| 300261          | Plain Swab, plastic stick, cotton tip in PP tube |          | S         | 500           |
| 300287          | Amies transport swab in PP tube                  |          | S         | 100           |
| 300285          | Amies transport swab (charcoal) in PP tube       |          | S         | 100           |
| 304281          | 1ml Amies liquid swab with standard tip          |          | S         | 100           |
| 304282          | 1ml Amies liquid swab with urethral tip          |          | S         | 100           |
| 304271          | 1ml Media liquid swab with standard tip          |          | S         | 100           |
| 304272          | 1ml Media liquid swab with urethral tip          |          | S         | 100           |
| 304291          | 1ml Virus liquid swab with standard tip          |          | S         | 100           |

304292

302723

302724

200500

MLSP25

| Serological Pipettes |                              |    |   |          |  |
|----------------------|------------------------------|----|---|----------|--|
| 900031               | 1ml Taper jet, bulk wrap 25  | PS | S | 1000     |  |
| 900030               | 1ml Taper jet, single wrap   | PS | S | 500      |  |
| 900131               | 1ml Open end, bulk wrap 25   | PS | S | 4 x 1000 |  |
| 900033               | 2ml Taper jet, bulk wrap 25  | PS | S | 1000     |  |
| 900032               | 2ml Taper jet, single wrap   | PS | S | 500      |  |
| 900038               | 5ml Taper jet, bulk wrap 25  | PS | S | 375      |  |
| 900034               | 5ml Taper jet, single wrap   | PS | S | 250      |  |
| 900138               | 5ml Open end, bulk wrap 25   | PS | S | 4 x 375  |  |
| 900037               | 10ml Taper jet, bulk wrap 25 | PS | S | 250      |  |
| 900036               | 10ml Taper jet, single wrap  | PS | S | 200      |  |
| 900137               | 10ml Open end, bulk wrap 25  | PS | S | 4 x 250  |  |
| 900041               | 25ml Taper jet, single wrap  | PS | S | 100      |  |

S

S

S

S

S

PS

PS

PS

PP

100

1000

1000

500

1000

14 Tel: 00 44 1865 400321

1ml Virus liquid swab with urethral tip

L shaped Spreaders in Packs of 5

Blue Spreaders in Packs of 25

1µl loop packs of 20

10µl loop packs of 20













| Description                                  | Material   | Sterility   | Case<br>Quantity   |
|--|--|---|--|
| ips  | ·  |   | •  |
| Yellow pipette tip 5-200µl Universal         | PP   | NS  | 1000   |
| Yellow pipette tip 5-200µl Eppendorf racked  | PP   | NS  | 10 x 96  |
| Blue pipette tip 100-1000µl Universal        | PP   | NS  | 1000   |
| Blue pipette tip 100-1000µl Eppendorf racked | PP   | NS  | 10 x 96  |
| Yellow pipette tip 5-200µl Gilson            | PP   | NS  | 1000   |
| Yellow pipette tip 5-200µl Gilson racked     | PP   | NS  | 10 x 96  |
| Blue pipette tip 100-1000µl Gilson           | PP   | NS  | 1000   |
| Blue pipette tip 100-1000µl Gilson racked    | PP   | NS  | 10 x 96  |
| White slim pipette tip 5-200µl Oxford        | PP   | NS  | 1000   |
| Blue slim-line tip 200µl-1000µl Oxford       | PP   | NS  | 1000   |
| White macro pipette tip 5000µl               | PP   | NS  | 250  |
| White micro crystal tip 0.5-10µl Gilson      | PP   | NS  | 1000   |
| White micro crystal tip 0.5-10µl Gilson      | PP   | NS  | 1000   |
| Natural pipette tip 1000-5000ml Biohit       | PP   | NS  | 250  |
| Natural pipette tip 1000-5000ml Universal    | PP   | NS  | 250  |
| Large Gilson tipette tip 10ml                | PP   | NS  | 100  |
| Large Orifice tip 200ul                      | PP   | NS  | 1000   |
| Natural filter tip 200ul                     | PP   | NS  | 1000   |
| Long Gilson tip 200ul                        | PP   | NS  | 1000   |
|  | Yellow pipette tip 5-200µl Universal Yellow pipette tip 5-200µl Eppendorf racked Blue pipette tip 100-1000µl Universal Blue pipette tip 100-1000µl Eppendorf racked Yellow pipette tip 5-200µl Gilson Yellow pipette tip 5-200µl Gilson racked Blue pipette tip 100-1000µl Gilson Blue pipette tip 100-1000µl Gilson Blue pipette tip 100-1000µl Gilson racked White slim pipette tip 5-200µl Oxford Blue slim-line tip 200µl-1000µl Oxford White macro pipette tip 5000µl White micro crystal tip 0.5-10µl Gilson White micro crystal tip 0.5-10µl Gilson Natural pipette tip 1000-5000ml Biohit Natural pipette tip 1000-5000ml Universal Large Gilson tipette tip 10ml Large Orifice tip 200ul Natural filter tip 200ul | Yellow pipette tip 5-200µl Universal PP Yellow pipette tip 5-200µl Eppendorf racked PP Blue pipette tip 100-1000µl Eppendorf racked PP Blue pipette tip 100-1000µl Eppendorf racked PP Yellow pipette tip 5-200µl Gilson PP Yellow pipette tip 5-200µl Gilson PP Blue pipette tip 5-200µl Gilson racked PP Blue pipette tip 100-1000µl Gilson racked PP Blue pipette tip 100-1000µl Gilson PP Blue pipette tip 100-1000µl Gilson racked PP White slim pipette tip 5-200µl Oxford PP Blue slim-line tip 200µl-1000µl Oxford PP White macro pipette tip 5000µl PP White micro crystal tip 0.5-10µl Gilson PP White micro crystal tip 0.5-10µl Gilson PP Natural pipette tip 1000-5000ml Biohit PP Large Gilson tipette tip 10ml PP Large Orifice tip 200ul PP Natural filter tip 200ul PP | Yellow pipette tip 5-200µl Universal PP NS Yellow pipette tip 5-200µl Eppendorf racked PP NS Blue pipette tip 100-1000µl Universal PP NS Blue pipette tip 100-1000µl Eppendorf racked PP NS Blue pipette tip 100-1000µl Eppendorf racked PP NS Yellow pipette tip 5-200µl Gilson PP NS Yellow pipette tip 5-200µl Gilson PP NS Blue pipette tip 5-200µl Gilson PP NS Blue pipette tip 100-1000µl Gilson PP NS Blue pipette tip 100-1000µl Gilson racked PP NS White slim pipette tip 5-200µl Oxford PP NS Blue slim-line tip 200µl-1000µl Oxford PP NS White macro pipette tip 5000µl PP NS White micro crystal tip 0.5-10µl Gilson PP NS White micro crystal tip 0.5-10µl Gilson PP NS Natural pipette tip 1000-5000ml Biohit PP NS Natural pipette tip 1000-5000ml Universal PP NS Large Gilson tipette tip 10ml PP NS Natural filter tip 200ul PP NS Natural filter tip 200ul PP NS |

#### **Plastic Pasteurs**

| i idotio | · uotouro                                      |    |    |     |
|----------|--|----|----|-----|
| 200000   | 4.5ml Pasteur pipette                          | PE | NS | 400 |
| 200003   | 1.0ml Pasteur pipette, graduated               | PE | NS | 500 |
| 200004   | 3.0ml Pasteur pipette, ind. wrapped, peel-pack | PE | S  | 500 |
| 200006   | 3.0ml Pasteur pipette, graduated               | PE | NS | 500 |
| 200007   | 3.0ml Pasteur pipette, ind. wrapped, peel-pack | PE | S  | 500 |
| 200032   | 1.0ml Pasteur pipette, graduated, pack of 20   | PE | S  | 500 |
| 200034   | 1.0ml Pasteur pipette, graduated, ind. wrapped | PE | S  | 500 |
| 200037   | 3.0ml Pasteur pipette, graduated, ind. wrapped | PE | S  | 500 |
| 200050   | 5.0ml Pasteur pipette, graduated               | PE | NS | 250 |
| 200060   | 7.0ml Pasteur pipette, Jumbo                   | PE | NS | 100 |
| 200062   | 3.0ml Pasteur pipette, graduated, pack of 20   | PE | S  | 500 |
| 210002   | 3.0ml Fine tip, Pasteur pipette                | PE | NS | 500 |
| 210003   | 1.0ml Micro fine tip, Pasteur pipette          | PE | NS | 400 |
| 210004   | 3.0ml Micro tip, Pasteur Pipette               | PE | NS | 250 |
| 210006   | 2.5ml Pasteur pipette                          | PE | NS | 400 |
| 210022   | 3.0ml Fine tip, Pasteur pipette, ind. wrapped  | PE | S  | 500 |
| 210023   | 1.0ml Micro tip Pasteur pipette                | PE | NS | 500 |
| 210024   | 3.0ml Pasteur pipette, peel-pack               | PE | S  | 500 |
| 210222   | 3.0ml Fine tip, Pasteur pipette, pack of 20    | PE | S  | 500 |
|          |  |    |    |     |

#### **Paper Products**

| •      |                                      |   |    |          |
|--------|--------------------------------------|---|----|----------|
| 120002 | Absorbent benchcoat 50cm x 50 meters | Р | NS | 1 roll   |
| RH5405 | 10 inch Hygiene rolls 2 ply, white   | Р | NS | 18 rolls |
| FC9201 | C Fold 1 ply, green hand tissues     | Р | NS | 2008     |
| FH0101 | Medical wipes 2 Ply, white           | Р | NS | 72 x 72  |
| 120001 | Post lip paper/Slide blotting paper  | Р | NS | 1000     |

# C

# **CONSUMABLES**











| Product code | Description                          | Material | Sterility | Case<br>Quantity |
|--------------|--------------------------------------|----------|-----------|------------------|
| Clinical \   | Vaste and Sharp Bins                 |          |           |                  |
| 233039       | Yellow clinical waste bags 30" x 39" | PE       | NS        | 100              |
| 232025       | 25 litre Sharpsafe container         | PP       | NS        | 10               |
| 232802       | 7 litre Sharpsafe container          | PP       | NS        | 50               |
| 244000       | 4 litre Sharps container, round      | PP       | NS        | 45               |
| 240007       | 7 litre Sharps container, round      | PP       | NS        | 30               |
| 240028       | 25 litre Sharps container, round     | PP       | NS        | 10               |
| 240035       | 35 litre Waste container, round      | PP       | NS        | 1                |
| 240065       | 60 litre Waste container, round      | PP       | NS        | 1                |
| 870004       | Sweet Jar with cap, small            | PET      | NS        | 30               |
| 870004H      | Sweet Jar with cap & label, small    | PET      | NS        | 30               |
| 870036       | Sweet Jar with cap, large            | PET      | NS        | 16               |
| 870036H      | Sweet Jar with cap & label, large    | PET      | NS        | 16               |
| Histo-pa     | thology Containers                   |          |           |                  |

| misto-pati | nology Containers       |    |    |   |
|------------|-------------------------|----|----|---|
| 241010     | 250ml Snap top bucket   | PP | NS | 1 |
| 241011     | 500ml Snap top bucket   | PP | NS | 1 |
| 241013     | 1000ml Snap top bucket  | PP | NS | 1 |
| 222802     | 2500ml Snap top bucket  | PP | NS | 1 |
| 222804     | 5000ml Snap top bucket  | PP | NS | 1 |
| 222805     | 10000ml Snap top bucket | PP | NS | 1 |
| 222806     | 20000ml Snap top bucket | PP | NS | 1 |
|            |                         |    |    |   |

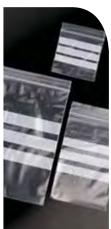
| Cuvettes                    |                                    |      |    |      |  |  |
|-----------------------------|------------------------------------|------|----|------|--|--|
| 302000                      | Macro cuvette 1cm square, 4.0ml    | PS   | NS | 500  |  |  |
| 302100                      | Semi-micro cuvette square, 1.5ml   | PS   | NS | 500  |  |  |
| 303100                      | UV Macro cuvette 1cm square, 4.0ml | PMMA | NS | 500  |  |  |
| 303101                      | UV Semi-micro cuvette, 2.5ml       | PMMA | NS | 500  |  |  |
| Sample Cups - Auto Analyser |                                    |      |    |      |  |  |
| 900023                      | 0.25ml Centrifichem sample cup     | PS   | NS | 1000 |  |  |
| 900024                      | 0.5ml AA cup                       | PS   | NS | 1000 |  |  |
| 900022                      | 1.5ml AA cup                       | PS   | NS | 1000 |  |  |
| 910022                      | 2.0ml Centrifichem sample cup      | PS   | NS | 1000 |  |  |
| 910023                      | 4.0ml AA cup                       | PS   | NS | 1000 |  |  |
| 900020                      | Hitachi sample cup                 | PS   | NS | 1000 |  |  |

| 300020        | Tittaciii Sampie Cup           | 1 3   | 110 | 1000 |
|---------------|--------------------------------|-------|-----|------|
| Gloves        |                                |       |     |      |
| 100LP         | Lightly powdered, small (6-7)  | Latex | NS  | 100  |
| 100LM         | Lightly powdered, medium (7-8) | Latex | NS  | 100  |
| 100LG         | Lightly powdered, large (8-9)  | Latex | NS  | 100  |
| 102LP         | Powder free, small (6-7)       | Latex | NS  | 100  |
| 102LM         | Powder free, medium (7-8)      | Latex | NS  | 100  |
| 102LG         | Powder free, large (8-9)       | Latex | NS  | 100  |
| 200VP         | Lightly powdered, small (6-7)  | Vinyl | NS  | 100  |
| 200 V M       | Lightly powdered, medium (7-8) | Vinyl | NS  | 100  |
| 200 <b>VG</b> | Lightly powdered, large (8-9)  | Vinyl | NS  | 100  |
| 202VP         | Powder free, small (6-7)       | Vinyl | NS  | 100  |
| 202VM         | Powder free, medium (7-8)      | Vinyl | NS  | 100  |
| 202 <b>VG</b> | Powder free, large (8-9)       | Vinyl | NS  | 100  |
|               |                                |       |     |      |





| Description                                    | Material   | Sterility  | Case<br>Quantity  |
|--|--|--|---|
| ntinued)                                       |  |  |   |
| Powder free, small (6-7)                       | Nitrile  | NS   | 100   |
| Powder free, medium (7-8)                      | Nitrile  | NS   | 100   |
| Powder free, large (8-9)                       | Nitrile  | NS   | 100   |
| Powder free, perfect fit, small (6-7)          | Nitrile  | NS   | 100   |
| Powder free, perfect fit, medium (7-8)         | Nitrile  | NS   | 100   |
| Powder free, perfect fit, large (8-9)          | Nitrile  | NS   | 100   |
| Powder free, easy stretch, white, small (6-7)  | Nitrile  | NS   | 100   |
| Powder free, easy stretch, white, medium (7-8) | Nitrile  | NS   | 100   |
| Powder free, easy stretch, white, large (8-9)  | Nitrile  | NS   | 100   |
|  | ntinued) Powder free, small (6-7) Powder free, medium (7-8) Powder free, large (8-9) Powder free, perfect fit, small (6-7) Powder free, perfect fit, medium (7-8) Powder free, perfect fit, large (8-9) Powder free, easy stretch, white, small (6-7) Powder free, easy stretch, white, medium (7-8) | ntinued)  Powder free, small (6-7)  Powder free, medium (7-8)  Nitrile  Powder free, large (8-9)  Nitrile  Powder free, perfect fit, small (6-7)  Powder free, perfect fit, medium (7-8)  Nitrile  Powder free, perfect fit, large (8-9)  Nitrile  Powder free, easy stretch, white, small (6-7)  Nitrile  Powder free, easy stretch, white, medium (7-8)  Nitrile | ntinued)  Powder free, small (6-7)  Powder free, medium (7-8)  Nitrile  NS  Powder free, large (8-9)  Powder free, perfect fit, small (6-7)  Powder free, perfect fit, medium (7-8)  Nitrile  NS  Powder free, perfect fit, large (8-9)  Nitrile  NS  Powder free, easy stretch, white, small (6-7)  Nitrile  NS  Powder free, easy stretch, white, medium (7-8)  Nitrile  NS  Nitrile  NS  Nowder free, easy stretch, white, medium (7-8)  Nitrile  NS |





| 2                     | ago/2.p lock bago  |    |    |      |  |  |
|-----------------------|--------------------|----|----|------|--|--|
| M5555                 | 55 x 55 x 0.05mm   | PE | NS | 2000 |  |  |
| M6080                 | 60 x 80 x 0.05mm   | PE | NS | 2000 |  |  |
| M70100                | 70 x 100 x 0.05mm  | PE | NS | 2000 |  |  |
| M80120                | 80 x 120 x 0.05mm  | PE | NS | 2000 |  |  |
| M80160                | 80 x 160 x 0.05mm  | PE | NS | 2000 |  |  |
| M100150               | 100 x 150 x 0.05mm | PE | NS | 2000 |  |  |
| M110110               | 110 x 110 x 0.05mm | PE | NS | 2000 |  |  |
| M120180               | 120 x 180 x 0.05mm | PE | NS | 2000 |  |  |
| M150220               | 150 x 220 x 0.05mm | PE | NS | 2000 |  |  |
| M180250               | 180 x 250 x 0.05mm | PE | NS | 2000 |  |  |
| M200300               | 200 x 300 x 0.05mm | PE | NS | 2000 |  |  |
| M250330               | 250 x 330 x 0.05mm | PE | NS | 2000 |  |  |
| M300400               | 300 x 400 x 0.05mm | PE | NS | 2000 |  |  |
| Microtitration Plates |                    |    |    |      |  |  |
| 900010SP              | U-Well (96 well)   | PS | NS | 100  |  |  |
| 900011SP              | F-Well (96 well)   | PS | NS | 100  |  |  |
|                       |                    |    |    |      |  |  |



Sterile, Individually wrapped plates are also available.

NS

NS

100

100

PS

PS



#### Microcentrifuge Tubes

V-Well (96 well)

Microtitre Plate Lid

900012SP

900015SP

| 900007   | 0.4ml Microtube, Beckman               | PP | NS | 1000 |  |
|----------|--|----|----|------|--|
| 900117   | 0.5ml Microtube, Vitatron              | PP | NS | 1000 |  |
| 4092.1N  | 0.5ml Microtube, RNAse free            | PP | NS | 1000 |  |
| 200400P  | 1.5ml Microtube, flat top              | PP | NS | 500  |  |
| 200401   | 1.5ml Microtube, yellow                | PP | NS | 5000 |  |
| 200405   | 1.5ml Microtube, blue                  | PP | NS | 5000 |  |
| 200407   | 1.5ml Microtube, green                 | PP | NS | 5000 |  |
| 200410   | 1.5ml Microtube, pink                  | PP | NS | 5000 |  |
| 4092.5N  | 1.5ml Microtube, twist lock            | PP | NS | 500  |  |
| 4092.6N  | 2.0ml Microtube, natural               | PP | NS | 500  |  |
| 409111/2 | 1.5ml Microtube, threaded, non-skirted | PP | NS | 500  |  |
| 409112/0 | Cap with integral O ring for above     | PP | NS | 500  |  |



| Product code | Description                       | Material | Sterility | Case<br>Quantity |
|--------------|-----------------------------------|----------|-----------|------------------|
| Screw C      | ap Microtubes & Cryovials         |          |           |                  |
| 409220       | 2ml Skirted microtube without cap | PP       | NS        | 500              |
| 409601       | Screw cap with O ring, natural    | PP       | NS        | 500              |
| 409612       | Screw cap with O ring, white      | PP       | NS        | 500              |
| 409603       | Screw cap with O ring, orange     | PP       | NS        | 500              |
| 409604       | Screw cap with O ring, red        | PP       | NS        | 500              |
| 409605       | Screw cap with O ring, blue       | PP       | NS        | 500              |
| 409606       | Screw cap with O ring, green      | PP       | NS        | 500              |
| 409607       | Screw cap with O ring, yellow     | PP       | NS        | 500              |
| 409608       | Screw cap with O ring, black      | PP       | NS        | 500              |
| 409105.1     | 1.2ml Cryovial storage to -190°C  | PP       | S         | 1000             |
| 409106.1     | 2.0ml Cryovial storage to -190°C  | PP       | S         | 1000             |
| 409109       | 5.0ml Cryovial storage to -190°C  | PP       | S         | 1000             |



#### Racks & Storage Boxes

| 19564 | Test tube rack for 90 x 12mm test tubes          | PP | NS | 1 |
|-------|--|----|----|---|
| 19567 | Test tube rack for 40 x 25mm tubes or universals | PP | NS | 1 |
| 19568 | Test tube rack for 24 x 30mm falcon tubes        | PP | NS | 1 |
| G-050 | Cryo-storage box for 50 x 1.5ml microtubes       | PS | NS | 1 |
| G-100 | Cryo-storage box for 100 x 1.5ml microtubes      | PS | NS | 1 |
| M-600 | Cardboard cryobox for 12mm tubes                 | С  | NS | 1 |
| M-500 | Cryobox, 50 wells                                | PP | NS | 1 |
| M-510 | Cryobox, 100 wells                               | PP | NS | 1 |



#### **Sterilisation Indicator Tapes**

| 191050 | Ethylene oxide gas, 19mm x 50m | NS | 1 |
|--------|--------------------------------|----|---|
| 191051 | Dry heat, 19mm x 50m           | NS | 1 |
| 191052 | Autoclave, 19mm x 50m          | NS | 1 |



| General Labware |                            |  |  |  |  |
|-----------------|----------------------------|--|--|--|--|
| NS              | 100                        |  |  |  |  |
| NS              | 200                        |  |  |  |  |
| NS              | 150                        |  |  |  |  |
| NS              | 150                        |  |  |  |  |
| NS              | 125                        |  |  |  |  |
| NS              | 50                         |  |  |  |  |
| NS              | 35                         |  |  |  |  |
|                 | NS<br>NS<br>NS<br>NS<br>NS |  |  |  |  |



| Many other sizes available | , |
|----------------------------|---|
|----------------------------|---|

|        |                           | IV | iany other siz | es avallable |
|--------|---------------------------|----|----------------|--------------|
| 408025 | 25ml Graduated cylinder   | PP | NS             | 1            |
| 408050 | 50ml Graduated cylinder   | PP | NS             | 1            |
| 408100 | 100ml Graduated cylinder  | PP | NS             | 1            |
| 408250 | 250ml Graduated cylinder  | PP | NS             | 1            |
| 408500 | 500ml Graduated cylinder  | PP | NS             | 1            |
| 481000 | 1000ml Graduated cylinder | PP | NS             | 1            |
| 482000 | 2000ml Graduated cylinder | PP | NS             | 1            |
| 409025 | 25ml Graduated beaker     | PP | NS             | 1            |
| 409050 | 50ml Graduated beaker     | PP | NS             | 1            |
| 409100 | 100ml Graduated beaker    | PP | NS             | 1            |
| 409250 | 250ml Graduated beaker    | PP | NS             | 1            |





| Product code                | Description             | Material | Sterility | Case<br>Quantity |
|-----------------------------|-------------------------|----------|-----------|------------------|
| General Labware (continued) |                         |          |           |                  |
| 409500                      | 500ml Graduated beaker  | PP       | NS        | 1                |
| 491000                      | 1000ml Graduated beaker | PP       | NS        | 1                |
| 492000                      | 2000ml Graduated beaker | PP       | NS        | 1                |
| 191637                      | 250ml Wash bottle       | PE       | NS        | 1                |
| 191638                      | 500ml Wash bottle       | PE       | NS        | 1                |



# **Special Bottles**





#### Scoops and Weigh Roats

| 30  | coops ar | ia weigh boats                        |    |    |      |
|-----|----------|---------------------------------------|----|----|------|
| 191 | 11103    | 5ml White diamond, 41 x 41 x 8mm      | PS | NS | 1000 |
| 191 | 11104    | 30ml White diamond, 89 x 89 x 25mm    | PS | NS | 500  |
| 191 | 11105    | 100ml White diamond, 140 x 140 x 22mm | PS | NS | 500  |
| 191 | 1057     | 10ml Measuring scoop                  | PP | NS | 12   |
| 191 | 1058     | 25ml Measuring scoop                  | PP | NS | 12   |
| 191 | 1060     | 100ml Measuring scoop                 | PP | NS | 12   |

Many other sizes available



#### Petri Dishes

| ı etii | Distres                        |    |   |      |
|--------|--------------------------------|----|---|------|
| 200200 | 90mm Triple vent               | PS | S | 500  |
| 200201 | 55mm Triple vent               | PS | S | 1200 |
| 200200 | 5 90X15mmTriple vent, eco type | PS | S | 500  |
| 200201 | 55mm Triple vent, eco type     | PS | S | 1400 |
| 200208 | 65 x 16mm Contact plate        | PS | S | 500  |
| 200204 | 120mm x 120mm Square, vented   | PS | S | 240  |
| 200214 | 140mm Triple vent              | PS | S | 120  |



**S** = Aseptically sterile or irradiated **NS** = Non sterile

#### **Materials:**

**ABS** = Acrylonitrile Butadiene Styrene

**C** = Cardboard

G = Glass

**P** = Paper

**PE** = Polyethylene

**PET** = Polyethylene Terephthalate

**PMMA** = Polymethyl Methacrylate

(Acrylic)

**PP** = Polypropylene **PS** = Polystyrene

**SS** = Stainless Steel



# **DESICCATORS**

- Cubic Vacuum Desiccators
- Round & Cylindrical Vacuum Desiccators
- Accessories

We offer a wide selection of vacuum desiccators, including new UV-blocking models, with outstanding vacuum capability to suit your specific requirements.

#### **CUBIC VACUUM DESICCATORS**

Integrally moulded cubic box design enabling outstanding vacuum capability with virtually no leakage and exceptional durability.



#### **Features**

- Maximum vacuum of 1 Torr(1.33×10-4 Mpa) for 72 hours.
- Greaseless, airtight vacuum seal using high-quality silicone gasket.
- Highly transparent, shatter-proof, non-corrosive and easyto-clean polycarbonate (PC) construction.
- Convenient three-way stopcock providing consistent and uniform vacuum draw, vacuum release or shutoff.
- Maximised utilisation of internal space using a maximum four to six shelves depending on product size.
- Stackable design allowing efficient usage of cramped lab space.
- Easy vacuum level checking, using the standard vacuum gauge attached to the front door.
- Minimised damage or discoloration of light-sensitive samples when using UVblocking models.
- Four built-in ports allowing easy attachment of various accessories.

| Model 1)        |                             | VDC-11 / 11U            | VDC-21 / 21U    | VDC-31 / 31U    | VDC-41 / 41U    |
|-----------------|-----------------------------|-------------------------|-----------------|-----------------|-----------------|
| Dun dun ton de  | Without UV Block Effect     | AAAD4001                | AAAD4021        | AAAD4011        | AAAD4031        |
| Product code    | With UV Block Effect (U)    | AAAD4101                | AAAD4121        | AAAD4111        | AAAD4131        |
| Internal volume | (Litres)                    | 11                      | 23              | 35              | 45              |
| Gauge range (N  | Лра)                        |                         | 0 to - 0.1      | (Analog)        |                 |
| Nozzle (mm Ø)   | ozzle (mm $\emptyset$ ) 9.5 |                         |                 |                 |                 |
| Max. permissib  | le vacuum (bodies)          | 1.33x10- 4 Mpa (Analog) |                 |                 |                 |
| Max. load (Kg f | or shelf)                   | 3 5                     |                 |                 |                 |
| Number of she   | ves (included / max.)       | 2,                      | / 4             | 3/5             | 3/6             |
|                 | Bodies                      |                         |                 |                 |                 |
| Material        | Perforated sample tray      |                         | Polycar         | bonate          |                 |
| viateriai       | Drying agent tray / Locker  |                         | Polypro         | ppylene         |                 |
|                 | Vacuum seal                 |                         | Silicone        | Rubber          |                 |
| Dimensions      | Internal (mm)               | 248 x 254 x 238         | 346 x 365 x 246 | 355 x 375 x 345 | 355 x 374 x 445 |
| WXDXH           | External (mm)               | 322 x 285 x 271         | 420 x 392 x 281 | 420 x 397 x 381 | 420 x 397 x 491 |
| Net weight (Kg  | )                           | 4.2                     | 8.2             | 10.8            | 12.2            |

 $<sup>1)\</sup> U\ models\ are\ translucent\ (amber-colored)\ vaccum\ desiccators\ with\ ultraviolet\ block\ effect.$ 



#### **ROUND & CYLINDRICAL VACUUM DESICCATORS**

Our round design offers light weight yet high tensile strength.

A high-quality silicone O-ring and is specially designed 'Locking Clip' promote outstanding vacuum capability with virtually no leakage.



#### **Features**

- Maximum vacuum of 1 Torr (1.33×10-4 Mpa) for more than 72 hours.
- High-quality silicone gasket ensures a greaseless, airtight seal for a clean test environment.
- Highly transparent, shatterproof, non-corrosive, and easy to clean polycarbonate construction.
- Three-way stopcock provides great convenience for consistent and uniform vacuum draw, vacuum release or gas exchange. The barbed fitting on each side permits the secure attachment of tubing.
- A flange lock holds the top and the bottom together during non-vacuum conditions.

- Various models available with respect to capacity and UV blocking effect.
- Minimised damage or discoloration of light-sensitive samples (only for U/UG models).
- A vacuum gauge is attachable at the centre of the lid for easy vacuum level checking (only for G/UG models).
- The top and bottom of cylindrical vacuum desiccators and round vacuum desiccators are compatible with each other for diverse use.
- Newly designed cylindrical desiccators are ideal for storing tall equipment, gas substitution, general drying and preserving.

| Model <sup>1)</sup>      |   | VDR-20 / 20G<br>VDR-20U / 20UG | VDR-25 / 25G<br>VDR-25U / 25UG | VDR-30 / 30G<br>VDR-30U / 30UG   | VDP-25 / 25G<br>VDP-25U / 25UG | VDP-30 / 30G<br>VDP-30U / 30UG |  |
|--------------------------|---|--------------------------------|--------------------------------|----------------------------------|--------------------------------|--------------------------------|--|
|                          | Clear body                                  | AAAD2011                       | AAAD2111                       | AAAD2211                         | AAAD3011                       | AAAD3021                       |  |
|                          | Clear body with vacuum gauge (G)            | AAAD2021                       | AAAD2121                       | AAAD2221                         | AAAD3111                       | AAAD3121                       |  |
| Product code             | UV block effect body (U)                    | AAAD2031                       | AAAD2131                       | AAAD2231                         | AAAD3211                       | AAAD3221                       |  |
|                          | UV block effect body with vacuum gauge (UG) | AAAD2041                       | AAAD2141                       | AAAD2241                         | AAAD3311                       | AAAD3321                       |  |
| Internal volume (Litres) |   | 6                              | 10                             | 20                               | 16                             | 25                             |  |
| Gauge range (            | Mpa)  | 0 to -0.1                      |                                |                                  |                                |                                |  |
| Nozzle (mm)              |   |                                |                                | 9.5                              |                                |                                |  |
| Max. permissi            | ble vacuum (Bodies)                         |                                | 1.3                            | 33 x 10 <sup>-4</sup> Mpa (Analo | og)                            |                                |  |
|                          | Lid / Bottom                                |                                |                                | D. I. I.                         |                                |                                |  |
|                          | Body / Base for VDP                         |                                |                                | Polycarbonate                    |                                |                                |  |
| Material                 | Perforated sample tray                      |                                |                                | Deliment                         |                                |                                |  |
|                          | Drying agent tray / Locker                  | Polypropylene                  |                                |                                  |                                |                                |  |
|                          | Vacuum seal                                 | Silicone rubber                |                                |                                  |                                |                                |  |
| Dimensions w             | х н (mm)                                    | Ø242 x 279                     | Ø308 x 325                     | Ø385 x 399                       | Ø308 x 374                     | Ø385 x 384                     |  |
| Net weight (K            | g)  | 1.5                            | 2.5                            | 4.2                              | 2.7                            | 4.0                            |  |

<sup>1)</sup> G models come with a vacuum gauge as standard. U models are translucent (amber-coloured) vaccum desiccators with ultraviolet blocking effect.

#### **ACCESSORIES** AND **OPTIONS**



Drying Agent Tray for VDC



Perforated Sample Tray for VDC



Drying Agent Tray for VDR



Perforated Sample Trays for VDR



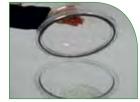
Flange Locker for VDR



Vacuum Gauge for VDR



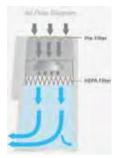
Stopcock for VDR



Vacuum Seal for VDR



- Clean Benches
- Ductless Fume Hoods
- PCR Workstations
- UV Sterilisation Cabinets
- Accessories



Air Flow Clean Benches

#### **CLEAN BENCHES**

#### **Safety Features**

- ▶ 2 separated over-current fuses for user safety.
- Toggle switch provided can be set to either position (UV, off, and fluorescent).
- Automated UV lamp switches off when window is opened accidently.
- ▶ Tempered glass sliding sash window.
- Permanent magnehelic differential pressure gauge displays across the HEPA filter to check the air changes. (optional)
- ▶ This product uses a 99.99% efficient HEPA filter.

#### **Constructional Features**

- Optimum PWM (pulse width modulation) control performance.
- As a blower of large enough capacity is adapted, sufficient intake flow rate is maintained and noise is reduced.
- Dirt-repellent surface.
- Light and blower switches are within easy reach of the user.
- Excellent chemical resistance work surface with various organic solvents. User-friendly Control Features.

#### **DUCTLESS FUME HOODS**

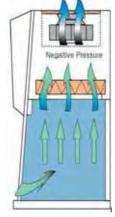
#### **Constructional Features**

- Front windows part can be seeing though made by transparent front viewing window manufactured from acrylic.
- Lower stand mounted fixable casters easy for moving & fixing. (optional)
- Control panel: consist of fluorescent lamp, Fan Start/Stop, Blower speed controller, alarm, menu and etc.
- Over-current circuit CP (Circuit Protector) for user safety.
- A built in anemometerprovides input air velocity data in real time.

#### PCR WORKSTATIONS UV STERILISATION CABINETS

#### **Constructional Features**

- Built-in over-current circuit protector for user safety.
- Intelligent multifunctional digital controller (PW-Models).
- A fitted prefilter extends the life of the filters. (PW-Models)
- This product uses a high quality 99.99% efficient supply HEPA filter.
- Powerful, uniformly distributed, UV-C. (average 8.000 hours)
- ▶ Excellent chemical resistance work surface.
- Automated UV lamp switch off.



Air Flow Ductless Fume Hoods

|   |   | 1  | 1 |
|---|---|----|---|
|   |   | wa |   |
| - | 1 | 1  | 1 |
| 1 | 1 | 1  | 1 |
|   |   | 1  | 1 |

Air Flow PCR Workstations

| Description               | Model   | Filter               | Work Surface                |  |
|---------------------------|---------|----------------------|-----------------------------|--|
|                           | BC-01E  |                      |                             |  |
| Clean benches             | BC-11E  | HEPA filter          | Stainless steel #304        |  |
|                           | BC-21E  |                      |                             |  |
| Ductless fume hoods       | DLH-01G | Civ entional filters | Civ antional work overtages |  |
|                           | DLH-11G | Six optional filters | Six optional work surfaces  |  |
|                           | PW-01   |                      |                             |  |
| PCR workstations          | PW-11   | HEPA filter          | Acrylic 10 mm (clear type)  |  |
|                           | PW-21   |                      |                             |  |
|                           | UVC-01  |                      |                             |  |
| UV sterilisation cabinets | UVC-11  | -                    | Stainless steel #304        |  |
|                           | UVC-11  |                      |                             |  |





Pictured with stand (optional)

#### **CLEAN BENCHES**

#### Vertical type laminar flow clean bench

ISO 14644-1 Class 4 air. (formerly Class 10 per Federal Standard 209E) High effiency HEPA filter, for particles from 0.3 microns. Nominal downflow velocity of 0.3m/s. (60fpm). Ergonomic 5 degree slope at front for maximum user comfort.

| Model          |  | BC-01E                                     | BC-11E  | BC-21E                                  |  |  |
|----------------|--|--|---|---|--|--|
| Product code   |  | AAHA4012K                                  | AAHA4022K                                     | AAHA4032K                               |  |  |
| Air flow type  |  |  | Vertical                                      |   |  |  |
| Air volume (N  | Minimum / Maximum)   | 274 to                                     | 914 cmh / 119 to 39                           | 9 cfm                                   |  |  |
| Laminar airflo | ow velocity (m/s)  |  | 0.3   |   |  |  |
| Air cleanline  | ss within working area   | ISO 14644-1 Class                          | 4, US Federal Stand                           | dard 209E Class 10                      |  |  |
| Filters        | Typical efficiency of 99.99% at 0.3 $\mu$ m US MIL - STD Micro glass fibre Media, Particle board, AL separa Neoprene gaskets |  |   |   |  |  |
|                | Pre filter   | ,  | vith an efficiency of<br>ame, Polyester fibre | , |  |  |
| Noise level    |  | Typically <                                | 67dBA (at initial blo                         | ower speed)                             |  |  |
|                | Main body  | Stainless steel                            | (grade 304) & Steel                           | powder coating                          |  |  |
| Materials      | Work surface   | Sta  | inless steel (grade 3                         | 304)                                    |  |  |
| Materials      | Windows (Front / Side)   | Colourless an                              | d transparent UV al<br>tempered glass         | osorbing 5mm                            |  |  |
|                | Intensity (lux)  |  | >1000   |   |  |  |
| Illumination   | FL lamp (W)  | 30W x 2ea electronically ballasted FL Lamp |   |   |  |  |
|                | UV lamp (W)  | 30W elec                                   | tronically ballasted                          | UV Lamp                                 |  |  |
| Dimensions     | Internal (mm)  | 970 x 540 x 570                            | 1270 x 540 x 570                              | 1870 x 540 x 570                        |  |  |
| WXDXH          | External (mm)  | 1040 x 630 x 1060                          | 1340 x 630 x 1060                             | 1940 x 630 x 1060                       |  |  |
| Net weight (K  | (g)  | 110  | 127   | 163                                     |  |  |

Class 2 Biological safety cabinets available soon



Pictured with stand (optional)

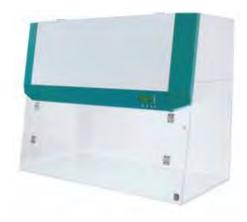
#### **DUCTLESS FUME HOODS**

Ductless Fume Hoods are manufactured and have gone through rigorous internation standard safety and QC tests.

| Model                               |                       | DLH-01G   | DLH-11G                   |  |  |
|-------------------------------------|-----------------------|---|---------------------------|--|--|
| Product code                        |                       | AAHB2002K   | AAHB2012K                 |  |  |
| Fume hood ty                        | уре                   | Ductless  |                           |  |  |
| Permissible environmental condition |                       | Temperature 5° to 40° Maximum relative humidity 80% Altitude up to 2,000m |                           |  |  |
| Controller                          |                       | Microproce  | ssor control              |  |  |
| Face velocity                       |                       | Initial set point   | : 0.4m/s, 80fpm           |  |  |
| Air flow mete                       | er                    | Swing va  | ane type                  |  |  |
| Main filter                         |                       | Chemical Filter (optic  | onal 6 different filters) |  |  |
| Pre filter                          |                       | Washable high efficiency nylon filter                                     |                           |  |  |
|                                     | Main body             | 2.0mm steel (epox   | (y powder-coated)         |  |  |
| Materials                           | Work surface          | Optional 6 differe  | ent work surfaces         |  |  |
|                                     | Window (Front / Side) | Acrylic 8mm / Acrylic 6mm   |                           |  |  |
| Fluorescent I                       | ight intensity        | > 600lux  |                           |  |  |
| Sound emiss                         | ion                   | 55dB (at normal operation)  |                           |  |  |
| Dimensions                          | Internal (mm)         | 880 x 640 x 800   | 1180 x 640 x 800          |  |  |
| WXDXH                               | External (mm)         | 900 x 660 x 1250  | 1200 x 660 x 1250         |  |  |
| Net weight (K                       | (g)                   | 100   | 118                       |  |  |







#### **PCR WORKSTATIONS**

Using a HEPA filter provides an effective particulate-free working space under ambient environment conditions.

| Model                          |            |                                | PW-01  | PW-11   | PW-21               |  |
|--------------------------------|------------|--------------------------------|--|---|---------------------|--|
| Product code                   | )          |                                | AAHB3002K  | AAHB3012K   | AAHB3022K           |  |
| Air flow type                  |            |                                |  | Vertical  |                     |  |
| Max. air volui                 | me (cmh)   |                                | 557  | 697   | 929                 |  |
| Min. air volur                 | ne (cmh)   |                                | 167  | 209   | 279                 |  |
| Laminar airflow velocity (m/s) |            |                                |  | 0.3   |                     |  |
| Air cleanliness                |            | I                              | SO 14644-1 Class   | ; 4   |                     |  |
| Filter                         |            | HEPA Filter                    | Micro glas   | fficiency of 99.99%<br>US MIL -STD -285<br>s fibre Media, Par<br>arator, Neoprene | 2;<br>rticle board, |  |
| Pre filter                     |            | Pre filter                     | Polyester fibres with an efficiency of 85% (A.F.I.TEST); AL frame, Polyester fibre media |   |                     |  |
| Noise level (                  | dBA)       |                                | Typically <  | 60 dBA at initial b   | olower speed        |  |
|                                |            | Work surface                   | Д  | crylic 10mm (cle  | ar)                 |  |
| Material                       |            | Window<br>(Front, Side / Back) | Acry   | rlic 8mm / 10mm (   | (clear)             |  |
|                                |            | FL lamp (lux)                  |  | >1000   |                     |  |
| Illumination                   | Intensity  | 165 UV Density<br>(µW/cm2)     | 165  | 185   | 330                 |  |
|                                | Camaaitu   | FL Lamp                        | 15W x 1  | 20W x 1   | 30W x 1             |  |
|                                | Capacity   | UV Lamp                        | 15W x 1  | 20W x 1   | 30W x 1             |  |
| Dimensions                     | N V D V II | Internal (mm)                  | 700 x 585 x 602  | 880 x 585 x 602   | 1180 x 585 x 602    |  |
| Dimensions                     | W Y D Y H  | External (mm)                  | 720 x 605 x 964  | 900 x 605 x 964   | 1200 x 605 x 964    |  |
| Net weight (                   | (g)        |                                | 56.2   | 64.2  | 77.8                |  |



#### **UV STERILISATION CABINETS**

A high quality UV lamp with a timer control feature is ideal for sterilising instruments before carrying out sensitive or PCR experiments.

| Model        |           |                                | UVC-01          | UVC-11             | UVC-21          |
|--------------|-----------|--------------------------------|-----------------|--------------------|-----------------|
| Product code | )         |                                | AAHB4002K       | AAHB4012K          | AAHB4022K       |
| Intensity    |           | FI Lamp (Lux)                  | >800            | >900               | >1000           |
| Illumination | Intensity | UV Density<br>(µW / cm²)       | 150             | 385                | 450             |
|              | Consoitu  | FI Lamp                        | 8W x 1          | 15W x 1            | 20W x 1         |
|              | Capacity  | UV Lamp                        | 8W x 1          | 15W x 1            | 20W x 1         |
|              |           | Work surface                   | Stair           | nless steel (grade | 304)            |
| Material     |           | Window<br>(Front, Back / Side) | А               | .crylic 5 mm (clea | r)              |
| Dimensions   |           | Internal (mm)                  | 433 x 500 x 468 | 583 x 500 x 468    | 880 x 500 x 468 |
| Dimensions   | WXUXH     | External (mm)                  | 450 x 509 x 610 | 600 x 509 x 610    | 900 x 509 x 610 |
| Net weight ( | (g)       |                                | 15              | 17.5               | 20              |



# ACCESSORIES AND OPTIONS FOR CLEAN BENCHES



HEPA Filter (1 included)



Electric Sockets



Pre Filter (1 included)



Service Fixtures



Basic Stand



Stand with Castors

#### FOR DUCTLESS FUME HOODS



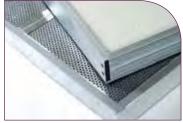
Differential Pressure Gauge



Pre Filter



Gas Detector and Tubes



Filters



Work Surface

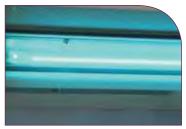


Stand with Castors

# FOR PCR WORKSTATIONS AND UV STERILISATION CABINETS



Fluorescent Lamp



UV Lamp



HEPA Filter (1 included)

# H

# **HEATING APPARATUS**

- Heating Blocks
- Mantles
- Hotplates
- Becelec Burner
- Microincinerators
- Furnaces

Dry block heating systems combine superb temperature control and uniformity with high quality design and great versatility. A premium product range at an affordable price.

- Accurate, reproducible, rapid and safe dry bath heating of your samples - by virtue of advanced temperature control combined with high quality, precision-engineered blocks which maintain excellent thermal contact
- Choice of models with interchangeable blocks or with fixed microtube blocks
- Versatile range of interchangeable heating blocks to fit any sample tube or plate from our standard range of blocks, or custom-made to suit your application



#### **HEATING BLOCKS**

The PID controller has a built-in temperature limit setting feature and precise settings for complete accuracy. There is an automatic power cutoff. Our heating blocks offer two types of timer modes:

- Timer 1: Timer activation starts only after reaching the set temperature.
- Timer 2: Timer activation starts right after the timer setting.

The bodies are manufactured from highly chemical resistant polypropylene making them also very easy to clean and maintain. Optimal heat transfer is enabled via the tight coupling design of the main body and the corrosion resistant blocks. A transparent lid allows for easy sample monitoring coupled with even heat distribution.

| Product code   | •                         | CHB-350S             | CHB-350T        |  |  |  |
|----------------|---------------------------|----------------------|-----------------|--|--|--|
| Product code   | e AAHJ1015K AAHJ1         |                      |                 |  |  |  |
| Control system |                           | Feedback control PID |                 |  |  |  |
| Display        |                           | VFD(0.1(°C)          | resolution)     |  |  |  |
|                | Range (°C)                | Ambient              | +5 to 130       |  |  |  |
| Temperature    | Fluctuation at 80°C (±°C) | 0.1                  |                 |  |  |  |
|                | Variation at 80°C (±°C)   | 0.2                  |                 |  |  |  |
| Dimensions     | Internal (mm)             | 154 x 99 x 37        |                 |  |  |  |
| W X D X H      | External (mm)             | 276 x 334 x 120      | 276 x 334 x 250 |  |  |  |
| Net weight (K  | g)                        | 5.1                  | 5.5             |  |  |  |



| Product code                        | MD 110210             | MD 110310       | MD 110220  |  |  |
|-------------------------------------|-----------------------|-----------------|------------|--|--|
| Temperature range (°C)              | Amb. +                | 5 to 100        | -10 to 100 |  |  |
| Time for temp. increasing           | ≤25 min.(20°C-100°C)  |                 |            |  |  |
| Time for temp. decreasing           | ≤25 min<br>(20°C-100° |                 |            |  |  |
| Temperature accuracy (°C)           | ≤±0.5                 |                 |            |  |  |
| Mixing speed (RPM)                  | -                     | -               |            |  |  |
| Mixing orbit (mm)                   | -                     | 2               | -          |  |  |
| Display resolution                  |                       | 0.1°C           |            |  |  |
| Uniformity of the block temperature | ≤±0                   | ≤±0.3°C         |            |  |  |
| Temperature-segment                 | -                     | 2               |            |  |  |
| Dimensions w x D X H (mm)           |                       | 300 x 220 x 170 |            |  |  |
| Net weight (Kg)                     | 2.5                   | 7               | 3          |  |  |

#### **HEATING APPARATUS**





#### **CONTROLLED MANTLES**

#### E-SERIES

The E-series are energy-regulated, all purpose heating mantles. The time proportional double pole system allows stable control of the heating element, reducing the risk of overheating liquids. The dial controller allows accurate temperature settings.

| Product code | E-1005 | E-101 | E-102 | E-103 | E-104 |
|--------------|--------|-------|-------|-------|-------|
| Volume (ml)  | 50     | 100   | 250   | 500   | 1000  |
|              |        |       |       |       |       |
| Product code | E-105  | E-106 | E-107 | E-108 | E-109 |



#### STIRRER MANTLES

#### **ES-SERIES**

The ES-series rotamantles feature an integral magnetic stirrer, which is independently regulated. The stirrer speed may be varied from 100 to 1000rpm and the temperature is controlled by an infinity bimetallic thermostat.

| Product code | ES 301 | ES 302 | ES 303 | ES 304 | ES 305 |
|--------------|--------|--------|--------|--------|--------|
| Volume (ml)  | 100    | 250    | 500    | 1000   | 2000   |
|              |        |        |        |        |        |
| Product code | ES 306 | ES 30  | 07     | ES 308 | ES 309 |
| Volume (ml)  | 3000   | 5000   |        | 10.000 | 20.000 |



## **DIGITAL MANTLES**

DM-SERIES

The DM-series features an integral digital temperature controller linked to a sensor probe, which is inserted directly into the flask. The temperature is shown clearly on an LED display and the desired temperature is controlled by a simple push button potentiometer.

| Product code | DM-6005 | DM-601 | DM-602 | DM-603 | DM-604 |
|--------------|---------|--------|--------|--------|--------|
| Volume (ml)  | 50      | 100    | 250    | 500    | 1000   |
|              |         |        |        |        |        |
| Product code | DM-605  | DM-606 | DM-607 | DM-608 | DM-609 |
| Volume (ml)  | 2000    | 3000   | 5000   | 10000  | 20000  |



#### **EXTRACTION MANTLES**

#### EAM-SERIES

Designed for use in distillation, extraction. Each of the three and six place mantles has individual temperature regulation. The support rods and scaffolding are included. The body is made of steel with a chemical resistant coating and the cover with high grade stainless steel.

| Product code | EAM-9201-03 | EAM-9202-03 | EAM-9203-03 | EAM-9204-03 | EAM-9205-03 |  |
|--------------|-------------|-------------|-------------|-------------|-------------|--|
| Volume (ml)  | 100ml       | 250ml       | 500ml       | 1000ml      | 2000ml      |  |
| Positions    | 3 places    |             |             |             |             |  |

| Product code | EAM-9201-06 | EAM-9202-06 | EAM-9203-06 | EAM-9204-06 | EAM-9205-06 |
|--------------|-------------|-------------|-------------|-------------|-------------|
| Volume (ml)  | 100ml       | 250ml       | 500ml       | 1000ml      | 2000ml      |
| Positions    |             |             | 6 places    |             |             |



#### **HEATING APPARATUS**



#### **ELECTRIC BURNERS** BECELEC

The new Becelec – Electric Burner offers a unique replacement option to conventional gas Bunsen burners. The high power heater combined with a reflective internal stainless steel bowl produces a concentrated stream of heat comparable with that of existing gas-powered Bunsen burners. Supplied with reflective internal stainless steel bowl, wire safety guard, retort stand and clamps.

| Product code                  | BEC2UKSET         | BEC2EXSET |  |  |
|-------------------------------|-------------------|-----------|--|--|
| Temp range (°C)               | 37 to 920         |           |  |  |
| Diameter of heating area (mm) | Ø130              |           |  |  |
| Power                         | 500 Watt          |           |  |  |
| Safety indicator              | LED               |           |  |  |
| Plug type                     | 3 pin UK 2 pin EL |           |  |  |
| Dimensions w x D X H (cm)     | 31 x 20 x 11cm    |           |  |  |
| Net weight (Kg)               | 1.7               |           |  |  |



#### **BACTI-CINERATOR STERILISER**

The Bacti-cinerator sterilises needles, loops and culture tubes in five to seven seconds at the optimum sterilising temperature of 815.6°C (1500°F).

Ceramic funnel tube enclosed in a stainless-steel (perforated) guard and a stainless-steel support stand.

| Product code                 | BACTI-100       |
|------------------------------|-----------------|
| Sterilising temperature (°C) | 815.6           |
| Length (mm)                  | 100             |
| Max diameter of sample (mm)  | 14              |
| Dimensions w x D X H (mm)    | 130 x 102 x 180 |
| Net weight (Kg)              | 1.3             |



New safety regulations have meant that Microincinerators are increasingly replacing the traditional Bunsen burners that have long been fundamental to microbiology laboratories. Accordingly, CDC and WHO, recommend these in laboratories instead of Bunsen burners.

When using in biosafety cabinets, contrary to bunsen burners, the filter system is not damaged and the cabinet air flow is not affected.

During operation the exterior surface temperature of the device does not exceed  $30^{\circ}\text{C}$ , allowing handling without heat protective gloves.

- Suitable for slide fixation, sterilisation of loops and culture tubes.
- ▶ Energy and environmentally-friendly design ensures minimum power consumption
- Operational angle adjustment of chamber 270°





#### **HEATING APPARATUS**





#### **CHAMBER FURNACES**

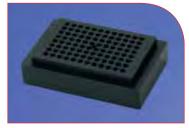
Our furnaces can be used in quality control tests, ashing, heat treatment, preheating, melting, metallurgical research and sample production. Our products have been produced for heavy duty conditions.

#### Features:

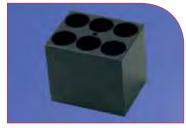
- Chamber walls made up of insulating fire bricks against mechanical abrasion and thermal aging and deformation.
- Half buried heaters in two sides and on top (housed in quartz tubes).
- Tight door closing mechanism.
- Modular inner body, replacement and fully renewing the furnace in 30 minutes.
- Homogeneous temperature gradient in the chamber thanks to similar heat loss in every direction.
- Optimal insulation thickness to reduce the temperature of the outer surface.
- Contactless outer shell for low surface temperature.
- ▶ Ergonomic PID control unit placement.
- Standard chimney with fan.
- Adjustable foot screw.
- Doptional 1100°C models also available.

| Product code                        | MD1305          | MD1307          | M D1310         | MD1315          | MD1320          |  |
|-------------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|--|
| Volume (Litres)                     | 5.2             | 7.4             | 10.4            | 15              | 20              |  |
| Continuous working temperature (°C) | 1250            |                 |                 |                 |                 |  |
| Temperature Max. (°C)               |                 |                 | 1300            |                 |                 |  |
| Chamber dimensions (mm)             | 150 x 150 x 230 | 200 x 160 x 230 | 250 x 180 x 230 | 250 x 200 x 300 | 250 x 200 x 400 |  |
| Power (W)                           | 22              | 00              | 3600            | 4000            | 4200            |  |
| I max. (A)                          | 1               | 0               | 16,4            | 18,2            | 19,1            |  |
| Dimensions w x D X H (mm)           | 480 x 640 x 640 | 580 x 650 x 650 | 580 x 650 x 660 | 580 x 720 x 750 | 580 x 720 x 800 |  |
| Net weight (Kg)                     | 60              | 72              | 74              | 109             | 113             |  |

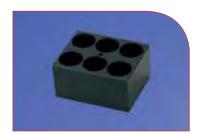
# ACCESSORIES AND OPTIONS HEATING BLOCKS



96 Well Tube Block



50ml Centifuge Tube Block



Centifuge Tube Block

#### FOR BECELEC BURNER



Flame Gel / SS Plate



Wire Safety Guard



Retort Rod and Clamp Holder

- Heating Incubators
- Low Temperature Incubators
- Incubator Shakers
- CO Incubators
- Accessories

#### **Safety Features**

- Den door alert:
  - Audible and visible alarms.
  - Automatic power cut off from the heater and the fan if the door is open for more than 5 minutes to minimize heat loss and also to protect the operator.
- Protection against overheating by automatic power cut off from the heater controller before shutting down the unit.
- Two separate fuses to protect against over current.

#### **Optimum Control Features**

- ▶ Microprocessor PID control.
- ▶ Simple calibration and auto-tuning functions.
- Built-in digital timer with Delayed ON/OFF function.
- ▶ Timer range: 1 min ~ 99 hr 59 min.
- Operation mode selection after power inter ruption: either Automatic Run or Manual Run.
- Convenient preset function for 3 most commonly used temperature settings.

- ▶ Easy conversion between Celsius and Fahrenheit.
- Self-diagnostic function identifying errors.
- Intuitive control panel design based on HMI (Human Machine Interface) system:
  - Bright LED displays as well as splashproof and easy-to-clean keypads.
  - Quick-lock button prevents accidental parameter changes. (for IB, IL, and ILP Models only)
  - Separate power switches for shaker and lamp mechanisms for independent incubation. (IS-971RF Models only)

#### **Constructional Features**

- High-quality 304 grade stainless steel internal chamber and dirt-repellent external surface with powder coating.
- Perfectly sealed door gasket minimizing heat loss and fully insulated chambers.
- Adjustable and electropolished stainless steel wire shelves allowing efficient air-flow and easy cleaning. (exept for SI and IS Models)

| Models   | IB | IL | ILP | SI & SIF | IS                            |  |
|--|----|----|-----|----------|-------------------------------|--|
| General applications                                     |    |    |     |          | & Refrigerated & ated Skakers |  |
| Antibody testing   | •  | •  | •   |          |                               |  |
| Bacterial research                                       | •  |    | •   |          |                               |  |
| Bacterial suspensions                                    |    |    |     | •        | •                             |  |
| Chemical storage   | •  | •  |     |          |                               |  |
| Chick embryo studies                                     | •  |    | •   |          |                               |  |
| Clinical science   | •  | •  | •   |          |                               |  |
| Cultivating low temperature microbes and plant cells     |    | •  |     |          |                               |  |
| Crystallization studies                                  | •  | •  |     |          |                               |  |
| Cultivating thermophilic bacteria                        | •  |    |     |          |                               |  |
| Drying and staining procedures                           | •  | •  |     |          |                               |  |
| Denaturalizing tests for food                            | •  | •  |     |          |                               |  |
| Environmental technology (waste water and soil analysis) |    |    |     | •        | •                             |  |
| Enzyme digestion studies                                 | •  | •  |     |          |                               |  |
| Extraction procedures                                    |    |    |     | •        | •                             |  |
| Fermentation (pharmacy and biotech -dna and enzymes)     |    |    |     | •        | •                             |  |
| General mixing   |    |    |     | •        | •                             |  |
| Hematological testing                                    | •  | •  | •   |          |                               |  |
| Histochemical procedures                                 | •  | •  |     |          |                               |  |
| Measuring cod/ bod                                       |    | •  |     |          |                               |  |
| Medical researches. (Diagnostic tests)                   |    |    |     | •        | •                             |  |
| Microbiological determinations                           | •  | •  | •   |          |                               |  |
| Microorganism  | •  | •  | •   |          |                               |  |
| Molecular biology  |    |    |     | •        | •                             |  |
| Organism germs for life science                          | •  | •  | •   |          |                               |  |
| Organism pharmacy  | •  | •  | •   |          |                               |  |
| Paraffin embedding                                       | •  | •  |     |          |                               |  |
| Pharmaceutical stability testing                         |    | •  |     |          |                               |  |
| Plasmid purification                                     |    |    |     | •        | •                             |  |
| Protein expression in bacteria                           |    |    |     | •        | •                             |  |
| Solubility   |    |    |     | •        | •                             |  |
| Staining and destaining                                  |    |    |     | •        | •                             |  |
| Tissue culturing   | •  | •  |     |          |                               |  |



#### **ECONOMY MODELS**

#### Affordable yet exceptionally reliable incubators featuring film type heaters.

Thanks to the film type heaters attached to the inner chamber's external walls, IB-E series incubators are free from noise, vibration, and mechanical troubles.

- Microprocessor PID controller
- Digital timer (1 min 99hrs 59 mins)
- ▶ Intuitive control panel with LED display

| Model          |   | IB-01E          | IB-11E          | IB-21E          |  |
|----------------|---|-----------------|-----------------|-----------------|--|
| Product code   |   | 26015           | 26025           | 26035           |  |
| Chamber volui  | me (Litres)                             | 65 150 205      |                 |                 |  |
|                | Range (°C)                              | Amb. +3 to 60   |                 |                 |  |
| Temperature    | Fluctuation <sup>1)</sup> at 37°C (±°C) | 0.2             | 0.3             | 0.1             |  |
|                | Variation <sup>1)</sup> at 37°C (±°C)   | 0.6             | 0.8             | 1.1             |  |
| Dimensions     | Internal (mm)                           | 423 x 355 x 445 | 500 x 515 x 585 | 623 x 515 x 630 |  |
| WXDXH          | External (mm)                           | 533 x 475 x 725 | 595 x 630 x 865 | 740 x 630 x 910 |  |
| Net weight (Kg | g)                                      | 33 47 57        |                 | 57              |  |



#### **GENERAL MODELS**

#### Versatile air-jacketed natural convection incubators.

Specially designed for uniform temperature distribution and minimal sample contamination caused by external air intrusion.

- Microprocessor PID controller
- Calibration and auto-tuning functions
- Digital timer (1 min 99hrs 59 mins)
- RS-232 interface and Lab Tracer software

|   | IB-05G   | IB-15G  | IB-25 <b>G</b>  |
|---|--|---|---|
| Product code                            |  | 21172   | 21182   |
| me (Litres)                             | 60 102 151   |   |   |
| Range (°C)                              |  | Amb. +5 to 70   |   |
| Fluctuation <sup>1)</sup> at 37°C (±°C) | 0.1  | 0.1   | 0.2   |
| Variation <sup>1)</sup> at 37°C (±°C)   | 0.6  | 0.2   | 0.6   |
| Internal (mm)                           | 400 x 360 x 420  | 480 x 410 x 520   | 610 x 460 x 540   |
| External (mm)                           | 595 x 555 x 745  | 675 x 605 x 855   | 805 x 655 x 885   |
| g)                                      | 45 55 62   |   | 62  |
|   | Range (°C) Fluctuation¹¹ at 37°C (±°C) Variation¹¹ at 37°C (±°C) Internal (mm) External (mm) | 21162       me (Litres)     60       Range (°C)     0.1       Fluctuation¹¹ at 37°C (±°C)     0.1       Variation¹¹ at 37°C (±°C)     0.6       Internal (mm)     400 x 360 x 420       External (mm)     595 x 555 x 745 | 21162         21172           me (Litres)         60         102           Range (°C)         Amb. +5 to 70           Fluctuation¹¹ at 37°C (±°C)         0.1         0.1           Variation¹¹ at 37°C (±°C)         0.6         0.2           Internal (mm)         400 x 360 x 420         480 x 410 x 520           External (mm)         595 x 555 x 745         675 x 605 x 855 |



#### LOW TEMP. INCUBATORS

#### FORCED CONVECTION MODELS

Superb low temperature incubation performance using a noiseless HBP compressor cooling system which reduces water evaporation within the chambers.

- ▶ Microprocessor PID controller
- Adjustable 3-step fan speed with defrosting time and period control
- Digital timer (1min 99hrs 59mins)
- ▶ RS-232 interface and Lab Tracer software

| Model          |   | IL-11            | IL-21            |  |
|----------------|---|------------------|------------------|--|
| Product code   |   | 22042            | 22052            |  |
| Chamber volu   | me (Litres)                             | 150              | 244              |  |
| Refrigerator ( | <b>-</b> Гр)                            | 1/8 HBP 1/6 HBP  |                  |  |
|                | Range (°C)                              | 0 to 60          |                  |  |
| Temperature    | Fluctuation <sup>1)</sup> at 25°C (±°C) | 0.1              |                  |  |
|                | Variation <sup>1)</sup> at 25°C (±°C)   | 0.5              | 0.4              |  |
| Dimensions     | Internal (mm)                           | 600 x 500 x 500  | 500 x 520 x 940  |  |
| WXDXH          | External (mm)                           | 735 x 742 x 1010 | 635 x 740 x 1630 |  |
| Net weight (Kg | g)                                      | 100              | 135              |  |

<sup>1)</sup> Technical data according to DIN 12880.



#### LOW TEMP. INCUBATORS

PERSONAL MODELS

Compact, stackable, energy-efficient and exceptionally reliable low temperature incubators using Peltier technology.

■ RS-232 interface and Lab Tracer software

| Model                   |   | ILP-02          | ILP-12          |  |
|-------------------------|---|-----------------|-----------------|--|
| Product code            |   | 24032           | 24042           |  |
| Chamber volume (Litres) |   | 14              | 48              |  |
|                         | Range (°C)                              | 10 to 40        |                 |  |
| Temperature             | Fluctuation <sup>1)</sup> at 25°C (±°C) | 0.1             |                 |  |
|                         | Variation <sup>1)</sup> at 25°C (±°C)   | 0.5             | 0.4             |  |
| Dimensions              | Internal (mm)                           | 315 x 200 x 230 | 334 x 334 x 430 |  |
| WXDXH                   | External (mm)                           | 430 x 495 x 400 | 430 x 665 x 620 |  |
| Net weight (Kg          | g)                                      | 27.5            | 49              |  |



#### LOW TEMP. INCUBATORS

AIR-JACKETED MODELS

Specially designed for optimal temperature control as well as minimal sample contamination caused by external air intrusion.

▶ RS-232 interface and Lab Tracer software

| IL-21A          |
|-----------------|
| 22072           |
| 254             |
| 1/4 HBP         |
|                 |
|                 |
|                 |
| 600 x 540 x 940 |
| 70 x 760 x 1680 |
| 145             |
|                 |



#### LOW TEMP. INCUBATORS

4-CHAMBER MODELS

Featuring four incubation chambers in a single unit, this Low Temperature Incubator is designed to offer an ideal and cost-effective solution for laboratories with limited space and budget.

▶ RS-232 interface and Lab Tracer software

| Model          |   | IL-11-2C                       | IL-11-4C                       |  |
|----------------|---|--------------------------------|--------------------------------|--|
| Product code   |   | 28112 28012                    |                                |  |
| Chamber volur  | me (Litres)                             | 300 (2 Chambers)               | 600 (4 Chambers)               |  |
| Refrigerator ( | <b>Н</b> р)                             | 1/8 ዘ                          | HBP                            |  |
|                | Range (°C)                              | 0 to 60                        |                                |  |
| Temperature    | Fluctuation <sup>1)</sup> at 25°C (±°C) | 0.1                            |                                |  |
|                | Variation <sup>1)</sup> at 25°C (±°C)   | 0.5                            |                                |  |
| Dimensions     | Internal (mm)                           | 600 x 500 x 500 Per<br>chamber | 600 x 500 x 500 Per<br>chamber |  |
| External (mm)  |   | 760 x 760 x 1690               | 1500 x 760 x 1690              |  |
| Net weight (Kg | 1)                                      | 180 350                        |                                |  |

<sup>1)</sup> Technical data according to DIN 12880.



#### **INCUBATED SHAKERS**

BENCHTOP MODELS

#### Digital incubating/refrigerating benchtop shakers.

Combining a benchtop incubator/refrigerator with a dual-action shaking mechanism. The SI series of shaking incubators offer versatility for a variety of biological and biotech applications.

▶ RS-232 interface and Lab Tracer software

| Model             |   | SI-300   | SI-300R       | SI-600        | SI-600R   |  |
|-------------------|---|--|---------------|---------------|-----------|--|
| Product code      |   | 23102  | 23112         | 23202         | 23212     |  |
| Chamber volu      | me (Litres)                             | 5  | 3             | 8             | 3         |  |
|                   | Range (°C)                              | Amb. +5 to 60  | +15 to 60     | Amb. +5 to 60 | +15 to 60 |  |
| Temperature       | Fluctuation <sup>1)</sup> at 37°C (±°C) | 0.3  | 0.6           | 0.1           | 0.2       |  |
| Temperature       | Variation <sup>1)</sup> at 37°C (±°C)   | 1.6  | 1.5           | 0.7           | 0.3       |  |
|                   | Refrigerator (Hp)                       | -  | 1/8 HBP       | -             | 1/8 HBP   |  |
|                   | Motion type                             | Orbital c  | r Reciprocati | ng (motion se | lectable) |  |
|                   | Speed range (RPM)                       | 10 to 300  |               |               |           |  |
| Shaking<br>system | Timer                                   | Run time: 10 sec to 999 hr 59 min 59 sec<br>Forward & Backward, Pause: 10 sec to 59 min 59 sec |               |               |           |  |
| System            | Amplitude size (mm, dia.)               | 20, 30, 40 Available - Standard 30   |               |               | 30        |  |
|                   | Recip stroke length (mm)                |  |               |               |           |  |
|                   | Platform w x D (mm)                     | 350 >  | k 350         | 450 >         | < 450     |  |
| Dimensions        | Internal w x D X H (mm)                 | 410 x 41   | 10 x 320      | 510 x 51      | 10 x 320  |  |
|                   | External w x D X H (mm)                 | 442 x 740 x 622  |               | 542 x 85      | 50 x 622  |  |
| Net weight (K     | g)                                      | 74   | 85            | 91            | 102       |  |



#### **INCUBATED SHAKERS**

FLOOR STANDING MODELS

Large capacity and heavy workload shaking with rapid heating and cooling performance.

Exclusive drive mechanism delivering years of trouble-free service.

▶ RS-232 interface and Lab Tracer software

| Model                   |   | IS-971   | IS-971R  | IS-971RF    |  |  |
|-------------------------|---|--|----------|-------------|--|--|
| Product code            |   | 23306  | 23322    | 23352       |  |  |
| Chamber volume (Litres) |   | 270  |          |             |  |  |
| Temperature             | Range (°C)                              | Amb. +5 to 60  | +4 to 60 | Amb15 to 60 |  |  |
|                         | Fluctuation <sup>1)</sup> at 37°C (±°C) | 0.2  |          |             |  |  |
|                         | Variation <sup>1)</sup> at 37°C (±°C)   | - 0.8  |          |             |  |  |
|                         | Refrigerator                            | -  | 1/6 HBP  | 1/4 HBP     |  |  |
| Shaking<br>system       | Motion type                             | Orbital or Reciprocating (motion selectable)   |          |             |  |  |
|                         | Speed range (RPM)                       | 10 to 300  |          |             |  |  |
|                         | Timer                                   | Run time: 10 sec to 999 hr 59 min 59 sec<br>Forward & Backward, Pause: 10 sec to 59 min 59 sec |          |             |  |  |
|                         | Amplitude size<br>(mm, dia.)            | 30, 40, 50, 60, 70 Available - Standard 30   |          |             |  |  |
|                         | Recip stroke length (mm)                |  |          |             |  |  |
| Dimensions              | Platform w x □ (mm)                     | 755 x 481  |          |             |  |  |
|                         | Internal w x D X H (mm)                 | 894 x 634 x 480  |          |             |  |  |
|                         | External w x d x H (mm)                 | 1132 x 810 x 1045 1132 x 810 x 1   |          |             |  |  |
| Net weight (Kg)         |   | 180  | 195      | 210         |  |  |

<sup>1)</sup> Technical data according to DIN 12880.



#### INCUBATED SHAKERS CHAMBER MODELS

Multi-purpose incubated shakers featuring a wide range of temperature control and large chamber volume.

▶ RS-232 interface and Lab Tracer software

| Model                     |   | SIF-5000   | SIF-5000R      | SIF-6000                          | SIF-6000R      |
|---------------------------|---|--|----------------|-----------------------------------|----------------|
| Product code              |   | 27022  | 27122          | 27012                             | 27112          |
| Chamber volume (Litres)   |   | 80   |                | 150                               |                |
| Temperature <sup>1)</sup> | Range (°C)  | Amb.+5<br>to 80  | Amb20<br>to 80 | Amb.+5<br>to 80                   | Amb20<br>to 80 |
|                           | Fluctuation <sup>1)</sup> at 37°C (±°C)               | 0.1  |                |                                   |                |
|                           | Variation <sup>1)</sup> at 37°C (±°C)                 | 1  |                |                                   |                |
|                           | Refrigerator (Hp)                                     | -  | 1/8Hp, HBP     | -                                 | 1/6Hp, HBP     |
| Shaking<br>system         | Motion type   | Orbital or Reciprocating motion (Default: Orbital motion)                                |                |                                   |                |
|                           | Speed range (RPM)                                     | 10 to 300 (Stackable Top: 10 to 250)   |                |                                   |                |
|                           | Timer   | Run time (10sec to 999hr 59min 59sec)<br>Pause, Forward, Backward (10sec to 59min 59sec) |                |                                   |                |
|                           | Amplitude size (mm, dia.)<br>Recip stroke length (mm) | 19, 25 Available -<br>Standard 19  |                | 25, 38 Available -<br>Standard 25 |                |
| Shelves (Standard / Max)  |   | 2/8  |                | 2 / 11                            |                |
| Dimensions                | Platform w x D (mm)                                   | 350 x 350  |                | 450 x 450                         |                |
|                           | Internal w x D X H (mm)                               | 440 x 440 x 418  |                | 540 x 540 x 518                   |                |
|                           | External w x d x H (mm)                               | 570 x 815 x 900  |                | 670 x 895 x 980                   |                |
| Net weight (Kg)           |   | 120  | 130            | 140                               | 150            |

<sup>1)</sup> Technical data according to DIN 12880.



#### **CO<sub>2</sub> INCUBATORS**

Polished stainless steel chamber, semicircular arced at corners for easy cleaning, and the space between the shelves in the chamber is adjustable. Door temperature controller effectively prevents condensation on the glass door.

| Product code                       |                         | MD080                                 | MD150           | M D240          |  |
|------------------------------------|-------------------------|---------------------------------------|-----------------|-----------------|--|
| Chamber volume (Litres)            |                         | 80                                    | 155             | 240             |  |
| Heating method                     |                         | Air-jacketed, PID Control             |                 |                 |  |
| Temp. range (°C)                   |                         | Amb. +5 to 55                         |                 |                 |  |
| Amb. temperature (°C)              |                         | Amb. +5 to 30                         |                 |                 |  |
| Temp. stability (°C)               |                         | ±0.1                                  |                 |                 |  |
| CO <sub>2</sub> Range              |                         | 0 to 20%                              |                 |                 |  |
| CO <sub>2</sub> Control resolution |                         | ±0.1% (IR sensor)                     |                 |                 |  |
| CO <sub>2</sub> Recovery           |                         | Door open 30s, recovery to 5% ≤3min   |                 |                 |  |
| Temp.recovery                      |                         | Door open 30s, recovery to 37°C ≤8min |                 |                 |  |
| Power consumption (W)              |                         | 500                                   | 750             | 950             |  |
| Humidity method                    |                         | Natural evaporation >95%              |                 |                 |  |
| Shelves                            |                         | 2 pcs                                 | 3 pcs           | 3 pcs           |  |
| Dimensions                         | Internal w x D x H (mm) | 400 x 450 x 500                       | 480 x 530 x 610 | 600 x 630 x 670 |  |
|                                    | External w x d x H (mm) | 590 x 687 x 790                       | 670 x 767 x 880 | 788 x 837 x 940 |  |
| Net weight (Kg)                    |                         | 65                                    | 80              | 105             |  |

### **INCUBATORS**

### **ACCESSORIES** AND **OPTIONS**

### FOR INCUBATORS



Wire Shelves

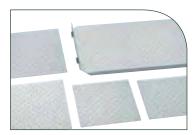


Perforated Shelves



Stacking Kits

### FOR INCUBATED SHAKERS



Universal Platforms



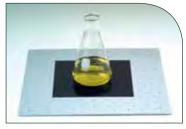
Universal Attachments



Spring Wire Racks



Microplate Holders



Lab Sticker



Test Tube Racks



Funnel Clamps



Flask Clamps



Plastic Clamps

# FOR CO<sub>2</sub> INCUBATORS



CO<sub>2</sub> Pressure Valve



Stainless Steel Shelves



Humidity Display Interface

# M

# **MELTING POINT APPARATUS**

MDC-series

These instruments are designed for fast and accurate measurement of melting points. A membrane key pad allows easy setting of the desired start temperature and heating ramp rates. The user friendly LCD display advises both the temperature and the specific stage of operation.

When measurements of melt are being made, the temperatures may be stored in the instrument's memory, by simply pressing the storage buttons. Once the heating cycle is completed, an integral air pump quickly cools the heating block so that the next series of tests can be commenced promptly.



### MD300C

- Photoelectric test
- LCD display
- RS-232
- ▶ Real time melting curve

| Product code                             | MD 300C                                 |
|--|---|
| Measurement range: room temperature (°C) | Amb to +300                             |
| Minimum digital display (°C)             | 0.1                                     |
| Size of the capillary (mm)               | Ø1.4 (outside) Ø1.0 (inside) Length: 80 |
| Loading height of the sample (mm)        | 3                                       |
| Linear heating-up rate                   | 5°C/min                                 |
| Accuracy                                 | <200°C: ±0.5°C<br>200-300°C: ±0.8°C     |
| Dimensions W X D X H (mm)                | 510 x 380 x 360                         |
| Net weight (Kg)                          | 11                                      |



### **MD400C**

- Use PID & PWM to control the temperature
- Automatically records the melting curve
- 3 samples can be measured at the same time and calculate the average value of initial and final melting points automatically
- Touch screen
- USB and RS232

| Product code                             | MD 400C                                 |
|--|---|
| Measurement range: room temperature (°C) | Amb to +400                             |
| Minimum digital display (°C)             | 0.1                                     |
| Size of the capillary (mm)               | Ø1.4 (outside) Ø1.0 (inside) Length: 80 |
| Loading height of the sample (mm)        | 3                                       |
| Linear heating-up rate                   | 0'1°C to 20°C/min                       |
| Accuracy                                 | <200°C: ±0.5°C<br>>200°C: ±0.8°C        |
| Dimensions w x D X H (mm)                | 440 x 490 x 320                         |
| Net weight (Kg)                          | 11.5                                    |

# **MICROSCOPES**

M

- Educational Microscopes
- Compound Microscopes
- Stereo Microscopes
- Inverted Microscopes
- Industrial Microscopes
- ▶ Image Capture & Analysis Solutions
- Accessories



The CETI
Microscope
range offers an
extensive choice
of affordable
microscopes to
suit all budgets.
From basic
educational
needs to the
more specialised

requirements of the research and clinical scientist, we have the perfect solution.

Our range includes monocular, binocular or trinocular configurations to suit most typical applications and requirements. These use brightfield, phase contrast, darkfield, polarisation, DIC or fluorescent light techniques and are supplied with optics ranging from Achromatic to infinity corrected Planachromatic objectives, depending on the model.

All CETI microscopes are manufactured to the highest specification demanded by the relevant application.

Each microscope has its own unique product code, with 10x eyepieces, objectives, a dust cover and power lead as standard and an extensive range of accessories available to complement each model. This ensures that the ordering process is simplified and a complete working unit is delivered, easily unpacked and rapidly set up for operation upon arrival. The units are shipped in robust Styrofoam packaging in a sturdy cardboard outer case.

All the units are supplied with DIN\* (\*Deutsche Industrie Normen – an internationally recognised industry standard for microscope objectives) antifungal optics. They are manufactured to ISO 9002 standards and are fully CE compliant. The objectives range from basic Achromatic on the entry level microscopes up to Planachromatic infinity corrected on the most advanced models. The mid range models have the option of a choice of objective quality.











# **EDUCATIONAL MICROSCOPES**



**FOCUS II**A modern school and college student microscope with a built-in carrying handle.

| Product code            | 1100.4000  | 1100.4400   | 1100.4440   |  |  |  |
|-------------------------|--|---|-------------|--|--|--|
| Optical head            |  | Monocular   |             |  |  |  |
| Nosepiece               | Tri  | ple   | Quadruple   |  |  |  |
| Eyepiece                | 10x/18mm wi  | 10x/18mm wide-field with pointer, mounted student proof |             |  |  |  |
| Objectives              | 4x, 10x, 40x   | 4x, 10x, 40x Achromatic                                 |             |  |  |  |
| Condenser               | Brightfield Abbe - NA 1.25                           |   |             |  |  |  |
| Stage                   | Size 120 x 120mm with built-in condenser (N.A. 0.65) |   |             |  |  |  |
| Focusing                | Coaxial coarse and fine                              |   |             |  |  |  |
| Illumination (Variable) | Halogen 20W  | LED   | Halogen 20W |  |  |  |



### **DIGI FOCUS II**

Educational compound microscope with intergrated digital camera.

| Product code            | 1100.4600   |
|-------------------------|---|
| Optical head            | Monocular   |
| Eyepiece                | 10x/18mm wide-field with pointer, mounted student proof |
| Objectives              | 4x, 10x, 40x Achromatic                                 |
| Condenser               | Brightfield Abbe – NA 1.25                              |
| Stage                   | Size 120 x 120mm with built-in condenser (N.A. 0.65)    |
| Focusing                | Coaxial coarse and fine                                 |
| Illumination (Variable) | Halogen 20W   |
| Camera                  | Integral 1.3 Mpx  |



These models are available in monocular, binocular or trinocular configuration with a quadruple nose piece. This is an excellent and robust microscope, ideal for teaching purposes, and also extensively used in remote, field-based



| Product code            | 1100.5160                                       | 1100.5111                        | 1100.5162                       | 1100.5101 | 1100.5103  |  |
|-------------------------|---|----------------------------------|---------------------------------|-----------|------------|--|
| Optical head            | Mono  | ocular                           | Binocular                       |           | Trinocular |  |
| Eyepiece                |   |                                  | 10x/18mm wide-field             | d         |            |  |
| Objectives              | 4x, 10x, 40x, 60x<br>Achromatic                 | 4x, 10x, 40x, 100x<br>Achromatic | 4x, 10x, 40x, 60x<br>Achromatic |           |            |  |
| Condenser               | Abbe condenser with iris diaphragm              |                                  |                                 |           |            |  |
| Stage                   | Size 110 x 120mm with built-in mechanical stage |                                  |                                 |           |            |  |
| Focusing                | Coaxial coarse and fine                         |                                  |                                 |           |            |  |
| Illumination (Variable) |   |                                  | Halogen 15W                     |           |            |  |



The Akropol is designed to introduce polarisation techniques, whilst allowing for the measurement of the degree of rotation that the sample induces.



| Product code            | 1111.2441                               | 1111.2442                          | 1111.2443 | 1111.2444                       | 1111.2445                        |  |
|-------------------------|---|------------------------------------|-----------|---------------------------------|----------------------------------|--|
| Optical head            | Mono                                    | cular                              | Bino      | Binocular                       |                                  |  |
| Eyepiece                |   | High eye point 10x/16mm wide-field |           |                                 |                                  |  |
| Objectives              | 4x, 10x, 40x, 60x<br>Achromatic         | 4x, 10x, 40x, 100x<br>Achromatic   |           | 4x, 10x, 40x, 60x<br>Achromatic | 4x, 10x, 40x, 100x<br>Achromatic |  |
| Condenser               | Brightfield Abbe - NA 1.25              |                                    |           |                                 |                                  |  |
| Stage                   | Round centrable and rotating stage 360° |                                    |           |                                 |                                  |  |
| Focusing                | Coaxial coarse and fine                 |                                    |           |                                 |                                  |  |
| Illumination (Variable) |   | Halogen 20W                        |           |                                 |                                  |  |

# **EDUCATIONAL MICROSCOPES**





### **MAX II** MONOCULAR

Max II microscopes are a cost-effective option and are perfect for pre and post-graduate teaching laboratories. Ideally suited to routine, bench-top microscopy work for general purpose slide examinations where prolonged usage is not the norm. They are designed and manufactured to the latest demanding specifications and provide a thoughtfully-designed ergonomic solution, with a quadruple nose piece and a 360° rotatable head, whilst being compact enough to allow for storage and handling between different locations within a teaching environment.

| Product code            | 1201.4000                   | 1201.4060                                   |  |  |  |
|-------------------------|-----------------------------|---|--|--|--|
| Optical head            | Monocular, ir               | nclined at 45°                              |  |  |  |
| Eyepiece                | 10x/18mm                    | wide-field                                  |  |  |  |
| Objectives              | 4x,10x, 40x,100x Achromatic | 4x, 10x, 40x, 60x Achromatic                |  |  |  |
| Condenser               | Brightfield Abbe – N        | Brightfield Abbe – NA 1.25 - precentred     |  |  |  |
| Stage                   | Size 140 x 140mm, buil      | Size 140 x 140mm, built-in mechanical stage |  |  |  |
| Focusing                | Coaxial course and fine     |   |  |  |  |
| Illumination (Variable) | Haloge                      | en 20W                                      |  |  |  |



### **MAX II** BINOCULAR

The binocular version of the Max series with a choice of objectives types and LED illumination if preferred, optical heads 360° rotatable.

| Product code            | 1202.4030                                   | 1202.4000                               | 1202.4060 | 1202.3000          | 1202.3500      | 1202.3700 |
|-------------------------|---|---|-----------|--------------------|----------------|-----------|
| Optical head            | Binocular, inclined at 30°                  | Binocular, inclined at 45°              |           |                    |                |           |
| Eyepiece                |   | 10x/18mm wide-field                     |           |                    |                |           |
| Objectives              | 4x, 10x, 4                                  | 10x, 40x, 100x 4x, 10x, 40x, 60x        |           | 4x, 10x, 40x, 100x |                |           |
| Objectives              |   | Achr                                    | omatic    |                    | Planachromatic | Plan. ∞   |
| Condenser               |   | Brightfield Abbe – NA 1.25 - precentred |           |                    |                |           |
| Stage                   | Size 140 x 140mm, built-in mechanical stage |   |           |                    |                |           |
| Focusing                | Coaxial course and fine                     |   |           |                    |                |           |
| Illumination (Variable) |   | Halogen 20W LED Halogen 20W             |           |                    |                | n 20W     |



### **MAX II** TRINOCULAR

The trinocular variant of the Max II microscope that allows for the attachment of a digital camera for recording and capturing images, connected via a C mount fitting.

| Product code            | 1202.5000                                   | 1202.5500                               |  |  |  |
|-------------------------|---|---|--|--|--|
| Optical head            | Trinocular, ir                              | nclined at 30°                          |  |  |  |
| Eyepiece                | 10x/18mm                                    | wide-field                              |  |  |  |
| Objectives              | 4x, 10x, 40x, 100x Achromatic               | 4x, 10x, 40x, 100x Planachromatic       |  |  |  |
| Condenser               | Brightfield Abbe – N                        | Brightfield Abbe – NA 1.25 - precentred |  |  |  |
| Stage                   | Size 140 x 140mm, built-in mechanical stage |   |  |  |  |
| Focusing                | Coaxial course and fine                     |   |  |  |  |
| Illumination (Variable) | Halogen 20W                                 |   |  |  |  |



### **DIGI MAX II**

A dedicated digital-camera microscope using a digital USB camera and advanced software to allow for image capture and analysis.



| Product code            | 1202.8000                                   | 1202.7000        | 1202.9000                      | 1202.6000                            |  |  |
|-------------------------|---|------------------|--------------------------------|--------------------------------------|--|--|
| Optical head            | Trinocular, inclined at 30°                 |                  | Binocular, inclined at 30°     |                                      |  |  |
| Eyepiece                |   | 10x/18mm         | wide-field                     |                                      |  |  |
| Objectives              |   | 4x, 10x, 40x, 10 | 0x Achromatic                  |                                      |  |  |
| Condenser               | Brightfield Abbe – NA 1.25 - precentred     |                  |                                |                                      |  |  |
| Stage                   | Size 140 x 140mm, built-in mechanical stage |                  |                                |                                      |  |  |
| Focusing                | Coaxial course and fine                     |                  |                                |                                      |  |  |
| Illumination (Variable) | Halogen 20W                                 |                  |                                |                                      |  |  |
| Camera                  | Si-3000                                     | Integral 1.3 Mpx | Integral 3 Mpx with LCD screen | Integral 2 Mpx with LCD touch screen |  |  |



# **COMPOUND MICROSCOPES**



### **MAGNUM** BINOCULAR

The entry level Magnum has Semi Planachromatic objectives with a quintuple nose piece. Ideal for routine use in general QC conditions and for routine examinations of slide mounted samples.

| Product code            | 2621.0000   | 2622.0000                           | 2638.0000                             | 2653.0000                                  |  |  |  |
|-------------------------|---|-------------------------------------|---------------------------------------|--|--|--|--|
| Optical head            |   | Binocular, inclined at 30°          |                                       |  |  |  |  |
| Eyepiece                |   | 10x / 20mm                          | n wide field                          |  |  |  |  |
| Objectives              | 4x, 10x, 40x, 100x<br>Semi Planachromatic   | 4x,10x, 40x, 100x<br>Planachromatic | 10x, 20x, 40x, 100x<br>Phase contrast | 4x,10x, 40x, 60x<br>Polarisation           |  |  |  |
| Condenser               | Brightfiel<br>NA 0.90 –   |                                     | Phase contrast<br>5 position turret   | Brightfield Abbe –<br>NA 0.90 – NA1.25 oil |  |  |  |
| Stage                   | Size 210 x 140mm with built-in mechanical stage and slide clip  180mm circular rotatable 360° |                                     |                                       |  |  |  |  |
| Focusing                | Coaxial coarse and fine   |                                     |                                       |  |  |  |  |
| Illumination (Variable) |   | Haloge                              | en 30W                                |  |  |  |  |



### **MAGNUM** TRINOCULAR

This model is supplied complete with a dedicated phase contrast turret based system which has 4 phase rings and a brightfield viewing position. The objective turret is a sextuple unit with two free spaces to allow for the inclusion of additional objectives.

| Product code            | 2721.0000   | 2722.0000                           | 2738.0000                             | 2753.0000                                  |  |  |
|-------------------------|---|-------------------------------------|---------------------------------------|--|--|--|
| Optical head            | Trinocular, inclined at 30°   |                                     |                                       |  |  |  |
| Eyepiece                |   | 10x / 20mm                          | n wide field                          |  |  |  |
| Objectives              | 4x, 10x, 40x, 100x<br>Semi Planachromatic                                     | 4x,10x, 40x, 100x<br>Planachromatic | 10x, 20x, 40x, 100x<br>Phase contrast | 4x,10x, 40x, 60x<br>Polarisation           |  |  |
| Condenser               | Brightfiel<br>NA 0.90 –   |                                     | Phase contrast<br>5 position turret   | Brightfield Abbe –<br>NA 0.90 – NA1.25 oil |  |  |
| Stage                   | Size 210 x 140mm with built-in mechanical stage and slide clip rotatable 360' |                                     |                                       |  |  |  |
| Focusing                | Coaxial coarse and fine   |                                     |                                       |  |  |  |
| Illumination (Variable) |   | Haloge                              | en 30W                                |  |  |  |



### **MAGNUM B LED**

The Magnum LED is a rechargeable microscope that utilises an LED light source equivalent to a 20W halogen bulb. The unit is ideal where power supplies are intermittent or where a portable field microscope is required. The battery life is approximately 6 hours.

| Product code            | 2621.7000  |  |  |
|-------------------------|--|--|--|
| Optical head            | Binocular, inclined at 30°                                     |  |  |
| Eyepiece                | 10x / 20mm wide field  |  |  |
| Objectives              | 4x, 10x, 40x, 100x Semi Planachromatic                         |  |  |
| Condenser               | Brightfield Abbe — NA 0.90 — NA1.25 oil                        |  |  |
| Stage                   | Size 210 x 140mm with built-in mechanical stage and slide clip |  |  |
| Focusing                | Coaxial coarse and fine  |  |  |
| Illumination (Variable) | LED  |  |  |



### **MAGNUM INFINITY**

The ultimate Magnum microscope for brightfield viewing with infinity corrected optics to allow for the switching of objectives without the need to re-focus each time a different objective is selected.

| Product code            | 2629.0000 2729.0000  |                             |  |
|-------------------------|--|-----------------------------|--|
| Optical head            | Binocular, inclined at 30°                                     | Trinocular, inclined at 30° |  |
| Eyepiece                | 10x / 20mm   | n wide field                |  |
| Objectives              | 4x, 10x, 40x, 100x Planachromatic Infinity Corrected           |                             |  |
| Condenser               | Brightfield Abbe – NA 0.90 – NA1.25 oil                        |                             |  |
| Stage                   | Size 210 x 140mm with built-in mechanical stage and slide clip |                             |  |
| Focusing                | Coaxial coarse and fine  |                             |  |
| Illumination (Variable) | Halogen 30W  |                             |  |

# **COMPOUND MICROSCOPES**





### **MAGNUM FLUORESCENCE**

Designed for both brightfield viewing and the fluorescent examination of samples. The unit comes with a turret based fluorescence system with four built in filter blocks as standard and a 5th brightfield viewing position. The fluorescent light source is from a 100W Mercury bulb.

| Product code        |             | 2747.2000  | 2777.0000  |  |  |
|---------------------|-------------|--|--|--|--|
| Optical head        |             | Trinocular, inclined at 30°                                    |  |  |  |
| Eyepiece            |             | 10x / 20mm wide field  |  |  |  |
| Objectives          |             | 4x, 10x, 40x, 100x Planachr                                    | 4x, 10x, 40x, 100x Planachromatic Infinity Corrected |  |  |
| Condenser           |             | Brightfield Abbe - NA 0.90 - NA1.25 oil                        |  |  |  |
| Stage               |             | Size 210 x 140mm with built-in mechanical stage and slide clip |  |  |  |
| Focusing            |             | Coaxial coarse and fine  |  |  |  |
| Illumination        | Transmitted | d Halogen 30W  |  |  |  |
| (Variable)          | Reflected   | HBO 100W LED   |  |  |  |
| Fluorescent filters |             | Blue / Green / Ultraviolet / Violet                            |  |  |  |

### **TRITON II**

The Triton II series represents the pinnacle of compound microscopy in the CETI range and is ideal for clinical applications with its variety of lighting options.

| 1 |      |
|---|------|
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| Product code                   | 3100.5000   | 3100.5050                   | 3100.5150          |  |
|--------------------------------|---|-----------------------------|--------------------|--|
| Optical head                   | Trinocular, fixed at 30°                                    | Trinocular, v               | ariable 0-45°      |  |
| Eyepiece                       | 10x/22mm wide-field (pair)                                  |                             |                    |  |
| Objectives                     | 4x, 10x, 40x, 100x E-plan Planachromatic Infinity Corrected |                             |                    |  |
| Condenser                      | Swing-out condensing lens – Brightfield NA 1.25             |                             | eld NA 1.25        |  |
| Stage                          | Size 185 x 142mm  | with built-in mechanical st | age and slide clip |  |
| Focusing                       | Coaxial coarse and fine                                     |                             |                    |  |
| Köhler Illumination (Variable) | Haloge  | en 50W                      | Halogen 100W       |  |

### **TRITON II FLUORESCENCE**

A dedicated fluorescent module enables identification of both Brightfield and Fluorescent applications. The camera port is now mounted on the left hand side to accommodate the HBO light source.



| Product code               |             | 3100.7000  | 3100.8000                   |  |
|----------------------------|-------------|--|-----------------------------|--|
| Optical head               |             | Trinocular, variable 0-45°                                     |                             |  |
| Eyepiece                   |             | 10x/22mm wide-field (pair)                                     |                             |  |
| Objectives                 |             | 20x, 40x, 100x E-plan Planac                                   | hromatic Infinity Corrected |  |
| Condenser                  |             | Swing-out condensing lens – Brightfield NA 1.25                |                             |  |
| Stage                      |             | Size 185 x 142mm with built-in mechanical stage and slide clip |                             |  |
| Focusing                   |             | Coaxial coarse and fine  |                             |  |
| Köhler                     | Transmitted | Halogen 100W   |                             |  |
| Illumination<br>(Variable) | Reflected   | HBO 100W LED   |                             |  |
| Fluorescent filters        |             | Blue / Green   |                             |  |

### TRITON II MULTI-OBSERVATION



Supplied with 100W illumination as standard to ensure that there is a bright field of view in each viewing head. The master head is ergonomic and includes a laser pointer, allowing for the selection of designated samples for viewing within the teaching heads.

| Product code                        | 3100.9050       | 3100.9100          | 3100.9200         | 3100.9500        |
|-------------------------------------|-----------------|--------------------|-------------------|------------------|
| Optical head                        |                 | Trinocular Erg     | gonomic 0-45°     |                  |
| Adittional number of optical heads* | 1               | 2                  | 3                 | 4                |
| Eyepiece                            |                 | 10x/22mm wid       | de-field (pair)   |                  |
| Objectives                          | 4x, 10x, 40x, 1 | 00x E-plan Plana   | chromatic Infin   | ity Corrected    |
| Condenser                           | Swing-c         | out condensing le  | ens – Brightfield | NA 1.25          |
| Stage                               | Size 185 x 142m | nm with built-in r | nechanical stag   | e and slide clip |
| Focusing                            |                 | Coaxial coa        | rse and fine      |                  |
| Köhler Illumination (Variable)      |                 | Haloge             | n 100W            | -                |

<sup>\*</sup> Fixed at 30°



### **STEREO MICROSCOPES**



### **STAR**

The Star is a stereo microscope which is designed for both educational and professional use. It is particularly well suited to viewing specimens at low magnifications and introduces the benefits of LED lighting into the stereo range of microscopes. The diamond shaped base with sloping sides provides an ergonomic hand rest during sample manipulation to ensure maximum control.

| Product code            | 1800.1000  |  |
|-------------------------|--|--|
| Optical head            | Binocular, inclined at 45°                               |  |
| Eyepieces               | 10x/20mm wide-field                                      |  |
| Magnification           | 20x and 40x  |  |
| Focusing                | Fixed. Rack and pinion system with safety stop           |  |
| Stage                   | Frosted and black / white contrast plates. 2 stage clips |  |
| Illumination (Variable) | Episcopic: 3W LED Diascopic: 3W LED                      |  |



### **STEDDY**

The Steddy stereoscopic zoom microscope features dual LED illumination, a single, sturdy column focusing unit and a choice of base shapes. The diamond shaped base allows the hands to be rested on the base of the unit providing the necessary support for delicate operation or manipulation of the sample during examination. The alternative, broad based unit offers a greater surface area for examination of larger samples.

| Product code            | 7500.0000  | 7500.9000  | 7600.0000   |  |
|-------------------------|--|--|---|--|
| Optical head            | Trinocular Inclined at the with photo port                           |  | Binocular, with integrated<br>3Mpx digital USB camera |  |
| Eyepieces               |  | 10x/22mm super wide-field                            |   |  |
| Magnification*          |  | 6.5x to 45x  |   |  |
| Focusing                | Zoom syste   | Zoom system. Rack and pinion system with safety stop |   |  |
| Ctoro                   | Diamond shaped   | Broad base design                                    | Diamond shaped  |  |
| Stage                   | Supplied with frosted and black/white contrast plates, 2 stage clips |  |   |  |
| Illumination (Variable) | Episcopic: 2W LED with directional condensing lens Diascopic: 5W LED |  |   |  |

<sup>\*</sup>Additional eyepieces and condensing lenses available to increase or decrease the total magnification range



### **VARIZOOM**

The Varizoom is a stereoscopic zoom microscope with parallel infinity optics and an optical zoom system. Three zoom ranges are available with a binocular configuration as standard and an optional trinocular beam splitter module to allow for camera attachments.

| Product code            | uct code 7700.0006 7700.0008 7700.  |       | 7700.0000  | 7700.1008        |
|-------------------------|---|-------|--|------------------|
| Optical head            | Binocular, inclined at 20°  |       | Trinocular, inclined at 20° with integrated 2Mpx digital camera and 8.4" TFT touch screen monitor. |                  |
| Eyepieces               |   | 10x/2 | 22mm super wide-fi   | eld              |
| Magnification           | 8x to 48x 8x to 64x 8x to 80x 8x to 64x   |       | 8x to 64x  |                  |
| Focusing                | Zoom system. Rack and pinion system with safety stop                                    |       |  | with safety stop |
| Stage                   | Broad base design, supplied with frosted and black/white contrast plates, 2 stage clips |       |  |                  |
| Illumination (Variable) | Episcopic: 5W LED with directional condensing lens Diascopic: 5W LED                    |       |  |                  |



### VARIZOOM LED FLUORESCENCE

Fluorescent stereo microscope achieves fluorescence observation of living cells and is widely used in biology, industrial inspection, forensics, etc. It is also an essential tool for fluorescence inspection of security printing and an ideal instrument for mineral research.

| Product code   | 7700.8000  |
|--|--|
| Optical head   | Binocular head 20° inclined  |
| Eyepiece   | 10x/22mm super wide-field  |
| Magnification  | 8x to 64x  |
| Focusing   | Zoom system. Rack and pinion system with safety stop                 |
| Stage  Broad base design, supplied with frosted and black contrast plates, 2 stage clips |  |
| Illumination (Variable)  | Episcopic: 5W LED with directional condensing lens Diascopic: 5W LED |
| Fluorescence   | 100W Ultra high voltage spherical mercury lamp                       |
| Fluorescent filters  | GFP and GFP-L  |

### **INVERTED MICROSCOPES**





### **EXPLORER** 50

This is a small hand held portable Inverted biological microscope, designed for environmental field studies of water born micro-organisms, factory effluent or pollen and spores. Simple performance with definition optics.

| Product code            | 1300.5000                           |  |
|-------------------------|-------------------------------------|--|
| Optical head            | Monocular, inclined at 45°          |  |
| Eyepieces               | 10x / 18mm wide-field               |  |
| Objectives              | 4x, 10x, 40x Achromatic             |  |
| Condenser               | Brightfield Abbe / Phase            |  |
| Focusing                | Height adjustable system (2.6mm)    |  |
| Stage                   | Size 57 x 44mm with two stage clips |  |
| Illumination (Variable) | LED (powered by 2x AA batteries)    |  |



### **INVERSO** TC

An inverted microscope for both routine and research level work, complete with a trinocular head, quadruple position nosepiece and a beam splitting prism for optimizing the halogen illumination. The long working distance objectives and selection of eyepieces provide a magnification range from 40x up to 800x.

The stage features a removable microplate holder with XY movement and the swing-out condenser allows tissue culture flasks up to 70mm thick to be viewed with ease.

| Product code            | 3650.0000   |  |
|-------------------------|---|--|
| Optical head            | Trinocular, inclined at 30° (Siedentopf)  |  |
| Eyepieces               | 10x / 18mm wide-field   |  |
| Objectives              | 10x, 25x, 40x Planachromatic LWD /<br>10x, 25x, 40x, Phase contrast             |  |
| Condenser               | Swing Out – LWD N.A. 0.40   |  |
| Focusing                | Coaxial course and fine   |  |
| Stage                   | Size 220 x 220mm, built-in mechanical stage<br>(2 interchangeable stage plates) |  |
| Illumination (Variable) | Halogen 30W   |  |



### **INVERSO** TC-FLUORESCENCE

Based on the Inverso, this microscope has a 30W halogen illumination and external fluorescent light (HBO 100W).

It is supplied complete with two sliding filter holders, one containing the blue and green filter blocks, the other the violet and UV filter blocks. Objectives consist of 10x, 25x, and 40x for both brightfield and fluorescent viewing, plus 10x, 25x, and 40x for phase contrast with the corresponding annular rings.

| Product code |             | 3700.0000   |  |
|--------------|-------------|---|--|
| Optical head |             | Trinocular, inclined at 45° (Siedentopf)  |  |
| Eyepieces    |             | 10x / 22mm wide-field   |  |
| Objectives   |             | 10x, 25x, 40x Planachromatic LWD /<br>10x, 25x, 40x, Phase contrast             |  |
| Condenser    |             | Swing Out – LWD N.A. 0.40   |  |
| Stage        |             | Size 220 x 220mm, built-in mechanical stage<br>(2 interchangeable stage plates) |  |
| Focusing     |             | Coaxial course and fine   |  |
| Illumination | Transmitted | Halogen 30W   |  |
| (Variable)   | Reflected   | Mercury - HBO 100W  |  |
| Fluorescent  | filters     | Blue / Green / Ultraviolet / Violet   |  |



# **INVERTED MICROSCOPES**



INVERSO TC-100
The Inverso TC100 is ideal for the typical working laboratory and is built to a high quality specification. It is robust enough to withstand the rigours of constant daily use and is ideal for multiple usage as there is no manual adjustment required. With a quintuple position nosepiece fitted as standard it is ideally suited for multiple observation techniques and / or magnifications.

| Product code            | 3660.5000  |  |
|-------------------------|--|--|
| Optical head            | Trinocular, inclined at 45° (Siedentopf)   |  |
| Eyepieces               | 10x / 22mm wide-field  |  |
| Objectives              | 4x, 40x Planachromatic LWD / 10x, 20x, 40x, Phase contrast   |  |
| Condenser               | N.A.0.3 (removable) - working distance: 72mm   |  |
| Stage                   | Size 160x250mm with additional mechanical stage<br>(2 interchangeable stage plates)<br>Stage extending board |  |
| Focusing                | Coaxial course and fine  |  |
| Illumination (Variable) | Halogen 30W  |  |



**INVERSO** TC-100 FLUORESCENCE With an additional external fluorescent light source and power supply (HBO 100W). This microscope is supplied complete with two sliding filter holders, one containing the blue and green filter blocks.

| Product co   | de          | 3660.8000  |  |
|--------------|-------------|--|--|
| Optical head | ŀ           | Trinocular, inclined at 45° (Siedentopf)                   |  |
| Eyepieces    |             | 10x / 22mm wide-field                                      |  |
| Objectives   |             | 4x, 40x Planachromatic LWD / 10x, 20x, 40x, Phase contrast |  |
| Condenser    |             | N.A.0.3 (removable) - working distance: 72mm               |  |
|              |             | Size 160 x 250mm with additional mechanical stage          |  |
| Stage        |             | (2 interchangeable stage plates)                           |  |
|              |             | Stage extending board                                      |  |
| Focusing     |             | Coaxial course and fine                                    |  |
| Illumination | Transmitted | Halogen 30W  |  |
| (Variable)   | Reflected   | Mercury - HBO 100W   |  |
| Fluorescent  | filters     | Blue / Green   |  |



High performance infinity corrected optical system with exceptional stability and intense illumination, this inverted microscope with DIC observation ensures full detailed examinations.



| Product code            | 3660.6000  |  |
|-------------------------|--|--|
| Optical head            | Binocular, inclined at 30° (Siedentopf)                      |  |
| Eyepieces               | 10x / 22mm wide-field and 10x / 20mm (with cross hair scale) |  |
| Objectives              | 5x,10x, 20x, 50x, 100x Planachromatic LWD (BF / DF)          |  |
| Condenser               | N/A  |  |
| Stage                   | Size 226x178mm double layer mechanical stage                 |  |
|                         | (3 interchangeable stage plates)                             |  |
| Focusing                | Coaxial course and fine                                      |  |
| Illumination (Variable) | Halogen 50W (Köhler) / Polarizer & analyser / DIC            |  |

# **INDUSTRIAL MICROSCOPES**





### **FEROX**

A reflected light microscope which is ideal for geological and engineering applications. The rear facing external lamp housing protects both subject and user from adverse heating effects.

| Product code            | 6322.0000   |  |
|-------------------------|---|--|
| Optical head            | Trinocular, inclined at 30° (Siedentopf)            |  |
| Eyepieces               | 10x/18mm wide-field                                 |  |
| Objectives              | 4x, 10x, 40x, 100x Planachromatic                   |  |
| Stage                   | Size 150 x 180 mm with built-in mechanical stage    |  |
|                         | (2 interchangeable stage plates)                    |  |
| Focusing                | Coaxial course and fine                             |  |
| Illumination (Variable) | Halogen 20W (external housing with condensing lens) |  |



### **MAGTEX**

Using both transmitted and reflected light illumination enables the examination of both translucent and opaque materials.

It is ideal for biological, geological and engineering applications.

| Product code         |             | 2763.0000  | 2783.0000   |  |  |
|----------------------|-------------|--|---|--|--|
| Optical head         | k           | Trinocular, inclined   | Trinocular, inclined at 30° (Siedentopf)                    |  |  |
| Eyepieces            |             | 10x/18mm   | wide-field.   |  |  |
| Objectives           |             | 5x, 10x, 20x, 50x 4x, 10x 40x, 60x Planachromatic Planachromatic tension (CCS Optics) and parcentered. |   |  |  |
| Condenser            |             | Brightfield Abbe - NA 1.25   |   |  |  |
| Stage                |             | Size 210x140mm with built-in mechanical stage  | 180mm round polarisation stage. Centrable and rotating 360° |  |  |
| Focusing             |             | Coaxial coarse and fine  |   |  |  |
| Illumination         | Transmitted | Haloge   | en 30W  |  |  |
| (Variable) Reflected |             | Halogen 30W  |   |  |  |



### **TRITEX**

The Tritex II is fully equipped to allow for the evaluation of samples in materials science. The microscope is supplied with both transmitted and reflected light sources and has in addition darkfield objectives which allow for the examination of highly reflective samples.

| Product co                             | de        | 3100.6000 3100.9000  |            |  |
|--|-----------|--|------------|--|
| Optical head                           | k         | Trinocular, inclined at 30° (Siedentopf)   |            |  |
| Eyepieces                              |           | 10x/22mm wide-field pair   |            |  |
| Objectives                             |           | 5x, 40x, 50x, 100x Infinity Corrected 5x, 10x, 20x, 100x 10x, 20x, Infinite Planachromatic (BF/DF) 20x, 100x DIC |            |  |
| Condenser                              |           | Aspherical (Incident light) Swing-out condensing lens – NA 0.90 / NA 1.25 with aspherical condenser              |            |  |
| Stage                                  |           | Size 186x138mm with built-in graduated non-porous double layer mechanical stage                                  |            |  |
| Focusing                               |           | Coaxial coarse and fine  |            |  |
| Illumination Transmitted Köhler - Hale |           |  | logen 100W |  |
| (Variable)                             | Reflected | Halogen 100W   |            |  |



### IMAGE CAPTURE AND ANALYSIS SOLUTIONS

### MEDLINE IMAGING SYSTEMS

There are a wide range of camera systems available which complement our extensive microscope range. Images can either be simply captured or additional detailed analysis can be performed, depending on the operation required.

In addition, the cameras range from simple, low megapixel units to more sophisticated options. The cameras use either standard USB connection or, for the more sophisticated units, firewire connection with peltier cooling.

### **PORTABLE MICROSCOPE CAMERAS / MAGNIFIERS**

Designed to provide the very highest versatility and adaptability, combined with Canon camera technology and over 10 megapixel features, the fast image capturing meets the requirements of professional with outstanding illumination technology.

- ▶ Three in one device ideal forensic analysis
- Adaptability and portability
- High precision illumination with customized lenses also available
- ▶ Blue and UV illumination systems also available

|       |           |         | Model              |
|-------|-----------|---------|--------------------|
|       |           | I       | Product co         |
|       |           |         | Pixels             |
|       |           |         | Magnificat         |
|       | -         |         | Illuminatio        |
|       | Send fing | water a | Field of vie       |
| Oumas |           |         | off Happ qualifies |
|       |           |         |                    |



### **DIGITAL USB CAMERAS**

These are supplied with eyepiece adaptors' to fit into an eyepiece tube once they are removed. The adaptors can be used with different diameter eyepieces. Simple software then allows for image capture.



| Product code             | 9554.1200   | 9554.1300          | 9554.3000          | 9554.5000            | 9554.9000            |
|--------------------------|---|--------------------|--------------------|----------------------|----------------------|
| Sensor size              | 1/3"  | 1/2"               | 1/2.2"             | 1/2.5"               | 1/2.3"               |
| Pixel size               | 8 µm x 8 µm   | 3.2 μm x 3.2<br>μm | 2.2 μm x 2.2<br>μm | 1.75 μm x<br>1.75 μm | 1.75 μm x<br>1.75 μm |
| Sensitivity (v/lux -sec) | 1.8   | 1.5                | 1.2                | 1.3                  | 1.4                  |
| Max resolution           | 1280 x 1024   | 2048 x 1536        | 2592 x 1944        | 3264 x 2448          | 3488 x 2616          |
| (Hardware)               | 1.3M pixels   | 3M pixels          | 5M pixels          | 8M pixels            | 9M pixels            |
| Exposure                 | ERS (Electronic Rolling Snap)   |                    |                    |                      |                      |
| White balance            | Automatic / Advanced Manual   |                    |                    |                      |                      |
| Auto-exposure            | Automatic / Advanced Manual   |                    |                    |                      |                      |
| Image output             | USB 2.0   |                    |                    |                      |                      |
| Programmable control     | Image size, exposure time, brightness, gain, gamma correction, colour, contrast, saturation         |                    |                    |                      |                      |
| Accessories included     | 2 adaptors ( 23.2 to 30, 23.2 to 30.50, one each)<br>TS-M1 stage micrometer available at extra cost |                    |                    |                      |                      |
| Output data              | RGB24, Direct Show and Twain interface  |                    |                    |                      |                      |
| Software                 | Driver: support Direct Show and Twain Image software: MiniSee                                       |                    |                    |                      |                      |

### IMAGE CAPTURE AND ANALYSIS SOLUTIONS





# HIGH PERFORMANCE CMOS CAMERAS

Digital Clarity™ sensor technology ensures delivery of high quality, crystal clear images at all times.

This breakthrough in CMOS imaging technology can achieve CCD performance based on signal to noise ratio and low light sensitivity.

The Si 3000 digital camera, uses the latest 1/2" sensor technology and provides a frame rate up to 12 fps @ 2048 x 1536 pixels and 25 fps @ 1024 x 767. This ensures a smooth image at all times.

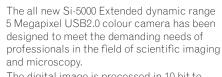
This has major advantages when scanning slides under a compound microscope, as it allows the user to view the image more clearly whilst moving the slide, thus reducing errors and improving productivity.

- High performance 3 Mpx camera developed for microscopy
- 1/2" 2048 x 1536 (QXGA) image array and on-chip converter

- ▶ Up to 27 frames per second
- ▶ Full resolution and 40fpsat XGA (1024 x 768) resolution
- Sensitivity 1.0 V/Lux-sec
- Complete with USB cable and image analysis software
- Tripod fixing thread
- Optical black level calibration
- Progressive scan



| Model                    | Si-3000   |
|--------------------------|-----------|
| Product code             | 9556.3000 |
| Pixels                   | 3 Mpx     |
| Frame rate (max)         | 27 Fps    |
| Sensitivity (v/lux -sec) | 1.0       |
| Image imput              | USB 2.0   |



The digital image is processed in 10 bit to expand the dynamic range and increase the signal to noise performance. Compression takes place within the PC to output the data into the standard format RGB24.

The advanced camera control panel offers simplicity and the benefit of storing 4 separate program parameters or user modes.

- Colour Image sensor 1/2 inch, 3.2 um x 3.2 um pixels
- Active Sensor Window 6.55 x 4.92mm -8.19mm diagonal
- Colour Filter Array RGB Bayer pattern
- ▶ IR Filter Reflective
- Sensitivity at 550nm 1.0V/Lux sec, 1024 x 768 2V/Lux sec
- NR 43dB
- Dynamic range 61dB
- ▶ ADC 10Bit
- White Balance One touch/ manual
- Progressive Scan, rolling shutter

- ▶ AEC Auto/ Manual 0.53 500m/secs
- AGC Auto/ Manual x1 x64
- Banding filter 50 60 Hz
- ▶ FF Flat field correction
- Gamma 0.10 1.0 auto compensation
- ▶ Image mono/ colour
- Histogram real time/ gamma
- Image control mirror and/flip
- Frame buffer off/ history by frame
- Image control mirror and/flip
- Default optimised factory settings







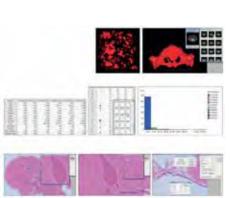
| Model                    | Si-5000   |
|--------------------------|-----------|
| Product code             | 9556.5000 |
| Pixels                   | 5 Mpx     |
| Frame rate (max)         | 34 Fps    |
| Sensitivity (v/lux -sec) | 1.0       |
| Image imput              | USB 2.0   |





### **IMAGE CAPTURE AND ANALYSIS SOLUTIONS**











# ADVANCED DIGITAL CCD CAMERAS

These high-quality CCD cameras are suitable for all contrast methods in light microscopy and can be easily integrated via C-Mount and USB 2.0/ Firewire interfaces. The cameras are designed to provide rapid frame rates with low level power consumption.

True colour reproduction and a fine detail display, match that seen through the microscope due to

the high resolution of the digital cameras.

This ensures outstanding applicability for image analysis and reliable image documentation. The high frame rates provide fast, live images, thus offering easy workflow and convenient usage.

The colour or monochrome scientific cameras have the option of being cooled, have been optimized for tasks in scientific areas and meet the high requirements of low-light level camera applications, such as fluorescence.

| Product Code | Description   |
|--------------|---|
| 9557.6140    | 1.4 Mpx Medline SI 1400 Digital USB Camera, complete with analysis software. (Recommended for Fluorescence) |
| 9557.5777    | 5 Mpx Medline SI 5000 Digital Firewall Camera, Peltier cooled complete with Professional analysis software  |
| 9557.7000    | 7 Mpx Medline SI 7000 Digital Firewall Camera, complete with<br>Professional analysis software              |
| 9557.5712    | 12 Mpx Medline SI 12000 Digital Firewall Camera, complete with Professional analysis software               |

### **IMAGE ANALYSIS SOFTWARE**

To allow for more complex image processing, additional software packages are available which complement the standard software provided with the camera system.

### All packages feature (as standard).

Live Measurement and Overlay Settings / Calibration (automatic & manual) / Extended Focus Imaging (EFI) / 3D Visualisation / Image Stitching / Live Image Comparisons / Time Lapse Capture and Movie File Production / Combine Image Planes (Fluorescence Imaging) / Import data into Excel / Large selection of Measuring and Analysis Functions (including annotation).

#### i-Solution Lite:

Manual measurements, including moderate image processing functions.

#### i-Solution:

Advanced image processing and enhancement, including both manual and automated image analysis.

### Additional features include:

Auto & Manual Thresholding for Count and Size / Objects Editing (Enhanced measurement accuracy) / 43 Selectable Measurement Parameters / Densitometry / Perfect Focus Enhancement / Macro-Enabled Recording /

Data Collector / Reflected Light Subtraction / Automatic count for Live and Stained Cells / Particle Analysis

### i-Solution DT:

Premium software package incorporating all elements of image analysis found in i-Solution and i-Solution Lite, including motorized stage control and 3D analysis. Customized modules can also be added by request.

#### Additional features include:

Large size Object Measurement / Auto Edge Detector / Phase Analysis & Advanced Threshold / Thickness Measurement (Layer Depth Measurement) / Stereometry for Biovolume / 67 Selectable Measurement Parameters / Motorized Stage Control Image Stitching / 3D Reconstruction / Grain Size Measurement / Ferrite in Cast Iron / Graphite Analysis in

Nodular Cast Iron / Non-metallic Inclusion Rating / Chart Navigator / Yarn Filament Analysis / Automatic Fruit Size

| Product Code | Description       |
|--------------|-------------------|
| 9600.1010    | I Solution lite   |
| 9600.1012    | I Solution        |
| 9600.1013    | I Solution DT     |
| 9600.0011    | Image Pro Express |
| 9600.0012    | Image Pro Plus    |

### **C MOUNT FITTINGS**

These connect the camera to the microscope ensuring that par focality is retained by placing the camera chip in the same focal plan as the eyepieces so that no re focussing is required when switching between manual or on screen viewing. Each C mount is specific to the relevant microscope series.

| Product Code | Description                  |
|--------------|------------------------------|
| 1202.4888    | For Max II                   |
| 2757.2050    | For Magnum and Reflex        |
| 3157.2050    | For Triton II and Inverso TC |
| 3657.2050    | For Inverso / Ferox          |
| 6757.2050    | For Vertex                   |
| 7357.1111    | For New Steddy               |
| 7700.2345    | For Varizoom                 |
| 2757.4500    | Trinocular eyepiece adapter  |

# MICROSCOPE ACCESSORIES

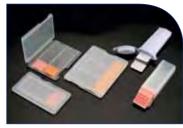




Glass Slides



Glass Coverslips



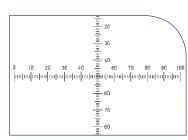
Slide Mailers



Slide Storage



Microscope Cleaning Kit



Eyepiece Graticules



Storage Cases



Mirror Attachment



Polarisation Kits



Phase Contrast Kits



Additional Eyepieces



Additional Objectives



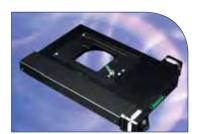
Slide Micrometer



Heated Stages



Motorised Stage Controller



Motorised Stage



Cold Light Sources



Led Ring Lights

0

## **OVENS**

- Forced Convection Ovens
- Natural Convection Ovens
- Vacuum Ovens
- Hybridization Oven
- Accessories

### **Safety Features**

- ▶ Self-protecting cut-off function and visual signals:
- Over temperature safety function: shuts off the power that is being supplied to the heater and then the controller sequentially.
- 2 separate over-current fuses.
- Timer mode useful for delaying the start of a test or for stopping a test that has been running for a certain time.
- Integrated time setting: Delay ON/OFF. (from 1 min 99hr 59 min)
- Power interruption setting: After a power interruption select automatic run or manual run.
- Door-open warning alarm (excludes OV Models).
- Intermittent audible tone and visual LED warning alarms.
- After 5 minutes of the door being open the heater and fan will stop.

### **Optimum Control Features**

- ▶ Professional electronic and program control:
- Microprocessor PID temperature control with simple calibration and autotuning feature.

- Conveniently preset settings for the 3 most commonly used temperatures.
- Switch from Celsius to Fahrenheit. (C°or °F)
- HMI (Human Machine Interface) control display network system.
- Similar key arrangements to the temp. & humid. chambers, baths, circulators, and shakers.
- User-friendly controls, splash proof / easy to clean keypad and clear LED display.
- Quick keypad lock key prevents accidental resetting of testing parameters.

### **Constructional Features**

- High quality #304 grade stainless steel inner chamber and dirt repellent powder coated exterior surface. (except for OV Models)
- Gasket minimizes heat loss and tightly seals the chamber door.
- Fully insulated oven chamber prevents heat from escaping to the exterior surface.
- Adjustable electropolished stainless steel shelving provides uniform air flow around samples.

| Models   | OF                | ON                 | ov     |
|--|-------------------|--------------------|--------|
| General applications                                   | Forced convection | Natural convection | Vacuum |
| General aging and curing                               | •                 |                    |        |
| Agricultural genetic                                   | •                 |                    | •      |
| Annealing  | •                 | •                  |        |
| Asphalt testing  | •                 | •                  |        |
| Conditioning   | •                 | •                  |        |
| Contamination-free storage of semiconductors and other |                   |                    |        |
| sensitive electronic components                        |                   |                    | •      |
| Desiccating  |                   |                    | •      |
| Digestion of proteins and starches                     | •                 |                    |        |
| Drying of plant tissue                                 |                   | •                  |        |
| Drug metabolism  | •                 | •                  |        |
| Electronic burn-in                                     | •                 | •                  |        |
| Epoxy and plastic curing                               | •                 | •                  |        |
| Fine chemical precipitation                            |                   | •                  |        |
| General baking   | •                 | •                  |        |
| General heating  | •                 | •                  |        |
| Glassware drying                                       | •                 | •                  |        |
| Ideal for general drying                               |                   |                    | •      |
| Life and exposure studies                              | •                 | •                  |        |
| Ordnance material testing                              | •                 | •                  |        |
| Out-gassing solids and liquids                         |                   |                    | •      |
| Paper drying   | •                 | •                  |        |
| Plating  |                   |                    | •      |
| Precise moisture determination                         | •                 |                    | •      |
| Preheating   | •                 | •                  |        |
| Rubber drying  | •                 | •                  |        |
| Serum protein analysis                                 | •                 | •                  |        |
| Silicon wafer drying                                   |                   |                    | •      |
| Stability and qc/ batch testing                        | •                 | •                  |        |
| Sterilisation  | •                 | •                  |        |
| Suspended solids evaluation                            | •                 | •                  |        |
| Textile drying   | •                 | •                  |        |
| Vacuum embedding                                       |                   |                    | •      |
| Volatile resins and polymers testing                   |                   |                    | •      |
| Vulcanization studies                                  | •                 | •                  |        |











### NATURAL CONVECTION ECONOMY MODELS

Economical multi-function ovens with gentle air-flow circulation.

| Model                    |                            | ON-01E          | ON-11E          | ON-21E          |
|--------------------------|----------------------------|-----------------|-----------------|-----------------|
| Product code             |                            | 15015           | 15025           | 15035           |
| Chamber volur            | ne (Litres)                | 52              | 100             | 150             |
|                          | Range (°C)                 | Amb. +15 to 220 |                 |                 |
| Temperature              | Fluctuation at 100°C (±°C) | 0.3             | 0.4             | 0.5             |
|                          | Variation at 100°C (±°C)   | 6.5             | 4.1             | 7.3             |
| Dimensions Internal (mm) |                            | 375 x 370 x 370 | 455 x 430 x 510 | 585 x 460 x 555 |
| WXDXH                    | External (mm)              | 530 x 535 x 737 | 610 x 595 x 877 | 740 x 625 x 922 |
| Net weight (Kg           | )                          | 34 46 59        |                 | 59              |

### NATURAL CONVECTION GENERAL MODELS

Ovens for all sterilisation and drying tasks that do not require high drying rates or special time requirements, ideal for drying applications requiring a gentle airflow.

RS-232 interface and Lab Tracer software

| Model                    |                            | ON-02G          | ON-12G          | ON-22G          |  |
|--------------------------|----------------------------|-----------------|-----------------|-----------------|--|
| Product code             |                            | 11135           | 11145           | 11155           |  |
| Chamber volur            | ne (Litres)                | 52              | 91              | 135             |  |
|                          | Range (°C)                 |                 | Amb. +15 to 250 |                 |  |
| Temperature              | Fluctuation at 100°C (±°C) | 0.3             |                 |                 |  |
|                          | Variation at 100°C (±°C)   | 5.9             | 7.5             | 6.9             |  |
| Dimensions Internal (mm) |                            | 400 x 360 x 365 | 480 x 410 x 465 | 610 x 460 x 485 |  |
| WXDXH                    | External (mm)              | 577 x 542 x 760 | 657 x 592 x 870 | 785 x 642 x 897 |  |
| Net weight (Kg           | ))                         | 49 59 68        |                 | 68              |  |

### FORCED CONVECTION ECONOMY MODELS

Fast drying ovens with vertical air-flow circulation.

| Model                    |                            | OF-01E          | OF-11E          | OF-21E          |
|--------------------------|----------------------------|-----------------|-----------------|-----------------|
| Product code             |                            | 14012           | 14022           | 14032           |
| Chamber volun            | ne (Litres)                | 52              | 100             | 150             |
| Range (°C)               |                            |                 | Amb. +10 to 220 |                 |
| Temperature              | Fluctuation at 100°C (±°C) | 0.4             |                 |                 |
|                          | Variation at 100°C (±°C)   | 3.3             | 3.3             | 2.3             |
| Dimensions Internal (mm) |                            | 375 x 370 x 370 | 455 x 430 x 510 | 585 x 460 x 555 |
| WXDXH                    | External (mm)              | 530 x 535 x 737 | 610 x 595 x 877 | 740 x 625 x 922 |
| Net weight (Kg)          |                            | 36              | 47              | 59              |

### FORCED CONVECTION GENERAL MODELS

Silent operating ovens with a strong air-flow for high air exchange rates and short rise time that guarantees intensive drying performances.

RS-232 interface and Lab Tracer software

| Model           |                            | OF-02G          | OF-12G          | OF-22G          |
|-----------------|----------------------------|-----------------|-----------------|-----------------|
| Product code    |                            | 12155           | 12165           | 12175           |
| Chamber volun   | ne (Litres)                | 60              | 102             | 151             |
|                 | Range (°C)                 |                 | Amb. +10 to 250 |                 |
| Temperature     | Fluctuation at 100°C (±°C) | 0.5             | 0.6             | 0.8             |
|                 | Variation at 100°C (±°C)   | 1               | 1.3             | 1.7             |
| Dimensions      | Dimensions Internal (mm)   |                 | 480 x 410 x 520 | 550 x 460 x 600 |
| WXDXH           | External (mm)              | 577 x 642 x 760 | 657 x 692 x 870 | 727 x 742 x 974 |
| Net weight (Kg) |                            | 53              | 63              | 72.5            |



### **VACUUM**

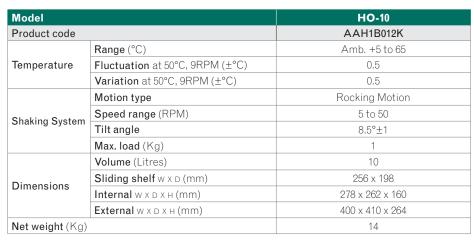
Optimal vacuum oven with a wide temperature range for various test applications.

▶ RS-232 interface and Lab Tracer software

| Model           |  | OV-11           | OV-12           |
|-----------------|--|-----------------|-----------------|
| Product code    |  | 13115           | 13125           |
| Chamber volun   | ne (Litres)                              | 28              | 65              |
| Vacuum range    | (MPa)                                    | 0 to            | 0.1             |
|                 | Range (°C)                               | Amb. +5 to 250  |                 |
| Temperature     | Fluctuation <sup>1)</sup> at 100°C (±°C) | 0.1             | 0.3             |
|                 | Variation <sup>1)</sup> at 100°C (±°C)   | 3.7             |                 |
| Dimensions      | Internal (mm)                            | 302 x 305 x 302 | 402 x 405 x 402 |
| WXDXH           | External (mm)                            | 680 x 453 x 495 | 780 x 557 x 595 |
| Net weight (Kg) |  | 63              | 103             |

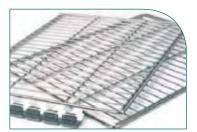


Equipped with a precise rocker, this unit offers ideal reproducibility for various molecular biology applications such as nucleic acid hybridization, Western, immunoblotting, immunoprecipitation, etc.



<sup>1)</sup> Technical data according to DIN 12880.

### **ACCESSORIES** AND **OPTIONS**



Wire Shelves



Perforated Shelves



Tempered Viewing Windows



Fan Speed Adjuster



Safety Covers (OV-models)



Vacuum Pumps (OV-models)

P

Comfortable and Low Effort Pipetting reduces the risk of repetitive strain injuries. Setting the volume is easy and absolute precise using the push button. Two step plunger operation allows the use of the "reverse pipetting technique".

This also facilitates last drop dispensing by soft plunger movements. Each pipette is individually tested and twice calibrated conforming to EN ISO 8655 and DIN 12650 standards. Micropipettes can be autoclaved.

### **DIGITAL SC** VARIABLE VOLUME

| Product code | Vol. range µl | Increments µI | Test Volume µl    | Compatible Tips          |
|--------------|---------------|---------------|-------------------|--------------------------|
| MD8100009    | 0.1 - 2.5     | 0.05          | 0.25 / 1.25 / 2.5 | MD100081                 |
| MD8101009    | 0.5 - 10      | 0.1           | 1 / 5 / 10        | 301-01 / 301-11 / 200024 |
| MD8102009    | 2 - 20        | 0.5           | 2 / 10 / 20       | MD105081                 |
| MD8104009    | 10 -100       | 1             | 10 / 50 / 100     | 200010 / 200078 / 200016 |
| MD8105009    | 20 - 200      | 1             | 20 / 100 / 200    | 200009                   |
| MD8105019    | 50 - 200      | 1             | 50 / 100 / 200    | 200009                   |
| MD8106009    | 100 - 1000    | 5             | 100 / 500 / 1000  | 200012 / 200080.1        |
| MD8106209    | 200 - 1000    | 5             | 200 / 500 / 1000  | 200012 / 200080.1        |
| MD8106109    | 500 - 5000    | 50            | 500 / 2500 / 5000 | 200075                   |



### **DIGITAL SC FIXED VOLUME**

| Product code | Vol. range |
|--------------|------------|
| MD8001009    | 5          |
| MD8002009    | 10         |
| MD8003009    | 20         |
| MD8004009    | 25         |
| MD8007009    | 50         |
| MD8008009    | 100        |
| MD8009009    | 200        |
| MD8010009    | 250        |
| MD8010009    | 500        |
| MD8012009    | 1000       |
| MD8013009    | 2000       |
| MD8014009    | 2500       |
| MD8015009    | 5000       |
| MD8016009    | 10000      |



### **RACKS**

| Product code | Description              | Unit |
|--------------|--------------------------|------|
| MD8130009    | Rack for 4 micropipettes | 1    |
| MD8131009    | Rack for 6 micropipettes | 1    |









# **POLARIMETERS**

- Analogue
- Digital

Medline offer a high quality range of Ceti polarimeters from analogue to digital. With manual / analogue systems, you rotate the vernier scale by hand and observe the angle with the greatest brightness. Semi-automatic models have push-button control of the rotation angle for greater precision and ease-of-use. Automatic ones measure with just the touch of a button, and give the highest accuracy and resolution. For applications within the medical, chemical, educational, pharmaceutical or cosmetic industries, a manual polarimeter might be ideal. The food industry often needs fast and efficient results to which a fully-automated system is more suited.



### **POLARIS** ANALOGUE

The Polaris is a high quality, low cost instrument capable of measuring the rotation of optically active samples and matches the performance of many digital instruments in the market today. The variable half waveplate effect is used to obtain a balance between the two halves of a circle when viewed through the eyepiece. The reading is then taken from the scale.

The Polaris accepts sample tubes of lengths up to 220mm and is used for measuring concentrations and optical rotations in the food, sugar, flavouring, fragrance, pharmaceutical and chemical industries.

| Product code                 | 9100.0000                           |  |  |  |
|------------------------------|-------------------------------------|--|--|--|
| Measuring range              | 360° with 180°left/right rotation   |  |  |  |
| Light source                 | Monochromatic light source of 589nm |  |  |  |
| Accuracy                     | Double vernier scale: accuracy 0.05 |  |  |  |
| Light source                 | LED                                 |  |  |  |
| Dimensions<br>W X D X H (mm) | 600 x 200 x 400                     |  |  |  |
| Net weight (Kg)              | 8                                   |  |  |  |



### POLARIS DIGITAL

The digital and automatic polarimeters include a self test for rotating the angle and sugar degree as one complete operation based upon the mean average. All results are clearly displayed on the unique LCD display.

Automatic models have a peltier controlled chamber to control the temperature of the sample and can measure dark coloured samples. Supplied with USB and RS232 interfaces.

| Product code                 | 9100.5000              | 9100.6000                  | 9100.7000                      |
|------------------------------|------------------------|----------------------------|--------------------------------|
| Туре                         | Digital                | Automatic                  | Automatic                      |
| Measuring range              | -45° to +45°           | -45° to +45°               | -89° to +89°                   |
| weasuring range              | -120° to +120°         | -120° to +120°             | -09 (0 +09                     |
| Measuring time               |                        | 1° /s                      |                                |
| Minimum reading              | 0.001° / -120°         | 0.001°                     | 0.001°                         |
| Accuracy                     | ±0.01°                 | ±0.01°                     | ±0.01°                         |
| Accuracy                     | (+ Test Value x 0.05%) | (+measuring value x 0.03%) | (-15°< optical rotation >+15°) |
| Repeatability                | ≤0.002° / ≤0.02°       | >1% ≤0.002°                | 1%° 0.002°                     |
| Resolution                   |                        | 0.005° / 0.001°            |                                |
| Minimum sample transmittance | 1 %                    | 1 %                        | 1%                             |
| Light source                 | Sodium lamp 589 nm     | LED (2.4V, 1W, 5000hours)  | LED                            |
| Dimensions<br>W X D X H (mm) | 600 x 320 x 220        | 850 x 470 x 380            | 850 x 470 x 380                |
| Net weight (Kg)              | 30                     | 32                         | 37                             |

# REFRACTOMETERS

R

- Hand held
- Digital
- Benchtop

Ceti Refractometers offer precision, versatility and excellent value. Our range begins with the analogue pocket models, expanding to digital and benchtops systems, incorporating fully automated measuring and processing models.

### HAND HELD ANALOGUE

The Digit series comprises 25 lightweight hand-held refractometers for measuring the Brix or refractive index value of specific products. 8145 models feature automatic temperature compensation (ATC).

Suitable for general applications to industry specific: examples include the control of sugar or alcohol levels in food and beverages and spot testing of petrochemicals.

| Model DIGIT-012 Clinical |                                      | DIGIT-050 Battery |                                      | DIGIT-090Sugar |             |           |
|--------------------------|--------------------------------------|-------------------|--------------------------------------|----------------|-------------|-----------|
| Product code             | 8100.0120                            | Precision         | 8100.0500                            | Precision      | 8100.0900   | Precision |
|                          | Refractive index<br>1.3330 to 1.3600 | 0.0005            | Ethylene glycol<br>from -50°C to 0°C | 5°C            | 0-42% Brix  | 0.2%      |
| Scale                    | Protein 0 to 12 g/dl                 | 0.2               | Specific gravity<br>1.15 to 1.30 sg  | 0.01           | 42-71% Brix | 0.2%      |
|                          | Specific gravity<br>1.000 to 1.050   | 0.002             | Battery fluid from -50°C to 0°C      | 5°C            | 71-90% Brix | 0.2%      |

| Model DIGIT-5890 Honey |              | DIGIT-5890 ATC Honey |              | DIGIT-015 Sugar/oil |                  |            |
|------------------------|--------------|----------------------|--------------|---------------------|------------------|------------|
| Product code           | 8100.5890    | Precision            | 8145.5890    | Precision           | 8100.0150        | Precision  |
|                        | 58-90% Brix  | 0.5%                 | 58-90% Brix  | 0.5%                | 0-15% Brix       | 0.2%       |
| Scale                  | 12-27% Water | 1%                   | 12-27% Water | 1%                  | Refractive index | 0.0005 - D |
|                        | 38-43% Baumé | 0.5%                 | 38-43% Baumé | 0.5%                | 1.3330 to 1.3560 | 0.0005 nD  |

| Model        | DIGIT-30~140 Oechsle scale |           | DIGIT-30~140 Oechsle scale DIGIT-100 ATC Salinity |           | DIGIT-025 AT C           | Alcohol   |
|--------------|----------------------------|-----------|---|-----------|--------------------------|-----------|
| Product code | 8100.3014                  | Precision | 8145.0100   | Precision | 8145.0250                | Precision |
|              | 0-32% Brix                 | 0.20%     | 0-100‰ Salinity                                   | 1‰        | O OEO/ Alashal/          |           |
| Scale        | 30-140 Oechsle             | 0.10%     | Gravity 1.000 to 1.070 sg                         | 0.001     | 0-25% Alcohol/<br>Volume | 0.2%      |

| Model        | Model DIGIT-025 Alcohol   |           | DIGIT-032 Sugar |           | DIGIT-080 Sugar |           |
|--------------|---------------------------|-----------|-----------------|-----------|-----------------|-----------|
| Product code | 8100.0250                 | Precision | 8100.0320       | Precision | 8100.0800       | Precision |
| Scale        | 0-25% Alcohol<br>(Volume) | 0.2%      | 0-32% Brix      | 0.2%      | 0-80% Brix      | 0.5%      |

| Model        | del DIGIT-2862 Sugar |           | DIGIT-2862 Sugar DIGIT-010 ATC Sugar |           | DIGIT-032 AT | C Sugar   |
|--------------|----------------------|-----------|--------------------------------------|-----------|--------------|-----------|
| Product code | 8100.2862            | Precision | 8145.0001                            | Precision | 8145.0320    | Precision |
| Scale        | 28-62% Brix          | 0.2%      | 0-10% Brix                           | 0.1%      | 0-32% Brix   | 0.2%      |

### HAND HELD DIGITAL

The SR-95 digital refractometer has a triple range scale coupled with an RS232 interface.

Other additions include automatic temperature compensation, Centigrade and Fahrenheit measurements, a stainless steel sample plate and instantaneous digital results.

| Product code | 8950.0000        |               |            |             |  |
|--------------|------------------|---------------|------------|-------------|--|
|              | Туре             | Range         | Resolution | Accuracy    |  |
|              | Brix             | 0-95%         | 0.1%       | +/- 0.1%    |  |
| Scale        | Refractive Index | 1.3330-1.5318 | 0.0001     | +/- 0.00015 |  |
|              | Salinity         | 0-30%         | 0.1%       | +/- 0.1%    |  |





### REFRACTOMETERS



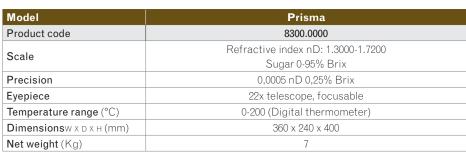


The Convex is highly versatile, allowing measurements of a wide range of substances to be taken. Both upper and lower prisms have their own light entry ports, which can be closed, thereby making it possible to take readings from both reflected and transmitted light.

| Model                     | Convex                             |  |  |  |
|---------------------------|------------------------------------|--|--|--|
| Product code              | 8200.0000                          |  |  |  |
| Scale                     | Refractive index nD: 1.3000-1.7200 |  |  |  |
|                           | Sugar 0-95% Brix                   |  |  |  |
| Precision                 | 0,0005 nD 0,25% Brix               |  |  |  |
| Eyepiece                  | 30x telescope, focusable           |  |  |  |
| Temperature range (°C)    | 0-200 (Digital thermometer)        |  |  |  |
| Dimensions W X D X H (mm) | 280 x 190 x 380                    |  |  |  |
| Net weight (Kg)           | 4,5                                |  |  |  |

The Prisma refractometer is equipped with an integral LED illuminator for its external scale unit, allowing readings to be easily taken whilst taking notes.

A user friendly colour compensation knob eliminates any colour shift. In addition to transparent solutions, the PRISMA is equipped to measure the RI of solids, powders, pastes and plastic films. Both the upper and lower prisms are of the highest quality and include connecting nozzles for a thermostatic water bath.





### BENCHTOP DIGITAL

The Quartz is a semi-automated Abbe refractometer. Its fast, digital read-out offers a speedier throughput, which is particularly useful in manufacturing centres and on production lines. Presentation of a sample produces an almost instantaneous, accurate readout of the RI, %Brix value and %Brix temperature on the LCD display. An RS232 PC/Printer interface is supplied.

| Model                     | Quartz                                     |  |  |  |
|---------------------------|--|--|--|--|
| Product code              | 8400.0000                                  |  |  |  |
| Scale                     | 1.3000 to 1.7000 0 to 95% Brix (Bx)        |  |  |  |
| Scale                     | 0 to 90% Brix temp. compensated (BxTC)     |  |  |  |
| Precision                 | 0.0001 nD / 0.00020 nD 0.1% Brix/0.1% Brix |  |  |  |
| Eyepiece                  | Focusable                                  |  |  |  |
| Temperature range (°C)    | 15 to 50                                   |  |  |  |
| Dimensions w x D X H (mm) | 470 x 370 x 240                            |  |  |  |
| Net weight (Kg)           | 12   |  |  |  |

The Difrax is a fully automated digital Abbe refractometer. The touch sensitive screen has functions of temperature display, automatic correction and saving of date. An RS232 PC/Printer interface is supplied as standard.



| Model                     | Difrax  |  |  |  |
|---------------------------|---|--|--|--|
| Product code              | 8500.000  |  |  |  |
| Scale                     | Refractive index nD: 1.3000-1.7000<br>Brix(BX-TC): 0-100% Brix(Bx): 0-95% |  |  |  |
| Measuring accuracy        | Refractive index nD: ±0.0002 Dissolved solids Brix: ±0.1%                 |  |  |  |
| Measuring resolution      | Refractive index nD: 0.00001 Dissolved solids Brix: 0.01%                 |  |  |  |
| Temperature range (°C)    | 0 to 50   |  |  |  |
| Dimensions w x D X H (mm) | 329 x 214 x 150   |  |  |  |
| Net weight (Kg)           | 3.7   |  |  |  |



R

- Pharmacy Refrigerators
- Laboratory Freezers
- Accessories

### **Safety Features**

- Visual and audible temperature alarms.
- Open door alert.
- Automatic shutdown of fan when the door is opened.
- Two separate fuses.
- Integrated door lock.
- ▶ Eco-friendly refrigerant: non-ozone.

### **Optimum Control Features**

- Intuitive and easy-to-operate control panel with vivid and colorful vacuum fluorescent display (VFD), touch-sensitive buttons, and a jog dial.
- CPU logic control system offering precise temperature control as well as high energy efficiency.
- Optimizing temperature control system All 150, 300, 650 Models with Automatic defrost system minimize temperature change. All 850, 1400 Models with highly efficient Dual refrigeration system minimize temperature change itself. (no defrost system needed) Additional manual defrost system also allows for immediate control. (only for freezer Models)
- Keypad lock button preventing inadvertent parameter changes.
- ▶ Easy temperature unit conversion between °C and °F
- ▶ Three types of recorders to choose from. (optional)
- Dot matrix recorder / Chart recorder / Thermal line recorder.

#### **Constructional Features**

- High-quality 304 grade stainless steel chamber interior and dirt-repellent external surface with powder coating.
- Double-pane tempered glass door with built-in wire heater providing clear inside view of the chambers. (for the models with glass doors only)
- Door seal packing

**Refrigerators:** magnetic door seal for absorbing impact from opening and closing the door.

**Freezers:** air-tight silicone door seal with vice lock door closing mechanism for safe storage of samples.

- Fully insulated chamber ensuring minimal chamber temperature fluctuation.
- Built-in 50mm diameter cable port for external probes or wires.
   (except for CLG -150, all Freezer Models)
- High thermal efficiency evaporation system made of low corrosion material.
- Built-in casters for easy transport. (except for all 150 Models)
- Dedicated stand with casters and stacking kit for all 150 Models for use in labs with limited space. (optional)
- Various accessories.

| Company Applications                         | Laboratory Refrigerators & Freezers |             |  |  |  |
|--|-------------------------------------|-------------|--|--|--|
| General Applications                         | CLG / CLP                           | FHG/FMG/FCG |  |  |  |
| BOD Protocols                                | •                                   |             |  |  |  |
| Chemical Storage                             | •                                   |             |  |  |  |
| Chromatography Apparatus and Instrumentation | •                                   |             |  |  |  |
| Clinical                                     | •                                   | •           |  |  |  |
| Culture                                      | •                                   |             |  |  |  |
| Enzymes                                      |                                     | •           |  |  |  |
| General Storage                              | •                                   | •           |  |  |  |
| Life Science                                 | •                                   |             |  |  |  |
| Medication                                   | •                                   | •           |  |  |  |
| Pharmaceutical                               | •                                   |             |  |  |  |
| Pre-Freezing                                 |                                     | •           |  |  |  |
| Reagents                                     | •                                   |             |  |  |  |
| Test Samples                                 | •                                   | •           |  |  |  |
| Temperature Sensitive Materials              |                                     | •           |  |  |  |

<sup>\*</sup> Above listed applications are for general and storage purpose use.



# REFRIGERATORS AND FREEZERS



### LABORATORY REFRIGERATORS

### GENERAL PURPOSE

With advanced safety features, the cold storage system provides a stable refrigerated environment for life science, pharmaceutical, biotechnology, clinical, and industrial laboratories.

- ▶ Built in fluorescent lighting (except CLG-150)
- Magnetic door seal
- ▶ High thermal efficiency evaporation system

| Model          |             | CLG-150                     | CLG-300                    | CLG-650                 | CLG-850             | CLG-1400             |
|----------------|-------------|-----------------------------|----------------------------|-------------------------|---------------------|----------------------|
| Product code   | Solid Door  | AAHE1002K                   | AAHE1012K                  | AAHE1022K               | AAHE1032K           | AAHE1042K            |
| Product code   | Glass Door  | AAHE1102K                   | AAHE1112K                  | AAHE1122K               | AAHE1132K           | AAHE1142K            |
| Chamber volur  | ne (Litres) | 156                         | 319                        | 636                     | 843                 | 1395                 |
| Display        |             |                             | VFD                        | and touch-sc            | reen                |                      |
| Temperature ra | ange (°C)   |                             |                            | 2 to 10                 |                     |                      |
| Refrigerator ( | Нр)         | 1/8                         | 1/6                        | 1/4                     | 1/6 x 2ea           | 1/4 x 2ea            |
| Door type      |             |                             | Hea                        | ated glass or S         | olid                |                      |
| Lighting       |             | -                           | 18W<br>Fluorescent<br>lamp | 32W<br>Fluorescent lamp |                     |                      |
|                | Internal    | Stainless steel #304        |                            |                         |                     |                      |
| Material       | External    | Steel, 1 mm, powder coating |                            |                         |                     |                      |
|                | Insulation  | 60mm, Polyurethane foam     |                            |                         |                     |                      |
| Dimensions     | Internal    | 550 x 580<br>x 490          | 550 x 580<br>x 1000        | 650 x 675<br>x 1450     | 750 x 775<br>x 1450 | 1425 x 675<br>x 1450 |
| w x d x н (mm) | External    | 683 x 791<br>x 870          | 670 x 719<br>x 1515        | 770 x 815<br>x 1965     | 870 x 915<br>x 1965 | 1545 x 815<br>x 1965 |
| Net weight (Kg | 1)          | 100                         | 130                        | 210                     | 260                 | 350                  |



### PHARMACY REFRIGERATORS

- ▶ Fully insulated chamber enabling minimum temperature fluctuation
- Double-pane tempered glass door with integrated wire heater
- Mounted on casters for easy transportation

| Model          |              | CLP-650                     | CLP-850              | CLP-1400          |  |  |
|----------------|--------------|-----------------------------|----------------------|-------------------|--|--|
| D 1 1 1        | Solid Door   | AAHE3022K                   | AAHE3032K            | AAHE3042K         |  |  |
| Product code   | Glass Door   | AAHE3122K                   | AAHE3132K            | AAHE3142K         |  |  |
| Chamber volui  | me (Litres)  | 636                         | 843                  | 1395              |  |  |
| Display        |              |                             | VFD and touch-screen |                   |  |  |
| Temperature r  | ange (°C)    | 2 to 10                     |                      |                   |  |  |
| Refrigerator ( | <b>-</b> Тр) | 1 / 4                       | 1 / 6 x 2ea          | 1 / 4 x 2ea       |  |  |
| Door type      |              | Heated glass or Solid       |                      |                   |  |  |
| Lighting       |              | 32W Fluorescent lamp        |                      |                   |  |  |
|                | Internal     | Stainless steel #304        |                      |                   |  |  |
| Material       | External     | Steel, 1 mm, powder coating |                      |                   |  |  |
|                | Insulation   | 60mm, Polyurethane foam     |                      |                   |  |  |
| Dimensions     | Internal     | 650 x 675 x 1450            | 750 x 775 x 1450     | 1425 x 675 x 1450 |  |  |
| wxdxh(mm)      | External     | 770 x 815 x 1965            | 870 x 915 x 1965     | 1545 x 815 x 1965 |  |  |
| Net weight (Kg | g)           | 210                         | 260                  | 350               |  |  |

### REFRIGERATORS AND FREEZERS





Protect laboratory materials, choose among from three different freezer lines that fit your experimental needs. Additionally equipped with a manual defrost function for storage of sensitive sample and specimens.

- CPU logic control system
- Air-tight silicone door seal with vice locking door mechanism
- Dual defrost systems



| Model           |            | FCG-150                     | FCG-300              | FCG-650          |  |
|-----------------|------------|-----------------------------|----------------------|------------------|--|
| Product code    | Solid Door | AAHE2302K                   | AAHE2312K            | AAHE2322K        |  |
| Chamber Volum   | e (Litres) | 156                         | 319                  | 636              |  |
| Display         |            |                             | VFD and touch-screen | 1                |  |
| Temperature Ra  | ange (°C)  | - 35 to - 25                |                      |                  |  |
| Refrigerator (H | p)         | 1                           | 3                    | 1                |  |
| DoorType        |            |                             | Solid                |                  |  |
|                 | Internal   | Stainless steel #304        |                      |                  |  |
| Material        | External   | Steel, 1 mm, powder coating |                      |                  |  |
|                 | Insulation | n 70mm, Polyurethane foam   |                      |                  |  |
| Dimension       | Internal   | 550 x 580 x 490             | 550 x 580 x 1000     | 650 x 675 x 1450 |  |
| wх D x н (mm)   | External   | 723 x 811 x 885             | 710 x 739 x 1530     | 810 x 835 x 1980 |  |
| Net Weight (Kg) | )          | 110                         | 140                  | 225              |  |

### **ACCESSORIES** AND **OPTIONS**



Dot Type Recorder



Chart Type Recorder



Thermal Line Type Recorder



Wire Shelves



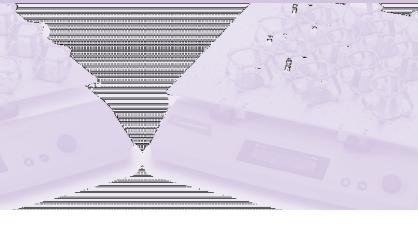
Wire Shelves (slide type)



Drawer (slide type)



- Economy Shakers
- Dual-action Shakers
- Advanced Orbital Shakers
- Mini Shakers
- Microplate Shakers
- Rocking & Waving Shakers
- Accessories



### **Safety Features**

- Self-protecting cut-off function.
- Over-current fuses for user safety.
- User setting functions: Select automatic run or manual run after power has been interrupted.
- Acceleration / deceleration circuit. (Excludes RS, CMS, CPS and CWS / CRS Models)
- The shaker units stops and starts at the same position every time.
- To prevent spillage from flasks and tubes the shaker gently starts up and gently stops.
- If the load sensor detects any type of imbalance it will reduce the shaking motion. (SKC Models)

### **Optimum Control Features**

- Easy to use, comes in a wide range of rpm setting which covers most applications.
- Professional electronic and program control.
- ▶ Microprocessor PID controls.
- Self-diagnostic function identifies any errors and advises the user how to correct the errors.
- Multi-function shaking system. (Forward & backward, timerand pause)

| Model        | SK | SKF | SKC |
|--------------|----|-----|-----|
| Wait ON      | -  | •   | •   |
| Wait OFF     | •  | •   | •   |
| Program Mode | -  | -   | •   |

- Similar key arrangements to the temp. humid. chamber, bath, circulator, and shaker.
- User-friendly controls, splash proof / easy to clean keypad and clear LED display. (SK and SKF Models only)
- Colorful and bright VFD display with interactive touch keys.
   (SKC, CMS CPS and CWS / CRS Models)
- ▶ End of shaking session stops with an audible alarm sound. (RS Models only)

### **Constructional Features**

- Dual shaking action- select from orbital or recip-rocating shaking motion. (SK Models only)
- Slim and low-profile design, reduces the vibration and sliding caused by the high speed shaking motion.
- Brushless DC motor creates a smooth and quiet uniformed shaking motion.
- Innovative triple-cam shaking system. (SKC Models)
- DD (Direct drive) motor allows the shaker to hold heavy loads, is quiet, high rpm, and durable. (SKC Models)
- ▶ Dirt repellent powder coated external surface.
- Wide range of accessories.

| Model                                | SKC | SK / SKF | RS            | CMS/CPS         | CBS    | CRS/CWS |
|--------------------------------------|-----|----------|---------------|-----------------|--------|---------|
| General applications                 |     | Open     | -air and Sepa | ratory Funnel S | hakers |         |
| Bacterial suspensions                | •   | •        |               |                 | •      |         |
| Cell culture                         | •   | •        |               | •               | •      | •       |
| Diagnostic tests                     |     | •        |               | •               | •      | •       |
| Drug analysis                        | •   | •        | •             | •               | •      | •       |
| Elisa                                | •   | •        |               | •               | •      | •       |
| Environmental technology             |     |          | _             |                 |        |         |
| (waste water and soil analysis)      |     | ,        |               |                 |        |         |
| Enzyme immunoassays                  | •   | •        |               | •               | •      | •       |
| Extraction procedures                | •   | •        |               | •               | •      | •       |
| General mixing                       | •   | •        | •             | •               | •      | •       |
| Hemolyzing blood separation          |     | •        | •             | •               | •      | •       |
| Hybridization                        | •   | •        |               | •               | •      | •       |
| Inorganic solvent extraction         |     |          | •             |                 |        |         |
| Soil compound extraction             |     |          | •             |                 |        |         |
| Solubility studies                   | •   | •        | •             |                 | •      |         |
| Solvent extraction for water quality |     |          |               |                 |        |         |
| analysis                             |     |          | <u> </u>      |                 |        |         |
| Staining and destaining              | •   | •        |               | •               |        | •       |
| Perparation for metal analysis       |     |          | •             |                 |        |         |
| Pharmaceutical profiling             | •   | •        | •             | •               | •      | •       |
| Protein synthesis                    | •   | •        |               | •               | •      | •       |

<sup>\*</sup> Above listed applications are for general purpose use.





### **ECONOMY**

### The distinctive and economical SKF models offer the most suitable shaking motion.

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

| Model                       |                        | SKF-2025   | SKF-2075  | SKF-2025R     | SKF-2075R     |  |
|-----------------------------|------------------------|--|-----------|---------------|---------------|--|
| Product code                | •                      | AAH3A105K  | AAH3A125K | AAH3A205K     | AAH3A225K     |  |
|                             | Motion type            | Orbital  | Orbital   | Reciprocating | Reciprocating |  |
|                             | Speed range (RPM)      | 10 to 500  | 10 to 300 | 10 to 450     | 10 to 250     |  |
| Shaking Accuracy at 100 RPM |                        |  | ±         | 2             |               |  |
| system                      | Timer                  | Delay On / Off Time : 1min to 999hr 59min<br>Forward & Backward, Pause : 10sec to 59min 59 sec |           |               |               |  |
|                             | Amplitude<br>size (mm) | 7  | 19        | 7             | 19            |  |
| Dimensions                  | Platform W X D (mm)    | 320 x 260  |           |               |               |  |
| External WXDXH (mn          |                        | 355 x 375 x 140  |           |               |               |  |
| Net weight (                | (g)                    |  | 20        | )             |               |  |

| Model                       |                        | SKF-3050   | SKF-3100  | SKF-3050R     | SKF-3100R     |  |
|-----------------------------|------------------------|--|-----------|---------------|---------------|--|
| Product code                |                        | AAH3A305K  | AAH3A325K | AAH3A405K     | AAH3A425K     |  |
|                             | Motion type            | Orbital  | Orbital   | Reciprocating | Reciprocating |  |
|                             | Speed range (RPM)      | 10 to 400  | 10 to 300 | 10 to 350     | 10 to 250     |  |
| Shaking Accuracy at 100 RPM |                        |  | ±         | 2             |               |  |
| system                      | Timer                  | Delay On / Off Time : 1min to 999hr 59min<br>Forward & Backward, Pause : 10sec to 59min 59 sec |           |               |               |  |
|                             | Amplitude<br>size (mm) | 13   | 25        |               |               |  |
| Dimensions                  | Platform<br>wxd(mm)    | 350 x 350  |           |               |               |  |
| Dimensions                  | External               |  |           |               |               |  |
| Net weight (                | (g)                    |  | 3         | 0             |               |  |



### **DUAL-ACTION**

# Benchtop platform shakers with advanced dual-shaking features, for flasks up to maximum 6L.

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

| Model        |                             | SK-300          | SK-600                           | SK-71              |  |
|--------------|-----------------------------|-----------------|----------------------------------|--------------------|--|
| Product code | )                           | 31105           | 31205                            | 31305              |  |
|              | Motion type                 | (               | Orbital or Reciproca             |                    |  |
|              | Speed range (RPM)           |                 | 10 to 300                        |                    |  |
| Shaking      | Timer                       | Run tim         | e: 10 sec to 999 hr 59           | min 59 sec         |  |
| system       | Tilliel                     | Forward & Bac   | Forward & Backward, Pause: 10 se |                    |  |
|              | Amplitude<br>size (mm. dia) | 20, 30, 40 A    | vailable                         | 30, 40, 50, 60, 70 |  |
|              | Recip stroke<br>length (mm) | (Standai        | Available<br>(Standard 30)       |                    |  |
| Dimensions   | Platform<br>wxd(mm)         | 350 x 350       | 450 x 450                        | 755 x 481          |  |
| Diffiensions | External wxdxh(mm)          | 410 x 490 x 150 | 510 x 595 x 150                  | 820 x 610 x 166    |  |
| Net weight ( | (g)                         | 24              | 29                               | 50                 |  |

### **SHAKERS**



### **ADVANCED ORBITAL**

Innovative triple-cam shaking system with compact design and superior fabrications.

Exclusive SKC shaker series can carry out low maintenance applications that demand heavy duty, continuous operation, and high reliability testing.

| Model           | Model              |          | SKC-6100            | SKC-6200  | SKC-7100            | SKC-7200  |  |
|-----------------|--------------------|----------|---------------------|-----------|---------------------|-----------|--|
| Product code    |                    |          | AAH30115K           | AAH30125K | AAH30215K           | AAH30225K |  |
| Display         |                    |          |                     | VI        | -D                  |           |  |
|                 | Motion type        |          |                     | Ork       | oital               |           |  |
| Shaking         | Speed range        | (RPM)    |                     | 30 to 500 |                     |           |  |
| system          | Accuracy at 1      | 00 (RPM) | ± 1                 |           |                     |           |  |
|                 | Amplitude siz      | e (mm)   | 25                  | 50        | 25                  | 50        |  |
|                 | Platform           | Small    | 320 x 260           |           | 755 x 520           |           |  |
| Dimensions      | wxd(mm)            | Large    | 660                 | x 520     | 885                 | x 520     |  |
|                 | External wxdxH(mm) |          | 582.8 x 618 x 122.2 |           | 754.8 x 662 x 122.2 |           |  |
| Net weight (Kg) |                    |          | 6                   | 65        | 75                  |           |  |



### MINI SHAKER

Compact and lightweight design for easy mobility and for use in areas with limited space.

The real-time RPM controlling is responsive with the speed control knob Ideal for hybridization, immunocytochemistry, gel staining/destaining, and other bioscience applications.

| Model           |                       | CMS-350                |  |
|-----------------|-----------------------|------------------------|--|
| Product code    |                       | AAH3B1115K             |  |
| Display         |                       | VFD                    |  |
| Motion type     |                       | Orbital                |  |
|                 | Speed range (RPM)     | 50 to 300              |  |
| Shaking system  | Accuracy at 100 (RPM) | ± 5                    |  |
|                 | Timer                 | 1min. to 99hrs. 59min. |  |
|                 | Max. Load (Kg)        | 4                      |  |
| Dimensions      | Platform w x D (mm)   | 250 x 250              |  |
| Difficusions    | External wxdxH(mm)    | 276 x 334 x 130        |  |
| Net weight (Kg) |                       | 8                      |  |



### **MICROPLATE SHAKER**

Fitted with 4 microplates and wider speed range to accommodate various sample testing.

Optimally designed to shake four microplates simultaneously, this Microplate Shaker is ideal for applications that demand precise and repeatable mixing such as immunoassays.

| Model           |                       | CPS-350                |  |
|-----------------|-----------------------|------------------------|--|
| Product code    |                       | AAH3C1115K             |  |
| Display         |                       | VFD                    |  |
| Motion type     |                       | Orbital                |  |
| Shaking system  | Speed range (RPM)     | 150 to 1,200           |  |
|                 | Accuracy at 500 (RPM) | ± 15                   |  |
|                 | Timer                 | 1min. to 99hrs. 59min. |  |
|                 | Max. Load (Kg)        | 4                      |  |
| Dimanaiana      | Tray wxd (mm)         | 267 x 185              |  |
| Dimensions      | External wxdxh(mm)    | 249 x 329 x 127        |  |
| Net weight (Kg) |                       | 7.7                    |  |





### **ROCKING AND WAVING**

Adjustable tilt angle and variable digital speed controller provides any possible movement for outstanding rocking or waving results.

Removable tray and digital timer can be applied to variety purposes

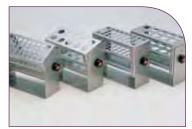
- Ideal for ELISA, enzyme immunoassays, protein synthesis, hybridization staining or destaining gels, pharmaceutical profiling, and among other laboratory applications.

| Model                         |                     | CRS-350         | CWS-350     |  |
|-------------------------------|---------------------|-----------------|-------------|--|
| Product code                  | )                   | AAH391115K      | AAH381115K  |  |
| Display                       |                     | VF              | D           |  |
|                               | Motion type         | Rocking type    | Waving Type |  |
| 61. 1.                        | Speed range (RPM)   | 5 to 100        | 8 to 100    |  |
| Shaking<br>System             | Accuracy at 100 RPM | ± 5             |             |  |
| Oystein                       | Tilt angle          | 25              | 50          |  |
|                               | Max. load (Kg)      | 5               |             |  |
| Tray w x D (mm)               |                     | 276 x 276       |             |  |
| Dimensions External wxdxH(mm) |                     | 276 x 320 x 150 |             |  |
| Net weight (Kg)               |                     | 3.7             |             |  |

### **ACCESSORIES** AND **OPTIONS**



Universal Platforms



Test Tube Racks



Spring Wire Racks



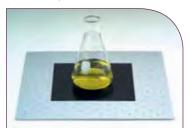
Flask Clamps



Microplate Holder



Universal Attachment



Lab Sticker



Funnel Clamps



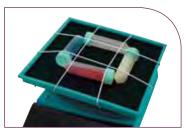
Dual Stacking Tray



Plastic Flask Clamps



Dual Universal Platforms



Universal Harness

# **SPECTROPHOTOMETERS**

- Single beam
- Double beam

### VISIBLE AND UV SPECTROPHOTOMETERS

All units come complete with microprocessor control offering fully automated functions including auto self test. RS232 analogue output and optional software are available. The instruments feature 4mm spectral bandwidth and soft keyboard operation. They also include a large sample compartment that will accept from 5mm to 100mm path length rectangular cuvettes. These units are ideal for the many tests performed in environmental protection, water, biochemistry, clinical, food, beverage and industrial laboratories. All units have modes for Absorbance, %T and Concentration measurements. Calibration is performed against a 'blank' (Abs and %T) and a standard or factor for concentration. Wavelength selection is made electronically via a finely geared stepper motor.

- ▶ High performance scanning
- ▶ Single and multi-wavelength operation
- ▶ Kinetics, transmittance and absorbance analysis
- Clear easy to read display
- Advanced optical system ensures very low stray light
- Superior quality optical components ensure accurate and reliable analytical data
- Deuterium and tungsten lamps are used as the light sources





MD-1105

| Model                         | MD-1105     | MD-2100                 | MD-2000UV        | MD-2100UV |  |  |
|-------------------------------|-------------|-------------------------|------------------|-----------|--|--|
|                               | Vis         | ible                    | UV-V             | 'isible   |  |  |
| Optical performance           | Single beam |                         |                  |           |  |  |
| Grating system (I/mm)         | 1200        |                         |                  |           |  |  |
| Spectral width (nm)           | 6           | 4                       | 5                | 4         |  |  |
| Wavelength (nm)               | 340-1000    | 320-1000                | 200-1000         | 190-1000  |  |  |
| Accuracy (nm)                 | ± 2         | ± 1                     | ± 2              | ± 1       |  |  |
| Repeatability (nm)            | ≤ 1         | ≤ 0.5                   | ≤ 1              | ≤ 0.5     |  |  |
| Mode                          | Trans       | smittance, absor        | rbance, concenti | ration    |  |  |
| Display                       | 3.5 LCD     | 2 line 20 character LCD |                  |           |  |  |
| Sample compartment L X W (mm) | 100 x 50    |                         |                  |           |  |  |



MD -1920

### **DOUBLE BEAM**

| Model                         | M D-1900  | MD-1901 | MD-1920      |  |  |  |
|-------------------------------|---|---------|--------------|--|--|--|
|                               | UV-Visible  |         |              |  |  |  |
| Optical performance           | Double beam   |         |              |  |  |  |
| Grating system (I/mm)         | 1800  |         |              |  |  |  |
| Spectral width (nm)           | 0.5, 1, 2, 4  | 1       | 0.5, 1, 2, 4 |  |  |  |
| Wavelength (nm)               | 190-1100  |         |              |  |  |  |
| Accuracy (nm)                 |   | ± 0.5   |              |  |  |  |
| Repeatability (nm)            |   | ≤ 0.1   |              |  |  |  |
| Mode                          | Transmittance, absorbance, concentration              |         |              |  |  |  |
| Display                       | USB connection, display on PC screen 6.4" touchscreen |         |              |  |  |  |
| Sample compartment L x w (mm) | 225 x 114   |         |              |  |  |  |

# HOTPLATES AND STIRRERS



- Heating
- Magnetic
- Overhead
- Accessories

### **Hotplates & Hotplate Stirrers**

- Fast and precise stirring speed even at high temperatures. (only for Hotplate Stirrers)
- ▶ High heat transfer rate.
- Hot top warning indicator and multiple overheat prevention features.
- ▶ Temperature limit setting. (up to 350°)
- Smooth start and quick stop.
- Bright digital display panel.
   Separate heater ON/OFF button.
   (except for Basic Hotplate Stirrers)

### **Magnetic Stirrers**

- ▶ Easy to use.
- Microprocessor PID controls. (MS-G/M Models only)
- Equipped with a durable and silent BLDC motor.
- Wide speed range. (up to 2,500 rpm)
- Accurate speed control regardless of the sample weight.
- Safe control even at low speed.
- Quick real-time start of the stirring action. (MS-B/T Models only)

### **Overhead Stirrers**

- Powerful torque capable of handling high viscosity tasks.
- Maintenance of constant motor speed by PID feedback control system even under conditions of changing viscosity. (MSM and MSP Models only)
- Wide speed range.
- Bright FND digital display panel. (MSM and MSP Models only)
- Compact and slim head design.
- Sturdy aluminum main body efficiently absorbing and emitting the heat generated by the motor.

# HOTPLATES AND STIRRERS



| Me                 | Model      |                                     | TM-14SB                   | TM-14RB           | TM-17SB            | TM-17RB            |  |
|--------------------|------------|-------------------------------------|---------------------------|-------------------|--------------------|--------------------|--|
| Pr                 | oduct code |                                     | AAH34215K                 | AAH34315K         | AAH34225K          | AAH34325K          |  |
|                    |            | Temperature range (°C)              |                           | Amb.              | to 350             |                    |  |
|                    | Heating    | Control                             |                           | Sc                | ale                |                    |  |
|                    |            | Heating power (W)                   | 60                        | 00                | 80                 | 00                 |  |
| a                  |            | Speed range (RPM)                   |                           | 50 to             | 2,000              |                    |  |
| Data               | Stirring   | Capacity (Litres, H <sup>2</sup> O) |                           | 20 /              | 0.71               |                    |  |
| Magnetic bar, max. |            |                                     |                           |                   | 3 x 40             |                    |  |
| ech                |            | Hot top indicator (°C)              | Warning lamp (50)         |                   |                    |                    |  |
| -                  | Safety     | Over temp.                          | Top plate, Main body, PCB |                   |                    |                    |  |
|                    |            | Over current                        | Current limit protection  |                   |                    |                    |  |
|                    | Motor      |                                     | BLDC                      |                   |                    |                    |  |
|                    | Load, Max  | (Kg)                                | 25                        |                   |                    |                    |  |
|                    | Top plate  | Material                            |                           | Ceramic coat      | ted aluminum       |                    |  |
| Data               | Top plate  | Dimension (Ø, mm)                   | 14                        | 10                | 1 <sup>-</sup>     | 70                 |  |
|                    |            | Material                            |                           | Cast alı          | luminum            |                    |  |
| General            | Body       | Dimensions<br>wxdxh(mm)             | 161 x 290<br>x 100        | 210 x 294<br>x 99 | 191 x 330<br>x 101 | 240 x 324<br>x 100 |  |
|                    | Net weight | (Kg)                                | 2.8                       | 3                 | 3.5                | 3.6                |  |



Medline hot plate stirrers offer a large heating area of 180 x 180mm with safe controlled heating up to  $400^{\circ}$ C.

| Product code           | MS-100 MS-200                             |             | MS-300             |  |  |  |
|------------------------|---|-------------|--------------------|--|--|--|
| Description            | Hot plate                                 | Stirrer     | Hot plate/ Stirrer |  |  |  |
| Case construction      | Ceramic coated steel (chemical resistant) |             |                    |  |  |  |
| Stage area (mm)        |   | 180 x 180   |                    |  |  |  |
| Temperature range (°C) | Amb. to 400 – Amb. to 40                  |             |                    |  |  |  |
| Speed range (RPM) -    |   | 100 to 1500 | 100 to 1500        |  |  |  |

### HOT PLATES AND STIRRERS



### MAGNETIC ANALOGUE

- ▶ Ergonomic design with low profile, lightweight body and non slip rubber feet
- ▶ Non-slip silicone plate covers
- ▶ Built in thermal shutdown and current limiter protector
- Spark less, silent and durable BLDC motor

| Мо             | del  | MS-12B                                     | MS-17B                 | MS-22B         |  |  |
|----------------|--|--|------------------------|----------------|--|--|
| Pro            | duct code  | AAH34215                                   | AAH34315               | AAH34325       |  |  |
| B              | Speed control                                      | E  | lectronic speed contro | ol             |  |  |
| al data        | Stirring capacity (Litre, H <sub>2</sub> O)        | 2  | 4                      | 5              |  |  |
| Technical      | Speed (RPM)  |  | 150 to 2,500           |                |  |  |
| ech            | Speed display                                      | _  |                        |                |  |  |
| -              | Load, max (Kg)                                     | 15   | 20                     | 25             |  |  |
| o 0            | Material   | Polypropylene with non-slip silicone cover |                        |                |  |  |
| Top            | $\textbf{Dimension} \ (\texttt{mm} \ \varnothing)$ | 120  | 170                    | 220            |  |  |
| <u>_</u> _     | Body material                                      |  | Polypropylene (blue)   |                |  |  |
| eneral         | Dimensions W X D X H (mm)                          | 130 x 130 x 65                             | 185 x 185 x 65         | 230 x 230 x 65 |  |  |
| ω <sub>σ</sub> | Net weight (Kg)                                    | 0.6  | 0.9                    | 1.1            |  |  |



### MAGNETIC DIGITAL

- Bright and vivid VFD touch responsive control buttons
- Gradual start up mechanism to prevent accidental spillages
- ▶ M12 threaded hole to hold a support rod

| Мо              | del   | MS-17G                                     | MS-22G         |  |  |
|-----------------|---|--|----------------|--|--|
| Pro             | duct code                                   | AAH331215                                  | AAH331315      |  |  |
| a               | Speed control                               | Feedback cor                               | ntrol with PID |  |  |
| al data         | Stirring capacity (Litre, H <sub>2</sub> O) | 4  | 5              |  |  |
| nic             | Speed (RPM)                                 | 30 to                                      | 2,000          |  |  |
| Technical       | Speed display                               | VFD  |                |  |  |
| -               | Load, max (Kg)                              | 20   | 25             |  |  |
| Top<br>plate    | Material                                    | Polypropylene with non-slip silicone cover |                |  |  |
| 卢음              | Dimensions (mm Ø)                           | 170  | 220            |  |  |
| _               | Body material                               | Polypropylene (blue)                       |                |  |  |
| General<br>data | Dimensions W X D X H (mm)                   | 210 x 280 x 72                             | 260 x 360 x 72 |  |  |
| U               | Net weight (Kg)                             | 1.35                                       | 1.75           |  |  |



### MAGNETIC MULTI-POSITION

- Chemical resistant stainless steel top plate (transparent non-slip silicone mat optional)
- ▶ Multiple operation and time setting modes to allow unique system / user demands
- Vivid LED position indicating lamps

| Mod           | del   |                 | MS-23M MS-32M MS-33M MS-51M MS-52M MS-5 |                            |                   |                   |                   | MS-53M            |
|---------------|---|-----------------|---|----------------------------|-------------------|-------------------|-------------------|-------------------|
| Pro           | roduct code   AAH332115   AAH332215   AAH332315   AAH332415   AAH332515   AAH |                 |   |                            | AAH332615         |                   |                   |                   |
| a             | Speed co  | ontrol          |   | F                          | eedback cor       | ntrol with PII    | D                 |                   |
| data          |   | Positions       | 6                                       | 6                          | 9                 | 5                 | 10                | 15                |
| Technical     | Stirring  | Speed<br>(RPM)  | 30 to 2,000                             |                            |                   |                   |                   |                   |
| ech           | Timer   |                 |   | 1 min. to 99 hours 59 min. |                   |                   |                   |                   |
| -             | Load, ma  | ı <b>x</b> (Kg) |   |                            | 3                 | 0                 |                   |                   |
| neral<br>lata | Dimensions  WXDXH(mm)   |                 | 377 x 434<br>x 81                       | 254 x 434<br>x 81          | 377 x 434<br>x 81 | 130 x 591<br>x 75 | 251 x 591<br>x 75 | 378 x 591<br>x 75 |
| Gel           | Net weig  | ht (Kg)         | 6                                       | 5                          | 7                 | 4                 | 8                 | 11                |

### HOT PLATES AND STIRRERS



Dynamic stirring, simple operation, and sustainable economic benefits - for tasks of up to 50 liters. ( $H_2O$ ) Sturdy aluminum main body efficiently absorbing and emitting the heat generated by the motor.



### **OVERHEAD** ECONOMY

#### Features

- Compact and slim head design.
- Powerful torque capable of handling high viscosity tasks.
- Safety features against overload and overheating.
- Sequential auto-stop safety visible warning audible warning auto-stop.
- ▶ High speed, vibration-free, and silent operation.
- Speed adjustment dial knob.
- A wide range of accessories available.
- Well illuminated digital display panel with sensitive touch buttons.
- Convenient emergency stop feature.
- Displayed modes: rpm, power ratio. (%)

| Model          |   | MSM-1                    | MSM-2          | MSM-3          |  |  |
|----------------|---|--------------------------|----------------|----------------|--|--|
| Product code   |   | AAH370115K               | AAH370215K     | AAH370315K     |  |  |
|                | Speed control                           | Analog                   |                |                |  |  |
|                | Speed range (RPM)                       | 50 to 1,400              | 50 to 1,200    | 50 to 900      |  |  |
| Technical Data | Display                                 | Digital                  |                |                |  |  |
| Technical Data | Stirring capacity (L, H <sub>2</sub> O) | 20                       | 30             | 50             |  |  |
|                | Torque, max. (Nácm)                     | 15                       | 27             | 53             |  |  |
|                | Power max. (W/A)                        | 15                       | 20.4           | 31.2           |  |  |
|                | Body material                           | Aluminum + Polypropylene |                |                |  |  |
| General Data   | Dimensions wxdxH(mm)                    | 65 x 135 x 190           | 70 x 150 x 200 | 70 x 150 x 215 |  |  |
|                | Net weight (Kg)                         | 2                        | 2.5            | 3              |  |  |



# **OVERHEAD** ADVANCED (DIGITAL)

#### **Features**

- Compact and slim head design.
- Microprocessor controlled smooth start and stop function.
- Maintenance of constant motor speed by PID feedback control system even under conditions of changing viscosity.
- Powerful torque capable of handling high viscosity tasks.
- Bright digital display panel with touch sensitive buttons.
- Selectable display modes: rpm, power ratio (%), motor temp, and run time.
- Convenient emergency stop feature.
- Safety features against overload and overheating.
- ▶ High speed, vibration-free, and silent operation.
- Speed adjustment dial knob.
- Built-in USB port for external control and data collection. (Lab Companion software required)

| Model          |   | MSP-1                    | MSP-2          | MSP-3          |  |  |
|----------------|---|--------------------------|----------------|----------------|--|--|
| Product code   |   | AAH371115K               | AAH371215K     | AAH371315K     |  |  |
|                | Speed control                           | PID feedback control     |                |                |  |  |
|                | Speed range (RPM)                       | 50 to 1,400              | 50 to 1,200    | 50 to 900      |  |  |
| T 1 : 1D :     | Display                                 | Digital                  |                |                |  |  |
| Technical Data | Stirring capacity (L, H <sub>2</sub> O) | 20                       | 30             | 50             |  |  |
|                | Torque, max. (Nácm)                     | 15                       | 27             | 53             |  |  |
|                | Power max. (W/A)                        | 15                       | 20.4           | 31.2           |  |  |
|                | Body material                           | Aluminum + Polypropylene |                |                |  |  |
| General Data   | Dimensions W X D X H (mm)               | 65 x 135 x 190           | 70 x 150 x 200 | 70 x 150 x 215 |  |  |
|                | Net weight (Kg)                         | 2                        | 2.5            | 3              |  |  |

# HOT PLATES AND STIRRERS

### ACCESSORIES AND OPTIONS

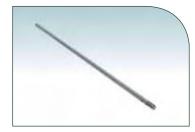
### **HOT PLATES / MAGNETIC STIRRERS**



Heating Bath



Transparent Safety Shield



Support Rods



Clamp Holders (C-10, C-7, C-5)

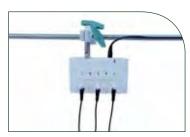


Magnetic Stirring Bars



Plastic Retrievers (PP)

### **MAGNETIC STIRRERS**



Power Divider (5 channels\*)



Plate Covers (Black & White)



Silicone Pad

### **OVERHEAD STIRRERS**



Stands



Prong Clamps



Stirring Seals



Stainless Steel Impellers



PTFE Impellers



Flexible Coupling

# **TEMPERATURE CHAMBERS**



- Tabletop Models
- ▶ Floor-standing Models
- Accessories

### **Safety Features**

- ▶ Self-protecting cut-off function.
- Over temperature, electrical leakage or over voltage automatically cuts the power from the unit, in an orderly fashion, starting with the heating element then the controller unit.
- ▶ Time setting function for automated RUN / OFF:
- Enable automatic start and shut off of a unit at any specific time.
- A timer can be set for a month and data can be recorded in time, day, or weekly intervals.
- Door-open warning alarm.
- Intermittent toned alarm audible alarm and visual alarms.
- Heating element, fan, and platform automatically stops when the door is opened to minimize heat loss and to ensure user safety.

#### **Optimum Control Features**

- Microprocess PID control / Auto-tuning / Calibration.
- ▶ CPU logic control system.
- Optimum control of temperature with economical controls that reduces power consumption.
- Touch screen type display.
- 5.7-inch Color LCD display with interactive input system. (Floor Standing Models only)

- Temperature / timer settings, and operation condition.
- Temperature and other operating parameters can be recorded using a chart recorder. (Optional)
- Easily visible set value: set point (SP) / pre-sent value (PV) are also added on the colorful LCD controller.

#### **Protect the Global Environment**

- Use of HFC refrigerant prevents damage to the ozone layer.
- Complies with the Montreal Protocol on Substances That Deplete the Ozone Layer control measures.
- Testing for electric and electronic component, sensors.
- Testing of semiconductors, PCB's, LCD's & LED's.
- Pharmaceutical tests.
- Mechanical / Military / Aircraft engineering.
- Automobile, Transport / automobile supply industries
- ▶ Chemical / Petrochemical industries.
- Construction materials / Plastic / Textile industries.
- Testing moulds, liquor, cigars, paintings.
- Testing metals related to industries such as plating.



### **TABLETOP**

| Model           |                            | TC-ME-025  | TC-ME-065        | TC-ME-100         |  |  |
|-----------------|----------------------------|--|------------------|-------------------|--|--|
| Product code    |                            | AAH86012K  | AAH86022K        | AAH86032K         |  |  |
| Chamber volur   | me (Litres)                | 25   | 65               | 100               |  |  |
|                 | Range (°C)                 | Program controller (LCD type)                                      |                  |                   |  |  |
| T               | Program control (°C)       |  | -15 to 120       |                   |  |  |
| Temperature     | Fluctuation at 100°C (±°C) | 0.4  | 0.3              | 0.3               |  |  |
|                 | Variation at 100°C (±°C)   | 2  | 1.9              | 1.8               |  |  |
| Time            | Heating (Min.)             | 55 From -15°C to 120°C   |                  |                   |  |  |
| Time            | Cooling (Min.)             | 60 From 20°C to -15°C on singe point control                       |                  |                   |  |  |
|                 | System                     | Mechanical single stage refrigerator system (air-cooled condenser) |                  |                   |  |  |
| Refrigeration   | Refrigerant                | R-404A   |                  |                   |  |  |
|                 | Capacity (W)               | 250  | 250              | 375               |  |  |
| Air flow syster | n                          | Sirocco fan (60W)  |                  |                   |  |  |
| Dimensions      | Internal (mm)              | 350 x 220 x 350  | 400 x 330 x 495  | 500 x 380 x 530   |  |  |
| WXDXH(mm)       | External (mm)              | 500 x 760 x 850  | 550 x 890 x 1000 | 650 x 1000 x 1030 |  |  |
| Net weight (Kg  | g)                         | 85   | 115              | 135               |  |  |



### **TEMPERATURE CHAMBERS**



### **Constructional Features**

- High quality #304 stainless steel exterior and interior.
- Casters for easy mobility when installing or moving.
- Convenient maintenance-available to view total operating time.
- Spacious chamber volume maximum capacity of 1500L.
- Unique door lock & trim.
- Vice lock type door and foam silicone packing to ensure a perfect seal.
- Door open warning alarm.
- Inner door.
- Optional inner glass door comes with four holes to handle samples inside the chamber. (excludes chambers with volume capacities of 800L or 1500L)
- Ventilation vent is located at the upper right side of the unit.

- ▶ Chart recorder. (optional)
- 6-point dot type recorder with a digital display.
- Viewing window for observation.
- Tempered glass window provides a clear view of samples in the chamber, beneficial during testing.
- ▶ Fluorescent lighting source included.
- ▶ Cable port for external probes or wires.
- 50mm diameter cable port comes standard on the left side of the unit. Additional 50mm or 80mm diameter cable ports can be custom ordered. (optional)
- Easy cleaning of condenser air-filter. To prevent deterioration of refrigeration system and keep filter dust free by periodically cleaning the filter.

### FLOOR STANDING

| Model                | Model                      |  | TC-G-300           | TC-G-408            | TC-G-800   | TC-G-1000          | TC-G-1500          |
|----------------------|----------------------------|--|--------------------|---------------------|--|--------------------|--------------------|
| Product code         |                            | AAH81412K  | AAH81422K          | AAH81432K           | AAH81442K  | AAH81452K          | AAH81462K          |
| Chambervolur         | me (Litres)                | 180  | 300                | 408                 | 800  | 1000               | 1500               |
|                      | Range (°C)                 |  |                    | -35 t               | o 150  |                    |                    |
| Temperature          | Fluctuation at 100°C (±°C) |  | 0.2                |                     |  | 0.1                |                    |
|                      | Variation at 100°C (±°C)   | 0.9  | 1                  | 0.8                 | 0.4  | 0.5                | 0.5                |
| Time                 | Heating (Min.)             |  | 50 (-35 to 120°C)  |                     |  | 60 (-35 to 120°C)  |                    |
| Time                 | Cooling (Min.)             |  |                    | 60 (20 to -35°C)    | 85 (20 to -35°)  |                    |                    |
| <b>5</b> ( )         | System                     | Mechanical single stage refrigerator system (air-cooled condenser) |                    |                     | Mechanical dual stage refrigerator system (air-cooled condenser) |                    |                    |
| Refrigeration        | Refrigerant                | R-404A   |                    |                     | R-404A (1st step), R-23 (2nd step)                               |                    |                    |
|                      | Capacity (W)               |  | 1500               |                     | 4250   |                    | 6000               |
| Air flow syste       | m                          | Т  | angent blower (90W | /)                  | 4x sirocco fans (4 x 90W)  |                    |                    |
| Cable port           |                            |  | One hole pr        | rovided / Ø 55mm (N | laximum of two hole  | es available)      |                    |
| <b>.</b> .           | Internal                   | 500 x 630 x 600  | 600 x 630 x 800    | 600 x 850 x 800     | 1000 x 800 x 1000  | 1000 x 1000 x 1000 | 1000 x 1000 x 1500 |
| Dimensions WXDXH(mm) | External                   | 1025 x 1035 x 1530   | 1120 x 1070 x 1730 | 1120 x 1240 x 1730  | 1570 x 1245 x 2060   | 1570 x 1445 x 2060 | 1570 x 2045 x 2560 |
|                      | Viewing windows            | 200 x 330  |                    |                     | 270 x 330  |                    |                    |
| Net weight (Kg       | g)                         | 320  | 385                | 410                 | 620  | 680                | 760                |

### **ACCESSORIES** AND **OPTIONS**







Recorder



Cable Port

T

- Tabletop Models
- ▶ Floor-standing Models
- Plant Growth Chambers
- Accessories

### **Safety Features**

- ▶ Self-protecting cut-off function.
- Time setting function for automated RUN / OFF.
- Low fluid level protection water leakage alarm.
- Intermittent toned alarm audible alarm and visual alarms.
- Door-open warning alarm.



### **Temperature & Humidity Chambers**

Test for reliability, durability, climatic, freezing resistance, quality assurance, thermal endurance etc.

- Testing of electric and electronic components and sensors.
- ▶ Testing for semiconductors, PCB's, LCD's & LED's.
- Pharmaceutical tests.
- Mechanical / Military / Aircraft engineering.
- Automobile, Transport / automobile supply industries.
- ▶ Chemical / Petrochemical industries.
- Construction materials / Plastic / Textile industries.
- ▶ Testing moulds, liquor, cigars, paintings.
- ▶ Testing metals related to industries such as plating.

### **Optimum Control Features**

- Microprocessor PID control / Autotuning / Calibration.
- Optimized CPU logic control system.
- ▶ Touch screen LCD display.
- 5.7-inch Color LCD display with interactive input system. (Floor Standing Models only)

### **Protect the Global Environment**

- Use of HFC refrigerant prevents damage to the ozone layer.
- Complies with the Montreal Protocol on Sub-stances That Deplete the Ozone Layer control measures.

#### **Plant Growth Chambers**

- Agriculture experiment with growth of plants.
- Growth experiment of animals and insects.
- Food preservation experiments.
- Genetic of life science researches.
- Genetic researches and pathology of plants.
- Retardation researches of seeds.
- Tissue culture of plants and germinating researches of seeds.

### **TABLETOP**

| Model                   |   | TH-ME-025          | TH-ME-065  | TH-ME-100            | TH-PE-025          | TH-PE-065  | TH-PE-100            |  |
|-------------------------|---|--------------------|--|----------------------|--------------------|--|----------------------|--|
| Product code            |   | AAH82112K          | AAH82122K  | AAH82132K            | AAH82212K          | AAH82222K  | AAH82232K            |  |
| Chamber volu            | me (Litres)   | 25                 | 65   | 100                  | 25                 | 65   | 100                  |  |
|                         | Range (°C)  | -20 t              | o 120 (without humi  | dity)                | 0 to               | 120 (without humic   | dity)                |  |
| Temperature             | Fluctuation at 100°C (±°C)  | 0.2                | 0.3  | 0.2                  | 0.2                | 0.3  | 0.2                  |  |
|                         | Variation at 100°C (±°C)  | 0.3                | 0.3  | 0.3                  | 0.3                | 0.3  | 0.3                  |  |
| Humidity                | Range (%RH)   | :                  | Full range: 20 to 95 45 to 75 at 15°C 40 to 95 at 20°C 20 to 95 at 40 to 80°C 20 to 90 at 90°C |                      |                    | Full range: 30 to 95<br>45 to 95 at 20°C<br>30 to 95 at 30 to 80°C<br>30 to 90 at 85°C |                      |  |
| Air flow syste          | m (sirocco fan)   | 60V                | V x 1  | 60W x 2              | 60W                | / x 1  | 60W x 2              |  |
| Matara a comple         | Capacity (Litres)   | 5                  | 6  | 9                    | 5                  | 6  | 9                    |  |
| Water supply            | Water quality pH6.2 to 7.2 / Electrical conductivity 20µs/cm to below |                    |  |                      |                    |  |                      |  |
| Dimensions<br>WXDXH(mm) | Internal  | 350 x 220<br>x 350 | 400 x 330<br>x 495   | 500 x 380<br>x 530   | 350 x 220<br>x 350 | 400 x 330<br>x 495   | 500 x 380<br>x 530   |  |
|                         | External  | 500 x 760<br>x 850 | 550 x 890<br>x 1000  | 650 x 1000<br>x 1030 | 500 x 760<br>x 850 | 550 x 890<br>x 1000  | 650 x 1000<br>x 1030 |  |
| Net weight (Kg          | g)  | 85                 | 115  | 135                  | 85                 | 115  | 135                  |  |

# T

# TEMPERATURE AND HUMIDITY CHAMBERS



### **Constructional Features**

- Standard environmental test chambers.
- High quality #304 stainless steel exterior and interior.
- Casters for easy mobility when installing or moving temp. and Humid. test chamber.
- Convenient maintenance-available to view total operating time.
- Spacious chamber volume maximum capacity of 1500L.
- Unique door lock & trim.
- Ventilation.
- Chart recorder. (optional)
- Container type tank for easy adding and changing of water.
- Viewing window for observation.
- ▶ Cable port for external probes or wires.
- ▶ Easy cleaning of condenser air-filter.

### **Operating Features**

- Microprocess PID control / Auto-tuning / Calibration.
- Chamber supports three different languages:
- Optimize CPU logic control system.
- ▶ Touch screen type display.
- Programming operation.
- ▶ Computer interface.
- RS-485 communication port offers connection of a maximum of 9 temperature chamber units to one PC. (optional)

### **Safety Features**

- Leakage breaker for power supply.
- Over current protection.
- Overheat / overcool protection.
- ▶ Switch-off after alarm for over heating.
- Water empty alarm.
- Door open alarm.
- Vice lock door type locking mechanism.

### FLOOR STANDING STANDARD TYPE

| Model                   |                             | TH-TG-180  | TH-TG-300             | TH-TG-408             | TH-TG-800  | TH-TG-1000            | TH-TG-1500               |  |
|-------------------------|-----------------------------|--|-----------------------|-----------------------|--|-----------------------|--------------------------|--|
| Product code            |                             | AAHC2002   | AAHC2012              | AAAHC2022             | AAHC2032   | AAHC2042              | AAHC2052                 |  |
| Chamber volume (Litres) |                             | 180  | 300                   | 408                   | 800  | 1000                  | 1500                     |  |
|                         | Range without humidity (°C) | -35 to 150   |                       |                       |  |                       |                          |  |
| Temperature             | Range with humidity (°C)    | 15 to 90   |                       |                       |  | 20 to 90              |                          |  |
|                         | Fluctuation (°C)            | 0.1  | C                     | ).2                   |  | 0.3                   |                          |  |
| Humidity Range (%RH)    |                             | 40 to 85 at 15°C<br>25 to 98 at (25 to 80°C)<br>25 to 80 at ≥ 90°C |                       |                       | 50 to 90 at 20°C<br>45 to 95 at (25 to 80°C)<br>40 to 80 at ≥ 90°C |                       |                          |  |
|                         | Fluctuation (±%RH)          | 0.3  | 0.4                   | 0.3                   | 0.5  | 0.6                   | 1                        |  |
|                         | Heating (Mins)              | Į.   | 50 (-35°C → 120°C     | 2)                    | (  | 60 (-35°C → 120°C     | )                        |  |
| Time                    | Cooling (Mins)              | 60 (120°C → -35°C)   |                       |                       |  |                       | 85<br>(120°C →<br>-35°C) |  |
| Refrigeration c         | apacity (W)                 | 1500   |                       |                       | 42   | 250                   | 6000                     |  |
| Airflow system          |                             | Tangent blower (90W)   |                       |                       | 4 x Sirocco fans (4 x 90W)   |                       |                          |  |
|                         | Internal                    | Chairless Charl 1904   |                       |                       |  |                       |                          |  |
| Material                | External                    | - Stainless Steel #304   |                       |                       |  |                       |                          |  |
| wateriai                | Insulation                  | Polyurethane foam ( 100mm)   |                       |                       |  |                       |                          |  |
|                         | Door                        |  |                       | Glass                 | wool   |                       |                          |  |
| Water supply            | Capacity (Litres)           | 15 (Cartridge type) Direct water supply system                     |                       |                       |  |                       | stem                     |  |
| water supply            | Water quality               | pH6.2 to 7.2 / Electrical conductivity 20μs /cm to below           |                       |                       |  |                       |                          |  |
| Cable port              |                             |  | One hole prov         | ided / Ø 55mm (N      | laximum of two h   | oles available)       |                          |  |
|                         | Internal (mm)               | 500 x 630 x 600  | 600 x 630 x 800       | 600 x 850 x 800       | 1000 x 800 x<br>1000   | 1000 x 1000 x<br>1000 | 1000 x 1000 x<br>1500    |  |
| Dimensions<br>W X D X H | External (mm)               | 1025 x 1035<br>x 1530  | 1120 x 1070<br>x 1730 | 1120 x 1240<br>x 1730 | 1570 x 1245<br>x 2060  | 1570 x 1445<br>x 2060 | 1570 x 2045<br>x 2060    |  |
|                         | Viewing window (mm)         | 200 x 300  |                       |                       | 270 x 300  |                       |                          |  |
| Net weight (Kg          | )                           | 320  | 385                   | 410                   | 620  | 680                   | 760                      |  |

# TEMPERATURE AND HUMIDITY CHAMBERS





### **Constructional Features**

- ▶ High quality #304 stainless steel exterior and interior.
- Casters for easy mobility when installing or moving.
- Convenient maintenance-available to view total operating time.
- Spacious chamber volume maximum capacity of 1500L.
- Unique door lock & trim.
- Vice lock type door and foam silicone packing to ensure a perfect seal.
- Door open warning alarm.
- Inner door.
- Optional inner glass door comes with four holes to handle samples inside the chamber. (excludes chambers with volume capacities of 800L or 1500L)
- Ventilation vent is located at the upper right side of the unit.

- ▶ Chart recorder. (optional)
- 6-point dot type recorder with a digital display.
- Viewing window for observation.
- Tempered glass window provides a clear view of samples in the chamber, beneficial during testing.
- ▶ Fluorescent lighting source included.
- Cable port for external probes or wires.
- ▶ 50mm diameter cable port comes standard on the left side of the unit. Additional 50mm or 80mm diameter cable ports can be custom ordered. (optional)
- Easy cleaning of condenser air-filter. To prevent deterioration of refrigeration system and keep filter dust free by periodically cleaning the filter.

### FLOOR STANDING ADVANCED TYPE

| Model                |                             | TH-TG-180  | TH-TG-300  | TH-TG-408          | TH-TG-800            | TH-TG-1000         | TH-TG-1500         |  |
|----------------------|-----------------------------|--|--|--------------------|----------------------|--------------------|--------------------|--|
| Product code         |                             | AAHC2002K  | AAHC2012K  | AAHC2022K          | AAHC2032K            | AAHC2042K          | AAHC2052K          |  |
| Chamber volu         | ıme (Litres)                | 190  | 300  | 410                | 760                  | 960                | 1500               |  |
| Temperature          | range with humidity (°C)    |  |  | +10 to 90          |                      |                    | +15 to 85          |  |
| Temperature          | range without humidity (°C) |  |  | -5 tc              | 100                  |                    |                    |  |
| Fluctuation (°       | C)                          |  |  | 0.3                |                      |                    | 0.5                |  |
| Humidity Range (%RH) |                             |  | Full range:<br>20 to 95<br>40 to 90 at 15°C<br>30 to 95 at 30°C<br>20 to 95 at<br>(50°C to 80°C)<br>20 to 85 at 85°C |                    |                      |                    |                    |  |
| Time                 | Heating                     | 50min (-5°C → 100°C) 55min (-5°                                |  |                    |                      |                    | 5°C → 100°C)       |  |
| Time                 | Cooling                     | 12   | 20min (100°C →-5°  | C)                 | 145min (100°C →-5°C) |                    |                    |  |
| Refrigeration        | Capacity (W)                | 150  | 250  | 250                | 470                  | 470                | 470 x 2            |  |
| Air flow syste       | em                          |  | 4x sirocco<br>fans (4 x 60W):<br>Vertical type   |                    |                      |                    |                    |  |
|                      | Internal                    | SUS #304 (2B polish)   |  |                    |                      |                    |                    |  |
| N4 - 4; - 1          | External                    | SUS #304 (Hairline finish) & Steel, 2t, Double painted & baked |  |                    |                      |                    |                    |  |
| Material             | Insulation (mm)             | Polyurethane (70mm / 2.76")                                    |  |                    |                      |                    |                    |  |
|                      | Door                        | Glasswool  |  |                    |                      |                    |                    |  |
| Water                | Capacity (Litres)           |  | 30   |                    |                      |                    |                    |  |
| supply               | Water quality               | pH6.2 to 7.2, Electrical conductivity 20µs/ cm to below        |  |                    |                      |                    |                    |  |
| Cable port           |                             | One hole provided / Ø 55mm (Maximum of two holes available)    |  |                    |                      |                    |                    |  |
| Viewing window (mm)  |                             | 230 x 340 (option)   |  |                    |                      |                    |                    |  |
| Dimensions           | Internal                    | 500 x 650 x 600  | 750 x 650 x 650  | 750 x 850 x 650    | 750 x 880 x 1160     | 750 x 1110 x 1160  | 1000 x 1000 x 1500 |  |
| WXDXH(mm)            | External                    | 880 x 945 x 1465   | 1130 x 945 x 1520  | 1130 x 1045 x 1520 | 1220 x 1175 x 1965   | 1220 x 1415 x 1965 | 1450 x 1900 x 2065 |  |
| Net weight (K        | g)                          | 230  | 260  | 290                | 370                  | 420                | 490                |  |

# T

# TEMPERATURE AND HUMIDITY CHAMBERS



### Additional TH-ICH 300/800 Features

- In the event of a validation the apparatus correctly controls each light and then transfers accurate data and is equipped with light sensors.
- ▶ Samples that have to be exposed to the light in which it is completely near the UV energy of less than 200W-hr/ m2 is provided to compare directly with the results from overall intensity of less than 1.20 million lux-hr, drug substances and reagent.
- Total fluorescent lamp and UV lamp indicator and operating time indicator.

### **Safety Features**

- Leakage breaker for power supply.
- Over current protection.
- Overheat protection.
- Switch-off after alarm for over heating.
- Door open alarm.
- Water empty.
- Vice type door locking mechanism. (optional)
- Alarm for completed Photostability Test. (only TH-ICH Models)

### FLOOR STANDING ICH TYPE

| Model            |   |  | TH-ICH-300  | TH-ICH-800          |  |
|------------------|---|--|---|---------------------|--|
| Product code     |   |  | AAHC1002K   | AAHC1012K           |  |
| Chamber Volum    | ne (L                                     | itres)   | 300   | 760                 |  |
| _                | Without humidity (°C)  With humidity (°C) |  | -5 to 85 (without Light)<br>0 to 85 (with Light)        |                     |  |
| Temperature      | 200                                       | With humidity (°C)   | +15 to 85 (v  | with Light)         |  |
|                  | Flu                                       | ictuation (°C)   | 0.  | 3                   |  |
|                  |   |  | FULL RANG   |                     |  |
| 11               | Ra  | nge (%RH)  | 40 to 80  | *** * *             |  |
| Humidity         |   |  | 30 to 85<br>20 to 85 at 5                               |                     |  |
|                  | Flu                                       | ictuation (%RH)  | 0.  |                     |  |
| Light source     | Со  | ol White   | 6,000 lux   | 6,500 lux           |  |
| (ICH Q1B OPTION) | Ult                                       | raviolet-A   | 4.5 W/m <sup>2</sup>                                    | 5 W/m <sup>2</sup>  |  |
| Typical time red | quire                                     | d to reach ICH   | <b>≒</b> 200Hr  | <b>≒</b> 184Hr      |  |
| Typical time red | quire                                     | ed to reach ICH  | <b>≒</b> 50Hr   | <b>≒</b> 40Hr       |  |
| Time             | Heating                                   |  | 25min (20°C → 85°C)                                     | 30min (20°C → 85°C) |  |
| Time             | Со  | oling  | 120min (100°C → -5°C)                                   | 35min (20°C →-5°C)  |  |
| Refrigeration    | Ca  | pacity (W)   | 150   | 250                 |  |
| Air flow system  | 1   |  | 2 set of sirocco fan (2 x 60 W): Vertical type          |                     |  |
|                  | Int                                       | ernal  | SUS #304 (2B polish)                                    |                     |  |
| Material         | Ext                                       | ternal   | SUS #304 (Hairline finish) & Steel, 2t, Double painted  |                     |  |
| Waterial         | Ins                                       | ulation  | Polyurethane (70mm)                                     |                     |  |
|                  | Do  | or   | EPDM  | Sheet               |  |
| Water supply     | Ca  | pacity (Litres)  | 1   | 5                   |  |
| Water quality    |   | ater quality   | pH6.2 to 7.2, Electrical conductivity 20µs/ cm to below |                     |  |
| Cable port       |   | One hole provided / Ø 55mm<br>(Maximum of two holes available) |   |                     |  |
| Dimensions       | Int                                       | ernal  | 750 x 650 x 650   | 750 x 880 x 1160    |  |
| wxdxh(mm)        | Ext                                       | ternal   | 1130 x 985 x 1520                                       | 1220 x 1215 x 1965  |  |
| Net weight (Kg   | )   |  | 290   | 410                 |  |

### **ACCESSORIES** AND **OPTIONS**



Viewing Window



Recorder



Cable Port



### **Operating Features**

- Microprocessor PID control / Autotuning / Calibration.
- Digital timer: 1 min to 99 hr 59 min.
- Over-temperature limit / Door open alarm.
- 10 step programmable temperature, humidity, and illumination profiles and repeat the steps up to 999 cycles. (self-testing)
- 300 to 5,000ppm CO<sub>2</sub> control system. (optional)

### **Safety Features**

- Leakage breaker for power supply.
- Over current protection.
- Over heat protection with alarm.
- Door opening alarm.
- Low and empty water level alarm. (TLH Models only)

### **Constructional Features**

- High quality #304 grade stainless steel interior and dirt repellent powder coated exterior surface.
- User-friendly door system.
- Wide inner tempered glass door provides a full view of the samples.
- Powerful air circulator for smooth airflow.
- High frequency electronic ballast lamps.
- ▶ Easy cleaning of condenser air-filter.
- Casters for easy mobility when installing or moving environmental testing chamber.
- Electronic humidity sensor is fast acting and easy to calibrate.
- Dual type water level sensor.
- Adjustable water tank positions. (only for GC-300TLH)
- ▶ Removable shelving and rounded inner chamber corners for easy cleaning.

### **PLANT GROWTH CHAMBERS**

Enough capacity, maximum 1000L to satisfy the user's plant growth needs.

User-friendly programmable logic microprocessor, streamlined design, with optimized air flow and temperature flexibility.

| Model                        |                             | GC-300TL                    | GC-300TLH                   | GC-1000TLH  |  |
|------------------------------|-----------------------------|-----------------------------|-----------------------------|---|--|
| Product code                 |                             | AAHA1012K                   | AAHA1022K                   | AAHA1032K   |  |
| Chamber volum                | ne (Litres)                 | 300                         |                             | 1000  |  |
|                              |                             | 5 to 50 (Lamp off)          |                             |   |  |
|                              | Range (°C)                  |                             | 10 to 50 (Lamp on           | )   |  |
| Temperature                  |                             | 20                          | to 50 (with humid           | lity)   |  |
|                              | Fluctuation at 25°C (±°C)   | 0.                          | 1 (without humidi           | ty)   |  |
|                              | Variation at 25°C (±°C)     | 0.8                         | 3 (without humidi           | ty)   |  |
|                              | Range (Lux)                 | -                           | 0 to 20,000                 | 0 to 35,000                                       |  |
|                              | Control (steps)             | 1                           | 0                           | 11  |  |
| Illumination                 | Lamp                        | FI lamp (32W x 18)          |                             | FL lamp<br>(32W x 16)<br>Metal lamp<br>(400W x 3) |  |
|                              | Range (RH %)                | -                           | 40 to 80 at<br>(20 to 35°C) | 50 to 90 at<br>(20 to 35°C)                       |  |
| Humidity                     |                             | -                           | 60 to 90 at<br>(36 to 50°C) | 70 to 90 at<br>(36 to 50°C)                       |  |
|                              | Fluctuation at 60% RH (±RH) | - ;                         |                             | 3   |  |
| CO (ti1)                     | Range (ppm)                 | 300 to 5,000                |                             |   |  |
| CO <sub>2</sub> (optional)   | Sensor                      | NDIR CO <sub>2</sub> sensor |                             |   |  |
| Refrigerant (HF              | P)                          | 1/2                         |                             | 3/4   |  |
| Temperature heater power (W) |                             | 750 x 2                     |                             | 1,500 x 2   |  |
| Humid. heater power (W)      |                             | -                           | 1300                        | 1500  |  |
| Dimensions                   | Internal (mm)               | 510 x 540 x 1100            |                             | 1200 x 800 x 1080                                 |  |
| $W \times D \times H (mm)$   | External (mm)               | 700 x 805 x 1900            |                             | 1410 x 1070 x 2150                                |  |
| Net weight (Kg               | )                           | 250                         |                             | 550   |  |

# Τ

# TUBING AND MEDICAL GAS HOSE

- Rubber Tubing
- Bunsen Tubes
- Silicone Tubing
- Medical Gas Hose



### **RUBBER TUBING**

| Product Code | Description                   | Coil length (m) |
|--------------|-------------------------------|-----------------|
| 211502       | Red Rubber Tube 5.00 x 1.50mm |                 |
| 211503       | Red Rubber Tube 6.50 x 1.50mm |                 |
| 211504       | Red Rubber Tube 8.00 x 2.00mm | 00              |
| 212502       | Neoprene Tube 5.00 x 1.50mm   | 20              |
| 212503       | Neoprene Tube 6.50 x 1.50mm   |                 |
| 212504       | Neoprene Tube 8.00 x 2.00mm   |                 |

### **REINFORCED BUNSEN TUBES**

| <b>Product Code</b> | Description                  | Coil length (m) |
|---------------------|------------------------------|-----------------|
| 215450              | Bunsen Tube (R/E) Neo. 450mm | 0.45            |
| 215600              | Bunsen Tube (R/E) Neo. 600mm | 0.60            |
| 215900              | Bunsen Tube (R/E) Neo. 900mm | 0.90            |



### **SILICONE TUBING**

| <b>Product Code</b> | Description                               | Coil length (m) |
|---------------------|---|-----------------|
| 21300515            | Silicone Tube 3.0 x1.0mm                  |                 |
| 21301015            | Silicone Tube 5.0 x 1.5mm                 |                 |
| 21301215            | <b>21301215</b> Silicone Tube 6.0 x 2.0mm |                 |
| 21301715            | Silicone Tube 8.0 x 2.0mm                 |                 |
| 21303415            | Silicone Tube 8.0 x 2.5mm                 |                 |

Additional sizes and coil lengths available on request. Please contact Medline Scientific for further dertails



## MEDICAL PURE HOSE (PHTHALATE FREE)

| Product Code | Description  | Coil length (m) |
|--------------|--|-----------------|
| 108601PF     | ESD PU gas hose (O2) / White / 6.7 x 12.7mm          |                 |
| 108602PF     | ESD PU hose (Air) / Black / 6.7 x 12.7mm             |                 |
| 108603PF     | ESD PU hose (Vacuum) / Yellow / 6.7 x 12.7mm         | 20              |
| 108604PF     | ESD PU hose (N20) / Blue / 6.7 x 12.7mm              | 30              |
| 108605PF     | ESD PU hose (O2 / N20) / Blue+White / 6.7 x 12.7mm   |                 |
| 108606PF     | ESD PU hose (CO <sub>2</sub> ) / Grey / 6.7 x 12.7mm |                 |

PVC Gas hose still available in both 30m rolls and 150m drums

We also supply a full range of medical gas fittings and hose assemblies.



# V

#### **Features**

- ▶ Well-balanced design and optimized safety features.
- ▶ Low-profile with small footprint ideal for use on lab benches and within fume hoods or clean benches.
- ▶ Real-time mixing for thanks to highly touch sensitive switch.
- ▶ Selective mixing modes with Variable speed control knob.
- ▶ Built-in LED lamps in case of VM-96B for easy recognition of mixing mode selected.
- ▶ Sparkless BLDC motor adopted for safety, quick acceleration, and low maintenance.
- ▶ Built-in safety features against overload and over current.
- ▶ Chemically resistant PP (polypropylene) molded exterior.
- A wide range of accessories available. (rubber platform comes standard)

| Product code              | AAH-360115                            |
|---------------------------|---------------------------------------|
| Shaking motion            | Orbital                               |
| Orbital diameter (mm)     | 4                                     |
| Speed range (RPM)         | 0 to 3000rpm                          |
| Operating mode            | Touch, continuous and high continuous |
| Dimensions W X D X H (mm) | 155 x 210 x 83                        |
| Net weight (Kg)           | 3.1                                   |



Ideally sized for personal use, the Medline VM-3000 vortex mixer is compact, with a low profile and small footprint, to sit in almost any location, yet there is no compromise on performance. The stong, reliable and silent motor produces regulated and reproducible agitation throughout the speed range utilizing either touch activation or continuous modes. Suction cups on the base minimize any vibration and movement.

Supplied with tube adapter and flask accessories (additional accessories also available)

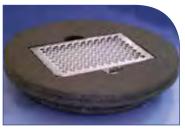
| Product code              | VM-3000MD         |
|---------------------------|-------------------|
| Shaking motion            | Orbital           |
| Orbital diameter (mm)     | 4                 |
| Speed range (RPM)         | 20 to 3000rpm     |
| Operating mode            | Touch, continuous |
| Dimensions w x D X H (mm) | 130 x 155 x 155   |
| Net weight (Kg)           | 4                 |



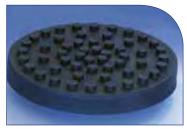
### **ACCESSORIES & OPTIONS**



Microtube Accessory



Microtitre Plate Accessory



Flask Accessory

# **OTHER PRODUCTS**

- Autoclaves
- Electric Aspirator
- Flask Supports
- Ice Pans
- Recirculating Coolers
- Tube Racks
- Ultrasonic Cleaners
- Viscosity Baths

ULTRASONIC CLEANER



### **AUTOCLAVES**

Table top autoclaves for the modern laboratory, the pharmaceutical and food industry as well as for special applications. Innovations for safe, accurate, reproducible and validation for sterilisation in research and industry within the dental, medical, cosmetic, laboratory, veterinary and tattoo fields.

Our autoclaves are produced under the most rigorous system of quality control certifications in accordance to ISO13485 and TUV CE0197.

All models are fully automatic with LCD display, independent steam generator, temperature and pressure monitoring systems. Every unit comes equipped with a unique high precision control system and automatic alarm for water level, door locking and cycle errors.

| Product code        | MDB8C           | MDB18C          | MDB23C          |  |
|---------------------|-----------------|-----------------|-----------------|--|
| Volume (Litres)     | 8               | 18              | 23              |  |
| Chamber size (mm)   | 170 x 320       | 247 x 350       | 247 x 450       |  |
| Power (W)           | 1500            | 2200            |                 |  |
| Printer (external)  | Optional        |                 |                 |  |
| Double door locking |                 | Yes             |                 |  |
| No. of trays (max)  | 2               |                 | 4               |  |
| Dimensions (mm)     | 370 x 565 x 345 | 480 x 700 x 455 | 480 x 700 x 455 |  |
| Net weight (Kg)     | 34.50           | 51              | 58              |  |



### **ELECTRIC ASPIRATOR**

By creating a vacuum by means of the 'Venturi' effect, the VE-11 aspirator pump are suitable for rotary vacuum evaporation, decompression distillation, vacuum drying, and vacuum filtering. A Built-in circulating pump and water tank make the unit portable. The circulating pump continuously pumps water quietly across a set of aspirators, and is therefore clean and efficient and the built-in check valve prevents backflow of water into the aspirator pump. Manufactured from Corrosion-resistant construction of all wetted parts with 304 stainless steel, polypropylene, silicone, or nickel-coated brass.

| Model                     |                     | VE-11                       |  |
|---------------------------|---------------------|-----------------------------|--|
| Product code              |                     | 71015                       |  |
| Bath volume (Litres)      |                     | 9.5                         |  |
| Maximum Vacuum            | (Mpa)               | 0.0998                      |  |
| Free air capacity (L p/m) |                     | 18 (x2)                     |  |
| Material                  | Bath                | Polypropylene               |  |
| Waterial                  | Aspirator           | Nickel-coated Brass (2 pcs) |  |
| Dimensions                | Internal (w x L, D) | 298 x 210, 227              |  |
| External (wxlx            |                     | 330 x 265 x 390             |  |
| Net weight (Kg)           |                     | 5.7                         |  |

## **OTHER PRODUCTS**



### **FLASK SUPPORTS**

Manufactured from chemically resistant polypropylene, these unique flask supports are resistant to various organic solvents and heat resistant to -30°C to +121°C, thus allowing them to also hold ice. Convenient grip for ease of transport and each support has a clear name tag for identification.

| Model                     | AAA23706        | AAA23701       | AAA23707        | AAA23702        |
|---------------------------|-----------------|----------------|-----------------|-----------------|
| Capacity                  | 100 <b>ml</b>   |                | 250ml           |                 |
| Hole diameter (mm)        | 70              |                | 98              | 98              |
| Number of positions       | 3 12            |                | 2               | 6               |
| Dimensions (mm) w x D X H | 310 x 100 x 100 | 384 x 265 x 98 | 280 x 125 x 130 | 389 x 239 x 130 |

| Model                     | AAA23703        | AAA23704        | AAA23705        |
|---------------------------|-----------------|-----------------|-----------------|
| Capacity                  | 500ml           | 1000ml          | 2000ml          |
| Hole diameter (mm)        | 121             | 148             | 183             |
| Number of positions 2     |                 | 2               |                 |
| Dimensions (mm) w x D X H | 360 x 146 x 135 | 415 x 192 x 165 | 503 x 223 x 199 |



### **ICE PAN**

The rigid single mould urethane foam construction provides high durability and excellent insulating properties together with being totally waterproof, leak proof and unbreakable with normal use. The rim enables safe handling and transport

The ice pans can be used with the 'On-lce' racks (optional) that are manufactured from scratch proof, high heat transfer aluminium.

| Product code              | AAAJ2801        |
|---------------------------|-----------------|
| Model                     | IBS-310         |
| Volume                    | 4               |
| Dimensions W X D X H (mm) | 347 x 257 x 132 |
| Net weight (Kg)           | 1.4             |



### RECIRCULATING COOLERS

Powerful recirculating coolers, the HL Models provide a wide range of cooling capacities with temperature reliability.

Innovative control system, with a dynamic pumping capacity, and ideal for external temp. applications. Broad range of models to choose from based on working temperature range.

| Model                     |                         | HL-10              | HL-20           | HL-20H   | HL-35H              |
|---------------------------|-------------------------|--------------------|-----------------|----------|---------------------|
| Product code              |                         | AAH65012           | AAH65022        | AAH65132 | AAH65152            |
| Volume (Filling           | g capacity)             | 7.5                | 13              | 13.5     |                     |
| Tomporeture               | Range (°C)              |                    | -20 t           | :0 40    |                     |
| Temperature               | Stability (°C)          |                    |                 | 1        |                     |
|                           | at 20°C                 | 0.70               | 1.80            | 1.80     | 3.30                |
|                           | at 10°C                 | 0.60               | 1.50            | 1.50     | 2.30                |
| Cooling                   | at 0°C                  | 0.42               | 1.15            | 1.15     | 1.70                |
| capacity                  | at -10°C                | 0.32               | 0.85            | 0.85     | 1.00                |
|                           | at -20°C                | 0.14               | 0.40            | 0.40     | 0.55                |
| D                         | Max Flow rate (L / min) | 5                  | 0               | 4        | 0                   |
| Pump                      | Max Pressure (bar)      | 1 2.8              |                 | .8       |                     |
| Max. Tubing Diamater (mm) |                         | 20                 |                 |          |                     |
| Dimensions                | Overall w x L X H       | 405 x 620<br>x 710 | 515 x 715 x 835 |          | 550 x 900<br>x 1140 |
| Net weight (Kg)           |                         | 65                 | 88              | 93       | 147                 |

## **OTHER PRODUCTS**



### **TUBE RACKS**

Manufactured from chemically resistant polypropylene, these unique flask supports are resistant to various organic solvents and heat resistant to -30°C to +121°C, thus allowing them to also hold ice. Convenient grip for ease of transport and each support has a clear name tag for identification.

| Model                          | 1.5 / 2.0ml Micro-tube rack 0.2 / 0.5ml Micro-tube rack |  |  |
|--------------------------------|---|--|--|
| Product code                   | AAAJ2311  |  |  |
| Material                       | PC (Polycarbonate)                                      |  |  |
| Max. number of mountable tubes | 80 (5 x 16)   |  |  |
| Dimensions (mm) w x D X H      | 269 x 90 x 50 (including lid)                           |  |  |

| Model                          | 30ml Centrifuge tube rack |  |
|--------------------------------|---------------------------|--|
| Product code                   | AAAJ2111                  |  |
| Material                       | PC (Polycarbonate)        |  |
| Max. number of mountable tubes | 6                         |  |
| Dimensions (mm) w x D X H      | 263 x 55 x 55             |  |

| Model                          | 15ml Conical tube rack               |  | 50 Conical tube rack  |
|--------------------------------|--------------------------------------|--|-----------------------|
| Product code                   | CPS0011 CPS0012                      |  | AAAJ2211              |
| Material                       | ABS (Acrylonitrile-butadienestyrene) |  | PC<br>(Polycarbonate) |
| Max. number of mountable tubes | 30 (3 x 10) 12 (2 x 6)               |  | 6 (1 x 6)             |
| Dimensions (mm) w x D X H      | 269 x 85 x 72                        |  | 263 x 55 x 55         |



### **ULTRASONIC CLEANERS**

Industrial B.L.T type ultrasonic transducer (Bolt Clamped Langevin Type Transducer) generates high-frequency sound waves that provide maximum cleaning power, the output can be set to high, medium or low in 3 easy stages.

Manufactured from Durable leakproof ABS / PBT housing and cover with 304 stainless steel tanks which are fully waterproof and corrosion-resistant.

Stainless steel basket supplied as standard.

| Model                  |                      | UC-02           | UC-10(10P)             | UC-20(20P)             |  |
|------------------------|----------------------|-----------------|------------------------|------------------------|--|
| Product code           |                      | BDH53015        | BDH53045<br>(BDH53055) | BDH53065<br>(BDH53075) |  |
| Bath volume (Litres)   |                      | 2               | 10                     | 20                     |  |
| Temperature range (°C) |                      | Amb. to 50      | Amb. to 70             |                        |  |
| Ultrasonic power (W)   |                      | 70              | 200<br>(300)           | 400<br>(500)           |  |
| Dimensions             | Internal (w x L, D)  | 142 x 135, 104  | 300 x 240, 150         | 495 x 292, 150         |  |
| Difficusions           | External (w x L x D) | 290 x 210 x 200 | 490 x 368 x 297        | 721 x 451 x 297        |  |
| Net weight (Kg)        |                      | 2               | 11                     | 17                     |  |



### **VISCOSITY BATHS**

High precision heating baths for kinematic viscosity measurement with microprocessor PID controls and digital LED display.

All units supplied with double tempered safety glass windows, baffle plate screen and stainless steel cooling coil.

▶ RS-232 interface and Lab Tracer software

| Model                                  | VB-25G                | VB-40G                |
|--|-----------------------|-----------------------|
| Product code                           | 43302                 | 43402                 |
| Chamber volume (Litres)                | 25                    | 40                    |
| Temperature range                      | Amb. +5°              | C to 150°C            |
| Bath opening / Depth w x L, D (mm)     | 145 x 265, 368        | 295 x 265, 368        |
| Cover lids / Hole for thermometer (mm) | 5ea / 51.0 1ea / 12.6 | 8ea / 51.0 1ea / 12.6 |
| Dimensions W X D X H (mm)              | 492 x 374 x 547       | 642 x 374 x 547       |
| Net weight (Kg)                        |                       |                       |





All information presented in this catalogue is correct except in the case of typing errors.

We reserve the right to alter the characteristics of products presented in our catalogue when said changes are beyond control of this company.



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