

The background of the entire page is a photograph of an offshore oil rig. The rig is silhouetted against a bright, orange-hued sky, suggesting a sunset or sunrise. The rig's complex structure, including its platform, cranes, and support legs, is visible. The water in the foreground is dark and textured.

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BETTER BUSINESS TOGETHER

As an employee owned company, everyone at Camlab has a stake in ensuring that you have the best possible customer experience.

That is why we will take more care and go further to ensure we satisfy your needs





# Contents

The list below provides a quick guide to the contents of this catalogue. A series of indexes and terms and conditions are also provided at the back of the catalogue.



## Need help?

Friendly advice  
from our live online  
support team or  
email us at  
[export@camlabworld.com](mailto:export@camlabworld.com)



Camlab is approved to  
ISO9001 and ISO14001  
and is committed to the  
principles of continuous  
improvement and  
environmental protection.



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Centrifuges • Bitumens • Waxes • Racks • Ovens • Specific Gravity

and more...



#### Automated Warehouse

You can be sure of accurate picks and high quality products from our fully automated 25000 sq ft warehouse. Our operatives use the latest barcode scanning equipment to ensure full serial and batch traceability.

## Established 1950 serving science and industry for over 65 years

Established in Cambridge in 1950, Camlab has a long tradition of supplying and supporting the scientific and industrial community. Our sales and warehouse provide an outstanding logistics service around the world and our products are supported by our expert product support team. We pride ourselves on offering a wide choice of products backed up with great service from people you can trust.

## innovative products that save time and reduce waste

#### New Product Innovation

Camlab not offer extensive UK stockholding but have also developed and manufactured a number of patented and novel laboratory plastics over the years including a range of tamper evident storage and transport products.



Unique Double Tamper Evident cap for sample storage and transportation.

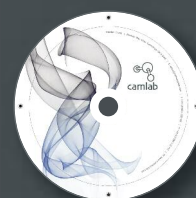
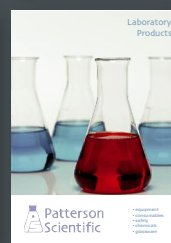
For further information see page 88



The Cleveland Open Cup Flash Point Analyser from Koehler

#### Oil, Gas & Petroleum

We have compiled a comprehensive range of products for Oil and Petroleum testing alongside general lab products from suppliers in the UK and around the world. You will find our range includes some of the best known brands available and other affordable ranges. You can buy direct online or through a range of international payment options. We'll handle all the required documentation and shipping for you as part of the service.



UK, Export, Environmental and Plastics catalogues are also available online or CD



## Lab Reagents

### pH buffers

#### Single Use pH buffer Solutions

#### METTLER PH BUFFER SACHETS



Ready to use buffers by Mettler Toledo in handy 20ml sachets, enough for one calibration.



Using sachets of pH buffer ensures they are fresh for each use and eliminates the risk of contamination.

Type	Camlab Code
pH 4.01 Buffer Sachets 30 x 20ml	1138466
pH 7.00 Buffer Sachets 30 X 20ml	1138462
pH 9.21 Buffer Sachets 30 x 20ml	1138467
pH 10.01 Buffer Sachets 30 x 20ml	1138468
Rainbow I (30 x20 mL sachets, 10x each of pH 4.01/ 7.00/ 9.21)	1138465
Rainbow II (30 x20 mL sachets, 10x each of 4.01/ 7.00/ 10.01)	1138469

#### PH BUFFER SACHETS (READY-TO-USE) PACK OF 10



Ready to use sachets are designed for single use in the field or in a lab.



If you want to be sure that your pH buffers are fresh and available for use then there is no better solution than these convenient sachets.

Each sachet is 12ml and is suitable for a single calibration.

Type	Camlab Code
pH 10 buffer sachets (ready-to-use) pack of 10	1135877
pH 4 buffer sachets (ready-to-use) pack of 10	1135875
pH 7 buffer sachets (ready-to-use) pack of 10	1135876

### Concentrated pH Buffers

#### PH BUFFER CAPSULES



Ideal for infrequent use, these capsules offer the following advantages:

- colour coded for ease of identification
- extended shelf life
- all values are NIST traceable
- easy to store and transport
- dissolve quickly
- preservative free



One capsule makes up 100ml of buffer and the stated pH values are valid at 25°C.

Specifications:  
Accuracy ( $\pm 0.02$  pH units)  
Pack Qty (50)

Type	Camlab Code
Buffer Capsule pH4.01 (Orange) $\pm 0.02$ @25°C 50 capsules	1145386
Buffer Capsule pH7.00 (Green) $\pm 0.02$ @25°C 50 capsules	1145387
Buffer Capsule pH9.00 (Purple) $\pm 0.02$ @25°C 50 capsules	1145388
Buffer Capsule pH10.00 (Blue) $\pm 0.02$ @25°C 50 capsules	1145389
Buffer Mixed Pack 10xpH4.01 20xpH7.00 10xpH9.00 10xpH10.00 $\pm 0.02$ @25°C 50 capsules	1145390

Ready made pH Buffer Solutions

COLOUR CODED BUFFERS - PH VALUES AT 25°C



These solutions are colour coded for ease of identification. Available in pH 4, 7 and 10 and are calibrated at 25°C.



Temperature dependence data is printed on the label as are the lot numbers and expiry date.

Specifications:  
Accuracy ( $\pm 0.01$  pH units)

Type	Camlab Code
Buffer Solution pH4.00 (Red) $\pm 0.01$ @25°C 500ml	1144883
Buffer Solution pH4.00 (Red) $\pm 0.01$ @25°C 1L	1144878
Buffer Solution pH4.00 (Red) $\pm 0.01$ @25°C 5L	1145138
Buffer Solution pH7.00 (Yellow) $\pm 0.01$ @25°C 500ml	1161638
Buffer Solution pH7.00 (Yellow) $\pm 0.01$ @25°C 1L	1144944
Buffer Solution pH7.00 (Yellow) $\pm 0.01$ @25°C 5L	1145148
Buffer Solution pH10.00 (Blue) $\pm 0.01$ @25°C 500ml	1145006
Buffer Solution pH10.00 (Blue) $\pm 0.01$ @25°C 1L	1145001
Buffer Solution pH10.00 (Blue) $\pm 0.01$ @25°C 5L	1145156

pH Electrode Solutions

PH ELECTRODE STORAGE SOLUTIONS



Electrode storage solution, available in two sizes.



pH electrodes must be kept in an appropriate storage solution between uses to avoid drying out which will cause them to fail.

Type	Camlab Code
pH Electrode Storage Solution 500ml	1145514
pH Electrode Storage Solution 1L	1145513

Consumables

Electrodes

Electrode Accessories

ELECTRODE ADAPTER CABLES FOR DIFFERENT METER CONNECTIONS



Most meters use a BNC connector but for other meter types these adapter cables can be used. These allow you to connect electrodes with a female BNC to meters with a DIN or US type connection.



Type	Camlab Code
Adapter Cable - BNR (BNC) to US Standard Beckman	1161707
Adapter Cable - BNR (BNC) to DIN M Single Pin	1161706
BNC To S7 Connector Cable 1Mtr	1128330



## ELECTRODE STORAGE BOTTLE



This clever LDPE bottle is designed to be filled with a storage solution and then fitted to your electrode where it seals around the base. This ensures the electrode is correctly stored and the membrane is kept hydrated, to keep your electrode in great condition so it is ready to use as soon as you need it.



We recommend a mixture of 3 molar KCl solution and pH 4 buffer (non-coloured), or a pH electrode storage solution such as the Reagecon brand solutions.

**Type**  
LDPE Electrode Storage Bottle 8ml Pack of 2

**Camlab Code**  
1161708

## pH Combination electrodes

### BLUELINE COMBINATION PH ELECTRODES - STANDARD RANGE

[SI Analytics](#)



The compact BlueLine program covers the most important measuring applications in laboratories.

Reliable high speed settings over a wide temperature range, new membrane glass with higher mechanical stability, as well as improved gel electrolyte are only a few features ensuring improved functionality.

On electrodes with liquid electrolytes the refill opening is sealed tightly with a practical sliding plug. These electrodes have a platinum diaphragm developed by Schott, which give the electrodes a particularly constant and reproducible measuring characteristic. With Silamid ® reference system

Range: 0-14pH

Type	Range	Diaphragm	Dimensions	Camlab Code
BlueLine Electrode 14PH	-5 to + 100°C	platinum	12x120mm(ØxL)	1147051
BlueLine Electrode 26PH	-5 to +80°C	fibre	12x120mm(ØxL)	1147061
BlueLine Electrode 11PH	-5 to + 100°C	platinum	12x120mm(ØxL)	1147048
BlueLine Electrode 28PH	-5 to +80°C	fibre	12x120mm(ØxL)	1147063
BlueLine Electrode 12PH	-5 to + 100°C	platinum	12x120mm(ØxL)	1147049
BlueLine Electrode 18pH	-5 to +100°C	platinum	12x120mm(ØxL)	1159218
BlueLine Electrode 22PH	-5 to +80°C	fibre	12x120mm(ØxL)	1147057
BlueLine Electrode 23PH	-5 to 80°C	fibre	12x120mm(ØxL)	1147058
BlueLine Electrode 15PH	-5 to +100°C	platinum	12x120mm(ØxL)	1147052
BlueLine Electrode 25PH	-5 to +80°C	fibre	12x120mm(ØxL)	1147060
BlueLine Electrode 24PH	-5 to +80°C	fibre	12x120mm(ØxL)	1147059
BlueLine Electrode 17PH	-5 to +100°C	platinum	12x120mm(ØxL)	1147054
BlueLine Electrode 28PH-P	-5 to +80°C	fibre	12x120mm(ØxL)	1194102

#### Accessories:

1161708 LDPE Electrode Storage Bottle 8ml Pack of 2

JENWAY PH ELECTRODES



Jenway range of standard pH electrodes supplied with 1m cables and BNC connections. Designed for use with the Jenway range of benchtop and portable pH meters



Type	Camlab Code
 Spear type 6mm stem (max. temp. 80°C)	1136158
 3 in 1 pH/temperature (max. temp. 80°C) (for use with 35 series)	1136163
 Life Science electrode 6mm diameter 150mm reach (max. temp. 100°C)	1136164
 Glass pH (requires a separate reference electrode)	1136159
 12mm stem toughened spear ended (max. temp. 80°C)	1136152
 4.5mm semi-micro 90mm reach (max. temp. 80°C)	1136157

GLASS BODIED COMBINATION PH ELECTRODE (AS SUPPLIED WITH VARIOUS JENWAY METERS)



Glass bodied electrode as supplied with Jenway pH meters models 3510, 3520, 3540, 3340, 3345 and 4330



Designed for general purpose pH measurement and accurate QC or research work. Please note that this electrode is not compatible with Tris Buffers or Low Ionic Strength Solutions.

pH range 0-14, temperature range 0-80°C, reference type AgCl, cable length 1m, fill solution 4.0M KCl/AgCl (code 025 196)

Type	Camlab Code
Glass bodied combination pH electrode (as supplied with models 3510 3520 3540 3340 3345 & 4330)	1136155



**EPOXY BODIED COMBINATION PH ELECTRODE (AS SUPPLIED WITH MODEL 3505)**

Single junction gel filled epoxy bodied pH electrode for general purpose use. Supplied with the Jenway 350, 370 and 3505 as standard.

**JENWAY**

The epoxy body makes it particularly suited to field work or education. Please note that this electrode is not compatible with Tris Buffers and Low Ionic Strength Solutions

pH range 0-14, temperature range 0-60°C, reference type AgCl, cable length 1m

**Type**

Epoxy Bodied Combination pH Electrode (as Supplied with Model 3505)

**Camlab Code**

1136151

**CAMLAB PH ELECTRODES - EPOXYTOUGH RANGE**

Camlab EpoxyTough pH electrodes are tough epoxy bodied combination pH electrodes with a gel filling so you never need to worry about electrode maintenance or refilling again. They are compatible with nearly every pH meter straight out of the box or with a simple adapter cable.



- Low maintenance gel filled design
- Fast - 95% Response in less than 1 second (bulb types)
- Single or double junction for demanding applications
- Choice of sizes and lengths available
- Flat and spear tip models for food and surface applications






Standard models feature an extended body which protects the sensitive pH sensing bulb. You can even use an EpoxyTough to stir your sample with to get a fast stable reading.



Available in single or double junction designs, spear tip, flat surface, micro and extended body versions, there is a Camlab EpoxyTough electrode to suit your requirements.

**Specifications:**

- pH Range: 0-14pH (Na<sup>+</sup> error in samples over pH 12.3)
- Response: 95% in one second (bulb types)
- 95% in 5 seconds (Flat types)
- Body material: Plastic Epoxy
- Isopotential Point: 7.0 pH (0 mV)
- Offset: +/- 0.20 pH
- Cable length : 1m
- Span: 97% of theoretical or higher
- Connectors: BNC or DIN

Adapters are available for DIN and US STD. Other connectors are also available as special order.

Type	Camlab Code
 Combination EpoxyTough™ pH electrode with BNC connector and 1m cable	1161693
 Double Junction combination EpoxyTough™ pH electrode with BNC connector and 1m cable	1161694
 Double Junction combination EpoxyTough™ pH electrode with DIN connector and 1m cable	1161695
 Flat Double Junction combination EpoxyTough™ pH electrode with BNC connector and 1m cable	1161698
 Long Double Junction combination EpoxyTough™ pH electrode with BNC connector and 1m cable	1161696
 Micro combination EpoxyTough™ pH electrode with BNC connector and 1m cable	1161697

Type	Camlab Code
 Spear Tip Double Junction combination EpoxyTough™ pH electrode with BNC connector and 1m cable	1161699
 Redox - Double Junction EpoxyTough™ redox probe with BNC connector and 1m cable	1161700

#### Related accessories:

1161708	LDPE Electrode Storage Bottle 8ml Pack of 2
1161707	Adapter Cable - BNR (BNC) to US Standard Beckman
1161706	Adapter Cable - BNR (BNC) to DIN M Single Pin
1128330	BNC To S7 Connector Cable 1Mtr

## LE RANGE OF ELECTRODES FOR METTLER INSTRUMENTS

The Light Edition (LE) range of electrodes from Mettler are made for a high price/performance ratio. The range includes sensors for most common applications and has a focus on low maintenance and ease of use.



Type	Camlab Code
 LE407 plastic pH electrode	1169700
 LE409 Glass Refillable pH Electrode with BNC Connector and 1m Cable	1169701
 LE420 glass pH electrode with ground joint diaphragm	1169702
 LE438 3-in-1 pH electrode with temperature sensor	1169703
 LE501 glass ORP electrode	1169705
 LE510 plastic ORP electrode	1169706



## Hydrometers

### HYDROMETER JARS, GLASS



Ungraduated jars with spout for use with hydrometers. Use of hydrometer jars ensures the correct diameter to eliminate edge effects caused by surface tension.

Type	Camlab Code
Hydrometer Jar 200 x 37mm	1188593
Hydrometer Jar 200 X 50mm	1134536
Hydrometer Jar 250 X 50mm	1134537
Hydrometer Jar 300 X 50mm	1134538
Hydrometer Jar 330 x 37mm	1195108

### HYDROMETER, DENSITY, SUB SERIES M50, SP PETROLEUM, BS718:1991



This sub series has a greater accuracy than the standard M50 series and is only available over a limited range of density. This sub series is commonly used in the Petroleum industry and corresponds to IP160

Range span: 0.050 mg/l

Length: 270mm

Subdivisions: 0.001g/ml

Adjusted at: 15°C.

Type	Camlab Code
Hydrometer Petroleum 0.600-0.650	1139489
Hydrometer Petroleum 0.650-0.700	1139490
Hydrometer Petroleum 0.700-0.750	1139491
Hydrometer Petroleum 0.750-0.800	1139492
Hydrometer Petroleum 0.800-0.850	1139493
Hydrometer Petroleum 0.850-0.900	1139494
Hydrometer Petroleum 0.900-0.950	1139495
Hydrometer Petroleum 0.950-1.000	1139496
Hydrometer Petroleum 1.000-1.050	1139497
Hydrometer Petroleum 1.050-1.100	1139498

#### Accessories:

1188593	Hydrometer Jar 200 x 37mm
1134536	Hydrometer Jar 200 X 50mm
1134537	Hydrometer Jar 250 X 50mm
1134538	Hydrometer Jar 300 X 50mm
1195108	Hydrometer Jar 330 x 37mm

## API SCALE HYDROMETERS, ASTM 1H TO 10H



Hydrometers which use the API (American Petroleum Institute) Scale, as described by ASTM specification E 100.

Adjusted at 60°F for petroleum products and other liquids of low surface tension.

Length: 330mm

Subdivisions: 0.1°

Type	Camlab Code
API Scale Hydrometer, ASTM 2H, 9 to 21, 0.1 subdivision, 330mm long	1195567
API Scale Hydrometer, ASTM 3H, 19 to 21, 0.1 subdivision, 330mm long	1195568
API Scale Hydrometer, ASTM 4H, 29 to 41, 0.1 subdivision, 330mm long	1195569
API Scale Hydrometer, ASTM 5H, 39 to 51, 0.1 subdivision, 330mm long	1195570
API Scale Hydrometer, ASTM 6H, 49 to 61, 0.1 subdivision, 330mm long	1195571
API Scale Hydrometer, ASTM 7H, 59 to 71, 0.1 subdivision, 330mm long	1195572
API Scale Hydrometer, ASTM 8H, 69 to 81, 0.1 subdivision, 330mm long	1195573
API Scale Hydrometer, ASTM 9H, 79 to 91, 0.1 subdivision, 330mm long	1195574
API Scale Hydrometer, ASTM 10H, 89 to 101, 0.1 subdivision, 330mm long	1195575
API Scale Hydrometer, ASTM 1H, -1 to 11, 0.1 subdivision, 330mm long	1195566

## Tubing

### Red Rubber Tubing

#### STANDARD RUBBER TUBING



Rubber tubing stays flexible in use and is ideal for general lab applications.

This range of tubing has standard walls for more flexible and light use, such as with gas taps and bunsen burners, attaching water supply to condenser columns and other everyday use around the lab.

For use with vacuum pumps and other more demanding tasks the heavy walled tubing is better suited.

The naming convention on the normal N tubing is the internal tube diameter in mm followed by the wall thickness in millimetres; e.g. N3x0.75 is a tube with a 3mm bore with 0.75mm wall thickness

For detailed dimensions please see the table below.

Type	Inner Diameter [mm]	Outer Diameter [mm]	Wall Thickness [mm]	Length [m]	Camlab Code
Tubing Red Rubber N 3X0.75 10M	3	4.5	0.75	10	1152532
Tubing Red Rubber N 5X1.5 10M	5	8	1.5	10	1152533
Tubing Red Rubber N 6.5X1.5 10M	6.5	9.5	1.5	10	1152534
Tubing Red Rubber N 8x2 10M	8	12	2	10	1152535
Tubing Red Rubber N 10X2 10M	10	14	2	10	1152536
Tubing Red Rubber N12.5X2.2 10M Coil	12.5	17	2.25	10	1152537
Tubing Red Rubber N16X3.25 10 Meter Coil	16	22.5	3.25	10	1152538
Tubing Red Rubber N20X3.25 10 Meter Coil	20	26.5	3.25	10	1152539
Tubing Red Rubber N25X3.25 10 Meter Coil	25	31.5	3.25	10	1152540

#### HEAVY WALLED RUBBER TUBING



This heavy walled rubber tubing has thicker walls than standard, for use with vacuum pumps and other tough applications.

The naming convention on the heavy H tubing is the internal tube diameter in mm e.g. H3 is a tube with a 3mm bore.

For detailed dimensions please see the table below.



Type	Inner Diameter [mm]	Outer Diameter [mm]	Wall Thickness [mm]	Length [m]	Camlab Code
Tubing Red Rubber H3 10 Meter Coil 3mmID 9mmOD	3	9	3	10	1152541
Tubing Red Rubber H5 10 Meter Coil 5mmID 13mmOD	5	13	4	10	1152542
Tubing Red Rubber H 6.5 10 Meter Coil	6.5	16.5	5	10	1152543
Tubing Red Rubber H8 10 Meter Length	8	20	6	10	1152544
Tubing Red Rubber H10 10 Meter Length 10mmID 24mmOD	10	24	7	10	1152545
Tubing Red Rubber H12.5 5 Meter Length	12.5	29.5	8.5	5	1152546

## Neoprene tubing

### TUBING BLACK NEOPRENE

Black neoprene tubing for laboratory use.

Lightweight and flexible neoprene tubing is ideal to use when oil resistance is required. It is also a good choice for everyday work due to its good resistance to abrasion and wearing.



The neoprene tubing range is available in normal thickness walls only, so is not recommended for vacuum work. The naming convention states the bore diameter - e.g. N03 has a 3mm bore.

Type	Inner Diameter [mm]	Wall Thickness [mm]	Outer Diameter [mm]	Length [m]	Camlab Code
Tubing. Black Neoprene N3 3mm Bore 10Mtr	3	0.75	4.5	10	1152547
Tubing. Black Neoprene N5 5mm Bore 10Mtr	5	1.5	8	10	1152548
Tubing. Black Neoprene N6.5 6.5mm 10M	6.5	1.5	9.5	10	1152549
Tubing Black Neoprene N8 8mm Bore 10M	8	2	12	10	1152550
Tubing. Black Neoprene N10 10mm Bore 10M	10	2	14	10	1152551
Tubing Black Neoprene N12.5 12.5mm Bore 10Mtr	12.5	2.25	17	10	1152552

## Silicone Tubing

### SILICONE TUBING



Translucent, platinum cured silicone tubing designed for a wide range of laboratory uses.

The range of silicone tubing is FDA and USP approved, and is National Water Council Approved Peristaltic Grade - so is ideal to use with peristaltic pumps. It is medical grade and non-toxic.

Silicone is an ideal choice for demanding applications where a hard wearing material is needed, including transfer of liquids or higher temperature environments.

Type	Inner Diameter [mm]	Wall Thickness [mm]	Outer Diameter [mm]	Length [m]	Camlab Code
Tubing Silicone 3mm Bore 10M	3	0.75	4.5	10	1150012
Silicone Tubing 8.00mm Bore 11.20mm Od Wall 1.60mm 10M Coil	8	1.6	11.2	10	1150014
Tubing Silicone N6.5 10M	6.5	1.5	9.5	10	1150013
Tubing Silicone N 10 5 Meter Coil	10	2	14	5	1150015
Tubing Silicone N 8 10 Meter Coil	8	2	12	10	1151469
Tubing Silicone 3mm Bore 0.75mm Wall 15M	3	0.75	4.5	15	1152553
Tubing Silicone 5mm Bore 1.00mm Wall 15M	5	1	7	15	1152554
Tubing Silicone 3.0mm Bore 6.0mm O.D. 10 Meter Coil	3	1.5	6	10	1150011
Tubing Silicone 6.5mm Bore 1.50mm Wall 15M	6.5	1.5	9.5	15	1152555
Tubing Silicone 10mm Bore 2.0mm Wall 15M	10	2	14	15	1152556
Tubing Silicone 12.5mm Bore 2.25mm Wall 15M	12.5	2.25	17	15	1152557

## Plastic Tubing

## PVC TUBING



PVC tubing offers a lightweight, clear option for tubing with excellent flexibility. Elastic grade non-toxic PVC tubing which will retain its bore on bending. Dimensions are to BS 2775.

As PVC tubing can be sterilised by autoclaving at 121°C it is commonly used in food and drink manufacturing, medical or pharmaceutical environments.

Suitable for the transfer of liquids, gases or powders.

Type	Inner Diameter [mm]	Wall Thickness [mm]	Outer Diameter [mm]	Length [m]	Camlab Code
Tubing PVC - Bore 3mm - Wall 0.75mm 30M	3	0.75	4.5	30	1141460
Tubing PVC 5mm id 8mm od 30M	5	1.5	8	30	1141461
Tubing PVC 6.5mm id 9.5mm od 30M	6.5	1.5	9.5	30	1141462
Tubing PVC - Bore 8mm - Wall 2mm 30M	8	2	12	30	1141463
Tubing PVC 10mm Bore x 2mm Wall 30M	10	2	14	30	1141464
Tubing PVC 12.5 X 2.25mm 10M	12.5	2.25	17	10	1141465
Tubing PVC 16 x 3.25mm 10M	16	3.25	22.5	10	1141466
Tubing PVC 20 x 3.25mm 10M	20	3.25	26.5	10	1141467
Tubing - Bore 25mm - Wall 3.25mm 10M	25	3.25	31.5	10	1141468

## Wash bottles

## WASH BOTTLES - POLYTHENE



Classic, plain PE wash bottles for general use in the lab. 250ml and 500ml sizes are oval shape LDPE, the 1L size is round and HDPE.

Type	Camlab Code
Wash Bottle PE 250ml (Oval)	1141470
Wash Bottle PE 500ml (Oval)	1141472
Wash Bottle HDPE 1L Pack of 5 (Round)	1127583

## VENTING LDPE WASH BOTTLES - WIDE NECK



Labelled wide neck wash bottles featuring the patented Driplock® vapour venting valve that prevents hazardous volatile solvent drips. Indelibly printed with a choice of six solvent labels, all including full hazard symbols, safety information and instructions for use.

Azlon

- Fitted with colour coded one-piece PP closures that maintain their shape in use.
- Closures feature precision jet-tip aperture for fine control
- Bottles feature S.P.I recycling codes and volume information on their base

Type	Camlab Code
Wash Bottle Blank DIY Write-On Panel 250ml Venting Pack 5	1144429
Wash Bottle Blank DIY Write-On Panel 500ml Venting Pack 5	1144430
Venting Wash Bottle Acetone 250ml	1144448
Venting Wash Bottle Acetone 500ml Pack of 5	1144456
Venting Wash Bottle Ethanol 250ml	1144453
Venting Wash Bottle Ethanol 500ml Pack of 5	1144460
Venting Wash Bottle IMS 250ml	1144452
Venting Wash Bottle IMS 500ml Pack of 5	1144459
Venting Wash Bottle Isopropanol 250ml	1144451
Venting Wash Bottle Isopropanol 500ml Pack of 5	1144458
Venting Wash Bottle Methanol 250ml	1144449
Venting Wash Bottle Methanol 500ml Pack of 5	1144457

## Lab Equipment

### Pipettors

#### Electronic pipettes

#### TRANSFERPETTE® ELECTRONIC



The Transferpette® electronic combines the proven functions of mechanical pipettes with the flexibility, accuracy and comfort of electronic pipetting.

- From contoured housing design to intuitive software and clear technical documentation - all aspects of easy handling are incorporated
- Operating modes include pipetting, reverse pipetting, mixing, dispensing and gel
- Innovative nose cone has two component design to dramatically reduce tip loading and ejection forces.
- Accepts virtually all commercially available tips.
- Adjustable finger rest to adjust the position of the hand to the function keys
- 8 hours pipetting
- Replaceable NiMH battery
- 'Pulse refresh' rejuvenates and extends battery life
- Easy calibration feature, adjustment without tools
- Pipette shafts are autoclavable



Type	Camlab Code
Transferpette Electronic 2-20µl	1126907
Transferpette Electronic 100-1000µl	1126908

#### SOCOREX® ACURA® ELECTRONIC 936 MACROPIPETTES



Pipetting has never been so simple and safe. Acura electro pipettes include a microprocessor controlled motor and a rechargeable battery. To increase pipetting flexibility one electronic control unit accommodates other volumetric modules available separately.

- Optimised ergonomic design for extra comfort
- Lightweight
- Intuitive, self-teaching programme
- Right or left display reading
- Interchangeable battery pack
- Innovative tip ejection concept



Supplied as a package which includes a micropipette with an individual QC certificate, pipette charging stand, fast charger with AC adaptor, and additional battery pack, pipette tips samples and operating instructions. Also pipette only available

Type	Camlab Code
Socorex Initial package Acura® electro 936 Volume 0.25 - 5 ml for tip Style 5ml	1150377
Socorex Initial package Acura® electro 936 Volume 0.5 - 10 ml for tip Style 10ml	1150379
Socorex Acura® electro 936 Volume 0.25 - 5 ml for tip Style 5ml	1150376
Socorex Acura® electro 936 Volume 0.5 - 10 ml for tip Style 10ml	1150378



## Variable volume pipettes

## SOCOREX® ACURA® 825 ADJUSTABLE VOLUME MICRO-PIPETTES



Equipped with a precision digital display, the new line is continuously adjustable down to a very fine volume resolution. Single-handed volume setting is easy and measuring unknown volumes by aspiration is also possible with a high degree of accuracy.

A total of 8 micropipettes covering the range from 0.1 to 1000µl are available.

- Digital display for easy volume identification
- Swift-set easy in-lab calibration
- Exceptional user-friendly ergonomics
- Ultra-soft, effortless activation
- Innovative tip ejection concept
- Entirely autoclavable at 121°C
- 3 year warranty as standard on all models

SOCOREX  
BRAND



Type	Increments	Accuracy	Precision	Precision	Camlab Code
Socorex Acura® 825 fully autoclavable adjustable Volume 0.1 - 2µl	0.002µl	±2.0%	±5.0 CV% min vol	±1.5 CV% max vol	1150334
Socorex Acura® 825 fully autoclavable adjustable Volume 0.5 - 10µl	0.01µl	±1.0%	±1.8 CV% min vol	±0.5 CV% max vol	1150335
Socorex Acura® 825 adjustable Volume 1 - 10µl	0.01µl	±1.0%	±2.5 CV% min vol	±0.7 CV% max vol	1150336
Socorex Acura® 825 fully autoclavable adjustable Volume 2 - 20µl	0.02µl	±1.0%	±1.7 CV% min vol	±0.5 CV% max vol	1150337
Socorex Acura® 825 fully autoclavable adjustable Volume 5 - 50µl	0.1µl	±1.0%	±1.0 CV% min vol	±0.5 CV% max vol	1150338
Socorex Acura® 825 fully autoclavable adjustable Volume 10 - 100µl	0.1µl	±0.8%	±1.0 CV% min vol	±0.2 CV% max vol	1150339
Socorex Acura® 825 fully autoclavable adjustable Volume 20 - 200µl	0.2µl	±0.8%	±0.6 CV% min vol	±0.2 CV% max vol	1150340
Socorex Acura® 825 fully autoclavable adjustable Volume 100 - 1000µl	1µl	±0.5%	±0.5 CV% min vol	±0.2 CV% max vol	1150341

## TRANSFERPETTE® S DIGITAL ADJUSTABLE VOLUME PIPETTE



Transferpette® S features at a glance:

- Large, central pipetting button and separate ejection function.
- Ergonomic finger rest that adapts to your hand for a relaxed grip.
- True one-handed operation - volume setting for both right-and left-handers.
- Volume-change protection.
- Completely autoclavable at 121°C (2 bar), acc. DIN EN 285.
- 4-position volume display, always clearly visible, for highest precision.
- Transferpette® S features Easy Calibration technique - readjustment without special tools. Changes from factory settings are clearly visible externally.
- Short stroke of only 12.5 mm to reduce the risk of RSI.
- Corrosion-resistant piston and ejector for durability.
- Variable and fixed-volume models in the volume range from 0.1 µl to 10 ml.
- Color-coding for easy tip selection.
- CE-marked according to IVD-Directive 98/79 EC.



Type	Camlab Code
Transferpette® S Digital D-1 IVD 0.1-1µl for tips 0.1-20µl	1160859
Transferpette® S Digital D-10 IVD 0.5-10µl for tips 0.1-20µl	1171812
Transferpette® S Digital D-20 IVD 2-20µl for tips 2-200µl	1160860
Transferpette® S Digital D-100 IVD 10-100µl for tips 2-200µl	1171814
Transferpette® S Digital D-200 IVD 20-200µl for tips 2-200µl	1160861
Transferpette® S Digital D-1000 IVD 100-1000µl for tips 50-1250µl	1160862
Transferpette® S Digital D-5000 IVD 500-5000µl for tips 5000µl	1171816
Transferpette® S Digital D-10000 KB IVD 1000-10000µl for tips 1-10ml	1187674

## Pumps

### Manual Vacuum Pumps and Liquid Transfer Pumps

#### OTAL FOOT PUMPS






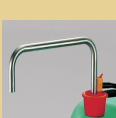


Foot pump with universal connector, both with universal connector, to fit all containers with 30-70mm diameter opening. Easy to fit to a range of containers and simple to use, ensuring both your hands are free for filling.



Available with a range of delivery tube types to suit all applications.

The telescopic immersion or suction tube adapts itself to the container height when inserted into the barrel, bottle or carboy container, ensuring good removal of residual liquid and ease of use with a range of containers.

Type	Camlab Code
 Otal Foot Pump 20L per minute, PP delivery tube Ø 15 mm	1197178
 Otal Foot Pump 26L per Minute, PP delivery tube Ø 18 mm	1127103
 Otal Foot Pump 30L per minute, PP delivery tube Ø 22 mm	1197179
 Otal Foot Pump 12L per minute, PVC delivery hose Ø 12 mm with PP/PE stopcock	1197180
 Otal Foot Pump 20L per minute, PVDF delivery tube Ø 16 mm	1197181
 Otal Foot Pump 26L per minute, stainless steel delivery tube Ø 18 mm	1197182

OTAL HAND PUMPS



OTAL hand pumps with a choice of delivery tube types to suit all applications. The telescopic immersion tube adapts itself to the container height on insertion. This ensures good removal of residual liquid and means that the pump can be used with different containers.



The universal bung on the pumps made of soft PVC ensures they can be used with any container opening from 30 to 70mm diameter, except for the mini pump 4L/minute which fits 20-36mm container openings.

Easy to fit to your existing bottle, barrel or carboy container for dispensing liquids quickly, easily and safely.

Type	Camlab Code
 Otal Hand Pump 4L per minute, PP delivery tube Ø 10 mm, bung for containers 20-36mm	1197184
 Otal Hand Pump 14L per minute, PP delivery tube Ø 12 mm	1178845
 Otal Hand Pump PP 20L per minute, PP delivery tube Ø 15 mm	1197185
 Otal Hand Pump 26L Per Minute, PP delivery tube Ø 18 mm	1127104
 Otal Hand Pump 12L per minute, PVC delivery hose Ø 12 mmm with PP/PE stopcock	1197188
 Otal Hand Pump 20L per minute, PVDF delivery tube Ø 16 mm	1197186
 Otal Hand Pump 26L per minute, stainless steel delivery tube Ø 18 mm	1197187



## MINI SOLVENT PUMP



Small hand operated pump for dispensing solvents and other flammable liquids in the lab. Quickly and safely dispense from 1 to 5L containers for everyday use. Ideal for high-purity liquids and readily flammable liquids including acetone, isopropanol, ethanol, methanol etc.



The mini solvent pump is a high-quality hand pump for small containers including bottles, canisters, carboys and tanks up to 5L. Filling and dosing of solvents and flammable liquids is quick, easy and safe.

The hand pump works according to the excess pressure principle; an excess pressure is built up in the container with the pump ball, forcing the liquid outwards. This means that only the hose, pumping tube and discharge come into contact with the liquid - all these parts are PTFE or stainless steel offering excellent chemical resistance.

To ensure safety a pressure relief valve protects the pump against excess pressure build-up, for example due to changes in temperature.

The grounding cable included with the pump is easily connected to divert electrostatic charges and ensure safe filling of flammable liquids.

Comes with a standard GL 45 connector thread compatible with most bottles including most Duran glass laboratory bottles. The flexible PTFE hose to dispense the liquid can be shortened easily as required.

Self-closing discharge with auto-stop function ensures precise filling with no dripping. Dosing is even easy in very small containers such as test tubes.

Very compact pump to save bench space and well balanced to allow easy filling without tipping over, even from smaller containers.

Pump capacity of 1.8 L per minute.

**Type**  
Solvent pump Mini - Thread GL45 - Stainless steel/PTFE

**Camlab Code**  
1197203

### Accessories:

1197175	Thread adapter - GL 45/S40
1197176	Thread adapter - GL 45/GL 38
1197177	Thread adapter - GL 45/GL 32

## Vacuum Systems

### SR950 VARIABLE SPEED VACUUM SYSTEM WITH 2 SEPARATORS - 50L/MIN <2MBAR



The latest generation of variable speed vacuum systems from KNF Lab. Features include high efficiency low maintenance and quiet operation. A closed system allows gentle distillation and high rates of recovery even with low-boiling solvents.



These new chemically resistant 2mbar systems are quiet in operation due to low pump speed at the specified final vacuum. Supplied with two separators for particulate collection on the inlet and fluids on exhaust. Switchable gas ballast. 100-240V 50/60Hz IP20.

Applications include: evaporation, desiccation, gel drying and filtration by vacuum.

**Specifications:**  
Ultimate vacuum [mbar] (<2)  
Flow [L/min] (50)

**Type**  
**Camlab Code**

SR950 Variable speed vacuum system with 2 separators - 50l/min <2mbar.  
1197259

## SEM950 VARIABLE SPEED VACUUM SYSTEM



The latest generation of variable speed vacuum systems from KNF Lab. Features include high efficiency low maintenance and quiet operation. Allowing precise vacuum for a huge range of applications in the laboratory.



These new chemically resistant 2mbar systems are quiet in operation due to low pump speed at the specified final vacuum. The SEM 950 includes the vacuum pump, valve controller, gas ballast valve, condenser and separator. Adjustment options allow changes to be made to the pressure and pump speed (suction power is adjusted with the rotart knob, digital vacuum indicator).

The patented diaphragm system ensures good chemical resistance with all gas carrying parts manufactured in chemically resistant materials, as well as short processing times - the system pumps 50L of gas per minute.

Applications include: evaporation, desiccation, gel drying, vacuum filtration

Specifications:  
Ultimate vacuum [mbar] (<2)  
Flow [L/min] (50)

### Type

SEM950 Variable speed vacuum system with digital gauge 2 separators & condenser - 50L/min <2mbar.

### Camlab Code

1197261

## SC FULLY AUTOMATIC VACUUM SYSTEMS



The latest generation of variable speed vacuum systems from KNF Lab. Featuring a wireless remote control allowing full control of the system while it is e.g. situated in either an under bench cupboard or a laminar flow cabinet without disturbance to air flow.



Other features include automatic solvent boiling point recognition manual or programmable modes high efficiency low maintenance and quiet operation. These new chemically resistant 2mbar systems are quiet in operation due to low pump speed at the specified final vacuum.

Supplied with wireless remote control two separators & cooling condenser for particulate collection on the inlet and solvent collection on exhaust. USB interface and software provided for optional PC control. Integral switchable gas ballast and vent valve. Optional electronic coolant valve. 100-240V 50/60Hz IP20.

Applications include: Evaporation, Distillation, Vacuum ovens, Gel Drying, Desiccation, Filtration

Specifications:  
Ultimate vacuum [mbar] (<2)

### Type

SC950 Fully automatic speed regulated vacuum system with wireless remote control - 50L/min <2mbar.  
SC920 Fully automatic speed regulated vacuum system with wireless remote control - 20L/min <2mbar.

### Camlab Code

1197262  
1197263

## Small Laboratory Vacuum Pumps

## CHEMICALLY RESISTANT LABOPORT VACUUM PUMPS



- For air, gases and vapours
- Corrosion and solvent resistant
- Ideal replacement for water jet pumps
- Maintenance free
- Structured diaphragm gives long life
- Compact and portable
- Range of flow rates to suit a variety of applications



These pumps are suitable for distillation, filtration, preparation for analysis, sublimation, extraction, evaporation or drying. They include carry handle, rubber feet, on/off switch and mains cable. The pumphead and diaphragm are made from PTFE and the valves from FFPM.

All of these models require connection tubing of 10mm inner diameter.

Type	Flow [L/min]	Ultimate vacuum [mbar]	Dims (WxDxH) [mm]	Camlab Code
N810 FT.18 Diaphragm Vacuum Pump Single PTFE Head 10L/min	10	100	146 x 256 x 187	1136895
N810.3 FT.18 Diaphragm Vacuum Pump Double PTFE Head 10L/min	10	8	140 x 281 x 187	1136894
N820 FT.18 Diaphragm Vacuum Pump Single PTFE Head 20L/min	20	100	159 x 268 x 207	1136904
N820.3 FT.18 Diaphragm Vacuum Pump Double PTFE Head 20L/min	20	8	154 x 312 x 207	1136902
N840.3 FT.18 Diaphragm Vacuum Pump Double PTFE head 34L/min	34	8	166 x 341 x 226	1136905
N840 FT.18 Diaphragm Vacuum Pump Single PTFE Head 34L/min	34	100	171 x 297 x 226	1172461
N840.1.2 FT.18 Diaphragm Vacuum Pump Double PTFE Head 60L/min	60	90	160 x 341 x 226	1172463

## DRY VACUUM PUMP/COMPRESSOR

WELCH-ILMVAC



A compact and low cost pump ideal for applications such as Buchner filtrations, degassing and gas transfer sampling.

Dry Laboratory vacuum / pressure station

- Free flow of 9.2 litres/min
- Vacuum to 292mbar and pressure to 2.3bar
- Water jet or aspirator replacement for general duties
- Quiet, oil-free technology
- Lightweight, compact and portable

An oil-free piston pump is the heart of this economical vacuum/pressure station. It is designed for general duty laboratory applications requiring only a rough vacuum and moderate pressure.

The vacuum/pressure station can be run continuously, permitting use in applications such as filtering, drying, aerating and gas sampling. The station is easy to connect to your apparatus via the hose connections on the side of the unit.

6mm inner diameter tubing is required to connect the pump.

Type	Ultimate vacuum [mbar]	Flow [L/min]	Dims (WxDxH) [mm]	Weight [kg]	Camlab Code
Dry Vacuum Pump/Compressor	292	9.2	114 x 194 x 191	2.7	1126253

## CHEMICAL DUTY VACUUM DIAPHRAGM PUMP MPC090E

WELCH-ILMVAC



An analytically pure, oil free, chemical duty vacuum diaphragm pump with easy and instant control. Ideal for everyday lab applications including;

- Filtration of aqueous, organic, corrosive, acidic and basic liquids
- Mobile phase filtration/degassing
- Solid Phase Extraction (SPE)
- Bottle-top filtration / Buchner filtration
- Solvent Degassing and Dessication

Rugged and corrosion resistant pump with a maintenance-free drive system and proven long diaphragm life. Compact design to save bench space and offer a portable vacuum pump for field work. Ultimate pressure of 100 mbar.

Manual vacuum regulator with dial gauge allows simple and visible adjustment of the applied vacuum ensuring safe filtration and allowing "soft start" filtration to avoid filter membrane damage. Features a built in catch pot to prevent accidental ingestion of liquid into the pump.

With the 12V car adapter (sold separately) it can also be used for field work.

Use tubing of 6mm ID to connect the pump to vessels.

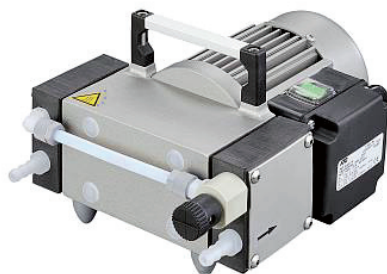
Type	Ultimate vacuum [mbar]	Flow [L/min]	Weight [kg]	Dims (WxDxH) [mm]	Camlab Code
Chemical Duty Vacuum Diaphragm Pump MPC090E	100	15	2.7	144 x 198 x 244	1197226

## Accessories:

1197252	Filtration & Dessicator Kit with 6mm or 8mm hose nozzles
1197464	12V car power adapter for use with MPC090E vacuum pump

## CHEMICAL DUTY VACUUM DIAPHRAGM PUMPS, 2 STAGE &lt;8 MBAR

WELCH-ILMVAC



Two stage chemically resistant diaphragm pumps with gas ballast valve for a range of lab applications.

Corrosion resistant pump for use with acid / solvent vapours. Oil-free diaphragm technology. Compact and portable. This pump has a compact design to save benchtop space and is designed for continuous running.

Suited for;

- Rotary evaporators
- Vacuum Ovens
- Vacuum filtration
- General vacuum work
- Gel Dryer
- Vacuum Concentrator
- Distillation / Evaporation
- Desiccation / Degassing
- Solid Phase Extraction
- Replacement for water jet pumps

Use tubing of 8mm inner diameter to connect the pump to vessels.

Type	Flow [L/min]	Ultimate vacuum [mbar]	Dims (WxDxH) [mm]	Weight [kg]	Camlab Code
Chemical Duty Vacuum Diaphragm Pump MPC095Z	15	5	235 x 140 x 277	6.15	1197227
Chemical Duty Vacuum Diaphragm Pump MPC101Z	16.7	8	195 x 225 x 147	6.5	1197229



## TWO STAGE ROTARY VANE VACUUM PUMPS P-Z SERIES

WELCH-ILMVAC



A series of two stage rotary vane pumps with high water vapour tolerance suitable for fine and rough vacuum application in the lab.

The two-stage rotary vane vacuum pumps have a range of accessories to make them applicable for a range of applications. Their low weight, small dimensions and high pumping speed make the highly chemically resistant pumps ideal for everyday laboratory use. The pumps are low maintenance and very quiet when running. The oil control glass is built into the housing to avoid accidental damage. The casings are easy to wipe clean.

ILMVAC Rotary Vane Pumps are designed to withstand large amounts of water vapor in the vacuum pump's inlet vapor stream. This water vapor tolerance is the maximum inlet pressure at which you can pump pure water vapor without condensing water inside the pump. If the inlet pressure rises above this level then liquid water will accumulate inside the pump. ILMVAC specifies this parameter in mbar of water pressure. The higher the number, the more water vapor the pump can tolerate before condensing water which would mix with the oil and harm the pump.

The user can open the gas ballast valve to dilute the inlet water vapor with room air as a means of avoiding condensation in the pump. However, this practice will reduce the ultimate vacuum capability of the pump. A larger water vapor tolerance means the user can enjoy the ultimate vacuum performance of the pump without resorting to the use of the gas ballast.

### Key features;

- Two stage rotary vane pump
- High pumping speed
- High water vapour tolerance (60 mbar)
- Max leak rate of inlet valve 7 x10<sup>-5</sup> mbar per second
- Integrated oil control glass
- High temperature heat dissipation
- Very low noise when running
- High reliability and low maintenance
- Small dimensions and low weight
- Easy to clean and service

### Ranges of application

- In rough and fine vacuum range
- Chemical laboratories
- As a backing pump
- Freeze drying
- Process Engineering

The pump is delivered complete with anti-suck back valve, oil charging, centering ring, clamping ring and motor overload protection.

Type	Flow [L/min]	Ultimate vacuum [mbar]	Dims (WxDxH) [mm]	Weight [kg]	Camlab Code
Two Stage Rotary Vane Vacuum Pump P4Z	92	0.002	415 x 150 x 235	17.5	1197235
Two Stage Rotary Vane Vacuum Pump P6Z	110	0.002	430 x 150 x 235	19.5	1197236
Two Stage Rotary Vane Vacuum Pump P8Z	143	0.002	445 x 150 x 235	21.5	1197237

Retort Stands & Jacks  
Retort Stand Rods and Bases

MILD STEEL RETORT STAND RODS



Mild steel retort stand rods with 10mm thread (bases supplied separately).

Rod diameter is 13mm, screw thread to fit onto bases is 10mm.

Type	Camlab Code
Mild Steel Unplated Retort Stand Rod 500x13mm	1137405
Mild Steel Unplated Retort Stand Rod 600x13mm	1137406
Mild Steel Unplated Retort Stand Rod 750x13mm	1137407

Related accessories:

1137426	Stove enamelled Retort Ring Eccentric with integral boss 50mm Diameter
1137427	Stove enamelled Retort Ring Eccentric with integral boss 70mm Diameter
1137428	Stove enamelled Retort Ring Eccentric with integral boss 100mm Diameter
1137429	Stove enamelled Retort Ring Eccentric with integral boss 130mm Diameter
1137402	Steel Grey finish Retort Stand Base 160X100mm
1137403	Steel Grey finish Retort Stand Base 200x125mm
1137404	Steel Grey finish Retort Stand Base 250x160mm

RETORT STAND BASES



Rectangular retort stand bases in grey finish steel - supplied without rods. Each base is supplied with a threaded 10mm hole on short side to take 13mm rods (thread at the end of the rod where it screws into the base is 10mm).

Type	Camlab Code
Steel Grey finish Retort Stand Base 160X100mm	1137402
Steel Grey finish Retort Stand Base 200x125mm	1137403
Steel Grey finish Retort Stand Base 250x160mm	1137404

Related accessories:

1137426	Stove enamelled Retort Ring Eccentric with integral boss 50mm Diameter
1137427	Stove enamelled Retort Ring Eccentric with integral boss 70mm Diameter
1137428	Stove enamelled Retort Ring Eccentric with integral boss 100mm Diameter
1137429	Stove enamelled Retort Ring Eccentric with integral boss 130mm Diameter
1137405	Mild Steel Unplated Retort Stand Rod 500x13mm
1137406	Mild Steel Unplated Retort Stand Rod 600x13mm
1137407	Mild Steel Unplated Retort Stand Rod 750x13mm

**RETORT STAND SET - WITH STAND, CLAMP, BASE, ROD, RUBBER 3 JAW AND BOSSHEAD**

Complete Retort stand with:

- Base (200 x 125mm)
- Rod (600mm height)
- 3-Jaw clamp with rubber covered jaws (will hold objects from 1mm up to 70mm diameter)
- Bosshead to join clamp to rod

**Type**

Retort Stand Set Complete includes the following:

**Camlab Code**

1177157

## Laboratory Jacks

**LABORATORY JACKS**

Sturdy laboratory jacks to assist with positioning of equipment and glassware. A range of sizes and weight loads to suit most applications.

Top and bottom plates are stainless steel.

Four locking screws give complete stability in any position.

**Type**

Laboratory Jack stainless steel plates 100x100mm, 45-140mm height, max load 30kg  
 Laboratory Jack stainless steel plates 140 x 120mm, 60 - 240mm height, max load 35kg  
 Laboratory Jack stainless steel plates 150 x 150mm, 60 - 260mm height, max load 38kg  
 Laboratory Jack stainless steel plates 200 x 200 mm, 60 - 260mm height, max load 40kg

**Camlab Code**

1194081  
 1194082  
 1194083  
 1194084

## Retort Bossheads and Connectors

**T-CONNECTOR WHITE**

The T-connector will clamp two stainless steel rods (0- 13mm diameter) at right angles to each other, but in the same plane. One end has an open side, which will clamp on a rod while the other has a female socket.

**Type**

Stronghold™ T-Connector white body with red thumb screws

**Camlab Code**

1131974

## NATURAL DIECAST ALLOY RETORT BOSSHEADS



Bosshead to hold support rings and clamps to retort stand rods where an integral clamp is not supplied.

**Type**

Natural Diecast Alloy Retort Bosshead With Nickle Plated Screws with Blue Plastic Head  
Natural Diecast Alloy Retort Bosshead With Brass Plated Tommy Bar Screws

**Camlab Code**

1149985  
1149975

## RETORT STAND SET - WITH STAND, CLAMP, BASE, ROD, RUBBER 3 JAW AND BOSSHEAD



Complete Retort stand with:

- Base (200 x 125mm)
- Rod (600mm height)
- 3-Jaw clamp with rubber covered jaws (will hold objects from 1mm up to 70mm diameter)
- Bosshead to join clamp to rod


**Type**

Retort Stand Set Complete includes the following:

**Camlab Code**

1177157

## Retort Stand Clamps and Ring Supports

### RETORT RINGS



Sturdy retort rings for the support of separating funnels.

Complete with integral bosshead, stove enamelled with brass tommy screw. Suitable for retort rods up to 13mm diameter.

**Type**

Stove enamelled Retort Ring Eccentric with integral boss 50mm Diameter  
Stove enamelled Retort Ring Eccentric with integral boss 70mm Diameter  
Stove enamelled Retort Ring Eccentric with integral boss 100mm Diameter  
Stove enamelled Retort Ring Eccentric with integral boss 130mm Diameter

**Camlab Code**

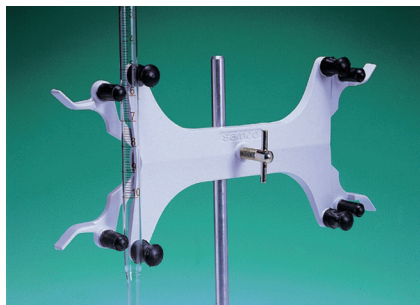
1137426  
1137427  
1137428  
1137429

**Related accessories:**

1137402 Steel Grey finish Retort Stand Base 160X100mm  
1137403 Steel Grey finish Retort Stand Base 200x125mm  
1137404 Steel Grey finish Retort Stand Base 250x160mm



## DOUBLE BURETTE CLAMP HOLDER ALLOY



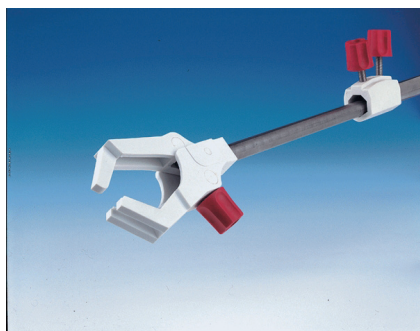
High strength alloy casting with plastic jaws. The spring is positive yet allows easy operation and will not damage glassware.

Suitable for all burettes up to 100ml

**Type**  
Double Burette Clamp Holder Alloy

**Camlab Code**  
1137415

## STRONGHOLD™ CLAMPS WITH EXTENSION ROD



A range of clamps with white body and red thumb screws. All have adjustable jaws which provide a stable 3-point grip, except the micro clamp which has 2-point grip.

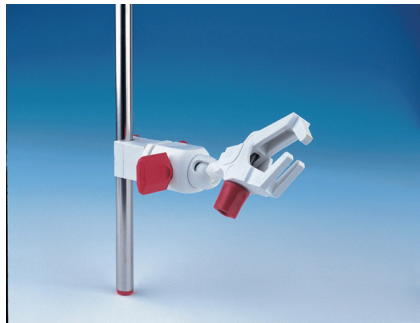
Precision injection molded nylon with 30% glass fiber reinforcement provides enormous strength in a lightweight product with great corrosion resistance.

Various connectors are available separately to allow the extension rod to be fixed to other rods. Please order T connectors separately.

**Type**  
Stronghold™ Micro Clamp white body with red thumb screws With Extension Rod  
Stronghold™ Medium Clamp white body with red thumb screws With Extension Rod  
Stronghold™ Large Clamp white body with red thumb screws With Extension Rod

**Camlab Code**  
1131977  
1131978  
1131980

## STRONGHOLD™ BALL-JOINT CLAMPS WITH MALE CONNECTOR



Ball-joint clamps enable the clamped object to be placed at any angle. The ball-joint can be easily unlocked and locked by hand for accurate positioning.

Precision injection molded nylon with 30% glass fiber reinforcement provides enormous strength in a lightweight product with great corrosion resistance.

Please order T-connectors separately.

**Type**  
Stronghold™ Micro Ball-Joint Clamp white body with red thumb screws  
Stronghold™ Large Ball-Joint Clamp white body with red thumb screws

**Camlab Code**  
1154597  
1159208

## CLAMP DIECAST ALLOY CORK LINED



Sturdy, diecast aluminium clamp with stainless steel shank fitted with nickel plated brass tommy screw and cork lined jaws.

Please order bossheads separately.

**Type**  
Clamp Diecast Alloy Cork Lined for items up to 85mm

**Camlab Code**  
1149986

### Accessories:

1149985 Natural Diecast Alloy Retort Bosshead With Nickel Plated Screws with Blue Plastic Head  
1149975 Natural Diecast Alloy Retort Bosshead With Brass Plated Tommy Bar Screws

**RETORT STAND SET - WITH STAND, CLAMP, BASE, ROD, RUBBER 3 JAW AND BOSSHEAD**

Complete Retort stand with:

- Base (200 x 125mm)
- Rod (600mm height)
- 3-Jaw clamp with rubber covered jaws (will hold objects from 1mm up to 70mm diameter)
- Bosshead to join clamp to rod

**Type**

Retort Stand Set Complete includes the following:

**Camlab Code**



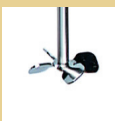
1177157

**Stirrers and Stirrer Hotplates****Stirrer and Hotplate Stirrer Accessories****STIRRER PADDLES AND RODS FOR STUART OVERHEAD STIRRERS**

Made from high grade stainless steel, there is a choice of five paddle heads and two lengths of 8mm diameter paddle rod.



The heads screw on and off the rods so they can be mixed and matched depending upon stirring requirements.

Type	Camlab Code
 Rod Stainless Steel 8x350mm	1144179
 Rod Stainless Steel 8x550mm	1144180
 Paddle Head Small 60mm Dia	1144173
 Paddle Head Large 94mm Dia	1144174
 Propellor Head Large 80mm Dia	1144175
 Propellor Head Small 50mm Dia	1144176

Type	Camlab Code
 Paddle Head Anchor 60mm Dia	1144177

## CAMLAB CHOICE STIRRER/HOTPLATE ACCESSORIES




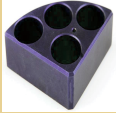
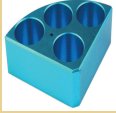

A selection of inserts for holding different sized tubes and vials for direct heating of a variety of vessels using your Camlab Choice hotplate. There are also two external temperature sensors available which can be attached to a separate support clamp which screws into the back of the hotplate.


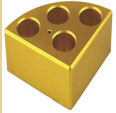






PT1000-A - standard temperature sensor for all digital hotplate models

PT1000-B - temperature sensor which has a glass coating for use with all digital hotplate models

If you need advice or further information call 01954 233110 and a member of our team will be able to advise you depending on your application.







Type	Camlab Code
 Blue Carrying Plate suitable for MS-H-Pro & MS-H-S Hotplate Stirrers	1189932
 Fixed ring suitable for MS-H-Pro and MS-H-S Hotplate Stirrers	1189933
 Quarter pie 11 holes 4 ml reaction vessel Ø15.2mm 20mm depth for MS series hotplate stirrers	1189934
 Purple quarter pie 4 holes 20 ml reaction vessel Ø28mm 24mm depth used with MS135.1 and MS 135.8	1189935
 Blue quarter pie 4 holes 30 ml reaction vessel Ø28mm 30mm depth used with MS 135.1 and MS 135.8	1189936
 Black quarter pie 4 holes 40 ml reaction vessel Ø28mm 43mm depth used with MS 135.1 and MS 135.8	1189937

Type		Camlab Code
	Green quarter pie 6 holes 8ml reaction vessel Ø17.8mm 26mm depth used with MS135.1 and MS135.8	1189938
	Golden quarter pie 4 holes 16ml reaction vessel Ø21.6mm 31.7mm depth used with MS 135.1/MS 135.8	1189939
	Reaction block for 50ml round bottom flask	1189940
	Reaction block for 100ml round bottom flask	1189941
	Reaction block for 250ml round bottom flask	1189942
	Reaction block for 500ml round bottom flask	1189943
	PT1000 Temperature 230mm Probe for all Camlab Choice digital hotplates	1189944
	PT1000 Temperature 100mm Probe for all Camlab Choice digital hotplates	1189945
	Support clamp of PT1000	1189946
	F100 protective cover for non-hotplate model	1189947

## CAMLAB CHOICE OVERHEAD STIRRER ACCESSORIES

Retort stand and a selection of stirrer blades for the OS40 and OS20 camlab choice overhead stirrers.



Type		Camlab Code
	Universal stand (WxD: 21x31cm) including support holder (H: 78cm) and fixing device	1189961
	Crossed stirrer shaft length 40cm stirrer diameter 5cm 316L stainless steel	1189962
	Straight stirrer shaft length 40cm stirrer diameter 6cm 316L stainless steel	1189963
	Blade stirrer shaft length 40cm stirrer diameter 6.8cm 316L stainless steel	1189964



	<b>Type</b> Centrifugal stirrer shaft length 40cm stirrer diameter 9cm 316L stainless steel	<b>Camlab Code</b> 1189965
	Crossed stirrer shaft length 35cm stirrer diameter 6.5cm PTFE-coated	1189966
	Straight stirrer shaft length 35cm stirrer diameter 7cm PTFE-coated	1189967
	Blade stirrer shaft length 35cm stirrer diameter 6.8cm PTFE-coated	1189968
	Centrifugal stirrer shaft length 35cm stirrer diameter 8.5cm PTFE-coated	1189969

## STANDS FOR STUART OVERHEAD STIRRERS



Extra strong retort stands with H-pattern base for stability and robust support rod, includes bosshead.



The heavy duty stand is recommended for use with SS30 overhead stirrer.

<b>Type</b>	<b>Camlab Code</b>
Stand For Stuart Overhead Stirrers Heavy Duty	1144178
Stand For Stuart Overhead Stirrers General Purpose	1144172

## DRYSYN HEATING BLOCK BASES

Bases for the Stuart equipment Dry Syn heating blocks system. Turn your Stuart hotplate into a heating mantle, the cleanest and safest way to heat round bottom flasks with this flexible modular system



Type	DrySyn Heating Block Model SHB100BASE for upto 100ml inserts	DrySyn Heating Block Model SHB250BASE for upto 250ml inserts	DrySyn Heating Block Model SHB1000BASE for upto 500ml Inserts
Camlab Code	1195970	1198157	1195971

## STUART DRYSYN HEATING BLOCK KIT



The Stuart range of heating blocks have been developed in conjunction with DrySyn to provide the best possible solution for heating round bottom flasks. Combined with the Stuart range of undergrad hotplates and hotplate stirrers, the Stuart heating blocks provide the cleanest and safest method for synthesis for single or multiple reactions, whilst giving equal or better heating performance than silicon oil.

The modular nature of the Stuart heating block system gives you the greatest degree of flexibility, two sizes of base plates are available to accommodate up to three blocks each, SHB100BASE can take blocks for up to 100ml flasks while the SHB250BASE accepts blocks for up to 250ml flasks. Handy cost saving starter kits are also available, combining the base plate with a selection of blocks to get you up and running. All block sizes are also available separately in packs of three.

For larger volume reactions a third base plate is available, the SHB1000BASE accepts a single insert for up to 500ml and also includes heat resistant handles for safe and easy lifting.

The high quality anodised blocks offer excellent chemical and solvent resistance, and the low well has been proven to offer excellent temperature transfer without compromising your view of the reaction or risking cracking the glassware. The low well also ensures that the blocks are compatible with multi neck flasks.

The Stuart Undergrad hotplates are provided with an integrated fitment for a standard retort rod, this combined with the three position accessory clamp provides the most effective way of securely holding multiple flasks simultaneously. Accessory clamps are available in two sizes to offer the best fit for both base plate sizes.

Stuart heating blocks are compatible with the undergrad range of hotplates, and each block includes a probe hole to house the Stuart SCT1 temperature controller probe, allowing accurate control of the block temperature whilst on the Stuart hotplate.

Type	Specification	Camlab Code
Stuart Dry Syn heating Block kit 3 piece		1198155
Stuart Dry Syn heating Block kit 3 piece (250 base)		1198156
6 Part Heating block kit (This includes 3 x 100ml & 3 x 250ml inserts with medium base size).		1198066
Stuart Dry Syn heating Block kit 9 piece		1198154
Stuart Dry Syn Large heating Block kit (1000 Base)		1198165

## STUART DRYSYN 3 POSITION CLAMPS

Multiposition clamps for the Stuart equipment Dry Syn heating blocks system. Turn your Stuart hotplate into a heating mantle, the cleanest and safest way to heat round bottom flasks with this flexible modular system



<b>Type</b>	Stuart DrySyn 3 position clamp for use with SHB100BASE	Stuart DrySyn 3 position clamp for use with SHB250BASE
<b>Camlab Code</b>	1198166	1198167

## DRYSYN HEATING BLOCK INSERTS



Type	Specification	Camlab Code
DrySyn 5ml Heating Block Insert pack of 3		1198158
DrySyn 10ml Heating Block Insert pack of 3		1198159
DrySyn 25ml Heating Block Insert Pack of 3		1198067
DrySyn 50ml Heating Block Insert pack of 3		1195972
DrySyn 100ml Heating Block Insert pack of 3		1198160
DrySyn 250ml Heating Block Insert pack of 3		1198161
DrySyn 50ml Large Heating Block Insert (Only Compatible with SHB1000BASE)		1195973
DrySyn 100ml Large Heating Block Insert (Only Compatible with SHB1000BASE)		1198162
DrySyn 250ml Large Heating Block Insert (Only Compatible with SHB1000BASE)		1198163
DrySyn 500ml Large Heating Block Insert (Only Compatible with SHB1000BASE)		1198164

Overhead stirrers

IKA RW20 DIGITAL OVERHEAD STIRRER UK



A sturdy, slim stirrer suitable for volumes up to 20 litres. Two speed ranges cover the range 60 to 2000 rpm. Chuck will accept shafts with diameters from 1 to 10mm.



With digital display

- Robust, slimline, ergonomic design
- Technical improvements on the trusted RW 20 series designs
- With constant power-drive
- Two speed ranges for universal use from 60 - 2.000 rpm
- Push-through agitator shafts (only when stationary)

Specifications:  
Range (10,000 mPas max viscosity)  
Dimensions (88x212x294mm (HxWxD))  
Speed Range (60-2000 l/min)

Type	Camlab Code
RW 20 digital Mechanical overhead stirrer	1134888

STUART OVERHEAD STIRRERS



A range of 3 overhead stirrers to cover a wide range of liquid volumes.



The general purpose SS10 is able to stir up to 15 litres of aqueous liquid.

The SS20 with extra power is capable of stirring medium viscosity liquids up to 25 litres.



The SS30 has two modes of torque and is able to stir volumes up to 40 litres of high viscosity liquid.

All models have an innovative chuck which doesn't require a key for adjustment, an advanced overload protection system with a clear warning light and a sophisticated speed control which ensures constant speed even if the load changes.

Models SS20 and SS30 also have a hollow shaft to facilitate easy height adjustment of the stirrer paddle.

A range of stainless steel stirrer paddles are available as accessories. Paddle heads are interchangeable for maximum versatility.

Type	Camlab Code
Overhead Stirrer General Purpose Model SS10	1144171
Overhead Stirrer High Performance Model SS20	1144181
Overhead Stirrer Dual Torque Model SS30	1144182

Related accessories:

1144179	Rod Stainless Steel 8x350mm
1144180	Rod Stainless Steel 8x550mm
1144173	Paddle Head Small 60mm Dia
1144174	Paddle Head Large 94mm Dia
1144175	Propellor Head Large 80mm Dia
1144176	Propellor Head Small 50mm Dia
1144177	Paddle Head Anchor 60mm Dia
1144178	Stand For Stuart Overhead Stirrers Heavy Duty
1144172	Stand For Stuart Overhead Stirrers General Purpose

## CAMLAB CHOICE OVERHEAD STIRRERS



A selection of LCD and LED overhead stirrers for controlled stirring of solutions.



### Features:

- Accurate stirring speed control: The control technology effectively guarantees the speed precision
- Anti-spill samples: PC control system starts up smoothly, prevent samples overflow
- LCD real-time display: Setting value and actual value can be displayed. Real-time monitoring torque and speed via LCD display
- Overload protection: Motor would automatically stop in case of continuous overload
- Setting safety circuit: Automatically cut off the circuit when motor overheating and other exceptional circumstances, make sure using security
- Extended application: PC can control and document all measuring values via RS232 interface. Parameter can be set to carry out safety monitoring.

Please order the stand and paddle stirrers separately.

Type	Camlab Code
OS20-S LED Digital Overhead Stirrer (20L Capacity)	1189960
OS20-Pro LCD Digital Overhead Stirrer (20L Capacity)	1189959
OS40-S Enhanced LED Digital Overhead Stirrer (40L Capacity)	1189958
OS40-Pro LCD Digital Enhanced Overhead Stirrer (40L Capacity)	1189957

### Related accessories:

1135042	Jiffy Mixer (ES) O.D. 95mm shaft length 521mm
1135044	Jiffy Mixer (HD) O.D. 248mm shaft 1016mm
1135040	Jiffy Mixer (HS-1) O.D. 67mm shaft length 260mm
1135041	Jiffy Mixer (HS-2) O.D. 67mm shaft length 375mm
1135039	Jiffy Mixer (LM) O.D. 32mm shaft length 260mm
1161523	Jiffy Mixer (PS-2) O.D. 130mm shaft length 1016mm
1135043	Jiffy Mixer (PS-1) O.D. 130mm shaft length 521mm
1189961	Universal stand (WxD: 21x31cm) including support holder (H: 78cm) and fixing device
1189962	Crossed stirrer shaft length 40cm stirrer diameter 5cm 316L stainless steel
1189963	Straight stirrer shaft length 40cm stirrer diameter 6cm 316L stainless steel
1189964	Blade stirrer shaft length 40cm stirrer diameter 6.8cm 316L stainless steel
1189965	Centrifugal stirrer shaft length 40cm stirrer diameter 9cm 316L stainless steel
1189966	Crossed stirrer shaft length 35cm stirrer diameter 6.5cm PTFE-coated
1189967	Straight stirrer shaft length 35cm stirrer diameter 7cm PTFE-coated
1189968	Blade stirrer shaft length 35cm stirrer diameter 6.8cm PTFE-coated
1189969	Centrifugal stirrer shaft length 35cm stirrer diameter 8.5cm PTFE-coated



## Magnetic Stirrers

## MIX 1 INDUCTIVE MAGNETIC STIRRER WITH INTERNAL CONTROLLER



Ultra flat, wear-free magnetic stirrer with 1 large stirring position, up to 10,000ml stirring volume, also suitable for viscous media.

- Wear-free magnetic stirrer
- Large stirring volume up to 10,000ml for viscous media
- Outstanding long-life quality
- 3 year warranty
- IP 64 rated

100% maintenance-free and wear-free by inductive 2mag Magnetic Drive concept for powerful mixing of solutions, extremely wide speed range from 100 to 2,000 rpm, jerk free stirring even at low speeds, 4-step power settings for high power with regard to large and viscous stirring volumes and reduced power for the warming-free continuous operation. Clear digital display for speed and power settings, SoftStart procedure for reliable catching/centering and safe accelerating of the stirring bar. QuickSet for quick setting of start and maximum speed, automatic memory function to save the last settings, outstanding long-life cycle of the hermetically sealed drive system, resistant stainless steel housing for easy and fast cleaning. 3 years warranty on material and manufacturing, developed and made in Germany.

Specifications:  
Dimensions (180x230x38mm (WxDxH))  
Weight (4.0kg)

**Type**

MIX 1 Inductive magnetic stirrer with internal controller  
MIX 1 Inductive magnetic stirrer with internal controller

**Camlab Code**

1169833  
1169833

## MIXDRIVE SUBMERSIBLE INDUCTIVE MAGNETIC STIRRERS WITH EXTERNAL CONTROL



Designed with a remote control unit the MIXdrive can be teamed up with a MIXcontrol 20,40 or eco to provide a stirrer for every application.



1, 6, 15 or even 60 stirring positions, 100% maintenance-free and wear-free by inductive 2mag Magnetic Drive concept for powerful mixing of solutions, 100% synchronized speeds, jerk-free stirring even at low speeds.

Fully encapsulated and hermetically sealed stainless steel housing, IP68, water, dust and germ-proof, extremely robust construction and performance, easy to clean and maximum resistance, submersible in water and oil baths, suitable for use in CO<sub>2</sub> incubators and ovens.

2 different temperature versions are available;

**BASIC VERSION** - up to +50°C in air or submersed in waterbaths and down to -10°C in chilled waterbaths

**HT VERSION** - up to +95°C and down to -30°C submerged in water baths, up to +200°C in ovens, individual dimensions on request.

Please note - if you are using the MIXdrive magnetic stirrer in a bath do not use silicone oil as the bath fluid, as this will damage the seals of the stirrer.

3 years warranty on material and manufacturing. Developed and made in Germany.

Type	Capacity	Dims (WxDxH) [mm]	Weight [kg]	Camlab Code
MIXdrive 1 eco Inductive magnetic stirrer requires external controller	1x3000ml	120 x 120 x 35	1.5	1169841
MIXdrive 1 Inductive magnetic stirrer requires external controller	1 x 10000ml	180 x 180 x 38	3.3	1169839
MIXdrive 1 eco HT (+200°C) Inductive magnetic stirrer requires external controller	1x3000ml	120 x 120 x 35	1.5	1169842
MIXdrive 1 HT (+200°C) Inductive magnetic stirrer requires external controller	1 x 10000ml	180 x 180 x 38	3.3	1169840
MIXdrive 6 Inductive magnetic stirrer requires external controller	6x1000ml flasks	245 x 375 x 38	9.5	1169843
MIXdrive 6 HT (+200°C) Inductive magnetic stirrer requires external controller	6x1000ml flasks	245 x 375 x 38	9.5	1169844
MIXdrive 15 Inductive magnetic stirrer requires external controller	15x250ml beakers	245 x 375 x 38	8.9	1169845
MIXdrive 15 HT (+200°C) Inductive magnetic stirrer requires external controller	15x250ml beakers	245 x 375 x 38	8.9	1169846
MIXdrive 60 Inductive magnetic stirrer requires external controller	60x20mm dia. tubes	245 x 375 x 38	8.9	1169847
MIXdrive 60 HT (+200°C) Inductive magnetic stirrer requires external controller	60x20mm dia. tubes	245 x 375 x 38	8.9	1169848

## MIXCONTROL ECO FOR MIXDRIVE STIRRERS



Price-optimised control unit for small to medium volumes and the connection of one stirring drive MIXdrive.



Control unit with 10 watts stirring power, speed range from 100 up to 1,200 rpm, SoftStart for reliable catching/centring and safe accelerating of the stirring bar. IP20 Rated

- Dimensions : 65x65x45mm (WxDxH)
- IP20 Rated
- Weight: 0.5kg

3 years warranty on material and manufacturing, developed and made in Germany.

**Type**  
MIXcontrol eco for MIXdrive stirrers

**Camlab Code**  
1169849

## MIXCONTROL 40 FOR 2 MIXDRIVE STIRRERS



- Maximum performance
- Connection for 2 stirring drives
- For using MIXdrive in incubators



Powerful control unit, for 2mag MIXdrive series, developed for hard daily lab use and uncompromising continuous operation, e.g. in incubators.

Powerful control unit for the connection of up to 2 stirring drives MIXdrive, powerful 40 watts stirring power, wide speed range from 100 up to 2,000 rpm, jerk-free stirring also at low speeds, power setting (10-steps) for high power with regard to large and viscous stirring amounts and reduced power for the warming-free continuous operation e.g. in incubators.

Clear digital display for speed and power settings, SoftStart for reliable catching/centring and safe accelerating of the stirring bar. QuickSet for quick setting of start and maximum speed, automatic memory function to save the last settings, resistant stainless steel housing, easy to clean.

3 years warranty on material and manufacturing, developed and made in Germany.

**Type**  
MIXcontrol 40 for 2 MIXdrive stirrers  
MIXcontrol 40 RS232

**Camlab Code**  
1169851  
1197276

## STUART UNDERGRAD ANALOGUE STIRRER



Choice of top plate: Robust stainless steel or Chemically resistant ceramic



Powerful magnets and motor give stirring speeds up to 2000rpm and is capable of mixing large volumes (up to 15 litres \*). The compact shape takes up less bench space and makes storage easier.

Model UC151 has a glass ceramic top which has excellent chemical resistance. The surface is also very easy to clean. The white surface ensures good visibility of colour changed, during titrations for example.

Model US151 has a robust stainless steel top plate that does not produce eddy currents like aluminium and so ensures a very powerful coupling and stirring action.

Both models have an integral fitting for a retort rod and are supplied with 2 x 25mm PTFE coated stir bars. The bottom is shaped to allow a retort base to slide underneath the unit if required so saving further bench space.

- Plate dimensions; 150 x 150mm.
- Stirring speed; 100 - 2,000 rpm.
- Max stirring capacity; 15 L.
- Net weight; 2kg.
- Dimensions; 172mm x 248mm x 107mm.

**Type**  
Stuart Analogue Ceramic Top Stirrer UC151  
Stuart Analogue Stainless Steel Top Stirrer US151

**Camlab Code**  
1187846  
1187847

**CAMLAB CHOICE MS-S CLASSIC MAGNETIC STIRRER STAINLESS STEEL**

Simple magnetic stirrer for everyday use in the laboratory

**Features:**

- A traditional magnetic stirrer with modern design
- Variable speed of motor Motor with electronic speed control, constant speed even during changes in load
- High magnetic adhesion to prevent the stirrer bar escaping
- Enclosed assembly (IP42) and external rotor brushless motor guarantees long service time
- Speed Range: 0-1500 rpm

**Type**

MS-S Classic Magnetic Stirrer Ceramic Coated Stainless Steel

**Camlab Code**

1189930

**Stirrer Hotplates****CERAN HOTPLATE/STIRRER SLR**

[SI Analytics](#)

The SCHOTT Instruments laboratory stirrer with heating, with this quality Hotplate stirrer the process of mixing liquids can be selected from careful to intense, and the device can be also be used for speedy heating up or controlled temperature adaptation.



All functions can be viewed and monitored on the large, clear LCD display. Stirring and heating functions are independently controlled by turn dials. The stirrer speed range from 100 to 1100 rpm and can be set in steps of 10/min. The heating power can be set in 24 steps and reaches an average heating output of 0.9 kW at step 24.

If a Pt 1000 temperature sensor is connected finely temperature controlled work between 25°C to 200°C is possible, with fluctuations of  $\pm 2^\circ\text{C}$  to  $5^\circ\text{C}$  as a function of liquid volume. The display will inform the user at intervals of 5 seconds about the actual and the set temperature alternately. PT1000 sensor is not included, please order separately if required.

Plate area is 235 x 235 mm, with the heated area 155mm diameter.

**Type**

Ceran Hotplate/Stirrer SLR

**Camlab Code**

1147268

## DIGITAL STIRRER HOTPLATES CD162/SD162



Digital setting and control of both temperature and speed. Supplied complete with temperature probe and accurate control of liquid temperature.



Advanced safety features:

- Flashing 'HOT' warning light
- Independent safety circuit to protect against overheating



Sophisticated stirrer hotplates offering digital control of both temperature and stirring speed. Comes complete with a detachable PTFE coated probe which when immersed in a liquid sample can very accurately control its temperature to within  $\pm 1^\circ\text{C}$ , even over a very long periods of time.

Both set and actual temperature of the sample are displayed on a bright, easy to read vacuum fluorescent display. An audible alert sounds when the set temperature has been reached.

For maximum security, an independent safety circuit automatically sets to  $20^\circ\text{C}$  above the set temperature and shuts off the heater if the temperature exceeds this. Stirring speed is set and displayed digitally so that exactly the same speed can be used each time for reproducibility. If the probe is unplugged, the temperature of the top plate can be set on the display. This can be useful for applications where accurate surface temperature is important such as warming microscope slides and microarrays and specialist electronics.

MODEL SD162 has an aluminum/silicon alloy top plate which gives a very even plate temperature and quick response to changing set temperature.

MODEL CD162 has a glass ceramic top plate, which is chemically resistant and gives very fast heat up times.

Supplied complete with PTFE probe and 2 x 25mm PTFE coated stirrer bars.

Type	Camlab Code
Stuart Digital Hotplate/Stirrer Aluminium Plate SD162 160x160mm	1144029
Stuart Digital Hotplate/Stirrer Ceramic Plate CD162 160x160mm	1142765

## CAMLAB CHOICE STIRRER HOTPLATES



A range of low cost classic, analogue and digital combined stirrer hotplates for your working environment.

All Camlab Choice hotplate/stirrer models are compatible with quarter pie sample tube blocks, but for models MS-H-Pro+ and MS-H-S you will need to purchase the blue carrying plate which holds the pies together. This is due to the diameter of the plate itself being slightly smaller than the other models.

Please refer to Camlab Choice Stirrer Hotplate Accessories for a full list of available accessories.

Type	Camlab Code
MS7-H550-Pro Ceramic 7" Square Hotplate/Stirrer with Digital LCD Display	1191813
MS-H280-Pro Round Stainless Steel Hotplate/Stirrer with Double LED Display	1190949
MS-H-S Analogue Stainless Steel Round Hotplate/Stirrer	1190936
MS-H-Pro+ Ceramic 5" Round Hotplate/Stirrer with Digital LCD Display	1189931
MS-H-Pro+ Stainless Steel Round Hotplate/Stirrer with Digital LCD Display	1190948

## Accessories:

1189932	Blue Carrying Plate suitable for MS-H-Pro & MS-H-S Hotplate Stirrers
1189933	Fixed ring suitable for MS-H-Pro and MS-H-S Hotplate Stirrers
1189934	Quarter pie 11 holes 4 ml reaction vessel Ø15.2mm 20mm depth for MS series hotplate stirrers
1189935	Purple quarter pie 4 holes 20 ml reaction vessel Ø28mm 24mm depth used with MS135.1 and MS 135.8
1189936	Blue quarter pie 4 holes 30 ml reaction vessel Ø28mm 30mm depth used with MS 135.1 and MS 135.8
1189937	Black quarter pie 4 holes 40 ml reaction vessel Ø28mm 43mm depth used with MS 135.1 and MS 135.8
1189938	Green quarter pie 6 holes 8ml reaction vessel Ø17.8mm 26mm depth used with MS135.1 and MS135.8
1189939	Golden quarter pie 4 holes 16ml reaction vessel Ø21.6mm 31.7mm depth used with MS 135.1/MS 135.8
1189940	Reaction block for 50ml round bottom flask
1189941	Reaction block for 100ml round bottom flask
1189942	Reaction block for 250ml round bottom flask
1189943	Reaction block for 500ml round bottom flask
1189944	PT1000 Temperature 230mm Probe for all Camlab Choice digital hotplates
1189945	PT1000 Temperature 100mm Probe for all Camlab Choice digital hotplates

1189946	Support clamp of PT1000
1189947	F100 protective cover for non-hotplate model
1189948	F101 protective cover for hotplate model
1189951	Red quarter pie 11 holes 4 ml reaction vessel Ø15.2mm 20mm depth
1189952	Purple quarter pie 4 holes 20 ml reaction vessel Ø28mm 24mm depth
1189953	Blue quarter pie 4 holes 30 ml reaction vessel Ø28mm 30mm depth
1189954	Black quarter pie 4 holes 40 ml reaction vessel Ø28mm 43mm depth
1189955	Green quarter pie 6 holes 8ml reaction vessel Ø17.8mm 26mm depth
1189956	Golden quarter pie 4 holes 16ml reaction vessel Ø21.6mm 31.7mm depth

## STUART UNDERGRAD DIGITAL HOTPLATE/STIRRER



Digital hotplate stirrers from Stuart equipment

Choice of top plate: Robust coated aluminium or Chemically resistant ceramic

Flashing "Hot"; warning light, mains independent

Digital display of hotplate surface temperature

Compact space saving design

Stylish and economical general purpose hotplate stirrers designed with safety as well as performance in mind. The compact shape takes up less bench space and makes storage easier. The hotplate has a digital display of the hotplate surface temperature and can also be used in conjunction with the SCT1 digital contact thermometer to accurately control sample temperature.

The "Hot" warning light will flash whenever the plate temperature is above 50°C even when the hotplate is turned off and unplugged from the mains. Powerful magnets and motor give stirring speeds up to 2000rpm and is capable of mixing large volumes (up to 15 litres \*).

Model UC152D has a glass ceramic top which has excellent chemical resistance. The surface is easy to clean and the thermal properties allow very high plate temperatures while ensuring the edges stay cooler, reducing the chance of accidental burns. The white surface ensures good visibility of colour changes.

Model US152D has a robust aluminium/silicon alloy top plate for excellent heat transmission. The top plate has a thin ceramic coating for added chemical resistance. A 700W element gives rapid heating and ensures even temperature distribution across the whole surface of the plate.

Both models have an integral fitting for a retort rod and are supplied with 2 x 25mm PTFE coated stir bars.

<b>Type</b>	Stuart Undergrad Digital Ceramic Top Hotplate/Stirrer UC152D	Stuart Undergrad Digital Coated aluminium Hotplate/Stirrer US152D
<b>Camlab Code</b>	1198168	1198169



## Ultrasonic baths

### CAMSONIX C-SERIES HEATED ULTRASONIC CLEANING BATHS

Ultrasonic baths with adjustable timers and heating for general cleaning or mixing applications



Choice of 13 sizes, from 0.8 to 90 litres with heating

- High performance transducer systems
- Electronic time and temperature control
- Improved performance with new "sweep" function
- Safety cut-out
- Stainless steel tanks
- Degas function
- Drain tap as standard (except 0.8/1.75 L models)
- Available with or without heating
- Timer for selected cleaning time or for continuous use

#### Type

Camsonix C080T Ultrasonic bath 0.8L SPECIAL bundle with heating, lid and basket  
 Camsonix C175T Ultrasonic Bath 1.75L SPECIAL bundle with heating, lid and basket  
 Camsonix C275T Ultrasonic Bath 2.75L SPECIAL bundle with heating, lid and basket  
 Camsonix C575T Ultrasonic Bath 5.75L SPECIAL bundle with heating, lid and basket  
 Camsonix C950T Ultrasonic Bath 9.5L SPECIAL bundle with heating, lid and basket  
 Camsonix C080T Ultrasonic Bath 0.8L with heating and Lid  
 Camsonix C175T Ultrasonic Bath 1.75L with heating  
 Camsonix C275T Ultrasonic Bath 2.75L with heating, Elmasonic S30H  
 Camsonix C425T Ultrasonic Bath 4.25L with heating  
 Camsonix C575T Ultrasonic Bath 5.75L with heating  
 Camsonix C690T Ultrasonic Bath 6.9L with heating  
 Camsonix C1800T Ultrasonic Bath 18L with heating  
 Camsonix C4500T Ultrasonic Bath 45L with heating  
 Camsonix C9000T Ultrasonic Bath 90L with heating  
 Camsonix C080T Ultrasonic Bath 0.8L with heating and Lid

#### Camlab Code

1161435  
 1161436  
 1161437  
 1161439  
 1161440  
 1130069  
 1130072  
 1130070  
 1130071  
 1130075  
 1130073  
 1130078  
 1130088  
 1130089  
 1130069

### INDUSTRIAL ULTRASONIC CLEANING BATHS TI-H SERIES



- Two frequencies in each unit, for intensive or gentle cleaning
- Stainless steel housing and tank unit
- Degas function for fast, efficient degassing of cleaning liquid
- Choice of 9 capacities



These new units incorporate two frequencies for optimal cleaning and the sweep function ensures the continued shifting of the sound pressure peaks to allow an even distribution of the sound field.

MF2 models have frequencies of 25 and 45 kHz - 25 kHz for coarse cleaning and removal of lapping and polishing media, 45 kHz for fine cleaning and removal of oil and grease.

MF3 models have frequencies of 35 and 130 kHz - 35 kHz for removal of oil and grease from hard surfaces such as metal, glass and hard precious stones, 130 kHz for cleaning sensitive surfaces in jewellery or electronics

The degas function quickly degasses the cleaning liquid, saving time and creating the best possible cavitation in the cleaning bath.

Frequency change-over, degassing function, power adjustment and sweep function can all be switched on or off individually at any time. The stainless steel construction makes them particularly suitable for industrial applications and all units have a high level of heat and sound insulation.

Type	Dims Int. (HxWxD) [mm]	Dims Ext. (HxWxD) [mm]	Capacity [L]	Camlab Code
Ultrasonic Bath 3.5L TI-H5 MF2	150 x 240 x 130	370 x 340 x 300	3.5	1130202
Ultrasonic Bath 3.5L TI-H5 MF3	150 x 240 x 130	370 x 340 x 300	3.5	1130201
Ultrasonic Bath 8.6L TI-H10 MF2	150 x 300 x 240	370 x 400 x 415	8.6	1130205
Ultrasonic Bath 8.6L TI-H10 MF3	150 x 300 x 240	370 x 400 x 415	8.6	1130204
Ultrasonic Bath 12.2L TI-H15 MF2	200 x 300 x 240	420 x 400 x 415	12.2	1130208
Ultrasonic Bath 12.2L TI-H15 MF3	200 x 300 x 240	420 x 400 x 415	12.2	1130207
Ultrasonic Bath 16.8L TI-H20 MF2	200 x 330 x 300	420 x 430 x 470	16.8	1130210
Ultrasonic Bath 16.8L TI-H20 MF3	200 x 330 x 300	420 x 430 x 470	16.8	1130209

#### Accessories:

1130203	Lid To Fit TI-H5 Ultrasonic Bath
1198069	Stainless steel cover for TI-H 25 Ultrasonic Bath
1130122	Stainless steel cover for TI-H 55 Ultrasonic Bath
1130125	Stainless Steel Cover for TI-H 115 Ultrasonic Bath
1130126	Stainless Steel Cover for TI-H 160 Ultrasonic Bath
1130206	Lid To Fit 10.8 /14.4 Lt Bath Ed10
1130211	Lid To Fit TI-HP0 Ultrasonic Bath
1130124	Stainless Steel Cover for X-tra basic 300 Ultrasonic Bath
1130133	Stainless Steel Basket for TI-H 5 Ultrasonic Bath
1130134	Stainless Steel Basket for TI-H 10 Ultrasonic Bath
1130135	Stainless Steel Basket for TI-H 15 Ultrasonic Bath
1130136	Stainless Steel Basket for TI-H 20 Ultrasonic Bath
1198070	Stainless Steel Basket for TI-H 25 Ultrasonic Bath
1130128	Stainless Steel Basket for TI-H 55 Ultrasonic Bath
1130129	Stainless Steel Basket for TI-H 80 Ultrasonic Bath
1130130	Stainless Steel Basket for TI-H 115 Ultrasonic Bath

1130131	Stainless Steel Basket for TI-H 160 Ultrasonic Bath
1130127	Stainless Steel Basket for X-tra basic 300 Ultrasonic Bath
1161492	Hinged lid for insulation for TI-H 5
1161493	Hinged lid for insulation for TI-H 10 and H 15
1161494	Hinged lid for insulation for TI-H 20

## GRANT ULTRASONIC BATHS- XUB/XUBA



XUB range of digitally controlled benchtop ultrasonic baths offer consistent and reliable performance in a variety of environments such as laboratory, scientific and healthcare.

**Grant**

Incorporating frequency LEAP technology to ensure uniform levels of ultrasonic activity throughout the fluid, these baths offer vastly improved performance giving a more accurate and precise ultrasonic process. The two XUBA Ultrasonic Baths are analogue.

- Frequency LEAP technology provides more homogeneous ultrasonic activity throughout the tank, reducing dead spots and standing waves
- Heated from ambient +5°C to 70°C
- SD port allows easy validation tracking between XUB series and PC. Improved software memory logs cleaning parameters allowing easy cycle repeatability and easy traceability of cycle number, time, temperature and sonics validation
- LCD Display - easy to use single touch LCD control panel with user - settable parameters to suit individual requirements. Intelligent software remembers last cycle cleaning setting and accurate fluid level sensors to ensure bath is not under-filled prior to or during the cycle
- Accurate process control of time, temperature, ultrasonic activity, degas and power
- Stainless steel basket - designed specifically to generate maximum ultrasonic activity, prevent items resting on the tank and prevent operators coming into contact with chemical solutions. Included as standard.
- Ergonomic ABS plastic lid - reduces noise volume and minimises potential of aerosol escape. Included as standard.
- Lid and basket form a drip collection unit, minimising flow of contaminated liquid once cycle is finished
- Drain valve for convenient emptying
- Stainless steel basket, ergonomic lid, SD card and one bottle of M2 ultrasonic solution included as standard

Type	Camlab Code
Ultrasonic bath 25L Digital	1181406
Ultrasonic bath 18L - Digital	1192501
Ultrasonic bath 10L - Digital	1192500
Ultrasonic bath 5L - Digital	1192502
Ultrasonic Bath 3L - Analogue	1192504
Ultrasonic Bath 1L - Analogue	1192503

### Accessories:

1192486	S/S Basket for XUBA1
1192491	S/S Basket for XUBA3
1192492	S/S Basket for XUB5
1192487	S/S Basket for XUB10
1192488	S/S Basket for XUB12
1192489	S/S Basket for XUB18
1192490	S/S Basket for XUB25

## Ultrasonic Bath Accessories

## SIEVE CLEANER TO FIT CAMSONIX ULTRASONIC BATHS



- Holds up to 4 sieves
- One unit will fit into the C3000, C3000T and C4500T
- Two units will fit into the C9000T
- Tilted position allows fast and even cleaning with additional rinsing effect
- With integrated rotation for Camsonix cleaning units
- Dirt and contaminants are collected on the bottom of the tank not in other sieves
- Sieves from different end users can be cleaned at the same time



Type	Camlab Code
Sieve cleaner to fit Camsonix ultrasonic baths	1160063

## Thermometers

### Infra Red Thermometers

#### TFI 250 INFRARED THERMOMETER



For measuring surface and ambient temperature accurately and fast without contact.

**-ebro-**

Replaceable battery, Laser pointer, supplied with factory calibration certificate

##### Technical Data:

- Measuring range: -60°C to +555°C
- Accuracy:  $\pm 1,5^{\circ}\text{C}$
- Emission ratio: 0,95 fixed setting
- Optical: 12:1
- Battery: 2 xAAA 1,5V, exchangeable
- Battery life: 14 h by uninterrupted use
- Housing: ABS
- Dimensions: 153 x 115 x 48 mm
- Weight: 177 g with Battery
- Protection class: IP 20

**Type**  
TFI 250 Infrared Thermometer

**Camlab Code**  
1180934

#### POCKET INFRARED THERMOMETER



This pocket size and easy-to-use infrared thermometer with Class II laser sighting is ideal for precise non-contact measurement of surface temperatures. Suitable for food preparation, monitoring appliances, HVAC, transport & automotive and storage temperatures.

- -30° to 270°C x 0.1°C increments
- User selectable °C or °F
- Hold within 2 feet of the area to be measured, push the button, read the display
- Class II laser to identify the centrepoint of the area being measured
- Distance to spot size ratio is 6 to 1 at the focal point
- Adjustable emissivity from 0.10 to 1.0
- Trigger lock for continuous measurement
- Response time less than 1 second
- 25mm LCD display with backlight
- Automatic Data Hold
- Auto Power Off after 10 seconds of no activity
- Low Battery indication
- Impact-resistant ABS case
- Supplied with wrist strap and batteries

**Type**  
Pocket Infrared Thermometer

**Camlab Code**  
1195519

HIGH TEMP INFRARED THERMOMETER



These high temperature infrared thermometers with Class II laser sighting are ideal for fast, easy and accurate non-contact measurement of most surface temperatures. Suitable for a wide range of applications including plant and general maintenance, HVAC, transport and automotive and health and safety monitoring.

- -50 to +1600°C at 0.1°C resolution
- Measure in °C or °F
- Just point, pull the trigger and read the display
- Class II laser to identify the centre point of the area being measured
- Distance to spot size ratio is 50 to 1 at the focal point
- Adjustable emissivity from 0.1 to 1.0
- Response time less than 1 second
- 26mm LCD display with backlight and function indicators
- Automatic data hold when trigger released
- Trigger lock for continuous measurement
- Min, Max or Average and difference between min/max
- High and Low alarm
- Auto power off after 7 seconds of no activity
- Low battery indication
- Supplied with tripod, carry case and battery

Type	Camlab Code
High Temp Infrared Thermometer	1195520

Hygrothermometers

POCKET THERMO HYGROMETER



A pocket temperature and humidity meter with an LCD display which simultaneously displays temperature and humidity. The sensors are located in a protective grille, making the instrument ideally suited for taking measurements in air stream.

- -20 to +60°C in 0.1°C increments
- 0% to 100% RH
- Display temperature in °C or °F
- Simultaneous display of temperature and humidity
- Auto backlight in dark environments
- Min/Max memory since power on
- Impact-resistant ABS case with integrated sensors housed in a protective grille
- 4 mm standard camera bush for tripod mounting
- Auto power off after 30 minutes of no activity - can be user disabled
- Low battery indication
- Supplied with battery

Type	Camlab Code
Pocket Thermo Hygrometer	1195516

General thermometers

OVEN THERMOMETER



Quickly and easily view the actual temperature of your laboratory oven.

Hook on the casing means it can easily be hung from a shelf to save space, or stand up on the flat base.

With black temperature scale displayed in °C and °F.

Type	Camlab Code
Oven Thermometer Dial C and F	1139535

## Digital thermometers

## TFX 420 THERMOMETER WITH BLUNT PROBE TPX 100,-50 TO +400°C



A high accuracy laboratory thermometer with min/max and hold functions. Supplied with a 3 point factory calibration certificate and a blunt TPX 100 needle probe (stainless steel, 120mm long x 3mm diameter, suitable for use up to +400°C)

**-ebro-**

High precision and a battery life of approximately 5 years make this an excellent choice for everyday use.

Ideal for use in laboratory, industrial, cold chain and food applications (meets the standard DIN EN 13485 for food use)

**Type**  
TFX 420 Thermometer with blunt probe TPX 100,-50 to +400°C

**Camlab Code**  
1130433

## DUAL INPUT K TYPE THERMOMETER



This dual input K-Type thermometer offers high accuracy and fast response times. Ideal for industrial and laboratory use.

- -50 to +1300°C in 0.1°C increments
- Measures in °C or °F - user selectable
- Dual input thermometer accepts 2 inputs with individual measurements or as differential (T1 minus T2)
- Sampling rate of 2.5 times per second
- Over range indication
- Data hold freezes displayed values
- Max hold displays highest measured value
- Auto power off
- Low battery indication
- 45mm LCD display with backlight and function indicators
- Impact resistant ABS case with protective rubber holster and flip out stand
- Supplied with carry case, rubber holster, 2 x 950mm bead probe and battery

**Type**  
Dual Input K Type Thermometer

**Camlab Code**  
1195534

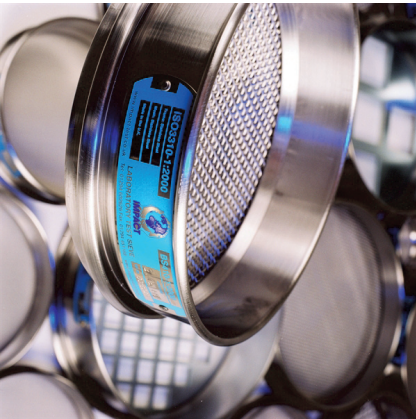
## Related accessories:

1195507	Wire Air/Liquid Temperature Probe
1195518	Stainless Steel Immersion Probe
1195527	Stainless Steel Penetration Probe
1195528	T Bar Penetration Probe
1195529	Spring Surface Probe
1195530	Ceramic Tip Surface Probe
1195531	Spring Surface Probe With Angle



Sieves

TEST SIEVES 200MM DIAMETER - STAINLESS STEEL



A range of test sieves compliant to BS410/ISO 565.

All stainless steel construction with stainless steel woven wire mesh, complete with certificate of conformity. Diameter 200mm, full height, 50mm deep.

Other diameters, apertures and 8 inch diameter ASTM sieves are available upon request, please contact us with your requirements.

Type	Camlab Code
Test Sieve St/St 200mm Diameter 38 micron aperture	1150128
Test Sieve St/St 200mm Diameter 45 micron aperture	1150127
Test Sieve St/St 200mm Diameter 53 micron aperture	1150126
Test Sieve St/St 200mm Diameter 63 micron aperture	1150125
Test Sieve St/St 200mm Diameter 75 micron aperture	1150124
Test Sieve St/St 200mm Diameter 90 micron aperture	1150123
Test Sieve St/St 200mm Diameter 106 micron aperture	1150122
Test Sieve St/St 200mm Diameter 125 micron aperture	1150121
Test Sieve St/St 200mm diameter 150 micron aperture	1150120
Test Sieve St/St 200mm Diameter 180 micron aperture	1150119
Test Sieve St/St 200mm Diameter 212 micron aperture	1150118
Test Sieve St/St 200mm Diameter 250 micron aperture	1150117
Test Sieve St/St 200mm Diameter 300 micron aperture	1150116
Test Sieve St/St 200mm Diameter 355 micron aperture	1150115
Test Sieve St/St 200mm Diameter 425 micron aperture	1150114
Test Sieve St/St 200mm Diameter 500 micron aperture	1150113
Test Sieve St/St 200mm Diameter 600 micron aperture	1150112
Test Sieve St/St 200mm Diameter 710 micron aperture	1150111
Test Sieve St/St 200mm diameter 850 micron aperture	1150110
Test Sieve St/St 200mm diameter 1.00mm aperture	1150109
Test Sieve St/St 200mm Diameter 1.18mm aperture	1150108
Test Sieve St/St 200mm diameter 1.40mm aperture	1150107
Test Sieve St/St 200mm diameter 1.70mm aperture	1150106
Test Sieve St/St 200mm diameter 2.00mm aperture	1150105
Test Sieve St/St 200mm Diameter 2.36mm aperture	1150104
Test Sieve St/St 200mm diameter 2.80mm aperture	1150103
Test Sieve St/St 200mm Diameter 3.35mm aperture	1150102
Test Sieve St/St 200mm diameter 4.00mm aperture	1176912
Test Sieve St/St 200mm diameter 4.75mm aperture woven wire	1176911
Test Sieve St/St 200mm diameter 5.60mm aperture	1176910
Test Sieve St/St 200mm diameter 6.70mm aperture	1176909
Test Sieve St/St 200mm diameter 8.00mm aperture	1176908
Test Sieve St/St 200mm diameter 9.50mm aperture	1176907
Test Sieve St/St 200mm diameter 11.2mm aperture	1176906
Test Sieve St/St 200mm diameter 13.2mm aperture	1176905
Test Sieve St/St 200mm diameter 16.0mm aperture	1176904
Test Sieve 200mm Diameter Lid	1150129
Test Sieve 200mm Diameter Receiver	1150130

## SIEVE STAINLESS STEEL 200MM DIAMETER

Endecotts test sieves with stainless steel frame and stainless steel woven wire mesh, compliant to ISO 3310-1:2000 / BS410:1:2000.



Diameter 200mm, full height, 50mm.



Precisely manufactured with a seamless frame and structured rim. The crevice-free construction is designed to give optimum performance. The evenly tensioned mesh has precisely measured apertures.

Each sieve comes with a certificate of compliance and is individually serial numbered for traceability. Additional inspection or calibration certificates are available separately on request - please contact us with your requirements.

This is just a small selection of the full range available. Also available are sieves of different diameters, mesh sizes, ASTM E11 compliant, half height or with calibration or inspection certificates - just contact us with your specific requirements.

Type	Camlab Code
Sieve Stainless Steel 200mm Diameter 16.00mm aperture	1150062
Sieve Stainless Steel 200mm Diameter 38 micron aperture	1150097
Sieve Stainless Steel 200mm Diameter 12.50mm aperture	1198040
Sieve Stainless Steel 200mm Diameter 25mm aperture	1198041
Sieve Stainless Steel 200mm Diameter 37.50mm aperture	1198042
Sieve Stainless Steel 200mm Diameter 53mm aperture	1198043
Sieve Stainless Steel 200mm Diameter 3.15mm aperture	1198034
Sieve Stainless Steel 200mm Diameter 4.5 mm aperture	1198035
Sieve Stainless Steel 200mm Diameter 2.5 mm aperture	1198036
Sieve Stainless Steel 200mm Diameter 45 micron aperture	1150096
Sieve Stainless Steel 200mm Diameter 53 micron aperture	1150095
Sieve Stainless Steel 200mm Diameter 63 micron aperture	1150094
Sieve Stainless Steel 200mm Diameter 75 micron aperture	1150093
Sieve Stainless Steel 200mm Diameter 90 micron aperture	1150092
Sieve Stainless Steel 200mm Diameter 106 micron aperture	1150091
Sieve Stainless Steel 200mm Diameter 125 micron aperture	1150090
Sieve Stainless Steel 200mm Diameter 150 micron aperture	1150089
Sieve Stainless Steel 200mm Diameter 180 micron aperture	1150088
Sieve Stainless Steel 200mm Diameter 212 micron aperture	1150087
Sieve Stainless Steel 200mm Diameter 250 micron aperture	1150086
Sieve Stainless Steel 200mm Diameter 300 micron aperture	1150085
Sieve Stainless Steel 200mm Diameter 355 micron aperture	1150084
Sieve Stainless Steel 200mm Diameter 425 micron aperture	1150083
Sieve Stainless Steel 200mm Diameter 500 micron aperture	1150082
Sieve Stainless Steel 200mm Diameter 600 micron aperture	1150081
Sieve Stainless Steel 200mm Diameter 710 micron aperture	1150080
Sieve Stainless Steel 200mm Diameter 850 micron aperture	1150079
Sieve Stainless Steel 200mm Diameter 1.00mm aperture	1150078
Sieve Stainless Steel 200mm Diameter 1.18mm aperture	1150077
Sieve Stainless Steel 200mm Diameter 1.40mm aperture	1150076
Sieve Stainless Steel 200mm Diameter 1.70mm aperture	1150075
Sieve Stainless Steel 200mm Diameter 2.00mm aperture	1150074
Sieve Stainless Steel 200mm Diameter 2.36mm aperture	1150073
Sieve Stainless Steel 200mm Diameter 2.80mm aperture	1150072
Sieve Stainless Steel 200mm Diameter 3.35mm aperture	1150071
Sieve Stainless Steel 200mm Diameter 4.00mm aperture	1150070
Sieve Stainless Steel 200mm Diameter 4.75mm aperture	1150069
Sieve Stainless Steel 200mm Diameter 5.60mm aperture	1150068
Sieve Stainless Steel 200mm Diameter 6.70mm aperture	1150067
Sieve Stainless Steel 200mm Diameter 8.00mm aperture	1150066
Sieve Stainless Steel 200mm Diameter 9.50mm aperture	1150065
Sieve Stainless Steel 200mm Diameter 11.20mm aperture	1150064
Sieve Stainless Steel 200mm Diameter 13.20mm aperture	1150063
Sieve Cover/Receiver Set Stainless Steel 200mm Diameter	1150099

## Sieve Shaker

## SIEVE SHAKER EFL2000



The EFL2000 shaker can cope with heavy samples without losing performance.



It is equipped with a dynamic power source (imbalance drive) that ensures the right vibration is imparted to the samples for fast, accurate and reproducible tests.

The vertical movement of the EFL2000 is fixed to ensure the sample spends the maximum time seeking apertures rather than being suspended in midair.

The shaker has an improved clamping device which ensures sieves are held firmly without over-tightening and has quick-release allowing sieves to be quickly removed and replaced. The timer can be set for any duration up to 60 minutes or to continuous operation. The shaker is non-corrodible with non-metallic springs fitted, making it virtually maintenance free.

Accommodates up to 6 full height (12 half height) 300mm diameter sieves or 12 full height (24 half height) 200mm diameter sieves.

- Heavy duty shaker - max batch / feed capacity of 6kg
- Simple to operate
- Suitable for wet or dry sieving
- Range of 38µm to 125mm
- Timer for 0 - 60 minutes or continuous setting
- Low noise level and fitted with anti-vibration feet
- Can accommodate sieves of 100 / 150 / 200 / 250 / 300 / 315 mm diameter (3 / 8 / 12" diameter)
- 510mm high x 330mm wide
- 83kg net weight

**Type**

Sieve Shaker Model EFL2000 230V

**Camlab Code**

1130297

## SIEVE SHAKER MINOR 200



The Minor sieve shaker has been specially designed and manufactured to combine the advantages of low cost with the benefits of a well designed and engineered shaker, incorporating many features usually found only on larger, more expensive models.

Compact and genuinely portable, weighing only 17Kg. The sieve stack is held firmly in position by a clamping belt system. This can be removed to allow the whole unit to be stored in a space less than 200mm high.

The electromagnetic drive gives quiet and virtually maintenance free operation.

- Fitted with anti-vibration feet to ensure stability.
- 0 to 60 minute timer or can be set for continuous sieving.
- Accommodates up to 8 full height 200mm or 8" diameter sieves.
- Max batch / feed capacity 4kg
- Range 38µm to 125mm
- Suitable for dry sieving only
- Compatible with sieves of 100 or 200mm diameter (8" diameter)
- Benchtop unit
- Net weight 17kg
- Complies with the requirements of AASHTO T 27

**Type**

Sieve Shaker Minor 200 230V

**Camlab Code**

1150100



## pH Meters

## pH/ISE meters- Portable

## FIVEGO PORTABLE PH METERS



The FiveGo™ portable pH meters are economical and easy to use. They have a storage capacity for up to 30 measurements, mV/ORP measuring mode and IP54 protection against dust and water ingress, automatic end-point recognition and calibration with automatic buffer recognition.



Five self-explanatory buttons for starting and ending a measurement and for saving and accessing measurements and the latest calibration data at the press of a button makes operating this instrument so intuitive. The large LCD display can simultaneously show readings, temperature and endpoint criteria and also facilitates rapid measurement and calibration.

Useful accessories such as the electrode clip, a wrist strap and a laminated quick guide are enclosed with every FiveGo. In the field kit version, the instrument itself and the LE438 electrode come in a handy carry bag with accessories and 4 sample bottles.

Specifications:  
Range (0.00-14.00pH)  
Resolution (0.01pH)  
Accuracy (+/-0.01pH)

**Type**

FiveGo FG2-B portable pH meter  
FiveGo FG2-K portable pH meter with electrode  
FiveGo FG2-FK portable pH meter field kit

**Camlab Code**

1169680  
1169681  
1169682

**Related accessories:**

1138466 pH 4.01 Buffer Sachets 30 x 20ml  
1138462 pH 7.00 Buffer Sachets 30 X 20ml  
1138467 pH 9.21 Buffer Sachets 30 x 20ml  
1138468 pH 10.01 Buffer Sachets 30 x 20ml  
1138465 Rainbow I (30 x20 mL sachets, 10x each of pH 4.01/ 7.00/ 9.21)  
1138469 Rainbow II (30 x20 mL sachets, 10x each of 4.01/ 7.00/ 10.01)

## HQ30D SINGLE CHANNEL METER - FOR PH, CONDUCTIVITY AND DO



Plug and Play with IntelliCAL(TM) probes - pH, conductivity, LDO, and more\*

- Lighten your load with a single meter to measure either pH, Conductivity, or LDO interchangeably
- Quick and easy swapping of parameter/probe without re-calibration
- Password-protected data for accurate, tamper proof reporting
- 500-point event log stores measurements, calibrations and check standards
- This meter replaces the HQ10 LDO® meter



Specifications:  
Range (0 to14pH)  
Range (0.01µS/cm-200mS/cm)  
Range (0.00 to 20.0mg/l Dissolved Oxygen)  
Dimensions (95x197x36mm (HxWxD))  
Weight (323g)

**Type**

HQ30D Flexi Meter Without Probes  
HQ30D Flexi Meter With Gel filled pH Probe 1M  
HQ30D Flexi Meter With Standard LDO Probe 1M Cable  
HQ30D Flexi Meter With Gel filled pH Probe 1M and LDO Probe 1M  
HQ30D Flexi Meter With Standard LDO Probe 3M Cable  
HQ30D Flexi Meter With Rugged LDO Probe 5M Cable  
HQ30D Flexi Meter With Rugged LDO Probe 10M Cable  
HQ30D Flexi Meter With Rugged LDO Probe 15M Cable  
HQ30D Flexi Meter With Rugged LDO Probe 30M Cable

**Camlab Code**

1134145  
1134604  
1134147  
1134146  
1134148  
1134149  
1134150  
1134151  
1134152

**Related accessories:**

1178154 Field Kit case for HQD meter and standard electrodes

## SEVENGO PORTABLE PH METERS



The SevenGo are basic meters for routine pH measurement with outstanding performance. The large LCD display with the easy-to-understand symbols provides the user with a clear overview. Features include:



- Clear display of measured values and settings
- Continuous indication of electrode and battery status
- Automatic endpoint and buffer recognition as well as temperature compensation
- Data memory for 30 GLP data points
- 3-point calibration with predefined or user-defined buffers

Specifications:

pH Range: 0.00 to 14.00pH

- Resolution: 0.01
- Accuracy:  $\pm 0.01$

mV Range: -1999 to 1999mV

- Resolution: 1
- Accuracy:  $\pm 1$

Temperature Range: -5.0 to 105.0°C

- Resolution: 0.1
- Accuracy:  $\pm 0.5$

SG2-ELK includes the SG2-B plus InLab413 SG IP67 rated "3 in 1" pH electrode with 1.8m fixed cable, SevenGo electrode clip and buffer sachets.

SG2-FK includes SG2-ELK plus carry case.

SG2-ASK is as SG2-FK with field assistant (ErGo)

### Type

SevenGo SG2-ELK portable pH meter with electrode  
SevenGo SG2-FK portable pH meter field kit  
SevenGo SG2-B portable pH meter

### Camlab Code

1138475  
1139282  
1169863

## SD300 PORTABLE PH METER



The SD300 Portable pH meter is a great choice for field pH and Redox measurements. Supplied with the meter, batteries, pH/temp plastic-electrode type 320, pH buffer set (including pH 4.00, 7.00 and 10.00) and user manual in a case.



Features include;

- Rugged, water resistant (IP 67) designed for field use
- PC interface (USB / serial or analog)
- Automatic buffer detection
- Data logger and alarm function (min./max.)
- Good Laboratory Practice (GLP-features)
- Clear, concise result reading:
- Easy-to-read backlit LCD display
- Automatic temperature compensation
- High resolution (0.001 pH / 0.1 mV)
- Min / Max Value Memory highest and lowest measured value is saved.
- Auto Hold freeze and display measurement.
- Auto Power Off if unused, the meter automatically switches off after a selected period (0 to 120 min, or deactivated)
- Additional Display for pH Electrode and Battery Bar graph display
- Low Battery Display "BAT"
- Automatic Temperature Compensation (ATC) in pH mode (in the range of 0 – 105 °C) when the temperature probe is connected. Temperature can be input manually, when the temperature probe is not attached.
- Permissible electrodes' data: Asymmetry:  $\pm 55$ mV/Slope: 45...62mV/pH

The condition of pH Electrode is checked at each calibration. 1, 2 or 3 point calibration with Lovibond® Standard Buffer, DIN 19266 Buffer or any manually entered Buffer values.

Redox Measurement (ORP) 2 options: "mV" Standard Redox or mV measurement "mVH"  
Conversion to hydrogen systems according to DIN38404 Part 6

rH Measurement; The rH value is calculated from a measured Redox value and a manually input pH value

### Type

SD300 Portable pH Meter

### Camlab Code

1195416



## pH/ISE meters - Benchtop

## METTLER FIVEEASY PLUS BENCHTOP PH METER



5 good reasons for choosing Mettler FiveEasy Plus™ pH meter;

- Outstanding functions such as 3 point calibration, up to 99 point data storage, RS232 interface, separate reference electrode input, mV/ORP measuring mode and a self-test are combined with useful features such as automated endpoint recognition and calibration with automated buffer recognition.
- Five self-explanatory buttons for simply starting and ending a measurement or for accessing the latest calibration data at the press of a button makes operating this instrument so intuitive.
- A big, well organized display that can simultaneously show readings, temperature, endpoint criteria and various helpful icons, additionally facilitates rapid measurement and calibration. Easy!
- Useful accessories such as a laminated quick guide are enclosed with every Mettler FiveEasy Plus™. Besides the robust LE438 plastic electrode, the kit version also comes with a handy electrode arm.
- This instrument is distinguished by its ergonomic and compact design and excellent value for money. Our entry-level instruments naturally come with METTLER TOLEDO quality for reliable measurements and are backed by over 60 years of METTLER TOLEDO sensor know-how.

Technical specifications;

- pH range = 0.00 to 14.00
- pH resolution = 0.01
- pH relative accuracy =  $\pm 0.01$
- mV range = -1999 to +1999
- mV resolution = 1
- mV relative accuracy =  $\pm 1$
- Temperature range °C = 0.0 to 100.0
- Temperature resolution °C = 0.1
- Temperature accuracy °C =  $\pm 0.5$
- Calibration = max 3 point, 4 predefined buffer groups
- Display = LCD
- Power supply = 100-240V / 50-60Hz, 9VDC
- Interface = Yes, RS232
- Data Storage = 99 measurements
- Temperature compensation = ATC & MTC

Choose from the benchtop pH meter only (this does not include electrode or electrode arm, for users who wish to choose their own electrode), or the ATC kit (this includes the LE438 electrode and electrode arm). Both units come with operating manual, Quick Guide and power adapter.

Type	Camlab Code
FiveEasy Plus FEP20-B benchtop pH meter	1194165
FiveEasy Plus FEP20-B benchtop pH meter ATC kit	1194166
pH FiveEasy Plus FEP20-Micro Kit	1195388
pH FiveEasy Plus FEP20-Tris Kit	1199425
pH FiveEasy Plus FEP20-ATC-glass Kit	1199426

## METTLER SEVENEXCELLENCE PH METER S400



SevenExcellence™ pH/mV meter – intuitive touchscreen operation and high measurement performance combined with a complete security package for safe results and solid compliance. This single channel instrument is modularly expandable with additional measurement parameters at any time!

- Large 7 inch color display and intuitive menu guidance in 10 languages
- Flexible method concept for high reproducibility and security
- Extra security thanks to sophisticated user management and Intelligent Sensor Management (ISM®)
- Integrated interfaces (USB, RS232 and Ethernet) for data exchange
- Comprehensive service package including IQ/OQ/PQ

Included in every SevenExcellence:

- uPlace™ electrode holder with a perfect vertical motion. It can be operated with one hand and used either freestanding or attached to the left or right side of the instrument.
- LabX direct pH PC software for transferring real-time measurement data and archiving your results

Specifications S400 SevenExcellence™ pH/mV

- pH-range = -2.000 to 20.000
- pH-resolution -variable = 0.001 / 0.01 / 0.1
- pH-relative accuracy =  $\pm 0.002$
- mV-range = -2000 to 2000
- mV-resolution variable = 0.1/1
- mV-relative accuracy =  $\pm 0.1$
- Temperature range °C = 0.000 to 14.000
- Temperature resolution °C variable = 0.001 / 0.01 / 0.1
- Temperature accuracy °C =  $\pm 0.05$
- Display = 7 inch color TFT display

Type	SevenExcellence pH meter S400, Meter only	SevenExcellence pH meter S400-Kit, Meter Probe and buffers	SevenExcellence pH meter S400-Bio, Meter Probe and buffers	SevenExcellence pH meter S400-ISFET, Meter Probe and buffers
Camlab Code	1194762	1194763	1194764	1194765

## METTLER SEVENEXCELLENCE PH/ION METER S500



The Mettler SevenExcellence™ pH/mV meter redefines flexibility and also offers various measurement parameters in one meter. It not only measures pH and ORP with classical glass sensors, but also supports pH measurement with ISFET technology.

Flexibility is also reflected through the numerous measurement, calibration and endpoint possibilities. The measurement endpoints after a pre-defined interval when using the timed endpoint setting and only after user interaction when using the manual setting.

It is also possible to endpoint the measurement automatically according to pre-defined or user-defined endpoint criteria.

Available as the meter alone, for users who wish to select their own electrode, or in 3 kits; the S500-Kit includes an InLab Expert Pro-ISM pH electrode, the S500-Bio Kit includes an InLab Routine Pro-ISM pH electrode and the S500-F Kit includes the Perfection F Fluoride electrode.

Type	SevenExcellence pH/ion meter S500, Meter only	SevenExcellence pH/ion meter S500-Kit, Meter Probe and buffers	SevenExcellence pH/ion meter S500-Bio, Meter Probe and buffers	SevenExcellence pH/ion meter S500-Fluoride, Meter Probe and buffers
Camlab Code	1194766	1194767	1194768	1194769

## Conductivity Meters

### Conductivity Meter Probes

#### METTLER INLAB CONDUCTIVITY PROBES



The high quality of the Mettler Toledo InLab conductivity probes, combined with their easy handling, make them ideal for any kind of application. Furthermore, each conductivity sensor is supplied with a certificate, specifying the nominal or actual cell constant.



The InLab 731 is a carbon 4-pole conductivity probe with integrated temperature sensor and a 1.2m cable with mini-DIN connector. Operates over a wide measuring range so can be used with many different sample types. The rugged plastic body gives good protection in demanding environments.

The InLab 751 is designed for measurement in small containers, with a diameter of just 4mm. It also features an integrated temperature probe for automatic temperature correction. Accurate results in low sample volumes as small as 150µL. Supplied with a 1m cable.

The InLab 752 has a 6mm diameter for measuring in small containers and sample volumes down to 300µL. The minimum immersion depth of only 15mm is indicated on the sensor shaft. Comes with an integrated NTC 30k# temperature sensor and a 1m cable.

Type	Camlab Code
Inlab 731 Conductivity Probe	1138470
Inlab 751 Conductivity Probe 1m cable Mini-Din 4mm Slim Diam	1198031
Inlab 752 Conductivity Probe 1m cable Mini-Din 6mm Slim Diam	1198032

#### CONDUCTIVITY PROBES FOR JENWAY 3540, 4510 AND 4520



Replacement conductivity probes for Jenway benchtop conductivity meters, fitted with a Din plug.



Available with K=1.0 as standard, K=0.1 and K=1- probes are available as well for either low conductivity or high conductivity samples respectively.

The Jenway conductivity probes are available in both glass and epoxy bodied version for a wide variety of applications

These probes are compatible with the Jenway 4510, 4520 and 3540 current models. Also compatible with the discontinued models Jenway 4330, 4320, 4310.

Type	Camlab Code
Conductivity probe with ATC glass K=1 (as supplied with 4510 4520 and 3540)	1135881
Conductivity probe with ATC epoxy K=1 (for use with 4510 4520 & 3540)	1135887
Conductivity probe with ATC glass K=1 flow-through (for use with 4510 4520 & 3540)	1135885
Conductivity probe with ATC glass K=0.1 (for use with 4510 4520 & 3540)	1135884
Conductivity probe with ATC epoxy K=10 (for use with 4510 4520 & 3540)	1135888
Conductivity probe with ATC epoxy K=0.1 (for use with 4510 4520 & 3540)	1135886

#### GLASS BODIED MICRO CONDUCTIVITY PROBE K=1 (MODEL 4510, 4520, 3540)



Microconductivity probes for use with Jenway 4510, 4520, 3540



Jenway's micro-volume probes are designed for the measurement of solutions in small containers. The 4mm (027 815) and 6mm (027 816) shaft diameters allow for accurate readings in sample volumes as small as 150µl and 200µl respectively.

The 4mm probe has a 120mm reach and the 6mm probe has a 180mm reach, making them ideal for use in test tubes and small vessels. Both probes are made from glass and have a 7 pin DIN connector so they can be used with any of Jenway's bench conductivity meters.

Type	Camlab Code
Glass bodied conductivity probe K=1 (Model 4510, 4520, 3540) 4mm diameter, 120mm reach	1197003
Glass bodied conductivity probe K=1 (Model 4510, 4520, 3540) 6mm diameter, 180mm reach	1197004

Conductivity Meters - Portable

SENSODIRECT CON110 PORTABLE CONDUCTIVITY METER



The Tintometer SensoDirect Con110 is a simple, compact portable conductivity meter with a measuring range up to 20mS/cm. Features include:

- Automatic temperature compensation
- ±3% accuracy at full-scale
- Supplied with protective case with built cell holder
- Comes with measuring cell, accessories, carrying case and instructions

Specifications:  
Range (0.001µS/cm-19.99mS/cm)  
Dimensions (34x110x208mm (HxWxD))  
Weight (400g)



Type	Camlab Code
Tintometer SensoDirect Con110 Portable Conductivity Meter	1129442

HQ30D SINGLE CHANNEL METER - FOR PH, CONDUCTIVITY AND DO



- Plug and Play with IntelliCAL(TM) probes - pH, conductivity, LDO, and more\*
- Lighten your load with a single meter to measure either pH, Conductivity, or LDO interchangeably
  - Quick and easy swapping of parameter/probe without re-calibration
  - Password-protected data for accurate, tamper proof reporting
  - 500-point event log stores measurements, calibrations and check standards
  - This meter replaces the HQ10 LDO® meter

Specifications:  
Range (0 to14pH)  
Range (0.01µS/cm-200mS/cm)  
Range (0.00 to 20.0mg/l Dissolved Oxygen)  
Dimensions (95x197x36mm (HxWxD))  
Weight (323g)



Type	Camlab Code
HQ30D Flexi Meter Without Probes	1134145
HQ30D Flexi Meter With Gel filled pH Probe 1M	1134604
HQ30D Flexi Meter With Standard LDO Probe 1M Cable	1134147
HQ30D Flexi Meter With Gel filled pH Probe 1M and LDO Probe 1M	1134146
HQ30D Flexi Meter With Standard LDO Probe 3M Cable	1134148
HQ30D Flexi Meter With Rugged LDO Probe 5M Cable	1134149
HQ30D Flexi Meter With Rugged LDO Probe 10M Cable	1134150
HQ30D Flexi Meter With Rugged LDO Probe 15M Cable	1134151
HQ30D Flexi Meter With Rugged LDO Probe 30M Cable	1134152

Related accessories:  
1178154 Field Kit case for HQD meter and standard electrodes

## MICRO 600 CONDUCTIVITY METER



The Micro 600 Conductivity meter delivers auto-ranging conductivity measurement across a wide dynamic range in a comprehensive field kit.

Palintest®

As a key indicator of water quality, conductivity is one of the most common parameters measured in the field and values vary significantly depending on sample type. Key features of the Micro 600 Conductivity Meter include:

- Auto-ranging conductivity measurement – simply insert the probe and allow the meter to do the rest
- Automatic Temperature Compensation (ATC) for accurate conductivity measurement
- Manual or automatic calibration for optimal accuracy.

Supplied in a hard case with conductivity calibration solutions and deionised water, the Micro 600 Conductivity meter is delivered with a rubber protective boot with convenient table stand for use in the field or the laboratory.

Package contents: Micro 600 Conductivity Meter, protective rubber boot with table stand, conductivity standards (84 µS/cm, 1413 µS/cm, 12.88 mS/cm, 60 ml each), deionised water (60 ml) and instructions.

- Range: 0 – 19.99, 19.9 – 199.9, 199.9 – 1999 µS/cm
- Range: 2.00 – 19.99, 20.0 – 199.9 mS/cm
- Display High clarity LCD with backlight
- User Interface Calibrate, result hold, mode, select and power buttons
- Cell Constant 0.1, 1.0 and 10.0 (selectable)
- Size (W x L x H) 78 x 150 x 37 mm
- Weight 200g (including batteries)
- Power Supply 4 x 'AAA' batteries

**Type**  
Micro 600 Conductivity Meter in hard carry case

**Camlab Code**  
1197159

## Conductivity meters- Benchtop

### JENWAY MODEL 4520 CONDUCTIVITY/TEMP METER WITH GRAPHICS DISPLAY



The Jenway Model 4520 is a fully specified Conductivity/Resistivity/TDS/Salinity/Temperature meter that includes full support for good laboratory practices (GLP). The meter supports one, two or three point conductivity calibration. Powerful data logging capabilities are included with the ability to store up to 500 readings either manually, at timed intervals or alarmed events. Remote monitoring and data collection is facilitated by the provision of both analogue and digital outputs and in the event of power removal all user defined parameters are retained. Ideal for quality control and GLP applications.

JENWAY

- Automatic range selection
- Conductivity/TDS display
- Calibration on standard solutions or direct cell constant entry
- Automatic temperature compensation
- Back lit custom LCD
- RS232 serial interface and analogue outputs
- Wall mounting option

The 4520 is supplied with a glass conductivity probe with ATC (K=1) (027 013) electrode holder UK power supply and operating instructions.

Specifications:  
Range (0.01µS-1999mS\* (\*requires K=10 cell))  
Accuracy (±0.5% ±2 digits)  
Dimensions (55x210x250mm (HxWxD))

**Type**  
Model 4520 Conductivity/temp meter with graphics display

**Camlab Code**  
1135993



**JENWAY MODEL 4510 CONDUCTIVITY/TEMP METER WITH DUAL DISPLAY AND TDS RANGE.**

The Jenway Model 4510 is easy to use with a flexibility that will enable it to meet the broadest range of applications. Set-up menu options include cell constant, temperature coefficient and reference temperature. With automatic range selection and endpoint detection, readings can be taken quickly and with minimum intervention.

For applications where greater accuracy is required the 4510 has automatic conductivity standard recognition which can be overridden by entry of user specific values. The 4510 has a 32 location memory; results can also be sent to a printer or transferred to computer via an RS232 interface. Analogue output is also provided.

- Auto ranging to give best resolution
- Simultaneous display of conductivity or TDS and temperature
- Calibration to cell constant or standard solutions
- Auto Standard recognition with manual override
- 32 location memory
- Bi-directional RS232 link to printer or PC Technical specification

Supplied with glass conductivity probe with ATC (K=1) (027 013) electrode stand and holder UK power supply and operating instructions.

Specifications:  
Range (0.01 $\mu$ S-1999mS\* (requires K=10 cell))  
Accuracy ( $\pm 0.5\%$   $\pm 2$  digits)  
Dimensions (60x210x250mm (HxWxD))

**Type**  
Model 4510 Conductivity/temp meter with dual display and TDS range.

**Camlab Code**  
1135991

**METTLER FIVEEASY PLUS BENCHTOP CONDUCTIVITY METER**

FiveEasy Plus™ conductivity, coming with up to 99 data storage and RS232 interface, it is ideal for anyone who needs an economic and reliable solution for easy conductivity measurement. This instrument is suitable for a wide range of applications in various areas, such as the food and beverage industry, as well as water and environmental analysis. FiveEasy Plus™ makes conductivity measurement a pleasure!

Outstanding functions such as up to 99 data storage, RS232 interface, additional TDS and salinity measuring mode as well as a self-test are combined with useful features such as automated endpoint recognition, automatic calibration, linear temperature compensation and selectable reference temperature.

Five self-explanatory buttons for starting and ending a measurement and for accessing the latest calibration data at the press of a button makes operating this instrument so intuitive.

A big, well organized display that can simultaneously show readings, temperature, endpoint criteria and various helpful icons, additionally facilitates rapid measurement and calibration. Easy!

Useful accessories such as a laminated quick guide are enclosed with every FiveEasy Plus™. Besides the robust LE703 conductivity electrode, the kit version also comes with a handy electrode arm.

This instrument is distinguished by its ergonomic and compact design and excellent value for money. Our entry-level instruments naturally come with METTLER TOLEDO quality for reliable measurements and are backed by over 60 years of METTLER TOLEDO sensor know-how.

**Type**

FiveEasy Plus FEP30-B benchtop conductivity meter - No probe

FiveEasy Plus FEP30-B benchtop conductivity meter Kit

**Camlab Code**

1194313

1194314

## SEVENEXCELLENCE CONDUCTIVITY METER S700



SevenExcellence™ conductivity meter – intuitive touchscreen operation and high measurement performance combined with a complete security package for safe results and compliance. This single channel instrument is modularly expandable with additional measurement parameters at any time!



- Flexible due to various conductivity modes, units and temperature correction possibilities
- Large 7 inch color display and intuitive menu guidance in 10 languages
- Flexible method concept for high reproducibility and security
- Extra security thanks to sophisticated user management and Intelligent Sensor Management (ISM®)
- Integrated interfaces (USB, RS232 and Ethernet) for data exchange
- Comprehensive service package including IQ/OQ/PQ

Included in every SevenExcellence:

- uPlace™ electrode holder with a perfect vertical motion. It can be operated with one hand and used either freestanding or attached to the left or right side of the instrument.
- LabX direct pH PC software for transferring real-time measurement data and archiving your results

Type	SevenExcellence conductivity meter S700 Basic, Meter Only - No probe	SevenExcellence conductivity meter S700-Kit Basic, Meter, probe and standards	SevenExcellence conductivity meter S700- Trace, Meter, probe and standards
Camlab Code	1194770	1194772	1194773

## Mixers

## Jiffy mixers

## JIFFY MIXER BLADES

For quick, efficient mixing of liquids or semi-solids Cuts mixing time by up to 90% Won't splash, won't suck air  
Ideal for viscous liquids, slurries etc.

Suitable for laboratory, semi-scale and plant use

Jiffy-mixers operate with both electric and air-powered motors (chuck 6 to 19mm depending on mixer size). Speeds of 450 to 750 rpm will give the best mixing. The two vertical blades confine the mixing action within the mixing head while the horizontal opposed blades force material from the upper and lower areas of the container inside the head. Requires Motor Chuck or Drill (not supplied)

Type	Camlab Code
 Jiffy Mixer (ES) O.D. 95mm shaft length 521mm	1135042
 Jiffy Mixer (HD) O.D. 248mm shaft length 1016mm	1135044
 Jiffy Mixer (HS-1) O.D. 67mm shaft length 260mm	1135040
 Jiffy Mixer (HS-2) O.D. 67mm shaft length 375mm	1135041
 Jiffy Mixer (LM) O.D. 32mm shaft length 260mm	1135039
 Jiffy Mixer (PS-2) O.D. 130mm shaft length 1016mm	1161523
 Jiffy Mixer (PS-1) O.D. 130mm shaft length 521mm	1135043

Ovens  
Vacuum Ovens

VACUUM OVENS - VO RANGE



Vacuum ovens with pump module offering short heating up times, high precision temperature control and turbo drying for sensitive drying. The direct contact between the load and the heatable and removable thermoshelves ensures rapid and equal heating up without thermal loss. The aluminium thermoshelves are equipped with separate large area heating and there own sensors. The control circuits react precisely to differences in load and humidity. In this way all levels used remain equally at the predefined set temperature.

memmert



- 3 model sizes (29L, 49L and 101L)
- Anti-splinter, VDE-tested door construction for all models
- fuzzy-supported MLC (Multi-Level-Controlling) microprocessor controller adapting its performance to the volume (local temperature sensing) for each thermoshelf
- digital 7-day-programme-timer with real time clock, precise minute setting, for one set value or start of ramp operation integrated timer for tempering and pressure (vacuum) profiles of up to 40 ramps, each segment adjustable from 1 min up to 999 hours
- multifunctional programming via menu on 8-digit alphanumeric digital display (language to be chosen via set-up)
- digital display (LED) of all set parameters, such as temperature, weekdays, time, pressure, programme status and set-up values
- separate LED symbol for each thermoshelf in operation actual temperature of each thermoshelf to be made visible separately on digital display
- resolution of display for set value 0,1 °C below 99,9 °C, 0,5 °C above 100 °C; for actual value 0,1 °C
- long-term logging (ring store) of all relevant data, GLP-conforming as data logger - 1024 kB
- parallel printer interface (incl. real-time clock with date function) for printing logging files, suitable all PCL3-compatible ink-jet printers (USB available via converter, see accessories)
- USB interface including MEMMERT Software "Celsius"; for control and documentation of temperature and pressure
- chip card control incl. one MEMoryCard XL with 32 kB (up to 40 ramps)

Type	Dims Ext. (HxWxD) [mm]	Dims Int. (HxWxD) [mm]	Camlab Code
Vacuum Oven Vo200 29L 20°C - 200°C; Digital Electronic Pressure Control From 10 - 1100 Mbar	600 x 550 x 400	305 x 385 x 250	1169551
Vacuum Oven Vo400 49L 20°C - 200°C; Digital Electronic Pressure Control From 10 - 1100 Mbar	680 x 550 x 480	385 x 385 x 330	1169552
Vacuum Oven Vo500 101L 20°C - 200°C; Digital Electronic Pressure Control From 10 - 1100 Mbar	760 x 710 x 550	465 x 545 x 400	1169553

Related accessories:

1169426	Noise-Insulated Vacuum Pump Module As PM400 However With Built-In Pump 230 V 50/60 Hz Incl.
1169424	Noise-Insulated Vacuum Pump Module As PM200 However With Built-In Pump 230 V 50 Hz Incl.
1169425	Noise-Insulated Vacuum Pump Module As PM400 However With Built-In Pump 230 V 50/60 Hz Incl.

## VACUCELL VACUUM DRYING OVENS



VACUCELL vacuum drying ovens are supplied in three sizes available in the Standard line or Advanced line.



The vacuCell range is particularly good for drying temperature sensitive, easily decomposable or oxidative materials and have a stainless steel interior and a door window. Temperature range on both types is Ambient +5°C to 200°C

### Standard line

- 3 Programs
- RS232 Interface for printer or PC communication
- Delayed heating start and stop function
- Acoustic Alarm
- Timer up to 99h, 59min

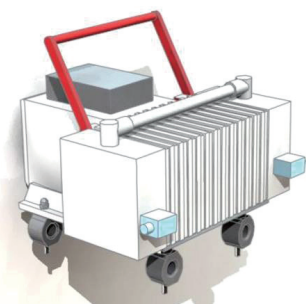
### Advanced line

- 6 Programs
- RS232 Interface for printer or PC communication
- Delayed heating start and stop function
- Acoustic Alarm
- Chip card system for individual program storage
- Timer 0-16years with 1min intervals
- Programming temperature ramps
- Heating sequences

Type	Temperature Max [°C]	Dims Int. (HxWxD) [mm]	Dims Ext. (HxWxD) [mm]	Capacity [L]	Camlab Code
VacuCell Vacuum Oven 22L	200	300 x 340 x 260	700 x 490 x 560	22	1139041
Advanced VacuCell Oven 22L	200	300 x 340 x 260	700 x 490 x 560	22	1139042
VacuCell Vacuum Oven 55L	200	430 x 400 x 320	830 x 550 x 620	55	1139044
Advanced VacuCell Oven 55L	200	430 x 400 x 320	830 x 550 x 620	55	1139045
VacuCell Vacuum Oven 111L	200	480 x 540 x 410	880 x 640 x 760	111	1139047
Advanced VacuCell Oven 111L	200	480 x 540 x 410	880 x 640 x 760	111	1139048

## Vacuum Oven Accessories

### VACUUM PUMP MODULE WITH PTFE DOUBLE DIAPHRAGM



Noise absorbing vacuum pump module with integrated pump (chemically resistant vacuum pump with PTFE double diaphragm and automatic purge process through controller of vacuum oven) incl. energy-saving pump control. 230 V, 50 Hz (other voltages upon request).



Pump capacity at atm. pressure of approx. 34 NI/min = 2,04 m³/h for VO 200; approx. 60 NI./min = 3.6 m³/h for VO 400 and 500. Anti-vibration metal plate to accommodate the vacuum pump. Full-sight glass door. Socket and connecting hose to the vacuum oven. Signal cable for optimising pump performance by demand-controlled activation of purge of Memmert pump.

Max. guarantee for pump: 2 years. (External dimensions same as vacuum oven)

Type	Noise-Insulated Vacuum Pump Module As PM400 However With Built-In Pump 230 V 50/60 Hz Incl.	Noise-Insulated Vacuum Pump Module As PM200 However With Built-In Pump 230 V 50 Hz Incl.	Noise-Insulated Vacuum Pump Module As PM400 However With Built-In Pump 230 V 50/60 Hz Incl.
Camlab Code	1169426	1169424	1169425

## General Purpose Ovens

## MEMMERT UNIVERSAL FAN OVENS GENERATION 2012



Whatever your oven requirements, Memmert has an option for you: material tests, ageing of computer chips, run complex experiments with highly sensitive loads, drying or tempering electronic components, hardening plastic resin or heating plasticine.



The Memmert U universal oven stands for unparalleled precise, even and gentle temperature control.

- Temperature range up to +300°C
- 8 model sizes: 30 to 750
- 2 model variants: SingleDISPLAY and TwinDISPLAY
- Forced air circulation - F

State of the art technology in the laboratory – optimal operating comfort

The fittings of this heating and drying oven are practically-oriented, their programme functions are designed for a wide variety of applications, and even when used intensively, our all-rounder made of stainless steel loses nothing in shine or in reliability. From 32 models, expandable with convenient, approved and tested accessories, you will easily find the heating oven ideally suited to your needs. According to your application the two model variants SingleDISPLAY and TwinDISPLAY cover all requirements of thermal safety, precision and quality assurance.

Specific use in accordance with the German MPG (Law on Medical Devices)

In accordance with the German Law on Medical Products (Directive 93/42/EEC), the UF/UFplus heating oven can be used to heat up non-sterile clothes and covers.

Stainless steel – a heating oven almost for ever

65 years of permanent development work, as well as numerous amounts of feedback from practical experience, are embodied in each heating oven:

- Almost exclusive use of high-quality, corrosion-resistant and easily cleanable stainless steel for the working chamber and housing
- Heating concept adapted to the specific product for a precise and homogenous temperature control independent of chamber volume and load
- A wide range of options for programming and documentation using interfaces, integrated data logger and Software AtmoCONTROL
- Three-year guarantee for appliances except wear and tear parts
- The temperature values of all universal ovens are measured according to DIN 12880: 2007-05

Type	Dims Int. (HxWxD) [mm]	Dims Ext. (HxWxD) [mm]	Camlab Code
Universal Oven UF30 Singledisplay 32L 30°C -300°C With 1 Grid	320 x 400 x 250	707 x 585 x 434	1193466
Universal Oven UF30Plus Twindisplay 32L 30°C -300°C With 2 Grids	320 x 400 x 250	707 x 585 x 434	1193477
Universal Oven UF55 Singledisplay 53L 30°C -300°C With 1 Grid	400 x 400 x 330	787 x 585 x 514	1193467
Universal Oven UF55Plus Twindisplay 53L 30°C -300°C With 1 Grid	400 x 400 x 330	787 x 585 x 514	1193478
Universal Oven UF75 Singledisplay 74L 30°C -300°C With 2 Grids	560 x 400 x 330	947 x 585 x 514	1193468
Universal Oven UF75Plus Twindisplay 74L 30°C -300°C With 2 Grids	560 x 400 x 330	947 x 585 x 514	1193479
Universal Oven UF110 Singledisplay 108L 30°C -300°C With 2 Grids	480 x 560 x 400	867 x 745 x 584	1193469
Universal Oven UF110Plus Twindisplay 108L 30°C -300°C With 2 Grids	480 x 560 x 400	867 x 745 x 584	1193480
Universal Oven UF160 Singledisplay 161L 30°C -300°C With 2 Grids	720 x 560 x 400	1107 x 745 x 584	1193470
Universal Oven UF160Plus Twindisplay 161L 30°C -300°C With 2 Grids	720 x 560 x 400	1107 x 745 x 584	1193481
Universal Oven UF260 Singledisplay 256L 30°C -300°C With 2 Grids	800 x 640 x 500	1186 x 824 x 684	1193471
Universal Oven UF260Plus Twindisplay 256L 30°C -300°C With 2 Grids	800 x 640 x 500	1186 x 824 x 684	1193482
Universal Oven UF450 Singledisplay 449L 30°C -300°C With 2 Grids	720 x 1040 x 600	1247 x 1224 x 784	1193472
Universal Oven UF450Plus Twindisplay 449L 30°C -300°C With 2 Grids	720 x 1040 x 600	1247 x 1224 x 784	1193483
Universal Oven UF750 Singledisplay 749L 30°C -300°C With 2 Grids	1200 x 1040 x 600	1726 x 1224 x 784	1193473
Universal Oven UF750Plus Twindisplay 749L 30°C -300°C With 2 Grids	1200 x 1040 x 600	1726 x 1224 x 784	1193484
Universal Oven UF1060 Singledisplay 1060L 30°C -300°C With 1 Grid	1200 x 1040 x 850	1726 x 1224 x 1035	1197443
Universal Oven UF1060Plus Twindisplay 1060L 30°C -300°C With 1 Grid	1200 x 1040 x 850	1726 x 1224 x 1035	1197444



## GENERAL PURPOSE OVENS - MINO RANGE



The Mino range of Economy Ovens offer highly efficient, reliable, cost effective units to suit most drying, warming and general laboratory applications. The units feature a simple to use thermostat system, ideal for teaching purposes, and the units can be customized to meet individual requirements.

The exterior is constructed from sheet steel finished in easy clean powder coated paint. The interior chamber is made from mild steel coated with aluminium with a stainless steel chamber available as an option. The ovens are fitted with fixed shelf runners and removable chrome plated wire grid shelves.

Heated by Incoloy sheathed elements, positioned below the chamber floor for natural convection units and fitted around the fan on the back wall of the chamber for mechanical convection units.

The control system comprises of a direct reading thermostat and overheat thermostat, both with calibrated scales and tamper proof locks. They also include main switch with indicator and heat and overheat indicators.

- 7 sizes available from 6 to 100 litres.
- Temperature range; 40°C to 250°C
- Fluctuation  $\pm 0.71^\circ\text{C}$
- Easy clean powder coated body
- Aluminium coated mild steel chamber
- Direct reading thermostat
- Safety overheat thermostat
- C.E. Compliant

The basic models are listed here, but units can be built to order including the option of stainless steel chamber, fan circulation (for models 30L or larger), microprocessor digital controller with dual display of set point and actual temperature and other accessories. Just contact us to discuss your specific requirements.

Type	Dims Ext. (HxWxD) [mm]	Dims Int. (HxWxD) [mm]	Shelves Supplied	No. of shelf positions	Camlab Code
Oven Mino 40-250°C $\pm 0.75^\circ\text{C}$ 6Ltr	390 x 320 x 330	150 x 230 x 190	1	1	1140583
Oven Mino 40-250°C $\pm 0.75^\circ\text{C}$ 18Ltr	520 x 380 x 410	260 x 260 x 270	2	2	1140584
Oven Mino 40-220°C $\pm 0.75^\circ\text{C}$ 30Ltr	500 x 480 x 490	240 x 360 x 350	2	2	1140585
Oven Mino 40-250°C $\pm 0.75^\circ\text{C}$ 40Ltr	580 x 480 x 490	320 x 360 x 350	2	3	1140586
Oven Mino 40-250°C $\pm 0.75^\circ\text{C}$ 50Ltr	590 x 610 x 470	330 x 490 x 330	2	3	1140587
Oven Mino 40-250°C $\pm 0.75^\circ\text{C}$ 75Ltr	590 x 610 x 600	330 x 490 x 450	2	3	1140588

## Balances

### Top Pan Balances

## OHAUS EXPLORER PRECISION BALANCE WITH INTERNAL CALIBRATION

The OHAUS Explorer® Series has risen to the next level of ingenuity—expanding on its modern features & design to offer unmatched functionality in a line of high-performance balances unlike any other on the market.



**Intuitive OPERATION**—A large color touch-screen display, icon-driven application software that features 14 unique application modes, and a 3 level adjustable angle display make Explorer the easiest to use, most advanced balance in its class today.

**Ingenious DESIGN**—The base and display separate for maximum flexibility in any work area. Draft shield models isolate the weighing chamber to enhance stability and speed results while offering maximum accessibility to the weighing chamber through top-mounted side doors or through the versatile top door that flips or slides open. Hands-free entry is available with optional automated side doors.

**Intelligent PERFORMANCE**—All Explorers have newly optimized linearity and repeatability specifications and enhanced vibration filtering for better balance stability. All models also come standard with AutoCal™ automatic internal calibration. 3×3 filtering setup ensures fast and stable weighing results. The Explorer EX.../E models additionally offer traditional external calibration. These combined enhancements improve accuracy, efficiency, and throughput.

Type	Camlab Code
Ohaus Explorer balance 220 g x 1 mg EX223 with Internal calibration with draft shield	1195784
Ohaus Explorer balance 420 g x 1 mg EX423 with Internal calibration with draft shield	1195785
Ohaus Explorer balance 620 g x 1 mg EX623 with Internal calibration with draft shield	1195787
Ohaus Explorer balance 1100 g x 1 mg EX1103 with Internal calibration with draft shield	1195788
Ohaus Explorer balance 2200 g x 0.01 g EX2202 with Internal calibration	1195790
Ohaus Explorer balance 4200 g x 0.01 g EX4202 with Internal calibration	1195791
Ohaus Explorer balance 6200 g x 0.01 g EX6202 with Internal calibration	1195793
Ohaus Explorer balance 10200 g x 0.01 g EX10202 with Internal calibration	1195794
Ohaus Explorer balance 6200 g x 0.1 g EX6201 with Internal calibration	1195796
Ohaus Explorer balance 10200 g x 0.1 g EX10201 with Internal calibration	1195797

## OHAUS EXPLORER BALANCE WITH EXTERNAL CALIBRATION



The highest performance most technically advanced balance from Ohaus available.



Intuitive USER SETUP - Explorer is the industry's most easy-to-use balance, featuring leveling assistance and instructional messaging for quick out-of-the-box setup and use.

- Easy to view illuminated level indicator placed at the front of the balance
- Adjustable thumb wheels are easy to turn to level the balance
- Level assist screen helps users quickly identify which thumb wheels need to be adjusted to level the balance
- Data Transfer Function helps to output data directly into Microsoft Excel
- Instructional messaging during application use guides users through the weighing process
- User information menu allows users quickly view and learn more about the available balances features
- Up to 13 operating languages make Explorer's Intuitive User Setup truly universal

### Type

Ohaus Explorer balance 220 g x 1 mg EX223/E with External calibration with draft shield  
 Ohaus Explorer balance 420 g x 1 mg EX423 with External calibration with draft shield  
 Ohaus Explorer balance 2200 g x 0.01 g EX2202 with External calibration  
 Ohaus Explorer balance 4200 g x 0.01 g EX4202 with External calibration  
 Ohaus Explorer balance 6200 g x 0.01 g EX6202 with External calibration  
 Ohaus Explorer balance 6200 g x 0.1 g EX6201 with External calibration

### Camlab Code

1196209  
 1196210  
 1196212  
 1196215  
 1196216  
 1196217

## Analytical Balances

### PRECISA EP ANALYTICAL BALANCE WITH 0.1MG READABILITY



Precisa EP Analytical Balance with 0.1mg readability



High end laboratory balances providing an extensive range of features and functions for a wide range of weighing applications.

Features include:

- Expanded Weighing Range - Milligram resolution balances with ranges greater than 2Kg, or balances with a weighing range of 8Kg and a readability of 1/100th of a gram
- Intuitive User interface - Start-up display can be customised, soft touch keys programmed to enable quick access to frequently used functions, and large backlit digital display
- Automatic round draft shield utilising sensors to enable touch free opening and closing of draftshield
- Connectivity options such as wireless, wired or Bluetooth to enable connection to various IT infrastructure
- Best in class bench footprint with integral electronics reducing space required for the units.
- Floating range balances have a fine range (10 times more precise) which works over the entire weight range - indicated by FR

Designed and manufactured in Switzerland, the 360EP balance series is an extremely robust and reliable balance emphasising Precisa's reputation for reliability and quality.

### Type

Precisa EP 120A Balance 120g x 0.1mg  
 Precisa EP 220A Balance 220g x 0.1mg  
 Precisa EP 320A Balance 320g x 0.1mg  
 Precisa EP 420A Balance 420g x 0.1mg  
 Precisa EP 420A-FR Balance 420g x 0.1mg  
 Precisa EP 520A Balance 520g x 0.1mg

### Camlab Code

1188336  
 1188337  
 1188338  
 1188339  
 1188340  
 1188341

## OHAUS PIONEER ANALYTICAL BALANCE WITH EXTERNAL CALIBRATION



Designed to meet simple weighing needs at the best price.

- LCD Display
- Operation Mains power
- Communication RS232 for sending balance ID and weight
- Construction Solid die cast metal base, stainless steel pan
- All-glass draught shield with 3 sliding doors on 0.1mg and 1mg models
- Front levelling bubble, menu and calibration locks



### Type

Ohaus Pioneer balance 65 g x 0.1 mg PA64 with External calibration  
Ohaus Pioneer balance 110 g x 0.1 mg PA114 with External calibration  
Ohaus Pioneer balance 210 g x 0.1 mg PA214 with External calibration

### Camlab Code

1195830  
1195833  
1195836

## OHAUS PIONEER ANALYTICAL BALANCE WITH INTERNAL CALIBRATION



Designed to meet simple weighing needs at the best price.

- Display LCD
- Operation Mains power
- Communication RS232 for sending balance ID and weight
- Construction Solid die cast metal base, stainless steel pan
- All-glass draught shield with 3 sliding doors on 0.1mg and 1mg models
- Front levelling bubble, menu and calibration locks
- Internal Calibration



### Type

Ohaus Pioneer balance 65 g x 0.1 mg PA64C with Internal calibration  
Ohaus Pioneer balance 110 g x 0.1 mg PA114C with Internal calibration  
Ohaus Pioneer balance 210 g x 0.1 mg PA214C with Internal calibration

### Camlab Code

1195831  
1195834  
1195837

## OHAUS ADVENTURER PRECISION BALANCE WITH EXTERNAL CALIBRATION

The OHAUS Adventurer™ AX series is one of the industry's most versatile balances - it counts, it sums, it holds and it delivers traceable results. With a full range of Analytical and Precision models, no other balance in its class offers all these features in a compact design.



- Colour touchscreen
- Connectivity Options
- Optional 2nd RS232 including front mounted USB connection
- Two piece top mounted draft-shield doors reduce the footprint of the doors in the rear of the balance when open
- The 1 mg models have a two piece top mounted draft shield with the doors that open wide, providing ample room for sample placement, while the 0.01g models feature large weighing pans.



### Type

Ohaus Adventurer™ Precision Balance 220 g x 1mg AX223/E with external Calibration  
Ohaus Adventurer™ Precision Balance 420 g x 1mg AX423/E with External calibration  
Ohaus Adventurer™ Precision Balance 520 g x 1mg AX523/E with External Calibration  
Ohaus Adventurer™ Precision Balance 620 g x 0.01g AX622/E with External calibration  
Ohaus Adventurer™ Precision Balance 1520 g x 0.01g AX1502/E with External Calibration  
Ohaus Adventurer™ Precision Balance 2200 g x 0.01g AX2202/E with External Calibration  
Ohaus Adventurer™ Balance 4200 g x 0.001g AX4202/E with External Calibration  
Ohaus Adventurer balance 210 g x 0.01 g AV212 with External calibration can be battery powered  
Ohaus Adventurer balance 410 g x 0.01 g AV412 with External calibration can be battery powered

### Camlab Code

1199038  
1199041  
1199044  
1199047  
1199049  
1199052  
1199055  
1195808  
1195810

**Type**

Ohaus Adventurer balance 2100 g x 0.1 g AV2101 with External calibration can be battery powered  
 Ohaus Adventurer balance 4100 g x 0.1 g AV4101 with External calibration can be battery powered  
 Ohaus Adventurer balance 8100 g x 0.1 g AV8101 with External calibration can be battery powered

**Camlab Code**

1195823  
 1195825  
 1195827

**OHAUS ADVENTURER PRECISION BALANCE WITH INTERNAL CALIBRATION**

The OHAUS Adventurer precision balance is one of the industry's most versatile balances - it counts, sums, hold and delivers traceable results. With a full range of Analytical and Precision models, no other balance in its class offers all these features in a compact design.



- Colour touchscreen
- Connectivity options
- Optional 2nd RS232 including front mounted USB connection
- Two piece top mounted draft-shield doors reduce the footprint of the doors in the rear of the balance when open
- The 1mg models have a two piece top mounted draft shield with the doors that open wide, providing ample room for sample placement, while the 0.01g models feature large weighing pans.

**Type**

Ohaus Adventurer balance 210 g x 0.01 g AV212C with Internal calibration  
 Ohaus Adventurer balance 410 g x 0.01 g AV412C with Internal calibration  
 Ohaus Adventurer balance 810 g x 0.01 g AV812C with Internal calibration  
 Ohaus Adventurer balance 2100 g x 0.1 g AV2101C with Internal calibration  
 Ohaus Adventurer balance 4100 g x 0.1 g AV4101C with Internal calibration  
 Ohaus Adventurer balance 8100 g x 0.1 g AV8101C with Internal calibration  
 Ohaus Adventurer™ Precision Balance 220 g x 1mg AX223 with Internal Calibration  
 Ohaus Adventurer™ Precision Balance 420 g x 1mg AX423 with Internal Calibration  
 Ohaus Adventurer™ Precision Balance 520 g x 1mg with Internal Calibration AX523  
 Ohaus Adventurer™ Precision Balance 1520 g x 0.01g AX1502 with Internal Calibration  
 Ohaus Adventurer™ Precision Balance 2200 g x 0.01g AX2202 with Internal Calibration  
 Ohaus Adventurer™ Precision Balance 4200 g x 0.01g AX4202 with Internal Calibration

**Camlab Code**

1195809  
 1195811  
 1195813  
 1195824  
 1195826  
 1195828  
 1199037  
 1199040  
 1199043  
 1199048  
 1199051  
 1199054

**Industrial Weighing Scales****ADAMS WBW WASH DOWN BALANCES**

Wash down balance with stainless steel pan.

- Backlit LCD with capacity tracker
- Coloured LED check limit indicators
- Rechargeable battery and ACD adapter(included).
- Sealed design with IP65 rating.
- Capacities: 2000g, 4000g, 8000g, 16kg

**Type**

Wash down scale WBW16 Capacity 16kg Readability 2g Pan size 210 x 173mm  
 Wash down scale WBW2 Capacity 2000g Readability 0.2g Pan size 210 x 173mm  
 Wash down scale WBW4 Capacity 4000g Readability 0.5g Pan size 210 x 173mm  
 Wash down scale WBW8 Capacity 8000g Readability 1g Pan size 210 x 173mm

**Camlab Code**

1166854  
 1166850  
 1166852  
 1166853

## DEFENDER 3000 STANDARD PLATFORM SCALE



For your basic needs, within your budget.

- Affordable with no compromise on quality
- Intuitive usage
- Internal rechargeable battery or AC adaptor (supplied)
- Display: LCD with white LED backlight
- Communication: RS232 interface
- Construction: ABS Indicator, 304 grade stainless steel platform pan with black painted steel tubular frame; IP67 aluminium load cell; painted steel column and wall bracket included
- Design features: Platform with 5 or 6 point overload stops for 125% safe overload protection

**Type**

Defender 3000 Standard Platform Scale, 30kg, Readability: 5g, Platform: 355 x 305mm  
 Defender 3000 Std. Platform Scale 30kg Readability: 10g Platform: 355 x 305mm EC type approved  
 Defender 3000 Standard Platform Scale, 60kg, Readability: 10g, Platform: 355 x 305mm  
 Defender 3000 Standard Platform Scale, 60kg, Readability: 10g, Platform: 550 x 420mm  
 Defender 3000 Std. Platform Scale 60kg Readability: 20g Platform: 355 x 305mm EC type approved  
 Defender 3000 Std. Platform Scale 60kg Readability: 20g Platform: 550 x 420mm EC type approved  
 Defender 3000 Standard Platform Scale, 150kg, Readability: 20g, Platform: 550 x 420mm  
 Defender 3000 Std Platform Scale 150kg Readability: 20g Platform: 550 x 420mm EC type approved  
 Defender 3000 Standard Platform Scale, 150kg, Readability: 20g, Platform: 650 x 500mm  
 Defender 3000 Standard Platform Scale, 300kg, Readability: 50g, Platform: 650 x 500mm  
 Defender 3000 Std Platform Scale 300kg Readability: 100g Platform: 650 x 500mm EC type approved

**Camlab Code**

1170848  
 1170849  
 1170850  
 1170852  
 1170851  
 1170853  
 1170854  
 1170855  
 1170856  
 1170857  
 1170858

## DEFENDER 5000 STANDARD PLATFORM SCALE



Multi-functional indicator with top quality platform

- Smart functionality
- Rugged construction
- High resolution

Application: Weighing (6 units + custom unit), display hold, dynamic weighing, counting, checkweighing, % weighing, auto-tare

Display: LCD display with white LED backlight plus 3 color checkweigh LED

Operation: Internal universal power supply, 6 x C batteries or optional internal NiMH rechargeable battery

Communication: RS232 interface with GMP, Time-Date; optional RS422/485, AC/DC Relay, 2nd RS232

Construction: ABS Indicator, 304 grade stainless steel platform pan with black polyurethane painted steel form and weld frame, IP67 aluminium load cell, stainless steel column and wall bracket included

Design Features: Platform with 5 or 6 point overload stops for 150% safe overload protection.

**Type**

Defender 5000 Standard Platform Scale, 15kg, Readability: 1g, Platform: 300 x 300mm  
 Defender 5000 Standard Platform Scale, 15kg, Readability: 1g, Platform: 355 x 305mm  
 Defender 5000 Standard Platform Scale 15kg Readability: 5g Platform: 300 x 300mm EC type approved  
 Defender 5000 Standard Platform Scale 15kg Readability: 5g Platform: 355 x 305mm EC type approved  
 Defender 5000 Standard Platform Scale, 30kg, Readability: 2g, Platform: 300 x 300mm  
 Defender 5000 Standard Platform Scale, 30kg, Readability: 2g, Platform: 355 x 305mm  
 Defender 5000 Standard Platform Scale 30kg Readability: 10g Platform: 300 x 300mm EC type approved  
 Defender 5000 Standard Platform Scale 30kg Readability: 10g Platform: 355 x 305mm EC type approved  
 Defender 5000 Standard Platform Scale, 60kg, Readability: 5g, Platform: 355 x 305mm  
 Defender 5000 Standard Platform Scale, 60kg, Readability: 5g, Platform: 450 x 450mm  
 Defender 5000 Standard Platform Scale, 60kg, Readability: 5g, Platform: 500 x 400mm  
 Defender 5000 Standard Platform Scale 60kg Readability: 20g Platform: 355 x 305mm EC type approved  
 Defender 5000 Standard Platform Scale 60kg Readability: 20g Platform: 450 x 450mm EC type approved  
 Defender 5000 Standard Platform Scale 60kg Readability: 20g Platform: 500 x 400mm EC type approved  
 Defender 5000 Standard Platform Scale, 150kg, Readability: 10g, Platform: 450 x 450mm  
 Defender 5000 Standard Platform Scale, 150kg, Readability: 10g, Platform: 550 x 420mm  
 Defender 5000 Standard Platform Scale 150kg Readability: 50g Platform: 450 x 450mm EC type approved  
 Defender 5000 Standard Platform Scale 150kg Readability: 50g Platform: 550 x 420mm EC type approved  
 Defender 5000 Standard Platform Scale, 300kg, Readability: 20g, Platform: 550 x 420mm  
 Defender 5000 Standard Platform Scale, 300kg, Readability: 20g, Platform: 600 x 600mm  
 Defender 5000 Standard Platform Scale 300kg Readability: 100g Platform: 550 x 420mm EC type approved  
 D51P300QX2-M Defender 5000 Standard Platform Scale 300kg Readability: 100g Platform: 600 x 600mm

**Camlab Code**

1170891  
 1170893  
 1170892  
 1170895  
 1170897  
 1170899  
 1170898  
 1170900  
 1170901  
 1170905  
 1170903  
 1170902  
 1170906  
 1170904  
 1170907  
 1170909  
 1170908  
 1170910  
 1170911  
 1170913  
 1170912  
 1170914



ADAM EQUIPMENT CPWPLUS L FLOOR SCALES



Multi-purpose industrial scales created for ease of use. Featuring different options for units of measurement, portability and an easy to read backlit indicator, the CPWplus scales are durable and dependable.

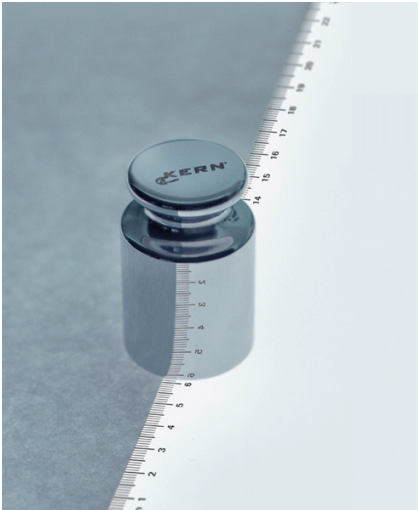


- Hold function
- Full range tare
- Zero tracking
- Large backlit LCD display
- Colour coded, sealed keypad
- Four load cell construction
- Wall mount bracket
- Large stainless steel platform
- Modern low profile design
- Splashproof to protect from accidental spills
- Simple 4 button operation
- Non-slip adjustable levelling feet
- Wheels to allow easy movement
- RS-232 bi-directional interface
- External calibration
- Rechargeable battery
- Auto sleep / power down function to save battery life
- Low battery indication
- DC adapter

Type	Compact Scales CPW Plus Floor Scales Capacity 35kg Readability 10g Pan size 900 x 600mm	Compact Scales CPW Plus Floor Scales Capacity 300kg Readability 100g Pan size 900 x 600mm
Camlab Code	1168039	1171345

Balance Accessories

E2 CALIBRATION WEIGHTS



High quality weights offered in class E2. These weights are stainless steel. Milligram weights are flat polygonal sheets.



Please note that certification of the weight is not included.

Type	Camlab Code
E2 single weight flat polygonal sheets 1 mg aluminium	1154928
E2 single weight flat polygonal sheets 50 mg nickel silver - not certified	1198644
E2 single weight flat polygonal sheets 2 mg aluminium - not certified	1136825
E2 single weight flat polygonal sheets 5 mg aluminium - not certified	1136826
E2 single weight flat polygonal sheets 10 mg nickel silver - not certified	1136827
E2 single weight flat polygonal sheets 20 mg nickel silver - not certified	1136828
E2 single weight flat polygonal sheets 100 mg nickel silver - not certified	1136829
E2 single weight flat polygonal sheets 200 mg nickel silver - not certified	1136830
E2 single weight flat polygonal sheets 500 mg nickel silver - not certified	1136831
E2 single weight 1 g stainless steel - not certified	1136819
E2 single weight 2 g stainless steel - not certified	1181355
E2 single weight 5 g stainless steel - not certified	1136820
E2 single weight 10 g stainless steel - not certified	1136821
E2 single weight 20 g stainless steel - not certified	1181356
E2 single weight 50 g stainless steel - not certified	1136822
E2 single weight 100 g stainless steel - not certified	1136823
E2 single weight 200 g stainless steel - not certified	1169621
E2 single weight 500 g stainless steel - not certified	1169622
E2 single weight 1 kg stainless steel - not certified	1169623
E2 single weight 2 kg stainless steel - not certified	1169624
E2 single weight 5 kg stainless steel - not certified	1136824

## F1 BOXED CALIBRATION WEIGHTS

High quality nickel plated F1 brass calibration weights supplied in a special wooden protective storage box and also supplied with an additional DKD Certificate.



Other weights available on request.



Type	Camlab Code
single weight standard box DKD certificate 90 500g	1161241
single weight standard box DKD certificate 124 1kg	1161242
single weight standard box DKD certificate 178 2kg	1161243

## WEIGH BOAT - ANTI-STATIC RANGE



Sufficiently rigid Weigh Boat to hold materials on the pan, yet flexible enough to enable folding for transfer.



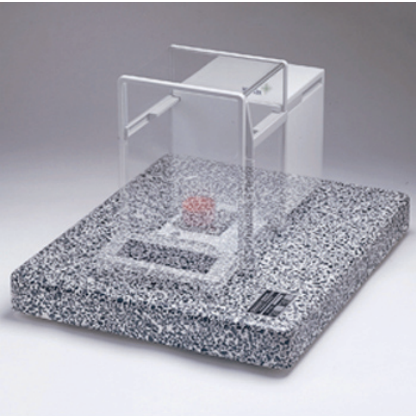
Excellent for both powders and liquids, they are available in three sizes in black or white for visible contrast with your sample.

This range is made from antistatic polystyrene to prevent powder adhesion and for easy dispensing.

Type	Camlab Code
Weighing Boats - Anti Static Diamond Black Small 5ml PS Non Sterile Pack of 1000	1126675
Weighing Boats - Anti Static Diamond White Medium 30ml PS Non Sterile Pack of 500	1126679
Weighing Boats - Anti Static Diamond Black Medium 30ml PS Non Sterile Pack of 500	1126676
Weighing Boats - Anti Static Diamond White Large 100ml PS Non Sterile Pack of 250	1126680
Weighing Boats - Anti Static Diamond Black Large 100ml PS Non Sterile Pack of 250	1126677
Weighing Boats - Anti Static Square White Small 7ml PS Non Sterile Pack of 500	1126684
Weighing Boats - Anti Static Square Black Small 7ml 44x44mm PS Non Sterile Pack of 1000	1126681
Weighing Boats - Anti Static Square White Medium 100ml PS Non Sterile Pack of 500	1126685
Weighing Boats - Anti Static Square Black Medium 100ml 80x80mm PS Non Sterile Pack of 1000	1126682
Weighing Boats - Anti Static Square White Large 250ml PS Non Sterile Pack of 500	1126686
Weighing Boats - Anti Static Square Black Large 250ml 140x140mm PS Non Sterile Pack of 1000	1126683

Weighing Tables

VIBRASORB®, VIBRATION DAMPING MOUNT FOR LABORATORY BALANCES



Prevents balances and other sensitive instruments from being affected by vibrations caused by other equipment or activities in the lab, which can affect their accuracy. An essential tool for conducting high accuracy weighing for analysis.



The mount includes four vibro-sorber cushions and neoprene feet and is moulded in dense black and white terrazzo with a polished surface which is highly resistant to scratches and chemicals.

Type	Camlab Code
VIBRASORB®, Vibration Damping Mount, Small	1166744
VIBRASORB®, Vibration Damping Mount, Large	1176516

Semi Micro Balances

PRECISA SERIES 360EP EXECUTIVE PRO BALANCE



High end laboratory balances providing an extensive range of features and functions for a wide range of weighing applications.

Features include

Expanded Weighing Range - Milligram resolution balances with ranges greater than 2Kg, or balances with a weighing range of 8Kg and a readability of 1/100th of a gram

Intuitive User interface - Start-up display can be customised, soft touch keys programmed to enable quick access to frequently used functions, and large backlit digital display

Automatic round draft shield utilising sensors to enable touch free opening and closing of draftshield

Connectivity options such as wireless, wired or Bluetooth to enable connection to various IT infrastructure

Best in class bench footprint with integral electronics reducing space required for the units.

Designed and manufactured in Switzerland, the 360EP balance series is an extremely robust and reliable balance emphasising Precisa's reputation for reliability and quality.

Type	Camlab Code
Precisa Series 360EP Executive Pro Balance EP 125SM 125gx0.01mg	1188047
Precisa Series 360EP Executive Pro Balance EP 225SM-DR 102gx0.01mg or 225gx0.1mg	1188048

## OHAUS DISCOVERY BALANCE WITH INTERNAL CALIBRATION



The OHAUS Discovery series of semi-micro and analytical balances combine unmatched weighing performance with OHAUS' innovative SmarText™ software, making it extremely reliable and easy-to-use. The Discovery features durable glass and steel construction and together with advanced AutoCal™ internal calibration make it the best performing balance in its class.



Rear mount load cell for ultimate isolation and accuracy

Advanced AutoCal™ (2 internal calibration weights)

2 line backlit LCD & SmarText™ software to guide user through set-up & applications

Type	Ohaus Discovery balance 110 g x 0.1 mg DV114C with Internal calibration	Ohaus Discovery balance 210 g x 0.1 mg DV214C with Internal calibration	Ohaus Discovery balance 310 g x 0.1 mg DV314C with Internal calibration	Ohaus Discovery balance 81 g; 210 g x 0.01 mg; 0.1 mg DV215CD with Internal calibration
Camlab Code	1195772	1195773	1195774	1195775

## Water Baths

### Cooling Baths and Circulators/Chillers

#### FRYKA COOLING BATHS -20°C AND -40°C



KB COOLING BATH - For use with existing thermostats or as a cold trap.



KT COOLING BATH WITH THERMOSTAT - For internal and external operation with built-in circulating pump. Electronic temperature regulation with PT100 thermocouple, control precision  $\pm 0.5K$ . All the KT series baths incorporate a socket to allow connection to a PT100 external sensor.

CASING - Galvanised steel sheet, electrostatically coated in RAL 9003white, fitted with a blue protective ring around top and bottom.

SPECIAL STEEL COVER - With deep-drawn tank. The upper edge is heated, preventing the formation of ice or condensation. Four M8 internal threaded fastening bolts are mounted at the corners to accept the cover or support bars.

COOLER - Cooling baths are fitted with a quiet hermetically sealed, intrinsically safe, air-cooled compressor.

Type	Temperature Max [°C]	Temperature Min. [°C]	Dims Int. (HxWxD) [mm]	Dims Ext. (HxWxD) [mm]	Camlab Code
Cooling Bath 6L Capacity +20 to -40°C	20	-40	150 x 150 x 300	500 x 320 x 480	1131115
Cooling Bath 8L Capacity +20 to -40°C	20	-40	200 x 150 x 300	550 x 320 x 480	1131116
Cooling Bath 10L Capacity +20 to -40°C	20	-40	150 x 240 x 300	500 x 410 x 480	1131117
Cooling Bath 12L Capacity +20 to -20°C	20	-20	200 x 240 x 300	550 x 410 x 480	1131118
Cooling Bath 12L Capacity +20 to -40°C	20	-40	200 x 240 x 300	550 x 410 x 480	1131119
Cooling Bath 18L Capacity +20 to -40°C	20	-40	200 x 300 x 330	540 x 480 x 530	1131120
Cooling Bath with Temp Controller 8L Capacity +20 to -40°C	20	-40	200 x 150 x 300	550 x 320 x 480	1131127
Cooling Bath with Temp Controller 6L Capacity +20 to -40°C	20	-40	150 x 150 x 300	550 x 320 x 480	1131128
Cooling Bath with Temp Controller 8L Capacity +20 to -20°C	20	-20	200 x 150 x 300	550 x 320 x 480	1131129
Cooling Bath with Temp Controller 10L Capacity +20 to -40°C	20	-40	150 x 240 x 300	550 x 410 x 480	1131131
Cooling Bath with Temp Controller 12L Capacity +20 to -20°C	20	-20	200 x 240 x 300	550 x 410 x 480	1131132
Cooling Bath with Temp Controller 12L Capacity +20 to -40°C	20	-40	200 x 240 x 300	550 x 410 x 480	1131133
Cooling Bath with Temp Controller 18L Capacity +20 to -40°C	20	-40	200 x 300 x 330	540 x 480 x 530	1131134

TC120 THERMOSTATIC STIRRER WITH REFRIGERATED BATH



Grant

The TC120 heating circulator incorporates Intelligent Control Optimisation (ICO)<sup>™</sup> for adaptive intelligent PID temperature control and includes a powerful integral pump, making TC120 series refrigerated systems suitable both for immersing samples and circulating temperature controlled fluid to external devices.

It includes a convenient timer function for reaction timing and a variable high temperature alarm setting. The temperature range and heater power are automatically limited according to the liquid type selected.

- Simple-to-use rotor dial and two function keys provide access to the interactive interface for fast, accurate set-up
- Clear 4-digit display for instant reassurance - easy to read from a distance
- Visual and audible alarm - alert you when your attention is required
- Operating set-point plus 3 adjustable preset temperatures for convenience
- User calibration facility for optimum accuracy at the required operating temperature
- Powerful integral pump - maximum flow rate 16 L/min
- Cooling/heating range: -25°C to 100°C
- Stability  $\pm 0.1^{\circ}\text{C}$

Note: The refrigeration unit can be switched off independently of the circulator to allow heating only applications. All the refrigeration base units can be used up to a maximum temperature of 100°C.

Type	Camlab Code
Refrigerated bath system includes TC120 Thermostatic Stirrer with 5L R1 bath	1192437
Refrigerated bath system includes TC120 Thermostatic Stirrer with 5L R2 bath	1192438
Refrigerated bath system includes TC120 Thermostatic Stirrer with 20L R4 bath	1192439
Refrigerated bath system includes TC120 Thermostatic Stirrer with 12L R5 bath	1192440



## Unstirred/boiling

## UNSTIRRRED DIGITAL WATERBATHS CLIFTON



This water bath provides a stable temperature environment ideal for meeting quality control requirements featuring digital PID temperature control for precision. Controls feature auto alarm settings, illuminated on/off switch, heater and over temperature indications.

Every water bath undergoes a factory calibration check, each filled with water, then at two reference temperatures we validate the bath achieves these settings with reference to a calibrated measuring system - giving you total confidence in use.

Temperature control - accurately controlled and set values reproduce able every time using advanced PID control.

- Clearly visible LED display suiting all lighting conditions.
- Temperature control features constant running Adaptive Tuning to constantly refine the control liquid temperature at set point.
- Digital LED display to 0.1°C resolution.
- Temperature range ambient +5°C - 99°C.
- Sensitivity  $\pm 0.2^\circ\text{C}$ .
- Uniformity  $\pm 0.1^\circ\text{C}$ .
- Auto setting over temperature alarm protects your work about set temperature.
- Actual water bath liquid temperature always displayed for complete assurance.
- Settings retained in memory.
- Clearly visible bright status indicators
- Indication of heating and over temperature alarm.

Heating element, safety cut-out and temperature sensors concealed underneath tank providing a totally clear 'clutter free' working area and easy to clean.

The heating footprint covers underside base of the tank, its low mass provides rapid energy transfer; quicker heat up times and a reduction in energy consumption with improved temperature uniformity as heat is spread over a broad area.

Stainless steel perforated false base.

Removable Clifton Low Height shelf maximizing working height in tank - needs less water for same work or allows taller vessels to be immersed.

Corrosion resistant stainless steel working environment. Water bath construction; stainless steel 304 spec tank, crevice free.

Body constructed from durable steel chassis, zinc coated, then painted. The paint features Antibacterial protection, hygienic coating which actively inhibits bacterial growth.

Side lifting handles for ease of transportation.

Featuring easy to wipe clean control panel also features Antibacterial properties, good chemical and detergent resistance. Carries the CE mark meeting the requirements of Low Voltage and EMC Directives.

Type	Dims Int. (HxWxD) [mm]	Dims Ext. (HxWxD) [mm]	Camlab Code
Bath Clifton NE2-4D Unstirred Digital Temperature Controller & Display 4 Ltr	150 x 150 x 300	290 x 332 x 185	1140418
Bath Clifton NE2-8D Unstirred Digital Temperature Controller & Display 8 Ltr	150 x 300 x 240	290 x 332 x 270	1140419
Bath Clifton NE2-14D Unstirred Digital Temperature Controller & Display 14 Ltr	150 x 325 x 300	290 x 361 x 332	1140415
Bath Clifton Ne2-22D Unstirred Digital Temperature Controller & Display 22 Ltr	150 x 500 x 300	290 x 538 x 332	1140416
Bath Clifton Ne2-28D Unstirred Digital Temperature Controller & Display 28 Ltr	200 x 500 x 300	290 x 538 x 332	1140417
Bath Clifton NE2-56D Unstirred Digital Temperature Controller & Display 56 Ltr	200 x 620 x 500	290 x 660 x 540	1176901

GRANT SBB AQUA PLUS RANGE



The Grant SBB Aqua Plus series is a robust, high quality unstirred analogue boiling bath for direct immersion of samples. It provides continuous, steady 100°C operation without violent boiling, spitting or producing excessive steam.

Grant

A gabled polycarbonate lid is included with all units.

Caution; a lid or polypropylene spheres should always be used with boiling baths

- Choice of 3 models - 12 litre, 18 litre and 26 litre baths
- Non-drip polycarbonate lid - improves performance, limits evaporation and conserves energy. Now included as standard.
- Stainless steel tank in a robust outer case - tough and durable in demanding environments
- Constant level device helps maintain required liquid level for optimal operation
- Adjustable energy regulator provides steady boiling
- Large available working area in relation to footprint
- Two over-temperature cut-outs protect users and the workspace if bath is accidentally run without water
- Perforated tray to ensure uniform heat distribution, included as standard
- Wide range of accessory options for different applications
- 3-year warranty

Type	SBB AQUA 5 PLUS Water Bath Boiling 5L	SBB AQUA 12 PLUS Water Bath Boiling 12L	SBB AQUA 18 PLUS Water Bath Boiling 18L	SBB AQUA 26 PLUS Water Bath Boiling 26L
Camlab Code	1131795	1179615	1192405	1192406

Related accessories:

1131656	Lid Flat For 5L unstirred Bath 2 ring sets
1131652	Lid Flat For 12L unstirred Bath 4 ring sets
1131654	Lid Flat For 18/26L unstirred Bath 6 ring sets
1131655	Lid Flat For 34L unstirred Bath 8 ring sets

Bath and Circulator Accessories

FLAT LID WITH HOLES FOR VARIOUS GRANT WATER BATHS

Ring sets give alternative hole diameters of 78, 59, 43 and 31mm to accommodate tall vessels.

Grant



For use with Grant SUB, SUB Aqua, JB, JB Aqua, JB Nova, JB Academy and SBB baths.

Type	Camlab Code
Lid Flat For 5L unstirred Bath 2 ring sets	1131656
Lid Flat For 12L unstirred Bath 4 ring sets	1131652
Lid Flat For 18/26L unstirred Bath 6 ring sets	1131654
Lid Flat For 34L unstirred Bath 8 ring sets	1131655

## Stirred Baths and Circulators

## WATER BATH WITH CIRCULATOR



A range of digital water heating circulators with stainless steel tanks - available in standard and high temperature versions.

The stainless steel tank is contained within a sturdy outer case and supplied complete with a stainless steel shelf - all providing good water circulation and temperature stability.

The Clifton thermocirculator is robustly constructed from stainless steel for durability. Painted surfaces have a tough anti-bacterial finish with good chemical resistance. Easy to use controls that wipe clean and have an anti-bacterial finish. Immersed components are corrosion resistant. The circulators are very quiet while in use and give excellent water temperature stability in the bath. There are built in indicators for heating, over temperature alarm and timer running.

When a low liquid level is detected a "FILL" message automatically appears and heating is suspended. Once refilled, heating is restored and temperature control resumes automatically. Over and under temperature alarms automatically protect work in the water bath, providing heater cut off, visual message and indicator.

The thermocirculator pump comes with convenient push-fit and lock fittings on the inlet and outlet ports for secure external water circulation.

Standard versions can be used with water from ambient temperature +5°C up to 99°C. High temperature versions can be used with water or oil (for temperatures over 99°C) from ambient temperature +5°C up to 130°C

Temperature uniformity within the bath is  $\pm 0.01^\circ\text{C}$

**Type**

Bath Water 8L With Circulator  
Bath Water 8L With Circulator - high temp  
Bath Water 14L With Circulator  
Bath Water 14L With Circulator - high temp  
Bath Water 22L With Circulator  
Bath Water 22L With Circulator - high temp  
Bath Water 28Ltr With Circulator

**Camlab Code**

1140441  
1140440  
1140427  
1140426  
1140432  
1140431  
1140436

## TC120 THERMOSTATIC STIRRER WITH STAINLESS STEEL BATH



Grant TC120 series systems combine the versatile Grant Optima™ TC120 digital heating circulator with a choice of five stainless steel (ST) tanks with different capacities.

The Grant TC120 heating circulator incorporates Intelligent Control Optimisation™ (ICO) for adaptive intelligent PID temperature control and includes a powerful integral pump, making TC120 systems suitable both for immersing samples and circulating temperature controlled fluid to external devices.

It includes a convenient timer function for reaction timing and a variable high temperature alarm setting. The temperature range and heater power are automatically limited according to the liquid type selected.

- Simple-to-use rotor plus two keys provide access to the interactive interface for fast, accurate set-up
- Clear 4-digit display for instant reassurance - easy to read from a distance
- Visual and audible alarms alert you when your attention is required
- Operating setpoint plus 3 adjustable preset temperatures for convenience
- User calibration facility for optimum accuracy at the required operating temperature
- Integral pump - max. flow rate 16L/min
- Low liquid protection by float switch
- User adjustable overtemperature cut-out protects your samples and your workplace
- Maximum cooling/heating range (dependent on tank size): ambient +5 to 99°C with plastic (P) tank, or -15° to 120°C with stainless steel (ST) tank
- Stability  $\pm 0.05^\circ\text{C}$

**Type**

TC120-ST5 Thermostatic Stirrer with 5L stainless steel bath  
TC120-ST12 Thermostatic Stirrer with 12L stainless steel bath  
TC120-ST18 Thermostatic Stirrer with 18L stainless steel bath  
TC120-ST26 Thermostatic Stirrer with 26L stainless steel bath  
TC120-ST38 Thermostatic Stirrer with 38L stainless steel bath

**Camlab Code**

1192445  
1192441  
1192442  
1192443  
1192444

## Bath and Circulator Accessories

## FLAT LID WITH HOLES FOR VARIOUS GRANT WATER BATHS



Ring sets give alternative hole diameters of 78, 59, 43 and 31mm to accommodate tall vessels.

**Grant**

For use with Grant SUB, SUB Aqua, JB, JB Aqua, JB Nova, JB Academy and SBB baths.

Type	Camlab Code
Lid Flat For 5L unstirred Bath 2 ring sets	1131656
Lid Flat For 12L unstirred Bath 4 ring sets	1131652
Lid Flat For 18/26L unstirred Bath 6 ring sets	1131654
Lid Flat For 34L unstirred Bath 8 ring sets	1131655

## Furnaces

## CHAMBER FURNACES HTF MODELS



The HTF range of chamber furnaces provides higher temperature capability.

**CARBOLITE**

Heating is provided by four molybdenum disilicide elements, two located on either side of the chamber, which provide improved performance and temperature uniformity within the chamber.

The doors are manually operated with a light touch for upward parallel opening, which keep the hot face away from the operator.

Type	Camlab Code
5L 1700°C HTF Furnace	1127761
8L 1800°C HTF Furnace	1127763
27L 1800°C HTF Furnace	1168038

## Mantles for Heating

## EMA SERIES STIRRING/HEATING MANTLES



The EMA Electromantle has the added functionality of stirring which widens the range of applications.

**Electrothermal**

Stirring operation is simply achieved by placing the correct size stir bar into the flask, turning the stir control to the minimum speed and ramping up slowly. If the magnetic coupling to the stir bar is lost for any reason, the stir speed control should be reduced slightly and the auto-recapture switch can be activated.

- Bi-directional stirring speeds up to 520rpm
- Element temperature 450°C
- Built-in energy regulator
- Use with round bottom flasks from 50ml to 2L
- Replaceable insulated heater cartridge
- Double fused for added safety
- Pilot Lamps for power and heater operation
- Grounded line cord

Warranty: One year parts and labour

Please note that the glassware, retort rod and clamp shown in the image are for illustration purposes only and are not included with the mantles but can be purchased separately.

Type	Camlab Code
EMA Series Stirrer/Heating Mantle 50ml	1134576
EMA Series Stirrer/Heating Mantle 100ml	1134577
EMA Series Stirrer/Heating Mantle 250ml	1134578
EMA Series Stirrer/Heating Mantle 500ml	1134579
EMA Series Stirrer/Heating Mantle 1L	1134580
EMA Series Stirrer/Heating Mantle 2L	1134581

## EM SERIES HEATING MANTLES



The EM Electromantle series features a durable, chemically resistant, polypropylene outer housing that minimizes damage from spills. They allow maximum heat transfer with minimum risk for flask breakage.

Designed with flexibility and ease of use in mind, the EM series Electromantle is a reliable workhorse for your heating applications in the laboratory. All EM Electromantles have a built-in energy regulator with indicator lamps for power and heater operation.

All mantles have a bracket to fit 1.3cm diameter retort rods as an integral feature and incorporate a grounded earth screen and double fuses for added safety. Larger capacity products have multiple heating elements, enabling a more even and directed transfer of heat.

- Element temperature 450°C
- Use with round-bottom flasks from 50ml to 5L
- Built-in energy regulator
- Replaceable insulated heater cartridge
- Pilot lamps for power and heater operation
- Model EM5000/CE has two circuits
- Supplied with clamps for 1.3cm diameter support rods
- Grounded line cord

Warranty: One year parts and labour

Please note that the glassware, retort rod and clamp shown in the image are for illustration purposes only and are not included with the mantles but can be purchased separately.

Type	Camlab Code
EM Series Heating Mantle 50ml	1180499
EM Series Heating Mantle 100ml	1134549
EM Series Heating Mantle 250ml	1134550
EM Series Heating Mantle 500ml	1172544
EM Series Heating Mantle 1L	1134552
EM Series Heating Mantle 2L	1134553
EM Series Heating Mantle 3L	1134554
EM Series Heating Mantle 5L	1134555

## B6101 ELECTRIC BUNSEN BURNER



The Electrothermal B6101 Electric Bunsen combines the advantages of a regular gas burner with the clean easy operation of heating mantles.

Radiation from the heater is directed upwards to a focal point. The Electric Bunsen is ideal for heating test tubes, crucibles, small flasks and beakers, regardless of their shape.

The B6101 Electric Bunsen is corrosion-resistant and has a cool-to-touch base.

### Key Features:

- Conical shaped heating element directs radiant heat to the top cavity
- Top cowl deflects heat away from your hand
- Air circulation from the vented housing keeps the base cool enough to hold during operation
- Burner consumes only 400W of power
- Recommended controller is the MC5

Type	Camlab Code
Electric Bunsen Burner With MC5 Controller 480w	1190136
Electric Bunsen Burner Without Controller 480w	1190135



Water Testing

Instruments - Multi Parameter

HACH DR900 MULTIPARAMETER COLORIMETER



The handheld colorimeter saves time in the field by allowing quick and easy access to the most used testing methods in less than four clicks.



This colorimeter is waterproof, dustproof, shock resistant, and has been drop tested for greater quality assurance. This instrument comes with an intuitive user interface, a large data store and a built-in USB port for easy transferring of information.

The handheld colorimeter also helps satisfy core testing needs by offering at least 90 of the most common testing methods.

Combining all of these features with a push button backlit display for use in low light areas, you have a handheld colorimeter which is field ready in every possible way, and makes testing in harsh field environments a little less challenging.

**Type**  
Hach Multi-parameter Colorimeter DR900

**Camlab Code**  
1194335

HACH LANGE DR 1900 PORTABLE SPECTROPHOTOMETER



The Hach DR1900 spectrophotometer is ideal for the field and is designed to go where you need to go.



Water testing in the field takes you to potentially dusty and wet conditions where less rugged equipment simply will not last. The Hach DR 1900 is built with the field user in mind the instrument has a large easy-to-read screen and a simple user interface that makes testing easier than ever, even in the harshest conditions.

Underneath the rugged exterior, the spectrophotometer has over 220 of the most commonly tested water methods already built in. If you want, use the easy-to-use interface to create your own methods to test what is important to you.

Tests are performed with a wavelength range of 340 to 800 nm which make this a field instrument you can use to find results typically only seen in laboratory instruments.

Please note: Hach LCK cuvette test evaluation possible, but without barcode reading & 10 fold measurement feature.

**Type**  
DR 1900 Hach LANGE Portable Spectrophotometer  
DR 1900 Bundle Hach LANGE Portable Spectrophotometer incl power supply

**Camlab Code**  
1197382  
1197513

**Related accessories:**  
1198635 Backpack for Portable Meters

## EXACT MICRO 20 KIT



The eXact Micro 20 photometer in a handy kit contains everything you need to start testing.



This dual wavelength photometer (525nm and 638nm) can test over 30 water quality parameters with high accuracy. It has a narrow band wavelength filter for improved accuracy, long life LEDs and a built-in cell for ultra-performance.

The unit self calibrates and automatically selects the wavelength for each parameter. The test procedures use a patented reagent delivery method - the reagents are embedded onto test strips, making testing quick and simple even for non-technical users.

The unit complies with EPA, ISO and DIN specifications for Chlorine testing.

The kit includes;

- 1x eXact Micro 20 meter
- Test strips for DPD-1, DPD-3, pH, total alkalinity, copper, nitrate, manganese, total hardness, high range chlorine and total iron
- 1x mixing cap
- 1x cell cleaning brush
- Instruction booklet
- Plastic carrying case
- Plastic stirrer

Type

eXact Micro 20 KIT (WELL DRILLER)

Camlab Code

1192555

## PALINTEST 7500 PHOTOMETER BLUETOOTH



A comprehensive water test kit containing all the accessories you need to carry out portable water quality testing. Simply add the reagents you need to test your water and customise your water test kit. The Photometer 7500 Bluetooth® Standard Kit is the practical choice for the modern water operator.

Palintest®

Features include:

- Comprehensive water test kit in a standard hard carry case ensuring a truly portable water testing solution for managing water quality. Customise your kit with the reagents you need to manage your water.
- Includes a Photometer 7500 Bluetooth® allowing you to share results from over 100 methods using Bluetooth® SMART or USB connection.
- All required accessories are provided in a protective case, including USB lead and sample preparation components

Supported with a 2 year warranty and a range of accessories including the new Aqua Pal app and the secure Palintest Portal for data management, the Photometer 7500 Bluetooth® is the ideal tool for the water professional.

Supplied in three different versions a simple portable kit, a benchtop kit without a carry case and a full engineers kit

Type	Palintest 7500 Photometer Bluetooth Standard Kit	Photometer 7500 Bluetooth® Benchtop Kit	Photometer 7500 Bluetooth® Engineers Kit
Camlab Code	1199137	1199139	1199138

Turbidity Meters

PORTABLE TURBIDIMETER 2100Q



HACH LANGE's NEW 2100Q & 2100Q IS Turbidimeter for measuring turbidity.



The 2100Q series is a replacement for the highly popular 2100P and now makes it easier to monitor water cleanliness and clarity, to test product quality and consistency and to meet turbidity regulations where grab samples are used.

The new 2100Q makes it easier to monitor water cleanliness and clarity, to test product quality and consistency, and to meet turbidity regulations where grab samples are used.

Simplest solution for low-level measurements

Single-step verification and on-screen assisted calibration eliminates the need to reference complicated manuals USB module enables simple data transfer. Exclusive algorithm in the Rapidly Settling Turbidity™ mode provides accurate, repeatable measurements for rapidly settling, difficult-to-measure samples while eliminating the need for redundant measurements and estimating

Easy calibration and verification

HACH 2100Q and 2100Q IS portable turbidimeters provide confidence your measurements are right every time. On-screen assisted calibration and verification save you time and ensure accuracy. With an easy-to-follow interface, complicated manuals are not needed to perform routine calibrations. Singlestandard RapidCal calibration offers a simplified solution for low level measurements.

Simple Data Transfer

Data transfer with the 2100Q / 2100Q IS is simple,flexible, and does not require additional software when used with the optional USB+Power module. All data can be transferred to the module and easily downloaded to your computer with a USB connection, providing superior data integrity and availability. With two different module options, you can customize cennectivity and power to meet your unique needs.

Accurate for rapidly settling samples

The HACH 2100Q / 2100Q IS portable turbidimeterincorporates an innovative Rapidly Settling Turbidity mode to provide accurate, repeatable measurements for difficult to measure, rapidly settling samples. An exclusive algorithm that calculates turbidity based on a series of automatic readings eliminates redundant measurements and estimating.

Convenient Data Logging

Up to 500 measurements are automatically stored in theinstrument for easy access and backup. Stored information includes: date and time, operator ID, reading mode, sample ID, sample number, units, calibration time, calibration status, error messages and the result.

Optical system for precision in the field

The two-detector optical system compensates for color in the sample, light fluctuation, and stray light, enabling analysts to achieve laboratory-grade performance on a wide range of samples, even under difficult site conditions.

Two models for specific requirements

- 2100Q Turbidimeter - compliant with USEPA Method 180.1 design criteria.
- 2100Q IS Turbidimeter - compliant with ISO 7027 design criteria.

Type	Portable Turbidimeter 2100Q EPA	Portable Turbidimeter 2100QIS01
Camlab Code	1173083	1172740

## PALINTEST TURBIDITY METER



Palintest®

Compact Turbimeter kit featuring QuadroptiX™ technology, including four sample cuvettes, four SDVB calibration standards, two packs of lint free cloths, dilution tube, silicone oil and cleaning brush in a robust hard case. Turbidity and Total Suspended Solids (TSS) are two of the most important indicator parameters for drinking water quality, natural/surface water management and wastewater treatment. The Compact Turbimeter uses unique QuadroptiX™ technology to provide:

- Maximum reliability and accuracy in the field
- Variety of operating/reading modes including Total Suspended Solids
- Full data log including time, date, Operator ID, Sample ID and calibration record for GLP compliance.

Operating according to the ISO 7027 standard, the Compact Turbimeter is ideal for the following applications:

**Drinking Water** - with a high sensitivity and high resolution of 0.01 NTU in the 0 – 1 NTU range, the Compact Turbimeter provides superb validation of drinking water quality and provides an essential tool for process control and management of drinking water production.

**Natural/Surface Waters** - with a wide dynamic range from 0 – 1050 NTU the Compact Turbimeter provides robust and reliable measurement of surface water turbidity and suspended solids for environmental studies.

**Wastewater** – utilising compensated turbidity measurement to give maximum resolution in wastewater and true ISO 7027 compliance, the Compact Turbimeter offers a Total Suspended Solids calibration option and continuous measurement mode for settling samples.

Available as a hard case portable kit and supported by SDVB calibration standards, the Compact Turbimeter guarantees ergonomic and accurate field measurement for turbidity and Total Suspended Solids.

Type

Palintest Compact Turbimeter kit with QuadroptiX™ technology

Camlab Code

1192554

## TSS PORTABLE HAND-HELD TURBIDITY AND SOLIDS ANALYSER



LANGE®  
WATER FOR WATER QUALITY

Compact instrument for analytical determination by continuous measurement mode with integration time setting.

- Adjustment of up to 5 measuring points, storage of measuring values with name, date and time. Shockproof.
- Ideal for use in the field, thanks to compact design
- Internal memory for measured values and sample information
- User friendly menu and clear display
- Battery status always visible

Combined multiple beam alternating light method with infrared diode system and beam focusing; wavelength 860 nm. The measurement ranges for turbidity and suspended solids are: 0.001- 9999 FNU and 0.001-400 g/L respectively.

Type

TSS Portable bag complete

Camlab Code

1195976

Multi-parameter meters

HQ30D SINGLE CHANNEL METER - FOR PH, CONDUCTIVITY AND DO



- Plug and Play with IntelliCAL(TM) probes - pH, conductivity, LDO, and more\*
- Lighten your load with a single meter to measure either pH, Conductivity, or LDO interchangeably
  - Quick and easy swapping of parameter/probe without re-calibration
  - Password-protected data for accurate, tamper proof reporting
  - 500-point event log stores measurements, calibrations and check standards
  - This meter replaces the HQ10 LDO® meter

Specifications:  
Range (0 to 14pH)  
Range (0.01µS/cm-200mS/cm)  
Range (0.00 to 20.0mg/l Dissolved Oxygen)  
Dimensions (95x197x36mm (HxWxD))  
Weight (323g)



Type	Camlab Code
HQ30D Flexi Meter Without Probes	1134145
HQ30D Flexi Meter With Gel filled pH Probe 1M	1134604
HQ30D Flexi Meter With Standard LDO Probe 1M Cable	1134147
HQ30D Flexi Meter With Gel filled pH Probe 1M and LDO Probe 1M	1134146
HQ30D Flexi Meter With Standard LDO Probe 3M Cable	1134148
HQ30D Flexi Meter With Rugged LDO Probe 5M Cable	1134149
HQ30D Flexi Meter With Rugged LDO Probe 10M Cable	1134150
HQ30D Flexi Meter With Rugged LDO Probe 15M Cable	1134151
HQ30D Flexi Meter With Rugged LDO Probe 30M Cable	1134152

Related accessories:  
1178154 Field Kit case for HQD meter and standard electrodes

MYRONL ULTRAMETER 6PIIFC BUNDLE



The MyronL Ultrameter 6PIIfc for pH, redox and conductivity features and innovative cell cup design. Simply dip the meter straight into the sample no probes to get lost, damaged, or tangled. These meters are completely waterproof making them ideal for field applications.



Included in the kit is a hard carry case and all the standards you need to calibrate the meter.

Includes

- Ultrameter 6PIIfc
- Hard carry case including 2oz bottles of all buffers and calibration solutions
- 1 bottle MyronL 7000uS conductivity standard
- 1 bottle MyronL 3000ppm 442 TDS standard
- 1 bottle each of 4, 7 and 10 pH buffer, colour coded

Type	Camlab Code
MyronL Ultrameter 6PIIfc Bundle *Contains the following items*	1130373





## H170 SERIES PORTABLE ISFET PH CONDUCTIVITY METER



The Hach H-Series handheld pH/conductivity meters are dual-technology pH (non glass ISFET and traditional glass). These rugged meter systems showcase a large LCD display with LED backlight, and have the ability to accurately measure pH (ISFET or glass), mV, Temperature, ORP, ISE and conductivity. These ultra-modern waterproof handheld meters are engineered to give years of reliable service in the most of difficult applications.



All handheld meters include:

- IP67 Waterproof, Chemical Resistant, Dust Resistant, Floating enclosure
- -2 to +19 pH range (Non "G-Series" meter has a range of 0-14 pH)
- 0.1 or 0.01 pH resolution
- Up to five point pH calibration
- Five point conductivity calibration

The G versions include bluetooth connectivity

Type	H170 Series Portable Waterproof ISFET Meter W/O Probe	H170 series portable pH/ conductivity meter with pH electrode	H170 Series Portable Waterproof Bluetooth Meter W/O Probe	H170 series portable pH/ conductivity bluetooth meter with pH electrode
Camlab Code	1194035	1194046	1180747	1192690

### Related accessories:

1154676	Waterproof S/S General Purpose Probe For H series meter
1172806	Waterproof Heavy Duty S/S Piercing Probe For H series
1194037	Waterproof S/S Piercing tip micro Probe For H series meter
1194038	Waterproof S/S micro Probe For H series meter
1194039	Waterproof S/S NMR micro Probe For H series meter

## Suspended Solids

### MD100 POCKET COLORIMETER SUSPENDED SOLIDS



MD100 Photometers are small, portable single parameter units which supply accurate, reproduceable results quickly.



For ease-of-use, the units have a simple button layout and use either Tablet, Powder or Liquid reagents depending on the test parameter.

Temperature compensated LED and photosensor in waterproof sample chamber.

Specifications:  
Range (5-750mg/l)

Type	MD100 Pocket Colorimeter Suspended Solids
Camlab Code	1188505

TSS PORTABLE HAND-HELD TURBIDITY AND SOLIDS ANALYSER



Compact instrument for analytical determination by continuous measurement mode with integration time setting.



- Adjustment of up to 5 measuring points, storage of measuring values with name, date and time. Shockproof.
- Ideal for use in the field, thanks to compact design
- Internal memory for measured values and sample information
- User friendly menu and clear display
- Battery status always visible

Combined multiple beam alternating light method with infrared diode system and beam focusing; wavelength 860 nm. The measurement ranges for turbidity and suspended solids are: 0.001- 9999 FNU and 0.001-400 g/L respectively.

Type	TSS Portable bag complete
Camlab Code	1195976

Lab Furniture

Chairs and Stools  
Antistatic Chairs and Stools

ESD FIN STANDING SEAT CHAIR WITH BLACK FOAM SEAT CUSHION



Fin is a new solution for almost all kinds of standing work. Combining all the requirements demanded by work in industry, research, retail and office into an award winning seat design. Fin redefines standing work in a completely new way.

Fin relieves stress and is wonderfully comfortable. It is intuitive to use and operate, robust and easy to clean, secure and feels safe and is space saving, light and easy to move around.

The seat is height adjustable from 620 - 850mm and offers swivel range of 20° to the left and right.

The ergonomic design means that the column tilts forward by 4° for optimum working posture and support.

The base is made of blasted aluminium and the seat of soft touch PU foam. This ESD version has a discharge resistance of 106# so fulfilling the requirements of ESD standard EN 61340-5-1

Type	ESD Fin standing seat chair with black foam seat cushion	Camlab Code	1197848
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## ESD LABSTER CHAIRS



Labster is the world's first pure laboratory chair, and can even be used in cleanroom conditions.

The ergonomically shaped comfort upholstery of Labster chairs is available in soft Skai synthetic leather or sturdy integral foam. Both surfaces are easy care and resistant to disinfectants.

All models have a platinum grey frame with an easy clean base underneath.

Choose from glides (in abrasion resistant plastic with a large surface area and flat design to prevent trips) or castors (dual-wheel safety castors with load-sensitive brakes. Soft castors for hard floors are fitted as standard, please request if you require hard castors for soft floors).

Compact design with space-saving star base makes it suitable for use even in small spaces.

Design complies with GMP guidelines and meets the requirements of S1, S2 and S3 (safety class) biotechnology labs. Compliant with air cleanliness class 3 in accordance with EN ISO 14644-1

Other colours are available on request; synthetic leather type available in black, blue, grey, red, mint green and white. Integral foam type available in black and grey.

Choice of high or low chairs for ESD use. Conductive chair design meets ISO 61340-5-1 to prevent electrostatic discharge

bimos

Type	ESD Labster 3 Black Foam lab chair with glides and foot ring	ESD Labster 3 Black synthetic leather lab chair with glides and foot ring	ESD Labster 2 anti static lab chair with black integral foam upholstery and castors	ESD Labster 2 anti static lab chair with black synthetic leather upholstery and castors
Camlab Code	1197862	1197863	1197872	1197873

## Draining racks

### DRYING RACKS

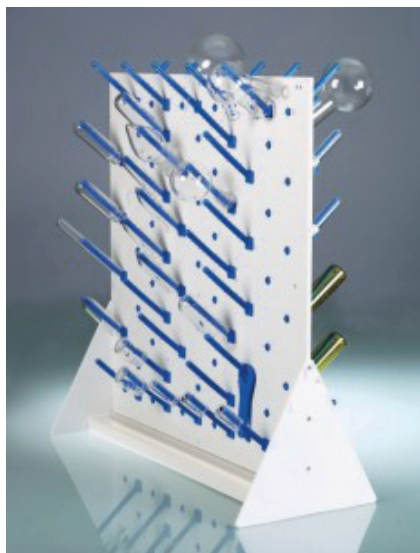


Polyethylene drying racks, with solid 10mm thick back-board, suitable for wall mounting.

Hygienic and unbreakable these racks are resistant to acids, alkalis and solvents. The pegs are interchangeable, snap-fitting into position to make a firm, solid assembly. An optional drainage trough is also available.



Type	Camlab Code
Plastic Drying Rack 40x40cm Without Trough Includes pegs; 5x 60mm, 26x 100mm, 2x 150mm	1140853
Plastic Drying Rack 40x40cm With Trough Includes pegs; 5x 60mm, 26x 100mm, 2x 150mm	1172834
Plastic Drying Rack 50x50cm Without Trough Includes pegs; 10x 60mm, 39x 100mm, 4x 150mm	1140854
Plastic Drying Rack 50x50cm With Trough Includes pegs; 10x 60mm, 39x 100mm, 4x 150mm	1162260
Plastic Drying Rack 60x60cm Without Trough Includes pegs; 15x 60mm, 56x 100mm, 6x 150mm	1140855
Plastic Drying Rack 60x60cm With Trough Includes pegs; 15x 60mm, 56x 100mm, 6x 150mm	1187955

**BENCHTOP DRAINER**

PVC Draining rack with PP rods

Includes spanner for removing the rods

Benchtop version can be used on both sides

The stable PP rods are individually placed into the holes of the draining rack and are clicked into place. Their positions can be changed at any time. Using a combination of rods of three different lengths (60 mm, 100 mm and extension to 150 mm), the draining rack can be adapted to the drying of any apparatus.

The draining rack is easy and flexible to set down on a table or working surface. Two large supports with wide bases ensure sufficient stability. Since both sides of the draining board can be used, it provides twice the hanging space. The collecting pan can simply be removed for emptying.



Type	Camlab Code
Benchtop Drainer 40x40cm	1194498
Benchtop Drainer 50x50cm	1194499
Benchtop Drainer 60x60cm	1194500

## Safety

### Spill Kits

**STATIC CONTAINER SPILL KITS**

Spill kits contained in a static container for storage with clear labelling to show the contents.

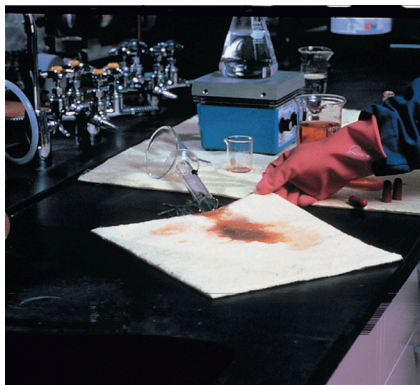
25 Litre Chemical Tub Kit contains: 10 x Pads, 1 x Mini Boom

90 Litre Chemical Tub Kit contains: 25 x Pads, 1 roll, 2 x Mini Boom, 1 x Leak Block 5kg, 1 x Disposal Bag, 1 x Audit Cover

200 Litre Chemical Overpack Kit contains: 100 x Pads, 1 roll, 3 x Mini Boom, 1 x 10kg Leak Block Granules, 10 x Disposal Bags, 1 x Audit Cover, 10 x Cushions



Type	Camlab Code
Static Spill Kit 25L Chemical	1137876
Static Spill Kit 90L Chemical	1137877
Static Spill Kit 200L Chemical	1137878

**CHEMICAL ABSORBENT SHEETS PACK 4X50**

Designed with quick and easy response in mind. Packed in a handy 50 sheet dispenser, chemical absorbent sheets are ideal for smaller spills - or for a final clean-up after a larger spill.

- Absorbency: 0.25L / sheet
- Dimensions of sheet: 28 x 33 cm
- Pack quantity: 4 dispensers each containing 50 sheets.



Type	Camlab Code
Chemical Absorbent Sheets Pack 4X50	1137900

## Eye Protection

### Goggles

#### SAFETY GOGGLES MODEL PG1 (TWIN POLYCARB LENS GOGGLE, FOR USE WITH SPECTACLES)



Twin polycarbonate lens goggle, particularly suitable for use over most prescription spectacles. With non-mist lens style. Certified to EN166.

**Type**  
Safety Goggles Model PG1 (Twin polycarb lens goggle, for use with spectacles) to EN166

**Camlab Code**  
1137799

### Spectacles

#### ECOSTAR CLEAR SAFETY SPECTACLES



Economical stylish safety spectacles that offer safety and style at an affordable price.

- Nylon frames
- Wrap around polycarbonate lens
- Integral browguard
- Integral side shields
- Adjustable arm length settings for increased wearer comfort
- Approved to EN166 1F

**Type**  
Ecostar Anti-Scratch Safety Spectacles Clear Polycarbonate Lens

**Camlab Code**  
1178419



## Lab Coats and Aprons

#### STANDARD POLYCOTTON LAB COATS



Standard unisex lab coats for everyday use, essential personal protective equipment (PPE) for any laboratory.

Back vented for comfort, the coat has concealed studs to fasten at the front and has two hip pockets and one chest pocket.

Made in Kingsmill 245g fabric - guarantees high performance and maximum comfort. The material is fully pre-shrunk, has superior dye retention and all the features you would expect from modern workwear fabric. 65% polyester, 35% cotton.

**Type**  
Standard Polycotton Lab Coat size S  
Standard Polycotton Lab Coat size M  
Standard Polycotton Lab Coat size L  
Standard Polycotton Lab Coat size XL

**Camlab Code**  
1199063  
1199064  
1199065  
1199066

## Hearing Protection

#### FOLDABLE PROTECTIVE EAR MUFFS



Fold-able protective ear muffs to protect users working in high noise areas.

Yellow ear cups for high visibility and black padded headband for comfort. Soft black rings around the ear cups ensure maximum protection and comfortable fit. Foldable design for easy storage. Headband adjusts to ensure a good fit for maximum hearing protection.

Approved to CE EN352

SNR: 33 dB

**Type**  
Foldable Protective Ear Muffs - 1 pair

**Camlab Code**  
1196522





First Aid Kits

COMPLETE PORTABLE EMERGENCY EYE WASH KIT



Complete emergency eye wash kit in a portable carry case for easy transportation. This kit includes;



- 1x 500ml bottle of sodium chloride solution
- 1 eye-wash bottle
- 2 eye pads
- 1 scissors
- 1 soft tissues (pack)
- 1 adhesive tape
- 2 sterile bands (18 x 40 mm)
- 1 booklet with directions for use
- Weight: 1 kg

**Type**  
Complete Eye-Wash Kit in portable carry case

**Camlab Code**  
1162829

WALL MOUNTED EYE AND BODY WASH UNITS

A range of wall mounted wash bottle stations for first response when eye or body rinsing is required after an accident.



SM2F EYE WASH STATION with 2 x 500ml eye-wash bottles of sterile sodium chloride solution (0,9%). Suitable for injuries caused by dust, metal or wood chips.




Storage temperature +5/25°C. Rinsing time : about 5 minutes per bottle. Delivered with attached mirror. Direction for use printed on the station with label in compliance with DIN 12930 and ISO 3864 norms, and 92/52/CEE European Directive. Delivered with screws and pegs for wall mounting. Weight : 1.7kg.

SP1F BODY WASH STATION - with 1x 1 litre bottle of body-wash bottle with sterile phosphate buffer solution (4,9% - pH Neutral). Suitable for injuries caused by acid or alkaline substances.

Storage temperature +5/25°C. Rinsing time : about 2 minutes. Direction for use printed on the station with label in compliance with DIN 12930 and ISO 3864 norms, and 92/52/CEE European Directive. Delivered with screws and pegs for wall mounting.

SP2F BODY AND EYE WASH STATION with 1x 500 ml eye-wash bottle and 1x 200ml body-wash bottle. Eye-wash bottle contains sterile sodium chloride (0,9%). Body-wash bottle contains sterile phosphate buffer solution (4,9% - pH Neutral).

Storage temperature +5/25°C. Rinsing time : about 5 minutes for 500ml bottle and 2 minutes for 200 ml bottle. Direction for use printed on the station with label in compliance with 12930 and ISO 3864 norms, and 92/52/CEE European Delivered with screws and pegs for wall mounting.

Type		Camlab Code
	Wall mounted body and eye-wash station with 1x200ml body wash and 1x500ml Eye Wash	1162824
	Wall mounted body-wash station with 1 x1 L body wash	1162852
	Wall mounted eye-wash station - 2 x500ml Eye Wash	1162825

## Gloves

### Nitrile Gloves

#### BODYGUARDS ACC-FREE POWDER FREE NITRILE GLOVES AQL 1.5



At last, a glove to offer relief from 'Type IV chemical accelerator allergies'.

These gloves are 100% accelerator Free and are soft and easy to don with a fingertip texture.

No chemical accelerators used in the materials or production of these gloves.

Medical nitrile gloves conform to AQL 1.5 and are marked CE class 1 Medical Grade Standard, in compliance with BS EN 455.

Type	Bodyguards Acc-Free Powder Free Nitrile Gloves AQL 1.5 Small Pack of 10 x 100 pcs	Bodyguards Acc-Free Powder Free Nitrile Gloves AQL 1.5 Large Pack of 10 x 100 pcs	Bodyguards Acc-Free Powder Free Nitrile Gloves AQL 1.5 X/Large Pack of 10 x 100 pcs
Camlab Code	1172921	1172923	1172924

#### NITRILE GLOVES POWDER FREE PACK OF 100



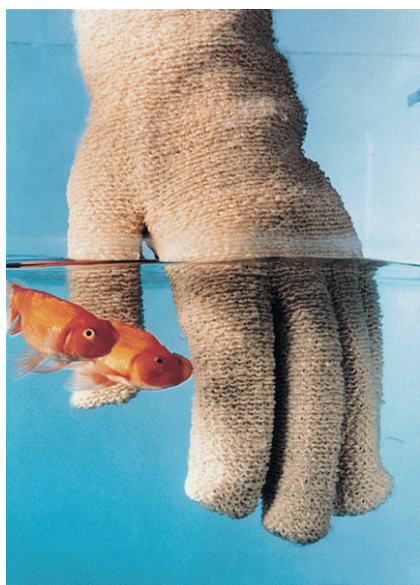
High quality single use Nitrile gloves powder free single use.

Please note item may vary in colour or brand of gloves but they will always be of the highest quality

Type	Nitrile gloves powder free Small pack of 100	Nitrile gloves powder free Medium pack of 100	Nitrile gloves powder free Large pack of 100	Nitrile gloves powder free Extra Large pack of 100
Camlab Code	1197716	1197717	1197718	1197719

## Industrial, Chemical and General Purpose Gloves

#### PAIR OF SAFETY GLOVES



The Polysafe glove is heat resistant to 300°C (for brief contact up to 450°C), waterproof, cut resistant, flexible and resistant to many chemicals. The outside shell of this versatile laboratory glove is made from a tough heat and cut resistant Terry cloth Kevlar.

The middle layer is made from water and chemical resistant Nitrile, with a soft cotton inner lining.

Type	Pair Of Polysafe Waterproof Safety Gloves
Camlab Code	1137668

## BUTOCHEM - BUTYL CHEMICAL RESISTANT UNLINED GAUNTLET GLOVES



These gloves offer two thickness options for varying mechanical load 0.4 and 0.6mm. Offer great comfort as they are lightly powdered for easier donning. Also have a beaded cuff to prevent liquid roll back.

**BODYGUARDS**

### Attributes:

- Reusable
- Use in the following working environments: Indoor, outdoor, wet, dry, clean, dirty
- Latex Free
- High level of dexterity

### Compliant to European Standards;

- EN374-2: Resistance to penetration by micro-organisms
- EN374-3: Resistance to chemical hazards (permeation)
- EN388: Resistance to mechanical hazards

### Type

Butyl Chemical Resistant Gauntlet Gloves 0.4mm thick - Size 7.5 Pack of 1 Pair  
 Butyl Chemical Resistant Gauntlet Gloves 0.4mm thick - Size 9.5 Pack of 1 Pair  
 Butyl Chemical Resistant Gauntlet Gloves 0.6mm thick - Size 9.5 Pack of 1 Pair  
 Butyl Chemical Resistant Gauntlet Gloves 0.6mm thick - Size 7.5 Pack of 1 Pair

### Camlab Code

1191295  
 1191296  
 1191298  
 1191299



## Gas Testing

### GASTEC TUBES FOR GAS DETECTION



Gastec tubes for use with the precision pumps to accurately detect and measure over 500 gases and vapours. This page just shows a small selection of the tubes available, so please contact us to ask if you can't see a suitable tube here.

Gastec detector tubes are used worldwide in manufacturing plants, refineries, chemical plants, dry cleaners and all workplaces where gas detection for employee safety is required.

The simple to use system requires only a Gastec pump along with the appropriate tube for the gas or vapour you need to detect.

The colorimetric glass tubes are filled with an absorbent material, usually silica gel impregnated with a chemical reagent. When air is drawn through the tube by the Gastec pump the reagents react in the presence of the target gas to give a colour change. The length of this colour change on the tube is proportional to the concentration of the gas present - the calibration scale is printed on the tube for immediate readout by the user.

- The most accurate detector tube system available
- Minimal pump strokes required
- Precision piston pump
- Easy draw, single pump stroke action
- Clear, precise and easy-to-read colour change
- Long tube shelf life - most tubes have a 3 year shelf life
- Hermetically sealed tubes
- Calibration scales printed on the tubes for each production lot, allowing instant readout and eliminating variations in tube diameter or reagents
- Low cost per measurement
- Complies with British standard BS EN1231:1997
- ISO registered
- NATO approved
- Batch number traceability on all tubes

When reading the colour change off the gastec tube, when the colour change is flat read the value at the end of the colour changing, e.g. in the example below the reading would be 5

When the colour change is slanted read the value in the middle - in the examples below the reading would be 5

When the end of the colour change is pale or fades out gradually read the value in the middle - in the example below the reading would be 5

Gastec Tubes Formaldehyde 0.1-40ppm Pack of 10	1198804
Gastec Tubes Acetic Acid CH <sub>3</sub> COOH 1-100ppm Pack of 10	1161664
Gastec Tubes Ammonia NH <sub>3</sub> 2.5-200ppm Pack of 10	1188365
Gastec Tubes Carbon Dioxide CO <sub>2</sub> 0.5-20% Pack of 10	1188366
Gastec Tubes Hydrogen Sulphide H <sub>2</sub> S 0.1-4ppm Pack of 10	1188367
Gastec Tubes Hydrogen Sulphide H <sub>2</sub> S 0.25-120ppm Pack of 10	1188368
Gastec Tubes Hydrogen Sulphide H <sub>2</sub> S 12.5-500ppm Pack of 10	1188369
Gastec Tubes Hydrogen Sulphide H <sub>2</sub> S 10-4000ppm Pack of 10	1167522
Gastec Tubes Hydrazine N <sub>2</sub> H <sub>4</sub> 0.05-2 ppm Pack of 10	1193889
Gastec Tubes Ammonia NH <sub>3</sub> 0.5-78ppm Pack of 10	1196666
Gastec Tubes Hydrogen Chloride Hydrochloric Acid HCl 10-1000ppm Pack of 10	1196667
Gastec Tubes Hydrogen Chloride Hydrochloric Acid HCl 0.2-76ppm Pack of 10	1196668
Gastec Tubes Water Vapour H <sub>2</sub> O 0.5-32ppm Pack of 10	1198581
Gastec Tubes Carbon Monoxide CO 8-1000ppm Pack of 10	1198638
Gastec Tubes Sulphur Dioxide SO <sub>2</sub> 0.05-10 ppm Pack of 10	1198639
Gastec Tubes Hydrogen Fluoride HF 1.25-50ppm Pack of 10	1198998
Gastec Tubes Acetone 50-1200ppm Pack of 10	1199147
Gastec Tubes Formaldehyde HCHO 8-6400ppm Pack of 10	

## GASTEC SAMPLING PUMPS



The Gastec precision pumps for use with all standard Gastec tubes can be used to monitor up to 600 gases and vapours.

Choose from the GV-100 Precision Pump and the GV-110 model which has a built in stroke counter for simple counting of the number of strokes applied. Pumps also feature a flow finish indicator to show when the stroke is complete.

The full stroke (100ml) and half stroke (50ml) positions are marked exactly by the red line on the pump shaft, and the handle is precisely locked at those positions to ensure accuracy.

Both models are supplied with a maintenance kit, instructions for use and a carrying pouch.

The pumps feature a handy tip breaker to open Gastec sampling tubes quickly and easily and are non-sparking in design.

Type	Gastec Precision Sampling Pump, with 1-10 stroke counter	Gastec Precision Sampling Pump
Camlab Code	1198946	1193866

## GASTEC SMOKE KIT



The Gastec smoke test kit allows the user to monitor airflow movements within the work place.

Break off both ends of the smoke tube and attach a rubber squeeze bulb to one end of the tube. When the bulb is squeezed, a chemical reaction produces white smoke. This smoke makes the air flow (in ventilation systems/ducts, etc.) visible

The Gastec smoke test kit is ideal for indoor air measurement. Both ends of the smoke tube are broken and connected to a rubber bulb. Moisture in the air reacts with the reagent to produce a white smoke. A single tube can be used to perform in excess of 50 tests by sealing the tube ends with the rubber caps provided.

Ideal to validate fume hoods or extraction systems, monitor ventilation systems or air ducts.

Type	Gastec smoke test kit, includes:
Camlab Code	1193867

### Related accessories:

1193868	Replacement Gastec Smoke Test Tubes Pack of 6
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GASTEC SMOKE TEST TUBES



Replacement smoke test tubes for use with the Gastec smoke kit (squeeze bulb not included).

Type	Camlab Code
Replacement Gastec Smoke Test Tubes Pack of 6	1193868

Glassware

Glass Beakers

BEAKERS LOW FORM - DURAN



- Made from high quality borosilicate glass with spouts
- Manufactured to DIN 12331 and ISO3819 standards
- Supplied with graduations except 5 and 10ml and 10L
- Can be Autoclaved



Type	Camlab Code
Duran Beakers Low Form 5ml	1146757
Duran Beakers Low Form 10ml	1146758
Duran Beakers Low Form 25ml	1146759
Duran Beaker Low Form 50ml	1146760
Duran Beakers Low Form 100ml with graduation and spout	1146761
Duran Beaker Low Form 150ml	1146762
Duran Beakers Low Form 250ml	1146763
Duran Beakers Low Form 400ml	1146764
Duran Beaker Low Form 600ml	1146765
Duran Beakers Low Form 800ml	1146766
Duran Beaker Low Form 1000ml	1146767
Duran Beakers Low Form 2000ml	1146768
Duran Beakers Low Form 5000ml	1146769
Duran Beakers Low Form 10000ml	1146770

HEAVY DUTY LOW FORM BEAKERS - ECONOMY



Heavy duty borosilicate glass beakers with white graduation and scale.

Type	Camlab Code
Beaker, Heavy Duty, Low Form, with graduation and scale, 150ml, Pk of 10	1194847
Beaker, Heavy Duty, Low Form, with graduation and scale, 250ml, Pk of 10	1194848
Beaker, Heavy Duty, Low Form, with graduation and scale, 400ml, Pk of 10	1194849
Beaker, Heavy Duty, Low Form, with graduation and scale, 600ml, Pk of 10	1194850
Beaker, Heavy Duty, Low Form, with graduation and scale, 1000ml, Pk of 10	1194851
Beaker, Heavy Duty, Low Form, with graduation and scale, 2000ml, Pk of 4	1194852
Heavy Duty Low Form Beaker 4L with Graduation and Scale	1194853



## Glass Bottles

### DURAN GLASS LABORATORY BOTTLES



Borosilicate glass bottles with DIN thread. Supplied complete with blue polypropylene (PPN) screw cap and pouring ring.

 DURAN GROUP

The bottle cap and pouring ring can be autoclaved up to 140°C. Graduations are approximate.

Warning - do not autoclave with tightly screwed cap.

Type	Camlab Code
Duran Bottle PP Cap & Ring 25ml	1146882
Duran Bottle PP Cap & Ring 50ml	1146884
Duran Bottle PP Cap & Ring 100ml	1146886
Duran Bottle PP Cap & Ring 250ml	1146888
Duran Bottle PP Cap & Ring 500ml	1146890
Duran Bottle PP Cap & Ring 1L	1146892
Duran Bottle PP Cap & Ring 2L	1146894
Duran Bottle PP Cap & Ring 5L	1146896
Duran Bottle PP Cap & Ring 10L	1146898

### SIMAX REAGENT/MEDIA BOTTLES GRADUATED WITH SCREW CAP & POURING RING



Simax reagent bottle, clear borosilicate glass, with cap and ring. Conforms to ISO 4796-1. Resistant to 140°C. White printed graduations.

Type	Camlab Code
Graduated Media Bottle with Screwcap and Pouring Ring 100ml	1127204
Graduated Media Bottle with Screwcap and Pouring Ring Pack of 10 250ml	1127205
Graduated Media Bottle with Screwcap and Pouring Ring 500ml Pack of 10	1127206
Graduated Media Bottle with Screwcap and Pouring Ring 1L Pack of 10	1127207
Graduated Media Bottle with Screwcap and Pouring Ring 2L Pack of 10	1179609
Graduated Media Bottle with Screwcap and Pouring Ring 5L	1194825
Graduated Media Bottle with Screwcap and Pouring Ring 10L	1194822
Graduated Media Bottle with Screwcap and Pouring Ring 20L	1114878

## Lab Plastics

### Plastic Jugs

#### MEASURING JUG HIGH CLARITY POLYPROPYLENE WITH MOULDED GRADUATIONS



Ergonomically designed jugs with clear moulded graduations.

 Azlon

Integral thumb grip on handle allows easy carrying even when full and heavy. Made from tough durable polypropylene, autoclavable at 121°C. Full size range for all requirements

Type	Camlab Code
Jug Measuring Polypropylene With Moulded Graduations 50ml Pack of 5	1143542
Jug Measuring Polypropylene With Moulded Graduations 100ml Pack of 5	1143543
Jug Measuring Polypropylene With Moulded Graduations 250ml	1143544
Jug Measuring Polypropylene With Moulded Graduations 500ml	1143545
Jug Measuring Polypropylene With Moulded Graduations 1L, Graduated in 100ml	1143546
Jug Measuring Polypropylene With Moulded Graduations 2L	1143547
Jug Measuring Polypropylene With Moulded Graduations 5L	1143549

## Plastic bottles

## HEAVY DUTY HDPE BOTTLES



Thick walled bottles with wide mouth for use as extra rugged storage or transport containers for liquids or dry chemicals.

Heavy duty, leakproof polypropylene cap.

These bottles can be used with the filling/venting closures - the 1L and 2L sizes can be used with the 53B type, the 4L size can be used with the 83B type.

**Thermo**  
SCIENTIFIC  
HALGENE® DURC®

Type	Camlab Code
Heavy-Duty Bottle HDPE 1 L Pack of 6	1139902
Heavy-Duty Bottle HDPE 2L Pack of 2	1139903
Heavy-Duty Bottle HDPE 4 L Pack of 1	1139904

## AZLON HDPE LEAKPROOF ROUND BOTTLES WITH WIDE NECK



- Translucent, rigid and leak proof HDPE bottles with PP screw caps
- Screw caps have non-stick feature and open and close in less than 1½ turns
- Heavy duty and very durable in use
- Ideal for a wide range of liquid storage, media preparation and sampling applications
- Excellent general chemical resistance
- Supplied in shrink-wrapped packs

*Azlon*

Type	Camlab Code
Azlon Bottle HDPE Wide Mouth 30ml Pack of 10	1142656
Azlon Bottle HDPE Wide Mouth 60ml Pack of 10	1142657
Azlon Bottle HDPE Wide Mouth 100ml Pack of 10	1142658
Azlon Bottle HDPE Wide Mouth 125ml Pack of 10	1142659
Azlon Bottle HDPE Wide Mouth 150ml Pack of 10	1142660
Azlon Bottle HDPE Wide Mouth 250ml Pack of 10	1142661
Azlon Bottle HDPE Wide Mouth 500ml Pack of 10	1142662
Azlon Bottle HDPE Wide Mouth 1L Pack of 5	1142663
Azlon Bottle HDPE Wide Mouth 2L Pack of 5	1142664

## DOUBLE TAMPER EVIDENT BOTTLE 200ML WHITE CAP



Are you concerned about sample security?

The Camlab Double Tamper Evident bottle, is the ideal sample collection device in situations where sample security is paramount.

The bottle itself manufactured from HDPE and the Cap and tamper ring is made from polypropylene.

The tamper evident bottles form the integral component of HFL's new doping control kits, which contain all the components required to collect and ship samples from the racetrack to HFL, for analysis.

The bottle is provided with the cap in place, secured by optional shrink-wrapped ring and the first security seal intact

- Unscrewing and opening the bottle releases the first security ring which is retained on the neck of the bottle.
- The bottle can then be used to collect and store the sample before the cap is replaced and re-sealed
- This then engages a second security ring which will break if an attempt is made to tamper with the sample before testing
- Graduated to 100ml

These bottles can be tailor made to your application (depending on throughput)

Type	Camlab Code
Sample Pack - Double Tamper Evident Bottle 200ml White Cap pk10	1181292
Double Tamper Evident Bottle 200ml White Cap Shrink Wrap Neck Ring Pack of 100	1155038
Sample Pack - Double Tamper Evident Bottle 200ml White Cap Shrink Wrap Neck Ring Pack of 10	1181293

**camlab**  
PLASTICS

## Plastic Aspirators and carboys

### ASPIRATOR BOTTLES HDPE



Narrow mouth, heavy duty HDPE aspirators with 2mm wall thickness, 3/4" BSP tap screws into the aspirator to provide a leakproof seal.

**Kartell**

The 5 and 10 litres units have one handle and the 25 and 50 litre units have 2 handles.

Type	Camlab Code
Aspirator HDPE 5L And Tap	1136536
Aspirator HDPE 10L And Tap	1136537
Aspirator HDPE 25L And Tap	1136538
Aspirator HDPE 50L And Tap	1136539

## Oil & Gas Testing

### Oil and Petroleum Testing

#### Spares and Accessories

### ACCESSORIES FOR OIL TEST CENTRIFUGE

Accessories for use with the Koehler Automatic Heated Centrifuge.



Please note the rotor and tubes must be compatible and will vary for each specification of testing.

Many further ASTM specifications are possible using this centrifuge - please contact us to discuss your requirements.

Type	Specification	Camlab Code
Centrifuge Tube, Long Tube, 100mL, 8" Marked in mL (ASTM D91, D96, D893, D1796, D4007)		1194917
Cork Stopper for Centrifuge Tube		1194918
PTFE Cushion for long tubes with capillary tip (1 required per K61109 tube)		1196221
Centrifuge Tube, Long, 100ml, 8" marked in ml every 1ml over 10ml (for ASTM D96 D4007)		1196222
Rotor Assembly for Long Tubes for Automatic Heated Centrifuge		1196218
Centrifuge Tube, Long, 100ml, 8" marked in 200 parts (for ASTM D96)		1196219
Centrifuge Tube, Cone Shaped, 100ml with capillary tip (ASTM D2273 D2709)		1196220

### General Testing

### ASTM OIL TESTING CENTRIFUGE KIT



A complete kit consisting of the Rotofix 46H centrifuge along with the required rotor, inserts and 4x 100ml tubes for testing by ASTM methods.



The display panel and all controls of the Rotofix 46H have been ergonomically designed for ease of operation. During centrifugation the actual parameter values are indicated. Nine acceleration and braking ramps, or unbraked run-down can be preselected. The stored parameter combinations remain in the memory even after the centrifuge has been switched off.

This kit includes;

- Rotofix 46H centrifuge
- Swing out rotor (4 place) for ASTM tubes
- Carriers (x4) and inserts (x4)
- ASTM tubes, 100ml volume, graduated, pear shaped (x4)

Additional tubes are also available separately.

Type	Camlab Code
ASTM Oil Testing Centrifuge Kit, this item contains the following:	1195448



**CALORIMETER - AUTOMATIC**

Automatic Calorimeter for testing heat of combustion of liquid hydrocarbon fuels by bomb calorimeter.



Heat of combustion is determined in this test method by burning a weighed sample in an oxygen bomb calorimeter under controlled conditions. The heat of combustion is computed from temperature observations before, during and after combustion.

Testing conforms to ASTM specifications D240, D1989, D4809, D5468, D5865, E711 and ISO 1928 and others.

**Type**  
Automatic Calorimeter, 230V 50/60Hz

**Camlab Code**  
1195002

**CONRADSON CARBON RESIDUE APPARATUS SET**

Set to give an indication of the relative coke forming properties of petroleum oils in accordance with ASTM D189



Includes; burner, tripod, refractory block, nickel-chrome triangle wire support, iron crucible with cover, skidmore crucible with cover, porcelain crucible, iron hood with bridge.

A weighed quantity of sample is placed in a crucible and heated to a high temperature for a fixed period. The crucible and the carbonaceous residue is cooled in a desiccator and weighed. The residue remaining is calculated as a percentage of the original sample and is reported as Conradson Carbon Residue.

Please note that this method also requires a balance and desiccator which are not included in the set - please request these separately if they are also required.

**Type**  
Conradson Carbon Residue Apparatus set

**Camlab Code**  
1195405

**AUTOMATIC POTENTIOMETRIC AND KARL FISCHER VOLUMETRIC TITRATOR**

For determination of total acid number (TAN), total base number (TBN), mercaptan sulfur and Karl Fischer Water content of petroleum products, lubricants and transformer insulating oils.



Includes

- 10ml burette assembly (comprising of 10ml syringe, tubing, connectors, and valve)
- moisture filter
- glass dispensing tip
- mounting stand
- microprocessor controlled vortex stirrer
- non-aqueous electrode for TAN/TBN testing
- 150ml glass beaker / reaction vessel (3)

The titrator is capable of a wide range of titrations; acid-base or aqueous titration, redox titration, complexometric titration or EDTA titration, blank titration, silver assay titrations, non-aqueous titration, argentometric or precipitation titration, voltametric / KF titration, back titration.

Conforms to the specifications of: ASTM D664 D2896 D3227 D4739

**Type**  
**Camlab Code**

Automatic Potentiometric and Karl Fischer Volumetric Titrator, 230V, 50Hz  
1195877



## ANILINE POINT APPARATUS - AUTOMATIC



For automatic measurement of aniline point and mixed aniline point by use of a modified thin film technique according to ASTM D611 method E.



Aniline point is used to give an indication of the aromatic content of hydrocarbon products by determining the temperature at which equal volumes of sample and aniline are fully miscible.

The apparatus heats samples directly by use of a platinum immersion heater, the aniline point is then detected photoelectrically. Built in pressure regulator and solenoid valve permit the use of cooling air so aniline points as low as 0°C can be determined. Equipped with variable controls for heater, light source and stirrer speed. The standard borosilicate glass test cell with drain is included. Testing range 0 - 150°C

Conforms to the following specifications; ASTM D611, ISO 2977, DIN 51775, FTM 791-3601, NF M 07-021

### Type

Automatic Aniline Point Apparatus, 220-240V, 50/60Hz

### Camlab Code

1194989

## SALTS IN CRUDE ANALYZER, PORTABLE



Determines the salt content of crude oil by measuring conductance of the sample under an alternating current.



This portable device measures the salt content, conductance and temperature of crude oil samples in accordance with ASTM D3230 and IP 265 specifications. Measure salt concentration from 0 to 150 PTB (lb/1000 bbl) and conductivity over 4 ranges; 0-2, 2-20, 20-200 and 200-1500 mS (automatic range selection).

The easy to read display shows any four parameters at one time, as chosen by the operator, from the following; salts, conductance, conductance @ 25°C, pH, pH millivolts, temperature (°C or °F), internal and external battery voltages, date, time, logging ID and ID increment value.

The analyzer has 8 hours of continuous use from the rechargeable Ni-Cd batteries, and data can be uploaded to a PC with the easy to use software via an RS232 port.

### Type

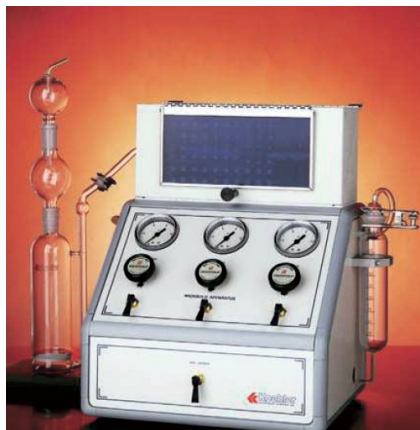
Salts in Crude Analyzer 115/230V D3230

### Camlab Code

1194963



## WICKBOLD APPARATUS FOR TOTAL SULPHUR DETERMINATION



Determines the total sulphur in liquefied petroleum (LP) gases and in liquid petroleum products in accordance with ASTM D2384, D2747, D2784, D2785.



Burns samples in a stainless steel oxy-hydrogen burner to determine the total sulphur content in the 0.1 to 300 ppm range. Tests samples which are highly viscous, aromatic or with high sulphur content with the use of appropriate solvents.

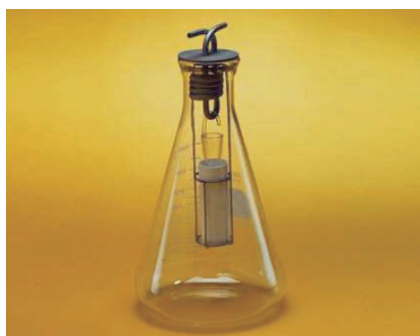
Supplied with a complete set of borosilicate glass and quartz glassware, including 200ml sample reservoir, sample capillary, combustion chamber, absorber, spray trap and cooling bulb as well as compression-type gas connection fittings for 1/4" (6mm) OD tubing.

Conforms to the specifications; ASTM D2384, D2747, D2784, D2785, GPA 2140, IP 243, ISO 4260, DIN EN 41, NF T 60-142

**Type**  
Wickbold Apparatus, 220-240V, 50/60Hz

**Camlab Code**  
1194964

## SEDIMENT EXTRACTION APPARATUS



Determine the sediment content of crude and fuel oils in accordance with ASTM D473 by extraction with toluene.



The sample is placed in the refractory thimble and toluene added to the flask. The toluene is gently boiled so the vapours condense and drip into the sample funnel. This washes out the crude and fuel oil leaving only insoluble residue, which is weighed and reported as sediment by extraction.

Apparatus includes 1000ml flask, stainless steel condenser, wire basket, water cup and extraction thimble. The heater (KI/K42090) must be ordered separately if required.

**Type**  
Sediment Extraction Apparatus  
Powerrol Heater, 220-240V, 50/60Hz

**Camlab Code**  
1194961  
1194962

## OIL TEST CENTRIFUGE FOR WATER AND SEDIMENT DETERMINATION



Automatic heated centrifuge for testing of water and sediment content in crude oil, fuel oil, middle distillate fuels and biodiesel. Also used to determine the precipitation number, demulsibility characteristics, trace sediments and insolubles in lubricating oils.



Fully automatic bench top centrifuge designed solely for petroleum testing. The 4 1/2" LCD touch screen control panel is used to change the heat, set the test duration, set the RCF/RPM values and chose the type of rotor assembly and corresponding glassware to be used.

The rotor accomodates 4 centrifuge tubes of 6 or 8" conical ASTM types (long, short, pear or finger) to cover a wide range of test specifications.

Conforms to the following specifications: ASTM D91, D96, D893, D1796, D1966, D2273, D2711, D4007, D5546, IP75, 145, 359, API 2542, 2548, ISO 3734, DIN 51793, NF M 07-020

This model is supplied with a long tube rotor assembly, please order the tubes required for your chosen method separately. Alternative rotors and tubes are available for different test methods, please contact us to discuss your requirements.

<b>Type</b>	Automatic Heated Oil Test Centrifuge, 230V, 50-60Hz
<b>Camlab Code</b>	1194916

### Accessories:

1194917	Centrifuge Tube, Long Tube, 100mL, 8" Marked in mL (ASTM D91, D96, D893, D1796, D4007)
1194918	Cork Stopper for Centrifuge Tube
1196221	PTFE Cushion for long tubes with capillary tip (1 required per K61109 tube)
1196222	Centrifuge Tube, Long, 100ml, 8" marked in ml every 1ml over 10ml (for ASTM D96 D4007)
1196218	Rotor Assembly for Long Tubes for Automatic Heated Centrifuge
1196219	Centrifuge Tube, Long, 100ml, 8" marked in 200 parts (for ASTM D96)
1196220	Centrifuge Tube, Cone Shaped, 100ml with capillary tip (ASTM D2273 D2709)

## DUAL EXTRACTION APPARATUS FOR LEAD, ACID AND SALT CONTENT



Dual extraction apparatus assembly for determination of lead, acid or salt content of crude petroleum and products by extraction.



Testing to specifications: ASTM D2547, IP 77, 182, 248 and ISO 2083

Apparatus includes two sets of glassware mounted on a sturdy base assembly with separate line switches, rheostats and condenser water control valves for each. The glassware set includes 500ml boiling flask with heating tube, Hopkins reflux condenser with aspirator, thistle tube, 250W heating coil and 400ml borosilicate glass beaker.

**Type**  
Dual Extraction Apparatus 220-240V 50/60 Hz

**Camlab Code**  
1196254

## DIGITAL PENETROMETER



Measure the consistency of a variety of solid and semi-solid petroleum products accurately using the digital penetrometer. This unit offers high accuracy and reproducible consistency measurements while being easy to use.



Automatically timed and programmable measurements to suit all requirements, motorised placing of the penetrator onto the sample surface, large LCD display for clear display of functions, RS232 port for easy data transfer to a PC.

Select the penetrometer cones, needles and accessories to test a range of products and ensure compliance with all relevant specifications.

Measure penetration over the range 0 to 62 mm (0-620 penetration scale) in 1/10mm or 1/100mm. Intervals are set by the operator from 0.1 to 9999.9 seconds with the automatic repeat function and 5.0 second default.

Conforms to the following specifications; ASTM D5, D217, D937, D1321, D1403, D2884, D4950, D5329, IP49, IP50, IP179, IP310, ISO 2137, DIN51579, DIN 51580, DIN 51840 and more.

Includes; Standard plunger 47.5g 50g load weight 100g load weight. Additional accessories such as calibration kits, alternative plungers and loading weights are available upon request.

**Type**  
**Camlab Code**

Digital Penetrometer, 220-240V, 50/60Hz  
1196962

## ADA 5000 AUTOMATIC DISTILLATION ANALYZER, ASTM D86



Assess the distillation properties of petroleum products automatically and in conformance with ASTM requirements.



Dry point detection, cetane index and carbon residue testing can be easily performed with this unit by simply changing the accessory products.

This model features a built-in PC and LCD touch screen for easy control.

Included with the unit are; 125ml distillation flask with markings, ceran plate with 25mm diameter hole, ceran plate with 38mm diameter hole, ceran plate with 50mm diameter hole, 3 point calibrated PT100 thermometer with cable and plug, special graduated receiver cylinder with base, wiper for condenser tube, dropping plate, teflon plug for 125ml flask, silicone plug for flask side arm, dry point detection board, Windows based Automatic Distillation Software.

A range of spare parts and additional accessories are available for use with this unit. This unit requires installation on site by a Kochler technician.

Type	ADA 5000 Automatic Distillation Analyzer, ASTM D86, Multiple Unit capability
Camlab Code	1196891

## PETROLEUM COLORIMETER FOR ASTM COLOR OF PETROLEUM PRODUCTS



Determine the ASTM color of petroleum product samples by comparison against the standard color discs.



The ASTM color of petroleum products applies to those with an ASTM color of 0.5 or darker - this includes lubricating oils, heating oils and diesel fuel oils. For products lighter in colour a Saybolt Chromometer should be used.

This colorimeter conforms to ASTM D1500 specifications and uses a single scale, 3-field comparator for visual colour grading by direct comparison between the sample and the standardised coloured glass filters. These are manufactured to comply with the ASTM chromaticity coordinates. The tungsten halogen light source is color corrected to CIE standard Illuminant C, ensuring constant lighting conditions for accurate colour grading, regardless of the ambient light.

The unit is supplied with a cover, 3 sample containers and a calibration certificate.

Conforms to the following specifications; ASTM D1500, D6074, IP 196, ISO 2049, FTM 791-102

Replacement lamps and sample containers are available for this product upon request.

Type	Petroleum Colorimeter, 220-240V
Camlab Code	1197048

## AUTO SAYBOLT AND ASTM COLORIMETER



An automated colorimeter for color measurement of waxes and other petroleum products to ASTM color or Saybolt scales.



High precision spectrophotometer for the objective color analysis of petroleum fuels, oils, waxes and other products according to both Saybolt and ASTM color scales. The rugged colorimeter is housed in a fabricated steel case designed to function for both QC applications within the lab or for 24 hour operation in a production environment. The diagnostic test routine allows users to conduct periodic checks on the instrument and identify any faults easily.

The unit is equipped with an integrated heater for melting solid samples such as fats and waxes and preventing solidification during testing. The filament lamp is easily replaced due to the direct access from outside the instrument.

Included with the unit are two optical glass cells (100mm and 33mm), a calibrated glass conformance filter, one spare lamp and an instruction manual.

Conforms to the following specifications; ASTM D156, D1500, D6045, E308, ISO 2049

Additional spare parts, cells or standards are available for use with this instrument upon request.

### Type

Auto Saybolt and ASTM Colorimeter 115-240V 50/60 Hz

### Camlab Code

1196850

## RAMSBOTTOM CARBON RESIDUE APPARATUS



For the determination of carbon residue left after evaporation and pyrolysis of a sample oil in the Ramsbottom furnace in accordance with ASTM specifications D524 D6074



Microprocessor temperature control with digital display and overtemperature cut-off. Thermostatically controlled cast iron block furnace for five coking bulbs.

The furnace quickly reaches the test temperature of 550°C (1022°F) with stability of  $\pm 1^\circ\text{C}$ . The control display can be switched from  $^\circ\text{C}$  and  $^\circ\text{F}$  by the user. Operator and equipment are protected by the overtemperature control circuit which automatically stops power to the unit if the block temperature exceeds the programmed cut off point.

The stainless steel housing is heavily insulated with three-layer refractory top, providing excellent heat retention.

Additional coking bulbs, sample syringes, filling devices, control bulbs, digital thermometers and spare parts for use with this instrument are available upon request.

Conforms to the following specifications; ASTM D524, D6074, IP 14, ISO 4262, FTM 791-5002, NF T 60-117

### Type

Ramsbottom Carbon Residue Apparatus 230V 50/60Hz

### Camlab Code

1196843

## PROGRAMMABLE ASHING FURNACE



For determination of ash from petroleum products in accordance with ASTM and IP specifications.



Determines the amount of ash in distillate and residual fuels, gas turbine fuels, crude oils, lubricating oils, waxes and other petroleum products in accordance with the relevant ASTM specifications.

The programmable furnace completes 6 air changes per minute, preheats incoming air for better uniformity of temperature, has a digital PID temperature control with integrated timer, can store up to 9 programs and has a maximum temperature of 1100°C with accuracy of  $\pm 3^\circ\text{C}$

Alternative sizes of furnace and spare parts for this unit are available upon request.

Conforms to the following specifications; ASTM D482, D874, D3174, D4422, D5184, IP4, IP163, ISO 3987, ISO 6245, NF M 07-045, DIN 51352, DIN 51575.

Type  
Camlab Code

Lift Gate Model Programmable Ashing Furnace, 0.16 cu.ft. 240V 50/60Hz  
1195007

## AUTOMATED FLOCCULATION TITRIMETER (AFT)



A highly automated, computerized instrument which acquires oil stability and compatibility parameters directly in accordance with ASTM methods.



Asphalt or heavy oil samples are dissolved in toluene at various concentrations and titrated with iso-octane or n-heptane at controlled temperatures to determine the flocculation point (asphaltene precipitation) and to calculate the Heithaus compatibility parameters. An excellent laboratory diagnostic tool for estimating the colloidal stability or compatibility of asphalt, asphalt cross blends, aged asphalt, pyrolyzed asphalt, crude or heavy oil or residuum.

Complete instrument with data acquisition system ensures rapid, accurate and highly reproducible results. The system also generates the data to calculate the WRI coking index to predict the proximity to coke formation during heavy oil distillation and improve distillate yield.

The AFT can be used to perform ASTM D6703 tests for Automated Heithaus Titrimetry. It operates as a closed system with accurately controlled temperatures between 20 and 100°C.

The flocculation point is determined spectroscopically and the results are analyzed by the data acquisition system, so operator error is virtually eliminated in interpretation of the endpoint. This gives an automated method which is fast, accurate and very reproducible.

The system includes;

- External desktop PC with data acquisition software
- Fiber optic spectrometer with multi-bandpass detector
- High and low flow rate metering pumps
- Magnetic stirring plates
- Programmable circulator with external probe to monitor jacket temperature of the sample
- Reaction vessels
- Quartz flow cell with temperature stability feature
- Glassare
- Thermometer probes
- Digital variable sample circulator with built in reverse

Major applications include blending of oils and/or asphalts, coking index (US patent 6,773,921) and solubility parameters.

The system requires installation on site by a Koehler technician and may require additional items specific to your requirements.

Type  
Camlab Code

Automated Flocculation Titrimeter (AFT) 220V / 50Hz  
1196822



## DEAN & STARK MOISTURE TEST - WATER IN PETROLEUM PRODUCTS AND BITUMINOUS MATERIALS



Determines the water content in petroleum products, tars and bituminous materials by the distillation method in accordance with relevant ASTM specifications.



The Dean & Stark Moisture Test apparatus consists of 400mm condenser, 10ml receiver, 1000ml flask and mounting equipment (consisting of; Bunsen clamp x2, clamp holder x2, base and support rod).

The distillation apparatus consists of still, ring burner, glassware and all mounting hardware.

Additional heaters, spare parts and accessories are available for use with this equipment upon request.

Conforms to the following specifications; ASTM D95, E123, D244, IP 74

**Type**  
Dean & Stark Moisture Test Apparatus

**Camlab Code**  
1196920

## PORTABLE CENTRIFUGE FOR WATER AND SEDIMENT DETERMINATION IN CRUDE OIL



For quick determination of water and sediment in crude oil by the centrifuge method in the field. The most practical method for field determination of these parameters.



The portable oil test centrifuge accommodates two "conical centrifuge short tubes. The unit features integrated tube holders and preheaters, analog speed control, independent digital displays for the bowl and preheater temperatures with display switchable between °C and °F. The unit also has substantial insulation to reduce heat loss.

The opening in the lid allows calibration of speed by a portable laser tachometer.

12V power requirement for field use.

Technical specifications;

- Speed; 300 - 1800 rpm
- RCF; 20 - 700
- Temperature; ambient to 140°F / 60°C
- Dimensions; 45.7cm W x 57.1cm D x 25.4cm H
- Weight; 22.7kg

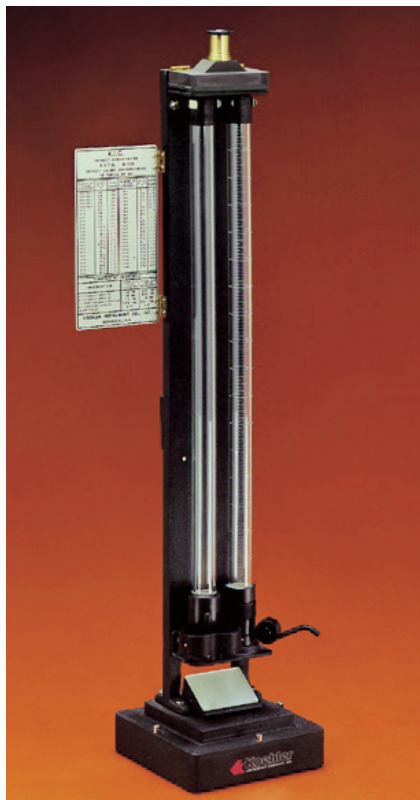
A range of centrifuge tubes, spare parts and accessories are available for use with this unit on request.

Conforms to the following specifications; ASTM D96, IP MPMS Chapter 10.4

**Type**  
**Camlab Code**

Portable Heated Oil Test Centrifuge 12V DC 40A  
1196717

## SAYBOLT CHROMOMETER FOR SAYBOLT COLOUR OF PETROLEUM PRODUCTS



For quality control or identification of refined products with ASTM colour of 0.5 or less. The chromometer measures colour by comparing a sample against standard colour discs.



The instrument consists of a matched set of sample and standard tube assemblies with an optical viewer. The sample is then compared against the standard colour discs under a uniform light source. Column height is then reduced until the sample field is lighter than the colour standard and the height is converted to the Saybolt Colour using the chart. The three-position turret allows easy changing of the colour discs, and the accessory daylight lamp provides a standard light source compliant with ASTM specifications.

A wax chromometer is also available for testing of petroleum waxes using the same principle, but features a heater to keep the samples as liquid during testing.

Additional daylight lamps, colour standards and spare parts are available for use with this instrument upon request.

Conforms to the following specifications; ASTM D156, DIN 51411, FTM 791-101, NF M 07-003

**Type**  
Saybolt Chromometer

**Camlab Code**  
1196959

## AUTOMATIC REFRACTOMETER FOR REFRACTIVE INDEX OF PETROLEUM PRODUCTS



The automatic refractometer uses precision optics and superior image analysis to extend the repeatability and accuracy of refractive index measurements for petroleum products. High accuracy is ensured as no manual activities such as aligning shadow lines or reading analog scales are required.



The unit uses reflected light measurement technology rather than manual refractometers which use the transmission type, so opaque hydrocarbons can be assessed easily and accurately. The unit also features a dual temperature control system and a flat and easy clean sample area, so it is ideal for viscous or sticky samples.

A variety of innovations are incorporated into the unit to ensure results are accurate every time - a 589 nm filter gives true sodium D-line refractive index readings, a large graphical LCD is easy to read and provides sample analysis documentation including temperature and scale name.

The set-up, diagnostic and calibration routines are easy to follow with step by step instructions. User developed calibration curves may be programmed allowing automatic temperature correction and direct % concentration readings.

Technical specifications;

- Measurement scales - refractive index (RI), BRIX (% sucrose), Temperature corrected RI, Temperature corrected BRIX, Ten user-programmable scales
- Illumination; 589nm LED with interference filter - estimated life 100,000 hours
- Range; dissolved solids 0-95%, refractive index 1.29000 to 1.70000nD (nD - Sodium D-Line refractive index)
- Precision; standard mode  $\pm 0.02\%$  solids,  $\pm 0.00002nD$
- Calibration; 1 point with water only, 2 point with water and refractive index or BRIX standard
- Weight 10.5kg

Conforms with the following specifications; ASTM D1218, D1747, D5006

**Type**  
**Camlab Code**

Automatic Refractometer, 110-220V, 50/60Hz  
1196571

## AUTOMATIC DENSITY METER



This automatic density meter is suitable for characterization of crude oils as well as light and heavy fractions of petroleum and petroleum products.



The test method identifies the density or relative density of crude oils, petroleum distillates and viscous oils which can be handled in normal fashion as liquids at test temperatures of 15 to 35°C.

The unit is controlled by a touch screen user interface and has 3x USB ports and 2x RS232 ports. It also features video assisted view of the cell, capable of approximately 10x magnification.

Specifications are as follows;

- Density: 0 to 3 g/cm<sup>3</sup>
- Temperature: 0°C to 90°C
- Pressure: 0 to 10 bars
- Measurement modes: continuous, single, multiple

Accuracy of 0.0001g/cm<sup>3</sup> and 0.05°C and repeatability of 0.00005g/cm<sup>3</sup> and 0.02°C

Resolution of 0.00001g/cm<sup>3</sup> and 0.01°C. Minimum sample volume of approximately 1ml required.

This instrument conforms to the following specifications: ASTM D1250, D4052, D5002, D5931, DIN 51757

Type  
Camlab Code

Automatic Density Meter: Accuracy: Density: 0.0001 g/cm<sup>3</sup>, Temperature: 0.05°C  
1196763

## COMPACT COULOMETRIC KARL FISCHER TITRATOR



The AKF5000 determines low concentrations of water in a wide range of liquid, gas and powder samples. Used for assessing water content in petroleum, oils, gasolines, solvents and fluids in accordance with ASTM methods.



Offering new standards in versatility and ease of operation, the titrator features simple operation, multi-language display and print out, integral high-speed thermal printer, automatic compensation of errors and has a small footprint.

The titrator provides fast, accurate and reproducible determinations of water content in liquids, gases and powders. The easy to use unit incorporates many state-of-the-art features. Designed to be suitable for all applications from routine needs of the Quality Control lab through to the more demanding and varied needs of research teams.

Hard copies of results are provided by the built in high-speed thermal printer, along with statistics, data input parameters, sample ID numbers and time/date of analysis.

Key Specifications;

- Titration method: coulometric Karl Fischer titration
- End point detection: AC polarisation
- End point indication: visual display / print out / acoustic beep
- Display: 40 character alphanumeric backlit LCD
- Possible measuring range: 1µg - 100mg water
- Typical measuring range: 1µg - 10mg water
- Moisture range: 1ppm - 100%
- Max. sensitivity: 0.1µg
- Max titration speed: 2.0mg per minute
- Precision: 10-100µg ±3µg, 100µg-1mg ±5µg, above 1mg ±0.5%

This instrument conforms to the following specifications; ASTM D1533, D4928, D6304, IP 386, IP 438, BS 60814, ISO 10101-3, ISO 10337, ISO 12937

Type  
Camlab Code

Compact Coulometric Karl Fischer Titrator, 94-264V, 50/60Hz  
1195009

## Bitumens and Waxes Testing

## SEMI-AUTOMATIC DUCTILITY TESTING



Semi-automatic ductility testing machines for measurement of the ductility and elastic recovery of bitumens in accordance with ASTM D113 and D6084



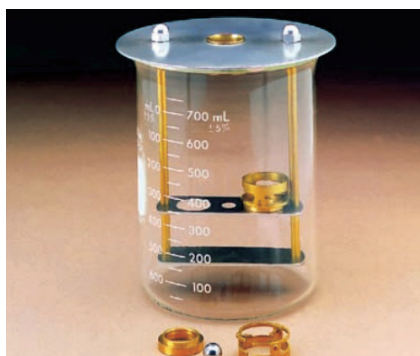
Determine the ductility of materials by measuring the distance which the sample will elongate by before breaking when two ends of a specimen are pulled apart at a specified speed and temperature. Also used to determine elastic recovery - the distance taken for the two halves to reconnect when a pulled specimen is cut in half.

A standard model and a constant temperature model are available to suit all requirements. Both include a "touch screen control panel, variable traction speed from 0.25 to 7.0 cm/min and come pre-programmed with methods for ductility, recovery and custom methods.

Additional ASTM thermometers, software and spare parts are available for both units upon request.

Type	Semi-Automatic Constant Temperature Ductility Testing Machine 230V, 50Hz	Semi-Automatic Standard Ductility Testing Machine 115/230V, 50/60Hz
Camlab Code	1196921	1196923

## SOFTENING POINT APPARATUS



Apparatus to test the softening point of bitumen (ring and ball apparatus) in accordance with ASTM D36.



Includes: 800ml beaker, standard ball (2), shouldered ring (2), ball centering guide (2), thermometer holder, ring holder, bottom plate, beaker cover with support rods.

Additional heater, ASTM thermometers and spare parts are available upon request.

Type	Softening Point Apparatus	Camlab Code
		1196881

## Viscosity Testing

## VISCOMETERS AND VISCOMETER HOLDERS FOR KOEHLER VISCOSITY SYSTEMS



Viscometers and Viscometer Holders for use with Kochler Viscosity Systems, available in a range of types and sizes.



Measure the kinematic viscosity of liquid petroleum products in accordance with ASTM standards.

Cannon Fenske Routine viscometers are used primarily for transparent or translucent liquids. For kinematic viscosity of liquids up to 100,000 cSt. A sample size of approximately 7ml is required. Length; 250 mm.

Cannon Fenske Opaque viscometers are reverse-flow for measurement of transparent and dark liquids with a kinematic viscosity of up to 100,000 cSt. A sample size of approximately 12ml is required. Length; 295 mm.

Ubbelohde viscometers are suspended-level type for transparent liquids with a kinematic viscosity of up to 100,000 cSt. A sample size of approximately 11ml is required. Length; 283mm

A range of sizes and viscosity ranges are available so please state your required range when ordering.

Type	Camlab Code
Cannon-Fenske Routine Viscometer (specify size when ordering)	1194920
Cannon-Fenske Opaque Viscometer (specify size when ordering)	1196163
Ubbelohde Viscometer (specify size when ordering)	1196164
Cannon-Fenske Viscometer Holder	1196165
Ubbelohde Viscometer Holder	1196166

## KINEMATIC VISCOSITY BATHS



The KV4000 model;

Constant temperature bath with advanced temperature control and integrated timing for convenient, accurate glass capillary viscometry.

Microprocessor PID circuitry ensures reliable, precise temperature control within ASTM specified tolerances. The bath accommodates seven glass capillary viscometers of different types - Ubbelohde, Cannon-Fenske Opaque and Cannon-Fenske Routine viscometers are available separately to suit your testing requirements.

The user can enter the viscosity constant for each viscometer on the front LCD control/display and then get the test result in both efflux time and viscosity units automatically after stopping each timer. All timing functions are displayed in 0.01 or 0.1 second resolution and are accurate to within 0.01%

Testing conforms to the following specifications; ASTM D445, D2170, D6074, D6158; IP 71, IP 319; ISO 3104; DIN 51550; FTM 791-305; NF T 60-100

The KV5000 model;

This system includes the optical flow detection system to provide automatic viscosity measurements. The unit can be used with up to five optical assemblies, with two additional ports available for manual measurements.

Viscosity software can be used with this unit to download test data, calculate test results and store historical test data to determine averages, standard deviations and ASTM test repeatability.

Conforms to the following specifications; ASTM D445, D2170, D6074, IP 71, IP 319, ISO 3104, DIN 51550, FTM 791-305, NF T 60-100

<b>Type</b>	KV4000 Constant Temperature Kinematic Viscosity Bath, 12" Depth Round Port, 220-240V, 50/60Hz	KV5000 Kinematic Viscosity Bath, 12", 220-240V, 50/60Hz for use with optical sensors
<b>Camlab Code</b>	1194919	1196887

## SAYBOLT VISCOSITY BATH



Determine the time required for 60ml of sample to flow through a calibrated orifice under precisely controlled conditions in accordance with ASTM D88, D244, E102 and related specifications.

Measure the viscosity of lubricants, insulating oils and lighter fuel grades in Saybolt Universal Seconds (SUS) or of heavier oils and bitumens in Saybolt Furol Seconds (SFS).


A range of viscometers, accessories and spare parts are available upon request to suit your testing requirements.

<b>Type</b>	SV3000 Saybolt Viscosity Bath 220-240V, 50/60Hz D88	<b>Camlab Code</b>
		1194928



LOW TEMPERATURE VISCOSITY BY ROTATIONAL VISCOMETER



This programmable Brookfield Viscosity system allows testing of the viscosity of samples in accordance with ASTM specification D2983. 

Sample soaking and testing in one bath avoids the need for additional equipment and the risk of temperature changes in the sample during transfer. The microprocessor PID temperature control offers cooling rates in accordance with ASTM D2983 while the accuracy and uniformity exceed these requirements. The air cooled compressors give efficient operation without using CFC refrigerants and still offer a wide operating range of ambient down to -55°C.

Up to 40 user defined cooling/testing profiles can be stored in the memory. The bath accommodates up to 10 samples for dynamic viscosity testing.


Conforms to the following specifications; ASTM D2983, IP267, ISO9262

Additional viscometers, test cells, ASTM thermometers, viscosity standards and spare parts are available for use with this instrument upon request.

Type	BVS5000 Programmable Brookfield Viscosity Liquid Bath System, 220-240V, 50Hz
Camlab Code	1194932

LKV3000 REFRIGERATED KINEMATIC VISCOSITY BATH



A refrigerated constant temperature bath for measurement of viscosity of petroleum products at low temperatures. 

Kinematic viscosity is of utmost importance in the design and selection of petroleum products. This refrigerated bath allows the user to measure the viscosity in calibrated capillary viscometers under gravity or vacuum in precisely controlled temperatures.

Advanced temperature control including microprocessor PID design and two decimal calibration offset - accuracy and uniformity of the temperatures exceed ASTM requirements throughout the operating range. Simple push-button controls and dual digital displays allow easy setting and monitoring of the temperature of the bath. The bath can accommodate four glass capillary viscometers using 2" round holders. The bath medium is contained in a clear, evacuated Dewar flask. Glare-free fluorescent backlights allow excellent visibility of the viscometers for ease of testing.

The LKV3000 model operates from ambient to -30°C. Alternative models for lower temperatures as well as accessories, viscometers and spare parts are available upon request.

Conforms to the following specifications; ASTM D445, D2532, D6074, D6158, IP 71, ISO 3104, DIN 51550, FTM 791-305, NF T 60-100

Type	LKV3000 Refrigerated Kinematic Viscosity Bath (15 to -30°C) 220V 50Hz
Camlab Code	1197084

## Flash Point Testing

## CLEVELAND OPEN CUP FLASH POINT ANALYZER - AUTOMATIC



To measure flash and fire points of all petroleum products, except fuel oils and those having an open cup flash below 79°C, conforming to ASTM D92, IP 36, ISO 2592



Includes: Calibrated Brass test cup, Gas Ignitor, Electric Ignitor, PT100 Temperature probe S/S, Gas Tubing, Operating Software

Conforms to ASTM D92 and related specifications.

Measures flash point by thermosensor and ionization ring with electric and gas ignition. Flash point operation between 79 and 400°C. Automatic safety closing cup system which covers the test cup at the end of the flash point analysis and auto-extinguishes the product after fire point tests.

**Type**  
Automatic Cleveland Flash Point Analyser, 230V 50/60Hz

**Camlab Code**  
1196062

## AUTOMATIC PENSKY MARTENS CLOSED CUP FLASH POINT TESTER



Analyse the flash point of samples by Penskey-Martens Closed Cup Tester.



Includes the calibrated brass test cup, gas ignitor, electric ignitor, PT100 Temperature probe in stainless steel, gas tubing and operating software.

Conforms to the following specifications; ASTM D93

Additional spare parts and accessories for this unit are available upon request.

**Type**  
Automatic Pensky Martens Closed Cup Flash Point Tester 230V 50/60Hz

**Camlab Code**  
1196560

## CLEVELAND OPEN CUP FLASH POINT TESTER



Determine flash and fire point of petroleum products by the cleveland open-cup method. Suitable for all products except fuel oils and those with an open cup flash of below 79°C.



The apparatus consists of the test flame applicator, brass test cup, thermometer support, heating plate and electric heater. The applicator is angled precisely to meet specifications and pitors for test flame application at specified temperature intervals. The unit is equipped with a 1000W heater with stepless variable heat control for accurate repetition of tests.

Conforms to the following specifications; ASTM D92, D6074, D6158, AASHTO T48, ANS Z-11.6, ISO 2592, DIN 51376, FTM 791-1103, FTM 141-4294

ASTM thermometers for use with this unit and a 110V version of this unit are available upon request.

**Type**  
Cleveland Open Cup Tester, Electrically Heated 220-240V, 50/60Hz

**Camlab Code**  
1196917

## PENSKY-MARTENS CLOSED CUP FLASH TESTER, ELECTRICALLY HEATED



For Pensky Martens flash point testing for fuels, lubricating oils, liquids containing suspended solids and liquids with a tendency to form a surface film during testing. Conforms to ASTM D93 and related specifications.



Determines the flash point of a range of samples by a closed cup method with two options for the speed of stirring of the sample. Extensively used in shipping and safety regulations for detecting contamination by volatile and flammable materials in fuel and lubricating oils, or for the characterization of hazardous waste.

This electrically heated model is equipped with a 1000W nickel-chromium heater with stepless variable control for accurate, repeatable temperature ramping as per specifications. The heater unit is enclosed by a stainless steel housing with cooling vents. The smooth operating cover mechanism slides the shutter open and applies the test flame at the turn of a knob. The cover fits over the brass test cup and includes pilot flame, test flame reference bead, built-in stirrer and plated brass thermometer ferrule.

Included with the unit; brass test cup with handle, thermometer holder, cover assembly.

Spare parts, accessories and ASTM thermometers for use with this instrument are available upon request.

Conforms to the following specifications; ASTM D93, AASHTO T73-811, IP 34, ISO 2719, DIN 51758, FTM 791-1102

### Type

Pensky-Martens Closed Cup Flash Tester, Electrically Heated, 220-240V, 50/60Hz

### Camlab Code

1197593

## RAPID FLASH TESTER CLOSED CUP



This quick and simple instrument verifies the flash point or the sustained burning qualities of small samples between -30°C to +300°C in accordance with ASTM specifications D3287, D3828, D4206.



The Rapid Tester gives a flash / no flash test result is given in just one minute for flash points below 100°C with a 2ml sample. The operation is in a convenient semi-automatic format for flash/no flash tests. Simply set the test temperature on the digital display and inject 2ml or 4ml of sample into the sample cup. The tester quickly self stabilizes to the desired value, allowing the test flame to be applied and the result to be observed by the operator.

This closed cup model is ideal for routine flash point tests in the range of -30°C to +300°C (-22 to +572°F) - for example in quality assurance or environmental compliance testing for paints, fragrances, hydrocarbons and other liquids.

Includes an automatic temperature control with °C/°F selector switch, syringe, electronic timer, integral NIST traceable thermometer and an external hose adapter valve for connection to your fuel cylinder or other fuel source. (NB a gas source of butane or propane is also required to heat up the units, this must be supplied by the user)

Additional thermometers, cooling blocks, and other accessories for use with this instrument are available separately upon request.

Conforms to the following specifications; ASTM D3278, D3828, D4206, IP 303, ISO 3679, ISO 3680, ISO 9038

### Type

Rapid Tester, Closed Cup, Electrically Heated 230V, Aluminium Test Cup, Bass Lid & Shutter

### Camlab Code

1197423

## AUTOMATIC TAG CLOSED CUP FLASH POINT TESTER



The automatic Tag Closed Cup flash point tester ensures the accuracy and precision required to test in accordance with ASTM D56 and the related test methods.



The sample is heated at a prescribed rate of temperature increase throughout the standard temperature test range to 100°C. Automation of the testing provides accurate test results.

The flash point tests are simply conducted by mounting the flash cup filled with sample into the test position and selecting a pre-programmed test method or choosing the search mode to determine an approximate flash point. Ignition by gas flame or electrical ignitor is included, along with safety cut-off devices.

The measurement range can be extended to -30°C using any appropriate external chiller.

The tester includes; test cup, cover assembly, PT100 temperature probe, detection cable, insulated tubing, data acquisition software, ticket printer and supervision software. Additional cryostats and spare parts are available separately as required.

This unit conforms to the specifications of; ASTM D56, IP 304

Type

Automatic Tag Flash Point Tester, 230V, 50Hz

Camlab Code

1198854

## TAG CLOSED CUP MANUAL FLASH POINT TESTER



Determines the flash point of liquid products by the Tag Closed Cup method.



The apparatus has stepless variable heat control with a reference dial for accurate repeat setting of the temperature rate of rise per specifications. Also available with a gas burner instead of the electric heater.

The precision machined cover mechanism simultaneously opens slide shutter and applies a test flame to the sample at the turn of a knob.

Includes brass test cup, and cover assembly (including the slide shutter, burner and thermometer ferrules). The bath and cover mechanism are constructed of plated brass, the heater is enclosed in a cast aluminium base assembly.

ASTM thermometers for use with this apparatus are available separately.

The unit is for flash point determinations of liquids with a viscosity of below 5.5 cSt at 104°F (40°C) or below 9.5cSt at 77°F (25°C) and a flash point below 200°F (93°C). Not suitable for cut back asphalts, liquids which tend to form a surface film under test conditions and materials which contain suspended solids.

This apparatus conforms to the following specifications; ASTM D56, IP 304

Type

Tag Closed Cup Flash Point Tester, Electrically Heated, 220-230V, 50/60Hz, CE Model

Camlab Code

1198855



Fuels Testing

FREEZING POINT OF AQUEOUS ENGINE COOLANTS



Determine the freezing point of aqueous engine coolant samples in accordance with ASTM D1177 specifications - cooling samples with constant agitation until the plateau is seen in a time-temperature curve.



The instrument includes; 200ml freezing tube with drilled cork, outer flask, motorized stirrer, clamps and stand.

Additional ASTM thermometers and spare parts for use with this instrument are available upon request.

Type	Camlab Code
Freezing Point Apparatus 220-240V 60 Hz	1196382

WATER OR LIQUID OXIDATION STABILITY BATH



A high accuracy constant temperature bath for heating oxidation pressure vessels when testing oxidation stability in accordance with ASTM specifications.



For use with water or oil as the bath medium, this microprocessor temperature controlled unit gives fast temperature stabilization without the risk of overshooting. Dual LED displays give the setpoint and actual temperatures in °C and °F.

Double wall insulated construction with stainless steel tanks, support racks and port covers.

Additional ASTM thermometers, sample containers, spare parts and accessories are available for use with this instrument on request.

Complies with the following specifications; ASTM D525, D873, IP40, IP138, ISO 7536, DIN51780, DIN 51788, FTM 791-3352, 791-3354, NF M 07-012, 07-013

Type	4-6 Unit Oxidation Bath, 220-240V, 50/60Hz
Camlab Code	1197029



## EXISTENT GUM EVAPORATION BATH



A 6 place unit with superheater for testing fuel samples by jet evaporation in accordance with ASTM specifications.



Test gum content by the jet evaporation method - a 50ml sample of fuel is evaporated in an aluminium block bath for a specified period under controlled temperature and air flow conditions or steam.

This 6 place unit has a built-in steam superheater to deliver dried steam to the bath inlet for the steam-jet method for testing aircraft turbine fuels. Complete with a digital display to indicate the solid state bath temperature. The microprocessor PID control gives quick temperature stabilisation without overshooting.

Maximum temperature; 475°F / 246°C. Temperature control stability; +/- 0.5°C

Additional steam boiler, glassware, ASTM thermometers and spare parts for use with this instrument are available upon request.

Conforms to the following specifications; ASTM D381, IP131, ISO 6246, DIN 51784, FTM 791-3302, NF M 07-004

### Type

Existent Gum Evaporation Bath, 6 Unit with Superheater, 220-240V, 50/60Hz

### Camlab Code

1196970

## BATH FOR COPPER STRIP CORROSION TEST BOMBS



A thermostatically controlled water bath for copper strip corrosion tests on petroleum products in accordance with ASTM specifications.



Assess the relative degree of corrosivity of petroleum products and fuels including natural gasoline, solvents, kerosene, diesel fuel and lubricating oil.

This thermostatically controlled water bath accommodates 4 copper strip corrosion test bombs in accordance with ASTM specifications. The fully insulated double wall design is constructed in stainless steel. A soxhlet reflux condenser and constant water level device maintain a proper working depth. The unit is supplied with 4 rubber stoppers for the bomb openings.

Maximum temperature; 221°F / 105°C, temperature stability; +/- 0.1°F / +/- 0.5°C

Additional copper strip corrosion test pressure vessels, copper test strips, test tubes, data acquisition software, ASTM thermometers and spare parts are available for use with this instrument upon request.

Conforms to the following specifications; ASTM D130, IP154, FSPT DT-28-65, ISO 2160, DIN 51759, FTM 791-5325, NF M 07-015

### Type


Copper Strip Pressure Vessel Bath, 4 Unit, 220-240V, 50/60Hz

### Camlab Code

1194965

COLD FILTER PLUGGING POINT APPARATUS



Determine the low temperature flow characteristics in accordance with ASTM specifications for diesel fuels and gas oils including those with flow improving additives. 

The apparatus includes the borosilicate glass test jar with graduations, brass jacket and plastic support ring, plastic stopper, plastic insulating ring and spacer, pipette and brass filter unit with stainless steel fine wire mesh screen.

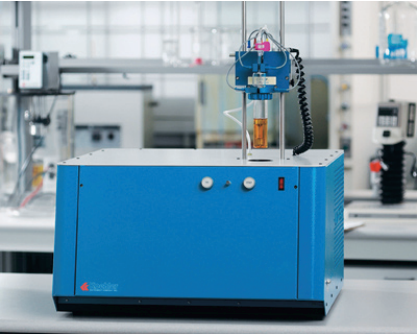
The vacuum system and refrigerated cooling bath (pictured) are required for testing.


Additional ASTM thermometers, refrigerated baths and spare parts are available for use with this unit upon request.

Conforms to the following specifications; D6371, IP309, DIN 51428

Type	Cold Filter Plugging Point Apparatus	Refrigerated Bath for Cold Filter Plugging Point, 220-240V
Camlab Code	1197074	1197075

AUTO COLD FILTER PLUGGING POINT ANALYZER



Determine the cold filter plugging point of fuel samples with this automated, touch screen instrument in accordance with ASTM specifications. 

Automated sample testing with accuracy and repeatability in accordance with ASTM D6371. The sample is cooled to the pre-selected temperature profile then a 20 mBar vacuum is applied across the 45 micron mesh filter assembly. If more than 60 seconds passes and the sample has not reached the upper barrier detector, or more than 60 seconds passes to return below the detector after release, the test is complete and the cold filter plugging point has been reached. Internal or external vacuum system options are available for this unit and are available separately.

A complete standalone system with an integrated touch screen panel PC and software package. All test parameters are displayed in real time and recorded in Microsoft Excel compatible files.

Temperature range of +60 to -45°C

The instrument is supplied with a calibrated aspiration pipette and filter kit, cord cable without plug, a calibrated test jar, user manual, connection tube for vacuum system, operating software and spacer.

Additional spare parts for use with this instrument are available upon request.

Conforms to the following specifications; ASTM D6371, IP309, IP419, EN 116

Type	Auto Cold Filter Plugging Point Analyzer w/Touch Screen, 1 stage, 220V 50/60Hz
Camlab Code	1196925

## PORTABLE OCTANE ANALYZER FOR SPARK IGNITION ENGINE FUEL



Hand-held portable device to determine the Pump Octane Number (AKI), Research Octane Number (RON) and Motor Octane Number (MON) in gasolines and Cetane Number in diesel fuels.



The octane number is measured by near-infrared (NIR) transmission spectroscopy in this portable unit. Using 14 NIR emitting diodes with narrow bandpass filters, a silicon detector system and a fully integrated microprocessor results are quickly interpreted and printed onto the built in printer with the time and date.

Octane number determination is simple with just three steps - sampling a background signal, acquiring two absorption spectra of the gas sample, then acquiring a second background signal. The analyzer is pre-calibrated for unleaded gasoline and ethanol-blended fuels, but can also be user-calibrated for up to 8 additional fuel types.

The small and lightweight unit operates on AA batteries. All data can be downloaded to a PC via the RS232 port.

Included with the unit; calibration software, aluminium carrying case, sample holder x3, AA batteries x6, RS232 cable, printer paper roll x5, light cover, sample holder label x6.

Additional spare parts and consumables for this unit are available upon request.

Equivalent to ASTM approved CFR engines test methods (ASTM D2699 D2700)

### Type

Portable Octane Analyzer for Spark Ignition Engine Fuel

### Camlab Code

1197062

## FLUORESCENT INDICATOR ABSORPTION - HYDROCARBON TYPES IN LIQUID PETROLEUM



For determination of the saturates, olefins and aromatics in petroleum fractions that distill below 315°C in accordance with ASTM D1319 and IP 156 specifications.



This complete system for FIA analysis is available in single or up to 6 place systems. Each one is complete with an upper multi-position air pressure manifold with independently operated gauges, pressure regulators and ball O-ring joints to allow individual pressure control at each column. Each regulator may be set between 0 - 15 psi and will maintain the pressure regardless of changes in back pressure.

Convenient O-ring compression type fittings make connection of the analyser tubes to the upper columns easy. The tips each contain a porous polyethylene disc to support the silica gel packing in the tube. The system also features an integrated vibration system mounted on the upper chassis, so columns can be vibrated to facilitate dry gel packing stage.

The complete unit includes a 1ml syringe with needle, two gel bottles for pouring silica gel, extra O-rings, stainless steel ball and socket joint clamps, and two mounting brackets with screws for stabilizing chassis.

Additional accessories and spare parts for this unit are available upon request, as well as alternative systems - single or up to 6 place systems.

Conforms to the following specifications; ASTM D1319, IP 156, NF M 07-024

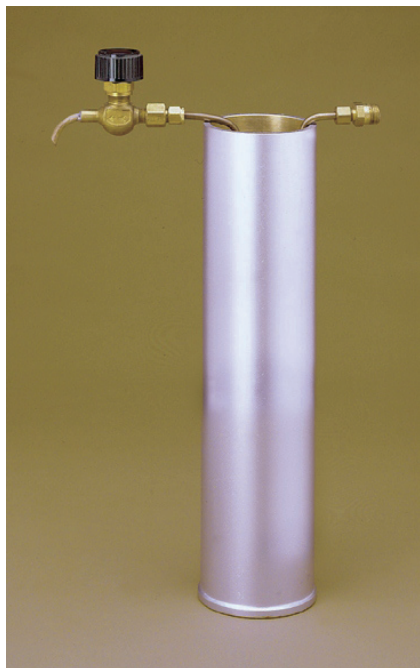
### Type

Fluorescent Indicator Absorption Apparatus, Two Position, 230V, 50/60Hz

### Camlab Code

1197042

## VOLATILITY AND RESIDUES IN LIQUEFIED PETROLEUM (LP) GASES



Determine the volatility and residues of liquid petroleum (LP) gases in accordance with ASTM D1837 and D2158.



The precooling apparatus will cool a sample to weather under specified conditions, the temperature when 95% of the sample has evaporated is then observed to give the volatility.

Residues of the sample are determined by weathering of a precooled sample followed by determination of the volume remaining at 100°F (37.8°C)

The brass cooling vessel has a built in 20ft (6m) copper cooling coil. It includes the compression fittings and a 1/8 needle valve at the downstream end.

The required weathering tubes, stands, clamps, syringes and ASTM standard thermometers are available for use with this apparatus upon request.

Conforms to the following specifications; ASTM D1837, D2158, GPA 2140, ISO 13757

Type	Camlab Code
Precooling Apparatus	1198248
Weathering Tube 100ml	1198251

## REID VAPOR PRESSURE BATH



Constant temperature water bath for Reid Vapour Pressure determination of liquid petroleum and liquefied petroleum gases (LPG) in conformance with the relevant ASTM specifications.



The vapour pressure apparatus is immersed at the proper depth in accordance with ASTM specifications. The bath temperature is then controlled with excellent precision to +/- 0.2°F (0.1°C) while the microprocessor PID gives fast temperature stabilization without overshooting.

Dual LED displays provide actual and setpoint temperature values and can be displayed in °F or °C. The unit has double wall construction with a fiberglass insulated stainless steel tank and an overflow stand pipe/drain. A sturdy flange allows flush-mount benchtop installation for easy access to the bath interior. Built in holders ensure the test cylinders are suspended at the correct depth.

Additional Reid Vapour Pressure cylinders, pressure gauges, ASTM thermometers, sample containers, manometers and spare parts are available for use with this unit upon request.

Conforms to the following specifications; ASTM D323, D1267, GPA 2140, IP 69, IP 161, ISO 3007, ISO 4256, DIN 51616, DIN 51754, FRM 791-1201, NF M 07-007, 41-010

Type	Camlab Code
Reid Vapor Pressure Bath, 4-unit, 220-240V, 50/60Hz	1196470



## Lubricating Oils Testing

## AUTOMATED CLOUD AND POUR POINT ANALYSIS



Automated cloud point and pour point detection systems to provide accurate results in accordance with ASTM specifications.



Featuring a direct cooling system to eliminate the need for additional cooling baths. The one stage cooling system provides temperatures down to -35°C while the two stage system allows temperatures down to -80°C.

Minimal installation is required to set up the software and instrumentation - all units are stand-alone systems with integrated touch screen panel PC and advanced software package built in. All analytical parameters are graphed and displayed in real time, as well as being logged in a Microsoft Excel compatible file format for logging and traceability.

**Pour Point Detection** - The automated operation includes removing the sample from the cooling jacket at 3°C intervals and tilting it to a 90° angle as prescribed by the test method until no flow is observed. Contact of the cold sample with the two PT-100 temperature probes positioned just above the surface liquid level when the test jar is tilted identifies sample flow.

**Cloud Point Detection** - The advanced software package (included on all units) analyzes the response of a light pulse emitted every 1°C from a coaxial fiber optic cable above the sample and reflected off the silver bottom test jar. Appearance of crystallization is monitored by light scattering, which indicates the cloud point of the sample has been reached.

The KLA-2 Pour Point models conform to the following specifications; ASTM D97, D5853, D5950, IP 15, IP441 and ISO 3016.

The KLA-3 Cloud and Pour Point models conform to the following specifications; ASTM D97, D2500, D5771, D5772, D5773, D5853, D5950, DIN 51597, IP 15, IP 219, IP441, IP444, IP445, IP446, ISO 3015 ISO 3016

<b>Type</b>	Auto Pour Point measurement w/touch screen, 1 stage, 220V 50/60Hz	Auto Pour Point measurement w/touch screen, 2 stage, 220V 50/60Hz	Automated Cloud & Pour Point Analyser w/touch screen, 1 stage, 220V 50/60Hz	Automated Cloud & Pour Point Analyser w/touch screen, 2 stage, 220V 50/60Hz
<b>Camlab Code</b>	1196162	1195041	1197644	1197645

## DIELECTRIC BREAKDOWN TESTER - AUTOMATIC



The most important requirement of an insulating oil is a high dielectric strength. Measure the dielectric breakdown voltage of insulating oils to detect any reduction in their insulating properties, ensuring your equipment is operating safely.



Testing conforms to the ASTM specifications D877, D1816 and BS EN 60156 plus equivalent standards.

Measure from 0 - 75 kV with accuracy of +/- 1 kV.

Please note that the test cells are available separately and must be selected for the ASTM method required.

<b>Type</b>	Automatic Dielectric Breakdown Tester, 100-240V 50/60Hz
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<b>Camlab Code</b>	1194999
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## CLOUD AND POUR POINT REFRIGERATED BATH



A bench model refrigerated bath for the immersion of copper test jackets in suitable freezing mixtures and depths for ASTM testing of cloud and pour point.



Available with inlet and outlet connections to connect circulating refrigerated coolant from an external source. The steel exterior houses an all copper interior for excellent corrosion resistance. The removable top plate and 13mm cork insulation around interior help to retain the cold. Supplied with copper jackets, gaskets, disks and thermometer holders for test jars and cooling bath. Please order the test jars and thermometers required separately.

This bench model houses three baths set at  $-1$ ,  $-18$  and  $-35^{\circ}\text{C}$ . Each bath has a phenolic top plate with ports for thermometer and copper test jackets.

Spare parts, ASTM thermometers and test jars are available separately for use with this instrument.

Conforms to the following specifications; ASTM D97, D2500, D5853, D6074, D6158, IP 15, IP 219, ISO 3015, ISO 3016, DIN 51597, FTM 791-201, NF T 60-105

### Type

Cloud and Pour Point Bath, Bench Model, 220-240V 50Hz

### Camlab Code

1196889

## FOAMING CHARACTERISTICS DUAL TWIN FOAM TEST APPARATUS



Assess the foaming characteristics of lubricating oils in accordance with ASTM and FTM specifications.



Foaming of lubricating oils can cause them to offer inadequate lubrication, cavitation, overflow or premature oxidation.

The samples are tested twice at  $75^{\circ}\text{F}$  ( $24^{\circ}\text{C}$ ) and twice at  $200^{\circ}\text{F}$  ( $93.5^{\circ}\text{C}$ ). The apparatus consists of two 12 x 18" constant temperature baths with 1000ml test cylinders, certified diffusers, air delivery tubes and flowmeters for each sample. The baths are equipped with microprocessor temperature controls, copper immersion heaters and circulation stirrers to maintain excellent uniformity of temperature. Microprocessor PID gives quick temperature stabilization without overshoot.

Dual LED displays show the actual and setpoint values in  $^{\circ}\text{C}$  or  $^{\circ}\text{F}$ . The test cylinders are secured by quick-locking cams in the bath cover, and can be stored in the separate stainless steel support rack after removal from the bath.

Air flow rate; 94ml/minute

For testing in accordance with FTM 791-3213 Aircraft Lubricants Test a separate model which employs more severe conditions is available upon request.

The apparatus includes; test cylinders 1000ml (x4), diffuser stones, calibrated and certified (x4), air delivery tube assemblies (x4), air outlet tubes (x4), rubber stoppers (x4), bath jars (x2), support rack (x1).

Additional spare parts and accessories to use with this unit are available upon request.

Conforms to the following specifications; ASTM D892, IP 146, DIN 51566, FTM 791-3211, 791-3213 (with modifications to the standard equipment), NF T 60-129

### Type

Dual Twin Foam Test Apparatus, 220-240V, 50/60Hz

### Camlab Code

1194994

## Lubricating Grease Testing

### WATER WASHOUT CHARACTERISTICS



Water washout testing of grease samples in accordance with ASTM D1264 and D4950.



A sample of the grease is packed in a lubricated ASTM ball bearing at 600rpm and put under a steady water stream in controlled test conditions. The tared bearing and bearing shields are weighed before installation and again after testing and drying to determine the amount of sample loss. The percentage of the grease washed out in a one hour period is determined by weight to give the result.

Consists of reservoir, bearing housing, circulation system and drive motor. The reservoir is equipped with a cartridge heater, thermoregulator and a thermometer port for accurate temperature control at 100°F and 175°F (38 and 79°C) in accordance with ASTM specifications.

The circulation system includes constant velocity carbon bearing gear pump, vales and a flowmeter directing a controlled water flow to a capillary spray nozzle.

The unit is mounted on a finished steel base with locating feet for permanent benchtop placement.

Temperature control:  $\pm 1^\circ\text{F}$  ( $0.5^\circ\text{C}$ ) sensitivity.

Supplied with; Test Bearing, Outer Bearing Shield, Inner Bearing Shield, Ball Bearing (x2), Drive Train Guard, Acrylic Reservoir Cover

This unit conforms to the following specifications; ASTM D1264, D4950, IP 215, FTM 791-3252

Type

Water Washout Tester 220-240V, 50Hz

Camlab Code

1197038

### ROLL STABILITY TESTERS



Roll stability apparatus for shear stability tests on lubricating greases. Gives an indication of shear stability by testing the change in worked penetrations after 2 hours in the roll stability tester unit.



Steel test cylinders are rotated at 10 or 165 rpm in a thermostatically controlled environment at temperatures of up to 200°F (93.3°C). The drive system is powered by a rugged ratio motor and interchangeable drive chain sprockets are easily accessed to convert the unit to either operating speed.

Microprocessor PID control provides quick temperature stabilization without overshoot and is protected by an over-temperature control circuit that interrupts power should temperature exceed the programmed cut-off point.

Two LED displays show the actual and setpoint values in °C or °F format. A balanced cast aluminium fan and 1200W heater provide efficient and uniform heat distribution for repeatable results. The heaters and drive chain mechanism are shielded for operator safety.

The unit is supplied with test cylinders with threaded end caps and o-ring seals as well as 5kg steel test rollers.

A range of single, double and four-unit models are available along with high temperature models and different voltages.

Communications software via RS232, ramp-to-set and other enhanced features are available as additional accessories - just contact us to discuss your specific requirements.

This apparatus conforms to the following specifications; ASTM D1831, MIL-G-10924SA

Type

High Temperature Four Unit Roll Stability Tester, 220-240V, 50Hz

Camlab Code

1197056

HIGH TEMPERATURE DROPPING POINT APPARATUS



For testing the dropping points of lubricating greases at temperatures of up to 400°C (752°F) in accordance with ASTM D2265 which permits higher temperatures than method D566.



The test cell is inserted into an aluminium block oven maintained at a constant temperature that is higher than the expected dropping point of the sample. The sample temperature then rises to the dropping point without operator control. The six-place oven has large viewing ports with fluorescent backlighting for excellent visibility.

The unit features microprocessor programmable high accuracy temperature control to give fast stabilization without overshoot and it is protected by an over-temperature control circuit that interrupts power should the block temperature exceed a programmed cut off point. Two LED displays show the actual and set-point temperature values in °C or °F.

Maximum temperature of 400°C with control stability of ±0.5°C

Additional communications software (RS232 etc.), ramp-to-set and other features are available as add on options - please contact us with your specific requirements.

This unit conforms to the following specifications; ASTM D2265, D4950

Type	High Temperature Dropping Point Apparatus, 220-240V, 50/60Hz
Camlab Code	1197057

**A**

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## CAMLAB GENERAL TERMS AND CONDITIONS

### 1. GENERAL

- 1.1 In these conditions:
- 1.2 "Camlab" shall mean Camlab Limited or any subsidiary or associated company.
- 1.3 "Customer" shall mean any company or any subsidiary or associated company, organisation or person ordering, or accepting a quotation for, Camlab's goods or services.
- 1.4 "communication" shall mean any communication or imparting of information whether verbal or by any other means.
- 1.5 "these conditions" shall mean these conditions in full. If any provision of these conditions is held by any competent authority to be invalid or unenforceable in whole or in part, the validity of the other conditions and the remainder of the provision in question shall not be affected thereby.
- 1.6 "intellectual property" means any patent, copyright, registered design or unregistered design right, trade marks (whether registered or unregistered) and any application for any of the foregoing, any rights in respect of confidential information and any other intellectual property right.

### 2. APPLICATION OF TERMS

- 2.1 The Contract, subject to any agreed variation, will be on these conditions to the exclusion of all other terms and conditions (including any terms or conditions which the Customer purports to apply under any purchase order, confirmation of order, specification or other document). No terms or conditions will form part of the Contract simply as a result of such document being referred to in the Contract.
- 2.2 These conditions apply to all Camlab's sales and any variation to these conditions and any representations about the Goods shall have no effect unless expressly agreed in writing and signed by an authorised representative of Camlab. Nothing in this Condition will exclude or limit Camlab's liability for fraudulent misrepresentation.
- 2.3 Each order for Goods by the Customer from Camlab shall be deemed to be an offer by the Customer to purchase Goods subject to these conditions.
- 2.4 No order placed by the Customer shall be deemed to be accepted by Camlab until a written acknowledgement of order is issued by Camlab or (if earlier) Camlab delivers the Goods to the Customer.
- 2.5 The Customer must ensure that the terms of its order and any applicable specification are complete and accurate.
- 2.6 Any quotation is given on the basis that no contract will come into existence until Camlab despatches an acknowledgement of order to the Customer. Unless otherwise specified, any quotation is valid for a period of 30 days only from its date, provided that Camlab has not previously withdrawn it. We retain the right to withdraw a quotation at any time due to omissions or errors in data. Quotations are based on the customer ordering all items in the quotation. Discounts may not be applied if only part of the quote is ordered or items added to the quotation without prior written notice from Camlab Ltd.

### 3 QUALITY ASSURANCE

- 3.1 Camlab is a BSI Registered Stockist to BS EN ISO 9001:2000, Certificate No. RS25527. A statement of quality conformance, in accordance with Camlab's Quality Management System, is provided for all products and will be incorporated in the Customer's Packing Note. Certificates of Conformity will be supplied when specified in the contract for which Camlab reserve the right to levy a charge. The current charge for a certificate will be quoted on request.

### 4 PRICES

- 4.1 We reserve the right to make an environmental charge (where applicable) where we incur costs as a result of the necessity to comply with current legislation requirements.
- 4.2 Prices given in any Camlab communication should only be regarded as correct at time of issue, or if printed, correct at date of publication. All prices and charges, other than those fixed by specific contract, are subject to alteration without notice.
- 4.3 Any typographical, clerical or other error or omission shall be subject to correction without any liability on the part of Camlab.
- 4.4 The price for the Goods shall be exclusive of any value added tax and all cost and charges in relation to unloading and insurance.

### 5 DESCRIPTION

- 5.1 The description of the Goods shall be as set out in Camlab's acknowledgement of order.
- 5.2 All drawings, descriptive matter, specifications and advertising issued by Camlab and any descriptions or illustrations contained in Camlab's catalogues or brochures are issued or published for the sole purpose of giving an approximate idea of the Goods described in them. They will not form part of this Contract.

### 6 TRANSPORT AND CARRIAGE

- 6.1 Despatch of goods will be made by the most appropriate method or as specified by the Customer (subject to all Health & Safety and other relevant regulations being met).
- 6.2 All orders will be subject to a processing and delivery charge to include where applicable the cost of cases, other containers, packing material and other freight charges, etc. Unless otherwise agreed such costs will be chargeable to the purchaser. The Seller reserves the right to make an additional charge to cover the cost of necessary specialised packaging used in the despatch of chemicals. This can include the packaging of hazardous materials and dry ice charges.

### 7 DELIVERY DATES AND NON-DELIVERY

- 7.1 Where goods are supplied within the UK delivery shall take place at the Company's premises, unless otherwise agreed in writing by Camlab.
- 7.2 Where goods are supplied outside the UK, delivery shall take place once they are put onto rail, ship, aircraft or other transport for onward transportation to the Customer, unless otherwise agreed in writing by Camlab. Unless otherwise specified, for all orders for delivery outside the United Kingdom:
  - 7.2.1 The cost of cases and other containers, packaging costs, dock and airport dues, port rates and customs entry, freight, insurance, agency fees and other charges which may be incurred are chargeable to the Purchaser. Cases and other containers are not returnable.
  - 7.2.2 Such orders shall be on an ex-works basis. Delivery to docks, airports or other consolidation addresses may be charged extra.
  - 7.2.3 The Purchaser shall be responsible for complying with any legislation or regulations governing the importation of the goods into the country of destination and for the payment of any duties thereon.
- 7.3 Items are offered subject to them being in stock at the date of receipt of the Customer's order. Camlab will endeavour to adhere to delivery dates however, time for delivery shall not be of the essence, and shall not be capable of being made of the essence by notice. Failure to meet quoted or expected delivery dates shall not entitle the Customer to make a claim against Camlab for loss.
- 7.4 If the Customer declines to accept goods when available for delivery or as agreed, Camlab may at its discretion store the goods and take reasonable steps to prevent their deterioration until actual delivery and the Customer shall pay Camlab the reasonable cost (including insurance) of so doing.
- 7.5 Camlab shall not be liable for any non-delivery of goods (even if caused by Camlab's negligence) unless written notice is given to Camlab within 7 days of the date of the invoice.
- 7.6 Receipt of an invoice must be regarded as notification of despatch. If the goods have not been received within 7 days of invoice date Camlab (and the carrier if known) must be informed in writing in accordance with clause 7 so that the consignment can be traced or a claim lodged.
- 7.7 Any liability of Camlab for non-delivery of the goods shall be limited to replacing the goods within a reasonable time or issuing a credit note against any invoice raised for such goods.

### 8 PROPERTY AND RISK

- 8.1 Risk shall pass to the Customer on delivery of the goods in accordance with clauses 7.1 or 7.2.
- 8.2 The goods shall remain the sole and absolute property of Camlab until payment in full of the price of the goods, in cash or cleared funds, has been received.
- 8.3 Until the goods are paid for in full, the Customer shall:
  - 8.3.1 hold the Goods on a fiduciary basis as Camlab's bailee;
  - 8.3.2 store the Goods (at no cost to Camlab) separately from all other goods of the Customer or any third party in such a way that they remain readily identifiable as Camlab's property;
  - 8.3.3 not destroy, deface or obscure any identifying mark or packaging on or relating to the Goods;
  - 8.3.4 maintain the Goods in satisfactory condition and keep them insured on Camlab's behalf for their full price against all risks to the reasonable satisfaction of Camlab. On request the Customer shall produce the policy of insurance to Camlab; and
  - 8.3.5 hold the proceeds of the insurance referred to in condition 8.3.4 on trust for Camlab and not mix them with any other money, nor pay the proceeds into an overdrawn bank account.
- 8.4 The Customer may resell the goods before ownership has passed to it solely on the following conditions
  - 8.4.1. any sale shall be effected in the ordinary course of the Customer's business at full market value; and
  - 8.4.2. any such sale shall be a sale of Camlab's property on the Customer's own behalf and the Customer shall deal as principal when making such a sale.
- 8.5 Any right of the Customer to possession of the goods shall cease immediately if:
  - 8.5.1. the Customer becomes unable to pay or stops paying its debts;
  - 8.5.2. the Customer makes an arrangement with its creditors generally;
  - 8.5.3. a receiver is appointed over any of the Customer's property whereupon Camlab shall have the right by its servants or agents to enter onto any premises owned or occupied by the Customer or any third party in order to remove such of the goods as maybe stored there.
- 8.6 Payment shall be due whether or not property in the goods has passed as above and Camlab shall be entitled to sue for any monies due under any contract even if the property in the goods has not passed.
- 8.7 The Customer grants Camlab, its agents and employees an irrevocable licence at any time to enter any premises where the Goods are or may be stored in order to inspect them, or, where the Customer's right to possession has terminated, to recover them.

### 9 TERMS OF PAYMENT AND CREDIT

- 9.1 Unless Camlab has agreed in writing other terms, payment should be received no later than 30 days from invoice date. The right is reserved to request a remittance with order, or to submit a pro forma invoice where the purchaser does not have a credit account with the seller. Camlab also reserve the right to charge interest at 4% above the Barclays Bank Plc base rate ruling at the date the amount is due. Camlab may, at its discretion, refuse or limit the amount of credit given to any customer and withhold supplies there from.
- 9.2 Time for payment shall be of the essence.
- 9.3 No payment shall be deemed to have been received until Camlab has received cleared funds.
- 9.4 All payments payable to Camlab under the Contract shall come due immediately upon termination of this Contract be despite any other provision.
- 9.5 The Customer shall make all payments due under the Contract without any deduction whether by way of set-off, counterclaim, discount, abatement or otherwise unless the Customer has a valid court order requiring an amount equal to such deduction to be paid by Camlab to the Customer.

### 10 RETURNED GOODS

- 10.1. Shipping discrepancies must be reported within 7 days. If your product needs to be returned a Returns Activity Number (RAN) is required to ensure your item can be tracked and efficiently processed. Please contact us to obtain an RAN and ensure that this is marked clearly on the outside of the package, with a decontamination certificate if required on any returned item. In all cases separate notification of despatch should be sent. Until the goods have arrived safely, all liabilities, including carriage, packing and insurance, remain with the Customer for any item sent to Camlab. If the Customer has insured the goods and wishes to be informed of any damage in transit Camlab must be notified and given details of their condition on despatch.
- 10.2. No goods may be returned to Camlab Ltd without the authorisation of Camlab Ltd. The return of goods is subject to the provisions of conditions 20.3 and 20.4. Credit will be given (subject to conditions as set out in 10.4) for goods that are unused (see 10.5) and in re-saleable condition other than items from the following categories:
  - 10.2.1 open chemicals or diagnostics
  - 10.2.2 refrigerated or other perishables
  - 10.2.3 items with an expired shelf life or an expiration date too short for resale
  - 10.2.4 any article that has been delivered direct by a third party supplier
  - 10.2.5 discontinued items
  - 10.2.6 items not purchased from Camlab Ltd or its subsidiaries
- 10.3. Customers, if returning goods, may be requested to return any special packing which has been used, at the Customer's cost, (e.g. custom-made preformed styrene, shipping cases). Camlab reserve the right to charge for any such packing not returned.
- 10.4. Where goods are returned for any reason other than that set out in Clause 13 below the Seller reserves the right to make a restocking/handling charge against the Purchaser being the greater of
  - 10.4.1 A minimum of 20% of invoice value towards the costs incurred by the Seller for carriage, inspection, packaging and the like as a result of such return or
  - 10.4.2 A charge of £30 if the order value was under £50 or
  - 10.4.3 Such sums as the seller may be charged by its suppliers in respect of the return of such goods in the event that the goods constitute non-catalogued items. Custom manufactured products are non returnable and the Purchaser shall remain liable for the full purchase price
- 10.5. In some instances, unwanted and unused goods may be returned, subject to prior agreement by Camlab. Credit will be based on the invoice price less a re-stocking charge and delivery costs. This charge will be at Camlab's discretion and will be advised when the return of goods is agreed. If items of an equivalent or greater value are being ordered to replace the returned items then these charges may be waived at Camlab's discretion.
- 10.6 Camlab complies with the Consumer Protection (Distance Selling) Regulations 2000 with regards to consumer sales and the cancellation of orders / return of goods terms included therein.

### 11. GOODS ON APPROVAL OR LOAN

- 11.1 Camlab, at its discretion, may provide Goods to the Customer for a trial period prior to the Customer entering into a contract to purchase the Goods. Goods may also be provided temporarily to the Customer as substitute for corresponding Goods that the Customer sends to Camlab for repair. Charges for the provision of Goods on approval or loan shall be as agreed between the parties.
- 11.2 Goods provided as above shall be under the control of the Customer at all times from delivery until redelivery and the Customer shall ensure that: the Goods are used safely and without risk to health; used by competent staff; and not used for any purpose for which it is not designed or reasonably suited.
- 11.3 The Customer shall be responsible for and shall indemnify Camlab against all loss or

# Terms and Conditions

damage caused to the Goods from whatsoever cause arising.

11.4 The Customer shall not move the Goods from the Customer's premises without Camlab's prior written consent. The Customer shall keep the Goods in its sole possession and shall not lend or sublet it to any person or otherwise part with possession of it in any way. The Customer acknowledges that the Goods remain the property of Camlab at all times and must not be sold or used as security. The Customer shall not permit any lien to be created on the Goods or pledge Camlab's credit for repairs to Goods.

11.5 The Customer must not attempt to repair the Goods in the event of damage or breakdown but must notify Camlab at once.

11.6 Camlab may require the return of Goods at any time.

## 12 ORDER CANCELLATION

12.1 Cancellation or part cancellation of an order can only be accepted with Camlab's prior agreement. Camlab reserve the right to recover from the Customer any costs and expenses incurred up to the date of cancellation. Orders for Custom Specified/Non-Catalogue product may not be cancelled without prior agreement with Camlab Ltd

## 13 QUALITY

13.1 Where Camlab is not the manufacturer of the Goods, Camlab will endeavour to transfer to the Customer the benefit of any warranty or guarantee given to Camlab.

13.2 Camlab warrants that (subject to the other provisions of these conditions) upon delivery the goods will be of satisfactory quality within the meaning of the Sale of Goods Act 1994.

13.3 Camlab warrants that (subject to the other provisions of these conditions) upon delivery the Goods will comply with the description in the acknowledgement of order and despatch note.

13.4 Camlab shall not be liable for a breach of warranty unless:

13.5 the Customer gives written notice of any immediately apparent damage to the Goods or discrepancy between the order and the delivered Goods within 3 days of receipt of the Goods;

13.5.1 in all other cases the Customer gives written notice of the defect to Camlab within 7 days of the time when the Customer discovers or ought to have discovered the defect; and

13.5.2 Camlab is given a reasonable opportunity after receiving the notice of examining such Goods and the Customer (if asked to do so by Camlab) returns such Goods to Camlab's place of business at Camlab's cost for the examination to take place there.

13.6 Camlab shall not be liable for a breach of the warranties if:

13.6.1 the Customer makes any further use of such Goods after giving such notice; or  
13.6.2 the defect arises because the Customer failed to follow Camlab's oral or written instructions as to the storage, installation, commissioning, use or maintenance of the Goods or (if there are none) good trade practice; or  
13.6.3 the Customer alters or repairs such Goods without the written consent of Camlab.

13.7 Subject to the above, if any of the Goods do not conform with the warranties Camlab shall at its option repair or replace such Goods (or the defective part) or refund the price of such goods and it shall have no further liability for a breach of the warranty in respect of such Goods.

13.8 Damaged Goods and any packaging relating to it must be retained in case inspection is required. Subsequently Camlab may require the Customer to return damaged Goods in accordance with clause 10.

## 14 INSTALLATION, MAINTENANCE & REPAIR BY CAMLAB

14.1 The provision of services of a suitable type and in a suitable location, which are necessary for the installation, is the responsibility of the Customer. Equipment to be installed, maintained or repaired must, by prior arrangement, be available for working on when Camlab personnel arrive. Where services and/or equipment is not available as above, Camlab reserve the right to charge expenses for time and/or travelling. This applies to any installation, maintenance or repair undertaken by Camlab whether quoted free of charge or not. Camlab will issue an invoice in respect of delivered products which, should installation be deferred at the request of the Customer, is payable in accordance with clause 9.

## 15 MAINTENANCE AND SERVICE AGREEMENTS

15.1 Unless otherwise agreed in writing, contracts remain in place for a period of 1 year from the date of commencement as per the contract schedule and shall be renewed each year upon confirmation from both parties. Payment of the contract is due immediately or in the case of a renewal, prior to the renewal date.

15.2 Camlab undertakes to keep the equipment listed on the contract schedule in good working order and repair by provision of the following services:

15.2.1 Breakdown Support . attempts will be made to commence repair/support or provide a loan replacement within 3 working days of notification. Completion of the repair/support will then follow as soon as is practical within normal Camlab working hours.

15.2.2 Preventative Maintenance . as specified by Camlab and where appropriate, in line with Manufacturers recommendations whereby the equipment will be aligned, calibrated and checked with parts replaced as necessary during normal Camlab working hours.

15.3 The following services are not covered by a service agreement and shall be provided at extra cost to the customer upon receipt of a valid purchase order in accordance with clause 9:

15.3.1 Maintenance and repair of equipment not listed within the contract schedule

15.3.2 Any adjustments normally made by the operator on a day to day basis

15.3.3 The replacement of parts which have a limited life span (e.g. Lamps, fuses etc) and the supply of consumables (e.g. reagents)

15.3.4 The repair of damage arising from accident, acts of nature, acts of third parties, transportation, misuse, incorrect line voltage, the correction of faults caused by the Customer or unauthorized attempts to repair the equipment on the customers behalf.

15.3.5 The modification or alteration of the whole or any part of the equipment.

15.3.6 Maintenance and repair at a location other than the installation address unless agreed in writing

15.3.7 Travel associated with any of the above circumstances

15.4 The customer undertakes, subject to the conditions contained herein:

15.4.1 Not to make alterations to the equipment or employ additional attachments or devices without written consent

15.4.2 To ensure all operators and managers are properly trained to use the equipment

15.4.3 Not to abuse or misuse the equipment so as to damage it

15.4.4 To report defects to Camlab in a timely manner so as to minimize the further potential damage

## 16 LIMITATION OF LIABILITY

16.1 Subject to clauses 7 and 13 the following provisions set out the entire financial liability of Camlab (including any liability for the acts or omissions of its employees, agents and subcontractors) to the Customer in respect of:

16.1.1 any breach of these conditions; and

16.1.2 any representation, statement or tortious act or omission including negligence arising under or in connection with the Contract.

16.2 All warranties, conditions and other terms implied by statute or common law (save for the conditions implied by

16.3 Nothing in these conditions excludes or limits the liability of Camlab for death or personal injury caused by Camlab's negligence or for fraudulent misrepresentation.

16.4 Subject to the above:

16.4.1 Camlab's total liability in contract, tort (including negligence or breach of statutory duty), misrepresentation, restitution or otherwise, arising in connection with the performance or contemplated performance of this Contract shall be limited to the Contract price; and

16.4.2 Camlab shall not be liable to the Customer for any indirect or consequential loss or damage (whether for loss of profit, loss of business, depletion of goodwill or otherwise), costs, expenses or other claims for consequential compensation whatsoever (howsoever caused) which arise out of or in connection with the Contract.

16.5 Nothing in these conditions shall affect the statutory rights of the Customer dealing as a consumer.

## 17 INFRINGEMENT OF PATENTS, REGISTERED DESIGNS ETC.

17.1 Where goods are supplied to special order the Customer will indemnify and keep Camlab fully and effectively indemnified against all costs, claims, damages, losses, liabilities and expenses of whatever kind incurred or suffered by Camlab as a result of using a specification or design stipulated by the Customer.

17.2 Whilst all Goods are supplied in good faith Camlab can give no undertaking that use or sale of Goods supplied will not cause the Customer to infringe third party intellectual property rights or similar proprietary rights.

## 18 FORCE MAJEURE

18.1 Neither party shall be liable for any circumstances beyond their reasonable control.

## 19 APPLICABLE LAW

19.1 The contract shall be governed by and construed in accordance with English law and the parties irrevocably agree to submit to the jurisdiction of the English Courts save that Camlab shall be entitled at its sole discretion to refer such disputes to the courts of any jurisdiction in which the Customer carries or has carried on business.

## 20 HEALTH AND SAFETY

20.1 General . Goods supplied should be used only for the purpose for which they are intended and in accordance with any instructions supplied. The Customer is responsible for determining suitability for use when:

20.1.1 services and/or ancillary items are used with goods supplied,

20.1.2 goods are specially manufactured or altered for Customers at their specific request.

20.2 Hazardous materials . Camlab will only supply and consign hazardous materials to bona fide businesses and reserve the right to withhold supplies of such goods from any Customer.

Camlab accepts responsibility for providing suitable packaging and means of transport in compliance with all relevant English legislation for delivery to Customers in accordance with clauses 7.1 or 7.2. If Camlab delivers a hazardous material to the Customer it will provide Safety Data Sheets (as required by The Chemicals (Hazard Information and Packaging for Supply) Regulations 2004) free of charge no later than the date on which the material is first supplied to the Customer. Camlab will on request provide further Safety Data Sheets and any other available information to assist Customers in conducting risk assessments. It is the Customer's responsibility to conduct such assessments and Camlab is not liable for any failure on the part of the Customer to do so. Once in possession of any hazardous material, the Customer shall accept responsibility for ensuring its safe handling, storage and use.

20.3 Return of hazardous materials to Camlab's premises . The Customer accepts responsibility for providing suitable packing, labelling, documentation and means of transport in compliance with existing legislation, and accepts full liability for handling and transportation when hazardous materials are returned to Camlab.

20.4 Contaminated equipment for repair, return or maintenance . The Customer is responsible for ensuring that any equipment which has been exposed to any hazardous or potentially hazardous material is properly decontaminated prior to the commencement of any work on that equipment by Camlab personnel. The Customer will issue a certificate detailing the nature of the contaminant(s) and the procedures used to ensure adequate decontamination. Camlab reserve the right to charge additional expenses incurred as a result of the Customer failing to decontaminate equipment. The Customer accepts full liability should injury be caused by any such contamination and shall indemnify Camlab against any claims and costs suffered or incurred by Camlab as a result of injury to Camlab's employees, agents or subcontractors arising from such contamination.

## 21 ANTI CORRUPTION

Camlab operates with zero tolerance of bribery and corruption and all business is transacted in accordance with our Anti-corruption and Bribery Policy which is available upon request.

21.1 The Customer shall not, and undertakes to procure that its employees, officers, agents, subcontractors, or anyone acting on their behalf shall not:-

21.1.1 directly or indirectly give, offer to give, agree to give or authorise the payment of, any gift or consideration of any kind as an inducement or reward to:-

21.1.1.1 any person;

21.1.1.2 any Government Representative;

21.1.1.3 any person acting for or on behalf of any Government Representative; or

21.1.1.4 any other person at the request of any Government Representative for the purpose of improperly obtaining, retaining or directing business or to secure or obtain any improper business advantage; or

21.1.2 directly or indirectly accept any gift or consideration of any kind as an inducement or reward for the purpose of improperly obtaining, retaining or directing business or to secure or obtain any improper business advantage.

21.2 The Customer represents, warrants and undertakes that it, or any person acting on its behalf, has:-

21.2.1 not undertaken any activity to which Clause 18.1 refers prior to the Contract (or any related agreement) being made;

21.2.2 implemented and maintained policies, procedures and controls which are reasonably expected to ensure, and to continue to ensure, compliance with all applicable Anti-Bribery Regulations; and

21.2.3 conducted, and will continue to conduct, its business in compliance with all applicable Anti-Bribery Regulations and so as not to contravene or commit any offence under such Anti-Bribery Regulations.'

## 22 GENERAL

22.1 Each right or remedy of Camlab under the Contract is without prejudice to any other right or remedy of Camlab whether under the Contract or not.

22.2 If any provision of these conditions is found by any court, tribunal or administrative body of competent jurisdiction to be wholly or partly illegal, invalid, void, voidable, unenforceable or unreasonable it shall to the extent of such illegality, invalidity, voidness, voidability, unenforceability or unreasonableness be deemed severable and the remaining provisions of these conditions and the remainder of such provision shall continue in full force and effect.

22.3 Failure or delay by Camlab in enforcing or partially enforcing any provision of the Contract will not be construed as a waiver of any of its rights under these conditions.

22.4 Any waiver by Camlab of any breach of, or any default under, any provision of the Contract by the Customer will not be deemed a waiver of any subsequent breach or default and will in no way affect the other terms of these conditions.

22.5 No term of these conditions will be enforceable by virtue of the Contracts (Rights of Third Parties) Act 1999 by any person other than Camlab or the Customer.

22.6 Your statutory rights remain unaffected.



# Environment



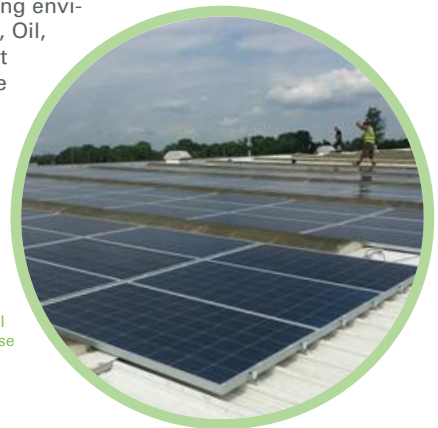
## committed to responsible and sustainable development

Camlab is committed to introducing and developing practicable and cost effective environmental best practise throughout the business. It is recognised that the pursuit of economic growth and a safe, healthy and hygienic environment must be closely linked and that the protection of the environment and its ecology from the company's activities is part of the management's responsibility. Camlab also recognises that its day to day activities impact on the environment in a number of ways (water and energy usage and general waste), it is committed to preventing environmental pollution (Noise, Smoke, Oil, Light etc) and it is these impacts that the company wishes to minimise. The company is committed to a programme of continuous environmental improvement and will establish systems and initiatives to bring about the broad principles of this policy.



EMS 591973

Camlab's Solar PV Roof  
generates 80% of our total  
power use



## recycling reducing waste

### How will we do it?

Camlab will:-

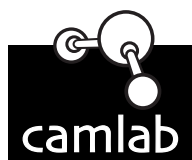
- Meet, and where possible exceed, the requirements of all relevant environmental legislation.
- Seek to reduce the consumption of materials in all operations, reuse rather than dispose wherever possible, and promote recycling and use of recycled materials.
- Work with suppliers and contractors to minimise the impact of their operations on the environment through a quality purchasing policy.
- Design energy efficiency into new services and buildings and manage energy wisely in all operations.
- Provide products that are safe to use, make efficient use of resources, and which can be recycled or disposed of safely.
- Include environmental issues at relevant management meetings and train all employees to adopt and improve good environmental working practices.
- Provide necessary training to raise awareness of the environment and encourage energy saving and waste minimisation.
- Monitor the company's environmental performance through auditing on a regular basis and through the examination of data.

### Recycling

Camlab recycle or re-use paper and plastic products wherever possible.

Our new range of recycled plastic laboratory racks and boxes makes use of material that would otherwise be sent to landfill.



**Orders**

Phone: + 44 1954 233 110 (8:30am to 5:30pm)

Fax: +44 1954 233 101

Email: [export@camlabworld.com](mailto:export@camlabworld.com)

Web: [www.camlabworld.com](http://www.camlabworld.com)

**Support**

Technical Support:

Live Support: Available on our websites

Phone: +44 1954 233 120

Email: [support@camlab.co.uk](mailto:support@camlab.co.uk)

**Service and Repairs:**

UK Only phone 01954 233 130

[service@camlab.co.uk](mailto:service@camlab.co.uk)

**Web:**

[www.camlabworld.com](http://www.camlabworld.com)

